



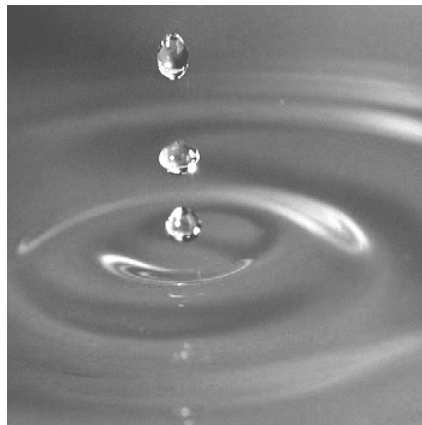
Consulting
Engineers and
Scientists

Georgia Power Company
**2018 Annual Groundwater Monitoring
and Corrective Action Report**

Plant McIntosh
Ash Pond 1

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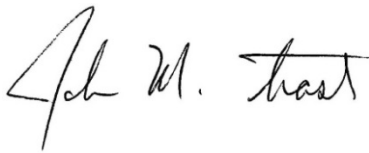
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- A. Laboratory Analytical and Field Sampling Data Reports
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Certification

PROFESSIONAL ENGINEER CERTIFICATION

This *2018 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company – Plant McIntosh Ash Pond 1* has been prepared in accordance with the United States Environmental Protection Agency coal combustion residual 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 under the supervision of a licensed professional engineer with GEI Consultants, Inc:



John M. Trast, P.E.
License No. PE41928



1. Introduction

In accordance with the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D) and the Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a), GEI Consultants, Inc. (GEI) has prepared this *2018 Annual Groundwater Monitoring and Corrective Action Report* to document groundwater monitoring activities conducted at Georgia Power Company's (GPC) Plant McIntosh (the Site) Ash Pond 1 (AP-1). Semiannual monitoring and reporting for the CCR unit is performed in accordance with the monitoring requirements of 40 CFR §257.90 through §257.95 of the federal CCR Rule. Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) adopt federal CCR rules by reference, as such references to the federal rule herein also apply the Georgia EPD rules. This report documents the groundwater monitoring activities in the 2018 calendar year.

1.1 Site Description and Background

The plant property is located at 981 Old Augusta Road Central, in southeast Effingham County, Georgia, approximately 4 miles northeast of the city of Rincon, and 20 miles north-northwest of the City of Savannah. The plant property is situated on the west bank of the Savannah River at Big Kiffer Point (**Figure 1**). AP-1 is located on the eastern portion of the plant property, approximately 0.5 miles west of the Savannah River and approximately 0.75 miles south of Lockner Creek (**Figure 1**).

1.2 Regional Geology and Hydrogeologic Setting

Rincon, Georgia is located within the Coastal Plain Province of Georgia. Coastal Plain sediments are composed of stratified clay, silt, sand, and limestone, resting on much older igneous and metamorphic basement rocks. These older, crystalline rocks dip to the south and east causing the overlying sediments to form a wedge-shaped deposit, which is thickest to the east and the south. The Coastal Plain deposits crop out at the land surface in bands, from the oldest to the most recent, from the Fall Line to the coast. Pleistocene-aged deposits are at the surface in this region. Recharge to the major aquifers in the area is to the northeast of the Site, where these formations outcrop (Southern Company Services Earth Science & Environmental Engineering [SCS ES&EE], 2002).

The Site is situated on sediments that were deposited from Cretaceous to Pleistocene and consist of stratified marine deposits and materials eroded from crystalline rock of the Piedmont Region. Boring logs describe soils at AP-1 as interbedded clays, silts, and sands typical of Coastal Plain sediments.

The uppermost aquifer at AP-1 is the surficial aquifer, characterized by silty to sandy clays, clayey silts, silty sands, and fine to medium grained sands. Monitoring wells and piezometers were screened in the surficial aquifer between 29 and -3 feet (ft) North American Vertical Datum (NAVD)88.

1.3 Groundwater Monitoring Well Network

Pursuant to §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 AP-1 within the uppermost aquifer. Wells were located to serve as upgradient and downgradient monitoring points based on groundwater flow direction (**Table 1**).

2. Groundwater Monitoring Activities

As required by §257.90(e), the following subsections describe groundwater monitoring activities performed during the preceding year. All groundwater sampling was performed in accordance with §257.93. Samples were collected from each well in the monitoring system shown on Figure 2. Pursuant to §257.90(e)(3), a summary and description of groundwater sampling events completed at AP-1 is shown on **Table 2**. The current groundwater monitoring network is provided in **Table 1**.

2.1 Piezometer Installation and Well Maintenance

Nine piezometers, PZ-15 through PZ-18, and MGWC-19 through MGWC-23, were installed in 2018 to provide additional data for characterizing groundwater flow conditions. Piezometer locations are shown on **Figure 2**. No well maintenance was performed in 2018 on the existing groundwater monitoring network.

2.2 Assessment Monitoring

An assessment monitoring program was initiated. Appendix III constituents exhibited statistically significant increases (SSIs) over background during the first detection monitoring event conducted in October 2017. Analytical results and statistical evaluation of those results were provided in the *2017 Annual Groundwater Monitoring and Corrective Action Report* (ERM, 2018).

Groundwater samples were collected during three groundwater monitoring events in 2018. The initial assessment event was conducted in March 2018, and within 90 days of initiating the assessment monitoring program. All wells were sampled and analyzed for Appendix IV monitoring parameters pursuant to 40 CFR §257.95(b). Groundwater samples collected during subsequent semiannual assessment events in June and October 2018 were analyzed for Appendix III and those Appendix IV parameters detected above the laboratory method detection limit (MDL) during the March 2018 event in accordance with 40 CFR §257.95(d). Antimony and lead were not detected above the laboratory MDL during the March 2018 event and were not analyzed during subsequent semiannual sampling events. Analytical methods used for groundwater monitoring parameters are provided in laboratory reports in **Appendix A**.

2.3 Other Sampling

Additional sampling was conducted in December 2018 to support an Alternate Source Demonstration (ASD) at AP-1. The entire well network and piezometers MGWC-19 through

MGWC-23 were sampled for cobalt and lithium. Additionally, monitoring wells MGWA-11 and MGWC-7 were sampled for the following additional parameters:

- Appendix III: calcium, chloride, pH, and sulfate
- Other cations/anions: bicarbonate alkalinity as CaCO_3 , carbonate alkalinity as CaCO_3 , magnesium, potassium, and sodium.

The results of these analyses are provided in **Appendix C**.

3. Sample Methodology and Analyses

GEI conducted all the field work described herein. The field activities and results of the groundwater sampling events are summarized in the following sections. Copies of the laboratory analytical and field sampling reports are included in **Appendix A**.

3.1 Groundwater Level Measurement

Prior to conducting each groundwater sampling event, groundwater elevations were collected from monitoring wells and piezometers at AP-1 with an electronic water level indicator and measured to the nearest 0.01 foot. Depth to water ranged from approximately 16-17 ft NAVD in the area of MGWC-3 (southeast of AP-1) to approximately 37 ft NAVD in the area of MGWC-1 (northeast corner of AP-1). Groundwater elevations range from approximately 23-24 ft NAVD near PZ-13 (east of AP-1) to 46-47 ft NAVD near MGWA-10 (southwest of AP-1). The groundwater elevations measured during the assessment monitoring events are summarized in **Table 3**.

Potentiometric surface elevation contours and estimated groundwater flow direction were developed using the groundwater elevation data collected in March, June, and October 2018 (Figure 3, Figure 4, and Figure 5 respectively). Interpretation of the potentiometric surface elevation contours indicates that groundwater flow across AP-1 is generally toward the east but shifts to the southeast and northeast in the northern portion of AP-1 (Figures 3, 4, and 5), which is generally consistent with previous events. The slight differences in groundwater flow observed between 2017 background sampling, the March and June assessment events, and the October 2018 groundwater monitoring event are a result of the additional groundwater elevation data points from new piezometers, PZ-15, PZ-16, PZ-17, and PZ-18, installed in June 2018.

3.2 Groundwater Gradient and Flow Velocity

Horizontal groundwater flow velocity at the AP-1 was calculated using a derivation of Darcy's Law. Specifically,

$$v = \text{linear velocity} = \frac{Ki}{\eta_e}$$

where :

K = hydraulic conductivity

$$i = \text{hydraulic gradient} = \frac{(h_1 - h_2)}{L}$$

η_e = effective porosity

h_1 and h_2 = groundwater elevation at locations 1 and 2

L = distance between locations 1 and 2

As presented in previous reports and originally detailed in the July 2002 *Savannah Electric Plant McIntosh Proposed Ash Monofill Site Acceptability Report* (SCS ES&EE, 2002), the sandy Unit 3 aquifer was identified as the shallowest, water-bearing unit at the site and hydrogeologic properties are observed to be very similar throughout the Site. Most wells at the Site are primarily screened in this aquifer, including wells at AP-1. The average hydraulic conductivity of the Unit 3 aquifer was used in the calculations, which is 0.962 feet per day (ft/day) based on slug testing conducted at AP-1 in December 2015. This value is slightly higher than those calculated in previous years due to the evaluation of additional slug test data identified in AP-1. Soils at the screened intervals of the wells are generally classified as silty sands (SM). The default value for effective porosity for this type soil is 0.20 (USEPA 530/SW-89-031, 1989). To calculate an average gradient across AP-1, the hydraulic gradient was calculated between three separate well/piezometer pairs: MGWA-10 and PZ-15, MGWA-6 and PZ-16, and MGWA-9 and PZ-17 (**Table 4**). The calculated average groundwater flow velocity at AP-1 in October 2018 is 0.041 ft/day or 15.09 feet per year (ft/year).

3.3 Groundwater Sampling

Groundwater samples were collected in accordance with §257.93(a). Wells were purged using a peristaltic pump or submersible bladder pump with disposable tubing. The pumps were lowered into the well so that the intake was 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. Monitoring wells were purged and sampled and using low-flow sampling procedures. While the well was being purged, water level data and purge volumes were recorded electronically and by hand, and the following field parameters were collected:

pH (field)	Oxidation Reduction Potential (ORP)	Temperature
Specific Conductivity	Dissolved Oxygen (DO)	Turbidity

A SmarTroll[®] (In-Situ[®] field instrument) was used to monitor and record field water quality parameters during well purging to verify stabilization prior to sampling. Turbidity was monitored using a LaMotte 1970-USEPA Compliant Model 2020we[®] or HANNA Instruments Model HI93703[®] USEPA and International Organization for Standardization (ISO) Compliant turbidity meter. Groundwater samples were collected when the following stabilization criteria were met:

- ± 0.2 standard units for pH
- ± 5% for specific conductivity
- ± 0.2 milligrams per liter (mg/L) or 10 percent for DO > 0.5 mg/L (whichever is greater). No criterion applies if DO < 0.5 mg/L

- Turbidity measurements less than 10 Nephelometric Turbidity Unit

Once stabilization was achieved, unfiltered samples were collected in laboratory-supplied bottles, placed in ice-packed coolers, and submitted to TestAmerica, Inc. (TAL) in Pensacola, Florida and St. Louis, Missouri following chain-of-custody protocol. Field sampling data sheets are included in **Appendix A**.

3.4 Laboratory Analyses

Laboratory analytical reports for groundwater monitoring events conducted in 2018 are included in **Appendix A**. A summary of Appendix III and IV groundwater analytical data is included in **Table 5**.

Laboratory analyses were performed by TAL in Pensacola, Florida and St. Louis, Missouri. TAL is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintains a NELAP certification for all parameters analyzed during the three groundwater monitoring events in 2018 at AP-1. In addition, TAL is certified by the State of Georgia to perform analysis. Laboratory reports and chain-of-custody records for the monitoring events are presented in **Appendix A**.

3.5 Quality Assurance and Quality Control

During each sampling event, quality assurance/quality control samples (QA/QC) were collected at a rate of one sample per every 10 samples. QA/QC samples included field equipment rinsate blanks (FERB), field blanks (FB), and duplicate (DUP) samples. QA/QC sample data were evaluated during data validation (as discussed below) and are included in **Appendix A**.

Groundwater quality data in this report was validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation consisted of reviewing holding times, field and equipment blanks, field duplicates, and laboratory control samples, including: matrix spikes/matrix spike duplicate recoveries and relative percent differences (RPDs), post digestions spikes, laboratory duplicate RPDs, and reporting limits to verify sample integrity. Where appropriate, validation qualifiers and flags were applied to the data using USEPA procedures as guidance (USEPA, 2017). Flagged data is identified in the statistical analysis reports described in Section 4.

4. Statistical Analyses

Groundwater monitoring data collected during the semiannual monitoring events in June and October 2018, was statically analyzed pursuant to §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 analyzed to determine if concentrations statistically exceeded the established groundwater protection standards (GWPS). The following subsections provide an overview of the statistical methods used to evaluate Appendix III and IV parameters and statistical analyses results.

4.1 Statistical Methods

The Sanitas™ groundwater statistical software was used to perform the statistical analyses. Sanitas™ is a proprietary decision support software package, developed in 1991, that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA Unified Guidance (USEPA, 2009) document.

4.1.1 Appendix III Statistical Methods

The statistical test used to evaluate the Appendix III groundwater monitoring data consisted of both interwell (boron, chloride, fluoride, and sulfate) and intrawell (calcium, pH, and TDS) prediction limit (PL) method combined with the option of a 1-of-2 resample plan. The interwell PLs pool background data from the network of upgradient wells to calculate a PL, while the intrawell PLs use historical data from within a given well to establish a statistical limit for comparison of compliance data at the same well. An initial exceedance occurs when any downgradient well data exceed the PL.

If data from a sampling event initially exceeds the PL, the resampling strategy may be used to verify the result. In 1-of-2 resampling, one independent resample may be collected and evaluated within 90 days to verify the initial exceedance. If the resample exceeds the PL, the initial exceedance is verified, and an SSI is identified. When a resample result does not verify the initial result, and does not exceed the PL, the resample value will replace the initial result and there is no SSI. If resampling is not performed, the initial exceedance is a confirmed exceedance.

4.1.2 Appendix IV Statistical Methods

Appendix IV constituents detected during the initial assessment event (March 2018) are added to the list of parameters sampled during the subsequent semiannual sampling events (June and October 2018). 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.

Background limits were used when determining the GWPS under USEPA rule 40 CFR §257.95(h) and Georgia EPD rule 391-3-4-.10(6)(a). Parametric tolerance limits were used to calculate the background limits from pooled upgradient well data for Appendix IV parameters with a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

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 established under §§141.62 and 141.66 of this title (the “MCL”).
- (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. Georgia EPD’s CCR rule GWPS are:

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

Pursuant to the above requirements, GWPS have been established for statistical comparisons of Appendix IV constituents. **Table 6** summarizes the federal and state background limit established at each monitoring well and the GWPS.

4.2 Statistical Analyses Results

Analytical data from the June and October 2018 semiannual monitoring events were statistically analyzed in accordance with the Statistical Analysis Method Certification (October 2017). The statistical analysis of Appendix III parameters indicates constituents have not returned to background levels. The Appendix IV assessment monitoring statistics

are summarized below. The Sanitas™ statistical outputs for Appendix III and IV parameters are provided in **Appendix B**.

4.2.1 First Semiannual Assessment Monitoring Event (June 2018)

The first semiannual assessment monitoring event occurred in June 2018 and statistical analyses were completed in October 2018. Appendix IV constituents were identified at SSLs above the established GWPS.

Using the GWPS established under the federal CCR Rule, statistical analysis of Appendix IV data identified a single SSL for lithium at one groundwater monitoring well. Lithium at MGWC-7 exceeds the GWPS of 0.040 mg/L.

Using the GWPS established under the state CCR Rule, statistical analysis of Appendix IV data identified SSLs for cobalt and lithium in three groundwater monitoring wells. Cobalt statistically exceeded the GWPS of 0.0025 mg/L in MGWC-2, MGWC-7, and MGWC-8. Lithium statistically exceeded the GWPS of 0.03 mg/L in MGWC-7.

A groundwater exceedance notification was placed in the operating record in November 2018, pursuant to 40 CFR §257.95(g).

4.2.2 Second Semiannual Assessment Monitoring Event (October 2018)

The second semiannual assessment monitoring event occurred in October 2018 and statistical analyses were completed in January 2019.

Using the GWPS established under the federal CCR Rule, statistical analysis of Appendix IV data identified an SSL for cobalt and lithium at one groundwater monitoring well (MGWC-7). At that well, cobalt exceeded the GWPS of 0.006 mg/L and lithium exceeded the GWPS of 0.040 mg/L.

Using the GWPS established under the state CCR Rule, statistical analysis of Appendix IV data identified SSLs for cobalt and lithium in three groundwater monitoring wells. Cobalt statistically exceeded the GWPS of 0.0025 mg/L in MGWC-2, MGWC-7, and MGWC-8. Lithium statistically exceeded the GWPS of 0.03 mg/L in MGWC-7.

5. Alternate Source Demonstrations

In accordance with 40 C.F.R. §257.95, ASDs were completed for cobalt and lithium at AP-1. The ASDs concluded that the SSLs for cobalt and lithium in wells MGWC-2, MGWC-7, and MGWC-8 are attributed to natural groundwater variability due to soil heterogeneity and mineralogy containing these naturally-occurring trace elements. Small part per billion-level differences in cobalt and lithium concentrations in groundwater would be expected in the geologic setting near Plant McIntosh and the Savannah River having been influenced by Piedmont Region erosion and sediment transport and deposition. The ASDs are provided in **Appendix C**.

6. Groundwater Monitoring Program Status

In accordance with 40 CFR §257.94(e), an assessment monitoring program was established at AP-1. SSIs of Appendix III and SSLs of Appendix IV parameters were identified at AP-1 during sampling events conducted in 2018. In accordance with 40 CFR §257.95(g)(3), ASDs were completed for the cobalt and lithium SSLs; therefore, AP-1 will remain in assessment monitoring.

7. Conclusions and Future Actions

This *2018 Annual Groundwater Monitoring and Corrective Action Report* for GPC's Plant McIntosh AP-1 was prepared to fulfill the requirements of USEPA's CCR Rule.

Statistical evaluations of the groundwater monitoring data for AP-1 identified SSIs of Appendix III groundwater monitoring parameters above background and SSLs of Appendix IV groundwater monitoring parameters above GWPS. In accordance with 40 CFR §257.95(g)(3), ASDs were completed for cobalt and lithium, and AP-1 will remain in assessment monitoring.

The initial 2019 assessment event occurred in January. Semiannual assessment monitoring events are scheduled to follow in the spring and fall of 2019.

8. References

ERM, 2018. *2017 Annual Groundwater Monitoring and Corrective Action Report, Plant McIntosh, Ash Pond 1 (AP-1)*, January 31, 2018.

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Tables

Table 1. Monitoring Network
2018 Annual Groundwater Monitoring and Corrective Action Report
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Well ID	Installation Date	Northing	Easting	Total Depth (ft bTOC)	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Location and Purpose
MGWC-1	11/10/2015	856813.32	964287.17	56.08	62.00	65.08	19.30	9.30	Downgradient Monitoring Well
MGWC-2	11/11/2015	856400.70	963958.28	37.36	44.90	48.26	21.20	11.20	Downgradient Monitoring Well
MGWC-3	11/11/2015	856033.91	963658.13	38.74	49.60	52.34	23.90	13.90	Downgradient Monitoring Well
MGWC-4	11/18/2015	855555.10	963139.29	67.35	60.70	64.05	7.00	-3.00	Downgradient Monitoring Well
MGWA-5	11/12/2015	855860.77	962763.08	63.09	61.00	64.09	11.30	1.30	Upgradient Monitoring Well
MGWA-6	11/12/2015	856527.64	963130.05	41.93	57.90	60.83	29.20	19.20	Upgradient Monitoring Well
MGWC-7	11/13/2015	857417.67	964007.37	42.29	50.90	54.19	22.20	12.20	Downgradient Monitoring Well
MGWC-8	11/10/2015	857177.15	964141.60	52.56	59.30	62.36	20.10	10.10	Downgradient Monitoring Well
MGWA-9	11/17/2015	857129.76	963164.52	43.05	56.00	59.05	26.30	16.30	Upgradient Monitoring Well
MGWA-10	11/17/2015	855934.18	961406.35	53.09	61.60	64.69	21.90	11.90	Upgradient Monitoring Well
MGWA-11	05/27/2016	855985.27	962070.17	55.81	64.70	67.51	21.90	11.90	Upgradient Monitoring Well
MGWC-12	05/26/2016	855545.62	963110.10	52.90	63.90	66.80	24.10	14.10	Downgradient Monitoring Well
PZ-13	06/3/2016	856124.06	964192.33	26.76	37.80	40.66	24.30	14.30	Downgradient Piezometer
PZ-14	06/4/2016	855727.29	963896.00	41.50	43.80	46.90	15.80	5.80	Downgradient Piezometer
PZ-15	06/26/2018	856157.15	964192.87	28.87	39.01	42.28	23.71	13.71	Downgradient Piezometer
PZ-16	06/26/2018	857077.20	964956.17	42.39	51.23	54.62	22.53	12.53	Downgradient Piezometer
PZ-17	06/27/2018	857656.21	964525.25	45.12	54.04	57.46	22.64	12.64	Downgradient Piezometer
PZ-18	06/27/2018	857542.85	963505.27	41.70	50.11	53.31	21.91	11.91	Upgradient Piezometer
MGWC-19	10/4/2018	857405.11	963973.11	72.70	50.66	53.86	-8.54	-18.54	Downgradient Piezometer
MGWC-20	10/3/2018	857597.80	964282.17	54.77	48.72	51.49	7.02	-2.98	Downgradient Piezometer
MGWC-21	11/28/2018	857158.68	964154.74	82.68	59.81	62.49	-9.89	-19.89	Downgradient Piezometer
MGWC-22	11/29/2018	856382.16	963947.73	67.56	45.02	47.38	-9.88	-19.88	Downgradient Piezometer
MGWC-23	11/30/2018	856939.86	964618.27	42.90	54.75	57.35	24.75	14.75	Downgradient Piezometer

Notes:

bTOC - below top of casing

ft - feet

All monitoring wells and piezometers are 2 inches in diameter and casing material is polyvinyl chloride (PVC)

Elevations are in feet relative to North American Vertical Datum (NAVD)88

Northing and easting are in feet North American Datum (NAD)83, State Plane Georgia East Zone

During each groundwater monitoring event, monitoring wells are gauged for water levels and sampled for laboratory analysis and piezometers are gauged for water level only.

Well construction information taken from installation logs and the October 2017 Ash Pond Well Design, Installation, Development, and Decommissioning Report (revised in February 2018).

Table 2. Groundwater Sampling Event Summary for 2018
2018 Annual Groundwater Monitoring and Corrective Action Report
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Well ID	Hydraulic Location and Purpose	Summary of Sampling Events			
		Sampling Event	Initial Assessment	Assessment 1	Assessment 2
		Sampling Dates	March 29-30, 2018	June 12-13, 2018	October 9-10, 2018
MGWC-1	Downgradient Monitoring Well	✓	✓	✓	
MGWC-2	Downgradient Monitoring Well	✓	✓	✓	
MGWC-3	Downgradient Monitoring Well	✓	✓	✓	
MGWA-5	Upgradient Monitoring Well	✓	✓	✓	
MGWA-6	Upgradient Monitoring Well	✓	✓	✓	
MGWC-7	Downgradient Monitoring Well	✓	✓	✓	
MGWC-8	Downgradient Monitoring Well	✓	✓	✓	
MGWA-10	Upgradient Monitoring Well	✓	✓	✓	
MGWA-11	Upgradient Monitoring Well	✓	✓	✓	
MGWC-12	Downgradient Monitoring Well	✓	✓	✓	

Table 3. Summary of Groundwater Elevations
2018 Annual Groundwater Monitoring and Corrective Action Report
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Well ID	Top of Casing Elevation (ft NAVD)	Groundwater Elevations (ft NAVD)			
		March 26, 2018	June 12, 2018	July 12, 2018	October 9, 2018
MGWC-1	65.08	28.07	28.09	28.03	27.89
MGWC-2	48.26	28.22	28.39	27.97	27.88
MGWC-3	52.34	35.59	36.39	36.04	35.56
MGWC-4	64.05	38.82	39.44	40.03	38.36
MGWA-5	64.09	41.60	42.88	42.49	41.37
MGWA-6	60.83	41.30	42.91	42.42	41.55
MGWC-7	54.19	34.86	34.59	34.35	34.00
MGWC-8	62.36	32.69	32.92	32.96	32.87
MGWA-9	59.05	37.90	39.22	38.66	37.85
MGWA-10	64.69	45.94	47.95	47.36	45.31
MGWA-11	67.51	43.22	44.83	44.41	43.26
MGWC-12	66.80	39.04	39.71	39.50	40.41
PZ-13	40.66	23.67	23.61	23.17	23.16
PZ-14	46.90	30.18	30.30	29.96	29.56
PZ-15	42.28	NI	NI	23.26	23.33
PZ-16	54.62	NI	NI	21.68	21.59
PZ-17	57.46	NI	NI	26.35	26.37
PZ-18	53.31	NI	NI	34.01	33.20

Notes:

ft - feet

NI - not installed

Elevations are in feet relative to North American Vertical Datum (NAVD)88

Table 4. Groundwater Velocity Calculations - 2018
2018 Annual Groundwater Monitoring and Corrective Action Report
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Monitoring Wells and Piezometers	h_1	h_2	K (ft/day)	n_e	dh (ft)	dl (ft)	i (ft/ft)	Velocity (ft/day)	Velocity (ft/year)
MGWA-10 and PZ-15	45.31	23.33	0.962	0.20	21.98	2,795	0.008	0.038	13.87
MGWA-6 and PZ-16	41.55	21.59			19.96	1,907	0.010	0.048	17.52
MGWC-9 and PZ-17	37.85	26.37			11.48	1,459	0.008	0.038	13.87
								Avg. (ft/day)	Avg. (ft/year)
								0.041	15.09

Notes:

ft - feet

h_1 and h_2 - groundwater elevation at location 1 and 2

K - hydraulic conductivity

n_e - effective porosity

dh - difference between h_1 and h_2

dl - distance between locations 1 and 2

i - hydraulic gradient (dh/dl)

Velocity - linear velocity - Ki/n_e

Groundwater elevations measured October 9, 2018

**Table 5. Summary of Groundwater Analytical Data
2018 Annual Groundwater Monitoring and Corrective Action Report
Plant McIntosh Ash Pond 1
Effingham County, Georgia**

Location Name			MGWC-1			MGWC-2			MGWC-3			MGWA-5			MGWA-6				
Sample Date			3/29/2018	6/13/2018	10/10/2018	3/30/2018	6/13/2018	10/10/2018	3/30/2018	6/13/2018	10/10/2018	3/29/2018	6/12/2018	10/9/2018	3/29/2018	6/13/2018	Jun-18 DUP	10/10/2018	Oct-18 DUP
Analyte	Units	CAS No.																	
Field Parameters																			
pH	SU	pH	6.82	7.01	7.04	7.31	7.37	7.41	6.68	6.83	6.69	7.19	7.55	7.8	6.95	7.08		7.01	
ORP	µS/cm	ORP	15.8	64.3	53.1	83.9	49.2	34.9	71.2	86.8	57.2	43.5	-115.8	63	59	63.5		-32.1	
Specific Conductivity	mV	COND	574.4	563.0	648.1	870.81	828.10	839.75	567.88	599.50	554.26	272.00	257.9	264.67	561.08	544.80		529.14	
DO	mg/L	DO	0.16	0.70	0.15	0.18	0.22	0.16	0.47	0.25	0.25	0.24	0.41	4.87	0.47	0.79		0.14	
Temperature	°Celsius	TEMP	22.35	22.53	22.67	19.98	22.64	23.65	19.29	22.16	21.86	22.1	24.13	23.29	23.53	23.77		23.09	
Turbidity	NTU	TURB	1.98	1.48	0.69	1.27	1.04	0.32	1.40	0.380	1.07	0.55	1.71	0.62	4.46	1.75		3.04	
Appendix III Parameters																			
Boron	mg/L	7440-42-8	--	1.2	1.2	--	3.0	3.0	--	1.6	1.6	--	< 0.021	< 0.021	--	0.11	0.088	0.096 J	0.17 J
Calcium	mg/L	7440-70-2	--	100	100	--	120	120	--	100	96	--	25	29	--	100	110	100	100
Chloride	mg/L	16887-00-6	--	13	14	--	16	15	--	13	14	--	5.1	5.6	--	7.0	7.0	6.9	6.8
Fluoride	mg/L	16984-48-8	0.16 J	0.14 J	0.17 J	< 0.082	< 0.082	0.085 J	< 0.082	< 0.082	< 0.082	0.084 J	< 0.082	0.086 J	< 0.082	< 0.082	< 0.082	< 0.082	< 0.082
pH	SU	pH	6.82	7.01	7.04	7.31	7.37	7.41	6.68	6.83	6.69	7.19	7.55	7.8	6.95	7.08		7.01	
Sulfate	mg/L	14808-79-8	--	130	140	--	220	220	--	110	110	--	3.8	6.7	--	8.7	9.0	8.7	8.6
Total Dissolved Solids	mg/L	TDS	--	390	260	--	570	470	--	320	300	--	180	170	--	230	290	300	300
Appendix IV Parameters																			
Antimony	mg/L	7440-36-0	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--	--	--
Arsenic	mg/L	7440-38-2	0.0023	0.0021	0.0024	< 0.00046	< 0.00046	< 0.00046	0.0017	0.0015	0.0016	< 0.00046	< 0.00046	< 0.00046	0.014	0.011	0.012	0.014	0.017
Barium	mg/L	7440-39-3	0.095	0.096	0.095	0.049	0.050	0.046	0.13	0.14	0.13	0.037	0.036	0.034	0.043	0.037	0.038	0.037	0.037
Beryllium	mg/L	7440-41-7	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034
Cadmium	mg/L	7440-43-9	< 0.00034	< 0.00034	< 0.00034	0.0016 J	0.0016 J	0.0010 J	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034
Chromium	mg/L	7440-47-3	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Cobalt	mg/L	7440-48-4	< 0.00040	< 0.00040	< 0.00040	0.0037	0.0035	0.0034	0.00068 J	0.00048 J	0.00063 J	< 0.00040	< 0.00040	< 0.00040	0.00065 J	< 0.00040	< 0.00040	0.00051 J	0.00048 J
Fluoride	mg/L	16984-48-8	0.16 J	0.14 J	0.17 J	< 0.082	< 0.082	0.085 J	< 0.082	< 0.082	< 0.082	0.084 J	< 0.082	0.086 J	< 0.082	< 0.082	< 0.082	< 0.082	< 0.082
Lead	mg/L	7439-92-1	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--	--	--
Lithium	mg/L	7439-93-2	0.017 J	0.0094	0.011	0.0080 J	0.0054	0.0055	0.017 J	0.011	0.013	0.014 J	0.0095	0.011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Mercury	mg/L	7439-97-6	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	< 0.000070	0.000074 J	< 0.000070	< 0.000070	< 0.000070	< 0.000070
Molybdenum	mg/L	7439-98-7	0.0017 J	0.00087 J	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085
Selenium	mg/L	7782-49-2	0.00050 J	< 0.00024	< 0.00024	0.00045 J	< 0.00024	< 0.00024	0.00044 J	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024	< 0.00024
Thallium	mg/L	7440-28-0	0.00014 J	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085
Radium 226 and 228	pci/L	7740-14-4	1.21	1.09	1.95 J	0.677	< 0.347	< 0.330	1.43	1.27	1.54 J	0.370	< 0.338	0.850 J	0.600	< 0.361	0.771	1.01 J	< 0.342

General Notes:

CAS No. - Chemical Abstracts Service Registry Number

Bolded - detected value

-- - not analyzed for this constituent

µS/cm - microsiemens per centimeter

mg/L - milligrams per liter

mV - millivolts

NE - not established

ntu - nephelometric turbidity units

pci/L - picocuries per liter

s.u.- Standard Units

Total metals analysis was performed. Temperature, specific conductance, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured and recorded in the field.

Validator Qualifiers:

< - The analyte was not detected at a concentration above the specified laboratory reporting limit.

J - The result is an estimated value.

**Table 5. Summary of Groundwater Analytical Data
2018 Annual Groundwater Monitoring and Corrective Action Report
Plant McIntosh Ash Pond 1
Effingham County, Georgia**

Location Name			MGWC-7				MGWC-8			MGWA-10			MGWA-11			MGWC-12		
Sample Date			3/29/2018	Mar-18 DUP	6/13/2018	10/10/2018	3/30/2018	6/13/2018	10/10/2018	3/29/2018	6/12/2018	10/9/2018	3/29/2018	6/12/2018	10/9/2018	3/29/2018	6/12/2018	10/10/2018
Analyte	Units	CAS No.																
Field Parameters																		
pH	SU	pH	6.24	6.24	6.12	5.16	5.79	5.15	5.35	6.23	5.62	7.42	8.02	7.79	6.93	7.29	7.12	
ORP	µS/cm	ORP	98.7	98.7	11.7	139.6	87.6	125.6	98.3	130.5	87	75.2	125.8	70.8	11.2	-62.1	-27.8	
Specific Conductivity	mV	COND	511.7	511.7	492.52	774.40	783.5	834.64	65.50	74.6	65.88	299.70	248.4	253.7	303.20	298.2	348.7	
DO	mg/L	DO	1.32	1.32	0.12	0.13	1.24	0.33	1.91	6.39	2.06	0.12	3.88	1.12	0.18	0.45	0.54	
Temperature	°Celsius	TEMP	23.02	23.02	23.34	20.61	22.69	26.02	19.63	24.49	23.36	21.44	24.01	24.12	23.74	22.80	22.12	
Turbidity	NTU	TURB	2.3	2.30	2.15	0.47	4.69	0.88	1.33	1.87	1.09	1.33	0.050	0.37	0.69	0.63	0.9	
Appendix III Parameters																		
Boron	mg/L	7440-42-8	--	1.4	1.4	--	4.9	5.1	--	< 0.021	< 0.021	--	< 0.021	< 0.021	--	< 0.021	0.034 J	
Calcium	mg/L	7440-70-2	--	51	51	--	84	87	--	4.8	4.5	--	26	29	--	30	35	
Chloride	mg/L	16887-00-6	--	12	12	--	11	10	--	6.7	7.1	--	4.6	4.5	--	4.0	4.2	
Fluoride	mg/L	16984-48-8	0.23	0.2	0.23	0.088 J	0.15 J	0.11 J	< 0.082	< 0.082	< 0.082	< 0.082	0.16 J	0.16 J	0.23	0.23	0.25	
pH	SU	pH	6.46	6.24	6.12	5.16	5.79	5.15	5.35	6.23	5.62	7.42	8.02	7.79	6.93	7.29	7.12	
Sulfate	mg/L	14808-79-8	--	180	190	--	330	410	--	0.82 J	0.82 J	--	4.1	2.2	--	4.1	2.5	
Total Dissolved Solids	mg/L	TDS	--	320	270	--	600	410	--	62	68	--	150	150	--	170	48	
Appendix IV Parameters																		
Antimony	mg/L	7440-36-0	< 0.0010	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--	< 0.0010	--	--
Arsenic	mg/L	7440-38-2	0.00066 J	0.00068 J	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	0.0020	0.0017	0.00072 J	0.00053 J	0.00063 J	0.00098 J	
Barium	mg/L	7440-39-3	0.010	0.010	0.0098	0.011	0.041	0.038	0.035	0.021	0.025	0.024	0.11	0.068	0.072	0.061	0.063	0.071
Beryllium	mg/L	7440-41-7	< 0.00034	< 0.00034	< 0.00034	< 0.00034	0.0015 J	0.0012 J	0.0016 J	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034
Cadmium	mg/L	7440-43-9	< 0.00034	< 0.00034	< 0.00034	< 0.00034	0.00058 J	0.00076 J	0.00035 J	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034	< 0.00034
Chromium	mg/L	7440-47-3	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	0.0039	0.0038	0.0037	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Cobalt	mg/L	7440-48-4	0.0088	0.0088	0.0093	0.012	0.015	0.014	0.018	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040
Fluoride	mg/L	16984-48-8	0.23	0.2	0.23	0.088 J	0.15 J	0.11 J	< 0.082	< 0.082	< 0.082	< 0.082	0.16 J	0.16 J	0.23	0.23	0.25	
Lead	mg/L	7439-92-1	< 0.00035	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--	< 0.00035	--	--
Lithium	mg/L	7439-93-2	0.17 J	0.17 J	0.12	0.130	0.058 J	0.035	0.046	0.010 J	0.0068	0.0082	0.030 J	0.012	0.015	0.032 J	0.019	0.027
Mercury	mg/L	7439-97-6	< 0.000070	< 0.000070	< 0.000070	< 0.000070	0.00013 J	0.00074	0.00013 J	< 0.000070	< 0.000070	< 0.000070	0.000086 J	< 0.000070	< 0.000070	0.000074 J	< 0.000070	< 0.000070
Molybdenum	mg/L	7439-98-7	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	0.0012 J	< 0.00085	< 0.00085	0.0029 J	< 0.00085	< 0.00085	< 0.00085	< 0.00085
Selenium	mg/L	7782-49-2	0.00026 J	0.00027 J	< 0.00024	< 0.00024	0.00027 J	< 0.00024	< 0.00024	0.00027 J	0.00076 J	0.00054 J	< 0.00024	0.00049 J	< 0.00024	0.00027 J	< 0.00024	< 0.00024
Thallium	mg/L	7440-28-0	< 0.000085	< 0.000085	< 0.000085	< 0.000085	0.00027 J	0.00027 J	0.00025 J	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085	< 0.000085
Radium 226 and 228	pci/L	7740-14-4	0.822	1.01	0.716	1.51 J	2.15	1.51	2.72 J	0.799	< 0.438	1.11 J	0.723	< 0.417	< 0.388	0.736	0.438	< 0.369

General Notes:

CAS No. - Chemical Abstracts Service Registry Number

Bolded - detected value

-- - not analyzed for this constituent

µS/cm - microsiemens per centimeter

mg/L - milligrams per liter

mV - millivolts

NE - not established

ntu - nephelometric turbidity units

pci/L - picocuries per liter

s.u.- Standard Units

Total metals analysis was performed. Temperature, specific conductance, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured and recorded in the field.

Validator Qualifiers:

< - The analyte was not detected at a concentration above the specified laboratory reporting limit.

J - The result is an estimated value.

**Table 6. Summary of Background Levels and GWPS
2018 Annual Groundwater Monitoring and Corrective Action Report
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia**

Analyte	Units	CAS No.	Background	Federal GWPS	State GWPS
Appendix IV Parameters					
Antimony	mg/L	7440-36-0	0.0017	0.006	0.006
Arsenic	mg/L	7440-38-2	0.0352	0.01	0.01
Barium	mg/L	7440-39-3	0.12	2	2
Beryllium	mg/L	7440-41-7	0.0025	0.004	0.004
Cadmium	mg/L	7440-43-9	0.0025	0.005	0.005
Chromium	mg/L	7440-47-3	0.0063	0.1	0.1
Cobalt	mg/L	7440-48-4	0.0025	0.006	0.0025
Fluoride	mg/L	16984-48-8	0.2	4	4
Lead	mg/L	7439-92-1	0.00035	0.015	0.005
Lithium	mg/L	7439-93-2	0.03	0.04	0.03
Mercury	mg/L	7439-98-7	0.0002	0.002	0.002
Molybdenum	mg/L	7782-49-2	0.0279, 0.015	0.1	0.0279, 0.015
Selenium	mg/L	7440-28-0	0.013	0.05	0.05
Thallium	mg/L	7439-97-6	0.0005	0.002	0.002
Total Radium-226/228	pci/L	TRa226_228	1.279, 1.323	5	5

Notes:

GWPS - Groundwater Protection Standard

mg/L - milligrams per liter

pci/L - picocuries per liter


1. The background limits were then used when determining the GWPS under 40 CFR §257.95(h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)(a).
2. Under 40 CFR §257.95(h)(1-3) the GWPS is: (i) the maximum contaminant level (MCL) established under §§141.62 and 141.66 of this title; (ii) where an MCL has not been established a rule-specific GWPS or regional screen level (RSL) is used; or (iii) background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.
3. Under the existing EPD rules, the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background levels for constituents where the background level is higher than the MCL.
4. Where two (2) numbers are present, they denote the different background levels and background-derived GWPS for each of the two (2) semiannual monitoring events in the order that they were determined.

Figures

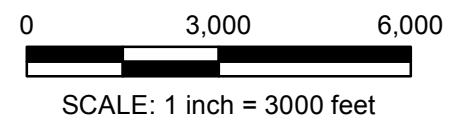


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

 Plant McIntosh Approximate Property Boundary

Aerial Photograph:
7/22/2017 by DigitalGlobe



2018 Annual Groundwater Monitoring and Corrective Action
Report - Plant McIntosh Ash Pond 1
Effingham County, Georgia

Georgia Power Company
Atlanta, Georgia



PLANT MCINTOSH
SITE LOCATION MAP




Project No. 1800205

Prepared January 2019

Fig. 1

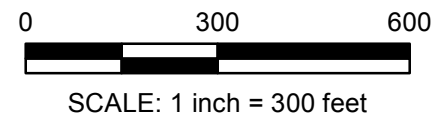


LEGEND


-  Downgradient Monitoring Well
-  Piezometer
-  Upgradient Monitoring Well

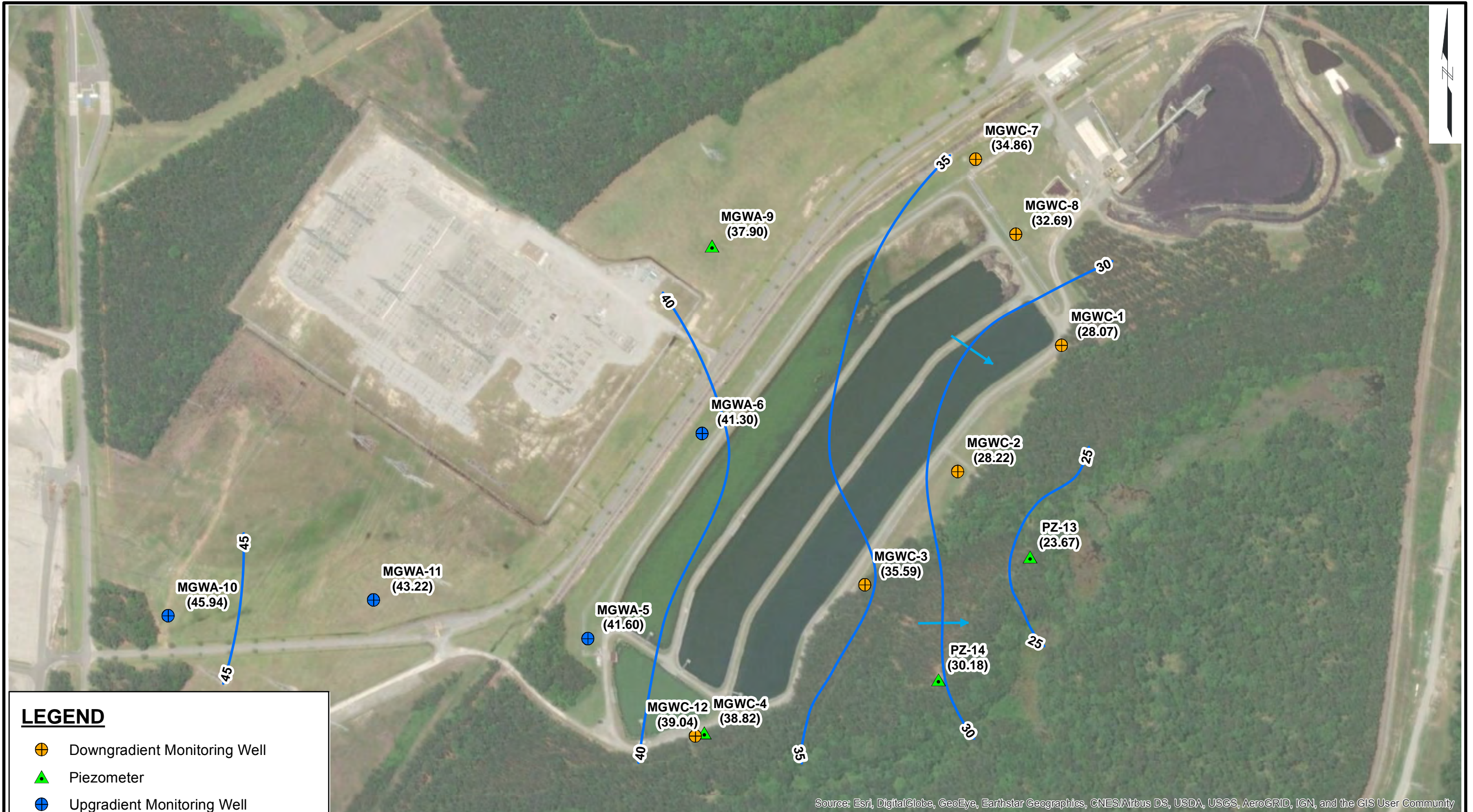
NOTE:

1. Wells MGWC-19, MGWC-20, MGWC-21, MGWC-22, and MGWC-23 were installed in October and November 2018.



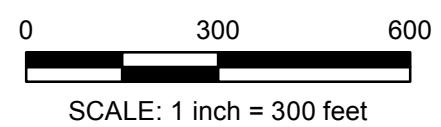
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2018 Annual Groundwater Monitoring and Corrective Action Report - Plant McIntosh Ash Pond 1 Effingham County, Georgia		ASH POND 1 WELL LOCATION MAP
Georgia Power Company Atlanta, Georgia	Project No. 1800205 Prepared January 2019 Fig. 2	



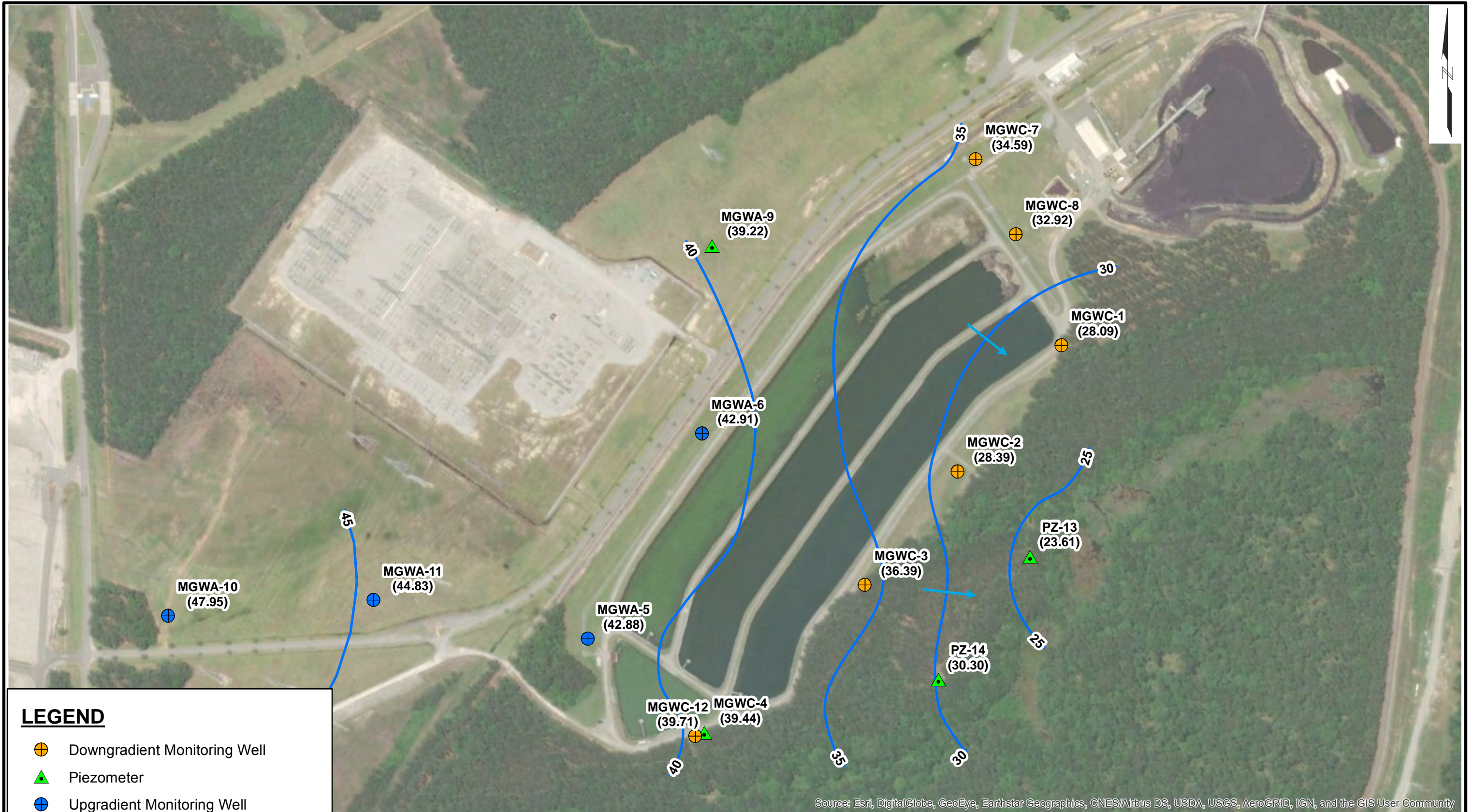
LEGEND

- Downgradient Monitoring Well
 - Piezometer
 - Upgradient Monitoring Well
 - Apparent Potentiometric Contour
 - Apparent Groundwater Flow Direction
- (28.07) = Groundwater elevations measured in feet relative to NAVD88 on 3/26/18








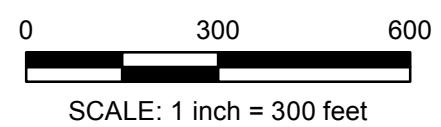
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2018 Annual Groundwater Monitoring and Corrective Action Report - Plant McIntosh Ash Pond 1 Effingham County, Georgia		ASH POND 1 POTENTIOMETRIC SURFACE CONTOUR MAP MARCH 2018
Georgia Power Company Atlanta, Georgia	Project No. 1800205	Prepared January 2019 Fig. 3



LEGEND

-  Downgradient Monitoring Well
 -  Piezometer
 -  Upgradient Monitoring Well
 -  Apparent Groundwater Flow Direction
 -  Apparent Potentiometric Contour
- (27.89) = Groundwater elevations measured in feet relative to NAVD88 on 6/12/18



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

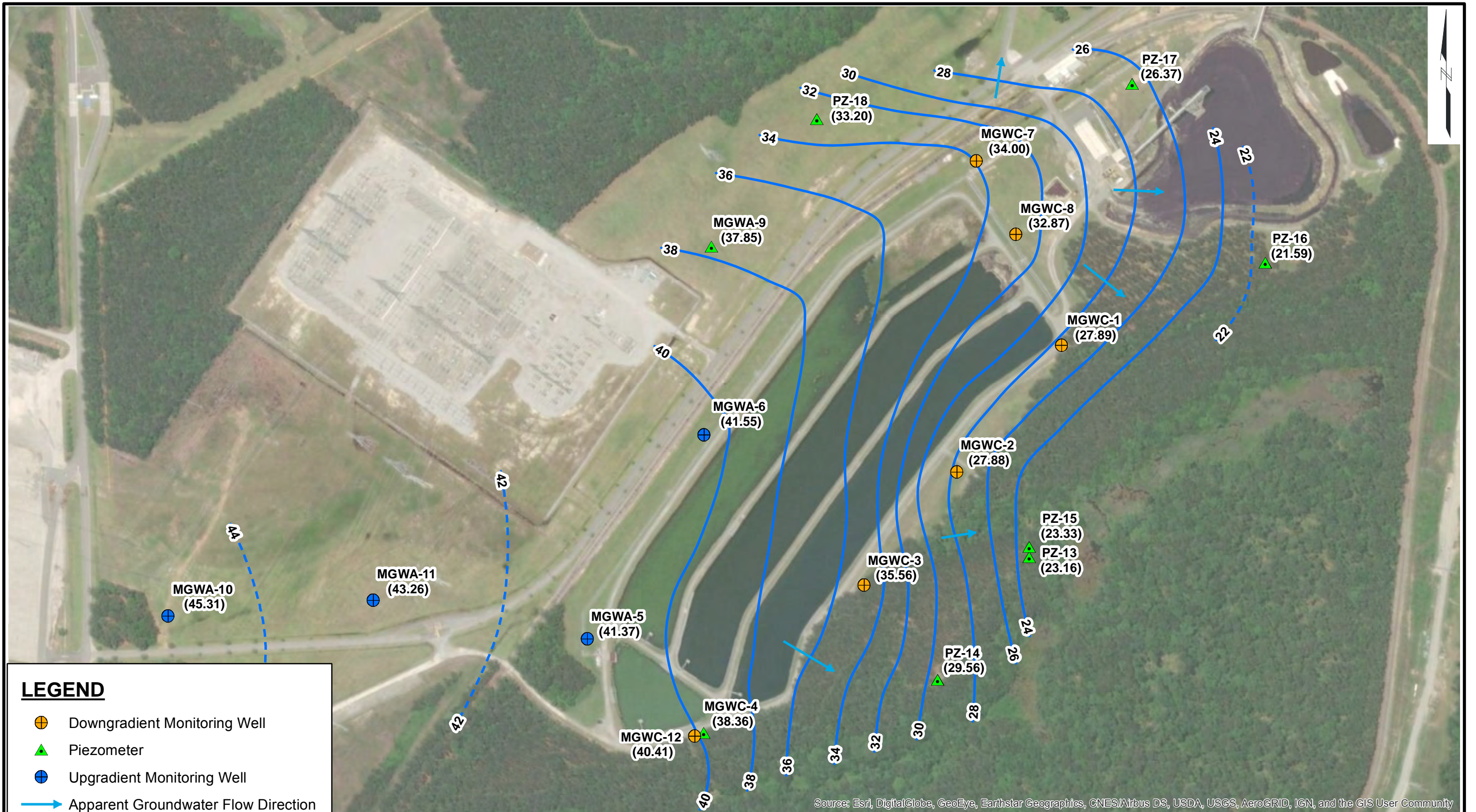
2018 Annual Groundwater Monitoring and Corrective Action Report - Plant McIntosh Ash Pond 1
Effingham County, Georgia

Georgia Power Company
Atlanta, Georgia



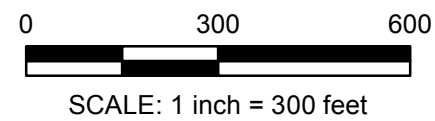
ASH POND 1
POTENTIOMETRIC SURFACE
CONTOUR MAP
JUNE 2018

Project No. 1800205 Prepared January 2019 Fig. 4



LEGEND

- ⊕ Downgradient Monitoring Well
 - ▲ Piezometer
 - ⊕ Upgradient Monitoring Well
 - Apparent Groundwater Flow Direction
 - Apparent Potentiometric Contour
 - - - Inferred Potentiometric Contour
- (27.89) = Groundwater elevations measured in feet relative to NAVD88 on 10/09/18



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

2018 Annual Groundwater Monitoring and Corrective Action Report - Plant McIntosh Ash Pond 1 Effingham County, Georgia		ASH POND 1 POTENTIOMETRIC SURFACE CONTOUR MAP OCTOBER 2018
Georgia Power Company Atlanta, Georgia	Project No. 1800205	Prepared January 2019 Fig. 5

Appendix A

Laboratory Analytical and Field Sampling Data Reports

Water Level Measurement Data Sheet
Plant McIntosh
Georgia Power Company



Date: 3/26/2018
 Gauged by P. Adams & J. Noles

Area	Well ID	Measured Depth to Water (ft btoc)	Measured Depth to Bottom (ft btoc)	Provided for reference				Notes
				January 2017 Depth to Water (ft btoc)	January 2017 Depth to Bottom (ft btoc)	Installed Total Depth (ft btoc)	Installed Depth to Top of Screen (ft btoc)	
Ash Pond	MGWC-1	37.01	56.11	36.55	56.07	55.78	44.78	
	MGWC-2	20.04	37.26	19.84	37.26	37.06	27.86	
	MGWC-3	16.75	39.13	16.08	39.10	38.44	32.42	
	MGWC-4	25.23	67.81	24.62	67.78	67.05	47.05	
	MGWA-5	22.49	63.38	21.89	63.36	62.79	42.80	
	MGWA-6	19.53	42.14	18.81	42.11	41.63	40.75	
	MGWC-7	19.33	42.26	19.71	42.23	41.99	33.83	
	MGWC-8	29.67	52.80	29.01	52.81	52.26	42.29	
	MGWA-9	21.15	43.10	20.76	43.10	42.75	22.75	
	MGWA-10	18.75	52.95	18.25	52.97	52.79	44.30	
	MGWA-11	21.44	56.62	20.97	56.60	55.61	46.58	
	MGWC-12	24.88	53.73	24.25	53.73	52.70	43.70	
	PZ-13	16.99	27.30	16.76	27.29	26.36	17.28	
	PZ-14	16.72	41.75	16.36	41.74	41.10	31.72	

Notes:
 ft = feet
 NM = Not Measured
 btoc = below top of casing

Product Name: Low-Flow System

Date: 2018-03-29 16:33:08

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type GeoTech Bladder
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 58 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-1
Well diameter 2 in
Well Total Depth 56.11 ft
Screen Length 10 ft
Depth to Water 37.01 ft

Pumping Information:

Final Pumping Rate 180 mL/min
Total System Volume 0.5488786 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 11.28 in
Total Volume Pumped 5.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	16:09:20	600.04	22.84	6.70	509.37	10.10	37.90	0.26	16.02
Last 5	16:14:20	900.03	22.52	6.76	543.18	4.37	37.91	0.23	16.30
Last 5	16:19:20	1200.03	22.51	6.80	564.67	2.89	37.92	0.19	16.29
Last 5	16:24:20	1500.03	22.45	6.82	570.06	2.43	37.95	0.17	16.08
Last 5	16:29:20	1800.03	22.35	6.82	574.43	1.98	37.95	0.16	15.79
Variance 0			-0.02	0.04	21.49			-0.03	-0.01
Variance 1			-0.06	0.02	5.39			-0.02	-0.21
Variance 2			-0.11	0.00	4.37			-0.01	-0.29

Notes:

Sampled at 16:45

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-30 09:11:20

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 364456
Turbidity Make/Model LaMotte 2020 We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .175 in
Tubing Length 40 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWC-2
Well diameter 2 in
Well Total Depth 37.26 ft
Screen Length 10 ft
Depth to Water 20.04 ft

Pumping Information:

Final Pumping Rate 220 mL/min
Total System Volume 0.2791936 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 11.5 in
Total Volume Pumped 4.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	08:38:31	600.03	19.54	7.11	869.05	2.38	20.80	0.36	87.15
Last 5	08:43:31	900.02	19.61	7.22	869.70	1.63	20.89	0.29	85.38
Last 5	08:48:31	1200.01	19.74	7.27	870.16	1.46	20.95	0.26	84.69
Last 5	08:53:31	1500.00	19.84	7.29	869.22	1.03	20.99	0.22	84.31
Last 5	09:03:33	2101.99	19.98	7.31	870.81	1.27	21.02	0.18	83.91
Variance 0			0.13	0.05	0.46			-0.03	-0.70
Variance 1			0.10	0.03	-0.94			-0.03	-0.37
Variance 2			0.14	0.02	1.58			-0.04	-0.40

Notes

Began purging at 0828, stabilized at 0858. Sampled well at 0905.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-30 10:44:12

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 364456
Turbidity Make/Model LaMotte 2020 We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .175 in
Tubing Length 45 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWC-3
Well diameter 2 in
Well Total Depth 39.13 ft
Screen Length ft
Depth to Water 16.75 ft

Pumping Information:

Final Pumping Rate 160 mL/min
Total System Volume 0.3028427 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 2.28 in
Total Volume Pumped 3.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	10:18:44	600.02	18.93	6.76	566.72	0.79	16.85	0.86	73.14
Last 5	10:23:44	900.03	19.03	6.72	564.31	0.87	16.91	0.69	71.53
Last 5	10:28:44	1200.02	19.23	6.69	564.01	1.17	16.95	0.60	71.36
Last 5	10:33:44	1500.01	19.27	6.68	562.09	0.80	16.95	0.55	71.29
Last 5	10:38:44	1800.01	19.29	6.68	567.88	1.40	16.94	0.47	71.25
Variance 0			0.20	-0.02	-0.30			-0.09	-0.16
Variance 1			0.04	-0.02	-1.92			-0.05	-0.08
Variance 2			0.02	0.00	5.79			-0.09	-0.04

Notes

Sampled at 10:45

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 12:19:00

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-5
Well diameter 2 in
Well Total Depth 63.39 ft
Screen Length 10 ft
Depth to Water 22.49 ft

Pumping Information:

Final Pumping Rate 160 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 9 in
Total Volume Pumped 7.15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	11:55:23	2100.03	22.13	7.29	259.31	0.51	23.20	0.63	73.77
Last 5	12:00:23	2400.03	22.08	7.24	257.84	0.22	23.20	0.55	62.58
Last 5	12:05:23	2700.02	22.24	7.21	260.31	0.38	23.20	0.22	53.71
Last 5	12:10:23	3000.02	22.06	7.19	269.33	0.64	23.22	0.31	49.73
Last 5	12:15:23	3300.02	22.10	7.19	271.98	0.55	23.24	0.24	43.45
Variance 0			0.16	-0.03	2.47			-0.33	-8.86
Variance 1			-0.19	-0.01	9.02			-0.22	-3.98
Variance 2			0.05	-0.00	2.65			0.24	-6.28

Notes

Sampled at 12:35

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 13:11:04

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 364456
Turbidity Make/Model LaMotte 2020 We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .175 in
Tubing Length 45 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWA-6
Well diameter 2 in
Well Total Depth 42.20 ft
Screen Length 10 ft
Depth to Water 19.39 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.3028427 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 2.04 in
Total Volume Pumped 5.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	12:36:07	1800.05	22.64	6.95	561.76	7.70	19.54	0.64	64.32
Last 5	12:41:07	2100.05	22.53	6.95	561.49	6.25	19.56	0.63	62.92
Last 5	12:46:07	2400.05	22.61	6.95	560.35	6.04	19.55	0.54	60.57
Last 5	12:51:07	2700.04	22.79	6.95	561.68	5.00	19.55	0.46	63.45
Last 5	12:56:07	3000.05	23.53	6.95	561.08	4.46	19.56	0.47	59.01
Variance 0			0.08	-0.00	-1.14			-0.09	-2.35
Variance 1			0.18	0.00	1.33			-0.08	2.88
Variance 2			0.74	-0.01	-0.59			0.01	-4.44

Notes

Had trouble getting tubing into screen causing elevated turbidity. Began purging 12:06, stabilized at 12:56. Sampled the well at 13:05.

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 15:46:39

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 364456
Turbidity Make/Model LaMotte 2020 We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .175 in
Tubing Length 43 ft

Pump placement from TOC 1.5 ft

Well Information:

Well ID MGWC-7
Well diameter 2 in
Well Total Depth 42.25 ft
Screen Length 10 ft
Depth to Water 20.15 ft

Pumping Information:

Final Pumping Rate 140 mL/min
Total System Volume 0.2933831 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5.4 in
Total Volume Pumped 9.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	15:13:59	3000.04	22.76	6.41	518.85	1.09	20.59	1.25	97.43
Last 5	15:18:59	3300.04	22.97	6.43	518.13	0.86	20.59	1.14	97.18
Last 5	15:23:59	3600.04	22.74	6.44	519.59	1.24	20.60	0.99	96.89
Last 5	15:29:00	3901.05	22.80	6.46	521.47	0.90	20.60	0.91	96.34
Last 5	15:34:00	4201.04	22.75	6.46	521.69	0.81	20.60	0.81	96.01
Variance 0			-0.24	0.01	1.47			-0.15	-0.29
Variance 1			0.06	0.02	1.88			-0.08	-0.54
Variance 2			-0.05	0.01	0.22			-0.10	-0.33

Notes

Began purging at 1424. Stabilized t 15:34. Sampled the well at 15:38. DUP-03 taken here

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-30 09:12:12

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-8
Well diameter 2 in
Well Total Depth 52.8 ft
Screen Length 10 ft
Depth to Water 29.67 ft

Pumping Information:

Final Pumping Rate 220 mL/min
Total System Volume 0.5354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 5.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	08:50:35	600.03	20.65	5.17	743.53	0.66	29.65	0.30	124.74
Last 5	08:55:35	900.03	20.61	5.16	765.03	0.71	29.66	0.23	129.67
Last 5	09:00:35	1200.03	20.65	5.16	774.73	0.84	29.67	0.17	133.69
Last 5	09:05:35	1500.02	20.69	5.16	775.26	0.79	29.66	0.14	136.98
Last 5	09:10:35	1800.02	20.61	5.16	774.36	0.47	29.65	0.13	139.60
Variance 0			0.03	-0.00	9.70			-0.06	4.02
Variance 1			0.04	-0.00	0.53			-0.03	3.29
Variance 2			-0.08	0.01	-0.89			-0.01	2.62

Notes

Sampled at 09:30

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 09:05:02

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 54 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-10
Well diameter 2 in
Well Total Depth 52.95 ft
Screen Length 10 ft
Depth to Water 18.75 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.3310249 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 30 in
Total Volume Pumped 3.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	08:44:12	900.03	19.45	5.33	63.70	0.78	20.42	1.94	95.60
Last 5	08:49:12	1200.03	19.46	5.34	63.56	0.73	20.75	1.93	96.21
Last 5	08:54:12	1500.03	19.48	5.32	63.39	1.04	20.97	1.95	97.16
Last 5	08:59:12	1800.02	19.59	5.34	64.40	1.87	21.12	1.94	98.05
Last 5	09:04:12	2100.02	19.63	5.35	65.48	1.33	21.25	1.91	98.27
Variance 0			0.01	-0.01	-0.17			0.02	0.94
Variance 1			0.11	0.01	1.01			-0.00	0.89
Variance 2			0.04	0.02	1.09			-0.03	0.22

Notes

Sampled at 09:30

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 10:30:41

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 56 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-11
Well diameter 2 in
Well Total Depth 56.62 ft
Screen Length 10 ft
Depth to Water 21.44 ft

Pumping Information:

Final Pumping Rate 160 mL/min
Total System Volume 0.3399517 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 4.4 in
Total Volume Pumped 4.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 10%	+/- 10
Last 5	10:08:11	900.03	21.46	7.42	248.57	1.35	21.65	0.30	76.18
Last 5	10:13:11	1200.03	21.57	7.43	260.58	0.71	21.75	0.17	73.83
Last 5	10:18:11	1500.03	21.46	7.42	288.80	1.06	21.77	0.13	75.59
Last 5	10:23:12	1801.02	21.66	7.42	296.34	1.28	21.79	0.12	75.54
Last 5	10:28:22	2111.02	21.44	7.42	299.72	1.33	21.81	0.12	75.16
Variance 0			-0.11	-0.02	28.23			-0.04	1.76
Variance 1			0.21	0.01	7.54			-0.02	-0.05
Variance 2			-0.22	-0.00	3.38			-0.00	-0.38

Notes

Sampled at 10:45

Grab Samples

Product Name: Low-Flow System

Date: 2018-03-29 14:29:46

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name GPC - Plant McIntosh
Site Name AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 501336
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 54 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-12
Well diameter 2 in
Well Total Depth 53.73 ft
Screen Length 10 ft
Depth to Water 24.88 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.3310249 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5.28 in
Total Volume Pumped 3.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10
Last 5	14:06:23	600.03	22.93	6.96	308.83	3.50	25.30	0.24	28.42
Last 5	14:11:23	900.03	22.97	6.94	306.19	2.22	25.35	0.20	24.18
Last 5	14:16:23	1200.03	23.47	6.94	309.27	1.46	25.33	0.19	18.79
Last 5	14:21:23	1500.03	23.20	6.92	307.77	0.73	25.32	0.17	15.69
Last 5	14:26:23	1800.02	23.74	6.93	303.22	0.69	25.32	0.18	11.20
Variance 0			0.50	-0.00	3.08			-0.01	-5.39
Variance 1			-0.27	-0.02	-1.50			-0.02	-3.10
Variance 2			0.54	0.00	-4.55			0.01	-4.49

Notes

Sampled at 14:45

Grab Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-151567-1

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

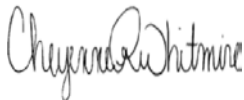
For:

Southern Company

PO BOX 2641 GSC8

Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:

4/13/2018 5:13:51 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Job ID: 400-151567-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151567-1

Metals

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 393192 and analytical batch 393655 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: FB-02

Lab Sample ID: 400-151567-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0013	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWA-10

Lab Sample ID: 400-151567-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.021		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Chromium	0.0039		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.010		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00027	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWA-11

Lab Sample ID: 400-151567-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0020		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.11		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.030		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Mercury	0.000086	J	0.00020	0.000070	mg/L	1		7470A	Total/NA

Client Sample ID: MGWA-5

Lab Sample ID: 400-151567-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.084	J	0.20	0.082	mg/L	1		300.0	Total/NA
Barium	0.037		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.014		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: FERB-03

Lab Sample ID: 400-151567-5

No Detections.

Client Sample ID: MGWC-12

Lab Sample ID: 400-151567-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.23		0.20	0.082	mg/L	1		300.0	Total/NA
Arsenic	0.00053	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.061		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.032		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00027	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Mercury	0.000074	J	0.00020	0.000070	mg/L	1		7470A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-151567-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.014		0.0013	0.00046	mg/L	5		6020	Total
Barium	0.043		0.0025	0.00049	mg/L	5		6020	Recoverable Total
Cobalt	0.00065	J	0.0025	0.00040	mg/L	5		6020	Recoverable Total
Lithium	0.0013	J	0.0050	0.0011	mg/L	5		6020	Recoverable Total
Mercury	0.000074	J	0.00020	0.000070	mg/L	1		7470A	Total/NA

Client Sample ID: MGWC-7

Lab Sample ID: 400-151567-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.23		0.20	0.082	mg/L	1		300.0	Total/NA
Arsenic	0.00066	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.010		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cobalt	0.0088		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.17		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00026	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: DUP-03

Lab Sample ID: 400-151567-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.25		0.20	0.082	mg/L	1		300.0	Total/NA
Arsenic	0.00068	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.010		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cobalt	0.0088		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.17		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00027	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-1

Lab Sample ID: 400-151567-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.16	J	0.20	0.082	mg/L	1		300.0	Total/NA
Arsenic	0.0023		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.095		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Lithium	0.017		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0017	J	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00050	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: MGWC-1 (Continued)

Lab Sample ID: 400-151567-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.00014	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-2

Lab Sample ID: 400-151567-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.049		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.0016	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cobalt	0.0037		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0080	F1	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00045	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-3

Lab Sample ID: 400-151567-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0017		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.13		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cobalt	0.00068	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.017		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00044	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-8

Lab Sample ID: 400-151567-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.088	J	0.20	0.082	mg/L	1		300.0	Total/NA
Barium	0.041		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0015	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cadmium	0.00058	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cobalt	0.015		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.058		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00027	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00027	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Mercury	0.00013	J	0.00020	0.000070	mg/L	1		7470A	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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



Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151567-1	FB-02	Water	03/29/18 08:00	03/30/18 11:14
400-151567-2	MGWA-10	Water	03/29/18 09:30	03/30/18 11:14
400-151567-3	MGWA-11	Water	03/29/18 10:45	03/30/18 11:14
400-151567-4	MGWA-5	Water	03/29/18 12:35	03/30/18 11:14
400-151567-5	FERB-03	Water	03/29/18 13:00	03/30/18 11:14
400-151567-6	MGWC-12	Water	03/29/18 14:45	03/30/18 11:14
400-151567-7	MGWA-6	Water	03/29/18 13:05	03/30/18 11:14
400-151567-8	MGWC-7	Water	03/29/18 15:38	03/30/18 11:14
400-151567-9	DUP-03	Water	03/29/18 00:00	03/30/18 11:14
400-151567-10	MGWC-1	Water	03/29/18 16:45	03/30/18 11:14
400-151567-11	MGWC-2	Water	03/30/18 09:05	03/31/18 08:46
400-151567-12	MGWC-3	Water	03/30/18 10:45	03/31/18 08:46
400-151567-13	MGWC-8	Water	03/30/18 09:30	03/31/18 08:46

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: FB-02
Date Collected: 03/29/18 08:00
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 15:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 14:27	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 14:27	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 14:27	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:27	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:27	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 14:27	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 14:27	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 14:27	5
Lithium	0.0013	J	0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 14:27	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 14:27	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 14:27	5
Thallium	<0.00085		0.00050	0.00085	mg/L		04/09/18 11:52	04/11/18 14:27	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:12	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 03/29/18 09:30

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 16:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 14:31	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 14:31	5
Barium	0.021		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 14:31	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:31	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:31	5
Chromium	0.0039		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 14:31	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 14:31	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 14:31	5
Lithium	0.010		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 14:31	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 14:31	5
Selenium	0.00027 J		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 14:31	5
Thallium	<0.00085		0.00050	0.00085	mg/L		04/09/18 11:52	04/11/18 14:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:14	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWA-11

Lab Sample ID: 400-151567-3

Date Collected: 03/29/18 10:45

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 17:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 14:36	5
Arsenic	0.0020		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 14:36	5
Barium	0.11		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 14:36	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:36	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:36	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 14:36	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 14:36	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 14:36	5
Lithium	0.030		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 14:36	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 14:36	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 14:36	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 14:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000086	J	0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:15	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWA-5

Lab Sample ID: 400-151567-4

Date Collected: 03/29/18 12:35

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.084	J	0.20	0.082	mg/L			04/08/18 17:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 14:40	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 14:40	5
Barium	0.037		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 14:40	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:40	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:40	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 14:40	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 14:40	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 14:40	5
Lithium	0.014		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 14:40	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 14:40	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 14:40	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 14:40	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:17	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: FERB-03

Lab Sample ID: 400-151567-5

Date Collected: 03/29/18 13:00

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 17:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 14:45	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 14:45	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 14:45	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:45	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 14:45	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 14:45	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 14:45	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 14:45	5
Lithium	<0.0011		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 14:45	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 14:45	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 14:45	5
Thallium	<0.00085		0.00050	0.00085	mg/L		04/09/18 11:52	04/11/18 14:45	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:19	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-151567-6

Date Collected: 03/29/18 14:45

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.23		0.20	0.082	mg/L			04/08/18 18:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 15:12	5
Arsenic	0.00053	J	0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 15:12	5
Barium	0.061		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 15:12	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:12	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:12	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 15:12	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 15:12	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 15:12	5
Lithium	0.032		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 15:12	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 15:12	5
Selenium	0.00027	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 15:12	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 15:12	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000074	J	0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:20	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-151567-7

Date Collected: 03/29/18 13:05

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 18:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 15:16	5
Arsenic	0.014		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 15:16	5
Barium	0.043		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 15:16	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:16	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:16	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 15:16	5
Cobalt	0.00065	J	0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 15:16	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 15:16	5
Lithium	0.0013	J	0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 15:16	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 15:16	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 15:16	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 15:16	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000074	J	0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:22	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: MGWC-7

Lab Sample ID: 400-151567-8

Date Collected: 03/29/18 15:38

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.23		0.20	0.082	mg/L			04/08/18 19:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 15:21	5
Arsenic	0.00066	J	0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 15:21	5
Barium	0.010		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 15:21	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:21	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:21	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 15:21	5
Cobalt	0.0088		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 15:21	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 15:21	5
Lithium	0.17		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 15:21	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 15:21	5
Selenium	0.00026	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 15:21	5
Thallium	<0.00085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 15:21	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:36	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: DUP-03

Date Collected: 03/29/18 00:00

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-9

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.25		0.20	0.082	mg/L			04/08/18 19:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 15:25	5
Arsenic	0.00068	J	0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 15:25	5
Barium	0.010		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 15:25	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:25	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:25	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 15:25	5
Cobalt	0.0088		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 15:25	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 15:25	5
Lithium	0.17		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 15:25	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 15:25	5
Selenium	0.00027	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 15:25	5
Thallium	<0.00085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 15:25	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:37	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-151567-10

Date Collected: 03/29/18 16:45

Matrix: Water

Date Received: 03/30/18 11:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.16	J	0.20	0.082	mg/L			04/08/18 20:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 15:30	5
Arsenic	0.0023		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 15:30	5
Barium	0.095		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 15:30	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:30	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 15:30	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 15:30	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 15:30	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 15:30	5
Lithium	0.017		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 15:30	5
Molybdenum	0.0017	J	0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 15:30	5
Selenium	0.00050	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 15:30	5
Thallium	0.00014	J	0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 15:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:39	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWC-2
Date Collected: 03/30/18 09:05
Date Received: 03/31/18 08:46

Lab Sample ID: 400-151567-11
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 21:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 13:06	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 13:06	5
Barium	0.049		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 13:06	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:06	5
Cadmium	0.0016	J	0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:06	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 13:06	5
Cobalt	0.0037		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 13:06	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 13:06	5
Lithium	0.0080	F1	0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 13:06	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 13:06	5
Selenium	0.00045	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 13:06	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 13:06	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:54	04/12/18 13:48	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-151567-12

Date Collected: 03/30/18 10:45

Matrix: Water

Date Received: 03/31/18 08:46

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 21:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 13:28	5
Arsenic	0.0017		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 13:28	5
Barium	0.13		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 13:28	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:28	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:28	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 13:28	5
Cobalt	0.00068	J	0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 13:28	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 13:28	5
Lithium	0.017		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 13:28	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 13:28	5
Selenium	0.00044	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 13:28	5
Thallium	<0.00085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 13:28	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:43	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-151567-13

Date Collected: 03/30/18 09:30

Matrix: Water

Date Received: 03/31/18 08:46

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.088	J	0.20	0.082	mg/L			04/08/18 22:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 13:33	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 13:33	5
Barium	0.041		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 13:33	5
Beryllium	0.0015	J	0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:33	5
Cadmium	0.00058	J	0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 13:33	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 13:33	5
Cobalt	0.015		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 13:33	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 13:33	5
Lithium	0.058		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 13:33	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 13:33	5
Selenium	0.00027	J	0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 13:33	5
Thallium	0.00027	J	0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 13:33	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00013	J	0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 10:41	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery 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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: FB-02
Date Collected: 03/29/18 08:00
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 15:35	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 14:27	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:12	JAP	TAL PEN

Client Sample ID: MGWA-10
Date Collected: 03/29/18 09:30
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 16:44	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 14:31	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:14	JAP	TAL PEN

Client Sample ID: MGWA-11
Date Collected: 03/29/18 10:45
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 17:07	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 14:36	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:15	JAP	TAL PEN

Client Sample ID: MGWA-5
Date Collected: 03/29/18 12:35
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 17:29	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 14:40	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:17	JAP	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: FERB-03

Lab Sample ID: 400-151567-5

Date Collected: 03/29/18 13:00

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 17:52	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 14:45	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:19	JAP	TAL PEN

Client Sample ID: MGWC-12

Lab Sample ID: 400-151567-6

Date Collected: 03/29/18 14:45

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 18:15	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 15:12	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:20	JAP	TAL PEN

Client Sample ID: MGWA-6

Lab Sample ID: 400-151567-7

Date Collected: 03/29/18 13:05

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 18:38	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 15:16	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:22	JAP	TAL PEN

Client Sample ID: MGWC-7

Lab Sample ID: 400-151567-8

Date Collected: 03/29/18 15:38

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 19:24	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 15:21	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:36	JAP	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: DUP-03

Date Collected: 03/29/18 00:00

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 19:46	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 15:25	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:37	JAP	TAL PEN

Client Sample ID: MGWC-1

Date Collected: 03/29/18 16:45

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 20:09	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 15:30	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:39	JAP	TAL PEN

Client Sample ID: MGWC-2

Date Collected: 03/30/18 09:05

Date Received: 03/31/18 08:46

Lab Sample ID: 400-151567-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 21:18	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 13:06	DRE	TAL PEN
Total/NA	Prep	7470A			393526	04/11/18 17:54	JAP	TAL PEN
Total/NA	Analysis	7470A		1	393751	04/12/18 13:48	JAP	TAL PEN

Client Sample ID: MGWC-3

Date Collected: 03/30/18 10:45

Date Received: 03/31/18 08:46

Lab Sample ID: 400-151567-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 21:40	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 13:28	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:43	JAP	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-151567-13

Date Collected: 03/30/18 09:30

Matrix: Water

Date Received: 03/31/18 08:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	393177	04/08/18 22:03	JAW	TAL PEN
Total Recoverable	Prep	3005A			393192	04/09/18 11:52	DN1	TAL PEN
Total Recoverable	Analysis	6020		5	393655	04/11/18 13:33	DRE	TAL PEN
Total/NA	Prep	7470A			393598	04/11/18 17:19	DN1	TAL PEN
Total/NA	Analysis	7470A		1	393870	04/13/18 10:41	JAP	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

HPLC/IC

Analysis Batch: 393177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total/NA	Water	300.0	
400-151567-2	MGWA-10	Total/NA	Water	300.0	
400-151567-3	MGWA-11	Total/NA	Water	300.0	
400-151567-4	MGWA-5	Total/NA	Water	300.0	
400-151567-5	FERB-03	Total/NA	Water	300.0	
400-151567-6	MGWC-12	Total/NA	Water	300.0	
400-151567-7	MGWA-6	Total/NA	Water	300.0	
400-151567-8	MGWC-7	Total/NA	Water	300.0	
400-151567-9	DUP-03	Total/NA	Water	300.0	
400-151567-10	MGWC-1	Total/NA	Water	300.0	
400-151567-11	MGWC-2	Total/NA	Water	300.0	
400-151567-12	MGWC-3	Total/NA	Water	300.0	
400-151567-13	MGWC-8	Total/NA	Water	300.0	
MB 400-393177/36	Method Blank	Total/NA	Water	300.0	
LCS 400-393177/37	Lab Control Sample	Total/NA	Water	300.0	
LCS 400-393177/38	Lab Control Sample Dup	Total/NA	Water	300.0	
400-151582-K-5 MS	Matrix Spike	Total/NA	Water	300.0	
400-151582-K-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 393192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total Recoverable	Water	3005A	
400-151567-2	MGWA-10	Total Recoverable	Water	3005A	
400-151567-3	MGWA-11	Total Recoverable	Water	3005A	
400-151567-4	MGWA-5	Total Recoverable	Water	3005A	
400-151567-5	FERB-03	Total Recoverable	Water	3005A	
400-151567-6	MGWC-12	Total Recoverable	Water	3005A	
400-151567-7	MGWA-6	Total Recoverable	Water	3005A	
400-151567-8	MGWC-7	Total Recoverable	Water	3005A	
400-151567-9	DUP-03	Total Recoverable	Water	3005A	
400-151567-10	MGWC-1	Total Recoverable	Water	3005A	
400-151567-11	MGWC-2	Total Recoverable	Water	3005A	
400-151567-12	MGWC-3	Total Recoverable	Water	3005A	
400-151567-13	MGWC-8	Total Recoverable	Water	3005A	
MB 400-393192/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-393192/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-151567-11 MS	MGWC-2	Total Recoverable	Water	3005A	
400-151567-11 MSD	MGWC-2	Total Recoverable	Water	3005A	

Prep Batch: 393526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-11	MGWC-2	Total/NA	Water	7470A	
MB 400-393526/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393526/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151582-N-3-E MS	Matrix Spike	Total/NA	Water	7470A	
400-151582-N-3-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Metals (Continued)

Prep Batch: 393598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total/NA	Water	7470A	
400-151567-2	MGWA-10	Total/NA	Water	7470A	
400-151567-3	MGWA-11	Total/NA	Water	7470A	
400-151567-4	MGWA-5	Total/NA	Water	7470A	
400-151567-5	FERB-03	Total/NA	Water	7470A	
400-151567-6	MGWC-12	Total/NA	Water	7470A	
400-151567-7	MGWA-6	Total/NA	Water	7470A	
400-151567-8	MGWC-7	Total/NA	Water	7470A	
400-151567-9	DUP-03	Total/NA	Water	7470A	
400-151567-10	MGWC-1	Total/NA	Water	7470A	
400-151567-12	MGWC-3	Total/NA	Water	7470A	
400-151567-13	MGWC-8	Total/NA	Water	7470A	
MB 400-393598/14-A	Method Blank	Total/NA	Water	7470A	
LCS 400-393598/15-A	Lab Control Sample	Total/NA	Water	7470A	
400-151322-B-6-C MS	Matrix Spike	Total/NA	Water	7470A	
400-151322-B-6-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 393655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total Recoverable	Water	6020	393192
400-151567-2	MGWA-10	Total Recoverable	Water	6020	393192
400-151567-3	MGWA-11	Total Recoverable	Water	6020	393192
400-151567-4	MGWA-5	Total Recoverable	Water	6020	393192
400-151567-5	FERB-03	Total Recoverable	Water	6020	393192
400-151567-6	MGWC-12	Total Recoverable	Water	6020	393192
400-151567-7	MGWA-6	Total Recoverable	Water	6020	393192
400-151567-8	MGWC-7	Total Recoverable	Water	6020	393192
400-151567-9	DUP-03	Total Recoverable	Water	6020	393192
400-151567-10	MGWC-1	Total Recoverable	Water	6020	393192
400-151567-11	MGWC-2	Total Recoverable	Water	6020	393192
400-151567-12	MGWC-3	Total Recoverable	Water	6020	393192
400-151567-13	MGWC-8	Total Recoverable	Water	6020	393192
MB 400-393192/1-A ^5	Method Blank	Total Recoverable	Water	6020	393192
LCS 400-393192/2-A	Lab Control Sample	Total Recoverable	Water	6020	393192
400-151567-11 MS	MGWC-2	Total Recoverable	Water	6020	393192
400-151567-11 MSD	MGWC-2	Total Recoverable	Water	6020	393192

Analysis Batch: 393751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-11	MGWC-2	Total/NA	Water	7470A	393526
MB 400-393526/14-A	Method Blank	Total/NA	Water	7470A	393526
LCS 400-393526/15-A	Lab Control Sample	Total/NA	Water	7470A	393526
400-151582-N-3-E MS	Matrix Spike	Total/NA	Water	7470A	393526
400-151582-N-3-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393526

Analysis Batch: 393870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total/NA	Water	7470A	393598
400-151567-2	MGWA-10	Total/NA	Water	7470A	393598
400-151567-3	MGWA-11	Total/NA	Water	7470A	393598
400-151567-4	MGWA-5	Total/NA	Water	7470A	393598

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Metals (Continued)

Analysis Batch: 393870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-5	FERB-03	Total/NA	Water	7470A	393598
400-151567-6	MGWC-12	Total/NA	Water	7470A	393598
400-151567-7	MGWA-6	Total/NA	Water	7470A	393598
400-151567-8	MGWC-7	Total/NA	Water	7470A	393598
400-151567-9	DUP-03	Total/NA	Water	7470A	393598
400-151567-10	MGWC-1	Total/NA	Water	7470A	393598
400-151567-12	MGWC-3	Total/NA	Water	7470A	393598
400-151567-13	MGWC-8	Total/NA	Water	7470A	393598
MB 400-393598/14-A	Method Blank	Total/NA	Water	7470A	393598
LCS 400-393598/15-A	Lab Control Sample	Total/NA	Water	7470A	393598
400-151322-B-6-C MS	Matrix Spike	Total/NA	Water	7470A	393598
400-151322-B-6-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	393598

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-393177/36
Matrix: Water
Analysis Batch: 393177

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			04/08/18 12:10	1

Lab Sample ID: LCS 400-393177/37
Matrix: Water
Analysis Batch: 393177

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 400-393177/38
Matrix: Water
Analysis Batch: 393177

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	10.0	10.1		mg/L		101	90 - 110	0	15

Lab Sample ID: 400-151582-K-5 MS
Matrix: Water
Analysis Batch: 393177

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.095	J	10.0	10.2		mg/L		101	80 - 120

Lab Sample ID: 400-151582-K-5 MSD
Matrix: Water
Analysis Batch: 393177

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.095	J	10.0	10.2		mg/L		101	80 - 120	0	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-393192/1-A ^5
Matrix: Water
Analysis Batch: 393655

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 393192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0025	0.0010	mg/L		04/09/18 11:52	04/11/18 12:52	5
Arsenic	<0.00046		0.0013	0.00046	mg/L		04/09/18 11:52	04/11/18 12:52	5
Barium	<0.00049		0.0025	0.00049	mg/L		04/09/18 11:52	04/11/18 12:52	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 12:52	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		04/09/18 11:52	04/11/18 12:52	5
Chromium	<0.0011		0.0025	0.0011	mg/L		04/09/18 11:52	04/11/18 12:52	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		04/09/18 11:52	04/11/18 12:52	5
Lead	<0.00035		0.0013	0.00035	mg/L		04/09/18 11:52	04/11/18 12:52	5
Lithium	<0.0011		0.0050	0.0011	mg/L		04/09/18 11:52	04/11/18 12:52	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		04/09/18 11:52	04/11/18 12:52	5
Selenium	<0.00024		0.0013	0.00024	mg/L		04/09/18 11:52	04/11/18 12:52	5
Thallium	<0.000085		0.00050	0.000085	mg/L		04/09/18 11:52	04/11/18 12:52	5

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Lab Sample ID: LCS 400-393192/2-A
Matrix: Water
Analysis Batch: 393655

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 393192

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0500	0.0534		mg/L		107	80 - 120
Arsenic	0.0500	0.0497		mg/L		99	80 - 120
Barium	0.0500	0.0489		mg/L		98	80 - 120
Beryllium	0.0500	0.0503		mg/L		101	80 - 120
Cadmium	0.0500	0.0517		mg/L		103	80 - 120
Chromium	0.0500	0.0518		mg/L		104	80 - 120
Cobalt	0.0500	0.0521		mg/L		104	80 - 120
Lead	0.0500	0.0507		mg/L		101	80 - 120
Lithium	0.0500	0.0512		mg/L		102	80 - 120
Molybdenum	0.0500	0.0512		mg/L		102	80 - 120
Selenium	0.0500	0.0491		mg/L		98	80 - 120
Thallium	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: 400-151567-11 MS
Matrix: Water
Analysis Batch: 393655

Client Sample ID: MGWC-2
Prep Type: Total Recoverable
Prep Batch: 393192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0010		0.0500	0.0550		mg/L		110	75 - 125
Arsenic	<0.00046		0.0500	0.0520		mg/L		104	75 - 125
Barium	0.049		0.0500	0.0996		mg/L		100	75 - 125
Beryllium	<0.00034		0.0500	0.0515		mg/L		103	75 - 125
Cadmium	0.0016	J	0.0500	0.0513		mg/L		99	75 - 125
Chromium	<0.0011		0.0500	0.0521		mg/L		104	75 - 125
Cobalt	0.0037		0.0500	0.0551		mg/L		103	75 - 125
Lead	<0.00035		0.0500	0.0488		mg/L		98	75 - 125
Lithium	0.0080	F1	0.0500	0.0739	F1	mg/L		132	75 - 125
Molybdenum	<0.00085		0.0500	0.0527		mg/L		105	75 - 125
Selenium	0.00045	J	0.0500	0.0502		mg/L		99	75 - 125
Thallium	<0.00085		0.0100	0.0102		mg/L		102	75 - 125

Lab Sample ID: 400-151567-11 MSD
Matrix: Water
Analysis Batch: 393655

Client Sample ID: MGWC-2
Prep Type: Total Recoverable
Prep Batch: 393192

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0010		0.0500	0.0531		mg/L		106	75 - 125	3	20
Arsenic	<0.00046		0.0500	0.0519		mg/L		104	75 - 125	0	20
Barium	0.049		0.0500	0.0979		mg/L		97	75 - 125	2	20
Beryllium	<0.00034		0.0500	0.0514		mg/L		103	75 - 125	0	20
Cadmium	0.0016	J	0.0500	0.0527		mg/L		102	75 - 125	3	20
Chromium	<0.0011		0.0500	0.0523		mg/L		105	75 - 125	0	20
Cobalt	0.0037		0.0500	0.0555		mg/L		104	75 - 125	1	20
Lead	<0.00035		0.0500	0.0489		mg/L		98	75 - 125	0	20
Lithium	0.0080	F1	0.0500	0.0759	F1	mg/L		136	75 - 125	3	20
Molybdenum	<0.00085		0.0500	0.0512		mg/L		102	75 - 125	3	20
Selenium	0.00045	J	0.0500	0.0489		mg/L		97	75 - 125	3	20
Thallium	<0.00085		0.0100	0.0102		mg/L		102	75 - 125	1	20

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-393526/14-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 11:34	04/12/18 12:23	1

Lab Sample ID: LCS 400-393526/15-A
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00101	0.000976		mg/L		97	80 - 120

Lab Sample ID: 400-151582-N-3-E MS
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.000070		0.00201	0.00176		mg/L		87	80 - 120

Lab Sample ID: 400-151582-N-3-F MSD
Matrix: Water
Analysis Batch: 393751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 393526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.000070		0.00201	0.00183		mg/L		91	80 - 120	4	20

Lab Sample ID: MB 400-393598/14-A
Matrix: Water
Analysis Batch: 393870

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393598

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		04/11/18 17:19	04/13/18 09:38	1

Lab Sample ID: LCS 400-393598/15-A
Matrix: Water
Analysis Batch: 393870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393598

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00101	0.00103		mg/L		102	80 - 120

Lab Sample ID: 400-151322-B-6-C MS
Matrix: Water
Analysis Batch: 393870

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393598

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	<0.000070		0.00201	0.00207		mg/L		103	80 - 120

Lab Sample ID: 400-151322-B-6-D MSD
Matrix: Water
Analysis Batch: 393870

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 393598

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.000070		0.00201	0.00199		mg/L		99	80 - 120	4	20

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
SDG: Ash Pond

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Chain of Custody Record



Client Information		Sampler:		Lab PM:		Carrier Tracking No(s):	
Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2841 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: Impetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site:		L. Coker & P. Adams 679 467 9200		Whitmore, Chelyenne R E-Mail: chelyenne.whitmore@testamericainc.com			
Analysis Requested							
Due Date Requested:		300 ORGM_28D - Cd,Cr,Cr.Co,Pb,Li,Mo,Se,Tl,7470A-Hg		5020-Sb,As,Ba,Cd,Cr,Cr.Co,Pb,Li,Mo,Se,Tl,7470A-Hg		9315_Ra226,9320_Ra228, Ra226Ra228_GFPc	
TAT Requested (days):	Standard	Perform MS/MSD (Yes or No)	<input checked="" type="checkbox"/>	Field Filtered Sample (Yes or No)	<input checked="" type="checkbox"/>		
PO #:	SCS10347656	Matrix					
WO #:		(Water, Residual, Onsite/Off)					
Sample Date	3/29/2018	Sample Time	08:00	Sample Type (C=comp, G=grab)	G	Preservation Code:	
FB-02		Water		Water			
MGWA-10		Water	09:30	Water	G		
MGWA-11		Water	10:45	Water	G		
MGWA-5		Water	12:35	Water	G		
FERB-03		Water	13:00	Water	G		
MGWC-12		Water	14:45	Water	G		
MGWA-6		Water	13:05	Water	G		
MGWC-7		Water	15:28	Water	G		
DUP-03		Water	16:45	Water	G		
MGWC-1		Water		Water	G		
Special Instructions/Note:							
Only Appendix IV for all Ash Pond Samples							
Special Instructions/Note:							
<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: Peter A _____ Date/Time: 19:15 3/29/18 Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Seal No.: _____ Cooler Temperature(s) and Other Remarks: 27.7°C, 27.7°C AS							

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

400-151567 COC

Ver: 08/04/2016

Chain of Custody Record



Client Information		Lab PM: Whitmire, Cheyenne R		Carrier Tracking No(s):		COC No:		
Client Contact: Ms. Lauren Petty 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 - Ash Pond Site:		Sampler: P. Adams & L. Coker Phone: 678 467 9260 E-Mail: cheyenne.whitmire@testamericainc.com		Page of Job #:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anichlor 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)		
Due Date Requested:		Analysis Requested		Total Number of containers		Special Instructions/Note:		
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, B=BIOTASS, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300 ORGFM_28D - Olanolite, Fluoride & Sulfate, 2540C -	5020-Sp.As.Ba.K.Be.Cd.Cr.Co.Pb.Li.Mo.Se.Tl.7470A-Hg
MGWC-2	3/30/18	09:05	G	Water	N	✓	✓	✓
MGWC-3	↓	10:45	G	Water	N	✓	✓	✓
MGWC-8	↓	09:30	G	Water	N	✓	✓	✓
				Water				
				Water				
				Water				
				Water				
				Water				
				Water				
				Water				
				Water				
				Water				
				Water				
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		Date: 3/30/18 13:10 Company: GET		Date/Time: 3/31/18 9416 Company: JAF		Date/Time: Company:		
Relinquished by: Peter A Relinquished by: Relinquished by:		Date: Company:		Date/Time: Company:		Date/Time: Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 12°C JAC		Date/Time: Company:		Date/Time: Company:		

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Ver 08/04/2014

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151567-1

SDG Number: Ash Pond

Login Number: 151567

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	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	0.3°C, 2.7°C, 2.7°C IR-8, 1.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-1
 SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-151567-2

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

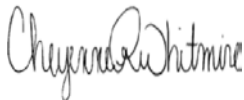
For:

Southern Company

PO BOX 2641 GSC8

Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:

4/30/2018 1:58:50 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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

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Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

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

Protocol References:

None = None

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

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151567-1	FB-02	Water	03/29/18 08:00	03/30/18 11:14
400-151567-2	MGWA-10	Water	03/29/18 09:30	03/30/18 11:14
400-151567-3	MGWA-11	Water	03/29/18 10:45	03/30/18 11:14
400-151567-4	MGWA-5	Water	03/29/18 12:35	03/30/18 11:14
400-151567-5	FERB-03	Water	03/29/18 13:00	03/30/18 11:14
400-151567-6	MGWC-12	Water	03/29/18 14:45	03/30/18 11:14
400-151567-7	MGWA-6	Water	03/29/18 13:05	03/30/18 11:14
400-151567-8	MGWC-7	Water	03/29/18 15:38	03/30/18 11:14
400-151567-9	DUP-03	Water	03/29/18 00:00	03/30/18 11:14
400-151567-10	MGWC-1	Water	03/29/18 16:45	03/30/18 11:14
400-151567-11	MGWC-2	Water	03/30/18 09:05	03/31/18 08:46
400-151567-12	MGWC-3	Water	03/30/18 10:45	03/31/18 08:46
400-151567-13	MGWC-8	Water	03/30/18 09:30	03/31/18 08:46

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: FB-02
Date Collected: 03/29/18 08:00
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-1
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	0.0125	U	0.0367	0.0367	1.00	0.0716	pCi/L	04/03/18 10:47	04/25/18 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 10:47	04/25/18 06:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.203	U	0.234	0.234	1.00	0.384	pCi/L	04/03/18 11:11	04/11/18 08:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 11:11	04/11/18 08:10	1
Y Carrier	92.7		40 - 110					04/03/18 11:11	04/11/18 08:10	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	0.216	U	0.237	0.237	5.00	0.384	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: MGWA-10

Lab Sample ID: 400-151567-2

Date Collected: 03/29/18 09:30

Matrix: Water

Date Received: 03/30/18 11:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.340		0.102	0.107	1.00	0.0909	pCi/L	04/03/18 10:47	04/25/18 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					04/03/18 10:47	04/25/18 06:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.459		0.274	0.277	1.00	0.421	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	85.2		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.799		0.292	0.297	5.00	0.421	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWA-11

Lab Sample ID: 400-151567-3

Date Collected: 03/29/18 10:45

Matrix: Water

Date Received: 03/30/18 11:14

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		0.0745	0.0762	1.00	0.0743	pCi/L	04/03/18 10:47	04/25/18 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					04/03/18 10:47	04/25/18 06:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.548		0.261	0.266	1.00	0.383	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	87.9		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.723		0.271	0.277	5.00	0.383	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: MGWA-5

Lab Sample ID: 400-151567-4

Date Collected: 03/29/18 12:35

Matrix: Water

Date Received: 03/30/18 11:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0878		0.0553	0.0558	1.00	0.0681	pCi/L	04/03/18 10:47	04/25/18 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					04/03/18 10:47	04/25/18 06:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.282	U	0.209	0.210	1.00	0.327	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	93.1		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.370		0.216	0.217	5.00	0.327	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: FERB-03
Date Collected: 03/29/18 13:00
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-5
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	0.0148	U	0.0404	0.0404	1.00	0.0771	pCi/L	04/03/18 10:47	04/25/18 06:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 10:47	04/25/18 06:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.278	U	0.238	0.240	1.00	0.381	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	85.2		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.293	U	0.241	0.243	5.00	0.381	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-151567-6

Date Collected: 03/29/18 14:45

Matrix: Water

Date Received: 03/30/18 11:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.195		0.0787	0.0806	1.00	0.0771	pCi/L	04/03/18 10:47	04/25/18 06:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					04/03/18 10:47	04/25/18 06:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.541		0.249	0.254	1.00	0.356	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	80.0		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.736		0.261	0.266	5.00	0.356	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-151567-7

Date Collected: 03/29/18 13:05

Matrix: Water

Date Received: 03/30/18 11:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.292		0.0883	0.0921	1.00	0.0725	pCi/L	04/03/18 10:47	04/25/18 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 10:47	04/25/18 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.308	U	0.231	0.232	1.00	0.364	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	90.1		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.600		0.247	0.250	5.00	0.364	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: MGWC-7

Date Collected: 03/29/18 15:38

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-8

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	0.615		0.126	0.138	1.00	0.0860	pCi/L	04/03/18 10:47	04/25/18 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					04/03/18 10:47	04/25/18 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.207	U	0.208	0.209	1.00	0.339	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	92.0		40 - 110					04/03/18 11:11	04/11/18 08:11	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	0.822		0.243	0.250	5.00	0.339	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: DUP-03

Date Collected: 03/29/18 00:00

Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-9

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.739		0.136	0.152	1.00	0.0644	pCi/L	04/03/18 10:47	04/25/18 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					04/03/18 10:47	04/25/18 06:11	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.268	U	0.193	0.195	1.00	0.300	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.7		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	94.6		40 - 110					04/03/18 11:11	04/11/18 08:11	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	1.01		0.236	0.247	5.00	0.300	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-151567-10

Date Collected: 03/29/18 16:45

Matrix: Water

Date Received: 03/30/18 11:14

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.992		0.162	0.185	1.00	0.0907	pCi/L	04/03/18 10:47	04/25/18 06:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					04/03/18 10:47	04/25/18 06:11	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	0.198	0.199	1.00	0.318	pCi/L	04/03/18 11:11	04/11/18 08:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					04/03/18 11:11	04/11/18 08:11	1
Y Carrier	90.5		40 - 110					04/03/18 11:11	04/11/18 08:11	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	1.21		0.256	0.272	5.00	0.318	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-151567-11

Date Collected: 03/30/18 09:05

Matrix: Water

Date Received: 03/31/18 08:46

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.198		0.0792	0.0811	1.00	0.0752	pCi/L	04/05/18 11:12	04/27/18 05:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					04/05/18 11:12	04/27/18 05:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.478		0.237	0.241	1.00	0.347	pCi/L	04/05/18 11:30	04/12/18 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.2		40 - 110					04/05/18 11:30	04/12/18 16:43	1
Y Carrier	89.7		40 - 110					04/05/18 11:30	04/12/18 16:43	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.677		0.250	0.254	5.00	0.347	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-151567-12

Date Collected: 03/30/18 10:45

Matrix: Water

Date Received: 03/31/18 08:46

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.950		0.159	0.180	1.00	0.0622	pCi/L	04/05/18 11:12	04/27/18 05:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		40 - 110					04/05/18 11:12	04/27/18 05:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.483		0.241	0.245	1.00	0.352	pCi/L	04/05/18 11:30	04/12/18 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		40 - 110					04/05/18 11:30	04/12/18 16:43	1
Y Carrier	90.5		40 - 110					04/05/18 11:30	04/12/18 16:43	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.43		0.289	0.304	5.00	0.352	pCi/L		04/27/18 19:01	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-151567-13

Date Collected: 03/30/18 09:30

Matrix: Water

Date Received: 03/31/18 08:46

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.32		0.207	0.239	1.00	0.0791	pCi/L	04/05/18 11:12	04/27/18 05:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					04/05/18 11:12	04/27/18 05:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.824		0.263	0.274	1.00	0.336	pCi/L	04/05/18 11:30	04/12/18 16:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110					04/05/18 11:30	04/12/18 16:43	1
Y Carrier	89.7		40 - 110					04/05/18 11:30	04/12/18 16:43	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.15		0.335	0.364	5.00	0.336	pCi/L		04/27/18 19:01	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Qualifiers

Rad

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

Glossary

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

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: FB-02
Date Collected: 03/29/18 08:00
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:09	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:10	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWA-10
Date Collected: 03/29/18 09:30
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:09	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWA-11
Date Collected: 03/29/18 10:45
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:09	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWA-5
Date Collected: 03/29/18 12:35
Date Received: 03/30/18 11:14

Lab Sample ID: 400-151567-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:09	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: FERB-03

Lab Sample ID: 400-151567-5

Date Collected: 03/29/18 13:00

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:09	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWC-12

Lab Sample ID: 400-151567-6

Date Collected: 03/29/18 14:45

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362511	04/25/18 06:10	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWA-6

Lab Sample ID: 400-151567-7

Date Collected: 03/29/18 13:05

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362512	04/25/18 06:11	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWC-7

Lab Sample ID: 400-151567-8

Date Collected: 03/29/18 15:38

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362512	04/25/18 06:11	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: DUP-03

Lab Sample ID: 400-151567-9

Date Collected: 03/29/18 00:00

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362512	04/25/18 06:11	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWC-1

Lab Sample ID: 400-151567-10

Date Collected: 03/29/18 16:45

Matrix: Water

Date Received: 03/30/18 11:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			358676	04/03/18 10:47	TJT	TAL SL
Total/NA	Analysis	9315		1	362512	04/25/18 06:11	RTM	TAL SL
Total/NA	Prep	PrecSep_0			358680	04/03/18 11:11	TJT	TAL SL
Total/NA	Analysis	9320		1	360144	04/11/18 08:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWC-2

Lab Sample ID: 400-151567-11

Date Collected: 03/30/18 09:05

Matrix: Water

Date Received: 03/31/18 08:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			359081	04/05/18 11:12	TJT	TAL SL
Total/NA	Analysis	9315		1	363032	04/27/18 05:32	RTM	TAL SL
Total/NA	Prep	PrecSep_0			359083	04/05/18 11:30	TJT	TAL SL
Total/NA	Analysis	9320		1	360400	04/12/18 16:43	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Client Sample ID: MGWC-3

Lab Sample ID: 400-151567-12

Date Collected: 03/30/18 10:45

Matrix: Water

Date Received: 03/31/18 08:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			359081	04/05/18 11:12	TJT	TAL SL
Total/NA	Analysis	9315		1	363032	04/27/18 05:32	RTM	TAL SL
Total/NA	Prep	PrecSep_0			359083	04/05/18 11:30	TJT	TAL SL
Total/NA	Analysis	9320		1	360400	04/12/18 16:43	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-151567-13

Date Collected: 03/30/18 09:30

Matrix: Water

Date Received: 03/31/18 08:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			359081	04/05/18 11:12	TJT	TAL SL
Total/NA	Analysis	9315		1	363032	04/27/18 05:32	RTM	TAL SL
Total/NA	Prep	PrecSep_0			359083	04/05/18 11:30	TJT	TAL SL
Total/NA	Analysis	9320		1	360400	04/12/18 16:43	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	363121	04/27/18 19:01	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

Rad

Prep Batch: 358676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total/NA	Water	PrecSep-21	
400-151567-2	MGWA-10	Total/NA	Water	PrecSep-21	
400-151567-3	MGWA-11	Total/NA	Water	PrecSep-21	
400-151567-4	MGWA-5	Total/NA	Water	PrecSep-21	
400-151567-5	FERB-03	Total/NA	Water	PrecSep-21	
400-151567-6	MGWC-12	Total/NA	Water	PrecSep-21	
400-151567-7	MGWA-6	Total/NA	Water	PrecSep-21	
400-151567-8	MGWC-7	Total/NA	Water	PrecSep-21	
400-151567-9	DUP-03	Total/NA	Water	PrecSep-21	
400-151567-10	MGWC-1	Total/NA	Water	PrecSep-21	
MB 160-358676/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-358676/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-76304-B-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 358680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-1	FB-02	Total/NA	Water	PrecSep_0	
400-151567-2	MGWA-10	Total/NA	Water	PrecSep_0	
400-151567-3	MGWA-11	Total/NA	Water	PrecSep_0	
400-151567-4	MGWA-5	Total/NA	Water	PrecSep_0	
400-151567-5	FERB-03	Total/NA	Water	PrecSep_0	
400-151567-6	MGWC-12	Total/NA	Water	PrecSep_0	
400-151567-7	MGWA-6	Total/NA	Water	PrecSep_0	
400-151567-8	MGWC-7	Total/NA	Water	PrecSep_0	
400-151567-9	DUP-03	Total/NA	Water	PrecSep_0	
400-151567-10	MGWC-1	Total/NA	Water	PrecSep_0	
MB 160-358680/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-358680/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-76304-B-1-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 359081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-11	MGWC-2	Total/NA	Water	PrecSep-21	
400-151567-12	MGWC-3	Total/NA	Water	PrecSep-21	
400-151567-13	MGWC-8	Total/NA	Water	PrecSep-21	
MB 160-359081/10-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-359081/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
400-151428-A-13-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 359083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151567-11	MGWC-2	Total/NA	Water	PrecSep_0	
400-151567-12	MGWC-3	Total/NA	Water	PrecSep_0	
400-151567-13	MGWC-8	Total/NA	Water	PrecSep_0	
MB 160-359083/10-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-359083/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
400-151428-A-13-B DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-358676/22-A
Matrix: Water
Analysis Batch: 362512

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358676

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001216	U	0.0382	0.0382	1.00	0.0805	pCi/L	04/03/18 10:47	04/25/18 06:11	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					04/03/18 10:47	04/25/18 06:11	1

Lab Sample ID: LCS 160-358676/1-A
Matrix: Water
Analysis Batch: 362511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358676

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	11.68		1.18	1.00	0.0776	pCi/L	99	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	104		40 - 110						

Lab Sample ID: 180-76304-B-1-A DU
Matrix: Water
Analysis Batch: 362511

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 358676

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.0696		0.1410		0.0672	1.00	0.0620	pCi/L	0.60	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	101		40 - 110							

Lab Sample ID: MB 160-359081/10-A
Matrix: Water
Analysis Batch: 363032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359081

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02683	U	0.0476	0.0477	1.00	0.0845	pCi/L	04/05/18 11:12	04/27/18 05:33	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					04/05/18 11:12	04/27/18 05:33	1

Lab Sample ID: LCS 160-359081/1-A
Matrix: Water
Analysis Batch: 363032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359081

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.8	11.51		1.17	1.00	0.0725	pCi/L	97	68 - 137

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

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

Lab Sample ID: LCS 160-359081/1-A
Matrix: Water
Analysis Batch: 363032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359081

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.8		40 - 110

Lab Sample ID: 400-151428-A-13-A DU
Matrix: Water
Analysis Batch: 363032

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 359081

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.00983	U	0.02649	U	0.0454	1.00	0.0803	pCi/L	0.22	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	97.3		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-358680/22-A
Matrix: Water
Analysis Batch: 360144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358680

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1343	U	0.198	0.198	1.00	0.332	pCi/L	04/03/18 11:11	04/11/18 08:12	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110	04/03/18 11:11	04/11/18 08:12	1
Y Carrier	90.8		40 - 110	04/03/18 11:11	04/11/18 08:12	1

Lab Sample ID: LCS 160-358680/1-A
Matrix: Water
Analysis Batch: 360144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358680

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.40	9.463		1.09	1.00	0.365	pCi/L	113	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	82.2		40 - 110

Lab Sample ID: 180-76304-B-1-B DU
Matrix: Water
Analysis Batch: 360144

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 358680

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.182	U	0.1711	U	0.179	1.00	0.291	pCi/L	0.03	1

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

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

Lab Sample ID: 180-76304-B-1-B DU
Matrix: Water
Analysis Batch: 360144

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 358680

	DU	DU	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	101		40 - 110
Y Carrier	96.4		40 - 110

Lab Sample ID: MB 160-359083/10-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359083

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1450	U	0.211	0.212	1.00	0.354	pCi/L	04/05/18 11:30	04/12/18 16:44	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110	04/05/18 11:30	04/12/18 16:44	1
Y Carrier	91.2		40 - 110	04/05/18 11:30	04/12/18 16:44	1

Lab Sample ID: LCS 160-359083/1-A
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359083

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.40	9.154		1.05	1.00	0.350	pCi/L	109	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.8		40 - 110
Y Carrier	91.2		40 - 110

Lab Sample ID: 400-151428-A-13-B DU
Matrix: Water
Analysis Batch: 360400

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 359083

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.377	U	0.05813	U	0.216	1.00	0.377	pCi/L	0.67	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	97.3		40 - 110
Y Carrier	90.8		40 - 110

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
 SDG: Ash Pond

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


Lab Sample ID: 400-151428-A-1 DU
 Matrix: Water
 Analysis Batch: 363121

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.141	U	0.1376	U	0.222	5.00	0.373	pCi/L	0.01	

- 1
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- 12

Chain of Custody Record

Client Information			Lab PM: <u>Whitimire, Cheyenne R</u>			Carrier Tracking No(s):		
Client Contact: <u>Ms. Lauren Petty</u>			Sampler: <u>L. Coker & P. Adams</u>			Page: <u>679</u> of <u>679</u>		
Company: <u>Southern Company</u>			E-Mail: <u>cheyenne.whitimire@testamericainc.com</u>			Job #:		
Address: <u>PO BOX 2841 GSC8</u>			Due Date Requested:			<div style="border: 1px solid black; padding: 5px; display: inline-block;">  400-151567 COC </div>		
City: <u>Birmingham</u>			TAT Requested (days): <u>Standard</u>					
State, Zip: <u>AL, 35291</u>			PO #: <u>SCS10347656</u>					
Phone: <u>205-992-5417(Tel)</u>			WO #:					
Email: <u>lmpetty@southernco.com</u>			Project #: <u>40007692</u>					
Project Name: <u>CCR - Plant McIntosh - Ash Pond</u>			SSOW#: <u></u>			Analysis Requested		
Site:			Field Filtered Sample (Yes or No)			Total Number of Containers		

Sample Identification	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Matrix (Water, Sludge, On-site/Off-site, BT-Tissue, Ash)	Preservation Code	Perform MS/MSD (Yes or No)	D	N	D	Special Instructions/Note
FB-02	3/29/2018	08:00	G	Water		N				Only Appendix IV for all Ash Pond Samples
MGWA-10		09:30	G	Water		N				
MGWA-11		10:45	G	Water		N				
MGWA-5		12:35	G	Water		N				
FERB-03		13:00	G	Water		N				
MGWC-12		14:45	G	Water		N				
MGWA-6		13:05	G	Water		N				
MGWC-7		15:28	G	Water		N				
DUP-03		16:45	G	Water		N				
MGWC-1			G	Water		N				

Non-Hazard
 Flammable
 Skin Irritant
 Poison B
 Unknown
 Radiological

Empty Kit Relinquished by: Peter A
 Date: 19:15 3/29/18
 Company:

Relinquished by:
 Date/Time:
 Company:

Relinquished by:
 Date/Time:
 Company:

Relinquished by:
 Date/Time:
 Company:

Custody Seals Intact: Yes
 Custody Seal No.:

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:

Method of Shipment:

Received by:
 Date/Time:
 Company:

Received by:
 Date/Time:
 Company:

Received by:
 Date/Time:
 Company:

Cooler Temperature(s) and Other Remarks: 20.3 C, 21.7 C, 21.7 C

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151567-2

SDG Number: Ash Pond

Login Number: 151567

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	0.3°C, 2.7°C, 2.7°C IR-8, 1.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151567-2

SDG Number: Ash Pond

Login Number: 151567

List Number: 2

Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis

List Creation: 03/31/18 09:58 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	22.0,22.0,22.0,22.0,22.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-151567-2

SDG Number: Ash Pond

Login Number: 151567

List Number: 3

Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

List Creation: 04/04/18 12:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2
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.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

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

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-18 *
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-18 *
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-18 *
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-18
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18
Michigan	State Program	5	9005	06-30-18
Missouri	State Program	7	780	06-30-18
Nevada	State Program	9	MO000542018-1	07-31-18

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-151567-2
SDG: Ash Pond

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New Jersey	NELAP	2	MO002	06-30-18 *
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18
Texas	NELAP	6	T104704193-17-11	07-31-18
US Fish & Wildlife	Federal		058448	08-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18
Virginia	NELAP	3	460230	06-14-18 *
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

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

TestAmerica Pensacola

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Pensacola, FL
Report Nos.: 400-151567-1
Reviewer: Lorie MacKinnon/GEI Consultants
Date: April 17, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
FB-02	400-151567-01	Metals, Fluoride
MGWA-10	400-151567-02	Metals, Fluoride
MGWA-11	400-151567-03	Metals, Fluoride
MGWA-5	400-151567-04	Metals, Fluoride
FERB-03	400-151567-05	Metals, Fluoride
MGWC-12	400-151567-06	Metals, Fluoride
MGWA-6	400-151567-07	Metals, Fluoride
MGWC-7	400-151567-08	Metals, Fluoride
DUP-03	400-151567-09	Metals, Fluoride
MGWC-1	400-151567-10	Metals, Fluoride
MGWC-2	400-151567-11	Metals, Fluoride
MGWC-3	400-151567-12	Metals, Fluoride
MGWC-8	400-151567-13	Metals, Fluoride

QC Samples(s): Field/Equipment blanks: FB-02, FERB-03
Field Duplicate pair: MGWC-7/DUP-03

The above-listed aqueous samples and field blanks were collected on March 29 and 30, 2018 and were analyzed for select total recoverable metals by SW-846 method 6020/7470 and fluoride by EPA method 300. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the method referenced, and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results

- **Quantitation Limits**

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data packages were complete as received by the laboratory and included sample results, method blank, MS/MSD, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Fluoride

Contamination was not detected in the associated method and field blanks.

Metals

Contaminants were not detected in the associated laboratory method blank samples. Lithium was detected in the associated field blank sample. The following table summarizes the contamination and validation actions taken.

Analyte	Blank ID/ Associated Samples	Concentration	10x Action Level	Validation Actions
Lithium	FB-02: All samples	0.0013 J mg/L	0.013 mg/L	Qualify the result for lithium in sample MGWA-6 as nondetect (U) at the RL. Estimate (J) the positive results for lithium in samples MGWA-10 and MGWC-2; Biased high.

Blank Actions:

If the sample result is < reporting limit (RL); report the result as nondetect (U) at the RL or reported value.

If the sample result is \geq RL and <blank contamination detected; report the result as nondetect (U) at the reported value.

If the sample result is \geq RL and < 10x Action Level; report the sample result as estimated (J); biased high.

If the sample result is nondetect or > 10x Action Level; validation action is not required.

MS/MSD Results

MS/MSD analyses were performed on sample MGWC-2 for ICP/MS (method 6020) metals and non-project samples for fluoride and mercury. The following tables list the analyte recoveries outside of control limits and the resulting actions.

MGWC-2					
Analyte	MS (%)	MSD (%)	RPD (%)	QC Limits	Validation Actions
Lithium	132	136	-	75-125/20	Estimate (J) the positive results for lithium in samples MGWA-10, MGWA-11, MGWA-5, MGWC-12, MGWC-7, DUP-03, MGWC-1, MGWC-2, MGWC-3, and MGWC-8; Biased high.
- criterion met					

Results were not used for MS/MSDs performed on non-project samples due to differences in sample matrix, type, etc.

LCS Results

All criteria were met.

Field Duplicate Results

Samples MGWC-7 and DUP-03 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWC-7 (mg/L)	DUP-03 (mg/L)	RPD (%)
Arsenic	0.00066 J	0.00068 J	3.0
Barium	0.010	0.010	0
Cobalt	0.0088	0.0088	0
Lithium	0.17	0.17	0
Selenium	0.00026 J	0.00027 J	3.8
Fluoride	0.23	0.25	8.3
NC – Not calculable			
Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$.			
When results are $< 5x$ the RL, the absolute difference between the original and field duplicate must be $< RL$			

Quantitation Limits

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Five-fold dilutions were performed for all ICP/MS metals samples.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Earth City, MO
Report Nos.: 400-151567-2
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 3, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
FB-02	400-151567-01	Radium-226, Radium-228, Radium226-228
MGWA-10	400-151567-02	Radium-226, Radium-228, Radium226-228
MGWA-11	400-151567-03	Radium-226, Radium-228, Radium226-228
MGWA-5	400-151567-04	Radium-226, Radium-228, Radium226-228
FERB-03	400-151567-05	Radium-226, Radium-228, Radium226-228
MGWC-12	400-151567-06	Radium-226, Radium-228, Radium226-228
MGWA-6	400-151567-07	Radium-226, Radium-228, Radium226-228
MGWC-7	400-151567-08	Radium-226, Radium-228, Radium226-228
DUP-03	400-151567-09	Radium-226, Radium-228, Radium226-228
MGWC-1	400-151567-10	Radium-226, Radium-228, Radium226-228
MGWC-2	400-151567-11	Radium-226, Radium-228, Radium226-228
MGWC-3	400-151567-12	Radium-226, Radium-228, Radium226-228
MGWC-8	400-151567-13	Radium-226, Radium-228, Radium226-228

QC Samples(s): Field/Equipment blanks: FB-02, FERB-03
Field Duplicate pair: MGWC-7/DUP-03

The above-listed aqueous samples and field blanks were collected on March 29 and 30, 2018 and were analyzed for Radium-226 by SW-846 method 9315, Radium-228 by SW-46 method 9320, and combined Radium-226 and Radium-228. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), modified for the method referenced and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Carrier Yields
- Laboratory Duplicate Results
- Field Duplicate Results

- Laboratory Control Sample (LCS) Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, carrier yields, laboratory duplicate, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Contamination was not detected in the associated method and field blanks.

Carrier Yields

All criteria were met.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project samples. All criteria were met.

Field Duplicate Results

Samples MGWC-7 and DUP-03 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWC-7 (pCi/L)	DUP-03 (pCi/L)	RPD (%)
Radium-226	0.615	0.739	18.3
Combined Radium 226 + 228	0.822	1.01	20.5
NC – Not calculable Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$. When results are $< 5x$ the RL, the absolute difference between the original and field duplicate must be $< RL$			

Georgia Power McIntosh Plant Ash Pond, 1800205-1.1

LCS Results

All criteria were met.

Quantitation Limits

Dilutions were not required.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Water Level Measurement Data Sheet
Plant McIntosh
Georgia Power Company



Date: 6/12/2018

Gauged by: Peter Adams & Lauren Coker

Provided for reference

Area	Well ID	Measured Depth to Water (ft btoc)	Measured Depth to Bottom (ft btoc)	Provided for reference				Notes
				March 2018 Depth to Water (ft btoc)	March 2018 Depth to Bottom (ft btoc)	Installed Total Depth (ft btoc)	Installed Depth to Top of Screen (ft btoc)	
Ash Pond	MGWC-1	36.99	56.10	37.01	56.11	55.78	44.78	
	MGWC-2	19.87	37.22	20.04	37.26	37.06	27.86	
	MGWC-3	15.95	39.11	16.75	39.13	38.44	32.42	
	MGWC-4	24.61	67.78	25.23	67.81	67.05	47.05	
	MGWA-5	21.21	63.35	22.49	63.38	62.79	42.80	
	MGWA-6	17.92	42.10	19.53	42.14	41.63	40.75	
	MGWC-7	19.60	42.21	19.33	42.26	41.99	33.83	
	MGWC-8	29.44	52.77	29.67	52.80	52.26	42.29	
	MGWA-9	19.83	43.10	21.15	43.10	42.75	22.75	
	MGWA-10	16.74	53.00	18.75	52.95	52.79	44.30	
	MGWA-11	19.83	56.62	21.44	56.62	55.61	46.58	
	MGWC-12	24.21	53.75	24.88	53.73	52.70	43.70	
	PZ-13	17.05	27.33	16.99	27.30	26.36	17.28	
	PZ-14	16.60	41.73	16.72	41.75	41.10	31.72	

Notes:

ft = feet

NM = Not Measured

btoc = below top of casing

Water Level Measurement Data Sheet
 Plant McIntosh
 Georgia Power Company



Date: 7/12/2018

Gauged by: P. Adams, L. Coker, J. Noles

Provided for reference

Area	Well ID	Measured Depth to Water (ft btoc)	Measured Depth to Bottom (ft btoc)	Provided for reference				Notes
				June 2018 Depth to Water (ft btoc)	June 2018 Depth to Bottom (ft btoc)	Installed Total Depth (ft btoc)	Installed Depth to Top of Screen (ft btoc)	
Ash Pond	MGWC-1	37.05	56.11	36.99	56.10	55.78	44.78	
	MGWC-2	20.29	37.29	19.87	37.22	37.06	27.86	
	MGWC-3	16.30	39.13	15.95	39.11	38.44	32.42	
	MGWC-4	24.02	67.80	24.61	67.78	67.05	47.05	
	MGWA-5	21.60	63.40	21.21	63.35	62.79	42.80	
	MGWA-6	18.41	42.16	17.92	42.10	41.63	40.75	
	MGWC-7	19.84	42.22	19.60	42.21	41.99	33.83	
	MGWC-8	29.40	52.85	29.44	52.77	52.26	42.29	
	MGWA-9	20.39	43.10	19.83	43.10	42.75	22.75	
	MGWA-10	17.33	52.97	16.74	53.00	52.79	44.30	
	MGWA-11	20.25	56.60	19.83	56.62	55.61	46.58	
	MGWC-12	24.42	53.76	24.21	53.75	52.70	43.70	
	PZ-13	17.49	27.30	17.05	27.33	26.36	17.28	
	PZ-14	16.94	41.79	16.60	41.73	41.10	31.72	
	PZ-15	19.02	28.90	NA	NA	25.6 *	NA	Installed June 2018
	PZ-16	32.94	42.56	NA	NA	39.0 *	NA	Installed June 2018
	PZ-17	31.11	45.20	NA	NA	41.7 *	NA	Installed June 2018
	PZ-18	19.30	41.90	NA	NA	38.5 *	NA	Installed June 2018

Notes:

ft = feet

NA - Not Applicable or available

NM = Not Measured

btoc = below top of casing

January 2018 depths measured by ERM

* - Installed total depth for PZ-15, PZ-16, PZ-17, and PZ-18 measured from ground surface; TOC not yet surveyed

Product Name: Low-Flow System

Date: 2018-06-13 12:34:32

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name Plant McIntosh
Site Name McIntosh_AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589972
Turbidity Make/Model LaMotte 2020We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-1
Well diameter 2 in
Well Total Depth 56.1 ft
Screen Length 10 ft
Depth to Water 36.99 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 12.12 in
Total Volume Pumped 6.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	12:12:59	600.03	22.76	6.96	544.92	3.83	38.20	0.86	59.69
Last 5	12:17:59	900.04	22.97	7.00	567.84	1.58	38.20	0.93	68.28
Last 5	12:22:59	1200.03	23.02	7.00	564.32	1.27	38.05	0.89	62.86
Last 5	12:27:59	1500.03	22.70	7.01	562.66	1.57	38.10	0.78	65.24
Last 5	12:32:59	1800.03	22.53	7.01	562.97	1.48	38.10	0.70	64.28
Variance 0			0.04	-0.00	-3.52			-0.04	-5.42
Variance 1			-0.31	0.01	-1.66			-0.11	2.38
Variance 2			-0.18	0.00	0.31			-0.08	-0.96

Notes

Sampled at 12:55

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-13 10:30:00

Project Information:

Operator Name L. Coker
Company Name GEI Consultants
Project Name Plant McIntosh
Site Name McIntosh -Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589976
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 40 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-2
Well diameter 2 in
Well Total Depth 37.22 ft
Screen Length 10 ft
Depth to Water 19.87 ft

Pumping Information:

Final Pumping Rate 140 mL/min
Total System Volume 0.2685369 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 11.16 in
Total Volume Pumped 4.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	10:15:34	300.03	22.68	7.37	829.36	1.47	20.79	0.24	52.57
Last 5	10:20:34	600.03	22.60	7.37	829.49	0.85	20.79	0.22	50.41
Last 5	10:25:34	900.02	22.64	7.37	828.09	1.04	20.80	0.22	49.19
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.07	-0.00	0.13			-0.01	-2.16
Variance 2			0.04	-0.00	-1.40			-0.01	-1.22

Notes

Sampled at 10:35

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-13 12:50:40

Project Information:

Operator Name L. Coker
Company Name GEI Consultants
Project Name Plant McIntosh
Site Name McIntosh -Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589976
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 40 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-3
Well diameter 2 in
Well Total Depth 39.11 ft
Screen Length 10 ft
Depth to Water 15.95 ft

Pumping Information:

Final Pumping Rate 146 mL/min
Total System Volume 0.2685369 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.84 in
Total Volume Pumped 4.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	12:22:03	600.02	22.23	6.81	600.08	0.92	16.21	0.39	96.24
Last 5	12:27:03	900.01	22.06	6.81	601.89	0.96	16.21	0.31	91.96
Last 5	12:32:03	1200.01	21.91	6.81	601.95	0.71	16.26	0.29	126.03
Last 5	12:37:03	1500.00	22.00	6.83	599.79	0.39	16.27	0.26	89.57
Last 5	12:42:03	1800.00	22.16	6.83	599.51	0.38	16.27	0.25	86.82
Variance 0			-0.15	0.00	0.05			-0.03	34.07
Variance 1			0.10	0.01	-2.16			-0.02	-36.47
Variance 2			0.15	0.00	-0.28			-0.01	-2.75

Notes

Sampled at 12:50

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-12 15:34:36

Project Information:

Operator Name L. Coker
Company Name GEI Consultants
Project Name Plant McIntosh
Site Name McIntosh -Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589976
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-5
Well diameter 2 in
Well Total Depth 63.35 ft
Screen Length 10 ft
Depth to Water 21.21 ft

Pumping Information:

Final Pumping Rate 147 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 13.68 in
Total Volume Pumped 8.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	15:10:27	2109.99	24.14	7.55	258.21	2.04	22.32	0.69	-97.57
Last 5	15:15:27	2409.98	24.23	7.55	260.26	1.70	22.32	0.60	-106.72
Last 5	15:20:27	2709.98	24.37	7.55	258.51	1.46	22.33	0.43	-111.62
Last 5	15:25:27	3009.97	24.27	7.55	258.59	1.29	22.34	0.40	-113.52
Last 5	15:30:27	3309.96	24.13	7.55	257.85	1.71	22.35	0.41	-115.76
Variance 0			0.14	0.00	-1.75			-0.17	-4.90
Variance 1			-0.10	0.00	0.09			-0.03	-1.89
Variance 2			-0.14	0.00	-0.74			0.01	-2.24

Notes

Sampled at 15:40

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-13 14:45:56

Project Information:

Operator Name L. Coker
Company Name GEI Consultants
Project Name Plant McIntosh
Site Name McIntosh -Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589976
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 45 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-6
Well diameter 2 in
Well Total Depth 42.10 ft
Screen Length 10 ft
Depth to Water 17.92 ft

Pumping Information:

Final Pumping Rate 123 mL/min
Total System Volume 0.290854 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0.96 in
Total Volume Pumped 4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	14:12:35	900.02	23.91	7.10	563.84	3.55	17.99	1.36	93.51
Last 5	14:17:35	1200.01	23.99	7.08	564.73	4.12	18.00	1.11	84.71
Last 5	14:22:35	1500.00	23.90	7.08	561.59	1.99	18.00	0.94	70.71
Last 5	14:27:35	1800.00	23.81	7.08	557.21	1.90	18.00	0.88	68.95
Last 5	14:32:35	2099.99	23.77	7.08	544.78	1.75	18.01	0.79	63.48
Variance 0			-0.09	-0.00	-3.14			-0.17	-14.00
Variance 1			-0.09	0.00	-4.38			-0.06	-1.76
Variance 2			-0.05	-0.00	-12.42			-0.09	-5.47

Notes

Duplicate taken here
Sampled at 14:40, duplicate taken here.

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-13 10:37:22

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name Plant McIntosh
Site Name McIntosh_AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589972
Turbidity Make/Model LaMotte 2020We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 40 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-7
Well diameter 2 in
Well Total Depth 42.21 ft
Screen Length 8 ft
Depth to Water 19.6 ft

Pumping Information:

Final Pumping Rate 140 mL/min
Total System Volume 0.2685369 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 0 in
Total Volume Pumped 4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	10:13:00	900.03	23.54	6.26	513.46	2.19	19.82	0.97	109.52
Last 5	10:18:00	1200.03	23.06	6.25	509.50	1.63	19.91	0.84	105.51
Last 5	10:23:00	1500.03	22.93	6.25	509.67	1.50	19.92	1.26	102.54
Last 5	10:28:00	1800.02	22.79	6.25	508.45	1.97	19.92	1.36	100.13
Last 5	10:33:00	2100.03	23.02	6.24	511.66	2.30	19.93	1.32	98.71
Variance 0			-0.13	-0.00	0.17			0.42	-2.98
Variance 1			-0.14	0.01	-1.21			0.11	-2.41
Variance 2			0.22	-0.01	3.21			-0.04	-1.42

Notes

Sampled at 10:50

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-13 15:46:54

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name Plant McIntosh
Site Name McIntosh_AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589972
Turbidity Make/Model LaMotte 2020We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 52 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-8
Well diameter 2 in
Well Total Depth 52.77 ft
Screen Length 10 ft
Depth to Water 29.44 ft

Pumping Information:

Final Pumping Rate 180 mL/min
Total System Volume 0.322098 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 1.92 in
Total Volume Pumped 16 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	15:25:04	4203.01	22.94	5.79	776.12	5.02	29.60	1.76	99.59
Last 5	15:30:04	4503.01	22.88	5.79	773.91	4.94	29.60	1.62	95.96
Last 5	15:35:04	4803.01	22.78	5.79	778.95	4.85	29.60	1.52	93.13
Last 5	15:40:04	5103.01	22.71	5.79	783.51	4.77	29.60	1.40	89.88
Last 5	15:45:04	5403.01	22.69	5.79	783.55	4.69	29.60	1.24	87.56
Variance 0			-0.11	-0.00	5.04			-0.10	-2.82
Variance 1			-0.07	0.00	4.56			-0.12	-3.25
Variance 2			-0.02	0.00	0.03			-0.16	-2.32

Notes

Sampled at 16:00

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-12 13:11:01

Project Information:

Operator Name L. Coker
Company Name GEI Consultants
Project Name Plant McIntosh
Site Name McIntosh -Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589976
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 55 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-10
Well diameter 2 in
Well Total Depth 53.00 ft
Screen Length 10 ft
Depth to Water 16.74 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 28.32 in
Total Volume Pumped 3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	12:46:25	600.02	25.75	6.26	75.38	2.32	18.10	6.39	142.17
Last 5	12:51:25	900.01	25.42	6.27	75.17	1.54	18.39	6.38	137.72
Last 5	12:56:25	1200.01	24.94	6.26	74.52	1.85	18.65	6.41	133.66
Last 5	13:01:25	1500.00	24.58	6.26	72.16	1.92	18.91	6.38	131.39
Last 5	13:06:25	1800.00	24.49	6.23	74.56	1.87	19.19	6.39	130.46
Variance 0			-0.47	-0.01	-0.64			0.03	-4.05
Variance 1			-0.36	-0.01	-2.37			-0.04	-2.27
Variance 2			-0.09	-0.02	2.41			0.01	-0.93

Notes

Sampled at 13:12

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-12 13:09:28

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name Plant McIntosh
Site Name McIntosh - Ash Pond
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589972
Turbidity Make/Model LaMotte

Pump Information:

Pump Model/Type Alexis
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 54 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-11
Well diameter 2 in
Well Total Depth 56.62 ft
Screen Length 10 ft
Depth to Water 19.83 ft

Pumping Information:

Final Pumping Rate 140 mL/min
Total System Volume 0.3310249 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 3.96 in
Total Volume Pumped 4.1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	12:38:54	600.03	25.09	8.03	251.24	0.97	20.11	4.41	158.05
Last 5	12:43:54	900.03	24.79	8.03	247.84	0.51	20.15	4.20	145.52
Last 5	12:48:54	1200.03	24.19	8.03	249.11	0.18	20.15	4.08	137.11
Last 5	12:53:54	1500.03	23.80	8.03	247.85	0.29	20.15	4.00	130.32
Last 5	12:58:54	1800.02	24.01	8.02	248.41	0.05	20.16	3.88	125.77
Variance 0			-0.61	0.00	1.27			-0.12	-8.41
Variance 1			-0.38	-0.00	-1.26			-0.08	-6.79
Variance 2			0.20	-0.01	0.56			-0.12	-4.56

Notes

Sampled at 13:20

Grab Samples

Product Name: Low-Flow System

Date: 2018-06-12 15:24:41

Project Information:

Operator Name P. Adams
Company Name GEI
Project Name Plant McIntosh
Site Name McIntosh_AP
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 589972
Turbidity Make/Model LaMotte 2020We

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .17 in
Tubing Length 53 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-12
Well diameter 2 in
Well Total Depth 53.75 ft
Screen Length 10 ft
Depth to Water 24.21 ft

Pumping Information:

Final Pumping Rate 180 mL/min
Total System Volume 0.3265614 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 9.6 in
Total Volume Pumped 7.4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 1	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10%
Last 5	15:02:03	1500.03	23.24	10.85	260.68	1.46	24.99	4.82	79.75
Last 5	15:07:03	1800.03	22.99	7.25	326.24	1.59	25.00	1.07	-53.37
Last 5	15:12:03	2100.03	22.84	7.28	302.63	0.96	25.01	0.62	-57.98
Last 5	15:17:03	2400.03	22.88	7.28	300.53	0.78	25.01	0.46	-60.02
Last 5	15:22:03	2700.03	22.80	7.29	298.16	0.63	25.01	0.45	-62.13
Variance 0			-0.15	0.03	-23.60			-0.44	-4.61
Variance 1			0.04	-0.00	-2.10			-0.16	-2.04
Variance 2			-0.08	0.01	-2.37			-0.01	-2.11

Notes

Sampled at 15:45

Grab Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-155121-1

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

For:

Southern Company

PO BOX 2641 GSC8

Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:

7/16/2018 6:21:29 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Job ID: 400-155121-1

Laboratory: TestAmerica Pensacola

Narrative

**Job Narrative
400-155121-1**

HPLC/IC

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MGWC-2 (400-155121-5), MGWC-7 (400-155121-6), MGWC-3 (400-155121-7), MGWC-1 (400-155121-8) and MGWC-8 (400-155121-10). Elevated reporting limits (RLs) are provided.

Metals

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MGWC-2 (400-155121-5) and MGWC-8 (400-155121-10). Elevated reporting limits (RLs) are provided.



Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-10

Lab Sample ID: 400-155121-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.7		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	0.82	J	1.0	0.70	mg/L	1		300.0	Total/NA
Barium	0.025		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	4.8		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0038		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0068		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0012	J	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00076	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	62		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWA-11

Lab Sample ID: 400-155121-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.16	J	0.20	0.082	mg/L	1		300.0	Total/NA
Chloride	4.6		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	4.1		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.0017		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.068		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	26		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.012		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.0029	J	0.015	0.00085	mg/L	5		6020	Total Recoverable
Selenium	0.00049	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	150		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWA-5

Lab Sample ID: 400-155121-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.1		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	3.8		1.0	0.70	mg/L	1		300.0	Total/NA
Barium	0.036		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	25		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0095		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	180		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-12

Lab Sample ID: 400-155121-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.23		0.20	0.082	mg/L	1		300.0	Total/NA
Chloride	4.0		1.0	0.89	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-12 (Continued)

Lab Sample ID: 400-155121-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	4.1		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.00063	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.063		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	30		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.019		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	170		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-2

Lab Sample ID: 400-155121-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	16		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	220		5.0	3.5	mg/L	5		300.0	Total/NA
Barium	0.050		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.0016	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cobalt	0.0035		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0054		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Boron - DL	3.0		0.25	0.11	mg/L	25		6020	Total Recoverable
Calcium - DL	120		1.3	0.63	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	570		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-7

Lab Sample ID: 400-155121-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.20		0.20	0.082	mg/L	1		300.0	Total/NA
Chloride	12		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	180		5.0	3.5	mg/L	5		300.0	Total/NA
Barium	0.0098		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.4		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	51		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.0093		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.12		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	320		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-3

Lab Sample ID: 400-155121-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	110		5.0	3.5	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-3 (Continued)

Lab Sample ID: 400-155121-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0015		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.14		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.6		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00048	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	320		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-1

Lab Sample ID: 400-155121-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.14	J	0.20	0.082	mg/L	1		300.0	Total/NA
Chloride	13		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	130		5.0	3.5	mg/L	5		300.0	Total/NA
Arsenic	0.0021		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.096		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.2		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0094		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Molybdenum	0.00087	J	0.015	0.00085	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	390		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWA-6

Lab Sample ID: 400-155121-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	8.7		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.011		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.037		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.11		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	230		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-8

Lab Sample ID: 400-155121-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.15	J	0.20	0.082	mg/L	1		300.0	Total/NA
Chloride	11		1.0	0.89	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-8 (Continued)

Lab Sample ID: 400-155121-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate - DL	330		10	7.0	mg/L	10		300.0	Total/NA
Barium	0.038		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0012	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cadmium	0.00076	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	84		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.014		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.035		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Thallium	0.00027	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	4.9		0.25	0.11	mg/L	25		6020	Total Recoverable
Mercury	0.00074		0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	600		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-01

Lab Sample ID: 400-155121-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	9.0		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.012		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.038		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.088		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	110		0.25	0.13	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	290		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FERB-01

Lab Sample ID: 400-155121-12

No Detections.

