2021 Semi-Annual Groundwater Monitoring Report

Georgia Power Company – Plant Arkwright

AP1 Landfill

Macon, Georgia

Project No.: 6123111714

Prepared for:

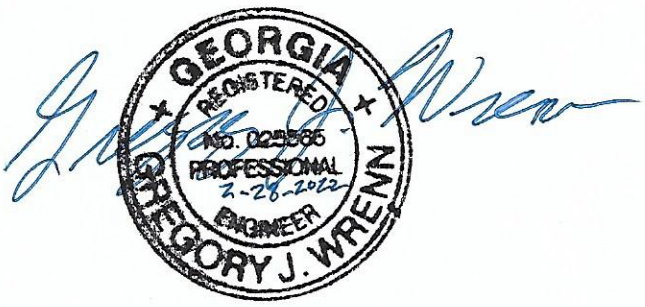
Georgia Power

Atlanta, Georgia

2/28/2022

CERTIFICATION STATEMENT

This 2021 Semi-Annual Groundwater Monitoring Report, Georgia Power Company Plant Arkwright - AP1 Landfill, Macon, Georgia has been prepared in compliance with the Interim Groundwater Monitoring Plan submitted to the Georgia Environmental Protection Division (EPD) on September 24, 2021. Plant Arkwright AP1 Landfill was closed according to Solid Waste Management Tracking Number 011-030D(LI) since July 30, 2010. This report was prepared under the supervision of a licensed professional engineer and a licensed professional geologist with Wood Environment & Infrastructure Solutions, Inc.



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SUMMARY

This summary of the 2021 Semi-Annual Groundwater Monitoring Report provides the status of the groundwater monitoring program from the second half of 2021 at Georgia Power Company's (Georgia Power's) Plant Arkwright AP1 Landfill (the Site).

Plant Arkwright is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon. The physical address of the plant is 5241 Arkwright Road, Macon, Georgia 31210. When in operation, Plant Arkwright consisted of four 40-megawatt units. The Plant Arkwright coal-fired power plant was retired in 2002, decommissioned in 2003, and closed in 2010. The AP1 Landfill received a closure certificate on July 30, 2010 under Solid Waste Permit Number 011-030D(LI). The Site is currently in post-closure care.

Plant Arkwright AP 1Landfill

A CCR unit solid waste handling permit application dated November 2018 was submitted to GA EPD pursuant to the requirements of 391-3-4-.10. The Groundwater Monitoring Plan, Revision 1 (Jacobs, 2021) is a minor modification to Solid Waste Permit Number 011-030D(LI) and an interim plan, as requested by GA EPD on March 23, 2021, to be used until the new CCR unit solid waste handling permit is issued and the Site establishes a permanent groundwater monitoring network. Monitoring and reporting utilizing the existing interim groundwater monitoring network will be conducted on a semi-annual basis in accordance with this plan until CCR removal activities require the interim monitoring wells to be abandoned. The current interim groundwater monitoring well network at the Site consists of two upgradient wells (AP1GWA-1 and AP1GWA-2) and 11 downgradient wells (AP1PZ-1 through AP1PZ-11). Any change to the groundwater monitoring network must be made by a minor modification to the permit pursuant to 391-3-4-.02(3)(b)6. Groundwater monitoring has been initiated in order to meet GA EPD requirements.

During the latter half of the 2021 reporting period, two groundwater sampling events were conducted in August 2021 and October 2021. The samples were analyzed for the full suite of

Appendix III[1] constituents and the full suite of Appendix IV[2] constituents. Groundwater samples were submitted to Eurofins TestAmerica Laboratories, Inc., for analysis.

Georgia Power will continue routine semi-annual groundwater monitoring and reporting at the Site. Reports will be provided to GA EPD semi-annually.

[1] Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)
[2] Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228

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1.0 INTRODUCTION

This 2021 Semi-Annual Groundwater Monitoring Report has been prepared to document groundwater monitoring activities conducted at Georgia Power Company's (Georgia Power's) former Plant Arkwright AP1 Landfill (the Site).

Groundwater monitoring and reporting for Plant Arkwright AP1 Landfill are performed in accordance with the Groundwater Monitoring Plan, Revision 1 (Jacobs, 2021) submitted to EPD on September 24, 2021. This interim plan is a minor modification to Solid Waste Permit Number 011-030D(LI), as requested by GA EPD on March 23, 2021. Groundwater monitoring at AP-1 will be conducted in accordance with this Groundwater Monitoring Plan until the new CCR unit solid waste handling permit is issued and the Site establishes a permanent groundwater monitoring network. This semi-annual report documents the activities completed during the second half of 2021. Two groundwater monitoring events were conducted during this monitoring period, one in August 2021 and the other in October 2021.

1.1 Site Description and Background

The Plant Arkwright site is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon (**Figure 1: Site Location Map**). The physical address of the plant is 5241 Arkwright Road, Macon, GA 31210. When in operation, Plant Arkwright consisted of four 40-megawatt units. In years before retirement, the plant was used primarily to provide peaking power and operated approximately 40 to 60 days per year. The Plant Arkwright coal-fired power plant was retired in 2002 and decommissioned in 2003. AP1 Landfill is located south of the former plant area and is bordered by the Ocmulgee River, Beaverdam Creek, and a Norfolk Southern Railroad (**Figure 2: Piezometer and Surface Water Location Map**). The CCR waste footprint covers approximately 31.22 acres.

AP1 Landfill was constructed prior to 1958 and was closed with two feet of soil cover and vegetation in 1990. Regrading and stabilization of the riverbank and creek bank occurred in two phases in 2004 and 2007. Additionally, the slopes and top of AP1 Landfill were regraded by relocating CCR and placing additional cover soil (Jacobs, 2018).

AP1 Landfill received a closure certificate on July 30, 2010 under Solid Waste Permit Number 011-030D(LI). The Site is currently in post-closure care. Because the unit ceased receiving waste prior to October 19, 2015, AP1 Landfill is not subject to Federal monitoring requirements of the CCR rule. A CCR unit solid waste handling permit application package for the Site was submitted to GA EPD in November 2018 and is currently under review.

1.2 Regional Geology & Hydrogeologic Setting

The geology and hydrogeology of the Plant Arkwright AP1 Landfill are summarized below. The Plant Arkwright site is located along the southern edge of the Washington Slope physiographic district within the Piedmont Physiographic Province (Clark and Zisa, 1976). The Washington Slope is characterized by a gently undulating surface which generally slopes to the south and southeast toward the Coastal Plain Physiographic Province located approximately 3.8 miles to the southeast of the site.

Topography of the Washington Slope ranges from approximately 700 feet above sea level in the areas of southern Atlanta and Athens to approximately 300 feet above sea level at its southern limit along the Georgia Fall Line. Streams follow the structure of underlying crystalline rocks eastward toward the Ocmulgee River. Relief throughout the district is between 50 and 100 feet with the greatest relief being along the Ocmulgee River with steep walled valleys with elevation changes between 150 – 200 feet (Clark and Zisa, 1976). Ultimately, the area surface water flow is directed toward the Ocmulgee River.

Bedrock in the region is composed of moderate- to high-grade metamorphic rocks, consisting of biotite-granite gneiss, schist, and amphibolite, and igneous rocks like granite. In the southernmost Piedmont, in the area of the site, bedrock is predominantly composed of biotite gneiss. Major geologic structures in the region include the Ocmulgee fault, located approximately 7 miles to the northwest of the site which strikes mostly northeast – southwest. The top of bedrock surface is highly weathered and where exposed is generally soft and friable (LeGrand, 1962).

1.2.1 Site Geology

AP1 Landfill is generally underlain by alluvial sands of varying grain sizes, with minor lenses of clay. More consolidated sediments include fine to medium sandy silt to silty sand, which is underlain by silty sand saprolite. Borehole drilling performed at the Site indicate overburden thickness ranging from 22 feet to 62 feet, overlying a thin layer (5 to 10 feet) of partially weathered rock. The underlying bedrock consist of quartzofeldspathic gneiss, hornblende gneiss, and schist (Jacobs, 2021)

1.2.2 Site Hydrogeology

The uppermost aquifer at the Site consists of two hydrostratigraphic units: the water table (overburden) hydrostratigraphic unit and the underlying bedrock hydrostratigraphic unit. The water table unit is composed of the unconsolidated silty sands and sandy silts with clays and variable thicknesses of partially weathered rock (PWR) mantling the bedrock surface. The unconsolidated sands, silts, and PWR are also referred to as overburden. The bedrock unit is

the zone of weathered and fractured bedrock. The water table unit is hydraulically connected to the underlying bedrock through fractures in the partially weathered and fractured bedrock (Southern Company Services, 2005). Slug testing data from the Site reflect a range of hydraulic conductivities from 10^{-6} to 10^{-3} centimeters per second in the water table hydrostratigraphic unit (Jacobs, 2021).

Based on recently installed interim monitoring wells, the potentiometric surface ranges from approximately 323 to 290 feet referenced to North American Vertical Datum of 1988 (NAVD88) (18 to 58 feet below ground surface) respectively in the northern and southern portions of the Site. The interim wells were installed to evaluate the uppermost occurrence of groundwater at the Site and form the monitoring network for AP1 Landfill **(Figure 2)**. The uppermost aquifer typically occurs within the alluvial sediments and residual soils above bedrock. The Site is bordered to the east by the Ocmulgee River, and to the west and south by Beaverdam Creek, both of which influence the potentiometric surface (Jacobs, 2021). Groundwater level monitoring data from the Site show stable water level trends and the potentiometric maps reflect groundwater flowing to the southwest, south, and east, in the direction of the Ocmulgee River and Beaverdam Creek.

1.3 Groundwater Monitoring System

Georgia Power installed a temporary groundwater monitoring system within the uppermost aquifer at AP1 Landfill. The monitoring system is designed to monitor groundwater at the AP1 Landfill within the uppermost aquifer. Wells were located to serve as upgradient or downgradient monitoring points based on groundwater flow direction (**Table 1: Summary of Piezometer Construction**). The monitoring well locations are shown on **Figure 2**. Due to site access constraints and safety concerns, downgradient wells at AP1 Landfill are installed through CCR and will be removed during the closure by removal of the unit. A final groundwater monitoring network will be installed following closure as noted in the 2018 CCR permit application.

2.0 GROUNDWATER MONITORING ACTIVITIES

The following describes monitoring-related activities performed during the second half of 2021. Samples were collected in August and October 2021 from each of the wells in the monitoring system shown on **Figure 2**. **Table 2: Groundwater Sampling Events Summary**, presents a summary of the CCR groundwater sampling events completed during this monitoring period at Plant Arkwright's AP1 Landfill.

2.1 Monitoring Well Installation and Maintenance

Monitoring well-related activities conducted during this period included the following:

- The report documenting the installation, development, and surveying of 11 interim downgradient wells (AP1PZ-1 through AP1PZ-11) in April and May 2021 is provided in **Appendix A: Groundwater Monitoring Well Installation Report.** The new interim wells were sampled during the August and October 2021 sampling events.
- Visual inspection of well conditions prior to sampling, recording the Site conditions, and performing exterior maintenance to conduct sampling under safe and clean conditions. Groundwater Monitoring Well Integrity Forms are included in **Appendix B: Well Inspections**.

2.2 Monitoring

Monitoring events were conducted in August and October 2021 pursuant to the September 24, 2021 Interim Groundwater Monitoring Plan submitted to GA EPD on September 24, 2021. Groundwater samples collected from the interim groundwater monitoring network wells were analyzed for the full suites of Appendix III and Appendix IV constituents. Data reports for the August and October 2021 monitoring events are included in **Appendix C: Field Sampling Data and Analytical Data Reports.**

2.3 Additional Surface Water Sampling

Due to the presence of Beaverdam Creak and the Ocmulgee River in the downgradient direction, Georgia Power proactively collected surface water samples. Surface water samples were collected on September 30, 2021 from 2 locations along Beaverdam Creek and 5 locations along the Ocmulgee River, as shown on **Figure 2**. Surface water samples were collected in accordance with Region 4 U.S. Environmental Protection Agency Science and Ecosystem Support Division Operating Procedures for Surface Water Sampling (SESDPROC-201-R4, December 16, 2016). The laboratory report associated with the September 2021 sampling event is provided in **Appendix C**. Georgia Power will continue collecting the surface water samples semi-annually during interim groundwater monitoring.

3.0 SAMPLE METHODOLOGY & ANALYSES

The following sections describe the methods used to complete groundwater monitoring at Plant Arkwright AP1 Landfill.

3.1 Groundwater Elevation Measurements and Flow Direction

Prior to each sampling event, groundwater elevations are recorded from each well in the network for the AP1 Landfill. Groundwater elevations recorded during the August and October 2021 monitoring events are summarized in **Table 3: Summary of Groundwater Elevations**. Additionally, the groundwater elevations recorded during a July 2021 measurement event are also presented on **Table 3**. Groundwater elevation data from the August and October 2021 monitoring events were used to develop potentiometric surface elevation contour maps (**Figure 3: Potentiometric Surface AP1 Landfill August 2021** and **Figure 4: Potentiometric Surface AP1 Landfill October 2021).** Groundwater flow in the uppermost aquifer **(Figures 3 and 4)** is to the southwest, southeast, and northeast, in the direction of the Ocmulgee River and Beaverdam Creek. The groundwater flow patterns observed during the August and October 2021 measurement events are consistent, with only minor variation between events.

3.2 Groundwater Gradient and Flow Velocity

The groundwater flow velocity at Plant Arkwright AP1 was calculated using a derivation of Darcy's Law. Specifically,

$$V = \frac{K * i}{n_e}$$

Where:

$V =$ Groundwater flow velocity $\left(\frac{feet}{day}\right)$

$K =$ Average hydraulic conductivity of the aquifer $\left(\frac{feet}{day}\right)$

$i =$ Horizontal hydraulic gradient $\left(\frac{feet}{feet}\right)$

$n_e =$ Effective porosity

The general groundwater flow velocity was calculated for the Site based on hydraulic gradients, average hydraulic conductivity based on previous slug test data, and an estimated effective porosity of 0.20 (based on a review of several sources, including Driscoll, 1986; US EPA, 1989; Freeze and Cherry, 1979). **Table 4: Groundwater Flow Velocity Calculations** summarizes the groundwater flow velocities. Results for groundwater flow velocities ranged from 0.004 feet/day in the southern portion of the Site to 0.226 feet/day in the northeastern portion of the Site (1.3 to 82.6 feet/year).

3.3 Groundwater Sampling

Groundwater samples were collected for the August and October 2021 monitoring events. The monitoring wells were purged and sampled with peristaltic or non-dedicated QED bladder pumps using low-flow sampling procedures. Sampling equipment and pump intakes were placed at the midpoint of the well screen. Care was taken to maintain a water level above the top of screen and not draw the water level down below the pump during purging. Water level stabilization was achieved when three consecutive water level measurements vary by 0.3 foot or less at a pumping rate of no less than 100 milliliters per minute. A SmarTroll or AquaTroll (In-Situ field instrument) was used to monitor and record field water quality parameters (pH, conductivity, dissolved oxygen (DO), temperature, and oxygen-reduction potential (ORP) and a Hach 2100Q was used to measure turbidity during well purging to verify stabilization prior to sampling. Groundwater samples were collected when the following stabilization criteria were met:

- pH ± 0.1 Standard Units (S.U.).
- Specific conductance ± 5%.
- ± 10% for DO where DO > 0.5 milligrams per liter (mg/L). No criterion applies if DO < 0.5 mg/L.
- Turbidity measurements less than 5 Nephelometric Turbidity Units.
- Temperature – Record only, not used for stabilization criteria.
- ORP – Record only, not used for stabilization criteria.

Once stabilization was achieved, samples were collected into appropriately preserved laboratory-supplied sample containers. If turbidity readings are greater than 10 NTU at the time of sampling and after 3 hours of purging, a dissolved metals sample is also collected by filtering the water with a 0.45-micron water filter. Total and filtered samples for metals were collected on August 19, 2021 from well AP1PZ-9 during the August event and on October 27, 2021 from well AP1PZ-4 during the October event. The filtered sample from AP1PZ-9 in August 2021 was collected conservatively, as the turbidity was below 10 at the time of sampling, at 8.60 NTU. Sample bottles were placed in ice-packed coolers and submitted to Eurofins TestAmerica Laboratories, Inc. (Eurofins TestAmerica) of Pittsburgh, Pennsylvania, and St. Louis, Missouri following chain-of-custody protocol. Stabilization logs and Equipment Calibration forms are included in **Appendix C.**

3.4 Laboratory Analyses

The groundwater samples collected during the August and October 2021 groundwater monitoring events were analyzed for the full suites of Appendix III and IV constituents. Analytical methods used for groundwater sample analysis are listed on the analytical laboratory reports included in **Appendix C**.

Laboratory analyses were performed by Eurofins TestAmerica. Eurofins TestAmerica is accredited by National Environmental Laboratory Accreditation Program (NELAP) and maintains a NELAP certification for the constituents analyzed for this project. In addition, Eurofins TestAmerica is certified to perform analysis by the State of Georgia.

3.5 Quality Assurance & Quality Control

During each sampling event, quality assurance/quality control (QA/QC) samples are collected. Equipment blanks (where non-dedicated sampling equipment is used) are collected at a rate of one QA/QC sample per 10 groundwater samples. Blind field duplicate samples were collected by filling additional containers at the same location during the sampling event and were collected at a rate of one QA/QC sample per 20 groundwater samples. Field blanks were also collected to evaluate ambient conditions at the sampling locations at a rate of one QA/QC sample per 20 groundwater samples. Quality assurance and quality control of the groundwater data was assessed by performing a data quality evaluation of the laboratory results reported. A data quality evaluation was conducted on the data using laboratory precision and accuracy, and analytical method requirements. The constituent concentrations were generally within the historical range of concentrations. The data quality evaluations are included in Appendix C.

The analytical results from the August and October groundwater sampling events as reported by the laboratory are provided in **Table 5: Analytical Data Summary - Groundwater.** When values are followed by a "J" flag, this indicates that the value is an estimated analyte concentration detected between the method detection limit and the laboratory reporting limit. The estimated value is positively identified but is below the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory operating conditions. Radium values followed by a "U" flag indicate the constituent was not detected above the analytical minimum detectable concentration. As documented in the data quality evaluations included in **Appendix C**, the analytical results for the samples reported are considered usable for meeting project objectives and the results are considered valid.

4.0 GROUNDWATER AND SURFACE WATER RESULTS

The analytical data for the Appendix III and IV constituents for the August and October 2021 groundwater monitoring events, and the September 2021 surface water sampling event, are summarized in **Table 5 and Table 6: Analytical Data Summary – Surface Water**. The complete laboratory and field data sheets are included in **Appendix C.**

5.0 MONITORING PROGRAM STATUS

The Plant Arkwright AP1 Landfill is currently in post-closure care. Groundwater monitoring has been initiated at the request of GA EPD. Georgia Power will continue routine groundwater monitoring and reporting at the Site. Reports will be provided to GA EPD semi-annually.

6.0 CONCLUSIONS & FUTURE ACTIONS

This 2021 Semi-Annual Groundwater Monitoring Report was prepared to fulfill the requirements of the Interim Groundwater Monitoring Plan (Jacobs, 2021). The next semi-annual sampling event is planned for February 2022. The February 2022 semi-annual monitoring event will include sampling and analysis of the full suites of Appendix III and IV constituents.

7.0 REFERENCES

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TABLES

TABLE 1
SUMMARY OF PIEZOMETER CONSTRUCTION
Plant Arkwright
AP1 Landfill
Macon, Georgia

Well	Installation Date	Northing [1]	Easting [1]	Top of Casing Elevation (feet NAVD88)[2]	Ground Surface Elevation (feet NAVD88)[2]	Top of Screen Elevation (feet NAVD88)[3]	Bottom of Screen Elevation (feet NAVD88)[3]	Screen Length (feet)	Groundwater Zone Screened
AP1GWA-1	4/20/2018	1066048.91	2439462.98	345.44	342.28	318.6	308.6	10.0	Overburden/ Bedrock
AP1GWA-2	4/20/2018	1065095.10	2439623.37	341.42	338.55	320.9	310.9	10.0	Overburden/ Bedrock
AP1PZ-1	5/1/2021	1062799.79	2440164.34	338.97	335.92	261.9	251.9	10.0	Overburden/ Bedrock
AP1PZ-2	5/2/2021	1062573.21	2440300.14	339.58	336.64	287.5	277.5	10.0	Bedrock
AP1PZ-3	5/4/2021	1062286.28	2440387.36	338.57	335.50	281.7	271.7	10.0	Overburden/ Bedrock
AP1PZ-4	5/11/2021	1061989.86	2440520.65	338.36	334.98	281.4	271.4	10.0	Overburden
AP1PZ-5	5/13/2021	1061645.61	2440599.18	339.81	336.61	283.1	273.1	10.0	Overburden
AP1PZ-6	5/13/2021	1061273.40	2440714.78	347.56	344.25	285.4	275.4	10.0	Overburden/PWR
AP1PZ-7	5/15/2021	1061483.62	2440573.47	340.91	337.56	273.7	263.7	10.0	Overburden
AP1PZ-8	5/16/2021	1061721.72	2440362.39	338.31	334.94	282.7	272.7	10.0	Overburden/PWR
AP1PZ-9	5/17/2021	1062083.33	2440187.59	337.62	334.14	291.4	281.4	10.0	Bedrock
AP1PZ-10	5/19/2021	1062334.74	2440116.05	338.38	335.07	292.4	282.4	10.0	Bedrock
AP1PZ-11	5/26/2021	1062615.94	2440044.48	338.98	335.78	276.2	266.2	10.0	Overburden

Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum of 1983 (NAD 83).
2. Elevations are feet referenced to North American Vertical Datum of 1988 (NAVD 88).
3. Screen elevations based measured total depth minus length of bottom sump.
4. PWR indicates Partially Weathered Rock.

TABLE 2

GROUNDWATER SAMPLING EVENTS SUMMARY

Plant Arkwright

AP1 Landfill

Macon, Georgia

Well ID	Hydraulic Location	Summary of Sampling Events		Status of Monitoring Well
		August 17-23, 2021	October 26-29, 2021	
Purpose of Sampling Event		Monitoring	Monitoring	
AP1 LANDFILL INTERIM MONITORING WELL NETWORK				
AP1GWA-1	Upgradient	X	X	Monitoring
AP1GWA-2	Upgradient	X	X	Monitoring
AP1PZ-1	Downgradient	X	X	Monitoring
AP1PZ-2	Downgradient	X	X	Monitoring
AP1PZ-3	Downgradient	X	X	Monitoring
AP1PZ-4	Downgradient	X	X	Monitoring
AP1PZ-5	Downgradient	X	X	Monitoring
AP1PZ-6	Downgradient	X	X	Monitoring
AP1PZ-7	Downgradient	X	X	Monitoring
AP1PZ-8	Downgradient	X	X	Monitoring
AP1PZ-9	Downgradient	X	X	Monitoring
AP1PZ-10	Downgradient	X	X	Monitoring
AP1PZ-11	Downgradient	X	X	Monitoring

Notes:

X - indicates well sampled during event

TABLE 3
SUMMARY OF GROUNDWATER ELEVATIONS
Plant Arkwright
AP1 Landfill
Macon, Georgia

Well ID	Top of Casing Elevation (feet NAVD88)	Depth to Water (ft below TOC)	Groundwater Elevation (feet NAVD88)	Depth to Water (ft below TOC)	Groundwater Elevation (feet NAVD88)
Measurement Date		8/16/2021	8/16/2021	10/25/2021	10/25/2021
AP1GWA-1	345.44	24.84	320.60	22.87	322.57
AP1GWA-2	341.42	18.49	322.93	17.35	324.07
AP1PZ-1	338.97	44.94	294.03	44.73	294.24
AP1PZ-2	339.58	41.82	297.76	40.92	298.66
AP1PZ-3	338.57	42.82	295.75	42.06	296.51
AP1PZ-4	338.36	46.92	291.44	46.68	291.68
AP1PZ-5	339.81	48.81	291.00	48.56	291.25
AP1PZ-6	347.56	57.21	290.35	56.94	290.62
AP1PZ-7	340.91	50.30	290.61	50.25	290.66
AP1PZ-8	338.31	46.62	291.69	46.15	292.16
AP1PZ-9	337.62	40.79	296.83	39.76	297.86
AP1PZ-10	338.38	37.94	300.44	36.80	301.58
AP1PZ-11	338.98	38.48	300.50	36.38	302.60

Notes:
Vertical elevations are in feet referenced to North American Vertical Datum of 1988 (NAVD88)
TOC - Top of Casing

TABLE 4
GROUNDWATER FLOW VELOCITY CALCULATIONS
Plant Arkwright
AP1 Landfill
Macon, Georgia

Potentiometric Map Date	Water-Bearing Zone	Location	Groundwater Elevations in Well Pairs (h_1, h_2) (feet)		Change in Elevation (Δh) (feet)	Distance Measured (L) (feet)	Hydraulic Gradient (i) (feet/feet)	Average Hydraulic Conductivity (K) (feet/day)	Estimated Effective Porosity (n_e)	Calculated Groundwater Flow Velocity (V) (feet/day)	Calculated Groundwater Flow Velocity (V) (feet/year)
August 16, 2021	Water Table Aquifer	AP1PZ-8 to AP1PZ-6	291.69	290.35	1.34	575	0.002	0.31	0.2	0.004	1.3
		AP1PZ-11 to AP1PZ-1	300.50	294.03	6.47	222	0.029	1.20	0.2	0.175	63.9
October 25, 2021	Water Table Aquifer	AP1PZ-8 to AP1PZ-6	292.16	290.62	1.54	575	0.003	0.31	0.2	0.004	1.5
		AP1PZ-11 to AP1PZ-1	302.60	294.24	8.36	222	0.038	1.20	0.2	0.226	82.6

Notes:
1. The geometric mean of the in-situ hydraulic conductivity (K) slug test values for AP1PZ-8 and AP1PZ-6 used for AP1PZ-8 to AP1PZ-6 calculation; the slug test K value for AP1PZ-11 used for the AP1PZ-11 to AP1PZ-1 calculation
2. Effective porosity of 20% was selected for the silty sands/sandy silts overburden based on a review of several sources, including Driscoll, 1986; US EPA, 1989; Freeze and Cherry, 1979

TABLE 5
ANALYTICAL DATA SUMMARY - GROUNDWATER
Plant Arkwright
AP1 Landfill
Macon, Georgia

	Substance	Well ID									
		AP1GWA-1	AP1GWA-1	AP1GWA-2	AP1GWA-2	AP1PZ-1	AP1PZ-1	AP1PZ-2	AP1PZ-2	AP1PZ-3	AP1PZ-3
		8/17/2021	10/26/2021	8/18/2021	10/26/2021	8/18/2021	10/28/2021	8/19/2021	10/28/2021	8/19/2021	10/29/2021
APPENDIX III	Boron	0.14	0.12	0.066 (J)	<0.039	0.40	0.41	0.57	0.48	1.5	1.6
	Calcium	18	22	6.4	4.5	35	33	240	190	400	370
	Chloride	1.9	1.6	2.0	2.1	3.0	2.9	4.3	4.0	5.0	5.7
	Fluoride	0.27	0.29	0.071 (J)	0.074 (J)	0.13	0.076 (J)	0.13	0.13	0.063 (J)	0.088 (J)
	Sulfate	62	69	1.4	1.5	100	100	930	820	1300	1300
	TDS	170	160	82	65	280	250	1500	1200	1900	1900
	pH	5.23	4.76	6.03	5.98	6.59	6.44	5.84	5.86	5.60	5.60
APPENDIX IV	Antimony	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038
	Arsenic	< 0.00031	0.00074 (J)	< 0.00031	< 0.00031	< 0.00031	< 0.00031	< 0.00031	< 0.00031	< 0.00031	< 0.00031
	Barium	0.059	0.082	0.044	0.027	0.059	0.058	0.035	0.024	0.036	0.028
	Beryllium	0.0019 (J)	0.0041	< 0.00018	< 0.00018	< 0.00018	< 0.00018	0.00071 (J)	0.00047 (J)	< 0.00018	< 0.00018
	Cadmium	0.00040 (J)	0.00065 (J)	< 0.00022	< 0.00022	< 0.00022	< 0.00022	0.0014 (J)	0.00084 (J)	0.00050 (J)	0.00077 (J)
	Chromium	0.0038	0.0036	< 0.0015	0.0072	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
	Cobalt	0.0084	0.015	0.0082	0.00029 (J)	0.00065 (J)	0.00073 (J)	0.30	0.19	0.052	0.056
	Lead	< 0.00013	0.00013 (J)	< 0.00013	< 0.00013	< 0.00013	0.00013 (J)	0.00035 (J)	0.00043 (J)	< 0.00013	< 0.00013
	Lithium	0.011	0.019	< 0.0034	< 0.0034	< 0.0034	0.0038 (J)	0.028	0.021	0.053	0.058
	Mercury	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013
	Molybdenum	< 0.00061	< 0.00061	< 0.00061	< 0.00061	0.0015 (J)	0.00096 (J)	< 0.00061	< 0.00061	0.0014 (J)	0.00086 (J)
	Radium	0.552	1.08	0.333 U	0.935	-0.198 U	0.405 U	0.589	1.02	0.906	1.13
	Selenium	0.0030 (J)	0.0023 (J)	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
	Thallium	< 0.00015	0.00017 (J)	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
2. Radium results are reported in picocuries per liter (pCi/L).
3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. NA indicates constituent was not analyzed

TABLE 5
ANALYTICAL DATA SUMMARY - GROUNDWATER
Plant Arkwright
AP1 Landfill
Macon, Georgia

	Substance	Well ID								
		AP1PZ-4	AP1PZ-4	AP1PZ-4 Dissolved	AP1PZ-5	AP1PZ-5	AP1PZ-6	AP1PZ-6	AP1PZ-7	AP1PZ-7
		8/20/2021	10/27/2021	10/27/2021	8/20/2021	10/29/2021	8/23/2021	10/26/2021	8/18/2021	10/26/2021
APPENDIX III	Boron	3.5	3.7	3.7	4.7	6.5	6.9	6.5	2.1	2.0
	Calcium	380	400	360	450	590	470	420	330	310
	Chloride	6.4	5.9	NA	8.8	7.9	10	10	7.2	6.8
	Fluoride	0.35	0.20	NA	0.40	0.32	0.25	0.13 (J)	0.18	0.15
	Sulfate	1400	1300	NA	1300	1900	2200	2200	1300	1300
	TDS	2000	2000	NA	2200	2800	3000	3100	2000	2000
	pH	6.56	6.47	NA	6.60	6.36	5.50	5.66	6.41	6.45
APPENDIX IV	Antimony	< 0.00038	< 0.00038	< 0.00038	0.00040 (J)	< 0.00038	< 0.00038	< 0.00038	0.00041 (J)	< 0.00038
	Arsenic	0.00055 (J)	<0.00031	<0.00031	0.0013	0.0011	0.0015	0.0014	0.0020	0.0017
	Barium	0.090	0.070	0.062	0.10	0.080	0.035	0.031	0.097	0.077
	Beryllium	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	0.00021 (J)	< 0.00018	< 0.00018
	Cadmium	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022
	Chromium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.0015 (J)	< 0.0015
	Cobalt	0.0016 (J)	0.0013 (J)	0.0013 (J)	0.0098	0.018	0.35	0.40	0.0085	0.0036
	Lead	< 0.00013	0.00026 (J)	< 0.00013	0.00023 (J)	< 0.00013	< 0.00013	< 0.00013	0.00013 (J)	0.00051 (J)
	Lithium	0.0059	0.0073	0.0066	0.067	0.13	0.0064	0.0057	0.0038 (J)	< 0.0034
	Mercury	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013
	Molybdenum	0.022	0.0085 (J)	0.0073 (J)	0.044	0.031	0.0013 (J)	0.00076 (J)	0.011 (J)	0.0030 (J)
	Radium	0.251 U	1.11	NA	1.03	0.826	0.517	0.534	0.713	0.444
	Selenium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
	Thallium	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
2. Radium results are reported in picocuries per liter (pCi/L).
3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. NA indicates constituent was not analyzed

TABLE 5
ANALYTICAL DATA SUMMARY - GROUNDWATER
Plant Arkwright
AP1 Landfill
Macon, Georgia

	Substance	Well ID								
		AP1PZ-8	AP1PZ-8	AP1PZ-9	AP1PZ-9 Dissolved	AP1PZ-9	AP1PZ-10	AP1PZ-10	AP1PZ-11	AP1PZ-11
		8/18/2021	10/27/2021	8/19/2021	8/19/2021	10/28/2021	8/20/2021	10/27/2021	8/20/2021	10/28/2021
APPENDIX III	Boron	2.4	2.5	0.80	0.80	0.75	0.40	0.36	0.20	0.16
	Calcium	250	300	76	75	69	99	94	28	25
	Chloride	4.6	3.9	7.2	NA	7.2	5.0	4.5	3.1	3.0
	Fluoride	0.33	0.25	0.45	NA	0.45	0.48	0.40	0.12	0.15
	Sulfate	580	660	310	NA	300	230	300	57	60
	TDS	840	1300	550	NA	510	520	520	200	190
	pH	6.74	6.67	5.77	NA	5.49	6.53	6.58	6.71	6.78
APPENDIX IV	Antimony	< 0.00038	< 0.00038	0.00070 (J)	< 0.00038	0.00057 (J)	< 0.00038	0.00038 (J)	< 0.00038	0.00058 (J)
	Arsenic	0.0016	0.00066 (J)	0.00041 (J)	0.00036 (J)	<0.00031	0.0032	0.0030	< 0.00031	< 0.00031
	Barium	0.085	0.076	0.047	0.047	0.035	0.045	0.039	0.021	0.020
	Beryllium	< 0.00018	< 0.00018	0.00028 (J)	0.00023 (J)	0.00029 (J)	< 0.00018	< 0.00018	< 0.00018	< 0.00018
	Cadmium	< 0.00022	< 0.00022	0.00064 (J)	0.00057 (J)	0.00055 (J)	< 0.00022	< 0.00022	< 0.00022	< 0.00022
	Chromium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.0036	<0.0015	< 0.0015	< 0.0015
	Cobalt	0.00090 (J)	0.00068 (J)	0.057	0.055	0.079	0.0023 (J)	0.0018 (J)	0.0013 (J)	0.00044 (J)
	Lead	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	0.00023 (J)	< 0.00013
	Lithium	< 0.0034	< 0.0034	0.073	0.070	0.099	0.012	0.013	< 0.0034	< 0.0034
	Mercury	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013
	Molybdenum	0.41	0.47	0.0021 (J)	0.0022 (J)	0.00068 (J)	0.0050 (J)	0.0045 (J)	0.0023 (J)	0.0022 (J)
	Radium	1.45	1.55	0.777	NA	0.728	0.774 U	1.05	0.321 U	0.00478 U
	Selenium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
	Thallium	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015	< 0.00015

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
2. Radium results are reported in picocuries per liter (pCi/L).
3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
4. J indicates the constituent was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the constituent was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. NA indicates constituent was not analyzed

TABLE 6
ANALYTICAL DATA SUMMARY - SURFACE WATER
Plant Arkwright
AP1 Landfill
Macon, Georgia

	Substance	Surface Water Sample Location						
		OR-0.8	OR-0.3	OR-0.1	OR+0.25	OR+1.0	BC-0.3	BC-0.1
		9/30/2021	9/30/2021	9/30/2021	9/30/2021	9/30/2021	9/30/2021	9/30/2021
APPENDIX III	Boron	0.039 (J)	0.042 (J)	0.041 (J)	0.044 (J)	0.041 (J)	<0.039	0.045 (J)
	Calcium	7.3	7.5	7.1	7.4	7.2	10	10
	Chloride	7.7	7.9	7.5	7.7	8.2	9.3	8.7
	Fluoride	0.13	0.11	0.12	0.12	0.16	0.12	0.098 (J)
	Sulfate	5.8	6.0	5.7	6.0	6.4	6.3	9.2
	TDS	65	62	61	66	73	96	93
	pH	8.03	7.96	7.83	7.79	7.81	7.39	7.55
APPENDIX IV	Antimony	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	NA	< 0.00038
	Arsenic	< 0.00031	< 0.00031	< 0.00031	< 0.00031	< 0.00031	NA	< 0.00031
	Barium	0.021	0.023	0.022	0.023	0.021	NA	0.038
	Beryllium	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	NA	< 0.00018
	Cadmium	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	NA	< 0.00022
	Chromium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	NA	< 0.0015
	Cobalt	0.00015 (J)	0.00018 (J)	0.00016 (J)	0.00013 (J)	0.00015 (J)	0.00029 (J)	0.00071 (J)
	Lead	< 0.00013	0.00013 (J)	0.00016 (J)	< 0.00013	< 0.00013	NA	< 0.00013
	Lithium	< 0.0034	< 0.0034	< 0.0034	< 0.0034	< 0.0034	< 0.0034	< 0.0034
	Mercury	NA	NA	NA	NA	NA	NA	NA
	Molybdenum	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061	<0.00061
	Radium	0.142 U	0.282 U	0.362 U	0.236 U	-0.0774 U	NA	0.0196 U
	Selenium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	NA	< 0.0015
	Thallium	NA	NA	NA	NA	NA	NA	NA

Notes:

1. Results for constituents are reported in milligrams per liter (mg/L). pH values are reported in standard units (s.u.)
2. Radium results are reported in picocuries per liter (pCi/L).
3. < indicates the constituent was not detected above the analytical method detection limit (MDL)
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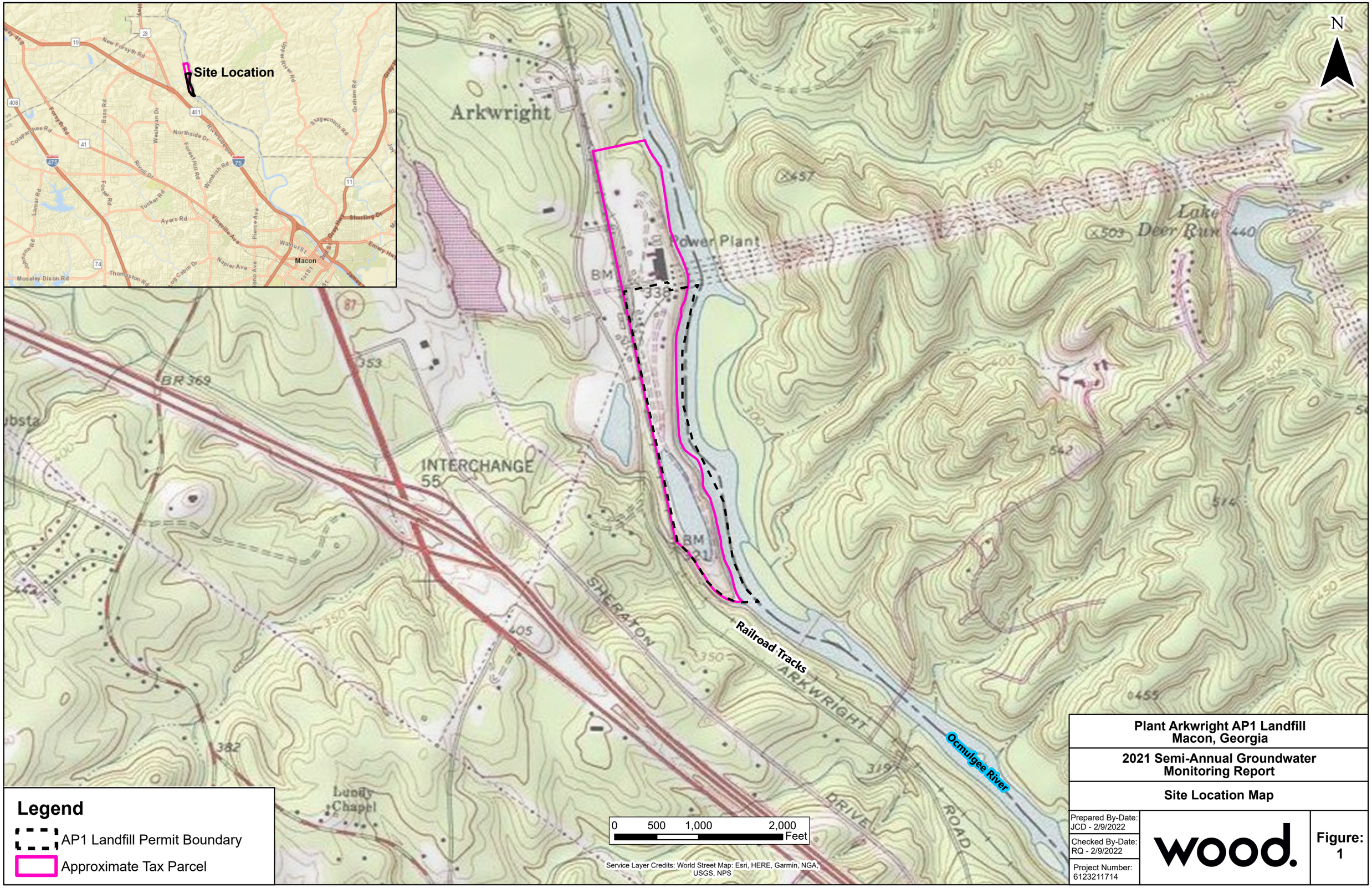
7. NA indicates constituent was not analyzed

FIGURES



Legend

- AP1 Landfill Permit Boundary
- Approximate Tax Parcel

0 500 1,000 2,000 Feet

Service Layer Credits: World Street Map: Esri, HERE, Garmin, NGA, USGS, NPS

Plant Arkwright AP1 Landfill
Macon, Georgia

2021 Semi-Annual Groundwater Monitoring Report

Site Location Map

Prepared By-Date: JCD - 2/9/2022	wood.	Figure: 1
Checked By-Date: RQ - 2/9/2022		
Project Number: 6123211714		

Plant Arkwright AP1 Landfill
Macon, Georgia

2021 Semi-Annual Groundwater Monitoring Report

Piezometer and Surface Water Location Map

Prepared By-Date: JCD - 2/9/2022	wood.	Figure: 2
Checked By-Date: RQ - 2/9/2022		
Project Number: 6123211714		

N

AP1PZ-1
294.03

AP1PZ-11
300.50

AP1PZ-2
297.76

AP1PZ-10
300.44

AP1PZ-3
295.75

AP1PZ-9
296.83

AP1PZ-4
291.44

AP1PZ-8
291.69

AP1PZ-5
291.00

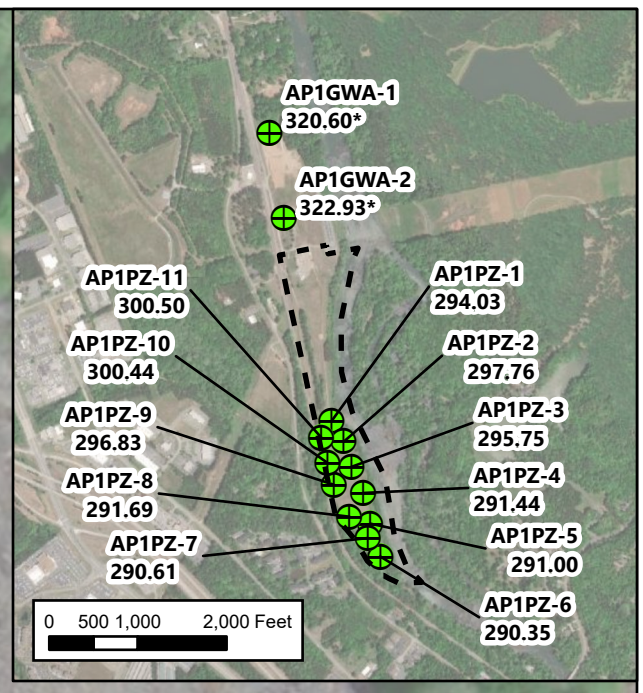
AP1PZ-7
290.61

AP1PZ-6
290.35

300
299
298
297
296
295
294
293
292
291

Ocmulgee River

Railroad Tracks



JOHN M. QUINN
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
No. 878
2-28-2022

Legend

290.35 Groundwater Elevation (ft NAVD88)

* Indicates groundwater elevation not used in contouring

Piezometer Location

Interpreted Groundwater Flow Direction

Potentiometric Surface Contour (ft NAVD88)

Inferred Potentiometric Surface Contour (ft NAVD88)

Beaverdam Creek

AP1 Landfill Permit Boundary

0 50 100 200 Feet

Service Layer Credits: World Imagery: Maxar

Plant Arkwright AP1 Landfill
Macon, Georgia

2021 Semi-Annual Groundwater Monitoring Report

Potentiometric Surface AP1 Landfill
August 2021

Prepared By-Date: NJM - 2/10/2022	wood.	Figure: 3
Checked By-Date: RQ - 2/10/2022		
Project Number: 6123211714		

N

AP1PZ-1
294.24

AP1PZ-11
302.60

AP1PZ-2
298.66

AP1PZ-10
301.58

AP1PZ-3
296.51

AP1PZ-9
297.86

AP1PZ-4
291.68

AP1PZ-8
292.16

AP1PZ-5
291.25

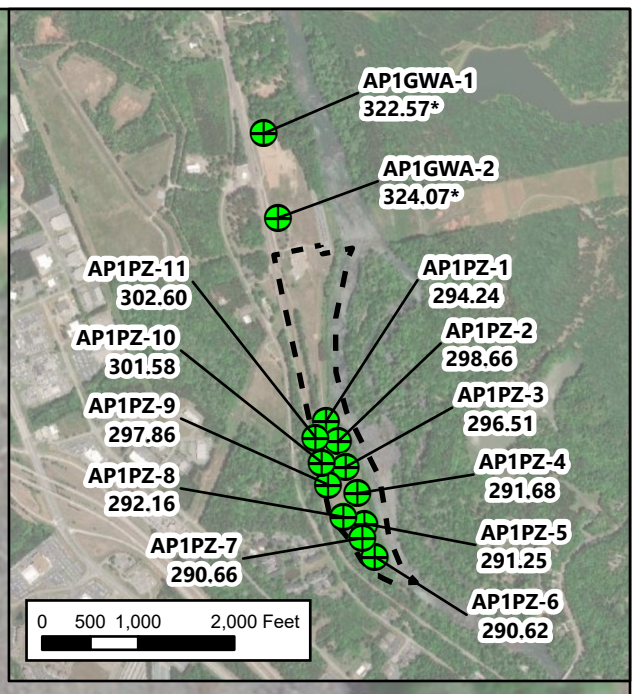
AP1PZ-7
290.66

AP1PZ-6
290.62

302
301
300
299
298
297
296
295
294
293
292
291

Ocmulgee River

Railroad Tracks



0 50 100 200 Feet

Service Layer Credits: World Imagery: Maxar

JOHN M. QUINN
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
No. 878
2-28-2022

Legend

290.62 Groundwater Elevation (ft NAVD88)

* Indicates groundwater elevation not used in contouring

Piezometer Location

Interpreted Groundwater Flow Direction

Potentiometric Surface Contour (ft NAVD88)

Inferred Potentiometric Surface Contour (ft NAVD88)

Beaverdam Creek

AP1 Landfill Permit Boundary

Plant Arkwright AP1 Landfill
Macon, Georgia

2021 Semi-Annual Groundwater Monitoring Report

Potentiometric Surface AP1 Landfill
October 2021

Prepared By-Date: NJM - 2/10/2022

Checked By-Date: RQ - 2/10/2022

Project Number: 6123211714

wood.

Figure: 4

APPENDIX A

GROUNDWATER MONITORING WELL INSTALLATION REPORT

Groundwater Monitoring Well Installation Report

Georgia Power Company – Plant Arkwright

Ash Pond 1
Project No.: 6123211714

Prepared for:

Georgia Power

Atlanta, Georgia

9/20/2021
Revision 1

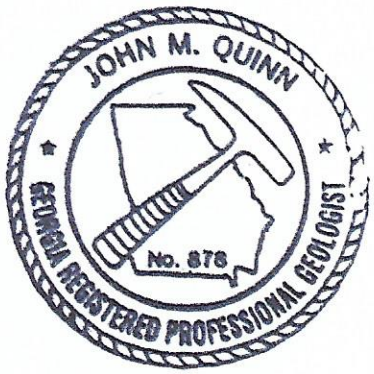
Professional Groundwater Scientist Certification

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction. We certify that the information included is to the best of our knowledge and belief, true, accurate and complete. In preparing this report, we have relied on information provided by Southern Company Services and Georgia Power.

Gregory J. Wrenn, P.E.
Registered Professional Engineer
Professional Engineer No. 025565

Date: Sept. 20, 2021

John M. Quinn, P.G.
Registered Professional Geologist
Georgia Registration No. 878



Date: September 20, 2021

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1.0 INTRODUCTION

The Georgia Power Company (GPC) former Plant Arkwright is located in Bibb County, Georgia approximately 6 miles northwest of the city of Macon. The former coal-fired power plant was retired in 2002 and decommissioned in 2003. The Ash Pond 1 (AP-1) area is located to the south of the former electric generating plant and lies between the Ocmulgee River to the east and Beaverdam Creek to the west with Ash Pond #2 Dry Ash Stockpile located to the northwest.

AP-1 was in operation approximately until the late 1970's. Georgia EPD issued a closure certificate for AP-1, tracking number: 011-030D(LI), on July 30, 2010. At the request of Georgia EPD, Georgia Power Company (GPC) implemented a groundwater monitoring system of 11 temporary piezometers (AP1PZ-1 through AP1PZ-11) around the perimeter of AP-1 to monitor groundwater conditions at AP-1 prior to closure activities. The piezometers will be abandoned in the future as construction for the closure of AP-1 progresses.

This report provides details for the drilling and installation of piezometers AP1PZ-1 through AP1PZ-11 in May 2021. The piezometer construction details are included in **Table 1: Summary of Piezometer Construction** and the locations are shown in **Figure 1: Piezometer Locations.** The surveyed coordinates and elevations of the piezometers are provided in a certified well survey report in **Appendix A: Well Survey Document.**

2.0 DRILLING AND WELL INSTALLATION

The following sections provide details and description of drilling methodology, materials, and installation procedures used in constructing the piezometers AP1PZ-1 through AP1PZ-11. Piezometer installation details are summarized in **Table 1**.

2.1 Drilling Method

Wood provided oversight and documented drilling and installation of the 11 piezometers by Cascade Drilling, under contract with Southern Company, April 29 through June 2, 2021. A copy of the Water Well Contractor's performance bond is provided in **Appendix B: Well Construction and Boring Logs**. The drilling was performed using roto-sonic technology with a Terra Sonic, compact, track-mounted drill rig. Prior to drilling, a standard notification was made to Georgia 811 utility protection service. To provide clearance of potential underground utilities at each drilling location, a Ground Penetrating Radar survey was performed at each borehole location and each location was hand-augered until refusal.

Following subsurface utility clearance, a 4-inch diameter sampling core barrel and tooling, followed by a 7-inch override (outer) and a 6-inch override (intermediate) casing, was advanced via sonic methodology to depths as shown in the boring logs provided in **Appendix B: Well Construction and Boring Logs** for the purpose of collecting soil and rock for characterization and subsequent piezometer installation. The 7-inch outer override casing was advanced from the ground surface to below the bottom of the coal combustion residuals (CCR) materials. The 7-inch casing was temporarily left in place to seal off the CCR interval and was retracted from the borehole as the piezometer was constructed. Soil and/or rock were collected continuously, in core runs up to 10 feet, from the ground surface to the boring termination depth. Upon completion of a core run, prior to retracting the core barrel, 6-inch override casing was advanced over the 4-inch core barrel and tooling to maintain borehole integrity. Once the override casing was in place, the core barrel was retracted from the borehole and the soil and/or rock sample was extruded into a plastic sleeve and provided to the Wood field geologist for characterization and documentation. After sample retrieval, the core barrel was advanced and another core run was completed. Geotechnical soil samples were collected during this drilling event to obtain data for site characterization for closure design.

Upon reaching the target depth, the 6-inch override casing was used to flush/clean-out the borehole and left in place for piezometer construction. The piezometer was installed directly through the override casing. The screen and casing (riser) were placed in the override casing and the annular space was filled (i.e., emplacement of the filter pack, bentonite, and grout) as the override casing was retracted. The investigation-derived waste generated from the drilling of the piezometers was contained in drums and will be disposed offsite at an approved landfill facility.

2.2 Screened Interval

The piezometers were screened in either overburden soils or upper bedrock based on the presence and depth to groundwater and CCR material. The piezometers are screened at a depth of at least 20 feet below the potentiometric surface and below CCR materials. In some instances, groundwater was not present in the overburden soils and the borings were drilled deeper into upper bedrock to obtain sufficient groundwater for the screen to be fully saturated. Each piezometer was constructed with 10 feet of slotted screen as shown in the boring logs provided in **Appendix B: Well Construction and Boring Logs**.

2.3 Well Casing and Screens

The piezometers are constructed of 2-inch inside diameter Schedule 40 polyvinyl chloride (PVC) casing (riser) and pre-packed Number 10 slot (0.010-inch aperture) screen. The pre-pack screens are comprised of a 10-foot-long section of slotted PVC "U-pack" pre-pack screen. Each pre-pack screen used in the construction of each piezometer was manually filled with sand and then attached to the riser section of the well casing. Well construction materials are designed to be sufficiently durable to resist chemical and physical degradation and not interfere with the quality of groundwater samples. The casing and screen sections were flush-threaded and did not require the use of solvent or adhesive to construct the piezometers.

The piezometers were designed and constructed to:

1) allow sufficient groundwater flow to the piezometer for sampling;
2) minimize the passage of formation materials (turbidity) into the piezometers; and,
3) ensure sufficient structural integrity to prevent collapse of the piezometer.

2.4 Filter Pack

The filter pack material is designed to be chemically inert, clean, well-graded, well-rounded, dimensionally stable, silica (quartz) sand of which the 80 to 90 percent retained size is 0.010-inch diameter (the screen aperture). The filter pack sand used for the construction of the piezometers was 20/40 sand. The filter pack material was emplaced in the annular space between the outside of the pre-pack screen and borehole wall to ensure an adequate thickness of filter pack material between the well and the formation. The filter pack was extended approximately two to three feet above the top of the screen. After installing the filter pack, the piezometers were pumped to allow settlement of the filter pack material, prior to installing the annular seal. The filter pack depth/interval is documented in well construction logs provided in **Appendix B**.

2.5 Annular Seal

After installing the filter pack, at a minimum, approximately three to three and a half feet of bentonite pellets were emplaced in the annular space directly above the filter pack to seal the annulus and prevent vertical flow of water along the well casing. The bentonite used for the construction of the piezometers were 3/8-inch, non-coated pellets (PDS Pel-Plug). The bentonite pellets were allowed to hydrate at least 24-hours to obtain a good seal for the well.

After the bentonite was adequately hydrated, the remaining annular space was sealed using AQUAGUARD by Baroid Industrial Drilling Products, a sodium bentonite blended grout. The grout was prepared in accordance with manufacturer's instructions and emplaced from the bentonite seal to the near ground surface via tremie method. The grout was injected through a tremie pipe at a low velocity as to not displace the bentonite seal and the tremie pipe was raised as grout filled the annular space. A concrete seal extends from approximately two feet below ground surface to grade and was formed into a slightly mounded cement apron extending outward to help direct rainwater run-off away from the piezometer.

2.6 Cap and Protective Casing

Each piezometer was fitted with a sealable cap and a lockable, 4-inch square, steel, above-grade (stick-up) protective casing was installed over the piezometer to protect the PVC riser from damage and secure the well from unauthorized access. The annular space between the piezometer riser and protective casing was filled with pea-size gravel, and a small weep-hole was drilled near the base to allow for drainage from inside the protective casing. Additionally, bollards were installed at the corners of the concrete pad to protect the piezometer. Prior to leaving the site, each piezometer was secured with a padlock. Piezometer construction details are documented in Well Construction Logs provided in **Appendix B**.

3.0 WELL DEVELOPMENT

Each piezometer was developed using an electric submersible pump to restore the natural hydraulic conductivity of the formation and to remove fine-grained sediment to help ensure low-turbidity groundwater samples. Wells were alternately surged and purged until visually clear of particulates. Groundwater quality parameters, including turbidity, pH, and specific conductivity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were monitored for stabilization during development to verify that each piezometer was adequately developed.

Development of the piezometers continued until criteria indicating adequate development was achieved. Development is considered as being complete when the well/piezometer yields water with a turbidity less than 10 Nephelometric Turbidity Units (NTU) and the pH and specific conductivity have stabilized (i.e., pH within 0.1 standard unit and specific conductivity within 5% over three consecutive measurements). The development forms are included in **Appendix C: Well Development Forms**.

Prior to deploying the development pump in each piezometer, the pump was decontaminated and fitted with new disposable tubing. New, disposable, nitrile gloves were worn throughout the development process, including when initially deploying the pump, handling the pump and tubing while surging, and during decontamination activities.

4.0 SURVEY

Piezometer locations, top of casing (TOC) elevations, and ground surface elevations were surveyed to a vertical accuracy of 0.01 feet and horizontal accuracy of 0.5 feet by Donaldson Garrett & Associates, Inc. Surface and top of casing elevations are reported in feet relative to North American Vertical Datum of 1988 (NAVD 88). Survey data are included in **Table 1**. A certified well survey report is provided in **Appendix A: Well Survey Document**.

5.0 GENERAL REFERENCES

Southern Company Services, Inc., 2016, Draft Monitoring Well Development Procedures, Birmingham, Alabama, March 2016.

USEPA, 2018. Science and Ecosystem Support Division, Guidance: SESDGUID-101-R2 Design and Installation of Monitoring Wells, US Environmental Protection Agency, Region 4, Athens, Georgia, January 16, 2018.

USEPA, 2020. Laboratory Services and Applied Science and Division, Operating Procedure: LSASDPROC-205-R4 Field Equipment Cleaning and Decontamination, US Environmental Protection Agency, Region 4, Athens, Georgia, June 22, 2020.

TABLE

TABLE 1
SUMMARY OF PIEZOMETER CONSTRUCTION

Well	Installation Date	Northing [1]	Easting [1]	Top of Casing Elevation (feet NAVD88) [2]	Ground Surface Elevation (feet NAVD88) [3]	Top of Screen Elevation (feet NAVD88) [3]	Bottom of Screen Elevation (feet NAVD88) [3]	Screen Length (feet)	Total Well Depth Measured on 8/16/2021 (feet below TOC) [4]	Groundwater Zone Screened
AP1PZ-1	5/1/2021	1062799.79	2440164.34	338.97	335.92	261.9	251.9	10.0	87.62	Overburden/ Bedrock
AP1PZ-2	5/2/2021	1062573.21	2440300.14	339.58	336.64	287.5	277.5	10.0	62.67	Bedrock
AP1PZ-3	5/4/2021	1062286.28	2440387.36	338.57	335.50	281.7	271.7	10.0	67.44	Overburden/ Bedrock
AP1PZ-4	5/11/2021	1061989.86	2440520.65	338.36	334.98	281.4	271.4	10.0	67.42	Overburden
AP1PZ-5	5/13/2021	1061645.61	2440599.18	339.81	336.61	283.1	273.1	10.0	67.25	Overburden
AP1PZ-6	5/13/2021	1061273.40	2440714.78	347.56	344.25	285.4	275.4	10.0	72.70	Overburden/PWR
AP1PZ-7	5/15/2021	1061483.62	2440573.47	340.91	337.56	273.7	263.7	10.0	77.75	Overburden
AP1PZ-8	5/16/2021	1061721.72	2440362.39	338.31	334.94	282.7	272.7	10.0	66.09	Overburden/PWR
AP1PZ-9	5/17/2021	1062083.33	2440187.59	337.62	334.14	291.4	281.4	10.0	57.35	Bedrock
AP1PZ-10	5/19/2021	1062334.74	2440116.05	338.38	335.07	292.4	282.4	10.0	56.48	Bedrock
AP1PZ-11	5/26/2021	1062615.94	2440044.48	338.98	335.78	276.2	266.2	10.0	73.30	Overburden

Notes:
1. Horizontal locations referenced to Georgia State Plane West, North American Datum of 1983 (NAD 83)
2. Elevations are in feet referenced to North American Vertical Datum of 1988 (NAVD 88)
3. Screen elevations based measured total depth minus length of bottom sump
4. TOC indicates top of casing
5. PWR indicates Partially Weathered Rock

FIGURE

Location ID	Northing	Easting
AP1PZ-1	1062799.79	2440164.34
AP1PZ-2	1062573.21	2440300.14
AP1PZ-3	1062286.28	2440387.36
AP1PZ-4	1061989.86	2440520.65
AP1PZ-5	1061645.61	2440599.18
AP1PZ-6	1061273.40	2440714.78
AP1PZ-7	1061483.62	2440573.47
AP1PZ-8	1061721.72	2440362.39
AP1PZ-9	1062083.33	2440187.59
AP1PZ-10	1062334.74	2440116.05
AP1PZ-11	1062615.94	2440044.48

N

AP-2 DAS

AP1PZ-1

AP1PZ-11

AP1PZ-2

AP1PZ-10

AP1PZ-3

AP1PZ-9

AP-1

AP1PZ-4

AP1PZ-8

AP1PZ-5

AP1PZ-7

AP1PZ-6

0 100 200 400 Feet

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

Legend

- ⊕ AP1PZ-1 Surveyed Piezometer Location
- AP-1 Ash Pond #1
- AP-2 DAS Ash Pond #2 Dry Ash Stockpile

Plant Arkwright
Ash Pond #1
Macon, Georgia

Piezometer Locations

Prepared By-Date: JCD - 8/4/2021

Checked By-Date: RQ - 8/4/2021

Project Number: 6123211714

wood.

Figure: 1

APPENDIX A

WELL SURVEY DOCUMENT

GEORGIA POWER
PLANT ARKWRIGHT
MONITORING WELL SURVEY DATA
June 8, 2021
DGA JOB # 6620-002-D1, C1335

WELL ID	NORTHING	EASTING	ELEVATIONS			
			GROUND ELEVATION	NAIL IN CONCRETE	TOP OF WELL PAD	TOP OF CASING
AP1-PZ1	1062799.79	2440164.34	335.92	336.09		338.97
AP1-PZ2	1062573.21	2440300.14	336.64	336.86		339.58
AP1-PZ3	1062286.28	2440387.36	335.50	335.65		338.57
AP1-PZ4	1061989.86	2440520.65	334.98	335.17		338.36
AP1-PZ5	1061645.61	2440599.18	336.61	336.77		339.81
AP1-PZ6	1061273.40	2440714.78	344.25	344.42		347.56
AP1-PZ7	1061483.62	2440573.47	337.56	337.92		340.91
AP1-PZ8	1061721.72	2440362.39	334.94	335.25		338.31
AP1-PZ9	1062083.33	2440187.59	334.14	334.49		337.62
AP1-PZ10	1062334.74	2440116.05	335.07	335.37		338.38
AP1-PZ11	1062615.94	2440044.48	335.78	336.13		338.98

COORDINATES ARE GA STATE PLANE, WEST ZONE, NAD 83.
ELEVATIONS ARE BASED ON MEAN SEA LEVEL, NAVD 88.

Survey data shown below has a horizontal positional tolerance of +/-0.5 feet and a vertical positional tolerance of +/- 0.01 feet at the 95% level of confidence.
Equipment used to obtain horizontal and vertical coordinates was a LEICA SYSTEM 1200 GPS RECEIVER WITH A LEICA RX1200 DATA COLLECTOR.
Benchmark used to establish horizontal and vertical positions was established from LEICA SMARTNET REAL TIME NETWORK.

APPENDIX B

WELL CONSTRUCTION AND BORING LOGS

AP1PZ-1 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Smith
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 86.0 ft

COORDINATES N 1062799.79, E 2440164.34
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 335.92 ft NAVD 88
WELL TOC 338.97 ft NAVD 88

COMMENTS Start drilling 4/29/2021 and drilling completed 5/1/2021. Well construction completed on 5/14/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
0	0-11		#1 (100%)		Silty SAND, red/ brown, loose, dry, micaceous, trace clay	SM		336
2					Gravelly Silty SAND, dark grey to black, loose, dry, angular fine to coarse gravel, co-mingled ash	SW		334
4					Cobble seam 2.5-3.0 ft, angular fine to coarse gravel			332
6		5-6			Silty SAND, brown/ red, loose, dry, micaceous, trace clay	SM		330
8		7-8			Ash, black to dark grey, fine grained, very loose, dry to moist	ML		328
10		10-11						326
12	11-21		#2 (100%)		Split spoon from 11-12.5 ft using 1.5 ft spoon; Blow-counts: 6/13/16			324
14								322
16		15-16						320
18								318
20		20-21			Silty SAND with clay, light brown/green brown, loose	SM-SC		316
22	21-30		#3 (100%)		Ash, dark grey, loose, dry, with inter-mixed clays	ML-CL		314
24							Bentonite grout mix	312
26		24.5-25.5						310
28								308
30		28.8-30			SAND, tan/light brown/ dark grey/green, fine grained, very loose, poorly graded	SP		306
32	30-40		#4 (60%)					304
34								302
36		35-36						300
38								298
40								296
42	40-50	41-42	#5 (100%)		Clayey silty SAND, brown/grey, loose, moist, variable clay content with medium plasticity	SC-SM		294
44					Silty micaceous SAND, red/white/grey/green, loose, dry to moist, little clay decreasing with depth	SM-SC		292
46					46-50 ft saprolite texture			290
48		48-49						288

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 14 Sep 2021

AP1PZ-1 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
50								286
52	50-60		#6 (100%)		50-60 ft silty sand with relic weathered metamorphic rock texture, medium dense, dry	SM		284
54		54-55						282
56								280
58								278
60		59-60					Bentonite grout mix	276
62	60-67		#7 (100%)		Clayey micaceous silty SAND, green/grey, (soft, medium plasticity), moist	SC-SM		274
64					Silty micaceous SAND, light grey/brown, fine grained, loose, dry 64.5-65.6 ft CLAY seam, high plasticity	SM-CH		272
66		65-66			Saprolite, grey/white/black, dense, dry, weathered black micaeous rock	SM		270
68	67-70		#8 (100%)		Clayey silty micaceous SAND, dark grey/red/brown, medium dense, moist	SC-SM		268
70		69-70						266
72	70-80		#9 (100%)		Silty micaceous SAND, coarse grained, grey/green/red, dense, wet, saprolite, trace laminated cobble	SM-SW	Bentonite seal	264
74		74-75						262
76								260
78							Sand filter pack and pre-pack screen	258
80		79-80			CLAY, green/light brown/grey, low plasticity, moist	CL		256
82	80-86		#10 (100%)		Weathered Rock with micaceous silty SAND, black/grey, medium dense, moist	SM		254
84		84-85			Bedrock (mica schist), black/grey, dry Heavily weathered micaceous rock, mica schist breakable by hand, variable color grading to grey	- SM		252
86					Bedrock (mica schist), black/grey, dry	-		250
88					Boring terminated at 86 feet at top of bedrock			248
90								246
92								244
94								242
96								240
98								238
100								236
102								234
104								232
106								230
108								228

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 14 Sep 2021

AP1PZ-2 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

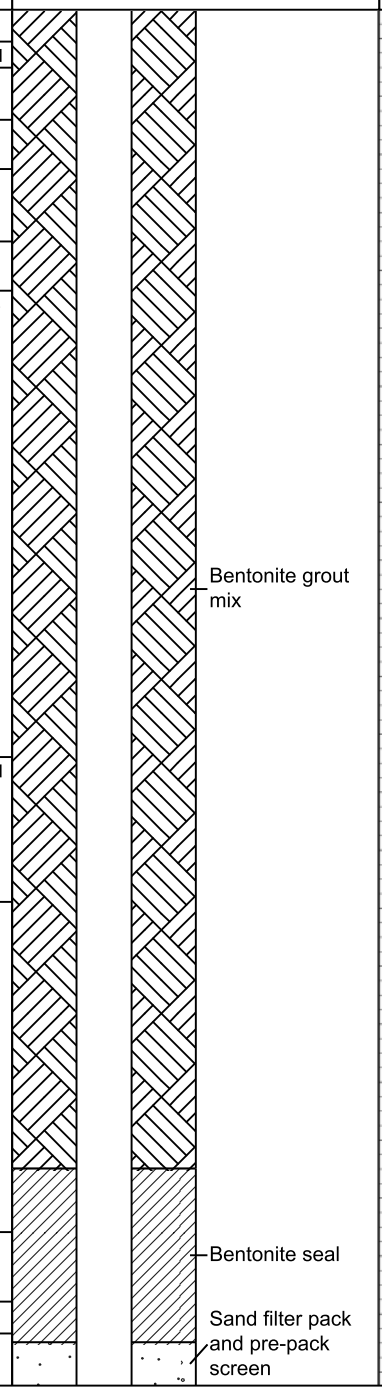
DRILLING COMPANY Cascade Drilling
DRILLER J. Smith
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 59.5 ft

COORDINATES N 1062573.21, E 2440300.14
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 336.64 ft NAVD 88
WELL TOC 339.58 ft NAVD 88

COMMENTS Start drilling 5/2/2021 and drilling completed 5/2/2021. Well construction completed on 5/14/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-10		#1 (100%)	Clayey silty SAND (fill), orange/brown, medium dense, moist	SM-SC	336
2					SW-SM	
				Gravelly SAND (fill), black, loose, dry, co-mingled ash, angular cobbles	SM	334
4				Silty micaceous SAND, brown/green/grey, loose, moist		
		4.5-5.5		Silty clayey SAND (fill), red/black, dense, dry, ash mixed in	SM-CL	332
6				Silty SAND with clay, tan/light brown, dense, high plasticity clay seams 6.6-6.7 ft & 7.9-8.0 ft	SM-SC	
		7-8				330
8				Ash, black, fine grained, very loose, moist to dry	ML	
		9-10				328
10				Clayey silty gravelly SAND, green 10-11 ft ash mixed in	SW-SC	
	10-18		#2 (100%)			326
		11-12		Gravelly silty SAND with clay, red/white specks, very loose, moist, coarse sub-rounded quartz gravel, (angular asphalt pieces) 16.8-17.4 ft sand seam, loose, no clays		
12						324
14						322
16						320
18						
	18-28		#3 (62%)			318
20						
						316
22						
24						314
		24-25				
26				Silty SAND, coarse grained, white/tan/light brown, loose, dry, angular quartz gravel, weathered gneiss appearance 27.2-27.3 white clay seam	SW-SM	312
		27-28				
28						310
	28-38		#4 (72%)			
30						308
				Silty micaceous SAND, variable color, loose, moist, saprolitic, varied clay content	SM-SC	306
32						
34						304
		35-36				
36						302
38						
	38-48		#5 (100%)			300
40		40-41				298
42				Quartz vein, white, dry, powdered by drilling vibrations	-	296
44						294
		44.6-45.6		Gravelly micaceous SAND, brown/orange/black, loose, dry, saprolite with relic structure	SW	292
46				Quartz vein, white with brown staining, moist 47.2-48 ft quartzite schist	-	290



AP1PZ-2 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
48	48-58		#6 (44%)		Fractured Bedrock (quartz mica schist), black/white, wet, brown staining of quartzite veins	-	Sand filter pack and pre-pack screen	288
50								286
52								284
54								282
56								280
58								278
60					Boring terminated at 59.5 feet approximately 15 feet into weathered bedrock			276
62								274
64								272
66								270
68								268
70								266
72								264
74								262
76								260
78								258
80								256
82								254
84								252
86								250
88								248
90								246
92								244
94								242
96								240
98								238
100								236
102								234
104								

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 14 Sep 2021

AP1PZ-3 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

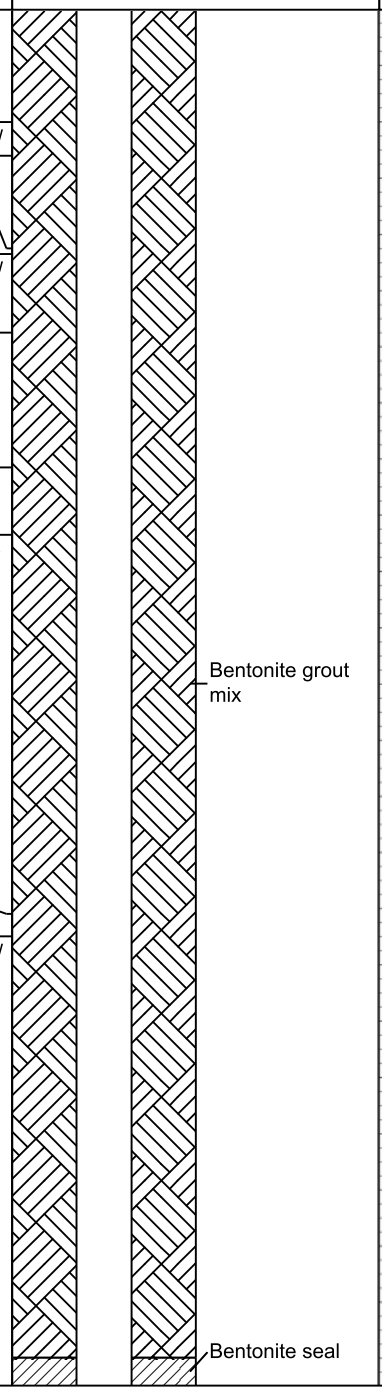
DRILLING COMPANY Cascade Drilling
DRILLER J. Smith
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 64.0 ft

COORDINATES N 1062286.28, E 2440387.36
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 335.50 ft NAVD 88
WELL TOC 338.57 ft NAVD 88

COMMENTS Start drilling 5/3/2021 and drilling completed 5/4/2021. Well construction completed on 5/14/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-9		#1 (100%)	Clayey silty micaceous SAND (fill), brown/red, medium dense, moist, some clays	SM-SC	335
2						334
4		4-5		Gravelly silty SAND with co-mingled ash, black/dark brown/white, loose, moist, white and black fine gravel, trace clays	SM-SW	332
6				Ash, dark grey/black, very loose, moist, fine black gravel	ML	330
8		7-8		Clayey silty SAND (fill), light red/ yellow, loose, moist, some clays	SM-SC	328
10	9-19	9-10	#2 (100%)	Gravelly silty SAND with co-mingled ash, green/grey/brown, loose, moist, coarse sub-rounded to angular gravel	SM-SW	326
12				Ash, black/green grey, loose, moist	ML	324
14						322
16		16.3-17.3		Clayey silty micaceous SAND, red/yellow, medium dense, moist, some fat clays	SM-SC	320
18						318
20	19-29		#3 (75%)	Gravelly silty SAND, fine grained, brown/yellow/white/tan, very loose, dry, powdery sand, trace clay, micaceous, saprolitic	SW-SC	316
22		22-23				314
24						312
26						310
28						308
30	29-39	30-31	#4 (100%)			306
32				CLAY, green/tan/light brown, soft, medium to high plasticity, moist	CL	304
34				Silty micaceous SAND, dark brown/tan/grey/white, loose, moist, saprolite/ relic structure	SM-SW	302
36		36-37		Rock lenses 37.8-38.3 ft (dry) and 50.9-51.0 ft		300
38						298
40	39-49		#5 (100%)			296
42		42-43				294
44						292
46						290
48		48-49				288



AP1PZ-3 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
50	49-59		#6 (100%)				Bentonite seal	286
52								284
54		54-55						282
56								280
58							Sand filter pack and pre-pack screen	278
60	59-64		#7 (60%)		Fractured Bedrock (quartz mica gneiss), black/white banded, wet, brown staining of fracture surfaces, large quartz crystals	-		276
62								274
64								272
66					Boring terminated at 64 feet at bedrock-overburden interface			270
68								268
70								266
72								264
74								262
76								260
78								258
80								256
82								254
84								252
86								250
88								248
90								246
92								244
94								242
96								240
98								238
100								236
102								234
104								232
106								230

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AP1PZ-4 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 65.0 ft

COORDINATES N 1061989.86, E 2440520.65
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 334.98 ft NAVD 88
WELL TOC 338.36 ft NAVD 88

COMMENTS Start drilling 5/10/2021 and drilling completed 5/11/2021. Well construction completed on 5/16/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
0	0-10		#1 (70%)		Hand auger refusal at 2.5-3 ft (gravel) Silty SAND with clays (fill), brown/red, loose, dry to moist	SM-SC SM-SW		334
2								
4		4-5			4.9-5.2 ft coarse gravel seam, angular grained 5.2-7.7 ft co-mingled ash			332
6								330
8		8-9			Ash, fine grained, black, very loose, moist	ML		328
10	10-20		#2 (90%)		Silty SAND with clays and co-mingled ash, dark grey/green brown, loose, dry	SM-SC		326
12					Fine SAND with fine gravel, dark brown/grey, very loose, dry	SP-SM		324
14		13-14			13.5-13.8 ft clayey ash lens, moist			322
16					Ash, black/dark grey, very loose, dry	ML		320
18								318
20	20-30		#3 (50%)		Fine SAND with fine gravel, dark brown/grey, loose, dry	SM-SP		316
22		21.5-22.5						314
24					Ash, black/dark grey, very loose, dry	ML	Bentonite grout mix	312
26								310
28								308
30	30-40		#4 (0%)		No recovery Soils are soft and loose	(ML)		306
32								304
34								302
36								300
38								298
40	40-50	40-41	#5 (100%)		CLAY, red, stiff, medium plasticity, moist	CL		296
42								294
44								292
46		46-47			CLAY, brown/red/grey, medium stiff, high plasticity, moist, micaceous, relic structure/ texture	CH		290
								288

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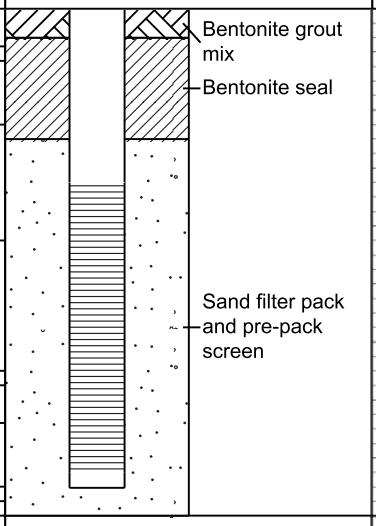
AP1PZ-4 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
48				Gravelly fine SAND, light brown/grey, loose, moist, light brown/grey, moist, sub-angular small gravel	SW-SM	286
50	50-60	50-51	#6 (100%)	Gravelly SAND, medium grained, yellow/grey, loose, moist, sub-rounded to sub-angular small gravel	SW	284
52				50-51.5 ft black micaceous, coarse sub-rounded quartz gravel base	SM-CL	282
54				Silty SAND with clays, brown/orange, medium dense, moist		280
56		56-57		Gravelly fine SAND, white/tan/brown/grey, very loose, dry, large gravel, saprolite texture	SW-SM	278
58				59-59.9 ft Rock lens		276
60	60-65		#7 (100%)	Fine SAND, light brown/grey, medium dense, moist	SP	274
62		61-62		Clayey silty SAND, dark brown/red, medium dense, moist	SM-SC	272
64				Gravelly fine SAND, brown/white/grey, loose, moist, small angular quartz gravel, saprolite texture, clasts breakable by hand	SW-SM	270
66				Clayey silty SAND, dark brown/white/red, medium dense, moist, saprolite texture	SC-SM	268
68				Weathered fine crystalline rock with red staining, light grey/black/red, friable, saprolitic silts mixed in	ML	266
70				Boring terminated at 65 feet at a depth based on distance below groundwater level		264
72						262
74						260
76						258
78						256
80						254
82						252
84						250
86						248
88						246
90						244
92						242
94						240
96						238
98						236
100						234
102						232
104						



AP1PZ-5 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 64.0 ft

COORDINATES N 1061645.61, E 2440599.18
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 336.61 ft NAVD 88
WELL TOC 339.81 ft NAVD 88

COMMENTS Start and complete drilling on 5/12/2021. Well construction completed on 5/16/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-10		#1 (100%)	Hand auger Clayey Silty SAND (fill), red, medium dense, moist	SM-SC	336
2				Ash with fine gravel, dark grey/brown, loose, dry	ML-SM	334
4		4-5		Silty SAND with clays and ash seams, dark brown/red, very dense, dry, small gravel	SM-SC	332
6				Ash, dark grey/brown, loose, dry, small sub-rounded gravel inclusions, fine gravels mixed in and coarse sand	ML-SM	330
8				9.9-10 ft fine grained powder ash		328
10		9-10				326
10	10-20		#2 (100%)	Ash, fine grained, silver grey, very loose, dry	ML	326
12				Ash and co-mingled gravel, black/dark grey, very loose, moist, sub-rounded gravel	ML-SM	324
14		14-15		16.3-16.4 ft wood chip seam		322
16				Ash, fine grained, silver grey, very loose, dry	ML	320
18						318
20		19-20				316
20	20-30		#3 (100%)			314
22						312
24		24-25				310
26						308
28						306
30		29-30				304
30	30-40		#4 (78%)			302
32						300
34						298
36		35-36		Fine SAND, green/light brown, loose, moist	SP	296
38				Ash, fine grained, silver grey/brown, loose, moist	ML	294
40						292
40	40-50	40-41	#5 (100%)	CLAY with micaceous silt, tan/light brown, soft, medium plasticity, moist	CH-ML	
42						
44						

Well Diagram: Bentonite grout mix

AP1PZ-5 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
46		46-47			Clayey silty micaceous SAND, tan/brown/orange, medium dense, moist	SM-SC	Bentonite grout mix	290
48					Fine SAND, tan, loose, moist	SP		288
50	50-60	51-52	#6 (70%)		Gravelly fine SAND, orange/light brown, loose, moist, small gravel	SW	Bentonite seal	286
52					Clayey silty SAND, fine grained, tan/light brown, medium dense, moist	SW-SC		284
54		56-57			Silty SAND, brown/white/tan/red, dense, dry, saprolite, compact brittle relic weathered rock texture with red staining	SM	Sand filter pack and pre-pack screen	282
56								280
58								278
60	60-64	61-62	#7 (75%)					276
62								274
64					Boring terminated at 64 feet at a depth based on distance below groundwater level			272
66								270
68								268
70								266
72								264
74								262
76								260
78								258
80								256
82								254
84								252
86								250
88								248
90								246
92								244
94								242
96								240
98								238

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AP1PZ-6 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 70.0 ft

COORDINATES N 1061273.40, E 2440714.78
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 344.25 ft NAVD 88
WELL TOC 347.56 ft NAVD 88

COMMENTS Start drilling and complete drilling on 5/13/2021. Well construction completed on 5/26/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-10		#1 (100%)	Hand auger	SM	
2				Silty micaceous SAND with some clays (fill), dark brown/red, medium dense, dry	SM-SC	342
4		3-4		Clayey silty micaceous SAND, red/ light brown/grey, medium dense, dry	ML	340
6				Gravelly ash grading to fine ash, black/brown/yellow, loose, moist, with sub-rounded gravel		338
8		8-9		6-6.2 ft silty sand seam Silty SAND co-mingled with ash, green/black, loose, dry, sub-rounded coarse gravel	SM-ML	336
10	10-20		#2 (100%)	Ash, fine grained, black, very loose, dry, red/brown fine sand and slag-like inclusions from 10 to 20 ft	ML	334
12						332
14		13-14		12.2-12.4 coarse gravel seam, sub-angular to sub-rounded		330
16						328
18						326
20		19-20				324
22	20-30		#3 (100%)			322
24		24-25			ML	320
26						318
28						316
30		29-30		SAND with co-mingled ash, medium grained, brown/black, loose, moist	SP-ML	314
32	30-40		#4 (100%)	Ash, fined grained, black/brown (color variable), very loose, dry, trace coal inclusions	ML	312
34		34-35				310
36						308
38						306
40		39-40				304
42	40-50		#5 (64%)	SAND with co-mingled ash, medium grained grading to fine grained, dark brown/black, loose, wet	SP	302
44		43-44		Gravelly silty SAND with co-mingled ash, silver grey/dark brown, medium dense, moist	SW	300
46				CLAY, dark brown, stiff, low plasticity, moist, rootlets throughout	CL	298
				Fine SAND, dark brown, very loose, moist	SP	

Well Diagram: Bentonite grout mix

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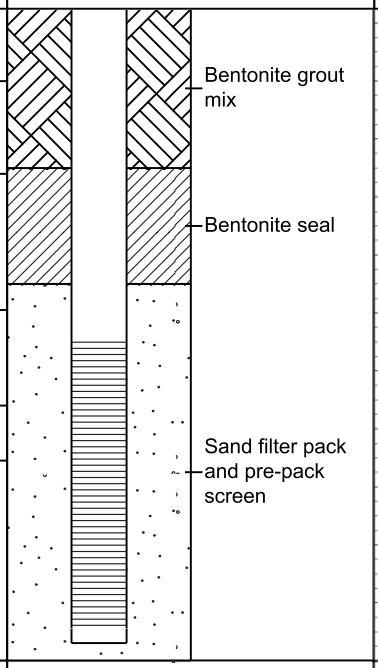
AP1PZ-6 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
48						296
50	50-60	50-51	#6 (95%)	CLAY with sand, dark brown/red, stiff, high plasticity, moist	CH	294
52						292
54				Clayey SAND, grey/light brown, loose, moist	SC	290
56						288
58		58-59		Medium SAND, grey/yellow/light brown, loose, moist, with clays to 58.6 ft 58.6-58.8 ft coarse sub-rounded gravel seam 58.8-60 ft silver grey sand, moist 60-61.2 ft white quartz grains	SP-SW	286
60	60-65		#7 (100%)			284
62		62-63		CLAY with coarse gravels and cobbles, silver grey, soft, high plasticity, moist Fractured and weathered metamorphic rock present	CH	282
64				Weathered rock with silty sand, dark grey/white, saprolitic relic structure	SM	280
66	65-70		#8 (100%)			278
68		67-68				276
70				Boring terminated at 70 feet in weathered rock		274
72						272
74						270
76						268
78						266
80						264
82						262
84						260
86						258
88						256
90						254
92						252
94						250
96						248
98						246
100						244
102						242
104						240



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AP1PZ-7 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 75.0 ft

COORDINATES N 1061483.62, E 2440573.47
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 337.56 ft NAVD 88
WELL TOC 340.91 ft NAVD 88

COMMENTS Start drilling and complete drilling on 5/15/2021. Well construction completed on 5/26/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
0	0-10		#1 (70%)		Hand auger to 3 ft Clayey silty SAND (fill), red/brown, medium dense, moist, coarse grained angular gravel, rootlets present	SM-SC		
2								336
4		3-4			Ash, fine grained, black, very loose, dry	ML		334
6					Gravelly silty SAND with co-mingled ash, dark grey/black/dark brown, loose, dry, coarse sub-angular gravel	SW-SM		332
8					6.1-6.2 ft cobble	ML		330
10		9-10			Ash, fine grained, black, very loose, dry			328
12	10-20		#2 (90%)					326
14		14-15			Fine gravelly SAND with co-mingled ash, black/light brown, loose, dry, small gravel	SW-SM		324
16					Ash, fine grained, black, very loose, dry	ML		322
18		18-19			Clayey silty SAND, red/brown, medium dense, moist	SM-SC		320
20	20-30		#3 (100%)		CLAY, red/brown, soft, high plasticity, moist, micaceous 27-27.5 & 29.5-30 ft gravelly silty sand seams	CH-SC		318
22								316
24		24-25					Bentonite grout mix	314
26								312
28								310
30		29-30						308
32	30-40		#4 (100%)		Gravelly clayey silty SAND, red/brown/grey, medium dense, moist	SM-SC		306
34		34-35			Medium SAND, light brown, loose, wet 32.5-35 ft fine grained SAND	SP		304
36					Clayey silty SAND, green/grey, dense, moist, increasing clay content with depth	SM-SC		302
38					CLAY, red/ brown, very stiff, high plasticity, moist	CH		300
40		39-40						298
42	40-50		#5 (100%)					296
44		44-45			CLAY, soft, low plasticity, moist, micaceous	CL		294
46								292

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AP1PZ-7 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
48		48-49			Clayey micaceous silty SAND, red/brown/black, dense, moist, saprolitic texture	SM-SC		290
50	50-60		#6 (100%)		CLAY with silt, silver grey, soft, low plasticity, moist	CL		288
52					Gravelly SAND, medium grained, brown/red, loose, moist to wet, fine gravel	SW	Bentonite grout mix	286
54		53-54			Silty SAND with clay, brown/grey/white/tan/yellow/black, medium dense, moist, micaceous, saprolitic texture 56.5-57.7 ft saprolite with no clays	SM-SC		284
56								282
58								280
60	60-70	59-60	#7 (100%)				Bentonite seal	278
62								276
64		64-65						274
66								272
68							Sand filter pack and pre-pack screen	270
70		69-70			Fine SAND, light brown, very loose, moist	SP		268
72	70-75		#8 (100%)		Silty SAND. variable color, dense, moist, saprolite, seams of gravelly silty sands	SM-SW		266
74		74-75						264
76					Boring terminated at 75 feet			262
78								260
80								258
82								256
84								254
86								252
88								250
90								248
92								246
94								244
96								242
98								240
100								238
102								236

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AP1PZ-8 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

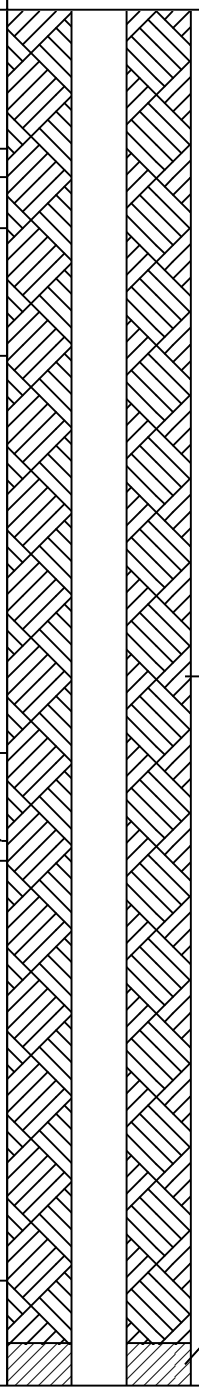
DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 63.0 ft

COORDINATES N 1061721.72, E 2440362.39
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 334.94 ft NAVD 88
WELL TOC 338.31 ft NAVD 88

COMMENTS Start drilling and complete drilling on 5/16/2021. Well construction completed on 5/26/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS
0	0-10		#1 (60%)	Hand auger to 4 ft Silty SAND with clays (fill), red/orange, medium dense, dry, coarse grained gravel	SM-SC
4		4-5		Gravelly silty SAND with co-mingled ash, black, medium dense, dry, coarse sub-angular gravel	SW-SM
6				Gravelly silty SAND with clays, dark brown/red/grey, loose, dry, coarse sub-angular gravel (cobble @ 6.3 ft)	SM-SC
8				Ash, fine grained, silver grey/black/red/green, loose to very loose, dry to moist	ML
10		9-10			
10	10-20		#2 (88%)		ML-SW
12					
14		13-14		12.2-20 ft co-mingled with coarse gravel and medium sand	
16				25.8-26.2 ft coarse angular gravel seam	
18		17-18			
20	20-30		#3 (50%)		
22					
24					
26				CLAY, yellow/red/brown, soft, high plasticity, moist micaceous medium sands and fine gravels present from 18.2-19.3 ft	CH
28		27-28			
30				CLAY, red/brown, very stiff, medium plasticity, moist	CL
30	30-40		#4 (100%)	CLAY, red/tan/yellow, stiff, high plasticity, moist	CH
32					
34		33-34			
36					
38		38-39			
40	40-50		#5 (100%)		
42				CLAY, tan/yellow/tan/brown, soft, high plasticity, moist, medium micaceous sands from 43.8-44.8 ft	
44		43-44			
46				Silty micaceous SAND. dark brown/dark grey/tan/light brown/white, loose, moist, little clay, saprolite	SM-SW
48				48.7-50 ft parent rock texture	



Elevation (ft)
334
332
330
328
326
324
322
320
318
316
314
312
310
308
306
304
302
300
298
296
294
292
290
288

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AP1PZ-8 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
50		49-50					Bentonite seal	286
52	50-60		#6 (100%)		Clayey silty SAND, dark brown, medium dense, moist, fine clayey sand at bottom	SM-SC		284
54		53-54			Silty micaceous SAND. dark brown/light brown/tan/grey/white, medium dense, moist, saprolite, friable parent rock texture	SM-SW		282
56		56-57			SAND with silt, fine to medium grained, tan, loose, moist	SP	Sand filter pack and pre-pack screen	280
58					Silty SAND. grey/red/brown, dense to loose, dry to moist, saprolite	SM		278
60	60-63		#7 (100%)		58.2-60 ft fractured rock with red/brown staining			276
62		61-62			Weathered bedrock (mica schist), black/white, red staining on rock surfaces			274
64					Boring terminated at 63 feet			272
66								270
68								268
70								266
72								264
74								262
76								260
78								258
80								256
82								254
84								252
86								250
88								248
90								246
92								244
94								242
96								240
98								238
100								236
102								234
104								232
106								230

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AP1PZ-9 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 55.0 ft

COORDINATES N 1062083.33, E 2440187.59
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 334.14 ft NAVD 88
WELL TOC 337.62 ft NAVD 88

COMMENTS Start drilling and complete drilling on 5/17/2021. Well construction completed on 5/25/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-10		#1 (70%)	Hand auger to 2 ft Silty micaceous SAND with some clays (fill), orange/yellow, loose, moist	SM-SC	
2		2.5-3.5				332
4				Ash with medium grained sand, black, loose, moist	ML	330
				Silty SAND with some clays (fill), red/black, medium dense, dry	SM-SC	
6				Ash with medium grained sand, black, loose, dry to moist	ML	328
				CLAY, red, very stiff, medium plasticity, dry, micaceous	CL	
8		8-9		Ash with medium grained sand, black/grey, loose to very loose, dry, coarse sub-angular gravel present 10-14.5 ft pieces of coal	ML	326
10	10-20		#2 (90%)			324
12						322
		13-14				
14						320
				Gravelly SAND co-mingled with ash, medium to coarse grained, green/dark brown, very loose, dry	SW-SM	
16						318
		17-18		CLAY, bright red, very stiff, high plasticity, moist	CH	
18						316
				Clayey micaceous silty SAND, bright red/silver grey, medium dense, moist	SM-SC	
20	20-30		#3 (77%)			314
22		22-23		Silty SAND. tan/light brown/orange, loose, dry to moist, saprolite, friable clasts	SM	312
24				30-33 ft fractured rock (schist) with red staining		310
				37.8-38 ft competent rock with some red staining		
26		26-27				308
28						306
30	30-33		#4 (100%)			304
32		32-33				302
34	33-38		#5 (100%)			300
36						298

Well Diagram: Bentonite grout mix

Disclaimer This bore log is intended for environmental not geotechnical purposes.

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AP1PZ-9 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
38							Bentonite grout mix	296
40	38-40		#6 (75%)		Banded gneiss, black/white/red/pink, dry, 20 degree foliation, no oxidation, no natural fractures, large 1-in quartz phenocrysts	-	Bentonite seal	294
42	40-50		#7 (80%)		40-40.3 ft visible natural vertical and horizontal fractures with staining			292
44								290
46								288
48							Sand filter pack and pre-pack screen	286
50	50-55		#8 (90%)					284
52								282
54								280
56					Boring terminated at 55 feet in bedrock			278
58								276
60								274
62								272
64								270
66								268
68								266
70								264
72								262
74								260
76								258
78								256
80								254

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AP1PZ-10 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

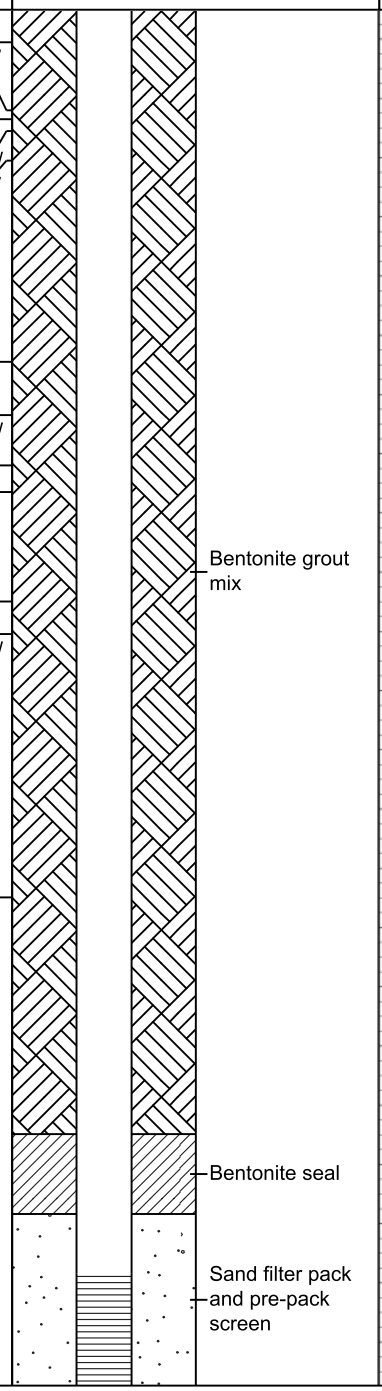
DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 60.0 ft

COORDINATES N 1062334.74, E 2440116.05
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 335.07 ft NAVD 88
WELL TOC 338.38 ft NAVD 88

COMMENTS Start drilling 5/18/2021 and drilling completed 5/19/2021. Well construction completed on 5/27/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS
0	0-10		#1 (93%)	Hand auger to 5 ft	CL
2		2-3		CLAY with fine sand and silt, light brown/red, soft, medium plasticity, moist	ML-SW
4				Ash co-mingled with coarse gravel, black, loose, dry	SM
6				Silty SAND with clay and co-mingled ash, red/brown, loose, moist	SW
8		7-8		Gravelly SAND, yellow/white, loose, dry, sub-rounded cobbles	SM-SW
10	10-20		#2 (82%)	Gravelly silty SAND and co-mingled ash, black/white/brown, loose, dry, fine sub-angular gravel	SC-SW
12		12-13		Clayey silty SAND with gravel, bright red, loose, moist 8.4-8.8 ft stiff clay seam 9.2-9.3 ft loose fine gravel	
14				Silty SAND with some clays, red/orange, medium dense, dry	SM-SC
16				Silty SAND, fine to coarse grained, tan/light brown, very loose, dry	SM-SW
18		17-18		Gravelly SAND, fine grained sand with fine to coarse gravels, light grey/beige, very loose, dry, sub-angular cobbles present (fill)	SW
20	20-30		#3 (100%)	Silty SAND, fine grained, tan/light brown, very loose, dry	SM-SP
22				Clayey silty micaceous SAND, light brown, medium dense, moist	SM-SC
24		24.5-25.5		Silty SAND, fine to coarse grained, tan/brown/white, loose, dry, saprolite, little fine gravel 23.5 ft, 25.6 ft, and 28.5 ft quartz lenses	SM-SW
26					
28					
30	30-38		#4 (100%)	Fractured metamorphic rock with red staining, black/red/white/tan, very dense, dry to moist	-
32					
34					
36					
38	38-40		#5 (100%)	Banded gneiss, 20 degree foliation	
40	40-50		#6 (100%)	Multiple large quartz veins, some staining of fractures 41.4-41.8 ft, 45.7 ft & 46.8 ft, no visible rock decomposition	
42					
44					
46					



Elevation (ft)
334
332
330
328
326
324
322
320
318
316
314
312
310
308
306
304
302
300
298
296
294
292
290

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AP1PZ-10 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Graphic Log	Material Description	USCS	Well Diagram	Elevation (ft)
48								288
50	50-55		#7 (94%)		Stained fractures 54-54.3 ft with slight decomposition Pyrite crystals visible, single fracture ~ 55.4 ft		Sand filter pack and pre-pack screen	286
52								284
54								282
56	55-60		#8 (80%)					280
58								278
60								276
62					Boring terminated at 60 feet in bedrock			274
64								272
66								270
68								268
70								266
72								264
74								262
76								260
78								258
80								256
82								254
84								252
86								250
88								248
90								246
92								244
94								242
96								240
98								238
100								236
102								234

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AP1PZ-11 BORING LOG

PROJECT NUMBER 6123211714
PROJECT NAME Plant Arkwright
CLIENT Georgia Power
ADDRESS 5001 Arkwright Road Macon, GA
LOCATION Ash Pond 1

DRILLING COMPANY Cascade Drilling
DRILLER J. Reinolds
RIG TYPE/ METHOD TSI CC150/ SONIC
CASING DIA. 2-in I.D. PVC
BORING DEPTH 70.0 ft

COORDINATES N 1062615.94, E 2440044.48
COORD SYS Ga State Plane West (NAD 83)
COMPLETION Stick-up w/ protective casing
SURFACE ELEVATION 335.78 ft NAVD 88
WELL TOC 338.98 ft NAVD 88

COMMENTS Start drilling 5/24/2021 and drilling completed 5/25/2021. Well construction completed on 5/27/2021 with installation of well cover and concrete pad.

LOGGED BY A. Shoredits
CHECKED BY J. Quinn

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS	Elevation (ft)
0	0-10		#1 (60%)	Hand auger to 3 ft Silty SAND with clays, coarse grained to fine gravel, brown/red, medium dense, moist	SM-SC	
2						334
4						332
6		6-7		Ash co-mingled with gravel, coarse sand to coarse gravel, black/red, very loose, dry, pieces of coal and evidence of rootlets 6.3 ft cobble, angular	ML	330
8		8-9		Silty SAND, medium grained, bright red, very dense, dry	SM	328
10	10-20		#2 (75%)	SAND, red, loose, dry, few fine to coarse angular gravel Clayey silty SAND co-mingled with trace ash, brown/black/red, loose, moist, rootlets	SW SM-SC	326
12		12.5-13.5		SAND, fine to medium grained, tan/light brown, very loose, dry	SP	324
14				SAND, medium to coarse grained, red/light brown, very loose, dry		322
16		16-17		Gravelly silty SAND with clays, red/black/white, loose, moist 16-17' angular quartzite gravel	SW-SC	320
18				Clayey silty SAND, brown/red, medium dense, moist	SM-SC	318
20	20-30		#3 (80%)	CLAY, brown/red, very soft, slight plasticity, wet	CL	316
22		22-23				314
24				Silty micaceous SAND, light brown/grey, medium dense, moist 33.6-34.1 ft clayey silty sand	SM	312
26						310
28		29-30				308
30	30-40		#4 (100%)		SM-SC	306
32						304
34		34-35				302
36						300
38		39-40		CLAY, red/brown/yellow/orange/grey, very stiff, low plasticity, moist, micaceous, saprolitic texture with silts	CL	298
40	40-50		#5 (100%)	Clayey silty SAND, red brown/light brown/grey/white, medium dense, moist	SM-SC	296
42				SAND, fine grained, red/brown, loose, moist CLAY with medium to coarse sands, tan/white, stiff, medium plasticity, moist	SP CL	294
44		44-45		42.4-42.9 ft coarse gravel seam, wet	SM	292
46				Silty SAND, fine to medium grained, black/white/red, medium dense, moist, saprolite texture (relic parent rock), heavily weathered rock, crumbles in hand 49-50 ft no rock fragments noted		290

Well Diagram: Bentonite grout mix

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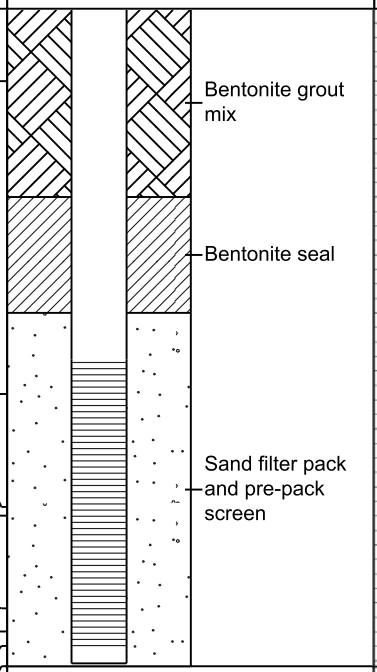
AP1PZ-11 BORING LOG

Depth (ft)	Samples	Geotech Sample	Sample Run (Recovery)	Material Description	USCS
48					
		49-50			
50	50-60		#6 (100%)	CLAY with coarse sand, brown, very stiff, low plasticity, moist, saprolitic	CL
52					
54		54-55			
56					
58					
		59-60			
60				CLAY, grey/white, very soft, medium plasticity, moist, fine to coarse white gravel	
	60-65		#7 (100%)	CLAY and gravel, dark brown/white, stiff, high plasticity, moist, coarse sub-rounded gravel	CH
62					
		63-64			
64				Gravelly SAND, coarse to fine grained, tan/brown/grey, very loose, wet	SW
	65-70		#8 (100%)	Gravelly SAND, coarse to fine grained, little clays and silts, tan/brown, very loose, wet 65.9-66.4 ft very stiff sandy clay	SW-SC
66					
		67-68			
68				Clayey silty SAND, brown, medium dense, stiff clay, moist	SM-SC
				Weathered rock lens, metamorphic rock texture	-
70				CLAY with sand and silt, green, very stiff, slight plasticity	CL-SC
				Boring terminated at 70 feet	
72					
74					
76					
78					
80					
82					
84					
86					
88					
90					
92					
94					
96					
98					
100					
102					
104					



Elevation (ft)
288
286
284
282
280
278
276
274
272
270
268
266
264
262
260
258
256
254
252
250
248
246
244
242
240
238
236
234
232

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CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. 800033976

Issued on 9/27/2017
Expires on 6/30/2019
Renewed on 3/4/2019
Expires on 6/30/2021

dated effective 09/27/2017
(MONTH-DAY-YEAR)

on behalf of Ricky Davis / Cascade Drilling, L.P.
(PRINCIPAL)

and in favor of Department of Natural Resources, State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on 06/30/2019
(MONTH-DAY-YEAR)

and ending on 06/30/2021
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and 00/100 Dollars ($30,000.00)

Description of bond Performance Bond for Water Well Contractors

Premium: $1200.00

PROVIDED: That this continuation certificate does not create a new obligation and is executed upon the express condition and provision that the Surety's liability under said bond and this and all Continuation Certificates issued in connection therewith shall not be cumulative and that the said Surety's aggregate liability under said bond and this and all such Continuation Certificates on account of all defaults committed during the period (regardless of the number of years) said bond had been and shall be in force, shall not in any event exceed the amount of said bond as hereinbefore set forth.

Signed and dated on March 4th, 2019
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By Andrew P. Larsen
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

425-709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

Scanned with CamScanner

APPENDIX C

WELL DEVELOPMENT FORMS

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
Well ID: ~~AR1PZ-1~~ AP1PZ-1 DH
Field Sampling Personnel: D Howard
Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)
Depth to Screen below MP: ~~66.98~~ 76.98 of screen (Top) 86.98 of screen (Bottom)
Pump Intake at (ft. below MP): Varied
Purging Device (Pump Type): Submersible (GrundFos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 86.98'
Depth To Water (Ft.) 44.49
Water Column (Ft.) 42.49
Well Volume (gal) 6.93

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/17/21	1405	64.85	3000			>1000				—			surge
	1420	72.10	700			>1000				6.0			~~well is dry~~ will surge and let recharge
	1542	80.10	1000			>1000				~~15~~ 12			surge pump stop pumping will let recharge
	1625	69.5	1000			>1000							~~surged, began pumping again~~ slow recharge
	1640	80.4	1000			>1000				15.5			well is dry, will let recharge
	~~1740~~	—	—	6.90	0.55	>1000	2.25	24.0	-90.9				surged
	1805	—	1000	6.71	0.55	651	2.50	25.0	-60.9				
↓	1820	80.6	—	—	—	—	—	—	—	21			well is dry
5/18/21	~~0945~~	~~44.78~~	600	—	—	~~651~~	—	—	—	~~24~~			surged well
	0957	61.66	600	6.39	0.490	661	0.68	21.2	-48.9	24			
	1014	71.31	1500	6.71	0.465	80.1	0.49	22.7	-89.9	28			Increased flow to remove silt
	1024	73.48	800	6.72	0.462	52.2	0.54	24.2	-96.6	29			water is clearing
	1044	~~7~~ —	600	6.72	0.450	68.4	0.34	25.2	-77.6	31			
	1104	75.73	500	6.64	0.483	248	0.78	24.9	-36.9	33			
	1124	77.27	400	6.72	0.476	76.0	0.74	26.7	-62.5	34.5			
	1146	77.55	400	6.70	0.460	33.4	0.72	26.6	-65.3	36			
	1156	77.50	400	6.69	0.464	28.8	0.53	26.5	-70.6	36.75			
	1206	77.55	400	6.67	0.461	20.1	0.33	26.7	-79.1	37.5			
	1216	77.47	400	6.66	0.460	18.2	0.41	26.7	-81.4	38.25			
	1226	77.38	400	6.64	0.455	15.3	0.48	26.7	-67.1	39.0			
	1236	77.25	400	6.65	0.456	18.6	0.34	26.8	-78.1	39.75			
↓	1246	77.20	400	6.64	0.452	13.9	0.32	26.9	-80.9	40.5			

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright APIPZ-1

Well ID: DH ~~AR1PZ-1~~

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 76.98 of screen (Top) 86.98 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Submersible (Grundfos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 86.98'
Depth To Water (Ft.) 44.49
Water Column (Ft.) 42.49
Well Volume (gal) 6.93

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/18/21	1256	76.89	400	6.63	0.455	11.3	0.32	26.8	82.9	41.25			
↓	1306	76.79	400	6.63	0.453	10.9	0.37	26.8	81.3	42.00			
↓	1316	76.55	400	6.63	0.453	9.7	0.33	26.8	81.4	42.75			Finished development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright

Well ID: ~~AR IPZ-2~~ AP IPZ-2

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 52.56 of screen (Top) 62.56 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Submersible (Grundfos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 62.56
Depth To Water (Ft.) 41.19
Water Column (Ft.) 21.37
Well Volume (gal) 3.48

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/18/21	1438		3000										surged well
	1445	45.48	2400			64.1				5.			
	1451	45.52	2400			6.23				10			surged well
	1503	44.98	2400			279				15			
	1508	45.00	2400			30.3				20			
	1516	44.98	2400			4.71				25			surged well
	1528	44.84	2400			353				30			
	1536	44.94	2400			9.48				35			surged well
	1548	44.59	2400			268				40			
	1556	44.64	2400			9.89				45			
	1605	43.05	1000	5.16	2.12	2.30	0.34	21.6	103.9	48			
	1615	43.03	1000	5.22	2.12	1.69	0.19	21.5	99.2	51.5			
	1625	43.02	1000	5.24	2.14	1.46	0.23	21.5	92.7	55			
	1635	43.01	1000	5.23	2.14	1.35	0.16	21.4	89.0	58			
↓	1645	43.04	1000	5.26	2.15	1.37	0.16	21.4	87.3	61.5			Finished Development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
5 ±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
API PZ-3

Well ID: DH ~~AR1PZ-3~~

Field Sampling Personnel: J Howard
Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 57.21 of screen (Top) 67.21 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Submersible (Grundfos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 67.21
Depth To Water (Ft.) 42.12
Water Column (Ft.) 25.09
Well Volume (gal) 4.1

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/18/21	1727	~~61.65~~	1200			>1000				5			surged well
	1753	61.65								7			well is dry, after pumping 7 gal
	1814	49.75	1200			~~>1000~~				~~10~~			surged well after recharge 49.
	1824	57.60	1200			>1000				10			
↓	1838	57.84	1050			454				12.5			
5/19/21	0837	42.25	1200			~~266~~				17.5			surged well
	0915	50.50	1200			266							surged well
	0925	58.98	1200			998				22.5			will let well recharge and ~~slow~~ resume pumping
	0955	48.70	650			—				—			restarted pump
	1002	52.65	650			134				25			
	1012	52.50	600	5.72	~~2~~2.11	82.5	0.76	22.9	-38.7	29			
	1022	52.38	600	5.71	2.11	71.6	0.69	23.1	-21.1	32			
	1032	52.20	600	5.69	2.11	36.6	0.62	23.2	-3.0	34			
	1042	52.05	600	5.69	2.10	32.5	0.54	23.3	-3.4	36.5			
	1052	51.71	600	5.69	2.12	14.4	0.48	23.3	12.8	38.75			
	1102	51.71	600	5.68	2.11	10.0	0.50	23.4	43.8	40.0			
↓	1112	51.48	600	5.68	2.11	9.16	0.48	23.7	21.3	42.5			Finished well development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH
±10 mV for redox
5 ±~~3~~% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
AP1PZ-4
Well ID: ~~AR1PZ-4~~
Field Sampling Personnel: D Howard
Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 57.38 of screen (Top) 67.38 of screen (Bottom)

Pump Intake at (ft. below MP): Varied
Purging Device (Pump Type): Submersible (Grundfos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 67.38
Depth To Water (Ft.) 46.28
Water Column (Ft.) 21.1
Well Volume (gal) 3.44

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/19/21	1244												Surged well
	1250	—	1500							—			Began pumping well
	1309	61.10	"							5			Well is dry, very slow recharge
	1414	57.35	550			>1000				—			started pumping again, surged
	1431	61.20	—			>1000				8			well is dry, will let recharge
	1529	57.25	500							—			started pumping again, surged
	1547	61.20				>1000				10			well is dry, will let recharge
	1659	56.89	400	6.57	1.98	532	2.48	24.8	-65.9	11.5			
	~~1724~~ 1724	61.26	400	6.57	1.95	335	2.35	26.4	-67.3	14			
↓	1737	61.27	200	6.55	1.91	203	2.02	27.0	-92.1	15			Well is dry
5/20/21	0900	46.44	—	—	—	—	—	—	—	—			surge well
	0909	—	—	—	—	—	—	—	—	—			started pumping well
	0923	61.15	1200	—	—	>1000	—	—	—	20			well is dry, will let recharge
	1014	56.05	300	6.41	2.22	483	2.30	22.2	-88.1	20.5			started pumping again
	1028	58.87	200	6.46	2.21	414	1.71	24.8	-101.5	21			
	1038	59.05	200	6.46	2.16	241	2.15	25.2	-118.4	21.5			
	1048	58.95	200	6.46	2.19	139	2.25	25.9	-109.7	22			
	1059	59.18	200	6.43	2.~~03~~17	85.6	2.04	26.2	-130.9	22.5			
	1109	59.28	200	6.41	2.14	43.5	1.58	27.1	-130.6	23			
	1119	59.30	200	6.41	2.14	35.0	1.91	26.7	-123.3	23.5			
	1129	59.31	200	6.37	2.18	22.4	1.93	27.1	-135.2	24.0			
↓	1139	59.35	200	6.37	2.19	19.8	2.07	26.8	-127.9	24.5			

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):
±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
APIPZ-4

Well ID: ~~APIPZ-4~~ OH APIPZ-4

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 57.38 of screen (Top) 67.38 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Submersible (Grundfos) pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 67.38
Depth To Water (Ft.) 46.28
Water Column (Ft.) 21.1
Well Volume (gal) 3.44

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/20/21	1149	59.41	200	6.33	2.21	19.6	1.17	27.5	-151.5	25			
↓	1158	59.33	200	6.35	2.24	18.5	1.57	27.5	-137.3	25.5			
	1208	59.34	200	6.33	2.23	12.6	1.21	27.3	-158.5	26			
↓	1219	59.34	200	6.31	2.23	8.86	1.19	27.5	-169.4	26.5			Finished development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
5 ±10% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
API PZ-5

Well ID: DH ~~ARIPZ-5~~

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOP
(e.g. Top of Casing)

Depth to Screen below MP: 55.29 of screen (Top) 65.29 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Submersible Grundfos Pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 65.29
Depth To Water (Ft.) 46.29
Water Column (Ft.) 19.00
Well Volume (gal) 3.1

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/20/21	1410	—				—							surged well
	1418	—	1200			—							started pumping well
	1438	57.13	1200			120				5			surged well
	1448	52.0	800			—				—			started pumping well
	1509	57.40	800			103				10			surged well
	1521	50.80	800			—				—			started pumping well
	1552	55.70	800			84.9				15			surged well
	1603	50.05	800			—				—			started pumping well
	1621	57.55	800			64.9				~~20~~ 21.5			
	1654	50.75	500	6.49	2.04	55.3	0.62	22.2	-52.9	22.5			started pumping well
1704	~~1654~~	53.56	500	6.39	1.91	~~55.3~~	0.57	24.6	-139.6	23.75			Turb=61.8
	1714	53.65	500	6.39	1.87	54.1	0.67	24.9	-150.9	24.50			
	1724	54.10	425	6.40	1.80	34.0	0.68	24.5	-151.7	25.25			
	1734	54.74	425	6.39	1.83	17.7	0.93	24.5	-159.2	26.50			
	1744	54.67	425	6.37	1.84	9.82	0.94	24.1	-149.8	28.25			
	1754	54.38	425	6.36	1.89	7.18	0.91	24.6	-146.0	29.25			Finished Developing

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):
±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