Client Sample ID: FB-01

Lab Sample ID: 400-155121-13

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN
7470A	Preparation, Mercury	SW846	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-155121-1	MGWA-10	Water	06/12/18 13:12	06/15/18 09:03
400-155121-2	MGWA-11	Water	06/12/18 13:20	06/15/18 09:03
400-155121-3	MGWA-5	Water	06/12/18 15:40	06/15/18 09:03
400-155121-4	MGWC-12	Water	06/12/18 15:45	06/15/18 09:03
400-155121-5	MGWC-2	Water	06/13/18 10:35	06/15/18 09:03
400-155121-6	MGWC-7	Water	06/13/18 10:50	06/15/18 09:03
400-155121-7	MGWC-3	Water	06/13/18 12:50	06/15/18 09:03
400-155121-8	MGWC-1	Water	06/13/18 12:55	06/15/18 09:03
400-155121-9	MGWA-6	Water	06/13/18 14:40	06/15/18 09:03
400-155121-10	MGWC-8	Water	06/13/18 16:00	06/15/18 09:03
400-155121-11	DUP-01	Water	06/13/18 00:00	06/15/18 09:03
400-155121-12	FERB-01	Water	06/13/18 15:45	06/15/18 09:03
400-155121-13	FB-01	Water	06/13/18 15:50	06/15/18 09:03

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 06/12/18 13:12

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 02:56	1
Chloride	6.7		1.0	0.89	mg/L			07/03/18 02:56	1
Sulfate	0.82	J	1.0	0.70	mg/L			07/03/18 02:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 20:46	5
Barium	0.025		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 20:46	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 20:46	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 20:46	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 20:46	5
Calcium	4.8		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 20:46	5
Chromium	0.0038		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 20:46	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 20:46	5
Lithium	0.0068		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 20:46	5
Molybdenum	0.0012	J	0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 20:46	5
Selenium	0.00076	J	0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 20:46	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 20:46	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	62		5.0	3.4	mg/L			06/19/18 15:36	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-11

Date Collected: 06/12/18 13:20

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.16	J	0.20	0.082	mg/L			07/03/18 04:50	1
Chloride	4.6		1.0	0.89	mg/L			07/03/18 04:50	1
Sulfate	4.1		1.0	0.70	mg/L			07/03/18 04:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:31	5
Barium	0.068		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:31	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:31	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:31	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:31	5
Calcium	26		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:31	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:31	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:31	5
Lithium	0.012		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:31	5
Molybdenum	0.0029	J	0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:31	5
Selenium	0.00049	J	0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:31	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:31	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		5.0	3.4	mg/L			06/19/18 15:36	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-5

Date Collected: 06/12/18 15:40

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 05:13	1
Chloride	5.1		1.0	0.89	mg/L			07/03/18 05:13	1
Sulfate	3.8		1.0	0.70	mg/L			07/03/18 05:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:36	5
Barium	0.036		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:36	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:36	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:36	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:36	5
Calcium	25		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:36	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:36	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:36	5
Lithium	0.0095		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:36	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:36	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:36	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:36	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	180		5.0	3.4	mg/L			06/19/18 15:36	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-12

Date Collected: 06/12/18 15:45

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.23		0.20	0.082	mg/L			07/03/18 06:21	1
Chloride	4.0		1.0	0.89	mg/L			07/03/18 06:21	1
Sulfate	4.1		1.0	0.70	mg/L			07/03/18 06:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00063	J	0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:40	5
Barium	0.063		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:40	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:40	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:40	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:40	5
Calcium	30		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:40	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:40	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:40	5
Lithium	0.019		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:40	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:40	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:40	5
Thallium	<0.00085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:40	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		5.0	3.4	mg/L			06/19/18 15:36	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-155121-5

Date Collected: 06/13/18 10:35

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 06:44	1
Chloride	16		1.0	0.89	mg/L			07/03/18 06:44	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	220		5.0	3.5	mg/L			07/03/18 17:32	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:45	5
Barium	0.050		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:45	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:45	5
Cadmium	0.0016	J	0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:45	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:45	5
Cobalt	0.0035		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:45	5
Lithium	0.0054		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:45	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:45	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:45	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:45	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.25	0.11	mg/L		06/22/18 12:01	06/25/18 13:23	25
Calcium	120		1.3	0.63	mg/L		06/22/18 12:01	06/25/18 13:23	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	570		5.0	3.4	mg/L			06/20/18 16:40	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-7

Lab Sample ID: 400-155121-6

Date Collected: 06/13/18 10:50

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.20		0.20	0.082	mg/L			07/03/18 07:07	1
Chloride	12		1.0	0.89	mg/L			07/03/18 07:07	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	180		5.0	3.5	mg/L			07/03/18 17:55	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:49	5
Barium	0.0098		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:49	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:49	5
Boron	1.4		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:49	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:49	5
Calcium	51		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:49	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:49	5
Cobalt	0.0093		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:49	5
Lithium	0.12		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:49	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:49	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:49	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		5.0	3.4	mg/L			06/20/18 16:40	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-155121-7

Date Collected: 06/13/18 12:50

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 07:30	1
Chloride	13		1.0	0.89	mg/L			07/03/18 07:30	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		5.0	3.5	mg/L			07/03/18 19:03	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0015		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:54	5
Barium	0.14		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:54	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:54	5
Boron	1.6		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:54	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:54	5
Calcium	100		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:54	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:54	5
Cobalt	0.00048 J		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:54	5
Lithium	0.011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:54	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:54	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:54	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:54	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		5.0	3.4	mg/L			06/20/18 16:40	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-155121-8

Date Collected: 06/13/18 12:55

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.14	J	0.20	0.082	mg/L			07/03/18 07:52	1
Chloride	13		1.0	0.89	mg/L			07/03/18 07:52	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	130		5.0	3.5	mg/L			07/03/18 19:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 21:58	5
Barium	0.096		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 21:58	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:58	5
Boron	1.2		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 21:58	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 21:58	5
Calcium	100		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 21:58	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 21:58	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 21:58	5
Lithium	0.0094		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 21:58	5
Molybdenum	0.00087	J	0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 21:58	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 21:58	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 21:58	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	390		5.0	3.4	mg/L			06/20/18 16:40	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-6

Date Collected: 06/13/18 14:40

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-9

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 08:15	1
Chloride	7.0		1.0	0.89	mg/L			07/03/18 08:15	1
Sulfate	8.7		1.0	0.70	mg/L			07/03/18 08:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.011		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 22:03	5
Barium	0.037		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 22:03	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:03	5
Boron	0.11		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 22:03	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:03	5
Calcium	100		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 22:03	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 22:03	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 22:03	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 22:03	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 22:03	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 22:03	5
Thallium	<0.00085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 22:03	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	230		5.0	3.4	mg/L			06/20/18 16:40	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-155121-10

Date Collected: 06/13/18 16:00

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.15	J	0.20	0.082	mg/L			07/03/18 09:01	1
Chloride	11		1.0	0.89	mg/L			07/03/18 09:01	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	330		10	7.0	mg/L			07/03/18 19:49	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 22:07	5
Barium	0.038		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 22:07	5
Beryllium	0.0012	J	0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:07	5
Cadmium	0.00076	J	0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:07	5
Calcium	84		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 22:07	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 22:07	5
Cobalt	0.014		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 22:07	5
Lithium	0.035		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 22:07	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 22:07	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 22:07	5
Thallium	0.00027	J	0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 22:07	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.9		0.25	0.11	mg/L		06/22/18 12:01	06/25/18 13:50	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00074		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	600		5.0	3.4	mg/L			06/20/18 17:23	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: DUP-01
Date Collected: 06/13/18 00:00
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-11
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 09:24	1
Chloride	7.0		1.0	0.89	mg/L			07/03/18 09:24	1
Sulfate	9.0		1.0	0.70	mg/L			07/03/18 09:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.012		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 22:34	5
Barium	0.038		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 22:34	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:34	5
Boron	0.088		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 22:34	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:34	5
Calcium	110		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 22:34	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 22:34	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 22:34	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 22:34	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 22:34	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 22:34	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 22:34	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	290		5.0	3.4	mg/L			06/19/18 15:36	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
 SDG: Ash Pond

Client Sample ID: FERB-01

Lab Sample ID: 400-155121-12

Date Collected: 06/13/18 15:45

Matrix: Water

Date Received: 06/15/18 09:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 09:47	1
Chloride	<0.89		1.0	0.89	mg/L			07/03/18 09:47	1
Sulfate	<0.70		1.0	0.70	mg/L			07/03/18 09:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 22:39	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 22:39	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:39	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 22:39	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:39	5
Calcium	<0.13		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 22:39	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 22:39	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 22:39	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 22:39	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 22:39	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 22:39	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 22:39	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/20/18 17:23	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: FB-01
Date Collected: 06/13/18 15:50
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-13
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 10:55	1
Chloride	<0.89		1.0	0.89	mg/L			07/03/18 10:55	1
Sulfate	<0.70		1.0	0.70	mg/L			07/03/18 10:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 22:43	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 22:43	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:43	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 22:43	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 22:43	5
Calcium	<0.13		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 22:43	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 22:43	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 22:43	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 22:43	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 22:43	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 22:43	5
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 22:43	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:50	06/28/18 14:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/19/18 15:36	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

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
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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWA-10
Date Collected: 06/12/18 13:12
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 02:56	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 20:46	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:09	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

Client Sample ID: MGWA-11
Date Collected: 06/12/18 13:20
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 04:50	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:31	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:11	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

Client Sample ID: MGWA-5
Date Collected: 06/12/18 15:40
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 05:13	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:36	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

Client Sample ID: MGWC-12
Date Collected: 06/12/18 15:45
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 06:21	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:40	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:15	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-155121-5

Date Collected: 06/13/18 10:35

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 06:44	JAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	403427	07/03/18 17:32	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:45	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 13:23	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:32	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401797	06/20/18 16:40	RRC	TAL PEN

Client Sample ID: MGWC-7

Lab Sample ID: 400-155121-6

Date Collected: 06/13/18 10:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 07:07	JAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	403427	07/03/18 17:55	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:49	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:34	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401797	06/20/18 16:40	RRC	TAL PEN

Client Sample ID: MGWC-3

Lab Sample ID: 400-155121-7

Date Collected: 06/13/18 12:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 07:30	JAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	403427	07/03/18 19:03	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:54	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:36	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401797	06/20/18 16:40	RRC	TAL PEN

Client Sample ID: MGWC-1

Lab Sample ID: 400-155121-8

Date Collected: 06/13/18 12:55

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 07:52	JAW	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: MGWC-1

Date Collected: 06/13/18 12:55

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	DL	5	403427	07/03/18 19:26	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 21:58	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:38	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401797	06/20/18 16:40	RRC	TAL PEN

Client Sample ID: MGWA-6

Date Collected: 06/13/18 14:40

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 08:15	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 22:03	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:39	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401797	06/20/18 16:40	RRC	TAL PEN

Client Sample ID: MGWC-8

Date Collected: 06/13/18 16:00

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 09:01	JAW	TAL PEN
Total/NA	Analysis	300.0	DL	10	403427	07/03/18 19:49	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 22:07	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	402495	06/25/18 13:50	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:41	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401798	06/20/18 17:23	RRC	TAL PEN

Client Sample ID: DUP-01

Date Collected: 06/13/18 00:00

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 09:24	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 22:34	DRE	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Client Sample ID: DUP-01

Lab Sample ID: 400-155121-11

Date Collected: 06/13/18 00:00

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:43	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

Client Sample ID: FERB-01

Lab Sample ID: 400-155121-12

Date Collected: 06/13/18 15:45

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 09:47	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 22:39	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:45	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401798	06/20/18 17:23	RRC	TAL PEN

Client Sample ID: FB-01

Lab Sample ID: 400-155121-13

Date Collected: 06/13/18 15:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	403291	07/03/18 10:55	JAW	TAL PEN
Total Recoverable	Prep	3005A			402140	06/22/18 12:01	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	402344	06/22/18 22:43	DRE	TAL PEN
Total/NA	Prep	7470A			402528	06/26/18 10:50	JAP	TAL PEN
Total/NA	Analysis	7470A		1	402910	06/28/18 14:47	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	401651	06/19/18 15:36	RRC	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

HPLC/IC

Analysis Batch: 403291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	300.0	
400-155121-2	MGWA-11	Total/NA	Water	300.0	
400-155121-3	MGWA-5	Total/NA	Water	300.0	
400-155121-4	MGWC-12	Total/NA	Water	300.0	
400-155121-5	MGWC-2	Total/NA	Water	300.0	
400-155121-6	MGWC-7	Total/NA	Water	300.0	
400-155121-7	MGWC-3	Total/NA	Water	300.0	
400-155121-8	MGWC-1	Total/NA	Water	300.0	
400-155121-9	MGWA-6	Total/NA	Water	300.0	
400-155121-10	MGWC-8	Total/NA	Water	300.0	
400-155121-11	DUP-01	Total/NA	Water	300.0	
400-155121-12	FERB-01	Total/NA	Water	300.0	
400-155121-13	FB-01	Total/NA	Water	300.0	
MB 400-403291/36	Method Blank	Total/NA	Water	300.0	
LCS 400-403291/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-403291/38	Lab Control Sample Dup	Total/NA	Water	300.0	
400-155121-1 MS	MGWA-10	Total/NA	Water	300.0	
400-155121-1 MSD	MGWA-10	Total/NA	Water	300.0	

Analysis Batch: 403427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-5 - DL	MGWC-2	Total/NA	Water	300.0	
400-155121-6 - DL	MGWC-7	Total/NA	Water	300.0	
400-155121-7 - DL	MGWC-3	Total/NA	Water	300.0	
400-155121-8 - DL	MGWC-1	Total/NA	Water	300.0	
400-155121-10 - DL	MGWC-8	Total/NA	Water	300.0	
MB 400-403427/4	Method Blank	Total/NA	Water	300.0	
LCS 400-403427/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-403427/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-155198-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
400-155198-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 402140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total Recoverable	Water	3005A	
400-155121-2	MGWA-11	Total Recoverable	Water	3005A	
400-155121-3	MGWA-5	Total Recoverable	Water	3005A	
400-155121-4	MGWC-12	Total Recoverable	Water	3005A	
400-155121-5	MGWC-2	Total Recoverable	Water	3005A	
400-155121-5 - DL	MGWC-2	Total Recoverable	Water	3005A	
400-155121-6	MGWC-7	Total Recoverable	Water	3005A	
400-155121-7	MGWC-3	Total Recoverable	Water	3005A	
400-155121-8	MGWC-1	Total Recoverable	Water	3005A	
400-155121-9	MGWA-6	Total Recoverable	Water	3005A	
400-155121-10	MGWC-8	Total Recoverable	Water	3005A	
400-155121-10 - DL	MGWC-8	Total Recoverable	Water	3005A	
400-155121-11	DUP-01	Total Recoverable	Water	3005A	
400-155121-12	FERB-01	Total Recoverable	Water	3005A	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Metals (Continued)

Prep Batch: 402140 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-13	FB-01	Total Recoverable	Water	3005A	
MB 400-402140/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-402140/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-155121-1 MS	MGWA-10	Total Recoverable	Water	3005A	
400-155121-1 MSD	MGWA-10	Total Recoverable	Water	3005A	

Analysis Batch: 402344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total Recoverable	Water	6020	402140
400-155121-2	MGWA-11	Total Recoverable	Water	6020	402140
400-155121-3	MGWA-5	Total Recoverable	Water	6020	402140
400-155121-4	MGWC-12	Total Recoverable	Water	6020	402140
400-155121-5	MGWC-2	Total Recoverable	Water	6020	402140
400-155121-6	MGWC-7	Total Recoverable	Water	6020	402140
400-155121-7	MGWC-3	Total Recoverable	Water	6020	402140
400-155121-8	MGWC-1	Total Recoverable	Water	6020	402140
400-155121-9	MGWA-6	Total Recoverable	Water	6020	402140
400-155121-10	MGWC-8	Total Recoverable	Water	6020	402140
400-155121-11	DUP-01	Total Recoverable	Water	6020	402140
400-155121-12	FERB-01	Total Recoverable	Water	6020	402140
400-155121-13	FB-01	Total Recoverable	Water	6020	402140
MB 400-402140/1-A ^5	Method Blank	Total Recoverable	Water	6020	402140
LCS 400-402140/2-A	Lab Control Sample	Total Recoverable	Water	6020	402140
400-155121-1 MS	MGWA-10	Total Recoverable	Water	6020	402140
400-155121-1 MSD	MGWA-10	Total Recoverable	Water	6020	402140

Analysis Batch: 402495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-5 - DL	MGWC-2	Total Recoverable	Water	6020	402140
400-155121-10 - DL	MGWC-8	Total Recoverable	Water	6020	402140

Prep Batch: 402528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	7470A	
400-155121-2	MGWA-11	Total/NA	Water	7470A	
400-155121-3	MGWA-5	Total/NA	Water	7470A	
400-155121-4	MGWC-12	Total/NA	Water	7470A	
400-155121-5	MGWC-2	Total/NA	Water	7470A	
400-155121-6	MGWC-7	Total/NA	Water	7470A	
400-155121-7	MGWC-3	Total/NA	Water	7470A	
400-155121-8	MGWC-1	Total/NA	Water	7470A	
400-155121-9	MGWA-6	Total/NA	Water	7470A	
400-155121-10	MGWC-8	Total/NA	Water	7470A	
400-155121-11	DUP-01	Total/NA	Water	7470A	
400-155121-12	FERB-01	Total/NA	Water	7470A	
400-155121-13	FB-01	Total/NA	Water	7470A	
MB 400-402528/13-A	Method Blank	Total/NA	Water	7470A	
LCS 400-402528/14-A	Lab Control Sample	Total/NA	Water	7470A	
400-155276-H-1-E MS	Matrix Spike	Total/NA	Water	7470A	
400-155276-H-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Metals (Continued)

Analysis Batch: 402910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	7470A	402528
400-155121-2	MGWA-11	Total/NA	Water	7470A	402528
400-155121-3	MGWA-5	Total/NA	Water	7470A	402528
400-155121-4	MGWC-12	Total/NA	Water	7470A	402528
400-155121-5	MGWC-2	Total/NA	Water	7470A	402528
400-155121-6	MGWC-7	Total/NA	Water	7470A	402528
400-155121-7	MGWC-3	Total/NA	Water	7470A	402528
400-155121-8	MGWC-1	Total/NA	Water	7470A	402528
400-155121-9	MGWA-6	Total/NA	Water	7470A	402528
400-155121-10	MGWC-8	Total/NA	Water	7470A	402528
400-155121-11	DUP-01	Total/NA	Water	7470A	402528
400-155121-12	FERB-01	Total/NA	Water	7470A	402528
400-155121-13	FB-01	Total/NA	Water	7470A	402528
MB 400-402528/13-A	Method Blank	Total/NA	Water	7470A	402528
LCS 400-402528/14-A	Lab Control Sample	Total/NA	Water	7470A	402528
400-155276-H-1-E MS	Matrix Spike	Total/NA	Water	7470A	402528
400-155276-H-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	402528

General Chemistry

Analysis Batch: 401651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	SM 2540C	
400-155121-2	MGWA-11	Total/NA	Water	SM 2540C	
400-155121-3	MGWA-5	Total/NA	Water	SM 2540C	
400-155121-4	MGWC-12	Total/NA	Water	SM 2540C	
400-155121-11	DUP-01	Total/NA	Water	SM 2540C	
400-155121-13	FB-01	Total/NA	Water	SM 2540C	
MB 400-401651/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-401651/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-155121-1 DU	MGWA-10	Total/NA	Water	SM 2540C	

Analysis Batch: 401797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-5	MGWC-2	Total/NA	Water	SM 2540C	
400-155121-6	MGWC-7	Total/NA	Water	SM 2540C	
400-155121-7	MGWC-3	Total/NA	Water	SM 2540C	
400-155121-8	MGWC-1	Total/NA	Water	SM 2540C	
400-155121-9	MGWA-6	Total/NA	Water	SM 2540C	
MB 400-401797/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-401797/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-155121-5 DU	MGWC-2	Total/NA	Water	SM 2540C	
400-155121-6 DU	MGWC-7	Total/NA	Water	SM 2540C	

Analysis Batch: 401798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-10	MGWC-8	Total/NA	Water	SM 2540C	
400-155121-12	FERB-01	Total/NA	Water	SM 2540C	
MB 400-401798/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-401798/2	Lab Control Sample	Total/NA	Water	SM 2540C	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

General Chemistry (Continued)

Analysis Batch: 401798 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-10 DU	MGWC-8	Total/NA	Water	SM 2540C	

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

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-403291/36
Matrix: Water
Analysis Batch: 403291

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 01:47	1
Chloride	<0.89		1.0	0.89	mg/L			07/03/18 01:47	1
Sulfate	<0.70		1.0	0.70	mg/L			07/03/18 01:47	1

Lab Sample ID: LCS 400-403291/37
Matrix: Water
Analysis Batch: 403291

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	9.96		mg/L		100	90 - 110
Chloride	10.0	9.36		mg/L		94	90 - 110
Sulfate	10.0	9.79		mg/L		98	90 - 110

Lab Sample ID: LCSD 400-403291/38
Matrix: Water
Analysis Batch: 403291

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	10.0	9.94		mg/L		99	90 - 110	0	15
Chloride	10.0	9.36		mg/L		94	90 - 110	0	15
Sulfate	10.0	9.87		mg/L		99	90 - 110	1	15

Lab Sample ID: 400-155121-1 MS
Matrix: Water
Analysis Batch: 403291

Client Sample ID: MGWA-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	<0.082		10.0	10.3		mg/L		103	80 - 120
Chloride	6.7		10.0	16.3		mg/L		96	80 - 120
Sulfate	0.82	J	10.0	11.1		mg/L		103	80 - 120

Lab Sample ID: 400-155121-1 MSD
Matrix: Water
Analysis Batch: 403291

Client Sample ID: MGWA-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	<0.082		10.0	10.3		mg/L		103	80 - 120	0	20
Chloride	6.7		10.0	16.3		mg/L		96	80 - 120	0	20
Sulfate	0.82	J	10.0	11.3		mg/L		104	80 - 120	1	20

Lab Sample ID: MB 400-403427/4
Matrix: Water
Analysis Batch: 403427

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.082		0.20	0.082	mg/L			07/03/18 13:57	1
Chloride	<0.89		1.0	0.89	mg/L			07/03/18 13:57	1
Sulfate	<0.70		1.0	0.70	mg/L			07/03/18 13:57	1

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-403427/5
Matrix: Water
Analysis Batch: 403427

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.2		mg/L		102	90 - 110
Chloride	10.0	9.71		mg/L		97	90 - 110
Sulfate	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: LCSD 400-403427/6
Matrix: Water
Analysis Batch: 403427

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	10.0	10.2		mg/L		102	90 - 110	0	15
Chloride	10.0	9.67		mg/L		97	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	0	15

Lab Sample ID: 400-155198-A-6 MS
Matrix: Water
Analysis Batch: 403427

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.093	J	10.0	10.3		mg/L		102	80 - 120
Chloride	1.4		10.0	11.0		mg/L		96	80 - 120
Sulfate	8.3		10.0	18.9		mg/L		107	80 - 120

Lab Sample ID: 400-155198-A-6 MSD
Matrix: Water
Analysis Batch: 403427

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.093	J	10.0	10.3		mg/L		102	80 - 120	0	20
Chloride	1.4		10.0	11.0		mg/L		96	80 - 120	0	20
Sulfate	8.3		10.0	19.0		mg/L		108	80 - 120	1	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-402140/1-A ^5
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		06/22/18 12:01	06/22/18 20:33	5
Barium	<0.00049		0.0025	0.00049	mg/L		06/22/18 12:01	06/22/18 20:33	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 20:33	5
Boron	<0.021		0.050	0.021	mg/L		06/22/18 12:01	06/22/18 20:33	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		06/22/18 12:01	06/22/18 20:33	5
Calcium	<0.13		0.25	0.13	mg/L		06/22/18 12:01	06/22/18 20:33	5
Chromium	<0.0011		0.0025	0.0011	mg/L		06/22/18 12:01	06/22/18 20:33	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		06/22/18 12:01	06/22/18 20:33	5
Lithium	<0.0011		0.0050	0.0011	mg/L		06/22/18 12:01	06/22/18 20:33	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		06/22/18 12:01	06/22/18 20:33	5
Selenium	<0.00024		0.0013	0.00024	mg/L		06/22/18 12:01	06/22/18 20:33	5

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

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

Lab Sample ID: MB 400-402140/1-A ^5
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.000085		0.00050	0.000085	mg/L		06/22/18 12:01	06/22/18 20:33	5

Lab Sample ID: LCS 400-402140/2-A
Matrix: Water
Analysis Batch: 402344

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0474		mg/L		95	80 - 120
Barium	0.0500	0.0485		mg/L		97	80 - 120
Beryllium	0.0500	0.0495		mg/L		99	80 - 120
Boron	0.100	0.0924		mg/L		92	80 - 120
Cadmium	0.0500	0.0501		mg/L		100	80 - 120
Calcium	5.00	4.76		mg/L		95	80 - 120
Chromium	0.0500	0.0474		mg/L		95	80 - 120
Cobalt	0.0500	0.0497		mg/L		99	80 - 120
Lithium	0.0500	0.0497		mg/L		99	80 - 120
Molybdenum	0.0500	0.0506		mg/L		101	80 - 120
Selenium	0.0500	0.0525		mg/L		105	80 - 120
Thallium	0.0100	0.00973		mg/L		97	80 - 120

Lab Sample ID: 400-155121-1 MS
Matrix: Water
Analysis Batch: 402344

Client Sample ID: MGWA-10
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00046		0.0500	0.0482		mg/L		96	75 - 125
Barium	0.025		0.0500	0.0731		mg/L		97	75 - 125
Beryllium	<0.00034		0.0500	0.0518		mg/L		104	75 - 125
Boron	<0.021		0.100	0.0880		mg/L		88	75 - 125
Cadmium	<0.00034		0.0500	0.0508		mg/L		102	75 - 125
Calcium	4.8		5.00	9.55		mg/L		96	75 - 125
Chromium	0.0038		0.0500	0.0520		mg/L		96	75 - 125
Cobalt	<0.00040		0.0500	0.0510		mg/L		102	75 - 125
Lithium	0.0068		0.0500	0.0528		mg/L		92	75 - 125
Molybdenum	0.0012	J	0.0500	0.0519		mg/L		101	75 - 125
Selenium	0.00076	J	0.0500	0.0567		mg/L		112	75 - 125
Thallium	<0.000085		0.0100	0.00988		mg/L		99	75 - 125

Lab Sample ID: 400-155121-1 MSD
Matrix: Water
Analysis Batch: 402344

Client Sample ID: MGWA-10
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	<0.00046		0.0500	0.0480		mg/L		96	75 - 125	0	20
Barium	0.025		0.0500	0.0732		mg/L		97	75 - 125	0	20
Beryllium	<0.00034		0.0500	0.0529		mg/L		106	75 - 125	2	20
Boron	<0.021		0.100	0.102		mg/L		102	75 - 125	15	20
Cadmium	<0.00034		0.0500	0.0511		mg/L		102	75 - 125	1	20
Calcium	4.8		5.00	9.43		mg/L		93	75 - 125	1	20

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

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

Lab Sample ID: 400-155121-1 MSD
Matrix: Water
Analysis Batch: 402344

Client Sample ID: MGWA-10
Prep Type: Total Recoverable
Prep Batch: 402140

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Chromium	0.0038		0.0500	0.0527		mg/L		98	75 - 125	1	20
Cobalt	<0.00040		0.0500	0.0512		mg/L		102	75 - 125	0	20
Lithium	0.0068		0.0500	0.0522		mg/L		91	75 - 125	1	20
Molybdenum	0.0012	J	0.0500	0.0501		mg/L		98	75 - 125	3	20
Selenium	0.00076	J	0.0500	0.0535		mg/L		106	75 - 125	6	20
Thallium	<0.000085		0.0100	0.00977		mg/L		98	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-402528/13-A
Matrix: Water
Analysis Batch: 402910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 402528

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	<0.000070		0.00020	0.000070	mg/L		06/26/18 10:45	06/28/18 13:38	1

Lab Sample ID: LCS 400-402528/14-A
Matrix: Water
Analysis Batch: 402910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 402528

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Mercury	0.00101	0.000943		mg/L		94	80 - 120

Lab Sample ID: 400-155276-H-1-E MS
Matrix: Water
Analysis Batch: 402910

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 402528

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				Limits
Mercury	<0.000070		0.00201	0.00193		mg/L		96	80 - 120

Lab Sample ID: 400-155276-H-1-F MSD
Matrix: Water
Analysis Batch: 402910

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 402528

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Mercury	<0.000070		0.00201	0.00187		mg/L		93	80 - 120	3	20

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

Lab Sample ID: MB 400-401651/1
Matrix: Water
Analysis Batch: 401651

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			06/19/18 15:36	1

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
SDG: Ash Pond

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

Lab Sample ID: LCS 400-401651/2
Matrix: Water
Analysis Batch: 401651

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	334		mg/L		114	78 - 122

Lab Sample ID: 400-155121-1 DU
Matrix: Water
Analysis Batch: 401651

Client Sample ID: MGWA-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	62		62.0		mg/L		0	5

Lab Sample ID: MB 400-401797/1
Matrix: Water
Analysis Batch: 401797

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	<3.4		5.0	3.4	mg/L			06/20/18 16:40	1

Lab Sample ID: LCS 400-401797/2
Matrix: Water
Analysis Batch: 401797

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	258		mg/L		88	78 - 122

Lab Sample ID: 400-155121-5 DU
Matrix: Water
Analysis Batch: 401797

Client Sample ID: MGWC-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	570		562		mg/L		1	5

Lab Sample ID: 400-155121-6 DU
Matrix: Water
Analysis Batch: 401797

Client Sample ID: MGWC-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	320		312		mg/L		1	5

Lab Sample ID: MB 400-401798/1
Matrix: Water
Analysis Batch: 401798

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	<3.4		5.0	3.4	mg/L			06/20/18 17:23	1

Lab Sample ID: LCS 400-401798/2
Matrix: Water
Analysis Batch: 401798

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

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

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
 SDG: Ash Pond

Lab Sample ID: 400-155121-10 DU
Matrix: Water
Analysis Batch: 401798

Client Sample ID: MGWC-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	600		584		mg/L		2	5

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

Chain of Custody Record

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



Client Information Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: Plant McIntosh		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Carrier Tracking No(s): Lab No: 400-155121 COC Page: 1 of 2 Job #: 2	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007692 SSOWh:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N 915_Ra226, 9120_Ra228, Ra226Ra228_GFPc 300_ORGFM_28D - Chloride, Fluoride & Sulfate, 2640C - 6020-As, Ba, Be, B, Ca, Cd, Cr, Co, Li, Mo, Se, Tl, 7470A-Hg	
Sample Identification Sample ID: MGWA-10 MGWA-11 MGWA-5 MGWC-12 MGWC-2 MGWC-7 MGWC-3 MGWC-1 MGWA-6 MGWC-8 DUP-01		Sample Date: 6/12/18 Sample Time: 13:12 Sample Type (C=comp, G=grab): G Matrix (Water, Solid, On-site, B1=Trace, A=Air): Water Preservation Code:	
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 Deliverable Requested: I, II, III, IV, Other (specify)		Total Number of Containers: 3 Special Instructions/Note: Radium samples in separate coolers to be overnighted to St. Louis App in parameters except Pb and Sb	
Empty Kit Relinquished by: Relinquished by: Peter Adams Date/Time: 6/14/18 10:25 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 <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Relinquished by: Relinquished by: Janet Adams Date/Time: 6/15/18 09:05 Company: TA Pen Relinquished by:		Method of Shipment: Date/Time: 6/14/18 15:30 Company: HA Date/Time: 6/15/18 09:05 Company: TA Pen	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.2°C IRB	



Chain of Custody Record

Client Information Client Contact: Ms. Lauren Petty Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: Plant McIntosh		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Carrier Tracking No(s): Page: 2 of 2 Job #:						
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007692 SSOWh:		Analysis Requested								
Sample Identification Ferb-01 FB-01		Sample Date 6/13/18 6/13/18	Sample Time 1545 1550	Sample Type (C-comp, G-grab) G G	Matrix (Water, Spark, On-site, BT-Tissue, AFA) Water Water	Field Filtered Sample (Yes or No) N N	Perform MS/MSD (Yes or No) X X	9316_Ra226, 9320_Ra228, Ra226Ra228_GFPc 500_ORGFM_280 - Chloride, Fluoride & Sulfate, 2640C - 6020-Ae, Ba, Be, B, Ca, Cd, Cr, Co, Li, Mo, Se, Tl, 7470A-Hg	Total Number of Containers 3 3	Special Instructions/Note: Radium in spark coolers table overnighted to St. Louis App IV except Pb and Sb
Possible Hazard Identification <input 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:										
Relinquished by: Peter Adams Relinquished by: [Signature] Relinquished by: [Signature]		Date/Time: 6/14/18 10:25 Date/Time: 6/14/18 1300 Date/Time:		Method of Shipment:						
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.2°C, IRS						



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-155121-1

SDG Number: Ash Pond

Login Number: 155121

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2°C IR8, 1.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-1
 SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-155121-2

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

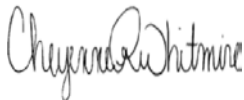
For:

Southern Company

PO BOX 2641 GSC8

Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:

7/20/2018 3:45:25 PM

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Job ID: 400-155121-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-155121-2

RAD

Method(s) PrecSep_0: Radium 228 Prep Batch 160-372543: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MGWA-10 (400-155121-1), MGWA-11 (400-155121-2), MGWA-5 (400-155121-3), MGWC-12 (400-155121-4), MGWC-2 (400-155121-5), MGWC-7 (400-155121-6), MGWC-3 (400-155121-7), MGWC-1 (400-155121-8), MGWA-6 (400-155121-9), MGWC-8 (400-155121-10), DUP-01 (400-155121-11), FERB-01 (400-155121-12) and FB-01 (400-155121-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method(s) PrecSep-21: Radium 226 Prep Batch 160-372542: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: MGWA-10 (400-155121-1), MGWA-11 (400-155121-2), MGWA-5 (400-155121-3), MGWC-12 (400-155121-4), MGWC-2 (400-155121-5), MGWC-7 (400-155121-6), MGWC-3 (400-155121-7), MGWC-1 (400-155121-8), MGWA-6 (400-155121-9), MGWC-8 (400-155121-10), DUP-01 (400-155121-11), FERB-01 (400-155121-12) and FB-01 (400-155121-13). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

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

Protocol References:

None = None

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

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-155121-1	MGWA-10	Water	06/12/18 13:12	06/15/18 09:03
400-155121-2	MGWA-11	Water	06/12/18 13:20	06/15/18 09:03
400-155121-3	MGWA-5	Water	06/12/18 15:40	06/15/18 09:03
400-155121-4	MGWC-12	Water	06/12/18 15:45	06/15/18 09:03
400-155121-5	MGWC-2	Water	06/13/18 10:35	06/15/18 09:03
400-155121-6	MGWC-7	Water	06/13/18 10:50	06/15/18 09:03
400-155121-7	MGWC-3	Water	06/13/18 12:50	06/15/18 09:03
400-155121-8	MGWC-1	Water	06/13/18 12:55	06/15/18 09:03
400-155121-9	MGWA-6	Water	06/13/18 14:40	06/15/18 09:03
400-155121-10	MGWC-8	Water	06/13/18 16:00	06/15/18 09:03
400-155121-11	DUP-01	Water	06/13/18 00:00	06/15/18 09:03
400-155121-12	FERB-01	Water	06/13/18 15:45	06/15/18 09:03
400-155121-13	FB-01	Water	06/13/18 15:50	06/15/18 09:03

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWA-10

Lab Sample ID: 400-155121-1

Date Collected: 06/12/18 13:12

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.307		0.187	0.189	1.00	0.231	pCi/L	06/26/18 09:40	07/18/18 22:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					06/26/18 09:40	07/18/18 22:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00608	U	0.248	0.248	1.00	0.438	pCi/L	06/26/18 10:00	07/18/18 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					06/26/18 10:00	07/18/18 13:19	1
Y Carrier	87.9		40 - 110					06/26/18 10:00	07/18/18 13:19	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	0.313	U	0.311	0.312	5.00	0.438	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWA-11

Date Collected: 06/12/18 13:20

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-2

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	0.0160	U	0.132	0.132	1.00	0.269	pCi/L	06/26/18 09:40	07/18/18 22:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					06/26/18 09:40	07/18/18 22:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0893	U	0.242	0.242	1.00	0.417	pCi/L	06/26/18 10:00	07/18/18 13:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.7		40 - 110					06/26/18 10:00	07/18/18 13:19	1
Y Carrier	85.2		40 - 110					06/26/18 10:00	07/18/18 13:19	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	0.105	U	0.276	0.276	5.00	0.417	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWA-5

Lab Sample ID: 400-155121-3

Date Collected: 06/12/18 15:40

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0700	U	0.104	0.104	1.00	0.179	pCi/L	06/26/18 09:40	07/18/18 22:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/26/18 09:40	07/18/18 22:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0626	U	0.195	0.195	1.00	0.338	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	107		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	90.5		40 - 110					06/26/18 10:00	07/18/18 13:20	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	0.133	U	0.221	0.221	5.00	0.338	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-155121-4

Date Collected: 06/12/18 15:45

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.288		0.187	0.189	1.00	0.234	pCi/L	06/26/18 09:40	07/18/18 22:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					06/26/18 09:40	07/18/18 22:31	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.150	U	0.226	0.227	1.00	0.380	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	84.5		40 - 110					06/26/18 10:00	07/18/18 13:20	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	0.438		0.293	0.295	5.00	0.380	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-155121-5

Date Collected: 06/13/18 10:35

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0302	U	0.118	0.118	1.00	0.233	pCi/L	06/26/18 09:40	07/18/18 22:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/26/18 09:40	07/18/18 22:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.242	U	0.216	0.218	1.00	0.347	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	87.1		40 - 110					06/26/18 10:00	07/18/18 13:20	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	0.272	U	0.246	0.248	5.00	0.347	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWC-7

Lab Sample ID: 400-155121-6

Date Collected: 06/13/18 10:50

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.608		0.242	0.248	1.00	0.255	pCi/L	06/26/18 09:40	07/18/18 22:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					06/26/18 09:40	07/18/18 22:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.107	U	0.193	0.193	1.00	0.328	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.2		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	91.2		40 - 110					06/26/18 10:00	07/18/18 13:20	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	0.716		0.310	0.314	5.00	0.328	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-155121-7

Date Collected: 06/13/18 12:50

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.842		0.268	0.278	1.00	0.220	pCi/L	06/26/18 09:40	07/18/18 22:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/26/18 09:40	07/18/18 22:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.424		0.223	0.227	1.00	0.329	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	85.6		40 - 110					06/26/18 10:00	07/18/18 13:20	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	1.27		0.349	0.359	5.00	0.329	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-155121-8

Date Collected: 06/13/18 12:55

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.775		0.266	0.275	1.00	0.229	pCi/L	06/26/18 09:40	07/18/18 22:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					06/26/18 09:40	07/18/18 22:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.316	U	0.226	0.228	1.00	0.351	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	87.1		40 - 110					06/26/18 10:00	07/18/18 13:20	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.09		0.349	0.357	5.00	0.351	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-155121-9

Date Collected: 06/13/18 14:40

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.284		0.178	0.180	1.00	0.222	pCi/L	06/26/18 09:40	07/18/18 22:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/26/18 09:40	07/18/18 22:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0650	U	0.208	0.208	1.00	0.361	pCi/L	06/26/18 10:00	07/18/18 13:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	100		40 - 110					06/26/18 10:00	07/18/18 13:20	1
Y Carrier	86.4		40 - 110					06/26/18 10:00	07/18/18 13:20	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	0.349	U	0.274	0.275	5.00	0.361	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-155121-10

Date Collected: 06/13/18 16:00

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.729		0.257	0.265	1.00	0.206	pCi/L	06/26/18 09:40	07/18/18 22:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/26/18 09:40	07/18/18 22:31	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.777		0.268	0.277	1.00	0.361	pCi/L	06/26/18 10:00	07/18/18 13:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.8		40 - 110					06/26/18 10:00	07/18/18 13:22	1
Y Carrier	88.6		40 - 110					06/26/18 10:00	07/18/18 13:22	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.51		0.371	0.383	5.00	0.361	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: DUP-01
Date Collected: 06/13/18 00:00
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-11
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.346		0.205	0.207	1.00	0.255	pCi/L	06/26/18 09:40	07/18/18 22:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					06/26/18 09:40	07/18/18 22:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.425		0.242	0.245	1.00	0.365	pCi/L	06/26/18 10:00	07/18/18 13:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					06/26/18 10:00	07/18/18 13:22	1
Y Carrier	86.0		40 - 110					06/26/18 10:00	07/18/18 13:22	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	0.771		0.317	0.321	5.00	0.365	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: FERB-01

Lab Sample ID: 400-155121-12

Date Collected: 06/13/18 15:45

Matrix: Water

Date Received: 06/15/18 09:03

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.116	U	0.144	0.145	1.00	0.237	pCi/L	06/26/18 09:40	07/18/18 22:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					06/26/18 09:40	07/18/18 22:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0415	U	0.209	0.209	1.00	0.366	pCi/L	06/26/18 10:00	07/18/18 13:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	105		40 - 110					06/26/18 10:00	07/18/18 13:22	1
Y Carrier	86.7		40 - 110					06/26/18 10:00	07/18/18 13:22	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	0.158	U	0.254	0.254	5.00	0.366	pCi/L		07/20/18 15:26	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

Client Sample ID: FB-01
Date Collected: 06/13/18 15:50
Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-13
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	0.0146	U	0.124	0.124	1.00	0.258	pCi/L	06/26/18 09:40	07/18/18 22:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					06/26/18 09:40	07/18/18 22:28	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00433	U	0.219	0.219	1.00	0.392	pCi/L	06/26/18 10:00	07/18/18 13:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.9		40 - 110					06/26/18 10:00	07/18/18 13:22	1
Y Carrier	87.1		40 - 110					06/26/18 10:00	07/18/18 13:22	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	0.0190	U	0.252	0.252	5.00	0.392	pCi/L		07/20/18 15:26	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Qualifiers

Rad

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

Glossary

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

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 06/12/18 13:12

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376392	07/18/18 22:32	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:19	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWA-11

Date Collected: 06/12/18 13:20

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376392	07/18/18 22:32	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:19	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWA-5

Date Collected: 06/12/18 15:40

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376392	07/18/18 22:32	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWC-12

Date Collected: 06/12/18 15:45

Date Received: 06/15/18 09:03

Lab Sample ID: 400-155121-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376392	07/18/18 22:31	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-155121-5

Date Collected: 06/13/18 10:35

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:30	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWC-7

Lab Sample ID: 400-155121-6

Date Collected: 06/13/18 10:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:30	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWC-3

Lab Sample ID: 400-155121-7

Date Collected: 06/13/18 12:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:30	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWC-1

Lab Sample ID: 400-155121-8

Date Collected: 06/13/18 12:55

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:30	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-155121-9

Date Collected: 06/13/18 14:40

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:30	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376391	07/18/18 13:20	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: MGWC-8

Lab Sample ID: 400-155121-10

Date Collected: 06/13/18 16:00

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376393	07/18/18 22:31	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376393	07/18/18 13:22	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: DUP-01

Lab Sample ID: 400-155121-11

Date Collected: 06/13/18 00:00

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376391	07/18/18 22:29	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376393	07/18/18 13:22	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Client Sample ID: FERB-01

Lab Sample ID: 400-155121-12

Date Collected: 06/13/18 15:45

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376391	07/18/18 22:28	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376393	07/18/18 13:22	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Client Sample ID: FB-01

Lab Sample ID: 400-155121-13

Date Collected: 06/13/18 15:50

Matrix: Water

Date Received: 06/15/18 09:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			372542	06/26/18 09:40	JLC	TAL SL
Total/NA	Analysis	9315		1	376391	07/18/18 22:28	ALS	TAL SL
Total/NA	Prep	PrecSep_0			372543	06/26/18 10:00	JLC	TAL SL
Total/NA	Analysis	9320		1	376393	07/18/18 13:22	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	377004	07/20/18 15:26	ALS	TAL SL

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Rad

Prep Batch: 372542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	PrecSep-21	
400-155121-2	MGWA-11	Total/NA	Water	PrecSep-21	
400-155121-3	MGWA-5	Total/NA	Water	PrecSep-21	
400-155121-4	MGWC-12	Total/NA	Water	PrecSep-21	
400-155121-5	MGWC-2	Total/NA	Water	PrecSep-21	
400-155121-6	MGWC-7	Total/NA	Water	PrecSep-21	
400-155121-7	MGWC-3	Total/NA	Water	PrecSep-21	
400-155121-8	MGWC-1	Total/NA	Water	PrecSep-21	
400-155121-9	MGWA-6	Total/NA	Water	PrecSep-21	
400-155121-10	MGWC-8	Total/NA	Water	PrecSep-21	
400-155121-11	DUP-01	Total/NA	Water	PrecSep-21	
400-155121-12	FERB-01	Total/NA	Water	PrecSep-21	
400-155121-13	FB-01	Total/NA	Water	PrecSep-21	
MB 160-372542/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-372542/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-372542/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 372543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-155121-1	MGWA-10	Total/NA	Water	PrecSep_0	
400-155121-2	MGWA-11	Total/NA	Water	PrecSep_0	
400-155121-3	MGWA-5	Total/NA	Water	PrecSep_0	
400-155121-4	MGWC-12	Total/NA	Water	PrecSep_0	
400-155121-5	MGWC-2	Total/NA	Water	PrecSep_0	
400-155121-6	MGWC-7	Total/NA	Water	PrecSep_0	
400-155121-7	MGWC-3	Total/NA	Water	PrecSep_0	
400-155121-8	MGWC-1	Total/NA	Water	PrecSep_0	
400-155121-9	MGWA-6	Total/NA	Water	PrecSep_0	
400-155121-10	MGWC-8	Total/NA	Water	PrecSep_0	
400-155121-11	DUP-01	Total/NA	Water	PrecSep_0	
400-155121-12	FERB-01	Total/NA	Water	PrecSep_0	
400-155121-13	FB-01	Total/NA	Water	PrecSep_0	
MB 160-372543/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-372543/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-372543/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-372542/23-A
Matrix: Water
Analysis Batch: 376391

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 372542

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.001829	U	0.0940	0.0940	1.00	0.211	pCi/L	06/26/18 09:40	07/18/18 22:28	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					06/26/18 09:40	07/18/18 22:28	1

Lab Sample ID: LCS 160-372542/1-A
Matrix: Water
Analysis Batch: 376388

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 372542

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	10.43		1.32	1.00	0.245	pCi/L	92	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	103		40 - 110						

Lab Sample ID: LCSD 160-372542/2-A
Matrix: Water
Analysis Batch: 376388

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 372542

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.4	11.06		1.40	1.00	0.265	pCi/L	97	68 - 137	0.23	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	99.4		40 - 110								

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-372543/23-A
Matrix: Water
Analysis Batch: 376393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 372543

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08393	U	0.178	0.178	1.00	0.305	pCi/L	06/26/18 10:00	07/18/18 13:22	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	109		40 - 110					06/26/18 10:00	07/18/18 13:22	1
Y Carrier	85.6		40 - 110					06/26/18 10:00	07/18/18 13:22	1

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
 SDG: Ash Pond

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

Lab Sample ID: LCS 160-372543/1-A
Matrix: Water
Analysis Batch: 376391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 372543

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	8.14	8.186		0.960	1.00	0.362	pCi/L	101	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	87.5		40 - 110

Lab Sample ID: LCSD 160-372543/2-A
Matrix: Water
Analysis Batch: 376391

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 372543

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	8.14	8.480		0.987	1.00	0.331	pCi/L	104	56 - 140	0.15	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.4		40 - 110
Y Carrier	90.5		40 - 110

Chain of Custody Record

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



Client Information Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: Plant McIntosh		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Sampler: Peter Adams & Lauren Coker Phone: 678-467-9260 (mobile)		Carrier Tracking No(s): COC No:				
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007692 SSOHW:		Analysis Requested 915_Ra226, 9120_Ra228, Ra226Ra228_GFPc 300_ORGFM_28D - Chloride, Fluoride & Sulfate, 2640C - 6020-As, Ba, Be, B, Ca, Cd, Cr, Co, Li, Mo, Se, Tl, 7470A-Hg TDS		Total Number of Containers: 3				
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, On-site, etc)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Special Instructions/Note:
M GWA-10	6/12/18	13:12	G	Water		N	X	3 Radium samples in separate coolers to be overnighted to St. Louis
M GWA-11	6/12/18	13:20	G	Water		N	X	
M GWA-5	6/12/18	15:40	G	Water		N	X	
M GWC-12	6/12/18	15:45	G	Water		N	X	
M GWC-2	6/13/18	10:35	G	Water		N	X	
M GWC-7	6/13/18	10:50	G	Water		N	X	
M GWC-3	6/13/18	12:50	G	Water		N	X	
M GWC-1	6/13/18	12:55	G	Water		N	X	
M GWA-6	6/13/18	14:40	G	Water		N	X	
M GWC-8	6/13/18	16:00	G	Water		N	X	
DUP-01	6/13/18		G	Water		N	X	

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: Peter Adams Date/Time: 6/14/18 10:25 Company: _____
 Relinquished by: _____ Date/Time: 6/15/18 09:05 Company: TA Pen
 Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Δ No Yes
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.2°C IRB

Ver: 08/04/2016



Chain of Custody Record

Client Information Client Contact: Ms. Lauren Petty Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: Plant McIntosh		Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Camer Tracking No(s): Page: 2 of 2 Job #:						
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007692 SSOWh:		Analysis Requested								
Sample Identification Ferb-01 FB-01		Sample Date 6/13/18 6/13/18	Sample Time 1545 1550	Sample Type (C-comp, G-grab) G G	Matrix (Water, Spark, On-site, BT-Tissue, AFA) Water Water	Field Filtered Sample (Yes or No) N N	Perform MS/MSD (Yes or No) X X	9316_Ra226, 9320_Ra228, Ra226Ra228_GFPc 500_ORGFM_280 - Chloride, Fluoride & Sulfate, 2640C - 6020-Ae, Ba, Be, B, Ca, Cd, Cr, Co, Li, Mo, Se, Tl, 7470A-Hg	Total Number of Containers 3 3	Special Instructions/Note: Radium in spark coolers table overnighted to St. Louis App IV except Pb and Sb
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		Deliverable Requested: I, II, III, IV, Other (specify)								
Empty Kit Relinquished by:		Date:		Method of Shipment:						
Relinquished by: Peter Adams		Date/Time: 6/14/18 10:25		Company: GEI						
Relinquished by: [Signature]		Date/Time: 6/14/18 1300		Company: [Signature]						
Relinquished by: [Signature]		Date/Time:		Company:						
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.2°C, 1.2°C IRS						



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-155121-2

SDG Number: Ash Pond

Login Number: 155121

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2°C IR8, 1.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-155121-2

SDG Number: Ash Pond

Login Number: 155121

List Number: 2

Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis

List Creation: 06/18/18 08:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1,19.0,19.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18 *
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-14	09-30-18
US Fish & Wildlife	Federal		LE058448-0	07-31-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18
Iowa	State Program	7	373	12-01-18
Kansas	NELAP	7	E-10236	10-31-18
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18
Maryland	State Program	3	310	09-30-18 *
Michigan	State Program	5	9005	06-30-18 *
Missouri	State Program	7	780	06-30-18 *

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-155121-2
SDG: Ash Pond

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Nevada	State Program	9	MO000542018-1	07-31-18 *
New Jersey	NELAP	2	MO002	06-30-19
New York	NELAP	2	11616	03-31-19
North Dakota	State Program	8	R207	06-30-18 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-18 *
Pennsylvania	NELAP	3	68-00540	02-28-19
South Carolina	State Program	4	85002001	06-30-18 *
Texas	NELAP	6	T104704193-17-11	07-31-18 *
US Fish & Wildlife	Federal		058448	07-31-18
USDA	Federal		P330-17-0028	02-02-20
Utah	NELAP	8	MO000542016-8	07-31-18 *
Virginia	NELAP	3	460230	06-14-19
Washington	State Program	10	C592	08-30-18
West Virginia DEP	State Program	3	381	08-31-18 *

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

TestAmerica Pensacola

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Pensacola, FL
Report Nos.: 400-155121-1
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 17, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
MGWA-10	400-155121-01	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-11	400-155121-02	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-5	400-155121-03	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-12	400-155121-04	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-2	400-155121-05	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-7	400-155121-06	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-3	400-155121-07	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-1	400-155121-08	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-6	400-155121-09	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-8	400-155121-10	Metals, Fluoride, Chloride, Sulfate, TDS
DUP-01	400-155121-11	Metals, Fluoride, Chloride, Sulfate, TDS
FERB-01	400-155121-12	Metals, Fluoride, Chloride, Sulfate, TDS
FB-01	400-155121-13	Metals, Fluoride, Chloride, Sulfate, TDS

QC Samples(s): Field/Equipment blanks: FB-01, FERB-01
Field Duplicate pair: MGWA-6/DUP-01

The above-listed aqueous samples and field blanks were collected on June 12 and 13, 2018 and were analyzed for select total recoverable metals by SW-846 method 6020/7470, total dissolved solids (TDS) by Standard Methods SM2540C, and fluoride, chloride, and sulfate by EPA method 300. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the method referenced, and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results

Georgia Power Ash Pond, 1800205-1.3

- Field Duplicate Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, MS/MSD, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Contamination was not detected in the associated method and field blanks.

MS/MSD Results

MS/MSD analyses were performed on sample MGWA-10 for ICP/MS (method 6020) metals, fluoride, chloride, and sulfate and non-project samples for mercury. All recovery and precision criteria were met.

Results were not used for MS/MSDs performed on non-project samples due to differences in sample matrix, type, etc.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on samples MGWA-10, MGWC-2, MGWC-7, and MGWC-8 for TDS. All precision criteria were met.

LCS Results

All criteria were met.

Field Duplicate Results

Samples MGWA-6 and DUP-01 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWA-6 (mg/L)	DUP-01 (mg/L)	RPD (%)
Arsenic	0.011	0.012	8.7
Barium	0.037	0.038	2.7
Boron	0.11	0.088	22.2
Calcium	100	110	9.5
Chloride	7.0	7.0	0
Sulfate	8.7	9.0	3.4
Total dissolved solids	230	290	23.1
NC – Not calculable			
Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$.			
When results are $< 5x$ the RL, the absolute difference between the original and field duplicate must be $< RL$			

Quantitation Limits

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Five-fold dilutions were performed for all ICP/MS metals samples. Reporting limits were elevated accordingly. The following table lists the additional sample dilutions which were required to bring results within the instrument calibration range.

Sample	Sulfate Analysis Reported	Metals Analysis Reported
MGWC-2	A five-fold dilution was reported.	A 25-fold dilution was reported for boron and calcium.
MGWC-7	A five-fold dilution was reported.	NR
MGWC-3	A five-fold dilution was reported.	NR
MGWC-1	A five-fold dilution was reported.	NR
MGWC-8	A 10-fold dilution was reported.	A 25-fold dilution was reported for boron.
NR – A dilution was not required for this sample.		

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Earth City, MO
Report Nos.: 400-155121-2
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 23, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
MGWA-10	400-155121-01	Radium-226, Radium-228, Radium226-228
MGWA-11	400-155121-02	Radium-226, Radium-228, Radium226-228
MGWA-5	400-155121-03	Radium-226, Radium-228, Radium226-228
MGWC-12	400-155121-04	Radium-226, Radium-228, Radium226-228
MGWC-2	400-155121-05	Radium-226, Radium-228, Radium226-228
MGWC-7	400-155121-06	Radium-226, Radium-228, Radium226-228
MGWC-3	400-155121-07	Radium-226, Radium-228, Radium226-228
MGWC-1	400-155121-08	Radium-226, Radium-228, Radium226-228
MGWA-6	400-155121-09	Radium-226, Radium-228, Radium226-228
MGWC-8	400-155121-10	Radium-226, Radium-228, Radium226-228
DUP-01	400-155121-11	Radium-226, Radium-228, Radium226-228
FERB-01	400-155121-12	Radium-226, Radium-228, Radium226-228
FB-01	400-155121-13	Radium-226, Radium-228, Radium226-228

QC Samples(s): Field/Equipment blanks: FB-01, FERB-01
Field Duplicate pair: MGWA-6/DUP-01

The above-listed aqueous samples and field blanks were collected on June 12 and 13, 2018 and were analyzed for Radium-226 by SW-846 method 9315, Radium-228 by SW-46 method 9320, and combined Radium-226 and Radium-228. The data were reviewed based on the US Department of Energy Evaluation of Radiochemical Data Usability, 1997.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Carrier Yields
- Laboratory Duplicate Results
- Field Duplicate Results
- Laboratory Control Sample (LCS) Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, carrier yields, laboratory duplicate, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Contamination was not detected in the associated method and field blanks.

Carrier Yields

All criteria were met.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project samples. All criteria were met.

Field Duplicate Results

Samples MGWA-6 and DUP-01 were submitted as the field duplicate pair with this sample set. The following table summarizes the evaluation of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWA-6 (pCi/L)	DUP-01 (pCi/L)	DER
Radium-226	0.284	0.346	0.23
Radium-228	0.065 U	0.425	1.13
Combined Radium 226 + 228	0.349 U	0.771	1.04
Criteria: Duplicate Error Ratio (DER) \leq 2			

Georgia Power McIntosh Plant Ash Pond, 1800205-1.3

LCS Results

All criteria were met.

Quantitation Limits

Dilutions were not required.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Water Level Measurement Data Sheet
Plant McIntosh
Georgia Power Company



Date: 10/9/2018

Gauged by: Lauren Coker & Jake Adcock

Area	Well ID	Measured Depth to Water (ft btoc)	Measured Depth to Bottom (ft btoc)	Provided for reference				Notes
				July 2018 Depth to Water (ft btoc)	July 2018 Depth to Bottom (ft btoc)	Installed Total Depth (ft btoc)	Installed Depth to Top of Screen (ft btoc)	
Ash Pond	MGWC-1	37.19	56.06	37.05	56.11	55.78	44.78	
	MGWC-2	20.38	27.28	20.29	37.29	37.06	27.86	
	MGWC-3	16.78	39.25	16.30	39.13	38.44	32.42	
	MGWC-4	25.69	67.82	24.02	67.80	67.05	47.05	
	MGWA-5	22.72	62.80	21.60	63.40	62.79	42.80	
	MGWA-6	19.28	42.35	18.41	42.16	41.63	40.75	
	MGWC-7	20.19	42.27	19.84	42.22	41.99	33.83	
	MGWC-8	29.49	52.85	29.40	52.85	52.26	42.29	
	MGWA-9	21.20	43.16	20.39	43.10	42.75	22.75	
	MGWA-10	19.38	53.15	17.33	52.97	52.79	44.30	
	MGWA-11	21.40	56.60	20.25	56.60	55.61	46.58	
	MGWC-12	23.51	53.10	24.42	53.76	52.70	43.70	
	PZ-13	17.50	27.34	17.49	27.30	26.36	17.28	
	PZ-14	17.34	41.81	16.94	41.79	41.10	31.72	
	PZ-15	18.95	28.52	19.02	28.90	28.90	18.57	
	PZ-16	33.03	42.57	32.94	42.56	42.56	32.09	
	PZ-17	31.09	45.21	31.11	45.20	45.20	34.82	
	PZ-18	20.11	41.95	19.30	41.90	41.90	31.40	

Notes:
ft = feet
btoc = below top of casing

Low-Flow

Date:	10/10/2018 11:30	Well ID:	MGWC-1
Operator Name:	L. Coker	Well diameter:	2 in
Pump Model/Type:	QED Bladder	Well Total Depth:	55.78 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	37.25 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	160 mL/min
Site Name:	Ash Pond	Total System Volume:	0.3354883 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	20.76 in
Tubing Diameter:	.17in	Total Volume Pumped:	6.3 L
Tubing Length:	50 ft	Pump placement from TOC:	2 ft
Sonde SN:	464250		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300	7.08	85.30	491.90	3.33	25.16	1.06	38.10
600	7.04	80.60	498.80	2.51	22.89	0.89	38.50
900	6.92	41.40	505.50	1.07	22.44	0.71	39.10
1200	6.89	33.80	550.90	0.48	22.84	0.62	39.05
1500	6.97	41.40	607.70	0.25	22.46	0.92	39.05
1800	7.02	49.40	641.40	0.20	22.60	0.82	39.05
2100	7.03	51.70	645.70	0.16	22.83	0.76	38.95
2400	7.04	53.10	648.10	0.15	22.67	0.69	38.98

Low-Flow

Date:	10/10/2018 10:15	Well ID:	MGWC-2
Operator Name:	J. Adcock	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	37.06
Company Name:	GEI	Screen Length:	10
Tubing Type:	LDPE	Depth to Water:	20.34
Project Name:	Plant McIntosh	Final Pumping Rate:	180 mL/min
Site Name:	Ash Pond	Total System Volume:	0.2462198 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	12.6 in
Tubing Diameter:	.175in	Total Volume Pumped:	6.3 L
Tubing Length:	35	Pump placement from TOC:	2
Sonde SN:	601533		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.02	--	--	--	--	--	--	--
600.02	--	--	--	--	--	--	--
900.02	7.42	24.00	849.11	0.34	23.60	0.66	21.23
1200.02	7.41	25.20	844.17	0.24	23.46	0.80	21.35
1500.02	7.41	33.40	848.12	0.21	23.48	1.76	21.40
1800.02	7.41	34.80	844.13	0.18	23.56	0.83	21.40
2100.02	7.41	35.20	836.32	0.17	23.78	0.62	21.40
2400.8	7.41	35.40	838.18	0.16	23.62	0.45	21.40
2700.8	7.41	34.90	839.75	0.16	23.65	0.32	21.39

*Tubing just above water column from 0 - 600 sec. Lowered tubing and began pulling water and collecting readings at 900 sec.

Low-Flow

Date:	10/10/2018 8:50	Well ID:	MGWC-3
Operator Name:	J. Adcock	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	38.44
Company Name:	GEI	Screen Length:	10
Tubing Type:	LDPE	Depth to Water:	16.59
Project Name:	Plant McIntosh	Final Pumping Rate:	180 mL/min
Site Name:	Ash Pond	Total System Volume:	0.2596101 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	4.68 in
Tubing Diameter:	.17 in	Total Volume Pumped:	5.4 L
Tubing Length:	38	Pump placement from TOC:	2
Sonde SN:	601533		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.04	6.68	132.40	563.22	0.51	22.34	1.38	16.93
600.04	6.69	71.40	562.53	0.32	21.91	0.92	16.94
900.51	6.69	63.30	560.13	0.29	21.84	0.94	16.94
1200.51	6.70	60.40	559.89	0.30	21.84	1.09	16.96
1500.51	6.69	58.70	556.39	0.21	21.82	0.93	16.97
1800.51	6.69	57.20	554.26	0.25	21.86	1.07	16.98

Low-Flow

Date:	10/9/2018 17:10	Well ID:	MGWA-5
Operator Name:	J. Adcock	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	62.79 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	22.69 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	180 mL/min
Site Name:	Ash Pond	Total System Volume:	0.3354883 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	12.48 in
Tubing Diameter:	.17 in	Total Volume Pumped:	5.4 L
Tubing Length:	55	Pump placement from TOC:	3 ft
Sonde SN:	601533		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.02	7.73	64.70	269.87	5.37	24.20	0.50	23.45
600.02	7.78	63.70	264.10	5.25	23.69	0.41	23.64
900.47	7.77	63.40	263.64	5.11	23.52	0.36	23.70
1200.47	7.76	63.30	263.08	5.02	23.45	0.32	23.72
1500.47	7.81	63.00	264.42	4.91	23.38	0.43	23.73
1800.47	7.80	63.00	264.67	4.87	23.29	0.62	23.73

Low-Flow

Date:	10/10/2018 9:15	Well ID:	MGWA-6
Operator Name:	P. Adams	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	42.35 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	19.28 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	250 mL/min
Site Name:	Ash Pond	Total System Volume:	0.290854 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	1.92 in
Tubing Diameter:	.17in	Total Volume Pumped:	8.6 L
Tubing Length:	45 ft	Pump placement from TOC:	2 ft
Sonde SN:	474527		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300	7.23	16.50	527.93	0.44	23.63	3.31	19.30
600	7.10	2.80	528.25	0.28	23.28	3.96	19.35
900	7.04	-0.90	528.33	0.22	23.23	3.89	19.35
1200	7.00	-11.60	528.75	0.19	23.07	3.06	19.39
1500	7.03	-26.60	527.93	0.16	23.13	3.22	19.41
1800	7.00	-30.50	530.36	0.15	23.10	3.17	19.42
2100	7.01	-32.10	529.14	0.14	23.09	3.04	19.44

Low-Flow

Date:	10/10/2018 10:15	Well ID:	MGWC-7
Operator Name:	P. Adams	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	42.27 ft
Company Name:	GEI	Screen Length:	8 ft
Tubing Type:	LDPE	Depth to Water:	20.19 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	200 mL/min
Site Name:	Ash Pond	Total System Volume:	0.2685369 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	9.24 in
Tubing Diameter:	.17in	Total Volume Pumped:	6 L
Tubing Length:	40 ft	Pump placement from TOC:	2 ft
Sonde SN:	474527		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.00	6.63	47.40	478.96	0.90	25.85	4.98	20.33
600.00	6.32	43.20	483.97	0.25	23.91	2.73	20.70
900.00	6.11	41.70	487.19	0.20	23.68	2.24	20.75
1200.00	6.12	28.80	486.95	0.14	23.14	2.40	20.87
1500.00	6.11	19.50	488.76	0.12	23.39	2.72	20.92
1800.00	6.12	11.70	492.52	0.12	23.34	2.15	20.96

Low-Flow

Date:	10/10/2018 11:33	Well ID:	MGWC-8
Operator Name:	P. Adams	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	52.85 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	29.49 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	250 mL/min
Site Name:	Ash Pond	Total System Volume:	0.322098 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	1.68 in
Tubing Diameter:	.17 in	Total Volume Pumped:	8.6 L
Tubing Length:	52 ft	Pump placement from TOC:	2 ft
Sonde SN:	474527		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300	6.32	98.10	414.17	3.82	30.69	4.71	29.60
600	5.63	116.20	421.30	0.79	26.26	2.04	29.62
900	5.41	122.30	527.67	0.52	25.70	2.62	29.62
1200	5.21	129.20	778.32	0.45	25.90	1.01	29.63
1500	5.17	128.70	814.85	0.32	25.77	1.02	29.63
1800	5.19	126.90	829.08	0.36	25.88	0.69	29.63
2100	5.15	125.60	834.64	0.33	26.02	0.88	29.63

Low-Flow

Date:	10/9/2018 15:48	Well ID:	MGWA-10
Operator Name:	J. Adcock	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	52.79
Company Name:	GEI	Screen Length:	10
Tubing Type:	LDPE	Depth to Water:	19.37
Project Name:	Plant McIntosh	Final Pumping Rate:	150 mL/min
Site Name:	Ash Pond	Total System Volume:	0.322098 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	42 in
Tubing Diameter:	.17in	Total Volume Pumped:	3.6 L
Tubing Length:	52	Pump placement from TOC:	2
Sonde SN:	601533		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.02	5.69	94	67.41	2.09	24.11	0.96	20.7
600.02	5.7	89.6	68.03	2	23.47	0.99	21.33
900.02	5.71	87.2	67.46	1.99	23.25	0.87	21.97
1200.02	5.68	86.1	67.44	1.99	23.2	1.25	22.42
1500.02	5.66	87	66.81	1.98	23.29	1.24	22.69
1800.02	5.62	87	65.88	2.06	23.36	1.09	22.87

Low-Flow

Date:	10/9/2018 16:00	Well ID:	MGWA-11
Operator Name:	L. Coker	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	55.61 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	21.80 ft
Project Name:	Plant McIntosh	Final Pumping Rate:	120 mL/min
Site Name:	Ash Pond	Total System Volume:	0.3310249 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	2.4 in
Tubing Diameter:	.17in	Total Volume Pumped:	3.6 L
Tubing Length:	49 ft	Pump placement from TOC:	2 ft
Sonde SN:	464250		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.09658	7.77	79.80	255.20	1.49	24.68	1.51	21.95
600.0304359	7.78	76.20	254.70	1.26	24.23	1.00	22.00
900.028217	7.79	73.10	255.80	1.21	24.10	1.06	21.98
1200.028849	7.80	72.20	254.10	1.15	24.21	0.64	22.00
1500.026543	7.79	71.40	254.10	1.14	24.10	0.64	22.05
1800.023736	7.79	70.80	253.70	1.12	24.12	0.37	22.00

Low-Flow

Date:	10/10/2018 9:15	Well ID:	MGWC-12
Operator Name:	L. Coker	Well diameter:	2 in
Pump Model/Type:	Alexis Peristaltic	Well Total Depth:	52.7 ft
Company Name:	GEI	Screen Length:	10 ft
Tubing Type:	LDPE	Depth to Water:	25.25ft
Project Name:	Plant McIntosh	Final Pumping Rate:	126 mL/min
Site Name:	Ash Pond	Total System Volume:	0.3265614 L
Latitude:	0° 0' 0"	Calculated Sample Rate:	300 sec
Longitude:	0° 0' 0"	Stabilization Drawdown:	7.2 in
Tubing Diameter:	.17in	Total Volume Pumped:	6.3 L
Tubing Length:	48	Pump placement from TOC:	2 ft
Sonde SN:	464250		
Turbidity Make/Model:	LaMotte 2020 We		

Time	pH	ORP	Conductivity	DO	Temperature	Turbidity	DTW
300.0821871	10.79	66.90	266.60	6.53	22.63	0.71	25.65
600.0345631	10.81	60.40	267.70	6.51	22.32	0.72	25.70
900.032642	10.80	59.00	261.70	6.52	22.17	0.70	25.75
1200.031689	10.73	59.50	243.20	6.37	22.04	0.81	25.80
1500.029203	9.87	67.20	225.20	4.78	22.00	0.61	25.85
1800.028281	8.53	73.70	309.80	1.96	22.19	0.76	25.85
2100.027247	7.34	-25.50	343.10	0.84	22.15	0.77	85.85
2400.027	7.13	-27.40	346.60	0.56	22.18	1.13	25.85
2700.025257	7.12	-28.00	348.60	0.47	22.23	0.78	25.85
3000.025257	7.12	-27.80	348.70	0.54	22.12	0.90	25.85

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

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Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-160363-1

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

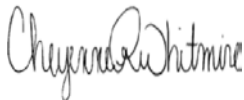
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Authorized for release by:

10/31/2018 11:37:42 AM

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Job ID: 400-160363-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-160363-1

HPLC/IC

Method(s) 300.0: The following sample was diluted to bring the concentration of target analytes within the calibration range: MGWC-3 (400-160363-10). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 416328 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MGWC-7 (400-160363-7), MGWC-1 (400-160363-9), MGWC-2 (400-160363-11) and MGWC-8 (400-160363-12). Elevated reporting limits (RLs) are provided.

Metals

Method(s) 6020: The post digestion spike % recovery associated with batch 415935 was outside of control limits.

Method(s) 6020: The continuing calibration verification (CCV) associated with batch 415935 recovered above the upper control limit for Selenium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MGWA-11 (400-160363-2), MGWA-5 (400-160363-3), FB-03 (400-160363-4), FERB-03 (400-160363-5), (LCS 400-415787/2-A) and (MB 400-415787/1-A ^5). The Method Blank and Laboratory Control Spike meet acceptance criteria.

Method(s) 6020: The method blank for preparation batch 415789 and analytical batch 415935 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 415787 and 415789 and analytical batch 415935 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020: The following samples were diluted to bring the concentration of target analytes within the calibration range: MGWC-2 (400-160363-11) and MGWC-8 (400-160363-12). Elevated reporting limits (RLs) are provided.

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-10

Lab Sample ID: 400-160363-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.1		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	0.82	J	1.0	0.70	mg/L	1		300.0	Total/NA
Barium	0.024		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	4.5		0.25	0.13	mg/L	5		6020	Total Recoverable
Chromium	0.0037		0.0025	0.0011	mg/L	5		6020	Total Recoverable
Lithium	0.0082		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium - RA	0.00054	J	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	68		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWA-11

Lab Sample ID: 400-160363-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.5		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.16	J	0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate	2.2		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.00072	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.072		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	29		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.015		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	150		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWA-5

Lab Sample ID: 400-160363-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.6		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.086	J	0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate	6.7		1.0	0.70	mg/L	1		300.0	Total/NA
Barium	0.034		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Calcium	29		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	170		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FB-03

Lab Sample ID: 400-160363-4

No Detections.

Client Sample ID: FERB-03

Lab Sample ID: 400-160363-5

No Detections.

Client Sample ID: MGWA-6

Lab Sample ID: 400-160363-6

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-6 (Continued)

Lab Sample ID: 400-160363-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.9		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	8.7		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.014		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.037		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.096		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00051	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	300		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-7

Lab Sample ID: 400-160363-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.23		0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate - DL	190		5.0	3.5	mg/L	5		300.0	Total/NA
Barium	0.011		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.4		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	51		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.012		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.13		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	270		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-12

Lab Sample ID: 400-160363-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.2		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.25		0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate	2.5		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.00098	J	0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.071		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.034	J	0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	35		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.027		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	48		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-1

Lab Sample ID: 400-160363-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		1.0	0.89	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-1 (Continued)

Lab Sample ID: 400-160363-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.17	J	0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate - DL	140		5.0	3.5	mg/L	5		300.0	Total/NA
Arsenic	0.0024		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.095		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.2		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00036	J B	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	260		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-3

Lab Sample ID: 400-160363-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	14		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	110		5.0	3.5	mg/L	5		300.0	Total/NA
Arsenic	0.0016		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.13		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	1.6		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	96		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00063	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.013		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	300		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.085	J	0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate - DL	220		10	7.0	mg/L	10		300.0	Total/NA
Barium	0.046		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Cadmium	0.0010	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cobalt	0.0034		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0055		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Boron - DL	3.0		0.25	0.11	mg/L	25		6020	Total Recoverable
Calcium - DL	120		1.3	0.63	mg/L	25		6020	Total Recoverable
Total Dissolved Solids	470		5.0	3.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
 SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-160363-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	10		1.0	0.89	mg/L	1		300.0	Total/NA
Fluoride	0.11	J	0.20	0.082	mg/L	1		300.0	Total/NA
Sulfate - DL	410		10	7.0	mg/L	10		300.0	Total/NA
Barium	0.035		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Beryllium	0.0016	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Cadmium	0.00035	J	0.0025	0.00034	mg/L	5		6020	Total Recoverable
Calcium	87		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.018		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.046		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Selenium	0.00039	J B	0.0013	0.00024	mg/L	5		6020	Total Recoverable
Thallium	0.00025	J	0.00050	0.000085	mg/L	5		6020	Total Recoverable
Boron - DL	5.1		0.50	0.21	mg/L	50		6020	Total Recoverable
Mercury	0.00013	J	0.00020	0.000070	mg/L	1		7470A	Total/NA
Total Dissolved Solids	410		5.0	3.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-03

Lab Sample ID: 400-160363-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.8		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	8.6		1.0	0.70	mg/L	1		300.0	Total/NA
Arsenic	0.017		0.0013	0.00046	mg/L	5		6020	Total Recoverable
Barium	0.037		0.0025	0.00049	mg/L	5		6020	Total Recoverable
Boron	0.17		0.050	0.021	mg/L	5		6020	Total Recoverable
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.00048	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Total Dissolved Solids	300		5.0	3.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
6020	Metals (ICP/MS)	SW846	TAL PEN
7470A	Mercury (CVAA)	SW846	TAL PEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN
7470A	Preparation, Mercury	SW846	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160363-1	MGWA-10	Water	10/09/18 15:56	10/10/18 08:58
400-160363-2	MGWA-11	Water	10/09/18 16:00	10/10/18 08:58
400-160363-3	MGWA-5	Water	10/09/18 17:10	10/10/18 08:58
400-160363-4	FB-03	Water	10/09/18 12:35	10/10/18 08:58
400-160363-5	FERB-03	Water	10/09/18 13:00	10/10/18 08:58
400-160363-6	MGWA-6	Water	10/10/18 09:15	10/11/18 08:29
400-160363-7	MGWC-7	Water	10/10/18 10:15	10/11/18 08:29
400-160363-8	MGWC-12	Water	10/10/18 09:15	10/11/18 08:29
400-160363-9	MGWC-1	Water	10/10/18 11:30	10/11/18 08:29
400-160363-10	MGWC-3	Water	10/10/18 08:50	10/11/18 08:29
400-160363-11	MGWC-2	Water	10/10/18 10:15	10/11/18 08:29
400-160363-12	MGWC-8	Water	10/10/18 11:33	10/11/18 08:29
400-160363-13	DUP-03	Water	10/10/18 00:00	10/11/18 08:29

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 10/09/18 15:56

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.1		1.0	0.89	mg/L			10/21/18 07:04	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 07:04	1
Sulfate	0.82	J	1.0	0.70	mg/L			10/21/18 07:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 21:23	5
Barium	0.024		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 21:23	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:23	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 21:23	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:23	5
Calcium	4.5		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 21:23	5
Chromium	0.0037		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 21:23	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 21:23	5
Lithium	0.0082		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 21:23	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 21:23	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 21:23	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00054	J	0.0013	0.00024	mg/L		10/17/18 12:38	10/18/18 12:13	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 13:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	68		5.0	3.4	mg/L			10/15/18 16:53	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-11

Lab Sample ID: 400-160363-2

Date Collected: 10/09/18 16:00

Matrix: Water

Date Received: 10/10/18 08:58

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.5		1.0	0.89	mg/L			10/21/18 07:27	1
Fluoride	0.16	J	0.20	0.082	mg/L			10/21/18 07:27	1
Sulfate	2.2		1.0	0.70	mg/L			10/21/18 07:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00072	J	0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 21:28	5
Barium	0.072		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 21:28	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:28	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 21:28	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:28	5
Calcium	29		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 21:28	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 21:28	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 21:28	5
Lithium	0.015		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 21:28	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 21:28	5
Selenium	<0.00024	^	0.0013	0.00024	mg/L		10/17/18 12:38	10/17/18 21:28	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 21:28	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 13:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	150		5.0	3.4	mg/L			10/15/18 16:53	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-5

Date Collected: 10/09/18 17:10

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.6		1.0	0.89	mg/L			10/21/18 07:50	1
Fluoride	0.086	J	0.20	0.082	mg/L			10/21/18 07:50	1
Sulfate	6.7		1.0	0.70	mg/L			10/21/18 07:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 21:32	5
Barium	0.034		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 21:32	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:32	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 21:32	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:32	5
Calcium	29		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 21:32	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 21:32	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 21:32	5
Lithium	0.011		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 21:32	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 21:32	5
Selenium	<0.00024	^	0.0013	0.00024	mg/L		10/17/18 12:38	10/17/18 21:32	5
Thallium	<0.00085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 21:32	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 13:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		5.0	3.4	mg/L			10/15/18 16:53	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: FB-03
Date Collected: 10/09/18 12:35
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/21/18 08:13	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 08:13	1
Sulfate	<0.70		1.0	0.70	mg/L			10/21/18 08:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 21:37	5
Barium	<0.00049		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 21:37	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:37	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 21:37	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:37	5
Calcium	<0.13		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 21:37	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 21:37	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 21:37	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 21:37	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 21:37	5
Selenium	<0.00024 ^		0.0013	0.00024	mg/L		10/17/18 12:38	10/17/18 21:37	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 21:37	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			10/15/18 16:53	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: FERB-03

Date Collected: 10/09/18 13:00

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-5

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/21/18 08:35	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 08:35	1
Sulfate	<0.70		1.0	0.70	mg/L			10/21/18 08:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 21:41	5
Barium	<0.00049		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 21:41	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:41	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 21:41	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 21:41	5
Calcium	<0.13		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 21:41	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 21:41	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 21:41	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 21:41	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 21:41	5
Selenium	<0.00024 ^		0.0013	0.00024	mg/L		10/17/18 12:38	10/17/18 21:41	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 21:41	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<3.4		5.0	3.4	mg/L			10/15/18 16:53	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-160363-6

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.9		1.0	0.89	mg/L			10/21/18 08:58	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 08:58	1
Sulfate	8.7		1.0	0.70	mg/L			10/21/18 08:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.014		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 17:59	5
Barium	0.037		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 17:59	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 17:59	5
Boron	0.096		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 17:59	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 17:59	5
Calcium	100		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 17:59	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 17:59	5
Cobalt	0.00051	J	0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 17:59	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 17:59	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 17:59	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 17:59	5
Thallium	<0.00085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 17:59	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-7

Date Collected: 10/10/18 10:15

Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-7

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.89	mg/L			10/21/18 15:49	1
Fluoride	0.23		0.20	0.082	mg/L			10/21/18 15:49	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	190		5.0	3.5	mg/L			10/22/18 11:36	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:03	5
Barium	0.011		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:03	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:03	5
Boron	1.4		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 18:03	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:03	5
Calcium	51		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:03	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:03	5
Cobalt	0.012		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:03	5
Lithium	0.13		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:03	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:03	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:03	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:03	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	270		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-160363-8

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.2		1.0	0.89	mg/L			10/21/18 21:09	1
Fluoride	0.25		0.20	0.082	mg/L			10/21/18 21:09	1
Sulfate	2.5		1.0	0.70	mg/L			10/21/18 21:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00098	J	0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:08	5
Barium	0.071		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:08	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:08	5
Boron	0.034	J	0.050	0.021	mg/L		10/17/18 12:44	10/17/18 18:08	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:08	5
Calcium	35		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:08	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:08	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:08	5
Lithium	0.027		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:08	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:08	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:08	5
Thallium	<0.00085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:08	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	48		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-160363-9

Date Collected: 10/10/18 11:30

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		1.0	0.89	mg/L			10/20/18 23:50	1
Fluoride	0.17	J	0.20	0.082	mg/L			10/20/18 23:50	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	140		5.0	3.5	mg/L			10/22/18 16:58	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0024		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:12	5
Barium	0.095		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:12	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:12	5
Boron	1.2		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 18:12	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:12	5
Calcium	100		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:12	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:12	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:12	5
Lithium	0.011		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:12	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:12	5
Selenium	0.00036	J B	0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:12	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:12	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	260		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-160363-10

Date Collected: 10/10/18 08:50

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		1.0	0.89	mg/L			10/20/18 05:35	1
Fluoride	<0.082		0.20	0.082	mg/L			10/20/18 05:35	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		5.0	3.5	mg/L			10/21/18 05:10	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:17	5
Barium	0.13		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:17	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:17	5
Boron	1.6		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 18:17	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:17	5
Calcium	96		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:17	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:17	5
Cobalt	0.00063	J	0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:17	5
Lithium	0.013		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:17	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:17	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:17	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:17	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		1.0	0.89	mg/L			10/20/18 21:33	1
Fluoride	0.085	J	0.20	0.082	mg/L			10/20/18 21:33	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	220		10	7.0	mg/L			10/22/18 17:20	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:21	5
Barium	0.046		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:21	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:21	5
Cadmium	0.0010	J	0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:21	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:21	5
Cobalt	0.0034		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:21	5
Lithium	0.0055		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:21	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:21	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:21	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:21	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.25	0.11	mg/L		10/17/18 12:44	10/18/18 12:05	25
Calcium	120		1.3	0.63	mg/L		10/17/18 12:44	10/18/18 12:05	25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	470		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-160363-12

Date Collected: 10/10/18 11:33

Matrix: Water

Date Received: 10/11/18 08:29

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		1.0	0.89	mg/L			10/20/18 21:56	1
Fluoride	0.11	J	0.20	0.082	mg/L			10/20/18 21:56	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	410		10	7.0	mg/L			10/22/18 15:26	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:26	5
Barium	0.035		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:26	5
Beryllium	0.0016	J	0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:26	5
Cadmium	0.00035	J	0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:26	5
Calcium	87		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:26	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:26	5
Cobalt	0.018		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:26	5
Lithium	0.046		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:26	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:26	5
Selenium	0.00039	J B	0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:26	5
Thallium	0.00025	J	0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.1		0.50	0.21	mg/L		10/17/18 12:44	10/18/18 12:09	50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00013	J	0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	410		5.0	3.4	mg/L			10/16/18 15:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: DUP-03
Date Collected: 10/10/18 00:00
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-13
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.8		1.0	0.89	mg/L			10/20/18 22:19	1
Fluoride	<0.082		0.20	0.082	mg/L			10/20/18 22:19	1
Sulfate	8.6		1.0	0.70	mg/L			10/20/18 22:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.017		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 18:30	5
Barium	0.037		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 18:30	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:30	5
Boron	0.17		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 18:30	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 18:30	5
Calcium	100		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 18:30	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 18:30	5
Cobalt	0.00048 J		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 18:30	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 18:30	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 18:30	5
Selenium	<0.00024		0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 18:30	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 18:30	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	300		5.0	3.4	mg/L			10/15/18 16:53	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

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.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
^	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.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 10/09/18 15:56

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 07:04	BAW	TAL PEN
Total Recoverable	Prep	3005A			415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 21:23	DRE	TAL PEN
Total Recoverable	Prep	3005A	RA		415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020	RA	5	415986	10/18/18 12:13	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 13:47	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Client Sample ID: MGWA-11

Date Collected: 10/09/18 16:00

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 07:27	BAW	TAL PEN
Total Recoverable	Prep	3005A			415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 21:28	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 13:54	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Client Sample ID: MGWA-5

Date Collected: 10/09/18 17:10

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 07:50	BAW	TAL PEN
Total Recoverable	Prep	3005A			415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 21:32	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 13:56	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Client Sample ID: FB-03

Date Collected: 10/09/18 12:35

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 08:13	BAW	TAL PEN
Total Recoverable	Prep	3005A			415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 21:37	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: FB-03
Date Collected: 10/09/18 12:35
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7470A		1	416999	10/25/18 13:58	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Client Sample ID: FERB-03
Date Collected: 10/09/18 13:00
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 08:35	BAW	TAL PEN
Total Recoverable	Prep	3005A			415787	10/17/18 12:38	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 21:41	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:09	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Client Sample ID: MGWA-6
Date Collected: 10/10/18 09:15
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416310	10/21/18 08:58	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 17:59	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:11	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: MGWC-7
Date Collected: 10/10/18 10:15
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416328	10/21/18 15:49	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	416385	10/22/18 11:36	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:03	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:13	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-160363-8

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416328	10/21/18 21:09	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:08	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:15	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: MGWC-1

Lab Sample ID: 400-160363-9

Date Collected: 10/10/18 11:30

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416319	10/20/18 23:50	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	416385	10/22/18 16:58	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:12	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:17	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: MGWC-3

Lab Sample ID: 400-160363-10

Date Collected: 10/10/18 08:50

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416247	10/20/18 05:35	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	416310	10/21/18 05:10	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:17	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:19	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416319	10/20/18 21:33	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	10	416385	10/22/18 17:20	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:21	DRE	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	DL		415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	25	415986	10/18/18 12:05	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:20	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: MGWC-8

Lab Sample ID: 400-160363-12

Date Collected: 10/10/18 11:33

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416319	10/20/18 21:56	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	10	416385	10/22/18 15:26	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:26	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	50	415986	10/18/18 12:09	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:22	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415675	10/16/18 15:41	CLB	TAL PEN

Client Sample ID: DUP-03

Lab Sample ID: 400-160363-13

Date Collected: 10/10/18 00:00

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	416319	10/20/18 22:19	BAW	TAL PEN
Total Recoverable	Prep	3005A			415789	10/17/18 12:44	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	415935	10/17/18 18:30	DRE	TAL PEN
Total/NA	Prep	7470A			416432	10/22/18 13:55	JAP	TAL PEN
Total/NA	Analysis	7470A		1	416999	10/25/18 14:24	JAP	TAL PEN
Total/NA	Analysis	SM 2540C		1	415521	10/15/18 16:53	CLB	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

HPLC/IC

Analysis Batch: 416247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-10	MGWC-3	Total/NA	Water	300.0	
MB 400-416247/4	Method Blank	Total/NA	Water	300.0	
LCS 400-416247/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-416247/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-160734-I-4 MS	Matrix Spike	Total/NA	Water	300.0	
400-160734-I-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 416310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	300.0	
400-160363-2	MGWA-11	Total/NA	Water	300.0	
400-160363-3	MGWA-5	Total/NA	Water	300.0	
400-160363-4	FB-03	Total/NA	Water	300.0	
400-160363-5	FERB-03	Total/NA	Water	300.0	
400-160363-6	MGWA-6	Total/NA	Water	300.0	
400-160363-10 - DL	MGWC-3	Total/NA	Water	300.0	
MB 400-416310/4	Method Blank	Total/NA	Water	300.0	
LCS 400-416310/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-416310/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-160329-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
400-160329-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 416319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-9	MGWC-1	Total/NA	Water	300.0	
400-160363-11	MGWC-2	Total/NA	Water	300.0	
400-160363-12	MGWC-8	Total/NA	Water	300.0	
400-160363-13	DUP-03	Total/NA	Water	300.0	
MB 400-416319/36	Method Blank	Total/NA	Water	300.0	
LCS 400-416319/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-416319/38	Lab Control Sample Dup	Total/NA	Water	300.0	
400-160329-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
400-160329-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 416328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-7	MGWC-7	Total/NA	Water	300.0	
400-160363-8	MGWC-12	Total/NA	Water	300.0	
MB 400-416328/36	Method Blank	Total/NA	Water	300.0	
LCS 400-416328/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-416328/38	Lab Control Sample Dup	Total/NA	Water	300.0	
400-160363-7 MS	MGWC-7	Total/NA	Water	300.0	
400-160363-7 MSD	MGWC-7	Total/NA	Water	300.0	

Analysis Batch: 416385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-7 - DL	MGWC-7	Total/NA	Water	300.0	
400-160363-9 - DL	MGWC-1	Total/NA	Water	300.0	
400-160363-11 - DL	MGWC-2	Total/NA	Water	300.0	
400-160363-12 - DL	MGWC-8	Total/NA	Water	300.0	
MB 400-416385/27	Method Blank	Total/NA	Water	300.0	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

HPLC/IC (Continued)

Analysis Batch: 416385 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-416385/28	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-416385/29	Lab Control Sample Dup	Total/NA	Water	300.0	
400-160537-G-9 MS	Matrix Spike	Total/NA	Water	300.0	
400-160537-G-9 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 415787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1 - RA	MGWA-10	Total Recoverable	Water	3005A	
400-160363-1	MGWA-10	Total Recoverable	Water	3005A	
400-160363-2	MGWA-11	Total Recoverable	Water	3005A	
400-160363-3	MGWA-5	Total Recoverable	Water	3005A	
400-160363-4	FB-03	Total Recoverable	Water	3005A	
400-160363-5	FERB-03	Total Recoverable	Water	3005A	
MB 400-415787/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-415787/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-160183-I-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-160183-I-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 415789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-6	MGWA-6	Total Recoverable	Water	3005A	
400-160363-7	MGWC-7	Total Recoverable	Water	3005A	
400-160363-8	MGWC-12	Total Recoverable	Water	3005A	
400-160363-9	MGWC-1	Total Recoverable	Water	3005A	
400-160363-10	MGWC-3	Total Recoverable	Water	3005A	
400-160363-11	MGWC-2	Total Recoverable	Water	3005A	
400-160363-11 - DL	MGWC-2	Total Recoverable	Water	3005A	
400-160363-12 - DL	MGWC-8	Total Recoverable	Water	3005A	
400-160363-12	MGWC-8	Total Recoverable	Water	3005A	
400-160363-13	DUP-03	Total Recoverable	Water	3005A	
MB 400-415789/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-415789/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-160517-J-5-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-160517-J-5-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 415935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total Recoverable	Water	6020	415787
400-160363-2	MGWA-11	Total Recoverable	Water	6020	415787
400-160363-3	MGWA-5	Total Recoverable	Water	6020	415787
400-160363-4	FB-03	Total Recoverable	Water	6020	415787
400-160363-5	FERB-03	Total Recoverable	Water	6020	415787
400-160363-6	MGWA-6	Total Recoverable	Water	6020	415789
400-160363-7	MGWC-7	Total Recoverable	Water	6020	415789
400-160363-8	MGWC-12	Total Recoverable	Water	6020	415789
400-160363-9	MGWC-1	Total Recoverable	Water	6020	415789
400-160363-10	MGWC-3	Total Recoverable	Water	6020	415789
400-160363-11	MGWC-2	Total Recoverable	Water	6020	415789

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Metals (Continued)

Analysis Batch: 415935 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-12	MGWC-8	Total Recoverable	Water	6020	415789
400-160363-13	DUP-03	Total Recoverable	Water	6020	415789
MB 400-415787/1-A ^5	Method Blank	Total Recoverable	Water	6020	415787
MB 400-415789/1-A ^5	Method Blank	Total Recoverable	Water	6020	415789
LCS 400-415787/2-A	Lab Control Sample	Total Recoverable	Water	6020	415787
LCS 400-415789/2-A	Lab Control Sample	Total Recoverable	Water	6020	415789
400-160183-I-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	415787
400-160183-I-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	415787
400-160517-J-5-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	415789
400-160517-J-5-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	415789

Analysis Batch: 415986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1 - RA	MGWA-10	Total Recoverable	Water	6020	415787
400-160363-11 - DL	MGWC-2	Total Recoverable	Water	6020	415789
400-160363-12 - DL	MGWC-8	Total Recoverable	Water	6020	415789

Prep Batch: 416432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	7470A	
400-160363-2	MGWA-11	Total/NA	Water	7470A	
400-160363-3	MGWA-5	Total/NA	Water	7470A	
400-160363-4	FB-03	Total/NA	Water	7470A	
400-160363-5	FERB-03	Total/NA	Water	7470A	
400-160363-6	MGWA-6	Total/NA	Water	7470A	
400-160363-7	MGWC-7	Total/NA	Water	7470A	
400-160363-8	MGWC-12	Total/NA	Water	7470A	
400-160363-9	MGWC-1	Total/NA	Water	7470A	
400-160363-10	MGWC-3	Total/NA	Water	7470A	
400-160363-11	MGWC-2	Total/NA	Water	7470A	
400-160363-12	MGWC-8	Total/NA	Water	7470A	
400-160363-13	DUP-03	Total/NA	Water	7470A	
MB 400-416432/13-A	Method Blank	Total/NA	Water	7470A	
LCS 400-416432/14-A	Lab Control Sample	Total/NA	Water	7470A	
400-160363-1 MS	MGWA-10	Total/NA	Water	7470A	
400-160363-1 MSD	MGWA-10	Total/NA	Water	7470A	

Analysis Batch: 416999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	7470A	416432
400-160363-2	MGWA-11	Total/NA	Water	7470A	416432
400-160363-3	MGWA-5	Total/NA	Water	7470A	416432
400-160363-4	FB-03	Total/NA	Water	7470A	416432
400-160363-5	FERB-03	Total/NA	Water	7470A	416432
400-160363-6	MGWA-6	Total/NA	Water	7470A	416432
400-160363-7	MGWC-7	Total/NA	Water	7470A	416432
400-160363-8	MGWC-12	Total/NA	Water	7470A	416432
400-160363-9	MGWC-1	Total/NA	Water	7470A	416432
400-160363-10	MGWC-3	Total/NA	Water	7470A	416432
400-160363-11	MGWC-2	Total/NA	Water	7470A	416432
400-160363-12	MGWC-8	Total/NA	Water	7470A	416432

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Metals (Continued)

Analysis Batch: 416999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-13	DUP-03	Total/NA	Water	7470A	416432
MB 400-416432/13-A	Method Blank	Total/NA	Water	7470A	416432
LCS 400-416432/14-A	Lab Control Sample	Total/NA	Water	7470A	416432
400-160363-1 MS	MGWA-10	Total/NA	Water	7470A	416432
400-160363-1 MSD	MGWA-10	Total/NA	Water	7470A	416432

General Chemistry

Analysis Batch: 415521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	SM 2540C	
400-160363-2	MGWA-11	Total/NA	Water	SM 2540C	
400-160363-3	MGWA-5	Total/NA	Water	SM 2540C	
400-160363-4	FB-03	Total/NA	Water	SM 2540C	
400-160363-5	FERB-03	Total/NA	Water	SM 2540C	
400-160363-13	DUP-03	Total/NA	Water	SM 2540C	
MB 400-415521/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-415521/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160351-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	
400-160351-D-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 415675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-6	MGWA-6	Total/NA	Water	SM 2540C	
400-160363-7	MGWC-7	Total/NA	Water	SM 2540C	
400-160363-8	MGWC-12	Total/NA	Water	SM 2540C	
400-160363-9	MGWC-1	Total/NA	Water	SM 2540C	
400-160363-10	MGWC-3	Total/NA	Water	SM 2540C	
400-160363-11	MGWC-2	Total/NA	Water	SM 2540C	
400-160363-12	MGWC-8	Total/NA	Water	SM 2540C	
MB 400-415675/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 400-415675/2	Lab Control Sample	Total/NA	Water	SM 2540C	
400-160400-E-3 DU	Duplicate	Total/NA	Water	SM 2540C	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-416247/4
Matrix: Water
Analysis Batch: 416247

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/20/18 02:09	1
Fluoride	<0.082		0.20	0.082	mg/L			10/20/18 02:09	1
Sulfate	<0.70		1.0	0.70	mg/L			10/20/18 02:09	1

Lab Sample ID: LCS 400-416247/5
Matrix: Water
Analysis Batch: 416247

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.89		mg/L		99	90 - 110
Fluoride	10.0	10.7		mg/L		107	90 - 110
Sulfate	10.0	10.3		mg/L		103	90 - 110

Lab Sample ID: LCSD 400-416247/6
Matrix: Water
Analysis Batch: 416247

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.88		mg/L		99	90 - 110	0	15
Fluoride	10.0	10.7		mg/L		107	90 - 110	1	15
Sulfate	10.0	10.4		mg/L		104	90 - 110	0	15

Lab Sample ID: 400-160734-I-4 MS
Matrix: Water
Analysis Batch: 416247

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.7		10.0	16.5		mg/L		98	80 - 120
Fluoride	0.18	J	10.0	10.5		mg/L		103	80 - 120
Sulfate	13		10.0	23.5		mg/L		105	80 - 120

Lab Sample ID: 400-160734-I-4 MSD
Matrix: Water
Analysis Batch: 416247

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.7		10.0	16.7		mg/L		100	80 - 120	1	20
Fluoride	0.18	J	10.0	10.7		mg/L		106	80 - 120	2	20
Sulfate	13		10.0	23.9		mg/L		109	80 - 120	1	20

Lab Sample ID: MB 400-416310/4
Matrix: Water
Analysis Batch: 416310

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/21/18 02:30	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 02:30	1
Sulfate	<0.70		1.0	0.70	mg/L			10/21/18 02:30	1

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-416310/5
Matrix: Water
Analysis Batch: 416310

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.87		mg/L		99	90 - 110
Fluoride	10.0	10.6		mg/L		106	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 400-416310/6
Matrix: Water
Analysis Batch: 416310

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.91		mg/L		99	90 - 110	0	15
Fluoride	10.0	10.4		mg/L		104	90 - 110	1	15
Sulfate	10.0	10.5		mg/L		105	90 - 110	1	15

Lab Sample ID: 400-160329-A-1 MS
Matrix: Water
Analysis Batch: 416310

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.4		10.0	14.4		mg/L		101	80 - 120
Fluoride	<0.082		10.0	10.9		mg/L		109	80 - 120
Sulfate	<0.70		10.0	11.0		mg/L		110	80 - 120

Lab Sample ID: 400-160329-A-1 MSD
Matrix: Water
Analysis Batch: 416310

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.4		10.0	14.7		mg/L		103	80 - 120	2	20
Fluoride	<0.082		10.0	10.9		mg/L		109	80 - 120	0	20
Sulfate	<0.70		10.0	11.5		mg/L		115	80 - 120	4	20

Lab Sample ID: MB 400-416319/36
Matrix: Water
Analysis Batch: 416319

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/20/18 14:20	1
Fluoride	<0.082		0.20	0.082	mg/L			10/20/18 14:20	1
Sulfate	<0.70		1.0	0.70	mg/L			10/20/18 14:20	1

Lab Sample ID: LCS 400-416319/37
Matrix: Water
Analysis Batch: 416319

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.0		mg/L		100	90 - 110
Fluoride	10.0	10.4		mg/L		104	90 - 110
Sulfate	10.0	10.6		mg/L		106	90 - 110

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 400-416319/38
Matrix: Water
Analysis Batch: 416319

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	10.0		mg/L		100	90 - 110	0	15
Fluoride	10.0	10.7		mg/L		107	90 - 110	3	15
Sulfate	10.0	10.5		mg/L		105	90 - 110	1	15

Lab Sample ID: 400-160329-A-3 MS
Matrix: Water
Analysis Batch: 416319

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.2		10.0	13.6		mg/L		104	80 - 120
Fluoride	<0.082		10.0	10.6		mg/L		106	80 - 120
Sulfate	<0.70		10.0	11.7		mg/L		117	80 - 120

Lab Sample ID: 400-160329-A-3 MSD
Matrix: Water
Analysis Batch: 416319

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.2		10.0	13.5		mg/L		103	80 - 120	0	20
Fluoride	<0.082		10.0	10.7		mg/L		107	80 - 120	2	20
Sulfate	<0.70		10.0	11.3		mg/L		113	80 - 120	4	20

Lab Sample ID: MB 400-416328/36
Matrix: Water
Analysis Batch: 416328

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/21/18 14:41	1
Fluoride	<0.082		0.20	0.082	mg/L			10/21/18 14:41	1
Sulfate	<0.70		1.0	0.70	mg/L			10/21/18 14:41	1

Lab Sample ID: LCS 400-416328/37
Matrix: Water
Analysis Batch: 416328

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.92		mg/L		99	90 - 110
Fluoride	10.0	10.6		mg/L		106	90 - 110
Sulfate	10.0	10.3		mg/L		103	90 - 110

Lab Sample ID: LCSD 400-416328/38
Matrix: Water
Analysis Batch: 416328

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.92		mg/L		99	90 - 110	0	15
Fluoride	10.0	10.7		mg/L		107	90 - 110	1	15
Sulfate	10.0	10.4		mg/L		104	90 - 110	1	15

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-160363-7 MS

Matrix: Water

Analysis Batch: 416328

Client Sample ID: MGWC-7

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	12		10.0	21.7		mg/L		97	80 - 120
Fluoride	0.23		10.0	11.2		mg/L		110	80 - 120
Sulfate	180	E	10.0	190	E 4	mg/L		70	80 - 120

Lab Sample ID: 400-160363-7 MSD

Matrix: Water

Analysis Batch: 416328

Client Sample ID: MGWC-7

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	12		10.0	21.9		mg/L		99	80 - 120	1	20
Fluoride	0.23		10.0	11.3		mg/L		111	80 - 120	1	20
Sulfate	180	E	10.0	191	E 4	mg/L		83	80 - 120	1	20

Lab Sample ID: MB 400-416385/27

Matrix: Water

Analysis Batch: 416385

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			10/22/18 09:19	1
Fluoride	<0.082		0.20	0.082	mg/L			10/22/18 09:19	1
Sulfate	<0.70		1.0	0.70	mg/L			10/22/18 09:19	1

Lab Sample ID: LCS 400-416385/28

Matrix: Water

Analysis Batch: 416385

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.91		mg/L		99	90 - 110
Fluoride	10.0	10.7		mg/L		107	90 - 110
Sulfate	10.0	10.3		mg/L		103	90 - 110

Lab Sample ID: LCSD 400-416385/29

Matrix: Water

Analysis Batch: 416385

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.96		mg/L		100	90 - 110	1	15
Fluoride	10.0	10.6		mg/L		106	90 - 110	1	15
Sulfate	10.0	10.5		mg/L		105	90 - 110	2	15

Lab Sample ID: 400-160537-G-9 MS

Matrix: Water

Analysis Batch: 416385

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	24		10.0	32.8		mg/L		90	80 - 120
Fluoride	0.24		10.0	10.8		mg/L		106	80 - 120
Sulfate	2.1		10.0	12.9		mg/L		108	80 - 120

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-160537-G-9 MSD
Matrix: Water
Analysis Batch: 416385

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	24		10.0	32.9		mg/L		92	80 - 120	0	20
Fluoride	0.24		10.0	10.7		mg/L		105	80 - 120	1	20
Sulfate	2.1		10.0	13.2		mg/L		112	80 - 120	3	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-415787/1-A ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 415787

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:38	10/17/18 20:07	5
Barium	<0.00049		0.0025	0.00049	mg/L		10/17/18 12:38	10/17/18 20:07	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 20:07	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:38	10/17/18 20:07	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:38	10/17/18 20:07	5
Calcium	<0.13		0.25	0.13	mg/L		10/17/18 12:38	10/17/18 20:07	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:38	10/17/18 20:07	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:38	10/17/18 20:07	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:38	10/17/18 20:07	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:38	10/17/18 20:07	5
Selenium	<0.00024 ^		0.0013	0.00024	mg/L		10/17/18 12:38	10/17/18 20:07	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:38	10/17/18 20:07	5

Lab Sample ID: LCS 400-415787/2-A
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 415787

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.0554		mg/L		111	80 - 120
Barium	0.0500	0.0527		mg/L		105	80 - 120
Beryllium	0.0500	0.0560		mg/L		112	80 - 120
Boron	0.100	0.114		mg/L		114	80 - 120
Cadmium	0.0500	0.0559		mg/L		112	80 - 120
Calcium	5.00	5.48		mg/L		110	80 - 120
Chromium	0.0500	0.0536		mg/L		107	80 - 120
Cobalt	0.0500	0.0561		mg/L		112	80 - 120
Lithium	0.0500	0.0575		mg/L		115	80 - 120
Molybdenum	0.0500	0.0552		mg/L		110	80 - 120
Selenium	0.0500	0.0556 ^		mg/L		111	80 - 120
Thallium	0.0100	0.0110		mg/L		110	80 - 120

Lab Sample ID: 400-160183-I-1-B MS ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 415787

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.00046		0.0500	0.0555		mg/L		111	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

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

Lab Sample ID: 400-160183-I-1-B MS ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 415787

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Barium	0.019		0.0500	0.0736		mg/L		109		75 - 125
Beryllium	<0.00034		0.0500	0.0554		mg/L		111		75 - 125
Boron	0.086		0.100	0.203		mg/L		117		75 - 125
Cadmium	<0.00034		0.0500	0.0548		mg/L		110		75 - 125
Calcium	15	F1	5.00	22.3	F1	mg/L		140		75 - 125
Chromium	<0.0011		0.0500	0.0540		mg/L		108		75 - 125
Cobalt	<0.00040		0.0500	0.0559		mg/L		112		75 - 125
Lithium	<0.0011		0.0500	0.0562		mg/L		112		75 - 125
Molybdenum	<0.00085		0.0500	0.0540		mg/L		108		75 - 125
Selenium	0.0019	^	0.0500	0.0540	^	mg/L		104		75 - 125
Thallium	<0.000085		0.0100	0.0109		mg/L		109		75 - 125

Lab Sample ID: 400-160183-I-1-C MSD ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 415787

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Arsenic	<0.00046		0.0500	0.0566		mg/L		113		75 - 125	2	20
Barium	0.019		0.0500	0.0741		mg/L		111		75 - 125	1	20
Beryllium	<0.00034		0.0500	0.0571		mg/L		114		75 - 125	3	20
Boron	0.086		0.100	0.207		mg/L		122		75 - 125	2	20
Cadmium	<0.00034		0.0500	0.0587		mg/L		117		75 - 125	7	20
Calcium	15	F1	5.00	21.8	F1	mg/L		130		75 - 125	2	20
Chromium	<0.0011		0.0500	0.0555		mg/L		111		75 - 125	3	20
Cobalt	<0.00040		0.0500	0.0582		mg/L		116		75 - 125	4	20
Lithium	<0.0011		0.0500	0.0584		mg/L		117		75 - 125	4	20
Molybdenum	<0.00085		0.0500	0.0554		mg/L		111		75 - 125	3	20
Selenium	0.0019	^	0.0500	0.0531	^	mg/L		102		75 - 125	2	20
Thallium	<0.000085		0.0100	0.0111		mg/L		111		75 - 125	2	20

Lab Sample ID: MB 400-415789/1-A ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 415789

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	<0.00046		0.0013	0.00046	mg/L		10/17/18 12:44	10/17/18 17:54	5
Barium	<0.00049		0.0025	0.00049	mg/L		10/17/18 12:44	10/17/18 17:54	5
Beryllium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 17:54	5
Boron	<0.021		0.050	0.021	mg/L		10/17/18 12:44	10/17/18 17:54	5
Cadmium	<0.00034		0.0025	0.00034	mg/L		10/17/18 12:44	10/17/18 17:54	5
Calcium	<0.13		0.25	0.13	mg/L		10/17/18 12:44	10/17/18 17:54	5
Chromium	<0.0011		0.0025	0.0011	mg/L		10/17/18 12:44	10/17/18 17:54	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		10/17/18 12:44	10/17/18 17:54	5
Lithium	<0.0011		0.0050	0.0011	mg/L		10/17/18 12:44	10/17/18 17:54	5
Molybdenum	<0.00085		0.015	0.00085	mg/L		10/17/18 12:44	10/17/18 17:54	5
Selenium	0.000240	J	0.0013	0.00024	mg/L		10/17/18 12:44	10/17/18 17:54	5
Thallium	<0.000085		0.00050	0.000085	mg/L		10/17/18 12:44	10/17/18 17:54	5

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

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

Lab Sample ID: LCS 400-415789/2-A
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 415789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.0500	0.0523		mg/L		105	80 - 120
Barium	0.0500	0.0484		mg/L		97	80 - 120
Beryllium	0.0500	0.0523		mg/L		105	80 - 120
Boron	0.100	0.102		mg/L		102	80 - 120
Cadmium	0.0500	0.0523		mg/L		105	80 - 120
Calcium	5.00	5.11		mg/L		102	80 - 120
Chromium	0.0500	0.0509		mg/L		102	80 - 120
Cobalt	0.0500	0.0530		mg/L		106	80 - 120
Lithium	0.0500	0.0540		mg/L		108	80 - 120
Molybdenum	0.0500	0.0520		mg/L		104	80 - 120
Selenium	0.0500	0.0507		mg/L		101	80 - 120
Thallium	0.0100	0.0102		mg/L		102	80 - 120

Lab Sample ID: 400-160517-J-5-B MS ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 415789

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.064	F1	0.0500	0.123		mg/L		118	75 - 125
Barium	0.18	F1	0.0500	0.248	F1	mg/L		135	75 - 125
Beryllium	<0.00034		0.0500	0.0551		mg/L		110	75 - 125
Boron	0.066	F1	0.100	0.188		mg/L		122	75 - 125
Cadmium	<0.00034		0.0500	0.0548		mg/L		110	75 - 125
Calcium	51		5.00	61.5	4	mg/L		212	75 - 125
Chromium	<0.0011		0.0500	0.0524		mg/L		105	75 - 125
Cobalt	0.0033		0.0500	0.0581		mg/L		110	75 - 125
Lithium	0.0075		0.0500	0.0623		mg/L		110	75 - 125
Molybdenum	0.0042	J	0.0500	0.0609		mg/L		113	75 - 125
Selenium	<0.00024	^	0.0500	0.0549	^	mg/L		110	75 - 125
Thallium	<0.000085		0.0100	0.0105		mg/L		105	75 - 125

Lab Sample ID: 400-160517-J-5-C MSD ^5
Matrix: Water
Analysis Batch: 415935

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 415789

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.064	F1	0.0500	0.129	F1	mg/L		132	75 - 125	5	20
Barium	0.18	F1	0.0500	0.265	F1	mg/L		170	75 - 125	7	20
Beryllium	<0.00034		0.0500	0.0563		mg/L		113	75 - 125	2	20
Boron	0.066	F1	0.100	0.195	F1	mg/L		130	75 - 125	4	20
Cadmium	<0.00034		0.0500	0.0569		mg/L		114	75 - 125	4	20
Calcium	51		5.00	65.7	4	mg/L		296	75 - 125	7	20
Chromium	<0.0011		0.0500	0.0547		mg/L		109	75 - 125	4	20
Cobalt	0.0033		0.0500	0.0601		mg/L		114	75 - 125	3	20
Lithium	0.0075		0.0500	0.0639		mg/L		113	75 - 125	3	20
Molybdenum	0.0042	J	0.0500	0.0618		mg/L		115	75 - 125	1	20
Selenium	<0.00024	^	0.0500	0.0579	^	mg/L		116	75 - 125	5	20
Thallium	<0.000085		0.0100	0.0111		mg/L		111	75 - 125	5	20

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
SDG: Ash Pond

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 400-416432/13-A
Matrix: Water
Analysis Batch: 416999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.000070		0.00020	0.000070	mg/L		10/22/18 13:55	10/25/18 13:43	1

Lab Sample ID: LCS 400-416432/14-A
Matrix: Water
Analysis Batch: 416999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00101	0.00101		mg/L		101	80 - 120

Lab Sample ID: 400-160363-1 MS
Matrix: Water
Analysis Batch: 416999

Client Sample ID: MGWA-10
Prep Type: Total/NA
Prep Batch: 416432

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

Lab Sample ID: 400-160363-1 MSD
Matrix: Water
Analysis Batch: 416999

Client Sample ID: MGWA-10
Prep Type: Total/NA
Prep Batch: 416432

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	<0.000070		0.00201	0.00195		mg/L		97	80 - 120	1	20

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

Lab Sample ID: MB 400-415521/1
Matrix: Water
Analysis Batch: 415521

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	<3.4		5.0	3.4	mg/L			10/15/18 16:53	1

Lab Sample ID: LCS 400-415521/2
Matrix: Water
Analysis Batch: 415521

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Dissolved Solids	293	308		mg/L		105	78 - 122

Lab Sample ID: 400-160351-D-1 DU
Matrix: Water
Analysis Batch: 415521

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	68		68.0		mg/L		0	5

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
 SDG: Ash Pond

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

Lab Sample ID: 400-160351-D-2 DU
Matrix: Water
Analysis Batch: 415521

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	150		156		mg/L		1	5

Lab Sample ID: MB 400-415675/1
Matrix: Water
Analysis Batch: 415675

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	<3.4		5.0	3.4	mg/L			10/16/18 15:41	1

Lab Sample ID: LCS 400-415675/2
Matrix: Water
Analysis Batch: 415675

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293	228		mg/L		78	78 - 122

Lab Sample ID: 400-160400-E-3 DU
Matrix: Water
Analysis Batch: 415675

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	40		38.0		mg/L		5	5

Chain of Custody Record



Client Information		Sampler: L. Coker, JADOCK		Lab PM: Whitmore, Chyenme R		Carrier Tracking No(s):	
Address: PO BOX 2641 GSC8		Phone: 6784679260		E-Mail: chyenme.whitmore@testamericainc.com		COC No: 1	
City: Birmingham		State, Zip: AL, 35291		Company: Southern Company		Page: 1 of 1	
Phone: 205-992-5417(Tel)		PO #: SCS10347656		WO #: 40007692		Job #:	
Email: lmpetty@southernco.com		Project #: 40007692		SSOW#:		Preservation Codes:	
Project Name: CCR - Plant McIntosh - Ash Pond		Site: ASH POND		Due Date Requested:		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:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
MGWA-10		10/9/18		15:56		G Water	
MGWA-11		↓		16:00		↓	
MGWA-5		↓		17:10		↓	
FERB-03		↓		12:35		↓	
FERB-03		↓		13:00		↓	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		916, R428, 920, R428, R428R428, GPPC		5ulfate	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		D N D		6020-As, Ba, B, Ba, Ca, Cd, Cr, Co, Li, Mo, Se, Ti, 7470A-Hg	
Special Instructions/Note:		Total Number of Containers		3		Radiation bottles in a separate cooler	
Possible Hazard Identification		Poison B		Unknown		Radiological	
<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Deliverable Requested: I, II, III, IV, Other (specify)	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: Pete Adams		Date: 10/9/18		Time: 18:30		Company: FEDEX	
Relinquished by:		Date:		Time:		Company:	
Relinquished by:		Date:		Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No. 210		Cooling Temperature(s) °C and Other Remarks: 31.0 20.0 IRB		Company: Pen	



Chain of Custody Record

Client Information
 Client Contact: Ms. Lauren Peity
 Southern Company
 Address: PO BOX 2641 GSC8
 Birmingham
 State, Zip: AL, 35291
 Phone: 205-992-5417(Tel)
 Email: lmpetty@southernco.com
 Project Name: CCR - Plant McIntosh - Ash Pond
 Site: ASH POND

Sampler: P. Adams, J. Adcock, L. Colker
 Lab PM: Whitmire, Cheyenne R
 Phone: 6784679260
 E-Mail: cheyenne.whitmire@testamericainc.com

Carrier Tracking No(s):
 GOC No: Z
 Page 1 of 1
 Job #:

Analysis Requested
 Due Date Requested:
 TAT Requested (days): Standard
 PO #: SCS10347656
 WO #:
 Project #: 40007692
 SOW#:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Ground, Overhaul, Ditch, Rain, Air)	Preservation Code:	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Sulfate		Special Instructions/Note:
						D	N	D	N	D	N	
MGWA-6	10/10/18	09:15	G	Water		N	X	X				3 Radium bottles in separate cooler
MGWC-7		10:15				N	X	X				
MGWC-12		09:15				N	X	X				
MGWC-1		11:30				N	X	X				
MGWC-3		08:50				N	X	X				
MGWC-2		10:15				N	X	X				
MGWC-8		11:33				N	X	X				
DUP-03						N	X	X				

Preservation Codes:
 A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Z - other (specify)
 Other:

Special Instructions/Note:
 Total Number of containers: 3
 3 Radium bottles in separate cooler

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

Empty Kit Relinquished by:
 Relinquished by: Joe Adams
 Date/Time: 10/10/18 1330
 Company: GEI

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:

Cooler Temperature(s) °C and Other Remarks:
 0.5°C, 28.1°C



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-160363-1

SDG Number: Ash Pond

Login Number: 160363

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C, 5.5°C, 1.0°C, 21.0°C, 2.0°C IR8, 0.5°C, 28.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-1
 SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-160363-2

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

For:

Southern Company

PO BOX 2641 GSC8

Birmingham, Alabama 35291

Attn: Ms. Lauren Petty



Authorized for release by:

11/8/2018 5:45:18 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

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

Protocol References:

None = None

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

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160363-1	MGWA-10	Water	10/09/18 15:56	10/10/18 08:58
400-160363-2	MGWA-11	Water	10/09/18 16:00	10/10/18 08:58
400-160363-3	MGWA-5	Water	10/09/18 17:10	10/10/18 08:58
400-160363-4	FB-03	Water	10/09/18 12:35	10/10/18 08:58
400-160363-5	FERB-03	Water	10/09/18 13:00	10/10/18 08:58
400-160363-6	MGWA-6	Water	10/10/18 09:15	10/11/18 08:29
400-160363-7	MGWC-7	Water	10/10/18 10:15	10/11/18 08:29
400-160363-8	MGWC-12	Water	10/10/18 09:15	10/11/18 08:29
400-160363-9	MGWC-1	Water	10/10/18 11:30	10/11/18 08:29
400-160363-10	MGWC-3	Water	10/10/18 08:50	10/11/18 08:29
400-160363-11	MGWC-2	Water	10/10/18 10:15	10/11/18 08:29
400-160363-12	MGWC-8	Water	10/10/18 11:33	10/11/18 08:29
400-160363-13	DUP-03	Water	10/10/18 00:00	10/11/18 08:29

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWA-10

Lab Sample ID: 400-160363-1

Date Collected: 10/09/18 15:56

Matrix: Water

Date Received: 10/10/18 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.599		0.205	0.212	1.00	0.184	pCi/L	10/15/18 14:30	11/07/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:30	11/07/18 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.509		0.238	0.243	1.00	0.342	pCi/L	10/15/18 14:59	11/05/18 10:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:59	11/05/18 10:03	1
Y Carrier	81.5		40 - 110					10/15/18 14:59	11/05/18 10:03	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	1.11		0.314	0.322	5.00	0.342	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWA-11

Date Collected: 10/09/18 16:00

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-2

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	0.276		0.141	0.143	1.00	0.166	pCi/L	10/15/18 14:30	11/07/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					10/15/18 14:30	11/07/18 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.374	U	0.252	0.254	1.00	0.388	pCi/L	10/15/18 14:59	11/05/18 10:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					10/15/18 14:59	11/05/18 10:03	1
Y Carrier	77.4		40 - 110					10/15/18 14:59	11/05/18 10:03	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	0.650		0.289	0.291	5.00	0.388	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWA-5

Lab Sample ID: 400-160363-3

Date Collected: 10/09/18 17:10

Matrix: Water

Date Received: 10/10/18 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.261		0.132	0.134	1.00	0.148	pCi/L	10/15/18 14:30	11/07/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					10/15/18 14:30	11/07/18 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.589		0.261	0.266	1.00	0.372	pCi/L	10/15/18 14:59	11/05/18 10:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					10/15/18 14:59	11/05/18 10:03	1
Y Carrier	78.5		40 - 110					10/15/18 14:59	11/05/18 10:03	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	0.850		0.292	0.298	5.00	0.372	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: FB-03
Date Collected: 10/09/18 12:35
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-4
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0580	U	0.101	0.101	1.00	0.178	pCi/L	10/15/18 14:30	11/07/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					10/15/18 14:30	11/07/18 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.321	U	0.229	0.230	1.00	0.353	pCi/L	10/15/18 14:59	11/05/18 10:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.6		40 - 110					10/15/18 14:59	11/05/18 10:03	1
Y Carrier	78.1		40 - 110					10/15/18 14:59	11/05/18 10:03	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	0.380		0.250	0.251	5.00	0.353	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: FERB-03

Lab Sample ID: 400-160363-5

Date Collected: 10/09/18 13:00

Matrix: Water

Date Received: 10/10/18 08:58

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117		0.0643	0.0652	1.00	0.0753	pCi/L	10/16/18 11:38	11/07/18 06:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					10/16/18 11:38	11/07/18 06:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.399		0.248	0.251	1.00	0.381	pCi/L	10/16/18 13:15	10/26/18 17:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110					10/16/18 13:15	10/26/18 17:05	1
Y Carrier	85.2		40 - 110					10/16/18 13:15	10/26/18 17:05	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.515		0.256	0.259	5.00	0.381	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWA-6
Date Collected: 10/10/18 09:15
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-6
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	0.524		0.176	0.183	1.00	0.156	pCi/L	10/15/18 14:30	11/07/18 08:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					10/15/18 14:30	11/07/18 08:29	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.487		0.248	0.252	1.00	0.361	pCi/L	10/15/18 14:59	11/05/18 10:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.1		40 - 110					10/15/18 14:59	11/05/18 10:03	1
Y Carrier	77.0		40 - 110					10/15/18 14:59	11/05/18 10:03	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	1.01		0.304	0.311	5.00	0.361	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWC-7

Lab Sample ID: 400-160363-7

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.34		0.274	0.299	1.00	0.192	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.170	U	0.219	0.220	1.00	0.365	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	75.9		40 - 110					10/15/18 14:59	11/05/18 10:04	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.51		0.351	0.371	5.00	0.365	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWC-12

Lab Sample ID: 400-160363-8

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.282		0.141	0.144	1.00	0.165	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0890	U	0.215	0.215	1.00	0.369	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	82.2		40 - 110					10/15/18 14:59	11/05/18 10:04	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	0.371		0.257	0.259	5.00	0.369	pCi/L		11/08/18 16:41	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-160363-9

Date Collected: 10/10/18 11:30

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.47		0.275	0.305	1.00	0.155	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.487		0.238	0.242	1.00	0.346	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	78.5		40 - 110					10/15/18 14:59	11/05/18 10:04	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		0.364	0.389	5.00	0.346	pCi/L		11/08/18 16:48	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWC-3

Lab Sample ID: 400-160363-10

Date Collected: 10/10/18 08:50

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.18		0.247	0.269	1.00	0.154	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.359		0.221	0.223	1.00	0.334	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	108		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	76.6		40 - 110					10/15/18 14:59	11/05/18 10:04	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	1.54		0.331	0.349	5.00	0.334	pCi/L		11/08/18 16:48	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.290		0.146	0.148	1.00	0.174	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0456	U	0.186	0.186	1.00	0.330	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.4		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	79.3		40 - 110					10/15/18 14:59	11/05/18 10:04	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	0.336		0.236	0.238	5.00	0.330	pCi/L		11/08/18 16:48	1

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWC-8

Lab Sample ID: 400-160363-12

Date Collected: 10/10/18 11:33

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.70		0.296	0.334	1.00	0.155	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.02		0.285	0.300	1.00	0.357	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	81.1		40 - 110					10/15/18 14:59	11/05/18 10:04	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	2.72		0.411	0.449	5.00	0.357	pCi/L		11/08/18 16:48	1

Client Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

Client Sample ID: DUP-03

Lab Sample ID: 400-160363-13

Date Collected: 10/10/18 00:00

Matrix: Water

Date Received: 10/11/18 08:29

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.614		0.185	0.193	1.00	0.151	pCi/L	10/15/18 14:30	11/07/18 08:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/15/18 14:30	11/07/18 08:30	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0907	U	0.199	0.199	1.00	0.342	pCi/L	10/15/18 14:59	11/05/18 10:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110					10/15/18 14:59	11/05/18 10:04	1
Y Carrier	82.6		40 - 110					10/15/18 14:59	11/05/18 10:04	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	0.705		0.272	0.277	5.00	0.342	pCi/L		11/08/18 16:48	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Qualifiers

Rad

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

Glossary

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

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWA-10

Date Collected: 10/09/18 15:56

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:29	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:03	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: MGWA-11

Date Collected: 10/09/18 16:00

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:29	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:03	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: MGWA-5

Date Collected: 10/09/18 17:10

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:29	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:03	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: FB-03

Date Collected: 10/09/18 12:35

Date Received: 10/10/18 08:58

Lab Sample ID: 400-160363-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:29	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:03	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: FERB-03

Lab Sample ID: 400-160363-5

Date Collected: 10/09/18 13:00

Matrix: Water

Date Received: 10/10/18 08:58

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395391	10/16/18 11:38	JLC	TAL SL
Total/NA	Analysis	9315		1	399722	11/07/18 06:21	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395410	10/16/18 13:15	JLC	TAL SL
Total/NA	Analysis	9320		1	397454	10/26/18 17:05	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: MGWA-6

Lab Sample ID: 400-160363-6

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:29	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:03	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: MGWC-7

Lab Sample ID: 400-160363-7

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Client Sample ID: MGWC-12

Lab Sample ID: 400-160363-8

Date Collected: 10/10/18 09:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:41	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: MGWC-1

Lab Sample ID: 400-160363-9

Date Collected: 10/10/18 11:30

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:48	RTM	TAL SL

Client Sample ID: MGWC-3

Lab Sample ID: 400-160363-10

Date Collected: 10/10/18 08:50

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:48	RTM	TAL SL

Client Sample ID: MGWC-2

Lab Sample ID: 400-160363-11

Date Collected: 10/10/18 10:15

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:48	RTM	TAL SL

Client Sample ID: MGWC-8

Lab Sample ID: 400-160363-12

Date Collected: 10/10/18 11:33

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:48	RTM	TAL SL

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Client Sample ID: DUP-03

Lab Sample ID: 400-160363-13

Date Collected: 10/10/18 00:00

Matrix: Water

Date Received: 10/11/18 08:29

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			395295	10/15/18 14:30	JLC	TAL SL
Total/NA	Analysis	9315		1	399721	11/07/18 08:30	CDR	TAL SL
Total/NA	Prep	PrecSep_0			395304	10/15/18 14:59	JLC	TAL SL
Total/NA	Analysis	9320		1	399231	11/05/18 10:04	CDR	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	400041	11/08/18 16:48	RTM	TAL SL

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Rad

Prep Batch: 395295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	PrecSep-21	
400-160363-2	MGWA-11	Total/NA	Water	PrecSep-21	
400-160363-3	MGWA-5	Total/NA	Water	PrecSep-21	
400-160363-4	FB-03	Total/NA	Water	PrecSep-21	
400-160363-6	MGWA-6	Total/NA	Water	PrecSep-21	
400-160363-7	MGWC-7	Total/NA	Water	PrecSep-21	
400-160363-8	MGWC-12	Total/NA	Water	PrecSep-21	
400-160363-9	MGWC-1	Total/NA	Water	PrecSep-21	
400-160363-10	MGWC-3	Total/NA	Water	PrecSep-21	
400-160363-11	MGWC-2	Total/NA	Water	PrecSep-21	
400-160363-12	MGWC-8	Total/NA	Water	PrecSep-21	
400-160363-13	DUP-03	Total/NA	Water	PrecSep-21	
MB 160-395295/21-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-395295/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
480-143133-E-1-A DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 395304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-1	MGWA-10	Total/NA	Water	PrecSep_0	
400-160363-2	MGWA-11	Total/NA	Water	PrecSep_0	
400-160363-3	MGWA-5	Total/NA	Water	PrecSep_0	
400-160363-4	FB-03	Total/NA	Water	PrecSep_0	
400-160363-6	MGWA-6	Total/NA	Water	PrecSep_0	
400-160363-7	MGWC-7	Total/NA	Water	PrecSep_0	
400-160363-8	MGWC-12	Total/NA	Water	PrecSep_0	
400-160363-9	MGWC-1	Total/NA	Water	PrecSep_0	
400-160363-10	MGWC-3	Total/NA	Water	PrecSep_0	
400-160363-11	MGWC-2	Total/NA	Water	PrecSep_0	
400-160363-12	MGWC-8	Total/NA	Water	PrecSep_0	
400-160363-13	DUP-03	Total/NA	Water	PrecSep_0	
MB 160-395304/21-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-395304/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
480-143133-E-1-D DU	Duplicate	Total/NA	Water	PrecSep_0	

Prep Batch: 395391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-5	FERB-03	Total/NA	Water	PrecSep-21	
MB 160-395391/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-395391/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
600-174286-A-1-B DU	Duplicate	Total/NA	Water	PrecSep-21	

Prep Batch: 395410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-5	FERB-03	Total/NA	Water	PrecSep_0	
MB 160-395410/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-395410/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
600-174286-A-1-D DU	Duplicate	Total/NA	Water	PrecSep_0	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-395295/21-A
Matrix: Water
Analysis Batch: 399717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 395295

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1293	U	0.109	0.109	1.00	0.154	pCi/L	10/15/18 14:30	11/07/18 08:33	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110					10/15/18 14:30	11/07/18 08:33	1

Lab Sample ID: LCS 160-395295/1-A
Matrix: Water
Analysis Batch: 399721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 395295

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	11.73		1.31	1.00	0.158	pCi/L	103	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	97.6		40 - 110						

Lab Sample ID: 480-143133-E-1-A DU
Matrix: Water
Analysis Batch: 399721

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 395295

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.979		0.9857		0.362	1.00	0.321	pCi/L	0.01	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	99.7		40 - 110							

Lab Sample ID: MB 160-395391/23-A
Matrix: Water
Analysis Batch: 399717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 395391

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1763		0.0818	0.0834	1.00	0.0929	pCi/L	10/16/18 11:38	11/07/18 06:25	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110					10/16/18 11:38	11/07/18 06:25	1

Lab Sample ID: LCS 160-395391/1-A
Matrix: Water
Analysis Batch: 399720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 395391

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.4	9.723		1.00	1.00	0.0590	pCi/L	86	68 - 137

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

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

Lab Sample ID: LCS 160-395391/1-A
Matrix: Water
Analysis Batch: 399720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 395391

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110

Lab Sample ID: 600-174286-A-1-B DU
Matrix: Water
Analysis Batch: 399720

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 395391

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.697		0.7414		0.156	1.00	0.0762	pCi/L	0.14	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	103		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-395304/21-A
Matrix: Water
Analysis Batch: 399233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 395304

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2617	U	0.245	0.247	1.00	0.396	pCi/L	10/15/18 14:59	11/05/18 10:05	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.9		40 - 110	10/15/18 14:59	11/05/18 10:05	1
Y Carrier	78.1		40 - 110	10/15/18 14:59	11/05/18 10:05	1

Lab Sample ID: LCS 160-395304/1-A
Matrix: Water
Analysis Batch: 399231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 395304

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.25	9.614		1.12	1.00	0.382	pCi/L	104	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	97.6		40 - 110
Y Carrier	79.3		40 - 110

Lab Sample ID: 480-143133-E-1-D DU
Matrix: Water
Analysis Batch: 399231

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 395304

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	1.45		1.112		0.516	1.00	0.702	pCi/L	0.32	1

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

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

Lab Sample ID: 480-143133-E-1-D DU
Matrix: Water
Analysis Batch: 399231

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 395304

	DU	DU	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	99.7		40 - 110
Y Carrier	72.1		40 - 110

Lab Sample ID: MB 160-395410/23-A
Matrix: Water
Analysis Batch: 397454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 395410

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2547	U	0.202	0.204	1.00	0.320	pCi/L	10/16/18 13:15	10/26/18 17:06	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	106		40 - 110	10/16/18 13:15	10/26/18 17:06	1
Y Carrier	87.9		40 - 110	10/16/18 13:15	10/26/18 17:06	1

Lab Sample ID: LCS 160-395410/1-A
Matrix: Water
Analysis Batch: 397454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 395410

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	9.28	9.504		1.09	1.00	0.353	pCi/L	102	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	104		40 - 110
Y Carrier	82.2		40 - 110

Lab Sample ID: 600-174286-A-1-D DU
Matrix: Water
Analysis Batch: 397454

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 395410

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.639		0.4013		0.239	1.00	0.357	pCi/L	0.49	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	103		40 - 110
Y Carrier	81.9		40 - 110

QC Sample Results

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
 SDG: Ash Pond

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

Lab Sample ID: 240-102353-A-1 DU
 Matrix: Water
 Analysis Batch: 400041


Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	0.388	U	0.5098		0.273	5.00	0.415	pCi/L	0.23	

- 1
- 2
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- 9
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- 12

Chain of Custody Record



Client Information Client Contact: Ms. Lauren Petty Address: Southern Company PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: ASH POND		Lab PM: Whitmire, Chyenme R E-Mail: chyenme.whitmire@testamericainc.com Carrier Tracking No(s):	
Due Date Requested: TAT Requested (days): <i>Standard</i>		COC No: <i>1</i> Page: <i>1</i> of <i>1</i> Job #:	
PO #: SCS10347656 WO #:		Analysis Requested  400-160363 COC	
Sample Identification MGWA-10 MGWA-11 MGWA-5 FB-D3 FERB-D3		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 9316_Ra228, 9320_Ra228, Ra228R228_GPPC 240C - TDS, 300_GROFM_2BD - Chloride, Fluoride & Sulfate 6020-As, Ba, B, Be, Cd, Cr, Co, Li, Mo, Se, Ti, 7470A-Hg	
Sample Date 10/9/18		Sample Time 15:56 16:00 17:10 12:35 13:00	
Sample Type (C=comp, G=grab) G		Matrix (Hexane, None, Acetate, MeOH, DI Water, Ice, EDTA, Other) <input checked="" type="checkbox"/> Water	
Preservation Code:		Special Instructions/Note: 3 Radium bottles in a separate cooler	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant		Total Number of Containers: <i>3</i>	
Deliverable Requested: <input type="checkbox"/> I, II, III, IV, Other (specify)		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 <i>Months</i>	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Relinquished by: <i>Pete Adams</i> Date: 10/9/18 18:30 Company: <i>GEI</i>		Method of Shipment:	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time: 10.10.18 0855 Company: <i>Pen</i>	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cooling Temperature(s) °C and Other Remarks: <i>2.1°C</i> <i>31.0 2.0°C IRB</i>	

Chain of Custody Record

Client Information		Sampler:		Lab P/M:		Carrier Tracking No(s):		GOC No: <u>2</u>	
Client Contact: Ms. Lauren Peity Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: ASH POND		Phone: 6784679260		Whitmore, Cheyenne R E-Mail: cheyenne.whitmore@testamericainc.com				Page <u>1</u> of <u>1</u> Job #:	
Due Date Requested:		TAT Requested (days):		PO #:		SCS10347656		WO #:	
Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Preservation Code:		Matrix (Water, Dewast, Overstabil, D1=Telex, A=As)	
MGWA-6	10/10/18	09:15	G	Water					
MGWC-7		10:15							
MGWC-12		9:15							
MGWC-1		11:30							
MGWC-3		08:50							
MGWC-2		10:15							
MGWC-8		11:33							
DUP-03									

Sample Identification	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9316_Ra228, 9320_Ra228, Ra226Ra228 GPPC	2540C - TDS, 300_ORP, 28D - Chloride, Fluoride & Sulfate	6020-As, Ba, B, Be, Ca, Cd, Cr, Co, Li, Mn, Se, Ti, 7470A-Hg	Total Number of Containers	Special Instructions/Note:
MGWA-6	N	N	X	X	X	3	Radium bottles in separate cooler
MGWC-7	N	N	X	X	X		
MGWC-12	N	N	X	X	X		
MGWC-1	N	N	X	X	X		
MGWC-3	N	N	X	X	X		
MGWC-2	N	N	X	X	X		
MGWC-8	N	N	X	X	X		
DUP-03	N	N	X	X	X		

Possible Hazard Identification		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"/> Return To Client	<input type="checkbox"/> Archive For _____ Months
<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Disposal By Lab	
<input type="checkbox"/> Deliverable Requested: I, II, III, IV, Other (specify)	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological	

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>Joe Adams</i>	10/10/18	1330	Company: GEI
Relinquished by:			Company:
Relinquished by:			Company:

Custody Seals Intact:		Custody Seal No.:	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>052128.10</u>	<u>JKS</u>



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-160363-2

SDG Number: Ash Pond

Login Number: 160363

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C, 5.5°C, 1.0°C, 21.0°C, 2.0°C IR8, 0.5°C, 28.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-160363-2

SDG Number: Ash Pond

Login Number: 160363

List Number: 2

Creator: Dupart, Lacey S

List Source: TestAmerica St. Louis

List Creation: 10/12/18 10:46 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
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: 400-160363-2

SDG Number: Ash Pond

Login Number: 160363

List Number: 3

Creator: Dupart, Lacey S

List Source: TestAmerica St. Louis

List Creation: 10/13/18 03:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	21.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	MO00054	06-30-19
ANAB	DoD ELAP		L2305	04-06-19
Arizona	State Program	9	AZ0813	12-08-18 *
California	State Program	9	2886	06-30-19
Connecticut	State Program	1	PH-0241	03-31-19
Florida	NELAP	4	E87689	06-30-19
Illinois	NELAP	5	200023	11-30-18 *
Iowa	State Program	7	373	12-01-18 *
Kansas	NELAP	7	E-10236	10-31-18 *
Kentucky (DW)	State Program	4	90125	12-31-18
Louisiana	NELAP	6	04080	06-30-19
Louisiana (DW)	NELAP	6	LA180017	12-31-18 *
Maryland	State Program	3	310	09-30-19
Michigan	State Program	5	9005	06-30-18 *
Missouri	State Program	7	780	06-30-19

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

Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-2
SDG: Ash Pond

Laboratory: TestAmerica St. Louis (Continued)

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

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-160363-3

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

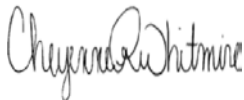
For:

Southern Company

600 18th Street North

Birmingham, Alabama 35203

Attn: Accounts Payable



Authorized for release by:

11/15/2018 5:15:16 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Client Sample ID: MGWA-6

Lab Sample ID: 400-160363-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron - RA	0.093		0.050	0.021	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-7

Lab Sample ID: 400-160363-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.013		0.0025	0.00040	mg/L	5		6020	Total Recoverable

Client Sample ID: DUP-03

Lab Sample ID: 400-160363-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron - RA	0.084		0.050	0.021	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160363-6	MGWA-6	Water	10/10/18 09:15	10/11/18 08:29
400-160363-7	MGWC-7	Water	10/10/18 10:15	10/11/18 08:29
400-160363-13	DUP-03	Water	10/10/18 00:00	10/11/18 08:29

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

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Client Sample ID: MGWA-6
Date Collected: 10/10/18 09:15
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.093		0.050	0.021	mg/L		11/09/18 11:50	11/13/18 10:43	5

Client Sample ID: MGWC-7
Date Collected: 10/10/18 10:15
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.013		0.0025	0.00040	mg/L		11/09/18 11:50	11/09/18 20:03	5

Client Sample ID: DUP-03
Date Collected: 10/10/18 00:00
Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.084		0.050	0.021	mg/L		11/09/18 13:15	11/13/18 10:47	5

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Client Sample ID: MGWA-6

Date Collected: 10/10/18 09:15

Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	RA		418964	11/09/18 11:50	KWN	TAL PEN
Total Recoverable	Analysis	6020	RA	5	419485	11/13/18 10:43	DRE	TAL PEN

Client Sample ID: MGWC-7

Date Collected: 10/10/18 10:15

Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			418964	11/09/18 11:50	KWN	TAL PEN
Total Recoverable	Analysis	6020		5	419210	11/09/18 20:03	DRE	TAL PEN

Client Sample ID: DUP-03

Date Collected: 10/10/18 00:00

Date Received: 10/11/18 08:29

Lab Sample ID: 400-160363-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A	RA		418988	11/09/18 13:15	KWN	TAL PEN
Total Recoverable	Analysis	6020	RA	5	419485	11/13/18 10:47	DRE	TAL PEN

Laboratory References:

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

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Metals

Prep Batch: 418964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-6 - RA	MGWA-6	Total Recoverable	Water	3005A	
400-160363-7	MGWC-7	Total Recoverable	Water	3005A	
MB 400-418964/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-418964/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-160240-B-46-C MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-160240-B-46-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 418988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-13 - RA	DUP-03	Total Recoverable	Water	3005A	
MB 400-418988/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-418988/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-161437-E-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-161437-E-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 419210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-7	MGWC-7	Total Recoverable	Water	6020	418964
MB 400-418964/1-A ^5	Method Blank	Total Recoverable	Water	6020	418964
MB 400-418988/1-A ^5	Method Blank	Total Recoverable	Water	6020	418988
LCS 400-418964/2-A	Lab Control Sample	Total Recoverable	Water	6020	418964
LCS 400-418988/2-A	Lab Control Sample	Total Recoverable	Water	6020	418988
400-160240-B-46-C MS ^5	Matrix Spike	Total Recoverable	Water	6020	418964
400-160240-B-46-D MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	418964
400-161437-E-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	418988
400-161437-E-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	418988

Analysis Batch: 419485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160363-6 - RA	MGWA-6	Total Recoverable	Water	6020	418964
400-160363-13 - RA	DUP-03	Total Recoverable	Water	6020	418988

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-418964/1-A ^5
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 418964

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.021		0.050	0.021	mg/L		11/09/18 11:50	11/09/18 17:59	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		11/09/18 11:50	11/09/18 17:59	5

Lab Sample ID: LCS 400-418964/2-A
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 418964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.100	0.105		mg/L		105	80 - 120
Cobalt	0.0500	0.0506		mg/L		101	80 - 120

Lab Sample ID: 400-160240-B-46-C MS ^5
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 418964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.3	E	0.100	2.23	E 4	mg/L		-52	75 - 125
Cobalt	0.16		0.0500	0.212		mg/L		96	75 - 125

Lab Sample ID: 400-160240-B-46-D MSD ^5
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 418964

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Boron	2.3	E	0.100	2.20	E 4	mg/L		-82	75 - 125	1	20
Cobalt	0.16		0.0500	0.211		mg/L		93	75 - 125	1	20

Lab Sample ID: MB 400-418988/1-A ^5
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 418988

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.021		0.050	0.021	mg/L		11/09/18 13:15	11/09/18 22:46	5

Lab Sample ID: LCS 400-418988/2-A
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 418988

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.100	0.111		mg/L		111	80 - 120

Lab Sample ID: 400-161437-E-1-B MS ^5
Matrix: Water
Analysis Batch: 419210

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 418988

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.078		0.100	0.188		mg/L		111	75 - 125

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

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

Lab Sample ID: 400-161437-E-1-C MSD ^5
Matrix: Water
Analysis Batch: 419210


Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 418988

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.078		0.100	0.193		mg/L		116	75 - 125	3	20

- 1
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- 11
- 12
- 13

Chain of Custody Record



Client Information Client Contact: Ms. Lauren Petty Company: Southern Company Address: PO BOX 2641 GSCB City: Birmingham State, Zip: AL, 35291 Phone: 205-982-5417(Tel) Email: lpetty@southernco.com Project Name: CCR - Plant McIntosh - Ash Pond Site: ASH POND		Lab PIK: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com Camer Tracking No(s): COC No: Z Page: Y of I Job #:	
Due Date Requested: TAT Requested (days): PO #: SCS10347656 WO #: Project #: 40007692 SSSOW#:		Analysis Requested <div style="text-align: center;">  400-160363 COC </div>	
Sample Identification Sample Date: 10/10/18 Sample Time: 09:15 Sample Type (C=Comp, G=grab): G Matrix (Element, Element, Element): Water Preservation Code:		Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): 916_Ra225, 9320_Ra225, Ra226Ra228_GPPC 244C_T05_300_OHFR_280 - Montes, Fuentes & 6020-Aa,Ba,Ba,Ca,Cd,Cr,Cu,Co,Li,Mn,Sa,Tl,Y470A-Hg	
Sample Identification MGWA-6 MGWC-7 MGWC-12 MGWC-1 MGWC-3 MGWC-2 MGWC-8 DUP-03		Special Instructions/Note: 3 Radium bottles in separate cooler	
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 Deliverable Requested: I, II, III, IV, Other (specify)		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	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: [Signature] Date/Time: 10/10/18 1330 Company: GEI		Received by: [Signature] Date/Time: 10/11/18 0829 Company:	
Relinquished by: [Signature] Date/Time:		Received by: [Signature] Date/Time:	
Relinquished by: [Signature] Date/Time:		Received by: [Signature] Date/Time:	
Custody Seal Intact: A Yes Δ No Custody Seal No.: 052, 28.1°C [Signature]		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-160363-3

SDG Number: Ash Pond

Login Number: 160363

List Number: 1

Creator: Whitmire, Cheyenne R

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1°C, 5.5°C, 1.0°C, 21.0°C, 2.0°C IR8, 0.5°C, 28.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-160363-3
SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

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

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Pensacola, FL
Report Nos.: 400-160363-1
Reviewer: Lorie MacKinnon/GEI Consultants
Date: November 4, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
MGWA-10	400-160363-01	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-11	400-160363-02	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-5	400-160363-03	Metals, Fluoride, Chloride, Sulfate, TDS
FB-03	400-160363-04	Metals, Fluoride, Chloride, Sulfate, TDS
FERB-03	400-160363-05	Metals, Fluoride, Chloride, Sulfate, TDS
MGWA-6	400-160363-06	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-7	400-160363-07	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-12	400-160363-08	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-1	400-160363-09	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-3	400-160363-10	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-2	400-160363-11	Metals, Fluoride, Chloride, Sulfate, TDS
MGWC-8	400-160363-12	Metals, Fluoride, Chloride, Sulfate, TDS
DUP-03	400-160363-13	Metals, Fluoride, Chloride, Sulfate, TDS

QC Samples(s): Field/Equipment blanks: FB-03, FERB-3
Field Duplicate pairs: MGWA-6/DUP-03

The above-listed aqueous samples and field blanks were collected on October 9 and 10, 2018 and were analyzed for select total recoverable metals by SW-846 method 6020/7470A, total dissolved solids (TDS) by Standard Methods SM2540C, and fluoride, chloride, and sulfate by EPA method 300. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the methods referenced and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results

- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, MS/MSD, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Metals

The laboratory method blanks and field blanks were free from contaminants except where noted below. The following table summarizes the contamination and validation actions taken.

Analyte	Blank ID/Associated Samples	Concentration	10x Action Level	Validation Actions
Selenium	MB 400-415789: MGWA-6, MGWC-7, MGWC-12, MGWC-1, MGWC-3, MGWC-2, MGWC-8, DUP-03	0.00024 J mg/L	0.0024 mg/L	Qualify the results for selenium in samples MGWC-1 and MGWC-8 as nondetect (U) at the RL.

Blank Actions:

If the sample result is < reporting limit (RL); report the result as nondetect (U) at the RL or reported value.

If the sample result is \geq RL and <blank contamination detected; report the result as nondetect (U) at the reported value.

If the sample result is \geq RL and < 10x Action Level; report the sample result as estimated (J); biased high.

If the sample result is nondetect or > 10x Action Level; validation action is not required.

Anions and TDS

Contamination was not detected in the associated laboratory method and field blanks.

MS/MSD Results

MS/MSD analyses were performed on sample MGWA-10 for mercury and sample MGWC-7 for fluoride, chloride, and sulfate. All recovery and precision criteria were met.

Additionally, MS/MSD analyses were performed on non-project (batch) samples for anions and metals. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project (batch) samples for TDS. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

LCS Results

All criteria were met.

Field Duplicate Results

Samples MGWA-6 and DUP-03 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria except for boron. The positive results for boron in samples MGWA-6 and DUP-03 were qualified as estimated (J). The direction of the bias cannot be determined from this nonconformance.

Analyte	MGWA-6 (mg/L)	DUP-03 (mg/L)	RPD (%)
Arsenic	0.014	0.017	19.4
Barium	0.037	0.037	0
Boron	0.096	0.17	55.6, Not within RL
Calcium	100	100	0
Cobalt	0.00051 J	0.00048 J	6.1
Chloride	6.9	6.8	1.5
Sulfate	8.7	8.6	1.2
Total dissolved solids	300	300	0

NC – Not calculable
 Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$.
 When results are $< 5x$ the RL, professional judgement was taken to estimate results if the absolute difference between the original and field duplicate $> RL$.

Quantitation Limits

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Five-fold dilutions were performed for all ICP/MS metals samples. Reporting limits were elevated accordingly. The following table lists the additional sample dilutions which were required to bring results within the instrument calibration range.

Sample	Sulfate Analysis Reported	Metals Analysis Reported
MGWC-7	A five-fold dilution was reported.	NR
MGWC-1	A five-fold dilution was reported.	NR
MGWC-3	A five-fold dilution was reported.	NR
MGWC-2	A 10-fold dilution was reported.	A 25-fold dilution was reported for boron and calcium.
MGWC-8	A 10-fold dilution was reported.	A 50-fold dilution was reported for boron.
NR – An additional dilution was not required for this sample.		

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Earth City, MO
Report Nos.: 400-160363-2
Reviewer: Lorie MacKinnon/GEI Consultants
Date: November 13, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
MGWA-10	400-160363-01	Radium-226, Radium-228, Radium226-228
MGWA-11	400-160363-02	Radium-226, Radium-228, Radium226-228
MGWA-5	400-160363-03	Radium-226, Radium-228, Radium226-228
FB-03	400-160363-04	Radium-226, Radium-228, Radium226-228
FERB-03	400-160363-05	Radium-226, Radium-228, Radium226-228
MGWA-6	400-160363-06	Radium-226, Radium-228, Radium226-228
MGWC-7	400-160363-07	Radium-226, Radium-228, Radium226-228
MGWC-12	400-160363-08	Radium-226, Radium-228, Radium226-228
MGWC-1	400-160363-09	Radium-226, Radium-228, Radium226-228
MGWC-3	400-160363-10	Radium-226, Radium-228, Radium226-228
MGWC-2	400-160363-11	Radium-226, Radium-228, Radium226-228
MGWC-8	400-160363-12	Radium-226, Radium-228, Radium226-228
DUP-03	400-160363-13	Radium-226, Radium-228, Radium226-228

QC Samples: Field/Equipment blanks: FB-03, FERB-03
Field Duplicate pair: MGWA-6/DUP-03

The above-listed aqueous samples and field blanks were collected on October 9 and 10, 2018 and were analyzed for Radium-226 by SW-846 method 9315, Radium-228 by SW-46 method 9320, and combined Radium-226 and Radium-228. The data were reviewed based on the US Department of Energy Evaluation of Radiochemical Data Usability, 1997, as well as by the pertinent methods referenced by the data package and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Carrier Yields
- Laboratory Duplicate Results
- Field Duplicate Results
- Laboratory Control Sample (LCS) Results

- **Quantitation Limits**

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, carrier yields, laboratory duplicate, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Radium-226 and Radium-228 were detected above the minimum detectable concentration (MDC) in select laboratory method blank samples and field blank samples. The following table summarizes the contamination and validation actions taken.

Analyte	Blank ID/ Associated Samples	Maximum Blank Concentration (pCi/L)	10x Action Level (pCi/L)	Validation Actions
Radium-226	MB160-395391: FERB-03	0.1763 (+0.0834 Count Uncert.)	2.60	Qualify the result for Radium-226 in sample FERB-03 as nondetect (U) at the reported value.
Radium-228	Ferb-03: All samples	0.339 (+0.251 Count Uncert.)	5.90	Qualify the result for Radium-228 in samples MGWA-10, MGWA-5, MGWA-6, MGWC-1, and MGWC-3 as nondetect (U) at the reported values. Qualify the result for Radium-228 in sample MGWC-8 as estimated (J); Biased high.
Radium-226/228	FB-3/Ferb-03: All samples	0.515 (+0.259 Count Uncert.)	7.74	Qualify the result for Radium-226/228 in samples MGWA-11, MGWC-12, MGWC-2, and DUP-03 as nondetect (U) at the reported values. Qualify the result for Radium-226/228 in samples MGWA-10, MGWA-5, MGWA-6, MGWC-7, MGWC-1, MGWC-3, and MGWC-8 as estimated (J); Biased high.
Due to the qualifications of Radium-226, professional judgment was taken to estimate (J) the result for combined Radium 226/228 in sample FERB-3; biased high.				

Blank Actions:

If the sample result is < method blank and count uncertainty; report the result as nondetect (U) at the reported value.

If the sample result is > blank/uncertainty concentration and < 10x Action Level; report the sample result as estimated (J); biased high.

If the sample result is nondetect or > 10x Action Level; validation action is not required.

Radium-226 was detected above the minimum detectable concentration (MDC) in the associated equipment blank sample FERB-03. Due to the associated method blank result, the result for Radium-226 in the equipment rinsate blank was qualified as nondetect.

Carrier Yields

All criteria were met.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project samples. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

Field Duplicate Results

Samples MGWA-6 and DUP-03 were submitted as the field duplicate pair with this sample set. The following table summarizes the evaluation of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWA-6 (pCi/L)	DUP-03 (pCi/L)	DER
Radium-226	0.524	0.614	0.35
Combined Radium 226 + 228	1.01	0.705 U	0.73
Criteria: Duplicate Error Ratio (DER) \leq 2			

LCS Results

All criteria were met.