040002.03

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
API PZ-6

Well ID: DH ~~ARIPZ-6~~

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 60.19 of screen (Top) 70.19 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Grundfos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 70.19
Depth To Water (Ft.) 54.35
Water Column (Ft.) 15.84
Well Volume (gal) 2.58

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/21/21	0940	—	1100			—				—			surged well, began pumping
	0958	63.57				>1000				5			surged well
	1006	57.71	1100			—				—			began pumping
	1022	62.60				716				10			surged well
	1029	57.52	1100			—				—			began pumping
	1045	63.17				959				15			surged well
	1052	56.55	1400			—				—			
	1103	63.50				—				27.5			well is dry, will let recharge
	1122	56.30	750	5.63	2.69	287	1.58	22.2	0.4	28.5			began pumping
	1132	59.27	750	5.59	2.72	36.8	0.43	22.3	-46.9	31.5			
	1142	59.43	750	5.59	2.76	19.0	0.30	22.2	-72.9	33.5			
	1152	59.55	750	5.59	2.73	9.85	0.27	22.1	-81.8	36.5			
	1202	59.64	750	5.60	2.78	6.27	0.35	22.0	-82.1	38.5			
	1207	59.67	750	5.60	2.76	5.99	0.33	22.1	-85.4	39.5			Finished development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

040002.03

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright APIPZ-7

Well ID: ~~OH ARIPZ-7~~

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 65.17 of screen (Top) 75.17 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Grundfos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 75.17
Depth To Water (Ft.) 47.61
Water Column (Ft.) 27.56
Well Volume (gal) 4.49

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/24/21	1305	—	800			> —				—			surged well, started pumping
5/21/21	1320	70.03	—			>1000				5			surged well
	1348	64.85	800			—				—			started pumping
	~~1406~~ 1706 OH	73.50	—			>1000				10			well is dry will let recharge
	1451	65.45	900			—				—			surge well & started pumping
	1511	73.40	—			>1000				13			well is dry, will let recharge over weekend
5/25/21	1250	47.50	800			—				—			surged well, began pumping
	1315	68.02	600			838				18			
	1351	73.50	—			—				22.5			well is dry will let recharge
	1422	65.42	400			305				23.0			started pumping
	1454	65.95	300	6.35	2.01	116	2.88	27.0	-57.4	24.5			
	1511	67.41	400	6.36	2.12	105	3.45	30.5	-41.8	26.0			
	1524	69.48	400	6.42	2.16	67	4.51	27.6	-1.5	27.5			
	1539	71.06	400	6.44	2.06	62.8	4.65	26.0	-14.9	29			
	1549	71.84	300	6.35	1.96	169	3.63	28.8	-17.2	30.31			
	1638	63.81	200	—	—	16.7	—	—	—	—			let well recharge started pumping
	1654	65.39	200	6.04	1.99	45.1	2.02	26.7	-44.4	31.75			
	1704	64.86	200	6.22	2.23	71.7	2.63	27.6	-36.5	32.5			
	1714	63.64	200	6.20	2.20	26.4	2.80	27.6	-30.7	33.25			
	1724	63.94	200	6.17	2.21	17.4	2.37	28.4	-24.9	33.75			
	1729	63.29	200	6.18	2.24	11.7	2.51	28.9	-22.9	34.0			
	1734	62.61	200	6.18	2.27	10.7	2.60	28.0	-19.1	34.25			

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH
±10 mV for redox
5 ±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright

Well ID: ~~AR1PZ-7~~ APIPZ-7

Field Sampling Personnel: D Howard

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 65.17 of screen (Top) 75.17 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Grundfos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 75.17
Depth To Water (Ft.) 47.61
Water Column (Ft.) 27.56
Well Volume (gal) 4.49

Date	Time	Depth to Water Below MP	Purge Rate	pH	Spec Cond.	Turbidity	DO Flow cell	Temp.	Redox Potential	Cum. Volume Purged	CHEMetrics DO	Hach Ferrous Iron	Comments
	24 hr	ft	mL/min	pH units	mS/cm	NTUs	mg/L	°C	mV	gallons	mg/L (low)	mg/L	
5/25/21	1739	62.36	200	6.17	2.24	9.3	2.47	27.0	-22.4	34.5			Finished Development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
5% ±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright APIPZ-8

Well ID: ~~OH APIPZ-8~~

Field Sampling Personnel: D Howard

Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 54.48 of screen (Top) 64.48 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Grundfas pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 64.48
Depth To Water (Ft.) 44.72
Water Column (Ft.) 19.76
Well Volume (gal) 3.22

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/26/21	0905	—	1000			—				—			surged well, started pumping
	0925	57.86	—			623				5			surged well
	0936	53.20	1500			—				—			started pumping
	0957	59.65	—			123				10			
	1018	52.39	1500							—			surged well, started pumping
	1035	60.24	—			126				15			
	1100	51.50	~~1500~~ 688			—				—			surged well, started pumping
	1115	57.61	600	6.40	0.93	248	4.90	23.7	-16.0	18			
	1125	57.55	500	6.59	1.02	65.9	3.52	24.6	-43.1	19.5			
	1135	57.49	400	6.62	1.08	16.9	2.93	24.9	-48.7	20.75			
	1145	57.48	400	6.61	1.13	6.80	2.70	24.9	-58.0	21.75			
	1155	57.45	400	6.61	1.13	3.69	2.69	25.0	-62.0	23			
	1205	57.43	400	6.60	1.18	2.48	2.38	24.9	-64.4	24			Finished development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
5 ±~~10~~% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
Well ID: ~~AR1PZ-9~~ AP1PZ-9
Field Sampling Personnel: Daniel Howard

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 47.30 of screen (Top) 57.30 of screen (Bottom)

Pump Intake at (ft. below MP): Varied
Purging Device (Pump Type): Grunfos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 57.30
Depth To Water (Ft.) 40.69
Water Column (Ft.) 16.61
Well Volume (gal) 2.71

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/26/21	1333		1200			—				—			surged well, started pumping
	1347	55.10	—			>1000				3.5			well is dry will let recharge
	1450	50.10	300			—				—			surged well, started pumping
	1509	55.21	—			>1000				4.5			well is dry
	1624	51.15	300			—				—			surged well, started pumping
	1645	55.45				>1000				5.5			well is dry
	1731	52.38	~~500~~ 500			—				6 —			surged well, started pumping
	1737	54.95	—			>1008				6.0			well is dry
	0853	42.65	—			—				—			well did not fully recover overnight surge well
↓	0905	—	600			—				—			began pumping well
5/27/21	0918	55.80	—			—				9.0			well is dry, very slow recharge
	1032	50.09	180			—				—			began pumping well
	1047	54.75	180	5.60	0.57	287	3.19	23.6	-7.4	9.5			
	1053	55.42	—	—	—	—	—	—	—	—			well is dry,
	1214	51.18	100	5.95	0.57	83.6	4.79	25.6	21.0	9.75			started pumping well
	1224	53.71	100	5.86	0.58	103	4.38	25.6	22.6	10			
	1234	53.72	80	5.87	0.57	103	3.81	26.9	21.5	10.2			
	1244	53.72	70	5.87	0.57	193	3.27	27.2	18.6	10.4			well is dry
	1343	50.68	200	5.87	0.58	154	3.76	26.2	23.1	—			started pumping well
	1353	54.87	200	5.84	0.56	202	2.91	29.9	6.8	10.65			
↓	1358	55.61	200	5.85	0.59	204	2.66	29.2	-1.5	11.10			
6/2/21	1058	40.79	150										started pumping well

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwight OAT

Well ID: AP1PZ-9

Field Sampling Personnel: D Howard

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 47.30 of screen (Top) 57.30 of screen (Bottom)

Pump Intake at (ft. below MP): Varied

Purging Device (Pump Type): Grundfos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 57.30
Depth To Water (Ft.) 40.69
Water Column (Ft.) 16.61
Well Volume (gal) 2.71

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
6/2/21	1110	43.27	150	5.70	0.63	145	1.46	22.9	1.5	11.3			
	1120	45.26	200	5.77	0.64	104	1.28	22.2	-8.9	11.6			
	1130	46.79	150	5.81	0.62	80.1	0.74	24.9	6.8	11.9			
	1145	47.36	150	5.78	0.62	41.9	0.78	25.3	-4.7	12.2			
	1155	47.81	200	5.79	0.62	28.8	0.74	25.3	-2.7	12.5			
	1205	48.12	200	5.81	0.62	22.3	0.89	26.0	3.3	12.8			
	1215	48.53	200	5.81	0.63	22.6	1.00	26.2	9.1	13.1			
	1225	48.92	200	5.80	0.63	19.6	1.17	26.2	13.5	13.4			
	1235	49.15	200	5.82	0.63	17.9	1.18	26.5	16.9	13.6			
	1245	49.35	200	5.82	0.63	21.6	1.30	26.9	21.5	13.7			
	1445	47.23	—							—			
	1454	48.86	200	5.79	0.65	136	3.26	23.6	40.6	14.1			
	1504	50.44	200	5.87	0.64	147	2.85	26.9	39.4	14.6			
	1525	54.6	—							—			well is dry
	1635	50.20	—							—			
	1639	54.4	—							16.25			pumped ~~2~~1.65gal well is dry

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):
±0.1 for pH
±10 mV for redox
5 ±~~8~~% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

040002.03

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
APIPZ-18
Well ID: ~~APIPZ-18~~
Field Sampling Personnel: D Howard
Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 46.63 of screen (Top) 56.63 of screen (Bottom)

Pump Intake at (ft. below MP): Varied
Purging Device (Pump Type): GrundFos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 56.63
Depth To Water (Ft.) 37.46
Water Column (Ft.) 19.17
Well Volume (gal) 3.12

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/27/21	~~1503~~		1200			~~139~~				—			surged well, started pumping
	1529	54.65	—			139				5			well is dry
	1700	49.65	500			—				—			surged well, started pumping
	1716	54.95	—			633				7.5			well is dry
	1817	51.47	400			—				—			surged well, started pumping
	1837	54.80	—			313				9.0			well is dry
5/28/21	0850	37.49	1200			—				—			surged well, started pumping
	0912	54.84	—			231				14			well is dry
	1015	49.42	200	5.53	0.68	71.5	5.21	21.6	77.8	14.25			started pumping
	1030	51.22	200	5.63	0.69	47.1	3.65	22.2	66.9	14.5			
	1040	51.15	200	5.86	0.68	40.9	3.28	23.2	56.2	14.75			
	1050	51.78	200	5.90	0.66	29.5	3.09	24.4	50.9	15.0			
	1100	51.88	200	5.90	0.65	50.3	1.67	24.8	44.9	15.25			
	1110	51.88	200	5.91	0.66	35.3	1.33	25.0	35.7	15.50			
	1120	51.90	200	5.88	0.66	27.7	0.76	25.5	26.8	15.75			
	1130	52.44	200	5.89	0.67	20.7	0.72	26.1	20.4	16.00			
	1140	52.61	200	5.91	0.68	18.5	0.78	26.8	13.5	16.5			
	1150	52.76	200	5.91	0.67	15.1	0.91	27.6	15.0	17.0			
✓	1200	52.91	200	5.94	0.67	9.8	0.87	28.1	14.6	17.5			

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Plant Arkwright
APIPZ-11
Well ID: ~~APIPZ-11~~
Field Sampling Personnel: D Howard
Development

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Depth to Screen below MP: 63.20 of screen (Top) 73.20 of screen (Bottom)

Pump Intake at (ft. below MP): Varied
Purging Device (Pump Type): GrundFos pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 73.20
Depth To Water (Ft.) 38.29
Water Column (Ft.) 34.91
Well Volume (gal) 5.69

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
5/28/21	1300	—	2000			—				—			surged well, started pumping
	1323	46.49	—			281				10.0			
	1327	—	2000			—				—			surged well, started pumping
	1352	47.30	—			131				20.0			
	1356	—	2000			—				—			surged well, started pumping
	1418	46.69	—			53.9				30.0			
	1422	—	2000			—				—			surged well, started pumping
	1442	47.21	—			50.6				40.0			
	1450	46.54	1200	6.32	0.271	20.0	2.83	21.1	37.0	44.0			
	1500	46.16	1200	6.31	0.274	9.61	2.64	21.1	11.5	48.0			
	1510	46.20	1200	6.44	0.274	5.51	2.50	21.2	-3.0	52.0			
	1520	46.20	1200	6.49	0.276	3.89	2.52	21.3	-7.6	56.0			
↓	1530	46.18	1200	6.49	0.275	3.34	2.50	21.3	-9.5	60.0			Finish development

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

±0.1 for pH
±10 mV for redox
5 ±3% for specific cond.
±10% for DO
<10 NTUs for turbidity
NA for temperature

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

Date: 5/17/21
Time: 1125
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		22.4
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		755.4
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	6.31
DO concentration after Calibration (mg/L):		6.29
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		21.6
Reading before Calibration (mS/cm)		1.370
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	7.06
pH **7.0** value after calibration:	22.0	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-22.7
pH 10 value before calibration:	Lot 1GA961 1/23	10.03
pH 10 value after calibration:	22.3	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-192.3
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.02
pH **4.0** value after calibration:	22.2	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		150.2

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	23.0
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		235.7
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.5
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	799
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.1
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 048651

Date: 5/18/21
Time: 0845
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		22.0
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		756.4
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	9.60
DO concentration after Calibration (mg/L):		9.56
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		~~1.394~~ 21.7°C
Reading before Calibration (mS/cm)		1.390
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	7.06
pH **7.0** value after calibration:	21.9	7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-24.5
pH 10 value before calibration:	Lot 1GA961 1/23	10.01
pH 10 value after calibration:	21.8	-183.5
pH 10 mV **(range is -130 to -230 mV)**:		10.0
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.02
pH **4.0** value after calibration:	22.1	149.2
pH **4.0** mV **(range is 130 to 230 mV)**:		4.00

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	22.2
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		238.7
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	100
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	800
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.1
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100 Q ID: 048651

Date: 5/19/21
Time: 0748
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 85

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		20.0
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		756.6
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	9.80
DO concentration after Calibration (mg/L):		9.80
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		21.7
Reading before Calibration (mS/cm)		1.410
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 1GB200 2/23	7.01
pH **7.0** value after calibration:	22.0	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-23.3
pH 10 value before calibration:	Lot 1GA961 1/23	10.00
pH 10 value after calibration:	21.3	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-194.3
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.01
pH **4.0** value after calibration:	22.0	4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		148.5

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	22.0
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		241.7
Reading after calibration (mV):		240.1

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	20.2
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.7
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	807
10 NTU Turbidity Check STD Lot A0272 12/12/21	Before Cal:	After Cal:	10.0
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 048651

Date: 5/20/21
Time: 0820
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 85

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		24.9
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		758.2
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.72
DO concentration after Calibration (mg/L):		8.72
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		23.2
Reading before Calibration (mS/cm)		1.430
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB206 2/23	7.00
pH **7.0** value after calibration:	22.6°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-22.9
pH 10 value before calibration:	Lot 1GA961 1/23	9.97
pH 10 value after calibration:	23.3°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:	-	194.2
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.00
pH **4.0** value after calibration:	24.0°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		149.9

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	24.7
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		235.5
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot AD227 11/21	Before Cal:	After Cal:	19.8
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	100
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	791
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.1
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID 10048651

Date: 5/21/21
Time: 0845
Prepared By: ~~0845~~ D Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 85

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		760.0
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	10.59
DO concentration after Calibration (mg/L):		10.66
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		21.9
Reading before Calibration (mS/cm)		1.440
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	7.03
pH **7.0** value after calibration:	21.7	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-24.0
pH 10 value before calibration:	Lot 1GA961 1/23	9.97
pH 10 value after calibration:	22.5	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-192.8
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.02
pH **4.0** value after calibration:	23.4	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		148.7

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	23.5
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		242.0
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	20.2
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	100
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	805
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.0
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Date: 5/25/21
Time: 1100
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 85

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		28.2
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		754.4
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.01
DO concentration after Calibration (mg/L):		8.03
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		26.8
Reading before Calibration (mS/cm)		1.400
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	6.96
pH **7.0** value after calibration:	27.5	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-20.5
pH 10 value before calibration:	Lot 1GA961 1/23	9.93
pH 10 value after calibration:	27.2	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-193.1
pH **4.0** value before calibration:	Lot 1GA843 1/23	3.97
pH **4.0** value after calibration:	27.1	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		152.4

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	27.5
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		233.3
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	19.7
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.0
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	796
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.2
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 048651

Date: 5/26/21
Time: 0803
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 80

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		28.8
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		754.3
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	7.96
DO concentration after Calibration (mg/L):		7.98
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		27.4
Reading before Calibration (mS/cm)		1.430
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	7.00
pH **7.0** value after calibration:	26.8°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-20.6
pH 10 value before calibration:	Lot 1GA961 1/23	9.94
pH 10 value after calibration:	26.7°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-189.9
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.02
pH **4.0** value after calibration:	27.2°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		151.2

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	27.9
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		238.9
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	20.1
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	100
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	792
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.1
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 048651

Date: 5/27/21
Time: 0745
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 80

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		24.3
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	752.5
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	9.21
DO concentration after Calibration (mg/L):		9.20
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		26.8
Reading before Calibration (mS/cm)		1.390
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		—

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	7.05
pH **7.0** value after calibration:	27.5	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-23.0
pH 10 value before calibration:	Lot 1GA961 1/23	9.99
pH 10 value after calibration:	27.1	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-192.4
pH **4.0** value before calibration:	Lot 1GC715 12/21 1/23	4.06
pH **4.0** value after calibration:	843 27.4	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		148.0

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	28.2
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		235.7
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	20.1
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.9
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	802
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.0
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 048651

Date: 5/28/21
Time: 0815
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 75

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes ____ No ✓ Date: ____ Time: ____	
Current Air Temperature °C (meter reading):		25.2
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	749.5
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.44
DO concentration after Calibration (mg/L):		8.42
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		27.3
Reading before Calibration (mS/cm)		1.410
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 1GB200 2/23	6.94
pH 7.0 value after calibration:	27.4°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-19.3
pH 10 value before calibration:	Lot 1GA961 7/23	9.97
pH 10 value after calibration:	26.8°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-191.6
pH **4.0** value before calibration:	Lot 1GC843 11/23	4.01
pH **4.0** value after calibration:	28.0°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		147.9

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP) .		
Calibration Temperature (°C):	Lot 1GC715 12/21	28.6
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		240.8
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	19.8
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.7
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	802
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	10.1
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID : 048651

Date: 6/2/21
Time: 1015
Prepared By: D Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 048817
Battery Voltage %: 75

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		28.6°C
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	753.1
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.09
DO concentration after Calibration (mg/L):		8.04
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 1GB312 2/22	1.413
Temperature (°C)		25.6
Reading before Calibration (mS/cm)		1.440
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		-

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 1GB200 2/23	6.93
pH 7.0 value after calibration:	25.2	7.00
pH 7.0 mV **(range is -50 to +50 mV)**:		-17.5
pH 10 value before calibration:	Lot 1GA961 1/23	10.01
pH 10 value after calibration:	25.3	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-192.1
pH **4.0** value before calibration:	Lot 1GA843 1/23	4.02
pH **4.0** value after calibration:	26.2	4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		147.4

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 1GC715 12/21	26.0
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	240
Reading before calibration (mV):		244.3
Reading after calibration (mV):		240.0

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0227 11/21	Before Cal:	After Cal:	20.1
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	99.9
800 NTU Turbidity Standard Lot A0258 12/21	Before Cal:	After Cal:	792
10 NTU Turbidity Check STD Lot A0272 12/21	Before Cal:	After Cal:	9.92
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

APPENDIX B

WELL INSPECTIONS

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API GWA-1
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number: APIGWA-2
Well ID:
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: AP1PZ-1
Date: 8-16-21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API PZ-2
Date: 8-16-21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API PZ-3
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Gaillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-4
Date: 8-16-21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APZ-PZ-5
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-6
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: AP1PZ-7
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-8
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

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Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: ~~APZP~~ APIPZ-9
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-10
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

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Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API PZ-11
Date: 8-16-21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?			N/A
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?			N/A
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			N/A
c	Does the well require redevelopment (low flow, turbid)?			N/A
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Ever Guillen

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIGWA-1
Date: 10/25/21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIGWA-2
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: AP1PZ-1
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

David Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-2
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-3
Date: 10/25/21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-4
Date: 10/25/21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API PZ-5
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-6
Date: 10/25/21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-7
Date: 10/25/21

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-8
Date: 10/25/21

		yes	no	n/a
1 Location/Identification				
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2 Protective Casing				
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3 Surface pad				
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4 Internal casing				
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5 Sampling: Groundwater Wells Only:				
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-9
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: API PZ-10
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

Groundwater Monitoring Well Integrity Form

Site Name: Plant ARKWRIGHT
Permit Number:
Well ID: APIPZ-11
Date: 10/25/21

		yes	no	n/a
1	Location/Identification			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?		✓	
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	Protective Casing			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?	✓		
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	Surface pad			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?	✓		
4	Internal casing			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	✓		
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	Sampling: Groundwater Wells Only:			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Daniel Howard

APPENDIX C

FIELD SAMPLING DATA AND ANALYTICAL DATA REPORTS

APPENDIX C
AUGUST 2021 FIELD PARAMETERS
Plant Arkwright
AP1 Landfill
Macon, Georgia

Well ID	Sample Date	Purge Volume (liters)	Time Elapsed (secs)	DTW at End of Purging (feet, BTOC)	Drawdown (feet)	Temperature (°C)	pH (SU)	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)
AP1GWA-1	8/17/2021	4.31	1292	25.37	0.09	22.13	5.23	207.17	3.71	2.93	129.7
AP1GWA-2	8/18/2021	6.0	1800	18.60	0	22.70	6.03	86.38	4.54	0.44	-41.6
AP1PZ-1	8/18/2021	41.21	12362	44.69	3.54	25.34	6.59	360.46	4.92	0.29	-51.9
AP1PZ-2	8/19/2021	41	12300	42.02	0.34	22.38	5.84	1511.4	4.94	4.44	87.0
AP1PZ-3	8/19/2021	14	4200	43.45	1.07	22.98	5.60	2108.7	4.43	0.19	-69.9
AP1PZ-4	8/20/2021	23	6900	47.12	0.2	22.58	6.56	2237.7	4.96	0.38	-77.6
AP1PZ-5	8/20/2021	10	3000	49.62	0.81	22.85	6.60	2268.0	2.42	2.15	-78.1
AP1PZ-6	8/23/2021	12.04	3611	56.81	0.42	21.64	5.50	3402.3	4.51	0.17	-10.7
AP1PZ-7	8/18/2021	6.5	3900	50.30	0	24.24	6.41	2319.2	4.39	0.35	-56.0
AP1PZ-8	8/18/2021	8.05	3900	46.70	0.08	24.92	6.74	1557.5	4.12	0.24	-92.5
AP1PZ-9	8/19/2021	15.21	18247	48.04	7.63	26.48	5.77	759.17	8.60	2.42	93.4
AP1PZ-10	8/20/2021	5.25	2100	39.23	1.19	24.16	6.53	763.88	2.74	0.59	-76.0
AP1PZ-11	8/20/2021	34	10200	38.10	0.2	22.13	6.71	318.40	4.24	1.84	49.8

Notes:

1. DTW - Depth to Water.
2. BTOC - Below Top of Casing.
3. SU - Standard Units.
4. µS/cm - microsiemens per centimeter.
5. NTU - Nephelometric Turbidity Units.
6. ORP - Oxidation-Reduction Potential.
7. mg/L - milligrams/Liter.
8. mV - milliVolts.

APPENDIX C
OCTOBER 2021 FIELD PARAMETERS
Plant Arkwright
AP1 Landfill
Macon, Georgia

Well ID	Sample Date	Purge Volume (liters)	Time Elapsed (seconds)	DTW at End of Purging (feet, BTOC)	Drawdown (feet)	Temperature (°C)	pH (SU)	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)
AP1GWA-1	10/26/2021	10.0	3000	22.91	0.08	20.79	4.76	224.50	3.51	3.33	119.2
AP1GWA-2	10/26/2021	11.0	3300	17.32	0	22.50	5.98	68.33	2.07	4.47	78.4
AP1PZ-1	10/28/2021	13.0	7800	45.11	0.39	18.34	6.44	318.98	4.73	0.96	-11.1
AP1PZ-2	10/28/2021	15.0	9000	40.90	0	22.36	5.89	1224.8	4.77	1.35	68.0
AP1PZ-3	10/29/2021	14.25	5700	42.43	0.37	18.74	5.60	2270.8	4.66	0.25	-12.1
AP1PZ-4	10/27/2021	52	15600	46.77	0	21.50	6.47	2163.2	22.40	3.99	-32.0
AP1PZ-5	10/29/2021	8.0	4800	49.92	1.42	17.94	6.36	2529.2	1.43	0.22	-70.2
AP1PZ-6	10/26/2021	10	3000	57.25	0.31	19.27	5.66	3367.3	3.69	0.36	-3.7
AP1PZ-7	10/26/2021	4.5	2700	52.90	2.65	22.02	6.45	1983.1	4.12	0.33	-108.9
AP1PZ-8	10/27/2021	5.0	2400	48.03	1.88	22.04	6.67	1582.4	4.59	0.43	-93.3
AP1PZ-9	10/28/2021	6.25	7500	43.82	4.06	19.38	5.49	733.04	4.56	0.38	110.3
AP1PZ-10	10/27/2021	2.5	1500	38.73	1.93	21.28	6.58	764.27	1.54	0.33	-81.3
AP1PZ-11	10/28/2021	15.75	6300	36.88	0.5	19.24	6.78	321.65	4.94	1.84	36.3

Notes:
1. DTW - Depth to Water.
2. BTOC - Below Top of Casing.
3. SU - Standard Units.
4. µS/cm - microsiemens per centimeter.
5. NTU - Nephelometric Turbidity Units.
6. ORP - Oxidation-Reduction Potential.
7. mg/L - milligrams/Liter.
8. mV - milliVolts.

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-125939-1
Client Project/Site: Plant Arkwright AP-1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
9/7/2021 8:28:48 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

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

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

PA Lab ID: 02-00416

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Case Narrative

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Job ID: 180-125939-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-125939-1

Comments
No additional comments.

Receipt
The samples were received on 8/19/2021 9:15 AM, 8/21/2021 9:30 AM and 8/24/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.1º C, 2.4º C, 3.6º C, 3.7º C, 4.1º C and 4.2º C.

GC Semi VOA
Method 300.0: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 180-370035 were low outside control limits for Sulfate: (180-126098-C-1 MS) and (180-126098-C-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

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

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

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21 *
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-22
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-30-22
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-22
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-22
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-22
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	08-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-125939-1	FB-1	Water	08/18/21 09:35	08/19/21 09:15
180-125939-2	EB-1	Water	08/18/21 09:45	08/19/21 09:15
180-125939-3	AP1PZ-7	Water	08/18/21 13:10	08/19/21 09:15
180-125939-4	AP1PZ-8	Water	08/18/21 16:38	08/19/21 09:15
180-125949-1	APIGWA-1	Water	08/17/21 15:10	08/19/21 09:15
180-125949-2	APIGWA-2	Water	08/18/21 11:55	08/19/21 09:15
180-125949-3	DUP-1	Water	08/18/21 00:00	08/19/21 09:15
180-126094-1	EB-2	Water	08/19/21 09:50	08/21/21 09:30
180-126094-2	AP1PZ-9	Water	08/19/21 16:50	08/21/21 09:30
180-126094-3	FB-2	Water	08/20/21 09:10	08/21/21 09:30
180-126094-4	AP1PZ-10	Water	08/20/21 11:30	08/21/21 09:30
180-126097-1	AP1PZ-4	Water	08/20/21 11:30	08/21/21 18:09
180-126097-2	AP1PZ-5	Water	08/20/21 14:40	08/21/21 18:09
180-126097-3	AP1PZ-11	Water	08/20/21 16:50	08/21/21 18:09
180-126098-1	AP1PZ-1	Water	08/18/21 18:15	08/21/21 09:30
180-126098-2	AP1PZ-2	Water	08/19/21 13:45	08/21/21 09:30
180-126098-3	DUP-2	Water	08/19/21 00:00	08/21/21 09:30
180-126098-4	AP1PZ-3	Water	08/19/21 16:45	08/21/21 09:30
180-126161-1	AP1PZ-6	Water	08/23/21 14:12	08/24/21 09:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: FB-1
Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 11:31	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368905	08/23/21 14:27	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EB-1
Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 12:19	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368905	08/23/21 14:27	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-7
Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 13:06	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			369870	09/01/21 13:22	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368905	08/23/21 14:27	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369637	08/18/21 13:10	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-8
Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 13:38	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			369870	09/01/21 13:54	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368908	08/23/21 14:46	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369637	08/18/21 16:38	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: APIGWA-1
Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 10:59	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368810	08/22/21 17:25	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369637	08/17/21 15:10	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIGWA-2
Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 11:15	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368908	08/23/21 14:46	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369637	08/18/21 11:55	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-1
Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			369870	09/01/21 12:34	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			369870	09/01/21 12:50	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	368908	08/23/21 14:46	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369637	08/18/21 00:00	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EB-2
Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 02:10	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369349	08/26/21 15:32	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-9

Lab Sample ID: 180-126094-2

Date Collected: 08/19/21 16:50

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 05:59	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		5			370188	09/04/21 06:15	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369349	08/26/21 15:32	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/19/21 16:50	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: FB-2

Lab Sample ID: 180-126094-3

Date Collected: 08/20/21 09:10

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 02:26	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369476	08/27/21 12:45	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-10

Lab Sample ID: 180-126094-4

Date Collected: 08/20/21 11:30

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 05:26	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		5			370188	09/04/21 05:43	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369476	08/27/21 12:45	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/20/21 11:30	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-4

Lab Sample ID: 180-126097-1

Date Collected: 08/20/21 11:30

Matrix: Water

Date Received: 08/21/21 18:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 03:32	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			370188	09/04/21 03:48	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369476	08/27/21 12:45	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-4
Date Collected: 08/20/21 11:30
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Field Sampling		1			369662	08/20/21 11:30	FDS	TAL PIT

Client Sample ID: AP1PZ-5
Date Collected: 08/20/21 14:40
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 04:05	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			370188	09/04/21 04:21	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	369476	08/27/21 12:45	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369662	08/20/21 14:40	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-11
Date Collected: 08/20/21 16:50
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370188	09/04/21 02:43	SAB	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369500	08/27/21 16:12	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369662	08/20/21 16:50	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-1
Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370035	09/03/21 02:03	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369142	08/25/21 10:30	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/18/21 18:15	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-2

Lab Sample ID: 180-126098-2

Date Collected: 08/19/21 13:45

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370035	09/03/21 00:25	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			370035	09/03/21 00:41	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369349	08/26/21 15:32	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/19/21 13:45	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-2

Lab Sample ID: 180-126098-3

Date Collected: 08/19/21 00:00

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370035	09/03/21 00:58	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			370035	09/03/21 01:14	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369349	08/26/21 15:32	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/19/21 00:00	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-3

Lab Sample ID: 180-126098-4

Date Collected: 08/19/21 16:45

Matrix: Water

Date Received: 08/21/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			370035	09/03/21 02:52	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	EPA 300.0 R2.1		10			370035	09/03/21 03:08	J1T	TAL PIT
	Instrument ID: CHIC2100A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	369349	08/26/21 15:32	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369649	08/19/21 16:45	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-6

Lab Sample ID: 180-126161-1

Date Collected: 08/23/21 14:12

Matrix: Water

Date Received: 08/24/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		2.5			370187	09/04/21 02:00	J1T	TAL PIT
	Instrument ID: INTEGRION									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-6
Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126161-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		25			370187	09/04/21 02:18	J1T	TAL PIT
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	369553	08/29/21 17:57	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			369662	08/23/21 14:12	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: Analysis

FDS = Sampler Field
J1T = Jianwu Tang
KMM = Kendric Moore
SAB = Sharon Bacha

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: FB-1

Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/01/21 11:31	1
Fluoride	<0.026		0.10	0.026	mg/L			09/01/21 11:31	1
Sulfate	<0.76		1.0	0.76	mg/L			09/01/21 11:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/23/21 14:27	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: EB-1

Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/01/21 12:19	1
Fluoride	**0.031**	**J**	0.10	0.026	mg/L			09/01/21 12:19	1
Sulfate	<0.76		1.0	0.76	mg/L			09/01/21 12:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/23/21 14:27	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-7

Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		1.0	0.71	mg/L			09/01/21 13:06	1
Fluoride	0.18		0.10	0.026	mg/L			09/01/21 13:06	1
Sulfate	1300		10	7.6	mg/L			09/01/21 13:22	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		10	10	mg/L			08/23/21 14:27	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.41				SU			08/18/21 13:10	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-8

Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.6		1.0	0.71	mg/L			09/01/21 13:38	1
Fluoride	0.33		0.10	0.026	mg/L			09/01/21 13:38	1
Sulfate	580		10	7.6	mg/L			09/01/21 13:54	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	840		10	10	mg/L			08/23/21 14:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.74				SU			08/18/21 16:38	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: APIGWA-1

Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.9		1.0	0.71	mg/L			09/01/21 10:59	1
Fluoride	0.27		0.10	0.026	mg/L			09/01/21 10:59	1
Sulfate	62		1.0	0.76	mg/L			09/01/21 10:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	170		10	10	mg/L			08/22/21 17:25	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.23				SU			08/17/21 15:10	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: APIGWA-2

Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2.0		1.0	0.71	mg/L			09/01/21 11:15	1
Fluoride	0.071	J	0.10	0.026	mg/L			09/01/21 11:15	1
Sulfate	1.4		1.0	0.76	mg/L			09/01/21 11:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	82		10	10	mg/L			08/23/21 14:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.03				SU			08/18/21 11:55	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: DUP-1

Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.7		1.0	0.71	mg/L			09/01/21 12:34	1
Fluoride	0.25		0.10	0.026	mg/L			09/01/21 12:34	1
Sulfate	570		10	7.6	mg/L			09/01/21 12:50	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10	10	mg/L			08/23/21 14:46	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.74				SU			08/18/21 00:00	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: EB-2

Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/04/21 02:10	1
Fluoride	<0.026		0.10	0.026	mg/L			09/04/21 02:10	1
Sulfate	<0.76		1.0	0.76	mg/L			09/04/21 02:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/26/21 15:32	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-9

Date Collected: 08/19/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		1.0	0.71	mg/L			09/04/21 05:59	1
Fluoride	0.45		0.10	0.026	mg/L			09/04/21 05:59	1
Sulfate	310		5.0	3.8	mg/L			09/04/21 06:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	550		10	10	mg/L			08/26/21 15:32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.77				SU			08/19/21 16:50	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: FB-2

Date Collected: 08/20/21 09:10
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/04/21 02:26	1
Fluoride	<0.026		0.10	0.026	mg/L			09/04/21 02:26	1
Sulfate	<0.76		1.0	0.76	mg/L			09/04/21 02:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/27/21 12:45	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-10

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.0		1.0	0.71	mg/L			09/04/21 05:26	1
Fluoride	0.48		0.10	0.026	mg/L			09/04/21 05:26	1
Sulfate	230		5.0	3.8	mg/L			09/04/21 05:43	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	520		10	10	mg/L			08/27/21 12:45	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.53				SU			08/20/21 11:30	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-4

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.4		1.0	0.71	mg/L			09/04/21 03:32	1
Fluoride	0.35		0.10	0.026	mg/L			09/04/21 03:32	1
Sulfate	1400		10	7.6	mg/L			09/04/21 03:48	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2000		10	10	mg/L			08/27/21 12:45	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.56				SU			08/20/21 11:30	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-5

Date Collected: 08/20/21 14:40
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.8		1.0	0.71	mg/L			09/04/21 04:05	1
Fluoride	0.40		0.10	0.026	mg/L			09/04/21 04:05	1
Sulfate	1300		10	7.6	mg/L			09/04/21 04:21	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200		20	20	mg/L			08/27/21 12:45	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.60				SU			08/20/21 14:40	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-11

Date Collected: 08/20/21 16:50
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.1		1.0	0.71	mg/L			09/04/21 02:43	1
Fluoride	0.12		0.10	0.026	mg/L			09/04/21 02:43	1
Sulfate	57		1.0	0.76	mg/L			09/04/21 02:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	200		10	10	mg/L			08/27/21 16:12	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.71				SU			08/20/21 16:50	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-1

Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.0		1.0	0.71	mg/L			09/03/21 02:03	1
Fluoride	0.13		0.10	0.026	mg/L			09/03/21 02:03	1
Sulfate	100	F1	1.0	0.76	mg/L			09/03/21 02:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	280		10	10	mg/L			08/25/21 10:30	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.59				SU			08/18/21 18:15	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-2

Date Collected: 08/19/21 13:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.3		1.0	0.71	mg/L			09/03/21 00:25	1
Fluoride	0.13		0.10	0.026	mg/L			09/03/21 00:25	1
Sulfate	930		10	7.6	mg/L			09/03/21 00:41	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500		10	10	mg/L			08/26/21 15:32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.84				SU			08/19/21 13:45	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: DUP-2

Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.2		1.0	0.71	mg/L			09/03/21 00:58	1
Fluoride	0.14		0.10	0.026	mg/L			09/03/21 00:58	1
Sulfate	950		10	7.6	mg/L			09/03/21 01:14	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10	10	mg/L			08/26/21 15:32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.84				SU			08/19/21 00:00	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-3

Date Collected: 08/19/21 16:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.0		1.0	0.71	mg/L			09/03/21 02:52	1
Fluoride	0.063	J	0.10	0.026	mg/L			09/03/21 02:52	1
Sulfate	1300		10	7.6	mg/L			09/03/21 03:08	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		10	10	mg/L			08/26/21 15:32	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.60				SU			08/19/21 16:45	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-1

Client Sample ID: AP1PZ-6

Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126161-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		2.5	1.8	mg/L			09/04/21 02:00	2.5
Fluoride	0.25		0.25	0.065	mg/L			09/04/21 02:00	2.5
Sulfate	2200		25	19	mg/L			09/04/21 02:18	25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000		20	20	mg/L			08/29/21 17:57	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.50				SU			08/23/21 14:12	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 180-369870/7
Matrix: Water
Analysis Batch: 369870

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/01/21 09:24	1
Fluoride	<0.026		0.10	0.026	mg/L			09/01/21 09:24	1
Sulfate	<0.76		1.0	0.76	mg/L			09/01/21 09:24	1

Lab Sample ID: LCS 180-369870/6
Matrix: Water
Analysis Batch: 369870

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	90 - 110
Fluoride	2.50	2.58		mg/L		103	90 - 110
Sulfate	50.0	48.7		mg/L		97	90 - 110

Lab Sample ID: MB 180-370035/44
Matrix: Water
Analysis Batch: 370035

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/02/21 19:52	1
Fluoride	<0.026		0.10	0.026	mg/L			09/02/21 19:52	1
Sulfate	<0.76		1.0	0.76	mg/L			09/02/21 19:52	1

Lab Sample ID: LCS 180-370035/43
Matrix: Water
Analysis Batch: 370035

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.5		mg/L		101	90 - 110
Fluoride	2.50	2.74		mg/L		109	90 - 110
Sulfate	50.0	48.9		mg/L		98	90 - 110