Quantitation Limits

Dilutions were not required.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

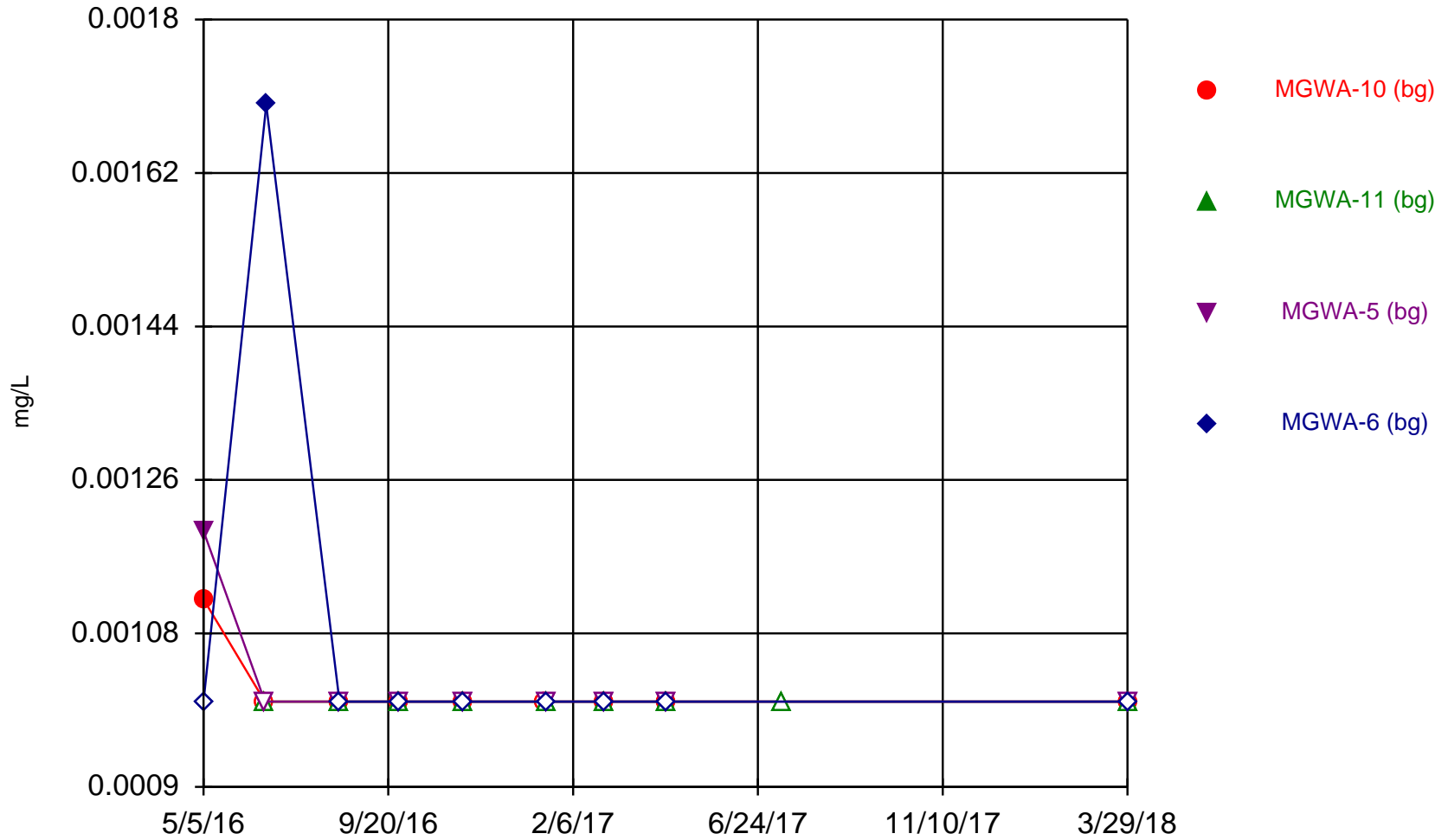
Appendix B

Statistical Analyses

June 2018 Data Statistical Analyses

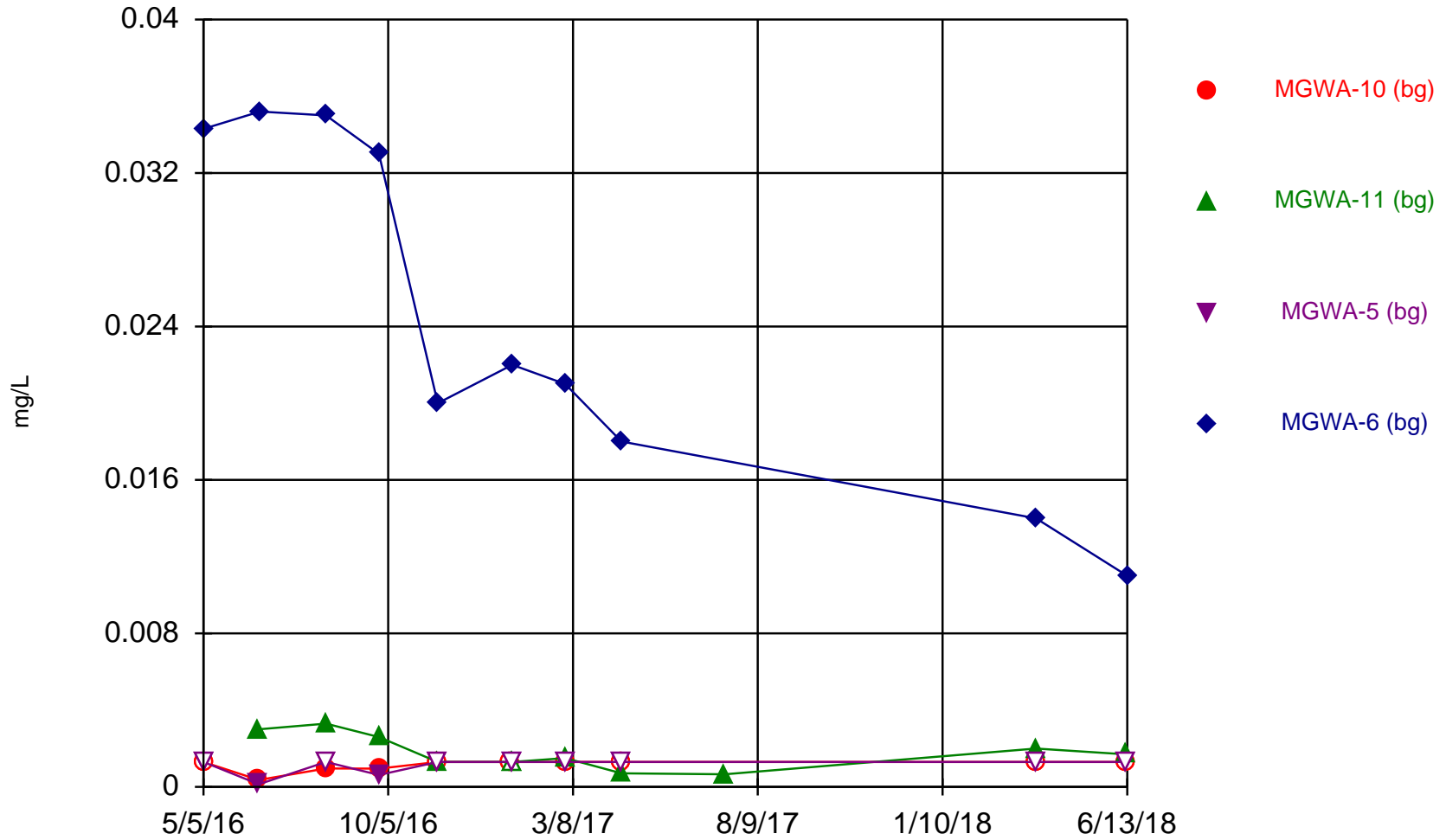
Federal CCR Program

Time Series



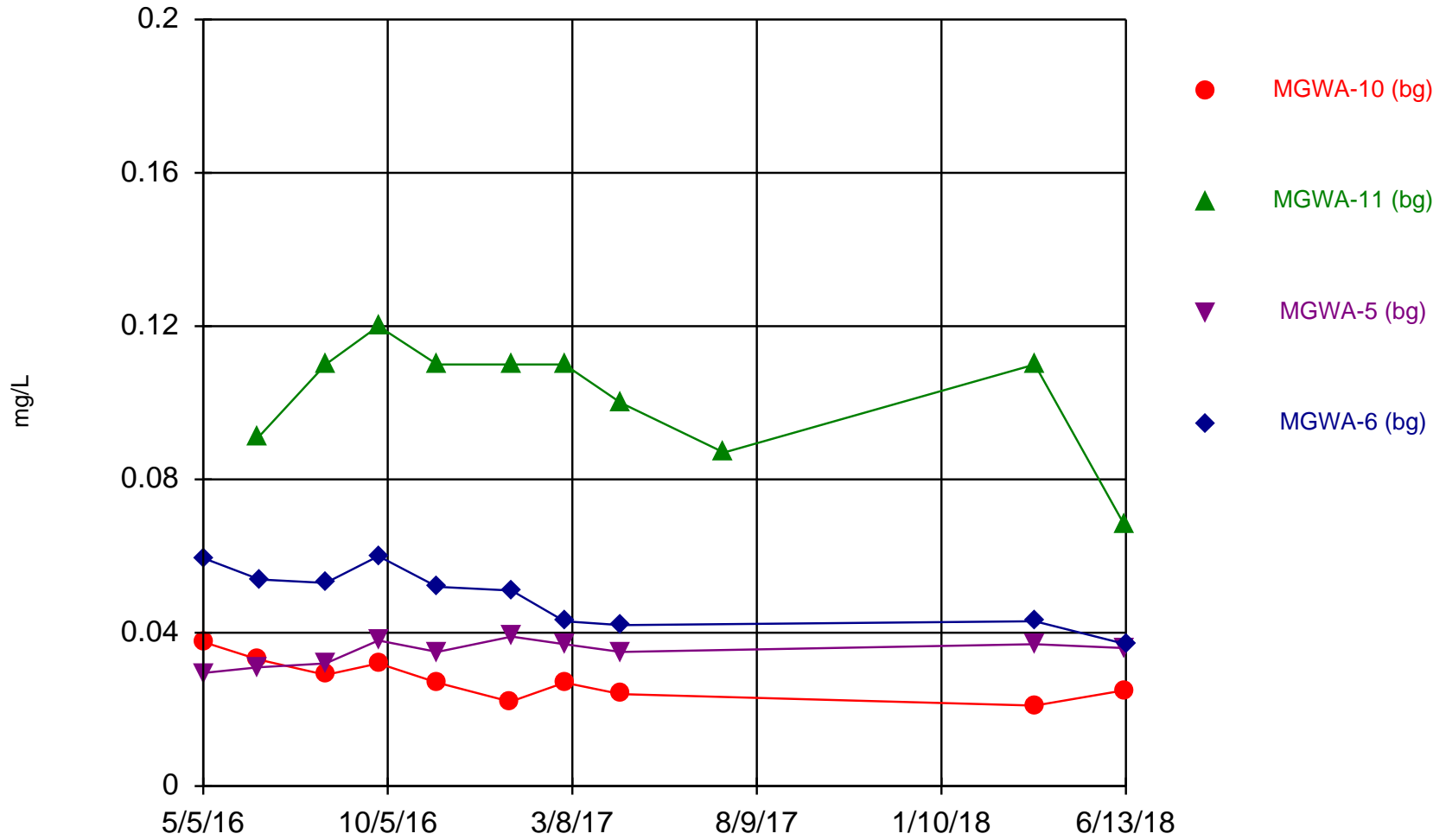
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



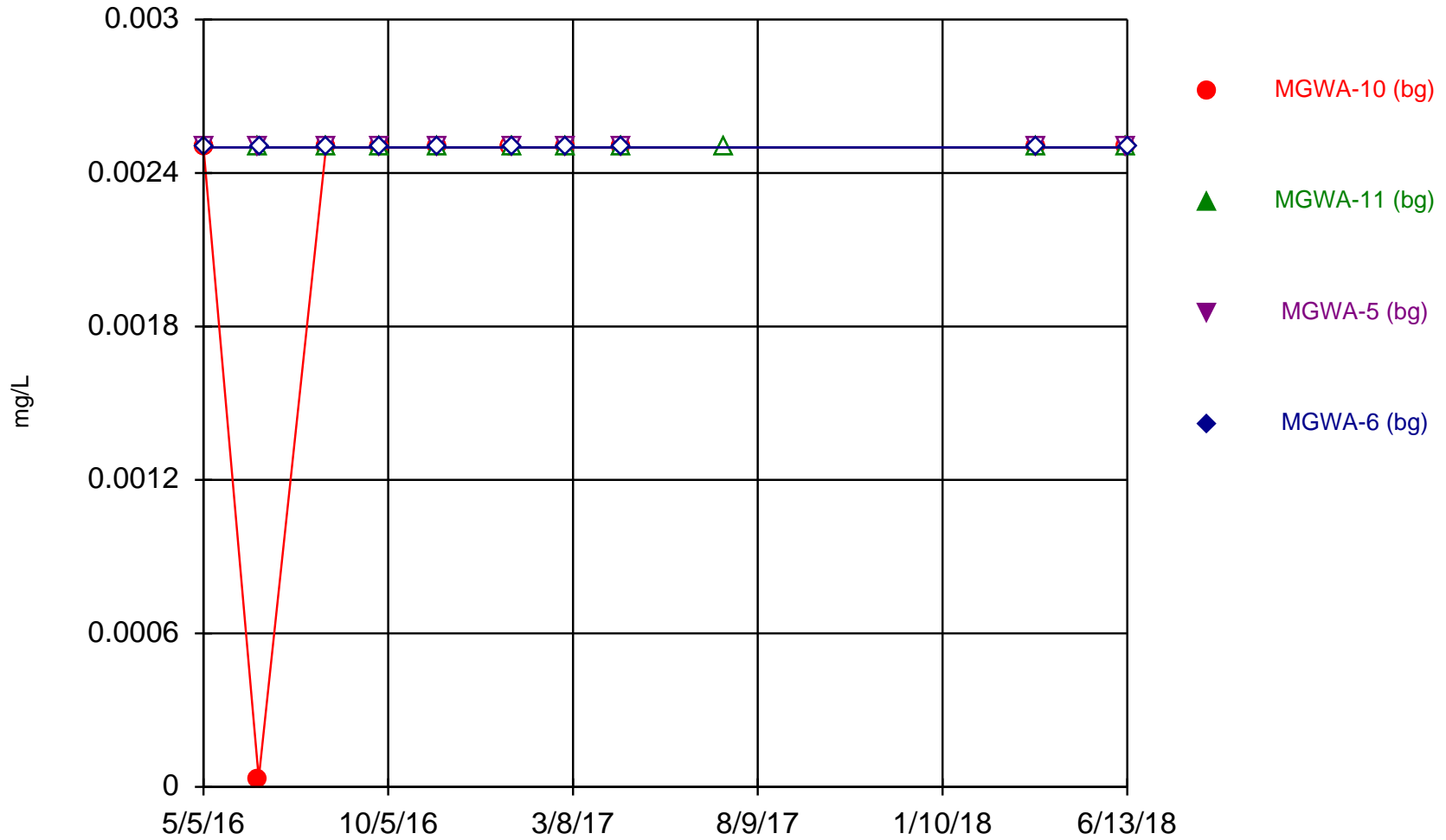
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Time Series



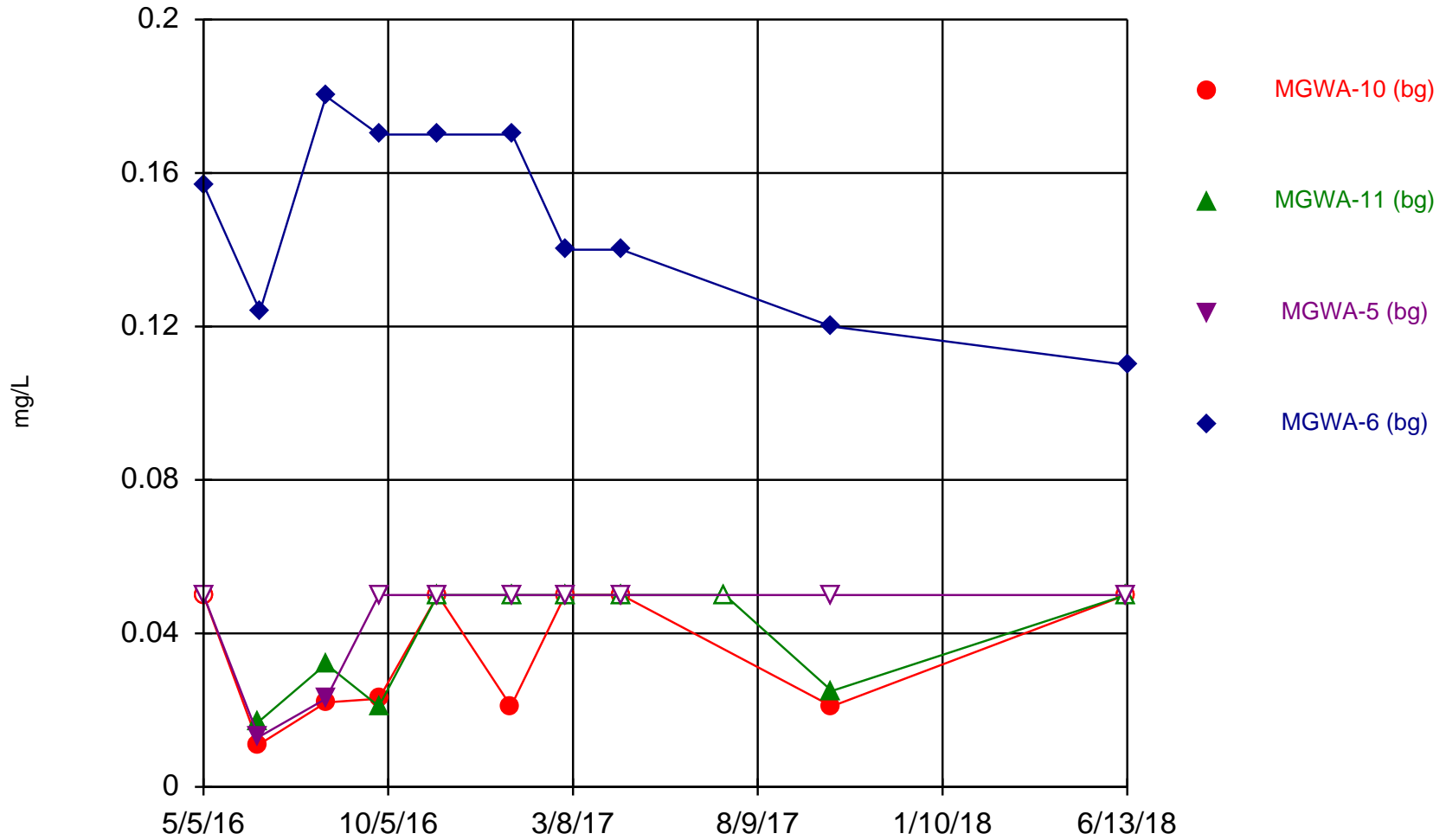
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



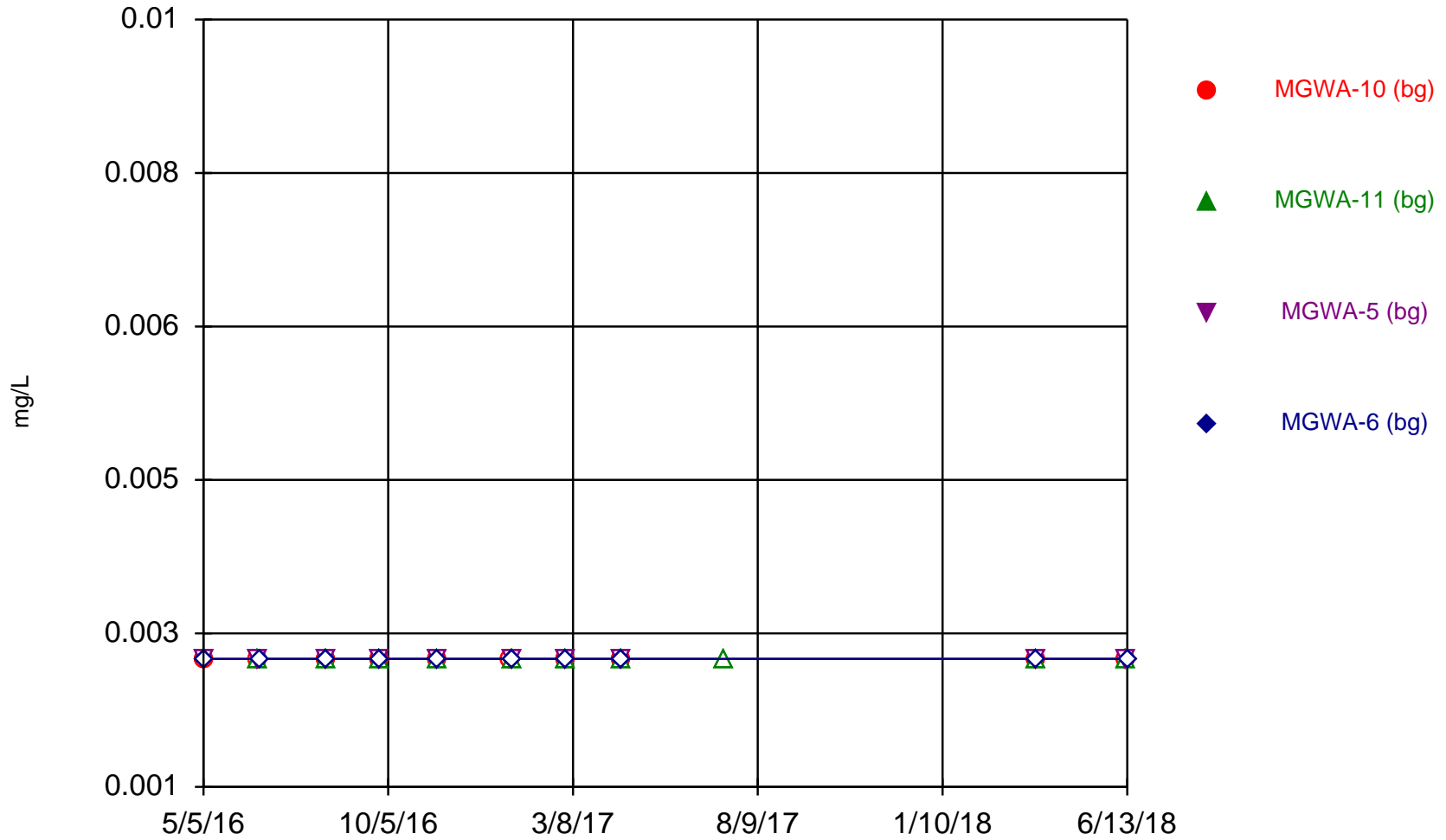
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Time Series



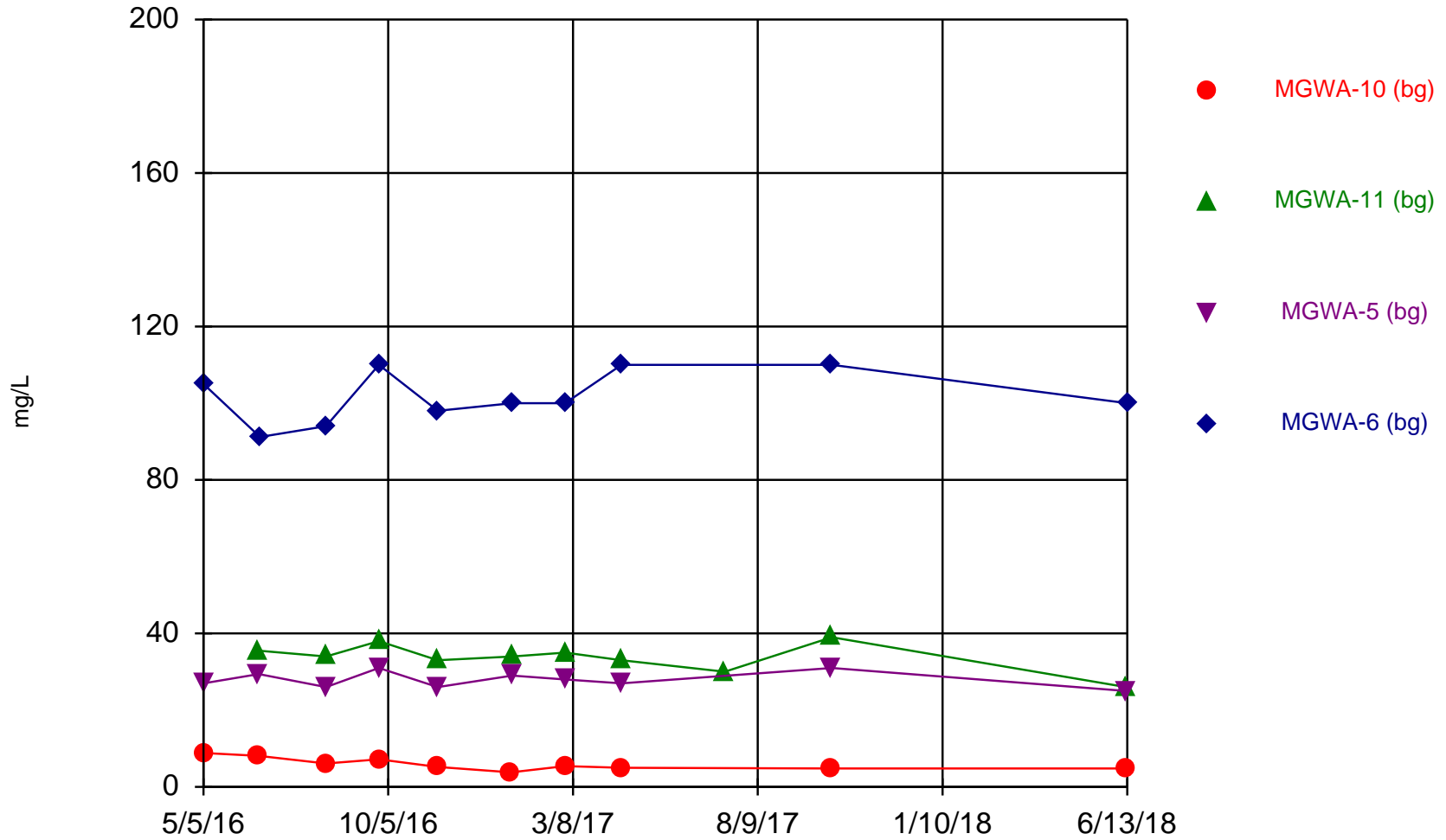
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



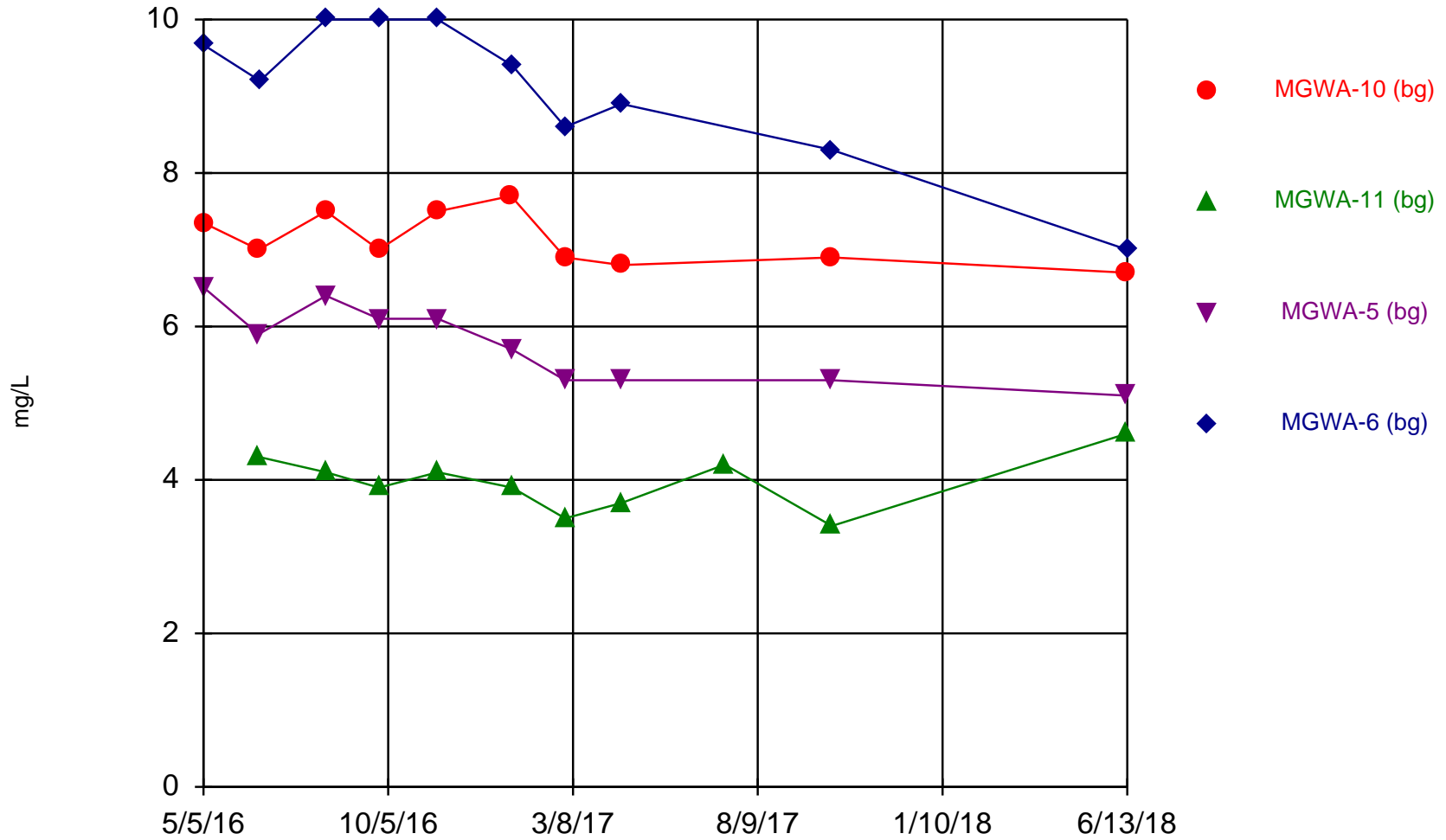
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Time Series



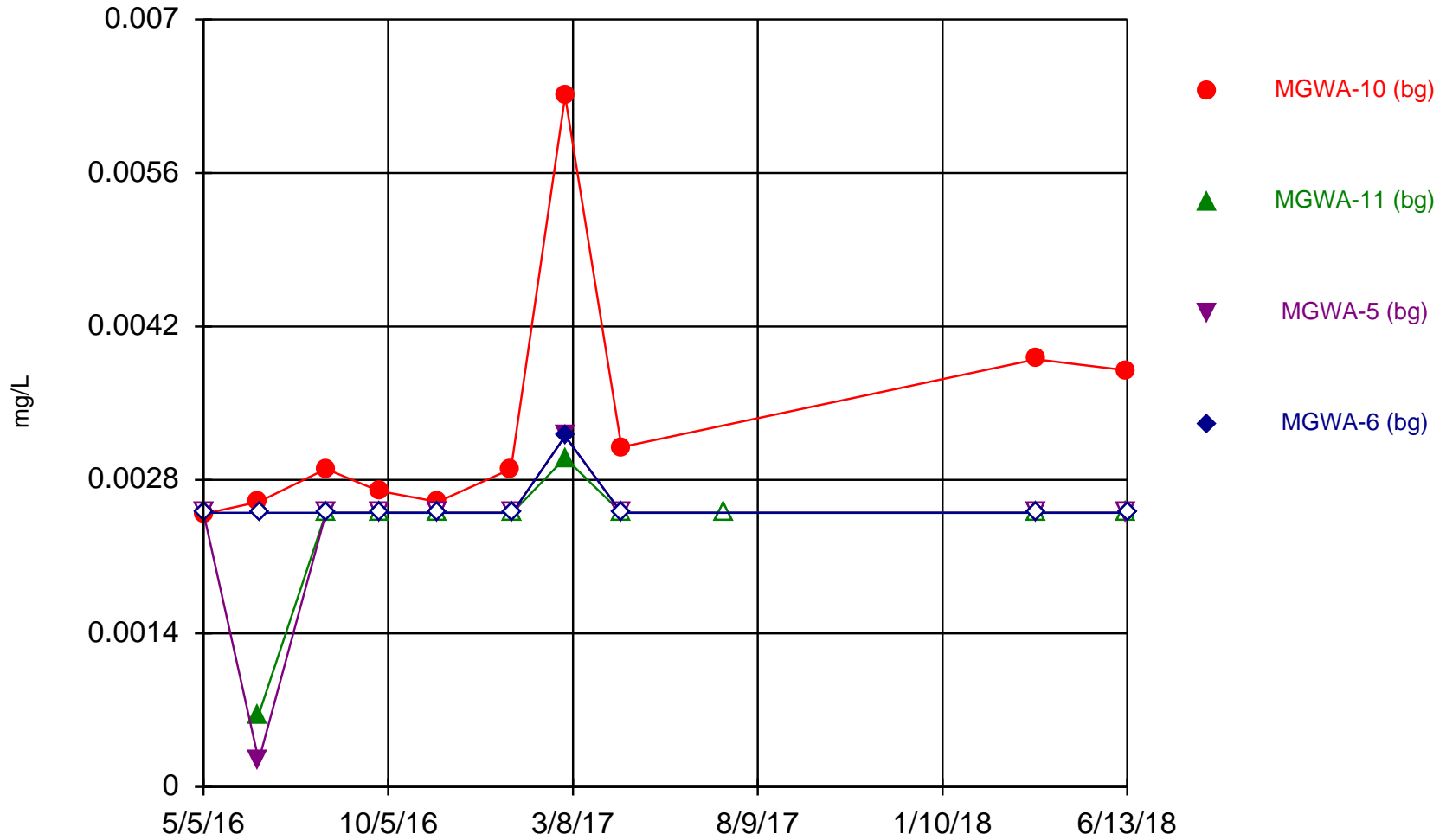
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



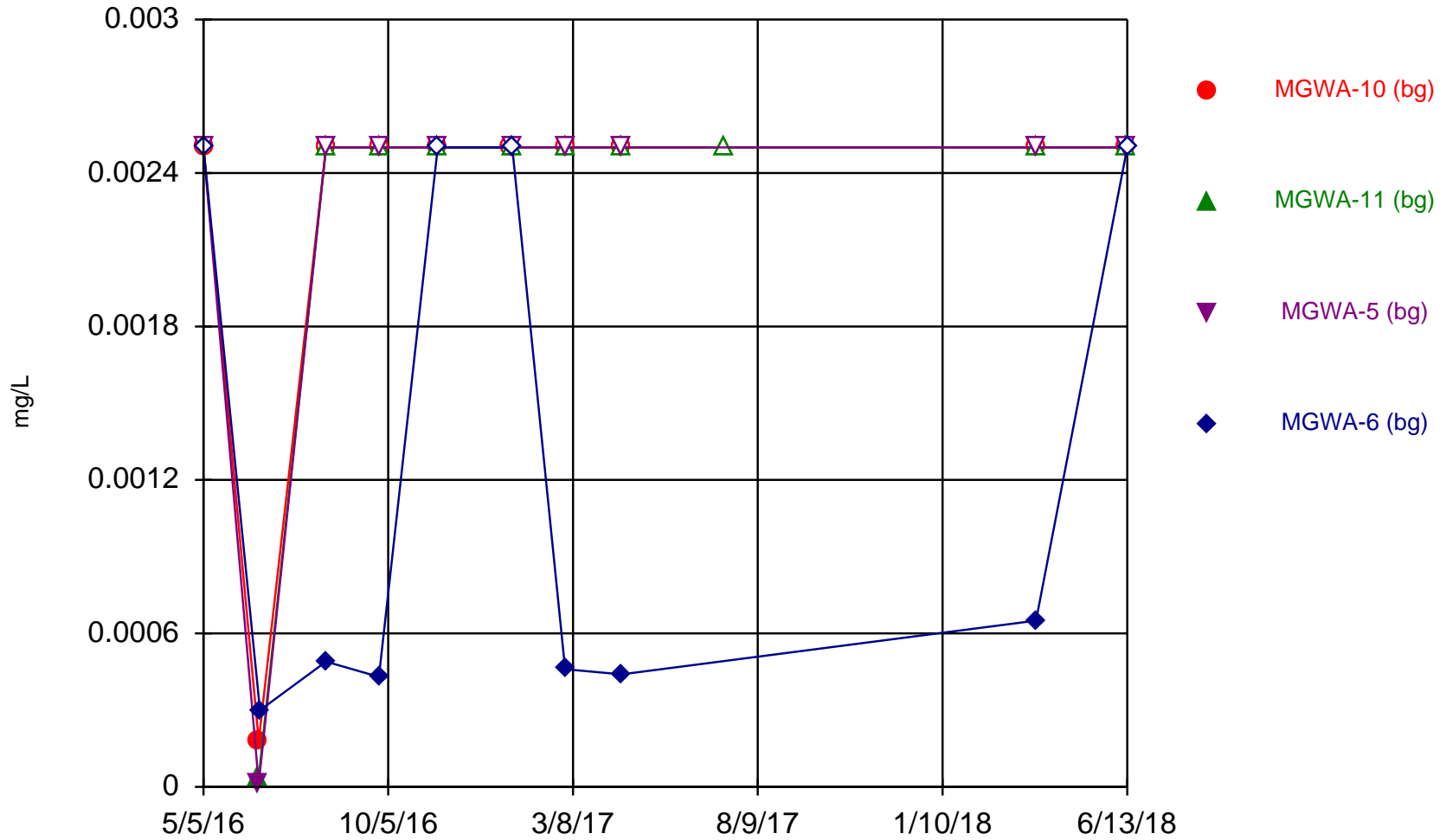
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



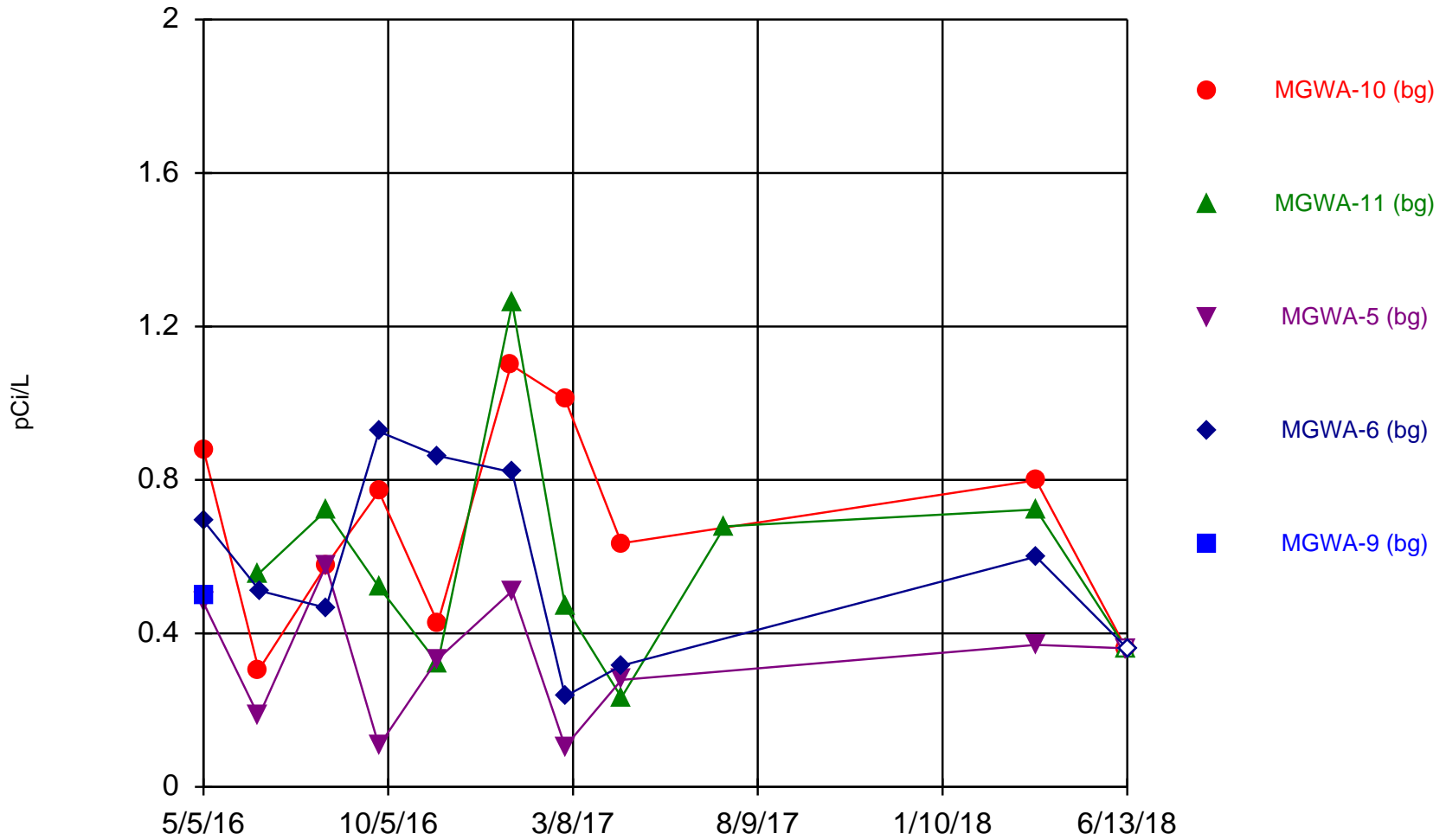
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: Cobalt Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

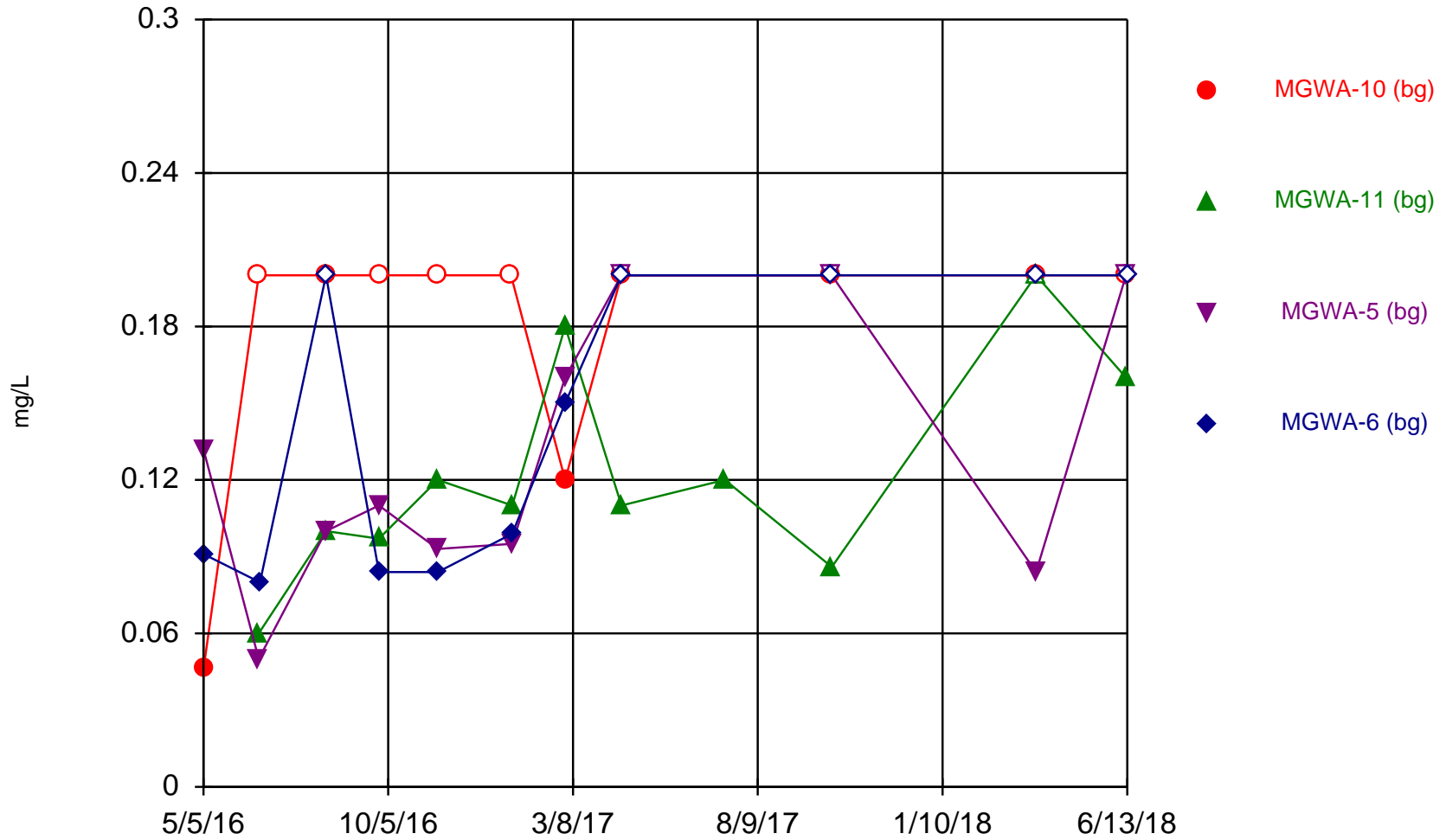
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/11/2019 12:56 PM

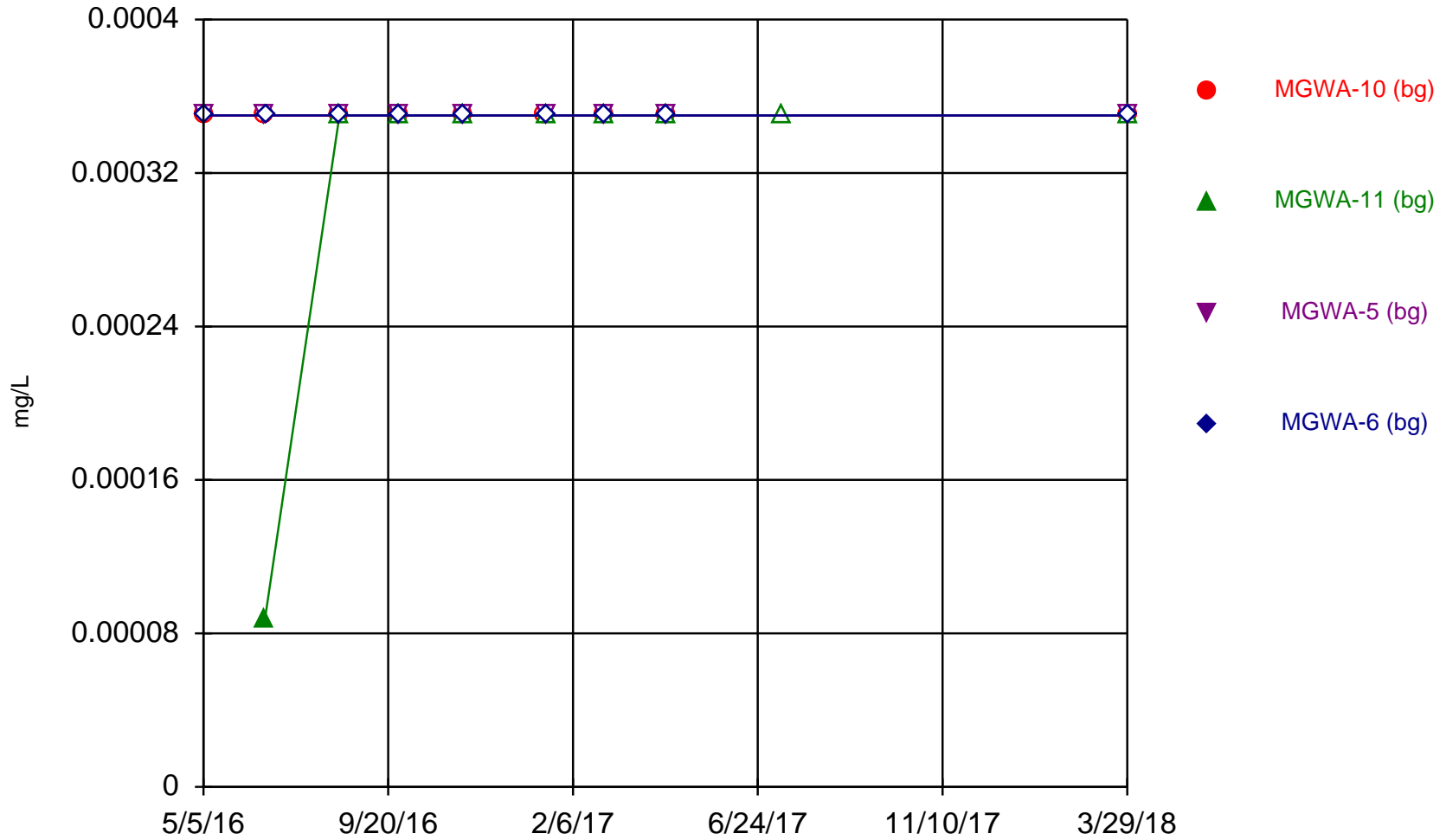
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



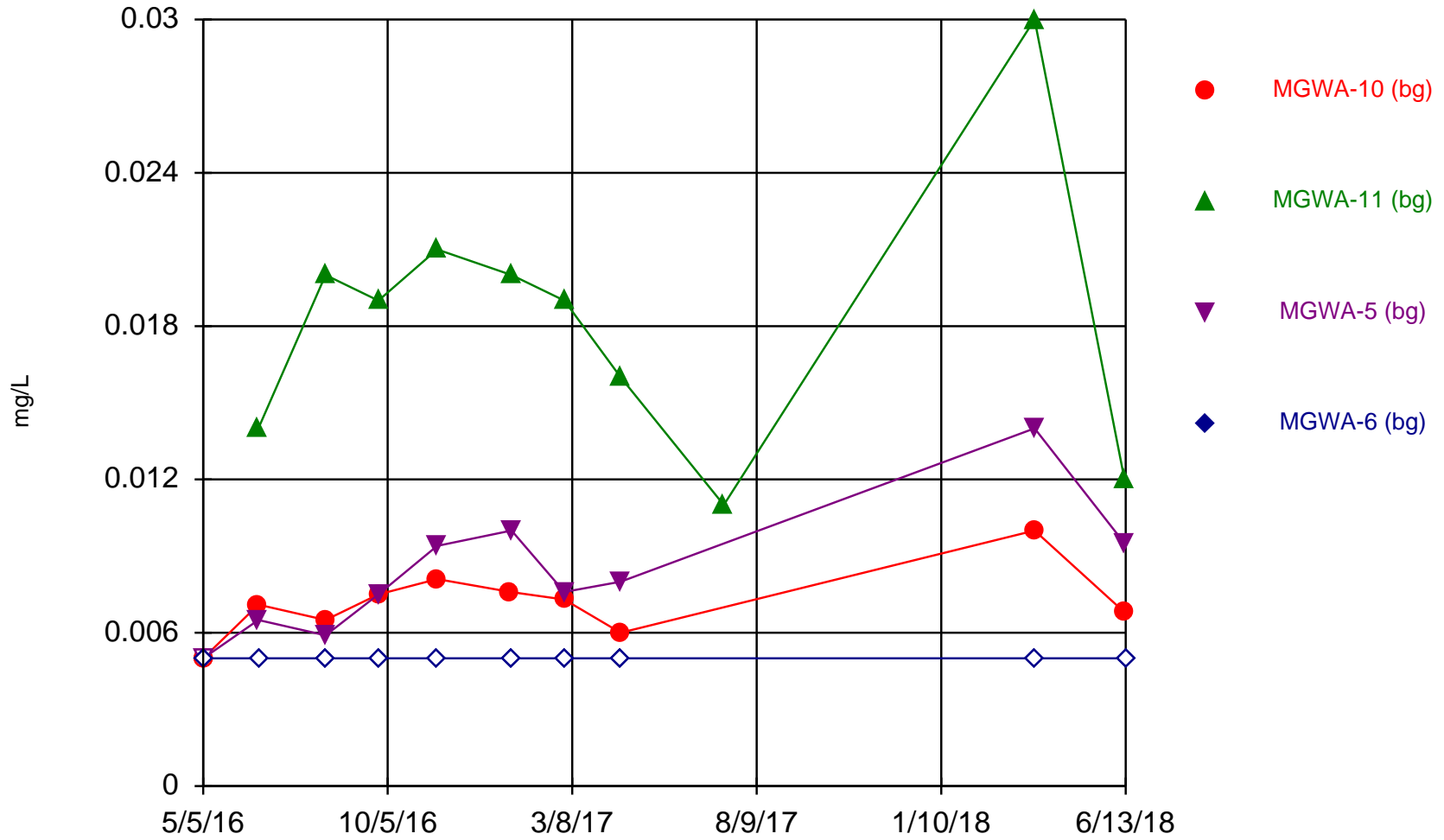
Constituent: Fluoride Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



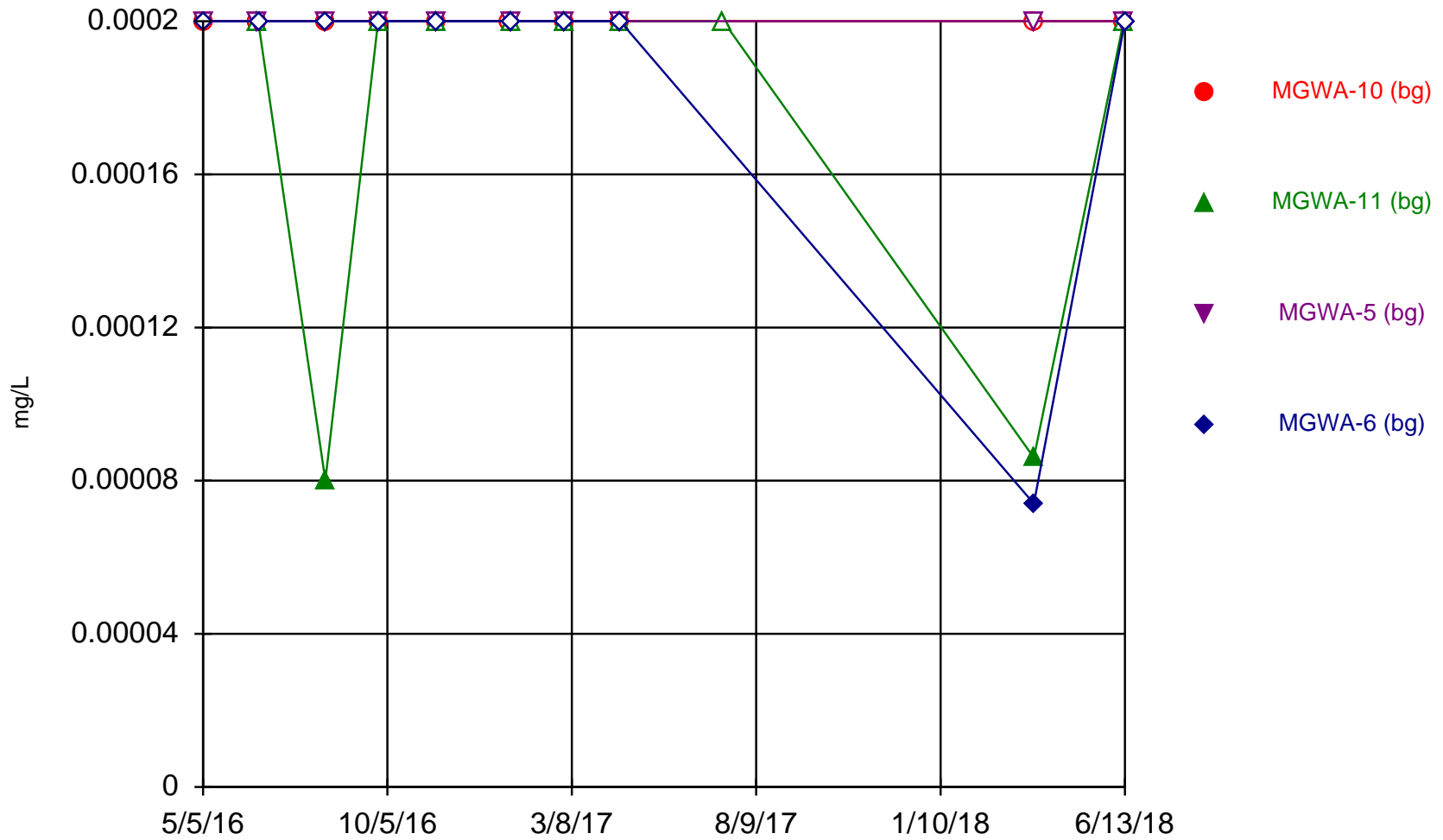
Constituent: Lead Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



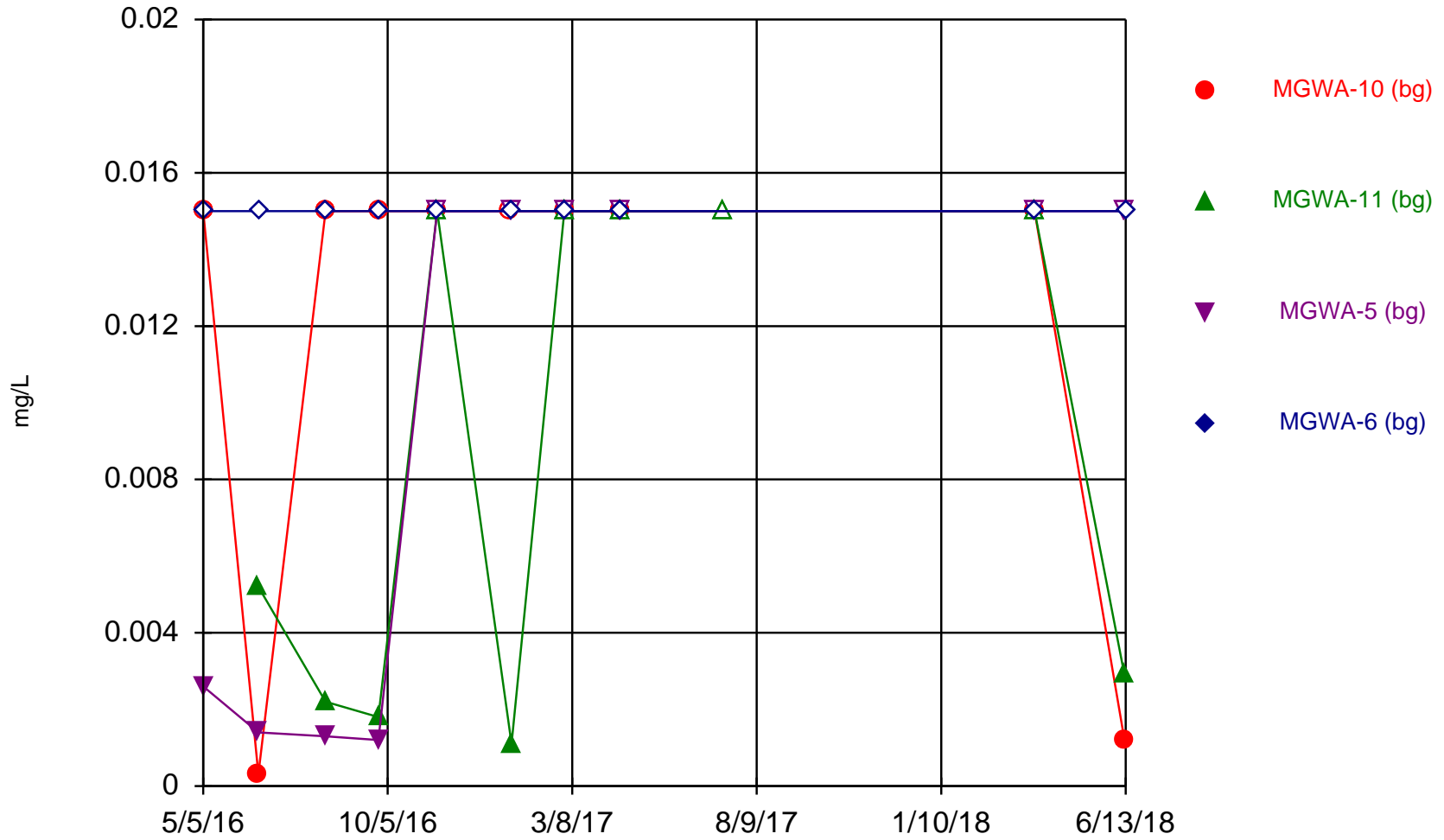
Constituent: Lithium Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



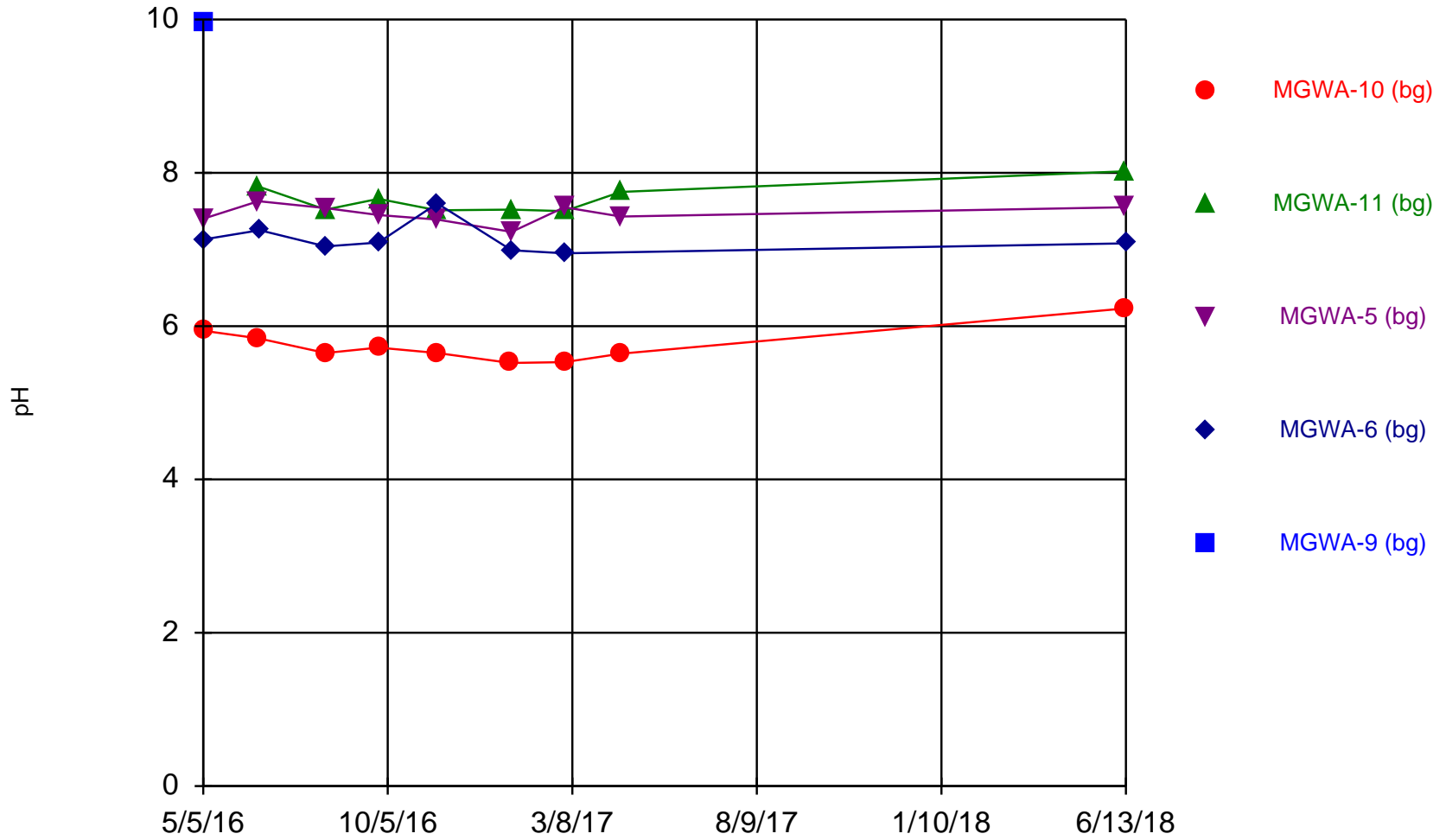
Constituent: Mercury Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



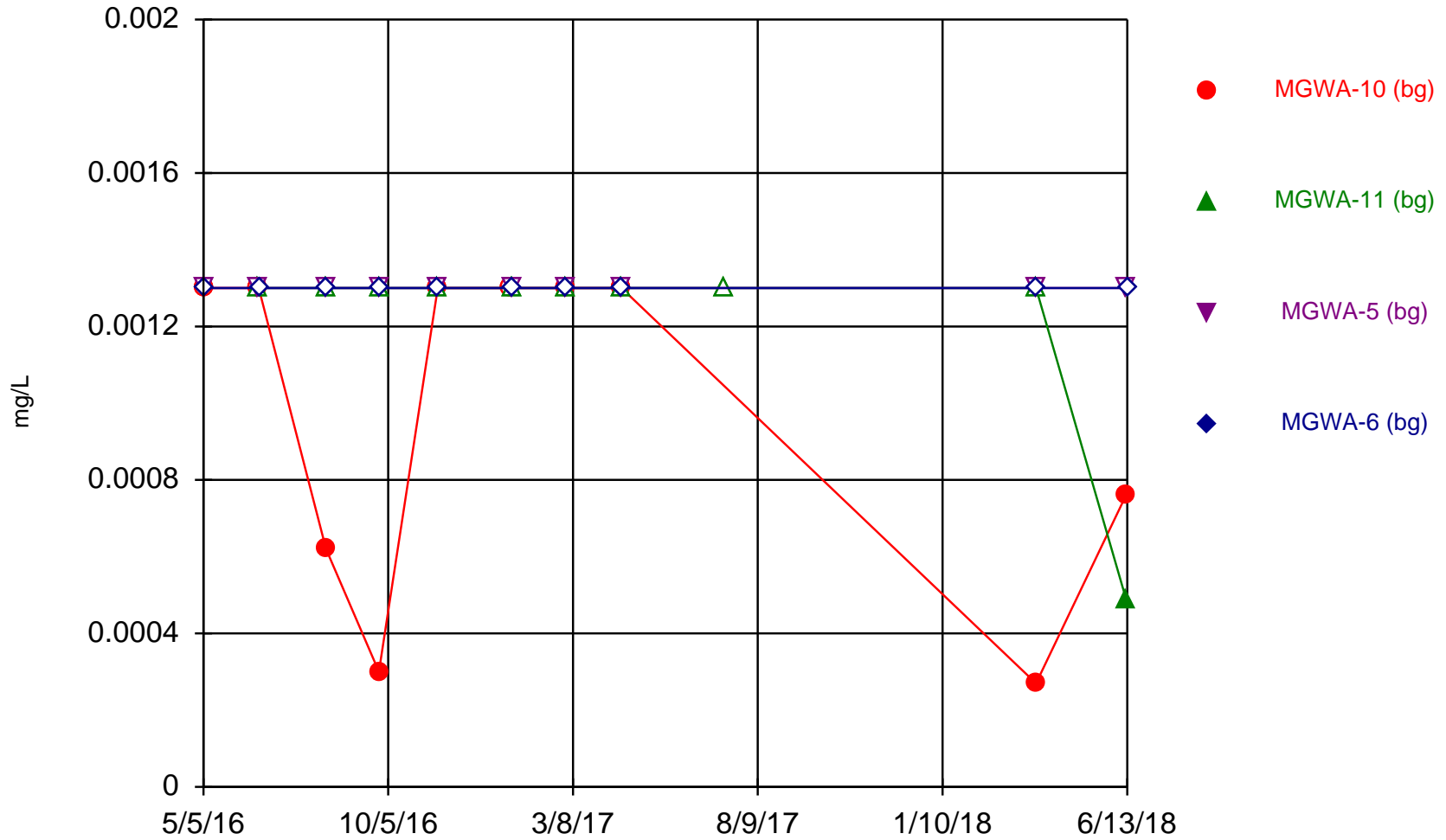
Constituent: Molybdenum Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



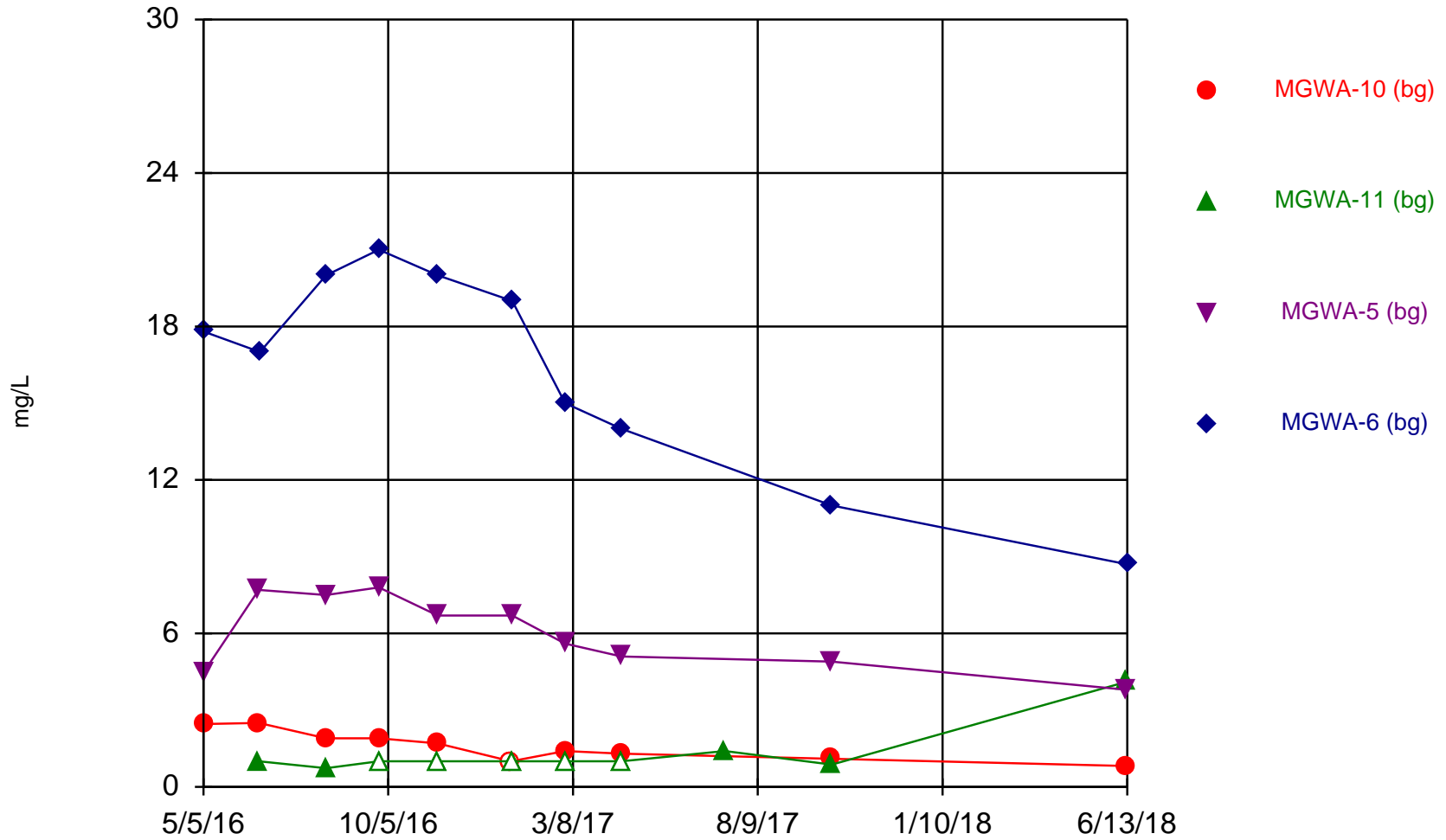
Constituent: pH Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



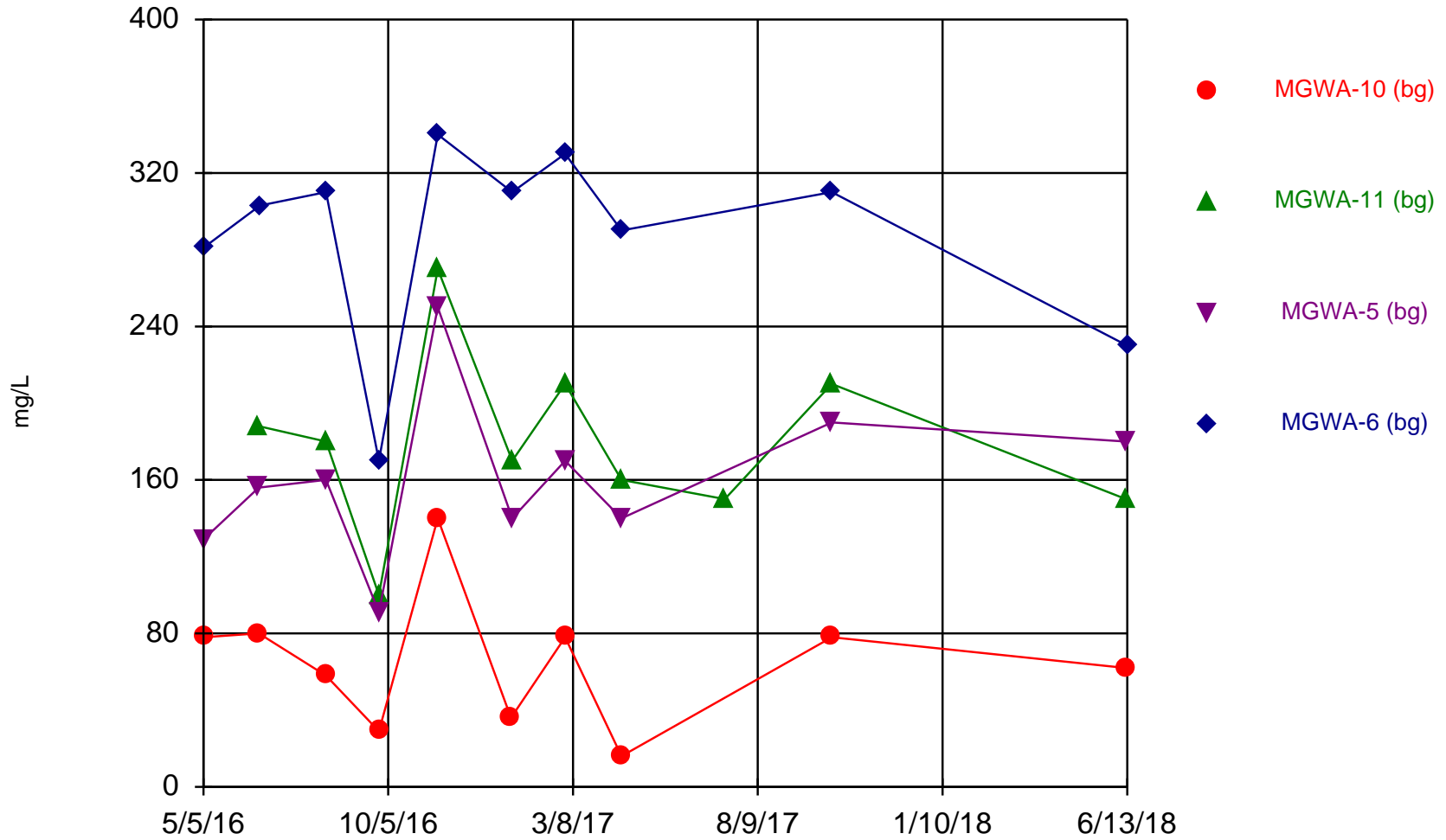
Constituent: Selenium Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



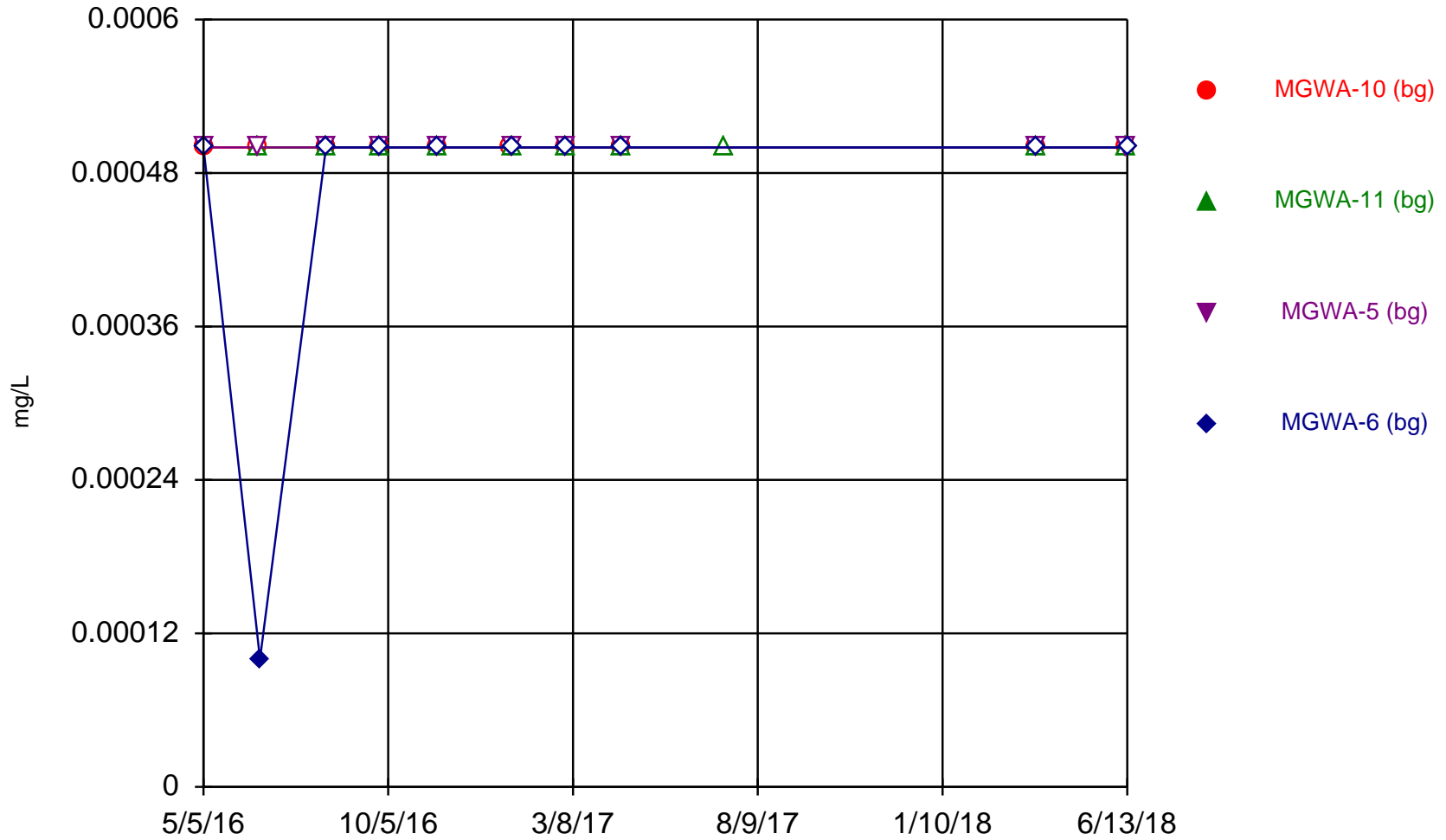
Constituent: Sulfate Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



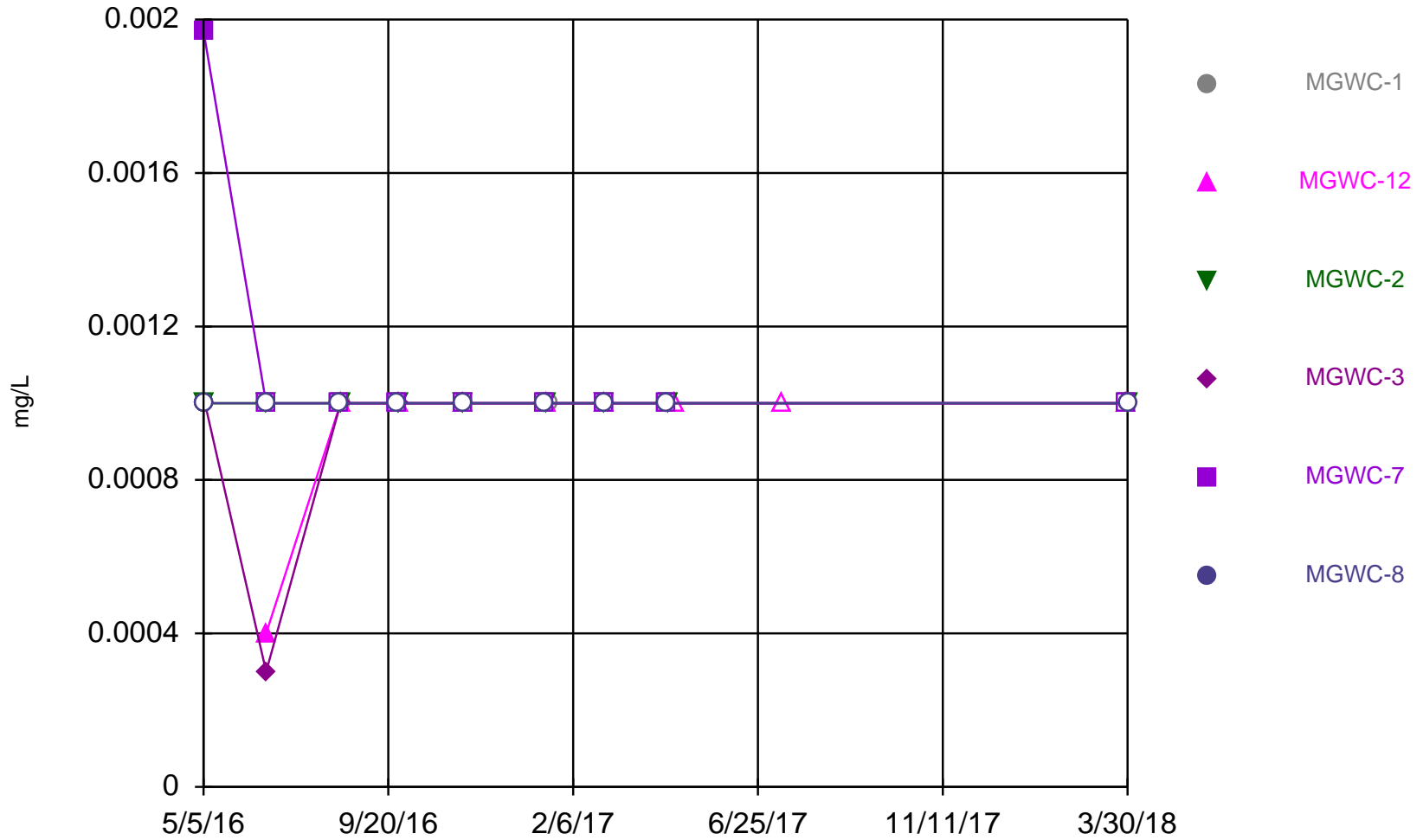
Constituent: TDS Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



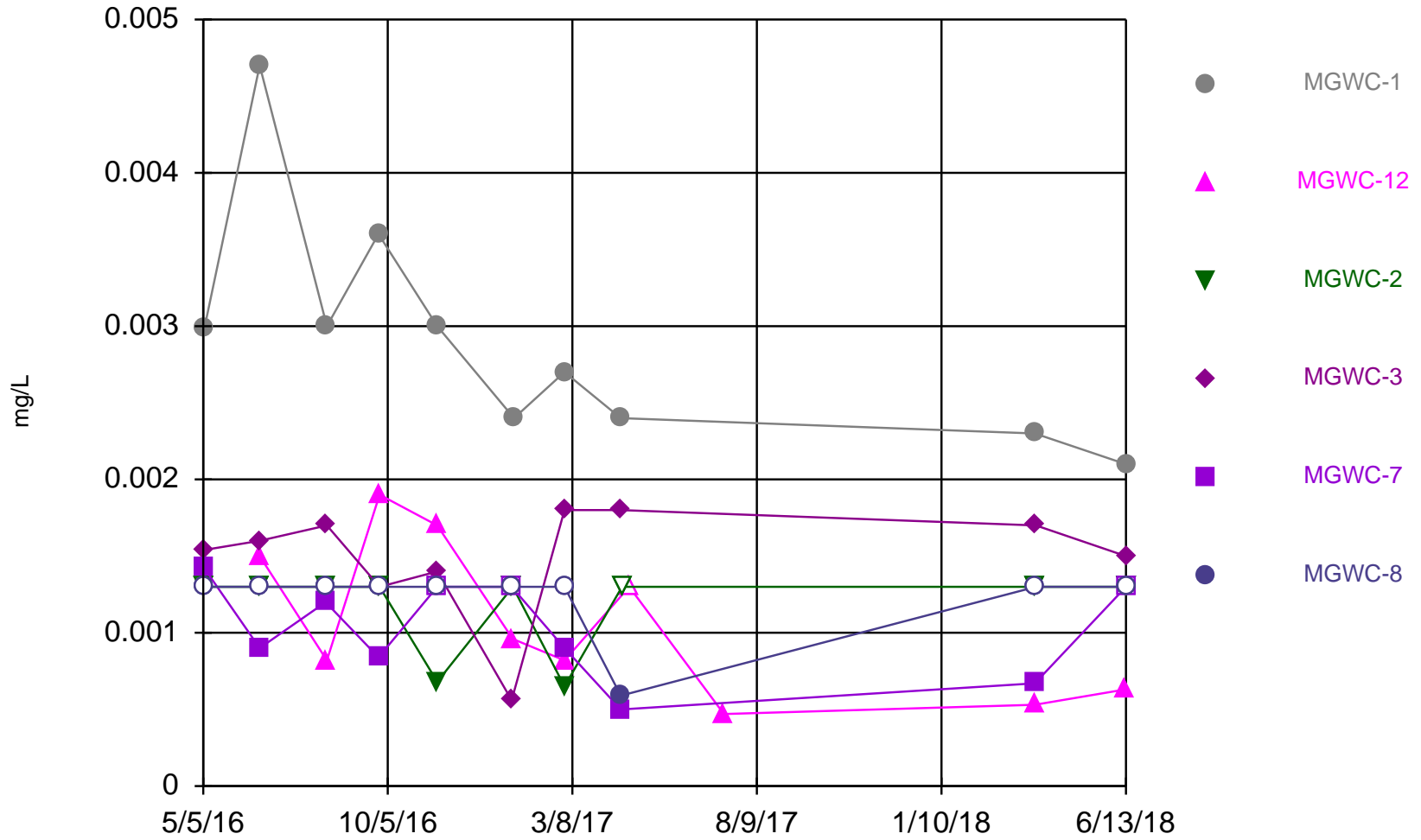
Constituent: Thallium Analysis Run 1/11/2019 12:56 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



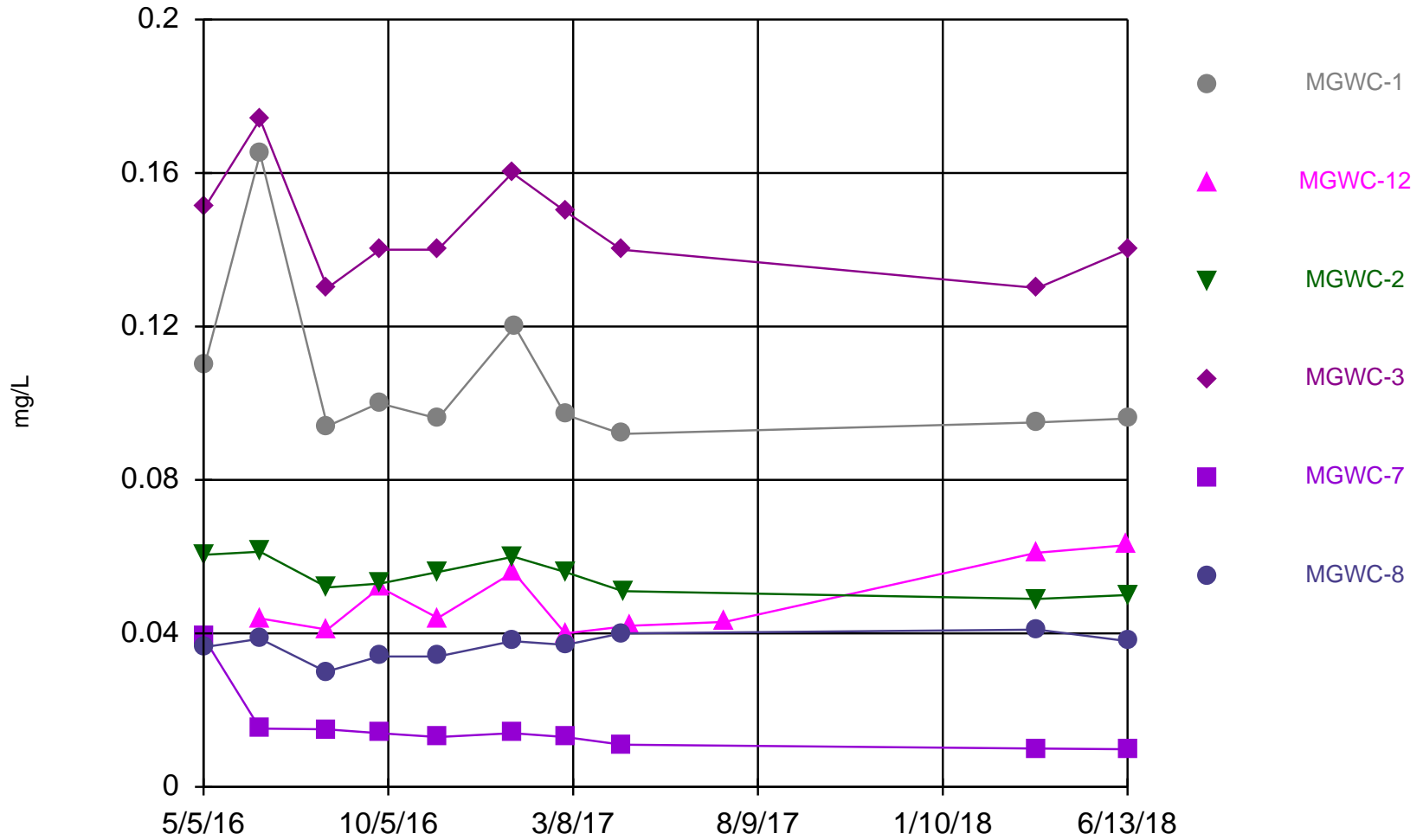
Constituent: Antimony Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



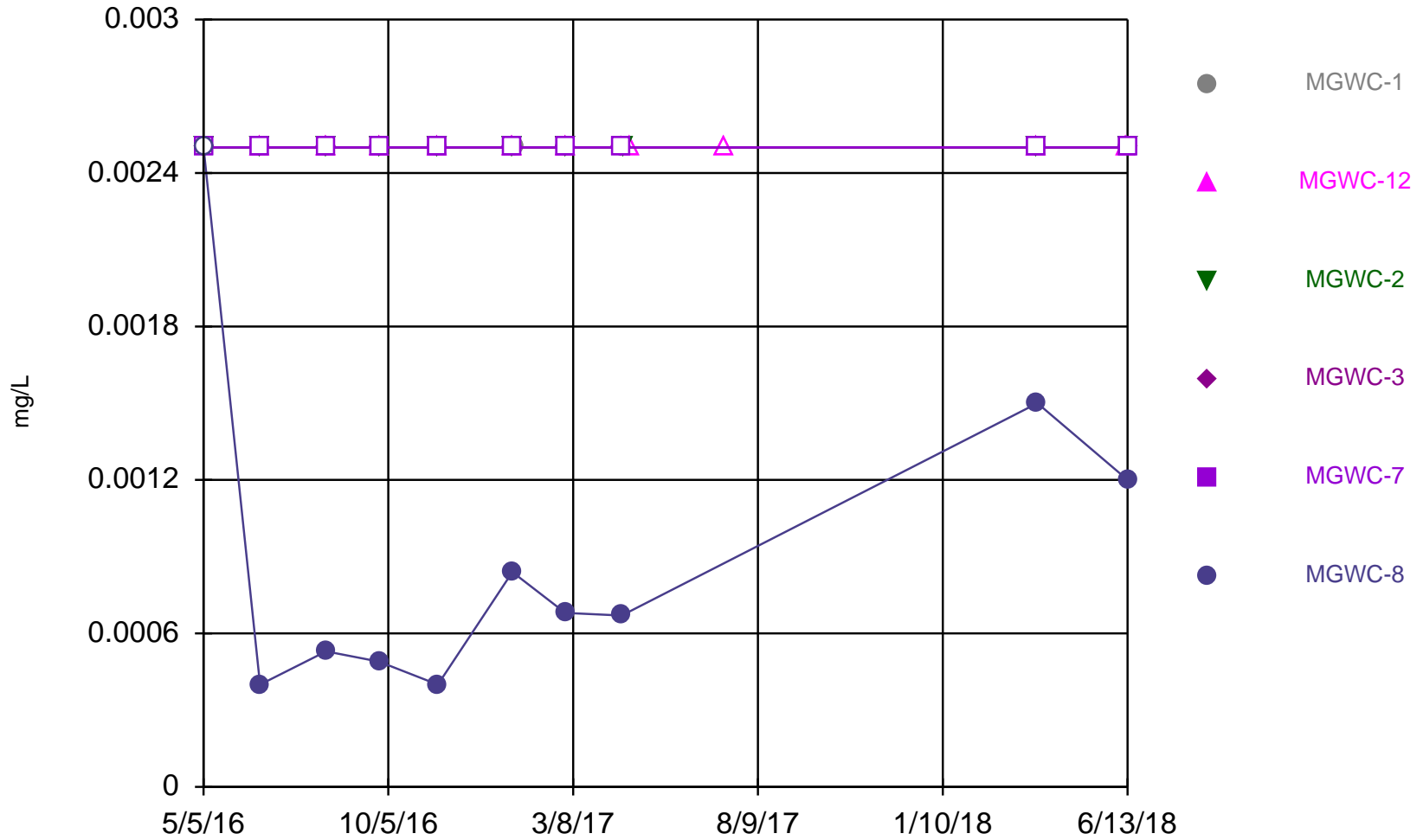
Constituent: Arsenic Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



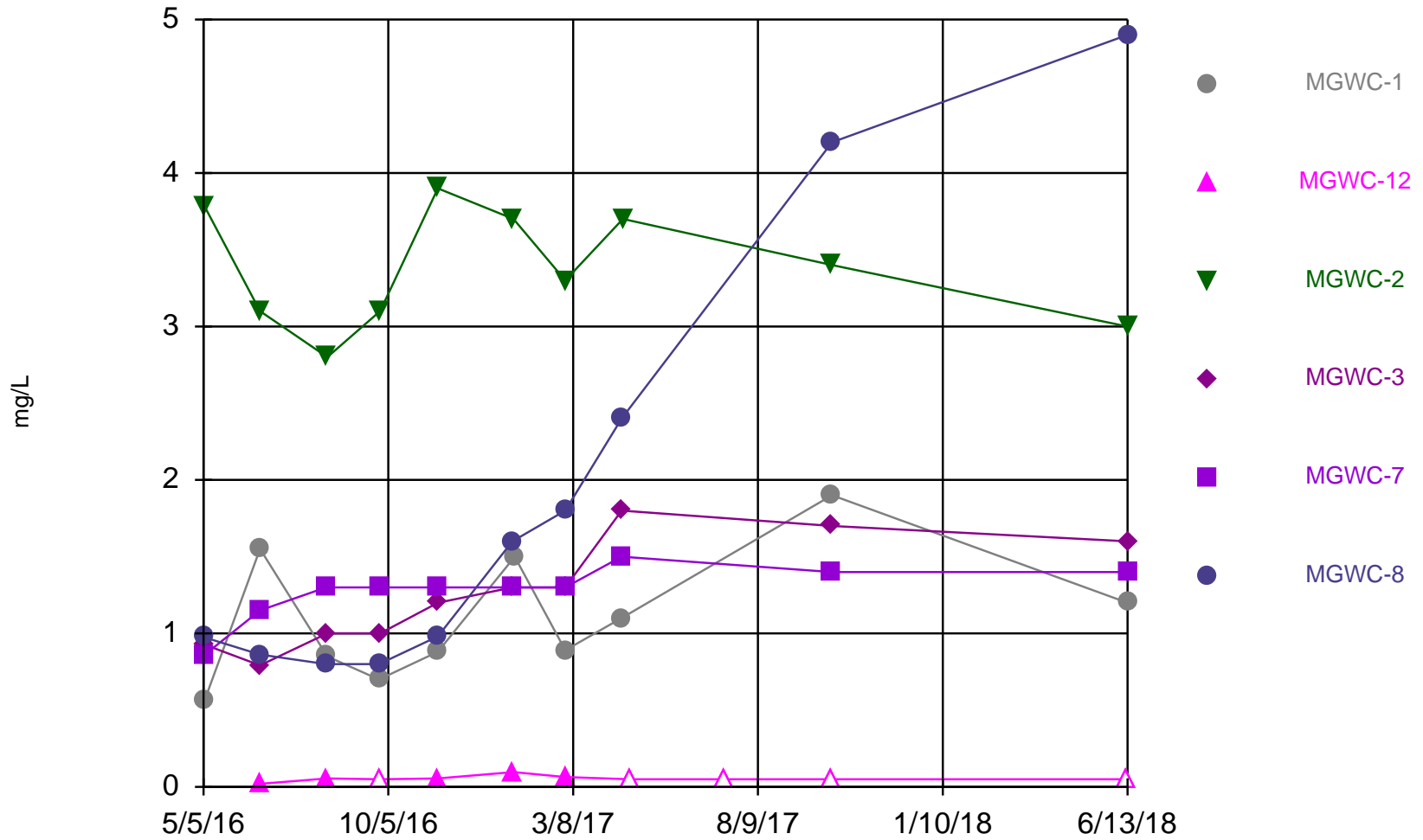
Constituent: Barium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



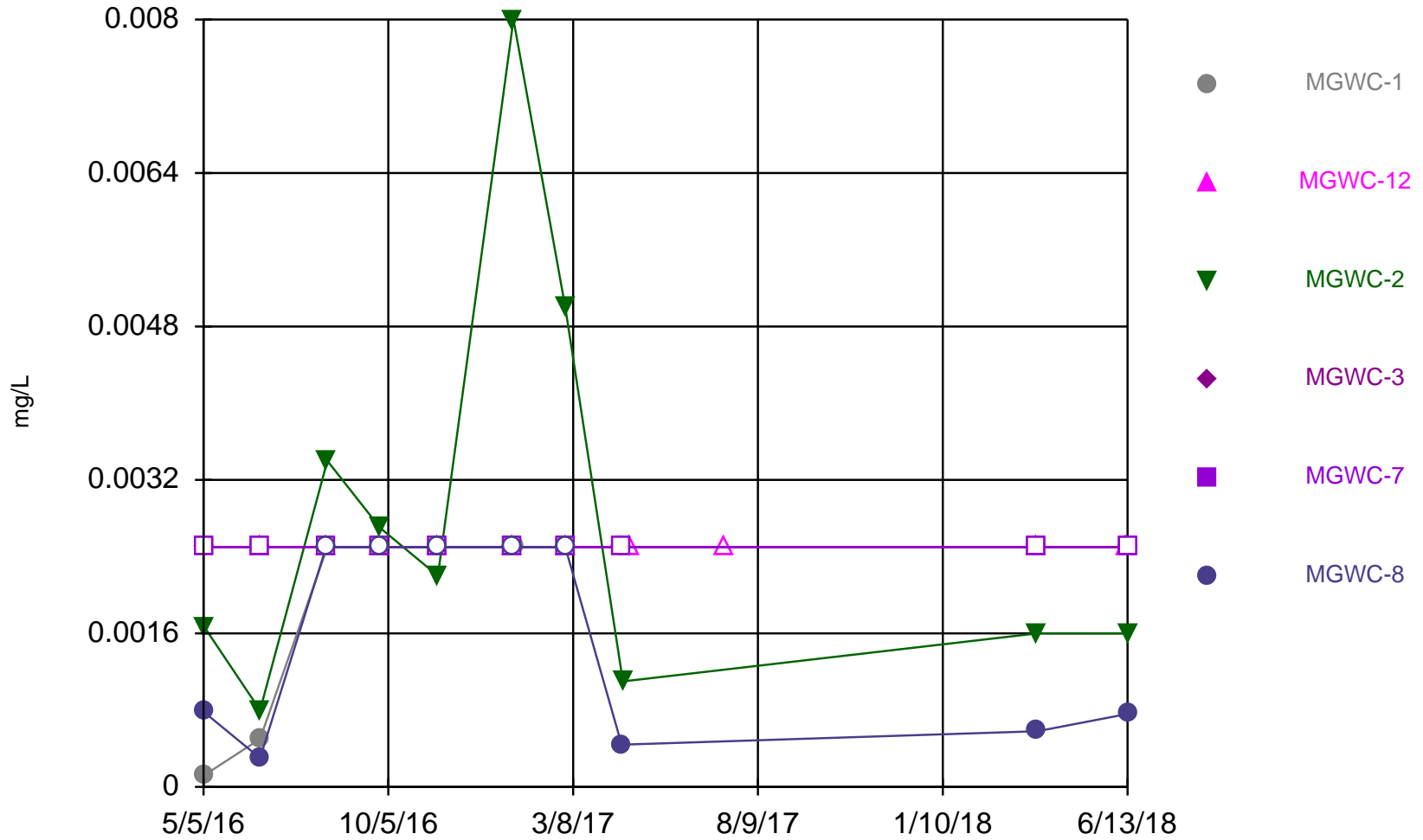
Constituent: Beryllium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



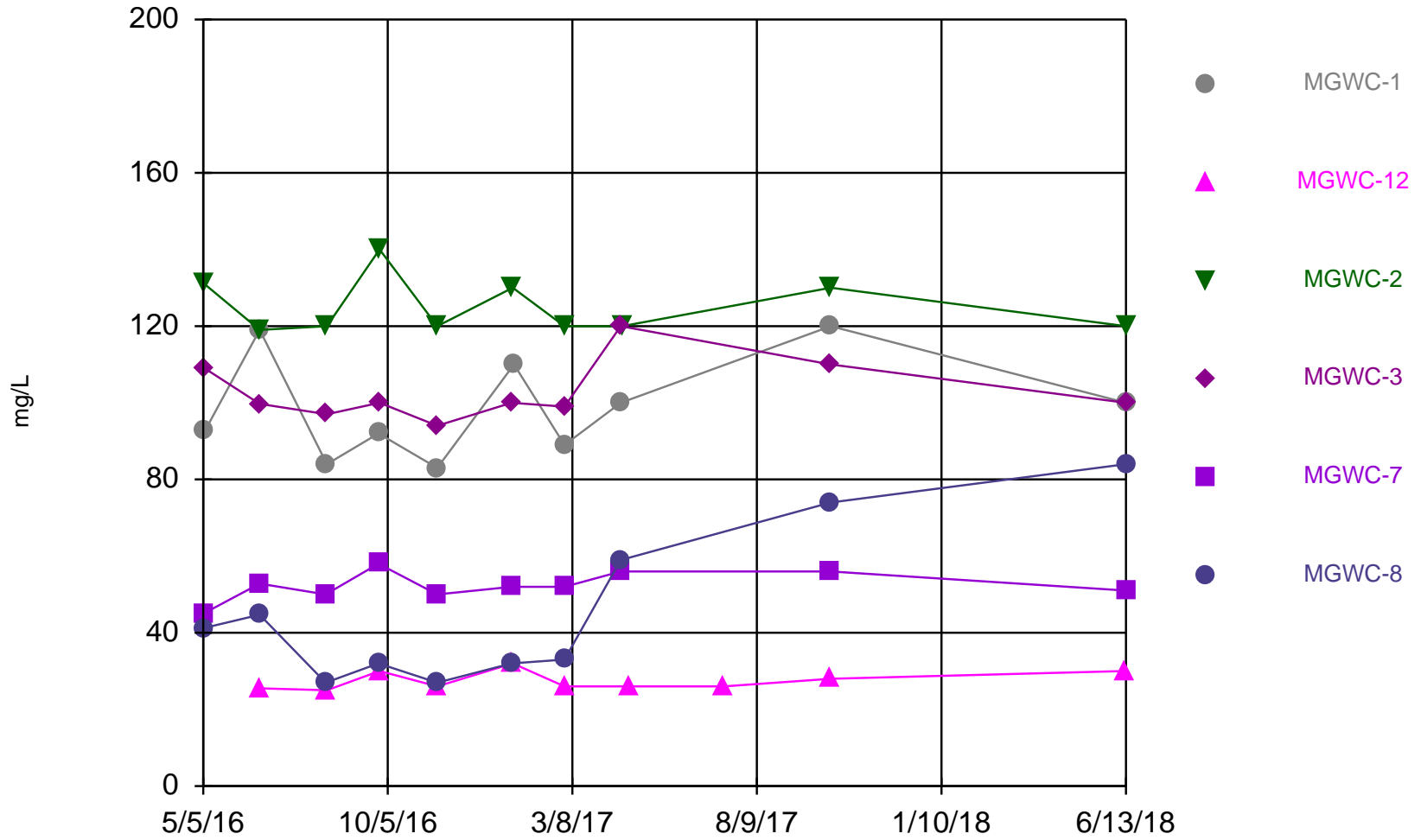
Constituent: Boron Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



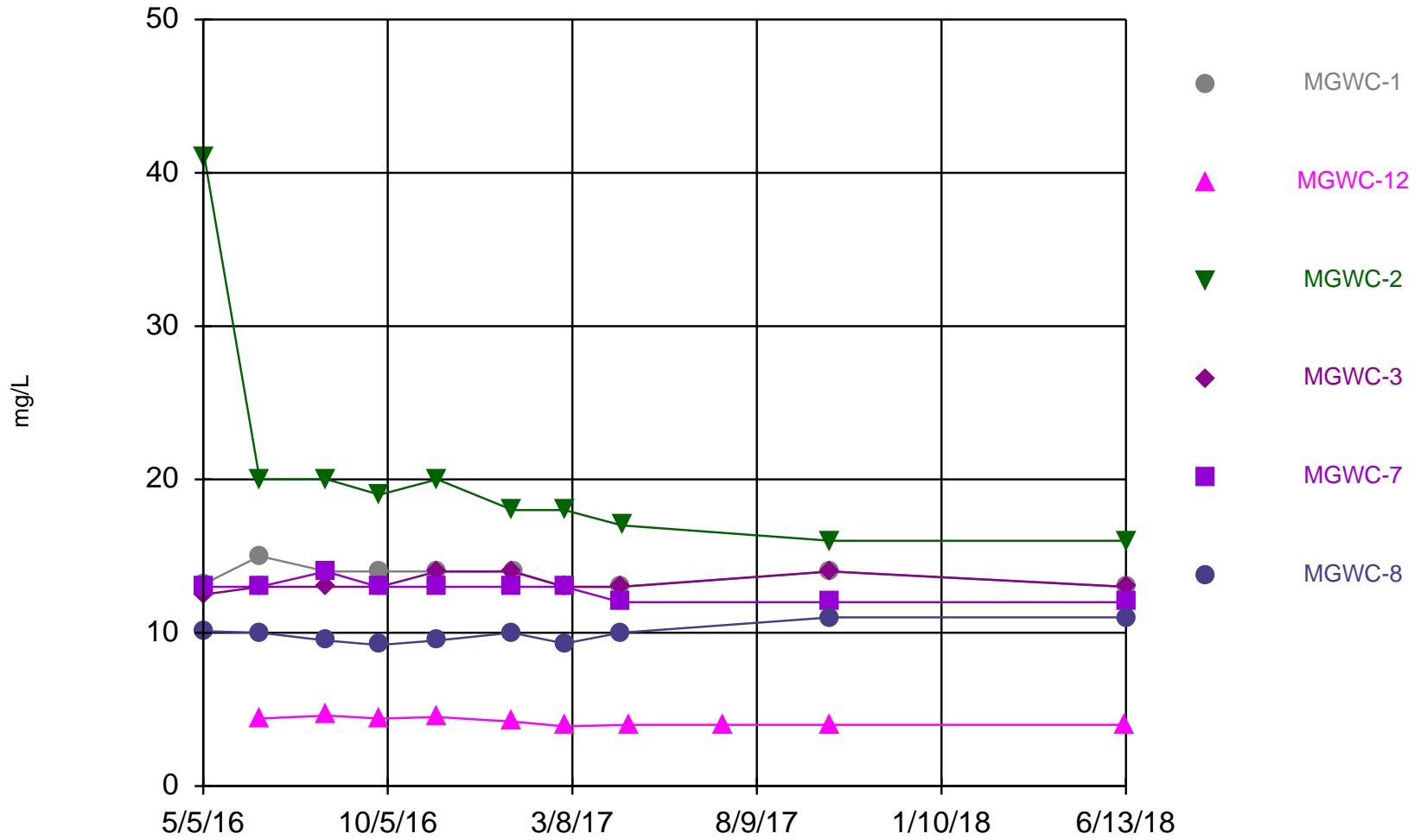
Constituent: Cadmium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



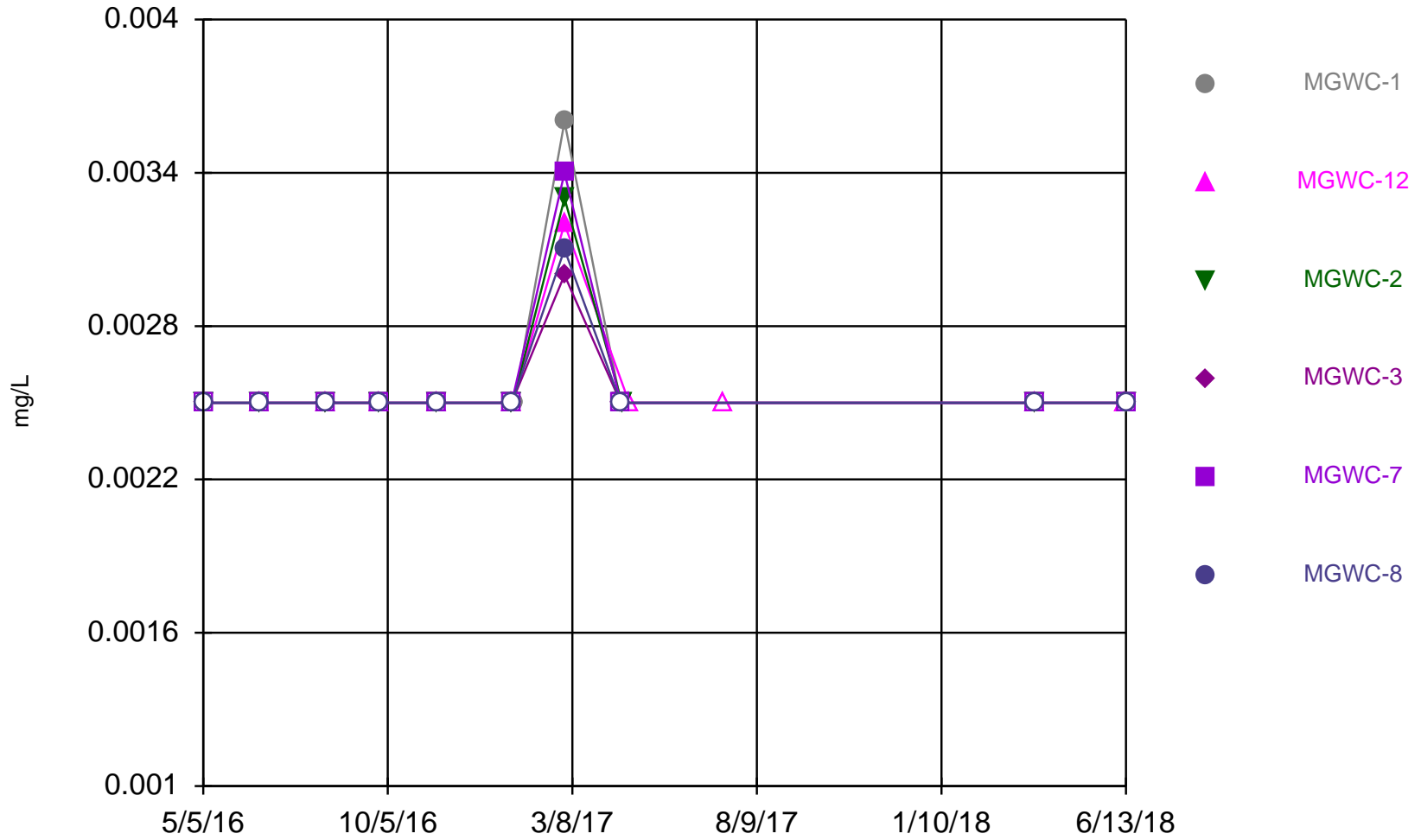
Constituent: Calcium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



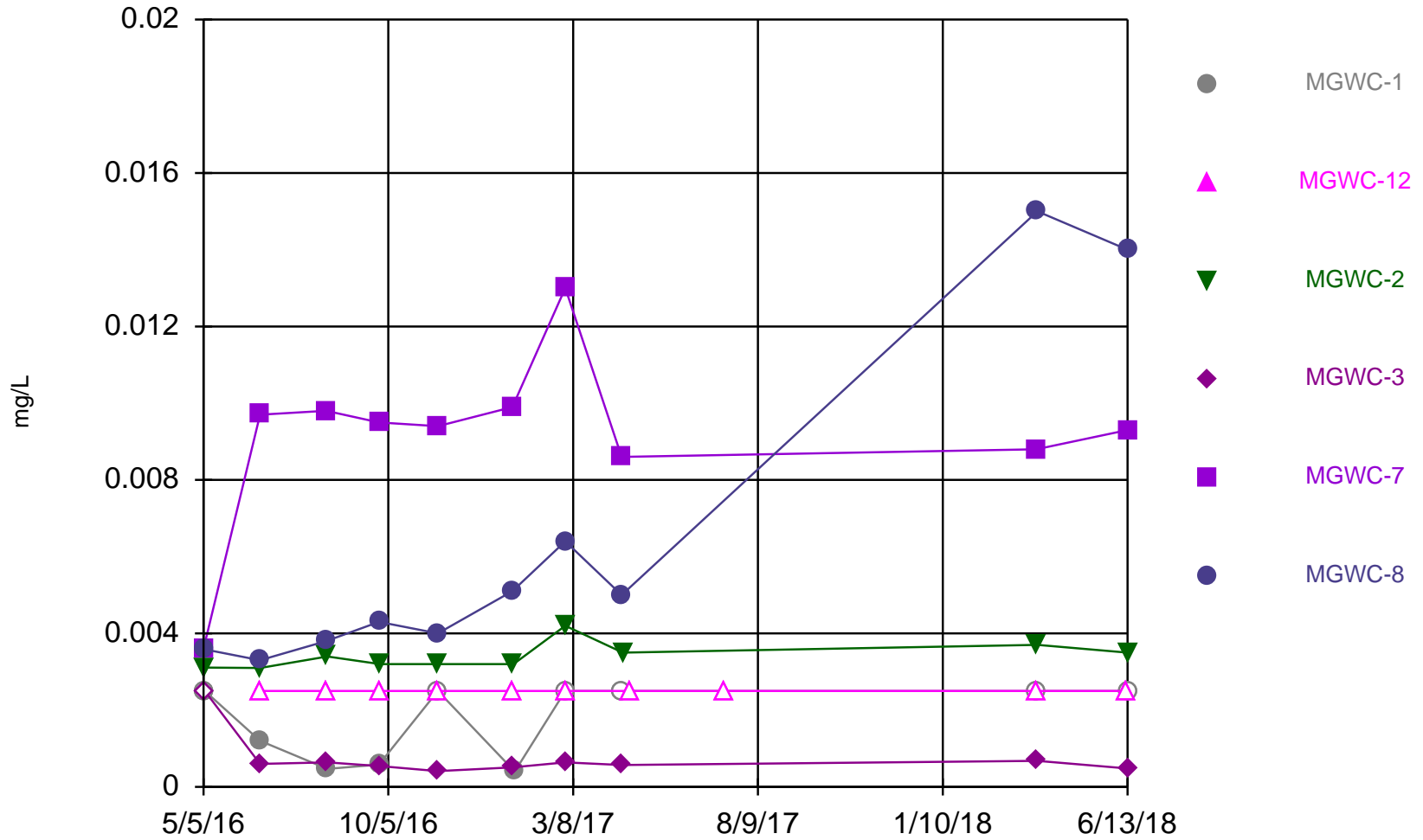
Constituent: Chloride Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



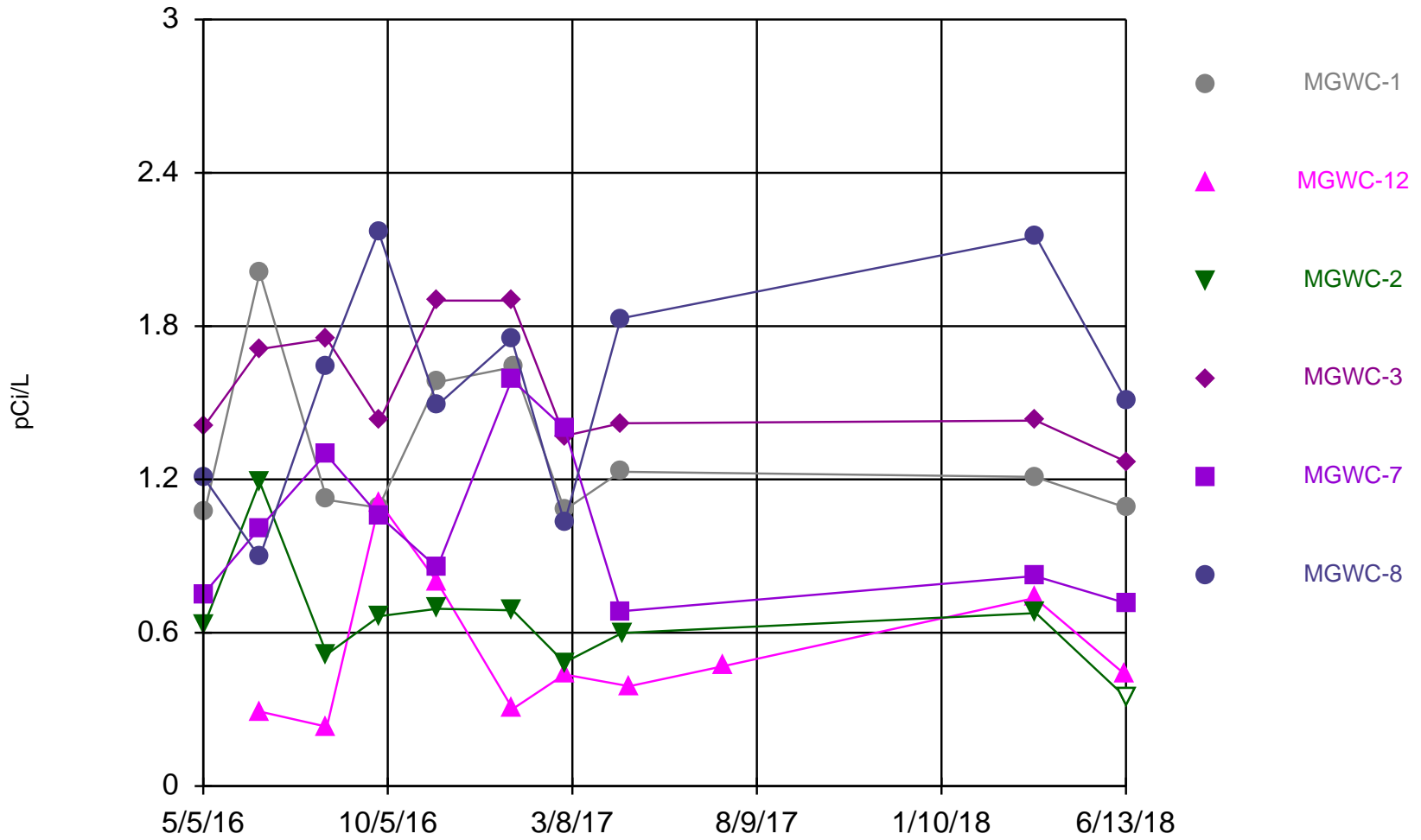
Constituent: Chromium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: Cobalt Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

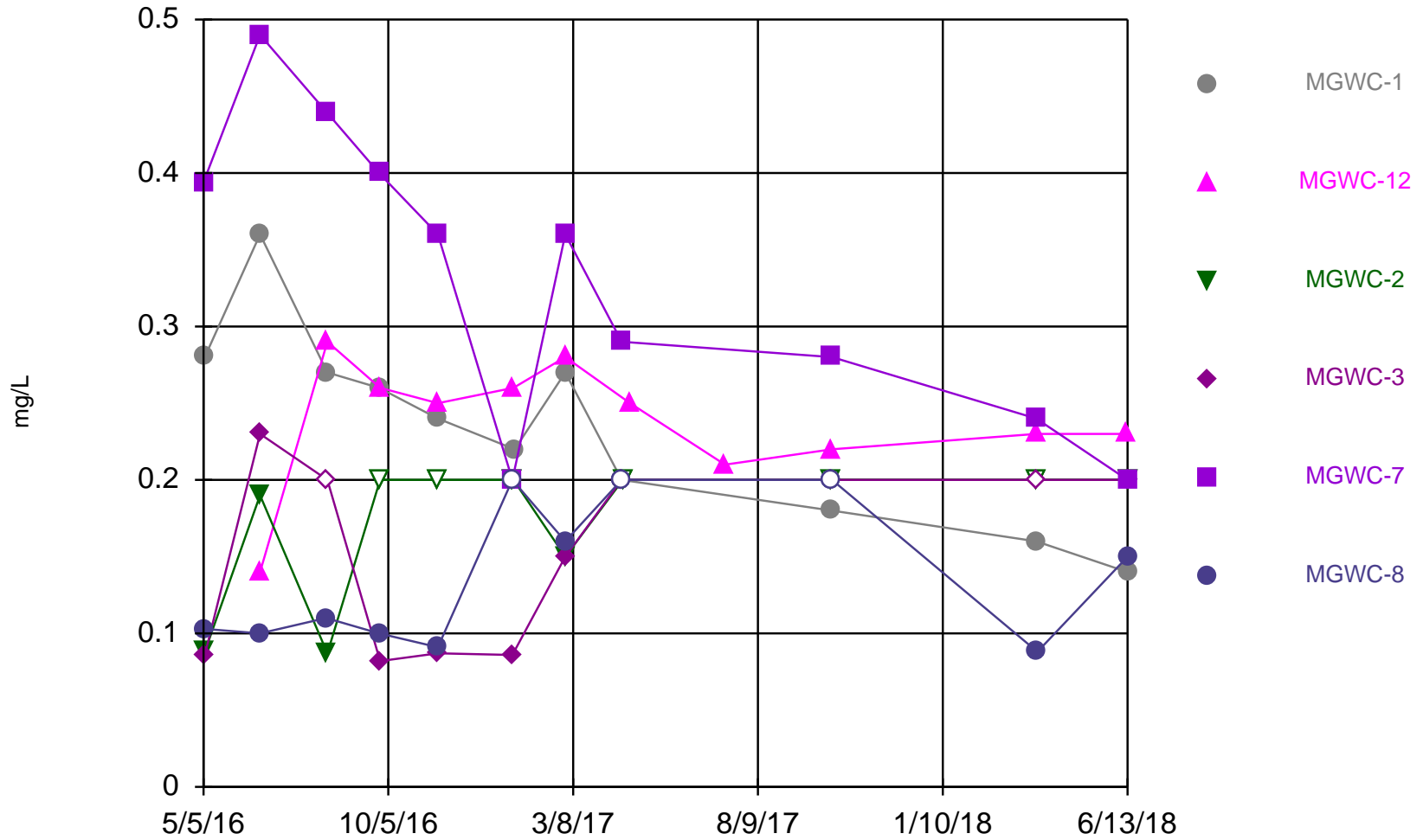
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/11/2019 12:57 PM

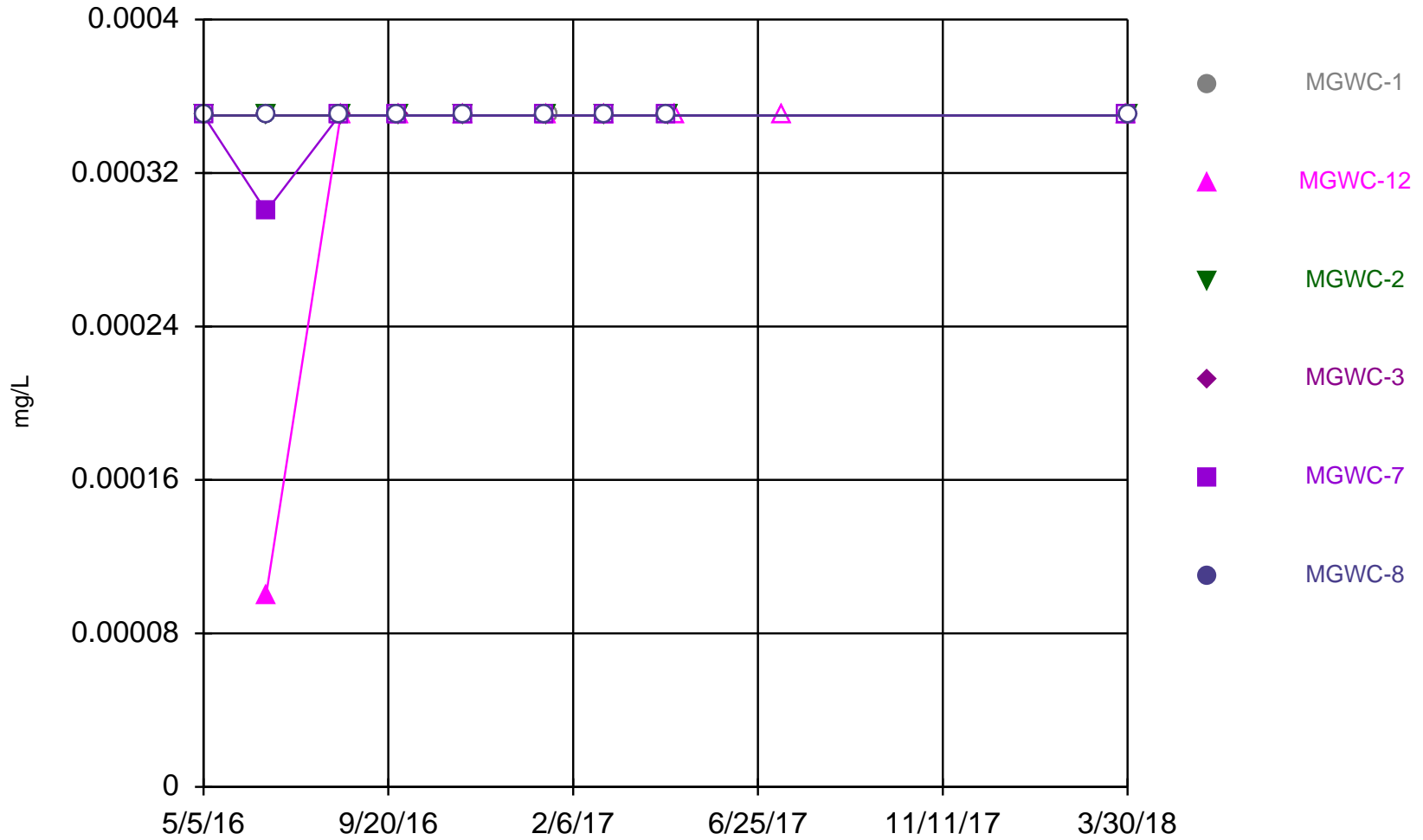
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



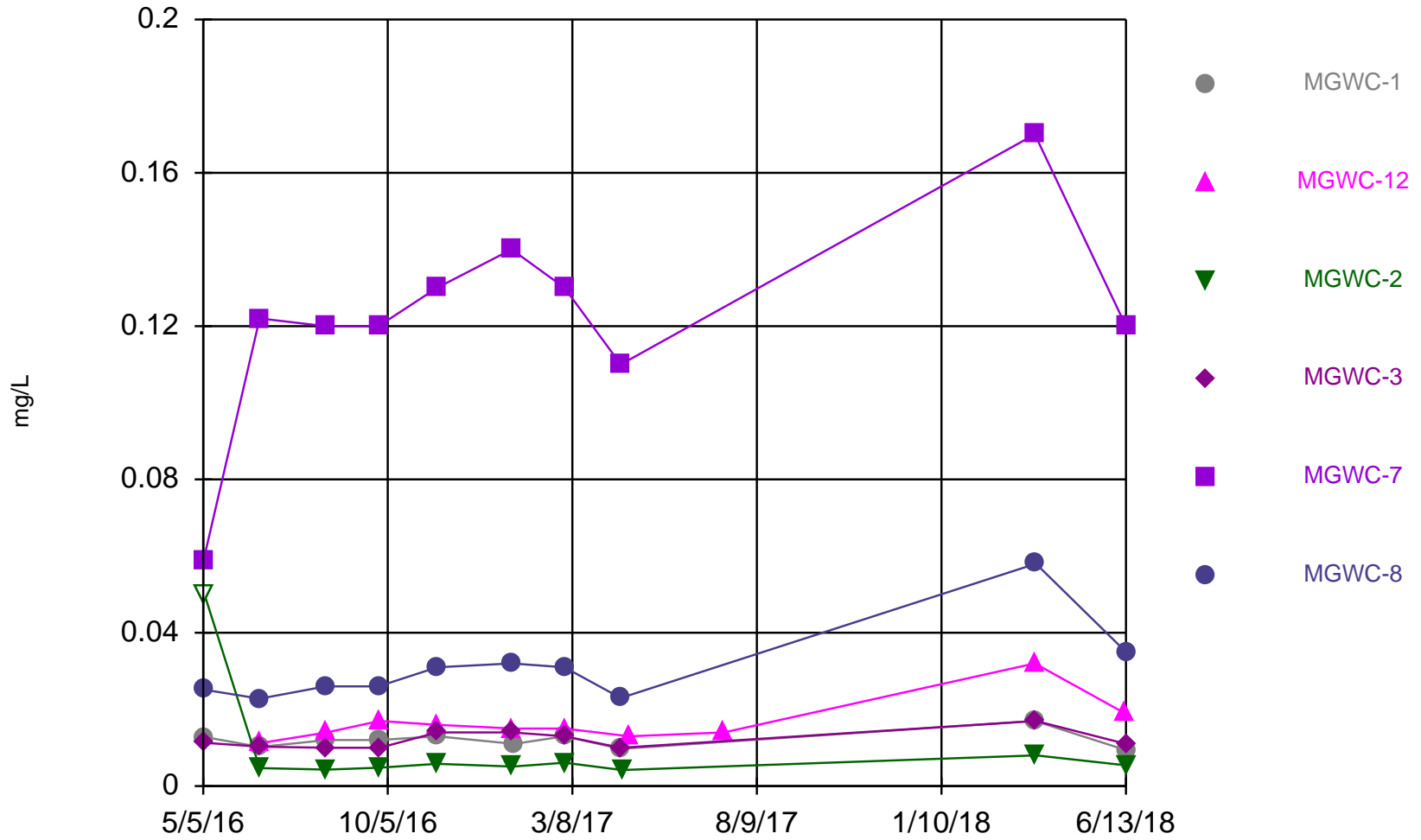
Constituent: Fluoride Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



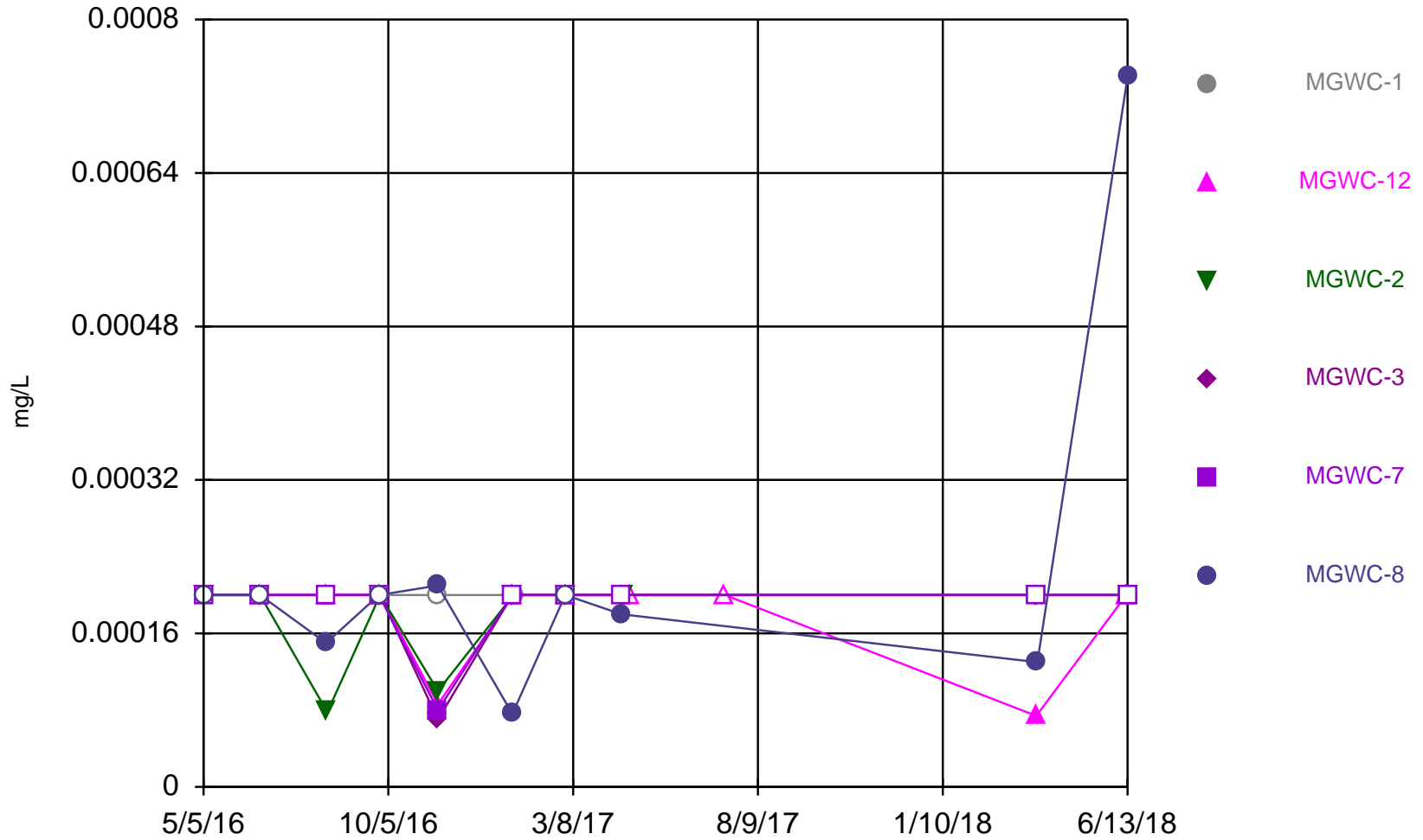
Constituent: Lead Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



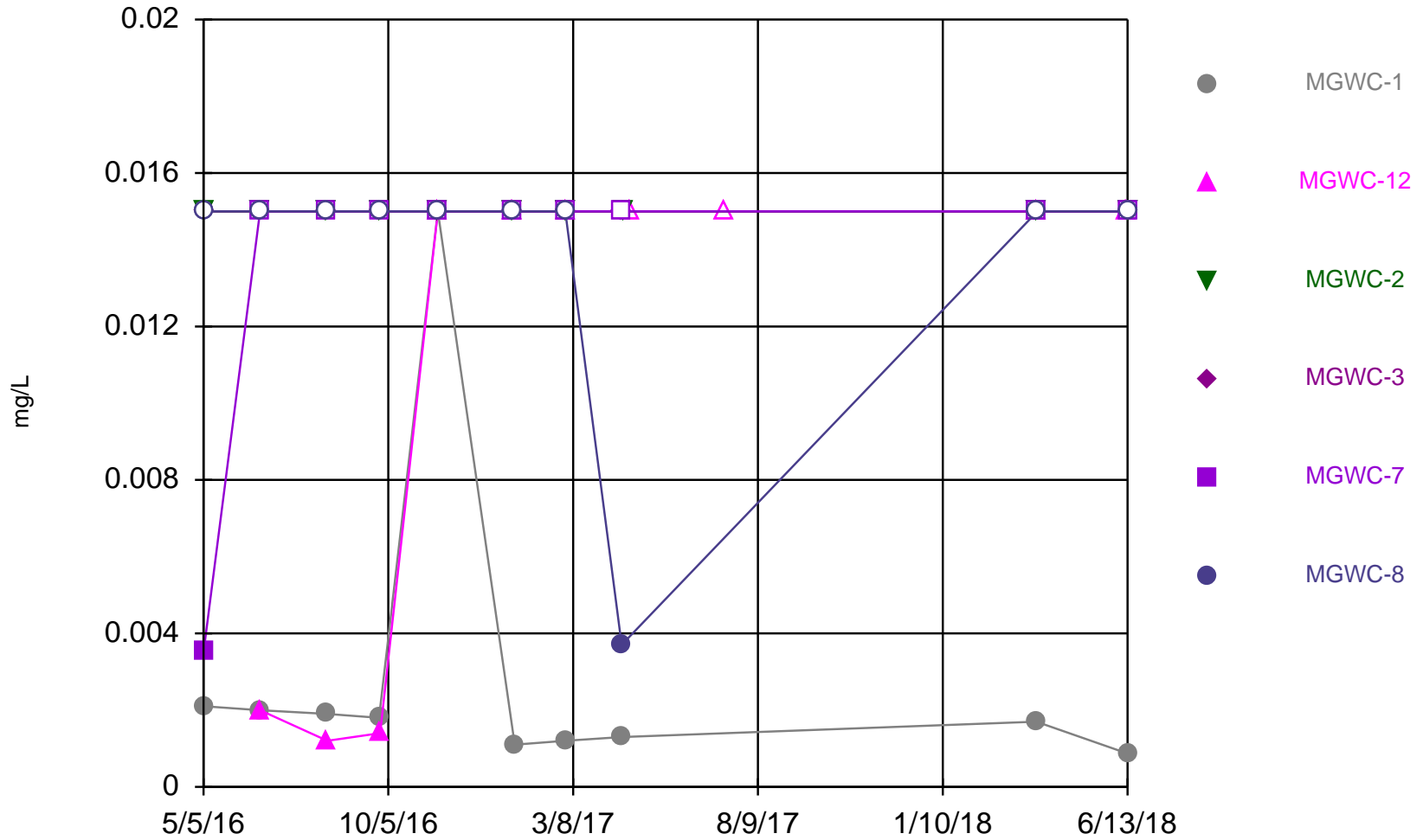
Constituent: Lithium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



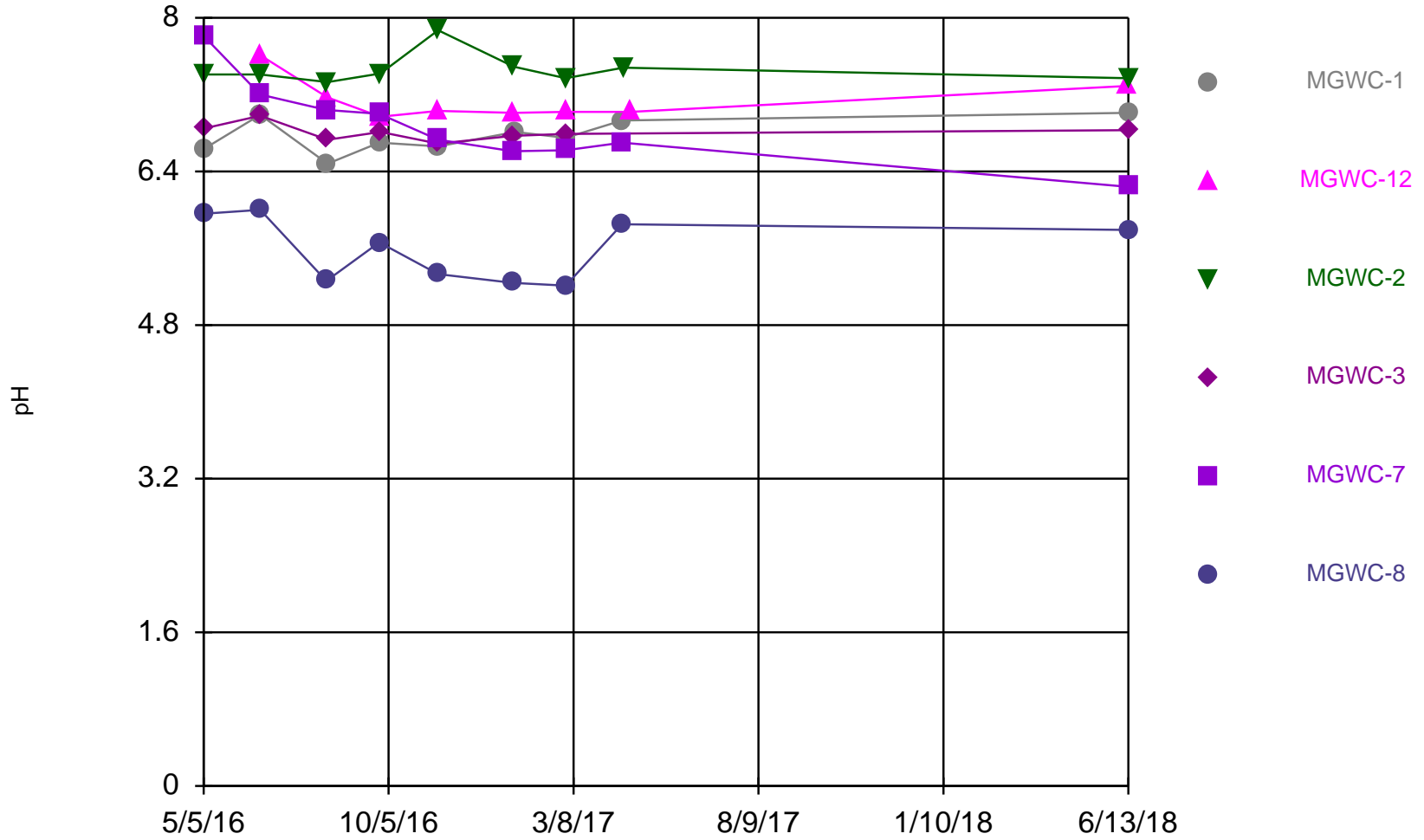
Constituent: Mercury Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



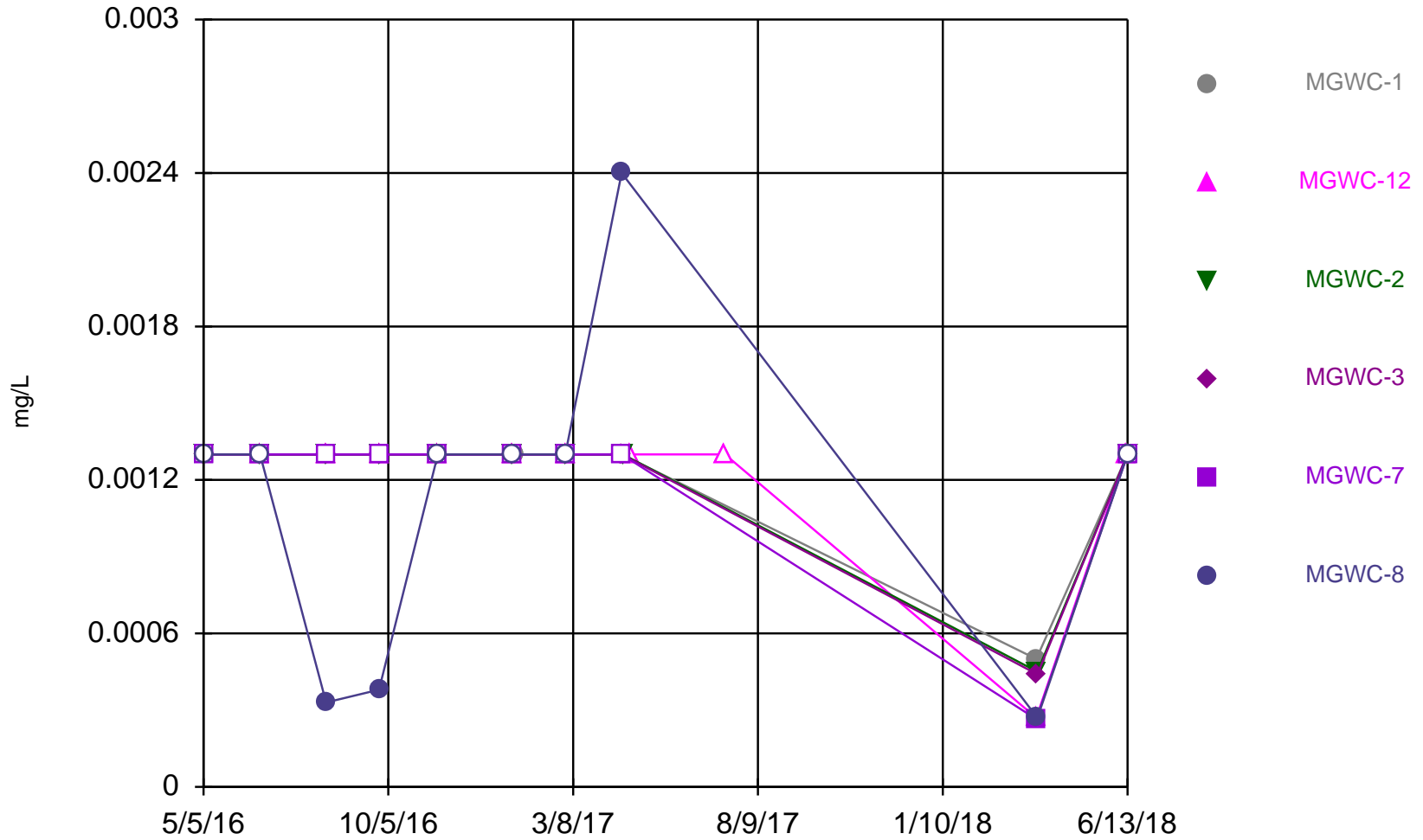
Constituent: Molybdenum Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



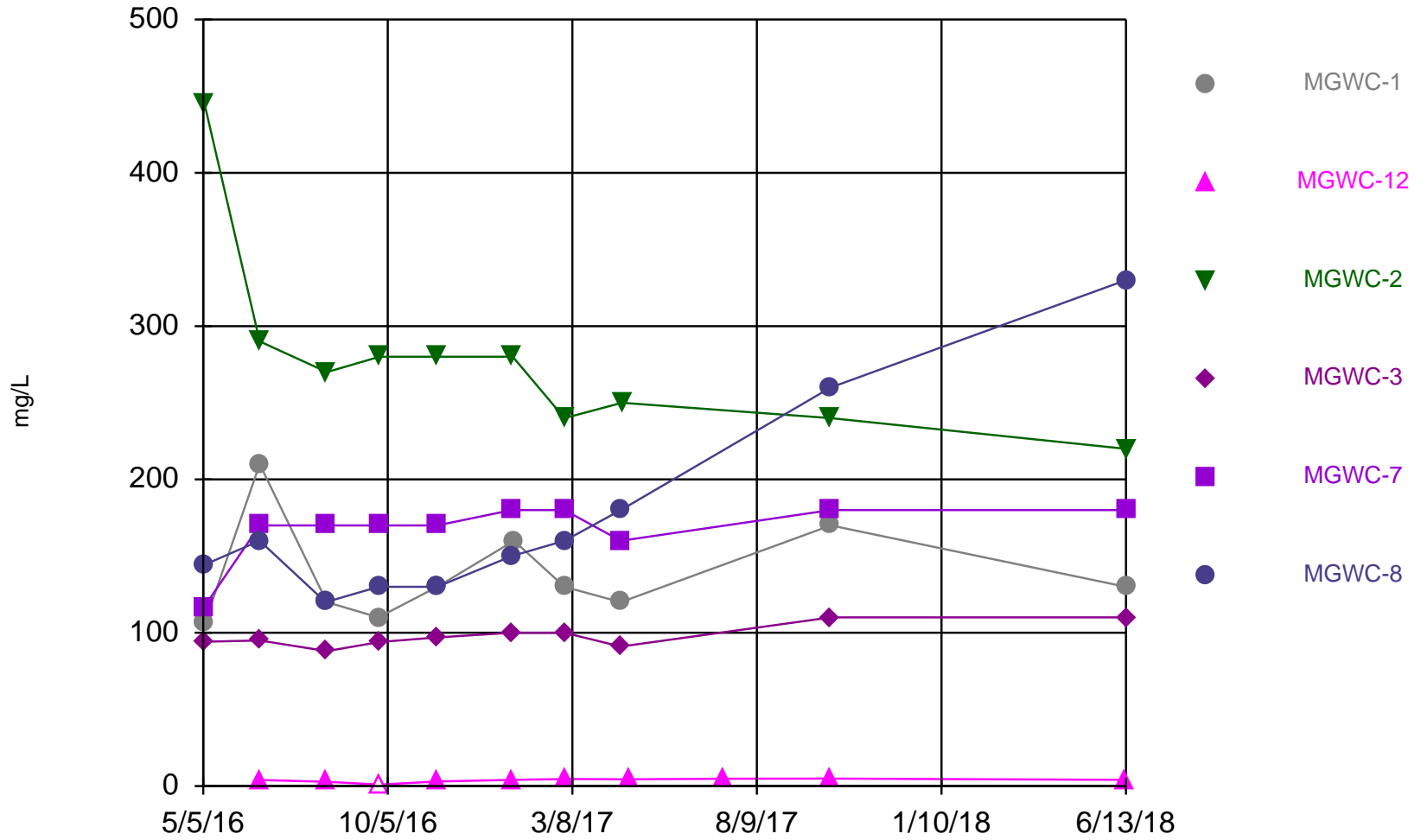
Constituent: pH Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



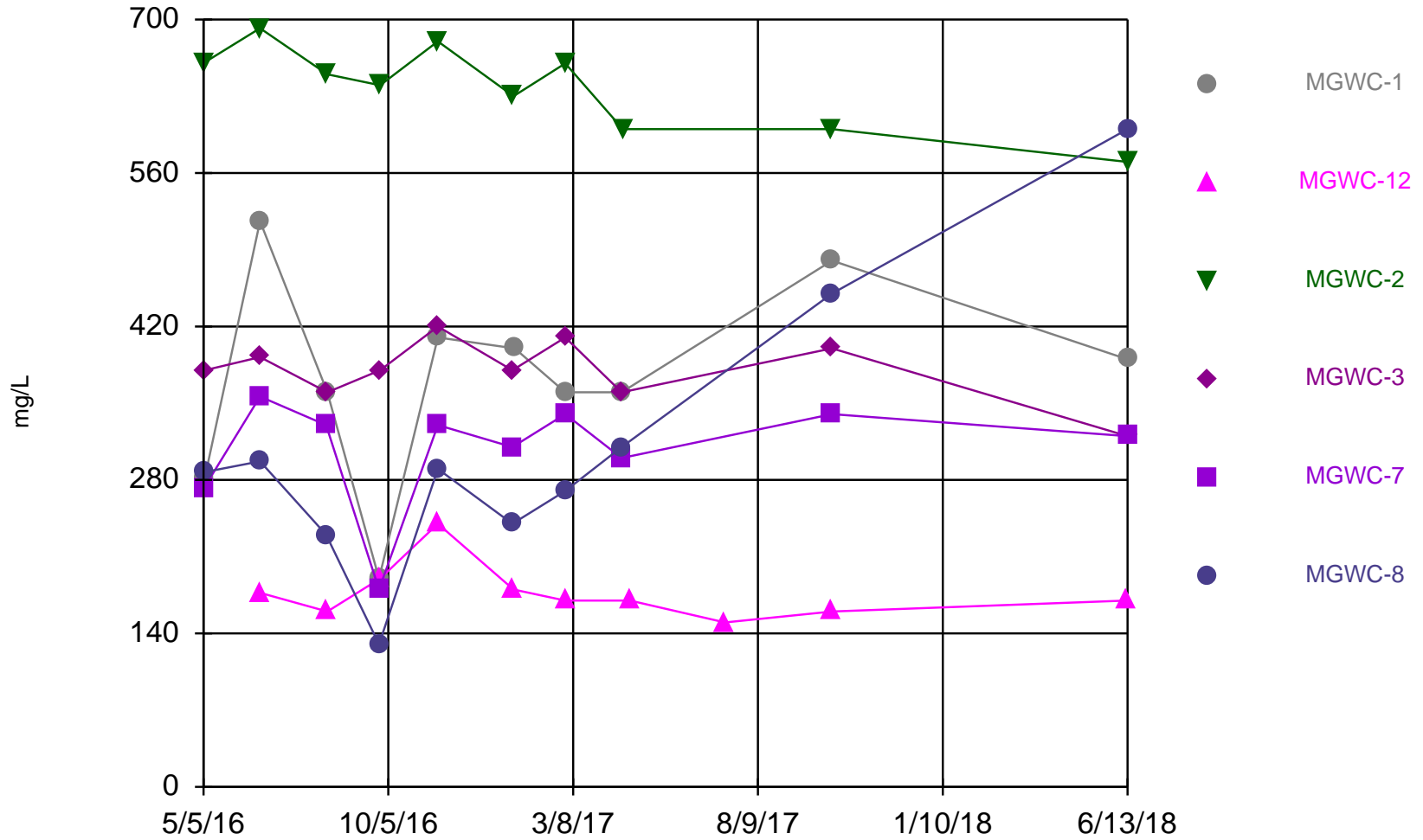
Constituent: Selenium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



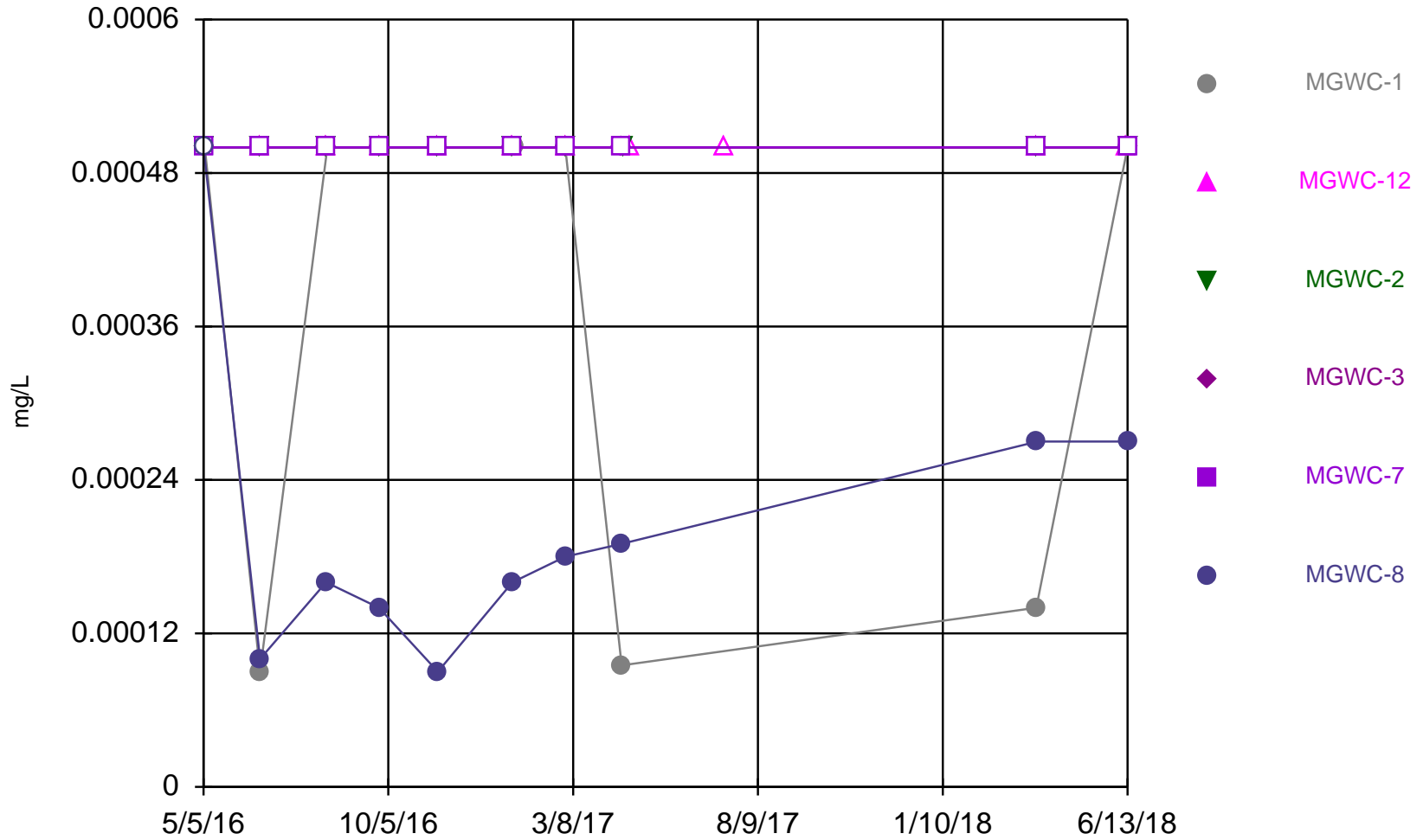
Constituent: Sulfate Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: TDS Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: Thallium Analysis Run 1/11/2019 12:57 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

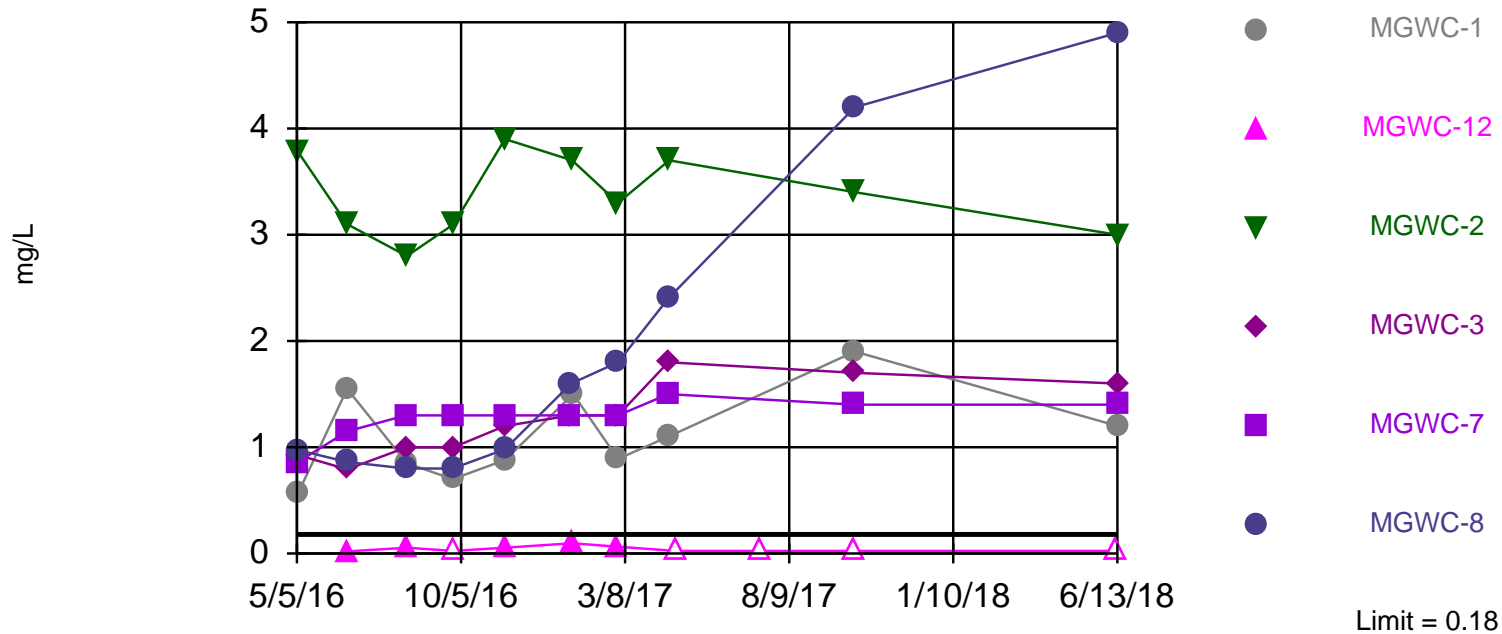
Interwell Prediction Limit

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 9:47 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Date</u>	<u>Observ.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MGWC-1	0.18	n/a	6/13/2018	1.2	Yes	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Boron (mg/L)	MGWC-12	0.18	n/a	6/12/2018	0.025ND	No	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Boron (mg/L)	MGWC-2	0.18	n/a	6/13/2018	3	Yes	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Boron (mg/L)	MGWC-3	0.18	n/a	6/13/2018	1.6	Yes	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Boron (mg/L)	MGWC-7	0.18	n/a	6/13/2018	1.4	Yes	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Boron (mg/L)	MGWC-8	0.18	n/a	6/13/2018	4.9	Yes	40	n/a	n/a	47.5	n/a	0.001129	NP (normality) 1 of 2
Chloride (mg/L)	MGWC-1	10.34	n/a	6/13/2018	13	Yes	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-12	10.34	n/a	6/12/2018	4	No	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-2	10.34	n/a	6/13/2018	16	Yes	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-3	10.34	n/a	6/13/2018	13	Yes	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-7	10.34	n/a	6/13/2018	12	Yes	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-8	10.34	n/a	6/13/2018	11	Yes	40	6.496	1.988	0	No	0.001254	Param 1 of 2
Fluoride (mg/L)	MGWC-1	0.18	n/a	6/13/2018	0.14	No	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-12	0.18	n/a	6/12/2018	0.23	Yes	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-2	0.18	n/a	6/13/2018	0.1ND	No	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-3	0.18	n/a	6/13/2018	0.1ND	No	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-7	0.18	n/a	6/13/2018	0.2	Yes	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-8	0.18	n/a	6/13/2018	0.15	No	44	n/a	n/a	40.91	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-1	21	n/a	6/13/2018	130	Yes	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-12	21	n/a	6/12/2018	4.1	No	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-2	21	n/a	6/13/2018	220	Yes	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-3	21	n/a	6/13/2018	110	Yes	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-7	21	n/a	6/13/2018	180	Yes	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-8	21	n/a	6/13/2018	330	Yes	40	n/a	n/a	15	n/a	0.001129	NP (normality) 1 of 2

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit Interwell Non-parametric

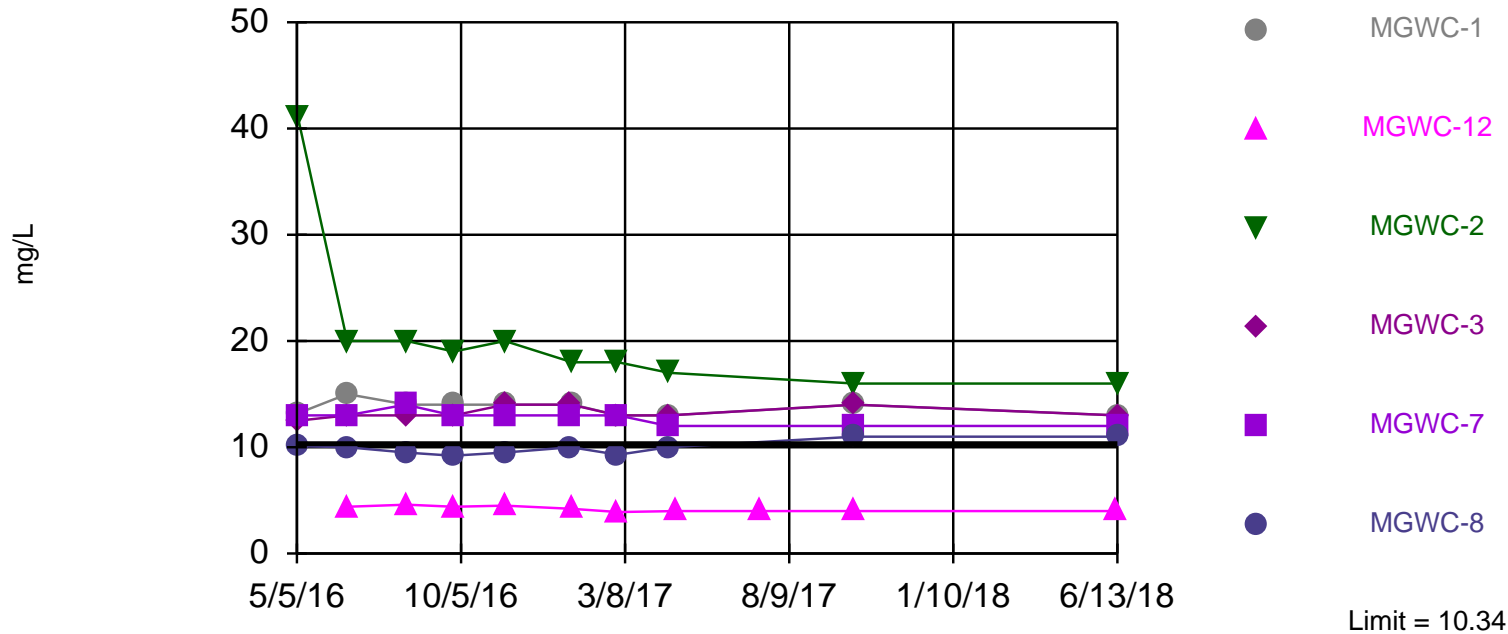


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 40 background values. 47.5% NDs. Annual per-constituent alpha = 0.01347. Individual comparison alpha = 0.001129 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/22/2019 9:46 AM
 Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit
Interwell Parametric



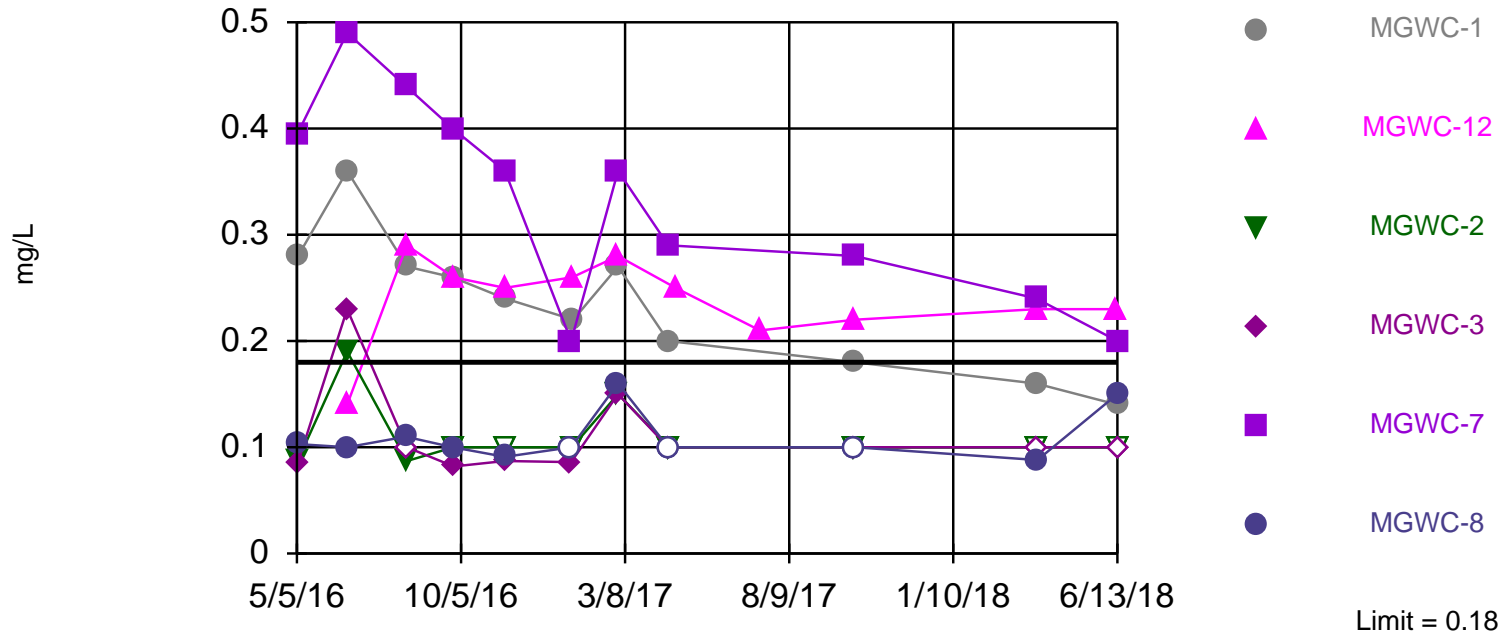
Limit = 10.34

Background Data Summary: Mean=6.496, Std. Dev.=1.988, n=40. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9402, critical = 0.919. Kappa = 1.932 (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 1/22/2019 9:46 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-12, MGWC-7

Prediction Limit Interwell Non-parametric



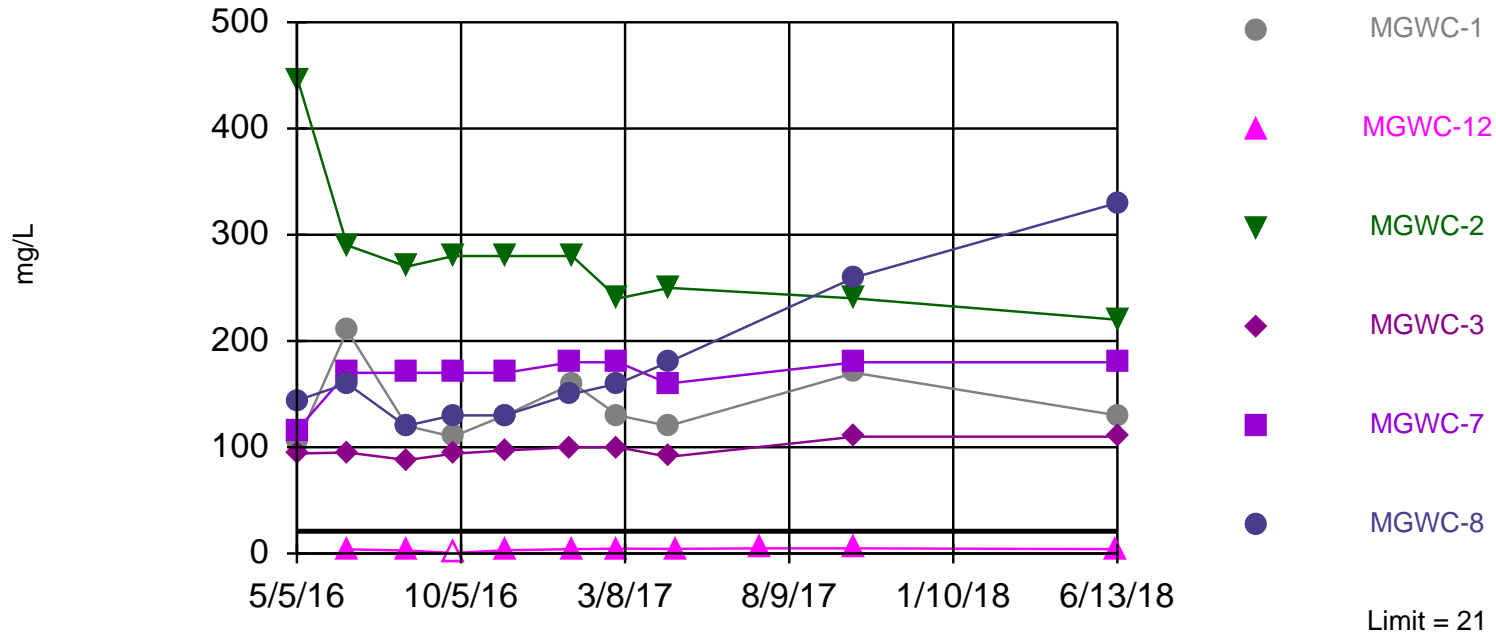
Limit = 0.18

Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 44 background values. 40.91% NDs. Annual per-constituent alpha = 0.01162. Individual comparison alpha = 0.0009736 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 1/22/2019 9:46 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit Interwell Non-parametric



Limit = 21

Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 40 background values. 15% NDs. Annual per-constituent alpha = 0.01347. Individual comparison alpha = 0.001129 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Sulfate Analysis Run 1/22/2019 9:46 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

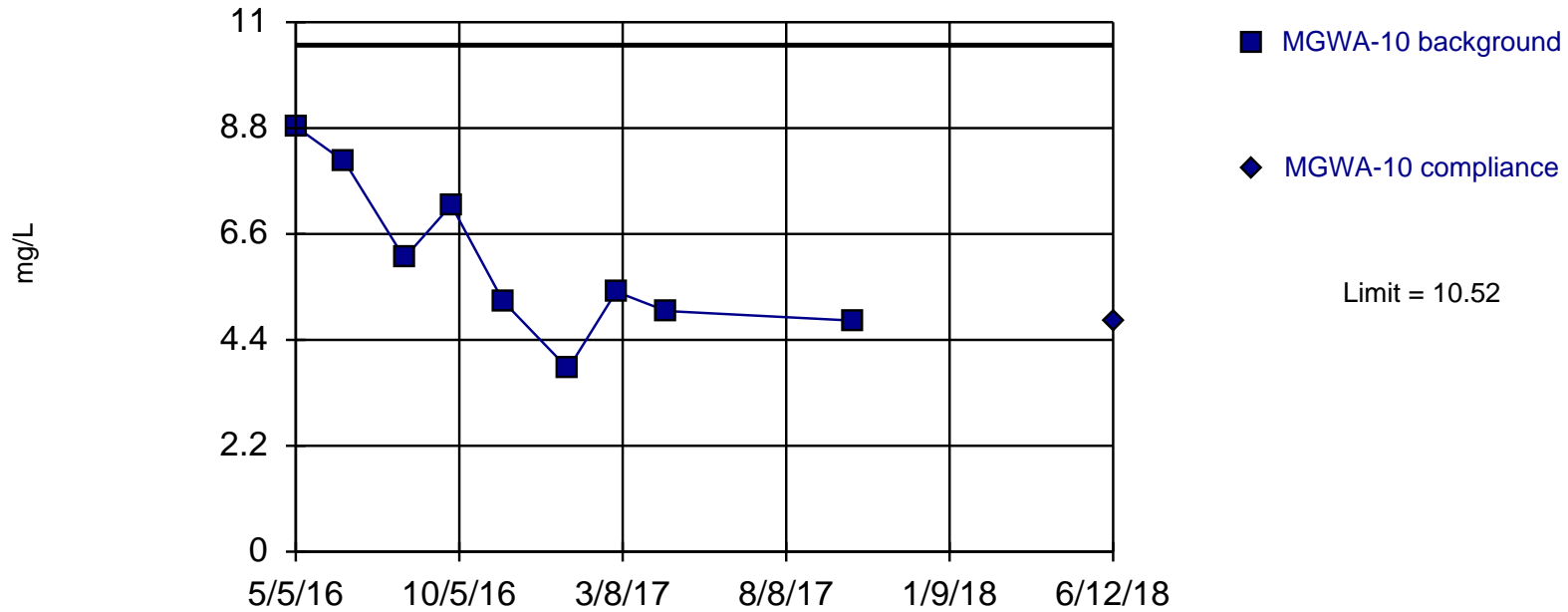
Intrawell Prediction Limit

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 9:55 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	Transform	Alpha	Method
Calcium (mg/L)	MGWA-10	10.52	n/a	6/12/2018	4.8	No	9	6.048	1.663	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-11	41.91	n/a	6/12/2018	26	No	9	34.61	2.713	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-5	33.5	n/a	6/12/2018	25	No	9	28.27	1.947	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-6	121.2	n/a	6/13/2018	100	No	9	102	7.121	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-1	137.3	n/a	6/13/2018	100	No	9	98.83	14.3	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-12	33.55	n/a	6/12/2018	30	No	9	27.17	2.372	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-2	145.6	n/a	6/13/2018	120	No	9	125.6	7.452	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-3	125.2	n/a	6/13/2018	100	No	9	103.2	8.182	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-7	63.02	n/a	6/13/2018	51	No	9	52.42	3.938	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-8	84.11	n/a	6/13/2018	84	No	9	41.1	15.99	0	No	0.001254	Param 1 of 2
pH (pH)	MGWA-10	6.095	5.277	6/12/2018	6.23	Yes	8	5.686	0.1444	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-11	8.025	7.198	6/12/2018	8.02	No	7	7.611	0.132	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-5	7.8	7.105	6/12/2018	7.55	No	8	7.453	0.1227	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-6	7.844	6.456	6/13/2018	7.08	No	7	7.15	0.2214	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-1	7.21	6.28	6/13/2018	7.01	No	8	6.745	0.1643	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-12	7.61	6.97	6/12/2018	7.29	No	7	n/a	n/a	0	n/a	0.05531	NP (normality) 1 of 2
pH (pH)	MGWC-2	7.87	7.33	6/13/2018	7.37	No	8	n/a	n/a	0	n/a	0.04288	NP (normality) 1 of 2
pH (pH)	MGWC-3	7.097	6.508	6/13/2018	6.83	No	7	6.803	0.09394	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-7	8.11	5.818	6/13/2018	6.24	No	8	6.964	0.4047	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-8	6.53	4.597	6/13/2018	5.79	No	8	5.564	0.3413	0	No	0.0006268	Param 1 of 2
TDS (mg/L)	MGWA-10	165.4	n/a	6/12/2018	62	No	9	65.89	36.97	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-11	308.6	n/a	6/12/2018	150	No	9	182	47.07	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-5	277.3	n/a	6/12/2018	180	No	9	158.4	44.18	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-6	394.6	n/a	6/13/2018	230	No	9	88508	24993	0	x^2	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-1	635.8	n/a	6/13/2018	390	No	9	373.1	97.64	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-12	248.3	n/a	6/12/2018	170	No	9	177.4	26.34	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-2	732.2	n/a	6/13/2018	570	No	9	645.9	32.08	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-3	442.5	n/a	6/13/2018	320	No	9	386.9	20.67	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-7	450.8	n/a	6/13/2018	320	No	9	306.4	53.67	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-8	505.1	n/a	6/13/2018	600	Yes	9	278.2	84.34	0	No	0.001254	Param 1 of 2

Within Limit

Prediction Limit Intrawell Parametric

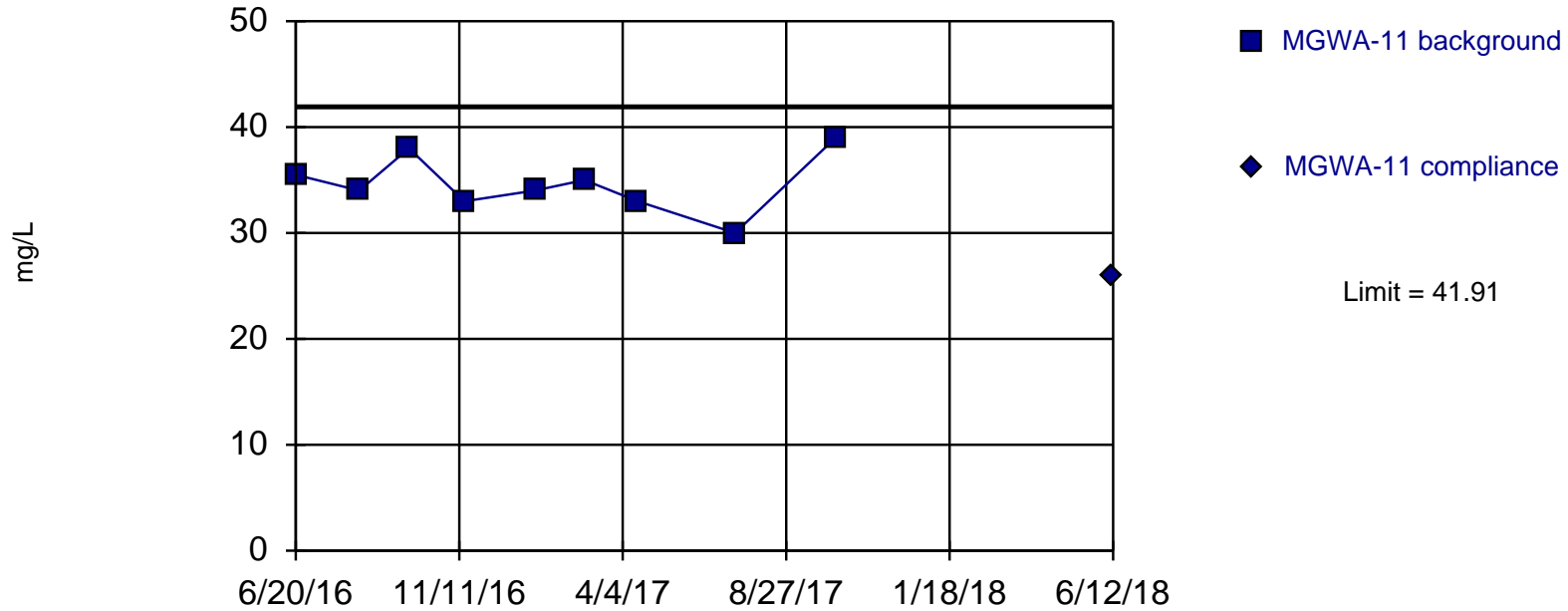


Background Data Summary: Mean=6.048, Std. Dev.=1.663, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9364, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

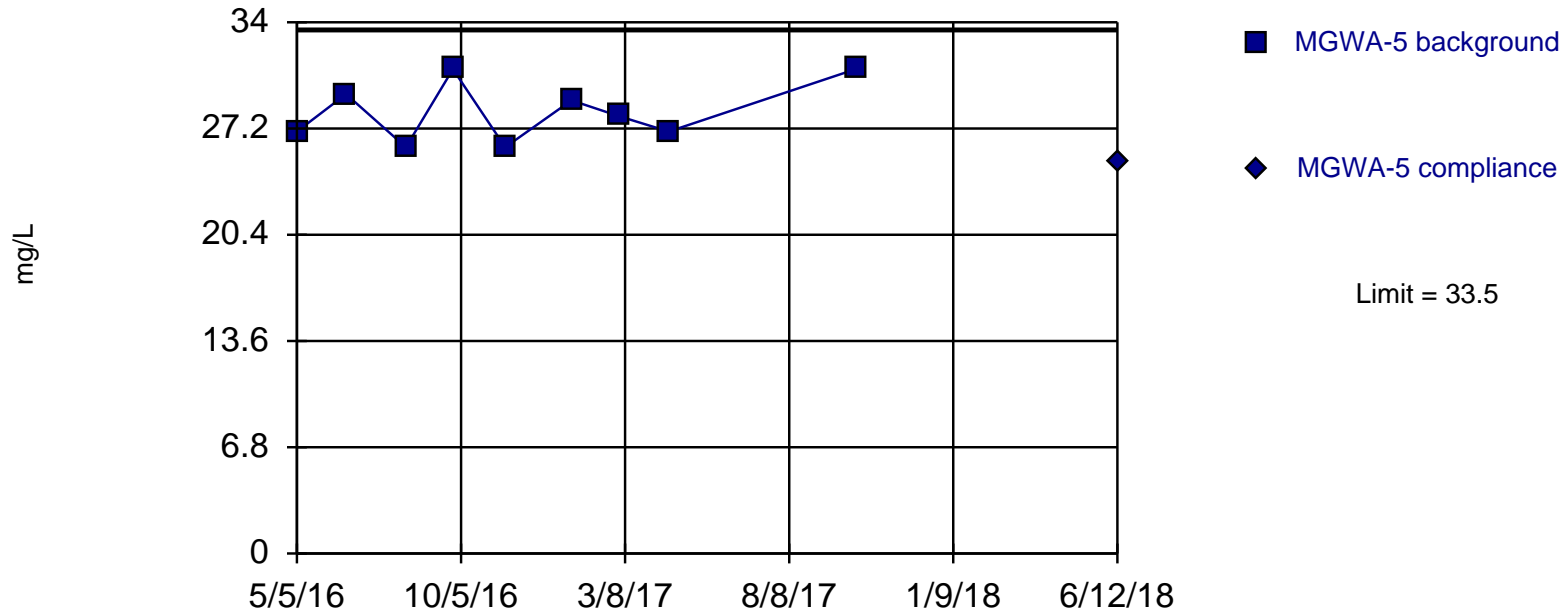


Background Data Summary: Mean=34.61, Std. Dev.=2.713, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9577, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

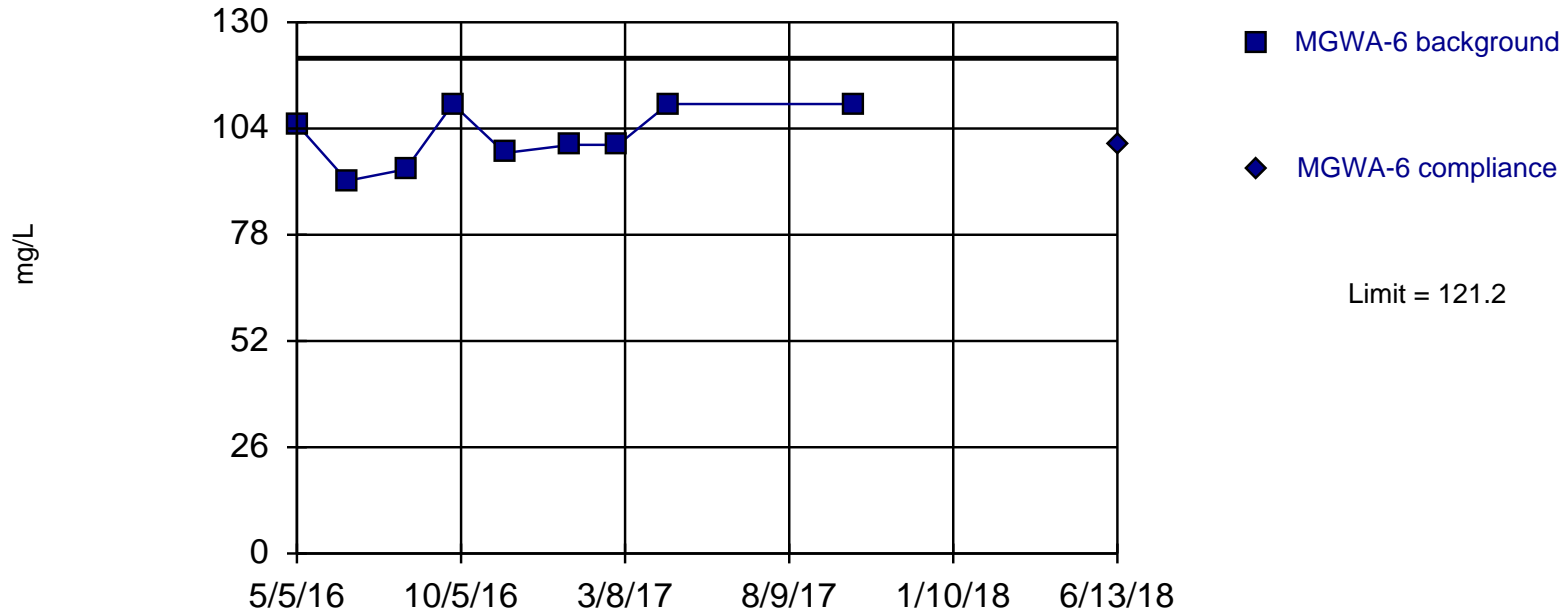


Background Data Summary: Mean=28.27, Std. Dev.=1.947, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.902, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

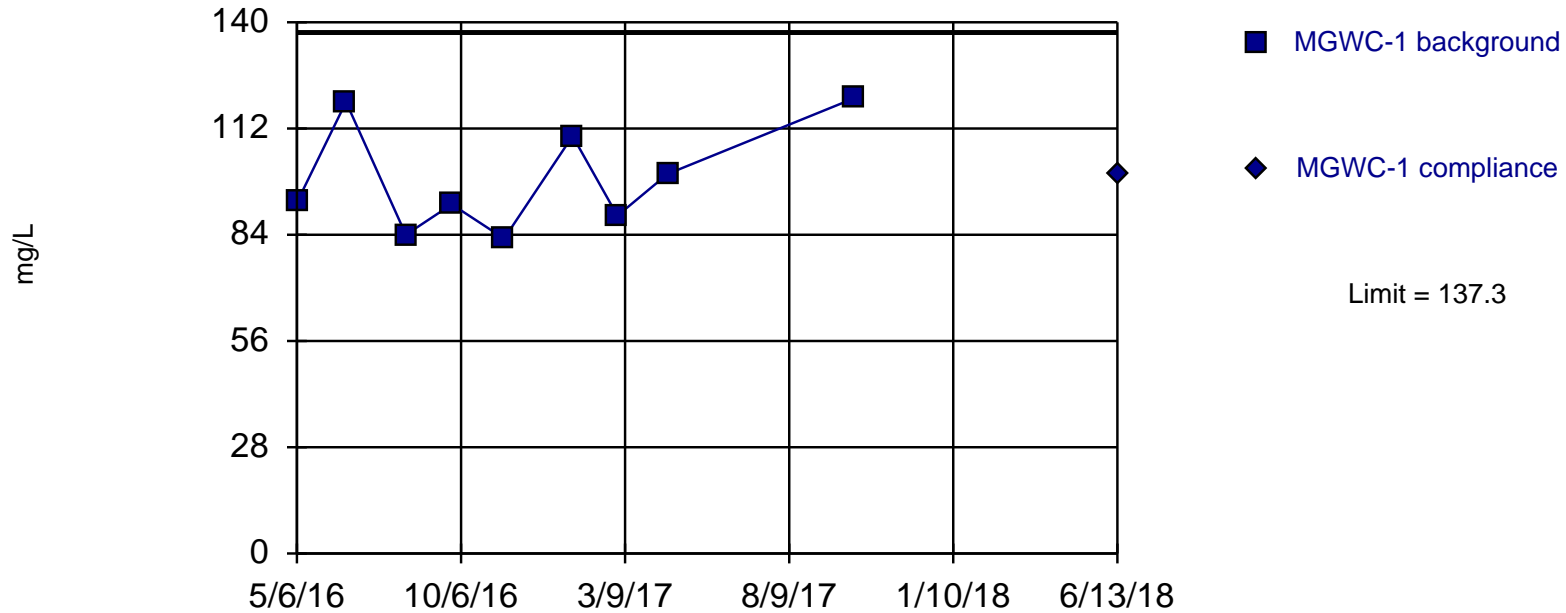


Background Data Summary: Mean=102, Std. Dev.=7.121, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8998, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

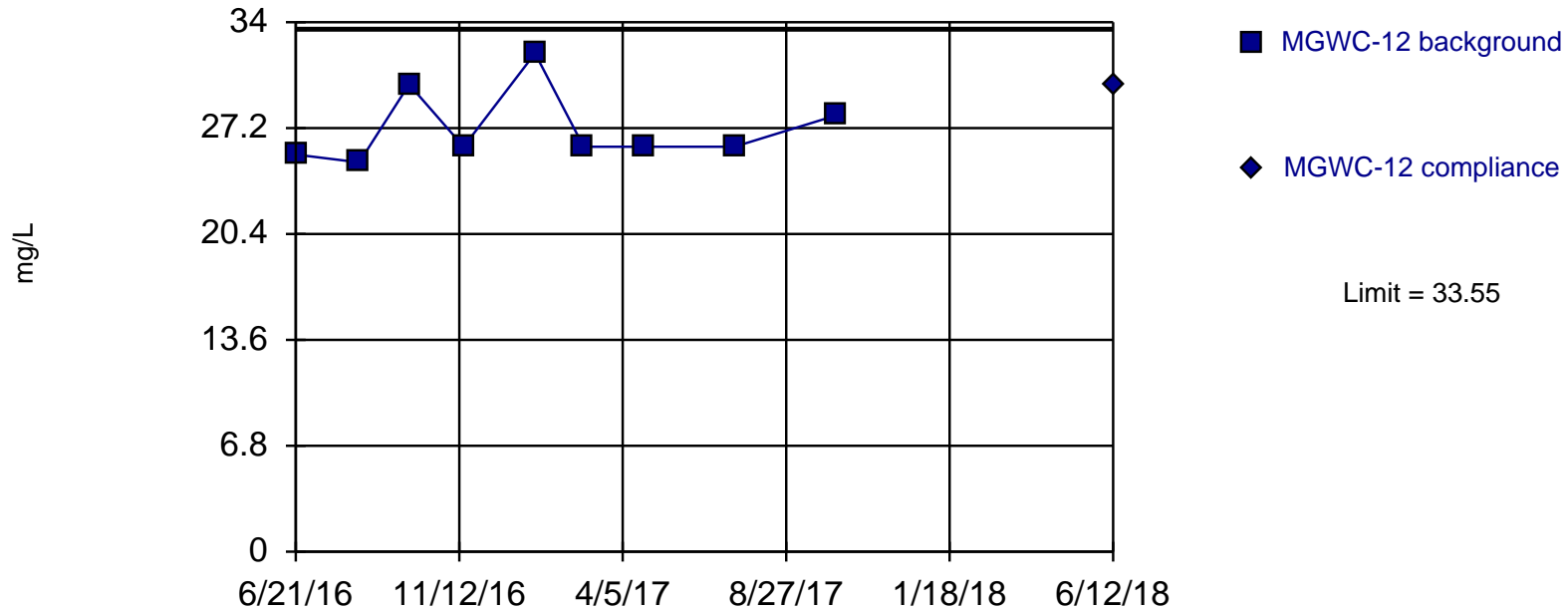


Background Data Summary: Mean=98.83, Std. Dev.=14.3, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8854, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

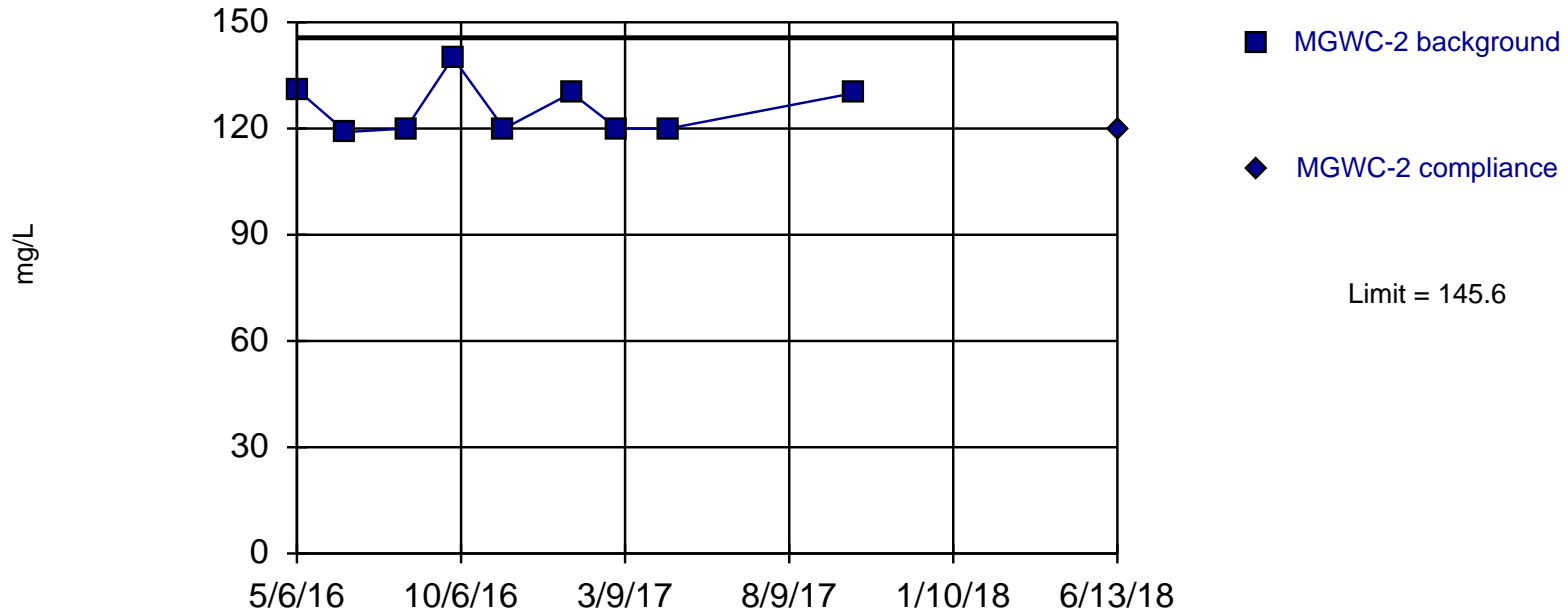


Background Data Summary: Mean=27.17, Std. Dev.=2.372, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7938, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

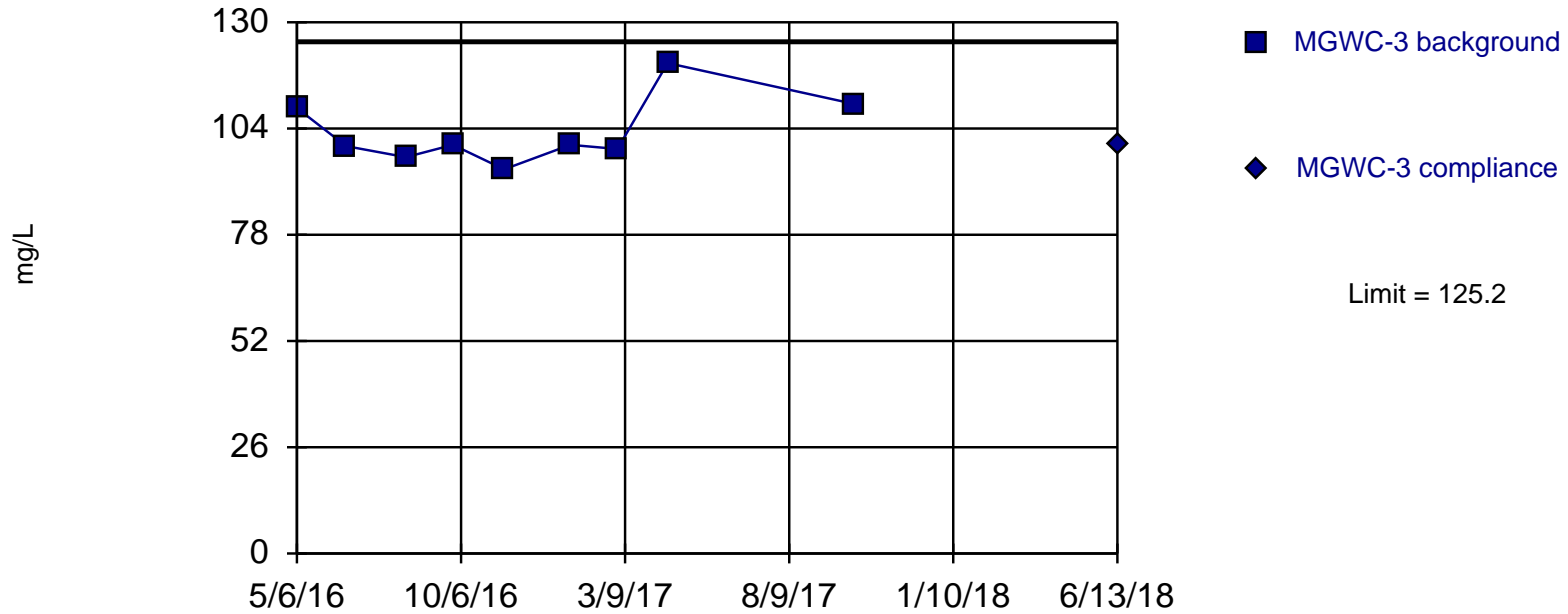


Background Data Summary: Mean=125.6, Std. Dev.=7.452, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8004, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

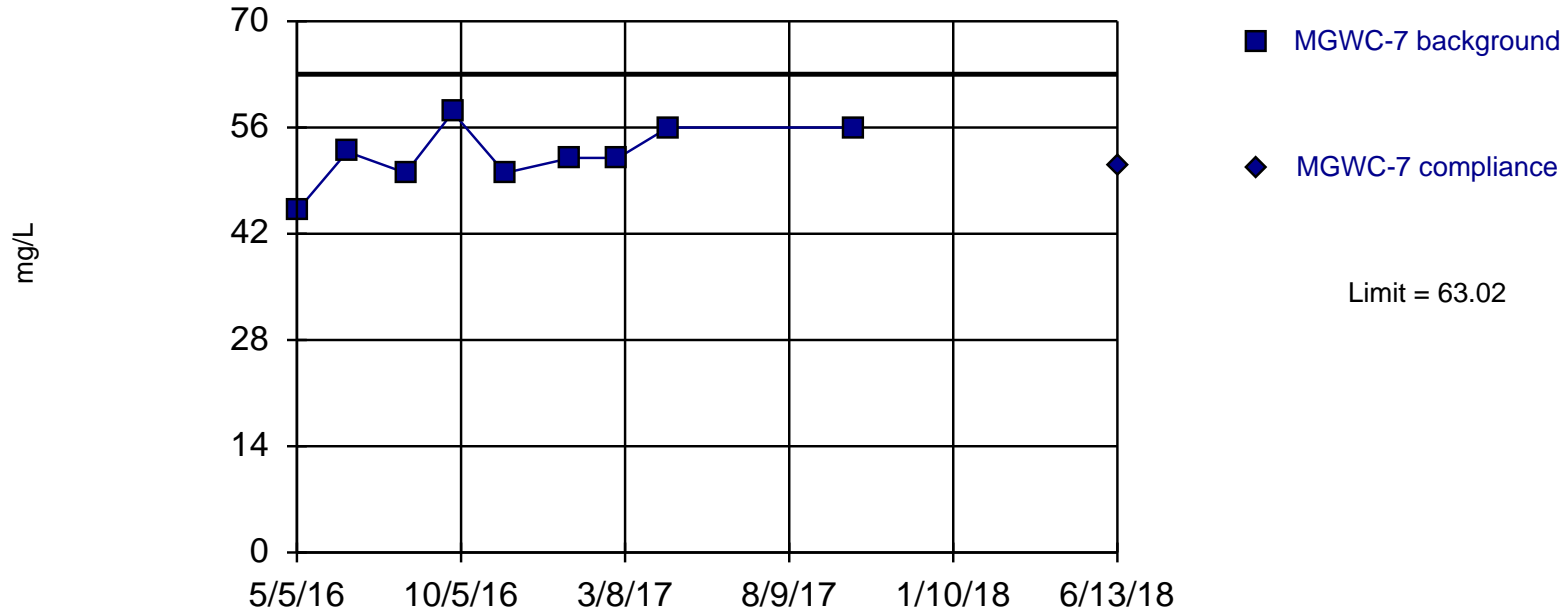


Background Data Summary: Mean=103.2, Std. Dev.=8.182, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8655, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

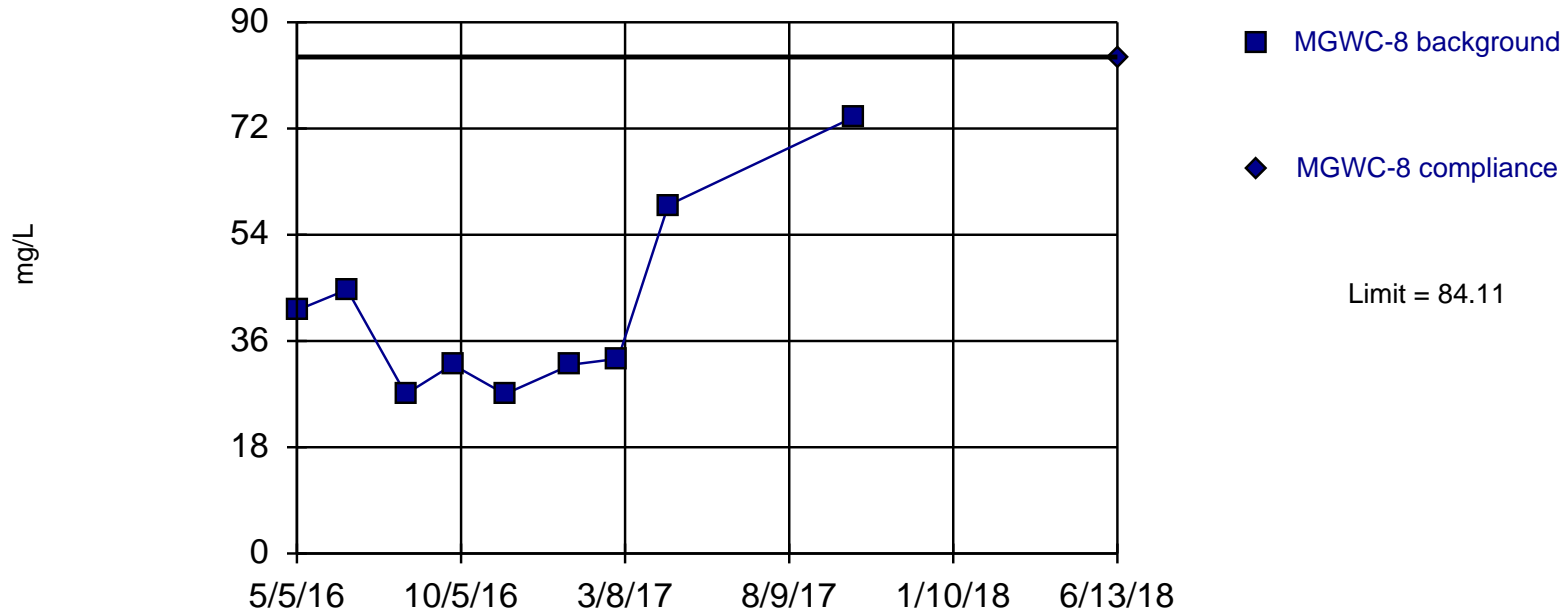


Background Data Summary: Mean=52.42, Std. Dev.=3.938, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9512, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

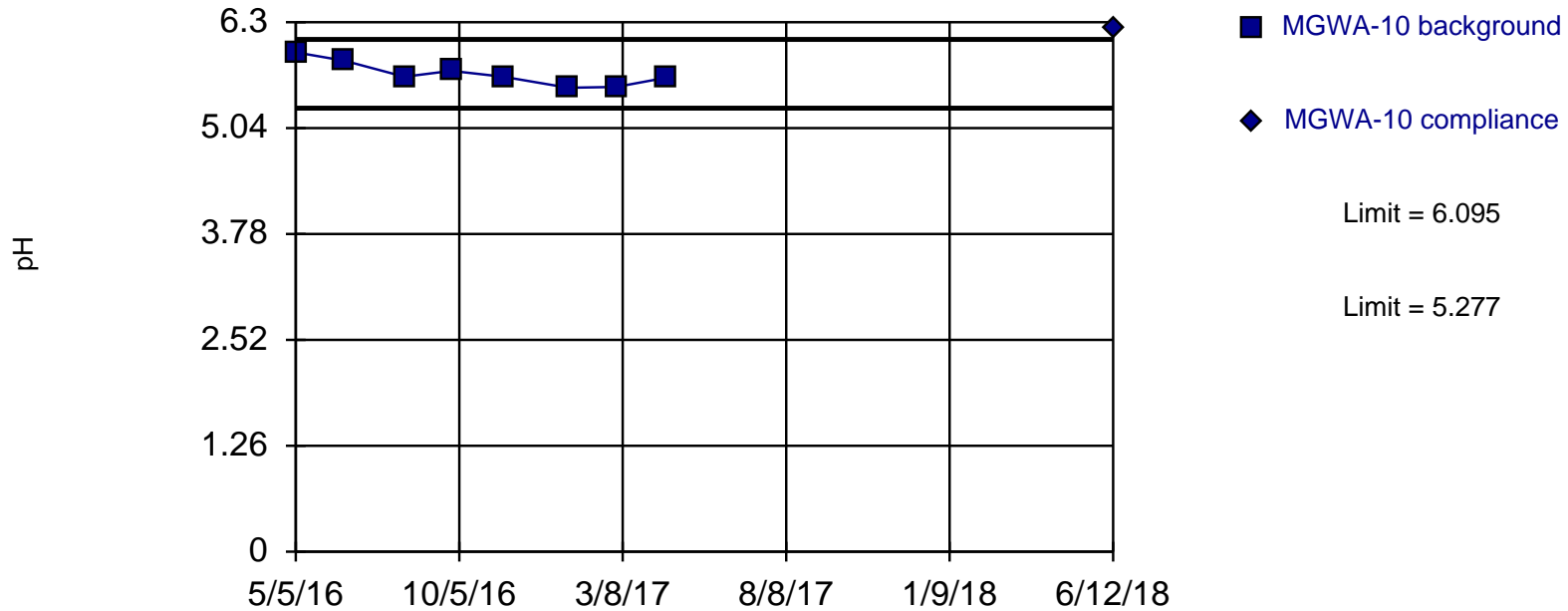


Background Data Summary: Mean=41.1, Std. Dev.=15.99, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8397, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limits

Prediction Limit Intrawell Parametric

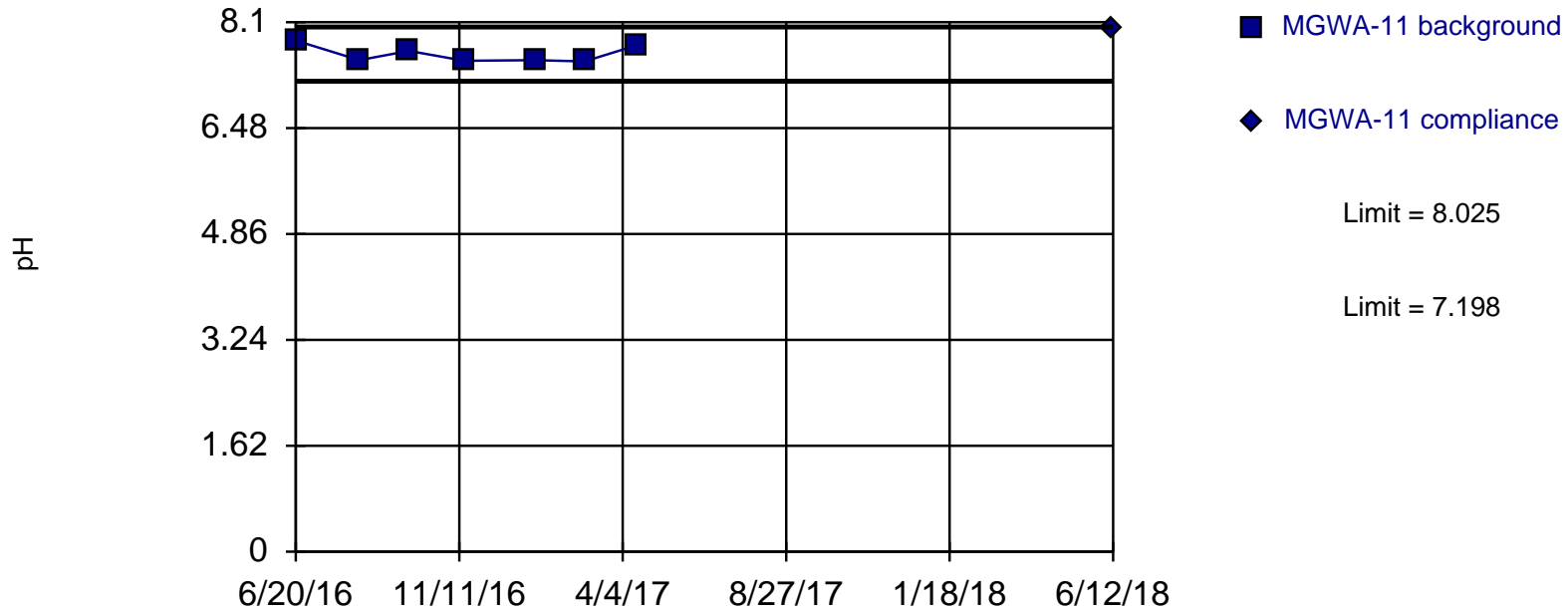


Background Data Summary: Mean=5.686, Std. Dev.=0.1444, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9186, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

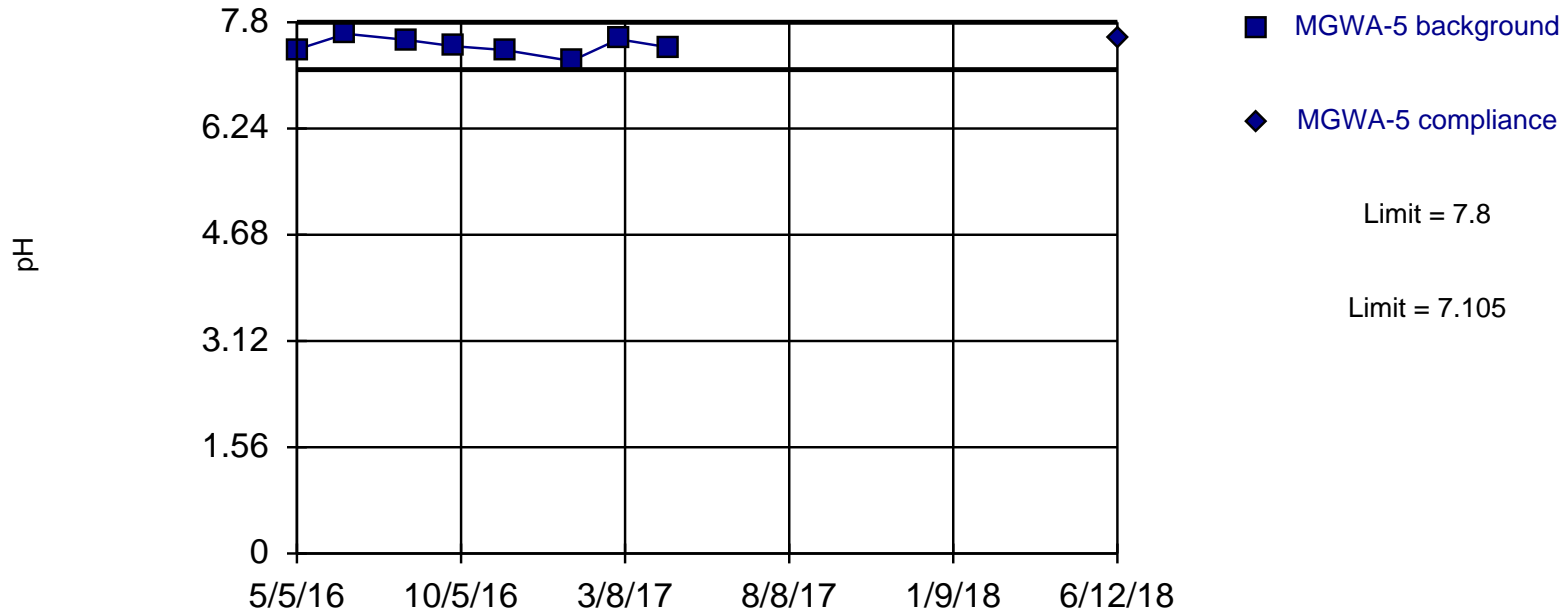


Background Data Summary: Mean=7.611, Std. Dev.=0.132, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.815, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

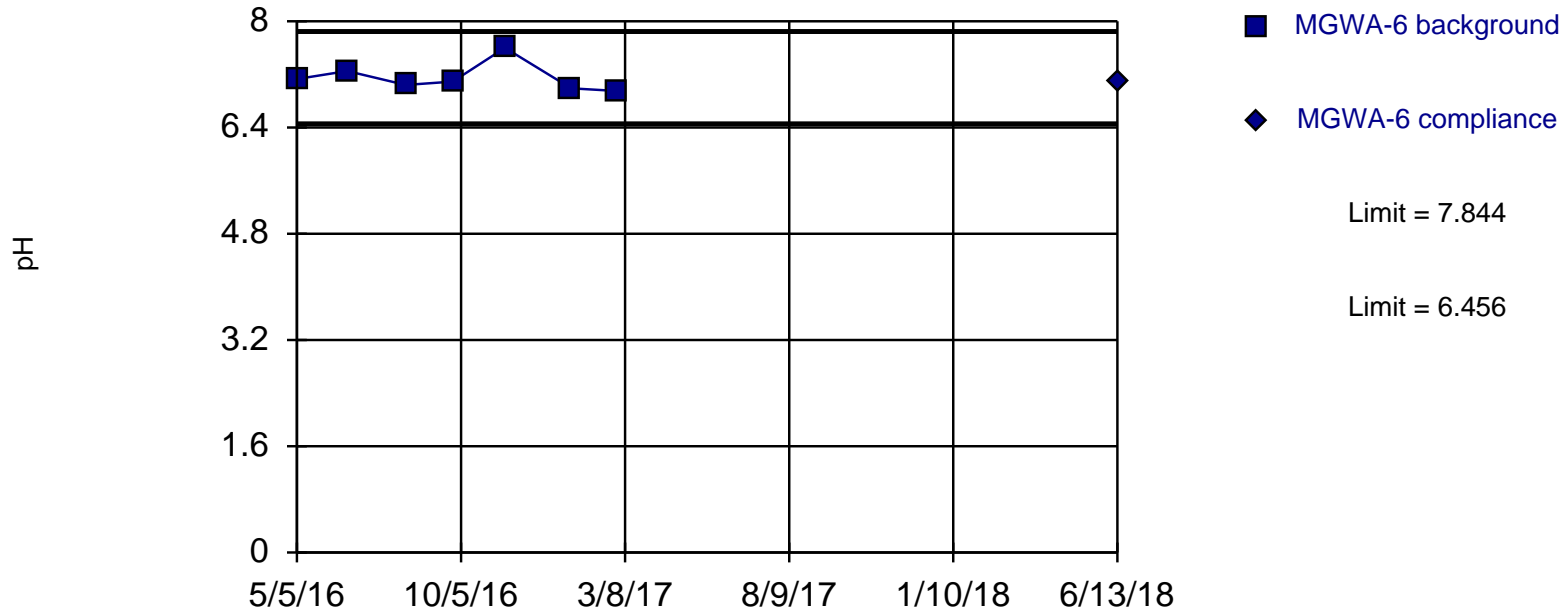


Background Data Summary: Mean=7.453, Std. Dev.=0.1227, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9613, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

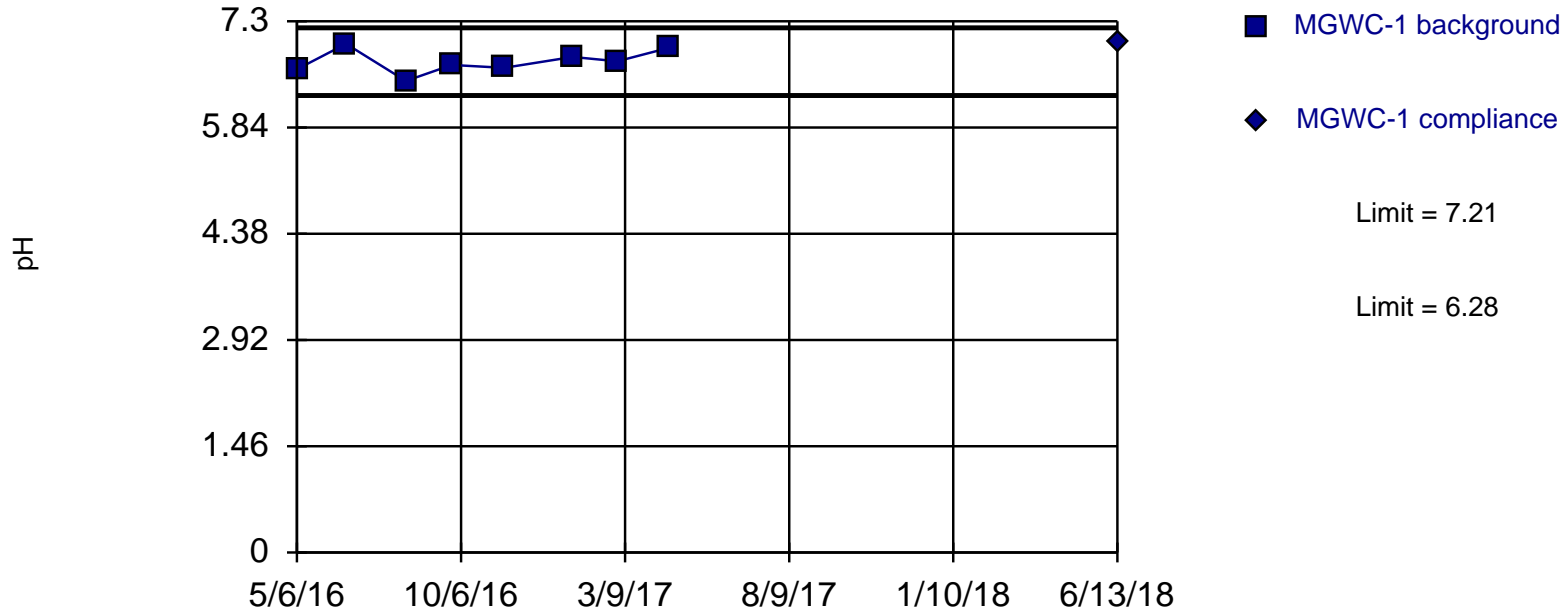


Background Data Summary: Mean=7.15, Std. Dev.=0.2214, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8381, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

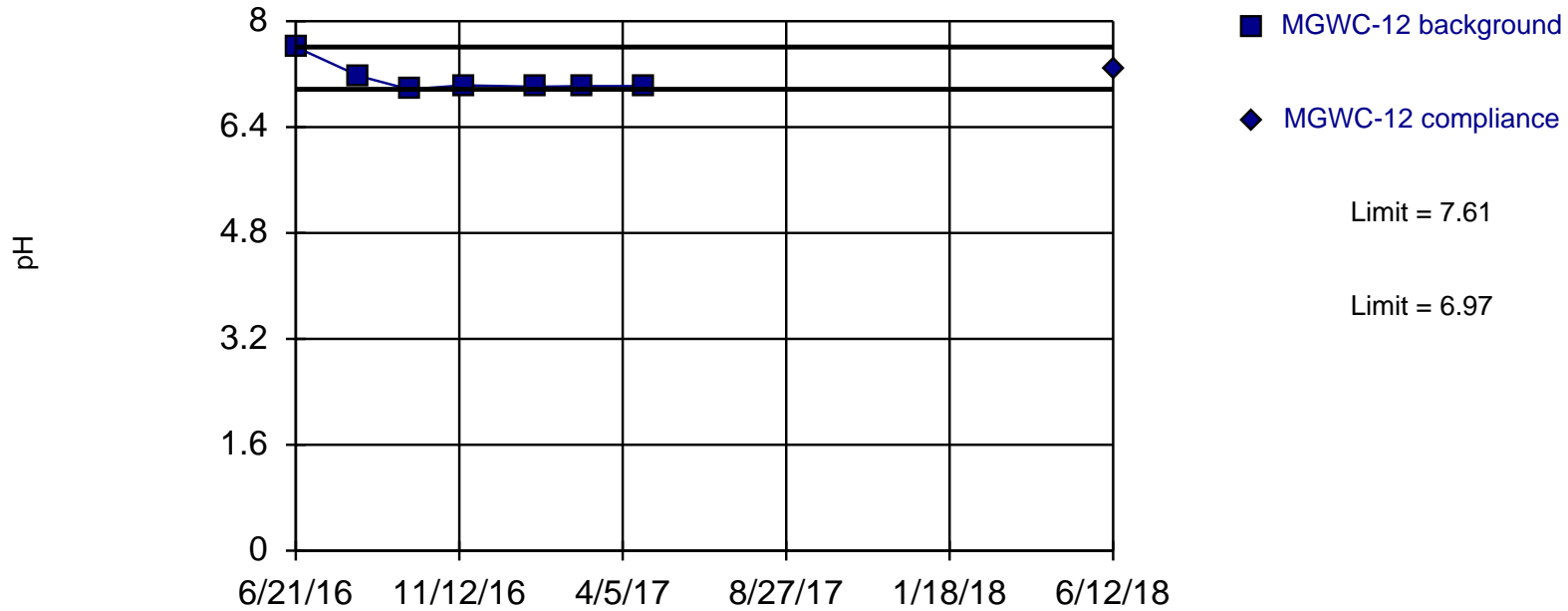


Background Data Summary: Mean=6.745, Std. Dev.=0.1643, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9754, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Non-parametric

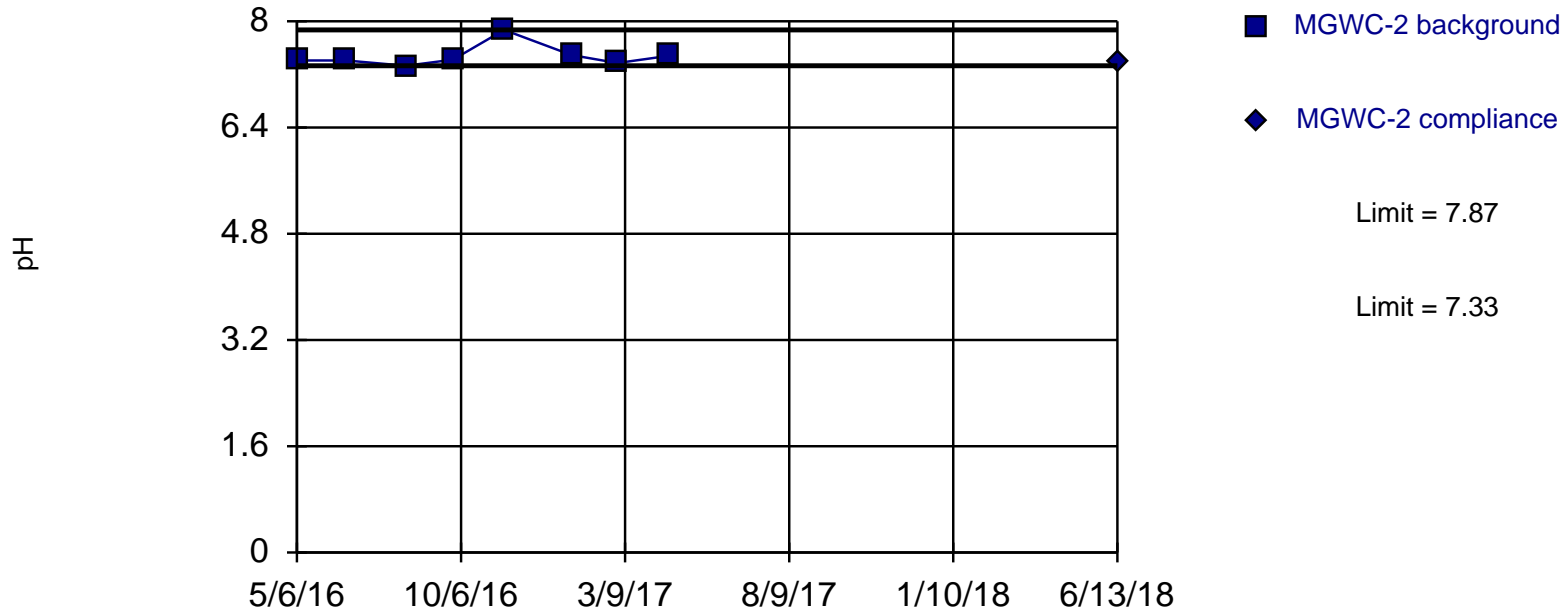


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 7 background values. Well-constituent pair annual alpha = 0.1091. Individual comparison alpha = 0.05531 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Non-parametric

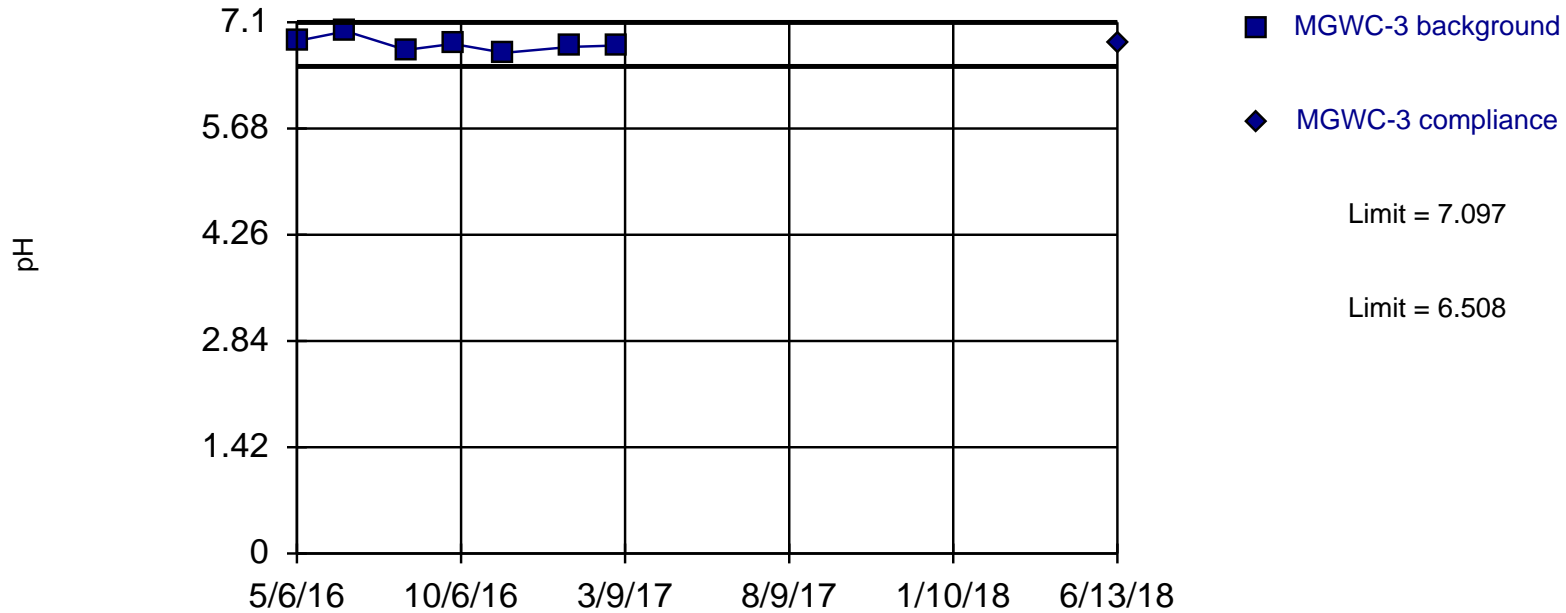


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

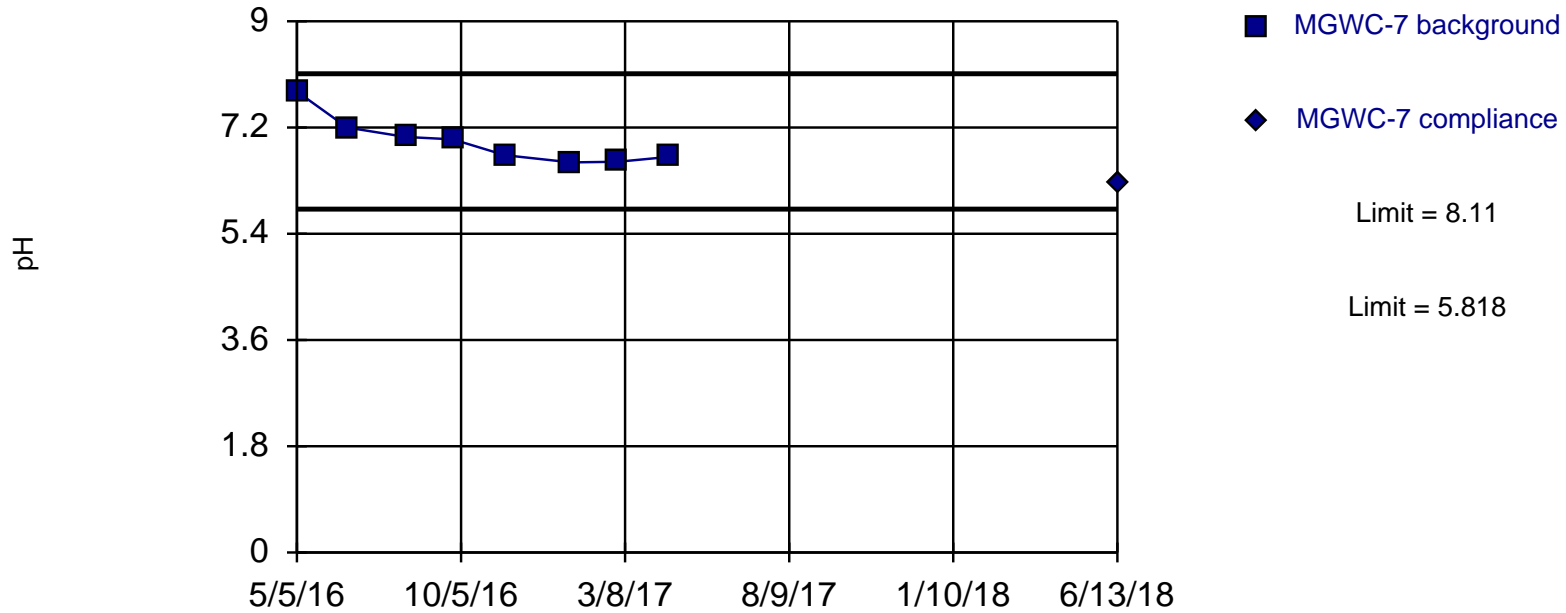


Background Data Summary: Mean=6.803, Std. Dev.=0.09394, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.937, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

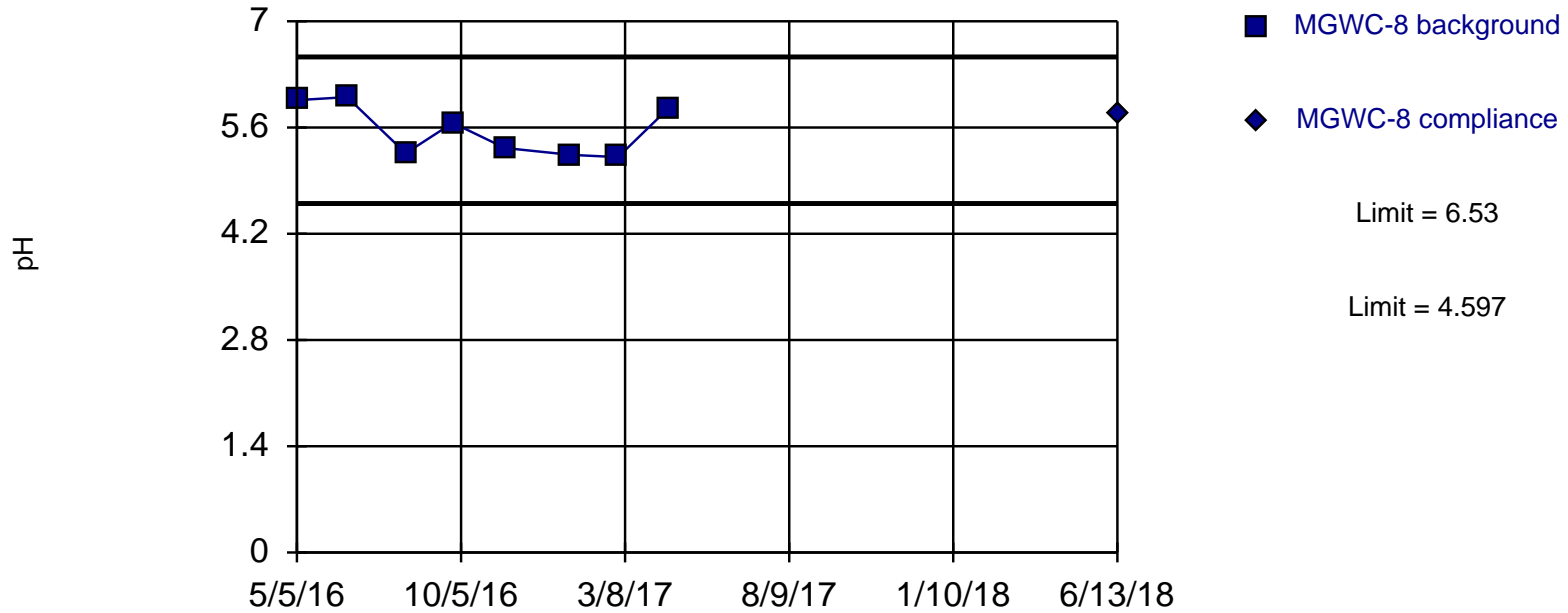


Background Data Summary: Mean=6.964, Std. Dev.=0.4047, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8447, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

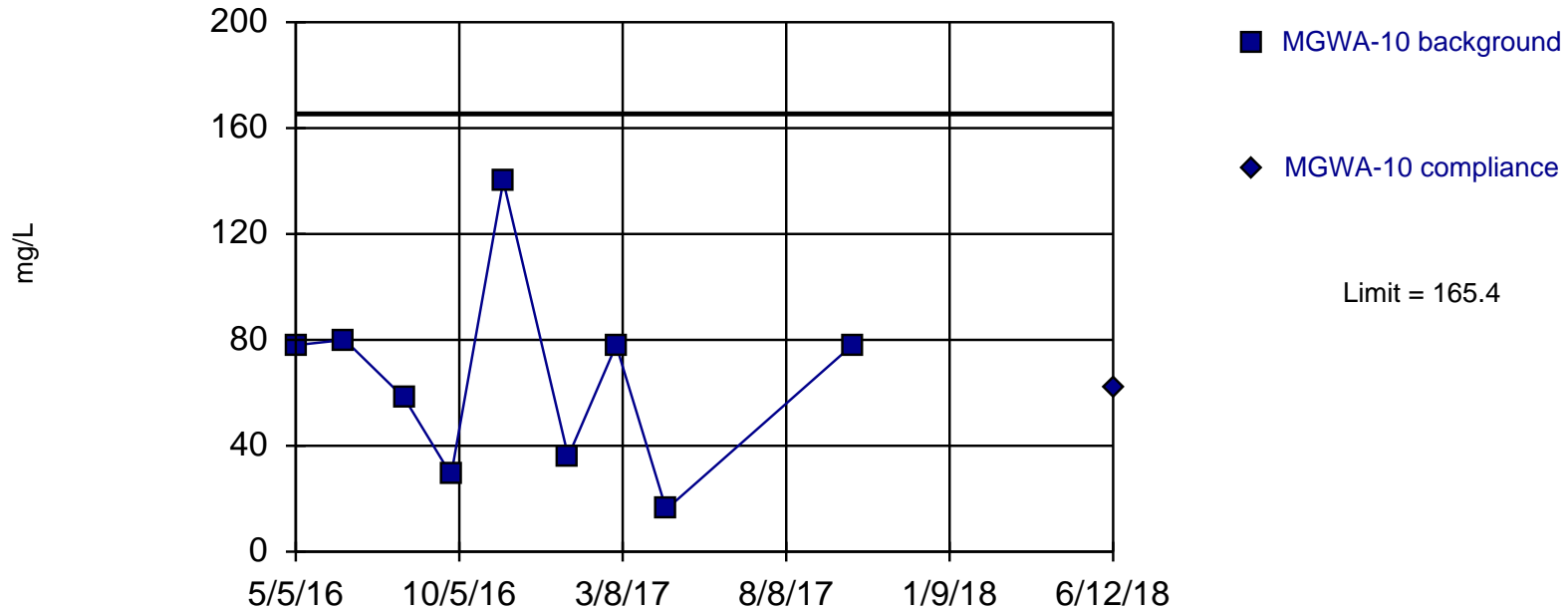


Background Data Summary: Mean=5.564, Std. Dev.=0.3413, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8393, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

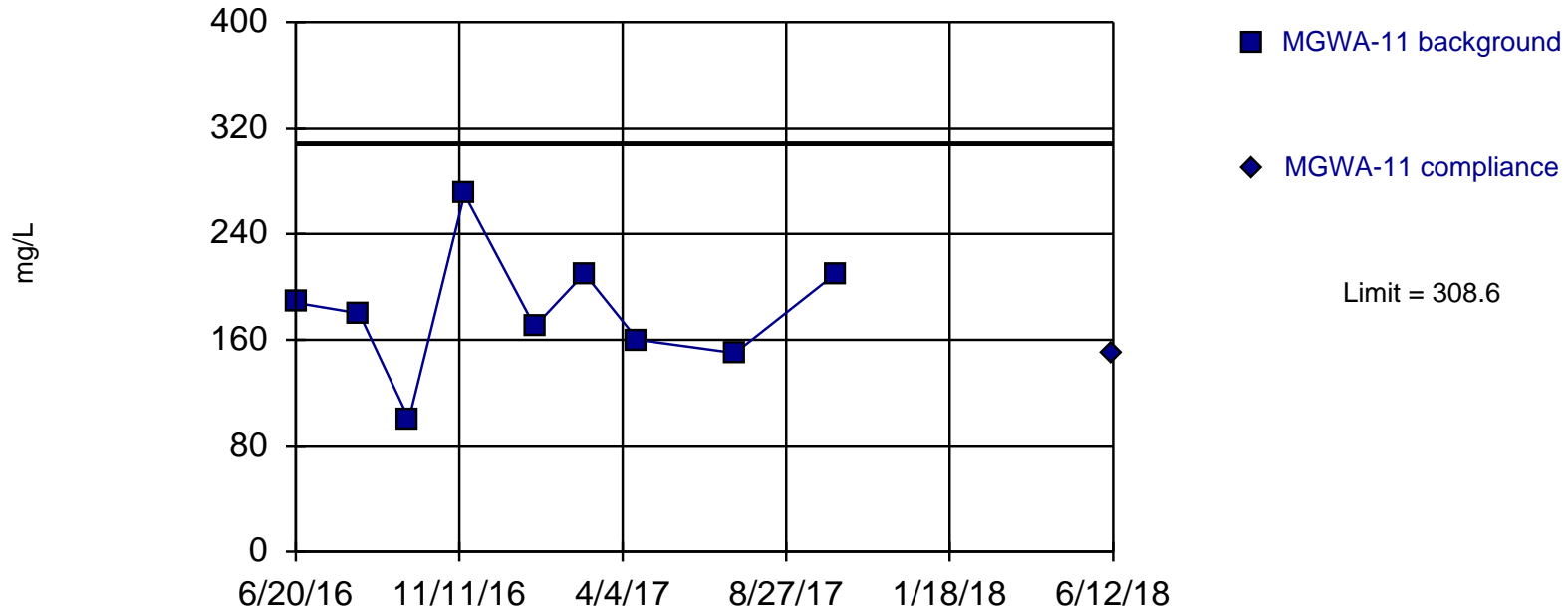


Background Data Summary: Mean=65.89, Std. Dev.=36.97, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9097, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

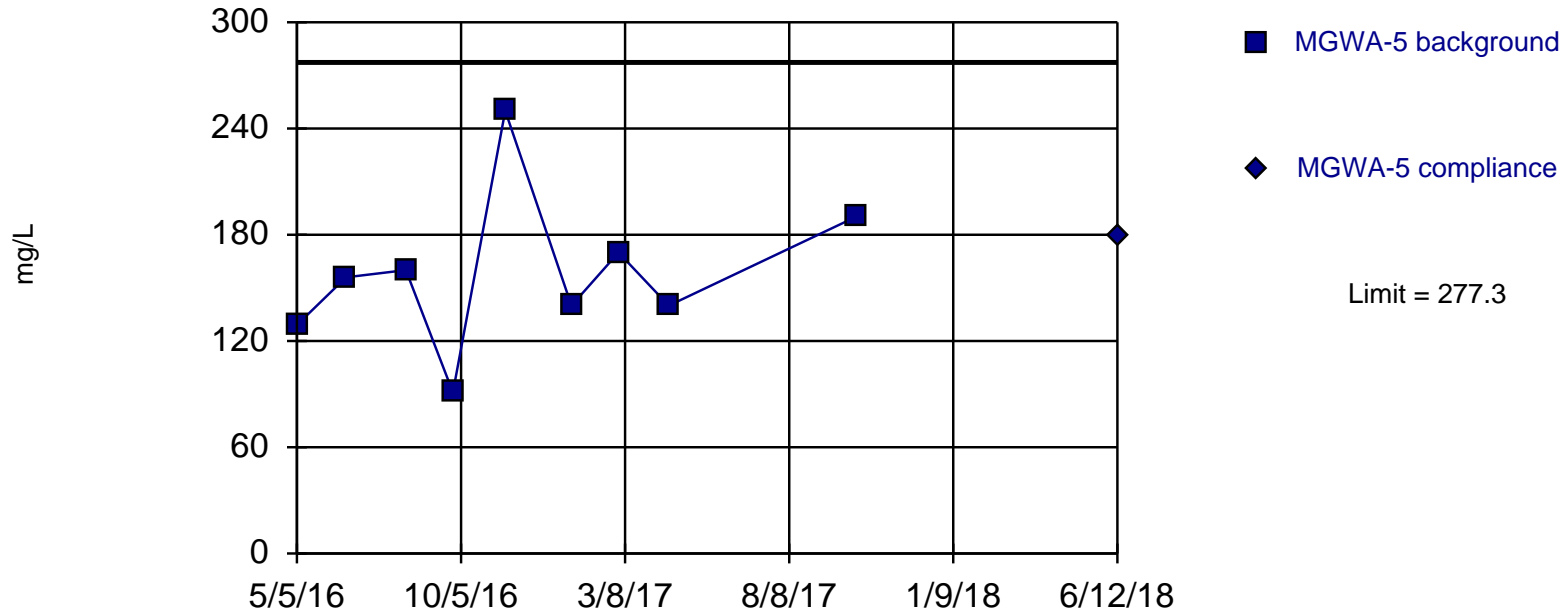


Background Data Summary: Mean=182, Std. Dev.=47.07, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9702, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

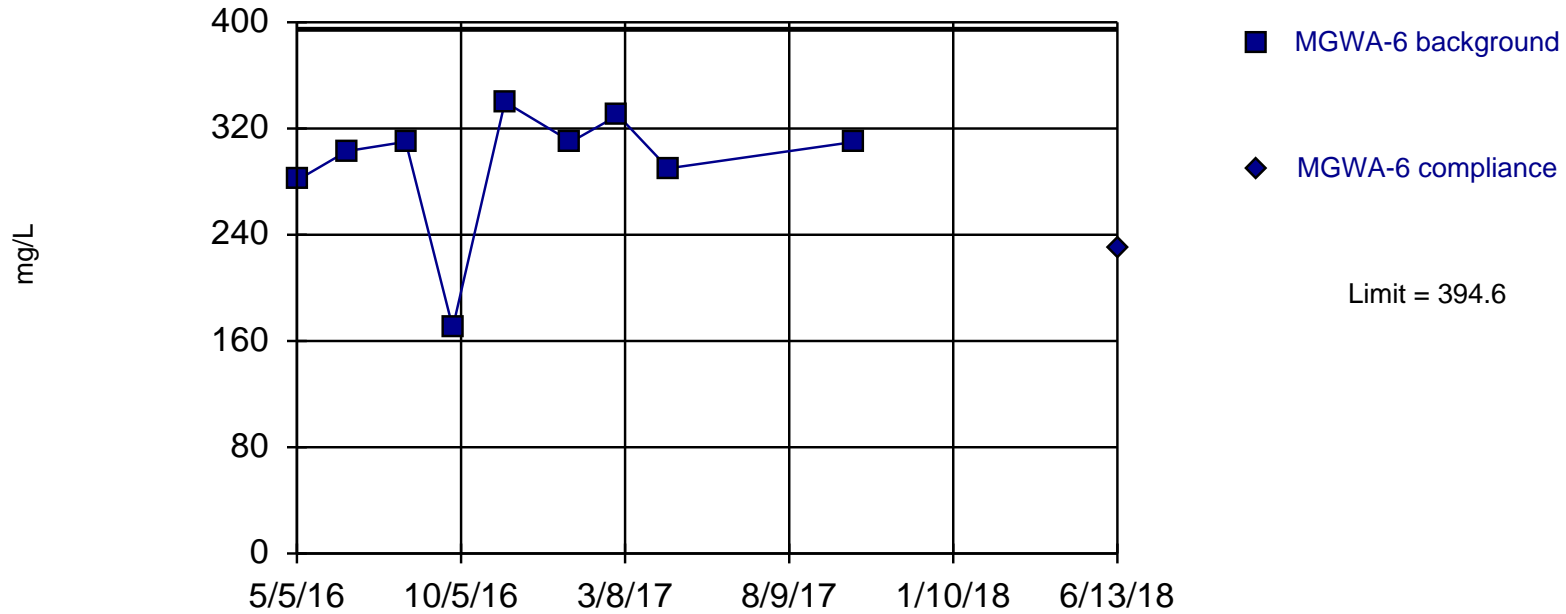


Background Data Summary: Mean=158.4, Std. Dev.=44.18, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9411, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

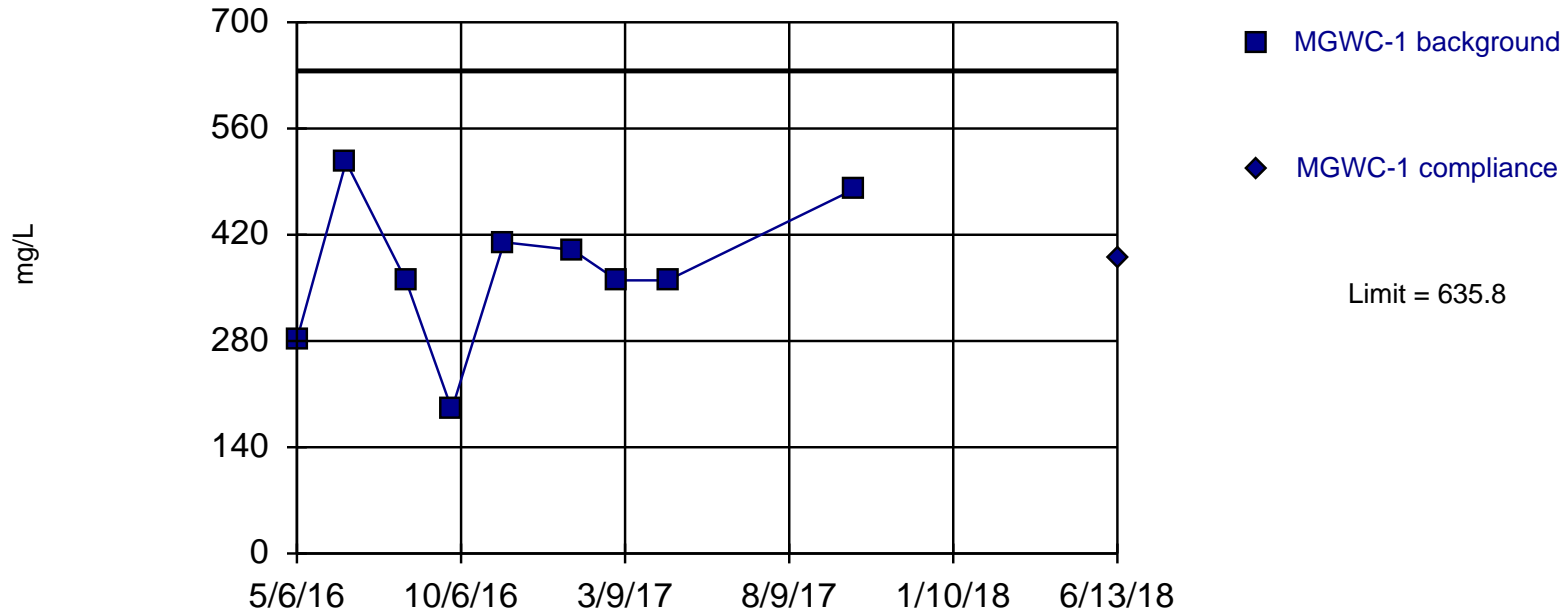


Background Data Summary (based on square transformation): Mean=88508, Std. Dev.=24993, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8079, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

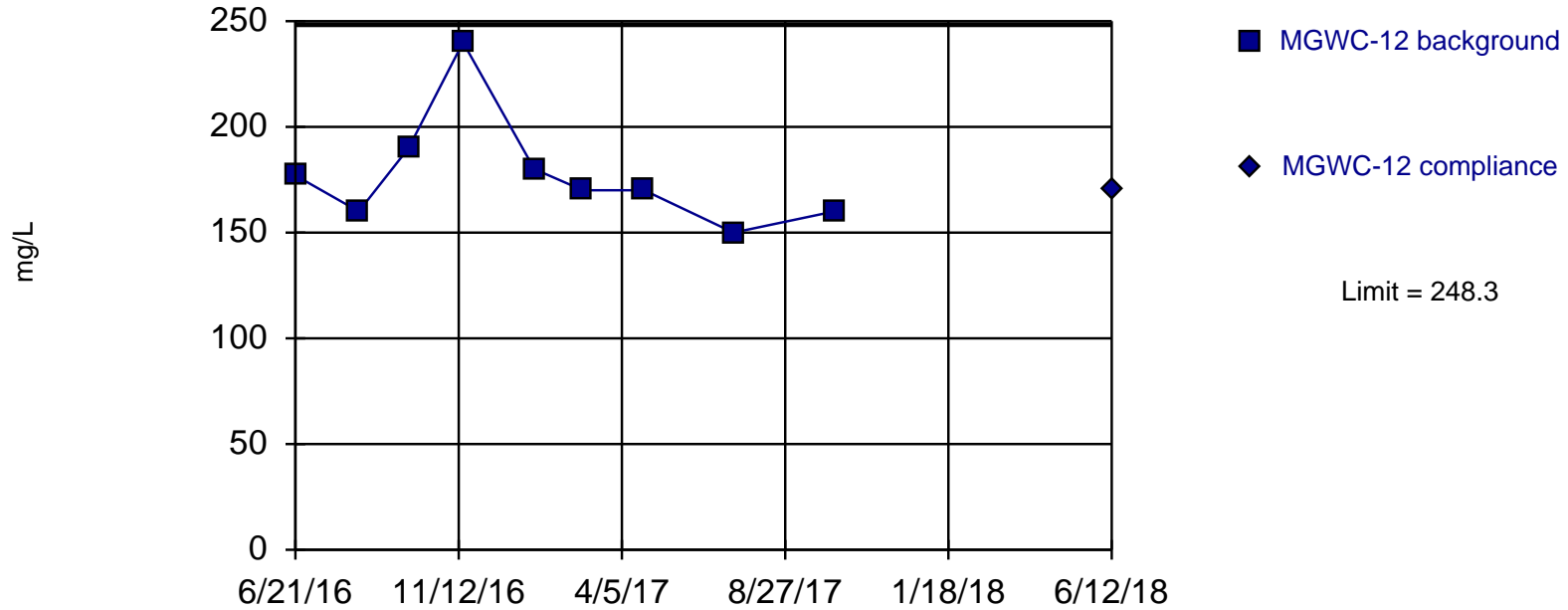


Background Data Summary: Mean=373.1, Std. Dev.=97.64, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

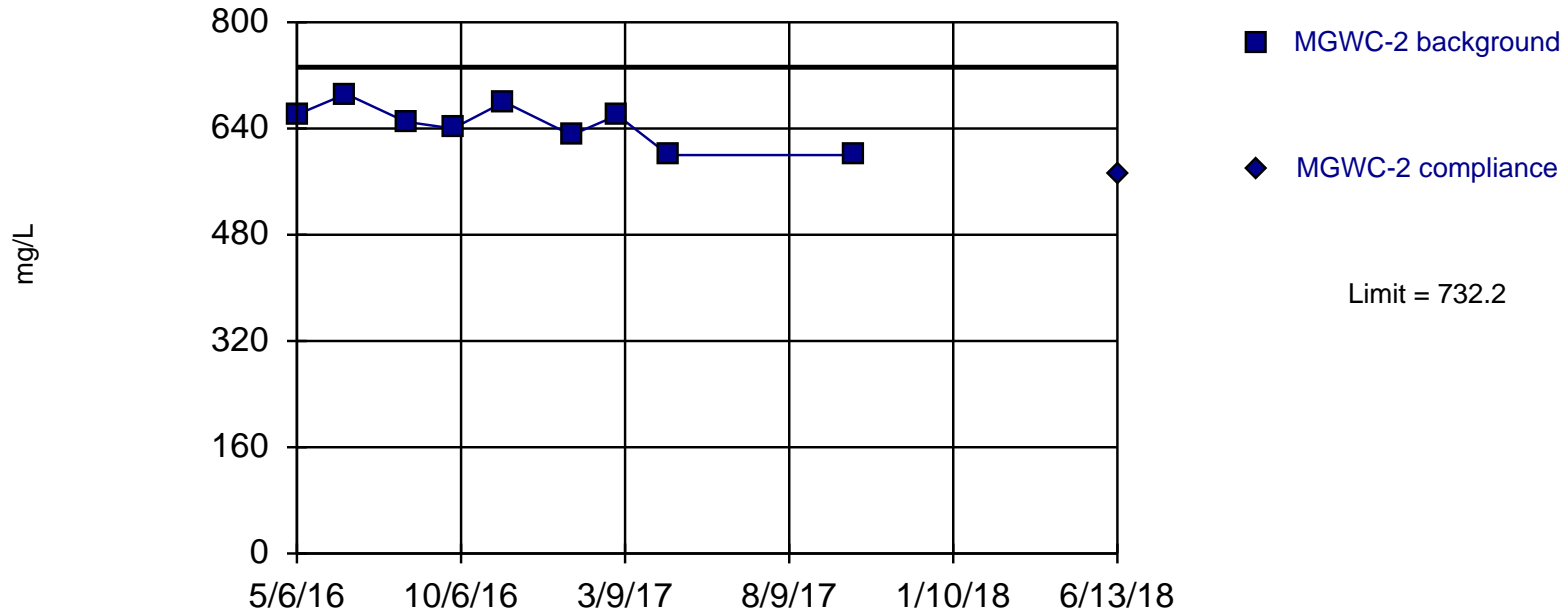


Background Data Summary: Mean=177.4, Std. Dev.=26.34, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.817, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

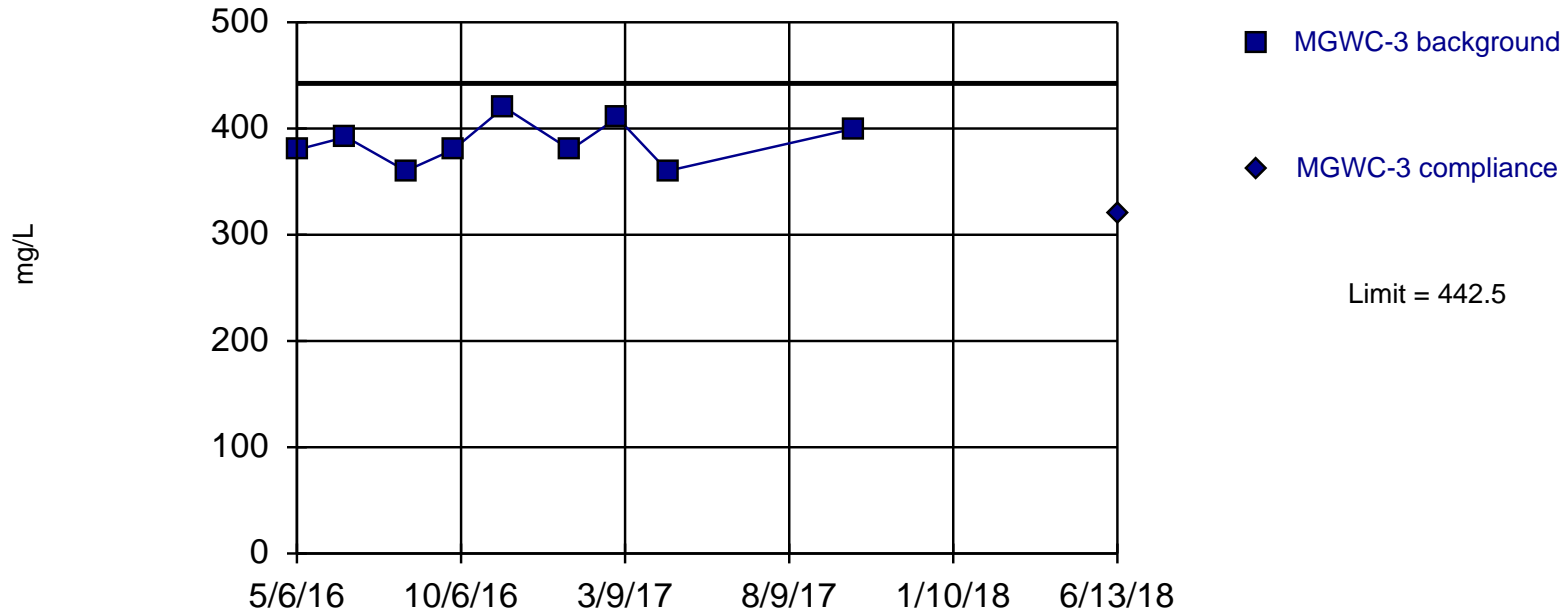


Background Data Summary: Mean=645.9, Std. Dev.=32.08, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9436, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

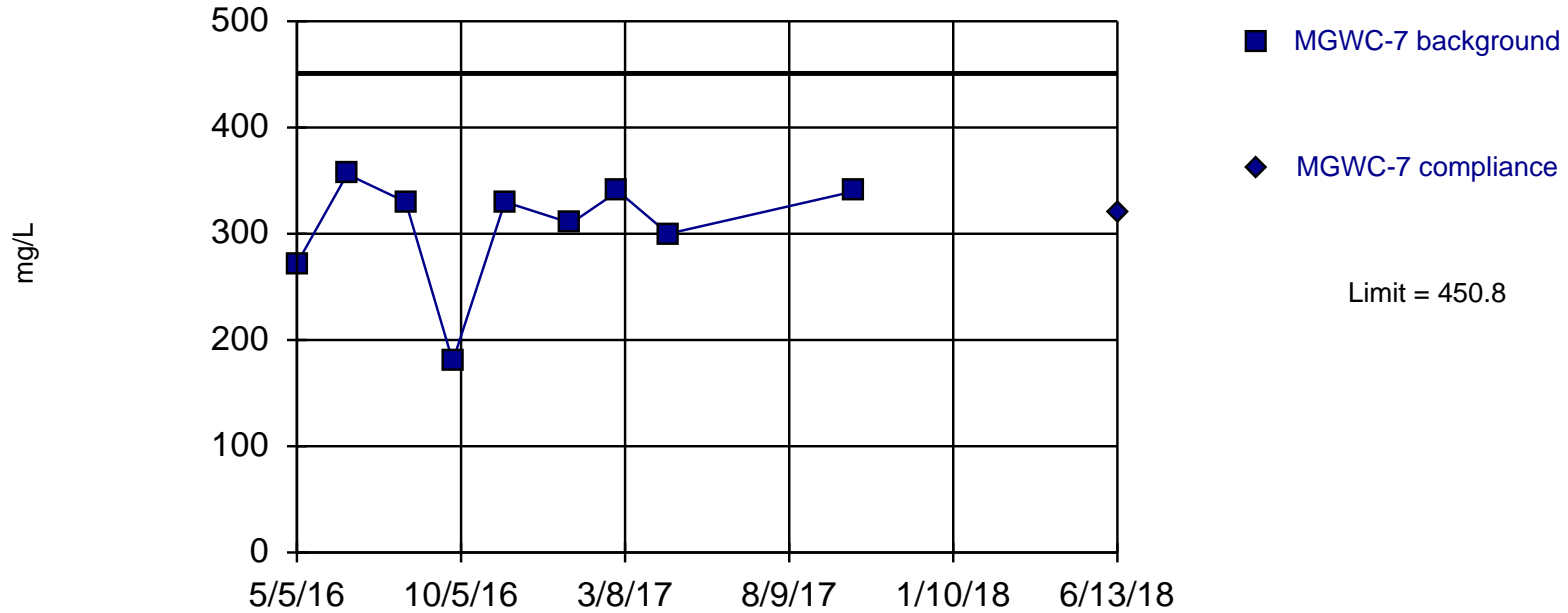


Background Data Summary: Mean=386.9, Std. Dev.=20.67, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:52 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

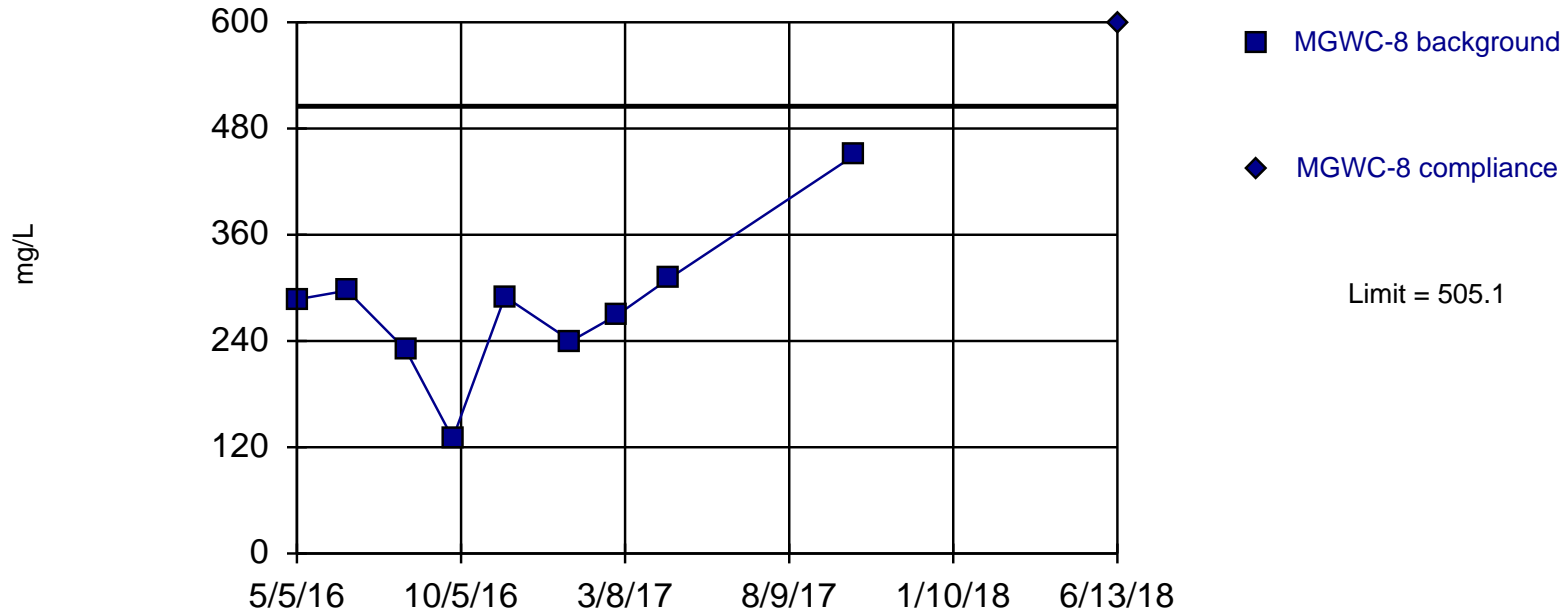


Background Data Summary: Mean=306.4, Std. Dev.=53.67, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7965, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:53 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=278.2, Std. Dev.=84.34, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:53 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:23 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MGWA-10 (bg)	0.00112	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-11 (bg)	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-5 (bg)	0.0012	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-6 (bg)	0.0017	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-1	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-12	0.0005	0.0004	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-2	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-3	0.0005	0.0003	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-7	0.00197	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-8	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	MGWA-10 (bg)	0.00095	0.00036	0.035	No	10	70	No	0.011	NP (normality)
Arsenic (mg/L)	MGWA-11 (bg)	0.002609	0.0008751	0.035	No	10	10	No	0.01	Param.
Arsenic (mg/L)	MGWA-5 (bg)	0.00065	0.00014	0.035	No	10	80	No	0.011	NP (NDs)
Arsenic (mg/L)	MGWA-6 (bg)	0.03258	0.01612	0.035	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-1	0.003603	0.002235	0.035	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.001457	0.0005394	0.035	No	10	10	No	0.01	Param.
Arsenic (mg/L)	MGWC-2	0.00065	0.00065	0.035	No	10	80	No	0.011	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.001768	0.001247	0.035	No	10	0	x^2	0.01	Param.
Arsenic (mg/L)	MGWC-7	0.001485	0.0007458	0.035	No	10	30	No	0.01	Param.
Arsenic (mg/L)	MGWC-8	0.00065	0.00059	0.035	No	10	90	No	0.011	NP (NDs)
Barium (mg/L)	MGWA-10 (bg)	0.03242	0.0231	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-11 (bg)	0.1154	0.08781	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-5 (bg)	0.03776	0.03214	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-6 (bg)	0.0564	0.04248	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-1	0.12	0.092	2	No	10	0	No	0.011	NP (normality)
Barium (mg/L)	MGWC-12	0.05633	0.04085	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05894	0.05082	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1577	0.1333	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.0152	0.0098	2	No	10	0	No	0.011	NP (normality)
Barium (mg/L)	MGWC-8	0.03961	0.03379	2	No	10	0	No	0.01	Param.
Beryllium (mg/L)	MGWA-10 (bg)	0.00125	0.000033	0.004	No	10	90	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-1	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-12	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-2	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-7	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.001145	0.0004474	0.004	No	10	10	No	0.01	Param.
Cadmium (mg/L)	MGWA-10 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-1	0.00125	0.000126	0.005	No	10	80	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-12	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.004426	0.001114	0.005	No	10	0	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-3	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-7	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-8	0.00125	0.0003	0.005	No	10	50	No	0.011	NP (normality)

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:23 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Chromium (mg/L)	MGWA-10 (bg)	0.0039	0.00249	0.1	No	10	0	No	0.011	NP (normality)
Chromium (mg/L)	MGWA-11 (bg)	0.00125	0.00066	0.1	No	10	80	No	0.011	NP (NDs)
Chromium (mg/L)	MGWA-5 (bg)	0.00125	0.00024	0.1	No	10	80	No	0.011	NP (NDs)
Chromium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-1	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-12	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-2	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-3	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-7	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-8	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-10 (bg)	0.00125	0.00018	0.006	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-11 (bg)	0.00125	0.000039	0.006	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-5 (bg)	0.00125	0.000012	0.006	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-6 (bg)	0.00125	0.0003	0.006	No	10	40	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-1	0.00125	0.0004	0.006	No	10	60	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-12	0.00125	0.00125	0.006	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.003706	0.003115	0.006	No	10	0	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.0007876	0.0004631	0.006	No	10	10	ln(x)	0.01	Param.
Cobalt (mg/L)	MGWC-7	0.0099	0.0036	0.006	No	10	0	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-8	0.014	0.0033	0.006	No	10	0	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWA-10 (bg)	0.9363	0.4002	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-11 (bg)	0.8444	0.2885	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-5 (bg)	0.4647	0.1606	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-6 (bg)	0.7979	0.3248	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.07	5	No	10	0	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.7672	0.274	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.8556	0.4097	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.766	1.352	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.3	0.7375	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	1.954	1.181	5	No	10	0	No	0.01	Param.
Fluoride (mg/L)	MGWA-10 (bg)	0.1	0.046	4	No	11	81.82	No	0.006	NP (NDs)
Fluoride (mg/L)	MGWA-11 (bg)	0.1406	0.08543	4	No	11	9.091	No	0.01	Param.
Fluoride (mg/L)	MGWA-5 (bg)	0.1964	0.08301	4	No	11	27.27	No	0.01	Param.
Fluoride (mg/L)	MGWA-6 (bg)	0.1	0.08	4	No	11	45.45	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-1	0.2872	0.1819	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.2721	0.2043	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.15	0.087	4	No	11	63.64	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-3	0.15	0.082	4	No	11	45.45	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-7	0.4132	0.2512	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.15	0.088	4	No	11	27.27	No	0.006	NP (normality)
Lead (mg/L)	MGWA-10 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-11 (bg)	0.000175	0.000087	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-5 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-6 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-1	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-12	0.000175	0.0001	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-2	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-3	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-7	0.0003	0.000175	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-8	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)

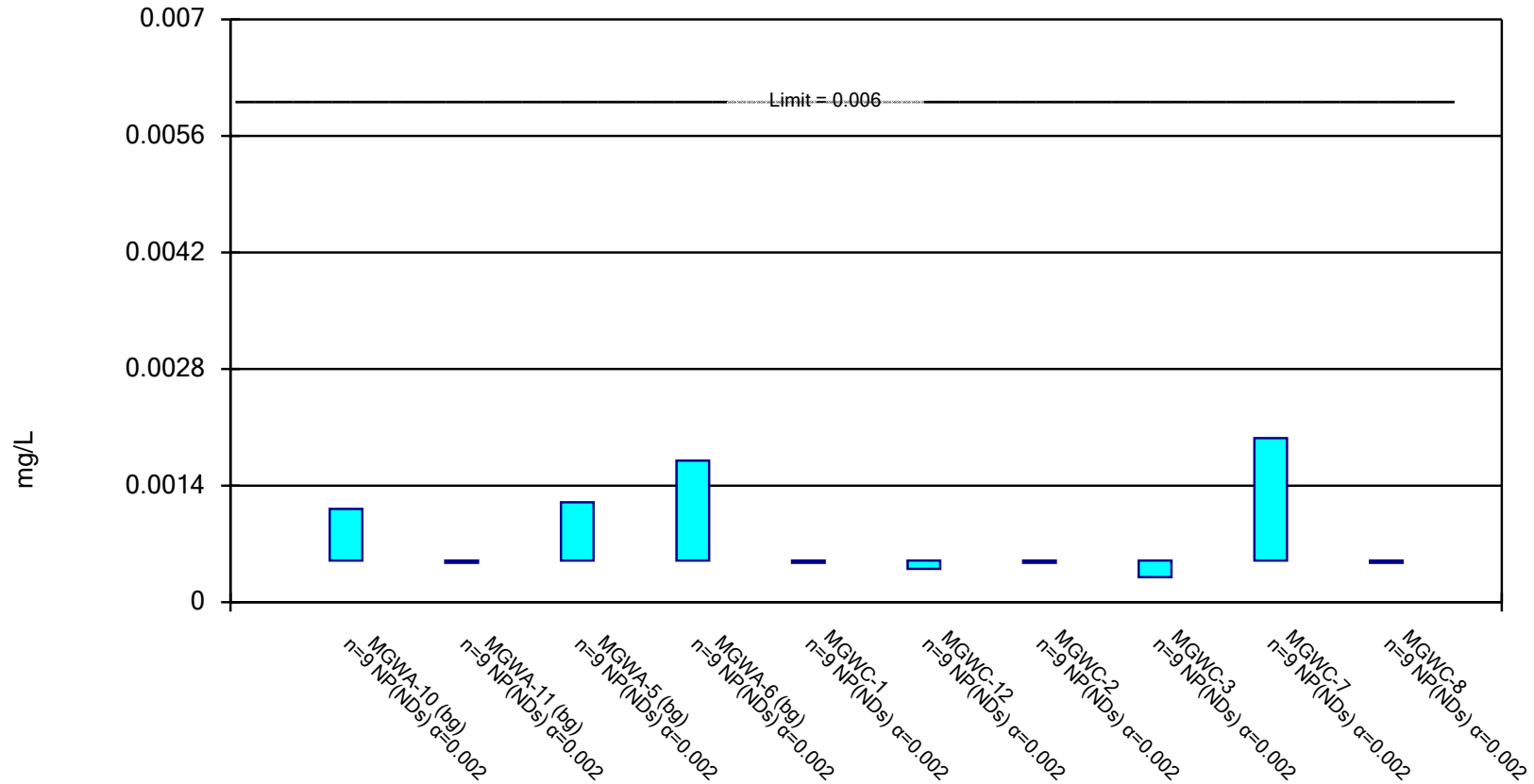
Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:23 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	MGWA-10 (bg)	0.008633	0.005247	0.04	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWA-11 (bg)	0.02307	0.01333	0.04	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWA-5 (bg)	0.01077	0.005406	0.04	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWA-6 (bg)	0.0025	0.0025	0.04	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01398	0.01004	0.04	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02055	0.01237	0.04	No	10	0	ln(x)	0.01	Param.
Lithium (mg/L)	MGWC-2	0.006367	0.003813	0.04	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWC-3	0.01417	0.00995	0.04	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-7	0.1468	0.0973	0.04	Yes	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-8	0.035	0.0228	0.04	No	10	0	No	0.011	NP (normality)
Mercury (mg/L)	MGWA-10 (bg)	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-11 (bg)	0.0001	0.00008	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-5 (bg)	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-6 (bg)	0.0001	0.000074	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-1	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-12	0.0001	0.000074	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0001	0.000078	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-3	0.0001	0.00007	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0001	0.00008	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.000076	0.002	No	10	40	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-10 (bg)	0.0075	0.00031	0.1	No	10	80	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWA-11 (bg)	0.0075	0.0011	0.1	No	10	50	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-5 (bg)	0.0075	0.0012	0.1	No	10	60	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-6 (bg)	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-1	0.0021	0.00087	0.1	No	10	10	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.0075	0.0012	0.1	No	10	70	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWC-2	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-3	0.0075	0.0075	0.1	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.0075	0.00351	0.1	No	10	90	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.0075	0.0037	0.1	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-10 (bg)	0.00065	0.00027	0.05	No	10	60	No	0.011	NP (normality)
Selenium (mg/L)	MGWA-11 (bg)	0.00065	0.00049	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-5 (bg)	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-6 (bg)	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-1	0.00065	0.0005	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-12	0.00065	0.00027	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-2	0.00065	0.00045	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-3	0.00065	0.00044	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-7	0.00065	0.000265	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-8	0.00065	0.00027	0.05	No	10	60	No	0.011	NP (normality)
Thallium (mg/L)	MGWA-10 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-11 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-5 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-6 (bg)	0.00025	0.0001	0.002	No	10	90	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-1	0.00025	0.00009	0.002	No	10	70	No	0.011	NP (normality)
Thallium (mg/L)	MGWC-12	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-2	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-3	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-7	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-8	0.000239	0.000123	0.002	No	10	10	No	0.01	Param.

Non-Parametric Confidence Interval

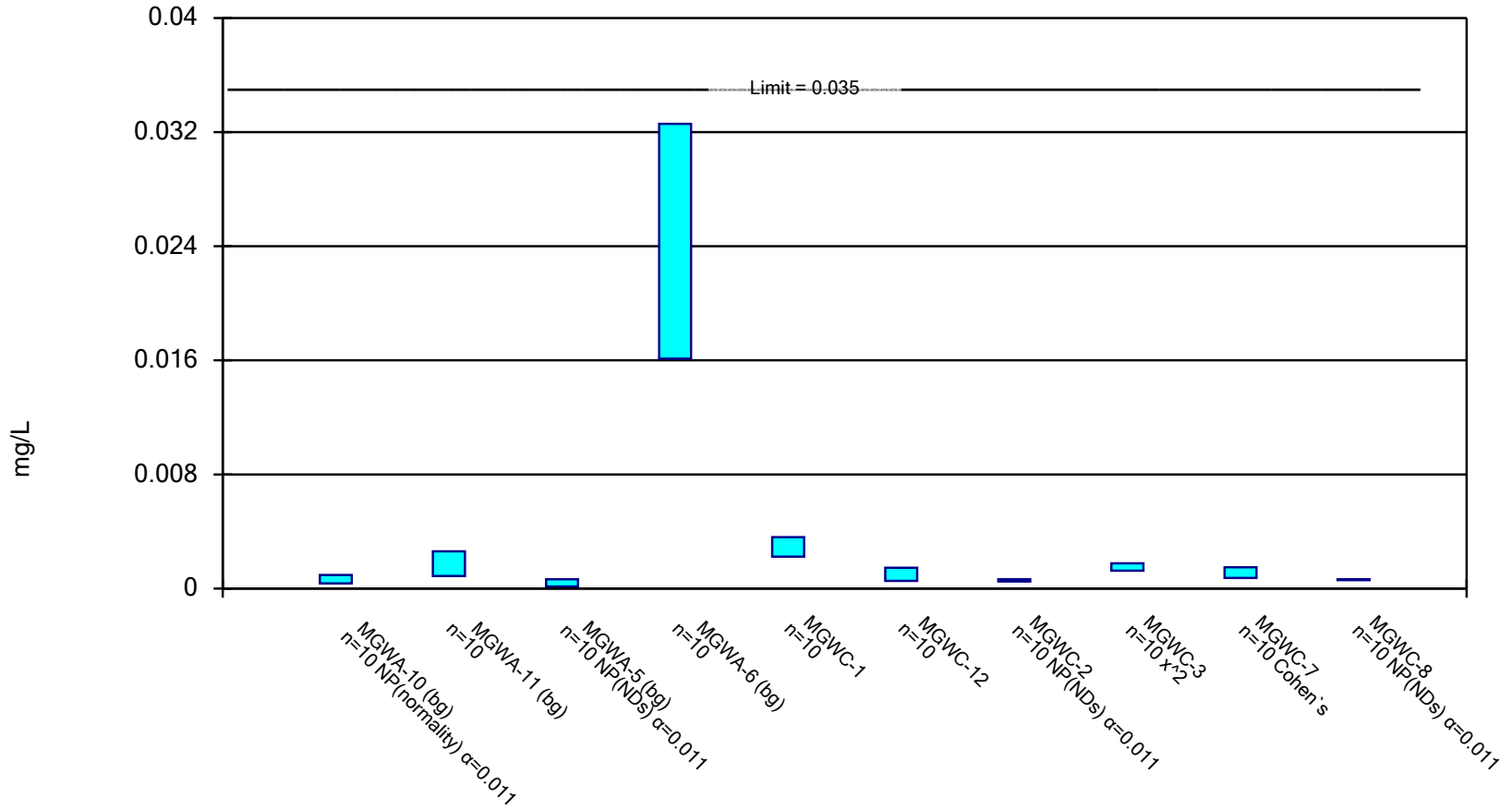
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

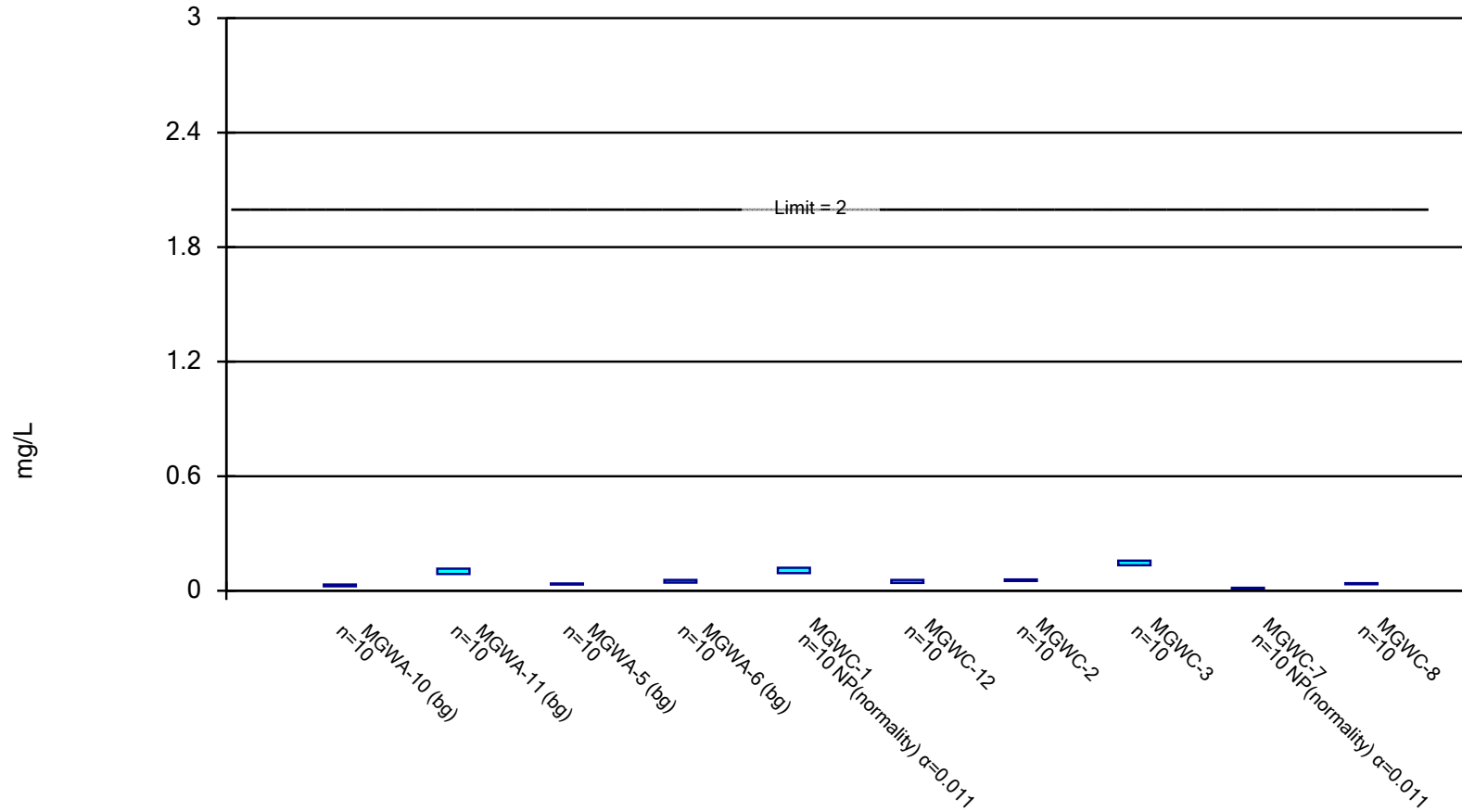
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

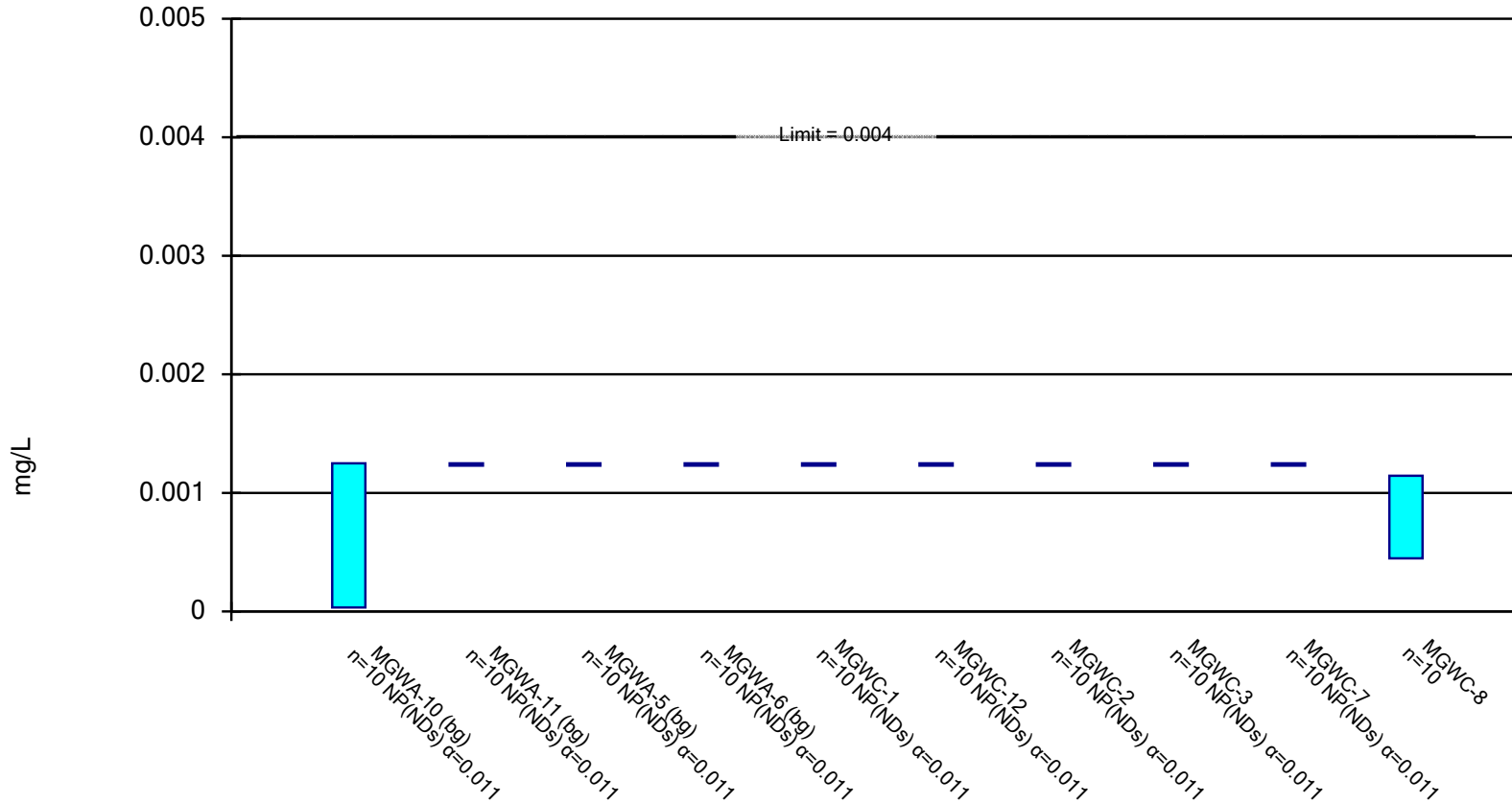
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

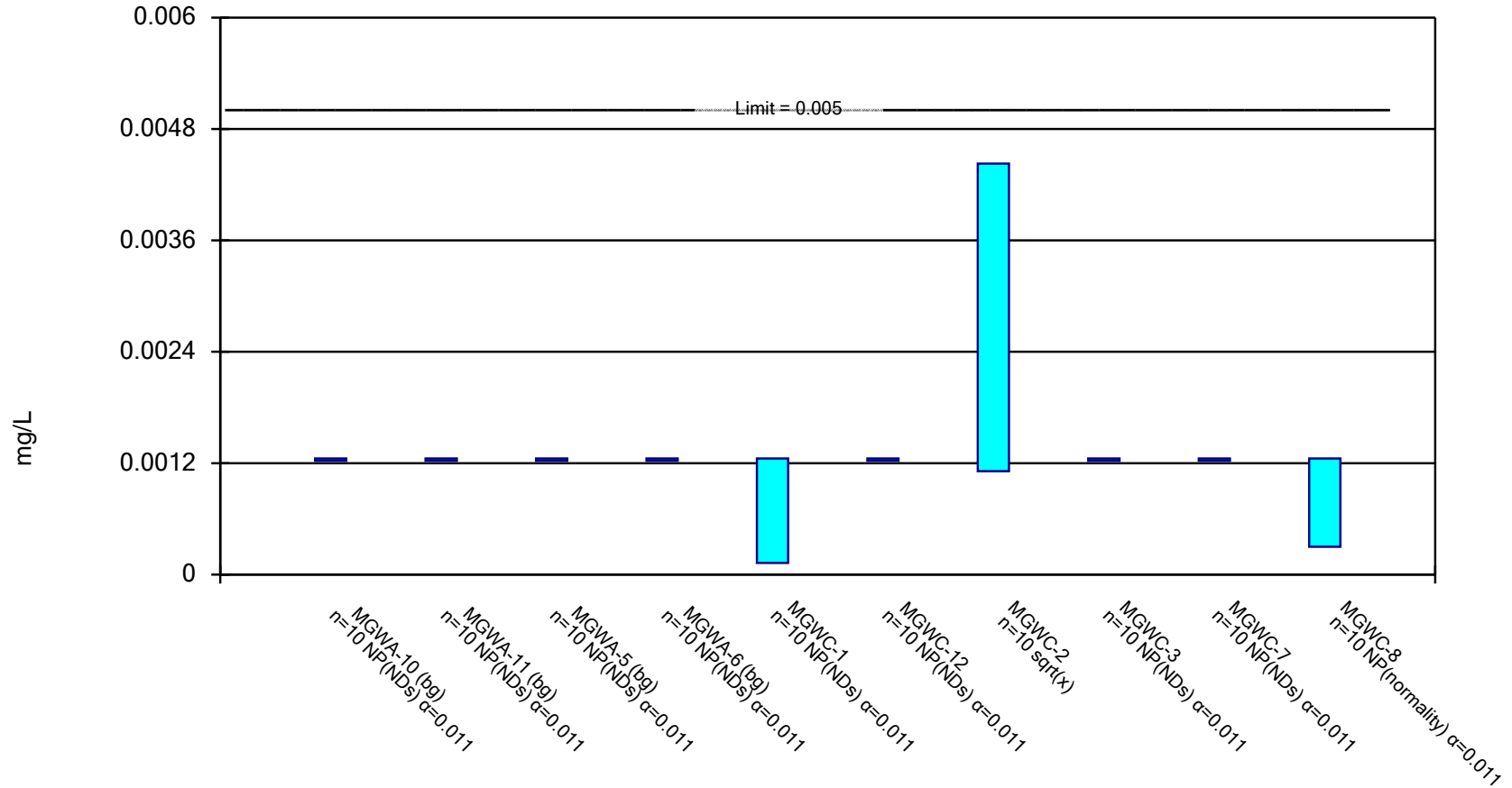


Constituent: Beryllium Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

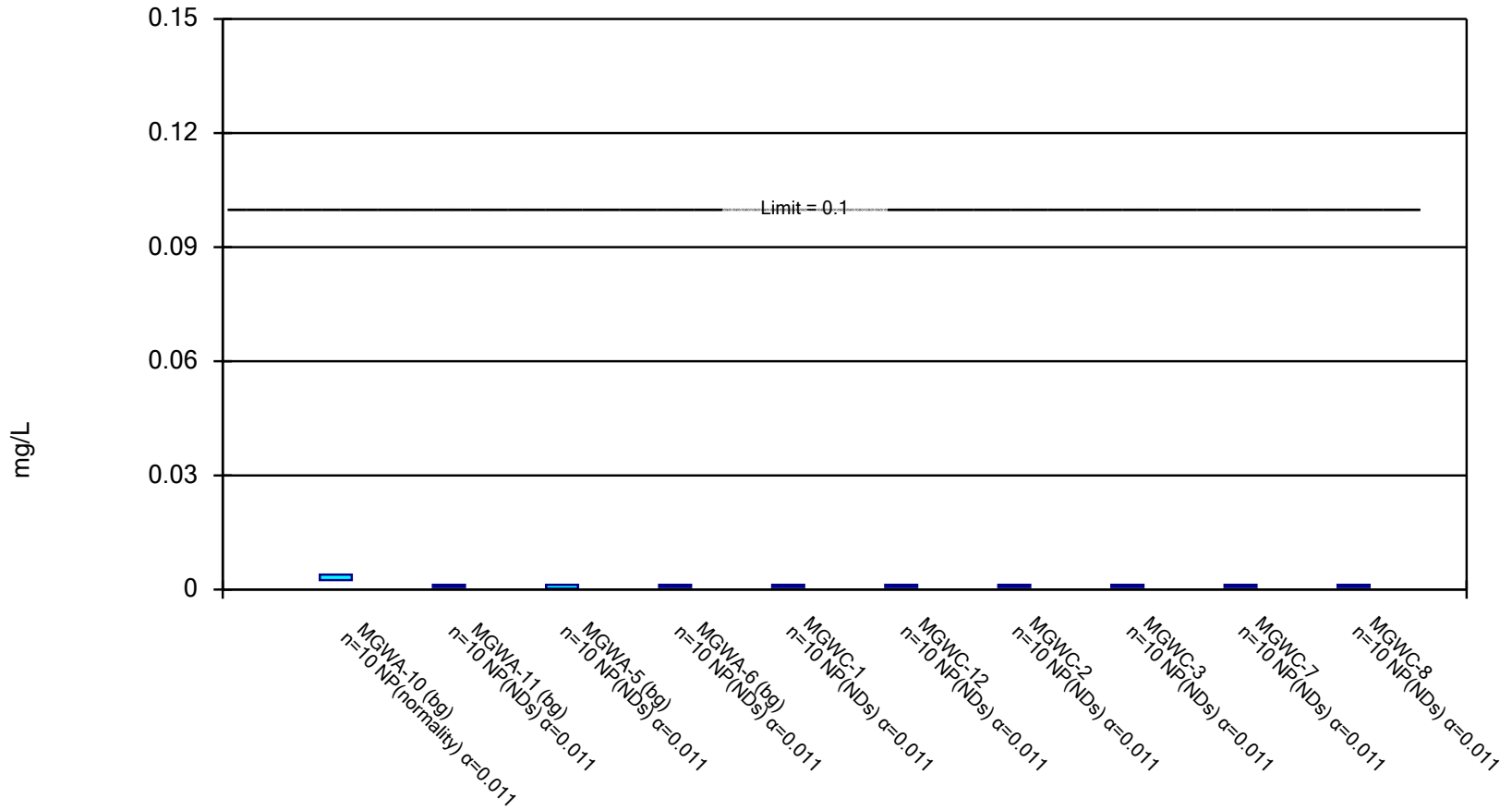


Constituent: Cadmium Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

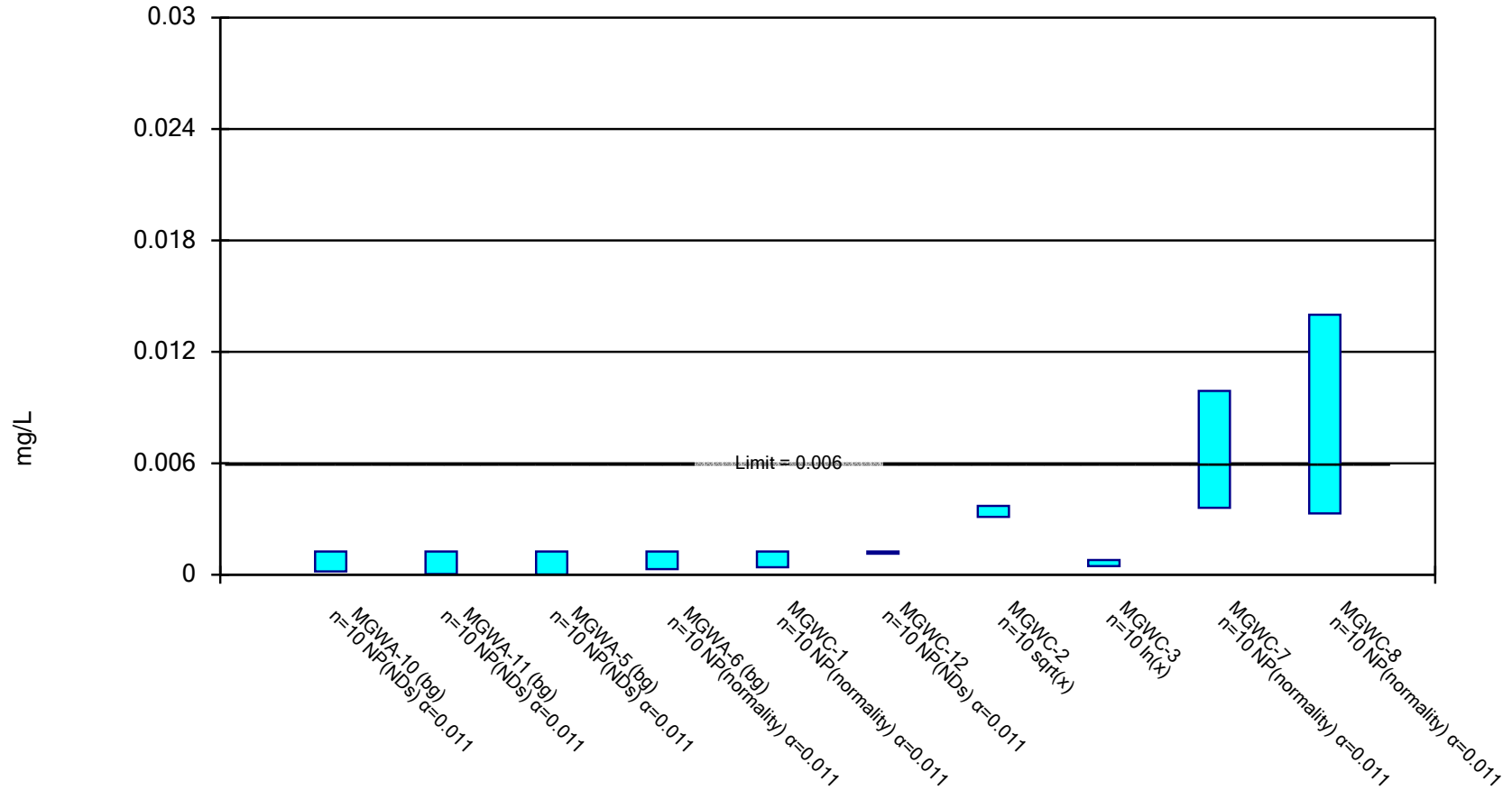
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

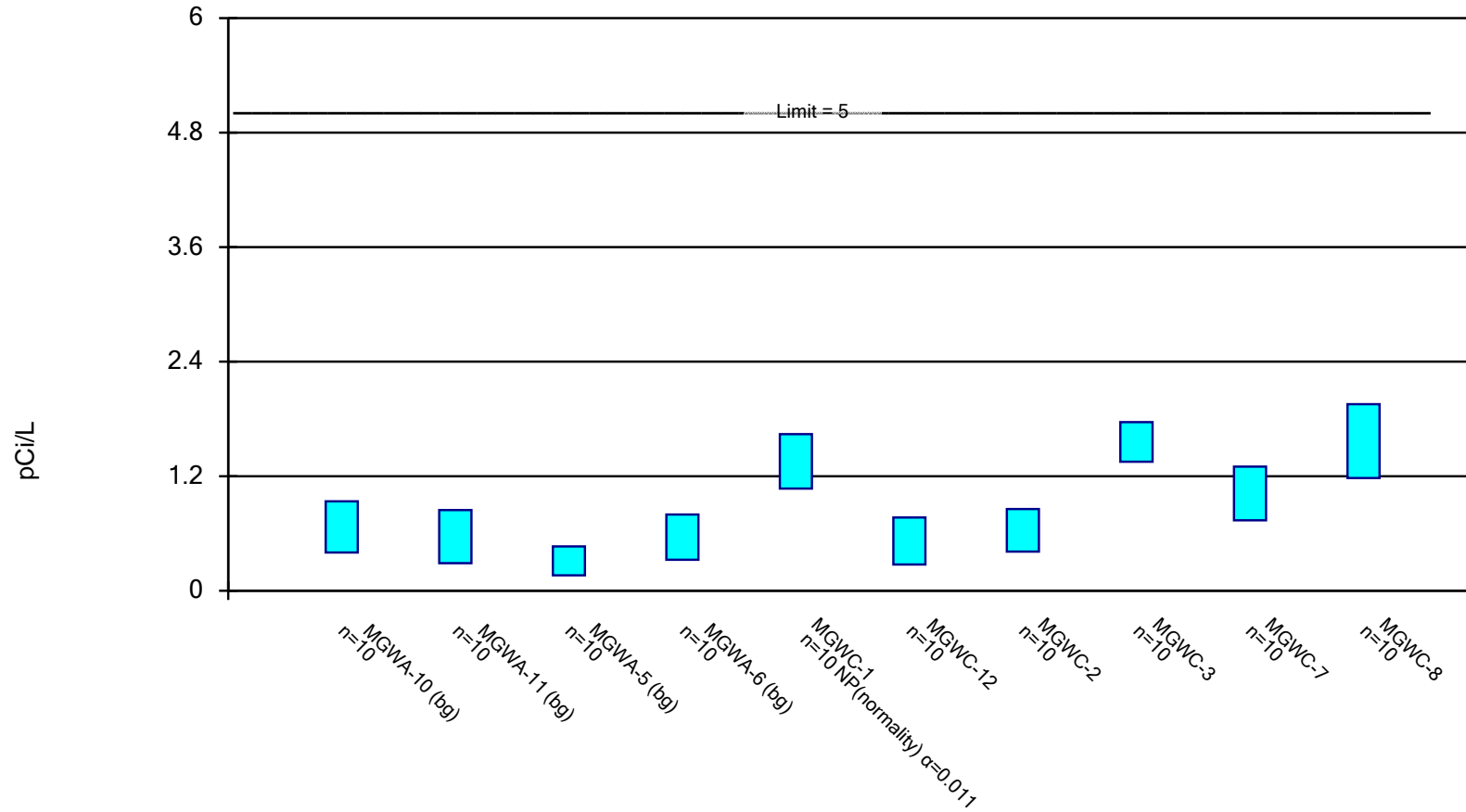


Constituent: Cobalt Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

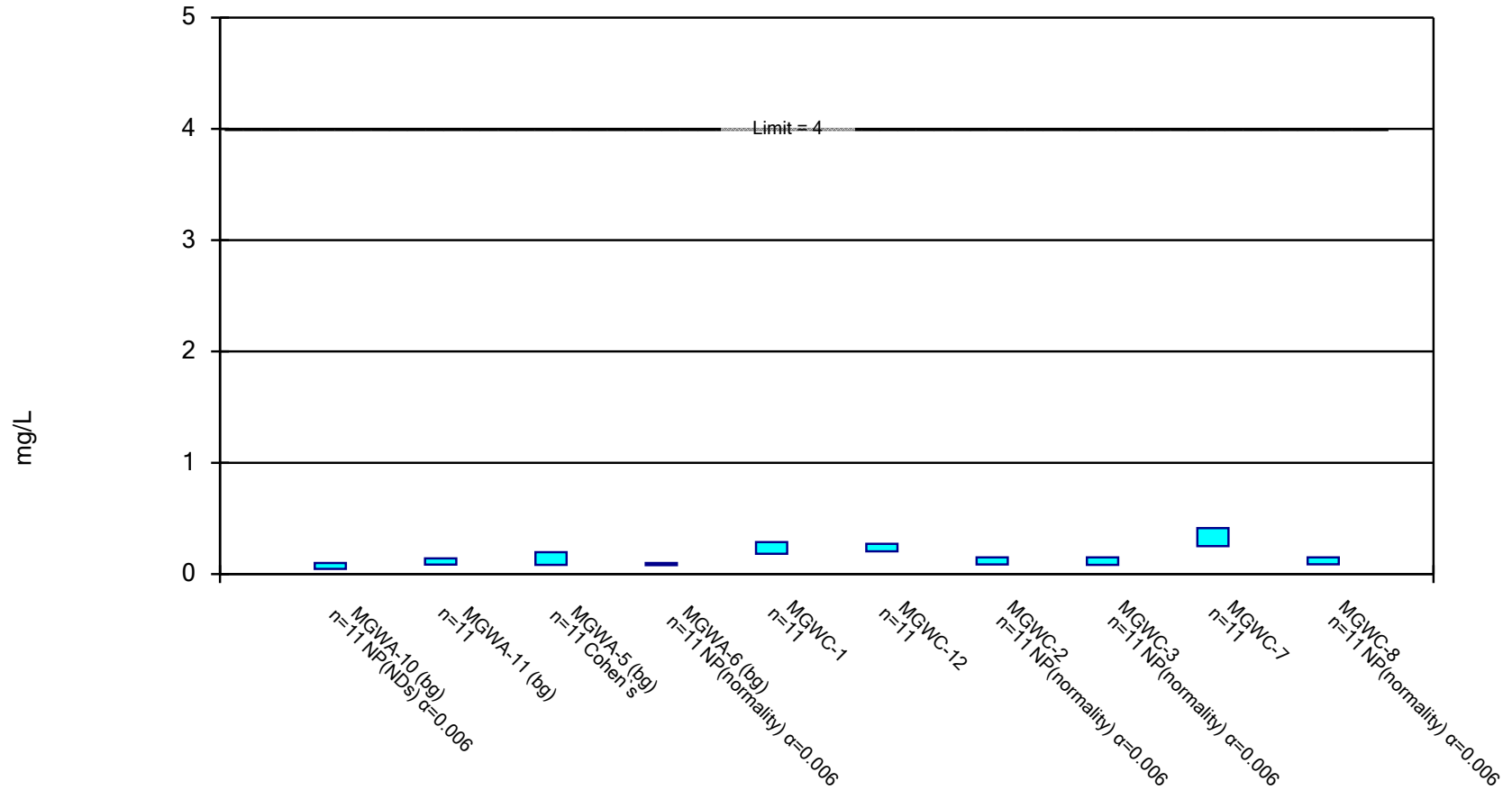


Constituent: Combined Radium 226 + 228 Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

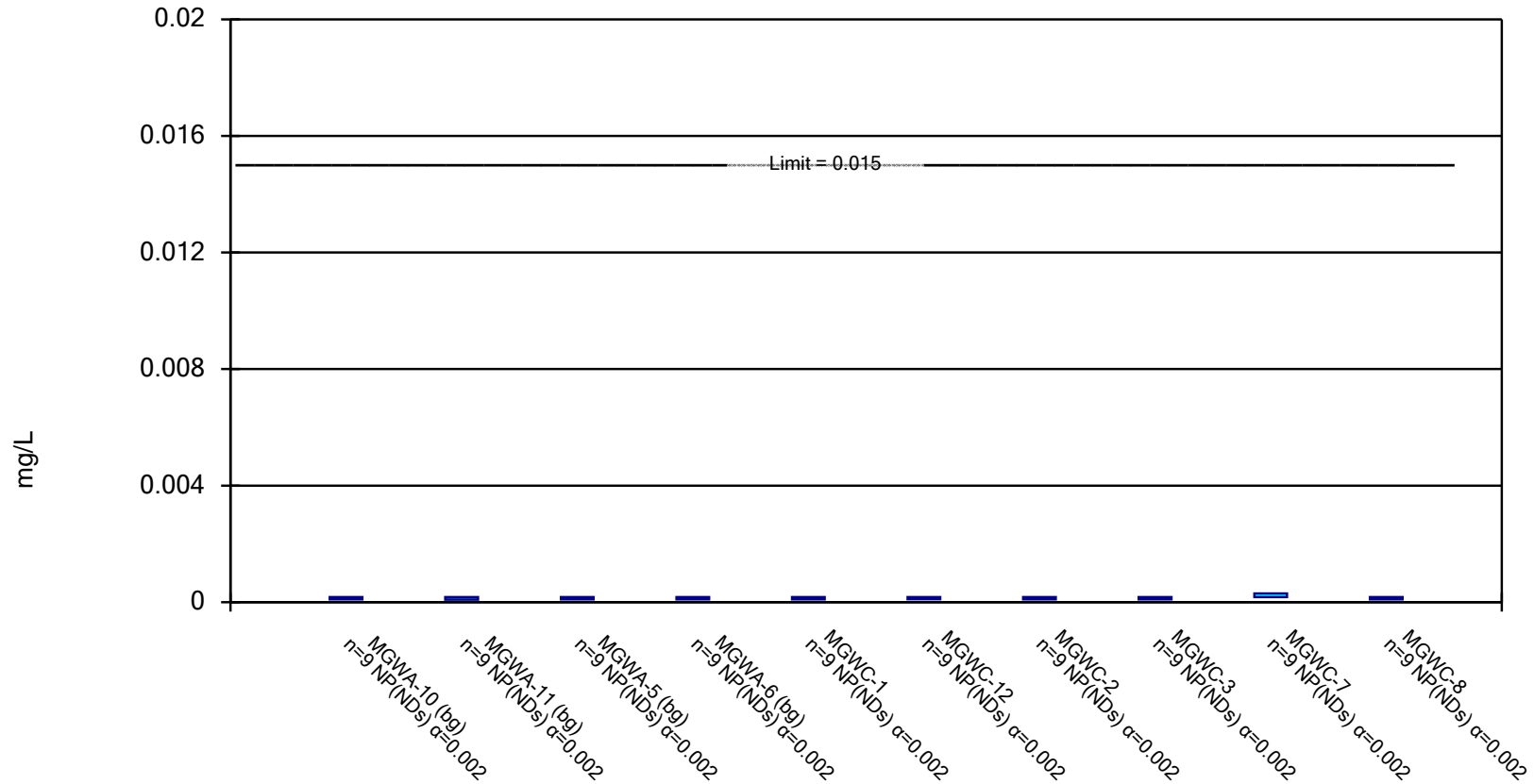


Constituent: Fluoride Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

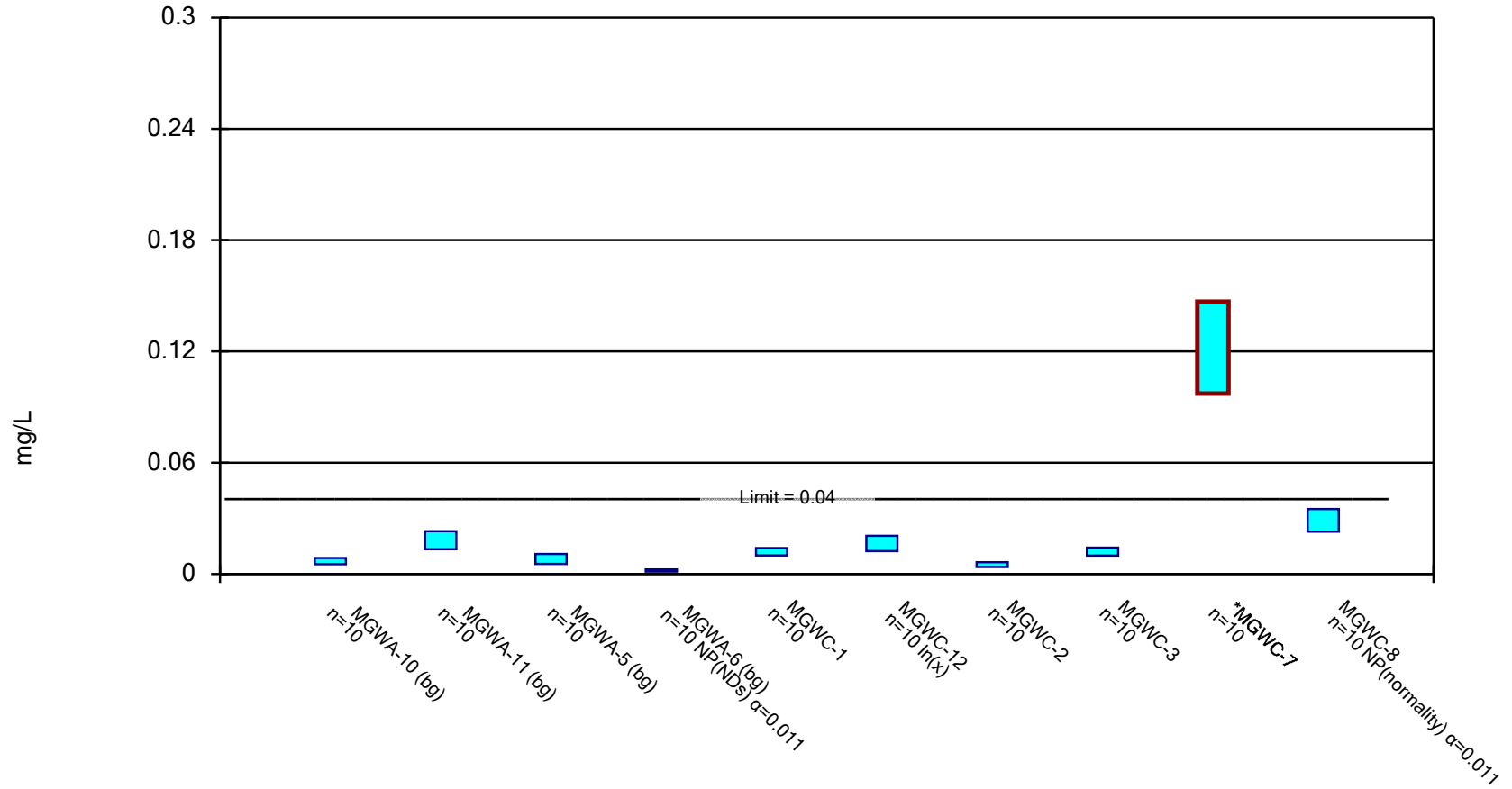


Constituent: Lead Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

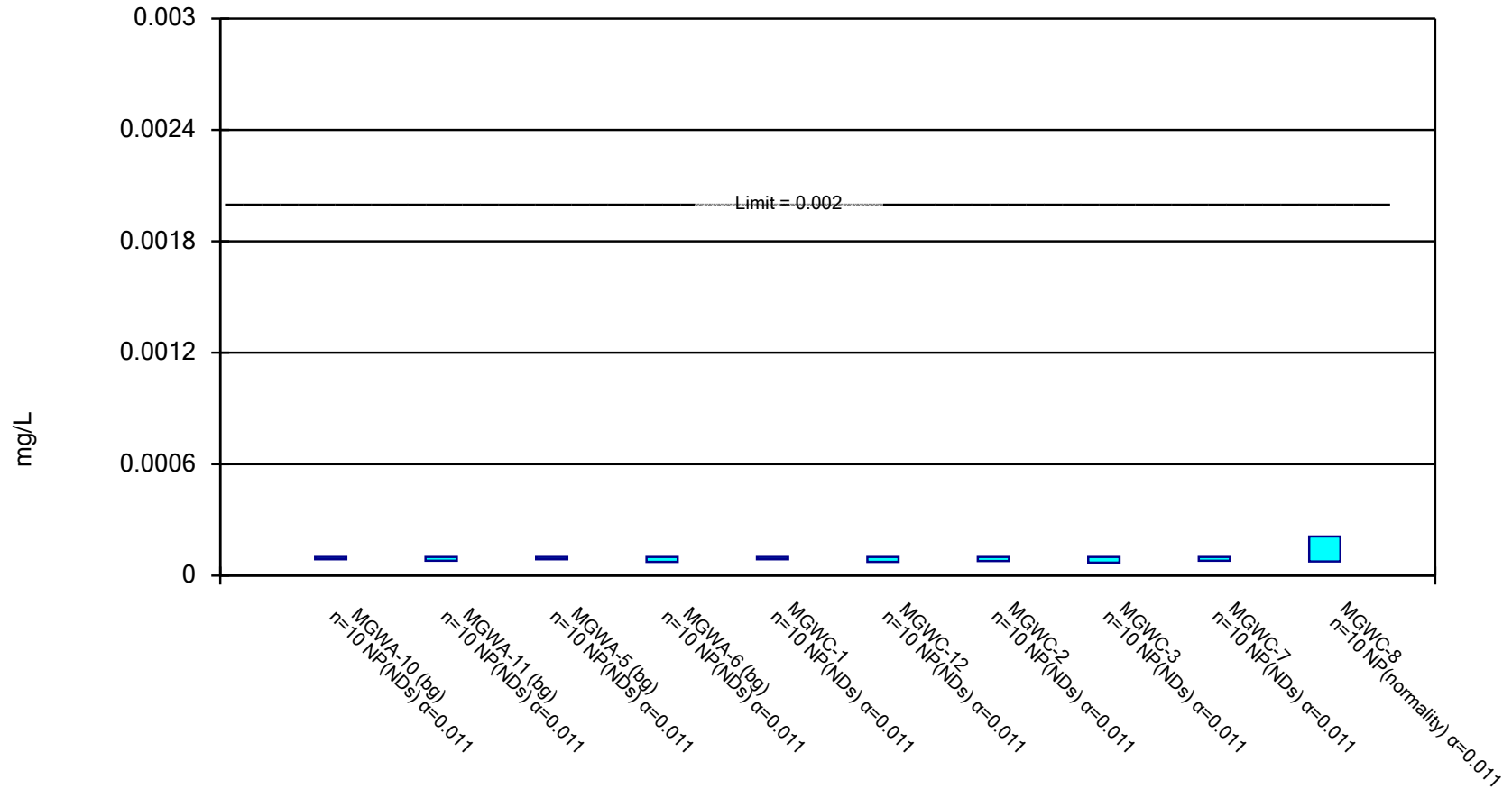
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