Lab Sample ID: 180-126098-1 MS
Matrix: Water
Analysis Batch: 370035

Client Sample ID: AP1PZ-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.0		50.0	52.7		mg/L		99	90 - 110
Fluoride	0.13		2.50	2.69		mg/L		102	90 - 110
Sulfate	100	F1	50.0	144	F1	mg/L		84	90 - 110

Lab Sample ID: 180-126098-1 MSD
Matrix: Water
Analysis Batch: 370035

Client Sample ID: AP1PZ-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.0		50.0	53.2		mg/L		101	90 - 110	1	20
Fluoride	0.13		2.50	2.69		mg/L		103	90 - 110	0	20
Sulfate	100	F1	50.0	146	F1	mg/L		87	90 - 110	1	20

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 180-370187/50
Matrix: Water
Analysis Batch: 370187

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/03/21 21:50	1
Fluoride	<0.026		0.10	0.026	mg/L			09/03/21 21:50	1
Sulfate	<0.76		1.0	0.76	mg/L			09/03/21 21:50	1

Lab Sample ID: MB 180-370187/6
Matrix: Water
Analysis Batch: 370187

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/03/21 08:50	1
Fluoride	<0.026		0.10	0.026	mg/L			09/03/21 08:50	1
Sulfate	<0.76		1.0	0.76	mg/L			09/03/21 08:50	1

Lab Sample ID: LCS 180-370187/49
Matrix: Water
Analysis Batch: 370187

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	47.7		mg/L		95	90 - 110
Fluoride	2.50	2.71		mg/L		108	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Lab Sample ID: MB 180-370188/38
Matrix: Water
Analysis Batch: 370188

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/03/21 19:05	1
Fluoride	<0.026		0.10	0.026	mg/L			09/03/21 19:05	1
Sulfate	<0.76		1.0	0.76	mg/L			09/03/21 19:05	1

Lab Sample ID: MB 180-370188/7
Matrix: Water
Analysis Batch: 370188

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			09/03/21 10:14	1
Fluoride	<0.026		0.10	0.026	mg/L			09/03/21 10:14	1
Sulfate	<0.76		1.0	0.76	mg/L			09/03/21 10:14	1

Lab Sample ID: LCS 180-370188/37
Matrix: Water
Analysis Batch: 370188

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.0		mg/L		100	90 - 110
Fluoride	2.50	2.69		mg/L		108	90 - 110
Sulfate	50.0	48.1		mg/L		96	90 - 110

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 180-370188/6
Matrix: Water
Analysis Batch: 370188

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	49.2		mg/L		98	90 - 110		
Fluoride			2.50	2.65		mg/L		106	90 - 110		
Sulfate			50.0	47.0		mg/L		94	90 - 110		

Lab Sample ID: 180-126097-3 MS
Matrix: Water
Analysis Batch: 370188

Client Sample ID: AP1PZ-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	3.1		50.0	55.9		mg/L		106	90 - 110		
Fluoride	0.12		2.50	2.83		mg/L		108	90 - 110		
Sulfate	57		50.0	107		mg/L		99	90 - 110		

Lab Sample ID: 180-126097-3 MSD
Matrix: Water
Analysis Batch: 370188

Client Sample ID: AP1PZ-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	3.1		50.0	54.9		mg/L		104	90 - 110	2	20
Fluoride	0.12		2.50	2.73		mg/L		104	90 - 110	4	20
Sulfate	57		50.0	104		mg/L		93	90 - 110	3	20

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

Lab Sample ID: MB 180-368810/2
Matrix: Water
Analysis Batch: 368810

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/22/21 17:25	1

Lab Sample ID: LCS 180-368810/1
Matrix: Water
Analysis Batch: 368810

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			685	652		mg/L		95	80 - 120		

Lab Sample ID: MB 180-368905/2
Matrix: Water
Analysis Batch: 368905

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/23/21 14:27	1

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

Lab Sample ID: LCS 180-368905/1
Matrix: Water
Analysis Batch: 368905

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	685	672		mg/L		98	80 - 120

Lab Sample ID: MB 180-368908/2
Matrix: Water
Analysis Batch: 368908

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/23/21 14:46	1

Lab Sample ID: LCS 180-368908/1
Matrix: Water
Analysis Batch: 368908

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	685	670		mg/L		98	80 - 120

Lab Sample ID: MB 180-369142/2
Matrix: Water
Analysis Batch: 369142

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/25/21 10:30	1

Lab Sample ID: LCS 180-369142/1
Matrix: Water
Analysis Batch: 369142

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	685	708		mg/L		103	80 - 120

Lab Sample ID: MB 180-369349/2
Matrix: Water
Analysis Batch: 369349

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/26/21 15:32	1

Lab Sample ID: LCS 180-369349/1
Matrix: Water
Analysis Batch: 369349

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	685	684		mg/L		100	80 - 120

Lab Sample ID: MB 180-369476/2
Matrix: Water
Analysis Batch: 369476

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/27/21 12:45	1

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

Lab Sample ID: LCS 180-369476/1
Matrix: Water
Analysis Batch: 369476

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			685	654		mg/L		95	80 - 120		

Lab Sample ID: MB 180-369500/2
Matrix: Water
Analysis Batch: 369500

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/27/21 16:12	1

Lab Sample ID: LCS 180-369500/1
Matrix: Water
Analysis Batch: 369500

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			685	648		mg/L		95	80 - 120		

Lab Sample ID: 180-126097-3 DU
Matrix: Water
Analysis Batch: 369500

Client Sample ID: AP1PZ-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	200			195		mg/L				4	10

Lab Sample ID: MB 180-369553/2
Matrix: Water
Analysis Batch: 369553

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			08/29/21 17:57	1

Lab Sample ID: LCS 180-369553/1
Matrix: Water
Analysis Batch: 369553

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			685	704		mg/L		103	80 - 120		

HPLC/IC

Analysis Batch: 369870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-1	FB-1	Total/NA	Water	EPA 300.0 R2.1	
180-125939-2	EB-1	Total/NA	Water	EPA 300.0 R2.1	
180-125939-3	AP1PZ-7	Total/NA	Water	EPA 300.0 R2.1	
180-125939-3	AP1PZ-7	Total/NA	Water	EPA 300.0 R2.1	
180-125939-4	AP1PZ-8	Total/NA	Water	EPA 300.0 R2.1	
180-125939-4	AP1PZ-8	Total/NA	Water	EPA 300.0 R2.1	
180-125949-1	APIGWA-1	Total/NA	Water	EPA 300.0 R2.1	
180-125949-2	APIGWA-2	Total/NA	Water	EPA 300.0 R2.1	
180-125949-3	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
180-125949-3	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
MB 180-369870/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-369870/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 370035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126098-1	AP1PZ-1	Total/NA	Water	EPA 300.0 R2.1	
180-126098-2	AP1PZ-2	Total/NA	Water	EPA 300.0 R2.1	
180-126098-2	AP1PZ-2	Total/NA	Water	EPA 300.0 R2.1	
180-126098-3	DUP-2	Total/NA	Water	EPA 300.0 R2.1	
180-126098-3	DUP-2	Total/NA	Water	EPA 300.0 R2.1	
180-126098-4	AP1PZ-3	Total/NA	Water	EPA 300.0 R2.1	
180-126098-4	AP1PZ-3	Total/NA	Water	EPA 300.0 R2.1	
MB 180-370035/44	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-370035/43	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-126098-1 MS	AP1PZ-1	Total/NA	Water	EPA 300.0 R2.1	
180-126098-1 MSD	AP1PZ-1	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 370187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126161-1	AP1PZ-6	Total/NA	Water	EPA 300.0 R2.1	
180-126161-1	AP1PZ-6	Total/NA	Water	EPA 300.0 R2.1	
MB 180-370187/50	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-370187/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-370187/49	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 370188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-1	EB-2	Total/NA	Water	EPA 300.0 R2.1	
180-126094-2	AP1PZ-9	Total/NA	Water	EPA 300.0 R2.1	
180-126094-2	AP1PZ-9	Total/NA	Water	EPA 300.0 R2.1	
180-126094-3	FB-2	Total/NA	Water	EPA 300.0 R2.1	
180-126094-4	AP1PZ-10	Total/NA	Water	EPA 300.0 R2.1	
180-126094-4	AP1PZ-10	Total/NA	Water	EPA 300.0 R2.1	
180-126097-1	AP1PZ-4	Total/NA	Water	EPA 300.0 R2.1	
180-126097-1	AP1PZ-4	Total/NA	Water	EPA 300.0 R2.1	
180-126097-2	AP1PZ-5	Total/NA	Water	EPA 300.0 R2.1	
180-126097-2	AP1PZ-5	Total/NA	Water	EPA 300.0 R2.1	
180-126097-3	AP1PZ-11	Total/NA	Water	EPA 300.0 R2.1	
MB 180-370188/38	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
MB 180-370188/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-370188/37	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

HPLC/IC (Continued)

Analysis Batch: 370188 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-370188/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-126097-3 MS	AP1PZ-11	Total/NA	Water	EPA 300.0 R2.1	
180-126097-3 MSD	AP1PZ-11	Total/NA	Water	EPA 300.0 R2.1	

General Chemistry

Analysis Batch: 368810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125949-1	APIGWA-1	Total/NA	Water	SM 2540C	
MB 180-368810/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-368810/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 368905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-1	FB-1	Total/NA	Water	SM 2540C	
180-125939-2	EB-1	Total/NA	Water	SM 2540C	
180-125939-3	AP1PZ-7	Total/NA	Water	SM 2540C	
MB 180-368905/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-368905/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 368908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-4	AP1PZ-8	Total/NA	Water	SM 2540C	
180-125949-2	APIGWA-2	Total/NA	Water	SM 2540C	
180-125949-3	DUP-1	Total/NA	Water	SM 2540C	
MB 180-368908/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-368908/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 369142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126098-1	AP1PZ-1	Total/NA	Water	SM 2540C	
MB 180-369142/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-369142/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 369349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-1	EB-2	Total/NA	Water	SM 2540C	
180-126094-2	AP1PZ-9	Total/NA	Water	SM 2540C	
180-126098-2	AP1PZ-2	Total/NA	Water	SM 2540C	
180-126098-3	DUP-2	Total/NA	Water	SM 2540C	
180-126098-4	AP1PZ-3	Total/NA	Water	SM 2540C	
MB 180-369349/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-369349/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 369476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-3	FB-2	Total/NA	Water	SM 2540C	
180-126094-4	AP1PZ-10	Total/NA	Water	SM 2540C	
180-126097-1	AP1PZ-4	Total/NA	Water	SM 2540C	
180-126097-2	AP1PZ-5	Total/NA	Water	SM 2540C	
MB 180-369476/2	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 369476 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-369476/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 369500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126097-3	AP1PZ-11	Total/NA	Water	SM 2540C	
MB 180-369500/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-369500/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-126097-3 DU	AP1PZ-11	Total/NA	Water	SM 2540C	

Analysis Batch: 369553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126161-1	AP1PZ-6	Total/NA	Water	SM 2540C	
MB 180-369553/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-369553/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 369637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-3	AP1PZ-7	Total/NA	Water	Field Sampling	
180-125939-4	AP1PZ-8	Total/NA	Water	Field Sampling	
180-125949-1	APIGWA-1	Total/NA	Water	Field Sampling	
180-125949-2	APIGWA-2	Total/NA	Water	Field Sampling	
180-125949-3	DUP-1	Total/NA	Water	Field Sampling	

Analysis Batch: 369649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-2	AP1PZ-9	Total/NA	Water	Field Sampling	
180-126094-4	AP1PZ-10	Total/NA	Water	Field Sampling	
180-126098-1	AP1PZ-1	Total/NA	Water	Field Sampling	
180-126098-2	AP1PZ-2	Total/NA	Water	Field Sampling	
180-126098-3	DUP-2	Total/NA	Water	Field Sampling	
180-126098-4	AP1PZ-3	Total/NA	Water	Field Sampling	

Analysis Batch: 369662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126097-1	AP1PZ-4	Total/NA	Water	Field Sampling	
180-126097-2	AP1PZ-5	Total/NA	Water	Field Sampling	
180-126097-3	AP1PZ-11	Total/NA	Water	Field Sampling	
180-126161-1	AP1PZ-6	Total/NA	Water	Field Sampling	

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301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
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Chain of Custody Record

244- ATLANTA

Eurofins | Environment Testing America

Client Information	Sampler: Daniel Howard/Evan Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~3 of 3~~
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): Standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	D	N	N	N	N		
FB-1	8/18/21	0935	G	W			X		X	X	X		3	
EB-1		0945	G	W			X		X	X	X		3	
AP1PZ-7		1310	G	W			X		X	X	X		3	
AP1PZ-8		1638	G	W			X		X	X	X		3	

180-125939 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel Howard	8/18/21 1900		D Watson	8-19-21 9:15	EA Pitt
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244 ATLANTA

Eurofins Environment Testing America

Client Information	Sampler: Daniel Howard/EverGuillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~0 of 3~~
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): Standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N		
APIGWA-1	8/17/21	1510	G	W			X		X	X	X		3	
APIGWA-2	8/18/21	1155	G	W			X		X	X	X		3	
DUP-1	8/18/21	—	G	W			X		X	X	X		3	

180-125949 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
David Howard	8/18/21 / 1900		D Watson	8-19-21 9:15	KeTAPLA

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

Ver: 06/08/2021 9/7/2021

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244-ATLANTA

eurofins Environment Testing America

Client Information	Sampler: DHoward/EGuillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

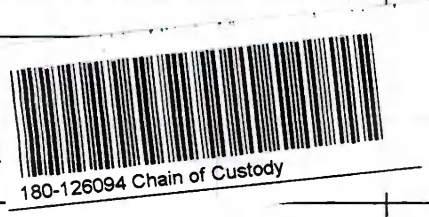
Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	~~N~~ D	~~N~~ D		
EB-2	8/19/21	0950	G	W			X		X	X	X		3	
AP1PZ-9	8/19/21	1650	G	W			X		X	X	X		3	pH=5.77
FB-2	8/20/21	0910	G	W			X		X	X	X		3	
AP1PZ-10	8/20/21	1130	G	W			X		X	X	X		3	pH=6.53

180-126094 Chain of Custody



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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel L Howard	8/20/21/1830		D Watson	8-21-21	ETAPIT
				930	

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

Ver: 06/08/2021 9/7/2021

244- ATLANTA

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: D Howard / E Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	ND	ND		
AP1PZ-4	8/20/21	1130	G	W			X		X	X	X		3	pH=6.56
AP1PZ-5	↓	1440	G	W			X		X	X	X		3	pH=6.60
AP1PZ-11	↓	1650	G	W			X		X	X	X		3	pH=6.71

180-126097 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
David L Howard	8/20/21 / 1830		D Watson	8-21-21 9:30	[illegible]

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

Ver: 06/08/2021 9/7/2021

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244-ATLANTA

eurofins | Environment Testing America

Client Information	Sampler: DHoward/EGuillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury								Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	D	D	N	N	MD	MD									
AP1PZ-1	8/18/21	1815	G	W			X		X	X	X									3	pH=5.59
AP1PZ-2	8/19/21	1345	G	W			X		X	X	X									3	pH=5.84
DUP-2	↓	—	G	W			X		X	X	X									3	pH=5.84
AP1PZ-3	↓	1645	G	W			X		X	X	X									3	pH=5.60

180-126098 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	D.L. Daniel K Howard	8/20/21/1830		DWatson	8-21-21	KAP
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9:30	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244 ATLANTA

Eurofins Environment Testing America

Client Information	Sampler: D Howard	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	D	N	N	NO	NO	X	
AP1PZ-6	8/23/21	1412	G	W			X		X	X	X		3	pH=5.50

180-126161 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Daniel L Howard	Date/Time: 8/23/21 / 1545	Company	Received by: D Water Date/Time: 8-24-21 Company: ETHPITT
Relinquished by:	Date/Time:	Company	Received by: Date/Time: 9:30 Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

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

Ver: 06/08/2021

9/7/2021

ORIGIN ID:MCNA (404) 273-0418
AMEC
WOOD E & I
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 18AUG21
ACTWGT: 60.80 LB
CAD: 6994493/SSFE2220
DIMS: 24x13x14 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7068

INV:
PO:
REF:
DEPT:

RT 98
FZ
1
10:30
A
7077
08.19

FedEx Express

2 of 2
MPS# 0681 2827 2332 7077
Mstr# 8121 9394 4282

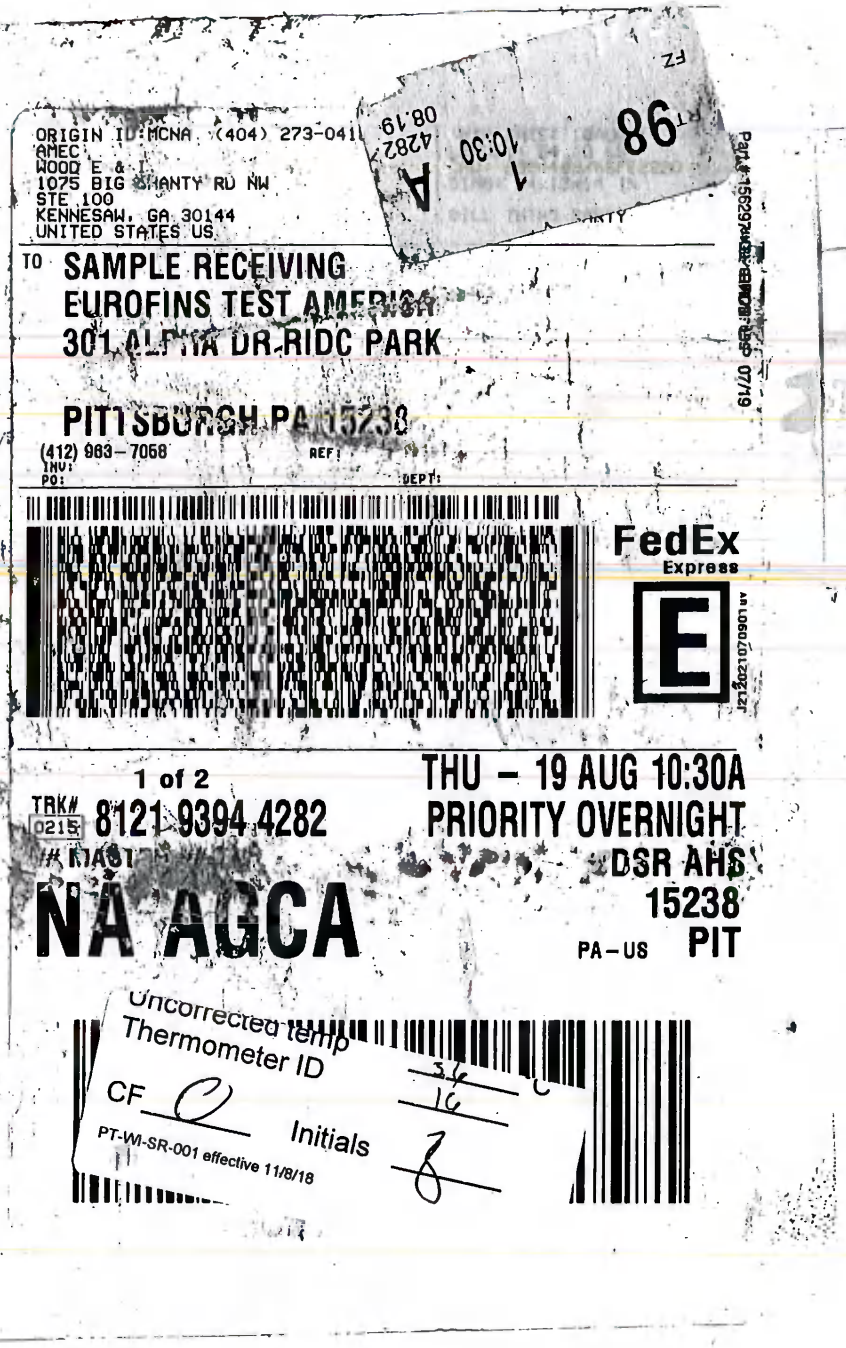
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
0215
15238
PIT
PA-US

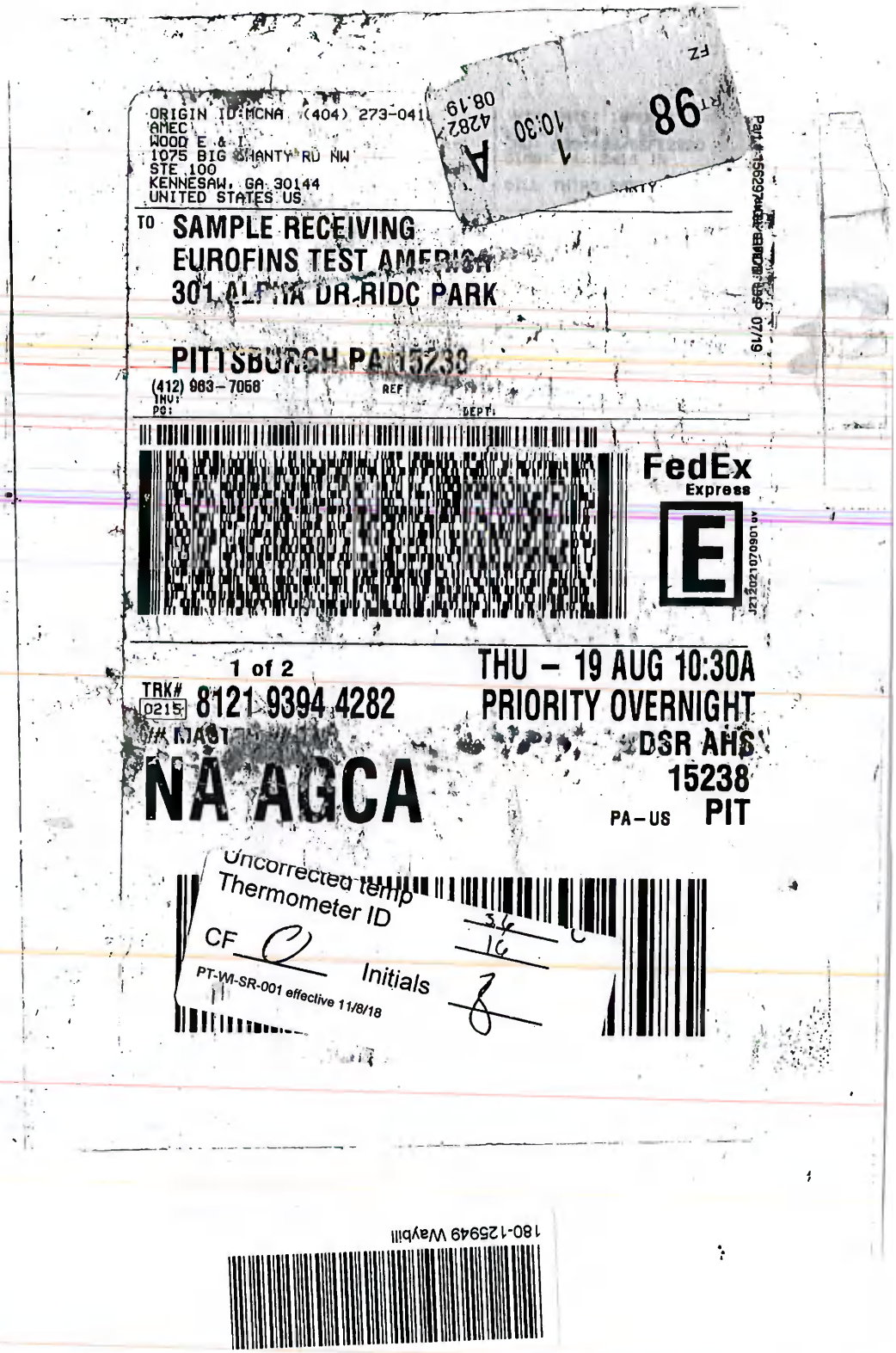
NA AGCA

Uncorrected temp 20.2 °C
Thermometer ID 16
CF 0 Initials 8

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

180-125939 Waybill


ORIGIN ID:MCNA (404) 273-0411
AMEC
WOOD E &
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:
FedEx
Express
1 of 2
TRK# 8121 9394 4282
0215
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT
NA AGCA
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-125949 Waybill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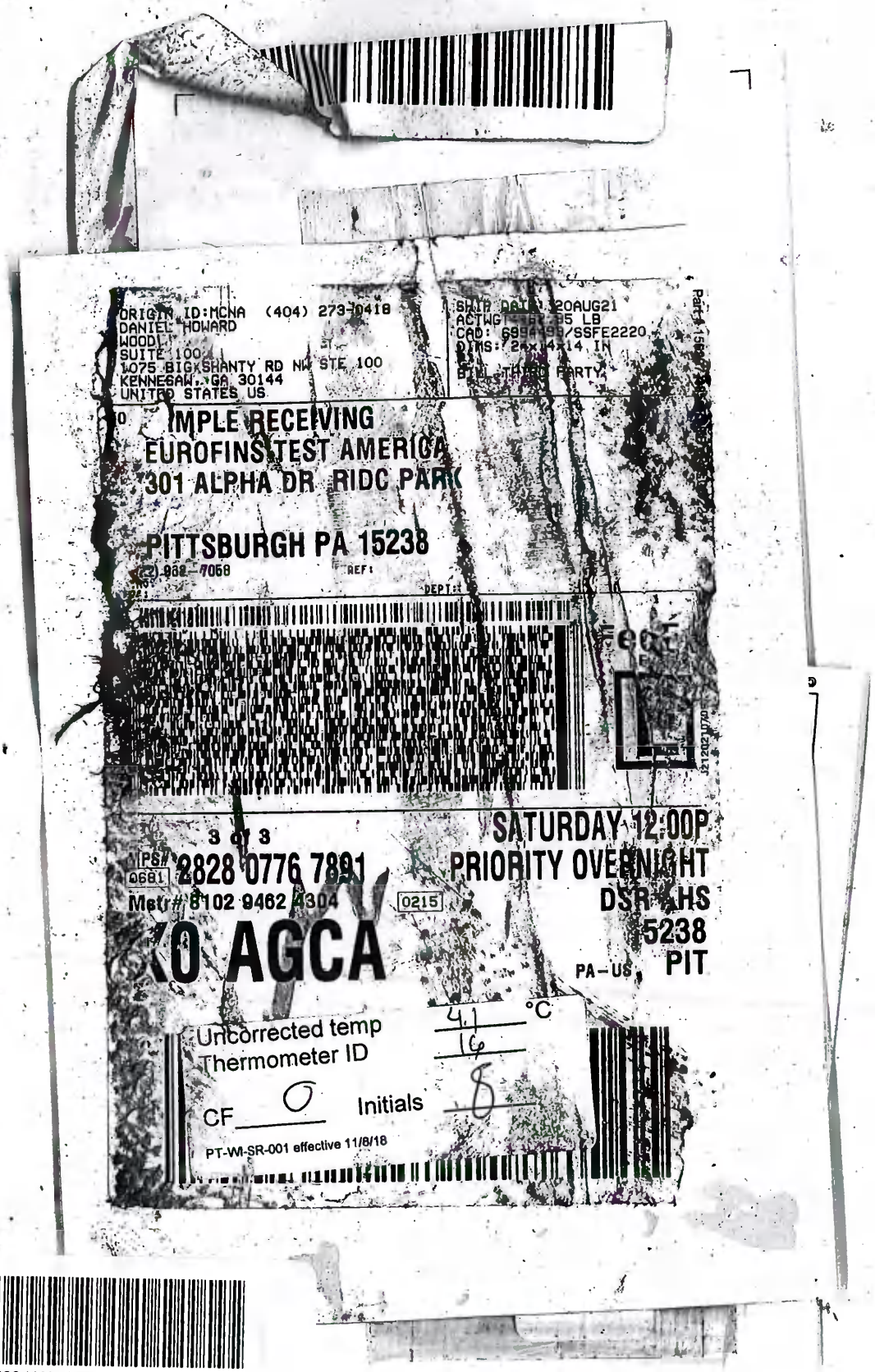
AMEC
WOOD E & I
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF
INV:
PO:
DEPT:
FedEx
Express
1 of 2
TRK# 8121 9394 4282
0215
MAST
NA AGCA
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-12594 Waybill



180-126094 Waybill

FedEx®

9/7/2021

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
WOOD
SUITE 100
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 20AUG21
ACTWGT: 57.95 LB
CAD: 6994493/SSFE2220
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDG PARK

PITTSBURGH PA 15238
(412) 963-7058
REF:
INV:
PO:
DEPT:

FedEx
Express

E

2 of 3
MPS# 0681 2828 0776 7880
Mstr# 8102 9462 4304 0215

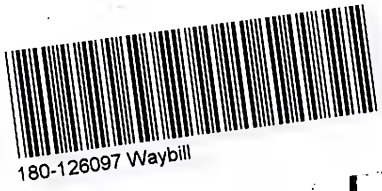
SATURDAY 12:00
PRIORITY OVERNIGH
DSR AH
1523
PI
PA-US

XO AGCA

Uncorrected temp
Thermometer
CF 0
Initials
PT-WI-SR-001 effective 11/8/

180-126097 Waybill

Page 51 of 60



ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
WORD
SUITE 100
1[illegible] BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

DATE: 20AUG21
WT: 62.80 LB
C.D.: [illegible]94493/SSFE2220
DIMS: 24x14x14 IN
BILL THIRD PARTY

156297-[illegible] 06/22

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

FedEx Express

E

J212021070901uv

1 of 3
TRK# 0215 8102 9462 4304
MASTER
XO AGCA

SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

Uncorrected temp 3.7 °C
Thermometer ID 16
CF 6 Initials
PT-WI-SR-001 effective 11/8/18

180-126098 Waybill

sing Th

Align FedEx Pouch Here

fedex.com 1.800.GoFedEx 1.800.463.3339

FedEx Express

Packages US Airbill

Tracking Number

Express Package Service

Next Business Day

2 or 3 Business Days

Packages up to 150 lbs.

Recipients Copy

1 From

Date

Sender's Name DEEANN PLOPER

Company AMEC

Address 1075 BIG SHANTY RD NW STE 100

City KENNESAW State GA ZIP 30144-3652

2 Your Internal Billing Reference

3 To

Recipient's Name

Company

Address

Address

City State ZIP

Hold Weekday

Hold Saturday

5 Packaging

FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options

Saturday Delivery

No Signature Required

Direct Signature

Indirect Signature

Does this shipment contain dangerous goods?

Yes No

Dry Ice

Cargo Aircraft Only

7 Payment Bill to:

Sender Recipient Third Party Credit Card Cash/Check

fedex.com 1.800.GoFedEx 1.800.463.3339

180-126161 Waybill

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
AMEC WOOD E& I
1075 BIG SHANTY RD NW STE 100

KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23AUG21
ACTWGT: 32.00 LB
CAD: 6994493/SSFE2220
DIMS: 17x16x13 IN

BILL THIRD PARTY

Part # 156297-435 FRDB EXT 06/22

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK PO

PITTSBURGH PA 15238

(412) 963-7058 REF:
INV:
PO: DEPT:

FedEx Express

E

TRK# 0215 8121 9394 4591

TUE - 24 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

NA AGCA

Uncorrected temp 4.2 °C
Thermometer ID 16
CF 0 Initials 8

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

Align FedEx Pouch Here

Part # 156297-435 RRDB EXP 06/22

180-126161 Waybill

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
AMEC WOOD E& I
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23AUG21
ACTWGT: 32.00 LB
CAD: 6994493/SSFE2220
DIMS: 17x16x13 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK PO
PITTSBURGH PA 15238
(412) 963-7058
REF:
INV:
PO:
DEPT:

FedEx Express

TUE - 24 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US
PIT

TRK# 0215 8121 9394 4591

NA AGCA

Uncorrected temp 4.2 °C
Thermometer ID 16
CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18

00033
00200

FedEx Express

Packag[illegible]

Tracking Number 8121 [illegible]

ID No. [illegible]

Recipient's Copy

1 From

Date [illegible]

Sender's Name DEEAN[illegible] Phone 770[illegible]1-3[illegible]

Company AMEC [illegible]

Address 1075 BIG SHANTY RD NW STE 100 Dept./Floor/Suite/Room

City KENNESAW State GA ZIP 30144-3652

2 Your Internal Billing Reference 61[illegible]

3 To

Recipient's Name Sample Receiving Phone [illegible]

Company Eurofins Test America

Address 301 Alpha Dr RIDC Park Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [illegible] State [illegible] ZIP [illegible]

☐ Hold Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ Hold Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery.

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

☐ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9, UN 1845 ____ x ____ kg

Restrictions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

fedex.com 1.800.GoFedEx 1.800.463.3339

fedex.com 1.800.GoFedEx 1.800.463.3339

9/7/2021

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 125939
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 125949
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 126094
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 126097
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 126098
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-1

Login Number: 126161
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-125939-2
Client Project/Site: Plant Arkwright AP-1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
9/29/2021 11:59:08 AM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

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

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

PA Lab ID: 02-00416

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Job ID: 180-125939-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-125939-2

Comments
No additional comments.

Receipt
The samples were received on 8/19/2021 9:15 AM, 8/21/2021 9:30 AM and 8/24/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.1º C, 2.4º C, 3.6º C, 3.7º C, 4.1º C and 4.2º C.

RAD
Methods 903.0, 9315: Radium 226 prep batch 160-524072
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. FB-1 (180-125939-1), EB-1 (180-125939-2), AP1PZ-7 (180-125939-3), AP1PZ-8 (180-125939-4), (LCS 160-524072/1-A) and (MB 160-524072/24-A)

Methods 903.0, 9315: Radium 226 prep batch 160-524328
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. APIGWA-1 (180-125949-1), APIGWA-2 (180-125949-2), DUP-1 (180-125949-3), (LCS 160-524328/1-A) and (MB 160-524328/23-A)

Method 9315: Radium-226 Batch 524659
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EB-2 (180-126094-1), AP1PZ-9 (180-126094-2), FB-2 (180-126094-3), AP1PZ-10 (180-126094-4), AP1PZ-4 (180-126097-1), AP1PZ-5 (180-126097-2), AP1PZ-11 (180-126097-3), AP1PZ-1 (180-126098-1), AP1PZ-2 (180-126098-2), DUP-2 (180-126098-3), (LCS 160-524659/1-A), (LCSD 160-524659/2-A) and (MB 160-524659/23-A)

Methods 903.0, 9315: Radium-226 Batch 525034
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-3 (180-126098-4), (LCS 160-525034/1-A) and (MB 160-525034/23-A)

Methods 904.0, 9320: Radium 228 prep batch 160-524342
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. APIGWA-1 (180-125949-1), APIGWA-2 (180-125949-2), DUP-1 (180-125949-3), (LCS 160-524342/1-A) and (MB 160-524342/23-A)

Methods 904.0, 9320: Radium 228 prep batch 160-524081
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. FB-1 (180-125939-1), EB-1 (180-125939-2), AP1PZ-7 (180-125939-3), AP1PZ-8 (180-125939-4), (LCS 160-524081/1-A) and (MB 160-524081/24-A)

Method 9320: Radium-228 Batch 524669
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EB-2 (180-126094-1), AP1PZ-9 (180-126094-2), FB-2 (180-126094-3), AP1PZ-10 (180-126094-4), AP1PZ-4 (180-126097-1), AP1PZ-5 (180-126097-2), AP1PZ-11 (180-126097-3), AP1PZ-1 (180-126098-1), AP1PZ-2 (180-126098-2), DUP-2 (180-126098-3), (LCS 160-524669/1-A), (LCSD 160-524669/2-A) and (MB 160-524669/23-A)

Job ID: 180-125939-2 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Methods 904.0, 9320: Radium-228 Batch 525041
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-3 (180-126098-4), (LCS 160-525041/1-A) and (MB 160-525041/23-A)

Method PrecSep_0: Ra-228 Batch 160-524669:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: EB-2 (180-126094-1), AP1PZ-9 (180-126094-2), FB-2 (180-126094-3), AP1PZ-10 (180-126094-4), AP1PZ-4 (180-126097-1), AP1PZ-5 (180-126097-2), AP1PZ-11 (180-126097-3), AP1PZ-1 (180-126098-1), AP1PZ-2 (180-126098-2) and DUP-2 (180-126098-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-524659:
Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: EB-2 (180-126094-1), AP1PZ-9 (180-126094-2), FB-2 (180-126094-3), AP1PZ-10 (180-126094-4), AP1PZ-4 (180-126097-1), AP1PZ-5 (180-126097-2), AP1PZ-11 (180-126097-3), AP1PZ-1 (180-126098-1), AP1PZ-2 (180-126098-2) and DUP-2 (180-126098-3). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Qualifiers

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-125939-1	FB-1	Water	08/18/21 09:35	08/19/21 09:15
180-125939-2	EB-1	Water	08/18/21 09:45	08/19/21 09:15
180-125939-3	AP1PZ-7	Water	08/18/21 13:10	08/19/21 09:15
180-125939-4	AP1PZ-8	Water	08/18/21 16:38	08/19/21 09:15
180-125949-1	APIGWA-1	Water	08/17/21 15:10	08/19/21 09:15
180-125949-2	APIGWA-2	Water	08/18/21 11:55	08/19/21 09:15
180-125949-3	DUP-1	Water	08/18/21 00:00	08/19/21 09:15
180-126094-1	EB-2	Water	08/19/21 09:50	08/21/21 09:30
180-126094-2	AP1PZ-9	Water	08/19/21 16:50	08/21/21 09:30
180-126094-3	FB-2	Water	08/20/21 09:10	08/21/21 09:30
180-126094-4	AP1PZ-10	Water	08/20/21 11:30	08/21/21 09:30
180-126097-1	AP1PZ-4	Water	08/20/21 11:30	08/21/21 18:09
180-126097-2	AP1PZ-5	Water	08/20/21 14:40	08/21/21 18:09
180-126097-3	AP1PZ-11	Water	08/20/21 16:50	08/21/21 18:09
180-126098-1	AP1PZ-1	Water	08/18/21 18:15	08/21/21 09:30
180-126098-2	AP1PZ-2	Water	08/19/21 13:45	08/21/21 09:30
180-126098-3	DUP-2	Water	08/19/21 00:00	08/21/21 09:30
180-126098-4	AP1PZ-3	Water	08/19/21 16:45	08/21/21 09:30
180-126161-1	AP1PZ-6	Water	08/23/21 14:12	08/24/21 09:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

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

Protocol References:

None = None

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

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: FB-1
Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.72 mL	1.0 g	524072	08/25/21 12:41	MJ	TAL SL
Total/NA	Analysis	9315		1			527396	09/16/21 21:24	ANW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			999.72 mL	1.0 g	524081	08/25/21 13:37	MJ	TAL SL
Total/NA	Analysis	9320		1			527452	09/16/21 11:50	ANW	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			528856	09/24/21 15:26	FLC	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EB-1
Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.61 mL	1.0 g	524072	08/25/21 12:41	MJ	TAL SL
Total/NA	Analysis	9315		1			527396	09/16/21 21:24	ANW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			999.61 mL	1.0 g	524081	08/25/21 13:37	MJ	TAL SL
Total/NA	Analysis	9320		1			527452	09/16/21 11:51	ANW	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			528856	09/24/21 15:26	FLC	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-7
Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.43 mL	1.0 g	524072	08/25/21 12:41	MJ	TAL SL
Total/NA	Analysis	9315		1			527396	09/16/21 21:24	ANW	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			999.43 mL	1.0 g	524081	08/25/21 13:37	MJ	TAL SL
Total/NA	Analysis	9320		1			527452	09/16/21 11:51	ANW	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			528856	09/24/21 15:26	FLC	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-8
Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.10 mL	1.0 g	524072	08/25/21 12:41	MJ	TAL SL
Total/NA	Analysis	9315		1			527397	09/16/21 21:20	ANW	TAL SL
	Instrument ID: GFPCPURPLE									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-8

Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.10 mL	1.0 g	524081	08/25/21 13:37	MJ	TAL SL
Total/NA	Analysis	9320		1			527379	09/16/21 11:55	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			528856	09/24/21 15:26	FLC	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: APIGWA-1

Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.45 mL	1.0 g	524328	08/27/21 10:49	MJ	TAL SL
Total/NA	Analysis	9315		1			527825	09/21/21 13:36	SCB	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.45 mL	1.0 g	524342	08/27/21 12:08	MJ	TAL SL
Total/NA	Analysis	9320		1			527397	09/16/21 12:19	ANW	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			528682	09/23/21 16:11	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: APIGWA-2

Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.99 mL	1.0 g	524328	08/27/21 10:49	MJ	TAL SL
Total/NA	Analysis	9315		1			528286	09/21/21 13:39	SCB	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.99 mL	1.0 g	524342	08/27/21 12:08	MJ	TAL SL
Total/NA	Analysis	9320		1			527397	09/16/21 12:19	ANW	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			528682	09/23/21 16:11	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-1

Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.77 mL	1.0 g	524328	08/27/21 10:49	MJ	TAL SL
Total/NA	Analysis	9315		1			528286	09/21/21 13:39	SCB	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.77 mL	1.0 g	524342	08/27/21 12:08	MJ	TAL SL
Total/NA	Analysis	9320		1			527397	09/16/21 12:19	ANW	TAL SL
	Instrument ID: GFPCPURPLE									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: DUP-1
Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			528682	09/23/21 16:11	SCB	TAL SL

Client Sample ID: EB-2
Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.74 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528313	09/22/21 20:14	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.74 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528313	09/22/21 14:05	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-9
Date Collected: 08/19/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.73 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528313	09/22/21 20:14	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528313	09/22/21 14:05	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: FB-2
Date Collected: 08/20/21 09:10
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.34 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528313	09/22/21 20:14	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.34 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:10	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-10
Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.80 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528478	09/22/21 19:52	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			999.80 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:11	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-4
Date Collected: 08/20/21 11:30
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.53 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528478	09/22/21 19:52	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			1000.53 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:11	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-5
Date Collected: 08/20/21 14:40
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.94 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528478	09/22/21 19:52	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			1000.94 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:12	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-11
Date Collected: 08/20/21 16:50
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.04 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528478	09/22/21 19:52	ANW	TAL SL
	Instrument ID: GFPCRED									

Client Sample ID: AP1PZ-11
Date Collected: 08/20/21 16:50
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.04 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:11	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-1
Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.17 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528321	09/22/21 20:19	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.17 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:11	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-2
Date Collected: 08/19/21 13:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.05 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528321	09/22/21 20:19	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			999.05 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:12	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-2
Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.86 mL	1.0 g	524659	08/30/21 12:33	MJ	TAL SL
Total/NA	Analysis	9315		1			528321	09/22/21 20:19	FLC	TAL SL
	Instrument ID: GFPCBLUE									
Total/NA	Prep	PrecSep_0			1000.86 mL	1.0 g	524669	08/30/21 13:46	MJ	TAL SL
Total/NA	Analysis	9320		1			528321	09/22/21 14:12	FLC	TAL SL
	Instrument ID: GFPCBLUE									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: DUP-2
Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			528687	09/23/21 16:58	SCB	TAL SL

Client Sample ID: AP1PZ-3
Date Collected: 08/19/21 16:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	525034	09/01/21 09:33	MJ	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	528519	09/23/21 16:46	ANW	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	525041	09/01/21 10:24	MJ	TAL SL
Total/NA	Analysis	9320		1			528515	09/23/21 13:57	ANW	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			528687	09/24/21 16:09	SCB	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-6
Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126161-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.23 mL	1.0 g	525267	09/02/21 14:12	MJ	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	528891	09/26/21 19:53	ANW	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.23 mL	1.0 g	525276	09/02/21 15:19	MJ	TAL SL
Total/NA	Analysis	9320		1			528688	09/23/21 13:44	ANW	TAL SL
	Instrument ID: GFPCPROTEAN									
Total/NA	Analysis	Ra226_Ra228		1			529094	09/27/21 17:29	FLC	TAL SL
	Instrument ID: NOEQUIP									

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

Analyst References:
Lab: TAL SL
- Batch Type: Prep
  - MJ = Mary Johns
- Batch Type: Analysis
  - ANW = Aamber Woods
  - FLC = Fernando Cruz
  - SCB = Sarah Bernsen

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: FB-1

Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-1

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	-0.0308	U	0.193	0.193	1.00	0.401	pCi/L	08/25/21 12:41	09/16/21 21:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.6*		*40 - 110*	*08/25/21 12:41*	*09/16/21 21:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.394	U	0.298	0.301	1.00	0.470	pCi/L	08/25/21 13:37	09/16/21 11:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.6*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:50*	*1*
Y Carrier	*83.7*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:50*	*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	0.363	U	0.355	0.358	5.00	0.470	pCi/L		09/24/21 15:26	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: EB-1
Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-2
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	0.205	U	0.260	0.260	1.00	0.432	pCi/L	08/25/21 12:41	09/16/21 21:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*08/25/21 12:41*	*09/16/21 21:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0163	U	0.235	0.235	1.00	0.419	pCi/L	08/25/21 13:37	09/16/21 11:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:51*	*1*
Y Carrier	*86.4*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:51*	*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	0.221	U	0.350	0.350	5.00	0.432	pCi/L		09/24/21 15:26	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-7

Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.385	U	0.285	0.287	1.00	0.423	pCi/L	08/25/21 12:41	09/16/21 21:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.1*		*40 - 110*	*08/25/21 12:41*	*09/16/21 21:24*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.328	U	0.268	0.270	1.00	0.427	pCi/L	08/25/21 13:37	09/16/21 11:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.1*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:51*	*1*
Y Carrier	*84.9*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:51*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.713**		0.391	0.394	5.00	0.427	pCi/L		09/24/21 15:26	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-8
Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125939-4
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	0.703		0.301	0.308	1.00	0.364	pCi/L	08/25/21 12:41	09/16/21 21:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*08/25/21 12:41*	*09/16/21 21:20*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.749		0.300	0.308	1.00	0.422	pCi/L	08/25/21 13:37	09/16/21 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:55*	*1*
Y Carrier	*85.2*		*40 - 110*	*08/25/21 13:37*	*09/16/21 11:55*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.45		0.425	0.436	5.00	0.422	pCi/L		09/24/21 15:26	1

Client Sample ID: APIGWA-1

Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-1

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	**0.199**		0.132	0.134	1.00	0.193	pCi/L	08/27/21 10:49	09/21/21 13:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.6*		*40 - 110*	*08/27/21 10:49*	*09/21/21 13:36*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.353	U	0.337	0.339	1.00	0.547	pCi/L	08/27/21 12:08	09/16/21 12:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.6*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*1*
Y Carrier	*70.7*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*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	**0.552**		0.362	0.365	5.00	0.547	pCi/L		09/23/21 16:11	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: APIGWA-2

Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-2

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	0.102	U	0.102	0.103	1.00	0.164	pCi/L	08/27/21 10:49	09/21/21 13:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.5*		*40 - 110*	*08/27/21 10:49*	*09/21/21 13:39*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.231	U	0.253	0.254	1.00	0.415	pCi/L	08/27/21 12:08	09/16/21 12:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.5*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*1*
Y Carrier	*83.4*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*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	0.333	U	0.273	0.274	5.00	0.415	pCi/L		09/23/21 16:11	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: DUP-1

Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125949-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.335		0.129	0.132	1.00	0.146	pCi/L	08/27/21 10:49	09/21/21 13:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*08/27/21 10:49*	*09/21/21 13:39*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.472		0.264	0.267	1.00	0.396	pCi/L	08/27/21 12:08	09/16/21 12:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*1*
Y Carrier	*84.5*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:19*	*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	0.807		0.294	0.298	5.00	0.396	pCi/L		09/23/21 16:11	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: EB-2
Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-1
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	-0.00798	U	0.192	0.192	1.00	0.378	pCi/L	08/30/21 12:33	09/22/21 20:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:14*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0239	U	0.199	0.199	1.00	0.358	pCi/L	08/30/21 13:46	09/22/21 14:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.0*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:05*	*1*
Y Carrier	*84.1*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:05*	*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	0.0159	U	0.277	0.277	5.00	0.378	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-9

Date Collected: 08/19/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-2

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	0.270	U	0.287	0.288	1.00	0.462	pCi/L	08/30/21 12:33	09/22/21 20:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.0*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:14*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.507**		0.311	0.314	1.00	0.471	pCi/L	08/30/21 13:46	09/22/21 14:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.0*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:05*	*1*
Y Carrier	*84.5*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:05*	*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	**0.777**		0.423	0.426	5.00	0.471	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: FB-2

Date Collected: 08/20/21 09:10
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0289	U	0.233	0.233	1.00	0.440	pCi/L	08/30/21 12:33	09/22/21 20:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.8*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:14*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.670**		0.299	0.305	1.00	0.426	pCi/L	08/30/21 13:46	09/22/21 14:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.8*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:10*	*1*
Y Carrier	*82.6*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:10*	*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	**0.699**		0.379	0.384	5.00	0.440	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-10

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126094-4

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	0.457	U	0.496	0.498	1.00	0.804	pCi/L	08/30/21 12:33	09/22/21 19:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*43.7*		*40 - 110*	*08/30/21 12:33*	*09/22/21 19:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.317	U	0.550	0.551	1.00	0.930	pCi/L	08/30/21 13:46	09/22/21 14:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*43.7*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*1*
Y Carrier	*86.7*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*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	0.774	U	0.741	0.743	5.00	0.930	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-4

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-1

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	0.130	U	0.196	0.196	1.00	0.335	pCi/L	08/30/21 12:33	09/22/21 19:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.4*		*40 - 110*	*08/30/21 12:33*	*09/22/21 19:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.120	U	0.240	0.240	1.00	0.409	pCi/L	08/30/21 13:46	09/22/21 14:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.4*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*1*
Y Carrier	*87.1*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*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	0.251	U	0.310	0.310	5.00	0.409	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-5

Date Collected: 08/20/21 14:40
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-2

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	**0.643**		0.283	0.289	1.00	0.333	pCi/L	08/30/21 12:33	09/22/21 19:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.4*		*40 - 110*	*08/30/21 12:33*	*09/22/21 19:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.383	U	0.277	0.279	1.00	0.434	pCi/L	08/30/21 13:46	09/22/21 14:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.4*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*
Y Carrier	*86.7*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*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	**1.03**		0.396	0.402	5.00	0.434	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-11

Date Collected: 08/20/21 16:50
Date Received: 08/21/21 18:09

Lab Sample ID: 180-126097-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00433	U	0.157	0.157	1.00	0.322	pCi/L	08/30/21 12:33	09/22/21 19:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.1*		*40 - 110*	*08/30/21 12:33*	*09/22/21 19:52*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.317	U	0.261	0.263	1.00	0.416	pCi/L	08/30/21 13:46	09/22/21 14:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.1*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*1*
Y Carrier	*88.6*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*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	0.321	U	0.305	0.306	5.00	0.416	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-1

Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-1

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	-0.0935	U	0.185	0.185	1.00	0.403	pCi/L	08/30/21 12:33	09/22/21 20:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.105	U	0.194	0.194	1.00	0.373	pCi/L	08/30/21 13:46	09/22/21 14:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.8*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*1*
Y Carrier	*87.5*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:11*	*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	-0.198	U	0.268	0.268	5.00	0.403	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-2

Date Collected: 08/19/21 13:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-2

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	0.263	U	0.247	0.248	1.00	0.385	pCi/L	08/30/21 12:33	09/22/21 20:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.326	U	0.298	0.299	1.00	0.480	pCi/L	08/30/21 13:46	09/22/21 14:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*
Y Carrier	*88.6*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.589**		0.387	0.388	5.00	0.480	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: DUP-2
Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0487	U	0.203	0.203	1.00	0.380	pCi/L	08/30/21 12:33	09/22/21 20:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*40 - 110*	*08/30/21 12:33*	*09/22/21 20:19*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0274	U	0.227	0.227	1.00	0.404	pCi/L	08/30/21 13:46	09/22/21 14:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.8*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*
Y Carrier	*89.0*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*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	0.0761	U	0.305	0.305	5.00	0.404	pCi/L		09/23/21 16:58	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

Client Sample ID: AP1PZ-3

Date Collected: 08/19/21 16:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126098-4

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	0.116	U	0.245	0.245	1.00	0.433	pCi/L	09/01/21 09:33	09/23/21 16:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.7*		*40 - 110*	*09/01/21 09:33*	*09/23/21 16:46*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.790**		0.287	0.296	1.00	0.387	pCi/L	09/01/21 10:24	09/23/21 13:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.7*		*40 - 110*	*09/01/21 10:24*	*09/23/21 13:57*	*1*
Y Carrier	*84.1*		*40 - 110*	*09/01/21 10:24*	*09/23/21 13:57*	*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	**0.906**		0.377	0.384	5.00	0.433	pCi/L		09/24/21 16:09	1

Client Sample ID: AP1PZ-6

Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126161-1

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	0.153	U	0.154	0.154	1.00	0.246	pCi/L	09/02/21 14:12	09/26/21 19:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.0*		*40 - 110*	*09/02/21 14:12*	*09/26/21 19:53*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.364	U	0.311	0.312	1.00	0.496	pCi/L	09/02/21 15:19	09/23/21 13:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.0*		*40 - 110*	*09/02/21 15:19*	*09/23/21 13:44*	*1*
Y Carrier	*84.1*		*40 - 110*	*09/02/21 15:19*	*09/23/21 13:44*	*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	**0.517**		0.347	0.348	5.00	0.496	pCi/L		09/27/21 17:29	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-524072/24-A
Matrix: Water
Analysis Batch: 527397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524072

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08951	U	0.238	0.238	1.00	0.429	pCi/L	08/25/21 12:41	09/16/21 23:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.8*		*40 - 110*	*08/25/21 12:41*	*09/16/21 23:02*	*1*

Lab Sample ID: LCS 160-524072/1-A
Matrix: Water
Analysis Batch: 527396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524072

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.32		1.46	1.00	0.372	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*77.2*		*40 - 110*

Lab Sample ID: MB 160-524328/23-A
Matrix: Water
Analysis Batch: 527825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524328

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1190	U	0.126	0.126	1.00	0.203	pCi/L	08/27/21 10:49	09/21/21 15:26	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*08/27/21 10:49*	*09/21/21 15:26*	*1*

Lab Sample ID: LCS 160-524328/1-A
Matrix: Water
Analysis Batch: 528287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524328

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.81		1.29	1.00	0.202	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*74.7*		*40 - 110*

Lab Sample ID: MB 160-524659/23-A
Matrix: Water
Analysis Batch: 528321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524659

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1098	U	0.243	0.243	1.00	0.433	pCi/L	08/30/21 12:33	09/22/21 20:19	1

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

Lab Sample ID: MB 160-524659/23-A
Matrix: Water
Analysis Batch: 528321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524659

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.8		40 - 110	08/30/21 12:33	09/22/21 20:19	1

Lab Sample ID: LCS 160-524659/1-A
Matrix: Water
Analysis Batch: 528478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524659

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.76		1.42	1.00	0.396	pCi/L	95	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	83.1		40 - 110

Lab Sample ID: LCSD 160-524659/2-A
Matrix: Water
Analysis Batch: 528478

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 524659

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.50		1.41	1.00	0.378	pCi/L	93	75 - 125	0.09	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	82.1		40 - 110

Lab Sample ID: MB 160-525034/23-A
Matrix: Water
Analysis Batch: 528519

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 525034

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07005	U	0.233	0.233	1.00	0.426	pCi/L	09/01/21 09:33	09/23/21 18:50	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		40 - 110	09/01/21 09:33	09/23/21 18:50	1

Lab Sample ID: LCS 160-525034/1-A
Matrix: Water
Analysis Batch: 528519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 525034

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.04		1.53	1.00	0.556	pCi/L	97	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	69.8		40 - 110

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

Lab Sample ID: MB 160-525267/25-A
Matrix: Water
Analysis Batch: 528892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 525267

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.4165		0.193	0.196	1.00	0.249	pCi/L	09/02/21 14:12	09/26/21 21:59	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*09/02/21 14:12*	*09/26/21 21:59*	*1*

Lab Sample ID: LCS 160-525267/1-A
Matrix: Water
Analysis Batch: 528891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 525267

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.33		1.27	1.00	0.232	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*72.4*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-524081/24-A
Matrix: Water
Analysis Batch: 527396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524081

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5380		0.312	0.316	1.00	0.473	pCi/L	08/25/21 13:37	09/16/21 12:06	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*79.8*		*40 - 110*	*08/25/21 13:37*	*09/16/21 12:06*	*1*
Y Carrier	*86.7*		*40 - 110*	*08/25/21 13:37*	*09/16/21 12:06*	*1*

Lab Sample ID: LCS 160-524081/1-A
Matrix: Water
Analysis Batch: 527452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524081

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.33	7.639		1.01	1.00	0.555	pCi/L	82	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*77.2*		*40 - 110*
Y Carrier	*82.2*		*40 - 110*

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

Lab Sample ID: MB 160-524342/23-A
Matrix: Water
Analysis Batch: 527397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524342

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1554	U	0.251	0.251	1.00	0.424	pCi/L	08/27/21 12:08	09/16/21 12:20	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.2*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:20*	*1*
Y Carrier	*85.2*		*40 - 110*	*08/27/21 12:08*	*09/16/21 12:20*	*1*

Lab Sample ID: LCS 160-524342/1-A
Matrix: Water
Analysis Batch: 527396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524342

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.33	9.679		1.22	1.00	0.510	pCi/L	104	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*74.7*		*40 - 110*
Y Carrier	*79.3*		*40 - 110*

Lab Sample ID: MB 160-524669/23-A
Matrix: Water
Analysis Batch: 528321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524669

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.05024	U	0.282	0.282	1.00	0.507	pCi/L	08/30/21 13:46	09/22/21 14:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.8*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*
Y Carrier	*87.9*		*40 - 110*	*08/30/21 13:46*	*09/22/21 14:12*	*1*

Lab Sample ID: LCS 160-524669/1-A
Matrix: Water
Analysis Batch: 528313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524669

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.31	9.135		1.13	1.00	0.530	pCi/L	98	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*83.1*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

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

Lab Sample ID: LCSD 160-524669/2-A
Matrix: Water
Analysis Batch: 528313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 524669

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.31	9.261		1.13	1.00	0.499	pCi/L	99	75 - 125	0.06	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*82.1*		*40 - 110*
Y Carrier	*84.9*		*40 - 110*

Lab Sample ID: MB 160-525041/23-A
Matrix: Water
Analysis Batch: 528517

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 525041

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.06242	U	0.282	0.282	1.00	0.508	pCi/L	09/01/21 10:24	09/23/21 13:56	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.1*		*40 - 110*	*09/01/21 10:24*	*09/23/21 13:56*	*1*
Y Carrier	*85.2*		*40 - 110*	*09/01/21 10:24*	*09/23/21 13:56*	*1*

Lab Sample ID: LCS 160-525041/1-A
Matrix: Water
Analysis Batch: 528515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 525041

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.31	10.24		1.29	1.00	0.621	pCi/L	110	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*69.8*		*40 - 110*
Y Carrier	*83.0*		*40 - 110*

Lab Sample ID: MB 160-525276/25-A
Matrix: Water
Analysis Batch: 528515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 525276

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1022	U	0.285	0.285	1.00	0.523	pCi/L	09/02/21 15:19	09/23/21 13:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.9*		*40 - 110*	*09/02/21 15:19*	*09/23/21 13:46*	*1*
Y Carrier	*83.0*		*40 - 110*	*09/02/21 15:19*	*09/23/21 13:46*	*1*

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125939-2

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

Lab Sample ID: LCS 160-525276/1-A
Matrix: Water
Analysis Batch: 528688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 525276

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.31	10.16		1.25	1.00	0.557	pCi/L	109	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*72.4*		*40 - 110*
Y Carrier	*84.1*		*40 - 110*

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Prep Batch: 524072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-1	FB-1	Total/NA	Water	PrecSep-21	
180-125939-2	EB-1	Total/NA	Water	PrecSep-21	
180-125939-3	AP1PZ-7	Total/NA	Water	PrecSep-21	
180-125939-4	AP1PZ-8	Total/NA	Water	PrecSep-21	
MB 160-524072/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-524072/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 524081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125939-1	FB-1	Total/NA	Water	PrecSep_0	
180-125939-2	EB-1	Total/NA	Water	PrecSep_0	
180-125939-3	AP1PZ-7	Total/NA	Water	PrecSep_0	
180-125939-4	AP1PZ-8	Total/NA	Water	PrecSep_0	
MB 160-524081/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-524081/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 524328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125949-1	APIGWA-1	Total/NA	Water	PrecSep-21	
180-125949-2	APIGWA-2	Total/NA	Water	PrecSep-21	
180-125949-3	DUP-1	Total/NA	Water	PrecSep-21	
MB 160-524328/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-524328/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 524342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125949-1	APIGWA-1	Total/NA	Water	PrecSep_0	
180-125949-2	APIGWA-2	Total/NA	Water	PrecSep_0	
180-125949-3	DUP-1	Total/NA	Water	PrecSep_0	
MB 160-524342/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-524342/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 524659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-1	EB-2	Total/NA	Water	PrecSep-21	
180-126094-2	AP1PZ-9	Total/NA	Water	PrecSep-21	
180-126094-3	FB-2	Total/NA	Water	PrecSep-21	
180-126094-4	AP1PZ-10	Total/NA	Water	PrecSep-21	
180-126097-1	AP1PZ-4	Total/NA	Water	PrecSep-21	
180-126097-2	AP1PZ-5	Total/NA	Water	PrecSep-21	
180-126097-3	AP1PZ-11	Total/NA	Water	PrecSep-21	
180-126098-1	AP1PZ-1	Total/NA	Water	PrecSep-21	
180-126098-2	AP1PZ-2	Total/NA	Water	PrecSep-21	
180-126098-3	DUP-2	Total/NA	Water	PrecSep-21	
MB 160-524659/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-524659/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-524659/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 524669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-1	EB-2	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 524669 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126094-2	AP1PZ-9	Total/NA	Water	PrecSep_0	
180-126094-3	FB-2	Total/NA	Water	PrecSep_0	
180-126094-4	AP1PZ-10	Total/NA	Water	PrecSep_0	
180-126097-1	AP1PZ-4	Total/NA	Water	PrecSep_0	
180-126097-2	AP1PZ-5	Total/NA	Water	PrecSep_0	
180-126097-3	AP1PZ-11	Total/NA	Water	PrecSep_0	
180-126098-1	AP1PZ-1	Total/NA	Water	PrecSep_0	
180-126098-2	AP1PZ-2	Total/NA	Water	PrecSep_0	
180-126098-3	DUP-2	Total/NA	Water	PrecSep_0	
MB 160-524669/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-524669/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-524669/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 525034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126098-4	AP1PZ-3	Total/NA	Water	PrecSep-21	
MB 160-525034/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-525034/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 525041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126098-4	AP1PZ-3	Total/NA	Water	PrecSep_0	
MB 160-525041/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-525041/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 525267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126161-1	AP1PZ-6	Total/NA	Water	PrecSep-21	
MB 160-525267/25-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-525267/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 525276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126161-1	AP1PZ-6	Total/NA	Water	PrecSep_0	
MB 160-525276/25-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-525276/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

ATLANTA 244-

Eurofins | Environment Testing America

Client Information	Sampler: Daniel Howard/Evan Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~3 of 3~~
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			Preservation Codes:
City: Atlanta	TAT Requested (days): Standard			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			Other:
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N		
FB-1	8/18/21	0935	G	W			X		X	X	X		3	
EB-1		0945	G	W			X		X	X	X		3	
AP1PZ-7		1310	G	W			X		X	X	X		3	
AP1PZ-8		1638	G	W			X		X	X	X		3	

180-125939 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel Howard	8/18/21 1900		D Watson	8-19-21 9:15	EA Pitt
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

ATLANTA 244

Eurofins Environment Testing America

Client Information	Sampler: Daniel Howard/EvanGuilen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~3 of 3~~
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): Standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury							Total Number of containers	Special Instructions/Note:
Preservation Code:							D	D	N	N	N	N								
APIGWA-1	8/17/21	1510	G	W			X		X	X	X								3	
APIGWA-2	8/18/21	1155	G	W			X		X	X	X								3	
DUP-1	8/18/21	—	G	W			X		X	X	X								3	

180-125949 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	David Howard	8/18/21 / 1900		D Waters	8-19-21 9:15	Eurofins
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244-ATLANTA

eurofins Environment Testing America

Client Information	Sampler: DHoward/EGuillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

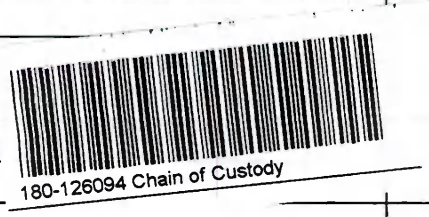
Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	~~N~~ D	~~N~~ D		
EB-2	8/19/21	0950	G	W			X		X	X	X		3	
AP1PZ-9	8/19/21	1650	G	W			X		X	X	X		3	pH=5.77
FB-2	8/20/21	0910	G	W			X		X	X	X		3	
AP1PZ-10	8/20/21	1130	G	W			X		X	X	X		3	pH=6.53

180-126094 Chain of Custody



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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel L Howard	8/20/21/1830		D Watson	8-21-21	ETAPIT
				930	

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

Ver: 06/08/2021 9/29/2021

244- ATI ANTA

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: DHoward/EGwilken	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 16 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	D	N	N	~~D~~	~~D~~		
AP1PZ-4	8/20/21	1130	G	W			X		X	X	X		3	pH=6.56
AP1PZ-5	↓	1440	G	W			X		X	X	X		3	pH=6.60
AP1PZ-11	↓	1650	G	W			X		X	X	X		3	pH=6.71

180-126097 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	David L Howard	8/20/21 1830		D Watson	8-21-21 9:30	Eurofins
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244-ATLANTA

eurofins | Environment Testing America

Client Information	Sampler: DHoward/EGuillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury								Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	D	D	N	N	MD	MD									
AP1PZ-1	8/18/21	1815	G	W			X		X	X	X									3	pH=5.59
AP1PZ-2	8/19/21	1345	G	W			X		X	X	X									3	pH=5.84
DUP-2	↓	—	G	W			X		X	X	X									3	pH=5.84
AP1PZ-3	↓	1645	G	W			X		X	X	X									3	pH=5.60

180-126098 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	D.L. Daniel K Howard	8/20/21 1830		DWatson	8-21-21	KAP
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9:30	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244 ATLANTA

Eurofins Environment Testing America

Client Information	Sampler: D Howard	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	D	N	N	NO	NO	X	
AP1PZ-6	8/23/21	1412	G	W			X		X	X	X		3	pH=5.50

180-126161 Chain of Custody

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

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

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

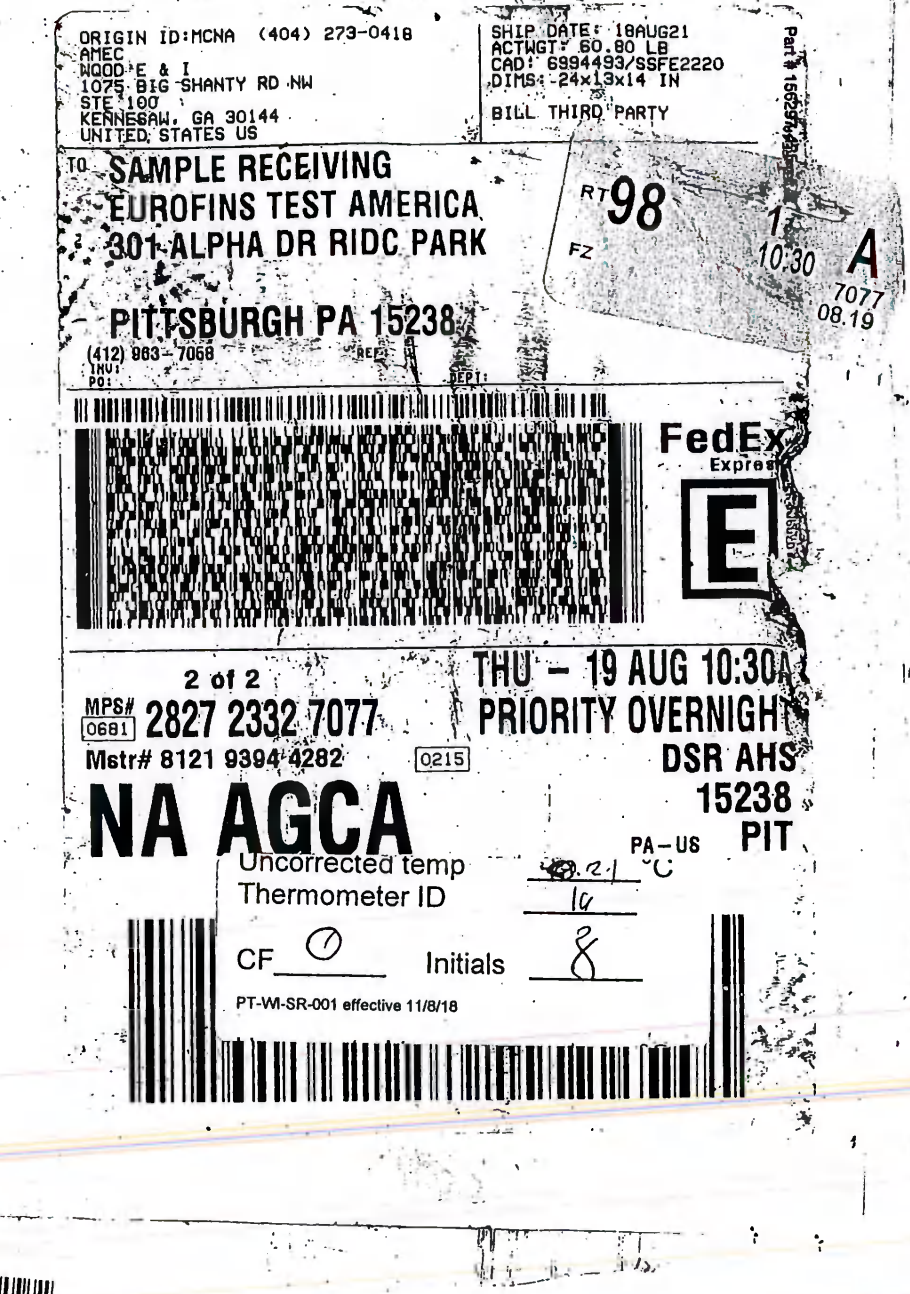
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Daniel L Howard	Date/Time: 8/23/21 / 1545	Company	Received by: D Water Date/Time: 8-24-21 Company: ETHPITT
Relinquished by:	Date/Time:	Company	Received by: Date/Time: 9:30 Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

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

Ver: 06/08/2021

9/29/2021



ORIGIN ID:MCNA (404) 273-0418
AMEC
WOOD E & I
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 18AUG21
ACTWGT: 60.80 LB
CAD: 6994493/SSFE2220
DIMS: 24x13x14 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7068
INV:
PO:
REF:
DEPT:

RT 98
FZ
1
10:30
A
7077
08.19

FedEx Express

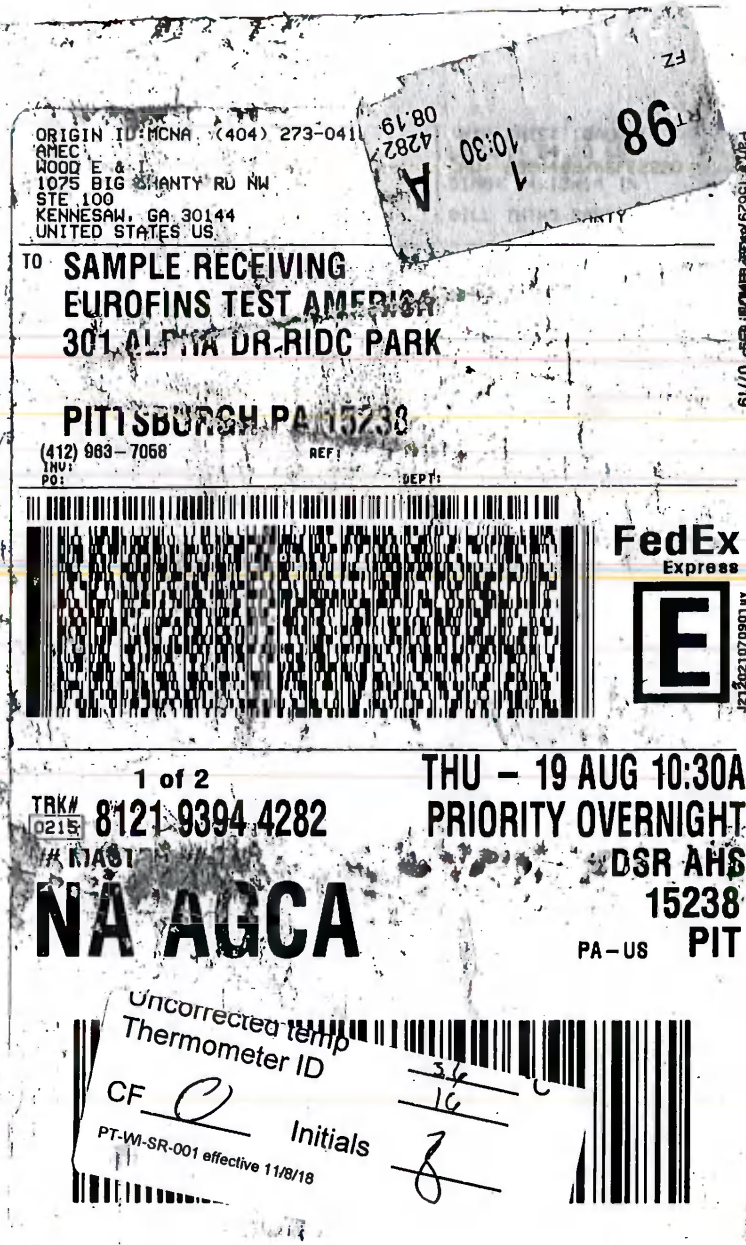
2 of 2
MPS# 0681 2827 2332 7077
Mstr# 8121 9394 4282
0215

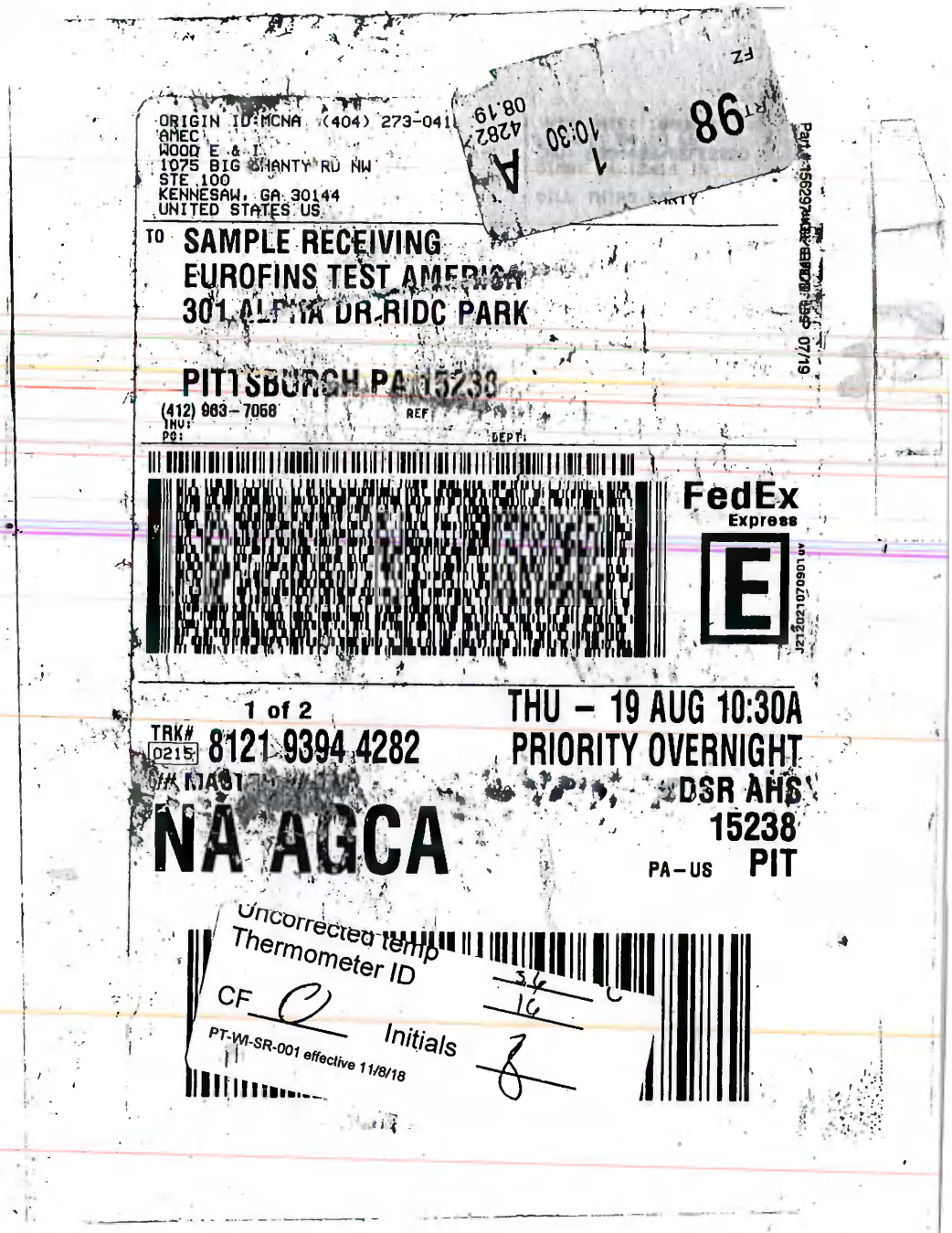
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PIT
PA-US

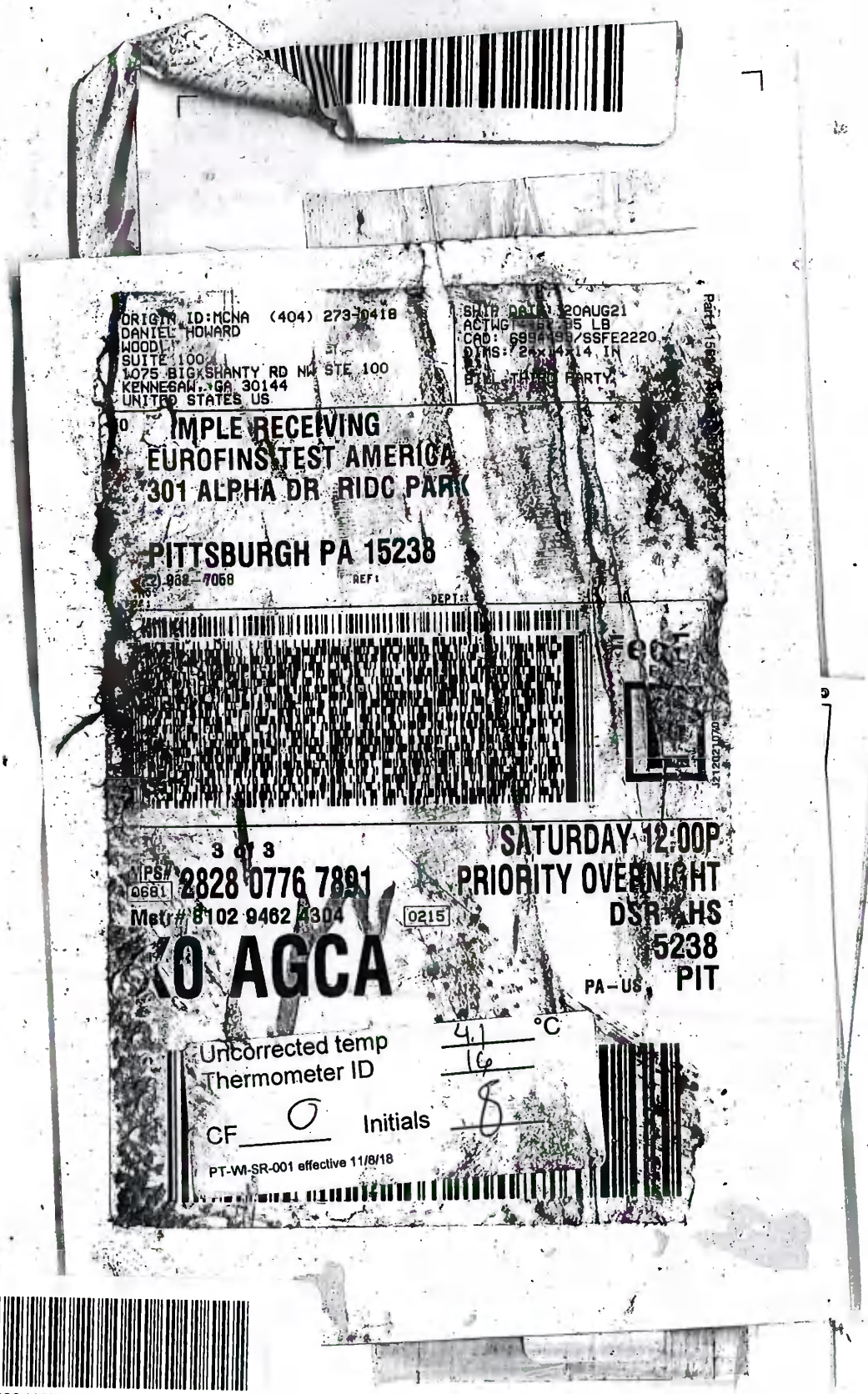
NA AGCA

Uncorrected temp 20.2 °C
Thermometer ID 16
CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18

180-125939 Waybill


ORIGIN ID:MCNA (404) 273-0411
AMEC
WOOD E &
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF:
INV:
PO:
DEPT:
FedEx
Express
1 of 2
TRK# 8121 9394 4282
0215
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT
NA AGCA
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-125949 Waybill

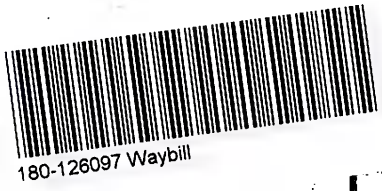

ORIGIN ID:MCNA (404) 273-0411
AMEC
WOOD E & I
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF
INV:
PO:
DEPT:
FedEx
Express
1 of 2
TRK# 8121 9394 4282
0215
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PIT
PA-US
NA AGCA
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-125949 Waybill



180-126094 Waybill

FedEx®

9/29/2021



ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
WOOD
SUITE 100
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 20AUG21
ACTWGT: 57.95 LB
CAD: 6994493/SSFE2220
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDG PARK

PITTSBURGH PA 15238
(412) 963-7058
REF:
INV:
PO:
DEPT:

FedEx
Express

E

2 of 3
MPS# 0681 2828 0776 7880
Mstr# 8102 9462 4304 0215

SATURDAY 12:00
PRIORITY OVERNIGH
DSR AH
1523
PI
PA-US

XO AGCA

Uncorrected temp
Thermometer
CF 0 Initials
PT-WI-SR-001 effective 11/8/

180-126097 Waybill

Page 52 of 72

FedEx Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR AHS
15238 PIT
PA-US
XO AGCA
TRK# 8102 9462 4304
1 of 3
MASTER ##
SAMPLE RECEIVING
EUROFINS TEST AMERICA
ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7068
Uncorrected temp
Thermometer ID
Initials
CF
PT-WI SR-001 effective 1/18/18
180-126098 Waybill

sing Th

Align FedEx Pouch Here

fedex.com 1.800.GoFedEx 1.800.463.3339

FedEx Express

Packages US Airbill

Tracking Number 8121 9394 4591

Express Package Service

Next Business Day

2 or 3 Business Days

Packages up to 150 lbs.