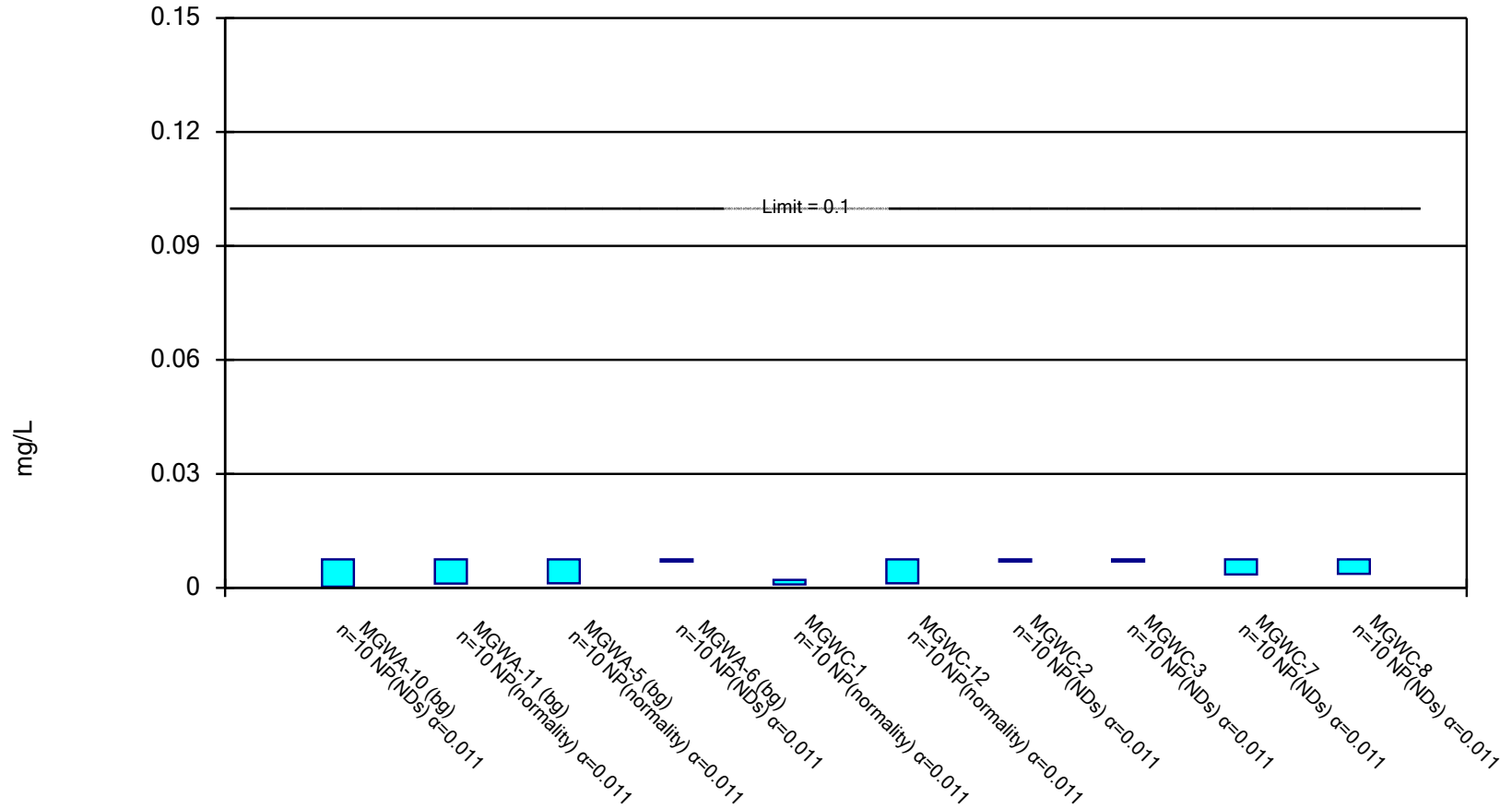


Constituent: Mercury Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

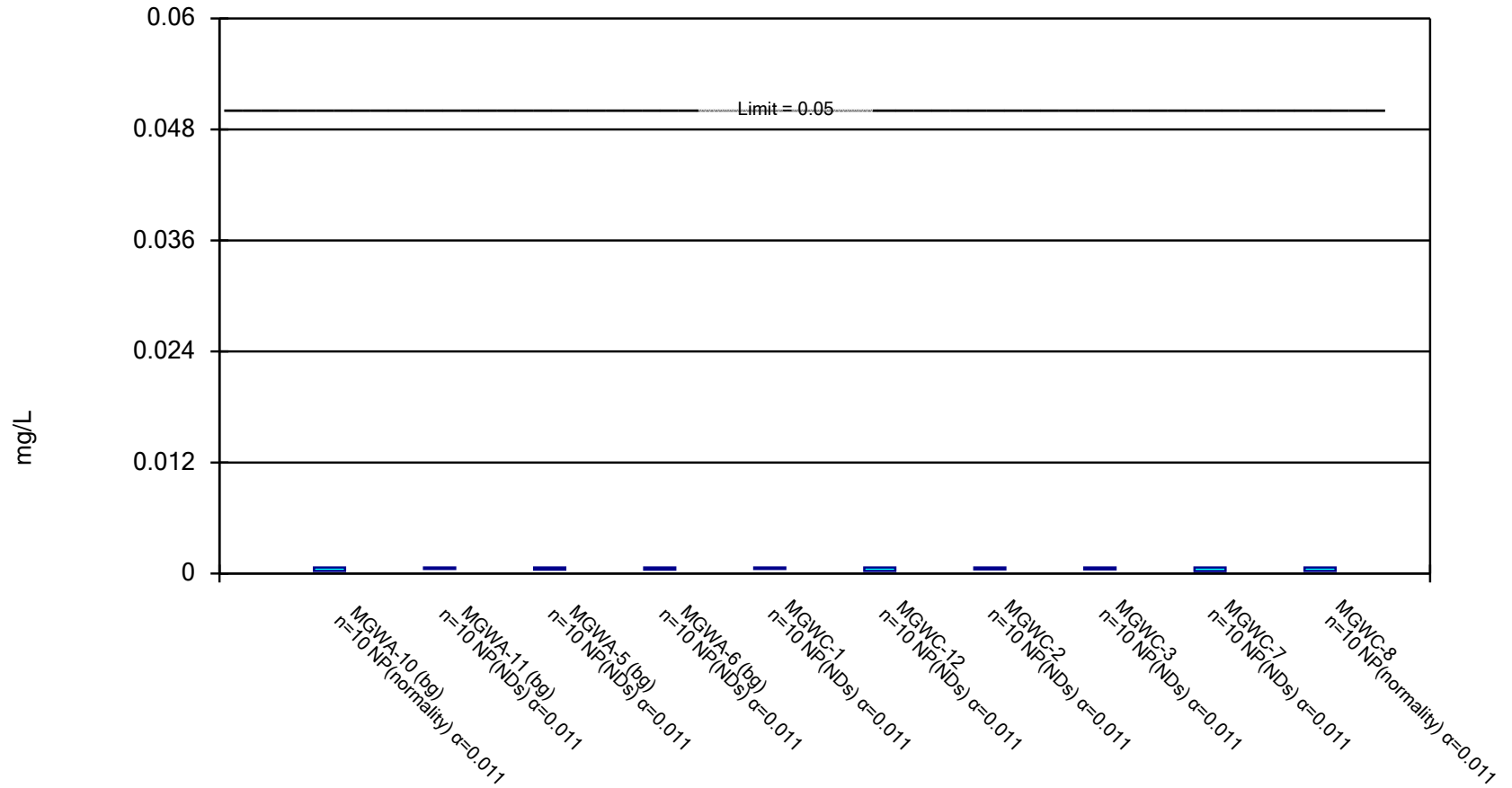
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

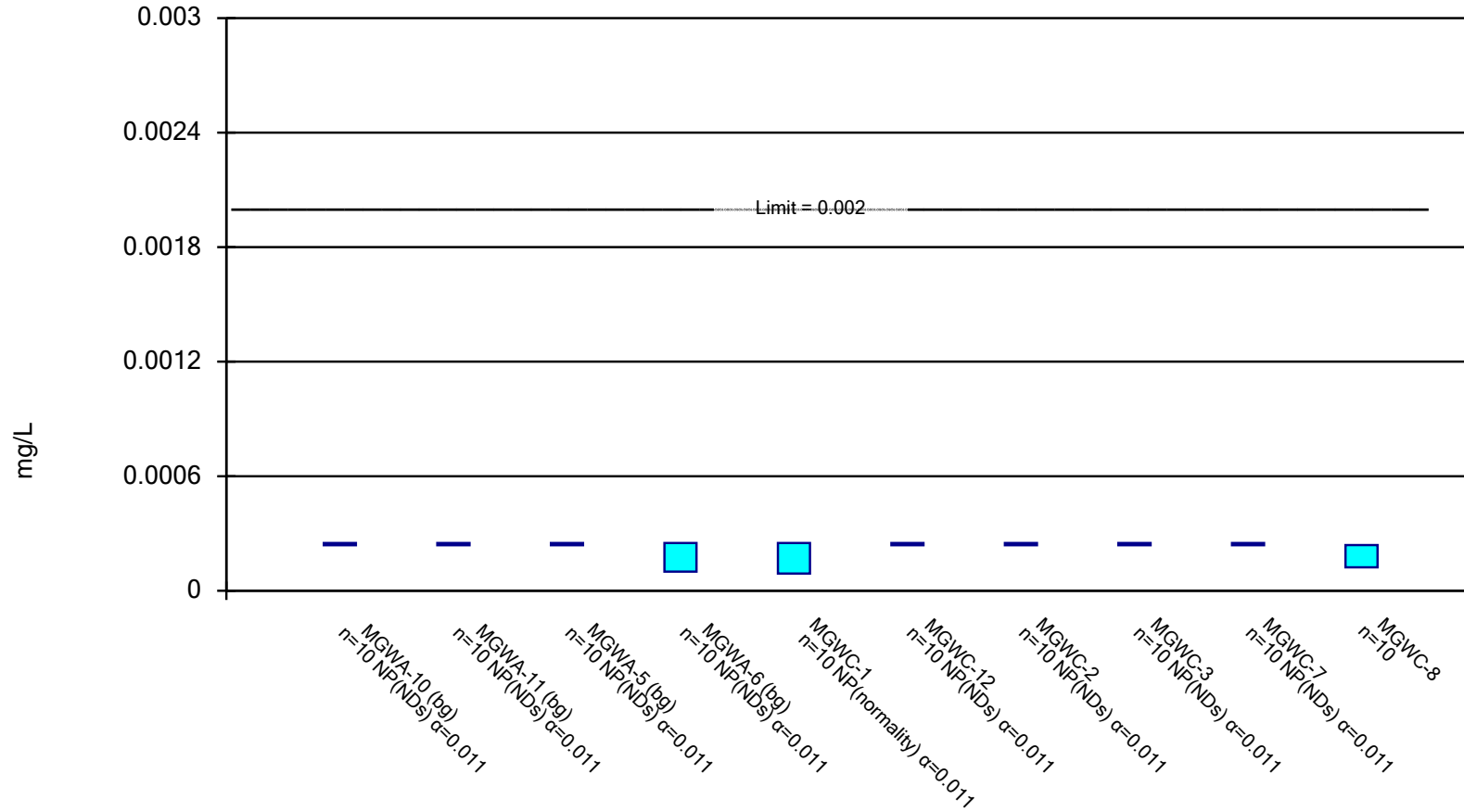
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 1/22/2019 10:22 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 1/22/2019 10:22 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

June 2018 Data Statistical Analyses

Georgia EPD Program

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:36 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MGWA-10 (bg)	0.00112	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-11 (bg)	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-5 (bg)	0.0012	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-6 (bg)	0.0017	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-1	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-12	0.0005	0.0004	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-2	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-3	0.0005	0.0003	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-7	0.00197	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-8	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	MGWA-10 (bg)	0.00095	0.00036	0.035	No	10	70	No	0.011	NP (normality)
Arsenic (mg/L)	MGWA-11 (bg)	0.002609	0.0008751	0.035	No	10	10	No	0.01	Param.
Arsenic (mg/L)	MGWA-5 (bg)	0.00065	0.00014	0.035	No	10	80	No	0.011	NP (NDs)
Arsenic (mg/L)	MGWA-6 (bg)	0.03258	0.01612	0.035	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-1	0.003603	0.002235	0.035	No	10	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.001457	0.0005394	0.035	No	10	10	No	0.01	Param.
Arsenic (mg/L)	MGWC-2	0.00065	0.00065	0.035	No	10	80	No	0.011	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.001768	0.001247	0.035	No	10	0	x^2	0.01	Param.
Arsenic (mg/L)	MGWC-7	0.001485	0.0007458	0.035	No	10	30	No	0.01	Param.
Arsenic (mg/L)	MGWC-8	0.00065	0.00059	0.035	No	10	90	No	0.011	NP (NDs)
Barium (mg/L)	MGWA-10 (bg)	0.03242	0.0231	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-11 (bg)	0.1154	0.08781	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-5 (bg)	0.03776	0.03214	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWA-6 (bg)	0.0564	0.04248	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-1	0.12	0.092	2	No	10	0	No	0.011	NP (normality)
Barium (mg/L)	MGWC-12	0.05633	0.04085	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05894	0.05082	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1577	0.1333	2	No	10	0	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.0152	0.0098	2	No	10	0	No	0.011	NP (normality)
Barium (mg/L)	MGWC-8	0.03961	0.03379	2	No	10	0	No	0.01	Param.
Beryllium (mg/L)	MGWA-10 (bg)	0.00125	0.000033	0.004	No	10	90	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-1	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-12	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-2	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-7	0.00125	0.00125	0.004	No	10	100	No	0.011	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.001145	0.0004474	0.004	No	10	10	No	0.01	Param.
Cadmium (mg/L)	MGWA-10 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-1	0.00125	0.000126	0.005	No	10	80	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-12	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.004426	0.001114	0.005	No	10	0	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-3	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-7	0.00125	0.00125	0.005	No	10	100	No	0.011	NP (NDs)
Cadmium (mg/L)	MGWC-8	0.00125	0.0003	0.005	No	10	50	No	0.011	NP (normality)

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:36 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Chromium (mg/L)	MGWA-10 (bg)	0.0039	0.00249	0.1	No	10	0	No	0.011	NP (normality)
Chromium (mg/L)	MGWA-11 (bg)	0.00125	0.00066	0.1	No	10	80	No	0.011	NP (NDs)
Chromium (mg/L)	MGWA-5 (bg)	0.00125	0.00024	0.1	No	10	80	No	0.011	NP (NDs)
Chromium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-1	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-12	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-2	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-3	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-7	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Chromium (mg/L)	MGWC-8	0.00125	0.00125	0.1	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-10 (bg)	0.00125	0.00018	0.0025	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-11 (bg)	0.00125	0.000039	0.0025	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-5 (bg)	0.00125	0.000012	0.0025	No	10	90	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWA-6 (bg)	0.00125	0.0003	0.0025	No	10	40	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-1	0.00125	0.0004	0.0025	No	10	60	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-12	0.00125	0.00125	0.0025	No	10	100	No	0.011	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.003706	0.003115	0.0025	Yes	10	0	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.0007876	0.0004631	0.0025	No	10	10	ln(x)	0.01	Param.
Cobalt (mg/L)	MGWC-7	0.0099	0.0036	0.0025	Yes	10	0	No	0.011	NP (normality)
Cobalt (mg/L)	MGWC-8	0.014	0.0033	0.0025	Yes	10	0	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWA-10 (bg)	0.9363	0.4002	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-11 (bg)	0.8444	0.2885	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-5 (bg)	0.4647	0.1606	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-6 (bg)	0.7979	0.3248	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.64	1.07	5	No	10	0	No	0.011	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.7672	0.274	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.8556	0.4097	5	No	10	10	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.766	1.352	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.3	0.7375	5	No	10	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	1.954	1.181	5	No	10	0	No	0.01	Param.
Fluoride (mg/L)	MGWA-10 (bg)	0.1	0.046	4	No	11	81.82	No	0.006	NP (NDs)
Fluoride (mg/L)	MGWA-11 (bg)	0.1406	0.08543	4	No	11	9.091	No	0.01	Param.
Fluoride (mg/L)	MGWA-5 (bg)	0.1964	0.08301	4	No	11	27.27	No	0.01	Param.
Fluoride (mg/L)	MGWA-6 (bg)	0.1	0.08	4	No	11	45.45	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-1	0.2872	0.1819	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.2721	0.2043	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.15	0.087	4	No	11	63.64	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-3	0.15	0.082	4	No	11	45.45	No	0.006	NP (normality)
Fluoride (mg/L)	MGWC-7	0.4132	0.2512	4	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.15	0.088	4	No	11	27.27	No	0.006	NP (normality)
Lead (mg/L)	MGWA-10 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-11 (bg)	0.000175	0.000087	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-5 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-6 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-1	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-12	0.000175	0.0001	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-2	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-3	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-7	0.0003	0.000175	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-8	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)

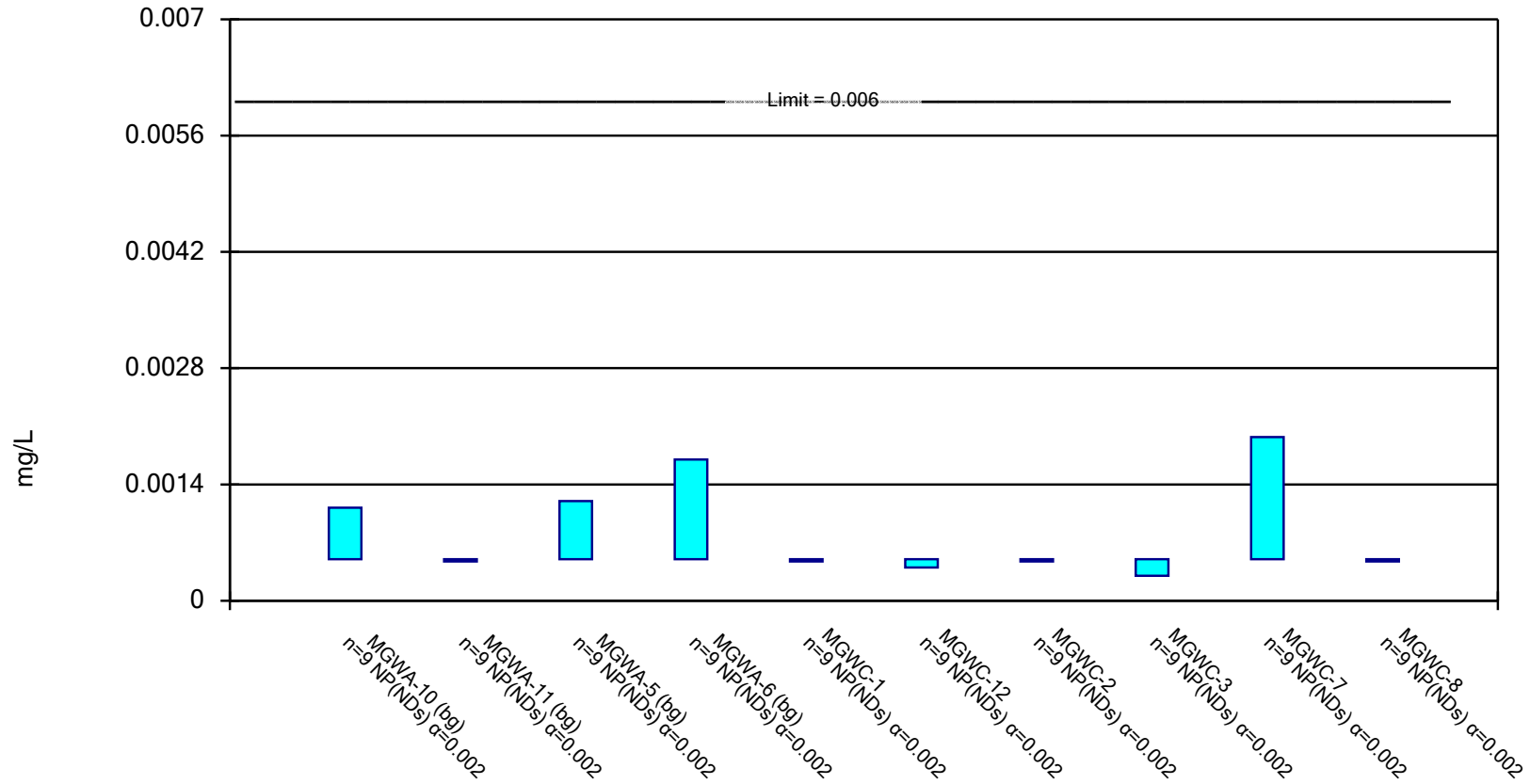
Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:36 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	MGWA-10 (bg)	0.008633	0.005247	0.03	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWA-11 (bg)	0.02307	0.01333	0.03	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWA-5 (bg)	0.01077	0.005406	0.03	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWA-6 (bg)	0.0025	0.0025	0.03	No	10	100	No	0.011	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01398	0.01004	0.03	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02055	0.01237	0.03	No	10	0	ln(x)	0.01	Param.
Lithium (mg/L)	MGWC-2	0.006367	0.003813	0.03	No	10	10	No	0.01	Param.
Lithium (mg/L)	MGWC-3	0.01417	0.00995	0.03	No	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-7	0.1468	0.0973	0.03	Yes	10	0	No	0.01	Param.
Lithium (mg/L)	MGWC-8	0.035	0.0228	0.03	No	10	0	No	0.011	NP (normality)
Mercury (mg/L)	MGWA-10 (bg)	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-11 (bg)	0.0001	0.00008	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-5 (bg)	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWA-6 (bg)	0.0001	0.000074	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-1	0.0001	0.0001	0.002	No	10	100	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-12	0.0001	0.000074	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0001	0.000078	0.002	No	10	80	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-3	0.0001	0.00007	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0001	0.00008	0.002	No	10	90	No	0.011	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.000076	0.002	No	10	40	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-10 (bg)	0.0075	0.00031	0.015	No	10	80	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWA-11 (bg)	0.0075	0.0011	0.015	No	10	50	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-5 (bg)	0.0075	0.0012	0.015	No	10	60	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWA-6 (bg)	0.0075	0.0075	0.015	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-1	0.0021	0.00087	0.015	No	10	10	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.0075	0.0012	0.015	No	10	70	No	0.011	NP (normality)
Molybdenum (mg/L)	MGWC-2	0.0075	0.0075	0.015	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-3	0.0075	0.0075	0.015	No	10	100	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.0075	0.00351	0.015	No	10	90	No	0.011	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.0075	0.0037	0.015	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-10 (bg)	0.00065	0.00027	0.05	No	10	60	No	0.011	NP (normality)
Selenium (mg/L)	MGWA-11 (bg)	0.00065	0.00049	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-5 (bg)	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MGWA-6 (bg)	0.00065	0.00065	0.05	No	10	100	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-1	0.00065	0.0005	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-12	0.00065	0.00027	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-2	0.00065	0.00045	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-3	0.00065	0.00044	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-7	0.00065	0.000265	0.05	No	10	90	No	0.011	NP (NDs)
Selenium (mg/L)	MGWC-8	0.00065	0.00027	0.05	No	10	60	No	0.011	NP (normality)
Thallium (mg/L)	MGWA-10 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-11 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-5 (bg)	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWA-6 (bg)	0.00025	0.0001	0.002	No	10	90	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-1	0.00025	0.00009	0.002	No	10	70	No	0.011	NP (normality)
Thallium (mg/L)	MGWC-12	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-2	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-3	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-7	0.00025	0.00025	0.002	No	10	100	No	0.011	NP (NDs)
Thallium (mg/L)	MGWC-8	0.000239	0.000123	0.002	No	10	10	No	0.01	Param.

Non-Parametric Confidence Interval

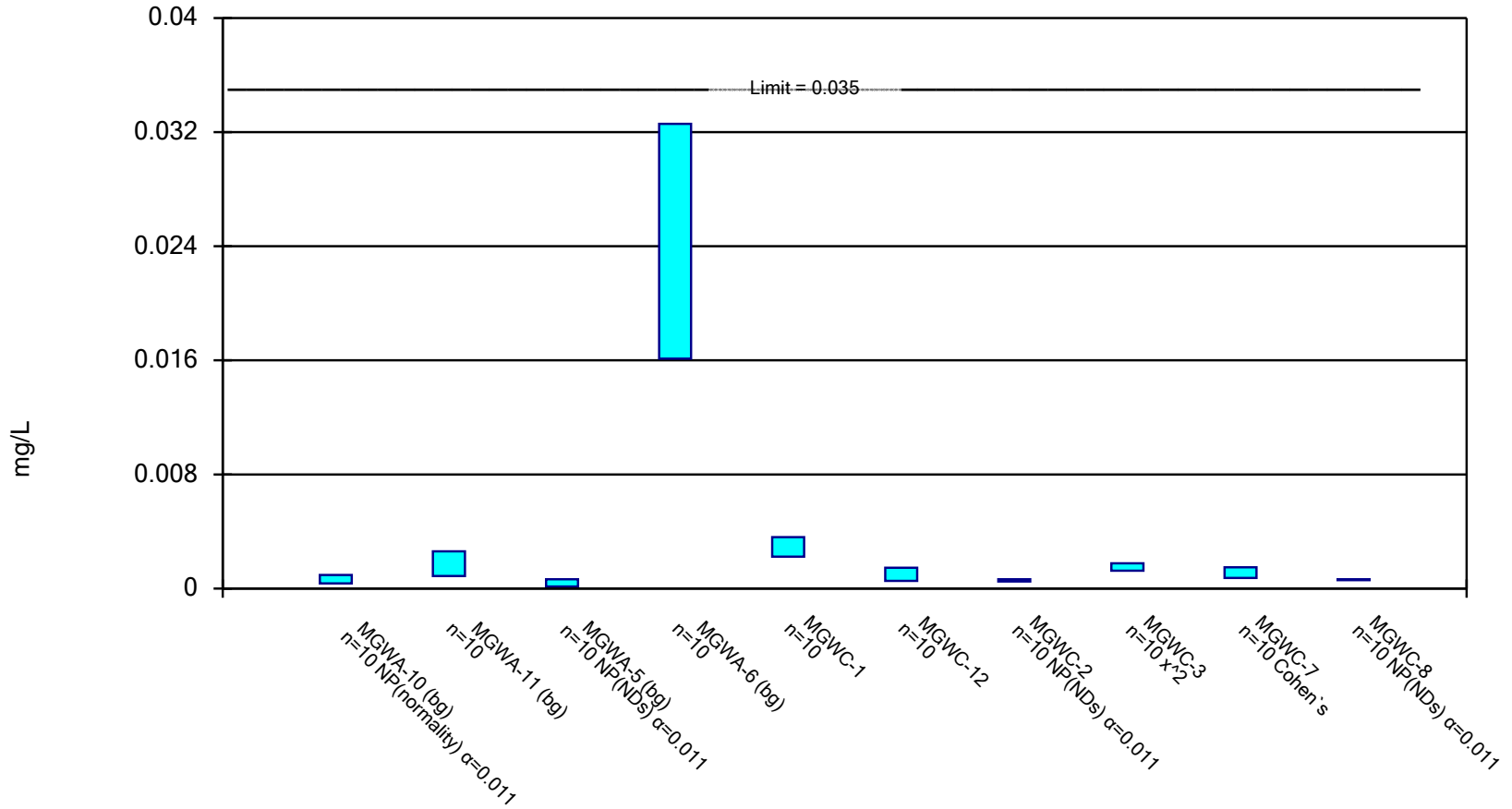
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

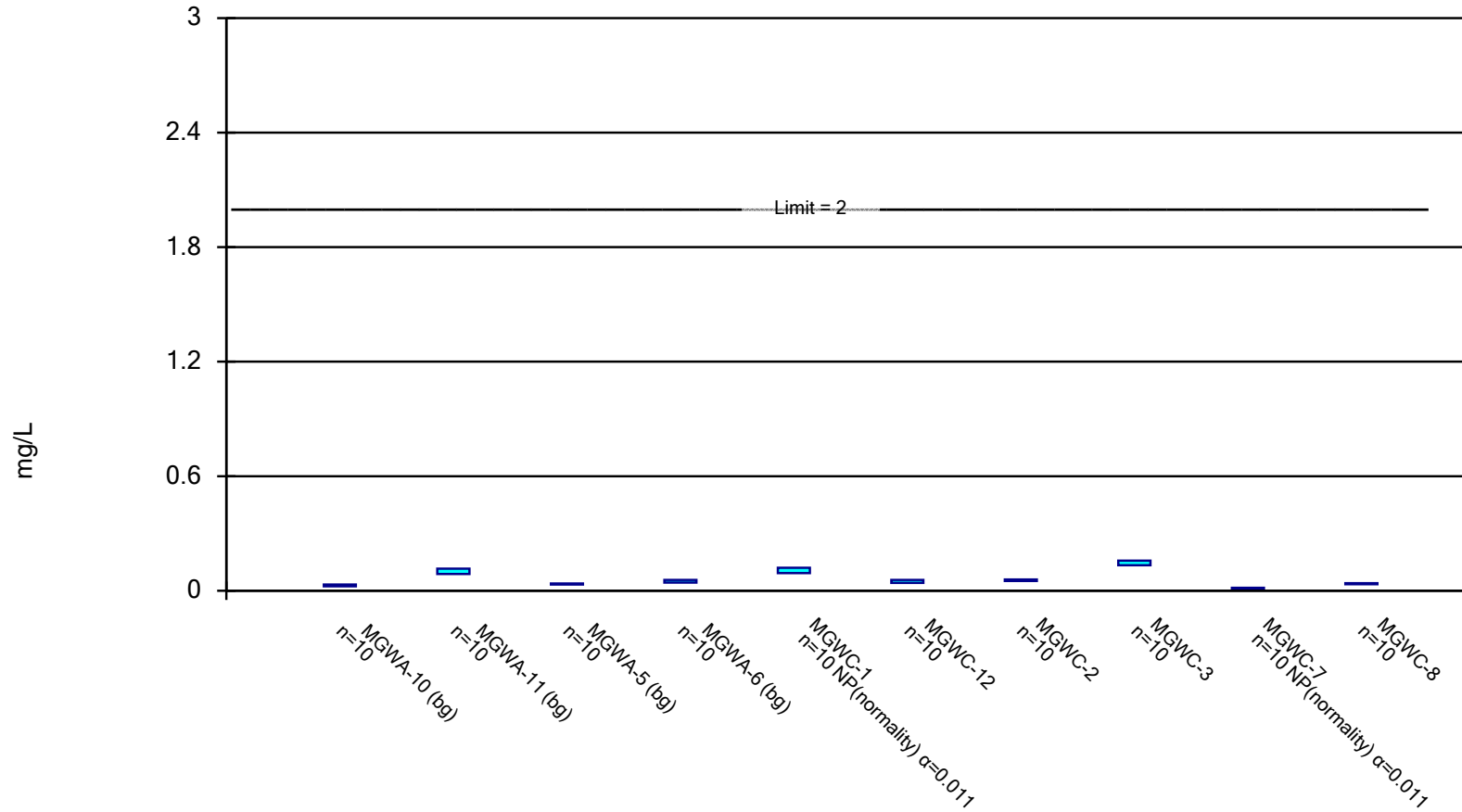
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

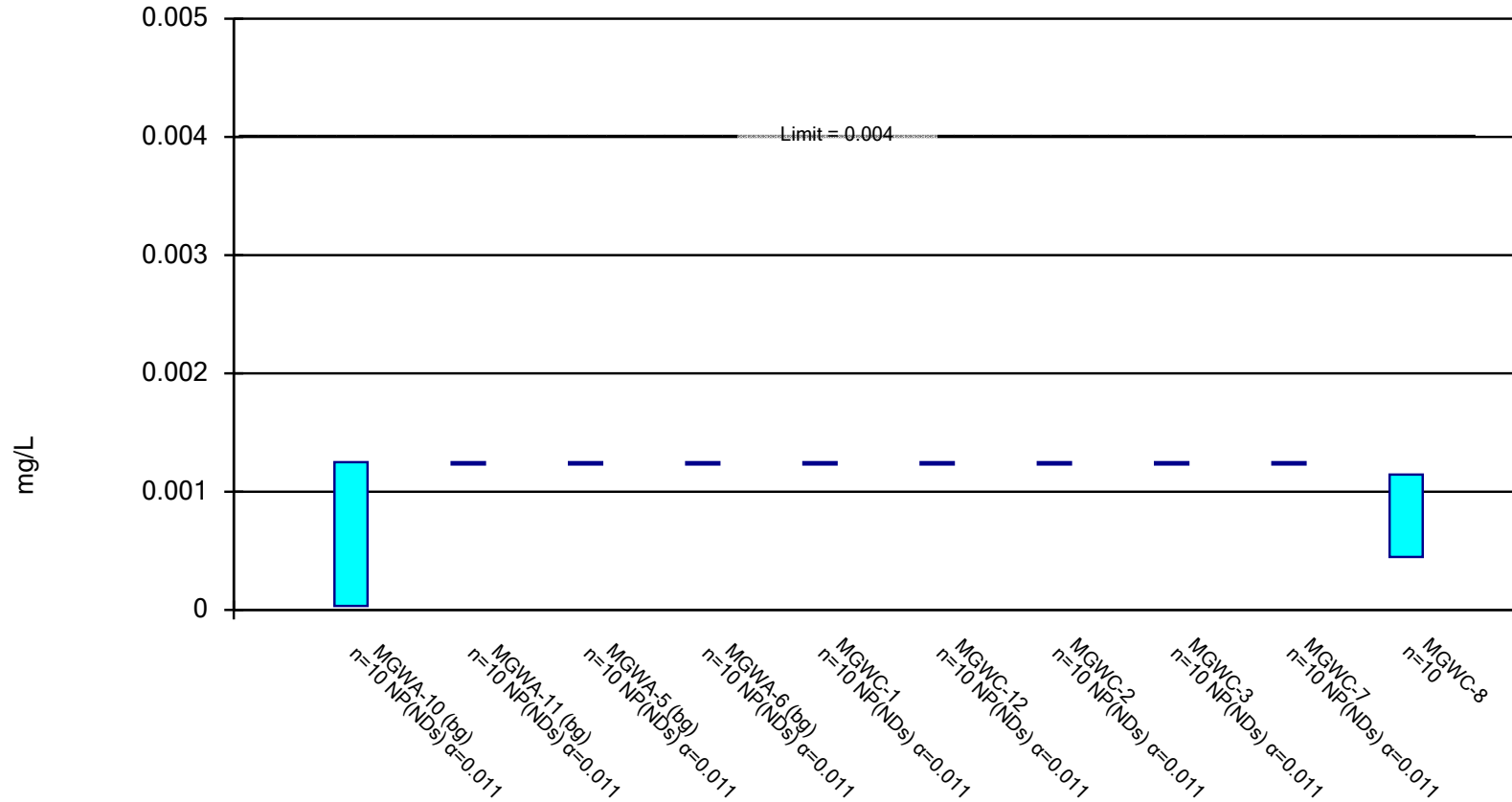
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

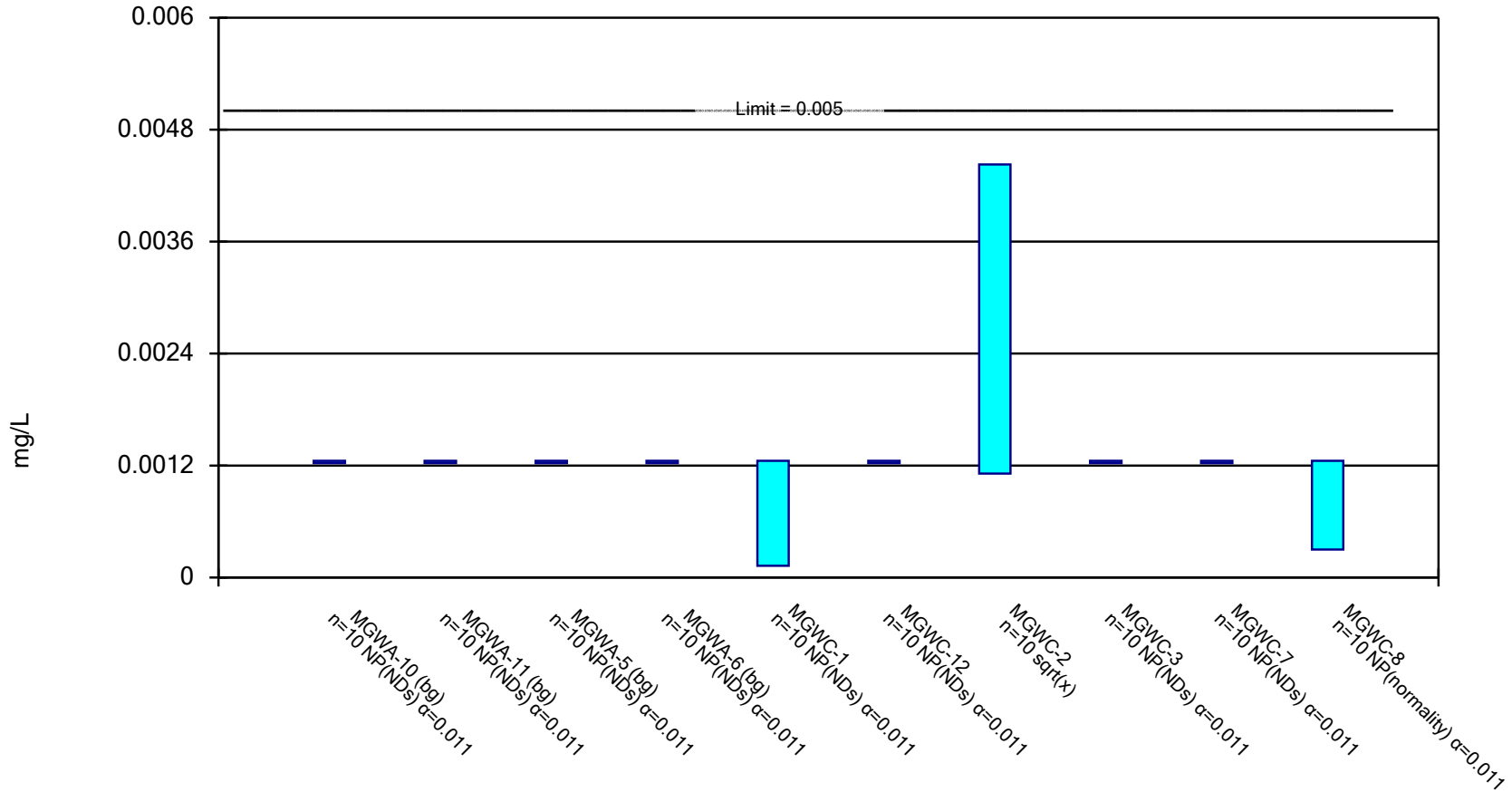


Constituent: Beryllium Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

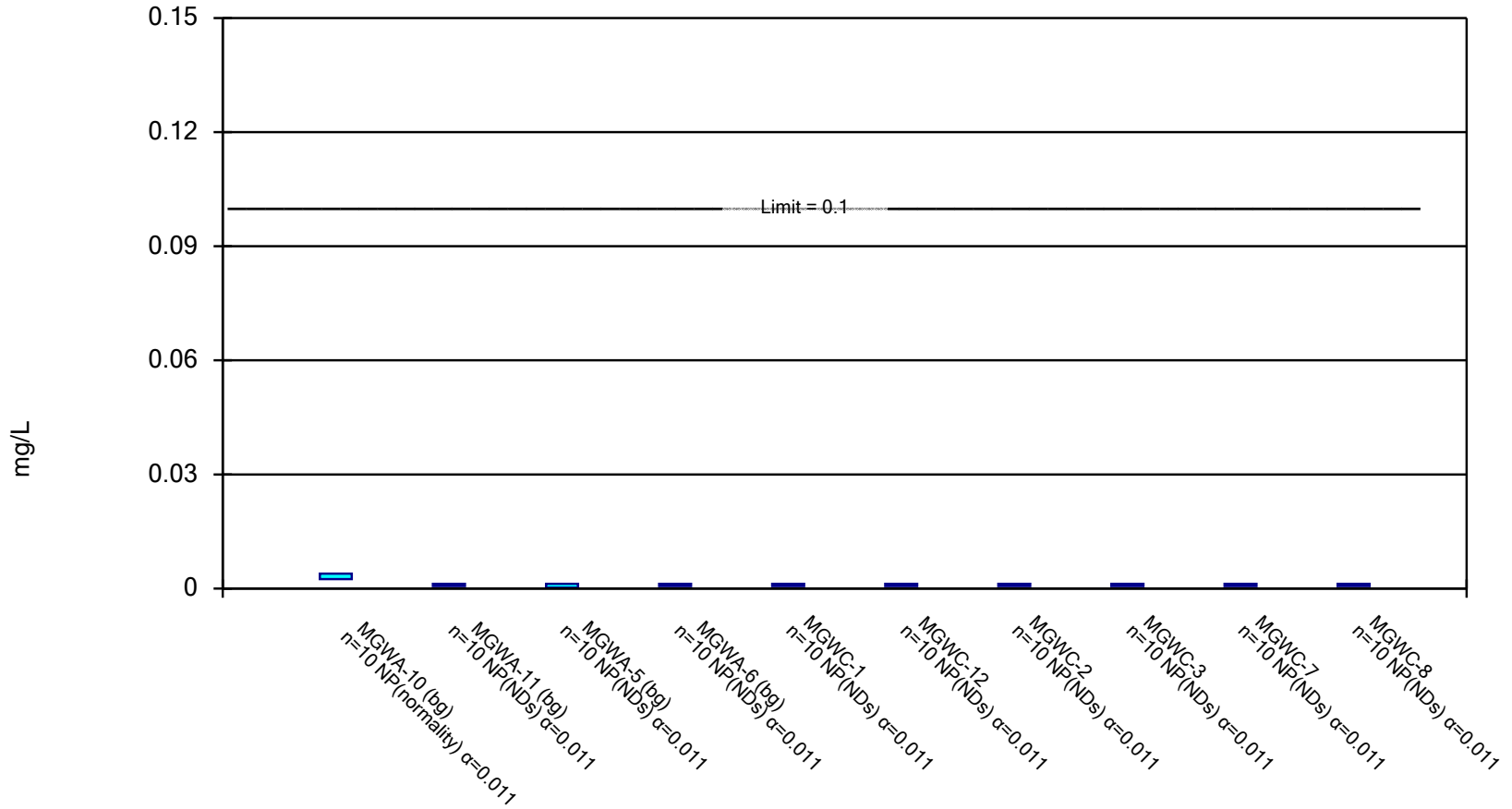
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

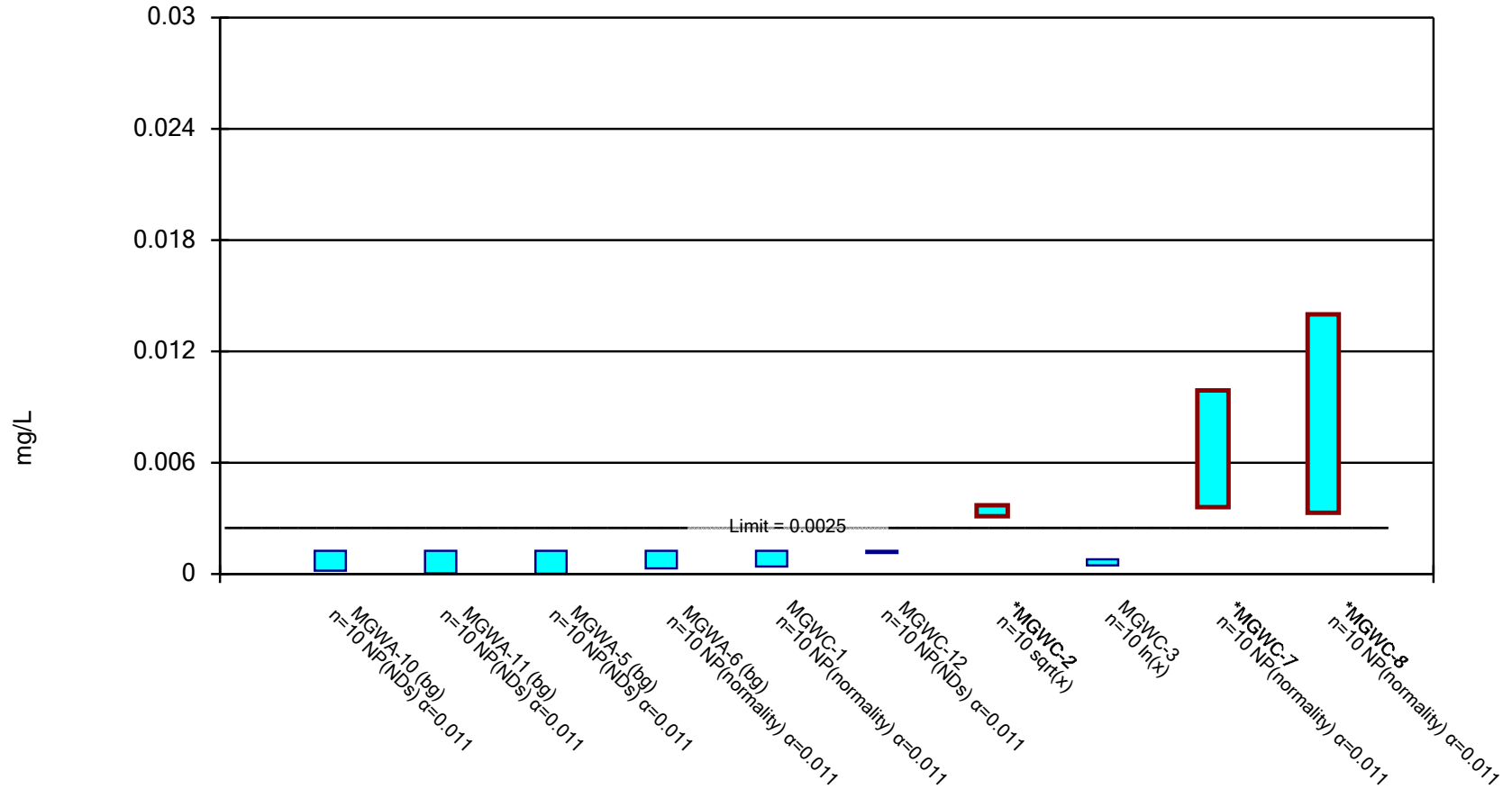
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

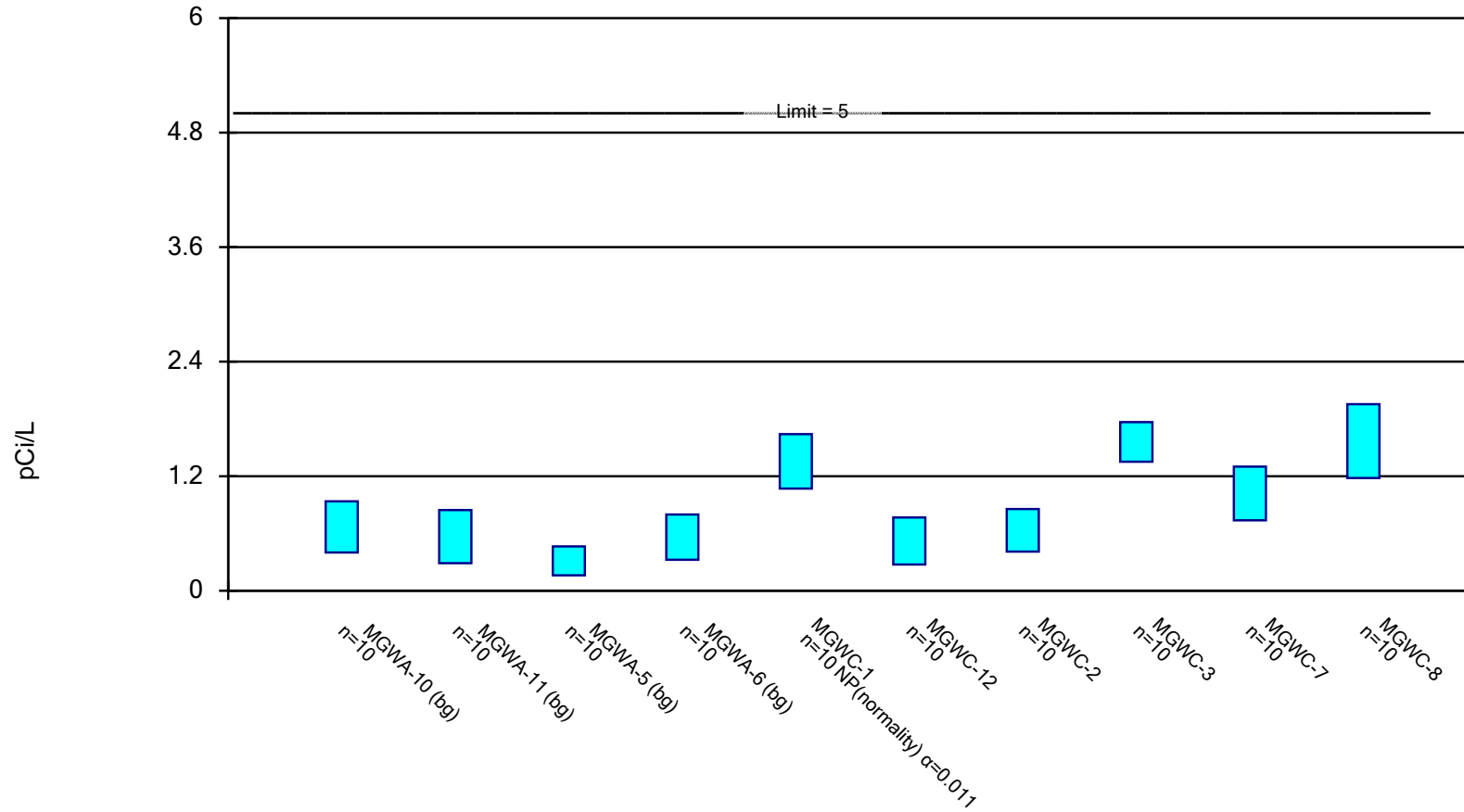


Constituent: Cobalt Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

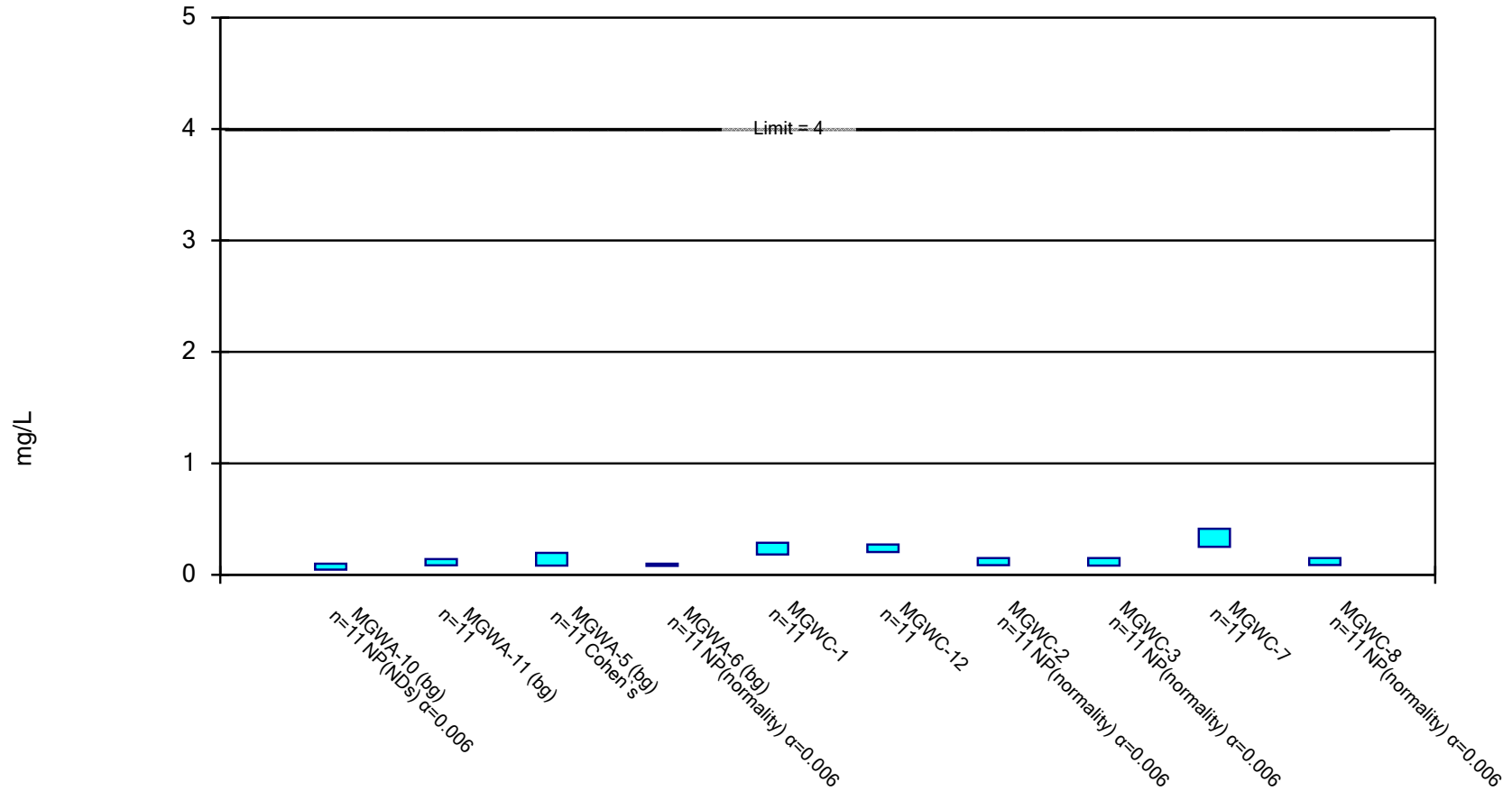


Constituent: Combined Radium 226 + 228 Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

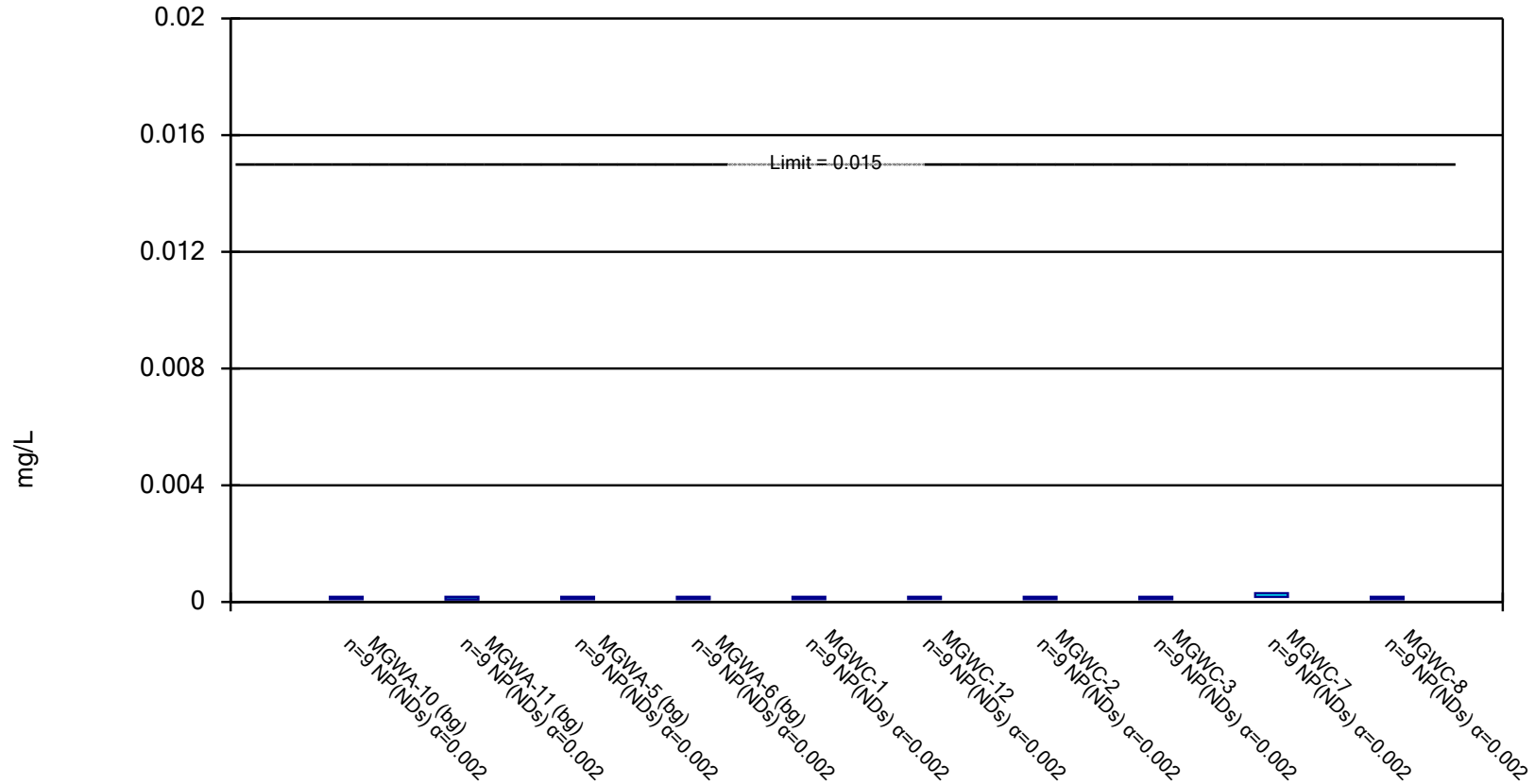


Constituent: Fluoride Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

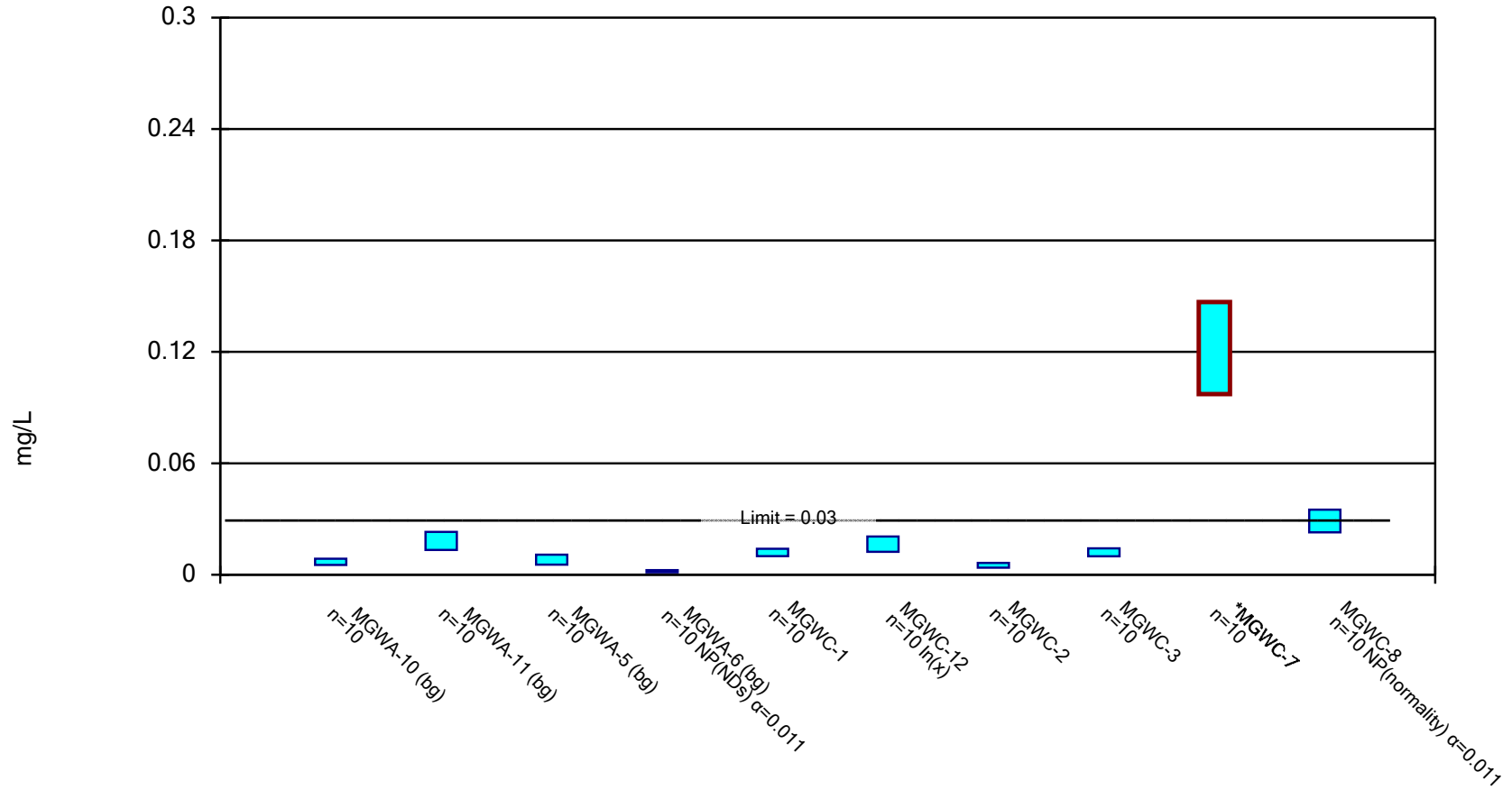


Constituent: Lead Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

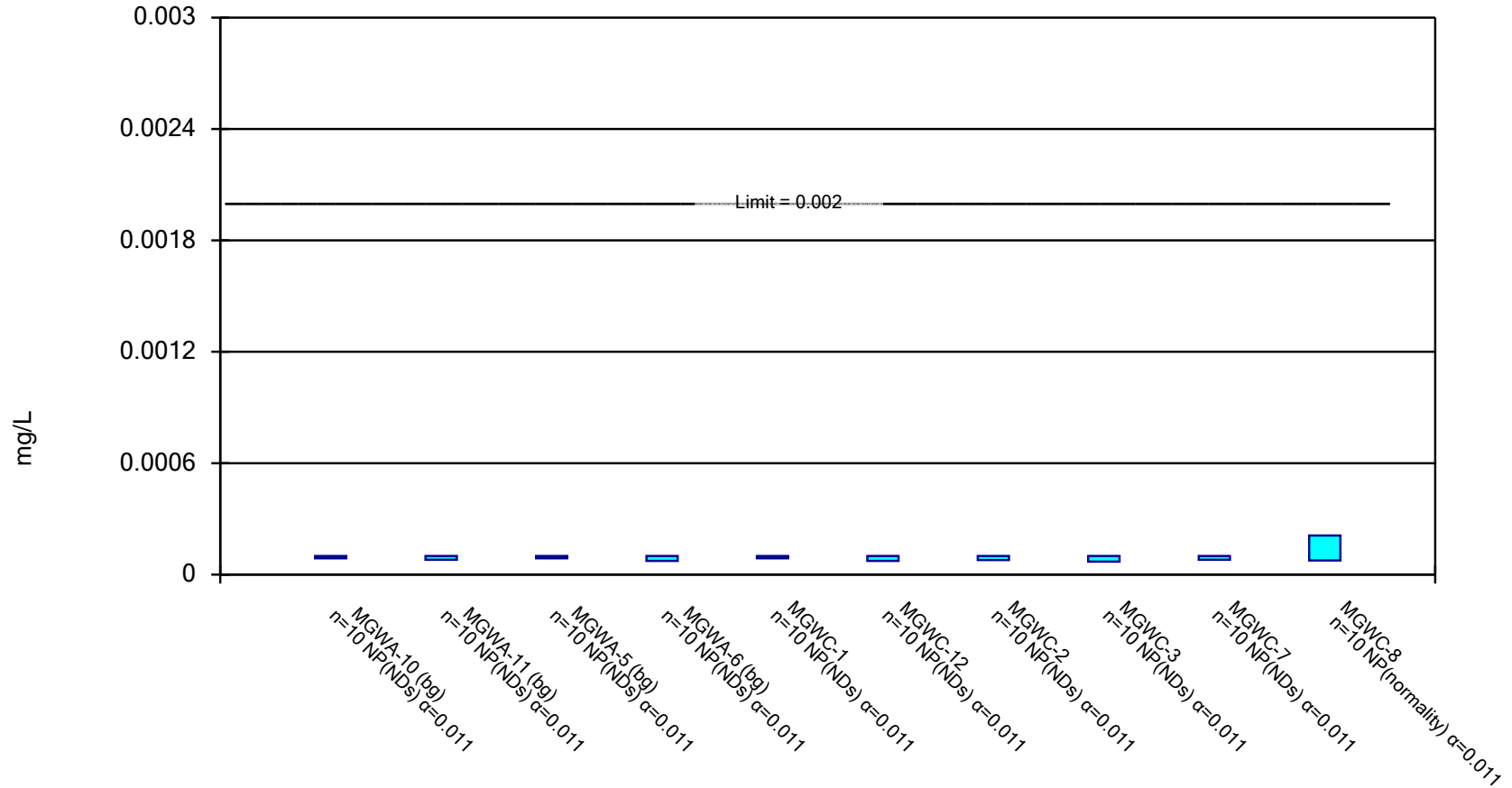
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

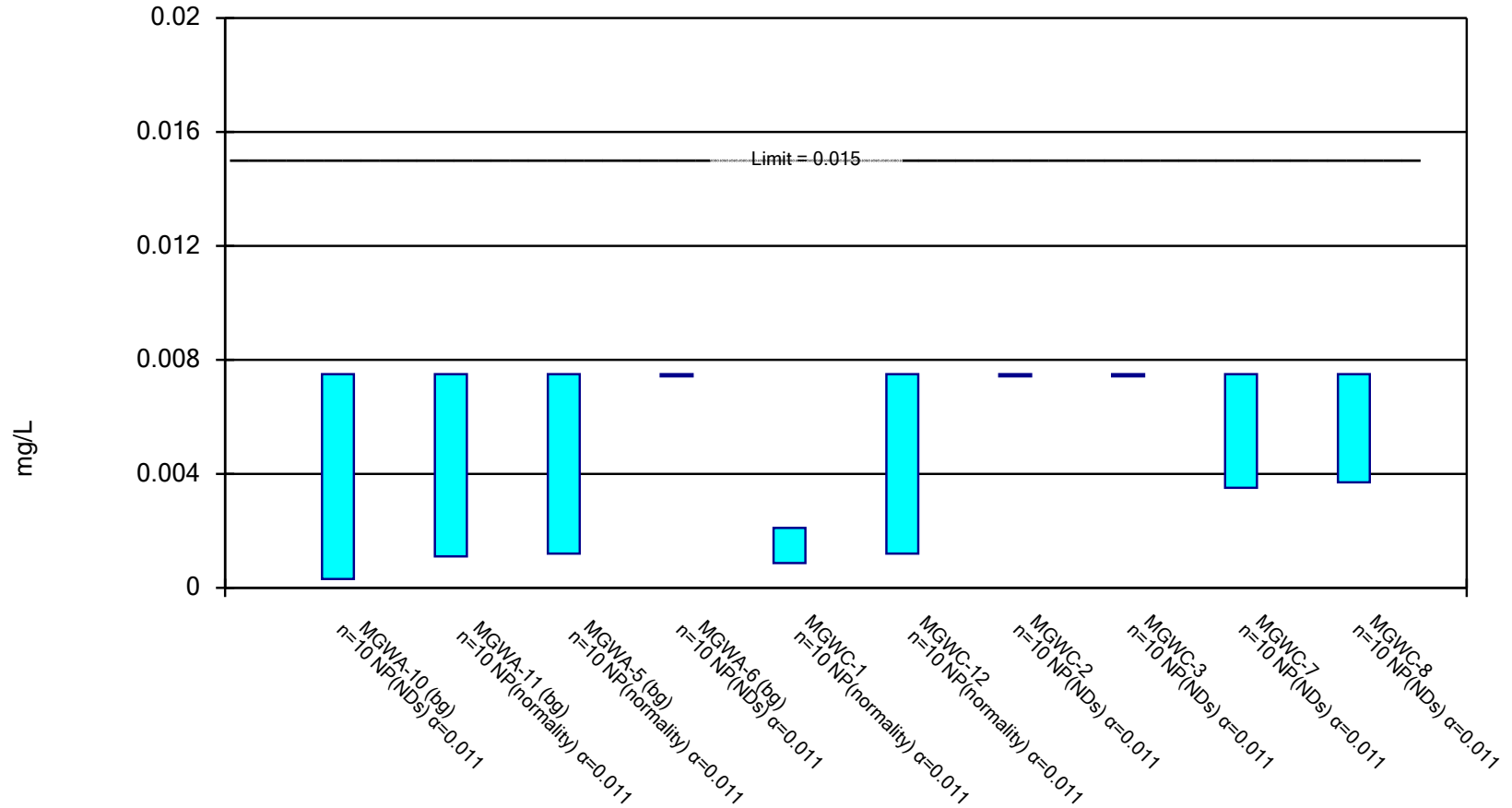


Constituent: Mercury Analysis Run 1/22/2019 10:35 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

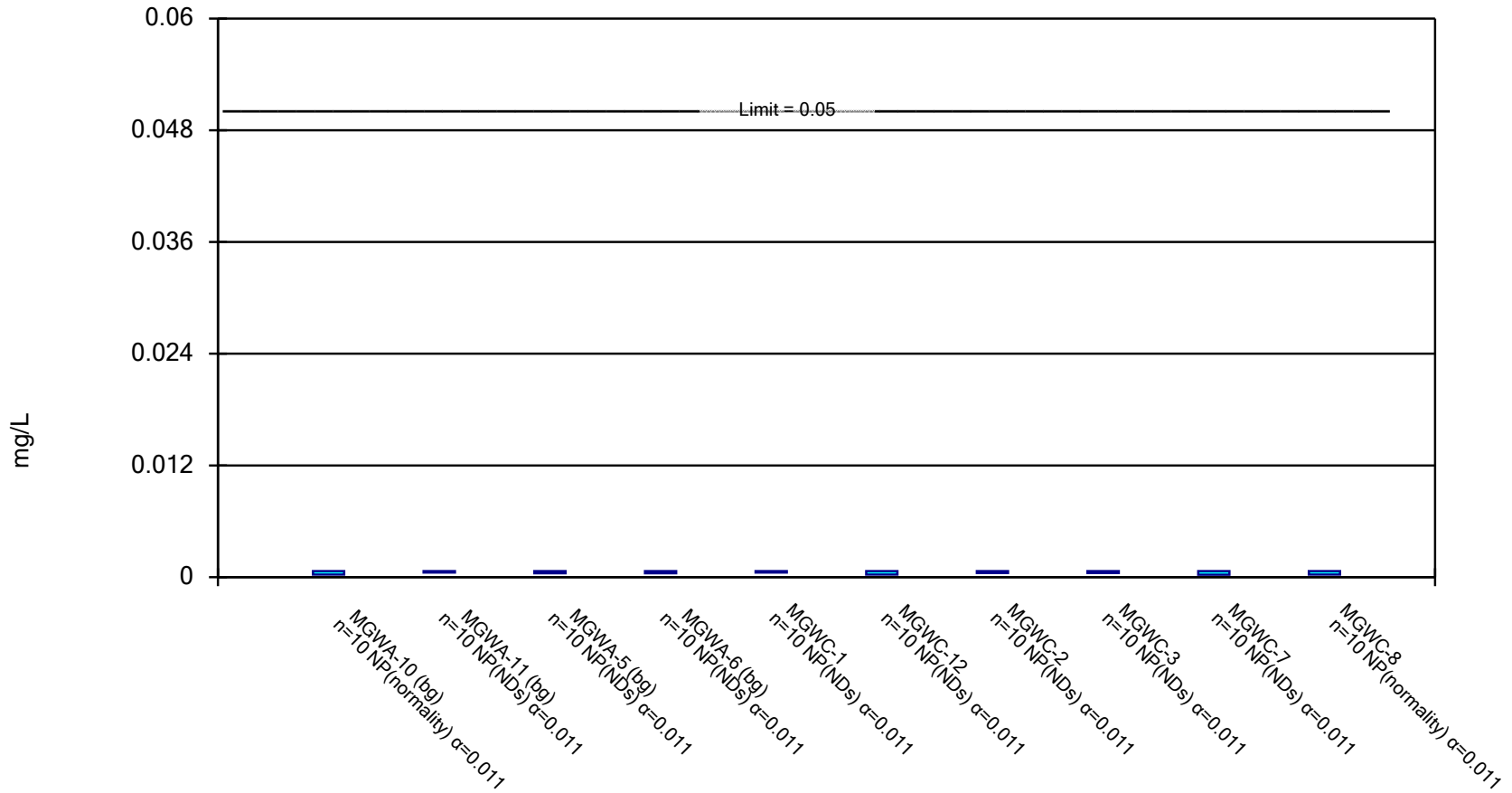
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/22/2019 10:35 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

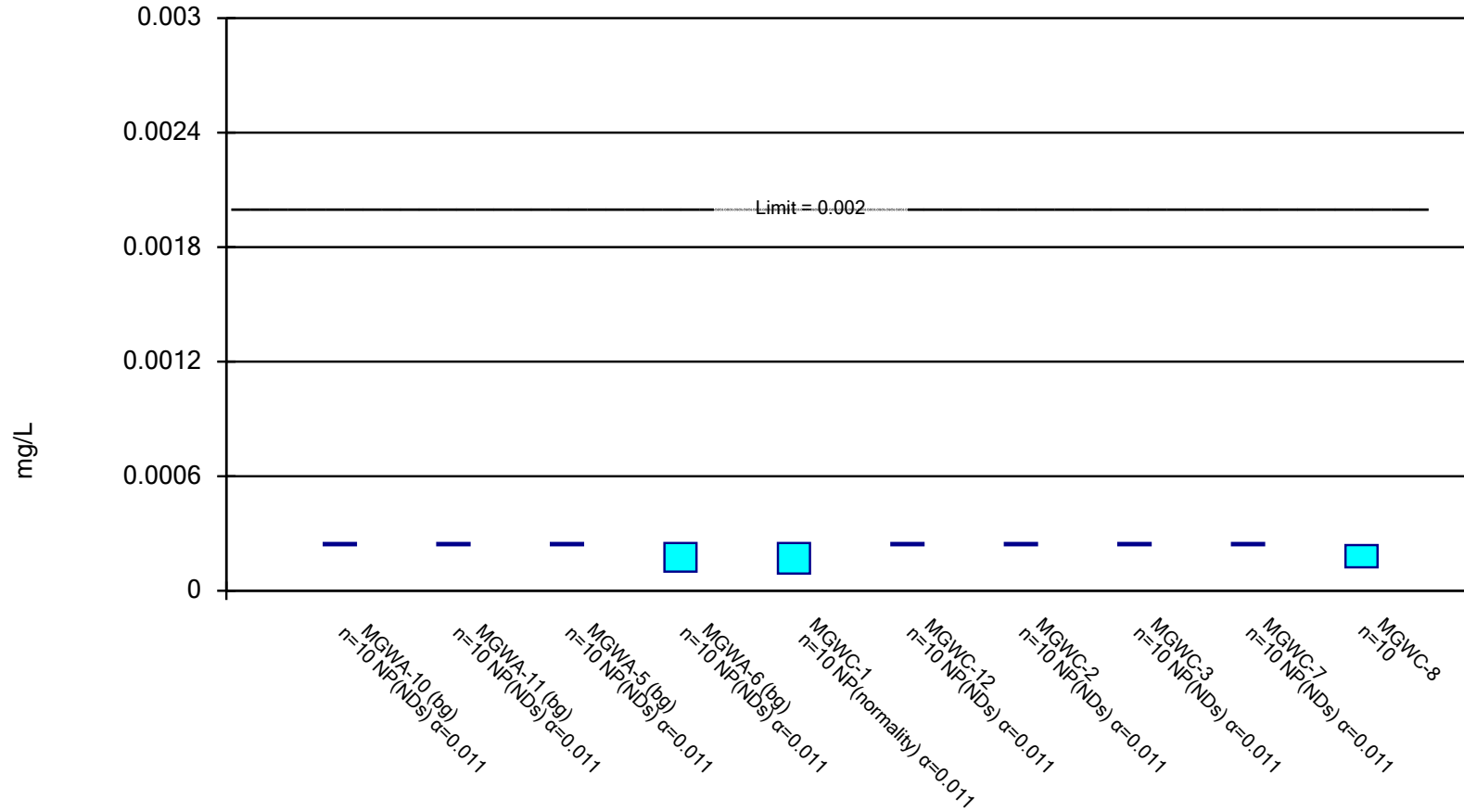
Compliance Limit is not exceeded.



Constituent: Selenium Analysis Run 1/22/2019 10:36 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



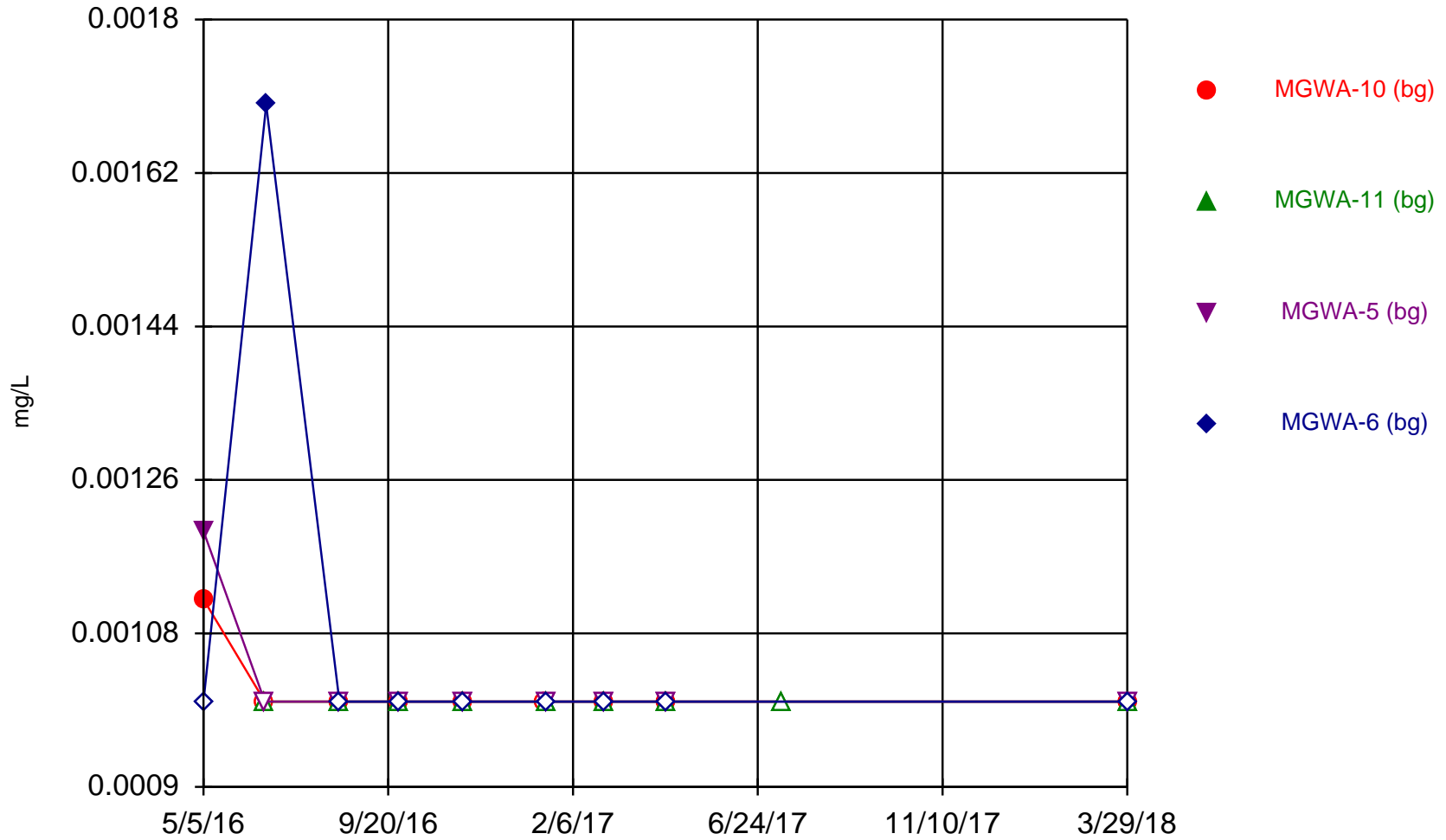
Constituent: Thallium Analysis Run 1/22/2019 10:36 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

October 2018 Data Statistical Analyses

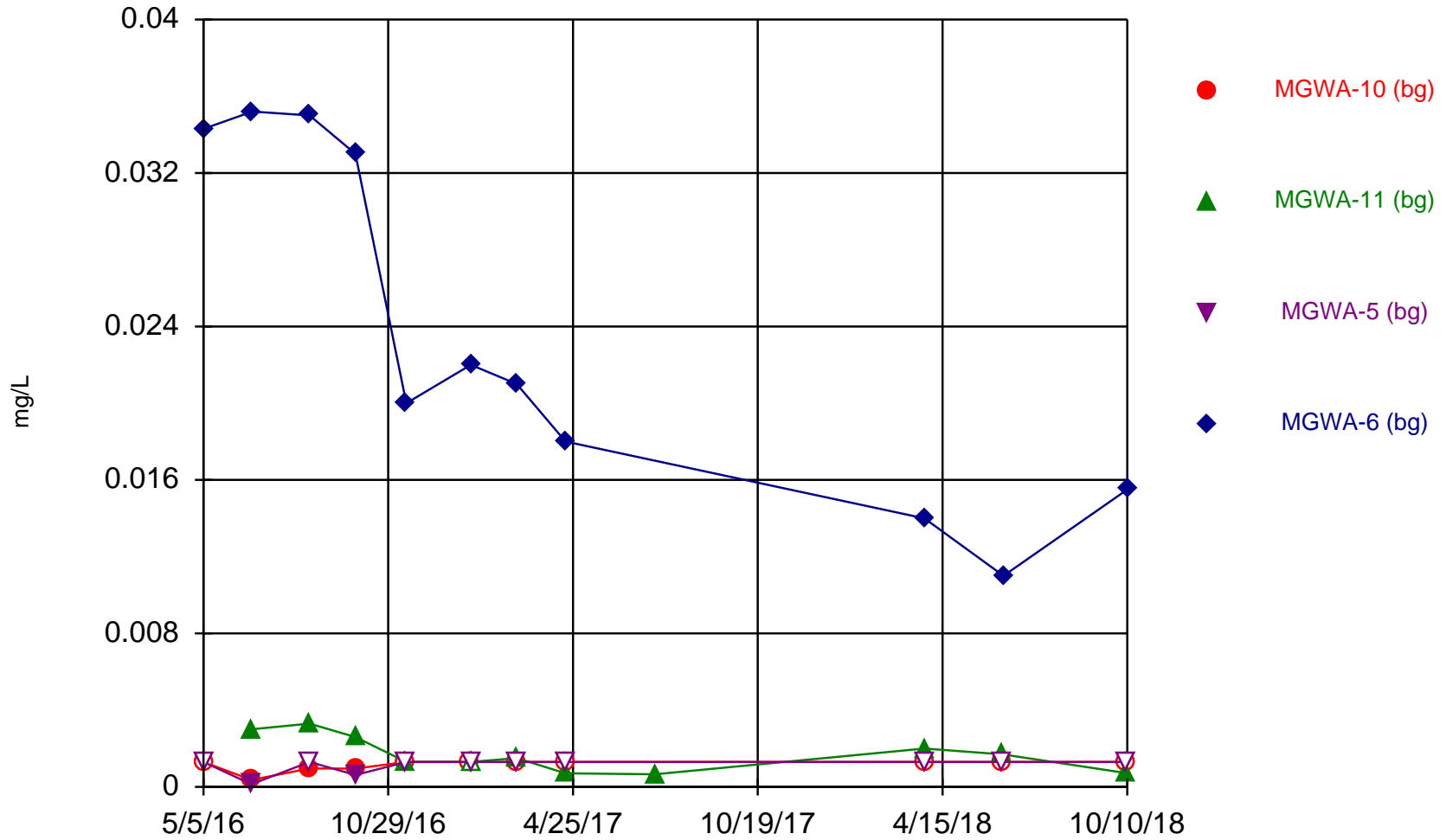
Federal CCR Program

Time Series



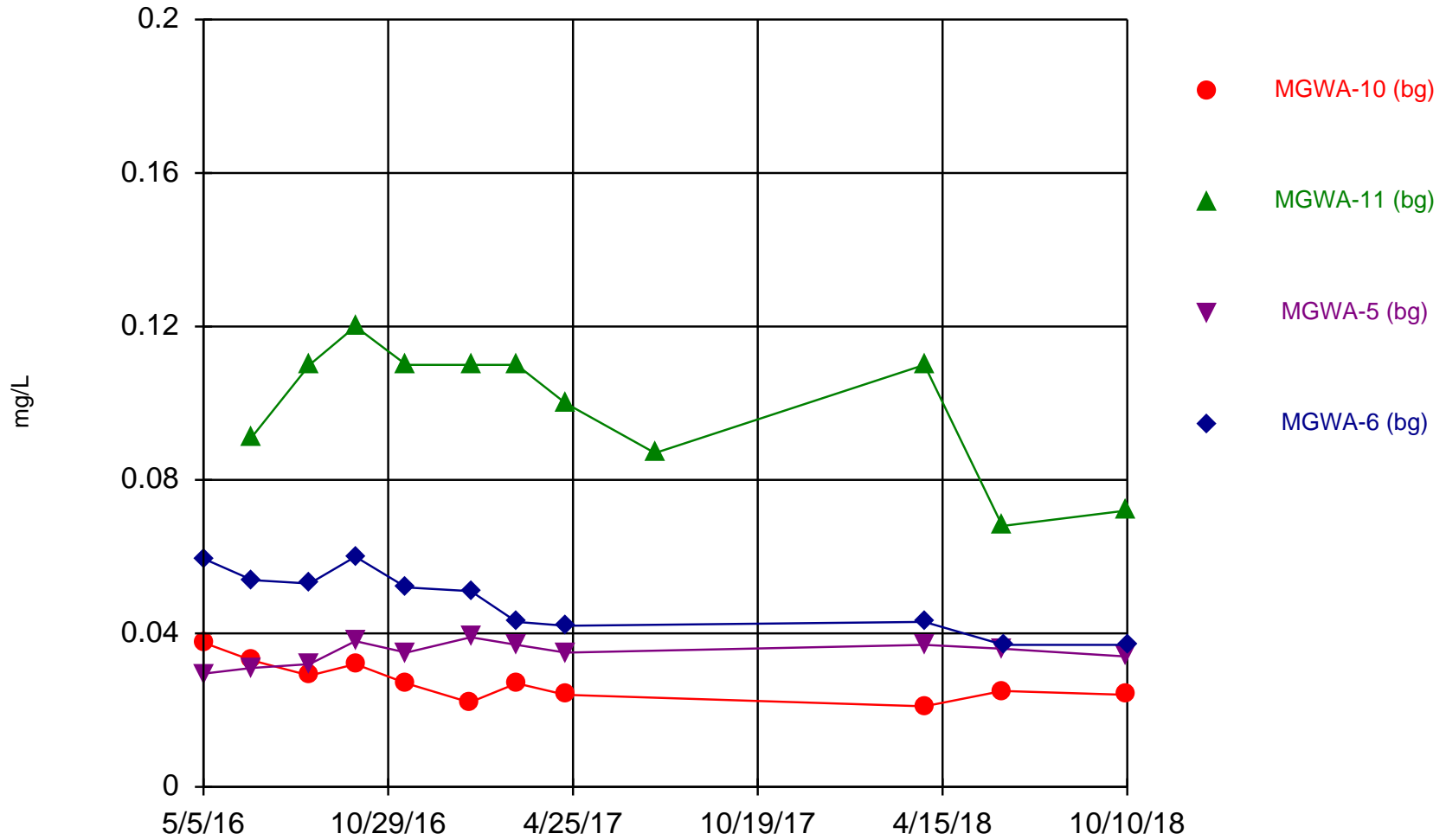
Constituent: Antimony Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



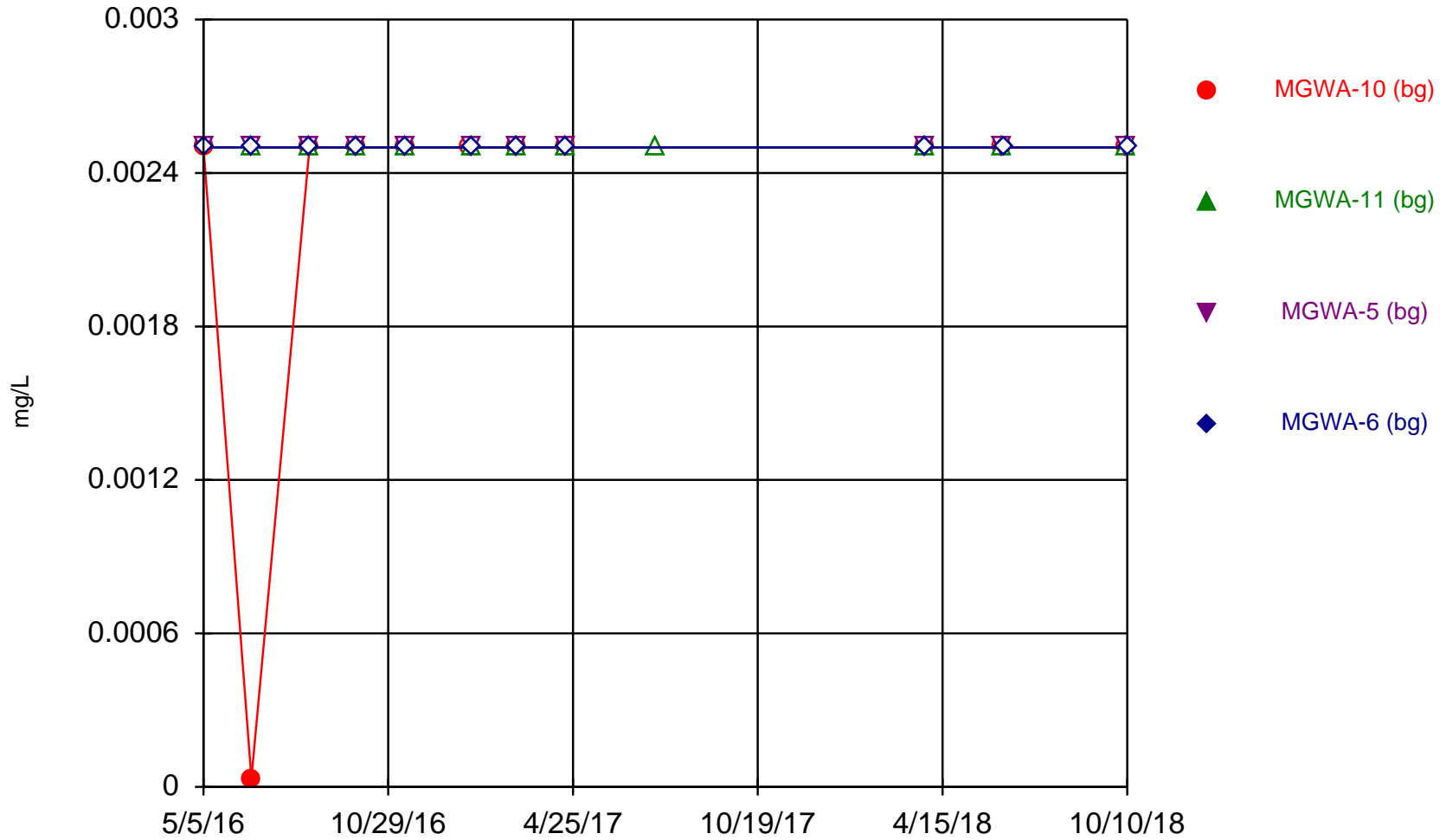
Constituent: Arsenic Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



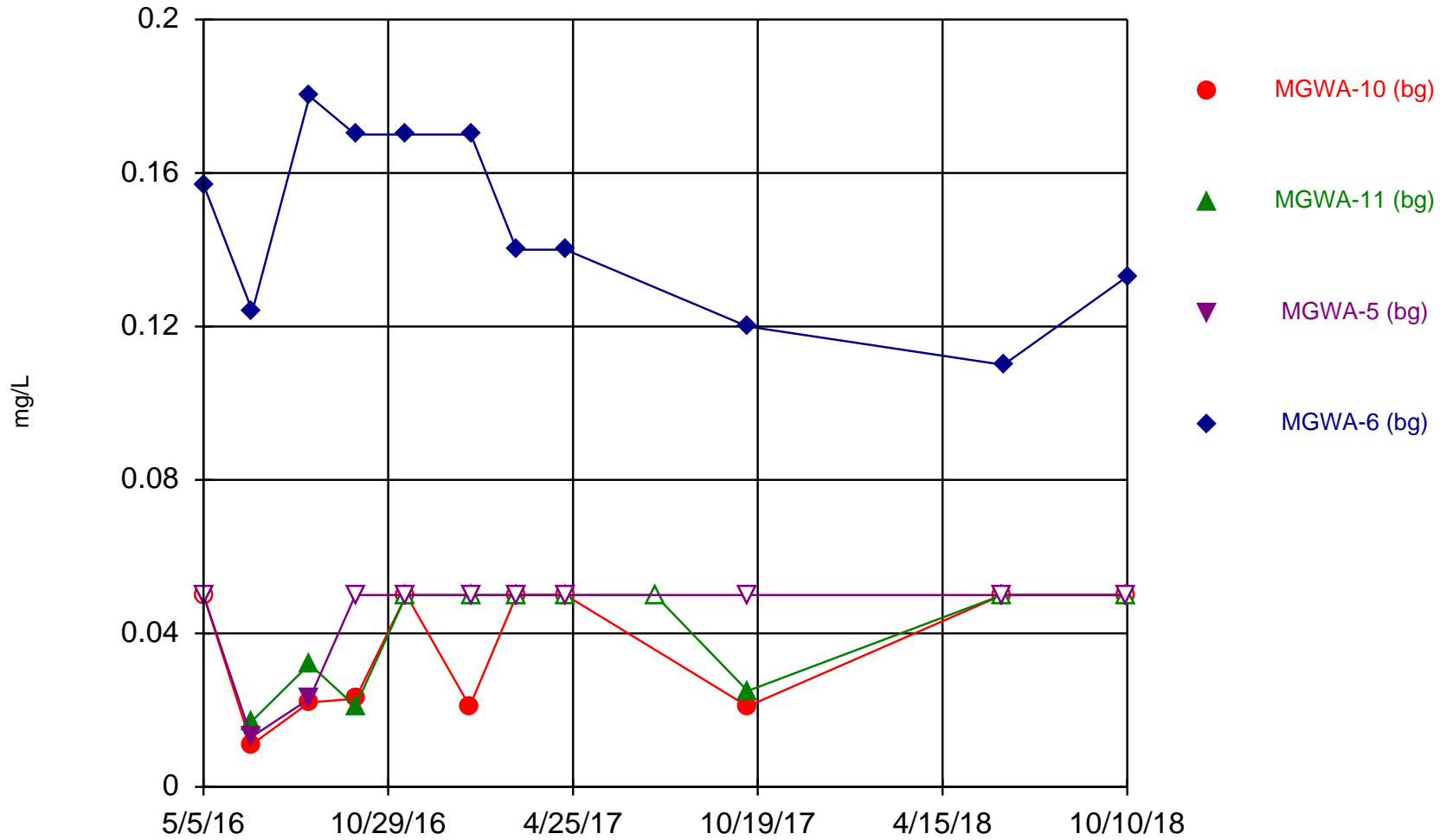
Constituent: Barium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



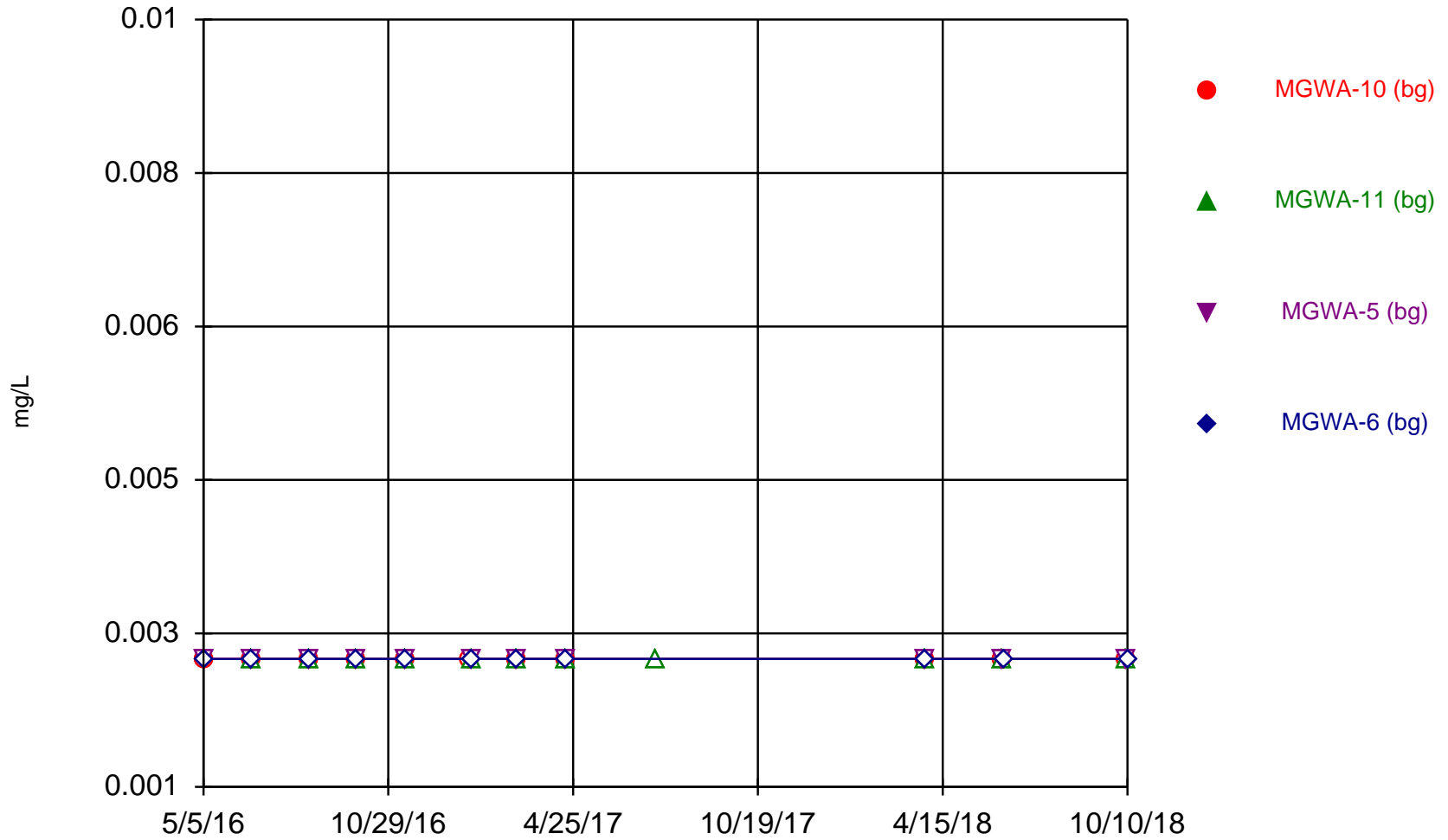
Constituent: Beryllium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



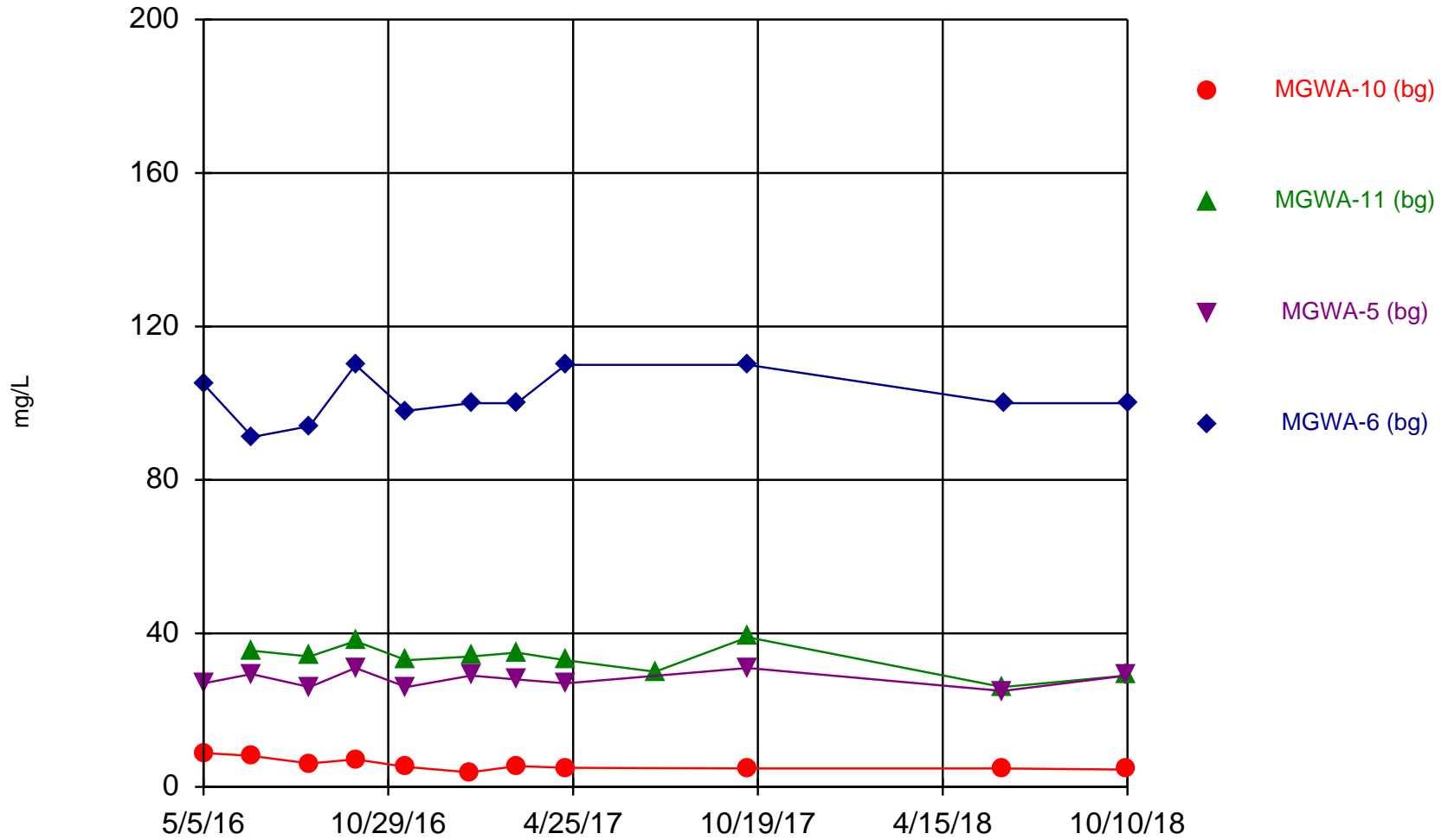
Constituent: Boron Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



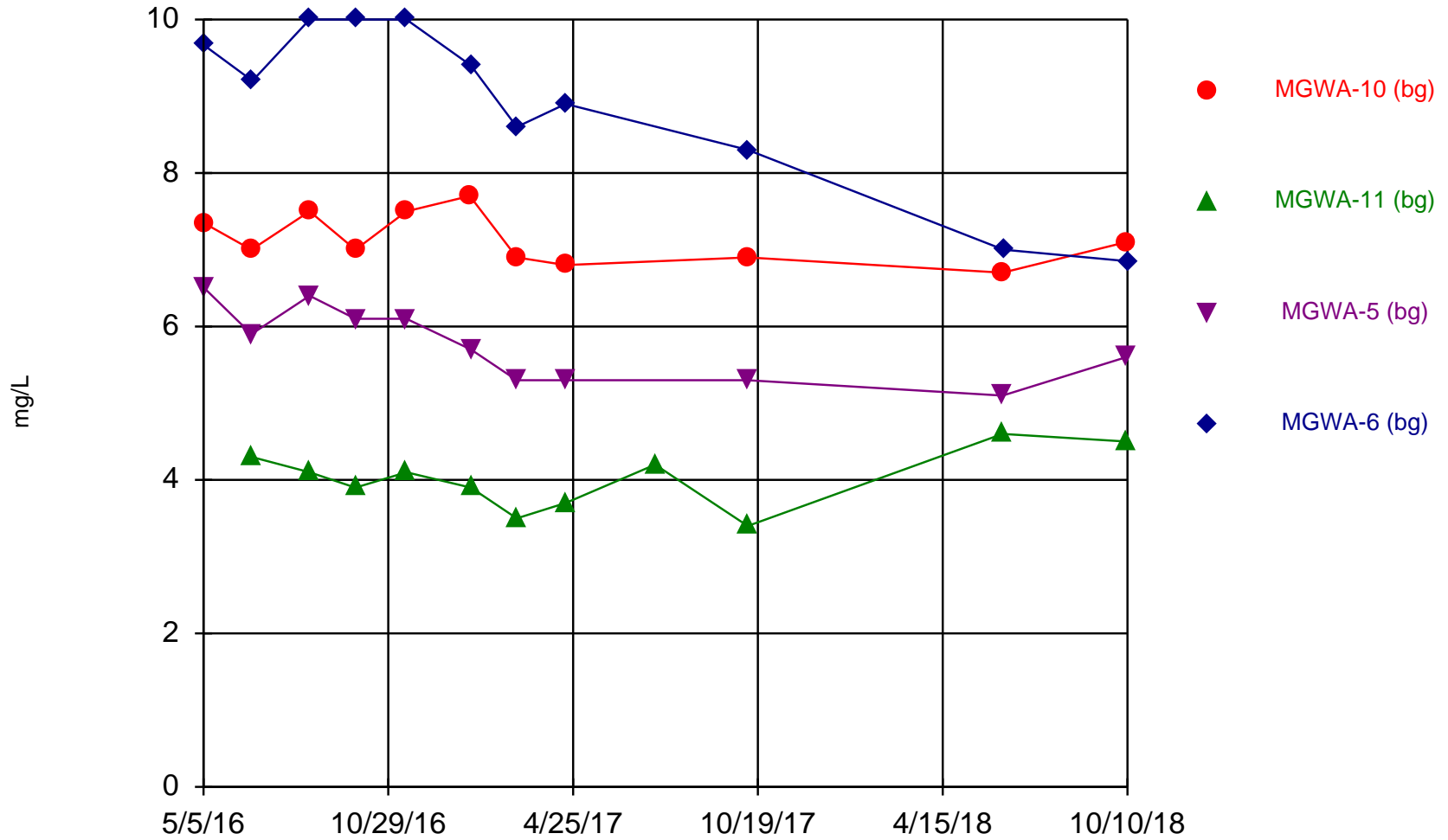
Constituent: Cadmium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



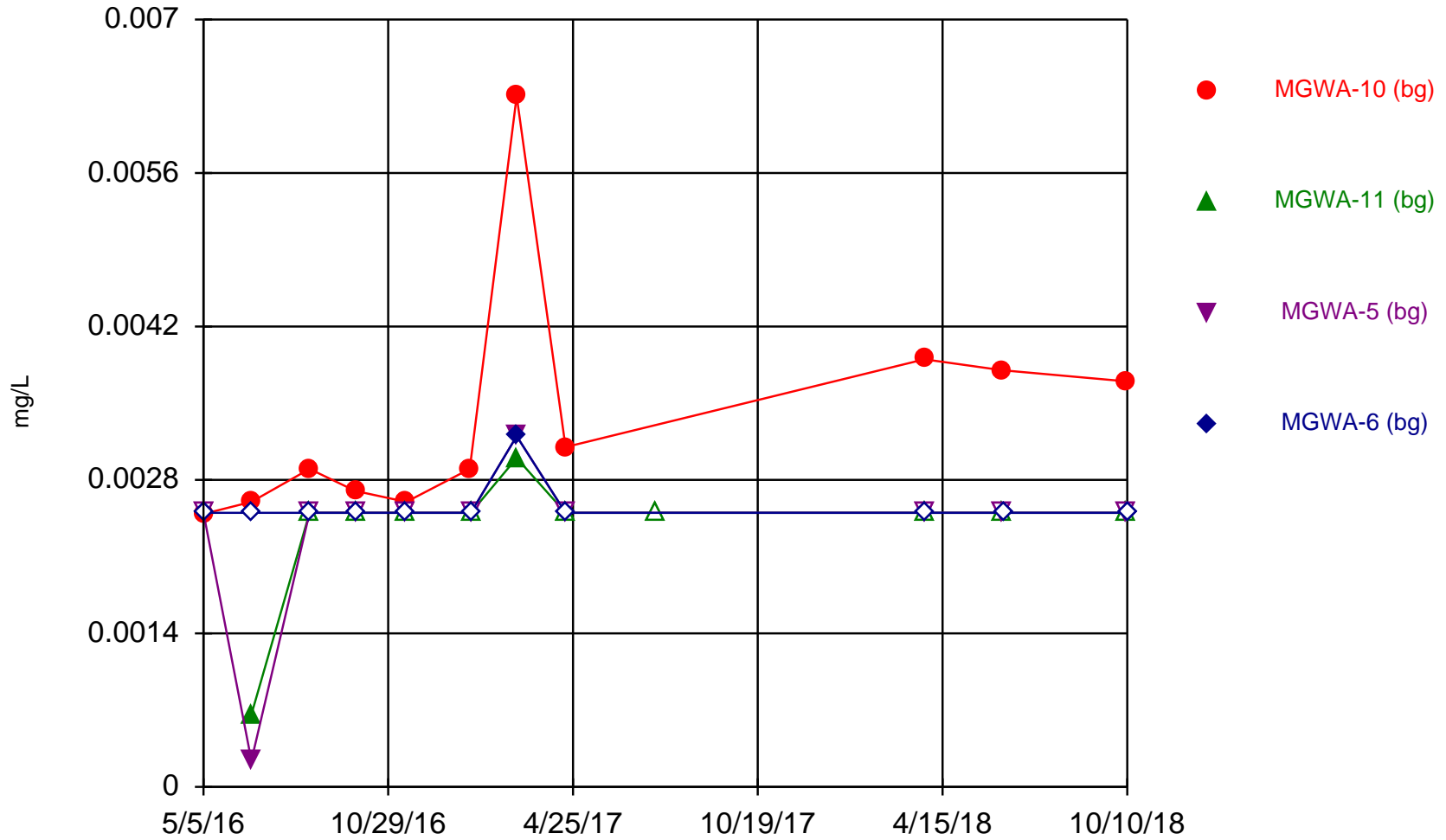
Constituent: Calcium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



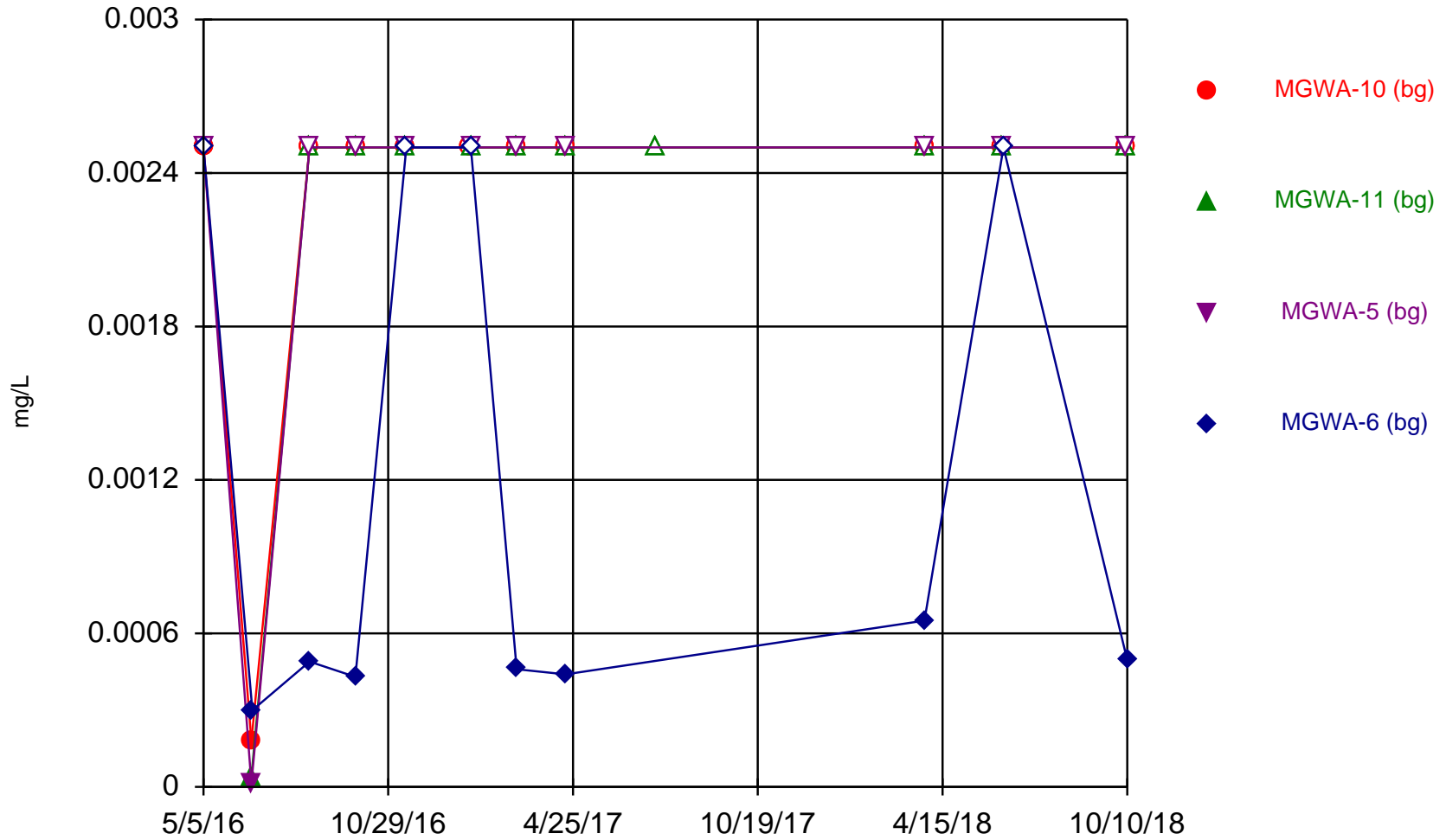
Constituent: Chloride Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



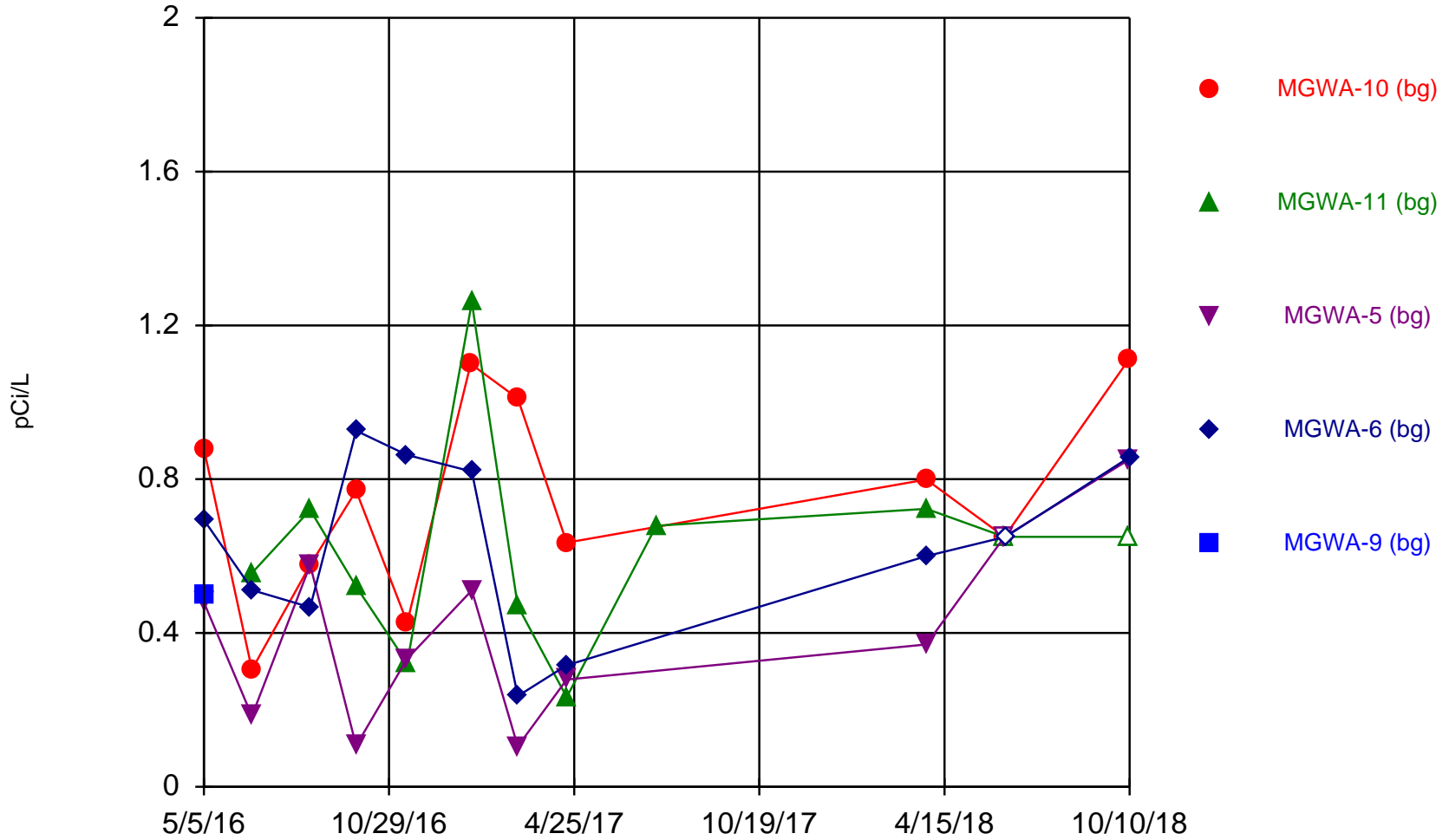
Constituent: Chromium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: Cobalt Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

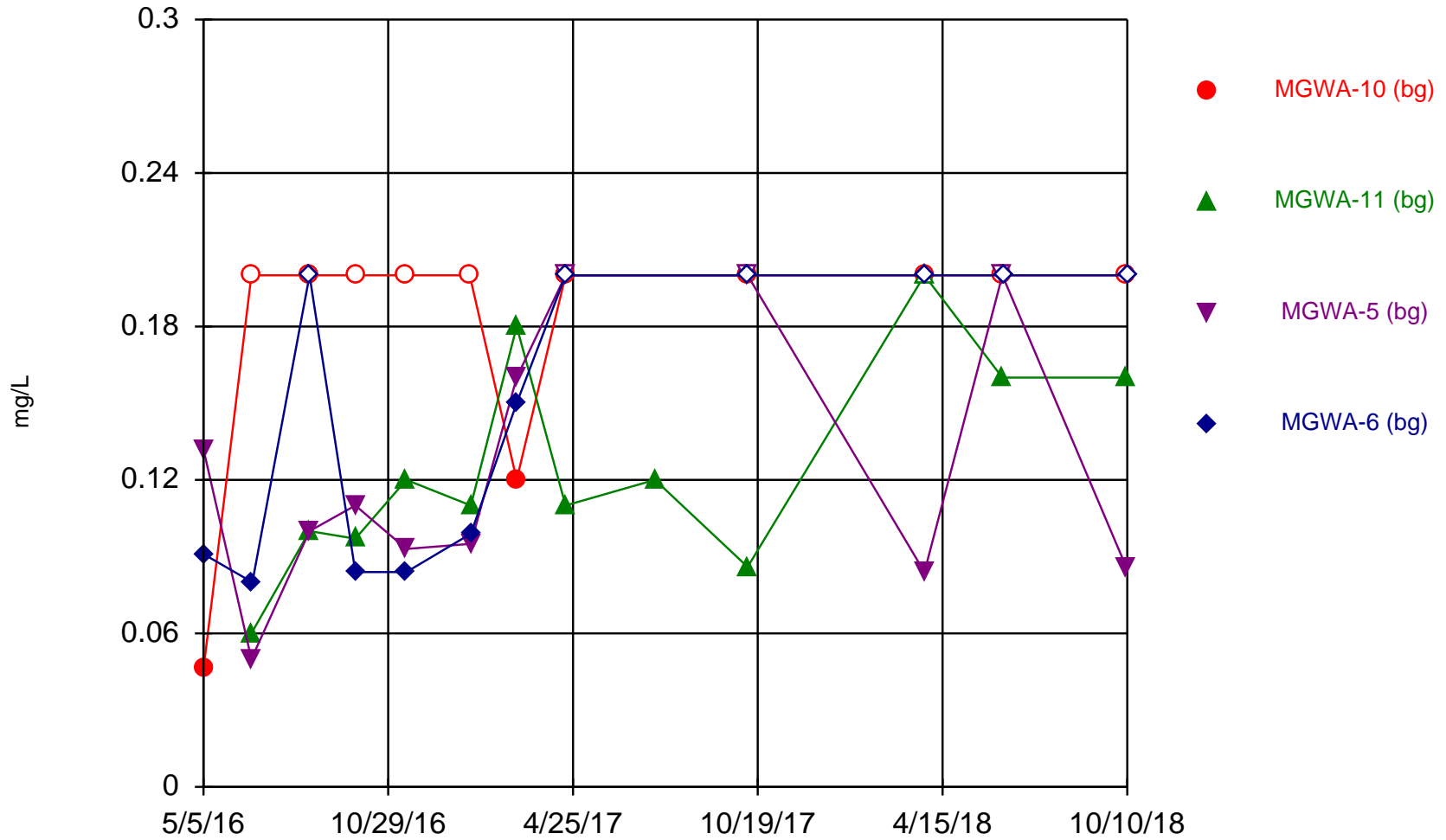
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 1/11/2019 12:59 PM

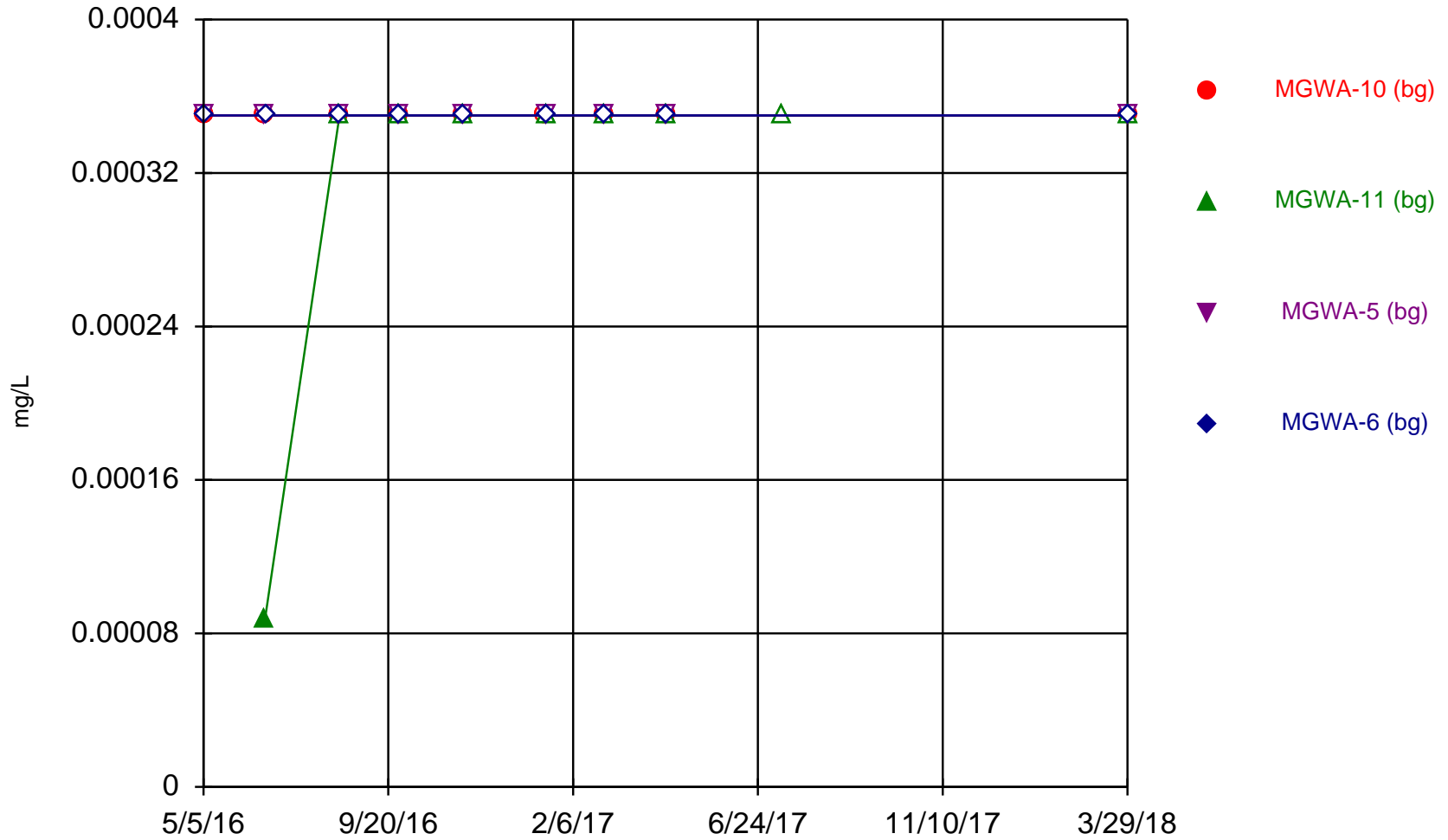
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



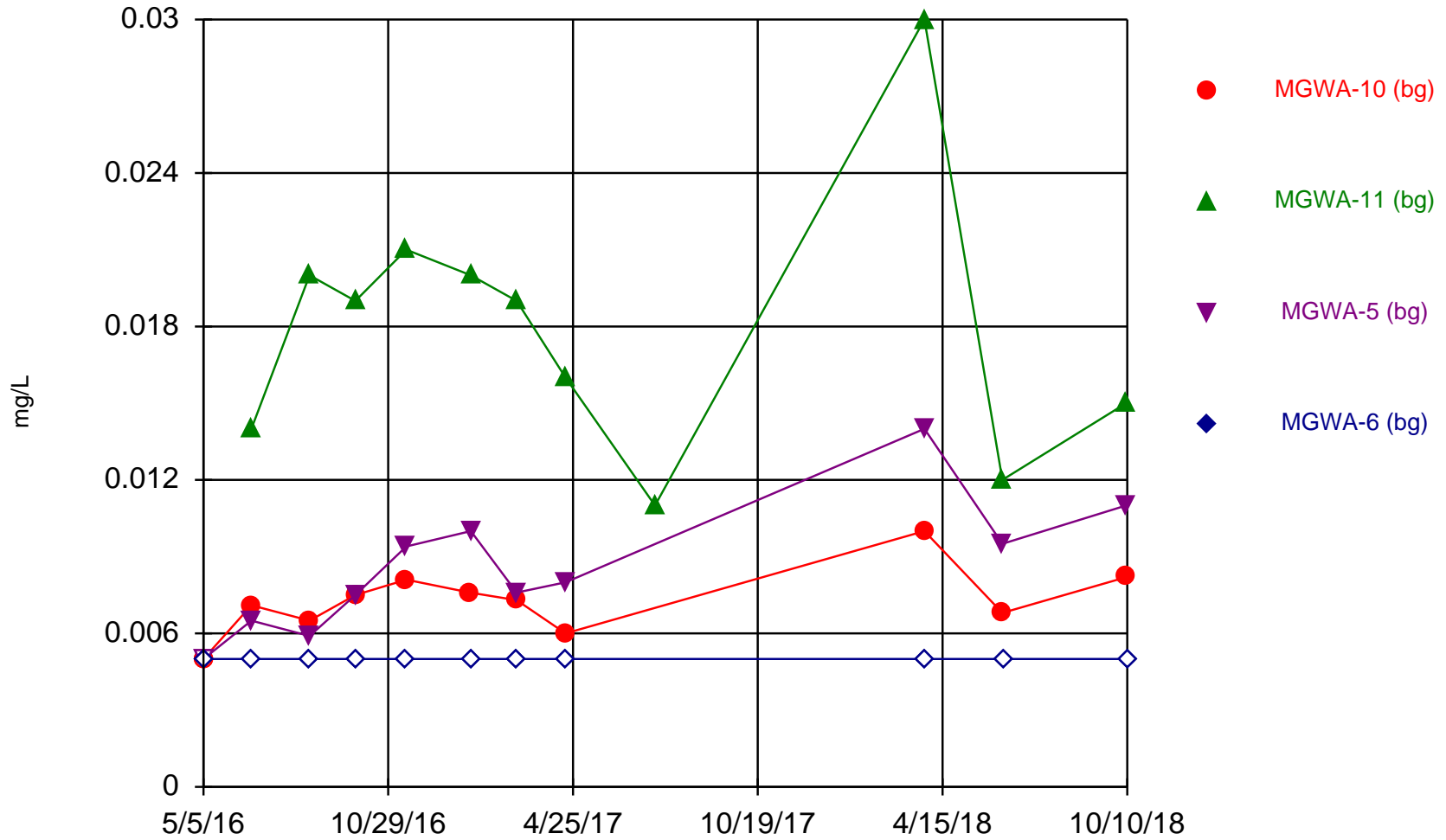
Constituent: Fluoride Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



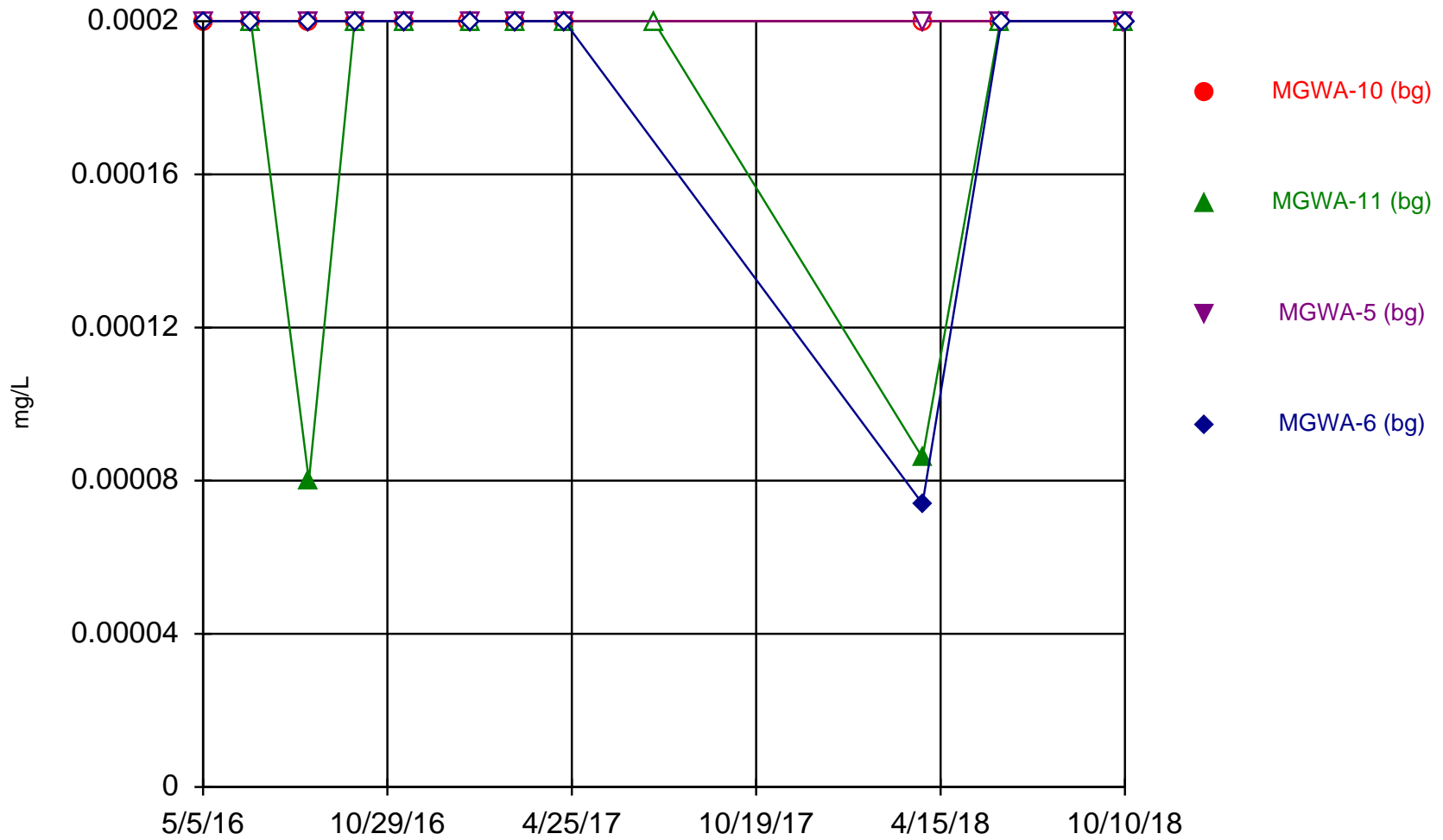
Constituent: Lead Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



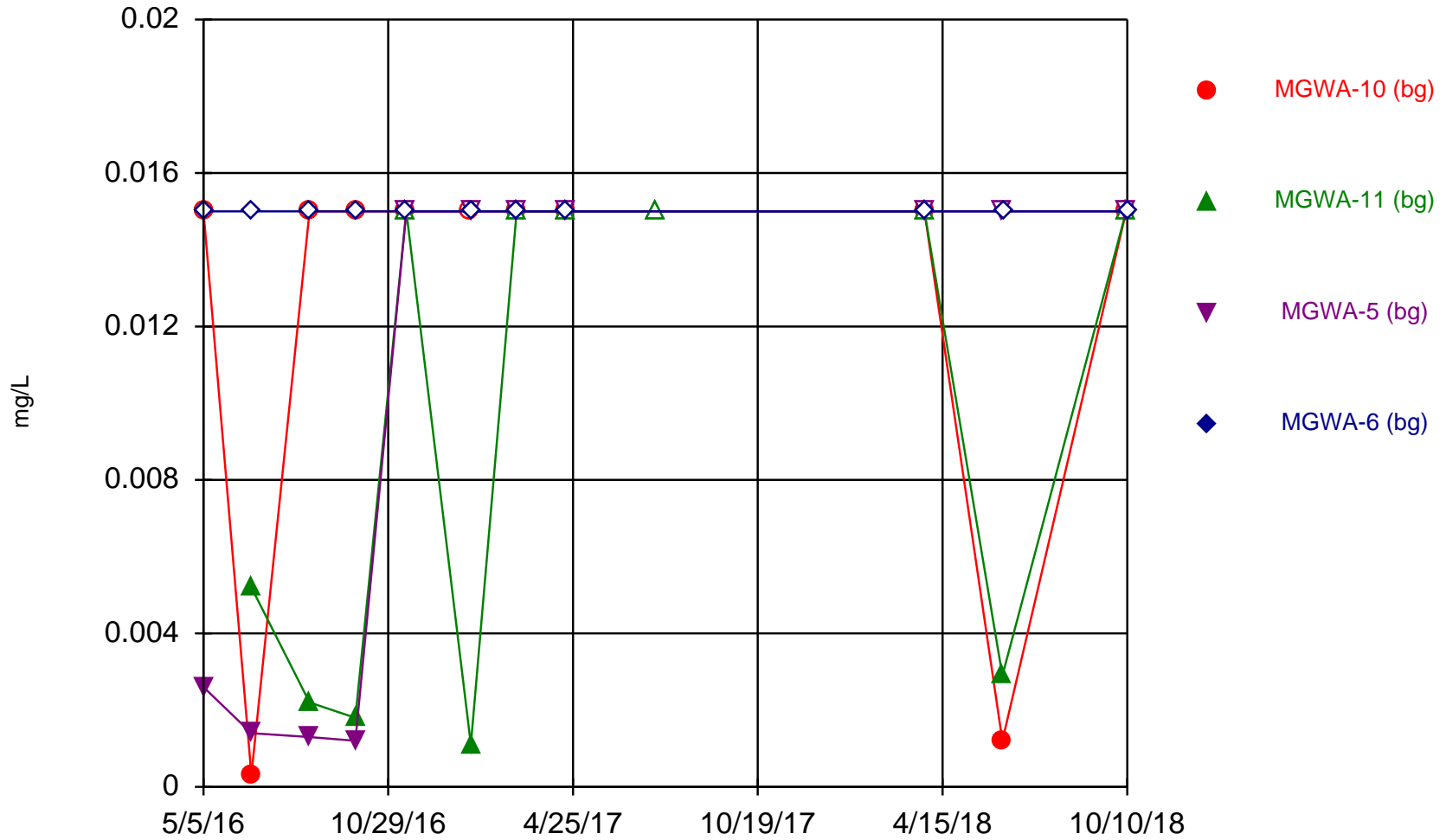
Constituent: Lithium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



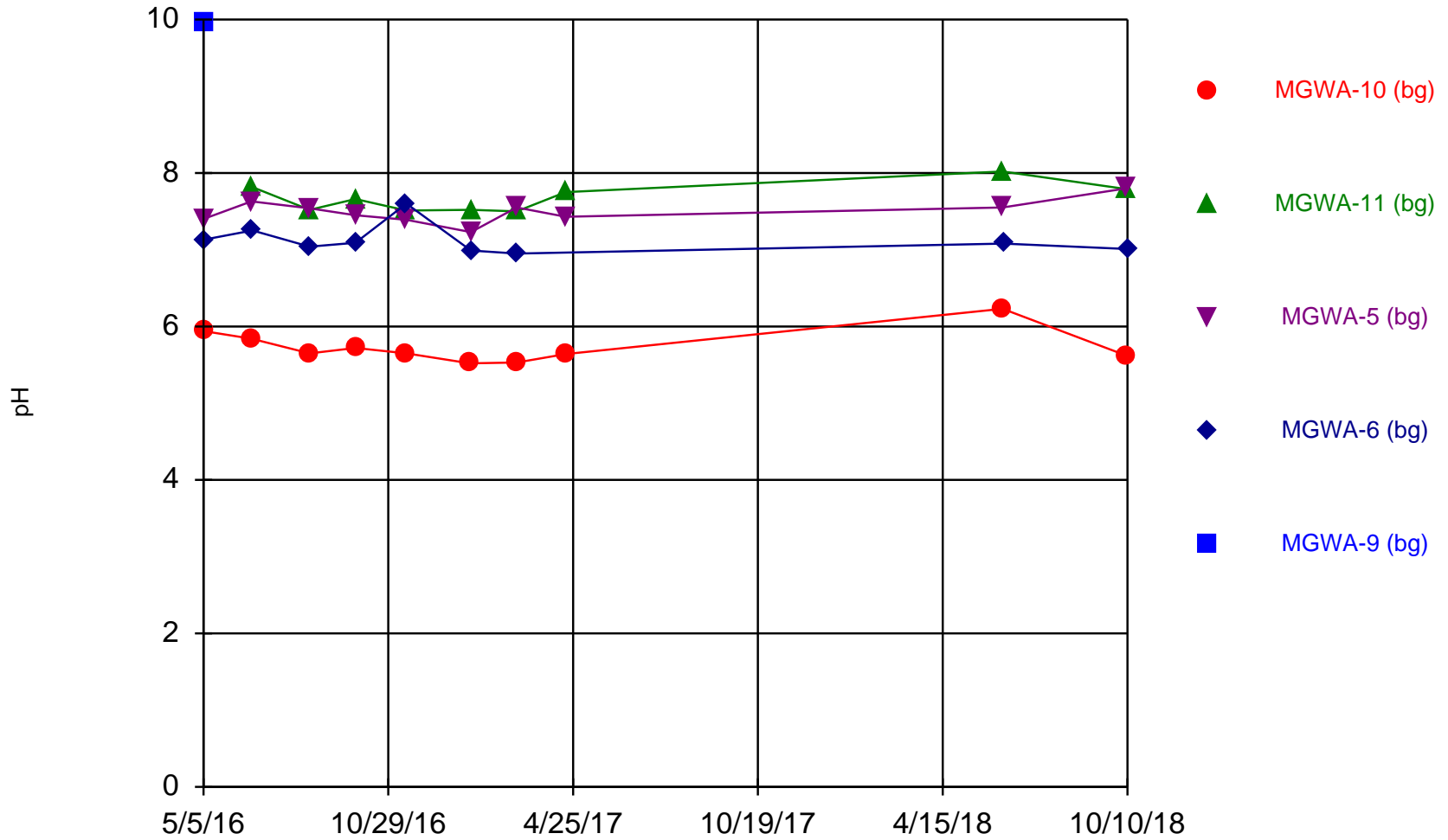
Constituent: Mercury Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



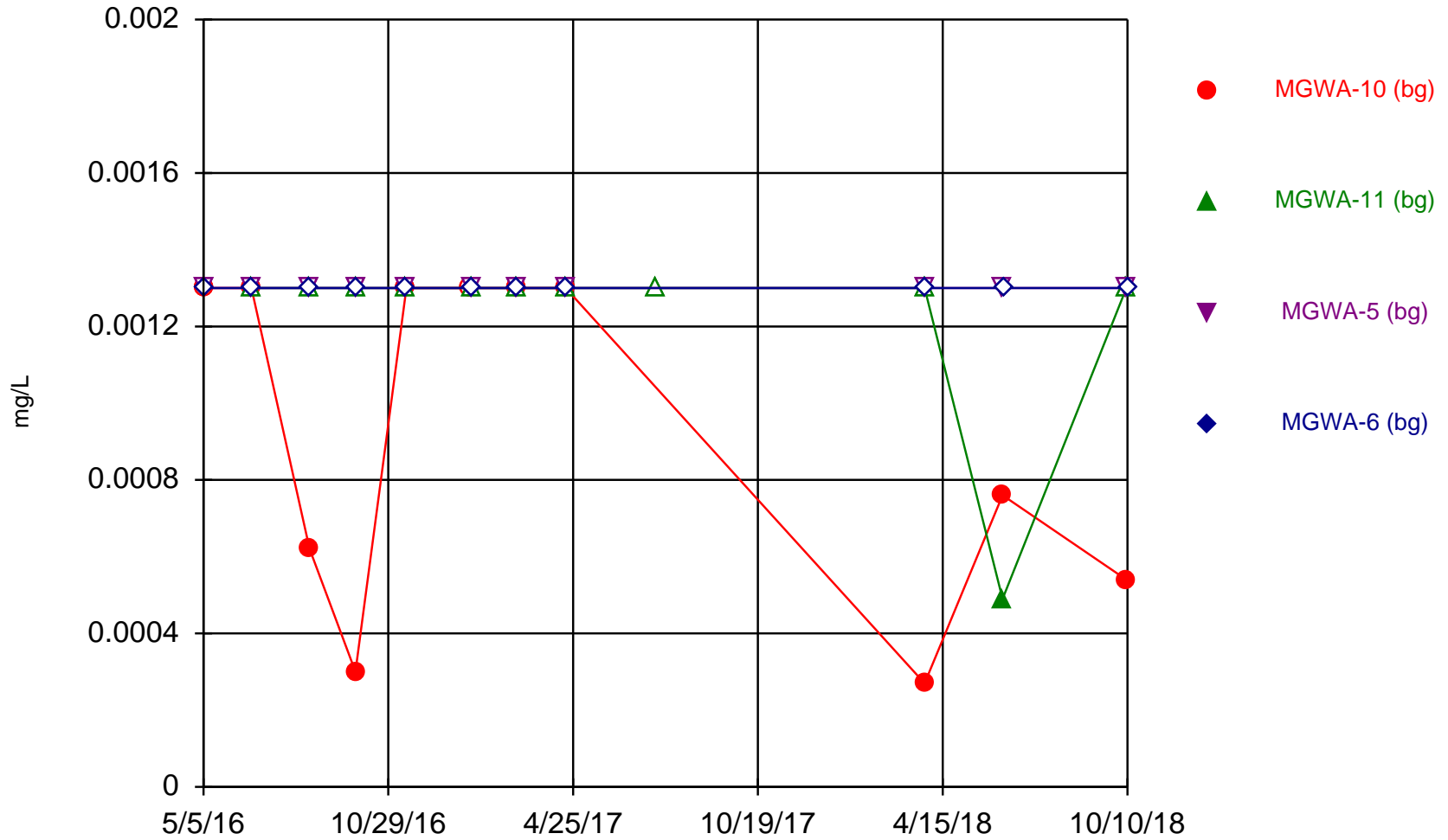
Constituent: Molybdenum Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



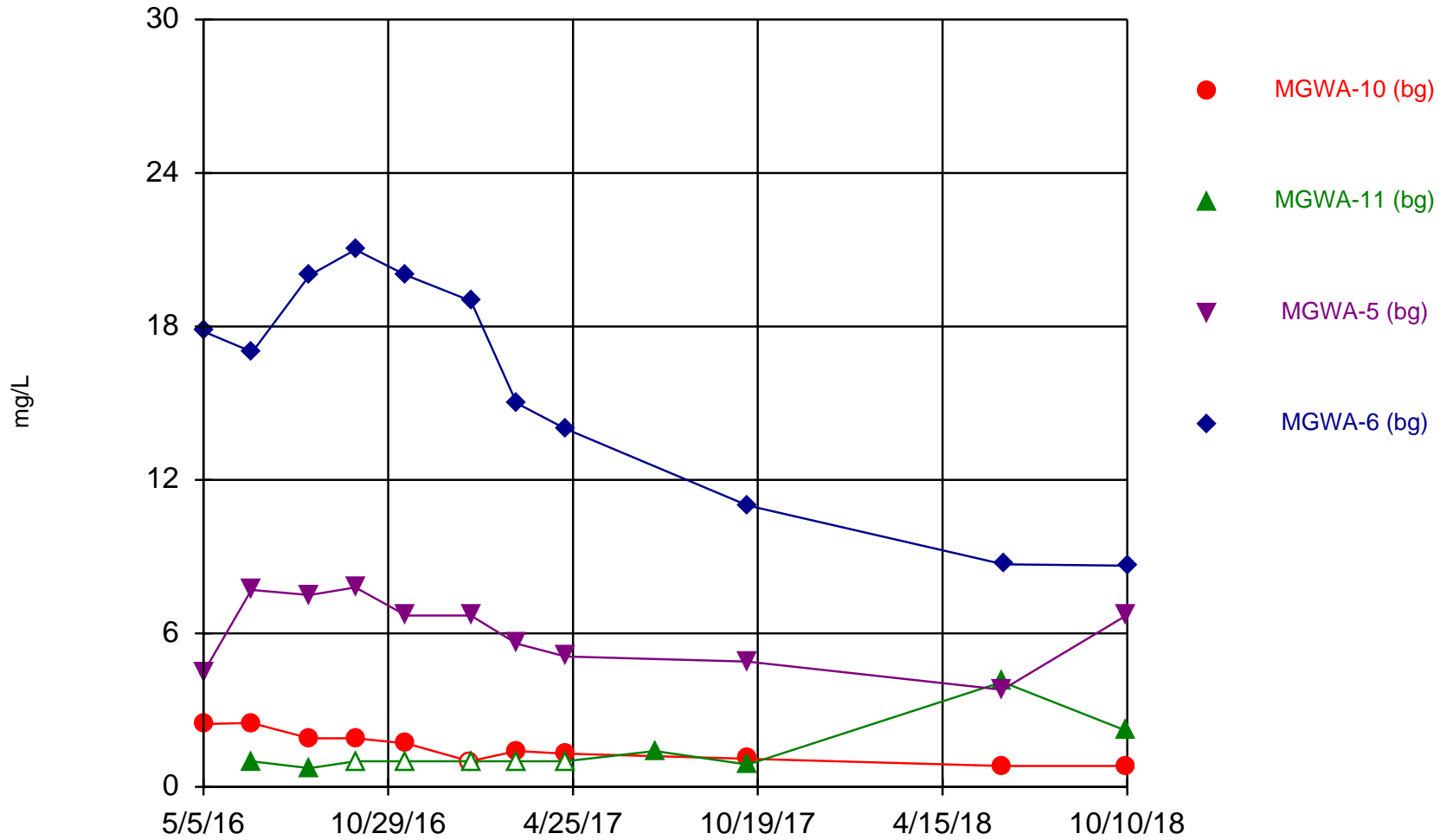
Constituent: pH Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



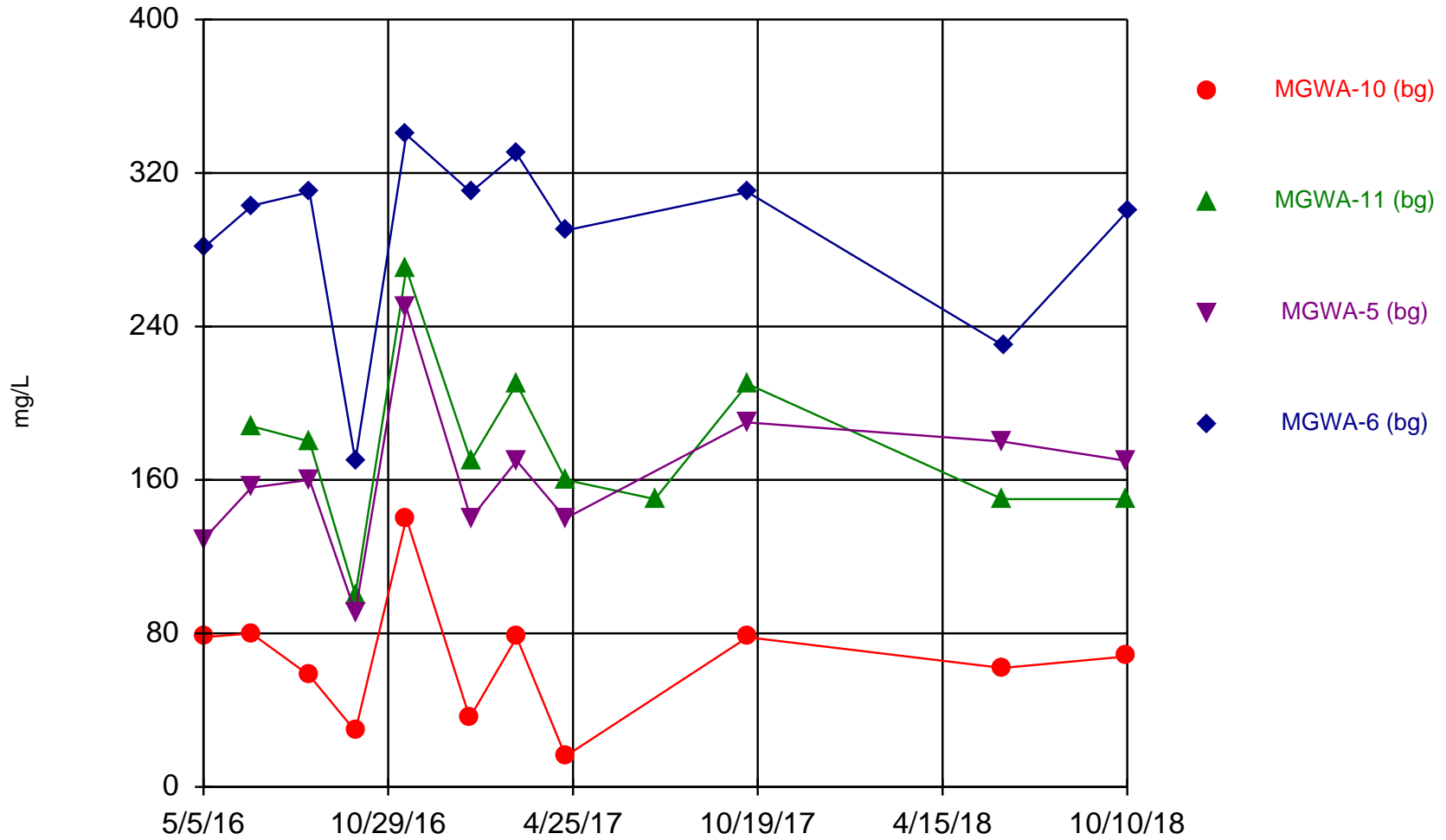
Constituent: Selenium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



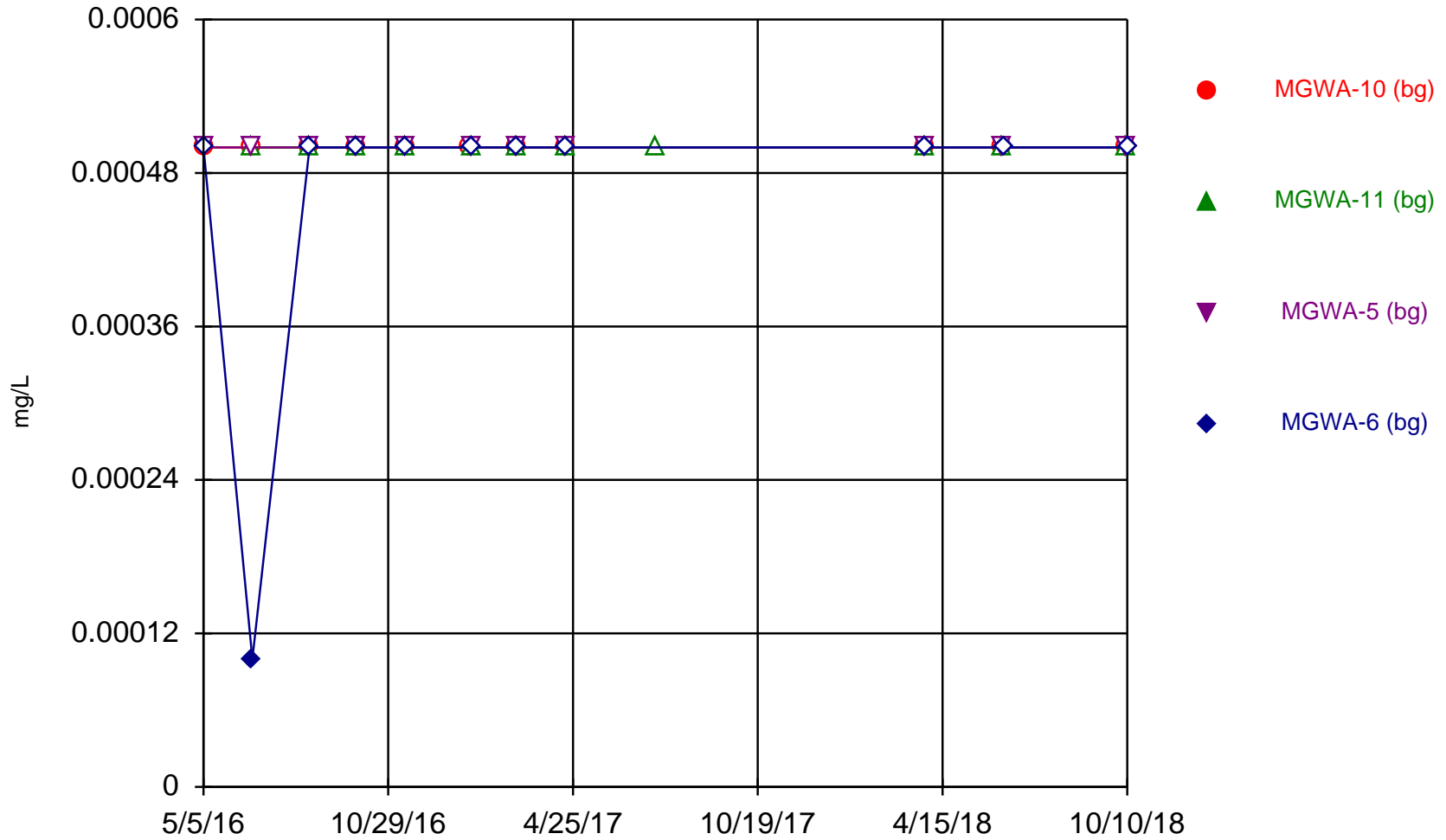
Constituent: Sulfate Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



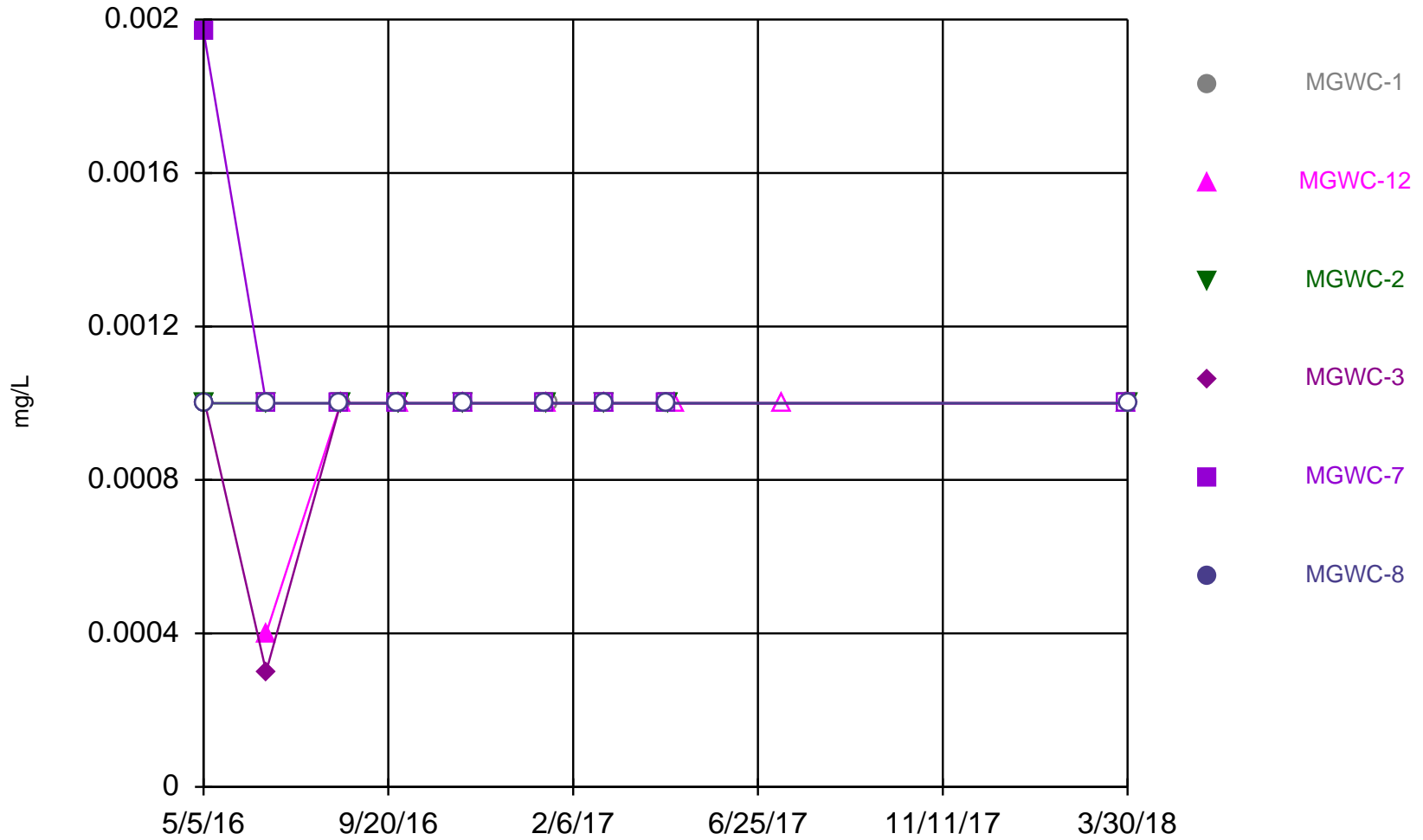
Constituent: TDS Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



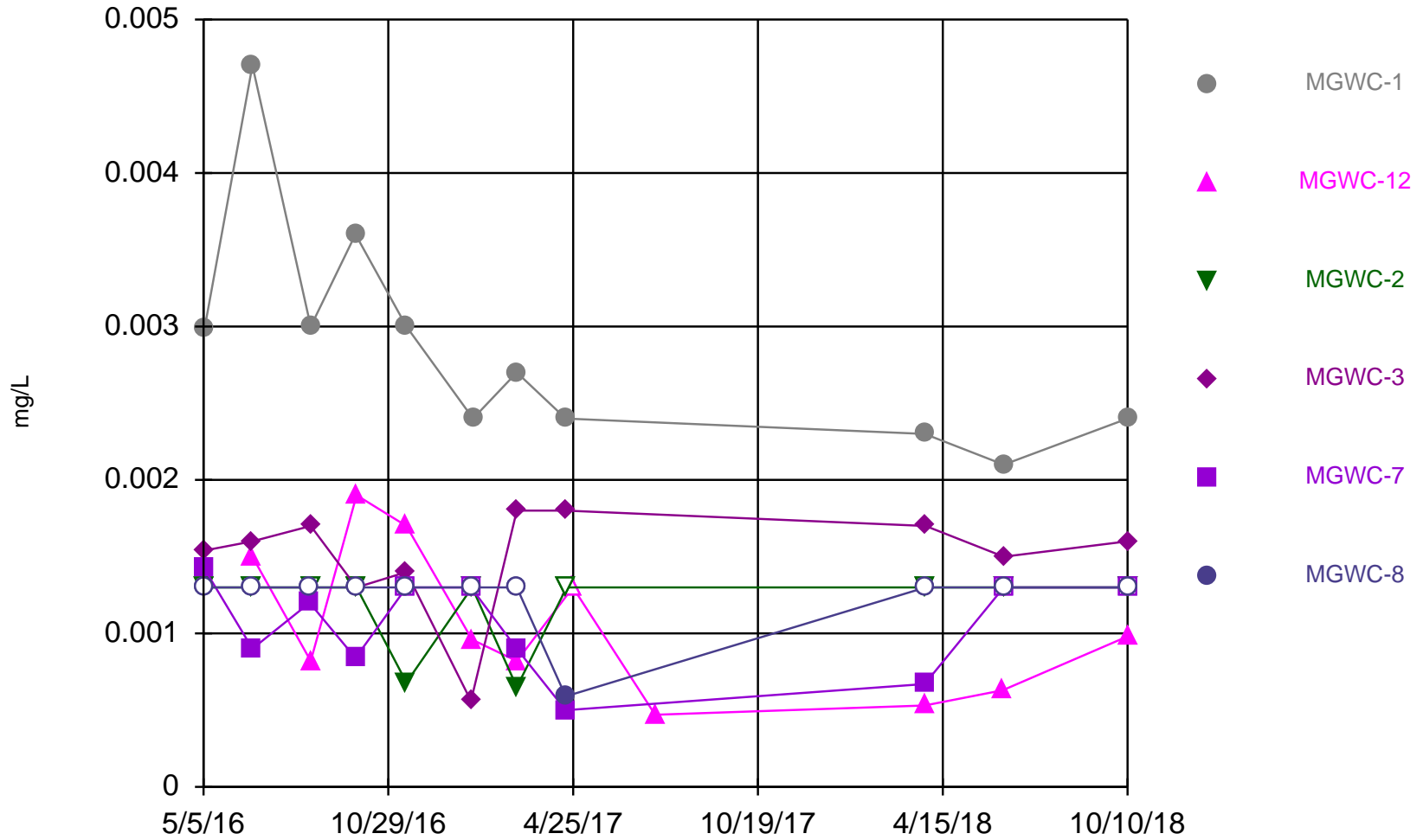
Constituent: Thallium Analysis Run 1/11/2019 12:59 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



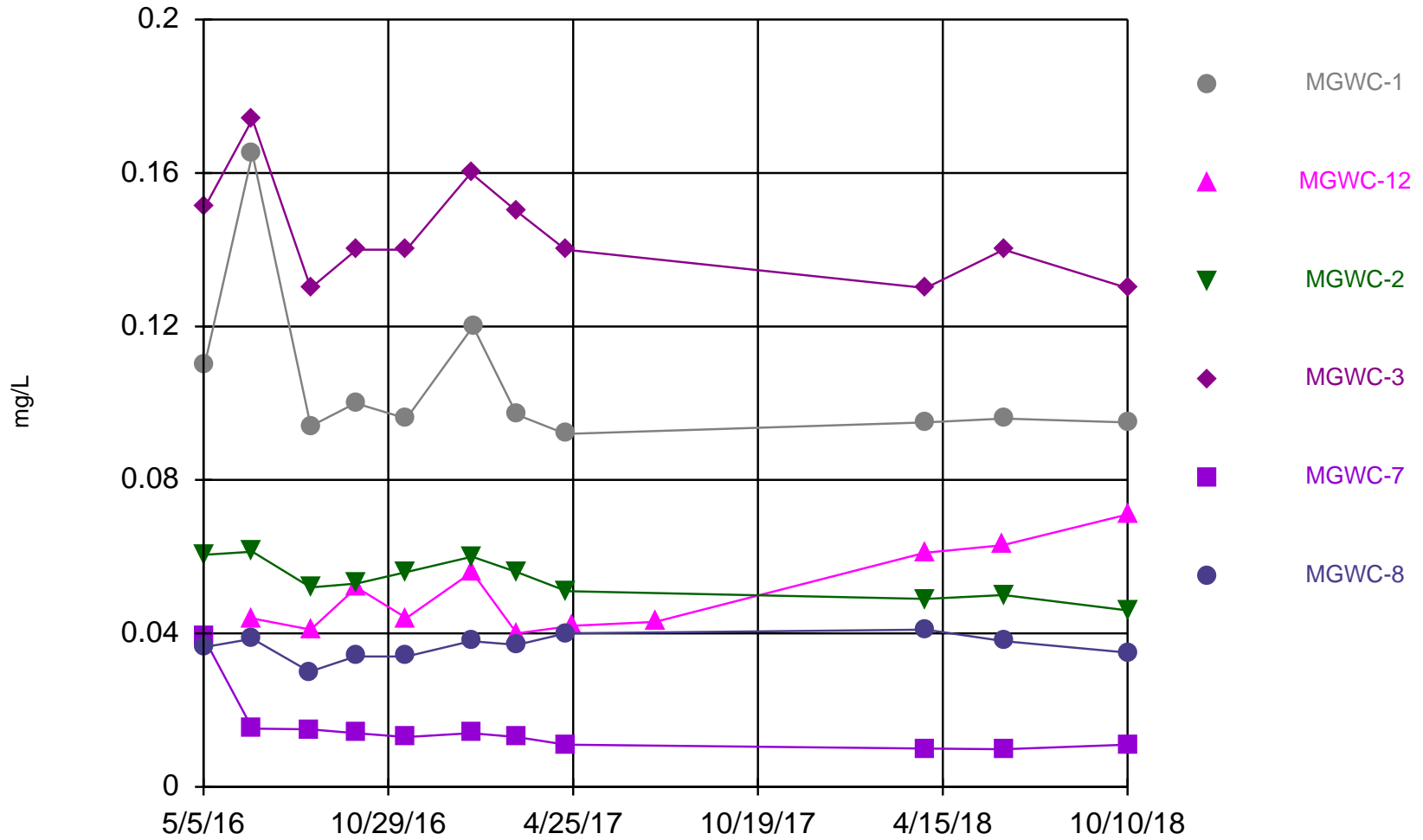
Constituent: Antimony Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



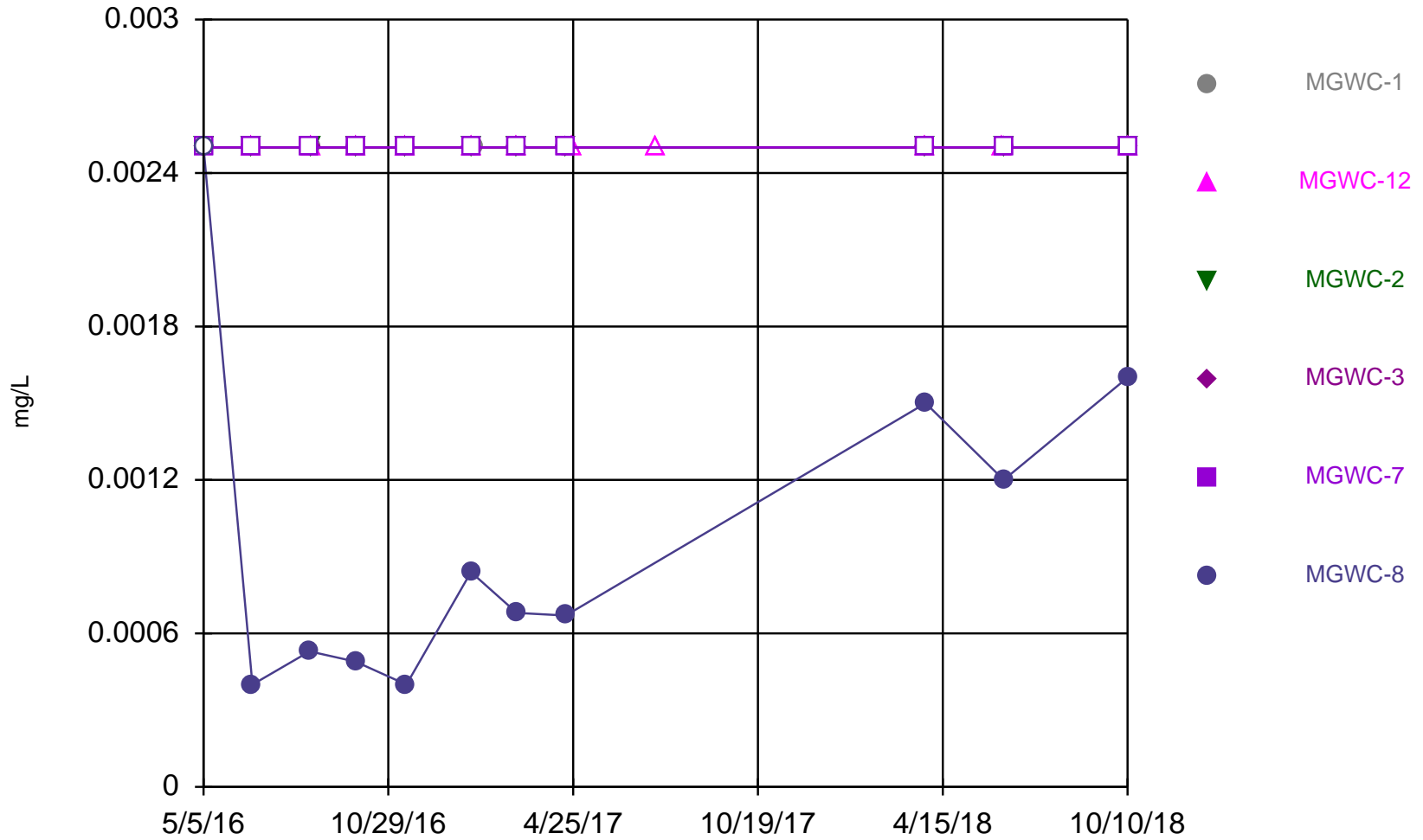
Constituent: Arsenic Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



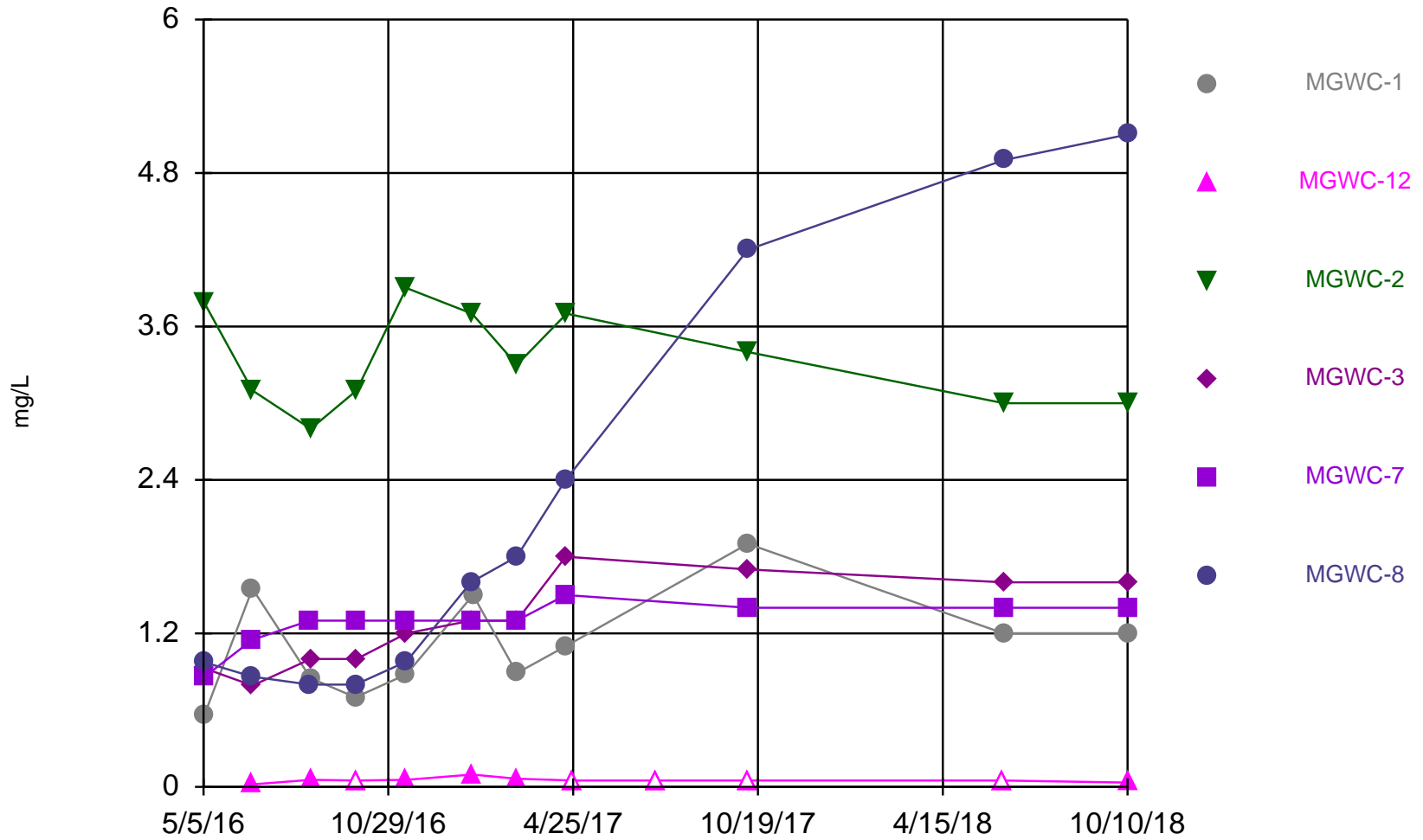
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



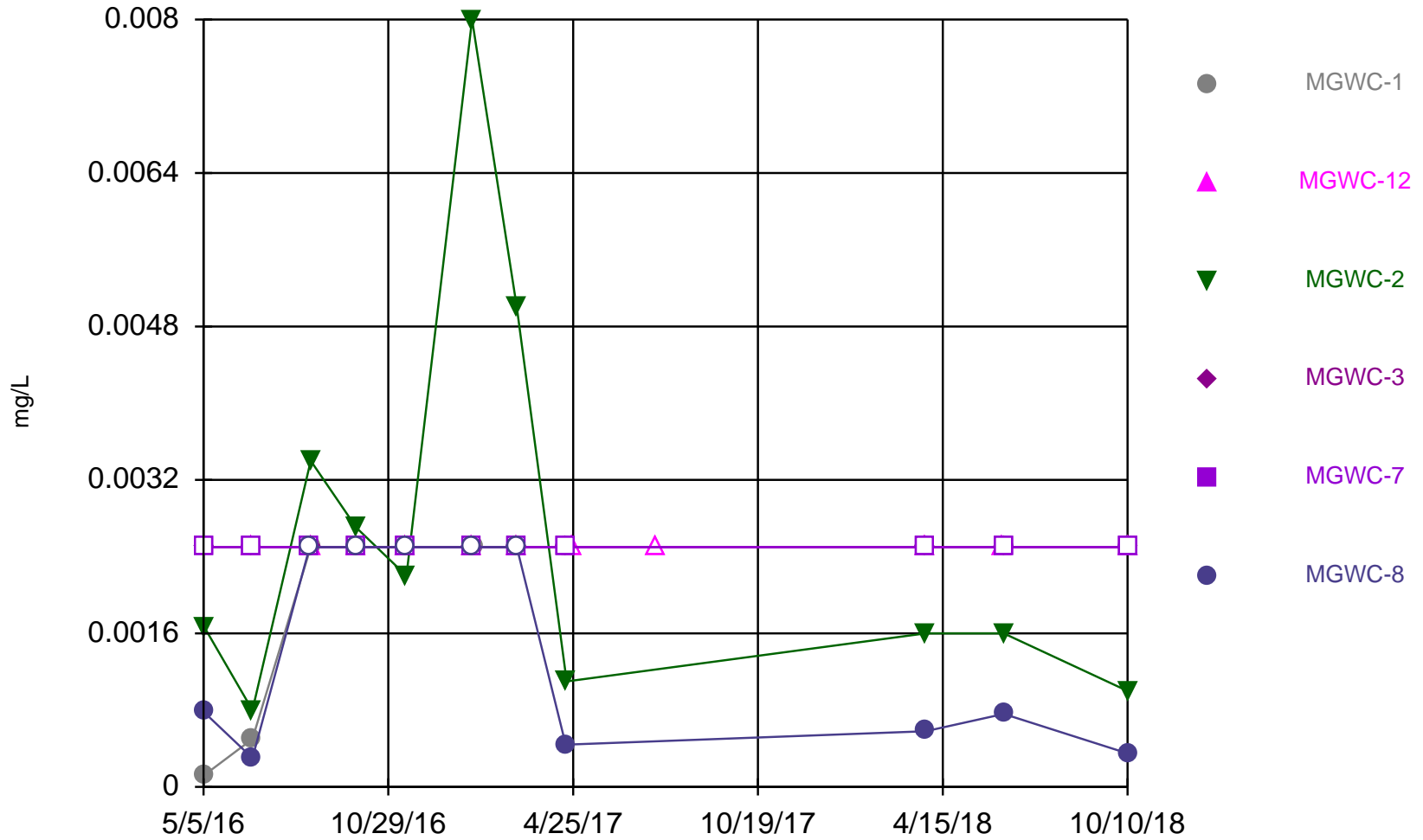
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



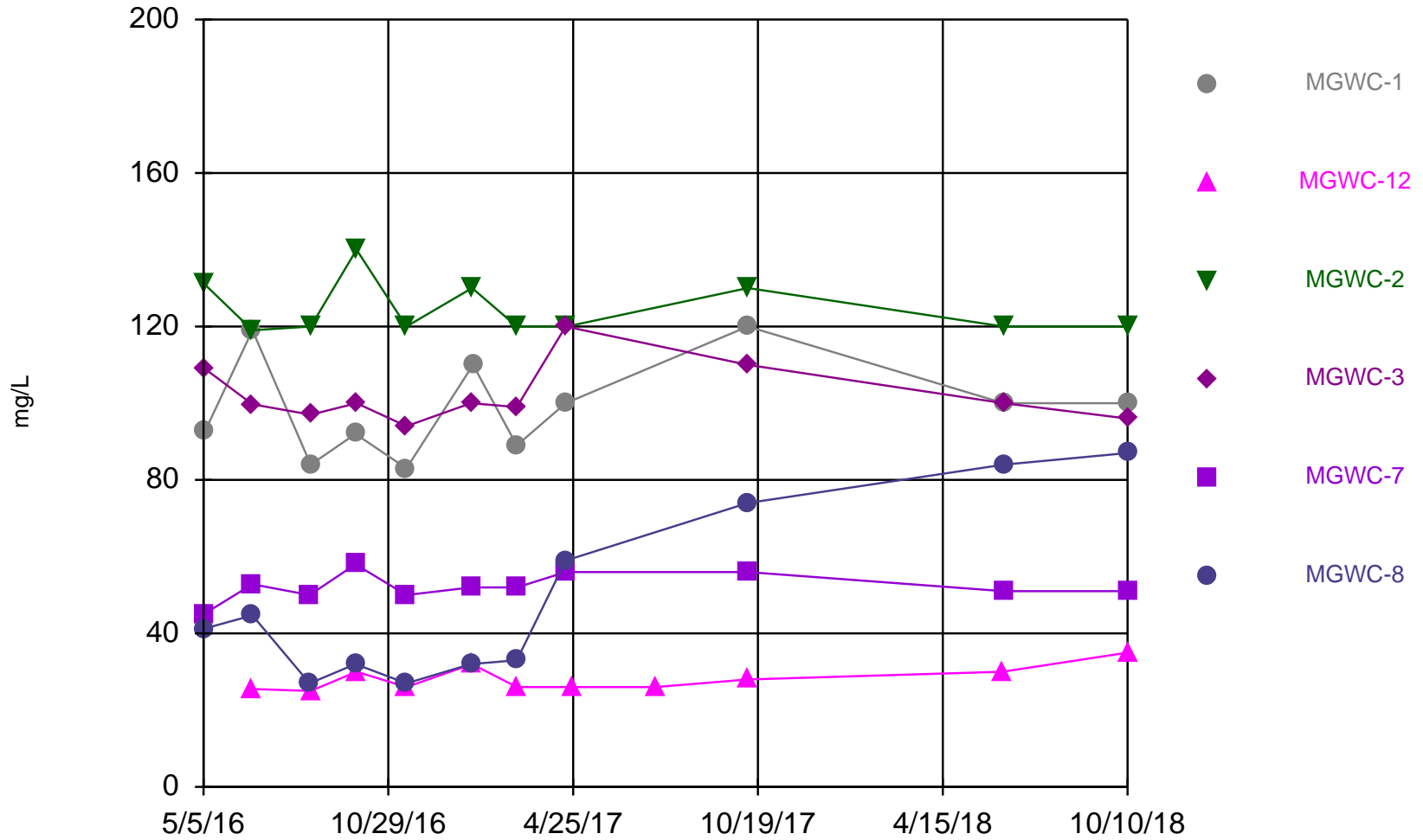
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



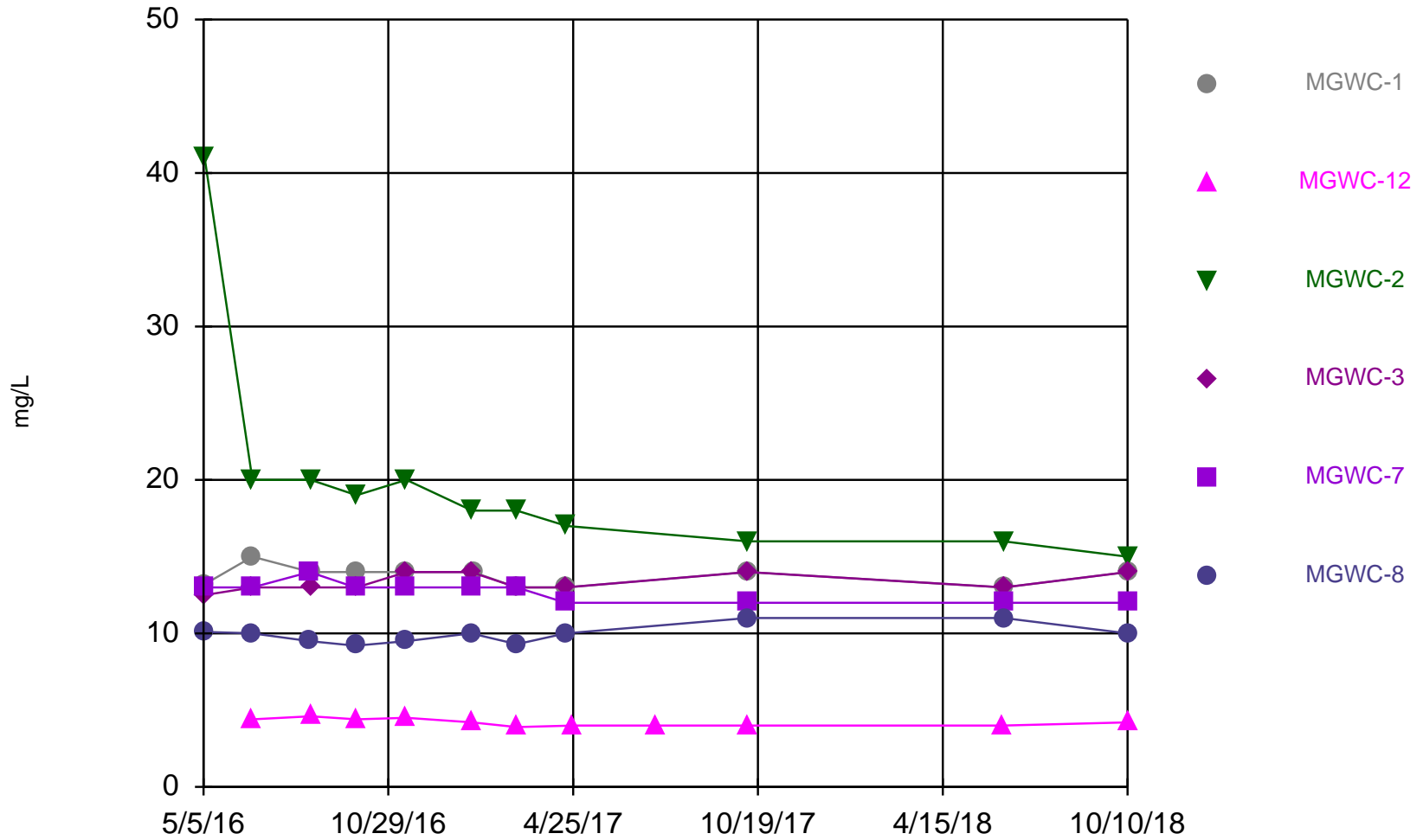
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



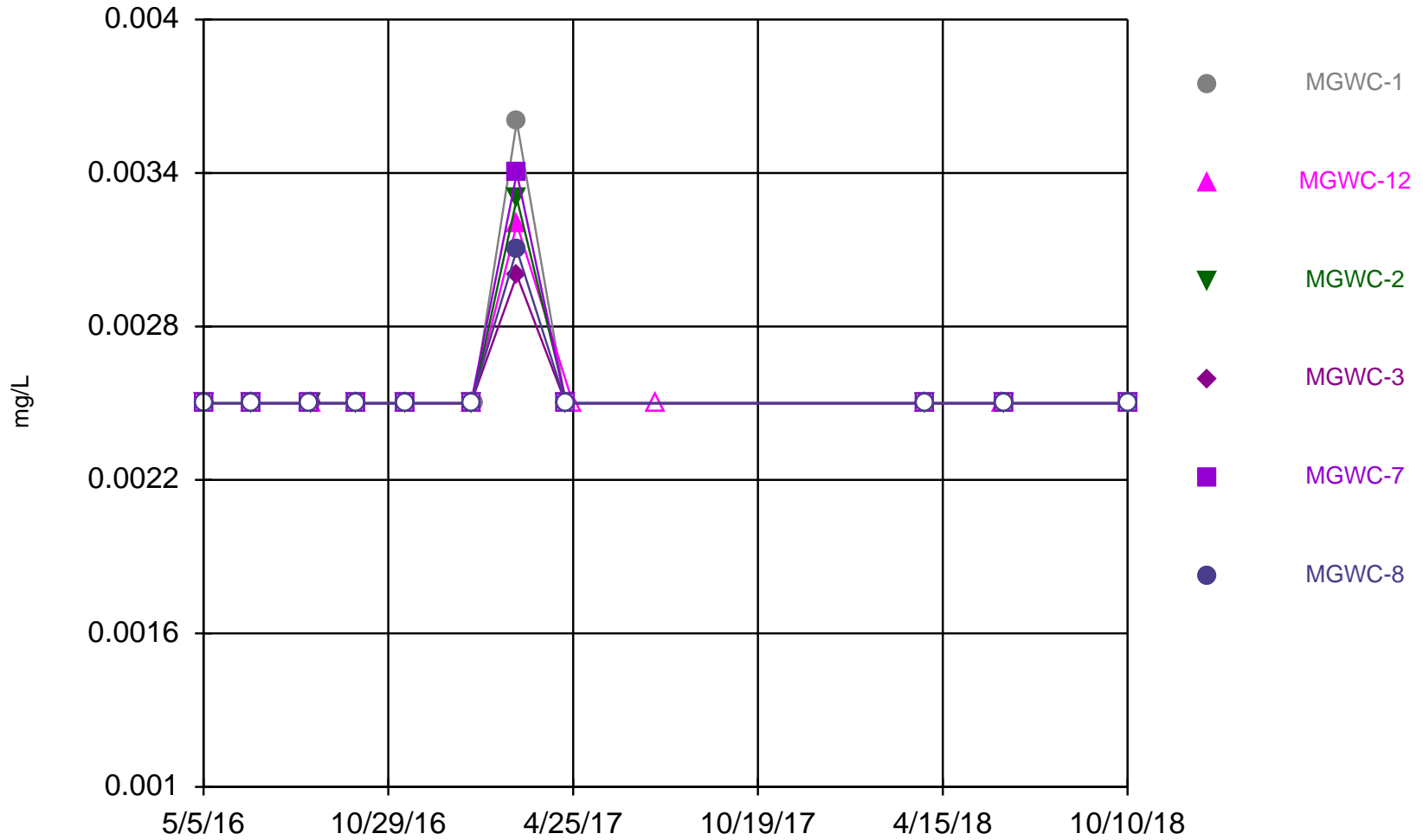
Constituent: Calcium Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



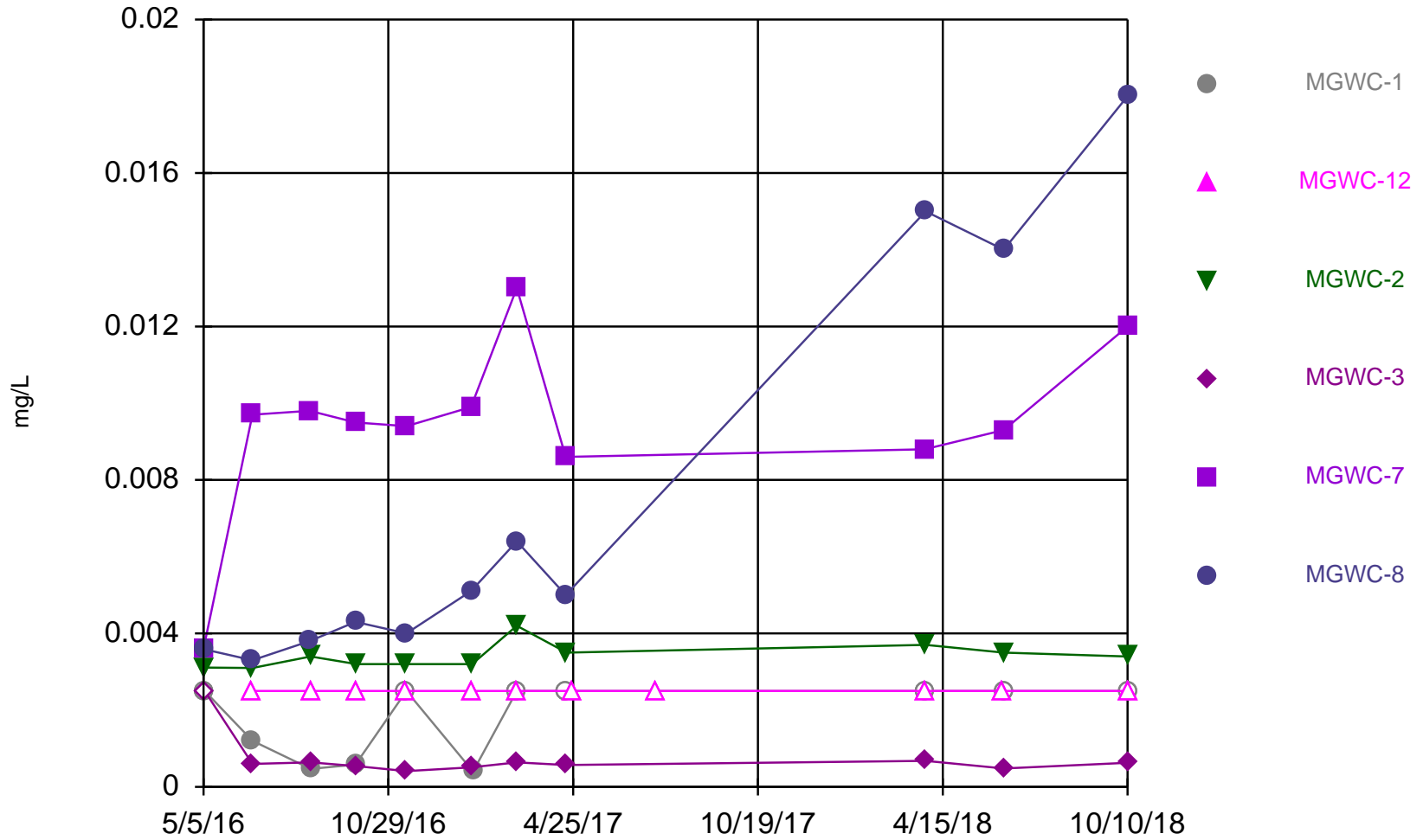
Constituent: Chloride Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



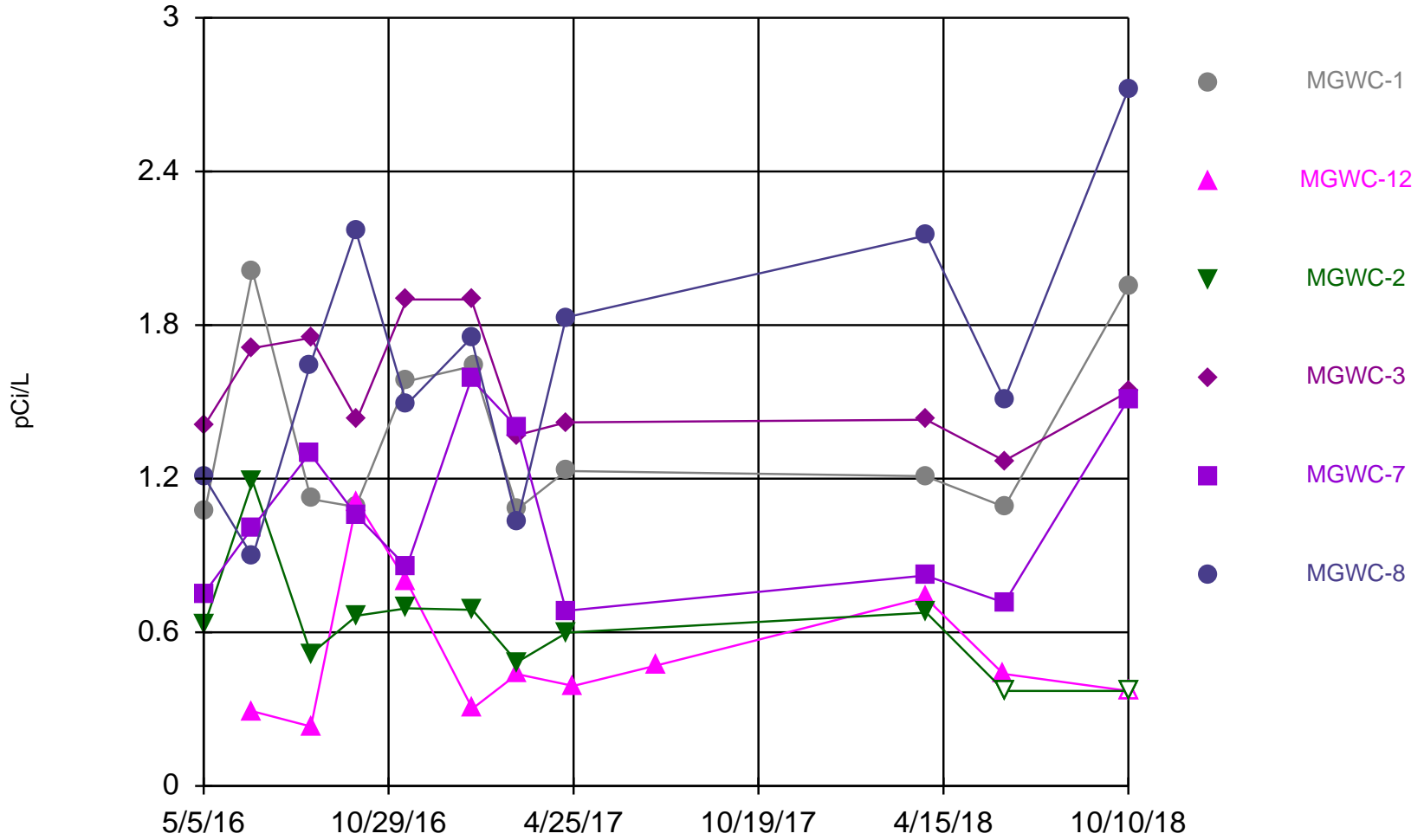
Constituent: Chromium Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



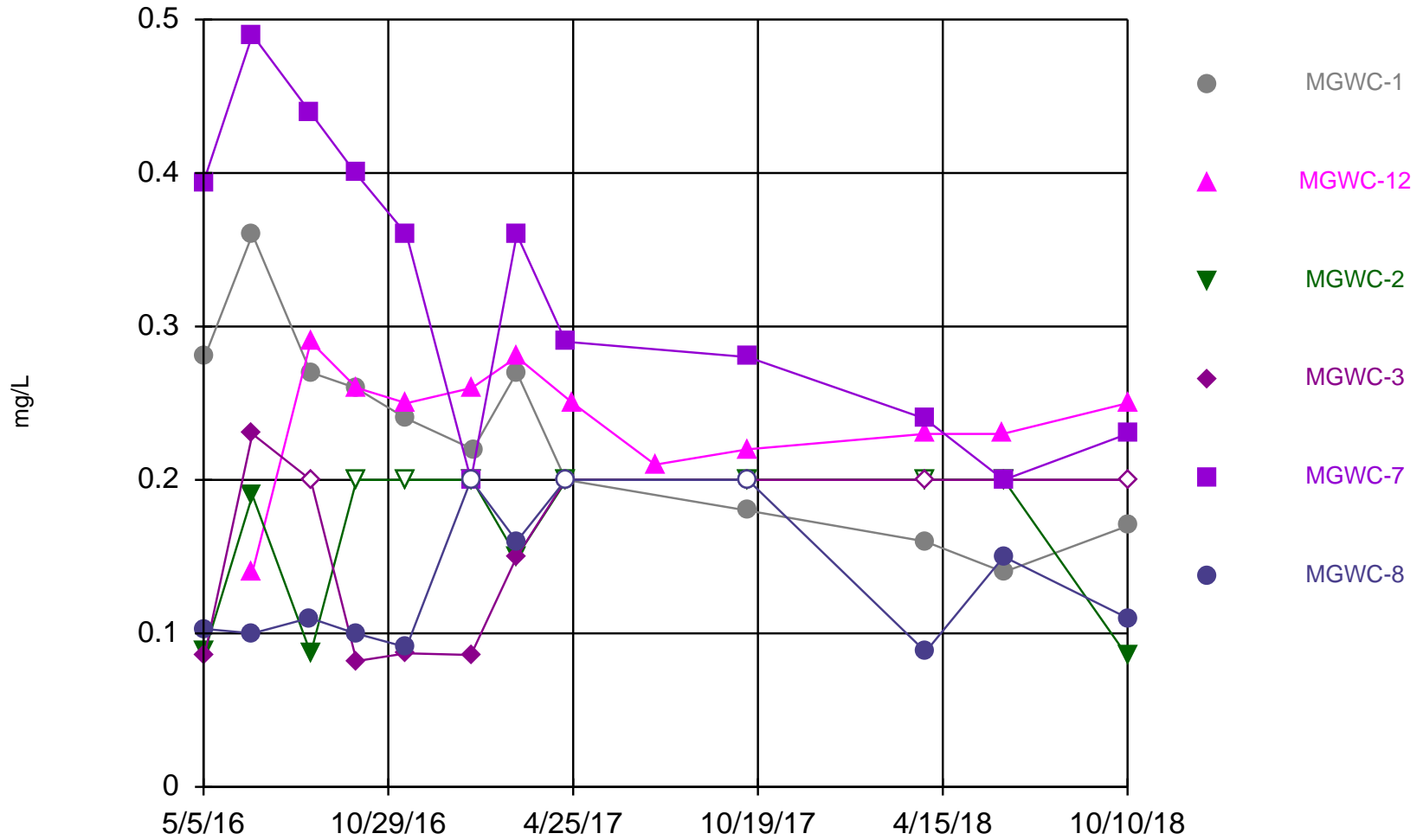
Constituent: Cobalt Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



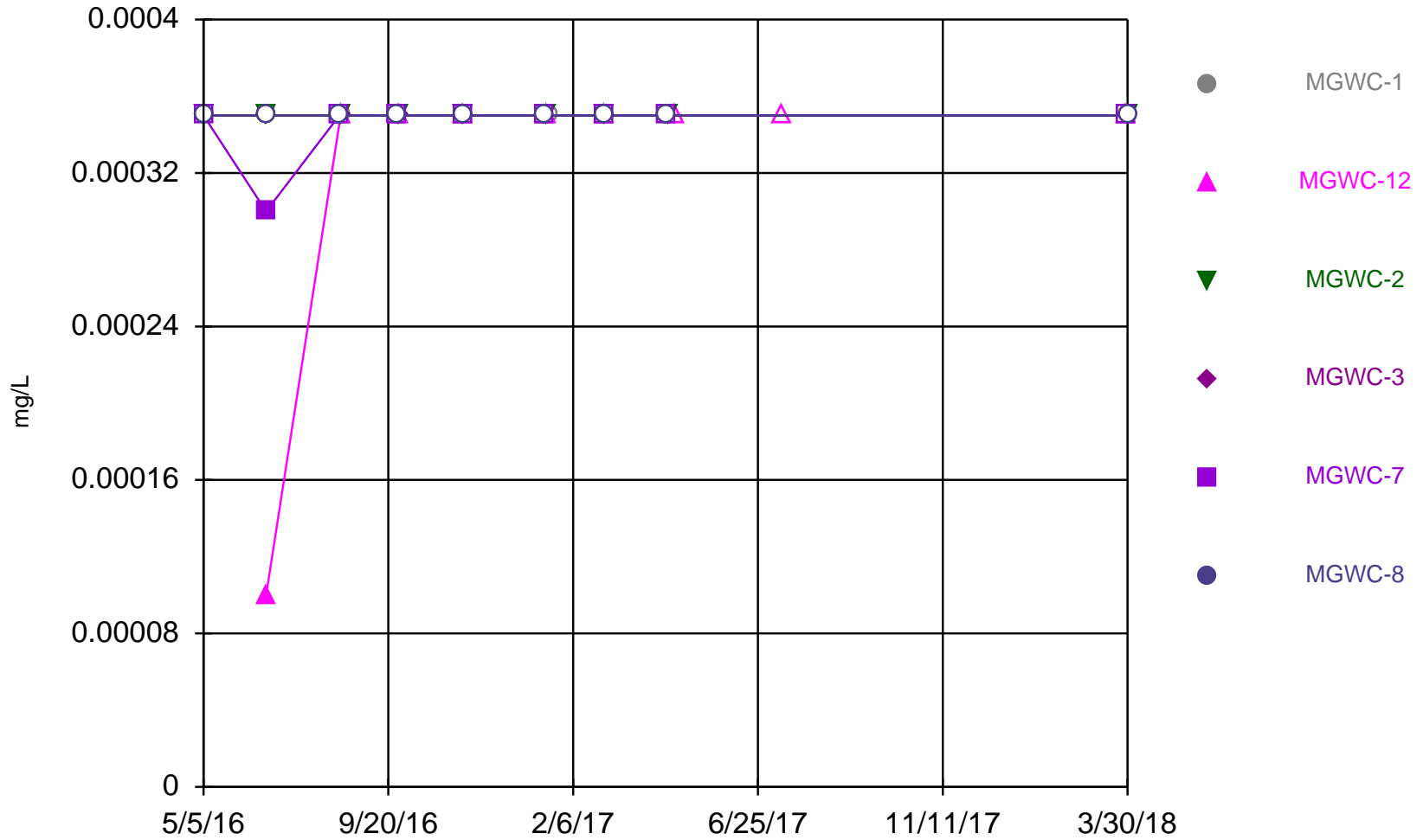
Constituent: Combined Radium 226 + 228 Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



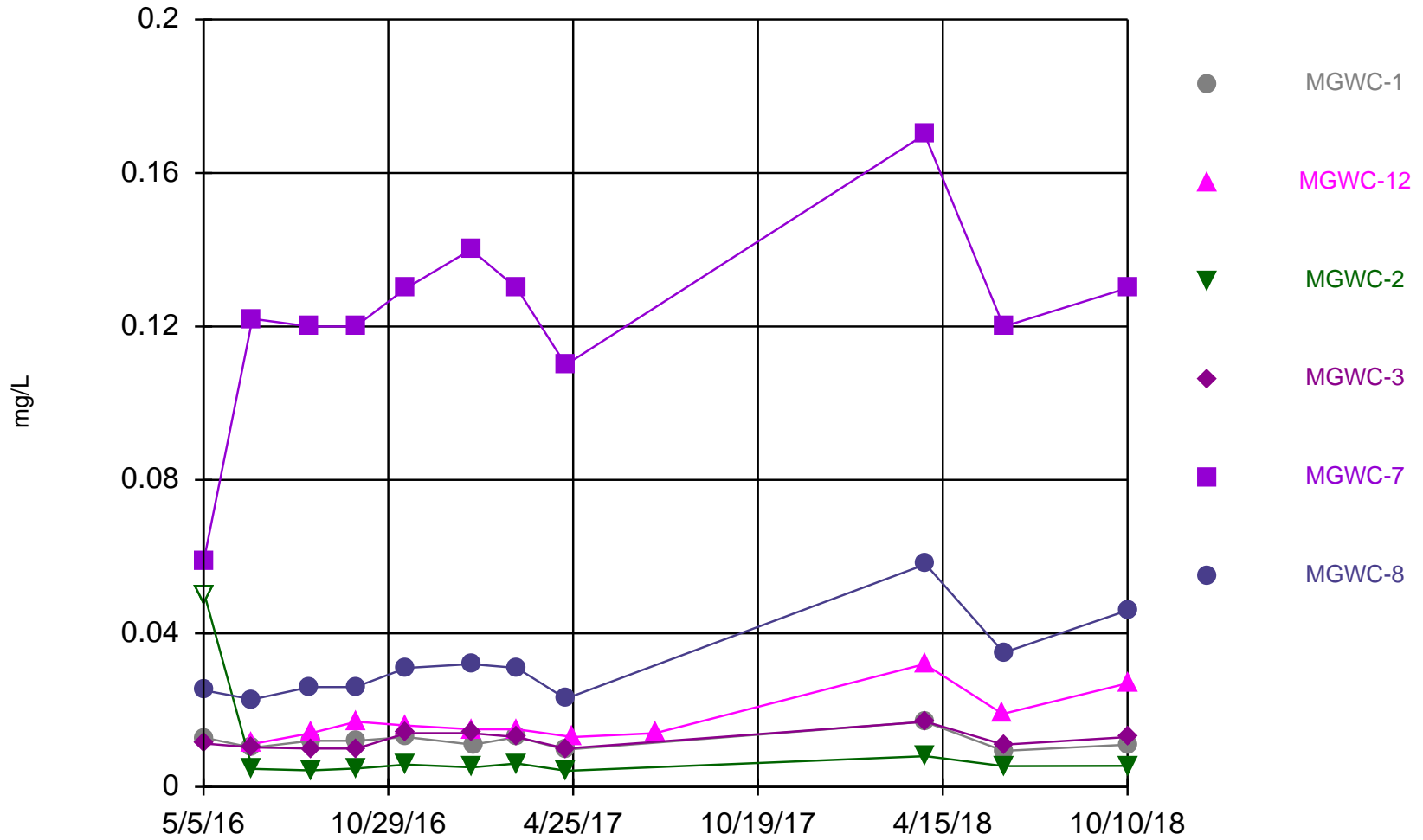
Constituent: Fluoride Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



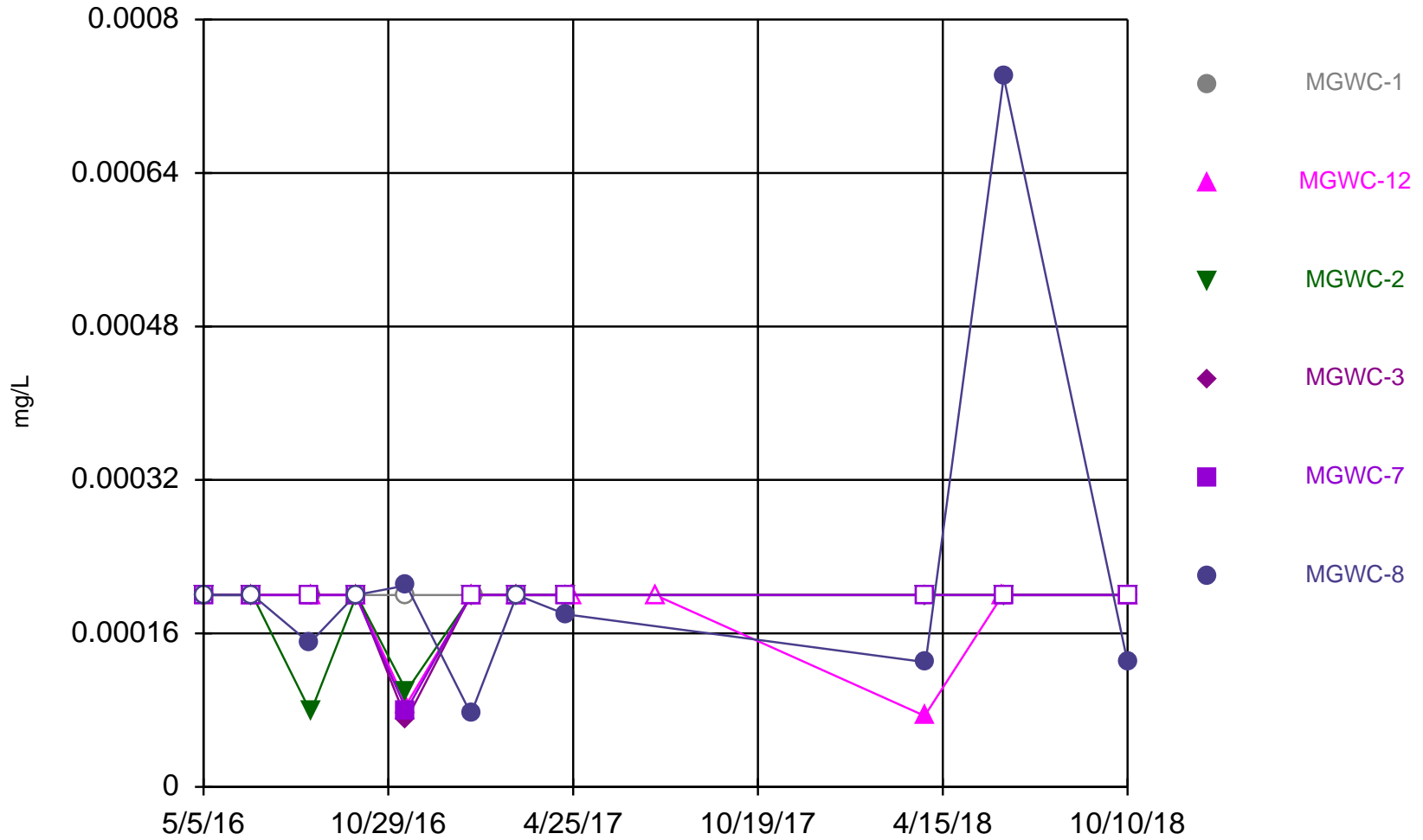
Constituent: Lead Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



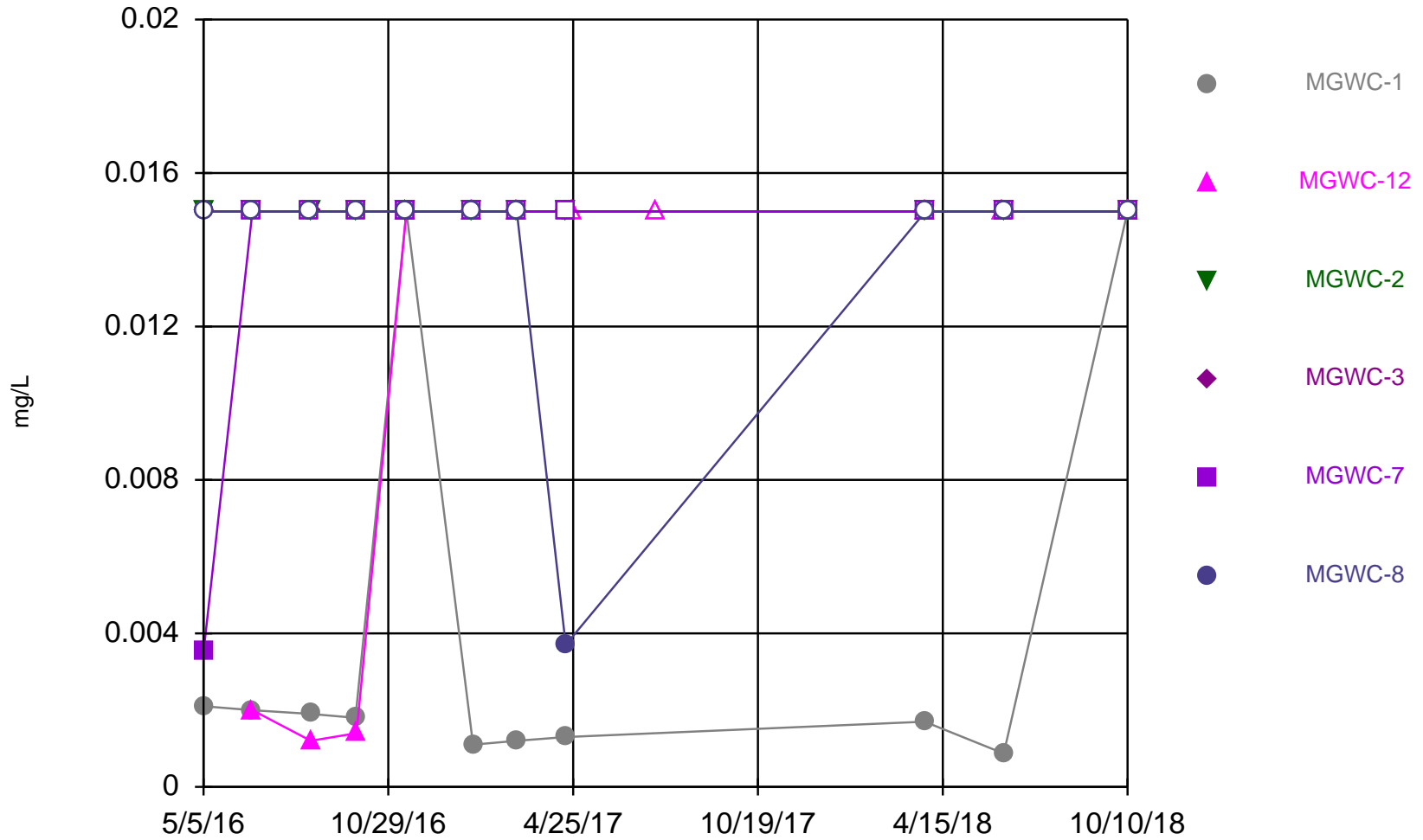
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



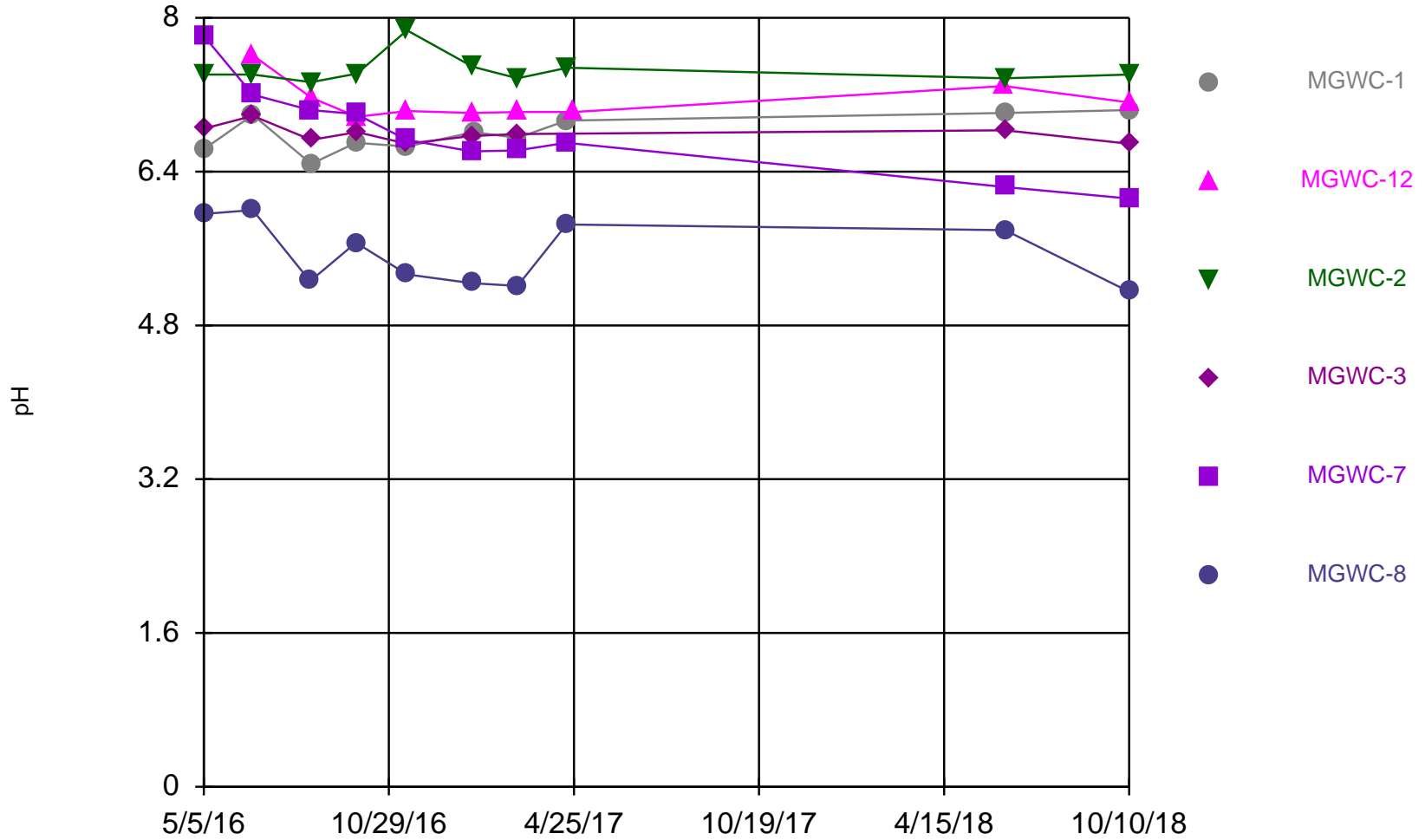
Constituent: Mercury Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



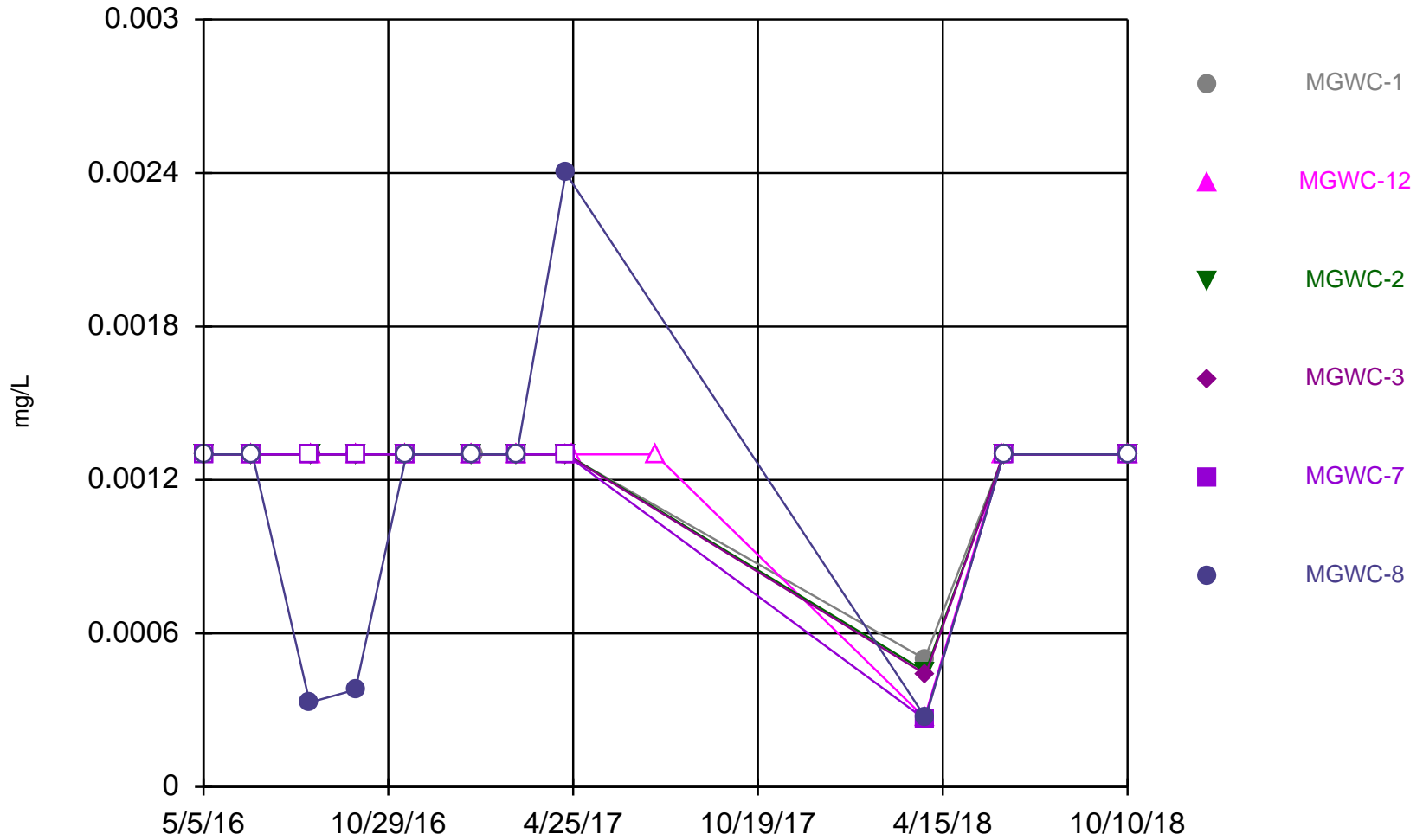
Constituent: Molybdenum Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



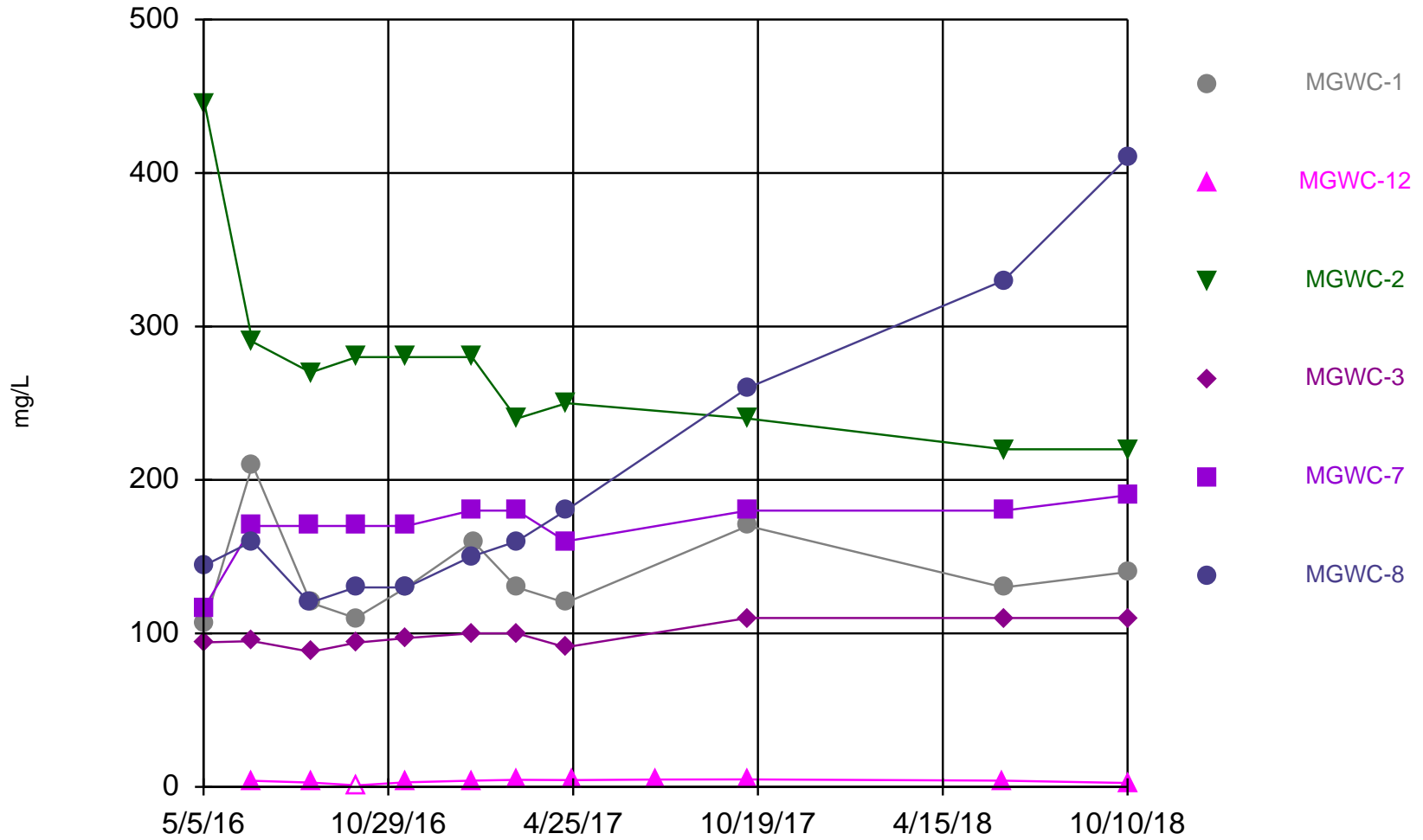
Constituent: pH Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



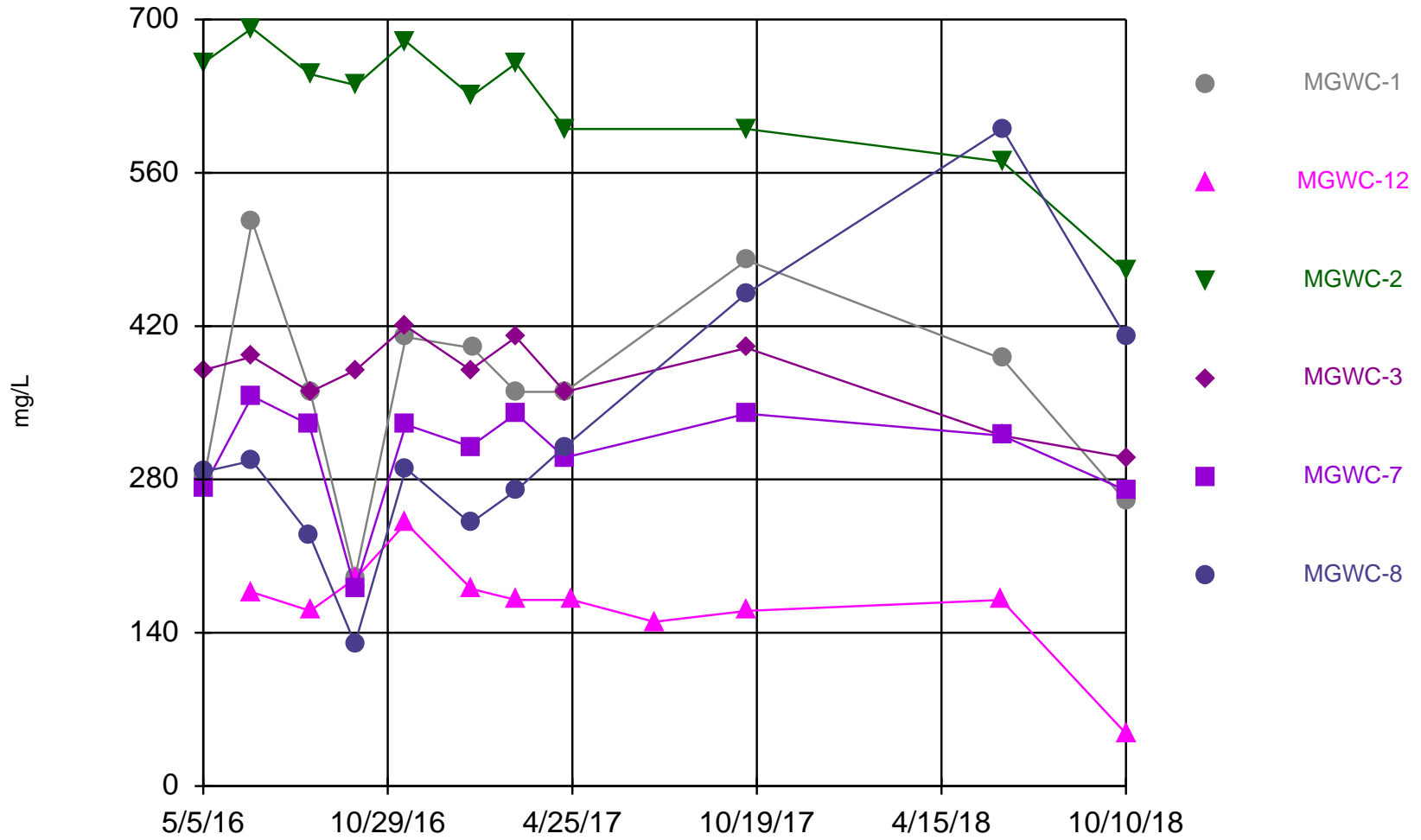
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Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



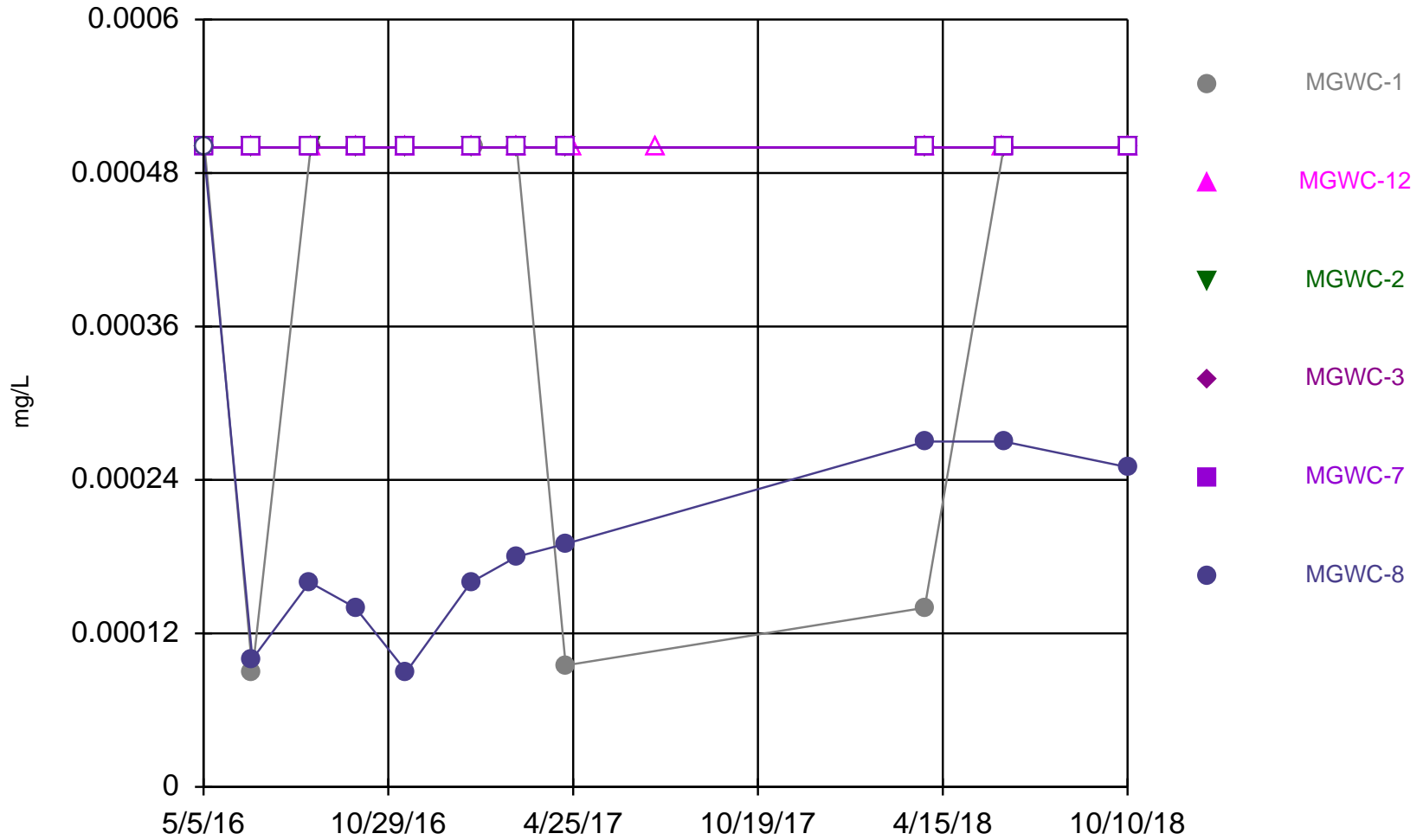
Constituent: Sulfate Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: TDS Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Time Series



Constituent: Thallium Analysis Run 1/11/2019 12:58 PM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

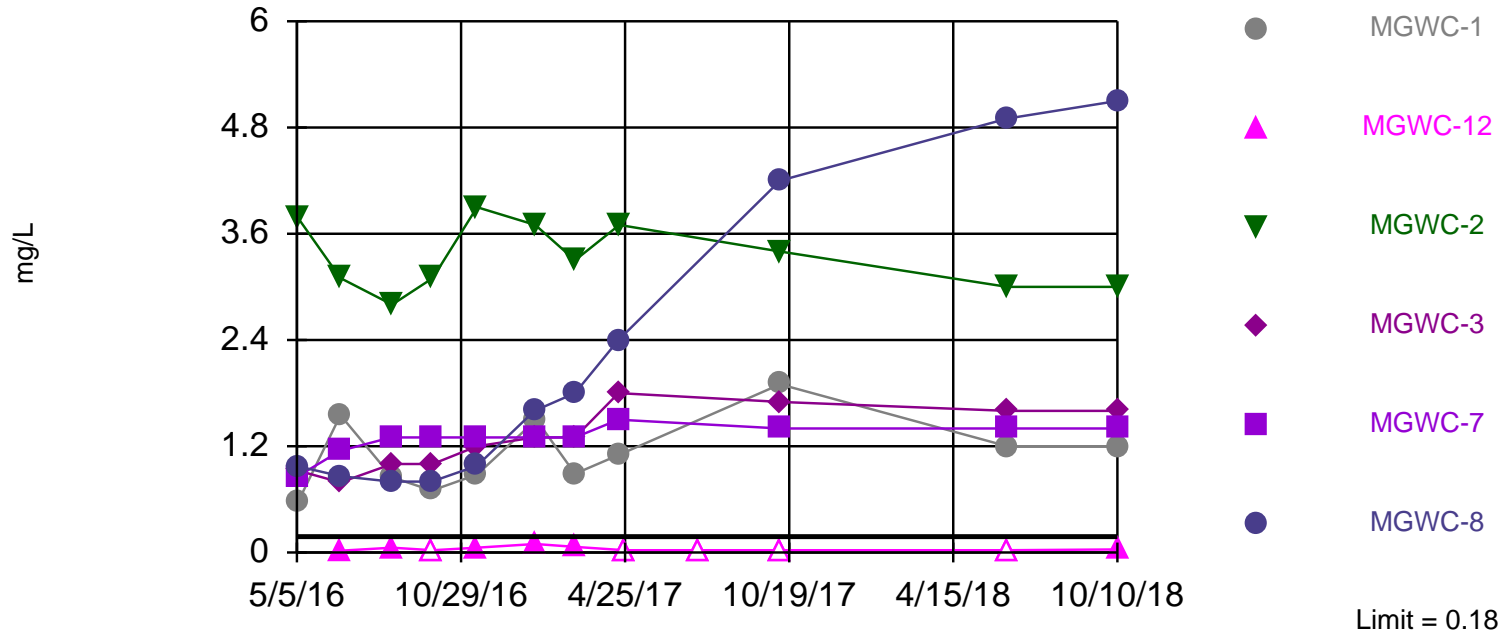
Interwell Prediction Limit

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 9:48 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	Transform	Alpha	Method
Boron (mg/L)	MGWC-1	0.18	n/a	10/10/2018	1.2	Yes	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Boron (mg/L)	MGWC-12	0.18	n/a	10/10/2018	0.034	No	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Boron (mg/L)	MGWC-2	0.18	n/a	10/10/2018	3	Yes	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Boron (mg/L)	MGWC-3	0.18	n/a	10/10/2018	1.6	Yes	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Boron (mg/L)	MGWC-7	0.18	n/a	10/10/2018	1.4	Yes	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Boron (mg/L)	MGWC-8	0.18	n/a	10/10/2018	5.1	Yes	44	n/a	n/a	50	n/a	0.0009736	NP (normality) 1 of 2
Chloride (mg/L)	MGWC-1	10.15	n/a	10/10/2018	14	Yes	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-12	10.15	n/a	10/10/2018	4.2	No	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-2	10.15	n/a	10/10/2018	15	Yes	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-3	10.15	n/a	10/10/2018	14	Yes	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-7	10.15	n/a	10/10/2018	12	Yes	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Chloride (mg/L)	MGWC-8	10.15	n/a	10/10/2018	10	No	44	6.452	1.925	0	No	0.001254	Param 1 of 2
Fluoride (mg/L)	MGWC-1	0.18	n/a	10/10/2018	0.17	No	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-12	0.18	n/a	10/10/2018	0.25	Yes	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-2	0.18	n/a	10/10/2018	0.085	No	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-3	0.18	n/a	10/10/2018	0.1ND	No	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-7	0.18	n/a	10/10/2018	0.23	Yes	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Fluoride (mg/L)	MGWC-8	0.18	n/a	10/10/2018	0.11	No	48	n/a	n/a	41.67	n/a	0.000818	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-1	21	n/a	10/10/2018	140	Yes	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-12	21	n/a	10/10/2018	2.5	No	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-2	21	n/a	10/10/2018	220	Yes	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-3	21	n/a	10/10/2018	110	Yes	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-7	21	n/a	10/10/2018	190	Yes	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2
Sulfate (mg/L)	MGWC-8	21	n/a	10/10/2018	410	Yes	44	n/a	n/a	13.64	n/a	0.0009736	NP (normality) 1 of 2

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit Interwell Non-parametric



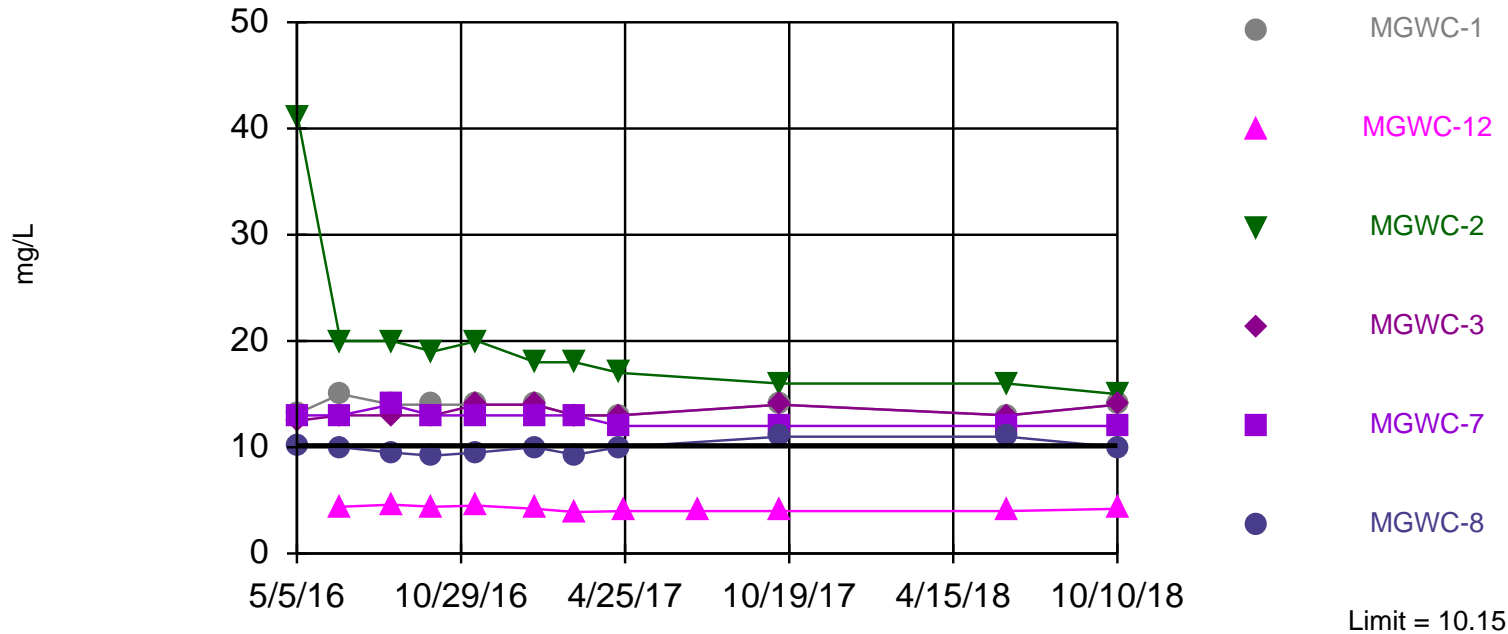
Limit = 0.18

Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 44 background values. 50% NDs. Annual per-constituent alpha = 0.01162. Individual comparison alpha = 0.0009736 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Boron Analysis Run 1/22/2019 9:47 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7

Prediction Limit
Interwell Parametric

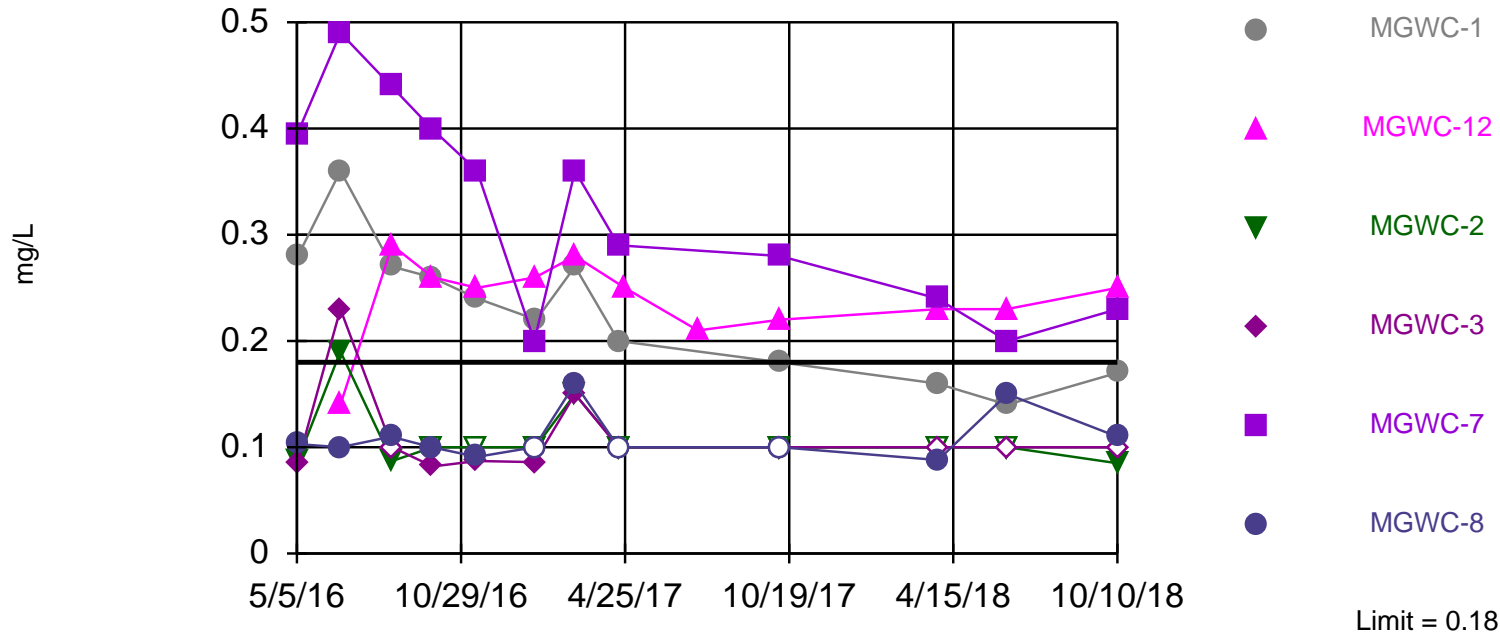


Background Data Summary: Mean=6.452, Std. Dev.=1.925, n=44. Seasonality was not detected with 95% confidence. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9423, critical = 0.924. Kappa = 1.919 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001254. Comparing 6 points to limit.

Constituent: Chloride Analysis Run 1/22/2019 9:47 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-12, MGWC-7

Prediction Limit Interwell Non-parametric

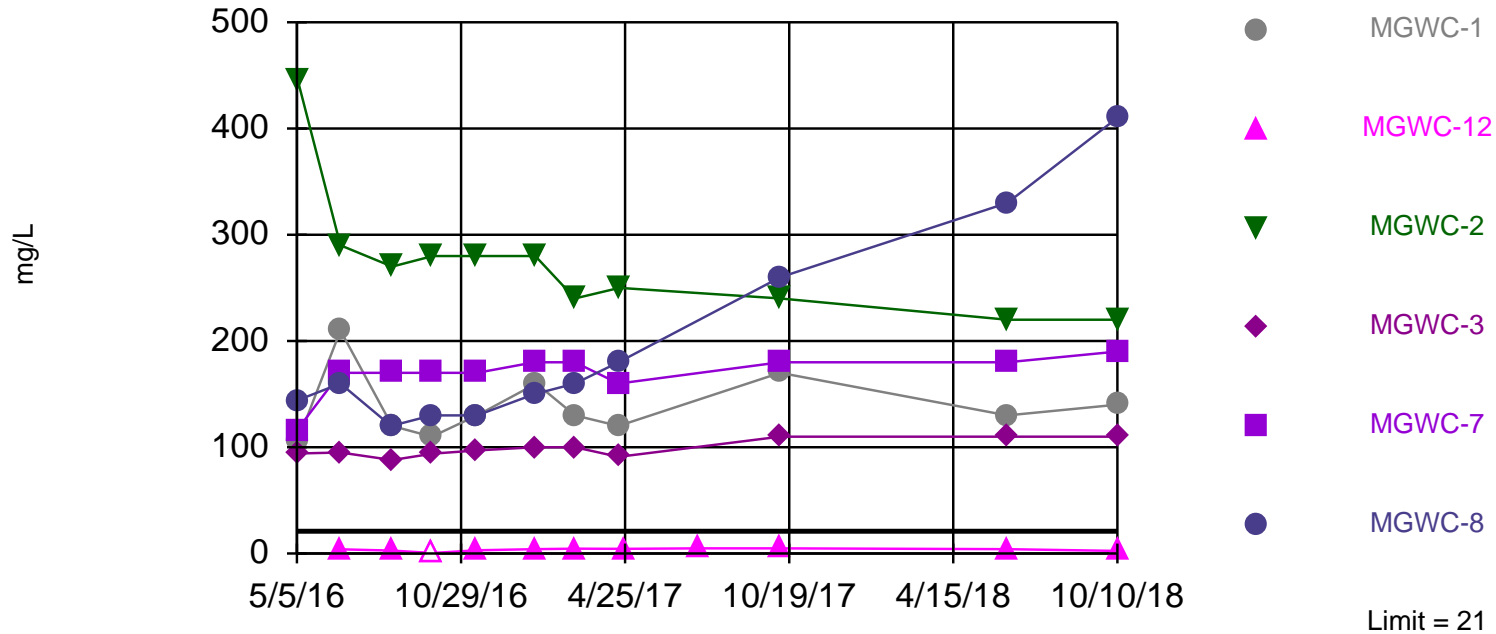


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 48 background values. 41.67% NDs. Annual per-constituent alpha = 0.009772. Individual comparison alpha = 0.000818 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Fluoride Analysis Run 1/22/2019 9:47 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit: MGWC-1, MGWC-2, MGWC-3, MGWC-7, MGWC-8

Prediction Limit Interwell Non-parametric



Limit = 21

Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 44 background values. 13.64% NDs. Annual per-constituent alpha = 0.01162. Individual comparison alpha = 0.0009736 (1 of 2). Comparing 6 points to limit. Seasonality was not detected with 95% confidence.

Constituent: Sulfate Analysis Run 1/22/2019 9:48 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

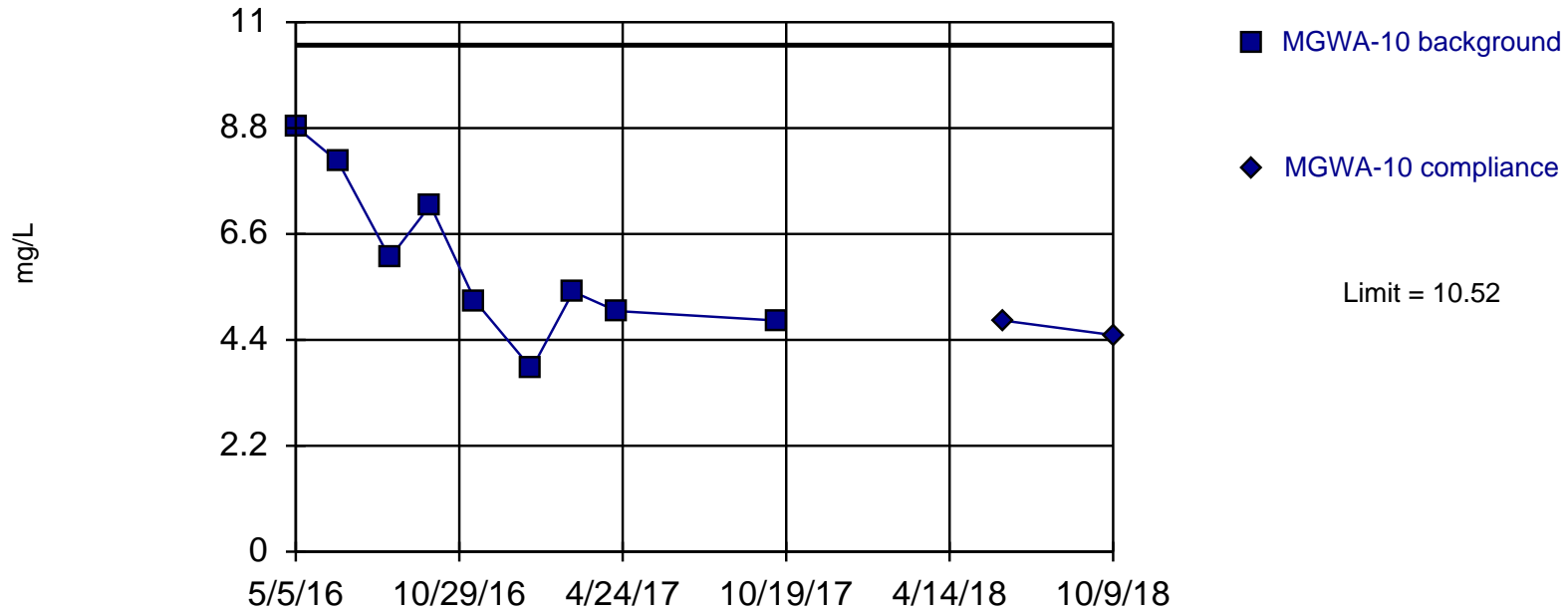
Intrawell Prediction Limit

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 9:56 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	Transform	Alpha	Method
Calcium (mg/L)	MGWA-10	10.52	n/a	10/9/2018	4.5	No	9	6.048	1.663	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-11	41.91	n/a	10/9/2018	29	No	9	34.61	2.713	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-5	33.5	n/a	10/9/2018	29	No	9	28.27	1.947	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWA-6	121.2	n/a	10/10/2018	100	No	9	102	7.121	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-1	137.3	n/a	10/10/2018	100	No	9	98.83	14.3	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-12	33.55	n/a	10/10/2018	35	Yes	9	27.17	2.372	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-2	145.6	n/a	10/10/2018	120	No	9	125.6	7.452	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-3	125.2	n/a	10/10/2018	96	No	9	103.2	8.182	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-7	63.02	n/a	10/10/2018	51	No	9	52.42	3.938	0	No	0.001254	Param 1 of 2
Calcium (mg/L)	MGWC-8	84.11	n/a	10/10/2018	87	Yes	9	41.1	15.99	0	No	0.001254	Param 1 of 2
pH (pH)	MGWA-10	6.095	5.277	10/9/2018	5.62	No	8	5.686	0.1444	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-11	8.025	7.198	10/9/2018	7.79	No	7	7.611	0.132	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-5	7.8	7.105	10/9/2018	7.8	Yes	8	7.453	0.1227	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWA-6	7.844	6.456	10/10/2018	7.01	No	7	7.15	0.2214	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-1	7.21	6.28	10/10/2018	7.04	No	8	6.745	0.1643	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-12	7.61	6.97	10/10/2018	7.12	No	7	n/a	n/a	0	n/a	0.05531	NP (normality) 1 of 2
pH (pH)	MGWC-2	7.87	7.33	10/10/2018	7.41	No	8	n/a	n/a	0	n/a	0.04288	NP (normality) 1 of 2
pH (pH)	MGWC-3	7.097	6.508	10/10/2018	6.69	No	7	6.803	0.09394	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-7	8.11	5.818	10/10/2018	6.12	No	8	6.964	0.4047	0	No	0.0006268	Param 1 of 2
pH (pH)	MGWC-8	6.53	4.597	10/10/2018	5.15	No	8	5.564	0.3413	0	No	0.0006268	Param 1 of 2
TDS (mg/L)	MGWA-10	165.4	n/a	10/9/2018	68	No	9	65.89	36.97	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-11	308.6	n/a	10/9/2018	150	No	9	182	47.07	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-5	277.3	n/a	10/9/2018	170	No	9	158.4	44.18	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWA-6	394.6	n/a	10/10/2018	300	No	9	88508	24993	0	x^2	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-1	635.8	n/a	10/10/2018	260	No	9	373.1	97.64	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-12	248.3	n/a	10/10/2018	48	No	9	177.4	26.34	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-2	732.2	n/a	10/10/2018	470	No	9	645.9	32.08	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-3	442.5	n/a	10/10/2018	300	No	9	386.9	20.67	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-7	450.8	n/a	10/10/2018	270	No	9	306.4	53.67	0	No	0.001254	Param 1 of 2
TDS (mg/L)	MGWC-8	505.1	n/a	10/10/2018	410	No	9	278.2	84.34	0	No	0.001254	Param 1 of 2

Within Limit

Prediction Limit Intrawell Parametric

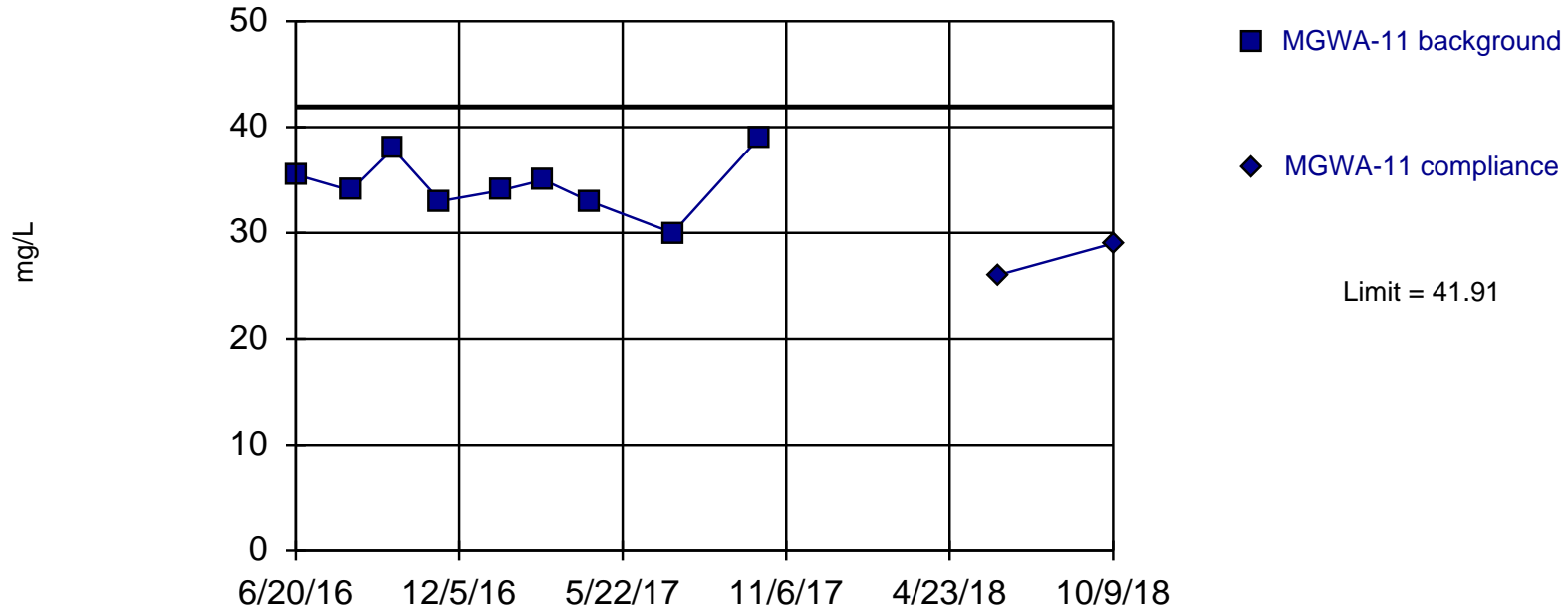


Background Data Summary: Mean=6.048, Std. Dev.=1.663, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9364, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

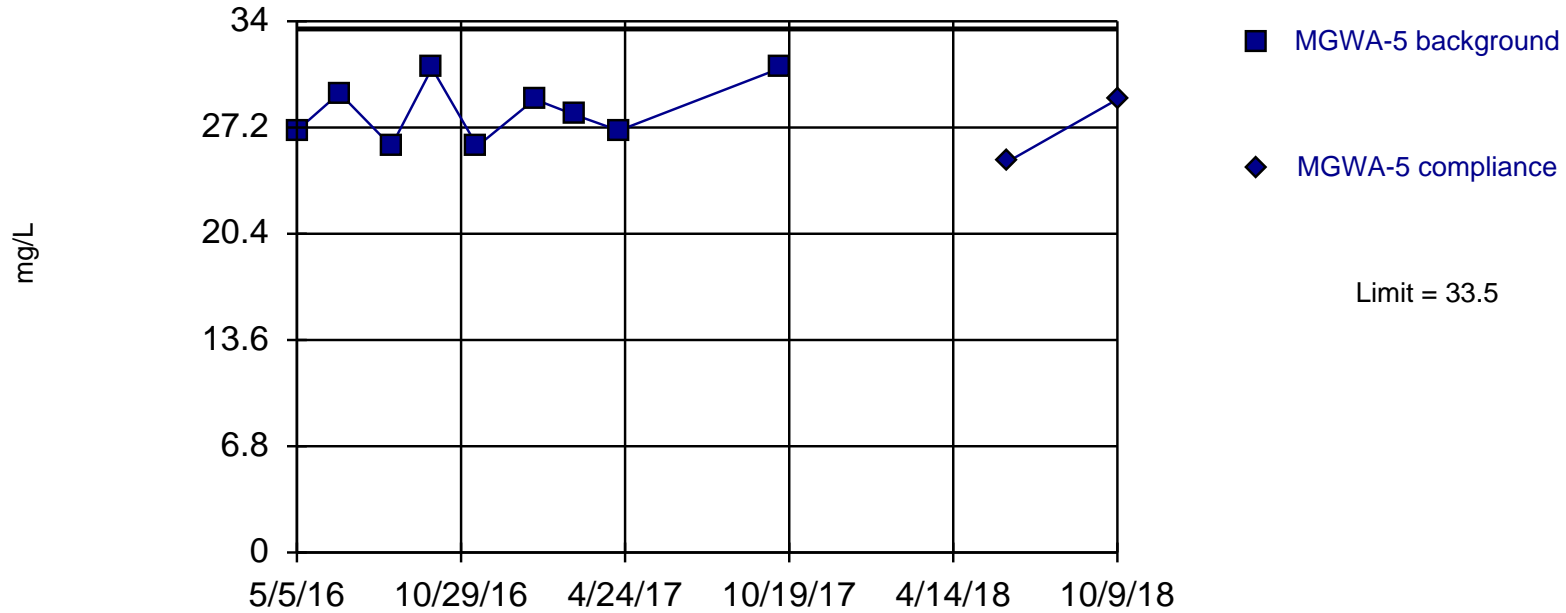


Background Data Summary: Mean=34.61, Std. Dev.=2.713, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9577, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

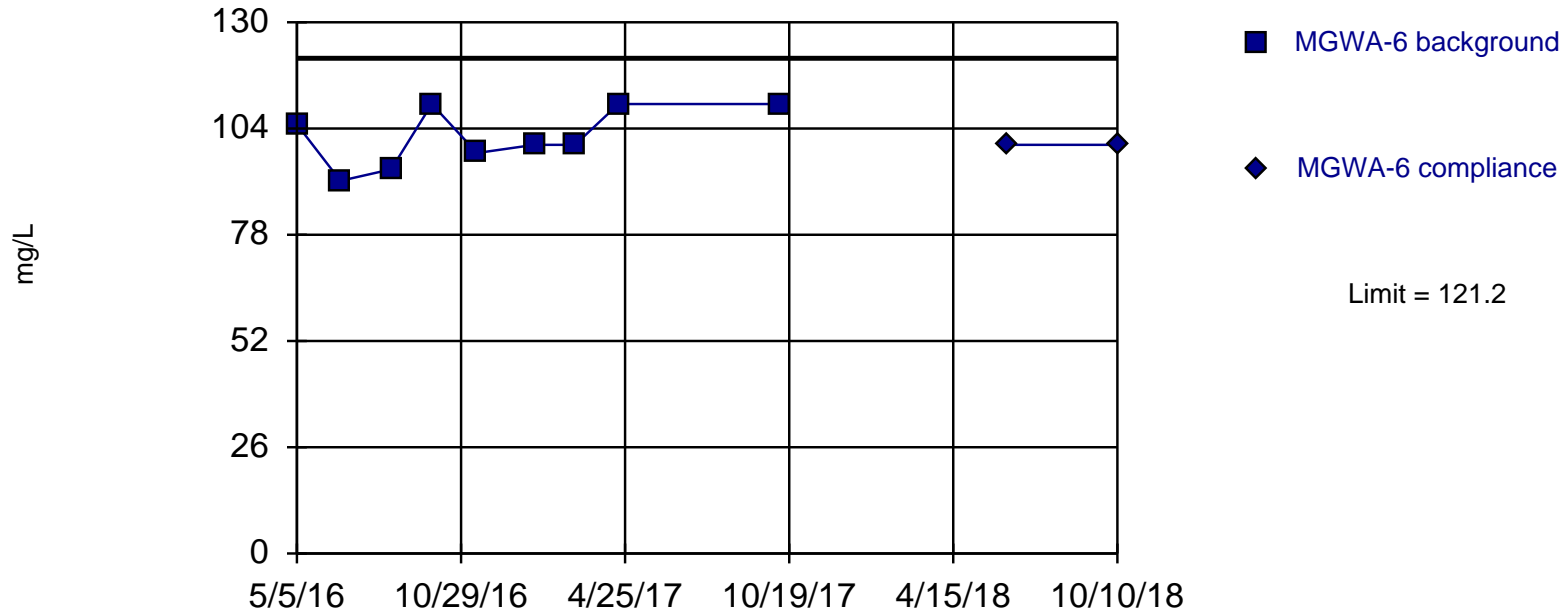


Background Data Summary: Mean=28.27, Std. Dev.=1.947, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.902, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

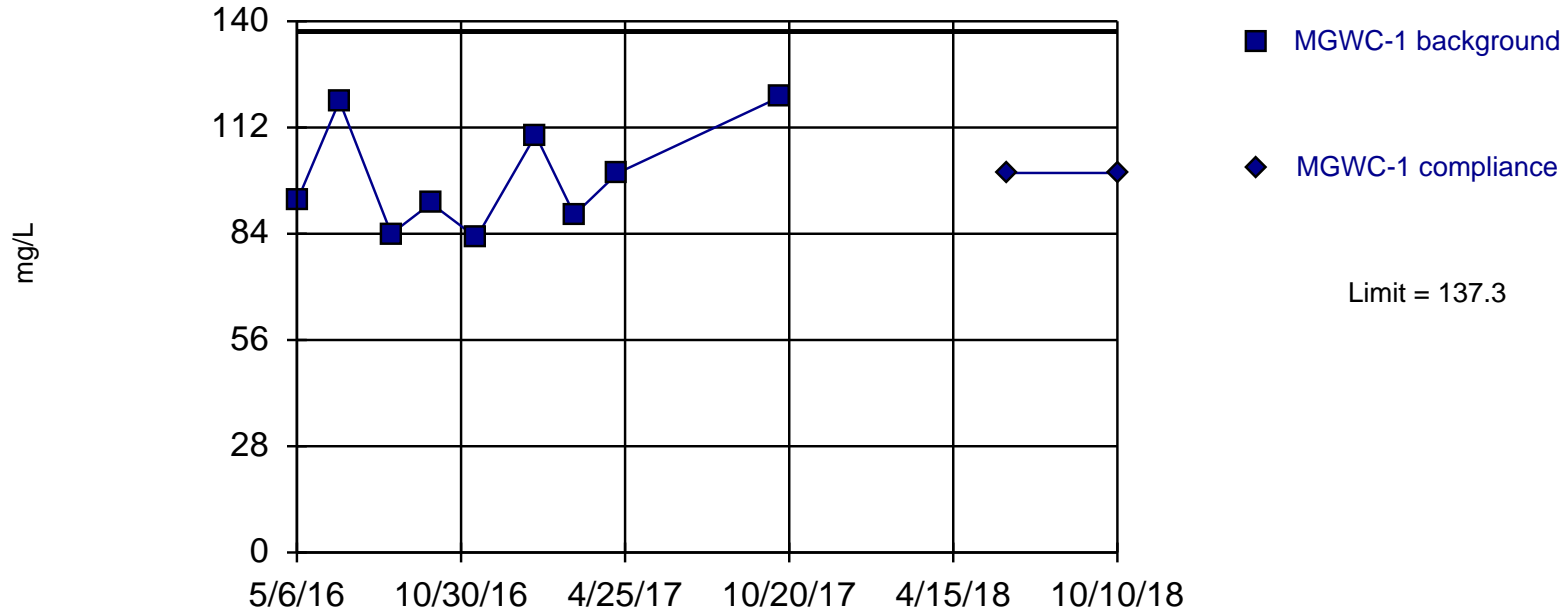


Background Data Summary: Mean=102, Std. Dev.=7.121, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8998, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

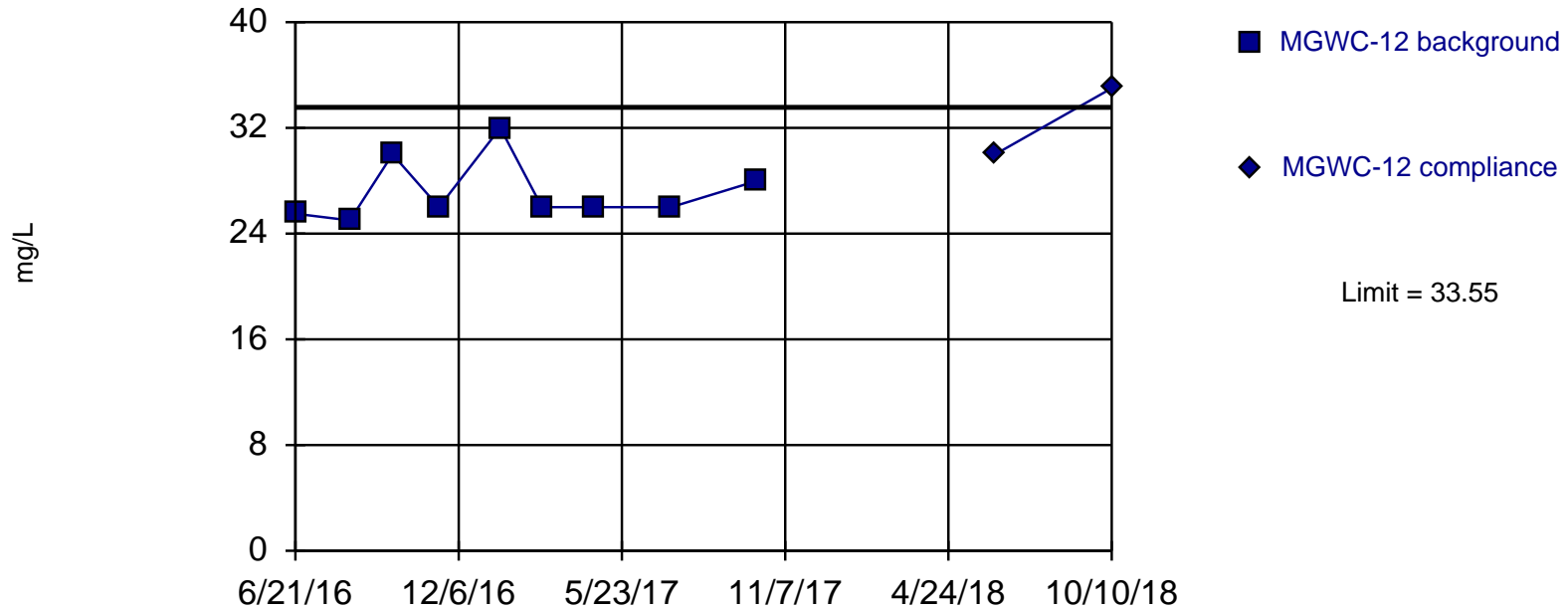


Background Data Summary: Mean=98.83, Std. Dev.=14.3, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8854, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit

Prediction Limit Intrawell Parametric

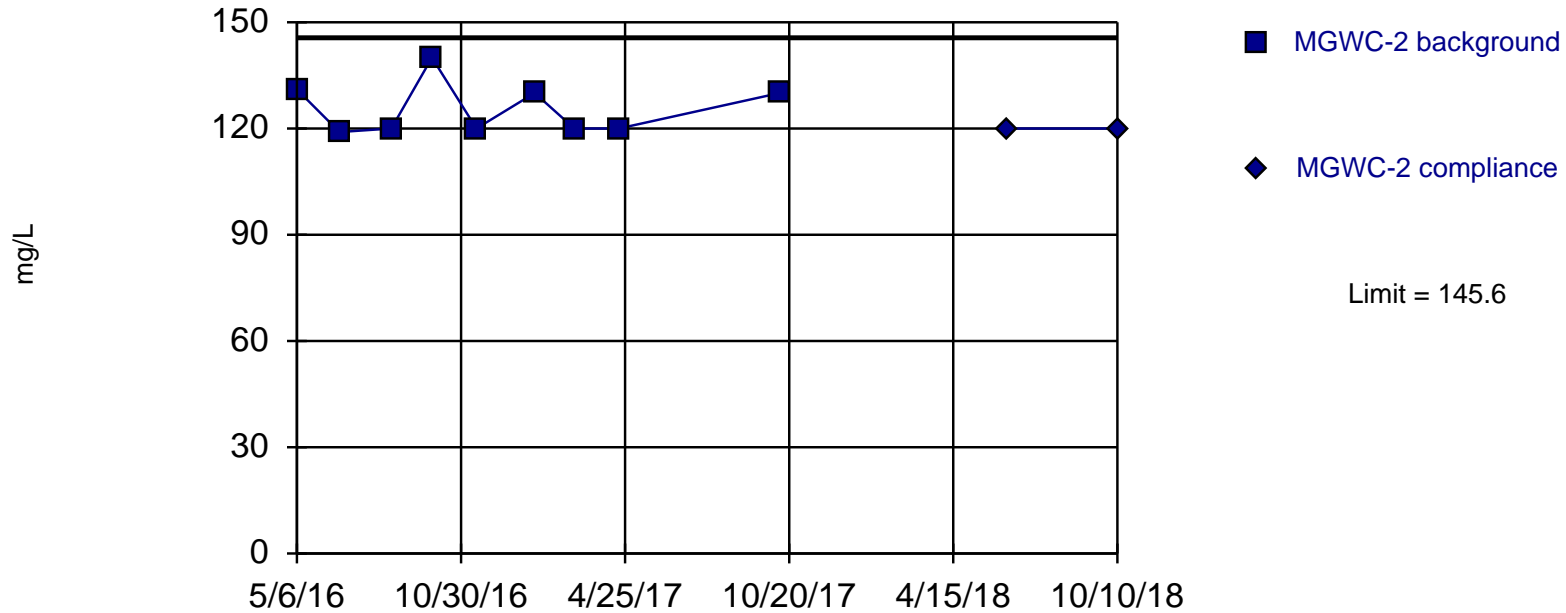


Background Data Summary: Mean=27.17, Std. Dev.=2.372, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7938, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

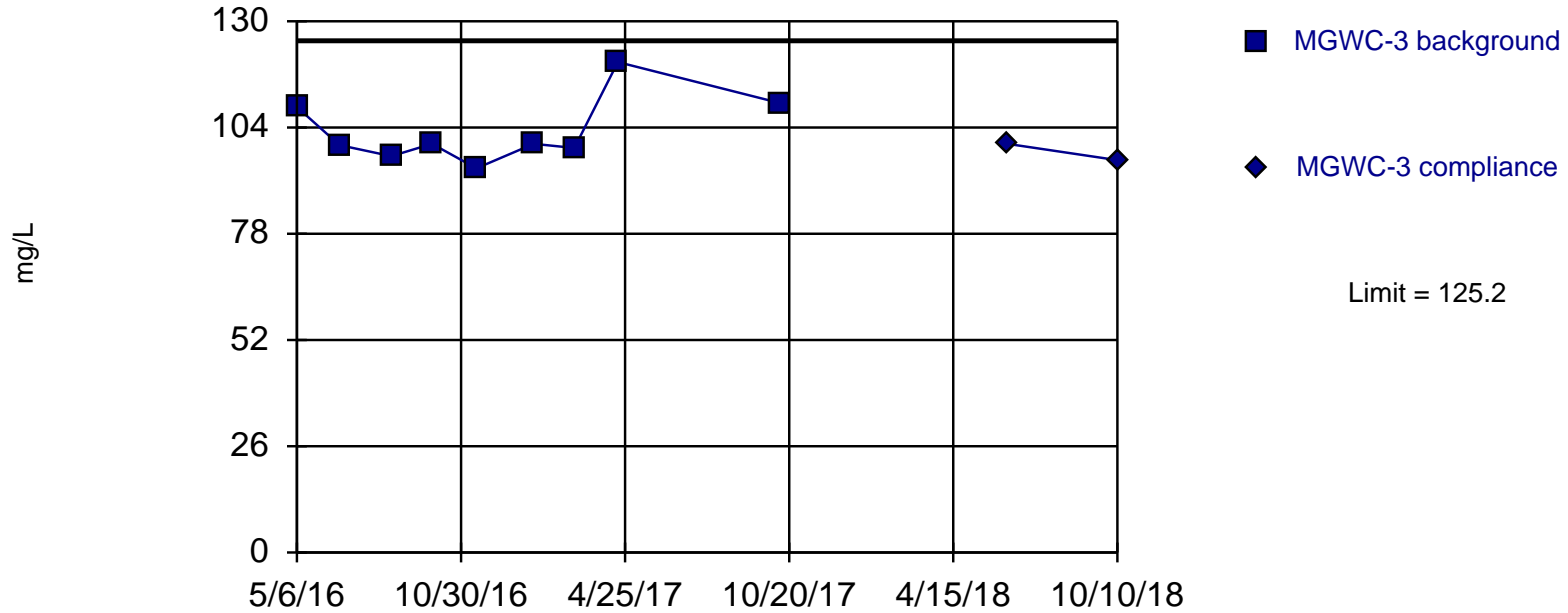


Background Data Summary: Mean=125.6, Std. Dev.=7.452, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8004, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

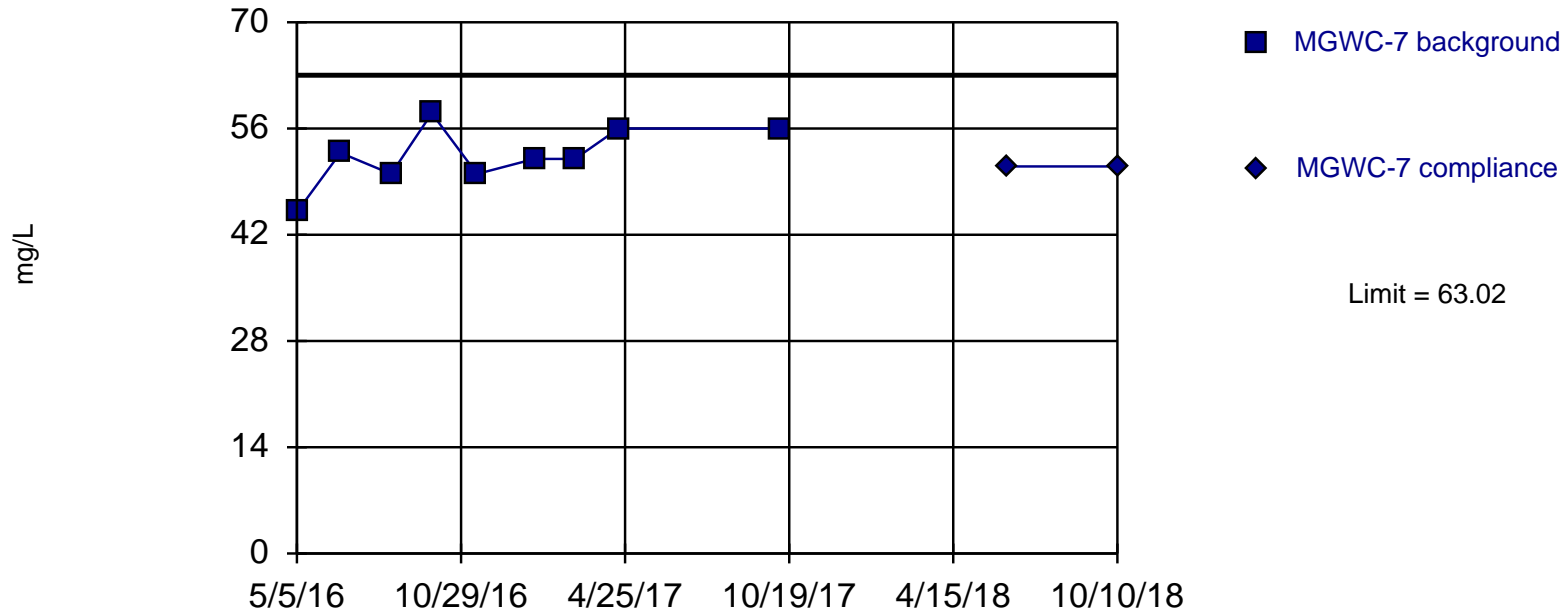


Background Data Summary: Mean=103.2, Std. Dev.=8.182, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8655, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

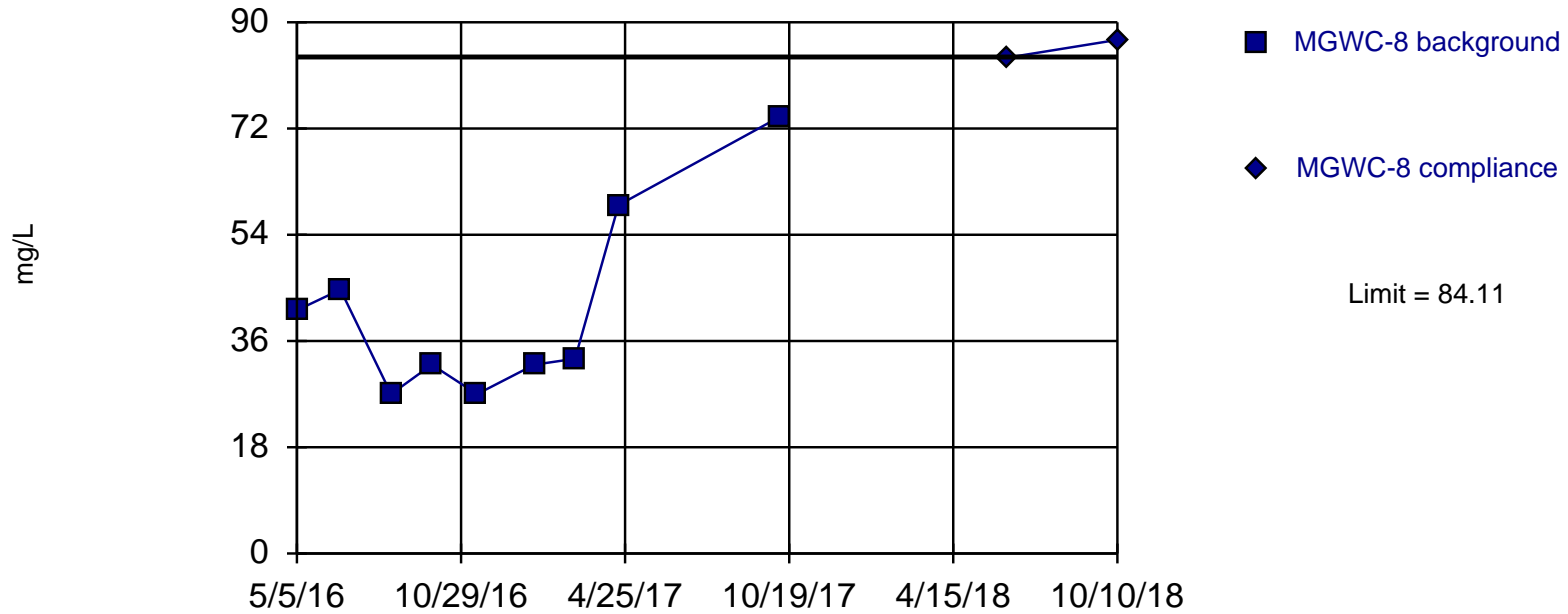


Background Data Summary: Mean=52.42, Std. Dev.=3.938, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9512, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limit

Prediction Limit Intrawell Parametric

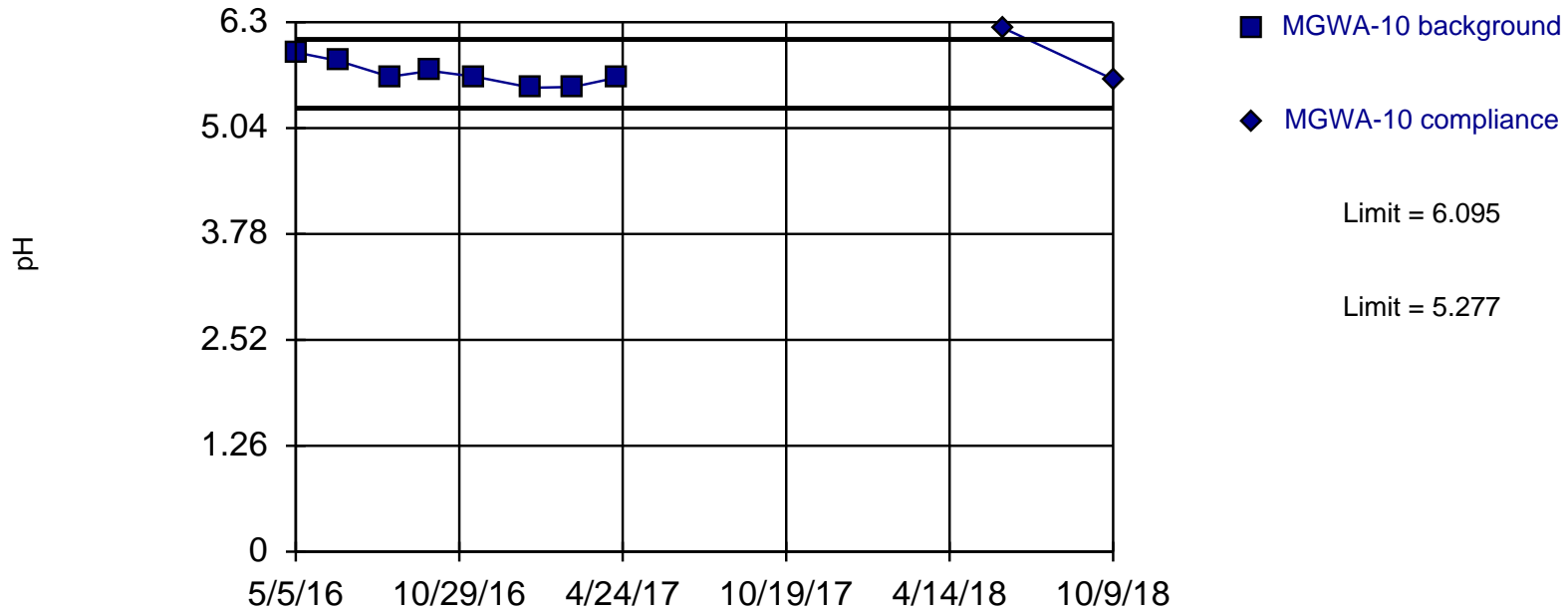


Background Data Summary: Mean=41.1, Std. Dev.=15.99, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8397, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: Calcium Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

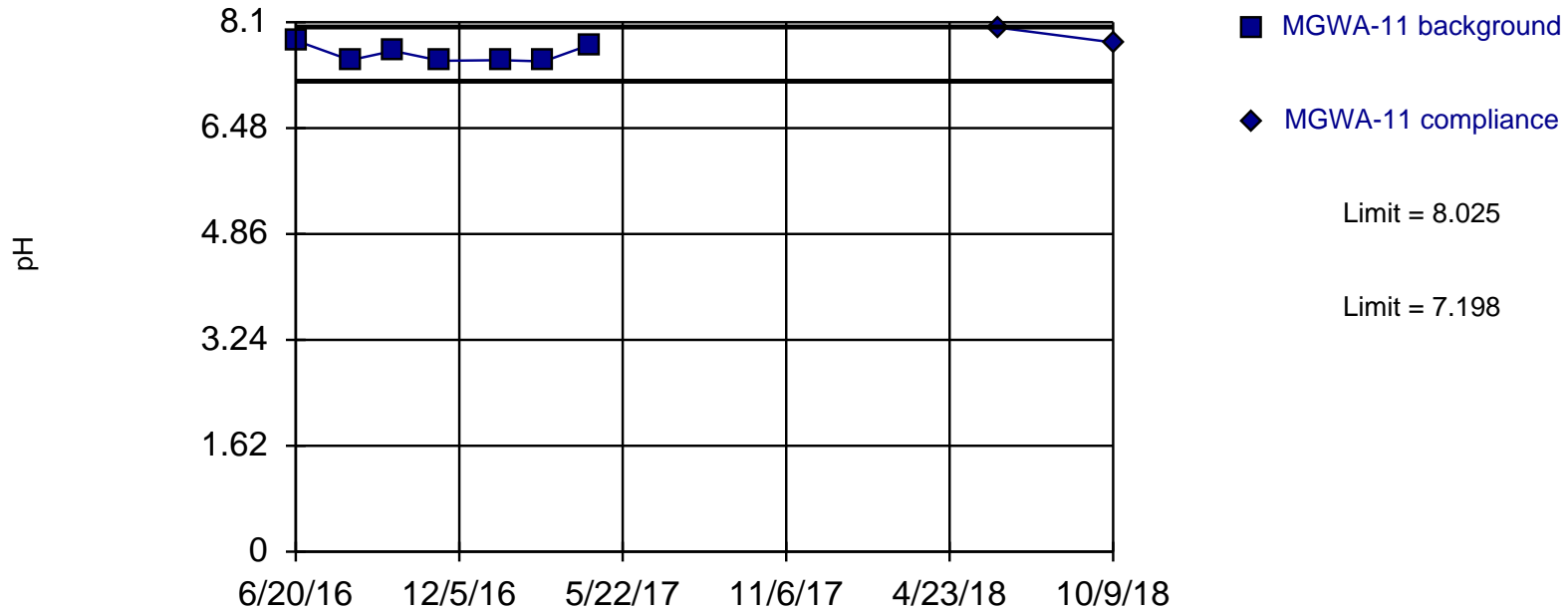


Background Data Summary: Mean=5.686, Std. Dev.=0.1444, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9186, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
 Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

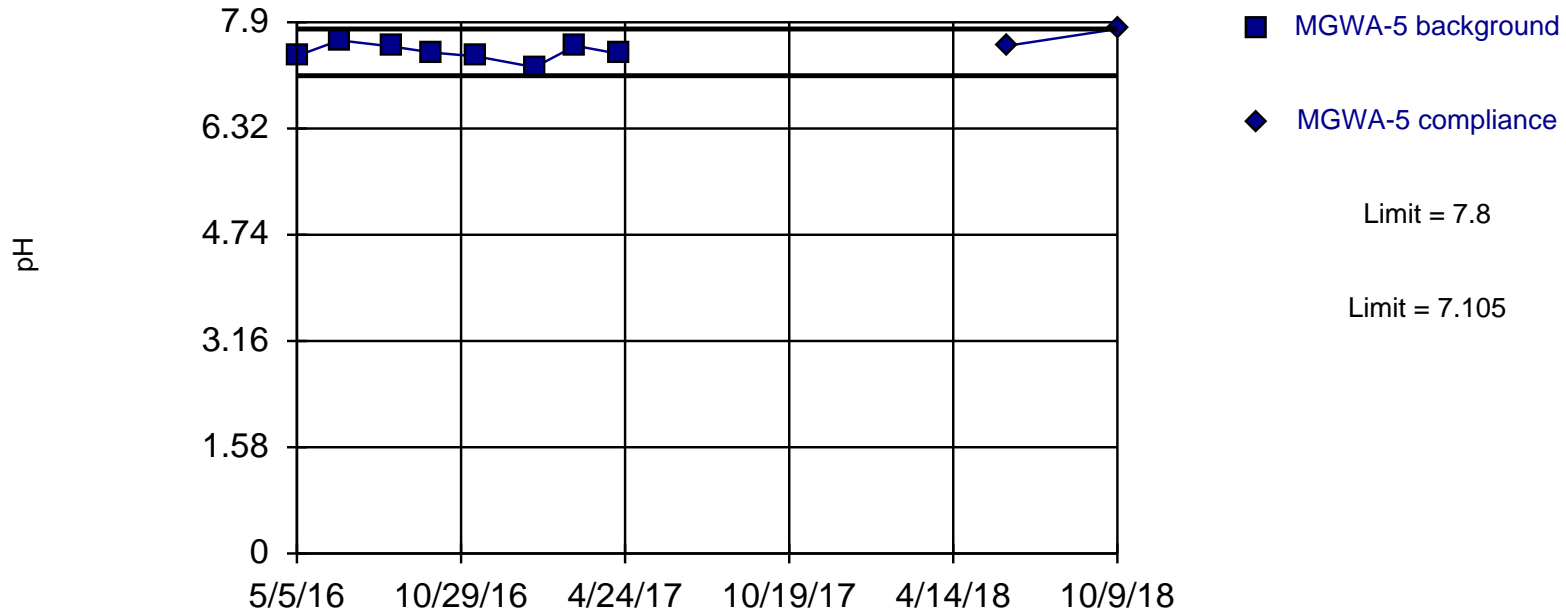


Background Data Summary: Mean=7.611, Std. Dev.=0.132, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.815, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Exceeds Limits

Prediction Limit Intrawell Parametric

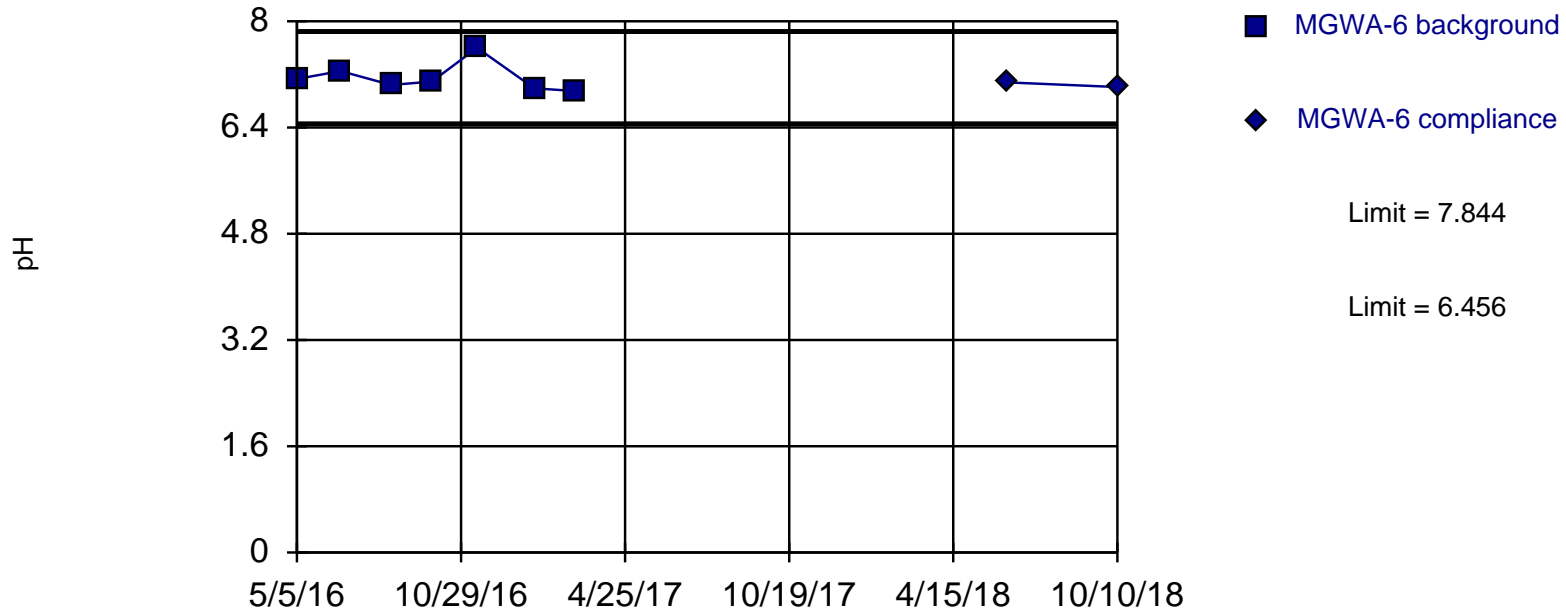


Background Data Summary: Mean=7.453, Std. Dev.=0.1227, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9613, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

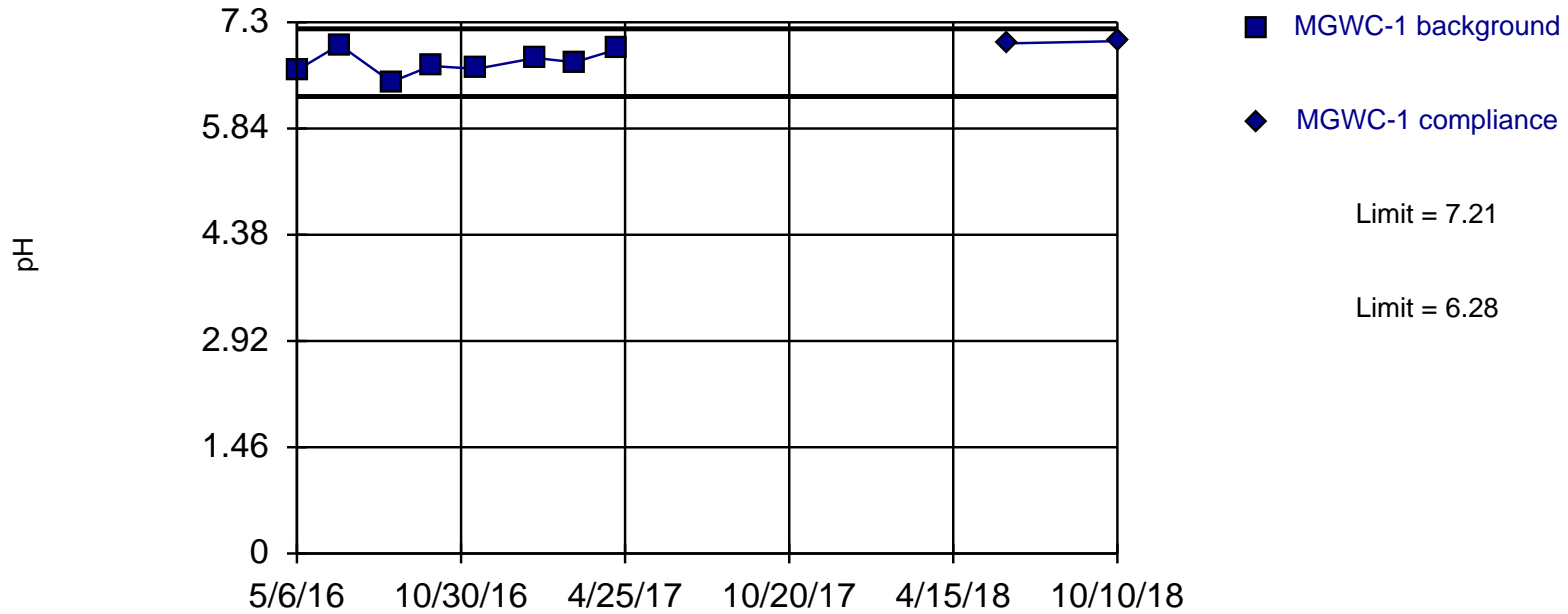


Background Data Summary: Mean=7.15, Std. Dev.=0.2214, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8381, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

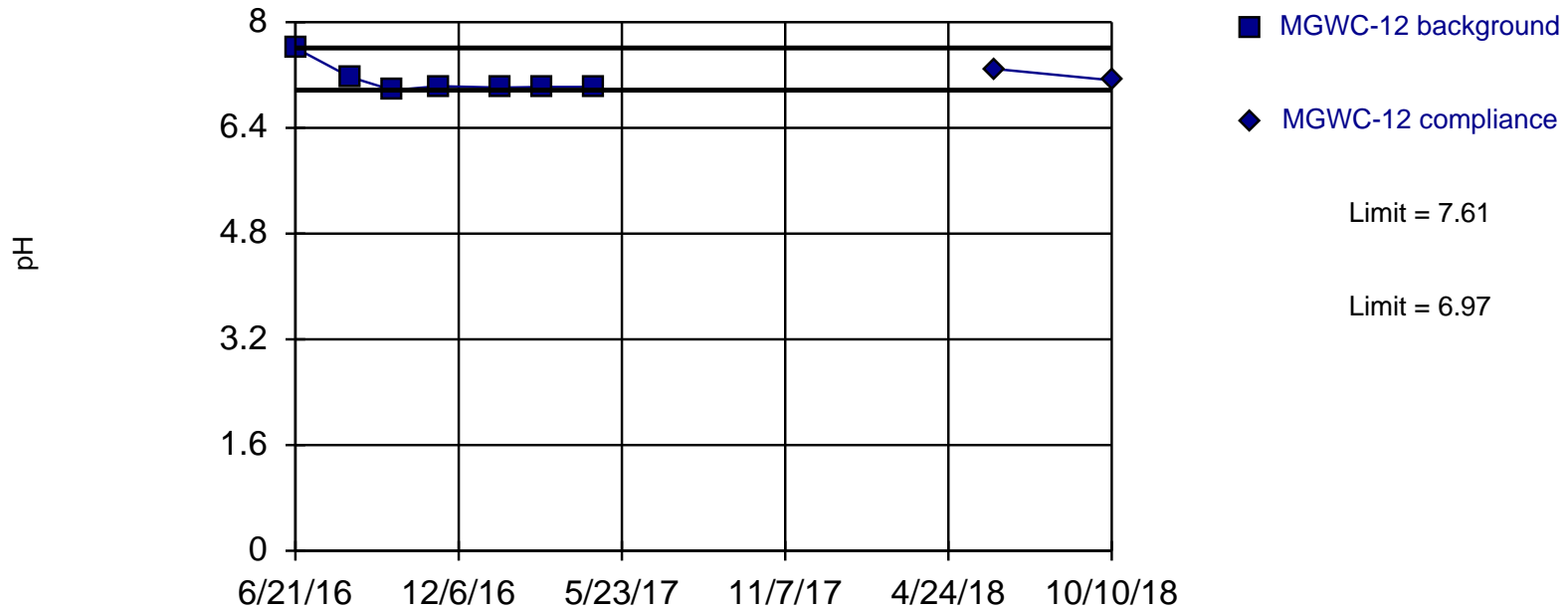


Background Data Summary: Mean=6.745, Std. Dev.=0.1643, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9754, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Non-parametric

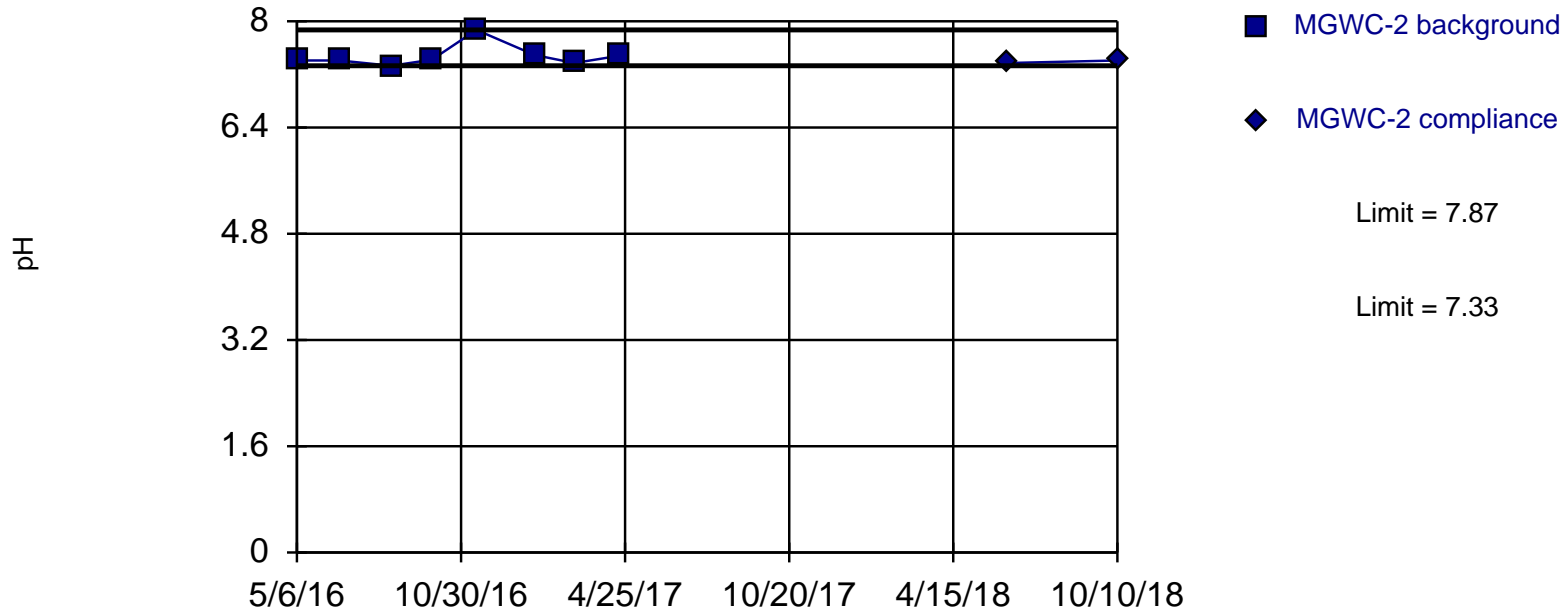


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 7 background values. Well-constituent pair annual alpha = 0.1091. Individual comparison alpha = 0.05531 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Non-parametric

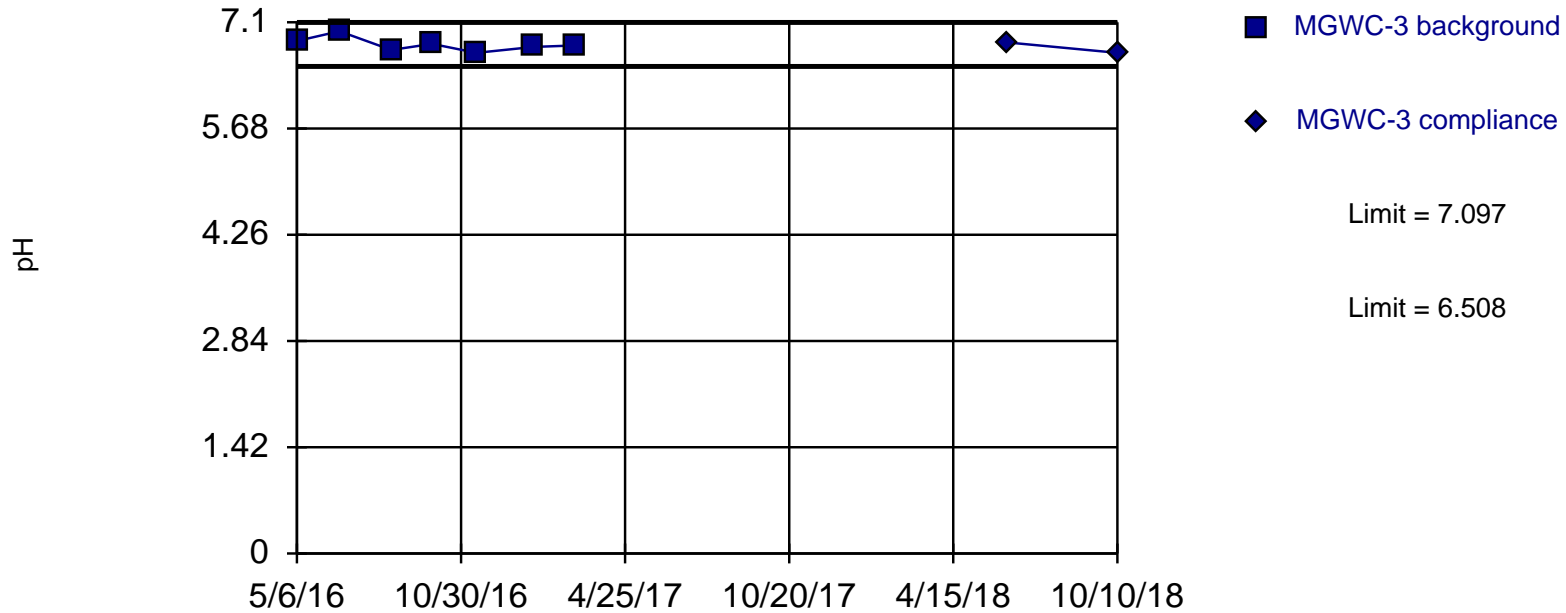


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 8 background values. Well-constituent pair annual alpha = 0.08484. Individual comparison alpha = 0.04288 (1 of 2). Insufficient data to test for seasonality: data were not deseasonalized.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