1 From

Date

Sender's Name DEEANN PLOPER

Company AMEC

Address 1075 BIG SHANTY RD NW STE 100

City KENNESAW State GA ZIP 30144-3652

2 Your Internal Billing Reference

3 To

Recipient's Name

Company

Address

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City State ZIP

Hold Weekday

Hold Saturday

5 Packaging

FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options

Saturday Delivery

No Signature Required

Direct Signature

Indirect Signature

Does this shipment contain dangerous goods?

Yes No

Dry Ice

Cargo Aircraft Only

7 Payment Bill to:

Sender Recipient Third Party Credit Card Cash/Check

fedex.com 1.800.GoFedEx 1.800.463.3339

180-126161 Waybill

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
AMEC WOOD E& I
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23AUG21
ACTWGT: 32.00 LB
CAD: 6994493/SSFE2220
DIMS: 17x16x13 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK PO
PITTSBURGH PA 15238
(412) 963-7058 REF:
INV: PO: DEPT:

FedEx Express

TRK# 0215 8121 9394 4591

TUE - 24 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

NA AGCA

Uncorrected temp 4.2 °C
Thermometer ID 16
CF 0 Initials 8

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

Part # 156297-435 FRDB FEB 06/22

Align FedEx Pouch Here

Part # 156297-435 RRDB EXP 06/22

180-126161 Waybill

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
AMEC WOOD E& I
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23AUG21
ACTWGT: 32.00 LB
CAD: 6994493/SSFE2220
DIMS: 17x16x13 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK PO
PITTSBURGH PA 15238
(412) 963-7058
REF:
INV:
PO:
DEPT:

FedEx Express

TUE - 24 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US
PIT

TRK# 0215 8121 9394 4591

NA AGCA

Uncorrected temp 4.2 °C
Thermometer ID 16
CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18

00033
00200

FedEx Express

Packa[redacted]

Tracking Number 8121 [redacted]

ID No. [redacted]

Recipient's Copy

1 From

Date [redacted]

Sender's Name DEEAN[redacted] Phone 770[redacted]1-3[redacted]

Company AMEC [redacted]

Address 1075 BIG SHANTY RD NW STE 100 Dept./Floor/Suite/Room

City KENNESAW State GA ZIP 30144-3652

2 Your Internal Billing Reference 61[redacted]

3 To

Recipient's Name Sample Receiving Phone [redacted]

Company Eurofins Test America

Address 301 Alpha Dr RIDC Park Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [redacted] State [redacted] ZIP [redacted]

☐ Hold Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ Hold Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day

☐ FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Priority Overnight Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Standard Overnight Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day A.M. Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Express Saver Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required Package may be left without obtaining a signature for delivery.

☐ Direct Signature Someone at recipient's address may sign for delivery.

☐ Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

☐ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9, UN 1845 ____ x ____ kg

Restrictions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

fedex.com 1.800.GoFedEx 1.800.463.3339

fedex.com 1.800.GoFedEx 1.800.463.3339

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-442319.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-125939-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/1/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Plant Arkwright AP-1	Project #: 18020201			
Site: Arkwright	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
FB-1 (180-125939-1)	8/18/21	09:35 Eastern		Water			X	X	X	2	
EB-1 (180-125939-2)	8/18/21	09:45 Eastern		Water			X	X	X	2	
AP1PZ-7 (180-125939-3)	8/18/21	13:10 Eastern		Water			X	X	X	2	
AP1PZ-8 (180-125939-4)	8/18/21	16:38 Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 8/20/21 1700	Company	Received by: FED EX	Date/Time:	Company		
Relinquished by: FED EX	Date/Time:	Company	Received by:	Date/Time: 8/21/21 0842	Company ETA SJC		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-442319.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-125949-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/1/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Plant Arkwright AP-1	Project #: 18020201			
Site: Arkwright	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
APIGWA-1 (180-125949-1)	8/17/21	15:10 Eastern		Water			X	X	X	2	
APIGWA-2 (180-125949-2)	8/18/21	11:55 Eastern		Water			X	X	X	2	
DUP-1 (180-125949-3)	8/18/21	Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by: FED EX	Date/Time: 8/20/21 1700	Company	Received by: FED EX	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 8/21/21 0842	Company STA SRR	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-442391.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-126094-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/6/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Plant Arkwright AP-1	Project #: 18020201			
Site: Arkwright	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
EB-2 (180-126094-1)	8/19/21	09:50 Eastern		Water			X	X	X	2	
AP1PZ-9 (180-126094-2)	8/19/21	16:50 Eastern		Water			X	X	X	2	
FB-2- (180-126094-3)	8/20/21	09:10 Eastern		Water			X	X	X	2	
AP1PZ-10 (180-126094-4)	8/20/21	11:30 Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	ME	8/23/21 1700	ETA STL	FE		
	FE			Micha Konrings	08/24/2021 09:35	ETA STL

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-442391.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-126097-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/26/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Plant Arkwright AP-1	Project #: 18020201			
Site: Arkwright	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AP1PZ-4 (180-126097-1)	8/20/21	11:30 Eastern		Water			X	X	X	2	
AP1PZ-5 (180-126097-2)	8/20/21	14:40 Eastern		Water			X	X	X	2	
AP1PZ-11 (180-126097-3)	8/20/21	16:50 Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: MO	Date/Time: 8/23/21 1700	Company: EPA	Received by: FE	Date/Time:	Company
Relinquished by: FE	Date/Time:	Company	Received by: Micha Koninhinger	Date/Time: 8/24/21 09:35	Company: ETA SR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-442391.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-126098-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/26/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Plant Arkwright AP-1	Project #: 18020201			
Site: Arkwright	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (GFPC) - 21 day decay	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC/ Combined Radium-226 and Radium-228	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
AP1PZ-1 (180-126098-1)	8/18/21	18:15 Eastern		Water			X	X	X	2	
AP1PZ-2 (180-126098-2)	8/19/21	13:45 Eastern		Water			X	X	X	2	
DUP-2 (180-126098-3)	8/19/21	Eastern		Water			X	X	X	2	
AP1PZ-3 (180-126098-4)	8/19/21	16:45 Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: MO	Date/Time: 8/23/21 1700	Company: ERH	Received by: FE	Date/Time:	Company
Relinquished by: FE	Date/Time:	Company	Received by: Micha Koninkings	Date/Time: 8/24/21 09:35	Company: ETA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 125939
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 125939
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/21/21 12:10 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 125949
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 125949
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/21/21 12:07 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126094
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126094
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/24/21 05:49 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126097
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126097
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/24/21 05:49 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126098
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126098
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/24/21 05:46 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126161
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125939-2

Login Number: 126161
List Number: 2
Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis
List Creation: 08/27/21 09:55 PM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-125940-1
Client Project/Site: Plant Arkwright AP-1
Revision: 1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
8/27/2021 12:51:36 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

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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.

PA Lab ID: 02-00416

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Case Narrative

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Job ID: 180-125940-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-125940-1

Comments
082721 Revised to include three samples from 180-195428-1. This report replaces the report previously issued on 082621.

Receipt
The samples were received on 8/19/2021 9:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 3.6º C.

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Qualifiers

Metals

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21 *
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-22
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-30-22
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-22
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-22
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-22
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	08-31-21

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-125940-1	FB-1	Water	08/18/21 09:35	08/19/21 09:15
180-125940-2	EB-1	Water	08/18/21 09:45	08/19/21 09:15
180-125940-3	AP1PZ-7	Water	08/18/21 13:10	08/19/21 09:15
180-125940-4	AP1PZ-8	Water	08/18/21 16:38	08/19/21 09:15
180-125948-1	AP1GWA-1	Water	08/17/21 15:10	08/19/21 09:15
180-125948-2	AP1GWA-2	Water	08/18/21 11:55	08/19/21 09:15
180-125948-3	DUP-1	Water	08/18/21 00:00	08/19/21 09:15

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

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

Protocol References:

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: FB-1
Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:28	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:32	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: EB-1
Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:32	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:33	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-7
Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:35	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:34	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-8
Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:39	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:35	KEM	TAL PIT
	Instrument ID: HGZ									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: AP1GWA-1

Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:54	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:27	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1GWA-2

Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 12:57	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:28	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: DUP-1

Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368732	08/20/21 12:14	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			368942	08/21/21 13:01	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	368676	08/20/21 08:47	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			368918	08/23/21 15:31	KEM	TAL PIT
	Instrument ID: HGZ									

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: Prep

MM1 = Mary Beth Miller

TLP = Tara Peterson

Batch Type: Analysis

KEM = Kimberly Mahoney

RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: FB-1

Date Collected: 08/18/21 09:35
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:28	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:28	1
Barium	<0.0016		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:28	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:28	1
Boron	**0.054**	**J**	0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:28	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:28	1
Calcium	<0.13		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:28	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:28	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:28	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:28	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:28	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:28	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:28	1
Thallium	**0.00027**	**J**	0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:28	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:32	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: EB-1

Date Collected: 08/18/21 09:45
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:32	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:32	1
Barium	<0.0016		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:32	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:32	1
Boron	<0.039		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:32	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:32	1
Calcium	<0.13		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:32	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:32	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:32	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:32	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:32	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:32	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:32	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:32	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:33	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: AP1PZ-7

Date Collected: 08/18/21 13:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00041**	**J**	0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:35	1
Arsenic	**0.0020**		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:35	1
Barium	**0.097**		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:35	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:35	1
Boron	**2.1**		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:35	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:35	1
Calcium	**330**		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:35	1
Chromium	**0.0015**	**J**	0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:35	1
Cobalt	**0.0085**		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:35	1
Lead	**0.00013**	**J**	0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:35	1
Lithium	**0.0038**	**J**	0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:35	1
Molybdenum	**0.011**	**J**	0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:35	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:35	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:35	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:34	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: AP1PZ-8

Date Collected: 08/18/21 16:38
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125940-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:39	1
Arsenic	**0.0016**		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:39	1
Barium	**0.085**		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:39	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:39	1
Boron	**2.4**		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:39	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:39	1
Calcium	**250**		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:39	1
Cobalt	**0.00090**	**J**	0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:39	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:39	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:39	1
Molybdenum	**0.41**		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:39	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:39	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:39	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:35	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: AP1GWA-1

Date Collected: 08/17/21 15:10
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:54	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:54	1
Barium	**0.059**		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:54	1
Beryllium	**0.0019**	**J**	0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:54	1
Boron	**0.14**		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:54	1
Cadmium	**0.00040**	**J**	0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:54	1
Calcium	**18**		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:54	1
Chromium	**0.0038**		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:54	1
Cobalt	**0.0084**		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:54	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:54	1
Lithium	**0.011**		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:54	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:54	1
Selenium	**0.0030**	**J**	0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:54	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:54	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:27	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: AP1GWA-2

Date Collected: 08/18/21 11:55
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:57	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:57	1
Barium	**0.044**		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:57	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:57	1
Boron	**0.066**	**J**	0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:57	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:57	1
Calcium	**6.4**		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:57	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:57	1
Cobalt	**0.0082**		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:57	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:57	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:57	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:57	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:57	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:57	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:28	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Client Sample ID: DUP-1

Date Collected: 08/18/21 00:00
Date Received: 08/19/21 09:15

Lab Sample ID: 180-125948-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 13:01	1
Arsenic	**0.0017**		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 13:01	1
Barium	**0.084**		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 13:01	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 13:01	1
Boron	**2.3**		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 13:01	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 13:01	1
Calcium	**250**		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 13:01	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 13:01	1
Cobalt	**0.0010**	**J**	0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 13:01	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 13:01	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 13:01	1
Molybdenum	**0.41**		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 13:01	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 13:01	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 13:01	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:31	1

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

Lab Sample ID: MB 180-368732/1-A
Matrix: Water
Analysis Batch: 368942

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 368732

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/20/21 12:14	08/21/21 12:21	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/20/21 12:14	08/21/21 12:21	1
Barium	<0.0016		0.010	0.0016	mg/L		08/20/21 12:14	08/21/21 12:21	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/20/21 12:14	08/21/21 12:21	1
Boron	<0.039		0.080	0.039	mg/L		08/20/21 12:14	08/21/21 12:21	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/20/21 12:14	08/21/21 12:21	1
Calcium	<0.13		0.50	0.13	mg/L		08/20/21 12:14	08/21/21 12:21	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/20/21 12:14	08/21/21 12:21	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/20/21 12:14	08/21/21 12:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/20/21 12:14	08/21/21 12:21	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/20/21 12:14	08/21/21 12:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/20/21 12:14	08/21/21 12:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/20/21 12:14	08/21/21 12:21	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/20/21 12:14	08/21/21 12:21	1

Lab Sample ID: LCS 180-368732/2-A
Matrix: Water
Analysis Batch: 368942

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 368732

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.239		mg/L		95	80 - 120
Arsenic	1.00	0.993		mg/L		99	80 - 120
Barium	1.00	1.00		mg/L		100	80 - 120
Beryllium	0.500	0.502		mg/L		100	80 - 120
Boron	1.25	1.24		mg/L		99	80 - 120
Cadmium	0.500	0.506		mg/L		101	80 - 120
Calcium	25.0	25.5		mg/L		102	80 - 120
Chromium	0.500	0.501		mg/L		100	80 - 120
Cobalt	0.500	0.496		mg/L		99	80 - 120
Lead	0.500	0.506		mg/L		101	80 - 120
Lithium	0.500	0.490		mg/L		98	80 - 120
Molybdenum	0.500	0.506		mg/L		101	80 - 120
Selenium	1.00	1.00		mg/L		100	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-368676/1-A
Matrix: Water
Analysis Batch: 368918

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 368676

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/20/21 08:47	08/23/21 15:16	1

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

Lab Sample ID: LCS 180-368676/2-A
Matrix: Water
Analysis Batch: 368918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 368676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00212		mg/L		85	80 - 120

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-125940-1

Metals

Prep Batch: 368676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125940-1	FB-1	Total/NA	Water	7470A	
180-125940-2	EB-1	Total/NA	Water	7470A	
180-125940-3	AP1PZ-7	Total/NA	Water	7470A	
180-125940-4	AP1PZ-8	Total/NA	Water	7470A	
180-125948-1	AP1GWA-1	Total/NA	Water	7470A	
180-125948-2	AP1GWA-2	Total/NA	Water	7470A	
180-125948-3	DUP-1	Total/NA	Water	7470A	
MB 180-368676/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-368676/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 368732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125940-1	FB-1	Total Recoverable	Water	3005A	
180-125940-2	EB-1	Total Recoverable	Water	3005A	
180-125940-3	AP1PZ-7	Total Recoverable	Water	3005A	
180-125940-4	AP1PZ-8	Total Recoverable	Water	3005A	
180-125948-1	AP1GWA-1	Total Recoverable	Water	3005A	
180-125948-2	AP1GWA-2	Total Recoverable	Water	3005A	
180-125948-3	DUP-1	Total Recoverable	Water	3005A	
MB 180-368732/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-368732/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 368918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125940-1	FB-1	Total/NA	Water	EPA 7470A	368676
180-125940-2	EB-1	Total/NA	Water	EPA 7470A	368676
180-125940-3	AP1PZ-7	Total/NA	Water	EPA 7470A	368676
180-125940-4	AP1PZ-8	Total/NA	Water	EPA 7470A	368676
180-125948-1	AP1GWA-1	Total/NA	Water	EPA 7470A	368676
180-125948-2	AP1GWA-2	Total/NA	Water	EPA 7470A	368676
180-125948-3	DUP-1	Total/NA	Water	EPA 7470A	368676
MB 180-368676/1-A	Method Blank	Total/NA	Water	EPA 7470A	368676
LCS 180-368676/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	368676

Analysis Batch: 368942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-125940-1	FB-1	Total Recoverable	Water	EPA 6020B	368732
180-125940-2	EB-1	Total Recoverable	Water	EPA 6020B	368732
180-125940-3	AP1PZ-7	Total Recoverable	Water	EPA 6020B	368732
180-125940-4	AP1PZ-8	Total Recoverable	Water	EPA 6020B	368732
180-125948-1	AP1GWA-1	Total Recoverable	Water	EPA 6020B	368732
180-125948-2	AP1GWA-2	Total Recoverable	Water	EPA 6020B	368732
180-125948-3	DUP-1	Total Recoverable	Water	EPA 6020B	368732
MB 180-368732/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	368732
LCS 180-368732/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	368732

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

ATLANTA 244

Eurofins Environment Testing America

Client Information	Sampler: Daniel Howard/Evan Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~3 of 3~~
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Atlanta	TAT Requested (days): 5 days			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			Other:
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N		
EB-1	8/18/21	0935	G	W				X				X	1	
EB-1		0945	G	W				X				X	1	
AP1PZ-7		1310	G	W				X				X	1	
AP1PZ-8		1638	G	W				X				X	1	

180-125940 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Daniel Howard	8/18/21 1900		D Watts	8-19-21 9:15	Eurofins
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

ATLANTA-224 — eurofins Environment Testing America

Client Information	Sampler: Daniel Howard/EverGreen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.3
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~3 of 3~~
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Atlanta	TAT Requested (days): 5 days			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver) + Boron	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N		
APIGWA-1	8/17/21	~~1510~~	G	W				X				X	1	
APIGWA-2	8/18/21	~~1455~~	G	W				X					1	
DUP-1	8/18/21	—	G	W				X				X	1	

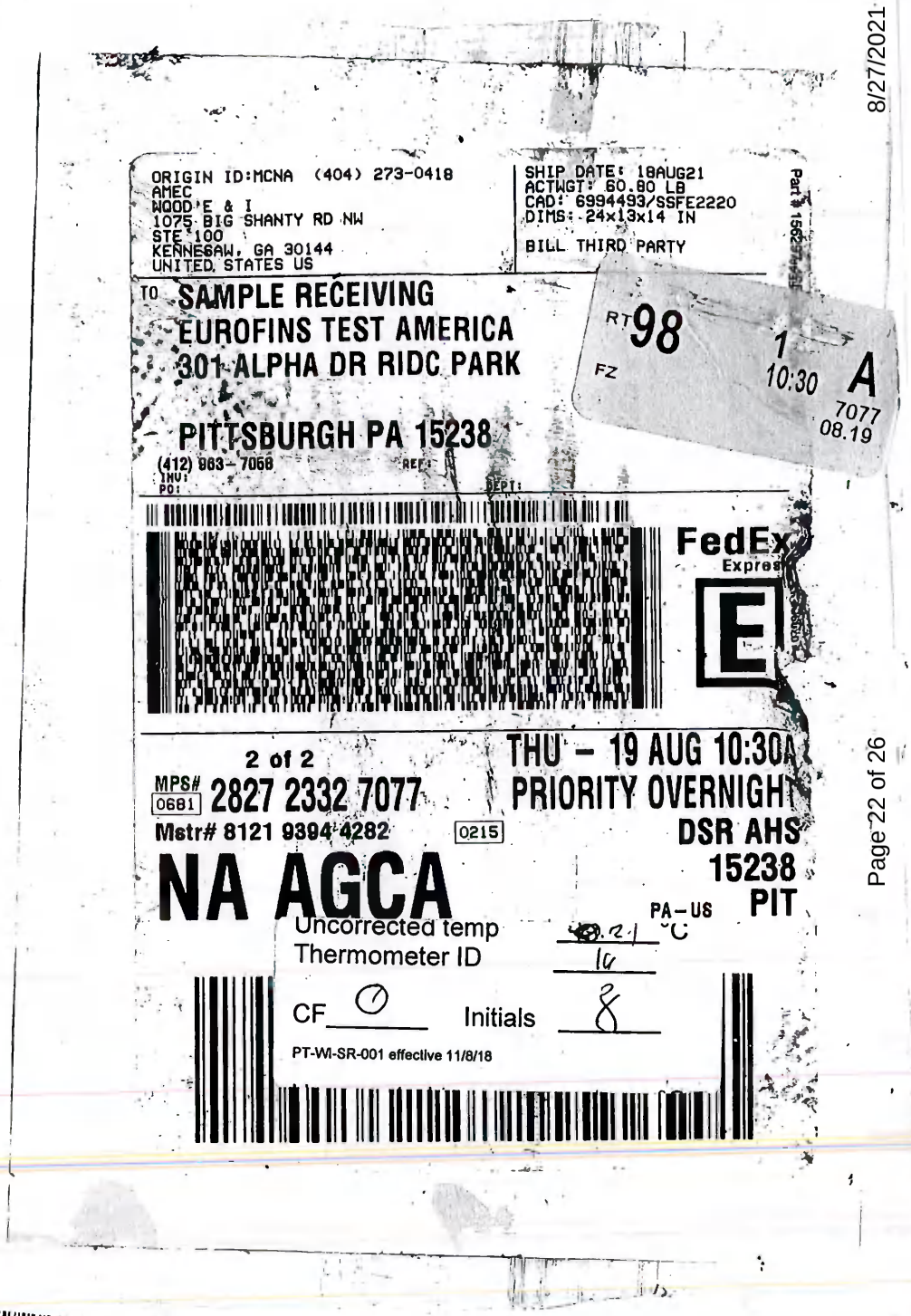
180-125948 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	~~Daniel H~~ Daniel Howard	8/18/21 1900		D Watson	8-19-21 9:15	ETAPIT
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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



ORIGIN ID:MCNA (404) 273-0418
AMEC
WOOD E & I
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 18AUG21
ACTWGT: 60.80 LB
CAD: 6994493/SSFE2220
DIMS: 24x13x14 IN
BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

RT 98 FZ 1 10:30 A 7077 08.19

FedEx Express

2 of 2
MPS# 0681 2827 2332 7077
Mstr# 8121 9394 4282 0215

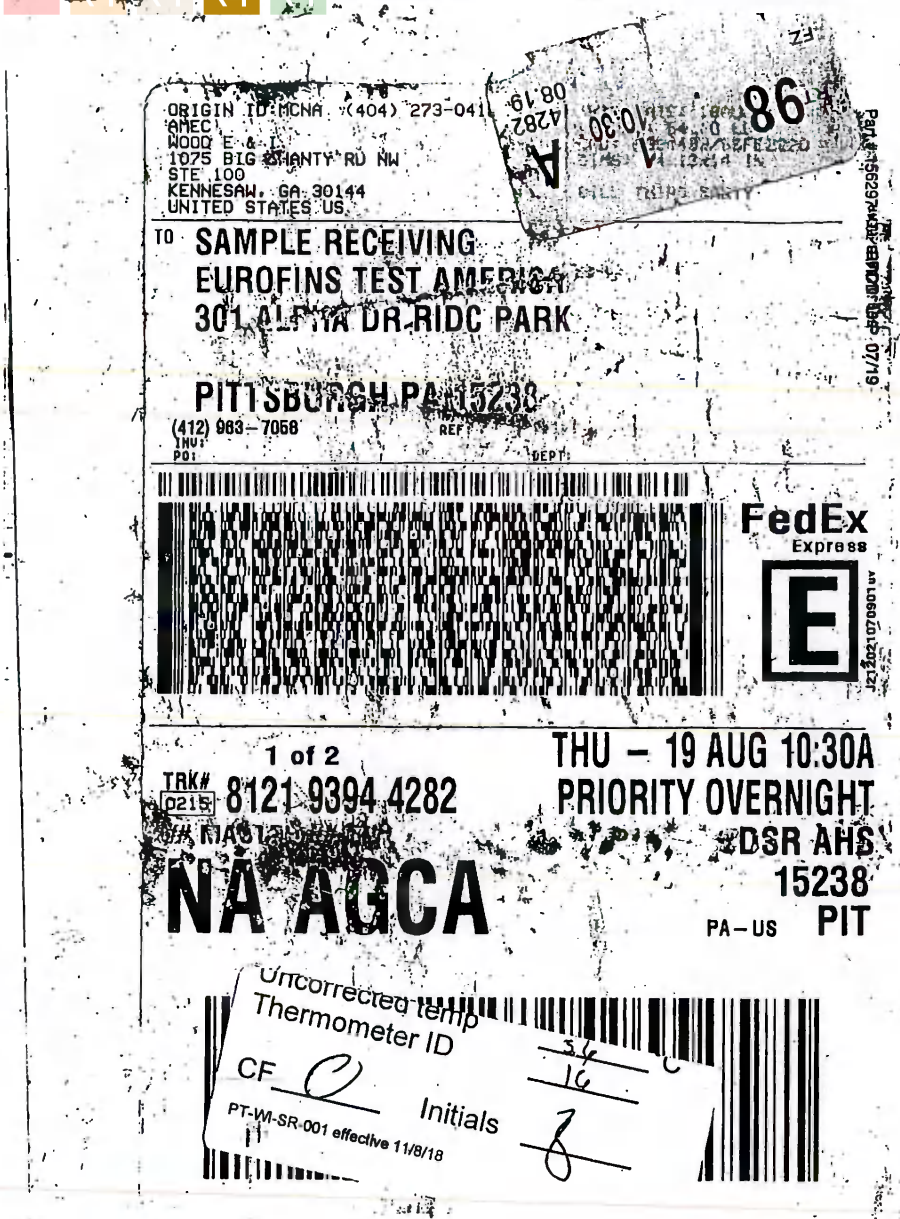
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PIT
PA-US

NA AGCA

Uncorrected temp 20.2 °C
Thermometer ID 16
CF 0 Initials 8

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

180-125940 Waybill



ORIGIN ID:MCNA (404) 273-041
AMEC
WOOD E &
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF
DEPT:

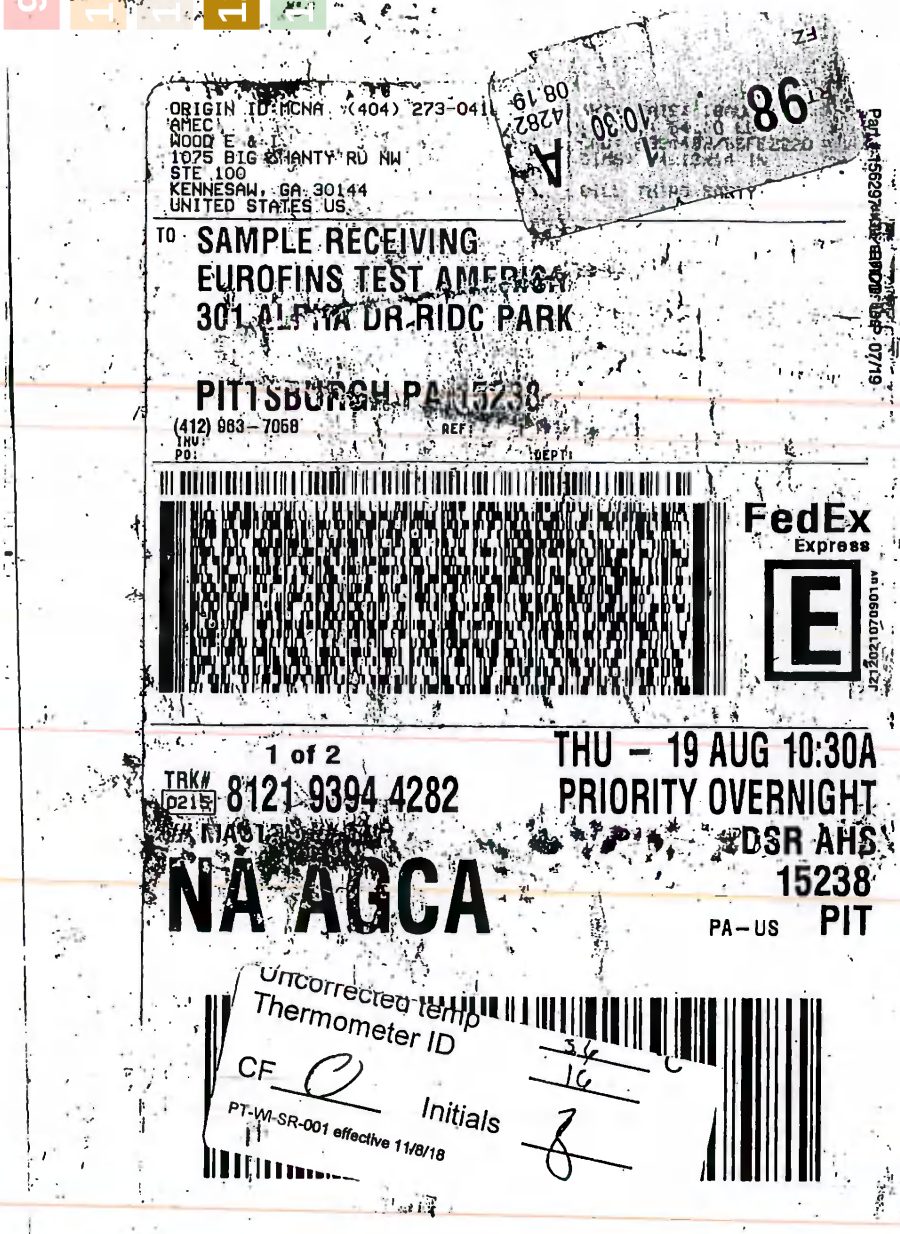
FedEx Express

1 of 2
TRK# 8121 9394 4282
0215
NA AGCA

THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18

180-125948 Waybill



ORIGIN ID:HCNA (404) 273-0411
AMEC
WOOD E &
1075 BIG SHANTY RD NW
STE 100
KENNESAW, GA 30144
UNITED STATES US

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058

REF:
INV:
PO:
DEPT:

FedEx Express

1 of 2
TRK# 8121 9394 4282

THU - 19 AUG 10:30A
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

NA AGCA

Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18

180-125948 Waybill

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125940-1

Login Number: 125940
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-125940-1

Login Number: 125948
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 180-126095-1
Client Project/Site: Plant Arkwright AP-1
Revision: 1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
9/1/2021 10:35:40 PM

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

PA Lab ID: 02-00416

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Case Narrative

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Job ID: 180-126095-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-126095-1

Comments
090121 Revised report to include case narrative page. This report replaces the report previously issued on 083021.

Receipt
The samples were received on 8/21/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.4º C, 3.7º C and 4.1º C.