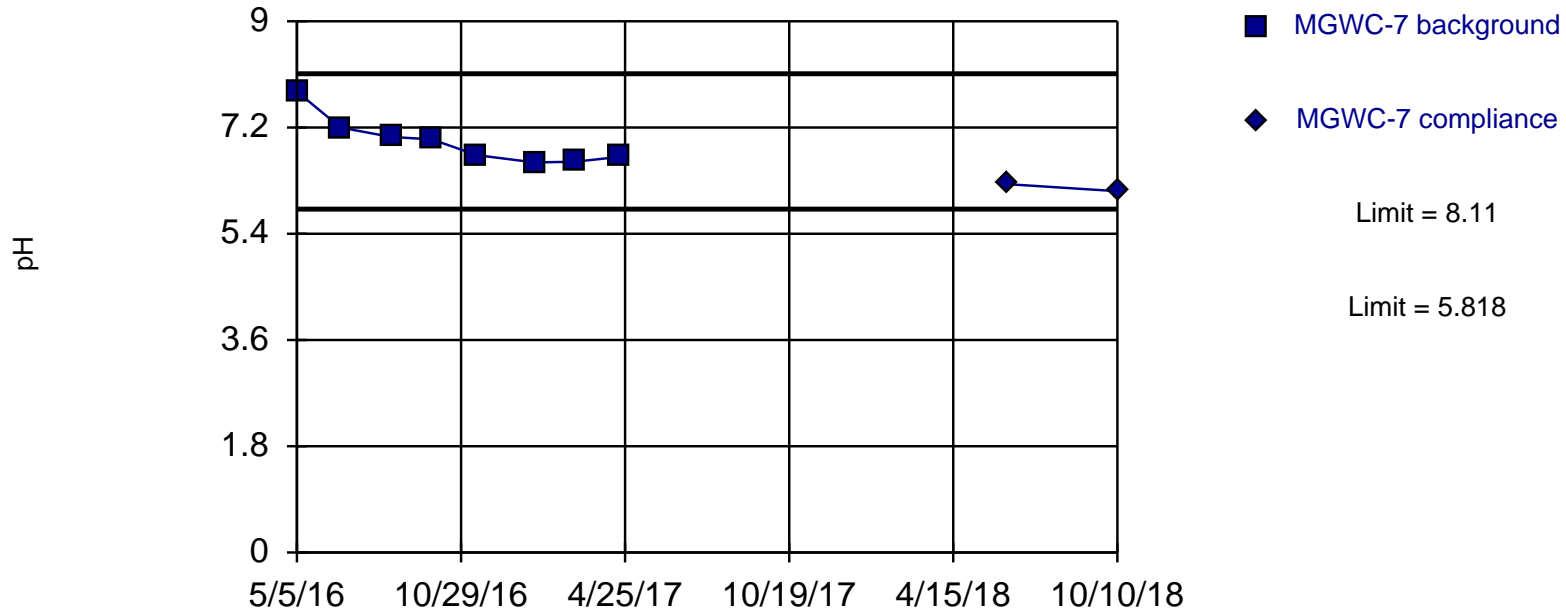


Background Data Summary: Mean=6.803, Std. Dev.=0.09394, n=7. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.937, critical = 0.73. Kappa = 3.136 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

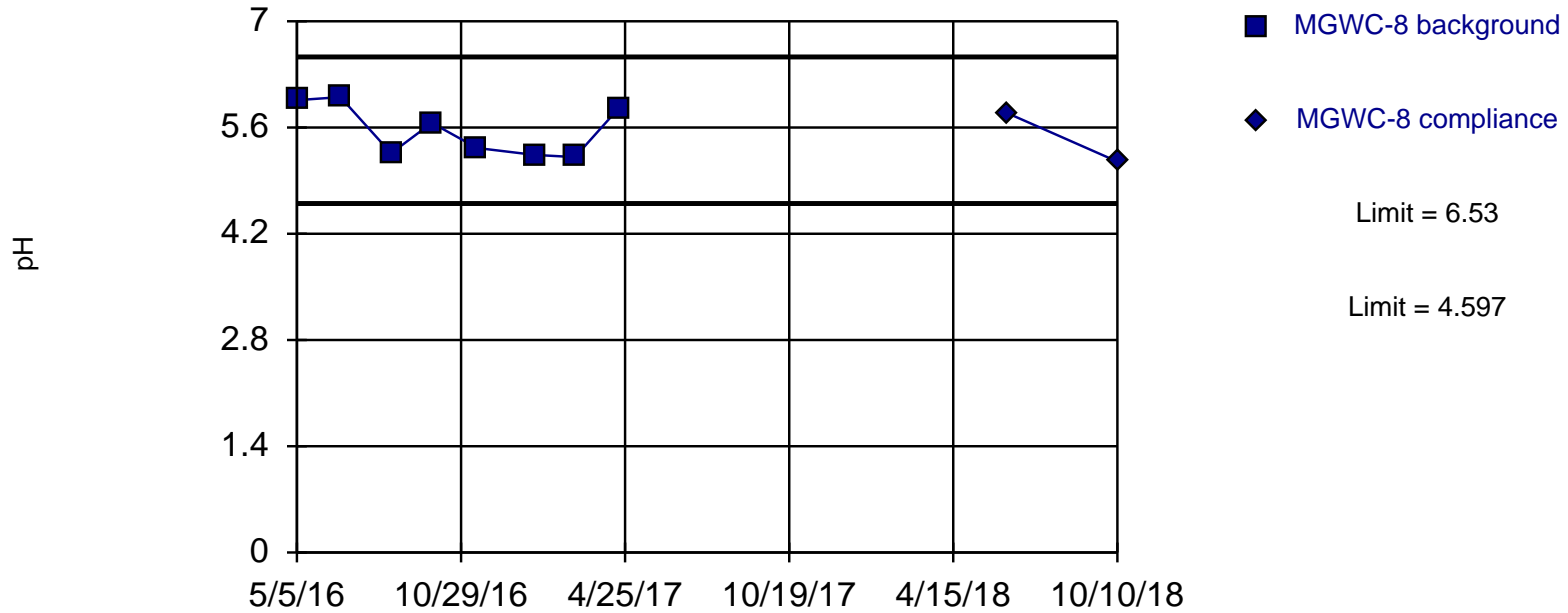


Background Data Summary: Mean=6.964, Std. Dev.=0.4047, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8447, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limits

Prediction Limit Intrawell Parametric

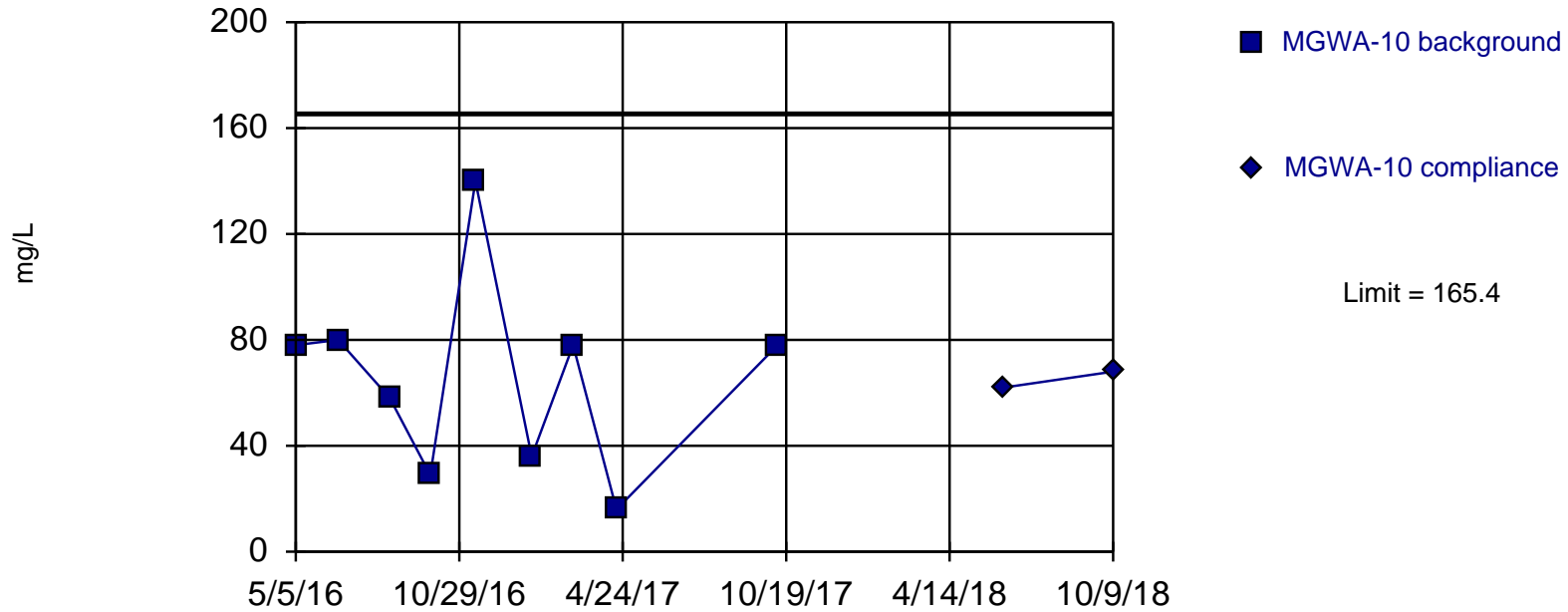


Background Data Summary: Mean=5.564, Std. Dev.=0.3413, n=8. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8393, critical = 0.749. Kappa = 2.831 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: pH Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

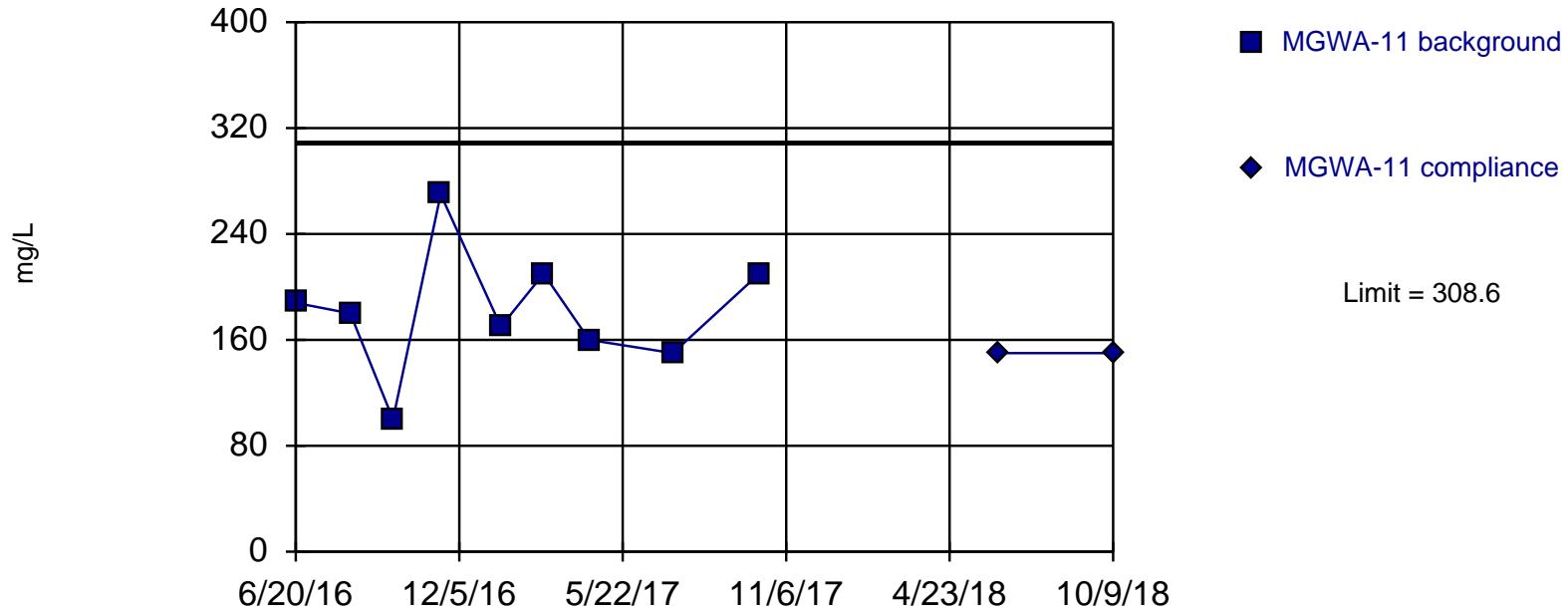


Background Data Summary: Mean=65.89, Std. Dev.=36.97, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9097, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

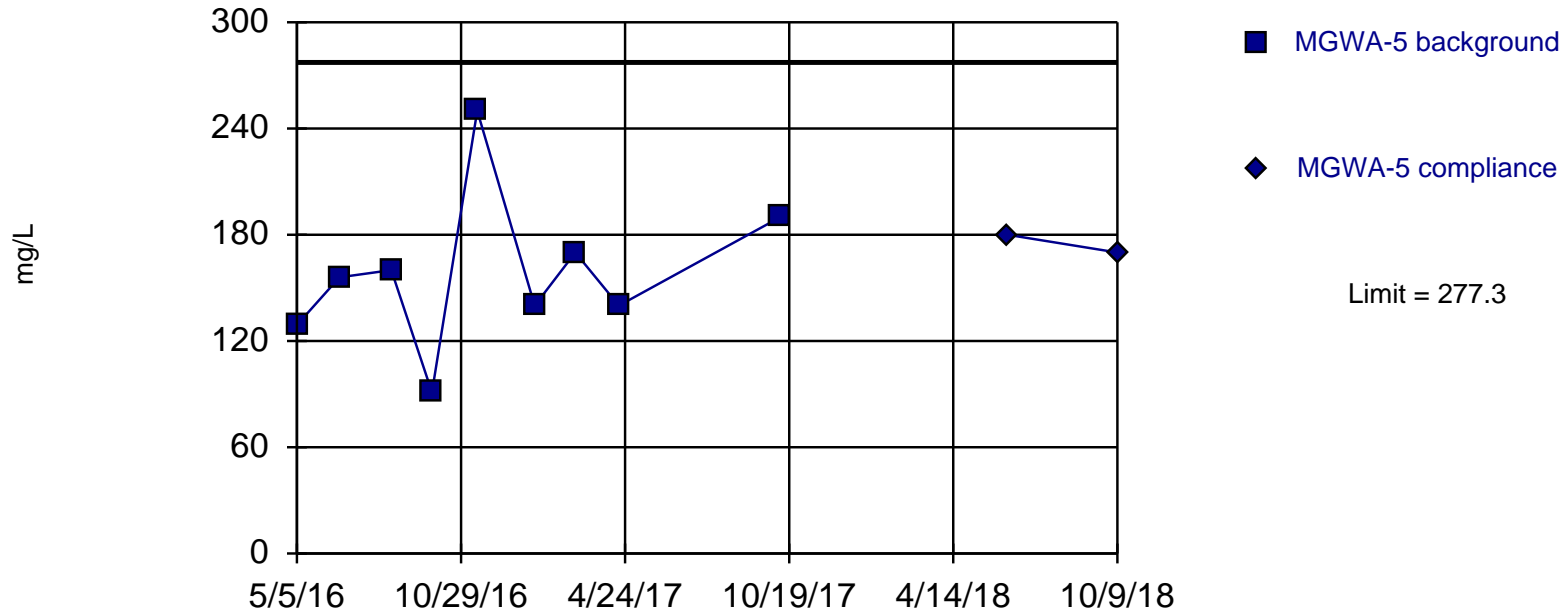


Background Data Summary: Mean=182, Std. Dev.=47.07, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9702, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

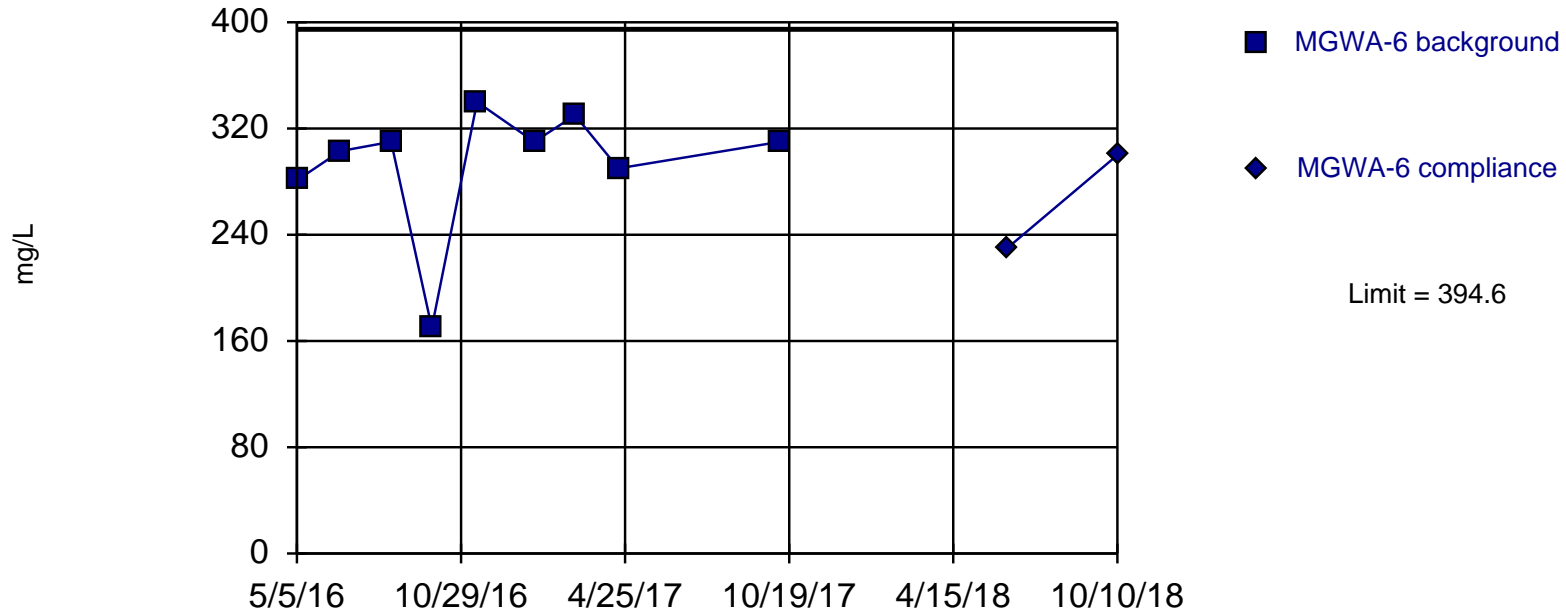


Background Data Summary: Mean=158.4, Std. Dev.=44.18, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9411, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

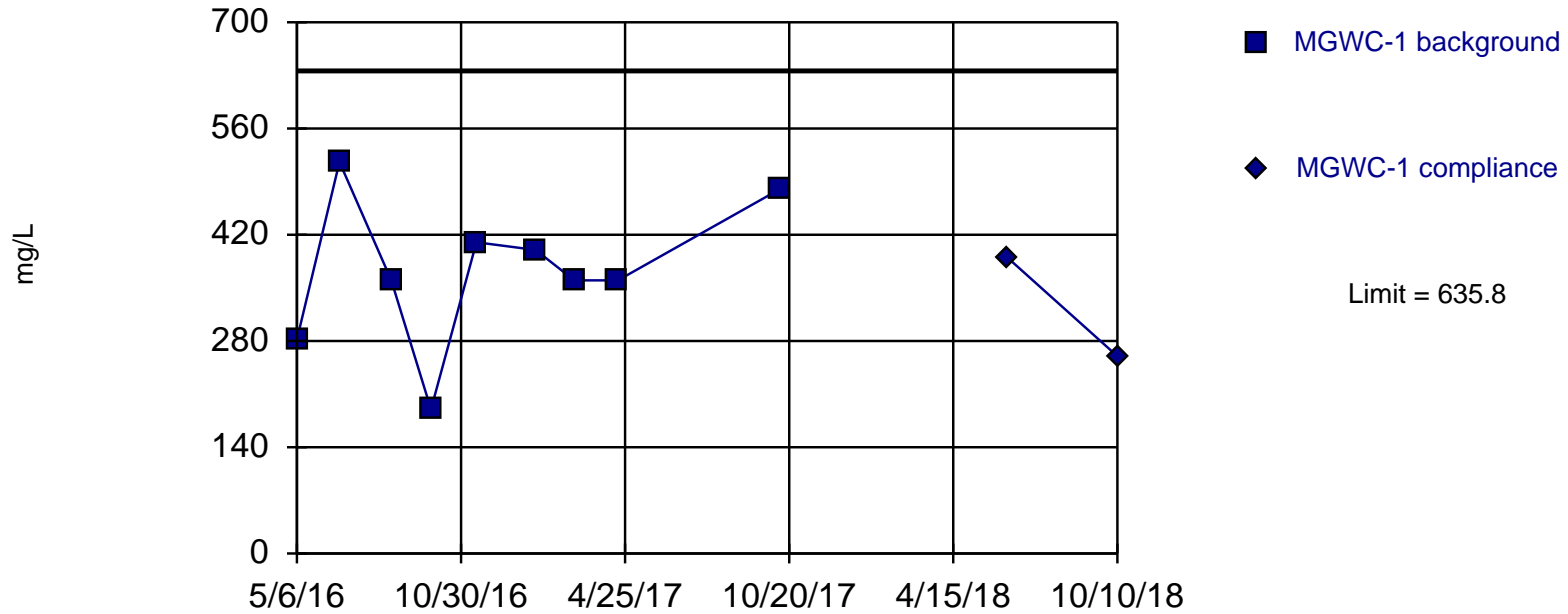


Background Data Summary (based on square transformation): Mean=88508, Std. Dev.=24993, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8079, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

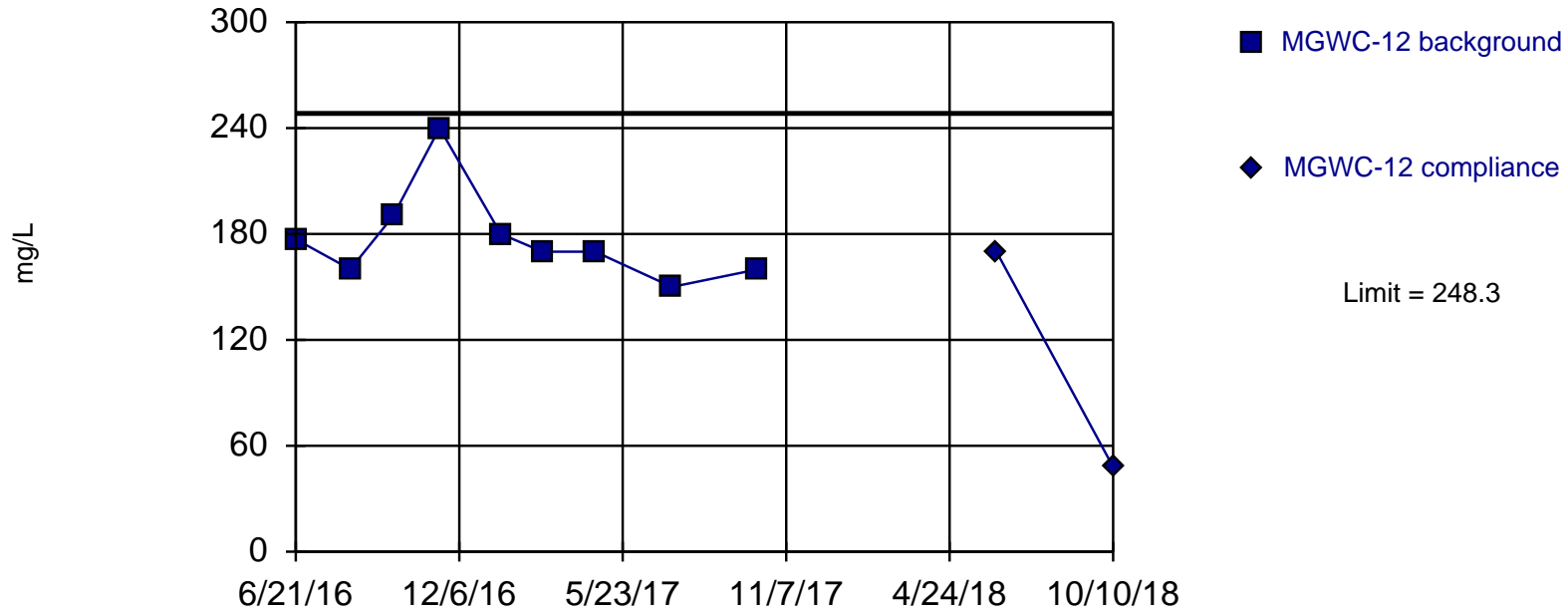


Background Data Summary: Mean=373.1, Std. Dev.=97.64, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

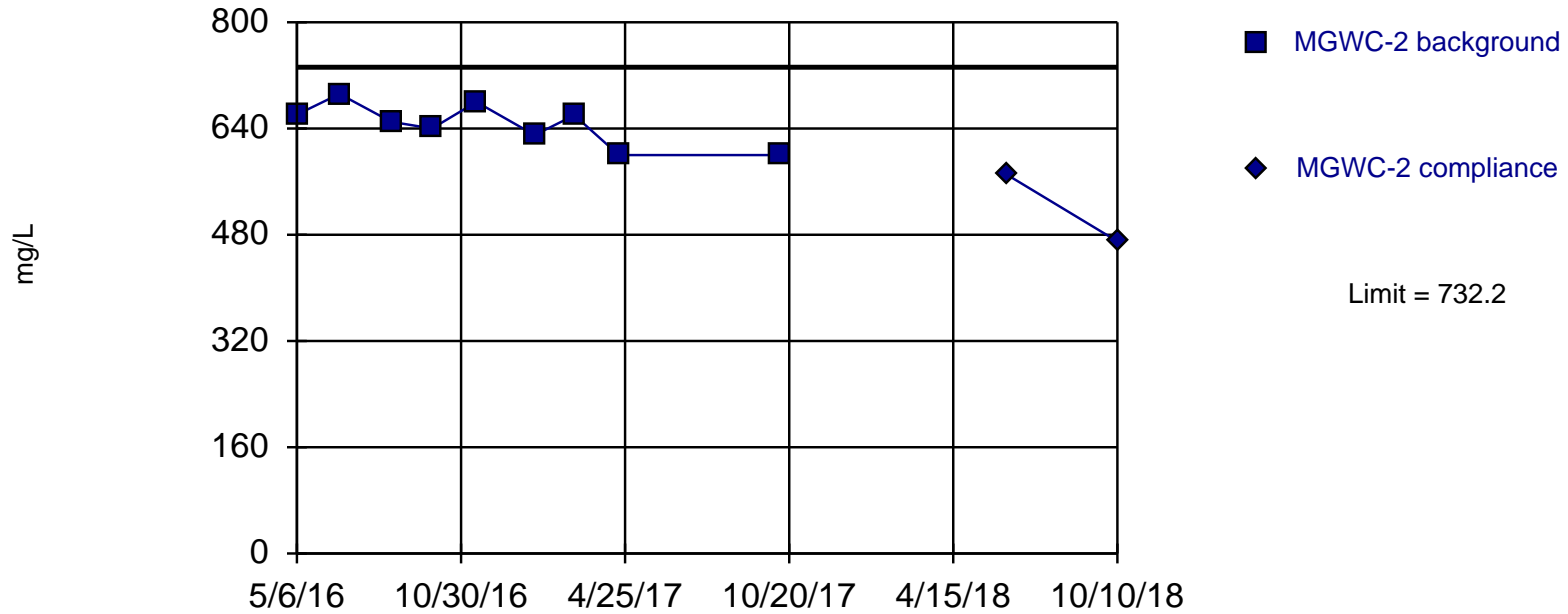


Background Data Summary: Mean=177.4, Std. Dev.=26.34, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.817, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

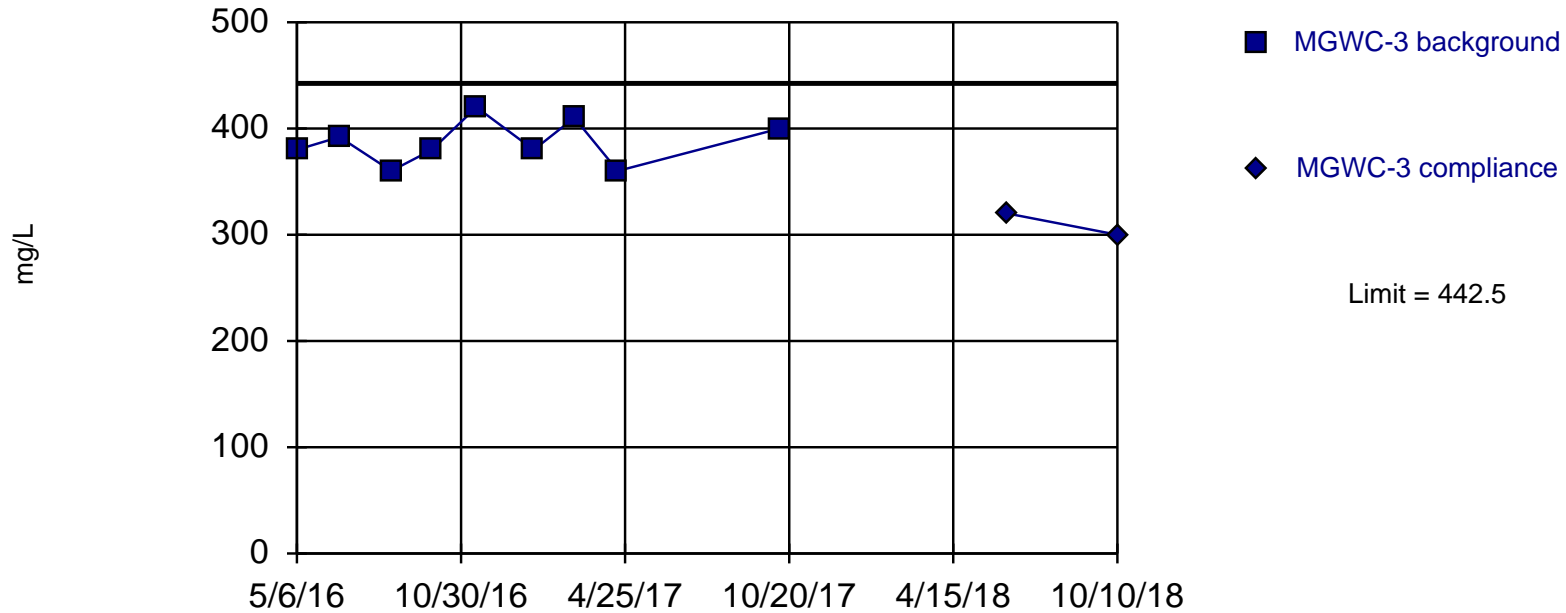


Background Data Summary: Mean=645.9, Std. Dev.=32.08, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9436, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:55 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

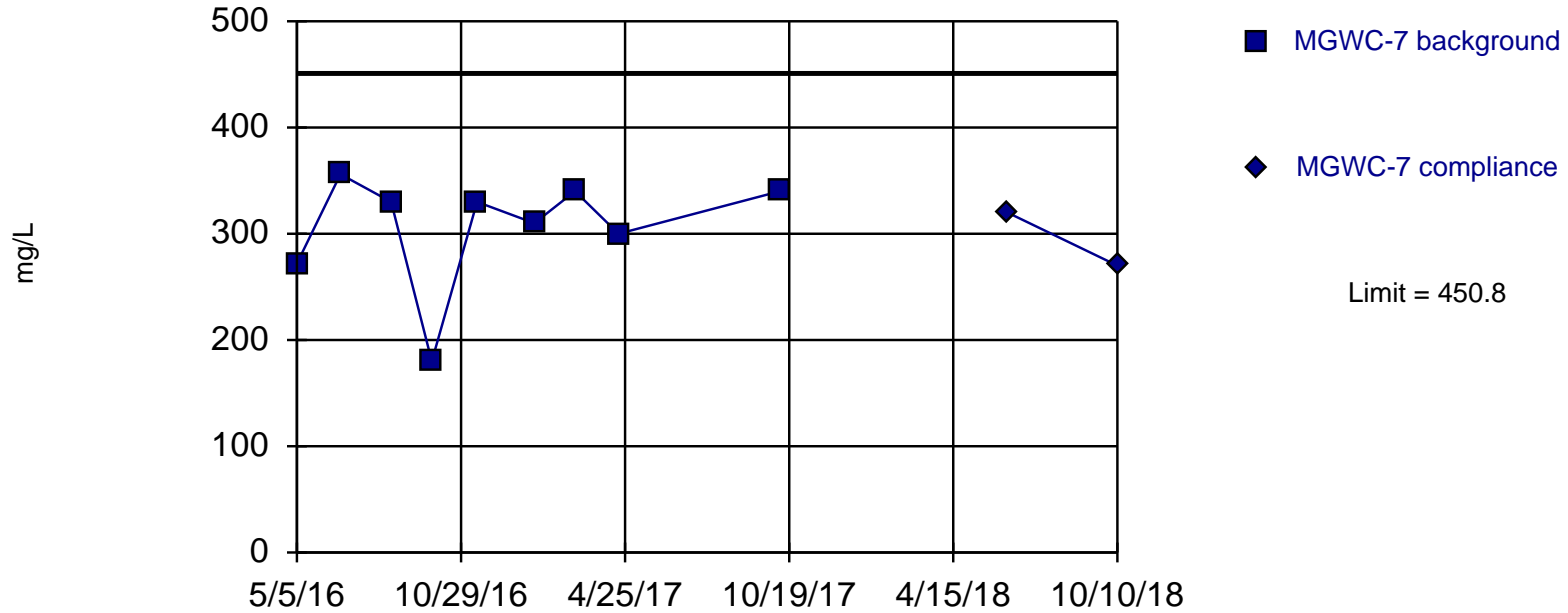


Background Data Summary: Mean=386.9, Std. Dev.=20.67, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9388, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:56 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric

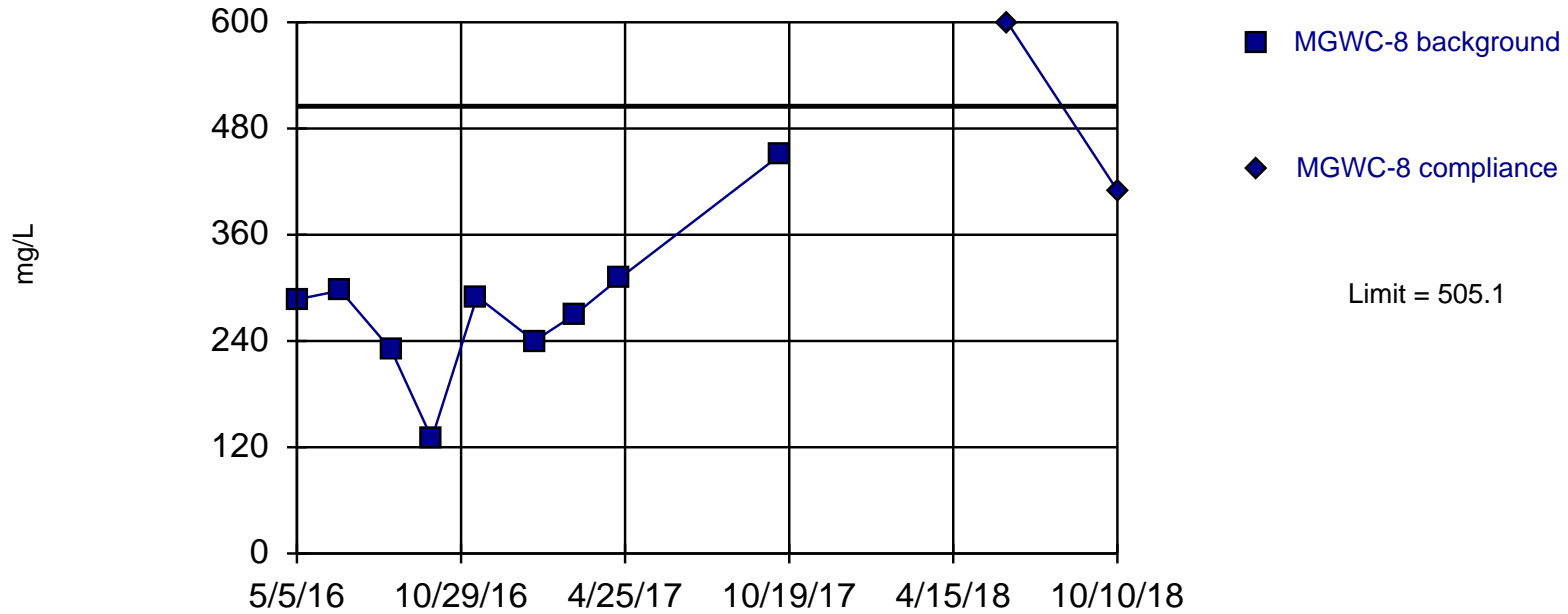


Background Data Summary: Mean=306.4, Std. Dev.=53.67, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7965, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:56 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Within Limit

Prediction Limit Intrawell Parametric



Background Data Summary: Mean=278.2, Std. Dev.=84.34, n=9. Insufficient data to test for seasonality: data were not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.764. Kappa = 2.69 (c=7, w=6, 1 of 2, event alpha = 0.05132). Report alpha = 0.001254.

Constituent: TDS Analysis Run 1/22/2019 9:56 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:22 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MGWA-10 (bg)	0.00112	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-11 (bg)	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-5 (bg)	0.0012	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-6 (bg)	0.0017	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-1	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-12	0.0005	0.0004	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-2	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-3	0.0005	0.0003	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-7	0.00197	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-8	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	MGWA-10 (bg)	0.00095	0.00036	0.035	No	11	72.73	No	0.006	NP (normality)
Arsenic (mg/L)	MGWA-11 (bg)	0.002459	0.0008392	0.035	No	11	9.091	No	0.01	Param.
Arsenic (mg/L)	MGWA-5 (bg)	0.00065	0.00014	0.035	No	11	81.82	No	0.006	NP (NDs)
Arsenic (mg/L)	MGWA-6 (bg)	0.03117	0.01592	0.035	No	11	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-1	0.003442	0.002284	0.035	No	11	0	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.001403	0.00059	0.035	No	11	9.091	No	0.01	Param.
Arsenic (mg/L)	MGWC-2	0.00065	0.00065	0.035	No	11	81.82	No	0.006	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.001749	0.00129	0.035	No	11	0	x^2	0.01	Param.
Arsenic (mg/L)	MGWC-7	0.0012	0.0005	0.035	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Arsenic (mg/L)	MGWC-8	0.00065	0.00059	0.035	No	11	90.91	No	0.006	NP (NDs)
Barium (mg/L)	MGWA-10 (bg)	0.03165	0.02318	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-11 (bg)	0.1132	0.08461	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-5 (bg)	0.03736	0.03236	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-6 (bg)	0.05522	0.0414	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-1	0.12	0.092	2	No	11	0	No	0.006	NP (normality)
Barium (mg/L)	MGWC-12	0.0595	0.04175	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05831	0.04984	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1556	0.1326	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.0152	0.0098	2	No	11	0	No	0.006	NP (normality)
Barium (mg/L)	MGWC-8	0.03916	0.03393	2	No	11	0	No	0.01	Param.
Beryllium (mg/L)	MGWA-10 (bg)	0.00125	0.000033	0.004	No	11	90.91	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-1	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-12	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-2	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-7	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.001238	0.0005	0.004	No	11	9.091	No	0.01	Param.
Cadmium (mg/L)	MGWA-10 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-1	0.00125	0.000126	0.005	No	11	81.82	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-12	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.004055	0.001082	0.005	No	11	0	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-3	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-7	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-8	0.00125	0.0003	0.005	No	11	45.45	No	0.006	NP (normality)

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:22 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Chromium (mg/L)	MGWA-10 (bg)	0.0039	0.00249	0.1	No	11	0	No	0.006	NP (normality)
Chromium (mg/L)	MGWA-11 (bg)	0.00125	0.00066	0.1	No	11	81.82	No	0.006	NP (NDs)
Chromium (mg/L)	MGWA-5 (bg)	0.00125	0.00024	0.1	No	11	81.82	No	0.006	NP (NDs)
Chromium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-1	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-12	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-2	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-3	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-7	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-8	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-10 (bg)	0.00125	0.00018	0.006	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-11 (bg)	0.00125	0.000039	0.006	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-5 (bg)	0.00125	0.000012	0.006	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-6 (bg)	0.00125	0.0003	0.006	No	11	36.36	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-1	0.00125	0.0004	0.006	No	11	63.64	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-12	0.00125	0.00125	0.006	No	11	100	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.00367	0.003147	0.006	No	11	0	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.00068	0.00041	0.006	No	11	9.091	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-7	0.01125	0.007803	0.006	Yes	11	0	x^2	0.01	Param.
Cobalt (mg/L)	MGWC-8	0.015	0.0033	0.006	No	11	0	No	0.006	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWA-10 (bg)	0.9704	0.4474	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-11 (bg)	0.801	0.2532	5	No	11	18.18	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-5 (bg)	0.5524	0.1715	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-6 (bg)	0.7838	0.3616	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.95	1.07	5	No	11	0	No	0.006	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.7243	0.256	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.8168	0.3832	5	No	11	18.18	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.741	1.374	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.341	0.7853	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.121	1.224	5	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWA-10 (bg)	0.12	0.046	4	No	12	83.33	No	0.01	NP (NDs)
Fluoride (mg/L)	MGWA-11 (bg)	0.1439	0.08997	4	No	12	8.333	No	0.01	Param.
Fluoride (mg/L)	MGWA-5 (bg)	0.1856	0.08318	4	No	12	25	No	0.01	Param.
Fluoride (mg/L)	MGWA-6 (bg)	0.15	0.084	4	No	12	50	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-1	0.2786	0.1797	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.2697	0.2086	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.15	0.087	4	No	12	58.33	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.15	0.086	4	No	12	50	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.4	0.2474	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.15	0.091	4	No	12	25	No	0.01	NP (normality)
Lead (mg/L)	MGWA-10 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-11 (bg)	0.000175	0.000087	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-5 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-6 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-1	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-12	0.000175	0.0001	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-2	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-3	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-7	0.0003	0.000175	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-8	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)

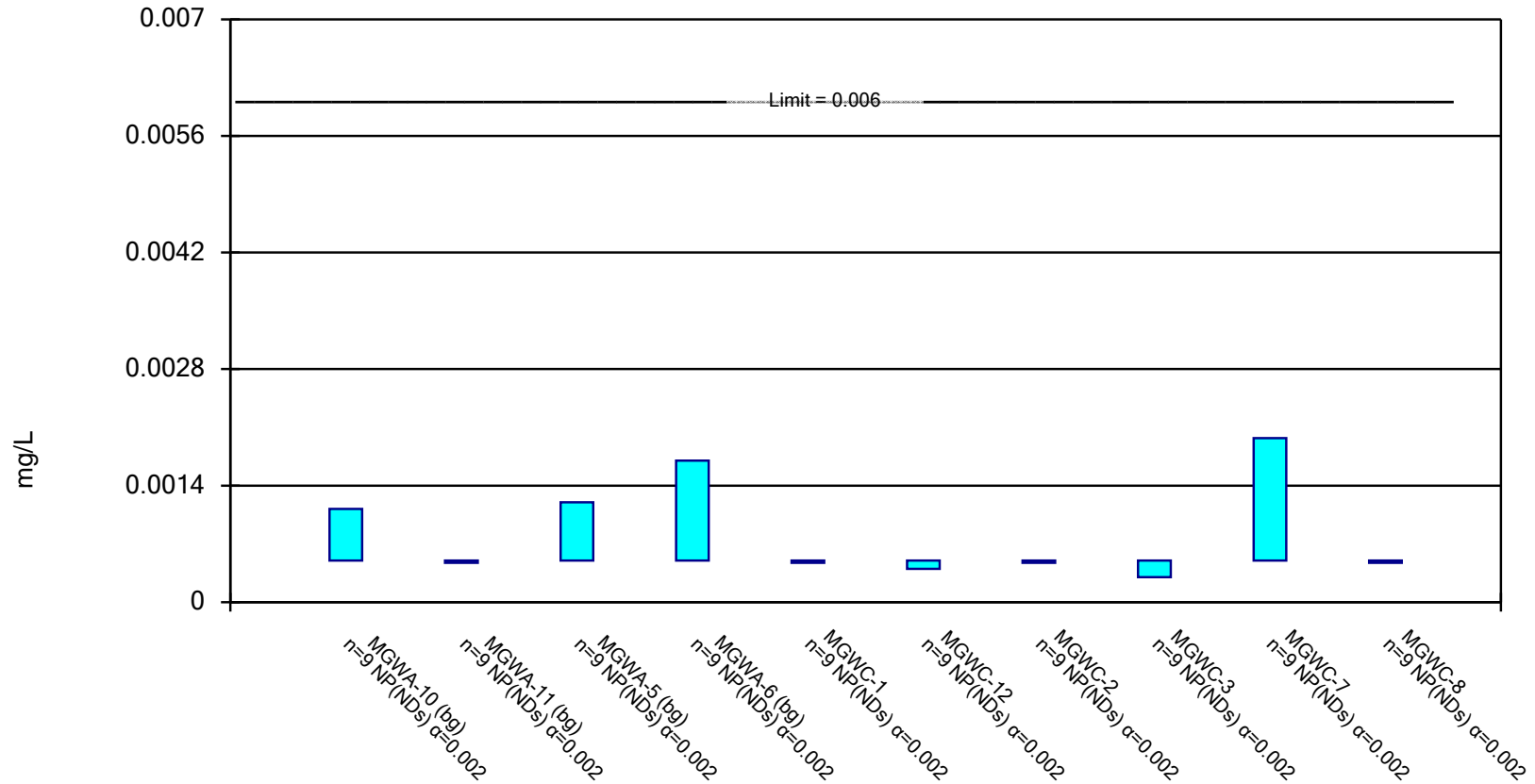
Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:22 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	MGWA-10 (bg)	0.008588	0.005521	0.04	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWA-11 (bg)	0.02229	0.01352	0.04	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWA-5 (bg)	0.01084	0.005866	0.04	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWA-6 (bg)	0.0025	0.0025	0.04	No	11	100	No	0.006	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01368	0.01015	0.04	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02208	0.01274	0.04	No	11	0	x^(1/3)	0.01	Param.
Lithium (mg/L)	MGWC-2	0.006264	0.003991	0.04	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWC-3	0.01403	0.01026	0.04	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWC-7	0.144	0.1034	0.04	Yes	11	0	x^2	0.01	Param.
Lithium (mg/L)	MGWC-8	0.04044	0.02396	0.04	No	11	0	sqrt(x)	0.01	Param.
Mercury (mg/L)	MGWA-10 (bg)	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-11 (bg)	0.0001	0.00008	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-5 (bg)	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-6 (bg)	0.0001	0.000074	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-1	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-12	0.0001	0.000074	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0001	0.000078	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-3	0.0001	0.00007	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0001	0.00008	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.000076	0.002	No	11	36.36	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-10 (bg)	0.0075	0.00031	0.1	No	11	81.82	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWA-11 (bg)	0.0075	0.0011	0.1	No	11	54.55	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-5 (bg)	0.0075	0.0012	0.1	No	11	63.64	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-6 (bg)	0.0075	0.0075	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-1	0.0075	0.00087	0.1	No	11	18.18	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.0075	0.0012	0.1	No	11	72.73	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWC-2	0.0075	0.0075	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-3	0.0075	0.0075	0.1	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.0075	0.00351	0.1	No	11	90.91	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.0075	0.0037	0.1	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-10 (bg)	0.00065	0.00027	0.05	No	11	54.55	No	0.006	NP (normality)
Selenium (mg/L)	MGWA-11 (bg)	0.00065	0.00049	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-5 (bg)	0.00065	0.00065	0.05	No	11	100	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-6 (bg)	0.00065	0.00065	0.05	No	11	100	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-1	0.00065	0.0005	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-12	0.00065	0.00027	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-2	0.00065	0.00045	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-3	0.00065	0.00044	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-7	0.00065	0.000265	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-8	0.00065	0.00027	0.05	No	11	63.64	No	0.006	NP (normality)
Thallium (mg/L)	MGWA-10 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-11 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-5 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-6 (bg)	0.00025	0.0001	0.002	No	11	90.91	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-1	0.00025	0.00009	0.002	No	11	72.73	No	0.006	NP (normality)
Thallium (mg/L)	MGWC-12	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-2	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-3	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-7	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0002415	0.000133	0.002	No	11	9.091	No	0.01	Param.

Non-Parametric Confidence Interval

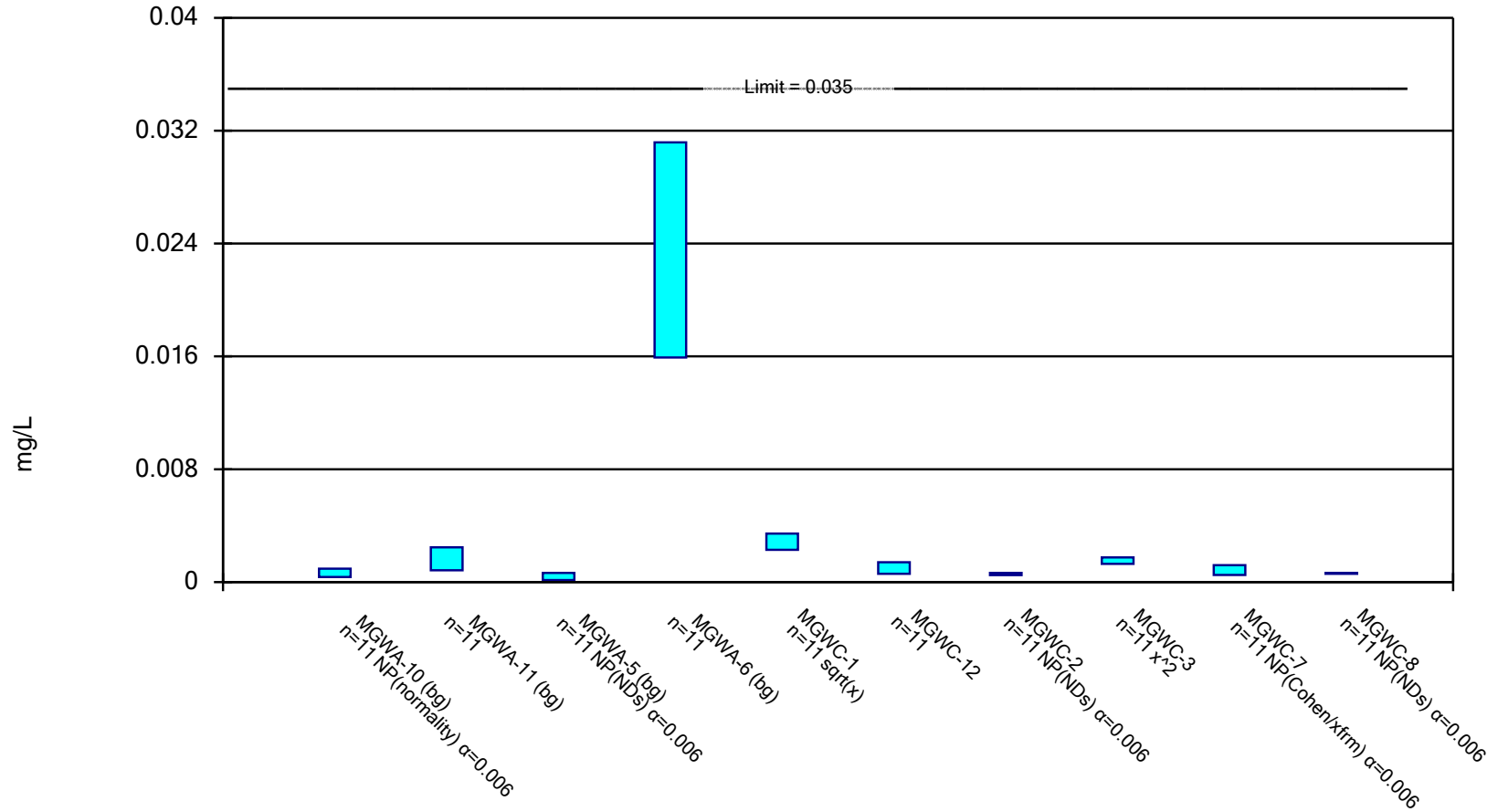
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

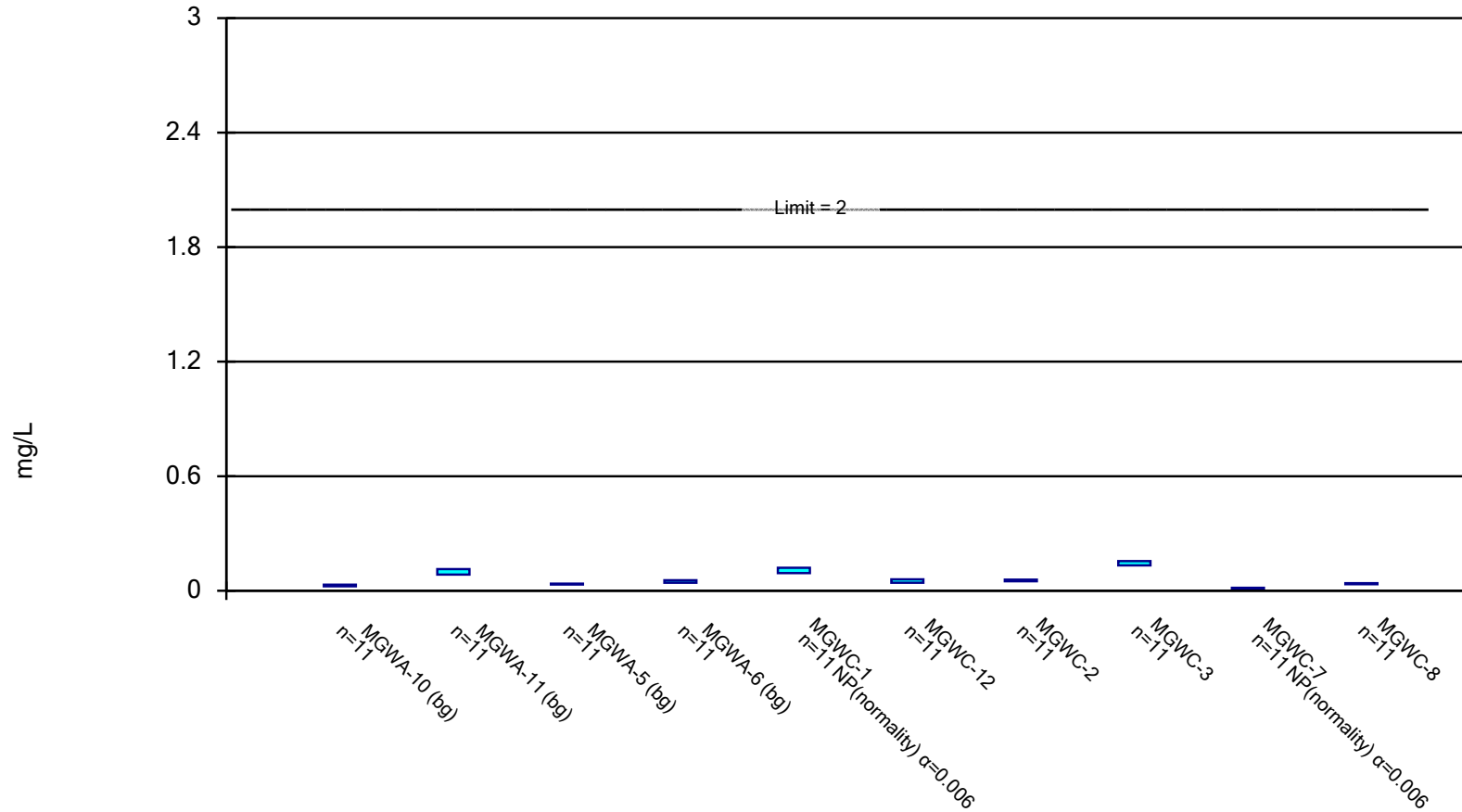
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

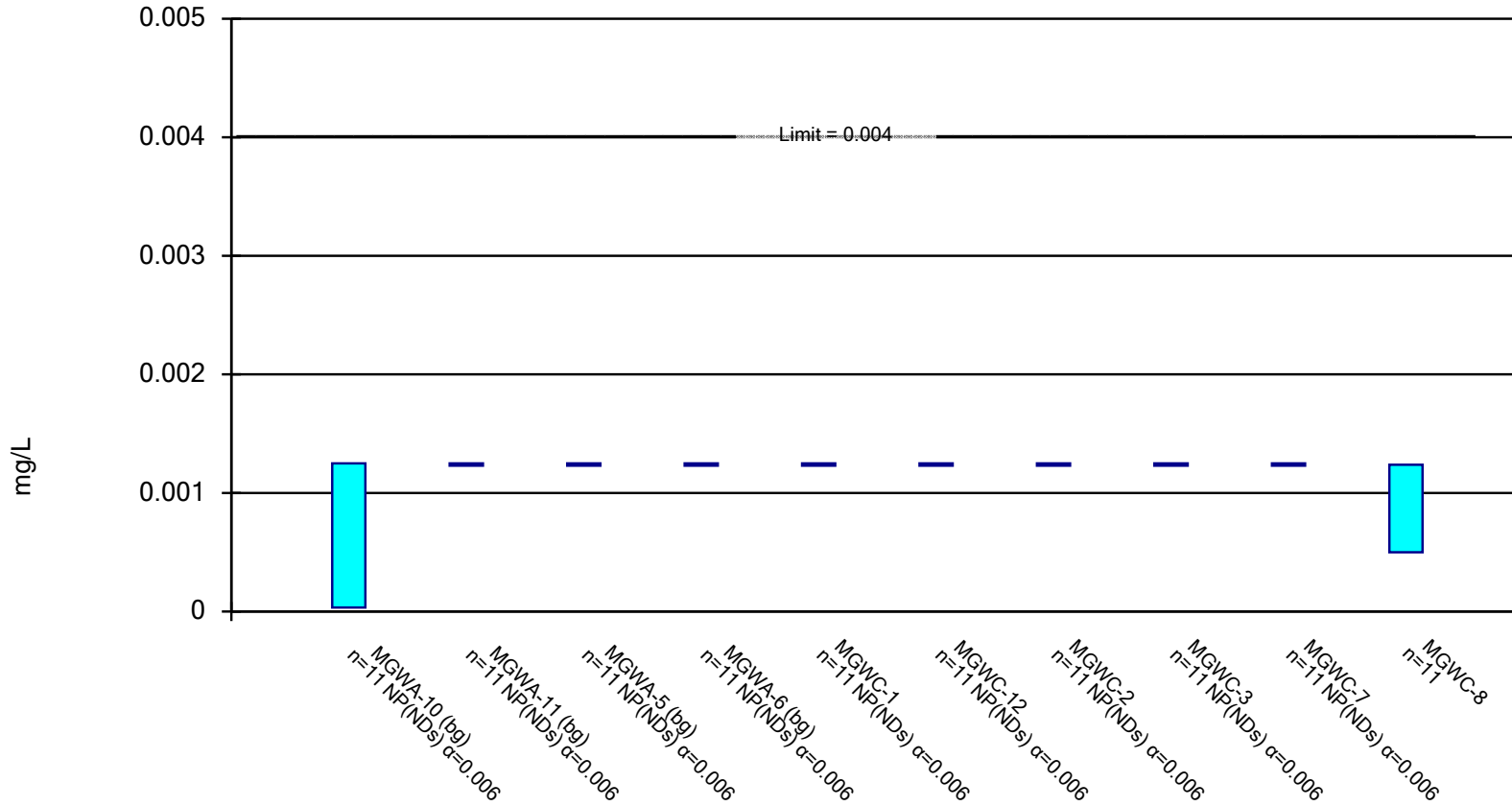
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

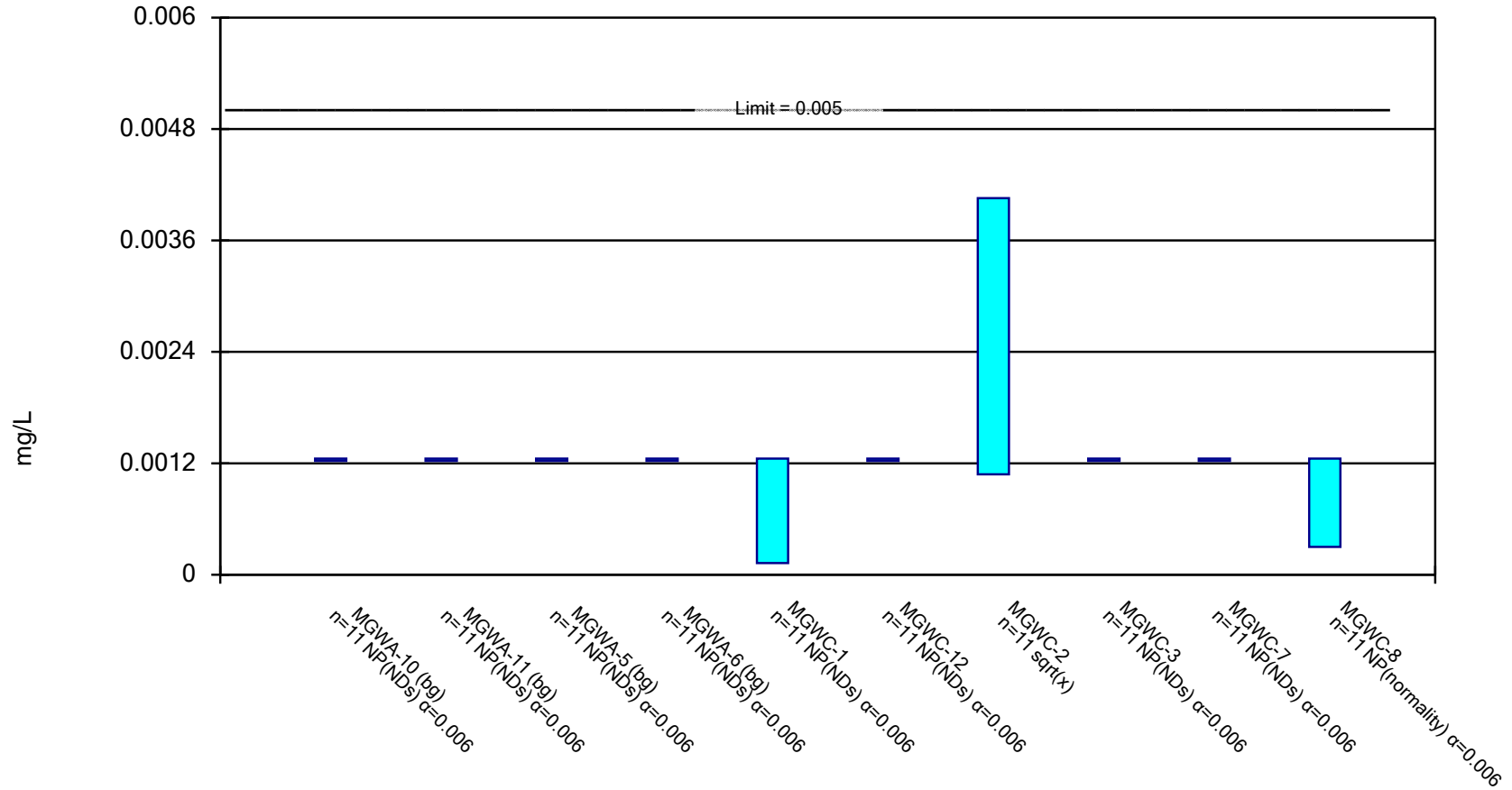


Constituent: Beryllium Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

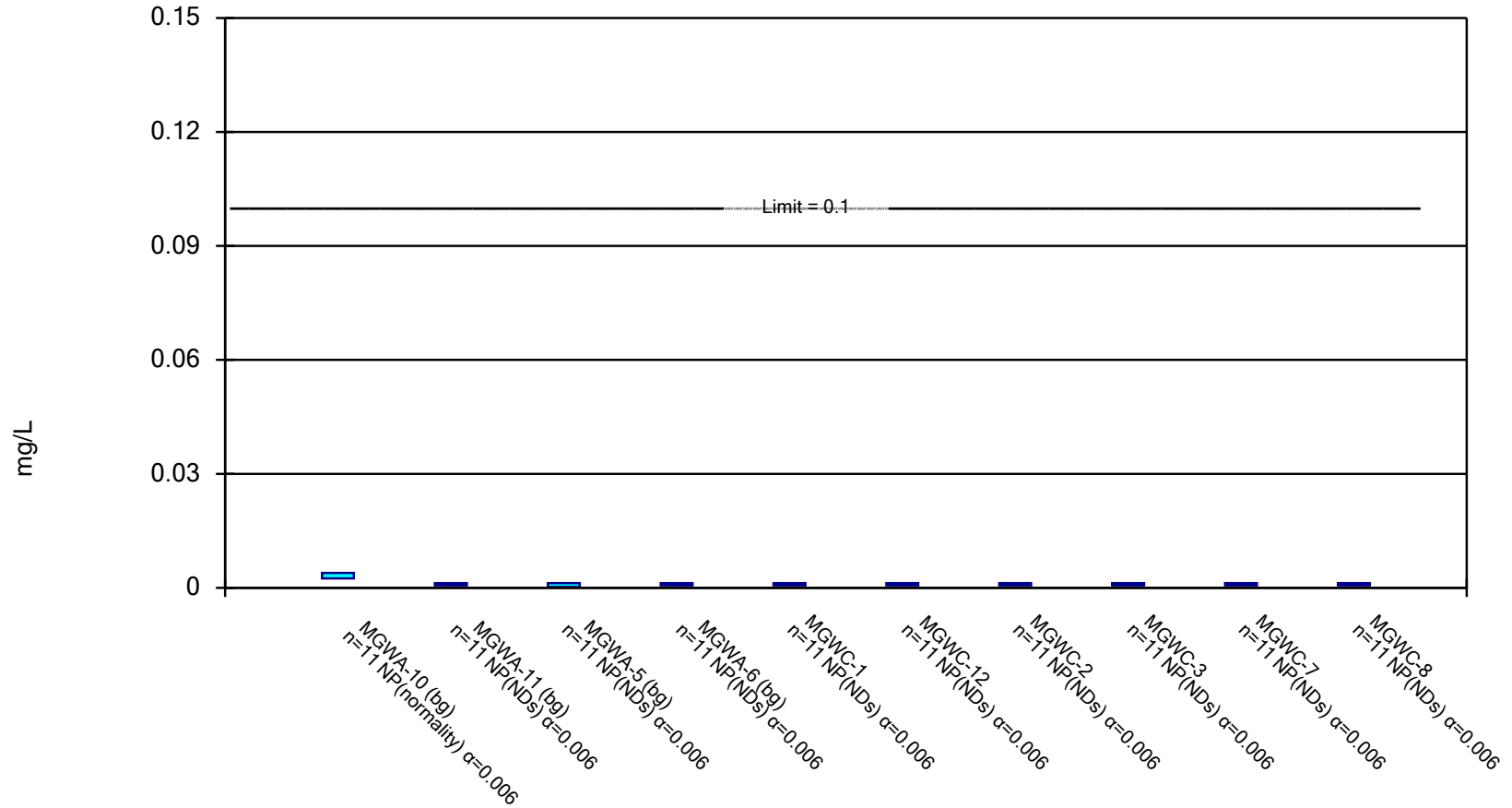
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

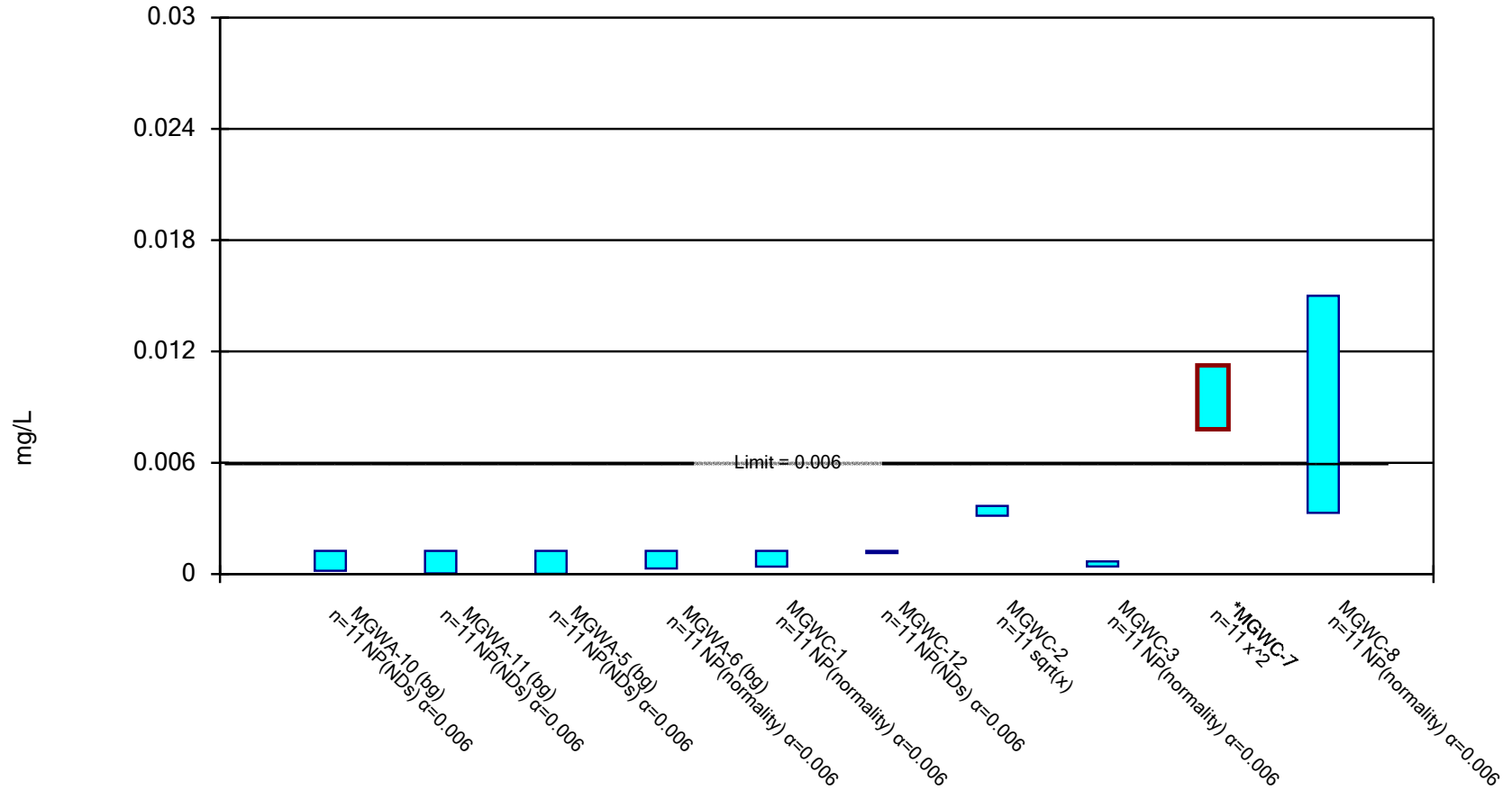
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

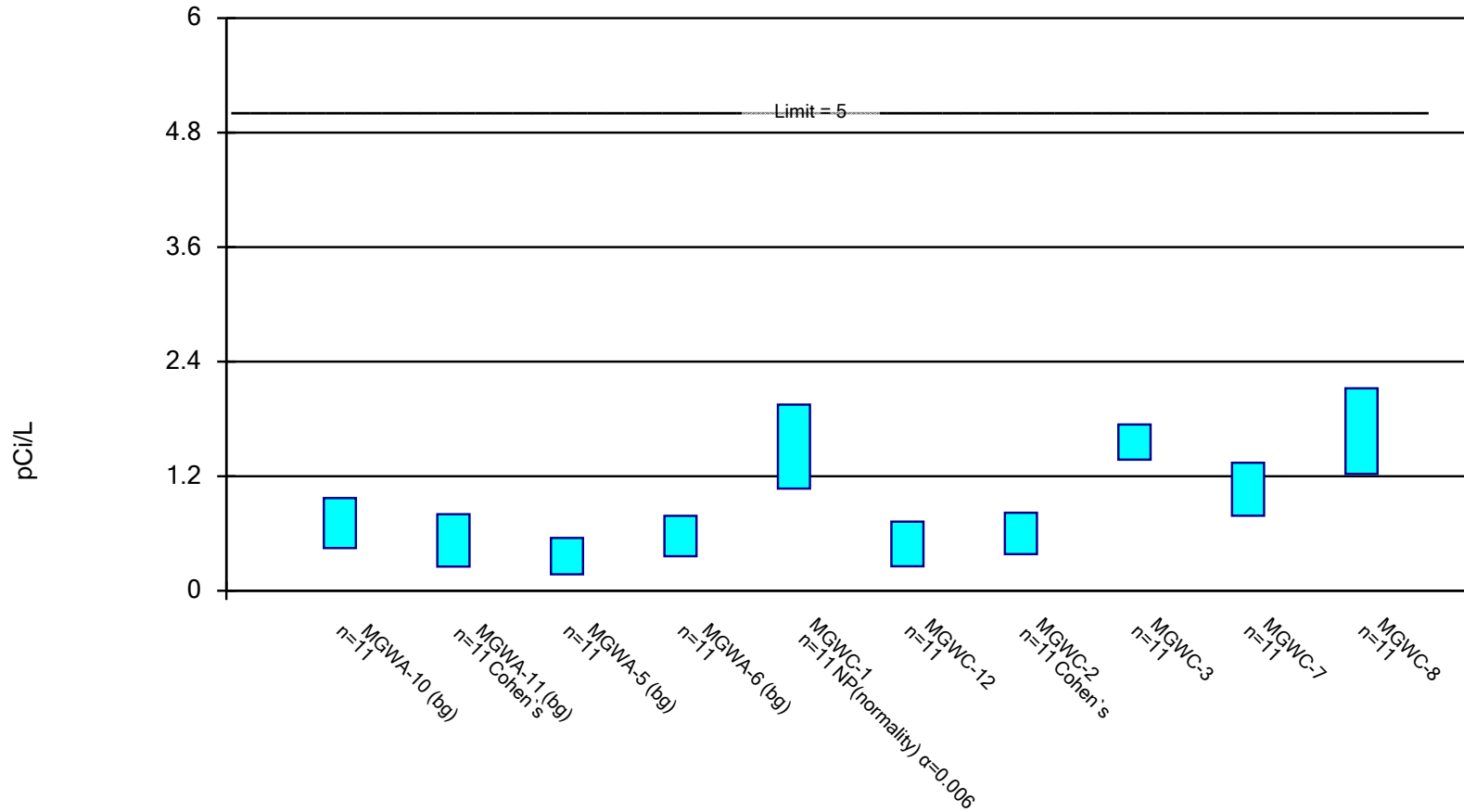


Constituent: Cobalt Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

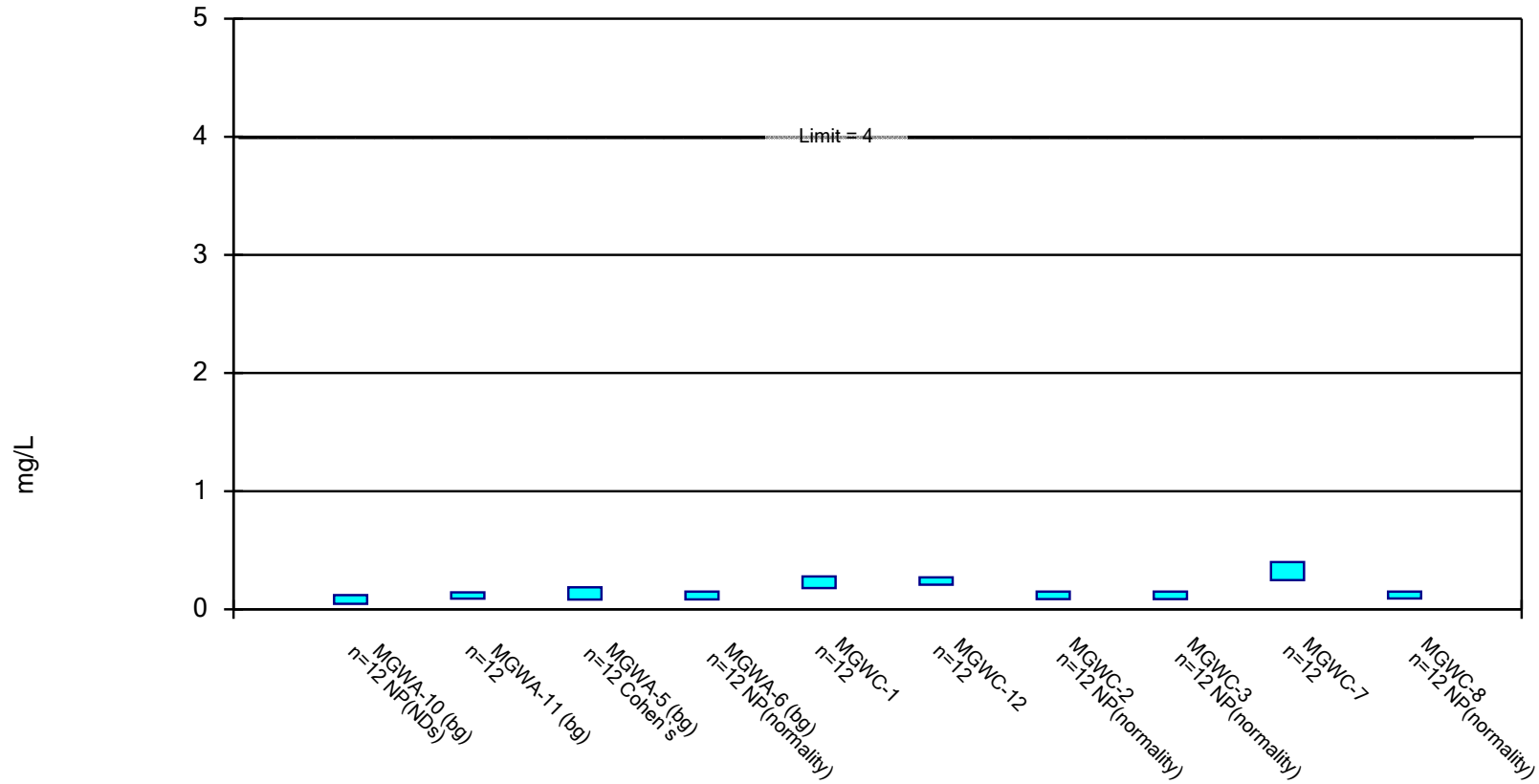


Constituent: Combined Radium 226 + 228 Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

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.

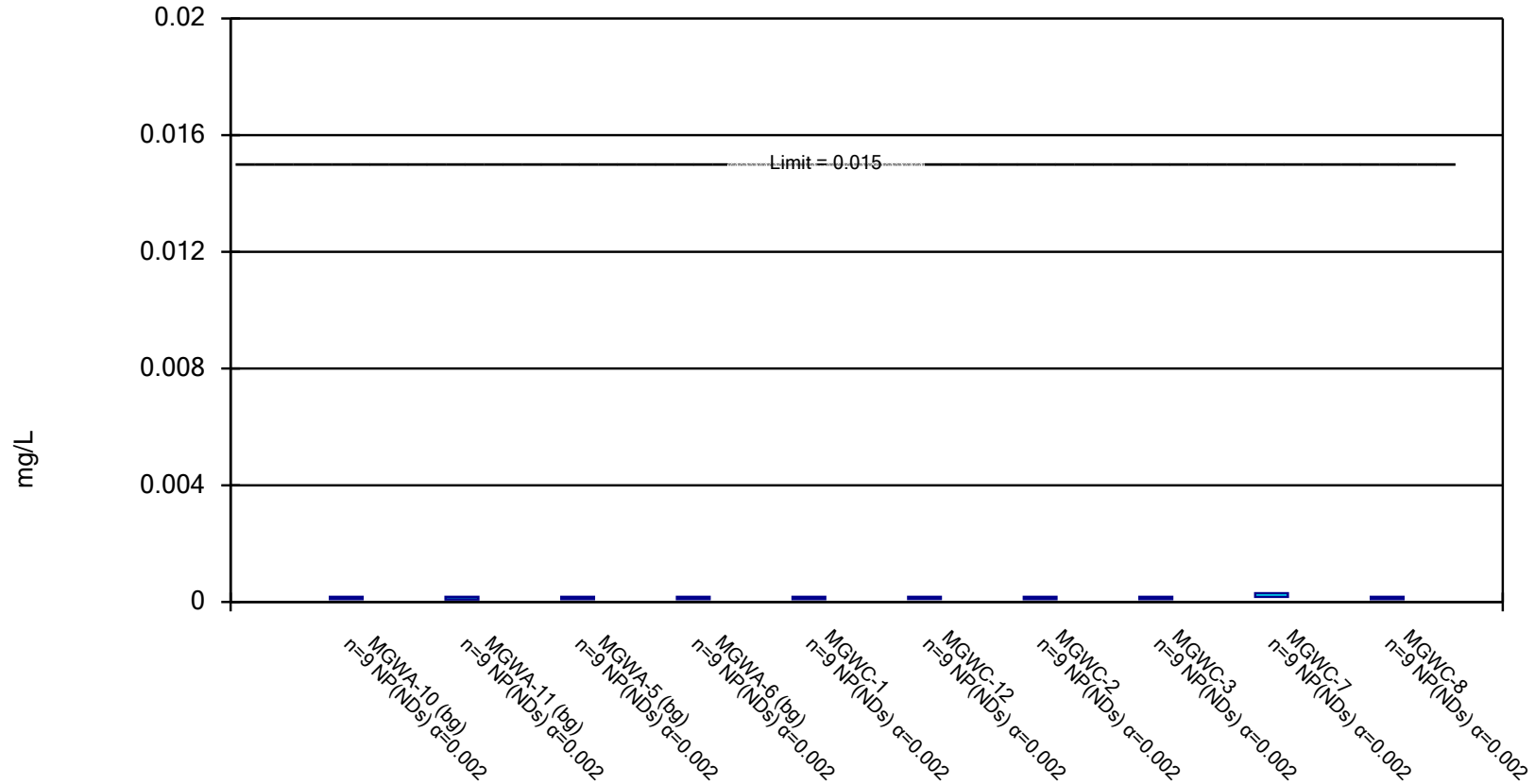


Constituent: Fluoride Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

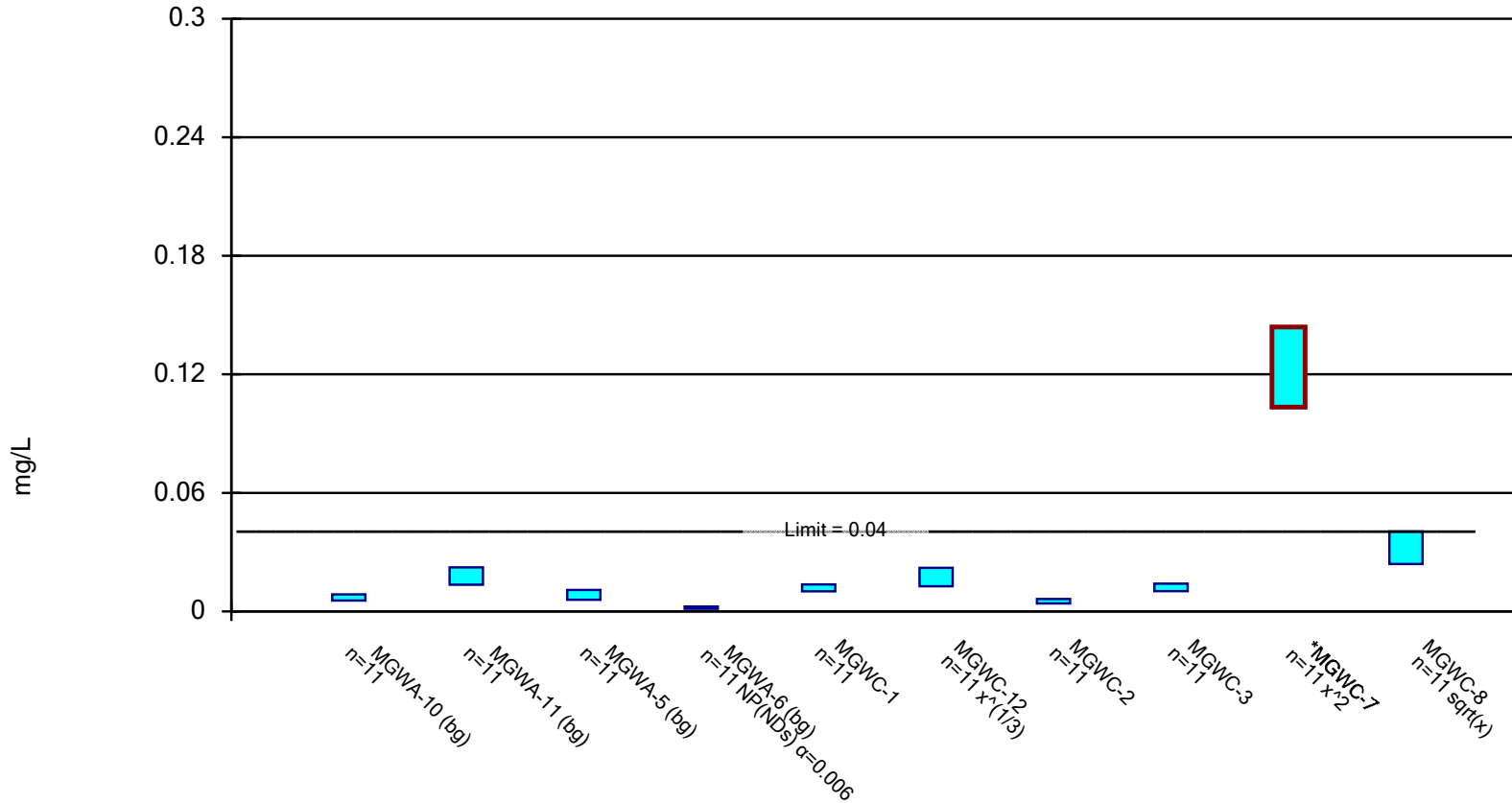
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

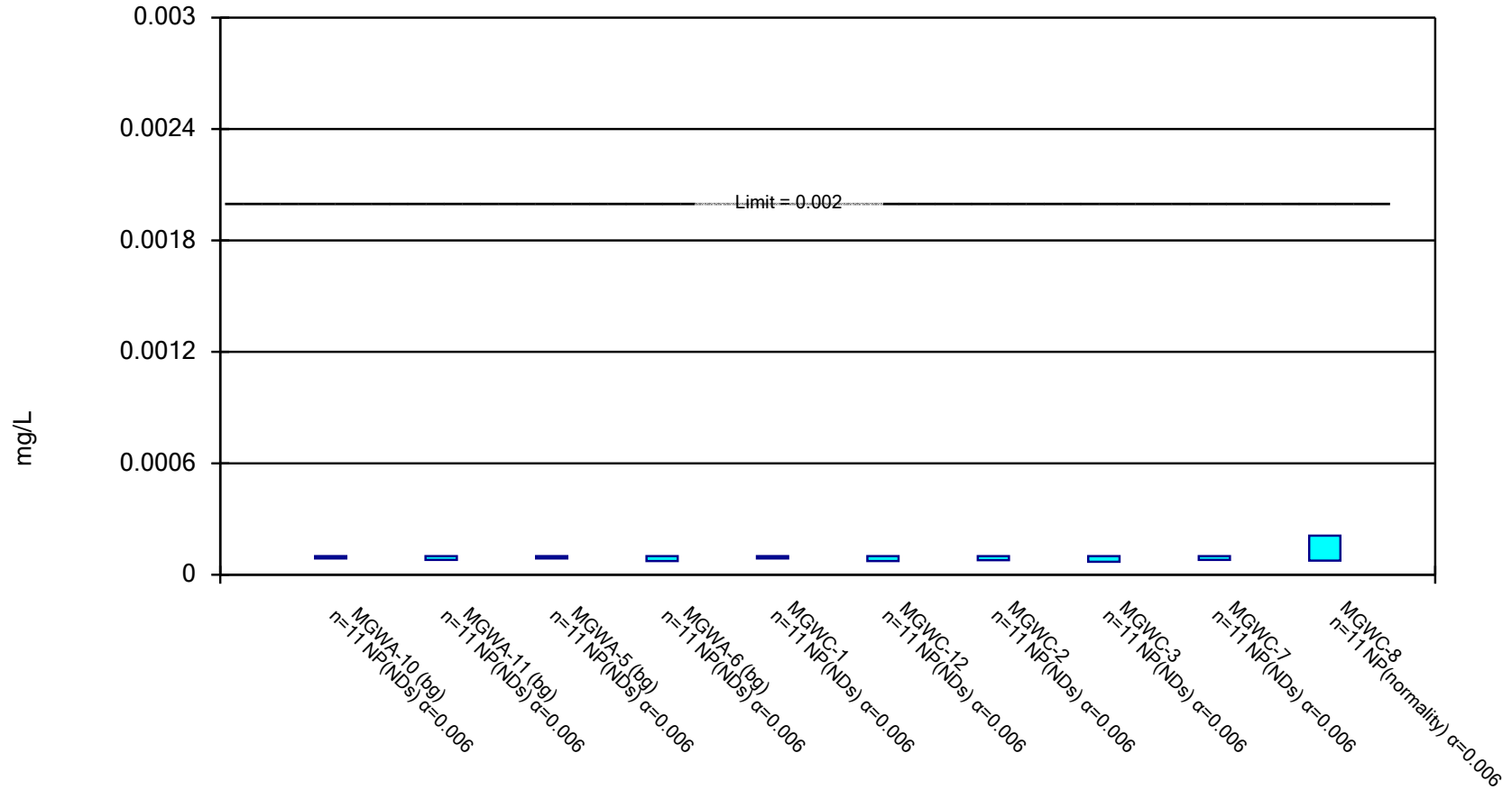
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

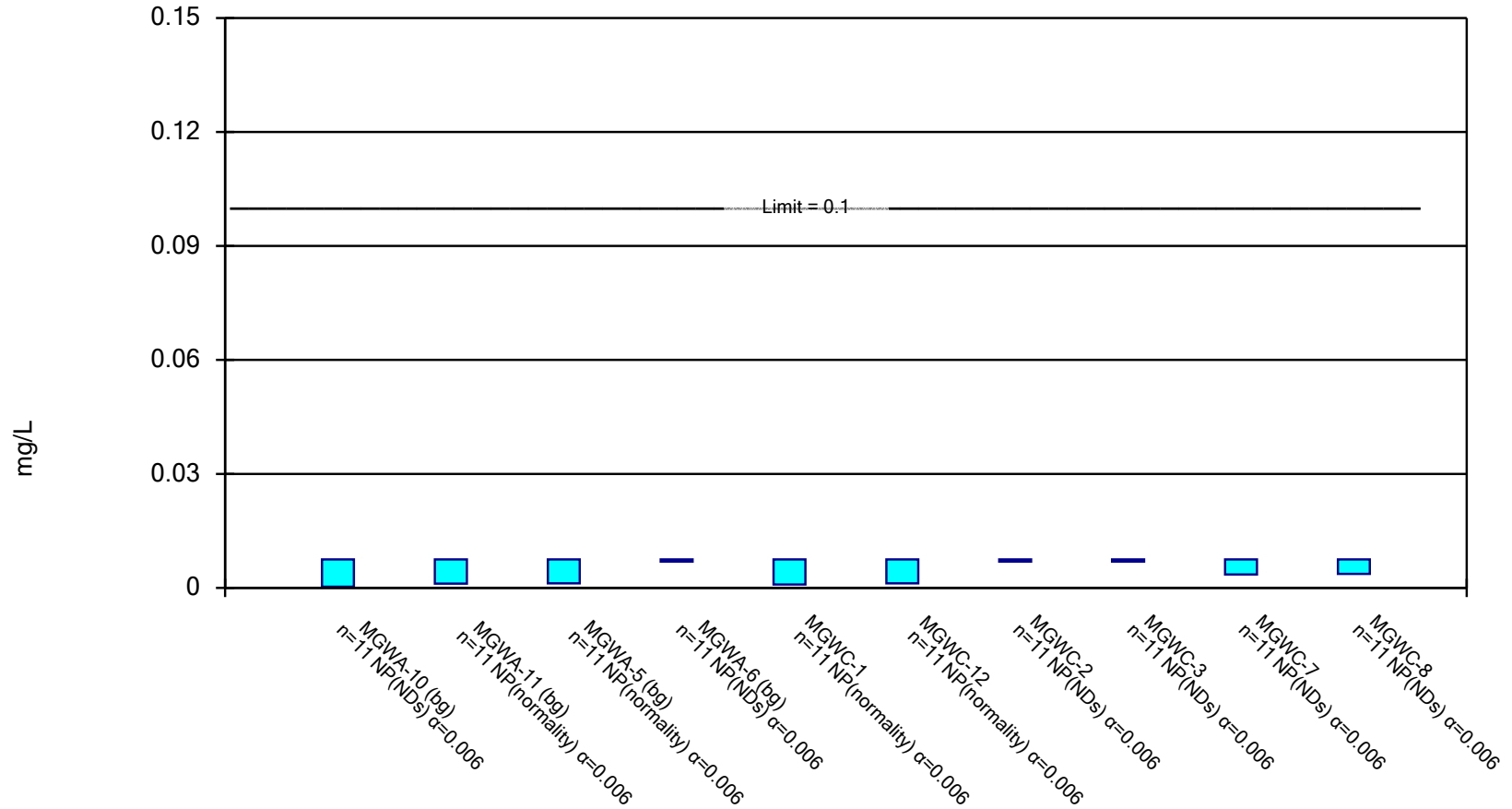


Constituent: Mercury Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

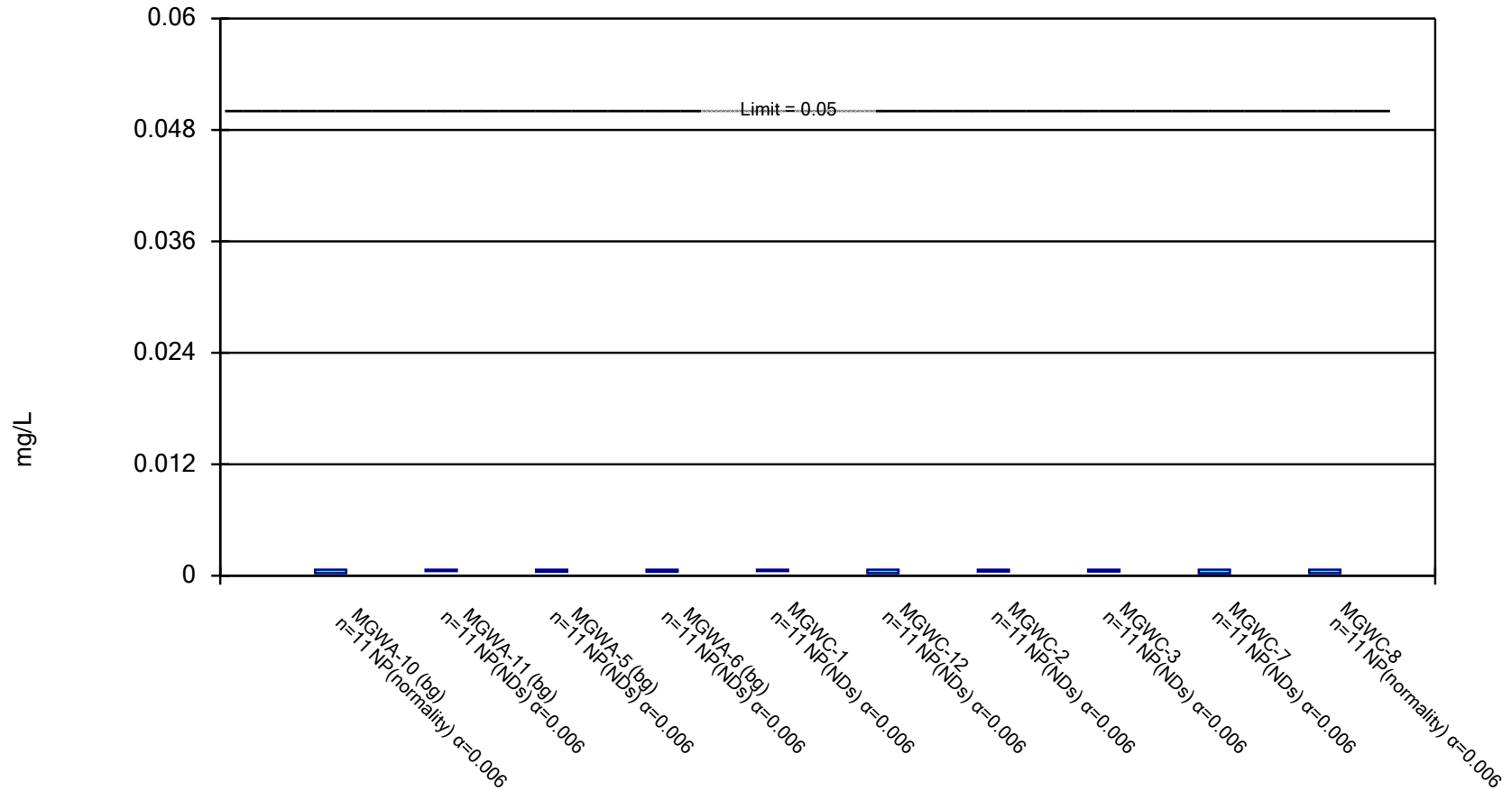
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/22/2019 10:20 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

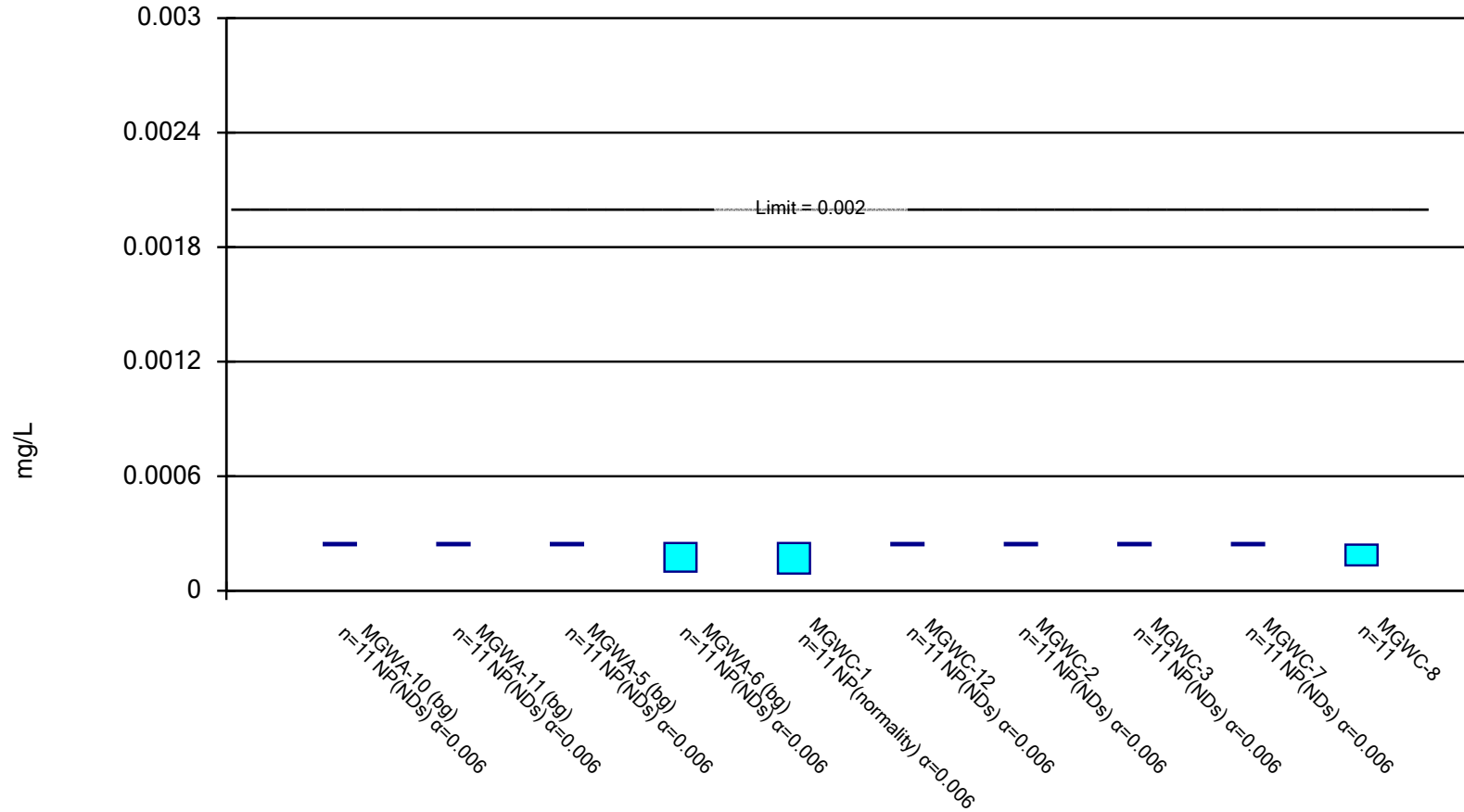


Constituent: Selenium Analysis Run 1/22/2019 10:20 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 1/22/2019 10:20 AM

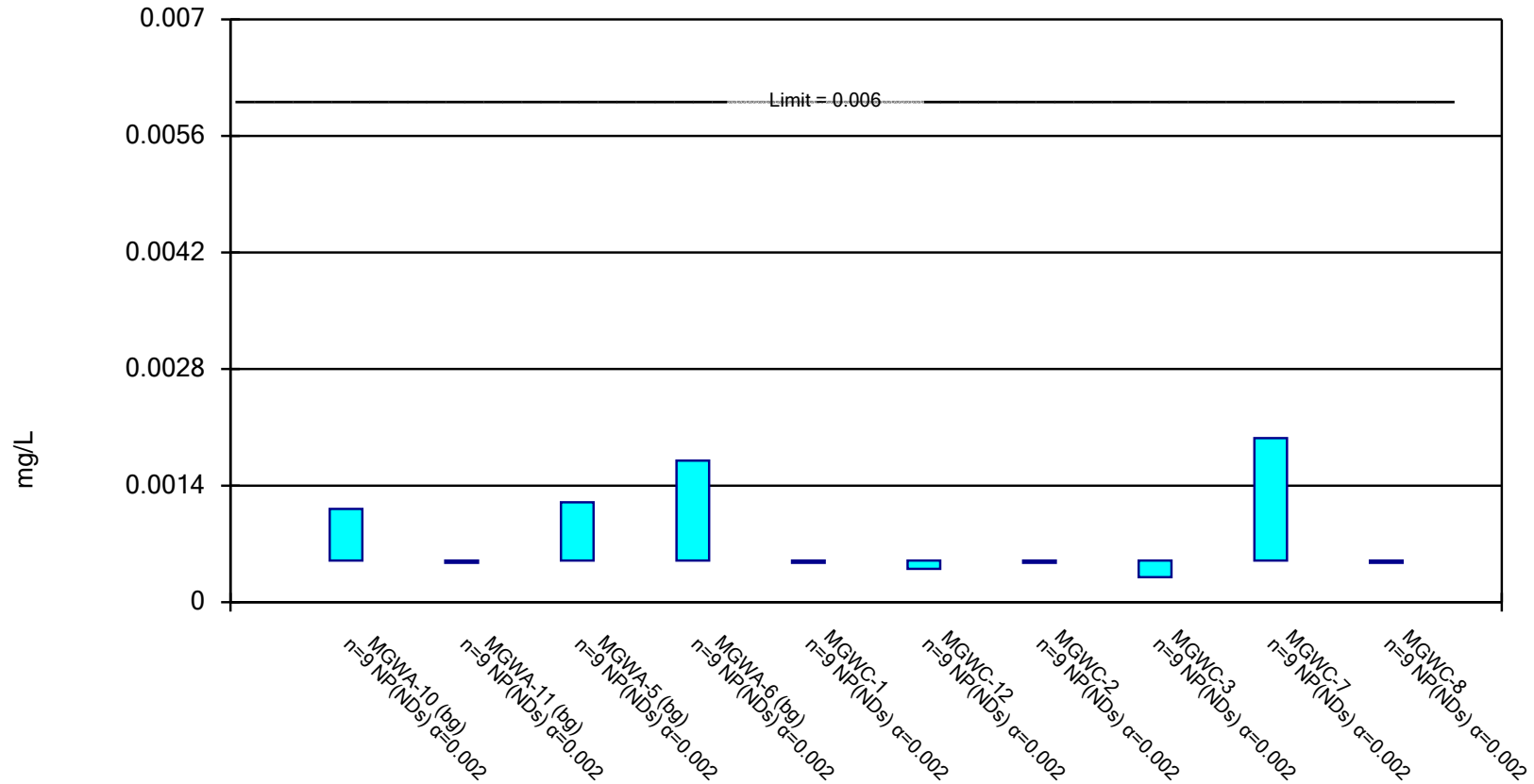
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

October 2018 Data Statistical Analyses

Georgia EPD Program

Non-Parametric Confidence Interval

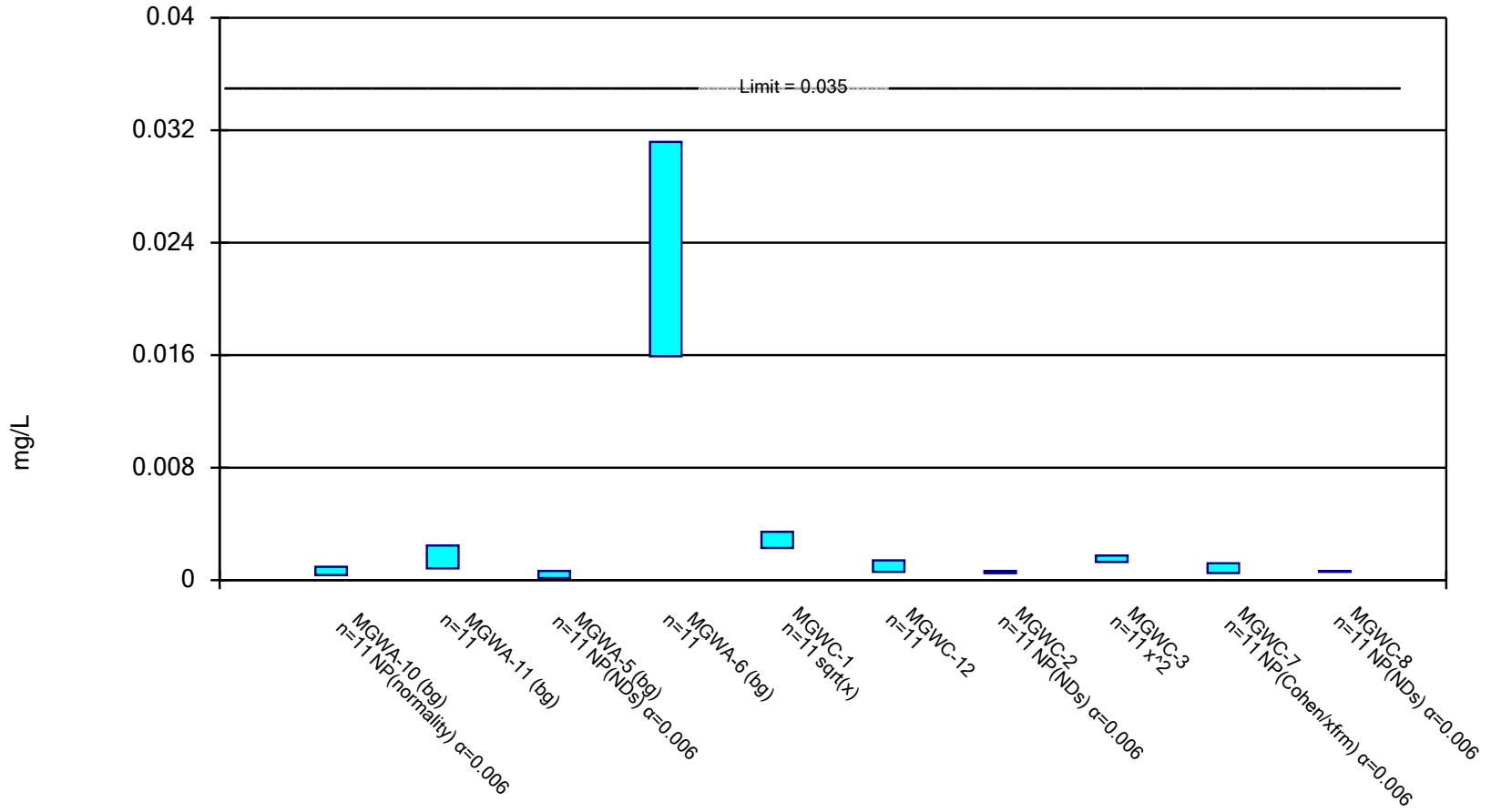
Compliance Limit is not exceeded.



Constituent: Antimony Analysis Run 1/22/2019 10:38 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

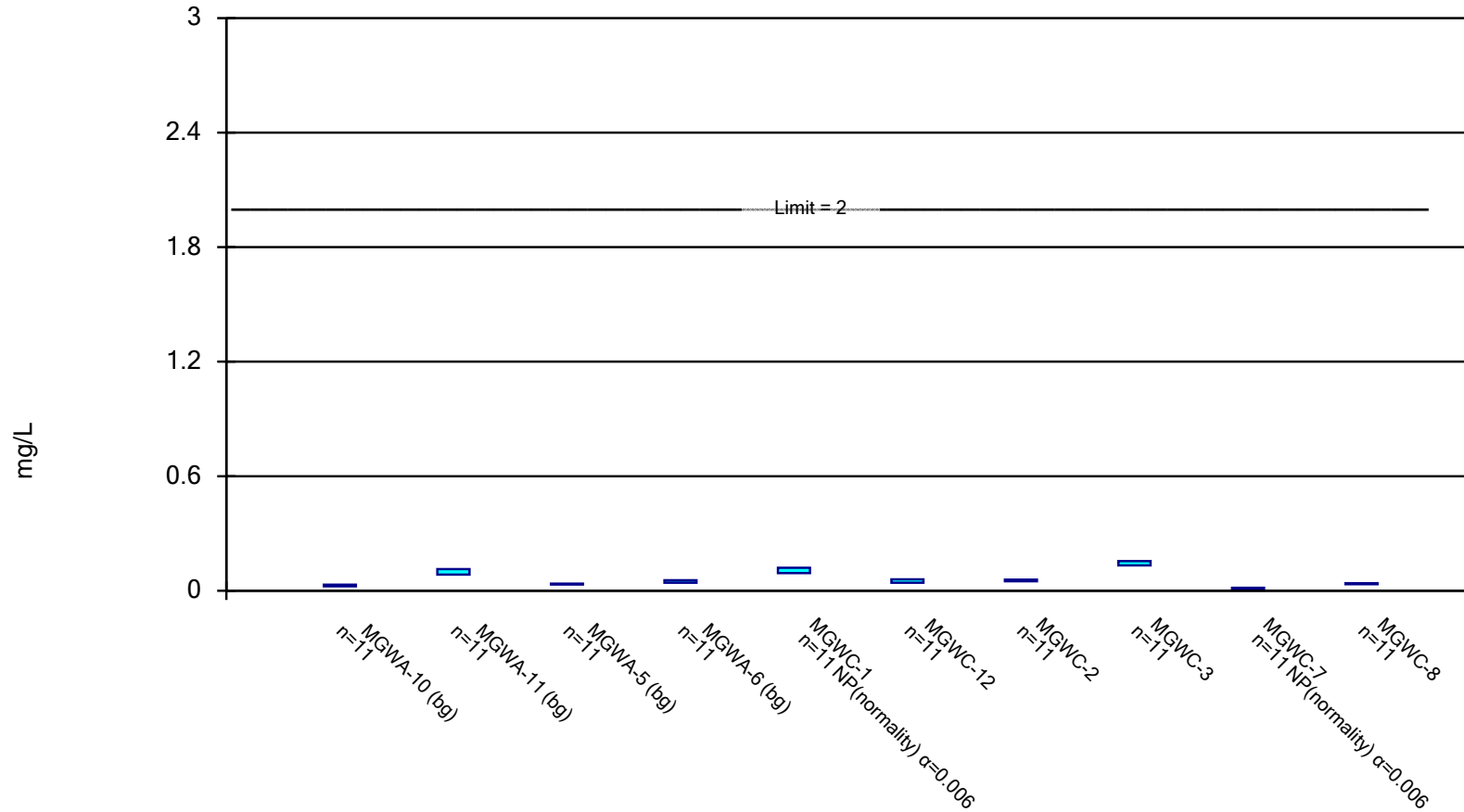
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/22/2019 10:38 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

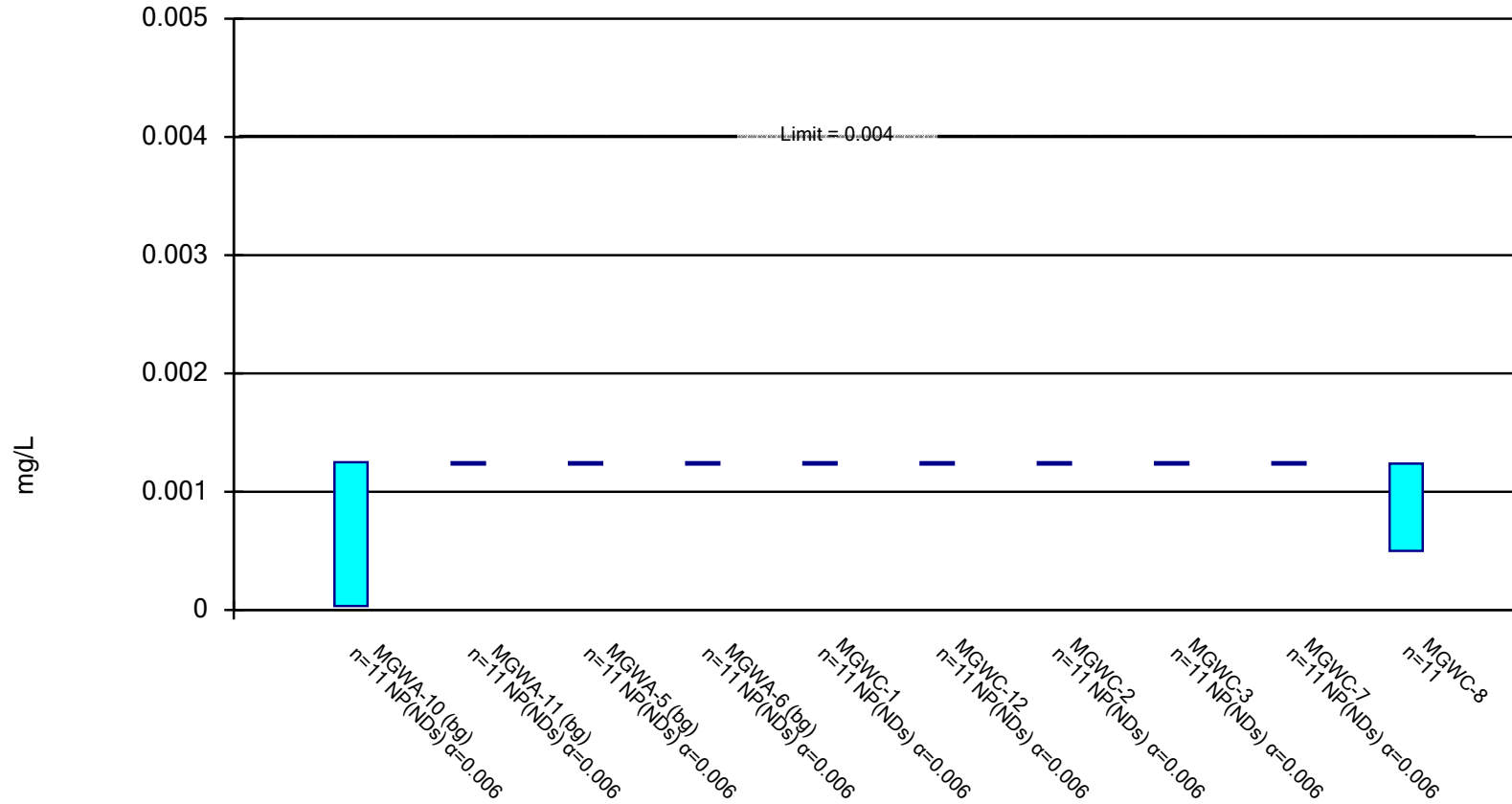
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 1/22/2019 10:38 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

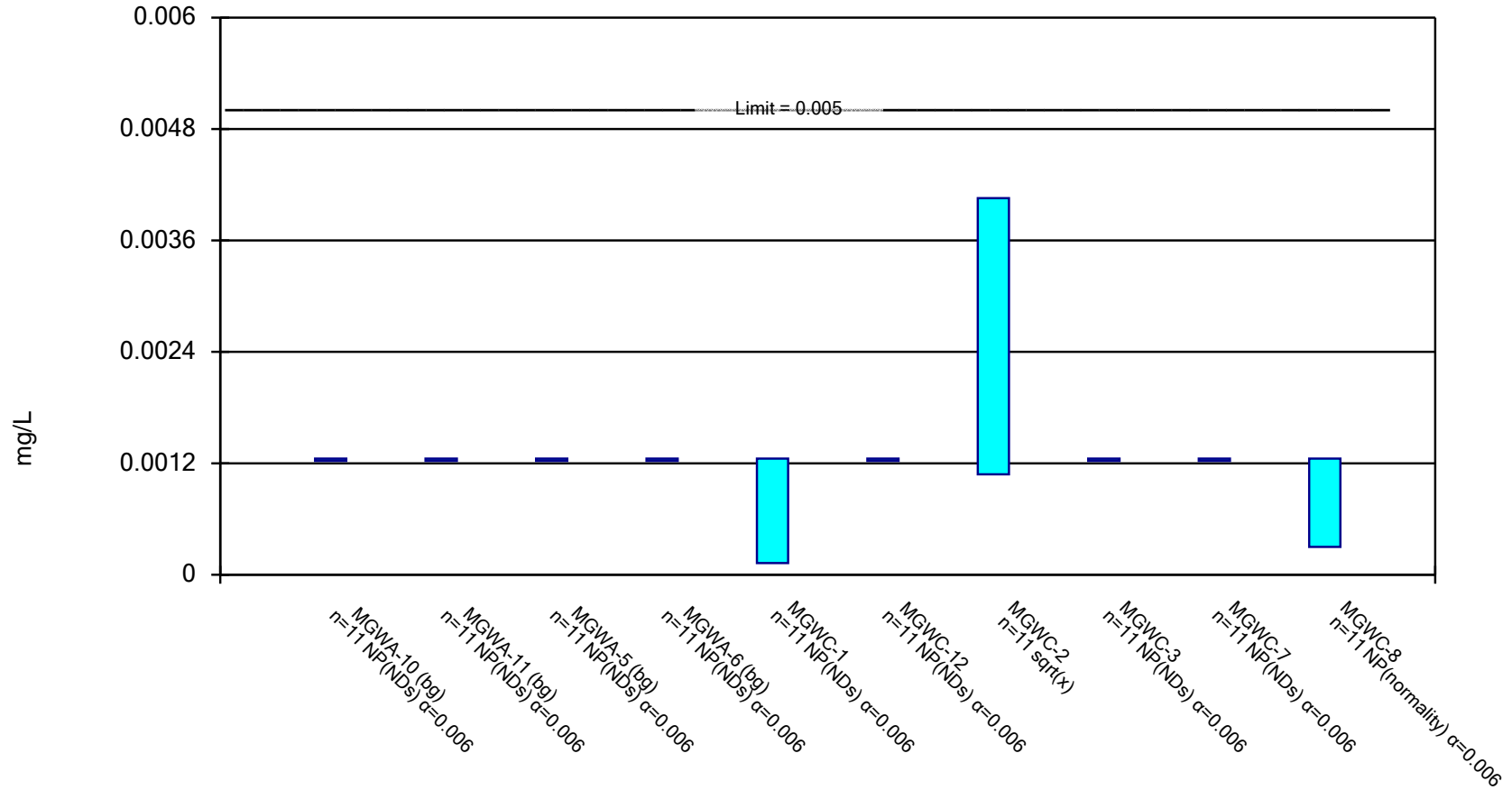


Constituent: Beryllium Analysis Run 1/22/2019 10:38 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

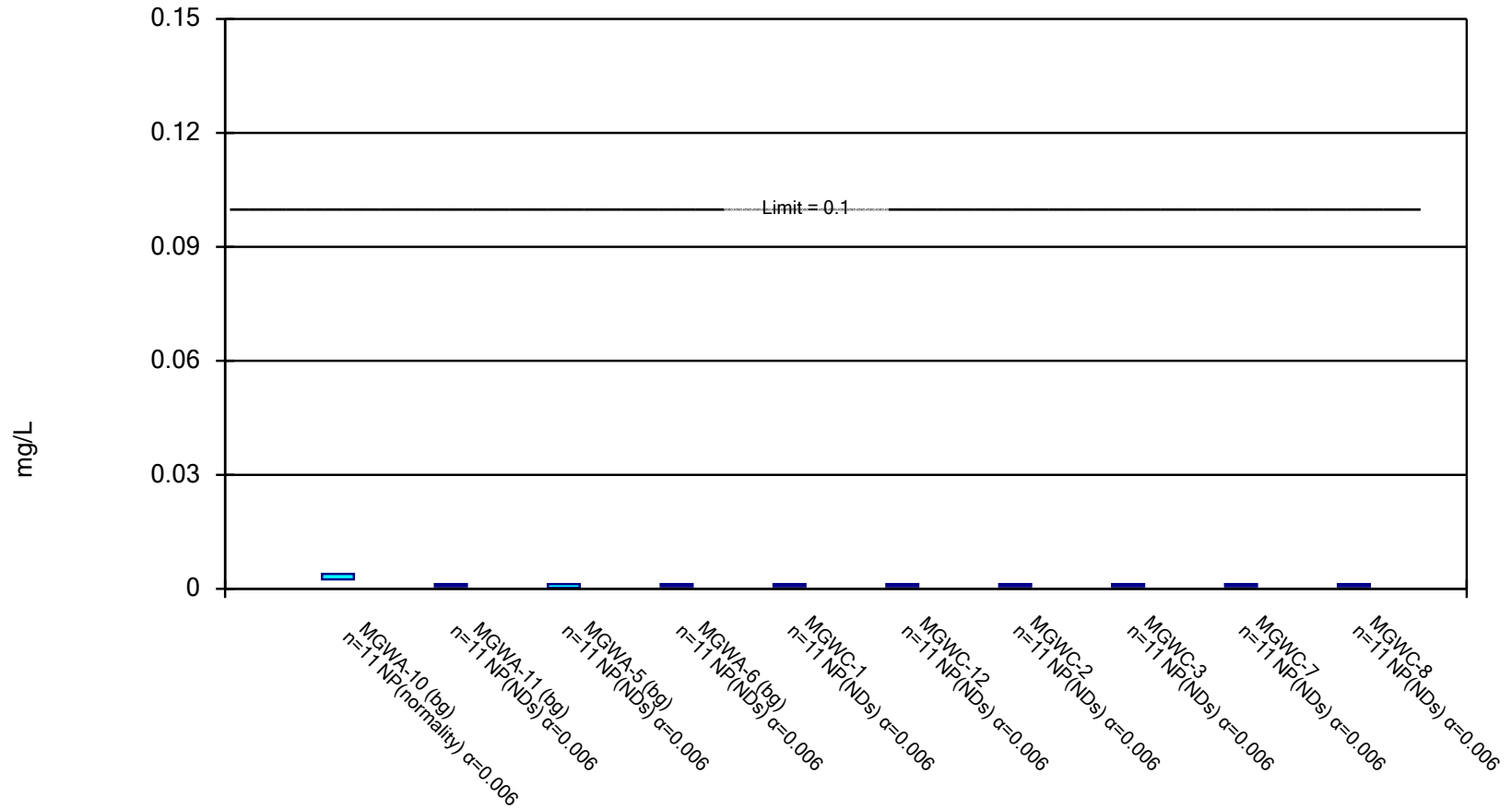


Constituent: Cadmium Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

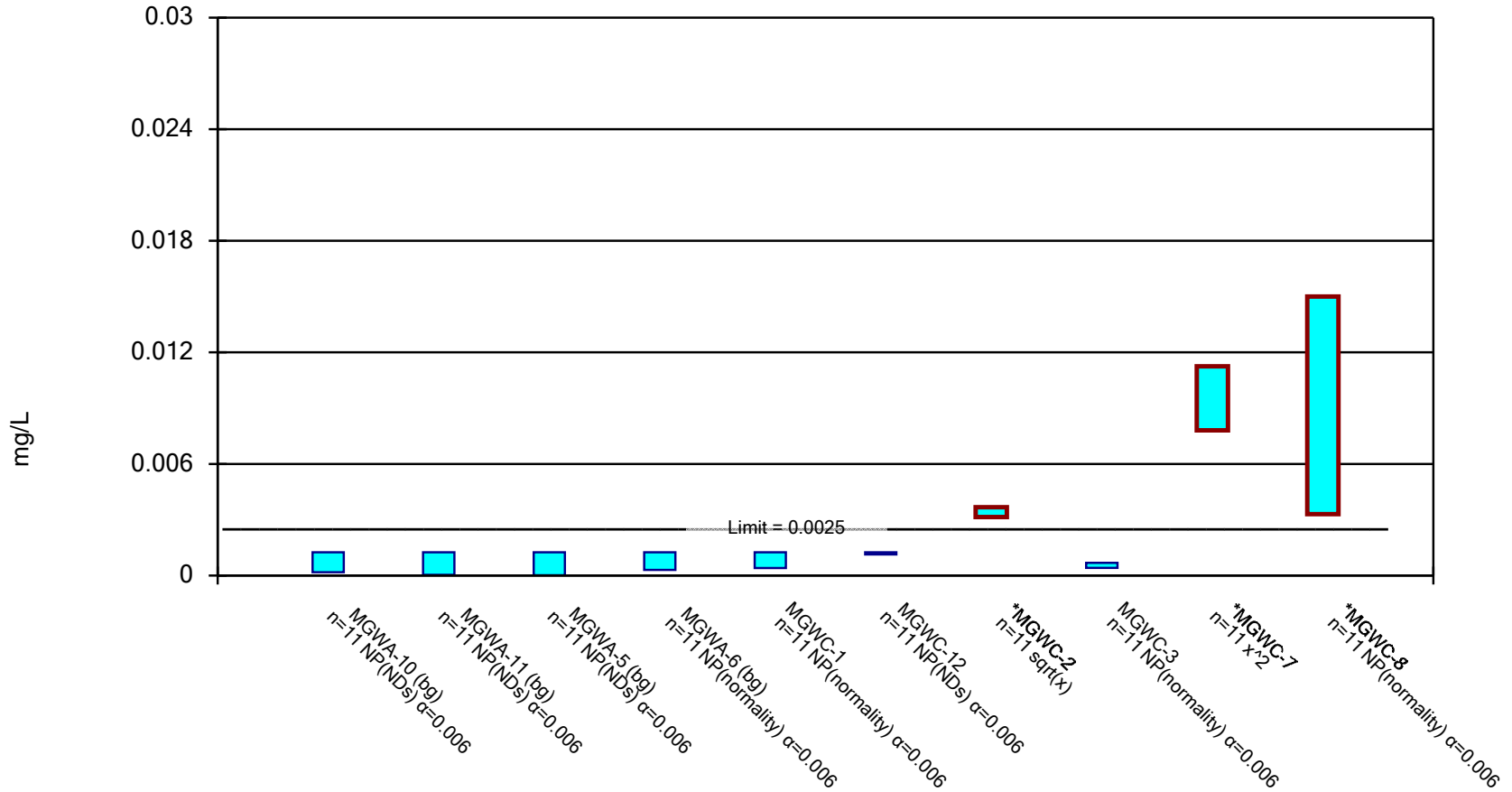
Compliance Limit is not exceeded.



Constituent: Chromium Analysis Run 1/22/2019 10:39 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

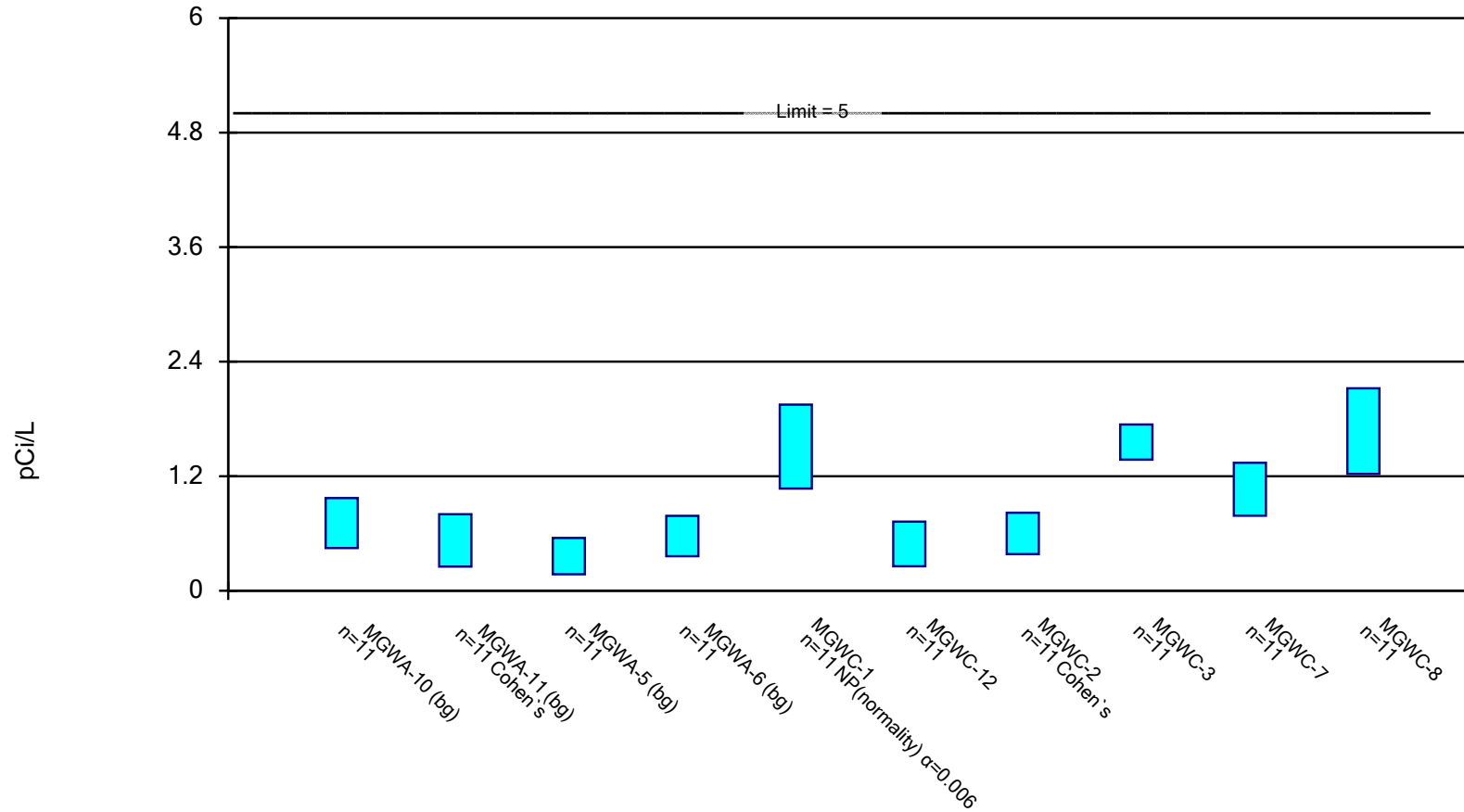


Constituent: Cobalt Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

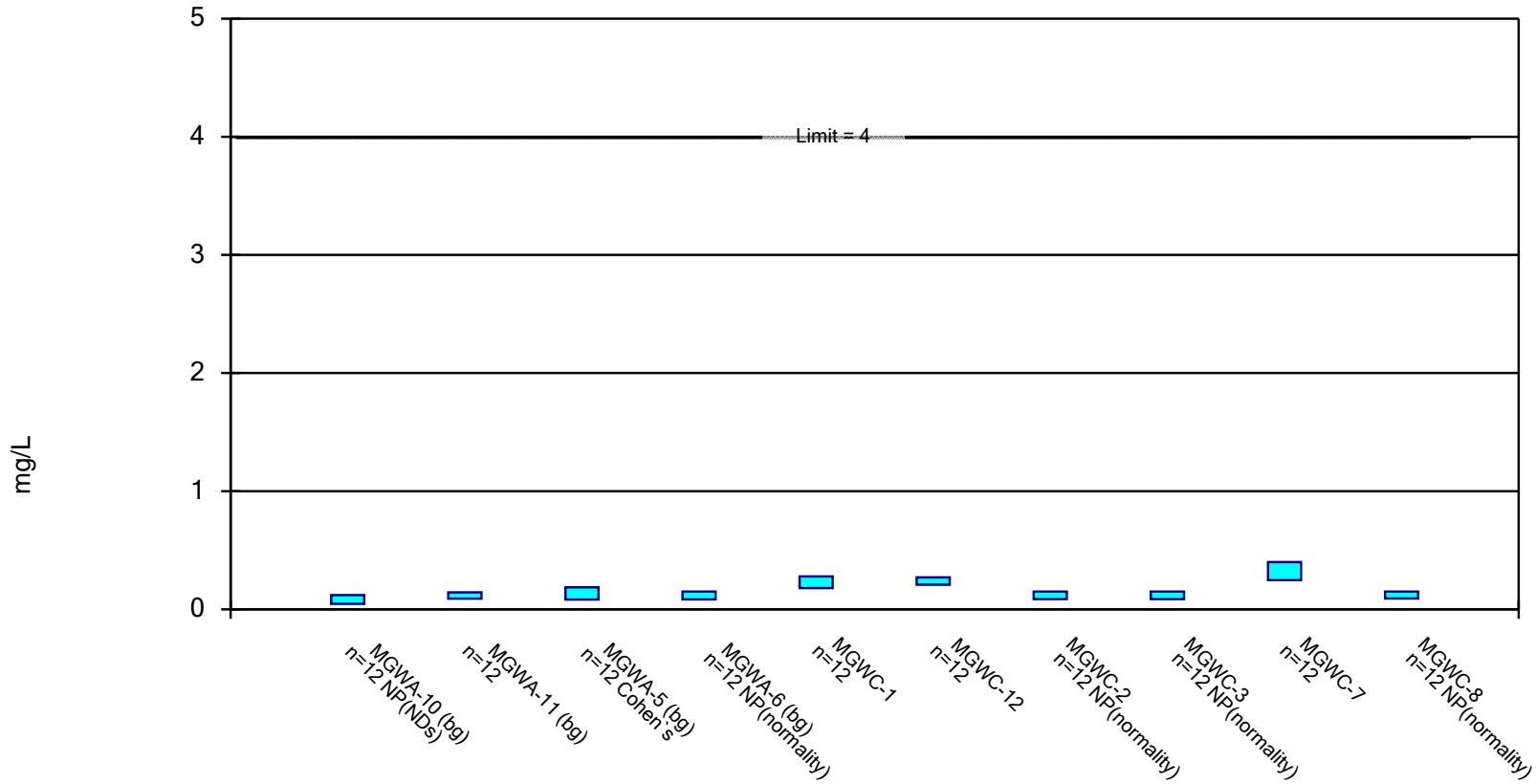


Constituent: Combined Radium 226 + 228 Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

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.

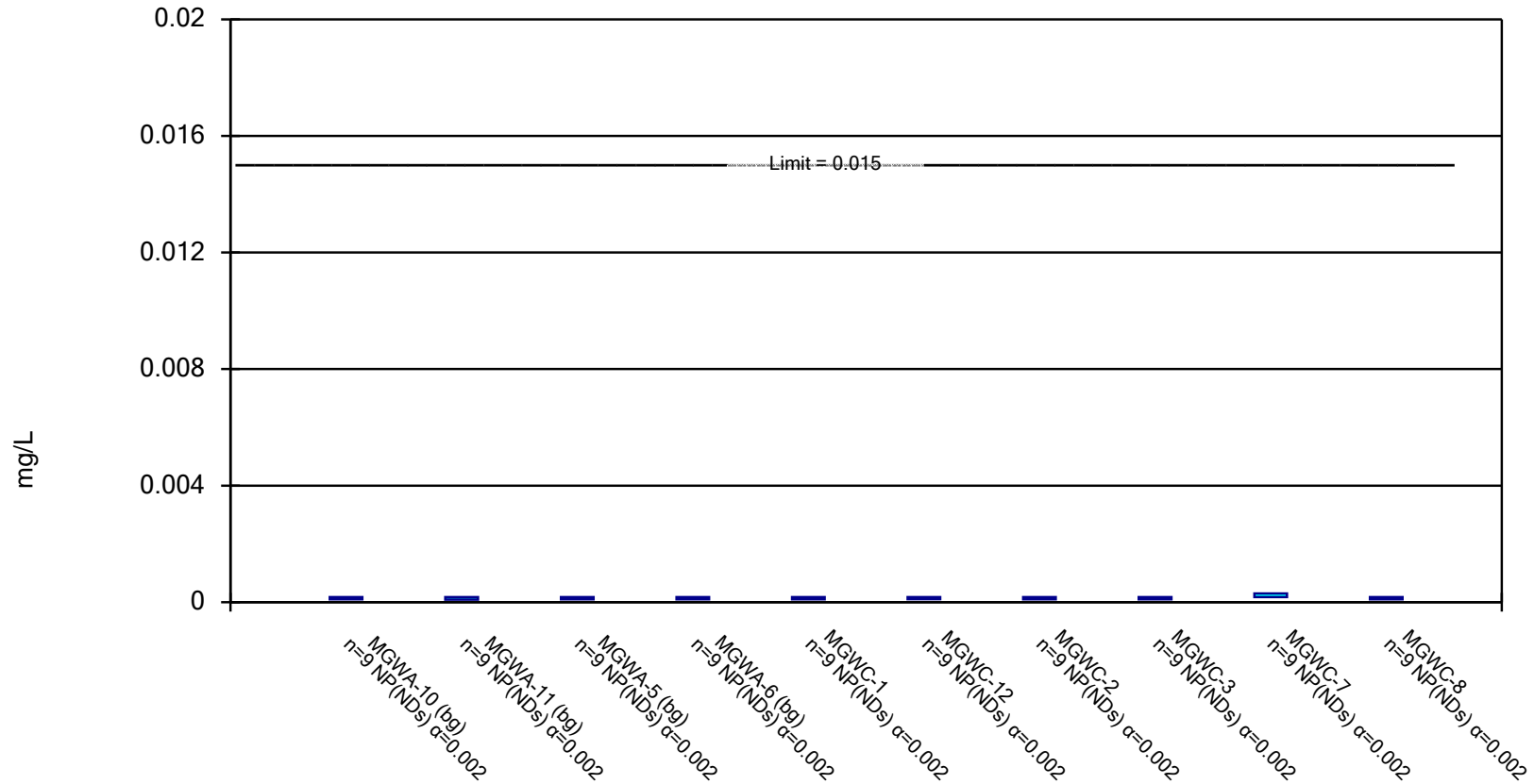


Constituent: Fluoride Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

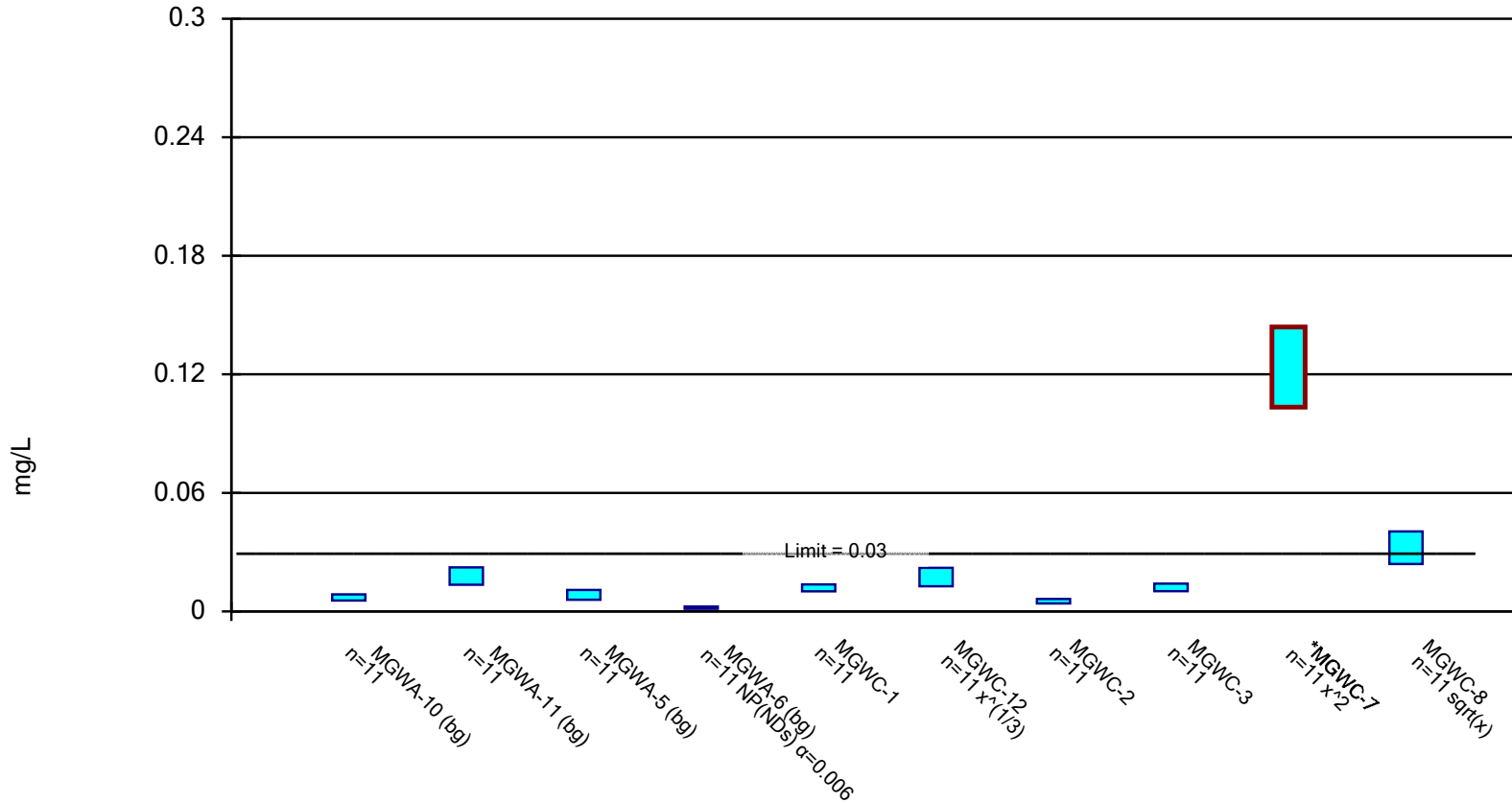
Compliance Limit is not exceeded.



Constituent: Lead Analysis Run 1/22/2019 10:39 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

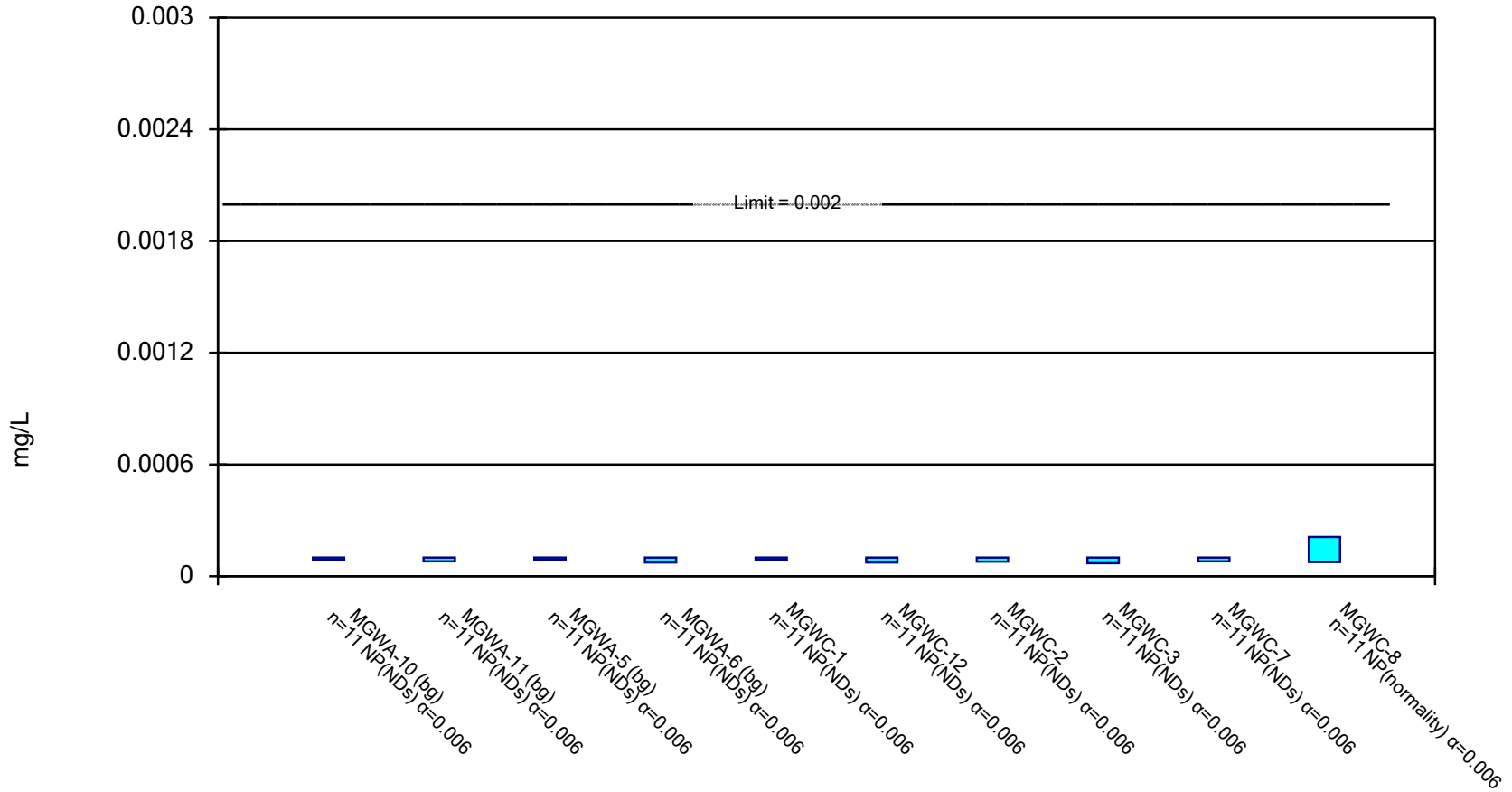
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 1/22/2019 10:39 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

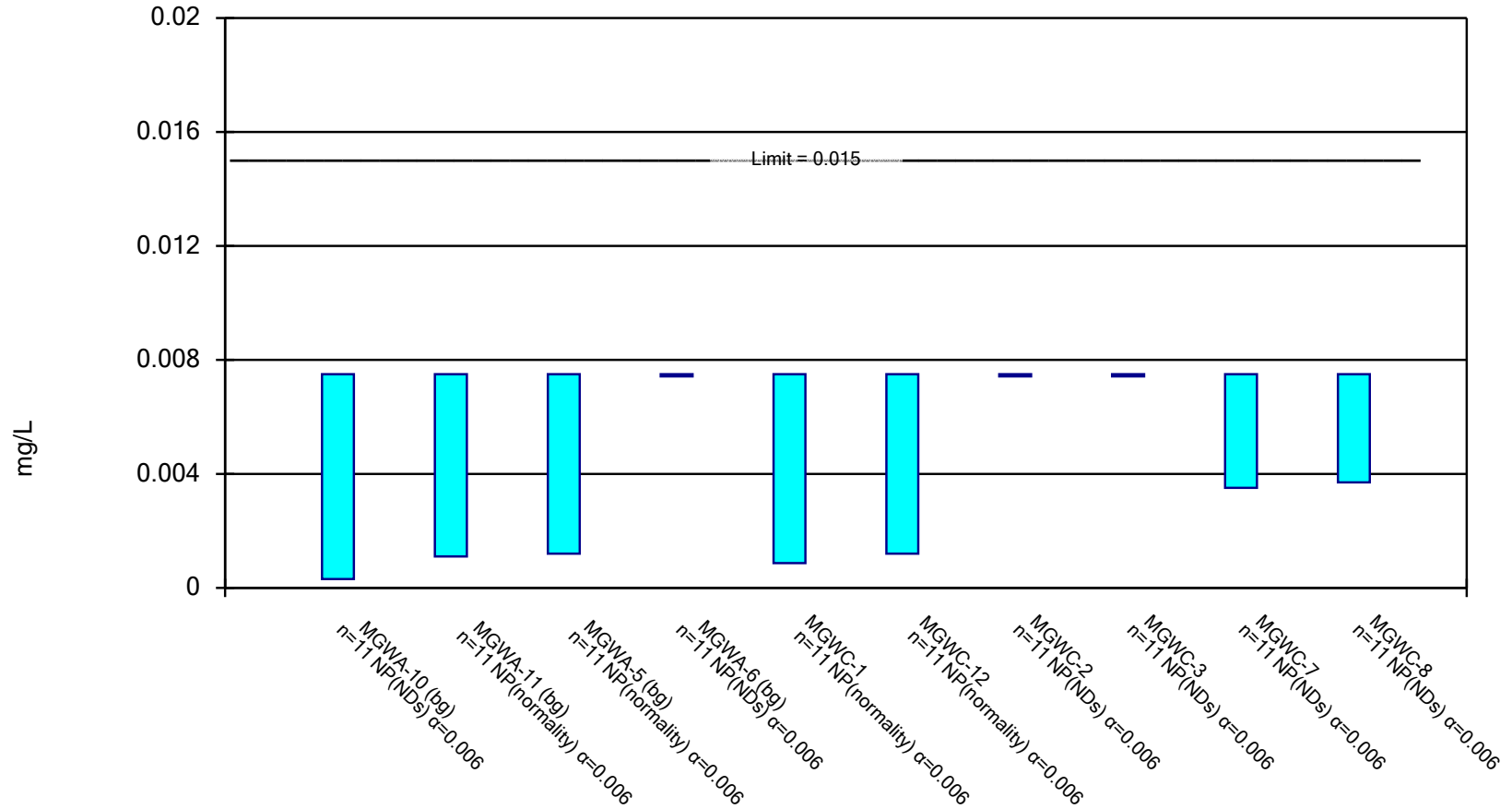


Constituent: Mercury Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

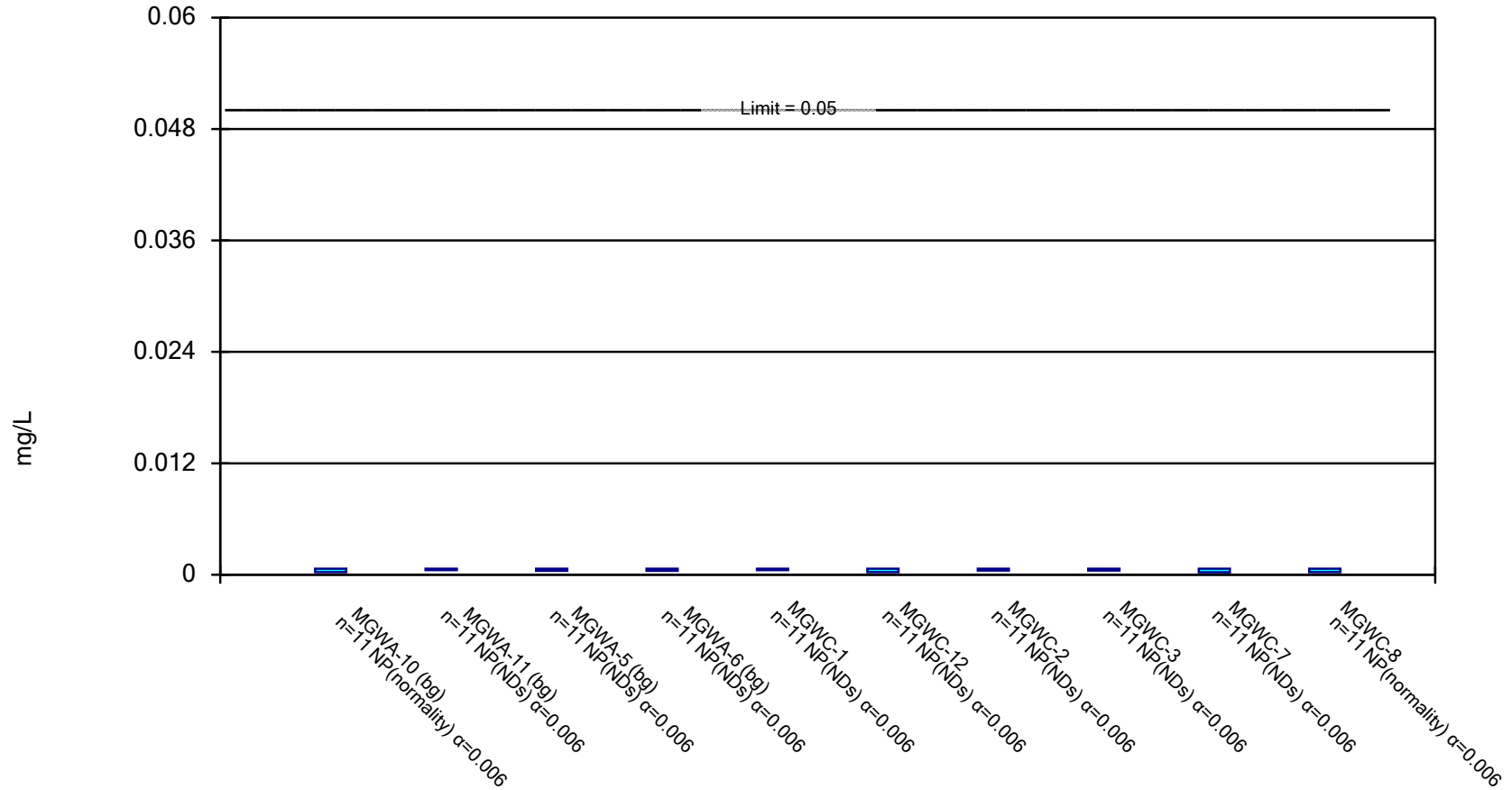
Compliance Limit is not exceeded.



Constituent: Molybdenum Analysis Run 1/22/2019 10:39 AM
Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

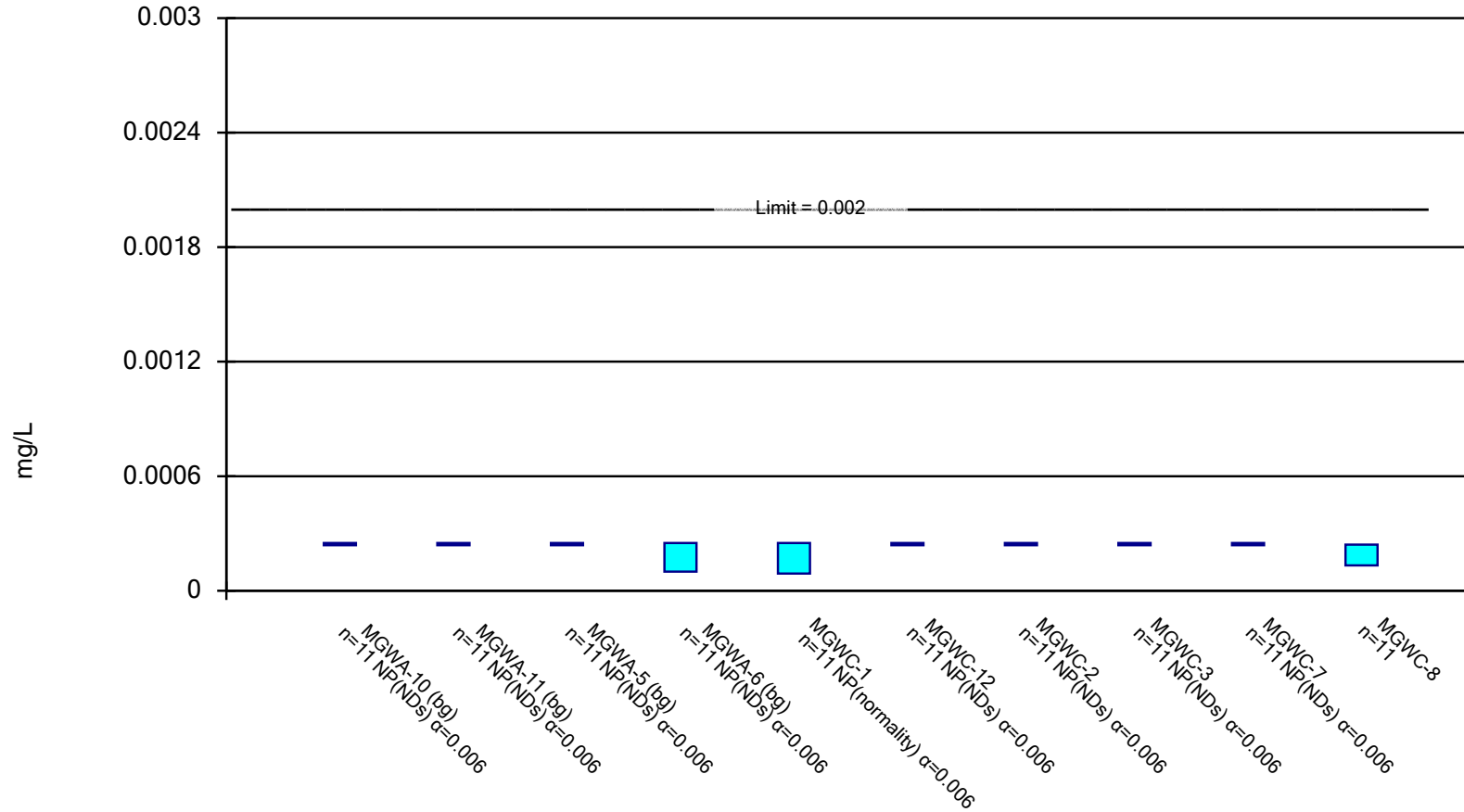


Constituent: Selenium Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 1/22/2019 10:39 AM

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:39 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	MGWA-10 (bg)	0.00112	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-11 (bg)	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-5 (bg)	0.0012	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWA-6 (bg)	0.0017	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-1	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-12	0.0005	0.0004	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-2	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-3	0.0005	0.0003	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-7	0.00197	0.0005	0.006	No	9	88.89	No	0.002	NP (NDs)
Antimony (mg/L)	MGWC-8	0.0005	0.0005	0.006	No	9	100	No	0.002	NP (NDs)
Arsenic (mg/L)	MGWA-10 (bg)	0.00095	0.00036	0.035	No	11	72.73	No	0.006	NP (normality)
Arsenic (mg/L)	MGWA-11 (bg)	0.002459	0.0008392	0.035	No	11	9.091	No	0.01	Param.
Arsenic (mg/L)	MGWA-5 (bg)	0.00065	0.00014	0.035	No	11	81.82	No	0.006	NP (NDs)
Arsenic (mg/L)	MGWA-6 (bg)	0.03117	0.01592	0.035	No	11	0	No	0.01	Param.
Arsenic (mg/L)	MGWC-1	0.003442	0.002284	0.035	No	11	0	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MGWC-12	0.001403	0.00059	0.035	No	11	9.091	No	0.01	Param.
Arsenic (mg/L)	MGWC-2	0.00065	0.00065	0.035	No	11	81.82	No	0.006	NP (NDs)
Arsenic (mg/L)	MGWC-3	0.001749	0.00129	0.035	No	11	0	x^2	0.01	Param.
Arsenic (mg/L)	MGWC-7	0.0012	0.0005	0.035	No	11	36.36	No	0.006	NP (Cohens/xfrm)
Arsenic (mg/L)	MGWC-8	0.00065	0.00059	0.035	No	11	90.91	No	0.006	NP (NDs)
Barium (mg/L)	MGWA-10 (bg)	0.03165	0.02318	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-11 (bg)	0.1132	0.08461	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-5 (bg)	0.03736	0.03236	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWA-6 (bg)	0.05522	0.0414	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-1	0.12	0.092	2	No	11	0	No	0.006	NP (normality)
Barium (mg/L)	MGWC-12	0.0595	0.04175	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-2	0.05831	0.04984	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-3	0.1556	0.1326	2	No	11	0	No	0.01	Param.
Barium (mg/L)	MGWC-7	0.0152	0.0098	2	No	11	0	No	0.006	NP (normality)
Barium (mg/L)	MGWC-8	0.03916	0.03393	2	No	11	0	No	0.01	Param.
Beryllium (mg/L)	MGWA-10 (bg)	0.00125	0.000033	0.004	No	11	90.91	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-1	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-12	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-2	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-3	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-7	0.00125	0.00125	0.004	No	11	100	No	0.006	NP (NDs)
Beryllium (mg/L)	MGWC-8	0.001238	0.0005	0.004	No	11	9.091	No	0.01	Param.
Cadmium (mg/L)	MGWA-10 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-11 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-5 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-1	0.00125	0.000126	0.005	No	11	81.82	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-12	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-2	0.004055	0.001082	0.005	No	11	0	sqrt(x)	0.01	Param.
Cadmium (mg/L)	MGWC-3	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-7	0.00125	0.00125	0.005	No	11	100	No	0.006	NP (NDs)
Cadmium (mg/L)	MGWC-8	0.00125	0.0003	0.005	No	11	45.45	No	0.006	NP (normality)

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Chromium (mg/L)	MGWA-10 (bg)	0.0039	0.00249	0.1	No	11	0	No	0.006	NP (normality)
Chromium (mg/L)	MGWA-11 (bg)	0.00125	0.00066	0.1	No	11	81.82	No	0.006	NP (NDs)
Chromium (mg/L)	MGWA-5 (bg)	0.00125	0.00024	0.1	No	11	81.82	No	0.006	NP (NDs)
Chromium (mg/L)	MGWA-6 (bg)	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-1	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-12	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-2	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-3	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-7	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Chromium (mg/L)	MGWC-8	0.00125	0.00125	0.1	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-10 (bg)	0.00125	0.00018	0.0025	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-11 (bg)	0.00125	0.000039	0.0025	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-5 (bg)	0.00125	0.000012	0.0025	No	11	90.91	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWA-6 (bg)	0.00125	0.0003	0.0025	No	11	36.36	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-1	0.00125	0.0004	0.0025	No	11	63.64	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-12	0.00125	0.00125	0.0025	No	11	100	No	0.006	NP (NDs)
Cobalt (mg/L)	MGWC-2	0.00367	0.003147	0.0025	Yes	11	0	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MGWC-3	0.00068	0.00041	0.0025	No	11	9.091	No	0.006	NP (normality)
Cobalt (mg/L)	MGWC-7	0.01125	0.007803	0.0025	Yes	11	0	x^2	0.01	Param.
Cobalt (mg/L)	MGWC-8	0.015	0.0033	0.0025	Yes	11	0	No	0.006	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWA-10 (bg)	0.9704	0.4474	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-11 (bg)	0.801	0.2532	5	No	11	18.18	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-5 (bg)	0.5524	0.1715	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWA-6 (bg)	0.7838	0.3616	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-1	1.95	1.07	5	No	11	0	No	0.006	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MGWC-12	0.7243	0.256	5	No	11	9.091	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-2	0.8168	0.3832	5	No	11	18.18	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-3	1.741	1.374	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-7	1.341	0.7853	5	No	11	0	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MGWC-8	2.121	1.224	5	No	11	0	No	0.01	Param.
Fluoride (mg/L)	MGWA-10 (bg)	0.12	0.046	4	No	12	83.33	No	0.01	NP (NDs)
Fluoride (mg/L)	MGWA-11 (bg)	0.1439	0.08997	4	No	12	8.333	No	0.01	Param.
Fluoride (mg/L)	MGWA-5 (bg)	0.1856	0.08318	4	No	12	25	No	0.01	Param.
Fluoride (mg/L)	MGWA-6 (bg)	0.15	0.084	4	No	12	50	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-1	0.2786	0.1797	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-12	0.2697	0.2086	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-2	0.15	0.087	4	No	12	58.33	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-3	0.15	0.086	4	No	12	50	No	0.01	NP (normality)
Fluoride (mg/L)	MGWC-7	0.4	0.2474	4	No	12	0	No	0.01	Param.
Fluoride (mg/L)	MGWC-8	0.15	0.091	4	No	12	25	No	0.01	NP (normality)
Lead (mg/L)	MGWA-10 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-11 (bg)	0.000175	0.000087	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-5 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWA-6 (bg)	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-1	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-12	0.000175	0.0001	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-2	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-3	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-7	0.0003	0.000175	0.015	No	9	88.89	No	0.002	NP (NDs)
Lead (mg/L)	MGWC-8	0.000175	0.000175	0.015	No	9	100	No	0.002	NP (NDs)

Confidence Interval

Plant McIntosh Client: GEI Data: McIntosh Ash Pond Export Printed 1/22/2019, 10:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Lithium (mg/L)	MGWA-10 (bg)	0.008588	0.005521	0.03	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWA-11 (bg)	0.02229	0.01352	0.03	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWA-5 (bg)	0.01084	0.005866	0.03	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWA-6 (bg)	0.0025	0.0025	0.03	No	11	100	No	0.006	NP (NDs)
Lithium (mg/L)	MGWC-1	0.01368	0.01015	0.03	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWC-12	0.02208	0.01274	0.03	No	11	0	x^(1/3)	0.01	Param.
Lithium (mg/L)	MGWC-2	0.006264	0.003991	0.03	No	11	9.091	No	0.01	Param.
Lithium (mg/L)	MGWC-3	0.01403	0.01026	0.03	No	11	0	No	0.01	Param.
Lithium (mg/L)	MGWC-7	0.144	0.1034	0.03	Yes	11	0	x^2	0.01	Param.
Lithium (mg/L)	MGWC-8	0.04044	0.02396	0.03	No	11	0	sqrt(x)	0.01	Param.
Mercury (mg/L)	MGWA-10 (bg)	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-11 (bg)	0.0001	0.00008	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-5 (bg)	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWA-6 (bg)	0.0001	0.000074	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-1	0.0001	0.0001	0.002	No	11	100	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-12	0.0001	0.000074	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-2	0.0001	0.000078	0.002	No	11	81.82	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-3	0.0001	0.00007	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-7	0.0001	0.00008	0.002	No	11	90.91	No	0.006	NP (NDs)
Mercury (mg/L)	MGWC-8	0.00021	0.000076	0.002	No	11	36.36	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-10 (bg)	0.0075	0.00031	0.015	No	11	81.82	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWA-11 (bg)	0.0075	0.0011	0.015	No	11	54.55	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-5 (bg)	0.0075	0.0012	0.015	No	11	63.64	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWA-6 (bg)	0.0075	0.0075	0.015	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-1	0.0075	0.00087	0.015	No	11	18.18	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWC-12	0.0075	0.0012	0.015	No	11	72.73	No	0.006	NP (normality)
Molybdenum (mg/L)	MGWC-2	0.0075	0.0075	0.015	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-3	0.0075	0.0075	0.015	No	11	100	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-7	0.0075	0.00351	0.015	No	11	90.91	No	0.006	NP (NDs)
Molybdenum (mg/L)	MGWC-8	0.0075	0.0037	0.015	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-10 (bg)	0.00065	0.00027	0.05	No	11	54.55	No	0.006	NP (normality)
Selenium (mg/L)	MGWA-11 (bg)	0.00065	0.00049	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-5 (bg)	0.00065	0.00065	0.05	No	11	100	No	0.006	NP (NDs)
Selenium (mg/L)	MGWA-6 (bg)	0.00065	0.00065	0.05	No	11	100	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-1	0.00065	0.0005	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-12	0.00065	0.00027	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-2	0.00065	0.00045	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-3	0.00065	0.00044	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-7	0.00065	0.000265	0.05	No	11	90.91	No	0.006	NP (NDs)
Selenium (mg/L)	MGWC-8	0.00065	0.00027	0.05	No	11	63.64	No	0.006	NP (normality)
Thallium (mg/L)	MGWA-10 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-11 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-5 (bg)	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWA-6 (bg)	0.00025	0.0001	0.002	No	11	90.91	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-1	0.00025	0.00009	0.002	No	11	72.73	No	0.006	NP (normality)
Thallium (mg/L)	MGWC-12	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-2	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-3	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-7	0.00025	0.00025	0.002	No	11	100	No	0.006	NP (NDs)
Thallium (mg/L)	MGWC-8	0.0002415	0.000133	0.002	No	11	9.091	No	0.01	Param.

Appendix C

Alternative Source Demonstration



Consulting
Engineers and
Scientists

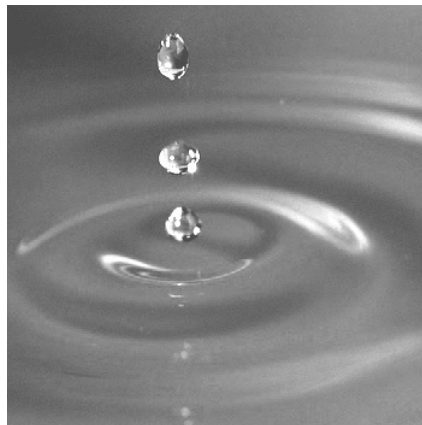
Georgia Power Company
Alternative Source Demonstration

Plant McIntosh Coal Combustion Residuals
Ash Pond 1

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January 14, 2019
Project 1800205



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2. Ash Pond 1 Potentiometric Surface Contour Map- October 2018
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Appendices

- A. Porewater Temporary Sample Point Construction Details
- B. Field Sampling, Laboratory Analytical Data, and Data Validation Reports

PROFESSIONAL ENGINEER CERTIFICATION

This Alternative Source Demonstration for Georgia Power Company – Plant McIntosh Ash Pond has been prepared in accordance with the United States Environmental Protection Agency (US EPA) coal combustion residual 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 under the supervision of a licensed professional engineer with GEI Consultants, Inc.



John M. Trast, P.E.
License No. PE41928



1. Introduction

This document presents an alternative source demonstration (ASD) for the statistically significant level (SSL) of Appendix IV groundwater monitoring parameters detected in groundwater monitoring wells MGWC-2, MGWC-7, and MGWC-8 at Georgia Power Company's (GPC's) Plant McIntosh Ash Pond 1 (AP-1). Cobalt and lithium were detected at SSLs during assessment monitoring conducted in 2018. No other SSLs were identified. Plant McIntosh (Site) and AP-1 are shown on **Figure 1 (Site Location Map - Plant McIntosh)**.

GEI prepared this ASD pursuant to United States Environmental Protection Agency, Coal Combustion Residual (CCR) Rule, 40 Code of Federal Regulations (CFR) Part 257 Subpart D (Federal CCR Rule) and Georgia Environmental Protection Division (EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a) (referred to as the Georgia CCR Rule) to demonstrate that a source other than the CCR unit caused the SSLs.

AP-1 is currently in assessment monitoring and complying with the requirements specified in 40 CFR §257.95. Two Assessment Monitoring events have been conducted at AP-1. Under 40 CFR §257.95(h) statistical analysis of Appendix IV data identified statistical exceedances of Groundwater Protection Standards (GWPS) for cobalt and lithium in one groundwater monitoring well. Lithium at MGWC-7 statistically exceeded the Federal CCR Rule GWPS of 0.040 milligrams per liter (mg/L) during the June 12-13, 2018 (Assessment 1 event) and October 9-10, 2018 (Assessment 2 event) monitoring events. Cobalt statistically exceeded the Federal CCR Rule GWPS of 0.006 mg/L during the October 9-10, 2018 monitoring event (Assessment 2 event).

Additionally, under the Georgia CCR Rule, statistical analysis of Appendix IV data identified statistical exceedances of GWPS for cobalt in three groundwater monitoring wells and lithium in one. Cobalt statistically exceeded the Georgia CCR Rule GWPS of 0.0025 mg/L in MGWC-2, MGWC-7, and MGWC-8 and lithium exceed the Georgia CCR Rule GWPS of 0.03 mg/L in MGWC-7 during the June 12-13, 2018 (Assessment 1 event) and October 9-10, 2018 (Assessment 2 event) monitoring events.

Within 90 days of determining an SSL during the Assessment 1 event, as required by the notification procedures outlined in 40 CFR §257.95(g), a Federal CCR Rule Groundwater Exceedance Notification for lithium was placed in the facility operating record on November 14, 2018. This notification also identified the Georgia CCR Rule groundwater exceedance for lithium and cobalt. Within 90 days of determining an SSL during the Assessment 2 event, as required by the notification procedures outlined in 40 CFR §257.95(g), a Federal CCR Rule Groundwater Exceedance Notification for cobalt will be placed in the facility operating record.

Available data and corresponding statistical assessment suggest that the natural variability of cobalt and lithium in groundwater at Plant McIntosh is the source of the SSLs and not AP-1.

Analysis of four (4) porewater samples collected directly from the north end of AP-1, situated within 300 feet of wells MGWC-7 and MGWC-8, demonstrated that:

1. cobalt was not detected in porewater samples collected from AP-1; and
2. lithium concentrations in the AP-1 porewater samples were similar to those detected in groundwater upgradient from AP-1.

Porewater chemistry is important in determining if the constituents detected in groundwater are derived from a CCR unit or result from natural variation in groundwater chemistry. AP-1 porewater sampling and analysis demonstrates that AP-1 is not the source of cobalt and lithium detected in wells located downgradient of the ash pond.

1.1 Site Location and Background

The plant property is located at 981 Old Augusta Central Road, in southeast Effingham County, Georgia, approximately 4 miles northeast of the city of Rincon, and 20 miles north-northwest of the City of Savannah. The plant property is situated on the west bank of the Savannah River at Big Kiffer Point (**Figure 1**). AP-1 is located on the eastern portion of the plant property, approximately 0.5 miles west of the Savannah River and approximately 0.75 miles south of Lockner Creek.

Plant McIntosh is an electric generating facility with one coal fired unit and eight simple cycle combustion turbine generators. CCR is stored on the facility property in AP-1. AP-1 was constructed in 1982 and is subdivided into four cells; three cells serve as storage and settling cells (Cells A, B, and C), and one cell is a clear pond (Cell D).

1.2 Geology, Hydrogeology, and Geochemistry

Rincon, Georgia is located within the Coastal Plain Province of Georgia. Coastal Plain sediments are composed of stratified clay, silt, and sand, resting on much older igneous and metamorphic basement rocks. These older, crystalline rocks dip to the south and east causing the overlying sediments to form a wedge-shaped deposit, which is thickest to the east and the south. The Coastal Plain deposits crop out at the land surface in bands, from the oldest to the most recent, from the fall line separating it from the Piedmont Region to the coast. Pleistocene-aged deposits are at the surface in this region.

AP-1 is situated on sediments that were deposited from the Cretaceous to Pleistocene period and consist of stratified marine deposits and materials alluvially transported from crystalline rock of the Piedmont Region. Boring logs describe soils at AP-1 as interbedded clay, silt, and sand typical of Coastal Plain sediments. These soils comprise the uppermost aquifer at Plant McIntosh and are referred to as the Surficial Aquifer at the site.

At AP-1, groundwater occurs at a depth of 20 to 25 feet below grade. Groundwater flows below AP-1 toward the east on the east side of the pond and semi-radially at the north end of the pond in an east, northeast, and north direction. The direction of groundwater flow is unaffected by pond surface water level and the semi-radial flow direction mimics the Site topography (**Figure 2 – Ash Pond 1 Potentiometric Surface Contour Map - October 2018**). The groundwater flow pattern is similar seasonally. Groundwater elevations range from 42-28 feet relative to the North American Vertical Datum 1988. The hydraulic gradient estimated for the site in the Surficial Aquifer ranged from 0.008 ft/ft to 0.011 ft/ft.

2. Alternative Source Demonstration

Based on review of site data, the weight-of-evidence suggests the SSLs for cobalt and lithium are the result of natural variability of groundwater due to soil heterogeneity and mineralogy characteristic of the geology in this regional setting. The lines of evidence outlined below support this conclusion:

1. Published research has documented soil heterogeneity and the presence of micaceous minerals and clays having part per million (ppm)-level cobalt and lithium concentrations in natural soil near the Site. These soil conditions were observed at Plant McIntosh and influence the spatial distribution and concentration of naturally occurring part per billion (ppb)-level concentrations of these trace elements in groundwater in the Surficial Aquifer at AP-1.
2. Laboratory analyses of porewater samples demonstrate that cobalt is not present at detectable concentrations in AP-1 porewater, and it is implausible that cobalt SSLs observed in downgradient monitoring wells are a result of cobalt migrating from AP-1 in groundwater.
3. Laboratory analyses of porewater samples demonstrate that upgradient groundwater and porewater samples collected from AP-1 have similar lithium concentrations indicating that AP-1 did not cause the SSL.

2.1 Natural Variability of Trace Elements

GEI completed a literature review to assess the potential variability of trace elements cobalt and lithium in natural Coastal Plain sediments deposited at Plant McIntosh. Several references ([Cocker,1998], [Cook, 1978], [Windom, 1989]) indicate that the weathering of mafic minerals (e.g. pyroxene, hornblende, biotite mica, and others) derived from metamorphic regimes containing alkali, alkaline earth, and transition metals in the Piedmont Region (pegmatite province) frequently produce ppm-level concentrations of trace metals including cobalt in the sediments of the Coastal Plain especially where sediment was transported and deposited away the Piedmont Region. The Hart-Elbert County Mica Mining Area of Georgia and South Carolina is transected by the Savannah River upstream from Plant McIntosh (Griffits and Olson, 1953) and contains many minerals comprising cobalt including micaceous minerals. Historic Savannah River flow transported these sediments in a southeast direction toward Effingham County and deposited these alluvial sediments in Coastal Plain deposits below Plant McIntosh. Micaceous minerals were observed in soils on-Site during inspection of soil cores obtained during well installations screened in the Surficial Aquifer at AP-1. U. S. Geological Survey data identified background cobalt concentrations ranging as high as 7.2 ppm in Coastal Plain soil samples collected from the soil C-horizon (deeper than 1 meter) near the Site (U.S. Geological Survey Report prepared by Smith et al., 2014). Micaceous and mafic minerals present in the Surficial

Aquifer at Plant McIntosh are contributors to the natural variability of cobalt concentrations detected in the groundwater samples collected from Plant McIntosh.

Clay minerals such as kyanite, kaolin, flint clay, and bauxite typically exhibit high concentrations of lithium due to frequent substitution for aluminum in the mineral's structure. The presence of naturally occurring lithium in Coastal Plain sediments in central Georgia is documented in a U.S. Department of the Interior Geological Survey Open File Report (Tourtelot, et al, 1977). A U.S. Geological Survey Report (Smith et al., 2014) identified lithium in soil samples collected from Coastal Plain soil near Plant McIntosh at concentrations between 18 and 21 ppm. Clay and silt-clay mixtures are documented in soil boring logs for monitoring wells installed around AP-1, and silt and clay were observed mixed with sand-rich soil collected from the screened interval of monitoring wells at AP-1. The variability in clay content between well locations likely also contributes to variability in lithium concentrations in groundwater at the Site. In addition to clays, lithium also serves as a substitute for aluminum in pegmatitic muscovite mica deposits (Gunow, 1989), which outcrop in the Savannah River upstream of Plant McIntosh (Albright et al., 2004, Bonomo, 2009). Muscovite mica was also observed in soil during inspection of soil cores obtained during well installations screened in the Surficial Aquifer at AP-1.

Based on the information reviewed, it is concluded that natural sources of mafic minerals and clays containing variable concentrations of cobalt and lithium exist near Plant McIntosh. The presence of micaceous minerals and clays containing these trace elements at ppm-level concentrations cause concentration variability of these trace elements at ppb-levels in groundwater, including well locations MGWC-2, MGWC-7, and MGWC-8 at Plant McIntosh.

2.2 Direct Sampling Methods

Porewater samples were collected from temporary monitoring points installed at the north end of AP-1 on December 4 and 5, 2018. Two monitoring points were installed in Cell A (PW-1S and PW-1D) and two temporary monitoring points installed in Cell B (PW-2S and PW-2D) where CCR was present above the surface water level of the pond allowing access with a marsh drill rig. The monitoring point locations coincided with the greatest accumulation of CCR deposited in the AP-1. The position of the installed monitor screens in the ash pond characterized porewater quality in the upper 10 feet (S – designation) and lower 10 feet (D – designation) of ash. This monitoring strategy accounts for potential differences in CCR chemistry both vertically and spatially between AP-1 cells having CCR accumulation. Locations of temporary monitoring points are shown on **Figure 2**, and monitoring point installation details are included in **Appendix A**. Porewater samples were collected from these locations on December 5 and 6, 2018 using low-flow sampling methods. Each of the four porewater samples was analyzed for:

- Appendix IV Trace Elements: *cobalt and lithium*
- Major Cations/Major Anions: *calcium, magnesium, sodium, potassium, carbonate/bicarbonate alkalinity, chloride, and sulfate*

Groundwater samples were also collected from upgradient well MGWA-11 and downgradient well MGWC-7 during the same event and analyzed for the same parameters above for comparison.

2.3 Flow Path Verification

As described in Section 1.2, groundwater flow beneath AP-1 is controlled by site topography with flow toward the east and northeast directions and radially to the north at north end of the pond. The potentiometric surface depicting groundwater flow direction is shown on **Figure 2**.

Groundwater chemistry was used to provide a second line of evidence to verify the groundwater flow direction beneath the north end of AP-1 toward monitoring well MGWC-7. **Figure 3** presents a Trilinear Piper Plot of major cation/anion chemistry for background groundwater (MGWA-11), AP-1 porewater (PW-1S and -1D, PW-2S and -2D), and downgradient well MGWC-7. The Trilinear Piper Plot was used to create a geochemical fingerprint of each sample. As shown on **Figure 3**, shallow and deep pore water samples (PW-1S and PW1-D) collected from Cell A of AP-1 occur along an inferred Piper Plot mixing line between the upgradient groundwater sample MGWA-11 and downgradient groundwater sample MGWC-7 which serve as “end members” on the Piper Plot. The geochemical data plotted on **Figure 3** confirmed the groundwater flow path from AP-1 to well MGWC-7; therefore, the data confirm the ability of the well to detect constituents in AP-1 porewater that could migrate from the pond.

2.4 Detected Constituents in Porewater

Table 1 summarizes the December 2018 groundwater laboratory analytical and porewater sample analyses results. Laboratory data are provided in **Appendix B**.

As described in Section 2.3, groundwater flows from an upgradient direction of AP-1 (represented by well MGWA-11) beneath the pond toward well MGWC-7. **Table 1** indicates that cobalt was not detected in groundwater collected from upgradient sample MGWA-11. Cobalt was also not detected in porewater samples collected from AP-1. Since groundwater upgradient of the pond was confirmed to flow toward well MGWC-7, and cobalt was not detected in porewater at AP-1 (the presumed source), it can be concluded that cobalt detected in well MGWC-7 did not migrate from AP-1 and that AP-1 was not the source of the SSL for cobalt.

Similarly, as shown on **Figure 2**, groundwater upgradient of the pond flows under AP-1 toward MGWC-2 and MGWC-8. Since cobalt was not detected in porewater samples collected from AP-1, it can be concluded that cobalt detected in wells MGWC-2 and MGWC-8 did not migrate from AP-1. Therefore, AP-1 was not the source of the SSL for cobalt in MGWC-2 or MGWC-8.

Lithium was detected in the upgradient sample MGWA-11 at a concentration of 0.017 milligram per liter (mg/L). Lithium was also detected in porewater samples at concentrations between 0.019 and 0.056 mg/L. The lithium concentration detected in the December 2018 downgradient well MGWC-7 was 0.14 mg/L, which is substantially higher (2.5 times higher) than the lithium concentrations detected in AP-1 porewater. It is not possible for lower lithium concentrations in

AP-1 porewater to produce the higher lithium concentrations detected in well MGWC-7. This is especially true if the constituent transport processes, such as adsorption and dilution are considered which would naturally attenuate trace elements migrating in groundwater and lower the constituent concentrations outside the source area. Differences in soil mineralogy and geologic heterogeneity likely caused the variable low ppb-level concentrations of lithium observed in MWC-7.

3. Conclusion

Based on the information presented in this ASD, AP-1 is not the source of the SSL for cobalt and lithium in well MGWC-2, MGWC -7, MGWC-8. The conclusion is based on the following:

1. Soils in the Surficial Aquifer at AP-1 are heterogeneous, containing variable percentages of alluvial-derived sand and silt and clay. Research indicates that mineralogy of sediments influence trace element concentrations in groundwater. Part per billion-level variability in trace element concentrations of cobalt and lithium in groundwater likely reflect the variable naturally occurring cobalt and lithium concentrations in soil in the Surficial Aquifer at AP-1.
2. Laboratory analysis of porewater samples collected from AP-1 did not detect cobalt. Since cobalt is not present at detectable concentrations in AP-1 porewater, it is implausible that detections of cobalt in MGWC-2, MGWC-7, and MGWC-8 migrated in groundwater from the ash pond.
3. Laboratory analysis of background groundwater and porewater samples collected from AP-1 have similar lithium concentrations. Groundwater flow from AP-1 toward well MGWC-7 was confirmed using groundwater elevation and geochemical data. Since background groundwater and ash pond porewater have lower lithium concentrations than downgradient well MGWC-7, and groundwater flows from AP-1 toward well MGWC-7, where higher concentrations were detected, lithium migration from AP-1 is not the cause of the SSL.

It is concluded that the SSLs for cobalt in monitoring wells MGWC-2, MGWC-7, and MGWC-8 and lithium in well MGWC-7 are attributed to natural groundwater variability due to soil heterogeneity and mineralogy containing these naturally-occurring trace elements. Small ppb-level differences in cobalt and lithium concentrations in groundwater would be expected in the geologic setting near Plant McIntosh and the Savannah River having been influenced by Piedmont Region erosion and sediment transport and deposition.

In accordance with the Federal and Georgia CCR Rules, this report serves as Plant McIntosh's demonstration that AP-1 is not the source of SSLs of cobalt and lithium. GPC will continue assessment monitoring at AP-1 in accordance with 40 CFR §257.95.

4. References

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Bonomo, Michael F., 2011. Trace Element Geochemical Characterization of Southeastern Pegmatitic Muscovite and Resultant Implications for the Provenance of Archaeological Mica, MS Thesis, The University of Georgia, 2011.

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Table

Table 1. Analytical Data Summary - Groundwater and AP-1 Porewater
Alternative Source Demonstration - January 2019
Georgia Power Company
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Location Name			MGWC-1		MGWC-2	MGWC-3	MGWA-5	MGWA-6	MGWC-7		MGWC-8	MGWA-10	MGWA-11	MGWC-12	MGWC-19	MGWC-20	MGWC-21	MGWC-22	MGWC-23	PW-1S	PW-1D	PW-2S	PW-2D	
Sample Date			12/6/2018	Dec-DUP	12/6/2018	12/6/2018	12/4/2018	12/5/2018	12/5/2018	Dec-DUP	12/5/2018	12/5/2018	12/5/2018	12/5/2018	12/5/2018	12/5/2018	12/6/2018	12/5/2018	12/6/2018	12/6/2018	12/5/2018	12/5/2018	12/6/2018	12/6/2018
Analyte	Units	CAS No.	Porewater																					
Field Parameters																								
Specific Conductivity	mV	COND	706.1		768.6	521.4	229.1	472.6	447.7		794.9	59.3	223.5	283.1	420.3	528.5	236.9	250.2	460.0	833.1	473.7	1706.1	6182.4	
DO	mg/L	DO	2.03		0.20	0.19	0.40	0.16	0.14		0.24	1.84	0.26	0.46	0.18	0.19	0.44	0.13	7.75	0.73	0.25	1.44	0.16	
ORP	µS/cm	ORP	-21.8		10.4	27.8	-87.6	47.8	53.9		143.6	134.2	-114	-79.3	-129.9	-8.9	-7.1	9.8	35.6	50.7	30.1	15.5	-151.8	
pH	SU	pH	6.76		7.28	6.56	7.26	6.81	6.02		5.11	5.44	7.43	6.73	7.55	6.52	7.64	8.15	8.22	8.06	9.60	11.51	11.76	
Temperature	°Celsius	TEMP	18.99		18.08	16.03	19.05	19.08	19.99		18.61	17.99	18.79	17.34	19.72	19.81	17.57	18.07	17.36	22.65	21.00	19.55	20.66	
Turbidity	NTU	TURB	4.50		2.12	1.31	0.91	0.78	1.15		0.48	0.89	0.92	2.40	1.05	1.70	4.62	3.56	4.88	2.02	8.49	3.05	1.18	
Appendix III Parameters																								
Calcium	mg/L	7440-70-2	--	--	--	--	--	--	49	49	--	--	28	--	--	--	--	--	--	100	60	73	69	
Chloride	mg/L	16887-00-6	--	--	--	--	--	--	11	11	--	--	4.1	--	--	--	--	--	--	8.9	7.2	7.0	9.6	
pH	SU	pH	6.76		7.28	6.56	7.26	6.81	6.02		5.11	5.44	7.43	6.73	7.55	6.52	7.64	8.15	8.22	8.06	9.60	11.51	11.76	
Sulfate	mg/L	14808-79-8	--	--	--	--	--	--	190	190	--	--	1.2	--	--	--	--	--	--	300	180	210	1600	
Appendix IV Parameters																								
Cobalt	mg/L	7440-48-4	< 0.00040	< 0.00040	0.0031	0.00058 J	< 0.00040	0.00046 J	0.012	0.011	0.020	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	< 0.00040	
Lithium	mg/L	7439-93-2	0.010	0.0091	0.0066	0.015	0.011	0.0012 J	0.14	0.14	0.043	0.010 J	0.017	0.026	0.0029 J	0.0053	0.0051	0.014	0.0066	0.056	0.019	0.0029 J	0.037	
Additional Cations/Anions																								
Alkalinity	mg/L	ALK	--	--	--	--	--	--	25	30	--	--	130	--	--	--	--	--	--	190	90	250	470	
Bicarbonate alkalinity as CaCO3	mg/L	HCO3	--	--	--	--	--	--	25	30	--	--	130	--	--	--	--	--	--	2.1	17	<0.98	<0.98	
Carbonate Alkalinity as CaCO3	mg/L	CO3	--	--	--	--	--	--	< 0.98	< 0.98	--	--	< 0.98	--	--	--	--	--	--	190	72	120	220	
Magnesium	mg/L	7439-95-4	--	--	--	--	--	--	4.7	4.9	--	--	9.5	--	--	--	--	--	--	13	2.2	0.29	<0.032	
Potassium	mg/L	7440-09-7	--	--	--	--	--	--	5.5	5.4	--	--	1.6	--	--	--	--	--	--	16	8.4	32	180	
Sodium	mg/L	7440-23-5	--	--	--	--	--	--	37	36	--	--	6.7	--	--	--	--	--	--	76	43	96	820	

General Notes:

CAS No. - Chemical Abstracts Service Registry Number

Bolded - detected value

-- - not analyzed for this constituent

µS/cm - microsiemens per centimeter

mg/L - milligrams per liter

mV - millivolts

ntu - nephelometric turbidity units

s.u.- Standard Units

Validator Qualifiers:

< - The analyte was not detected at a concentration above the specified laboratory reporting limit.


J - The result is an estimated value.

Figures

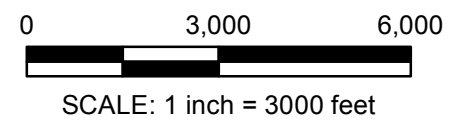


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

 Plant McIntosh Approximate Property Boundary

Aerial Photograph:
7/22/2017 by DigitalGlobe



Alternative Source Demonstration
Plant McIntosh Ash Pond 1
Effingham County, Georgia

Georgia Power Company
Atlanta, Georgia

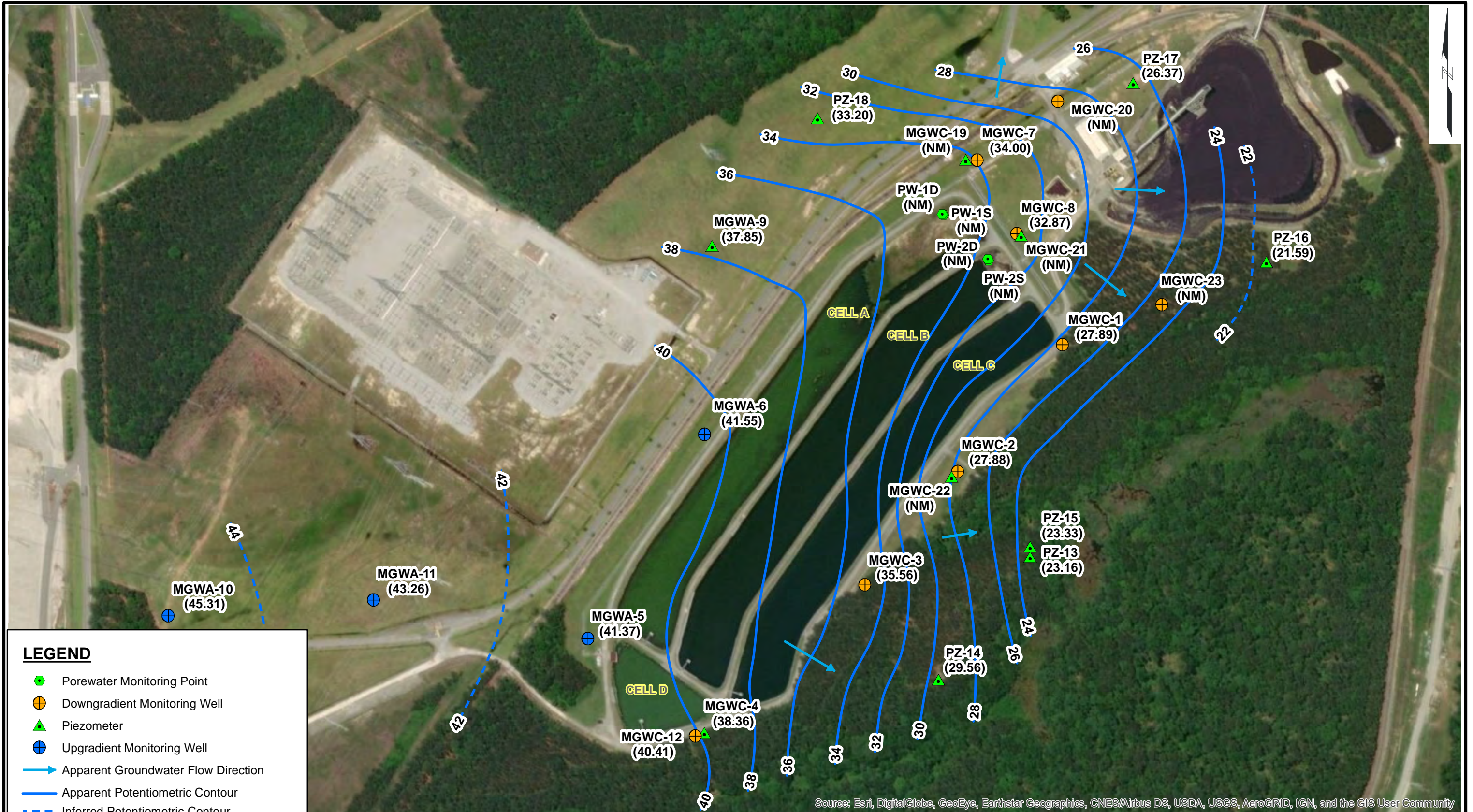


**PLANT MCINTOSH
SITE LOCATION MAP**

Project No. 1800205

Prepared January 2019

Fig. 1



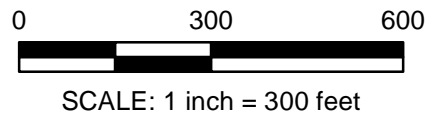
LEGEND

- ◆ Porewater Monitoring Point
- ⊕ Downgradient Monitoring Well
- ▲ Piezometer
- ⊕ Upgradient Monitoring Well
- Apparent Groundwater Flow Direction
- Apparent Potentiometric Contour
- - - Inferred Potentiometric Contour


(27.89) = Groundwater elevations measured in feet relative to NAVD88 on 10/09/18
 (NM) = Not Measured

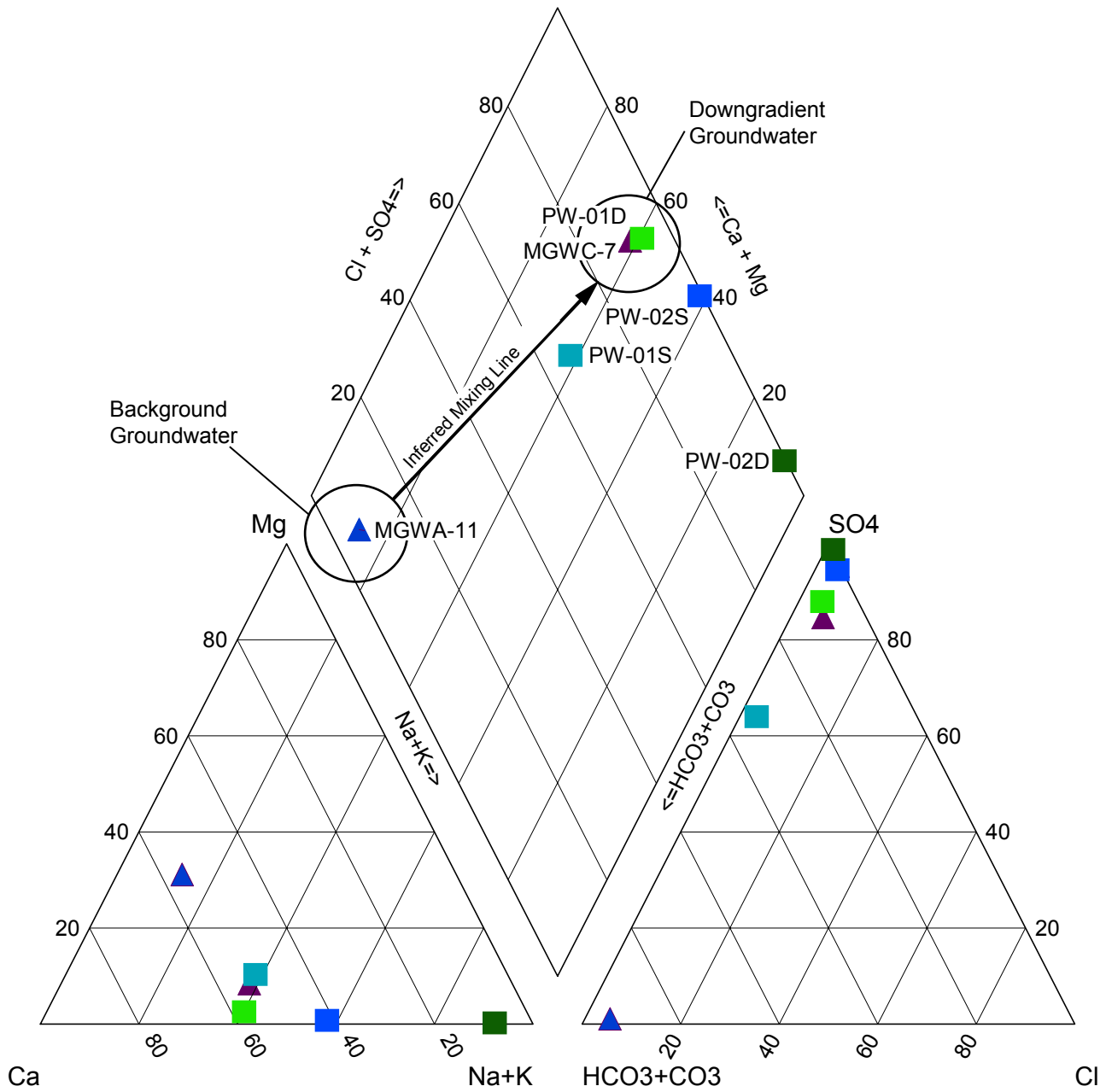
NOTE:

1. MGWC-19, MGWC-20, MGWC-21, MGWC-22, MGWC-23, PW-1S, PW-1D, PW-2S, and PW-2D were installed and/or developed after 10/09/18 and were not used in contouring



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Alternative Source Demonstration Plant McIntosh Ash Pond 1 Effingham County, Georgia		ASH POND 1 POTENTIOMETRIC SURFACE CONTOUR MAP OCTOBER 2018
Georgia Power Company Atlanta, Georgia	Project No. 1800205	Prepared January 2019 Fig. 2



LEGEND

Groundwater Sampling Locations

- ▲ MGWA-11
- ▲ MGWC-7

Ash Pond 1 Porewater Sampling Locations

- PW-01S
- PW-01D
- PW-02S
- PW-02D

Alternative Source Demonstration
Plant McIntosh – Ash Pond 1
Effingham County, Georgia

Georgia Power Company
Atlanta, Georgia



PIPER TRILINEAR DIAGRAM

Project No. 1800205

Prepared January 2019 Fig. 3

Appendix A

Porewater Well Completion Details

Temporary Well Installation Log

PW-1S

Project Plant McIntosh
City / Town Effingham County, GA
Client Georgia Power Company (Rep on site: Shawn Milam)
Contractor Universal Drilling
Driller David S. **GEI Rep.** Lauren Coker

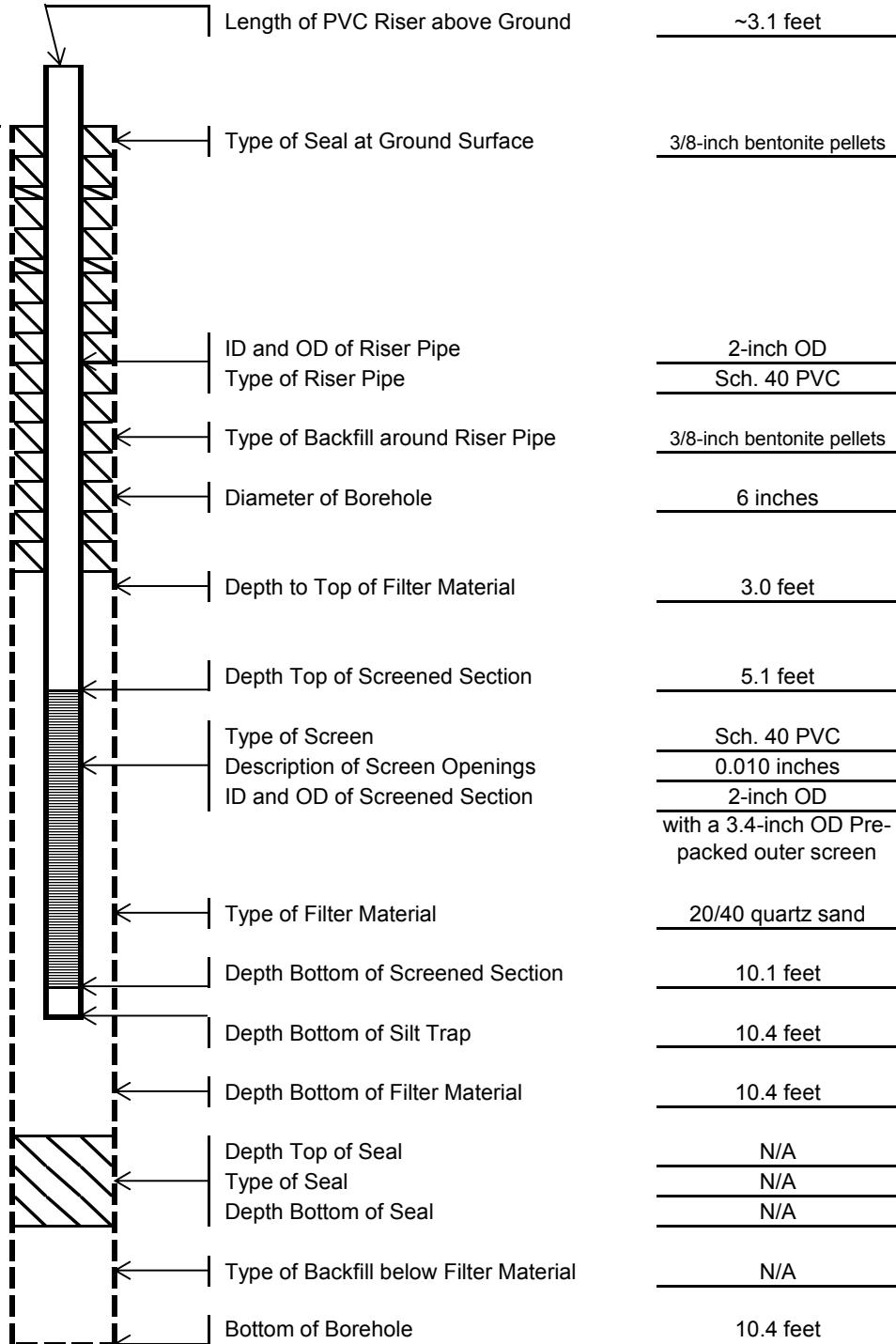
GEI Proj. No. 1800205
Location Ash Pond 1, Pond A
Install Date 12/4/2018

Ground Surface

Date	12/4/2018	12/5/2018
Time	15:45	13:30
Distance to ▼ below top of casing	4.75 feet	5.95 feet

General Soil Conditions (Not to Scale)

Fly Ash from ground surface to 10.4 ft bgs.



Notes:

All depths are measured below ground surface (bgs).
Installed adjacent to PW-1D



Temporary Well Installation Log

PW-1D

Project Plant McIntosh
City / Town Effingham County, GA
Client Georgia Power Company (Rep on site: Shawn Milam)
Contractor Universal Drilling
Driller David S. **GEI Rep.** Lauren Coker

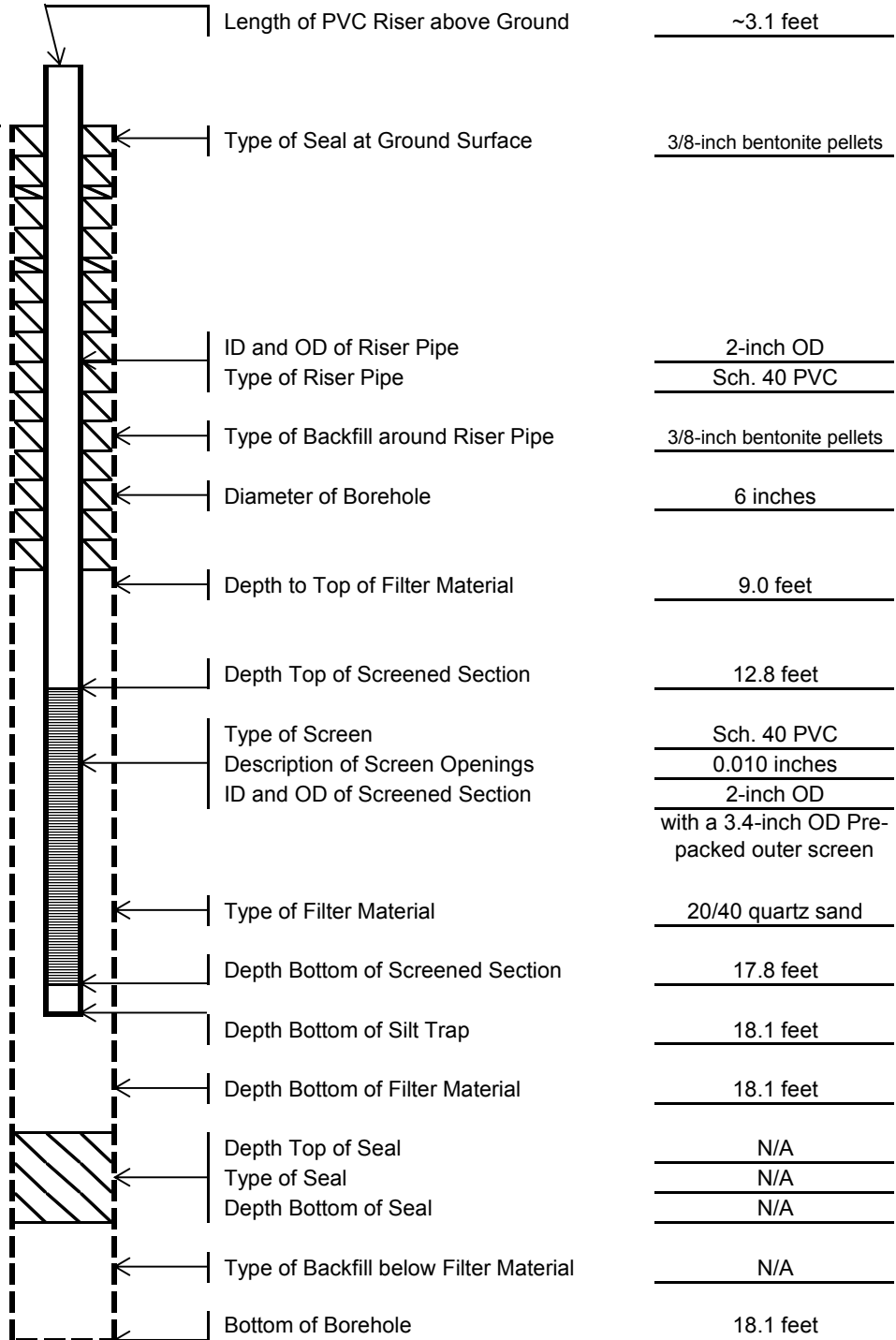
GEI Proj. No. 1800205
Location Ash Pond 1, Pond A
Install Date 12/4/2018

Ground Surface

Date	12/4/2018	12/5/2018
Time	14:58	14:30
Distance to ▾ below top of casing	4.30 feet	8.30 feet

General Soil Conditions (Not to Scale)

Fly Ash from ground surface to 17.8 ft bgs. Clay observed from 17.8 ft to 18.1 ft.



Notes:

All depths are measured below ground surface (bgs).
Installed adjacent to PW-1S



Temporary Well Installation Log

PW-2S

Project Plant McIntosh
City / Town Effingham County, GA
Client Georgia Power Company (Rep on site: Shawn Milam)
Contractor Universal Drilling
Driller David S. **GEI Rep.** Lauren Coker

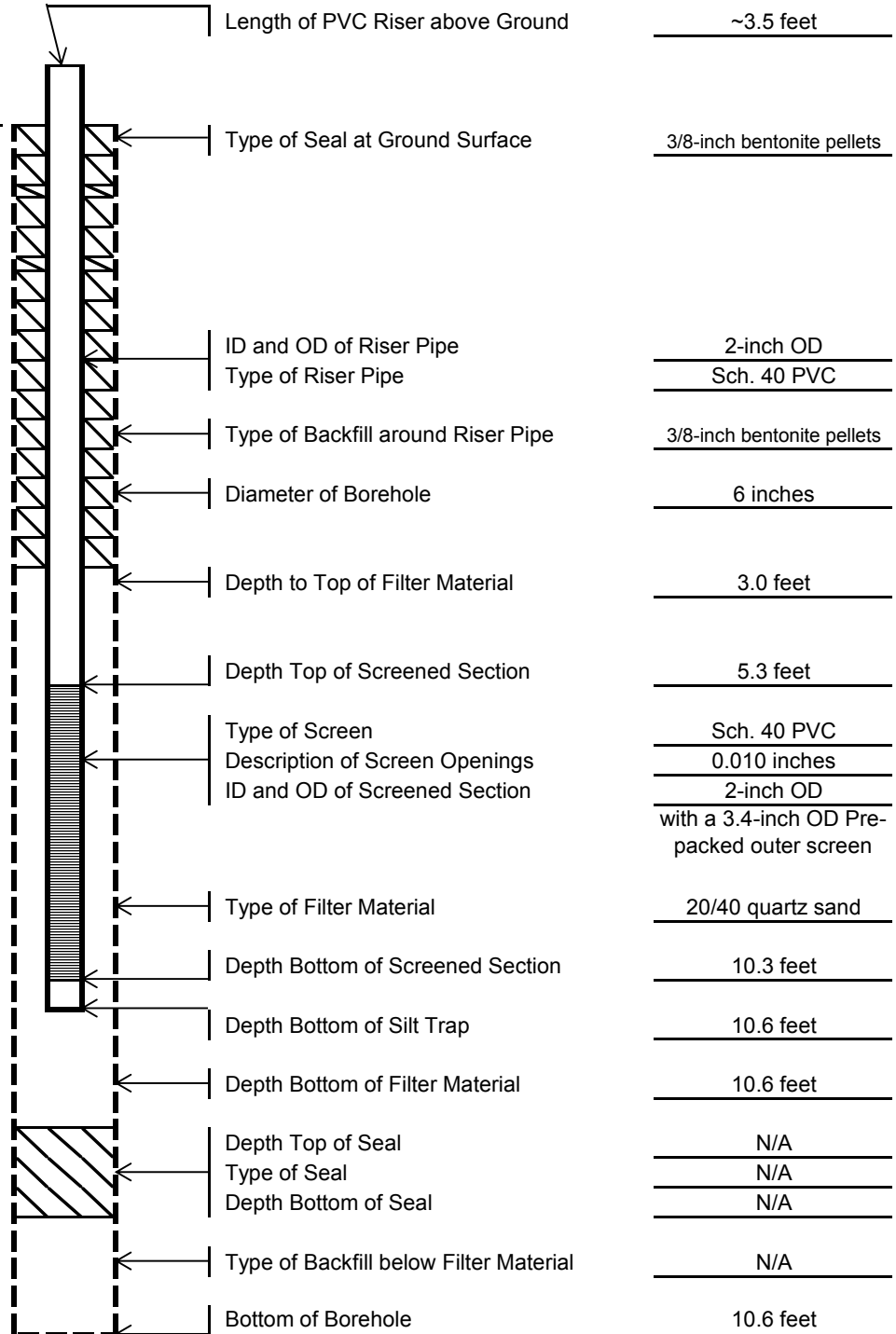
GEI Proj. No. 1800205
Location Ash Pond 1, Pond B
Install Date 12/5/2018

Ground Surface

Date	12/6/2018
Time	11:20
Distance to ▾ below top of casing	4.20 feet

General Soil Conditions (Not to Scale)

Fly Ash from ground surface to 10.6 ft bgs.



Length of PVC Riser above Ground	~3.5 feet
Type of Seal at Ground Surface	3/8-inch bentonite pellets
ID and OD of Riser Pipe	2-inch OD
Type of Riser Pipe	Sch. 40 PVC
Type of Backfill around Riser Pipe	3/8-inch bentonite pellets
Diameter of Borehole	6 inches
Depth to Top of Filter Material	3.0 feet
Depth Top of Screened Section	5.3 feet
Type of Screen	Sch. 40 PVC
Description of Screen Openings	0.010 inches
ID and OD of Screened Section	2-inch OD with a 3.4-inch OD Pre-packed outer screen
Type of Filter Material	20/40 quartz sand
Depth Bottom of Screened Section	10.3 feet
Depth Bottom of Silt Trap	10.6 feet
Depth Bottom of Filter Material	10.6 feet
Depth Top of Seal	N/A
Type of Seal	N/A
Depth Bottom of Seal	N/A
Type of Backfill below Filter Material	N/A
Bottom of Borehole	10.6 feet

Notes:

All depths are measured below ground surface (bgs).
 Installed adjacent to PW-2D



Temporary Well Installation Log

PW-2D

Project Plant McIntosh
City / Town Effingham County, GA
Client Georgia Power Company (Rep on site: Shawn Milam)
Contractor Universal Drilling
Driller David S. **GEI Rep.** Lauren Coker

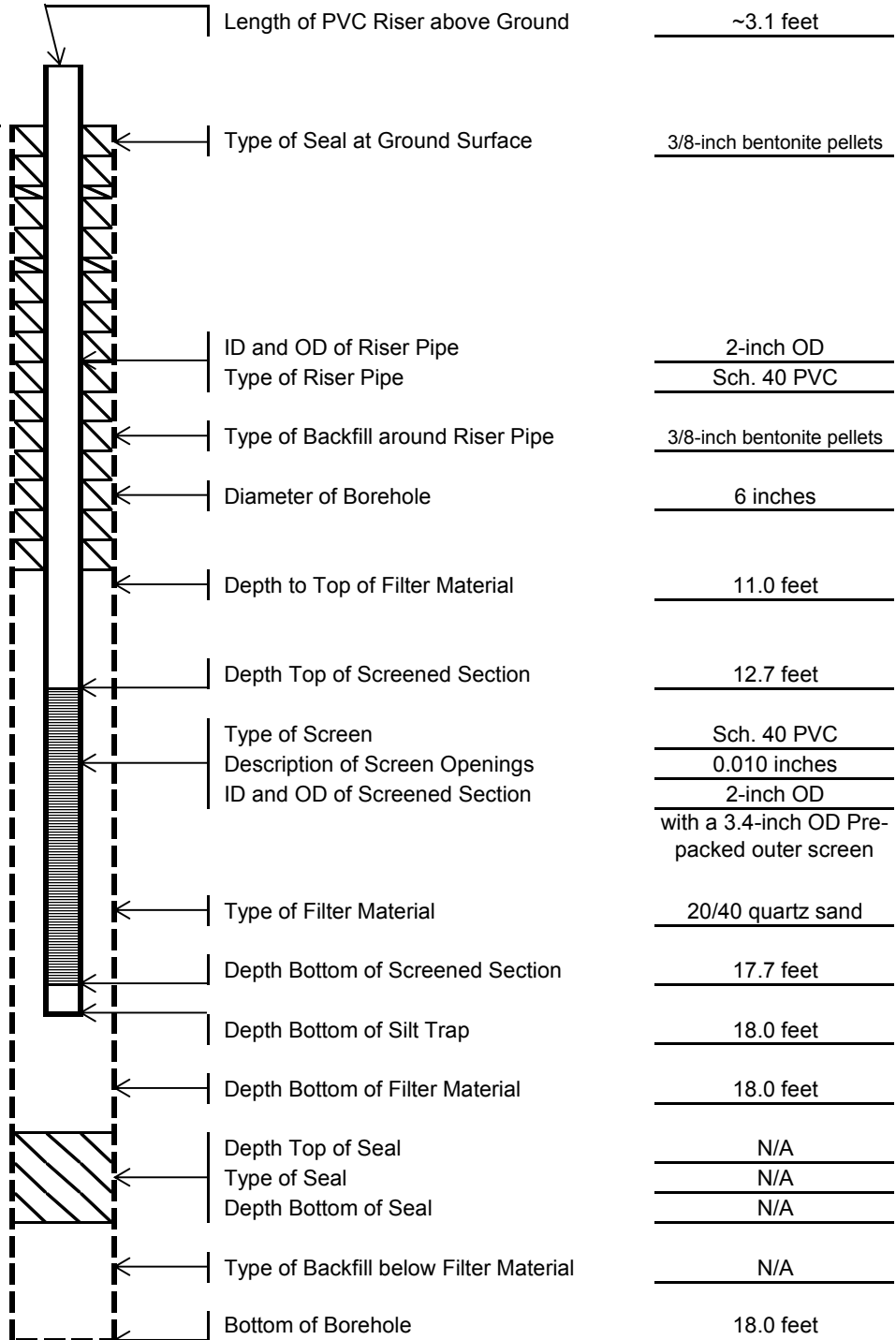
GEI Proj. No. 1800205
Location Ash Pond 1, Pond B
Install Date 12/5/2018

Ground Surface

Date	12/6/2018
Time	11:50
Distance to ▾ below top of casing	5.10 feet

General Soil Conditions (Not to Scale)

Fly Ash from ground surface to 18.0 ft bgs.



Notes:

All depths are measured below ground surface (bgs).
 Installed adjacent to PW-2S



Appendix B

Field Sampling, Laboratory Analytical Data, and Data Validation Reports

Water Level Measurement Data Sheet
 Plant McIntosh
 Georgia Power Company



Date: 12/3/2018

Gauged by: Peter Adams & Lauren Coker

Provided for reference

Area	Well ID	Measured Depth to Water (ft btoc)	Measured Depth to Bottom (ft btoc)	July 2018		Installed Total Depth (ft btoc)	Installed Depth to Top of Screen (ft btoc)	Notes
				Depth to Water (ft btoc)	Depth to Bottom (ft btoc)			
Ash Pond	MGWC-1	37.16	56.05	37.05	56.11	55.78	44.78	
	MGWC-2	19.95	37.21	20.29	37.29	37.06	27.86	
	MGWC-3	16.79	39.22	16.30	39.13	38.44	32.42	
	MGWC-4	25.87	68.60	24.02	67.80	67.05	47.05	
	MGWA-5	22.82	63.40	21.60	63.40	62.79	42.80	
	MGWA-6	19.22	42.16	18.41	42.16	41.63	40.75	
	MGWC-7	19.99	42.26	19.84	42.22	41.99	33.83	
	MGWC-8	29.69	52.82	29.40	52.85	52.26	42.29	
	MGWA-9	20.73	43.09	20.39	43.10	42.75	22.75	
	MGWA-10	19.14	53.00	17.33	52.97	52.79	44.30	
	MGWA-11	21.75	56.65	20.25	56.60	55.61	46.58	
	MGWC-12	25.51	53.85	24.42	53.76	52.70	43.70	
	PZ-13	16.98	27.31	17.49	27.30	26.36	17.28	
	PZ-14	17.04	41.84	16.94	41.79	41.10	31.72	
	PZ-15	18.43	28.95	19.02	28.90	28.90	18.57	
	PZ-16	33.10	42.56	32.94	42.56	42.56	32.09	
	PZ-17	31.23	45.20	31.11	45.20	45.20	34.82	
	PZ-18	19.01	41.90	19.30	41.90	41.90	31.40	
	MGWC-19	21.45	72.80	--	--	72.80	62.50	Not yet surveyed
	MGWC-20	21.95	55.00	--	--	55.00	44.70	Not yet surveyed
	MGWC-21	21.15	83.10	--	--	83.10	72.80	Not yet surveyed
	MGWC-22	16.65	67.96	--	--	67.96	57.66	Not yet surveyed
	MGWC-23	33.59	43.20	--	--	43.20	32.90	Not yet surveyed

Notes:

ft = feet

NA - Not Applicable

bgs = below ground surface

NM = Not Measured

btoc = below top of casing

Product Name: Low-Flow System

Date: 2018-12-06 10:52:29

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED bladder
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 55 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-1
Well diameter 2 in
Well Total Depth 56.05 ft
Screen Length 10 ft
Depth to Water 37.16 ft

Pumping Information:

Final Pumping Rate 250 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 21.84 in
Total Volume Pumped 8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	10:34:20	960.02	18.72	6.84	680.77	10.66	38.91	2.51	-24.77
Last 5	10:38:20	1200.02	18.82	6.81	690.85	9.07	38.99	2.42	-29.91
Last 5	10:42:20	1440.02	18.61	6.78	691.85	7.74	38.99	2.85	-28.08
Last 5	10:46:20	1680.15	18.90	6.77	701.96	4.71	38.98	2.65	-25.85
Last 5	10:50:20	1920.15	18.99	6.76	706.14	4.50	38.98	2.03	-21.80
Variance 0			-0.21	-0.02	1.00			0.42	1.83
Variance 1			0.29	-0.01	10.11			-0.20	2.23
Variance 2			0.10	-0.01	4.18			-0.62	4.06

Notes

Sampled at 11:00. DUP-02 collected here

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 10:28:11

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 32 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-2
Well diameter 2 in
Well Total Depth 37.21 ft
Screen Length 10 ft
Depth to Water 19.95 ft

Pumping Information:

Final Pumping Rate 120 mL/min
Total System Volume 0.2328295 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 9.84 in
Total Volume Pumped 3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	10:01:28	600.02	16.85	7.24	764.59	1.26	20.70	0.39	18.94
Last 5	10:06:29	900.40	16.95	7.26	770.15	1.71	20.75	0.30	16.26
Last 5	10:11:29	1200.40	17.37	7.27	779.43	1.63	20.76	0.26	14.11
Last 5	10:16:29	1500.40	17.50	7.28	771.62	1.58	20.75	0.23	12.06
Last 5	10:21:29	1800.40	18.08	7.28	768.56	2.12	20.77	0.20	10.42
Variance 0			0.42	0.01	9.28			-0.04	-2.15
Variance 1			0.12	0.01	-7.81			-0.03	-2.04
Variance 2			0.58	0.00	-3.06			-0.03	-1.64

Notes

Sampled at 10:25

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 09:25:28

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant Mcintosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte2020we

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-3
Well diameter 2 in
Well Total Depth 39.22 ft
Screen Length 10 ft
Depth to Water 16.79 ft

Pumping Information:

Final Pumping Rate 120 mL/min
Total System Volume 0.2462198 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 5.04 in
Total Volume Pumped 3.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	08:58:06	600.02	14.53	6.35	496.32	1.35	17.20	0.34	52.56
Last 5	09:03:06	900.02	14.95	6.44	498.88	1.35	17.20	0.27	39.59
Last 5	09:08:06	1200.02	15.53	6.49	513.27	0.93	17.21	0.23	34.03
Last 5	09:13:06	1500.02	15.84	6.53	522.69	1.57	17.20	0.21	29.89
Last 5	09:18:06	1800.02	16.03	6.56	521.43	1.31	17.21	0.19	27.78
Variance 0			0.58	0.05	14.39			-0.04	-5.57
Variance 1			0.31	0.05	9.41			-0.02	-4.13
Variance 2			0.19	0.02	-1.25			-0.03	-2.12

Notes

Sampled at 9:22

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-04 10:42:24

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant Mcintosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 50 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWA-5
Well diameter 2 in
Well Total Depth 63.40 ft
Screen Length 10 ft
Depth to Water 22.82 ft

Pumping Information:

Final Pumping Rate 100 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 6.96 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	10:19:47	1800.02	18.41	7.22	226.96	1.06	23.50	1.29	113.50
Last 5	10:24:48	2100.75	18.86	7.24	227.10	0.59	23.53	0.73	103.29
Last 5	10:29:48	2400.75	18.45	7.27	227.41	0.81	23.21	0.51	84.63
Last 5	10:34:48	2700.75	18.49	7.28	228.71	1.46	23.41	0.44	45.35
Last 5	10:39:48	3000.75	19.05	7.26	229.08	0.91	23.40	0.40	-87.56
Variance 0			-0.41	0.03	0.31			-0.22	-18.66
Variance 1			0.04	0.01	1.30			-0.07	-39.28
Variance 2			0.56	-0.02	0.37			-0.05	-132.91

Notes

Sampled at 10:45

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 11:30:03

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 50 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWA-6
Well diameter 2 in
Well Total Depth 42.16 ft
Screen Length 10 ft
Depth to Water 19.22 ft

Pumping Information:

Final Pumping Rate 190 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 2.4 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	11:12:00	960.55	19.14	7.06	475.95	0.57	19.41	0.18	48.14
Last 5	11:16:00	1200.55	19.33	6.99	474.98	0.45	19.42	0.17	48.84
Last 5	11:20:00	1440.55	19.52	6.92	473.95	0.60	19.42	0.17	49.26
Last 5	11:24:00	1680.55	19.15	6.88	478.73	0.58	19.42	0.17	48.06
Last 5	11:28:00	1920.55	19.08	6.81	472.61	0.78	19.42	0.16	47.80
Variance 0			0.20	-0.07	-1.03			-0.00	0.42
Variance 1			-0.37	-0.04	4.78			0.00	-1.20
Variance 2			-0.07	-0.07	-6.11			-0.01	-0.25

Notes

Sampled at 11:36

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 13:41:50

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 50 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-7
Well diameter 2 in
Well Total Depth 42.26 ft
Screen Length 10 ft
Depth to Water 19.99 ft

Pumping Information:

Final Pumping Rate 210 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 7.56 in
Total Volume Pumped 5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	13:17:43	480.02	19.90	6.11	439.36	1.87	20.55	0.18	64.00
Last 5	13:21:43	720.02	19.90	6.02	442.52	1.78	20.59	0.21	66.06
Last 5	13:25:43	960.02	19.95	5.99	442.02	1.93	20.62	0.17	63.51
Last 5	13:33:44	1441.02	19.96	6.01	444.60	1.10	20.62	0.14	57.45
Last 5	13:37:44	1681.02	19.99	6.02	447.69	1.15	20.62	0.14	53.88
Variance 0			0.04	-0.02	-0.50			-0.04	-2.55
Variance 1			0.02	0.01	2.58			-0.02	-6.06
Variance 2			0.03	0.02	3.09			-0.01	-3.57

Notes

Sampled at 13:45. DUP-01 collected here

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 16:06:12

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 55 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-8
Well diameter 2 in
Well Total Depth 52.82 ft
Screen Length 10 ft
Depth to Water 29.69 ft

Pumping Information:

Final Pumping Rate 160 mL/min
Total System Volume 0.3354883 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 3.72 in
Total Volume Pumped 4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	15:47:26	480.09	18.21	5.14	787.36	1.78	30.02	0.44	160.95
Last 5	15:51:26	720.09	18.30	5.13	786.41	1.33	30.00	0.34	154.92
Last 5	15:55:26	960.09	18.57	5.13	787.76	0.97	30.01	0.30	149.90
Last 5	15:59:26	1200.09	18.80	5.12	789.51	0.70	30.00	0.26	146.91
Last 5	16:03:26	1440.09	18.61	5.11	794.94	0.48	30.00	0.24	143.57
Variance 0			0.27	-0.01	1.35			-0.04	-5.02
Variance 1			0.24	-0.00	1.75			-0.04	-2.99
Variance 2			-0.19	-0.01	5.43			-0.02	-3.34

Notes

Sampled at 1610

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 10:22:27

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 50 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWA-11
Well diameter 2 in
Well Total Depth 57 ft
Screen Length 10 ft
Depth to Water 20 ft

Pumping Information:

Final Pumping Rate 250 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 1.44 in
Total Volume Pumped 6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	10:04:06	480.02	18.62	7.14	223.22	1.23	21.63	0.28	-93.80
Last 5	10:08:06	720.02	18.74	7.27	222.06	1.08	21.66	0.25	-104.57
Last 5	10:12:06	960.02	18.61	7.35	222.94	0.84	21.67	0.27	-108.89
Last 5	10:16:06	1200.02	18.64	7.40	222.95	0.79	21.67	0.27	-112.01
Last 5	10:20:06	1440.02	18.79	7.43	223.45	0.92	21.67	0.26	-113.98
Variance 0			-0.13	0.08	0.88			0.02	-4.32
Variance 1			0.03	0.05	0.01			-0.00	-3.12
Variance 2			0.15	0.03	0.50			-0.01	-1.97

Notes

Sampled at 10:34

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 16:55:48

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant Mcintosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 48 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-12
Well diameter 2 in
Well Total Depth 53.85 ft
Screen Length 10 ft
Depth to Water 25.51 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 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	16:25:26	2400.52	17.39	6.87	285.10	1.58	25.98	0.42	-82.03
Last 5	16:30:26	2700.52	17.62	6.62	283.82	2.23	25.95	0.40	-82.13
Last 5	16:35:26	3000.52	17.57	6.79	283.34	2.17	25.96	0.40	-82.50
Last 5	16:40:26	3300.52	17.39	6.74	282.87	1.98	25.94	0.46	-79.56
Last 5	16:45:26	3600.52	17.34	6.73	283.09	2.40	25.94	0.46	-79.27
Variance 0			-0.05	0.17	-0.48			-0.00	-0.37
Variance 1			-0.18	-0.05	-0.46			0.06	2.94
Variance 2			-0.06	-0.01	0.21			0.01	0.28

Notes

Sampled at 16:50

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 12:54:02

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 75 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-19
Well diameter 2 in
Well Total Depth 72.8 ft
Screen Length 10 ft
Depth to Water 21.45 ft

Pumping Information:

Final Pumping Rate 220 mL/min
Total System Volume 0.4247567 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 28.44 in
Total Volume Pumped 7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	12:33:37	960.64	19.40	7.84	268.74	1.57	23.63	0.24	6.05
Last 5	12:37:37	1200.64	19.50	7.70	361.22	2.02	23.70	0.22	-104.73
Last 5	12:41:37	1440.64	19.60	7.57	428.82	1.33	23.75	0.20	-126.23
Last 5	12:45:37	1680.64	19.72	7.55	427.33	1.56	23.79	0.19	-129.09
Last 5	12:49:40	1923.65	19.72	7.55	420.27	1.05	23.82	0.18	-129.94
Variance 0			0.11	-0.12	67.60			-0.02	-21.50
Variance 1			0.12	-0.02	-1.49			-0.01	-2.86
Variance 2			0.00	-0.00	-7.05			-0.01	-0.85

Notes

Sampled at 12:58

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 12:52:55

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant Mcintosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 50 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-20
Well diameter 2 in
Well Total Depth 55 ft
Screen Length 10 ft
Depth to Water 21.68 ft

Pumping Information:

Final Pumping Rate 120 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 12 in
Total Volume Pumped 3.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	12:31:00	600.02	19.60	6.54	507.74	2.64	22.71	0.31	9.30
Last 5	12:36:00	900.02	19.51	6.47	505.73	2.22	22.75	0.27	10.53
Last 5	12:41:00	1200.02	19.50	6.51	524.38	2.42	22.82	0.23	-9.58
Last 5	12:46:01	1500.93	19.70	6.52	523.43	2.35	22.90	0.21	-8.68
Last 5	12:51:01	1800.93	19.81	6.52	528.49	1.70	22.95	0.19	-8.90
Variance 0			-0.01	0.04	18.65			-0.04	-20.10
Variance 1			0.20	0.01	-0.95			-0.02	0.90
Variance 2			0.11	0.00	5.06			-0.02	-0.22

Notes

Sampled at 13:00

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 15:31:58

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED bladder
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 90 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-21
Well diameter 2 in
Well Total Depth 83.1 ft
Screen Length 10 ft
Depth to Water 31.15 ft

Pumping Information:

Final Pumping Rate 220 mL/min
Total System Volume 0.491708 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 20.16 in
Total Volume Pumped 11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	15:11:46	1682.02	18.74	7.59	238.25	10.20	32.76	0.58	-11.68
Last 5	15:15:46	1922.02	18.61	7.60	236.55	9.77	32.83	0.53	-10.30
Last 5	15:19:46	2162.02	18.63	7.61	237.21	7.75	32.83	0.52	-8.91
Last 5	15:23:46	2402.02	18.08	7.63	236.30	6.12	32.83	0.47	-5.72
Last 5	15:27:46	2642.02	17.57	7.64	236.89	4.62	32.83	0.44	-7.06
Variance 0			0.02	0.01	0.66			-0.01	1.39
Variance 1			-0.56	0.02	-0.90			-0.05	3.20
Variance 2			-0.51	0.00	0.58			-0.03	-1.34

Notes

Sampled at 335

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 11:38:40

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 596190
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 62 ft

Pump placement from TOC 2 ft

Well Information:

Well ID MGWC-22
Well diameter 2 in
Well Total Depth 67.96 ft
Screen Length 10 ft
Depth to Water 16.65 ft

Pumping Information:

Final Pumping Rate 120 mL/min
Total System Volume 0.3667322 L
Calculated Sample Rate 300 sec
Stabilization Drawdown 13.8 in
Total Volume Pumped 6.6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	11:10:41	2100.36	18.39	8.24	242.93	9.87	17.75	0.16	15.91
Last 5	11:15:41	2400.36	18.03	8.48	244.51	9.36	17.77	0.17	18.78
Last 5	11:20:41	2700.36	17.82	8.25	248.28	5.57	17.78	0.15	16.77
Last 5	11:25:41	3000.36	18.21	8.16	252.82	4.42	17.78	0.16	12.31
Last 5	11:30:41	3300.36	18.07	8.15	250.16	3.56	17.80	0.13	9.78
Variance 0			-0.21	-0.23	3.77			-0.02	-2.01
Variance 1			0.39	-0.09	4.54			0.01	-4.47
Variance 2			-0.14	-0.01	-2.66			-0.03	-2.53

Notes

Sampled at 11:35

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 09:40:44

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type QED bladder
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 50 ft

Pump placement from TOC 3 ft

Well Information:

Well ID MGWC-23
Well diameter 2 in
Well Total Depth 43.20 ft
Screen Length 10 ft
Depth to Water 33.59 ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.3131711 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 5.16 in
Total Volume Pumped 9.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	09:21:27	1920.01	17.27	8.24	462.87	7.34	34.00	7.88	36.44
Last 5	09:25:27	2160.01	17.36	8.24	462.43	6.90	34.00	7.87	35.43
Last 5	09:29:27	2400.01	17.36	8.23	462.17	5.88	34.02	7.83	35.30
Last 5	09:33:27	2640.01	17.59	8.22	461.61	5.14	34.02	7.82	35.77
Last 5	09:37:27	2880.01	17.36	8.22	460.00	4.88	34.02	7.75	35.55
Variance 0			0.00	-0.01	-0.27			-0.04	-0.13
Variance 1			0.23	-0.01	-0.56			-0.01	0.47
Variance 2			-0.23	-0.00	-1.61			-0.07	-0.22

Notes

Sampled at 945

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 14:19:06

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name AP1
Site Name Plant Mcintosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 11 ft

Pump placement from TOC 2 ft

Well Information:

Well ID PW-1S
Well diameter 2 in
Well Total Depth 13.10 ft
Screen Length 5 ft
Depth to Water 5.95 ft

Pumping Information:

Final Pumping Rate 120 mL/min
Total System Volume 0.1390977 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 0.6 in
Total Volume Pumped 3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	13:51:02	720.02	20.20	7.67	842.55	3.57	6.00	0.92	58.84
Last 5	13:55:02	960.02	20.06	7.86	833.79	3.88	6.00	0.86	51.31
Last 5	13:59:02	1200.02	20.18	7.97	832.82	3.08	6.00	0.81	45.71
Last 5	14:03:02	1440.02	20.22	8.05	831.07	2.37	6.00	0.76	41.55
Last 5	14:07:02	1680.02	22.65	8.06	833.10	2.02	6.00	0.73	50.70
Variance 0			0.11	0.11	-0.97			-0.04	-5.60
Variance 1			0.05	0.08	-1.76			-0.05	-4.16
Variance 2			2.43	0.01	-438.03			8.62	9.19

Notes

Sampled at 14:10

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-05 14:52:21

Project Information:

Operator Name L. Coker
Company Name GEI
Project Name Plant Mcintosh
Site Name Default Site
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 369555
Turbidity Make/Model LaMotte2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter .170 in
Tubing Length 17 ft

Pump placement from TOC 2 ft

Well Information:

Well ID PW-1D
Well diameter 2 in
Well Total Depth ft
Screen Length 5 ft
Depth to Water ft

Pumping Information:

Final Pumping Rate 200 mL/min
Total System Volume 0.1658782 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 3.24 in
Total Volume Pumped 3.2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 10	+/- 0.1	+/- 5%	+/- 10		+/- 0.2	+/- 10
Last 5	14:30:16	240.02	21.36	9.28	478.30	18.30	8.50	0.73	34.23
Last 5	14:34:16	480.02	21.20	9.51	475.80	13.70	8.30	0.36	30.66
Last 5	14:38:16	720.02	21.18	9.56	470.82	9.87	8.22	0.30	30.49
Last 5	14:42:16	960.02	21.00	9.60	473.66	8.49	8.23	0.25	30.10
Last 5									
Variance 0			-0.16	0.23	-2.49			-0.37	-3.57
Variance 1			-0.02	0.05	-4.99			-0.06	-0.17
Variance 2			-0.18	0.03	2.84			-0.05	-0.39

Notes

Sampled at 14:55

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 11:48:17

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 15 ft

Pump placement from TOC 3 ft

Well Information:

Well ID PW-2S
Well diameter 2 in
Well Total Depth 14 ft
Screen Length 5 ft
Depth to Water 4.2 ft

Pumping Information:

Final Pumping Rate 166 mL/min
Total System Volume 0.1569514 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 4.8 in
Total Volume Pumped 2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	11:38:25	240.09	17.99	11.51	1804.81	4.32	4.35	1.94	3.34
Last 5	11:42:25	480.02	19.23	11.51	1742.35	4.35	4.51	1.55	10.80
Last 5	11:46:25	720.02	19.55	11.51	1706.12	3.05	4.60	1.44	15.53
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			1.24	-0.00	-62.46			-0.38	7.46
Variance 2			0.32	0.00	-36.23			-0.11	4.74

Notes

Sampled at 11:50. Filtered

Grab Samples

Product Name: Low-Flow System

Date: 2018-12-06 12:17:25

Project Information:

Operator Name Peter A
Company Name GEI
Project Name AP1
Site Name Plant McIntosh
Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 445707
Turbidity Make/Model LaMotte 2020we

Pump Information:

Pump Model/Type Alexis Peristaltic
Tubing Type LDPE
Tubing Diameter 0.17 in
Tubing Length 25 ft

Pump placement from TOC 3 ft

Well Information:

Well ID PW-2D
Well diameter 2 in
Well Total Depth 21 ft
Screen Length 5 ft
Depth to Water 6.1 ft

Pumping Information:

Final Pumping Rate 250 mL/min
Total System Volume 0.2015856 L
Calculated Sample Rate 240 sec
Stabilization Drawdown 4 in
Total Volume Pumped 3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond μ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 5%	+/- 0.1	+/- 5%	+/- 5		+/- 0.2	+/- 10%
Last 5	12:07:31	240.03	20.48	11.75	6239.60	1.33	5.55	0.29	-149.87
Last 5	12:11:31	480.02	20.52	11.76	6202.61	2.22	5.72	0.20	-149.62
Last 5	12:15:31	720.02	20.66	11.76	6182.42	1.18	5.89	0.16	-151.82
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.04	0.02	-37.00			-0.09	0.25
Variance 2			0.13	0.00	-20.19			-0.03	-2.20

Notes

Sampled at 1220. Filtered

Grab Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-163104-1

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

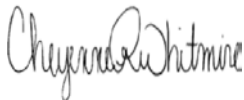
For:

Southern Company

600 18th Street North

Birmingham, Alabama 35203

Attn: Accounts Payable



Authorized for release by:

12/13/2018 6:15:05 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Job ID: 400-163104-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-163104-1

HPLC/IC

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MGWC-7 (400-163104-6) and DUP-01 (400-163104-13). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 2320B: The sample duplicate precision for the following sample associated with analytical batch 422785 was outside control limits: (400-163036-A-12 DU). The associated Laboratory Control Sample(LCS)met acceptance criteria.

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Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWA-5

Lab Sample ID: 400-163104-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.011		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWA-10

Lab Sample ID: 400-163104-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0089		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWA-11

Lab Sample ID: 400-163104-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.1		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate	1.2		1.0	0.70	mg/L	1		300.0	Total/NA
Calcium	28		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.017		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	9.5		0.13	0.032	mg/L	5		6020	Total Recoverable
Potassium	1.6		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	6.7		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	130		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MGWA-6

Lab Sample ID: 400-163104-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.00046	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0012	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-19

Lab Sample ID: 400-163104-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0029	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-7

Lab Sample ID: 400-163104-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	190		5.0	3.5	mg/L	5		300.0	Total/NA
Calcium	49		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.012		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.14		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	4.7		0.13	0.032	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWC-7 (Continued)

Lab Sample ID: 400-163104-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	5.5		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	37		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	25		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	25		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MGWC-21

Lab Sample ID: 400-163104-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0051		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-8

Lab Sample ID: 400-163104-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.020		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.043		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: FERB-01

Lab Sample ID: 400-163104-11

No Detections.

Client Sample ID: FB-01

Lab Sample ID: 400-163104-12

No Detections.

Client Sample ID: DUP-01

Lab Sample ID: 400-163104-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	190		5.0	3.5	mg/L	5		300.0	Total/NA
Calcium	49		0.25	0.13	mg/L	5		6020	Total Recoverable
Cobalt	0.011		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.14		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	4.9		0.13	0.032	mg/L	5		6020	Total Recoverable
Potassium	5.4		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	36		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	30		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	30		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MGWC-12

Lab Sample ID: 400-163104-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.026		0.0050	0.0011	mg/L	5		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: HOSE-01

Lab Sample ID: 400-163104-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	0.51		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0019	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	0.18		0.13	0.032	mg/L	5		6020	Total Recoverable
Sodium	0.35		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	1.2		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1.2		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MGWC-3

Lab Sample ID: 400-163104-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.00058	J	0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.015		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-23

Lab Sample ID: 400-163104-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0066		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-2

Lab Sample ID: 400-163104-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0031		0.0025	0.00040	mg/L	5		6020	Total Recoverable
Lithium	0.0066		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-1

Lab Sample ID: 400-163104-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.010		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-22

Lab Sample ID: 400-163104-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.014		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: MGWC-20

Lab Sample ID: 400-163104-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0053		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: DUP-02

Lab Sample ID: 400-163104-24

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: DUP-02 (Continued)

Lab Sample ID: 400-163104-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0091		0.0050	0.0011	mg/L	5		6020	Total Recoverable

Client Sample ID: FERB-02

Lab Sample ID: 400-163104-25

No Detections.

Client Sample ID: FB-02

Lab Sample ID: 400-163104-26

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola



Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
6020	Metals (ICP/MS)	SW846	TAL PEN
SM 2320B	Alkalinity	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-163104-1	MGWA-5	Water	12/04/18 10:45	12/06/18 08:56
400-163104-2	MGWA-10	Water	12/05/18 09:35	12/06/18 08:56
400-163104-3	MGWA-11	Water	12/05/18 10:34	12/06/18 08:56
400-163104-4	MGWA-6	Water	12/05/18 11:36	12/06/18 08:56
400-163104-5	MGWC-19	Water	12/05/18 12:58	12/06/18 08:56
400-163104-6	MGWC-7	Water	12/05/18 13:45	12/06/18 08:56
400-163104-9	MGWC-21	Water	12/05/18 15:35	12/06/18 08:56
400-163104-10	MGWC-8	Water	12/05/18 16:10	12/06/18 08:56
400-163104-11	FERB-01	Water	12/05/18 16:30	12/06/18 08:56
400-163104-12	FB-01	Water	12/05/18 16:35	12/06/18 08:56
400-163104-13	DUP-01	Water	12/05/18 00:00	12/06/18 08:56
400-163104-14	MGWC-12	Water	12/05/18 16:50	12/06/18 08:56
400-163104-15	HOSE-01	Water	12/04/18 12:25	12/06/18 08:56
400-163104-16	MGWC-3	Water	12/06/18 09:22	12/07/18 09:24
400-163104-17	MGWC-23	Water	12/06/18 09:45	12/07/18 09:24
400-163104-18	MGWC-2	Water	12/06/18 10:25	12/07/18 09:24
400-163104-19	MGWC-1	Water	12/06/18 11:00	12/07/18 09:24
400-163104-20	MGWC-22	Water	12/06/18 11:35	12/07/18 09:24
400-163104-21	MGWC-20	Water	12/06/18 13:00	12/07/18 09:24
400-163104-24	DUP-02	Water	12/06/18 00:00	12/07/18 09:24
400-163104-25	FERB-02	Water	12/06/18 13:00	12/07/18 09:24
400-163104-26	FB-02	Water	12/06/18 13:05	12/07/18 09:24

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWA-5

Date Collected: 12/04/18 10:45

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:04	5
Lithium	0.011		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:04	5

Client Sample ID: MGWA-10

Date Collected: 12/05/18 09:35

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:21	5
Lithium	0.0089		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:21	5

Client Sample ID: MGWA-11

Date Collected: 12/05/18 10:34

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.1		1.0	0.89	mg/L			12/07/18 20:59	1
Sulfate	1.2		1.0	0.70	mg/L			12/07/18 20:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	28		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 19:25	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:25	5
Lithium	0.017		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:25	5
Magnesium	9.5		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 19:25	5
Potassium	1.6		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 19:25	5
Sodium	6.7		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 19:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	130		1.0	0.98	mg/L			12/11/18 14:45	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 14:45	1
Bicarbonate Alkalinity as CaCO3	130		1.0	0.98	mg/L			12/11/18 14:45	1

Client Sample ID: MGWA-6

Date Collected: 12/05/18 11:36

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00046	J	0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:29	5
Lithium	0.0012	J	0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:29	5

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWC-19

Date Collected: 12/05/18 12:58

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:50	5
Lithium	0.0029	J	0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:50	5

Client Sample ID: MGWC-7

Date Collected: 12/05/18 13:45

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-6

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	0.89	mg/L			12/07/18 21:22	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	190		5.0	3.5	mg/L			12/10/18 18:17	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	49		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 19:54	5
Cobalt	0.012		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:54	5
Lithium	0.14		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:54	5
Magnesium	4.7		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 19:54	5
Potassium	5.5		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 19:54	5
Sodium	37		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 19:54	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	25		1.0	0.98	mg/L			12/11/18 14:50	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 14:50	1
Bicarbonate Alkalinity as CaCO3	25		1.0	0.98	mg/L			12/11/18 14:50	1

Client Sample ID: MGWC-21

Date Collected: 12/05/18 15:35

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:04	5
Lithium	0.0051		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:04	5

Client Sample ID: MGWC-8

Date Collected: 12/05/18 16:10

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.020		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:08	5
Lithium	0.043		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:08	5

TestAmerica Pensacola

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: FERB-01

Lab Sample ID: 400-163104-11

Date Collected: 12/05/18 16:30

Matrix: Water

Date Received: 12/06/18 08:56

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:11	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:11	5

Client Sample ID: FB-01

Lab Sample ID: 400-163104-12

Date Collected: 12/05/18 16:35

Matrix: Water

Date Received: 12/06/18 08:56

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:15	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:15	5

Client Sample ID: DUP-01

Lab Sample ID: 400-163104-13

Date Collected: 12/05/18 00:00

Matrix: Water

Date Received: 12/06/18 08:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		1.0	0.89	mg/L			12/07/18 22:07	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	190		5.0	3.5	mg/L			12/10/18 19:26	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	49		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 20:19	5
Cobalt	0.011		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:19	5
Lithium	0.14		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:19	5
Magnesium	4.9		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 20:19	5
Potassium	5.4		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 20:19	5
Sodium	36		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 20:19	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	30		1.0	0.98	mg/L			12/11/18 15:43	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 15:43	1
Bicarbonate Alkalinity as CaCO3	30		1.0	0.98	mg/L			12/11/18 15:43	1

Client Sample ID: MGWC-12

Lab Sample ID: 400-163104-14

Date Collected: 12/05/18 16:50

Matrix: Water

Date Received: 12/06/18 08:56

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:22	5
Lithium	0.026		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:22	5

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: HOSE-01

Lab Sample ID: 400-163104-15

Date Collected: 12/04/18 12:25

Matrix: Water

Date Received: 12/06/18 08:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/11/18 23:41	1
Sulfate	<0.70		1.0	0.70	mg/L			12/11/18 23:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.51		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 20:44	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:44	5
Lithium	0.0019	J	0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:44	5
Magnesium	0.18		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 20:44	5
Potassium	<0.11		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 20:44	5
Sodium	0.35		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 20:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	1.2		1.0	0.98	mg/L			12/11/18 15:49	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 15:49	1
Bicarbonate Alkalinity as CaCO3	1.2		1.0	0.98	mg/L			12/11/18 15:49	1

Client Sample ID: MGWC-3

Lab Sample ID: 400-163104-16

Date Collected: 12/06/18 09:22

Matrix: Water

Date Received: 12/07/18 09:24

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00058	J	0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:47	5
Lithium	0.015		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:47	5

Client Sample ID: MGWC-23

Lab Sample ID: 400-163104-17

Date Collected: 12/06/18 09:45

Matrix: Water

Date Received: 12/07/18 09:24

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:51	5
Lithium	0.0066		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:51	5

Client Sample ID: MGWC-2

Lab Sample ID: 400-163104-18

Date Collected: 12/06/18 10:25

Matrix: Water

Date Received: 12/07/18 09:24

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0031		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:54	5
Lithium	0.0066		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:54	5

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWC-1

Date Collected: 12/06/18 11:00

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-19

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:58	5
Lithium	0.010		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:58	5

Client Sample ID: MGWC-22

Date Collected: 12/06/18 11:35

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-20

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 21:02	5
Lithium	0.014		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 21:02	5

Client Sample ID: MGWC-20

Date Collected: 12/06/18 13:00

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-21

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 22:42	5
Lithium	0.0053		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 22:42	5

Client Sample ID: DUP-02

Date Collected: 12/06/18 00:00

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-24

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 22:53	5
Lithium	0.0091		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 22:53	5

Client Sample ID: FERB-02

Date Collected: 12/06/18 13:00

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-25

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/10/18 21:43	1
Sulfate	<0.70		1.0	0.70	mg/L			12/10/18 21:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.13		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 22:56	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 22:56	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 22:56	5
Magnesium	<0.032		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 22:56	5
Potassium	<0.11		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 22:56	5
Sodium	<0.17		0.25	0.17	mg/L		12/11/18 09:41	12/11/18 22:56	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	<0.98		1.0	0.98	mg/L			12/11/18 16:13	1

TestAmerica Pensacola

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: FERB-02

Lab Sample ID: 400-163104-25

Date Collected: 12/06/18 13:00

Matrix: Water

Date Received: 12/07/18 09:24

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 16:13	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 16:13	1

Client Sample ID: FB-02

Lab Sample ID: 400-163104-26

Date Collected: 12/06/18 13:05

Matrix: Water

Date Received: 12/07/18 09:24

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/10/18 22:06	1
Sulfate	<0.70		1.0	0.70	mg/L			12/10/18 22:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.13		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 23:00	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 23:00	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 23:00	5
Magnesium	<0.032		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 23:00	5
Potassium	<0.11		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 23:00	5
Sodium	<0.17		0.25	0.17	mg/L		12/11/18 09:41	12/11/18 23:00	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	<0.98		1.0	0.98	mg/L			12/11/18 16:18	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 16:18	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 16:18	1

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWA-5

Date Collected: 12/04/18 10:45

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:04	DRE	TAL PEN

Client Sample ID: MGWA-10

Date Collected: 12/05/18 09:35

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:21	DRE	TAL PEN

Client Sample ID: MGWA-11

Date Collected: 12/05/18 10:34

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422580	12/07/18 20:59	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:25	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 14:45	BAB	TAL PEN

Client Sample ID: MGWA-6

Date Collected: 12/05/18 11:36

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:29	DRE	TAL PEN

Client Sample ID: MGWC-19

Date Collected: 12/05/18 12:58

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:50	DRE	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWC-7

Date Collected: 12/05/18 13:45

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422580	12/07/18 21:22	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	422686	12/10/18 18:17	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:54	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 14:50	BAB	TAL PEN

Client Sample ID: MGWC-21

Date Collected: 12/05/18 15:35

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:04	DRE	TAL PEN

Client Sample ID: MGWC-8

Date Collected: 12/05/18 16:10

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:08	DRE	TAL PEN

Client Sample ID: FERB-01

Date Collected: 12/05/18 16:30

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:11	DRE	TAL PEN

Client Sample ID: FB-01

Date Collected: 12/05/18 16:35

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:15	DRE	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: DUP-01

Lab Sample ID: 400-163104-13

Date Collected: 12/05/18 00:00

Matrix: Water

Date Received: 12/06/18 08:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422580	12/07/18 22:07	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	422686	12/10/18 19:26	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:19	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 15:43	BAB	TAL PEN

Client Sample ID: MGWC-12

Lab Sample ID: 400-163104-14

Date Collected: 12/05/18 16:50

Matrix: Water

Date Received: 12/06/18 08:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:22	DRE	TAL PEN

Client Sample ID: HOSE-01

Lab Sample ID: 400-163104-15

Date Collected: 12/04/18 12:25

Matrix: Water

Date Received: 12/06/18 08:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422867	12/11/18 23:41	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:44	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 15:49	BAB	TAL PEN

Client Sample ID: MGWC-3

Lab Sample ID: 400-163104-16

Date Collected: 12/06/18 09:22

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:47	DRE	TAL PEN

Client Sample ID: MGWC-23

Lab Sample ID: 400-163104-17

Date Collected: 12/06/18 09:45

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:51	DRE	TAL PEN

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Client Sample ID: MGWC-2

Lab Sample ID: 400-163104-18

Date Collected: 12/06/18 10:25

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:54	DRE	TAL PEN

Client Sample ID: MGWC-1

Lab Sample ID: 400-163104-19

Date Collected: 12/06/18 11:00

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:58	DRE	TAL PEN

Client Sample ID: MGWC-22

Lab Sample ID: 400-163104-20

Date Collected: 12/06/18 11:35

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 21:02	DRE	TAL PEN

Client Sample ID: MGWC-20

Lab Sample ID: 400-163104-21

Date Collected: 12/06/18 13:00

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 22:42	DRE	TAL PEN

Client Sample ID: DUP-02

Lab Sample ID: 400-163104-24

Date Collected: 12/06/18 00:00

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 22:53	DRE	TAL PEN

Client Sample ID: FERB-02

Lab Sample ID: 400-163104-25

Date Collected: 12/06/18 13:00

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422686	12/10/18 21:43	BAW	TAL PEN
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 22:56	DRE	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
 SDG: Ash Pond

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 16:13	BAB	TAL PEN

Client Sample ID: FB-02

Lab Sample ID: 400-163104-26

Date Collected: 12/06/18 13:05

Matrix: Water

Date Received: 12/07/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422686	12/10/18 22:06	BAW	TAL PEN
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 23:00	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 16:18	BAB	TAL PEN

Laboratory References:

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

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QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

HPLC/IC

Analysis Batch: 422580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-3	MGWA-11	Total/NA	Water	300.0	
400-163104-6	MGWC-7	Total/NA	Water	300.0	
400-163104-13	DUP-01	Total/NA	Water	300.0	
MB 400-422580/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422580/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422580/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-162737-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
400-162737-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 422686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-6 - DL	MGWC-7	Total/NA	Water	300.0	
400-163104-13 - DL	DUP-01	Total/NA	Water	300.0	
400-163104-25	FERB-02	Total/NA	Water	300.0	
400-163104-26	FB-02	Total/NA	Water	300.0	
MB 400-422686/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422686/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422686/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-163104-3 MS	MGWA-11	Total/NA	Water	300.0	
400-163104-3 MSD	MGWA-11	Total/NA	Water	300.0	

Analysis Batch: 422867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-15	HOSE-01	Total/NA	Water	300.0	
MB 400-422867/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422867/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422867/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-163055-H-2 MS	Matrix Spike	Total/NA	Water	300.0	
400-163055-H-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 422641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-1	MGWA-5	Total Recoverable	Water	3005A	
400-163104-2	MGWA-10	Total Recoverable	Water	3005A	
400-163104-3	MGWA-11	Total Recoverable	Water	3005A	
400-163104-4	MGWA-6	Total Recoverable	Water	3005A	
400-163104-5	MGWC-19	Total Recoverable	Water	3005A	
400-163104-6	MGWC-7	Total Recoverable	Water	3005A	
400-163104-9	MGWC-21	Total Recoverable	Water	3005A	
400-163104-10	MGWC-8	Total Recoverable	Water	3005A	
400-163104-11	FERB-01	Total Recoverable	Water	3005A	
400-163104-12	FB-01	Total Recoverable	Water	3005A	
400-163104-13	DUP-01	Total Recoverable	Water	3005A	
400-163104-14	MGWC-12	Total Recoverable	Water	3005A	
400-163104-15	HOSE-01	Total Recoverable	Water	3005A	
400-163104-16	MGWC-3	Total Recoverable	Water	3005A	
400-163104-17	MGWC-23	Total Recoverable	Water	3005A	
400-163104-18	MGWC-2	Total Recoverable	Water	3005A	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Metals (Continued)

Prep Batch: 422641 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-19	MGWC-1	Total Recoverable	Water	3005A	
400-163104-20	MGWC-22	Total Recoverable	Water	3005A	
MB 400-422641/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-422641/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-163104-1 MS	MGWA-5	Total Recoverable	Water	3005A	
400-163104-1 MSD	MGWA-5	Total Recoverable	Water	3005A	

Prep Batch: 422678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-21	MGWC-20	Total Recoverable	Water	3005A	
400-163104-24	DUP-02	Total Recoverable	Water	3005A	
400-163104-25	FERB-02	Total Recoverable	Water	3005A	
400-163104-26	FB-02	Total Recoverable	Water	3005A	
MB 400-422678/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-422678/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162766-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162766-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 422857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-1	MGWA-5	Total Recoverable	Water	6020	422641
400-163104-2	MGWA-10	Total Recoverable	Water	6020	422641
400-163104-3	MGWA-11	Total Recoverable	Water	6020	422641
400-163104-4	MGWA-6	Total Recoverable	Water	6020	422641
400-163104-5	MGWC-19	Total Recoverable	Water	6020	422641
400-163104-6	MGWC-7	Total Recoverable	Water	6020	422641
400-163104-9	MGWC-21	Total Recoverable	Water	6020	422641
400-163104-10	MGWC-8	Total Recoverable	Water	6020	422641
400-163104-11	FERB-01	Total Recoverable	Water	6020	422641
400-163104-12	FB-01	Total Recoverable	Water	6020	422641
400-163104-13	DUP-01	Total Recoverable	Water	6020	422641
400-163104-14	MGWC-12	Total Recoverable	Water	6020	422641
400-163104-15	HOSE-01	Total Recoverable	Water	6020	422641
400-163104-16	MGWC-3	Total Recoverable	Water	6020	422641
400-163104-17	MGWC-23	Total Recoverable	Water	6020	422641
400-163104-18	MGWC-2	Total Recoverable	Water	6020	422641
400-163104-19	MGWC-1	Total Recoverable	Water	6020	422641
400-163104-20	MGWC-22	Total Recoverable	Water	6020	422641
400-163104-21	MGWC-20	Total Recoverable	Water	6020	422678
400-163104-24	DUP-02	Total Recoverable	Water	6020	422678
400-163104-25	FERB-02	Total Recoverable	Water	6020	422678
400-163104-26	FB-02	Total Recoverable	Water	6020	422678
MB 400-422641/1-A ^5	Method Blank	Total Recoverable	Water	6020	422641
MB 400-422678/1-A ^5	Method Blank	Total Recoverable	Water	6020	422678
LCS 400-422641/2-A	Lab Control Sample	Total Recoverable	Water	6020	422641
LCS 400-422678/2-A	Lab Control Sample	Total Recoverable	Water	6020	422678
400-162766-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	422678
400-162766-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	422678
400-163104-1 MS	MGWA-5	Total Recoverable	Water	6020	422641
400-163104-1 MSD	MGWA-5	Total Recoverable	Water	6020	422641

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

General Chemistry

Analysis Batch: 422785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-3	MGWA-11	Total/NA	Water	SM 2320B	
400-163104-6	MGWC-7	Total/NA	Water	SM 2320B	
400-163104-13	DUP-01	Total/NA	Water	SM 2320B	
400-163104-15	HOSE-01	Total/NA	Water	SM 2320B	
400-163104-25	FERB-02	Total/NA	Water	SM 2320B	
400-163104-26	FB-02	Total/NA	Water	SM 2320B	
MB 400-422785/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 400-422785/5	Lab Control Sample	Total/NA	Water	SM 2320B	
400-162991-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	
400-163036-A-12 DU	Duplicate	Total/NA	Water	SM 2320B	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-422580/4
Matrix: Water
Analysis Batch: 422580

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/07/18 15:39	1
Sulfate	<0.70		1.0	0.70	mg/L			12/07/18 15:39	1

Lab Sample ID: LCS 400-422580/5
Matrix: Water
Analysis Batch: 422580

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.67		mg/L		97	90 - 110
Sulfate	10.0	10.5		mg/L		105	90 - 110

Lab Sample ID: LCSD 400-422580/6
Matrix: Water
Analysis Batch: 422580

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.69		mg/L		97	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	3	15

Lab Sample ID: 400-162737-B-1 MS
Matrix: Water
Analysis Batch: 422580

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10		10.0	19.7		mg/L		94	80 - 120
Sulfate	19		10.0	28.7		mg/L		101	80 - 120

Lab Sample ID: 400-162737-B-1 MSD
Matrix: Water
Analysis Batch: 422580

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10		10.0	19.8		mg/L		95	80 - 120	1	20
Sulfate	19		10.0	28.7		mg/L		102	80 - 120	0	20

Lab Sample ID: MB 400-422686/4
Matrix: Water
Analysis Batch: 422686

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/10/18 15:55	1
Sulfate	<0.70		1.0	0.70	mg/L			12/10/18 15:55	1

Lab Sample ID: LCS 400-422686/5
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.70		mg/L		97	90 - 110

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-422686/5
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 400-422686/6
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.68		mg/L		97	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	1	15

Lab Sample ID: 400-163104-3 MS
Matrix: Water
Analysis Batch: 422686

Client Sample ID: MGWA-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.0		10.0	13.6		mg/L		96	80 - 120
Sulfate	1.3		10.0	12.0		mg/L		106	80 - 120

Lab Sample ID: 400-163104-3 MSD
Matrix: Water
Analysis Batch: 422686

Client Sample ID: MGWA-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.0		10.0	13.7		mg/L		97	80 - 120	1	20
Sulfate	1.3		10.0	12.0		mg/L		107	80 - 120	1	20

Lab Sample ID: MB 400-422867/4
Matrix: Water
Analysis Batch: 422867

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/11/18 11:28	1
Sulfate	<0.70		1.0	0.70	mg/L			12/11/18 11:28	1

Lab Sample ID: LCS 400-422867/5
Matrix: Water
Analysis Batch: 422867

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.83		mg/L		98	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 400-422867/6
Matrix: Water
Analysis Batch: 422867

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.85		mg/L		98	90 - 110	0	15
Sulfate	10.0	10.5		mg/L		105	90 - 110	1	15

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-163055-H-2 MS

Matrix: Water
Analysis Batch: 422867

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1100	F1	500	1380	F1	mg/L		63	80 - 120
Sulfate	150		500	642		mg/L		98	80 - 120

Lab Sample ID: 400-163055-H-2 MSD

Matrix: Water
Analysis Batch: 422867

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1100	F1	500	1450	F1	mg/L		77	80 - 120	5	20
Sulfate	150		500	656		mg/L		101	80 - 120	2	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-422641/1-A ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.13		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 18:56	5
Magnesium	<0.032		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 18:56	5
Potassium	<0.11		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 18:56	5
Sodium	<0.17		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 18:56	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 18:56	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 18:56	5

Lab Sample ID: LCS 400-422641/2-A

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	5.00	4.98		mg/L		100	80 - 120
Magnesium	5.00	4.84		mg/L		97	80 - 120
Potassium	5.00	4.93		mg/L		99	80 - 120
Sodium	5.00	4.89		mg/L		98	80 - 120
Cobalt	0.0500	0.0502		mg/L		100	80 - 120
Lithium	0.0500	0.0509		mg/L		102	80 - 120

Lab Sample ID: 400-163104-1 MS

Matrix: Water
Analysis Batch: 422857

Client Sample ID: MGWA-5
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	28		5.00	31.8	4	mg/L		86	75 - 125
Magnesium	10		5.00	15.0		mg/L		95	75 - 125
Potassium	1.1		5.00	6.07		mg/L		99	75 - 125
Sodium	10		5.00	15.0		mg/L		98	75 - 125
Cobalt	<0.00040		0.0500	0.0499		mg/L		100	75 - 125
Lithium	0.011		0.0500	0.0637		mg/L		106	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

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

Lab Sample ID: 400-163104-1 MSD

Matrix: Water

Analysis Batch: 422857

Client Sample ID: MGWA-5

Prep Type: Total Recoverable

Prep Batch: 422641

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Calcium	28		5.00	31.9	4	mg/L		88	75 - 125	0	20	
Magnesium	10		5.00	15.0		mg/L		95	75 - 125	0	20	
Potassium	1.1		5.00	6.11		mg/L		99	75 - 125	1	20	
Sodium	10		5.00	15.1		mg/L		99	75 - 125	0	20	
Cobalt	<0.00040		0.0500	0.0500		mg/L		100	75 - 125	0	20	
Lithium	0.011		0.0500	0.0639		mg/L		106	75 - 125	0	20	

Lab Sample ID: MB 400-422678/1-A ^5

Matrix: Water

Analysis Batch: 422857

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 422678

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<0.13		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 21:05	5
Magnesium	<0.032		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 21:05	5
Potassium	<0.11		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 21:05	5
Sodium	<0.17		0.25	0.17	mg/L		12/11/18 09:41	12/11/18 21:05	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 21:05	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 21:05	5

Lab Sample ID: LCS 400-422678/2-A

Matrix: Water

Analysis Batch: 422857

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 422678

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Calcium	5.00	4.92		mg/L		98	80 - 120	
Magnesium	5.00	4.84		mg/L		97	80 - 120	
Potassium	5.00	4.88		mg/L		98	80 - 120	
Sodium	5.00	4.91		mg/L		98	80 - 120	
Cobalt	0.0500	0.0488		mg/L		98	80 - 120	
Lithium	0.0500	0.0495		mg/L		99	80 - 120	

Lab Sample ID: 400-162766-A-1-B MS ^5

Matrix: Water

Analysis Batch: 422857

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 422678

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Calcium	150	E	5.00	156	E 4	mg/L		87	75 - 125	
Magnesium	20		5.00	24.7	4	mg/L		88	75 - 125	
Potassium	9.5		5.00	14.1		mg/L		93	75 - 125	
Sodium	71		5.00	74.5	4	mg/L		72	75 - 125	
Cobalt	<0.00040		0.0500	0.0493		mg/L		99	75 - 125	
Lithium	0.026		0.0500	0.0793		mg/L		106	75 - 125	

Lab Sample ID: 400-162766-A-1-C MSD ^5

Matrix: Water

Analysis Batch: 422857

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 422678

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Calcium	150	E	5.00	157	E 4	mg/L		96	75 - 125	0	20	

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
SDG: Ash Pond

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

Lab Sample ID: 400-162766-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Magnesium	20		5.00	24.8	4	mg/L		89	75 - 125	0	20
Potassium	9.5		5.00	14.1		mg/L		94	75 - 125	0	20
Sodium	71		5.00	74.4	4	mg/L		70	75 - 125	0	20
Cobalt	<0.00040		0.0500	0.0498		mg/L		100	75 - 125	1	20
Lithium	0.026		0.0500	0.0801		mg/L		108	75 - 125	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 400-422785/4
Matrix: Water
Analysis Batch: 422785

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity, Total	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1

Lab Sample ID: LCS 400-422785/5
Matrix: Water
Analysis Batch: 422785

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Alkalinity, Total	100	101		mg/L		101	80 - 120

Lab Sample ID: 400-162991-B-1 DU
Matrix: Water
Analysis Batch: 422785

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity, Total	110		109		mg/L		1	20
Carbonate Alkalinity as CaCO3	<0.98		<0.98		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	110		109		mg/L		1	20

Lab Sample ID: 400-163036-A-12 DU
Matrix: Water
Analysis Batch: 422785

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity, Total	5.6		7.79	F3	mg/L		32	20
Carbonate Alkalinity as CaCO3	<0.98		<0.98		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	5.6		7.79	F3	mg/L		32	20

Chain of Custody Record



Client Information		Lab PM: Whitmire, Cheyenne R		COC No: 400-79061-3600 -1	
Sampler: Peter Adams & Lauren Coker		E-Mail: cheyenne.whitmire@testamericainc.com		Page 1 of 2	
Phone: 404-592-0096		400-163104 COC		Job #:	
Company: Southern Company		Due Date Requested:		Preservation Codes:	
Address: PO BOX 2641 GSC8		TAT Requested (days):		M - Hexane	
City: Birmingham		Rush		N - None	
State, Zip: AL, 35291		PO #: SCS10347656		O - As ₂ O ₃	
Phone: 205-992-5417(Tel)		WO #:		P - Na ₂ O ₄ S	
Email: lmpetty@southernco.com		Project #:		Q - NaHSO ₄	
Project Name: CCR - Plant McIntosh - Ash Pond		SSOW#:		R - Na ₂ SO ₃	
Site: GA		Sample Date		S - H ₂ SO ₄	
Sample Identification		Sample Time		T - TSP Dodecahydrate	
MGWA-5		12/4/18 10:45		U - Acetone	
HOSE-01		12/4/18 12:25		V - MCAA	
MGWA-10		12/5/18 9:35		W - pH 4-5	
MGWA-11		10:34		X - other (specify)	
MGWA-6		11:36		Other:	
MGWC-19		12:58		A - HCL	
MGWC-7		13:45		B - NaOH	
PW-19		14:10		C - Zn Acetate	
PW-1D		14:55		D - Nitric Acid	
MGWC-21		15:35		E - NaHSO ₄	
MGWC-8		16:10		F - MeOH	
Possible Hazard Identification		Field Filtered Sample (Yes or No)		G - Amchlor	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Radiological		Perform MS/MSD (Yes or No)		H - Ascorbic Acid	
Deliverable Requested: I, II, III, IV, Other (specify)		6020 - LI, Co, Ca, Mg, Na, K		I - Ice	
Empty Kit Relinquished by: Peter Adams		6020 - LI, Co, Ca, Mg, Na, K		J - DI Water	
Relinquished by: Peter Adams		Sulfate and Chloride		K - EDTA	
Relinquished by:		Carbonate Alkalinity		L - EDA	
Relinquished by:		Total Number of Containers		Other:	
Relinquished by:		Special Instructions/Note:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 1.1°C FL7			



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

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab PM		Carrier Tracking No(s)		COC No:	
Sampler: Peter Adams & Lauren Coker Phone: 404-592-0096 E-Mail: cheyenne.whitmire@testamericainc.com		Whitmire, Cheyenne R				400-79051-36600-2	
Company: Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417(Tel) Email: lmpetty@southernco.com Project #: 40007692 CCR - Plant McIntosh - Ash Pond Sub: GA		Due Date Requested: TAT Requested (days): Rush PO #: SCS10347656 WO #:		Analysis Requested Perform MS/SD (Yes or No) Field Filtered Sample (Yes or No) 6020 - LI, Co (only) 6020 - LI, Co, Ca, Mg, Na, K Sulfate and Chloride Carbonate Alkalinity		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:	
Sample Identification FERB-01 FB-01 DUP-01 MGWC-12		Sample Date 12/5/18 16:30 16:35 16:50		Sample Time 16:30 16:35 16:50		Matrix (W=water, B=brackish, O=organic) Preservation Code: G W ↓ ↓ ↓ ↓ ↓ ↓	
Possible Hazard Identification <input 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 <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:		Total Number of Containers	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Date:		Method of Shipment: FedEx	
Relinquished by: Peter Adams		Date/Time: 12/5/18 18:15		Company: GEI		Received by: Rachel R. Adams	
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: 1.1°C Ice 7		Company:	



Client Information 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		Sampler: Peter Adams & Lauren Goker Phone: 678 467 9660 Lab PM: Whitmire, Cheyenne R E-Mail: cheyenne.whitmire@testamericainc.com		Carrier Tracking No(s): COC No: 400-75550-28872.3 Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Rush PO #: SCS10347656 WO #:		Analysis Requested 6020 - Li, Co (only) 6020 - Li, Co, Mg, Ca, Na, K Chloride & Sulfate 400-163104 COC		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification MGWC-3 MGWC-23 MGWC-2 MGWC-1 MGWC-22 MGWC-20 PW-2S PW-2D DUP-02 FERB-02 FB-02		Sample Date 12/6/18 Sample Time 9:22 9:45 10:25 11:00 11:35 13:00 11:50 12:20 13:00 13:05		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) D N I D N N N N N N Y Y N N N 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 if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Archive For: _____ Months		Special Instructions/Note: Total Number of containers:	
Deliverable Requested: I, II, III, IV, Other (specify):		Empty Kit Relinquished by:		Method of Shipment: FedEx	
Relinquished by: Lauren Goker Date/Time: 12/6/18 16:00 Company: GEI		Relinquished by:		Date/Time: 12/7/18 09:24 Company: TAPEN	
Relinquished by:		Relinquished by:		Date/Time:	
Relinquished by:		Relinquished by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 2.7°C 127		Custody Seal No.:	

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-163104-1

SDG Number: Ash Pond

Login Number: 163104

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1°C IR-7; 2.7°C, IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-1
 SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	12-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-163104-2

TestAmerica Sample Delivery Group: Ash Pond

Client Project/Site: CCR - Plant McIntosh

For:

Southern Company

600 18th Street North

Birmingham, Alabama 35203

Attn: Accounts Payable



Authorized for release by:

12/13/2018 6:20:38 PM

Cheyenne Whitmire, Project Manager II

(850)471-6222

cheyenne.whitmire@testamericainc.com

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

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

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

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Case Narrative

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Job ID: 400-163104-2

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-163104-2

HPLC/IC

Method(s) 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: PW-01S (400-163104-7), PW-01D (400-163104-8), PW-02S (400-163104-22) and PW-02D (400-163104-23). Elevated reporting limits (RLs) are provided.

Metals

Method(s) 6020: The following sample was diluted to bring the concentration of target analytes within the calibration range: PW-02D (400-163104-23). Elevated reporting limits (RLs) are provided.

General Chemistry

Method(s) SM 2320B: The sample duplicate precision for the following sample associated with analytical batch 422785 was outside control limits: (400-163036-A-12 DU). The associated Laboratory Control Sample(LCS)met acceptance criteria.



Detection Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Client Sample ID: PW-01S

Lab Sample ID: 400-163104-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.9		5.0	4.5	mg/L	5		300.0	Total/NA
Sulfate - DL	300		10	7.0	mg/L	10		300.0	Total/NA
Calcium	100		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.056		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	13		0.13	0.032	mg/L	5		6020	Total Recoverable
Potassium	16		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	76		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	190		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	2.1		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	190		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: PW-01D

Lab Sample ID: 400-163104-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.2		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	180		5.0	3.5	mg/L	5		300.0	Total/NA
Calcium	60		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.019		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	2.2		0.13	0.032	mg/L	5		6020	Total Recoverable
Potassium	8.4		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	43		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	90		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	72		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	17		1.0	0.98	mg/L	1		SM 2320B	Total/NA

Client Sample ID: PW-02S

Lab Sample ID: 400-163104-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.0		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	210		10	7.0	mg/L	10		300.0	Total/NA
Calcium	73		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.0029	J	0.0050	0.0011	mg/L	5		6020	Total Recoverable
Magnesium	0.29		0.13	0.032	mg/L	5		6020	Total Recoverable
Potassium	32		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium	96		0.25	0.17	mg/L	5		6020	Total Recoverable
Alkalinity, Total	250		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	120		1.0	0.98	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
 SDG: Ash Pond

Client Sample ID: PW-02D

Lab Sample ID: 400-163104-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.6		1.0	0.89	mg/L	1		300.0	Total/NA
Sulfate - DL	1600		50	35	mg/L	50		300.0	Total/NA
Calcium	69		0.25	0.13	mg/L	5		6020	Total Recoverable
Lithium	0.037		0.0050	0.0011	mg/L	5		6020	Total Recoverable
Potassium	180		0.25	0.11	mg/L	5		6020	Total Recoverable
Sodium - DL	820		2.5	1.7	mg/L	50		6020	Total Recoverable
Alkalinity, Total	470		1.0	0.98	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	220		1.0	0.98	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Method Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
6020	Metals (ICP/MS)	SW846	TAL PEN
SM 2320B	Alkalinity	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PEN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-163104-7	PW-01S	Water	12/05/18 14:10	12/06/18 08:56
400-163104-8	PW-01D	Water	12/05/18 14:55	12/06/18 08:56
400-163104-22	PW-02S	Water	12/06/18 11:50	12/07/18 09:24
400-163104-23	PW-02D	Water	12/06/18 12:20	12/07/18 09:24

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Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Client Sample ID: PW-01S

Date Collected: 12/05/18 14:10

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-7

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.9		5.0	4.5	mg/L			12/07/18 21:44	5

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	300		10	7.0	mg/L			12/10/18 18:40	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 19:57	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 19:57	5
Lithium	0.056		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 19:57	5
Magnesium	13		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 19:57	5
Potassium	16		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 19:57	5
Sodium	76		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 19:57	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	190		1.0	0.98	mg/L			12/11/18 14:57	1
Carbonate Alkalinity as CaCO3	2.1		1.0	0.98	mg/L			12/11/18 14:57	1
Bicarbonate Alkalinity as CaCO3	190		1.0	0.98	mg/L			12/11/18 14:57	1

Client Sample ID: PW-01D

Date Collected: 12/05/18 14:55

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		1.0	0.89	mg/L			12/07/18 22:53	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	180		5.0	3.5	mg/L			12/10/18 19:03	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	60		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 20:01	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 20:01	5
Lithium	0.019		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 20:01	5
Magnesium	2.2		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 20:01	5
Potassium	8.4		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 20:01	5
Sodium	43		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 20:01	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	90		1.0	0.98	mg/L			12/11/18 15:05	1
Carbonate Alkalinity as CaCO3	72		1.0	0.98	mg/L			12/11/18 15:05	1
Bicarbonate Alkalinity as CaCO3	17		1.0	0.98	mg/L			12/11/18 15:05	1

TestAmerica Pensacola

Client Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Client Sample ID: PW-02S

Lab Sample ID: 400-163104-22

Date Collected: 12/06/18 11:50

Matrix: Water

Date Received: 12/07/18 09:24

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.0		1.0	0.89	mg/L			12/11/18 17:12	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	210		10	7.0	mg/L			12/10/18 20:57	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	73		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 22:45	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 22:45	5
Lithium	0.0029	J	0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 22:45	5
Magnesium	0.29		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 22:45	5
Potassium	32		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 22:45	5
Sodium	96		0.25	0.17	mg/L		12/11/18 09:41	12/11/18 22:45	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	250		1.0	0.98	mg/L			12/11/18 15:58	1
Carbonate Alkalinity as CaCO3	120		1.0	0.98	mg/L			12/11/18 15:58	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 15:58	1

Client Sample ID: PW-02D

Lab Sample ID: 400-163104-23

Date Collected: 12/06/18 12:20

Matrix: Water

Date Received: 12/07/18 09:24

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.6		1.0	0.89	mg/L			12/11/18 17:35	1

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1600		50	35	mg/L			12/10/18 21:20	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	69		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 22:49	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 22:49	5
Lithium	0.037		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 22:49	5
Magnesium	<0.032		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 22:49	5
Potassium	180		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 22:49	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	820		2.5	1.7	mg/L		12/11/18 09:41	12/12/18 14:52	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	470		1.0	0.98	mg/L			12/11/18 16:09	1
Carbonate Alkalinity as CaCO3	220		1.0	0.98	mg/L			12/11/18 16:09	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 16:09	1

TestAmerica Pensacola

Definitions/Glossary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

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)

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Client Sample ID: PW-01S

Date Collected: 12/05/18 14:10

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	422580	12/07/18 21:44	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	10	422686	12/10/18 18:40	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 19:57	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 14:57	BAB	TAL PEN

Client Sample ID: PW-01D

Date Collected: 12/05/18 14:55

Date Received: 12/06/18 08:56

Lab Sample ID: 400-163104-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	422580	12/07/18 22:53	BAW	TAL PEN
Total/NA	Analysis	300.0	DL	5	422686	12/10/18 19:03	BAW	TAL PEN
Total Recoverable	Prep	3005A			422641	12/10/18 17:28	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 20:01	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 15:05	BAB	TAL PEN

Client Sample ID: PW-02S

Date Collected: 12/06/18 11:50

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	DL	10	422686	12/10/18 20:57	BAW	TAL PEN
Total/NA	Analysis	300.0		1	422867	12/11/18 17:12	BAW	TAL PEN
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 22:45	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 15:58	BAB	TAL PEN

Client Sample ID: PW-02D

Date Collected: 12/06/18 12:20

Date Received: 12/07/18 09:24

Lab Sample ID: 400-163104-23

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	DL	50	422686	12/10/18 21:20	BAW	TAL PEN
Total/NA	Analysis	300.0		1	422867	12/11/18 17:35	BAW	TAL PEN
Total Recoverable	Prep	3005A			422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020		5	422857	12/11/18 22:49	DRE	TAL PEN
Total Recoverable	Prep	3005A	DL		422678	12/11/18 09:41	DRE	TAL PEN
Total Recoverable	Analysis	6020	DL	50	423052	12/12/18 14:52	DRE	TAL PEN
Total/NA	Analysis	SM 2320B		1	422785	12/11/18 16:09	BAB	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Laboratory References:

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

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QC Association Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
 SDG: Ash Pond

HPLC/IC

Analysis Batch: 422580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-7	PW-01S	Total/NA	Water	300.0	
400-163104-8	PW-01D	Total/NA	Water	300.0	
MB 400-422580/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422580/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422580/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-162737-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
400-162737-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 422686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-7 - DL	PW-01S	Total/NA	Water	300.0	
400-163104-8 - DL	PW-01D	Total/NA	Water	300.0	
400-163104-22 - DL	PW-02S	Total/NA	Water	300.0	
400-163104-23 - DL	PW-02D	Total/NA	Water	300.0	
MB 400-422686/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422686/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422686/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-163104-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
400-163104-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 422867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-22	PW-02S	Total/NA	Water	300.0	
400-163104-23	PW-02D	Total/NA	Water	300.0	
MB 400-422867/4	Method Blank	Total/NA	Water	300.0	
LCS 400-422867/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 400-422867/6	Lab Control Sample Dup	Total/NA	Water	300.0	
400-163055-H-2 MS	Matrix Spike	Total/NA	Water	300.0	
400-163055-H-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 422641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-7	PW-01S	Total Recoverable	Water	3005A	
400-163104-8	PW-01D	Total Recoverable	Water	3005A	
MB 400-422641/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-422641/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-163104-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-163104-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 422678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-22	PW-02S	Total Recoverable	Water	3005A	
400-163104-23 - DL	PW-02D	Total Recoverable	Water	3005A	
400-163104-23	PW-02D	Total Recoverable	Water	3005A	
MB 400-422678/1-A ^5	Method Blank	Total Recoverable	Water	3005A	
LCS 400-422678/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
400-162766-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	3005A	
400-162766-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

TestAmerica Pensacola

QC Association Summary

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Metals (Continued)

Analysis Batch: 422857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-7	PW-01S	Total Recoverable	Water	6020	422641
400-163104-8	PW-01D	Total Recoverable	Water	6020	422641
400-163104-22	PW-02S	Total Recoverable	Water	6020	422678
400-163104-23	PW-02D	Total Recoverable	Water	6020	422678
MB 400-422641/1-A ^5	Method Blank	Total Recoverable	Water	6020	422641
MB 400-422678/1-A ^5	Method Blank	Total Recoverable	Water	6020	422678
LCS 400-422641/2-A	Lab Control Sample	Total Recoverable	Water	6020	422641
LCS 400-422678/2-A	Lab Control Sample	Total Recoverable	Water	6020	422678
400-162766-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	422678
400-162766-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	422678
400-163104-A-1-B MS ^5	Matrix Spike	Total Recoverable	Water	6020	422641
400-163104-A-1-C MSD ^5	Matrix Spike Duplicate	Total Recoverable	Water	6020	422641

Analysis Batch: 423052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-23 - DL	PW-02D	Total Recoverable	Water	6020	422678

General Chemistry

Analysis Batch: 422785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-163104-7	PW-01S	Total/NA	Water	SM 2320B	
400-163104-8	PW-01D	Total/NA	Water	SM 2320B	
400-163104-22	PW-02S	Total/NA	Water	SM 2320B	
400-163104-23	PW-02D	Total/NA	Water	SM 2320B	
MB 400-422785/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 400-422785/5	Lab Control Sample	Total/NA	Water	SM 2320B	
400-162991-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	
400-163036-A-12 DU	Duplicate	Total/NA	Water	SM 2320B	

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-422580/4
Matrix: Water
Analysis Batch: 422580

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/07/18 15:39	1
Sulfate	<0.70		1.0	0.70	mg/L			12/07/18 15:39	1

Lab Sample ID: LCS 400-422580/5
Matrix: Water
Analysis Batch: 422580

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.67		mg/L		97	90 - 110
Sulfate	10.0	10.5		mg/L		105	90 - 110

Lab Sample ID: LCSD 400-422580/6
Matrix: Water
Analysis Batch: 422580

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.69		mg/L		97	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	3	15

Lab Sample ID: 400-162737-B-1 MS
Matrix: Water
Analysis Batch: 422580

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10		10.0	19.7		mg/L		94	80 - 120
Sulfate	19		10.0	28.7		mg/L		101	80 - 120

Lab Sample ID: 400-162737-B-1 MSD
Matrix: Water
Analysis Batch: 422580

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10		10.0	19.8		mg/L		95	80 - 120	1	20
Sulfate	19		10.0	28.7		mg/L		102	80 - 120	0	20

Lab Sample ID: MB 400-422686/4
Matrix: Water
Analysis Batch: 422686

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/10/18 15:55	1
Sulfate	<0.70		1.0	0.70	mg/L			12/10/18 15:55	1

Lab Sample ID: LCS 400-422686/5
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.70		mg/L		97	90 - 110

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-422686/5
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 400-422686/6
Matrix: Water
Analysis Batch: 422686

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.68		mg/L		97	90 - 110	0	15
Sulfate	10.0	10.3		mg/L		103	90 - 110	1	15

Lab Sample ID: 400-163104-A-3 MS
Matrix: Water
Analysis Batch: 422686

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4.0		10.0	13.6		mg/L		96	80 - 120
Sulfate	1.3		10.0	12.0		mg/L		106	80 - 120

Lab Sample ID: 400-163104-A-3 MSD
Matrix: Water
Analysis Batch: 422686

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4.0		10.0	13.7		mg/L		97	80 - 120	1	20
Sulfate	1.3		10.0	12.0		mg/L		107	80 - 120	1	20

Lab Sample ID: MB 400-422867/4
Matrix: Water
Analysis Batch: 422867

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.89		1.0	0.89	mg/L			12/11/18 11:28	1
Sulfate	<0.70		1.0	0.70	mg/L			12/11/18 11:28	1

Lab Sample ID: LCS 400-422867/5
Matrix: Water
Analysis Batch: 422867

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.83		mg/L		98	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 400-422867/6
Matrix: Water
Analysis Batch: 422867

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.85		mg/L		98	90 - 110	0	15
Sulfate	10.0	10.5		mg/L		105	90 - 110	1	15

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-163055-H-2 MS

Matrix: Water
Analysis Batch: 422867

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1100	F1	500	1380	F1	mg/L		63	80 - 120
Sulfate	150		500	642		mg/L		98	80 - 120

Lab Sample ID: 400-163055-H-2 MSD

Matrix: Water
Analysis Batch: 422867

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1100	F1	500	1450	F1	mg/L		77	80 - 120	5	20
Sulfate	150		500	656		mg/L		101	80 - 120	2	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 400-422641/1-A ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.13		0.25	0.13	mg/L		12/10/18 17:28	12/11/18 18:56	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/10/18 17:28	12/11/18 18:56	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/10/18 17:28	12/11/18 18:56	5
Magnesium	<0.032		0.13	0.032	mg/L		12/10/18 17:28	12/11/18 18:56	5
Potassium	<0.11		0.25	0.11	mg/L		12/10/18 17:28	12/11/18 18:56	5
Sodium	<0.17		0.25	0.17	mg/L		12/10/18 17:28	12/11/18 18:56	5

Lab Sample ID: LCS 400-422641/2-A

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	5.00	4.98		mg/L		100	80 - 120
Cobalt	0.0500	0.0502		mg/L		100	80 - 120
Lithium	0.0500	0.0509		mg/L		102	80 - 120
Magnesium	5.00	4.84		mg/L		97	80 - 120
Potassium	5.00	4.93		mg/L		99	80 - 120
Sodium	5.00	4.89		mg/L		98	80 - 120

Lab Sample ID: 400-163104-A-1-B MS ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	28		5.00	31.8	4	mg/L		86	75 - 125
Cobalt	<0.00040		0.0500	0.0499		mg/L		100	75 - 125
Lithium	0.011		0.0500	0.0637		mg/L		106	75 - 125
Magnesium	10		5.00	15.0		mg/L		95	75 - 125
Potassium	1.1		5.00	6.07		mg/L		99	75 - 125
Sodium	10		5.00	15.0		mg/L		98	75 - 125

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

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

Lab Sample ID: 400-163104-A-1-C MSD ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable
Prep Batch: 422641

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Calcium	28		5.00	31.9	4	mg/L		88	75 - 125	0	20	
Cobalt	<0.00040		0.0500	0.0500		mg/L		100	75 - 125	0	20	
Lithium	0.011		0.0500	0.0639		mg/L		106	75 - 125	0	20	
Magnesium	10		5.00	15.0		mg/L		95	75 - 125	0	20	
Potassium	1.1		5.00	6.11		mg/L		99	75 - 125	1	20	
Sodium	10		5.00	15.1		mg/L		99	75 - 125	0	20	

Lab Sample ID: MB 400-422678/1-A ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Method Blank

Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<0.13		0.25	0.13	mg/L		12/11/18 09:41	12/11/18 21:05	5
Cobalt	<0.00040		0.0025	0.00040	mg/L		12/11/18 09:41	12/11/18 21:05	5
Lithium	<0.0011		0.0050	0.0011	mg/L		12/11/18 09:41	12/11/18 21:05	5
Magnesium	<0.032		0.13	0.032	mg/L		12/11/18 09:41	12/11/18 21:05	5
Potassium	<0.11		0.25	0.11	mg/L		12/11/18 09:41	12/11/18 21:05	5
Sodium	<0.17		0.25	0.17	mg/L		12/11/18 09:41	12/11/18 21:05	5

Lab Sample ID: LCS 400-422678/2-A

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Calcium	5.00	4.92		mg/L		98	80 - 120	
Cobalt	0.0500	0.0488		mg/L		98	80 - 120	
Lithium	0.0500	0.0495		mg/L		99	80 - 120	
Magnesium	5.00	4.84		mg/L		97	80 - 120	
Potassium	5.00	4.88		mg/L		98	80 - 120	
Sodium	5.00	4.91		mg/L		98	80 - 120	

Lab Sample ID: 400-162766-A-1-B MS ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Calcium	150	E	5.00	156	E 4	mg/L		87	75 - 125	
Cobalt	<0.00040		0.0500	0.0493		mg/L		99	75 - 125	
Lithium	0.026		0.0500	0.0793		mg/L		106	75 - 125	
Magnesium	20		5.00	24.7	4	mg/L		88	75 - 125	
Potassium	9.5		5.00	14.1		mg/L		93	75 - 125	
Sodium	71		5.00	74.5	4	mg/L		72	75 - 125	

Lab Sample ID: 400-162766-A-1-C MSD ^5

Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Calcium	150	E	5.00	157	E 4	mg/L		96	75 - 125	0	20	

TestAmerica Pensacola

QC Sample Results

Client: Southern Company
Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
SDG: Ash Pond

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

Lab Sample ID: 400-162766-A-1-C MSD ^5
Matrix: Water
Analysis Batch: 422857

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 422678

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Cobalt	<0.00040		0.0500	0.0498		mg/L		100	75 - 125	1	20
Lithium	0.026		0.0500	0.0801		mg/L		108	75 - 125	1	20
Magnesium	20		5.00	24.8	4	mg/L		89	75 - 125	0	20
Potassium	9.5		5.00	14.1		mg/L		94	75 - 125	0	20
Sodium	71		5.00	74.4	4	mg/L		70	75 - 125	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 400-422785/4
Matrix: Water
Analysis Batch: 422785

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity, Total	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1
Carbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1
Bicarbonate Alkalinity as CaCO3	<0.98		1.0	0.98	mg/L			12/11/18 13:52	1

Lab Sample ID: LCS 400-422785/5
Matrix: Water
Analysis Batch: 422785

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Alkalinity, Total	100	101		mg/L		101	80 - 120

Lab Sample ID: 400-162991-B-1 DU
Matrix: Water
Analysis Batch: 422785

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity, Total	110		109		mg/L		1	20
Carbonate Alkalinity as CaCO3	<0.98		<0.98		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	110		109		mg/L		1	20

Lab Sample ID: 400-163036-A-12 DU
Matrix: Water
Analysis Batch: 422785

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity, Total	5.6		7.79	F3	mg/L		32	20
Carbonate Alkalinity as CaCO3	<0.98		<0.98		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	5.6		7.79	F3	mg/L		32	20

Chain of Custody Record



Client Information		Lab PM: Whitmire, Cheyenne R		COC No: 400-79061-3600 -1	
Sampler: Peter Adams & Lauren Coker		E-Mail: cheyenne.whitmire@testamericainc.com		Page 1 of 2	
Phone: 404-592-0096		400-163104 COC		Job #:	
Company: Southern Company		Analysis Requested		Preservation Codes:	
Address: PO BOX 2641 GSC8		Due Date Requested:		M - Hexane	
City: Birmingham		TAT Requested (days):		N - None	
State, Zip: AL, 35291		Rush		O - As ₂ O ₃	
Phone: 205-992-5417(Tel)		PO #: SCS10347656		P - Na ₂ O ₄	
Email: lmpetty@southernco.com		WO #:		Q - NaHSO ₄	
Project #: 40007692		Field Filtered Sample (Yes or No)		R - Na ₂ S ₂ O ₃	
CCR - Plant McIntosh - Ash Pond		Perform MS/MSD (Yes or No)		S - H ₂ SO ₄	
Site: GA		Sample Date		T - TSP Dodecahydrate	
		Sample Time		U - Acetone	
		Sample Type (C=Comp, G=Grab)		V - MCAA	
		Preservation Code:		W - pH 4-5	
		Matrix (Hexane, Spiked, Distilled, Other)		X - EDTA	
				L - EDA	
				Other:	
				Total Number of Containers	
				Special Instructions/Note:	
				6020 - Li, Co, Ca, Mg, Na, K	
				Sulfate and Chloride	
				Carbonate Alkalinity	
				6020 - Li, Co, Ca, Mg, Na, K	
				Field Filtered Sample (Yes or No)	
				Perform MS/MSD (Yes or No)	
				Sulfate and Chloride	
				Carbonate Alkalinity	
				6020 - Li, Co, Ca, Mg, Na, K	
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				Carbonate Alkalinity</	

Chain of Custody Record

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

Client Information
 Sampler: Peter Adams & Lauren Coker
 Lab PM: Whitmore, Cheyenne R
 Client Contact: Ms. Lauren Petty
 Phone: 404-592-0096
 E-Mail: cheyenne.whitmore@testamericainc.com
 Company: Southern Company

Due Data Requested:
 Address: PO BOX 2641 GSC8
 City: Birmingham
 State, Zip: AL, 35291
 PO #: SCS10347656
 WO #:
 Project #: 40007692
 Project Name: CCR - Plant McIntosh - Ash Pond
 SOW#: GA

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Perform MS/SD (Yes or No)	6020 - Li, Co (only)	6020 - Li, Co, Ca, Mg, Na, K	Sulfate and Chloride	Carbonate Alkalinity	Analysis Requested		Special Instructions/Note:
											Preservation Code:	Total Number of Containers	
FERB-01	12/5/18	16:30	G	W	X	N	X						
FB-01		16:35					X						
DUP-01							X						
MGWC-12		16:50					X						

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: _____ Time: _____ Method of Shipment: FedEx

Relinquished by: Peter Adams
 Date/Time: 12/5/18 18:15
 Company: GEI

Relinquished by: Peter Adams
 Date/Time: 12-6-18 856
 Company: IA

Custody Seals Intact: Custody Seal No.: _____
 Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks: 1.1°C J127

Chain of Custody Record

Client Information Client Contact: Ms. Lauren Peity Southern Company Address: PO BOX 2641 GSC8 City: Birmingham State, Zip: AL, 35291 Phone: 205-992-5417 (Tel) Email: lmpetty@southernco.com Project Name: CCR - Plant McIntosh Site: ASH POND		Sampler: Peter Adams & Lauren Goker Phone: 678 467 9660 Lab PM: Whitmire, Chyenne R E-Mail: chyenne.whitmire@testamericainc.com		Carrier Tracking No(s): COC No: 400-75550-28872.3 Page: 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): Rush PO #: SCS10347656 WO #:		Analysis Requested 6020 - Li, Co (only) 6020 - Li, Co, Mg, Ca, Na, K Chloride & Sulfate 400-163104 COC		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification MGWC-3 MGWC-23 MGWC-2 MGWC-1 MGWC-22 MGWC-20 PW-2S PW-2D DUP-02 FERB-02 FB-02		Sample Date 12/6/18 Sample Time 9:22 9:45 10:25 11:00 11:35 13:00 11:50 12:20 13:00 13:05		Matrix (W=water, S=solid, O=oil, B=soil, T=tissue, A=air) Water → → → → → → → → → →	
Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		Total Number of Containers		Special Instructions/Note:	
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		Deliverable Requested: I, II, III, IV, Other (specify)		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 Archive For: _____ Months	
Empty Kit Relinquished by:		Date:		Method of Shipment: FedEx	
Relinquished by: <i>Lauren Goker</i>		Date/Time: 12/6/18 16:00		Company: TAPEN	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 2.7°C 127		Company:	



Login Sample Receipt Checklist

Client: Southern Company

Job Number: 400-163104-2

SDG Number: Ash Pond

Login Number: 163104

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1°C IR-7; 2.7°C, IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: Southern Company
 Project/Site: CCR - Plant McIntosh

TestAmerica Job ID: 400-163104-2
 SDG: Ash Pond

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	12-31-18
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA180023	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19



Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Pensacola, FL
Report Nos.: 400-163104-1
Reviewer: Lorie MacKinnon/GEI Consultants
Date: December 17, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
MGWA-5	400-163104-01	Metals
MGWA-10	400-163104-02	Metals
MGWA-11	400-163104-03	Metals, Chloride, Sulfate, Alkalinity
MGWA-6	400-163104-04	Metals
MGWC-19	400-163104-05	Metals
MGWC-7	400-163104-06	Metals, Chloride, Sulfate, Alkalinity
MGWC-21	400-163104-09	Metals
MGWC-8	400-163104-10	Metals
FERB-01	400-163104-11	Metals
FB-01	400-163104-12	Metals
DUP-01	400-163104-13	Metals, Chloride, Sulfate, Alkalinity
MGWC-12	400-163104-14	Metals
HOSE-01	400-163104-15	Metals, Chloride, Sulfate, Alkalinity
MGWC-3	400-163104-16	Metals
MGWC-23	400-163104-17	Metals
MGWC-2	400-163104-18	Metals
MGWC-1	400-163104-19	Metals
MGWC-22	400-163104-20	Metals
MGWC-20	400-163104-21	Metals
DUP-02	400-163104-24	Metals
FERB-02	400-163104-25	Metals, Chloride, Sulfate, Alkalinity
FB-02	400-163104-26	Metals, Chloride, Sulfate, Alkalinity

QC Samples(s): Field/Equipment blanks: FERB-01, FB-01, FERB-02, FB-02
Field Duplicate pairs: MGWC-7/DUP-01 and MGWC-1/DUP-02

The above-listed aqueous samples and field blanks were collected on December 4, 5, and 6, 2018 and were analyzed for select total recoverable metals by SW-846 method 6020, chloride and sulfate by EPA method 300, and alkalinity by Standard Methods SM2320B. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the methods referenced and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, MS/MSD, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Contamination was not detected in the associated laboratory method and field blanks.

MS/MSD Results

MS/MSD analyses were performed on sample MGWA-5 for metals and sample MGWA-11 for chloride and sulfate. All recovery and precision criteria were met.

Additionally, MS/MSD analyses were performed on non-project (batch) samples for anions and metals. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project (batch) samples for alkalinity. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

LCS Results

All criteria were met.

Field Duplicate Results

Samples MGWC-7 and DUP-01 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

Analyte	MGWC-7 (mg/L)	DUP-01 (mg/L)	RPD (%)
Calcium	49	49	0
Cobalt	0.012	0.011	8.7
Lithium	0.14	0.14	0
Magnesium	4.7	4.9	4.2
Potassium	5.5	5.4	1.8
Sodium	37	36	2.7
Chloride	11	11	0
Sulfate	190	190	0
Total alkalinity	25	30	18.2
Bicarbonate Alkalinity	25	30	18.2
NC – Not calculable Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$. When results are $< 5x$ the RL, professional judgement was taken to estimate results if the absolute difference between the original and field duplicate $> RL$.			

Samples MGWC-1 and DUP-02 were submitted as the field duplicate pair with this sample set. The following table summarizes the RPD of the detected analyte in the field duplicate pair, which was within the acceptance criteria.

Analyte	MGWC-1 (mg/L)	DUP-02 (mg/L)	RPD (%)
Lithium	0.010	0.0091	9.4
NC – Not calculable Criteria: When both results are $\geq 5x$ the RL, RPDs must be $< 30\%$. When results are $< 5x$ the RL, professional judgement was taken to estimate results if the absolute difference between the original and field duplicate $> RL$.			

Quantitation Limits

Results were reported which were below the reporting limit (RL)/quantitation limit and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Five-fold dilutions were performed for all ICP/MS metals samples. Reporting limits were elevated accordingly. The following table lists the additional sample dilutions which were required to bring results within the instrument calibration range.

Sample	Sulfate Analysis Reported
MGWC-7	A five-fold dilution was reported.
DUP-01	A five-fold dilution was reported.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Site: Georgia Power Plant, Ash Pond
Laboratory: Test America, Pensacola, FL
Report Nos.: 400-163104-2
Reviewer: Lorie MacKinnon/GEI Consultants
Date: December 17, 2018

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
PW-01S	400-163104-07	Metals, Chloride, Sulfate, Alkalinity
PW-01D	400-163104-08	Metals, Chloride, Sulfate, Alkalinity
PW-02S	400-163104-22	Metals, Chloride, Sulfate, Alkalinity
PW-02D	400-163104-23	Metals, Chloride, Sulfate, Alkalinity

QC Samples: Field/Equipment blanks: FERB-01, FB-01, FERB-02, FB-02 (reported in 400-163104-1)

The above-listed aqueous samples and field blanks were collected on December 5 and 6, 2018 and were analyzed for select total recoverable metals by SW-846 method 6020, chloride and sulfate by EPA method 300, and alkalinity by Standard Methods SM2320B. The data were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the methods referenced and professional and technical judgment.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Method and Field Blanks
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Quantitation Limits

All results are usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The level 2 (reduced deliverable) data package was complete as received by the laboratory and included sample results, method blank, MS/MSD, and LCS results.

Holding Times and Sample Preservation

All criteria were met.

Method and Field Blanks

Contamination was not detected in the associated laboratory method and field blanks.

MS/MSD Results

MS/MSD analyses were performed on sample MGWA-5 for metals and sample MGWA-11 for chloride and sulfate, which were reported in 400-163104-1. All recovery and precision criteria were met.

Additionally, MS/MSD analyses were performed on non-project (batch) samples for anions and metals. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on non-project (batch) samples for alkalinity. Results from these analyses were not used to qualify project samples due to differences in sample type, matrix, etc.

LCS Results

All criteria were met.

Quantitation Limits

Results were reported which were below the reporting limit (RL)/quantitation limit and above the method detection limit (MDL). These results were qualified as estimated (J) by the laboratory.

Five-fold dilutions were performed for all ICP/MS metals samples. Reporting limits were elevated accordingly. The following table lists the additional sample dilutions which were required to bring results within the instrument calibration range.

Georgia Power Ash Pond, 1800205-1.3

Sample	Sulfate Analysis Reported	Chloride Analysis Reported	Metals Analysis Reported
PW-01S	A 10-fold dilution was reported.	A five-fold dilution was reported.	NR
PW-01D	A five-fold dilution was reported.	NR	NR
PW-02S	A 10-fold dilution was reported.	NR	NR
PW-02D	A 50-fold dilution was reported.	NR	A 50-fold dilution was reported for sodium.
NR – An additional dilution was not required for this sample.			

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- NJ - The analysis indicates the presence of a compound that has been “tentatively identified” (N) and the associated numerical value represents its approximate (J) concentration.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.