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Qualifiers

Metals

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21 *
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	08-31-21
Georgia	State	PA 02-00416	08-31-21
Illinois	NELAP	004375	08-31-21
Kansas	NELAP	E-10350	08-31-21
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	08-31-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	08-31-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	08-31-21
New York	NELAP	11182	08-31-21
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	08-31-21
Oregon	NELAP	PA-2151	08-31-21
Pennsylvania	NELAP	02-00416	08-31-21
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	08-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	08-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	08-31-21
Wisconsin	State	998027800	08-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-126095-1	EB-2	Water	08/19/21 09:50	08/21/21 09:30
180-126095-2	AP1PZ-9	Water	08/19/21 16:50	08/21/21 09:30
180-126095-3	FB-2	Water	08/20/21 09:10	08/21/21 09:30
180-126095-4	AP1PZ-10	Water	08/20/21 11:30	08/21/21 09:30
180-126096-1	AP1PZ-4	Water	08/20/21 11:30	08/21/21 09:30
180-126096-2	AP1PZ-5	Water	08/20/21 14:40	08/21/21 09:30
180-126096-3	AP1PZ-11	Water	08/20/21 16:50	08/21/21 09:30
180-126099-1	AP1PZ-1	Water	08/18/21 18:15	08/21/21 09:30
180-126099-2	AP1PZ-2	Water	08/19/21 13:45	08/21/21 09:30
180-126099-3	DUP-2	Water	08/19/21 00:00	08/21/21 09:30
180-126099-4	AP1PZ-3	Water	08/19/21 16:45	08/21/21 09:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

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

Protocol References:

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: EB-2
Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 11:06	RSK	TAL PIT
	Instrument ID: A									
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369512	08/27/21 09:35	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:40	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-9
Date Collected: 08/19/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Dissolved	Analysis	EPA 6020B		1			369225	08/25/21 12:13	RSK	TAL PIT
	Instrument ID: A									
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 12:09	RSK	TAL PIT
	Instrument ID: A									
Dissolved	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Dissolved	Analysis	EPA 7470A		1			369353	08/26/21 15:44	KEM	TAL PIT
	Instrument ID: HGZ									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:41	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: FB-2
Date Collected: 08/20/21 09:10
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 12:23	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:42	KEM	TAL PIT
	Instrument ID: HGZ									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-10
Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 12:45	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:43	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-4
Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 12:49	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:30	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-5
Date Collected: 08/20/21 14:40
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:04	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:31	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-11
Date Collected: 08/20/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:18	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:32	KEM	TAL PIT
	Instrument ID: HGZ									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-1
Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:22	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:45	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:23	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-2
Date Collected: 08/19/21 13:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:25	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:45	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:27	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: DUP-2
Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:29	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:28	KEM	TAL PIT
	Instrument ID: HGZ									

Client Sample ID: AP1PZ-3
Date Collected: 08/19/21 16:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	368990	08/24/21 10:44	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369225	08/25/21 13:33	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	369187	08/25/21 13:46	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369353	08/26/21 15:29	KEM	TAL PIT
	Instrument ID: HGZ									

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

MM1 = Mary Beth Miller

TLP = Tara Peterson

Batch Type: Analysis

KEM = Kimberly Mahoney

RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: EB-2

Date Collected: 08/19/21 09:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 11:06	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 11:06	1
Barium	<0.0016		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 11:06	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 11:06	1
Boron	<0.039		0.080	0.039	mg/L		08/24/21 10:44	08/27/21 09:35	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 11:06	1
Calcium	<0.13		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 11:06	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 11:06	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 11:06	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 11:06	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 11:06	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 11:06	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 11:06	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 11:06	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:40	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-9

Date Collected: 08/19/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00070**	**J**	0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 12:09	1
Arsenic	**0.00041**	**J**	0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 12:09	1
Barium	**0.047**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 12:09	1
Beryllium	**0.00028**	**J**	0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 12:09	1
Boron	**0.80**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 12:09	1
Cadmium	**0.00064**	**J**	0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 12:09	1
Calcium	**76**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 12:09	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 12:09	1
Cobalt	**0.057**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 12:09	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 12:09	1
Lithium	**0.073**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 12:09	1
Molybdenum	**0.0021**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 12:09	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 12:09	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 12:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 12:13	1
Arsenic	**0.00036**	**J**	0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 12:13	1
Barium	**0.047**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 12:13	1
Beryllium	**0.00023**	**J**	0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 12:13	1
Boron	**0.80**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 12:13	1
Cadmium	**0.00057**	**J**	0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 12:13	1
Calcium	**75**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 12:13	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 12:13	1
Cobalt	**0.055**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 12:13	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 12:13	1
Lithium	**0.070**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 12:13	1
Molybdenum	**0.0022**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 12:13	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 12:13	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 12:13	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:44	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: FB-2

Date Collected: 08/20/21 09:10
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 12:23	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 12:23	1
Barium	<0.0016		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 12:23	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 12:23	1
Boron	**0.061**	**J**	0.080	0.039	mg/L		08/24/21 10:44	08/25/21 12:23	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 12:23	1
Calcium	<0.13		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 12:23	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 12:23	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 12:23	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 12:23	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 12:23	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 12:23	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 12:23	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 12:23	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:42	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-10

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126095-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 12:45	1
Arsenic	**0.0032**		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 12:45	1
Barium	**0.045**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 12:45	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 12:45	1
Boron	**0.40**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 12:45	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 12:45	1
Calcium	**99**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 12:45	1
Chromium	**0.0036**		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 12:45	1
Cobalt	**0.0023**	**J**	0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 12:45	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 12:45	1
Lithium	**0.012**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 12:45	1
Molybdenum	**0.0050**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 12:45	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 12:45	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 12:45	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:43	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-4

Date Collected: 08/20/21 11:30
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 12:49	1
Arsenic	**0.00055**	**J**	0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 12:49	1
Barium	**0.090**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 12:49	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 12:49	1
Boron	**3.5**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 12:49	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 12:49	1
Calcium	**380**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 12:49	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 12:49	1
Cobalt	**0.0016**	**J**	0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 12:49	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 12:49	1
Lithium	**0.0059**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 12:49	1
Molybdenum	**0.022**		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 12:49	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 12:49	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 12:49	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:30	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-5

Date Collected: 08/20/21 14:40
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00040**	**J**	0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:04	1
Arsenic	**0.0013**		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:04	1
Barium	**0.10**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:04	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:04	1
Boron	**4.7**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:04	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:04	1
Calcium	**450**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:04	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:04	1
Cobalt	**0.0098**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:04	1
Lead	**0.00023**	**J**	0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:04	1
Lithium	**0.067**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:04	1
Molybdenum	**0.044**		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:04	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:04	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:04	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:31	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-11

Date Collected: 08/20/21 16:50
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126096-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:18	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:18	1
Barium	**0.021**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:18	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:18	1
Boron	**0.20**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:18	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:18	1
Calcium	**28**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:18	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:18	1
Cobalt	**0.0013**	**J**	0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:18	1
Lead	**0.00023**	**J**	0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:18	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:18	1
Molybdenum	**0.0023**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:18	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:18	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:18	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:32	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-1

Date Collected: 08/18/21 18:15
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:22	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:22	1
Barium	**0.059**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:22	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:22	1
Boron	**0.40**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:22	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:22	1
Calcium	**35**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:22	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:22	1
Cobalt	**0.00065**	**J**	0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:22	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:22	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:22	1
Molybdenum	**0.0015**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:22	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:22	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:45	08/26/21 15:23	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-2

Date Collected: 08/19/21 13:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:25	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:25	1
Barium	**0.035**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:25	1
Beryllium	**0.00071**	**J**	0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:25	1
Boron	**0.57**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:25	1
Cadmium	**0.0014**	**J**	0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:25	1
Calcium	**240**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:25	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:25	1
Cobalt	**0.30**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:25	1
Lead	**0.00035**	**J**	0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:25	1
Lithium	**0.028**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:25	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:25	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:25	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:25	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:45	08/26/21 15:27	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: DUP-2

Date Collected: 08/19/21 00:00
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:29	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:29	1
Barium	**0.035**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:29	1
Beryllium	**0.00071**	**J**	0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:29	1
Boron	**0.56**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:29	1
Cadmium	**0.0015**	**J**	0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:29	1
Calcium	**240**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:29	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:29	1
Cobalt	**0.30**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:29	1
Lead	**0.00033**	**J**	0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:29	1
Lithium	**0.028**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:29	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:29	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:29	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:29	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:28	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

Client Sample ID: AP1PZ-3

Date Collected: 08/19/21 16:45
Date Received: 08/21/21 09:30

Lab Sample ID: 180-126099-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 13:33	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 13:33	1
Barium	**0.036**		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 13:33	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 13:33	1
Boron	**1.5**		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 13:33	1
Cadmium	**0.00050**	**J**	0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 13:33	1
Calcium	**400**		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 13:33	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 13:33	1
Cobalt	**0.052**		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 13:33	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 13:33	1
Lithium	**0.053**		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 13:33	1
Molybdenum	**0.0014**	**J**	0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 13:33	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 13:33	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 13:33	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:46	08/26/21 15:29	1

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

Lab Sample ID: MB 180-368990/1-A
Matrix: Water
Analysis Batch: 369225

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 368990

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/24/21 10:44	08/25/21 10:37	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/24/21 10:44	08/25/21 10:37	1
Barium	<0.0016		0.010	0.0016	mg/L		08/24/21 10:44	08/25/21 10:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/24/21 10:44	08/25/21 10:37	1
Boron	<0.039		0.080	0.039	mg/L		08/24/21 10:44	08/25/21 10:37	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/24/21 10:44	08/25/21 10:37	1
Calcium	<0.13		0.50	0.13	mg/L		08/24/21 10:44	08/25/21 10:37	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/24/21 10:44	08/25/21 10:37	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/24/21 10:44	08/25/21 10:37	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/24/21 10:44	08/25/21 10:37	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/24/21 10:44	08/25/21 10:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/24/21 10:44	08/25/21 10:37	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/24/21 10:44	08/25/21 10:37	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/24/21 10:44	08/25/21 10:37	1

Lab Sample ID: LCS 180-368990/2-A
Matrix: Water
Analysis Batch: 369225

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 368990

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.244		mg/L		97	80 - 120
Arsenic	1.00	1.05		mg/L		105	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.503		mg/L		101	80 - 120
Boron	1.25	1.25		mg/L		100	80 - 120
Cadmium	0.500	0.523		mg/L		105	80 - 120
Calcium	25.0	27.2		mg/L		109	80 - 120
Chromium	0.500	0.520		mg/L		104	80 - 120
Cobalt	0.500	0.513		mg/L		103	80 - 120
Lead	0.500	0.525		mg/L		105	80 - 120
Lithium	0.500	0.493		mg/L		99	80 - 120
Molybdenum	0.500	0.519		mg/L		104	80 - 120
Selenium	1.00	1.04		mg/L		104	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: 180-126095-1 MS
Matrix: Water
Analysis Batch: 369225

Client Sample ID: EB-2
Prep Type: Total Recoverable
Prep Batch: 368990

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.00038		0.250	0.245		mg/L		98	75 - 125
Arsenic	<0.00031		1.00	1.02		mg/L		102	75 - 125
Barium	<0.0016		1.00	1.04		mg/L		104	75 - 125
Beryllium	<0.00018		0.500	0.488		mg/L		98	75 - 125
Cadmium	<0.00022		0.500	0.519		mg/L		104	75 - 125
Calcium	<0.13		25.0	26.9		mg/L		108	75 - 125
Chromium	<0.0015		0.500	0.517		mg/L		103	75 - 125
Cobalt	<0.00013		0.500	0.509		mg/L		102	75 - 125
Lead	<0.00013		0.500	0.523		mg/L		105	75 - 125

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

Lab Sample ID: 180-126095-1 MS
Matrix: Water
Analysis Batch: 369225

Client Sample ID: EB-2
Prep Type: Total Recoverable
Prep Batch: 368990

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.0034		0.500	0.499		mg/L		100	75 - 125
Molybdenum	<0.00061		0.500	0.518		mg/L		104	75 - 125
Selenium	<0.0015		1.00	1.03		mg/L		103	75 - 125
Thallium	<0.00015		1.00	1.03		mg/L		103	75 - 125

Lab Sample ID: 180-126095-1 MSD
Matrix: Water
Analysis Batch: 369225

Client Sample ID: EB-2
Prep Type: Total Recoverable
Prep Batch: 368990

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.00038		0.250	0.243		mg/L		97	75 - 125	1	20
Arsenic	<0.00031		1.00	1.04		mg/L		104	75 - 125	1	20
Barium	<0.0016		1.00	1.03		mg/L		103	75 - 125	1	20
Beryllium	<0.00018		0.500	0.477		mg/L		95	75 - 125	2	20
Cadmium	<0.00022		0.500	0.511		mg/L		102	75 - 125	2	20
Calcium	<0.13		25.0	27.6		mg/L		110	75 - 125	2	20
Chromium	<0.0015		0.500	0.527		mg/L		105	75 - 125	2	20
Cobalt	<0.00013		0.500	0.510		mg/L		102	75 - 125	0	20
Lead	<0.00013		0.500	0.526		mg/L		105	75 - 125	0	20
Lithium	<0.0034		0.500	0.497		mg/L		99	75 - 125	0	20
Molybdenum	<0.00061		0.500	0.521		mg/L		104	75 - 125	0	20
Selenium	<0.0015		1.00	1.03		mg/L		103	75 - 125	0	20
Thallium	<0.00015		1.00	1.05		mg/L		105	75 - 125	1	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-369187/1-A
Matrix: Water
Analysis Batch: 369353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/25/21 13:45	08/26/21 15:21	1

Lab Sample ID: LCS 180-369187/2-A
Matrix: Water
Analysis Batch: 369353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00259		mg/L		104	80 - 120

Lab Sample ID: 180-126099-1 MS
Matrix: Water
Analysis Batch: 369353

Client Sample ID: AP1PZ-1
Prep Type: Total/NA
Prep Batch: 369187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00013		0.00100	0.00113		mg/L		113	75 - 125

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126095-1

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

Lab Sample ID: 180-126099-1 MSD
Matrix: Water
Analysis Batch: 369353

Client Sample ID: AP1PZ-1
Prep Type: Total/NA
Prep Batch: 369187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00013		0.00100	0.00106		mg/L		106	75 - 125	6	20

Metals

Prep Batch: 368990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126095-1	EB-2	Total Recoverable	Water	3005A	
180-126095-2	AP1PZ-9	Dissolved	Water	3005A	
180-126095-2	AP1PZ-9	Total Recoverable	Water	3005A	
180-126095-3	FB-2	Total Recoverable	Water	3005A	
180-126095-4	AP1PZ-10	Total Recoverable	Water	3005A	
180-126096-1	AP1PZ-4	Total Recoverable	Water	3005A	
180-126096-2	AP1PZ-5	Total Recoverable	Water	3005A	
180-126096-3	AP1PZ-11	Total Recoverable	Water	3005A	
180-126099-1	AP1PZ-1	Total Recoverable	Water	3005A	
180-126099-2	AP1PZ-2	Total Recoverable	Water	3005A	
180-126099-3	DUP-2	Total Recoverable	Water	3005A	
180-126099-4	AP1PZ-3	Total Recoverable	Water	3005A	
MB 180-368990/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-368990/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-126095-1 MS	EB-2	Total Recoverable	Water	3005A	
180-126095-1 MSD	EB-2	Total Recoverable	Water	3005A	

Prep Batch: 369187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126095-1	EB-2	Total/NA	Water	7470A	
180-126095-2	AP1PZ-9	Dissolved	Water	7470A	
180-126095-2	AP1PZ-9	Total/NA	Water	7470A	
180-126095-3	FB-2	Total/NA	Water	7470A	
180-126095-4	AP1PZ-10	Total/NA	Water	7470A	
180-126096-1	AP1PZ-4	Total/NA	Water	7470A	
180-126096-2	AP1PZ-5	Total/NA	Water	7470A	
180-126096-3	AP1PZ-11	Total/NA	Water	7470A	
180-126099-1	AP1PZ-1	Total/NA	Water	7470A	
180-126099-2	AP1PZ-2	Total/NA	Water	7470A	
180-126099-3	DUP-2	Total/NA	Water	7470A	
180-126099-4	AP1PZ-3	Total/NA	Water	7470A	
MB 180-369187/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-369187/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-126099-1 MS	AP1PZ-1	Total/NA	Water	7470A	
180-126099-1 MSD	AP1PZ-1	Total/NA	Water	7470A	

Analysis Batch: 369225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126095-1	EB-2	Total Recoverable	Water	EPA 6020B	368990
180-126095-2	AP1PZ-9	Dissolved	Water	EPA 6020B	368990
180-126095-2	AP1PZ-9	Total Recoverable	Water	EPA 6020B	368990
180-126095-3	FB-2	Total Recoverable	Water	EPA 6020B	368990
180-126095-4	AP1PZ-10	Total Recoverable	Water	EPA 6020B	368990
180-126096-1	AP1PZ-4	Total Recoverable	Water	EPA 6020B	368990
180-126096-2	AP1PZ-5	Total Recoverable	Water	EPA 6020B	368990
180-126096-3	AP1PZ-11	Total Recoverable	Water	EPA 6020B	368990
180-126099-1	AP1PZ-1	Total Recoverable	Water	EPA 6020B	368990
180-126099-2	AP1PZ-2	Total Recoverable	Water	EPA 6020B	368990
180-126099-3	DUP-2	Total Recoverable	Water	EPA 6020B	368990
180-126099-4	AP1PZ-3	Total Recoverable	Water	EPA 6020B	368990
MB 180-368990/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	368990

Metals (Continued)

Analysis Batch: 369225 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-368990/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	368990
180-126095-1 MS	EB-2	Total Recoverable	Water	EPA 6020B	368990
180-126095-1 MSD	EB-2	Total Recoverable	Water	EPA 6020B	368990

Analysis Batch: 369353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126095-1	EB-2	Total/NA	Water	EPA 7470A	369187
180-126095-2	AP1PZ-9	Dissolved	Water	EPA 7470A	369187
180-126095-2	AP1PZ-9	Total/NA	Water	EPA 7470A	369187
180-126095-3	FB-2	Total/NA	Water	EPA 7470A	369187
180-126095-4	AP1PZ-10	Total/NA	Water	EPA 7470A	369187
180-126096-1	AP1PZ-4	Total/NA	Water	EPA 7470A	369187
180-126096-2	AP1PZ-5	Total/NA	Water	EPA 7470A	369187
180-126096-3	AP1PZ-11	Total/NA	Water	EPA 7470A	369187
180-126099-1	AP1PZ-1	Total/NA	Water	EPA 7470A	369187
180-126099-2	AP1PZ-2	Total/NA	Water	EPA 7470A	369187
180-126099-3	DUP-2	Total/NA	Water	EPA 7470A	369187
180-126099-4	AP1PZ-3	Total/NA	Water	EPA 7470A	369187
MB 180-369187/1-A	Method Blank	Total/NA	Water	EPA 7470A	369187
LCS 180-369187/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	369187
180-126099-1 MS	AP1PZ-1	Total/NA	Water	EPA 7470A	369187
180-126099-1 MSD	AP1PZ-1	Total/NA	Water	EPA 7470A	369187

Analysis Batch: 369512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126095-1	EB-2	Total Recoverable	Water	EPA 6020B	368990

244-ATLANTA

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: D Howard/E Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): 5 day TAT			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Diss 6020B-Custom 15 App III/AppIV+Silver	Diss 7470A-Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	ND	ND	D	D		
EB-2	8/19/21	0950	G	W				X				X			1	
AP1PZ-9	8/19/21	1650	G	W	Y			X				X	X	X	2	pH=5.77
FB-2	8/20/21	0910	G	W				X				X			1	
AP1PZ-10	8/20/21	1130	G	W				X				X			1	pH=6.53

180-126095 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel L Howard	8/20/21/1830		D Watson	8-21-21	ATAPIT
				9:30	

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

Ver: 06/08/2021

9/1/2021 (Rev. 1)

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

244- ATLANTA

Client Information	Sampler: D Howard/EGwillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): 5 day TAT			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	XD	XD		
AP1PZ-4	8/20/21	1130	G	W				X				X	1	pH=6.56
AP1PZ-5	↓	1440	G	W				X				X	1	pH=6.60
AP1PZ-11	↓	1650	G	W				X				X	1	pH=6.71

180-126096 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	David R Howard	8/20/21 / 1836		Duratin	8-21-21 930	EATPA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244-ATLANTA

eurofins Environment Testing America

Client Information	Sampler: DHoward/E Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.1
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 1 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): 5 day TAT			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	~~N~~D	~~N~~D		
AP1PZ-1	8/18/21	1815	G	W				X				X	1	pH = 6.59
AP1PZ-2	8/19/21	1345	G	W				X				X	1	pH = 5.84
DUP-2	↓	—	G	W				X				X	1	pH = 5.84
AP1PZ-3	↓	1645	G	W				X				X	1	pH = 5.60

180-126099 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

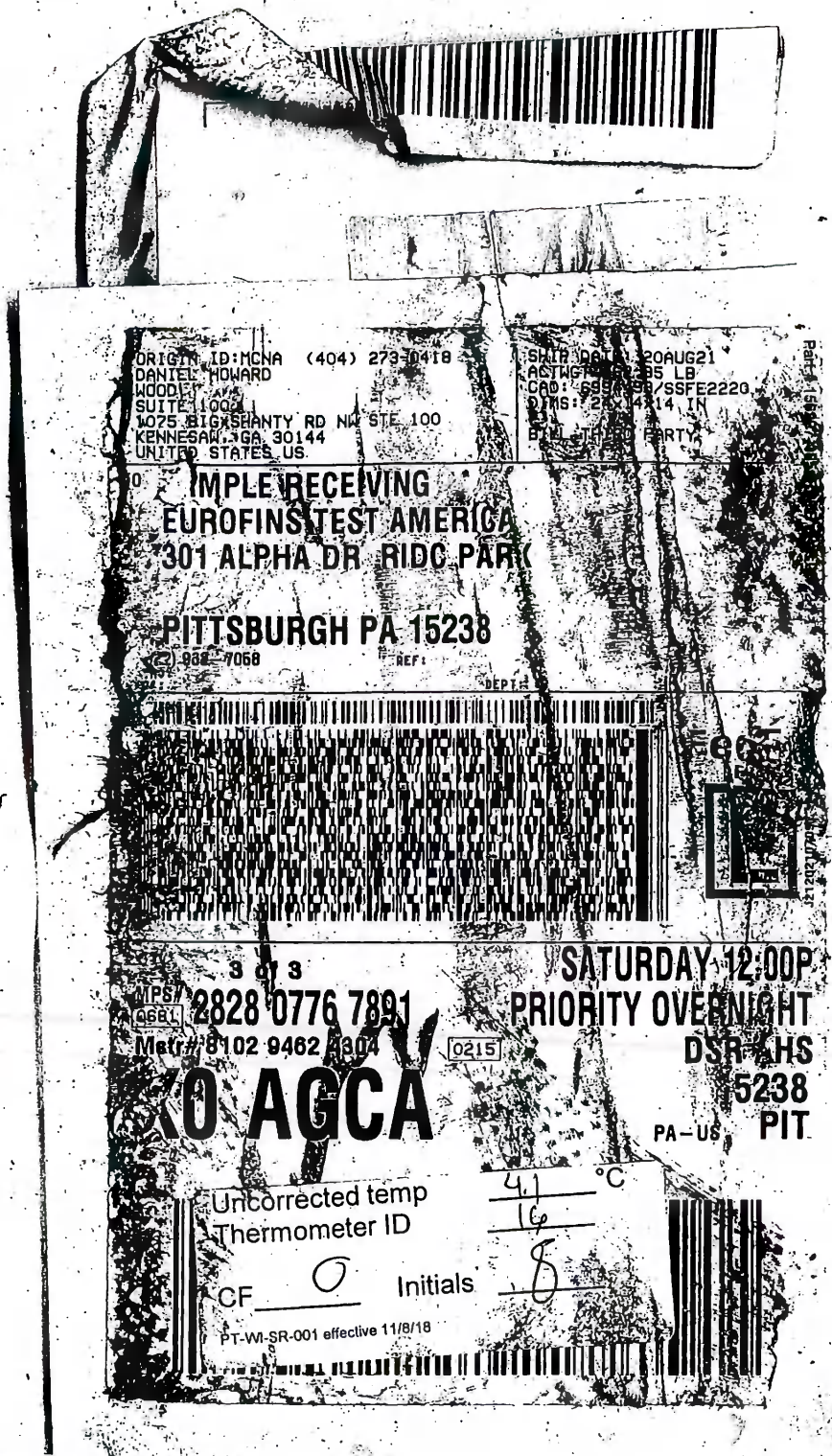
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
David L Howard	8/20/21 / 1830		D Watson	8-21-21	ETA Pit
				9:30	

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

Ver: 06/08/2021

9/1/2021 (Rev. 1)



ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
WOOD
SUITE 100
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 20AUG21
ACTWGT: [illegible]85 LB
CAD: 699[illegible]/SSFE2220
DIMS: 24x14x14 IN
BILL THIRD PARTY

IMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK

PITTSBURGH PA 15238
(22) 938-7058 REF:
DEPT:

3 of 3
MPS# 2828 0776 7891
0681
Mstr# 8102 9462 4304
0215

SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR AHS
5238
PA-US PIT

XO AGCA

Uncorrected temp 4.1 °C
Thermometer ID 16
CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18

180-126095 Waybill

FedEx®

9/1/2021 (Rev. 1)

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
WOOD
SUITE 100
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 20AUG21
ACTWGT: 57.95 LB
CAD: 6994493/SSFE2220
DIMS: 24x14x14 IN

BILL THIRD PARTY

Part # 156297-[illegible] 06/22

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDG PARK

PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

180-126096 Waybill

FedEx Express

E

J21202107090 1sv

2 of 3
MPS# 0681 2828 0776 7880
Mstr# 8102 9462 4304 0215

SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR AHS
15238
PA-US PIT

X0 AGCA

Uncorrected temp 24 °C
Thermometer ID 16
CF 0 Initials 18
PT-WI-SR-001 effective 11/8/18

180-126099 Waybill

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-126095-1

Login Number: 126095
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-126095-1

Login Number: 126096
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-126095-1

Login Number: 126099
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 180-126160-1
Client Project/Site: Plant Arkwright AP-1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
8/31/2021 2:42:35 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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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.

PA Lab ID: 02-00416

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Case Narrative

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Job ID: 180-126160-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-126160-1

Comments
No additional comments.

Receipt
The sample was received on 8/24/2021 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

Metals
Method 7470A: The laboratory control sample (LCS) for 369283 recovered outside control limits for the following analytes: mercury. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 7470A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 180-369283 and analytical batch 180-369660 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.

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Qualifiers

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21 *
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-22
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-30-22
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-22
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-22
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-22
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	08-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-126160-1	AP1PZ-6	Water	08/23/21 14:12	08/24/21 09:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

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

Protocol References:

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Client Sample ID: AP1PZ-6
Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126160-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	369320	08/26/21 12:26	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			369512	08/27/21 09:38	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			50 mL	50 mL	369283	08/26/21 09:40	MM1	TAL PIT
Total/NA	Analysis	EPA 7470A		1			369660	08/30/21 14:05	KEM	TAL PIT
	Instrument ID: HGY									

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: Prep

MM1 = Mary Beth Miller

TLP = Tara Peterson

Batch Type: Analysis

KEM = Kimberly Mahoney

RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Client Sample ID: AP1PZ-6

Date Collected: 08/23/21 14:12
Date Received: 08/24/21 09:30

Lab Sample ID: 180-126160-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/26/21 12:26	08/27/21 09:38	1
Arsenic	**0.0015**		0.0010	0.00031	mg/L		08/26/21 12:26	08/27/21 09:38	1
Barium	**0.035**		0.010	0.0016	mg/L		08/26/21 12:26	08/27/21 09:38	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/26/21 12:26	08/27/21 09:38	1
Boron	**6.9**		0.080	0.039	mg/L		08/26/21 12:26	08/27/21 09:38	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/26/21 12:26	08/27/21 09:38	1
Calcium	**470**		0.50	0.13	mg/L		08/26/21 12:26	08/27/21 09:38	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/26/21 12:26	08/27/21 09:38	1
Cobalt	**0.35**		0.0025	0.00013	mg/L		08/26/21 12:26	08/27/21 09:38	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/26/21 12:26	08/27/21 09:38	1
Lithium	**0.0064**		0.0050	0.0034	mg/L		08/26/21 12:26	08/27/21 09:38	1
Molybdenum	**0.0013**	**J**	0.015	0.00061	mg/L		08/26/21 12:26	08/27/21 09:38	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/26/21 12:26	08/27/21 09:38	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/26/21 12:26	08/27/21 09:38	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013	F2 F1 *+	0.00020	0.00013	mg/L		08/26/21 09:40	08/30/21 14:05	1

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

Lab Sample ID: MB 180-369320/1-A
Matrix: Water
Analysis Batch: 369512

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 369320

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		08/26/21 12:26	08/27/21 09:21	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		08/26/21 12:26	08/27/21 09:21	1
Barium	<0.0016		0.010	0.0016	mg/L		08/26/21 12:26	08/27/21 09:21	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		08/26/21 12:26	08/27/21 09:21	1
Boron	<0.039		0.080	0.039	mg/L		08/26/21 12:26	08/27/21 09:21	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		08/26/21 12:26	08/27/21 09:21	1
Calcium	<0.13		0.50	0.13	mg/L		08/26/21 12:26	08/27/21 09:21	1
Chromium	<0.0015		0.0020	0.0015	mg/L		08/26/21 12:26	08/27/21 09:21	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		08/26/21 12:26	08/27/21 09:21	1
Lead	<0.00013		0.0010	0.00013	mg/L		08/26/21 12:26	08/27/21 09:21	1
Lithium	<0.0034		0.0050	0.0034	mg/L		08/26/21 12:26	08/27/21 09:21	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		08/26/21 12:26	08/27/21 09:21	1
Selenium	<0.0015		0.0050	0.0015	mg/L		08/26/21 12:26	08/27/21 09:21	1
Thallium	<0.00015		0.0010	0.00015	mg/L		08/26/21 12:26	08/27/21 09:21	1

Lab Sample ID: LCS 180-369320/2-A
Matrix: Water
Analysis Batch: 369512

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 369320

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.242		mg/L		97	80 - 120
Arsenic	1.00	1.03		mg/L		103	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.511		mg/L		102	80 - 120
Boron	1.25	1.20		mg/L		96	80 - 120
Cadmium	0.500	0.512		mg/L		102	80 - 120
Calcium	25.0	28.6		mg/L		114	80 - 120
Chromium	0.500	0.508		mg/L		102	80 - 120
Cobalt	0.500	0.508		mg/L		102	80 - 120
Lead	0.500	0.505		mg/L		101	80 - 120
Lithium	0.500	0.501		mg/L		100	80 - 120
Molybdenum	0.500	0.519		mg/L		104	80 - 120
Selenium	1.00	1.03		mg/L		103	80 - 120
Thallium	1.00	1.09		mg/L		109	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-369283/1-A
Matrix: Water
Analysis Batch: 369660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 369283

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		08/26/21 09:40	08/30/21 14:03	1

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

Lab Sample ID: LCS 180-369283/2-A
Matrix: Water
Analysis Batch: 369660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 369283

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00125	0.00237	*+	mg/L		189	80 - 120		

Lab Sample ID: 180-126160-1 MS
Matrix: Water
Analysis Batch: 369660

Client Sample ID: AP1PZ-6
Prep Type: Total/NA
Prep Batch: 369283

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	<0.00013	F2 F1 *+	0.000500	0.000647	F1	mg/L		129	75 - 125		

Lab Sample ID: 180-126160-1 MSD
Matrix: Water
Analysis Batch: 369660

Client Sample ID: AP1PZ-6
Prep Type: Total/NA
Prep Batch: 369283

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00013	F2 F1 *+	0.000500	0.000484	F2	mg/L		97	75 - 125	29	20

QC Association Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-126160-1

Metals

Prep Batch: 369283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126160-1	AP1PZ-6	Total/NA	Water	7470A	
MB 180-369283/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-369283/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-126160-1 MS	AP1PZ-6	Total/NA	Water	7470A	
180-126160-1 MSD	AP1PZ-6	Total/NA	Water	7470A	

Prep Batch: 369320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126160-1	AP1PZ-6	Total Recoverable	Water	3005A	
MB 180-369320/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-369320/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 369512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126160-1	AP1PZ-6	Total Recoverable	Water	EPA 6020B	369320
MB 180-369320/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	369320
LCS 180-369320/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	369320

Analysis Batch: 369660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-126160-1	AP1PZ-6	Total/NA	Water	EPA 7470A	369283
MB 180-369283/1-A	Method Blank	Total/NA	Water	EPA 7470A	369283
LCS 180-369283/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	369283
180-126160-1 MS	AP1PZ-6	Total/NA	Water	EPA 7470A	369283
180-126160-1 MSD	AP1PZ-6	Total/NA	Water	EPA 7470A	369283

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

244 - ATLANTA

Eurofins | Environment Testing America

Client Information	Sampler: D Howard	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-73421-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested:			
City: Atlanta	TAT Requested (days): 5 day TAT			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 15 (App III/AppIV + Silver)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	D	N	N	XD	XD	X	
AP1PZ-6	8/23/21	1412	G	W				X				X	1	pH=5.50

180-126160 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Daniel L Howard	8/23/21 1545		D Watts	8-24-21 0730	ESTA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

Align FedEx Pouch Here

fedex.com 1.800.GoFedEx 1.800.463.3339

180-126160 Waybill

ORIGIN ID:MCNA (404) 273-0418
DANIEL HOWARD
AMEC WOOD E&I
1075 BIG SHANTY RD NW STE 100
KENNESAW, GA 30144
UNITED STATES US

SHIP DATE: 23AUG21
ACTWGT: 32.00 LB
CAD: 6994493/SSFE2220
DIMS: 17x16x13 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR RIDC PARK PO

PITTSBURGH PA 15238
(412) 963-7058
INV:
PO:
REF:
DEPT:

FedEx Express

J2120210709001

TRK# 0215 8121 9394 4591

TUE - 24 AUG 10:30A
PRIORITY OVERNIGHT

DSR AHS
15238
PIT

PA-US

NA AGCA

Uncorrected temp 4.2 °C
Thermometer ID 16
CF 0 Initials

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

Part # 156297-49 PRPP FXE06/22

fedex.com 1.800.GoFedEx 1.800.463.3339

1 From
Date
Sender's Name DEEANN
Company AMEC
Address 1075 BIG SHANTY RD NW STE 100
City KENNESAW State GA ZIP 30144-3652

2 Your Internal Billing Reference

3 To
Recipient's Name
Phone
Company
Address
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept/Floor/Suite/Room
Hold Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.
Hold Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City State ZIP

4 Express Package Service *To most locations.

Packages up to 150 lbs.
For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day
FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.
FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days
FedEx 2Day A.M.
Second business morning.* Saturday Delivery NOT available.
FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.
FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.
Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
No Signature Required
Package may be left without obtaining a signature for delivery.
Direct Signature
Someone at recipient's address may sign for delivery.
Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?
One box must be checked.
No
Yes As per attached Shipper's Declaration.
Yes Shipper's Declaration not required.
Dry Ice Dry Ice, 9, UN 1845 x kg
Cargo Aircraft Only
Restrictions apply for dangerous goods — see the current FedEx Service Guide.

7 Payment Bill to:
Sender Acct. No. in Section 1 will be billed.
Recipient
Third Party
Credit Card
Cash/Check
Enter FedEx Acct. No. or Credit Card No. below.
Obtain recip. Acct. No.

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-126160-1

Login Number: 126160
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-129189-1
Client Project/Site: Plant Arkwright AP-1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
11/24/2021 7:14:29 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

PA Lab ID: 02-00416

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Job ID: 180-129189-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-129189-1

Comments
No additional comments.

Receipt
The samples were received on 10/28/2021 4:00 PM and 10/30/2021 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.7º C, 4.1º C, 4.2º C and 4.7º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The COC was not relinquished to TAPITT.

GC Semi VOA
Method 300.0: The matrix spike duplicate (MSD) recoveries for the following sample associated with analytical batch 180-376935 was low outside control limits for sulfate: (180-129189-C-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

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

Metals
Methods 6020A, 6020B: The following samples were diluted due to the nature of the sample matrix: APIPZ-4 (180-129306-1) and APIPZ-5 (180-129306-4). Elevated reporting limits (RLs) are provided.

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

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

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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
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.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21 *
California	State	2891	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	11-11-21
Georgia	State	PA 02-00416	11-11-21
Illinois	NELAP	004375	11-11-21
Kansas	NELAP	E-10350	11-11-21
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	11-11-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	11-11-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	11-11-21
New York	NELAP	11182	11-11-21
North Carolina (WW/SW)	State	434	11-11-21
North Dakota	State	R-227	11-11-21
Oregon	NELAP	PA-2151	11-11-21
Pennsylvania	NELAP	02-00416	11-11-21
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	11-11-21
Texas	NELAP	T104704528	11-11-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	11-11-21
Virginia	NELAP	10043	11-11-21
West Virginia DEP	State	142	11-11-21
Wisconsin	State	998027800	11-11-21

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-129189-1	AP1GWA-1	Water	10/26/21 12:35	10/28/21 16:00
180-129189-2	AP1GWA-2	Water	10/26/21 14:30	10/28/21 16:00
180-129189-3	FB-1	Water	10/27/21 10:10	10/28/21 16:00
180-129189-4	AP1PZ-8	Water	10/27/21 11:54	10/28/21 16:00
180-129191-1	EB-1	Water	10/26/21 10:50	10/28/21 16:00
180-129191-2	APIPZ-6	Water	10/26/21 13:05	10/28/21 16:00
180-129191-3	DUP-1	Water	10/26/21 00:01	10/28/21 16:00
180-129191-4	APIPZ-7	Water	10/26/21 16:18	10/28/21 16:00
180-129304-1	APIPZ-10	Water	10/27/21 16:38	10/30/21 10:30
180-129304-2	EB-2	Water	10/28/21 11:00	10/30/21 10:30
180-129304-3	APIPZ-9	Water	10/28/21 14:40	10/30/21 10:30
180-129304-4	APIPZ-11	Water	10/28/21 18:36	10/30/21 10:30
180-129304-5	APIPZ-3	Water	10/29/21 11:34	10/30/21 10:30
180-129306-1	APIPZ-4	Water	10/27/21 15:10	10/30/21 10:30
180-129306-2	APIPZ-1	Water	10/28/21 13:10	10/30/21 10:30
180-129306-3	APIPZ-2	Water	10/28/21 17:50	10/30/21 10:30
180-129306-4	APIPZ-5	Water	10/29/21 11:05	10/30/21 10:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
Field Sampling	Field Sampling	EPA	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

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

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: AP1GWA-1

Lab Sample ID: 180-129189-1

Date Collected: 10/26/21 12:35

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 08:24	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377832	11/05/21 12:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377936	11/06/21 12:14	RSK	TAL PIT
	Instrument ID: NEMO									
Total/NA	Prep	7470A			25 mL	25 mL	377670	11/04/21 13:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377857	11/05/21 12:51	RJR	TAL PIT
	Instrument ID: HGZ									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/26/21 12:35	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP1GWA-2

Lab Sample ID: 180-129189-2

Date Collected: 10/26/21 14:30

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 09:13	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377832	11/05/21 12:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377936	11/06/21 12:17	RSK	TAL PIT
	Instrument ID: NEMO									
Total/NA	Prep	7470A			25 mL	25 mL	377670	11/04/21 13:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377857	11/05/21 12:53	RJR	TAL PIT
	Instrument ID: HGZ									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/26/21 14:30	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: FB-1

Lab Sample ID: 180-129189-3

Date Collected: 10/27/21 10:10

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 09:29	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377832	11/05/21 12:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377936	11/06/21 12:20	RSK	TAL PIT
	Instrument ID: NEMO									
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 14:58	RJR	TAL PIT
	Instrument ID: HGY									

Client Sample ID: FB-1

Lab Sample ID: 180-129189-3

Date Collected: 10/27/21 10:10

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT

Client Sample ID: AP1PZ-8

Lab Sample ID: 180-129189-4

Date Collected: 10/27/21 11:54

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 10:02	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		5			376935	10/29/21 10:18	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377832	11/05/21 12:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377936	11/06/21 12:23	RSK	TAL PIT
	Instrument ID: NEMO									
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 14:59	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/27/21 11:54	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EB-1

Lab Sample ID: 180-129191-1

Date Collected: 10/26/21 10:50

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 09:46	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377248	11/02/21 08:30	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377542	11/03/21 18:08	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 15:03	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-6

Lab Sample ID: 180-129191-2

Date Collected: 10/26/21 13:05

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		2.5			376935	10/29/21 11:07	J1T	TAL PIT
	Instrument ID: CHICS2100B									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-6

Date Collected: 10/26/21 13:05
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		25			376935	10/29/21 11:24	J1T	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	377248	11/02/21 08:30	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377542	11/03/21 18:13	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 15:05	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/26/21 13:05	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-1

Date Collected: 10/26/21 00:01
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		2.5			376935	10/29/21 11:40	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		25			376935	10/29/21 11:56	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377248	11/02/21 08:30	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377542	11/03/21 18:29	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 15:06	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/26/21 00:01	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-7

Date Collected: 10/26/21 16:18
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			376935	10/29/21 12:13	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		10			376935	10/29/21 12:29	J1T	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377248	11/02/21 08:30	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			377542	11/03/21 18:45	RSK	TAL PIT
	Instrument ID: A									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-7

Date Collected: 10/26/21 16:18
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			25 mL	25 mL	377215	11/01/21 12:10	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			377253	11/01/21 15:07	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377220	11/01/21 12:50	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			377481	10/26/21 16:18	FDS	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-10

Date Collected: 10/27/21 16:38
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 17:19	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		5			377100	10/31/21 17:35	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378151	11/06/21 15:33	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 10:27	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 10:59	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377385	11/02/21 14:07	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378382	10/27/21 16:38	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: EB-2

Date Collected: 10/28/21 11:00
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 17:52	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378151	11/06/21 15:37	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 10:38	RSK	TAL PIT
	Instrument ID: DORY									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: EB-2

Lab Sample ID: 180-129304-2
Date Collected: 10/28/21 11:00
Matrix: Water
Date Received: 10/30/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:00	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377385	11/02/21 14:07	KMM	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-9

Lab Sample ID: 180-129304-3
Date Collected: 10/28/21 14:40
Matrix: Water
Date Received: 10/30/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 18:08	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		5			377100	10/31/21 18:24	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378151	11/06/21 15:40	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 10:41	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:01	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378382	10/28/21 14:40	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-11

Lab Sample ID: 180-129304-4
Date Collected: 10/28/21 18:36
Matrix: Water
Date Received: 10/30/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 18:41	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378151	11/06/21 15:44	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 10:51	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:04	RJR	TAL PIT
	Instrument ID: HGY									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-11

Date Collected: 10/28/21 18:36
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
Total/NA	Analysis	Field Sampling		1			378382	10/28/21 18:36	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-3

Date Collected: 10/29/21 11:34
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 18:57	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		10			377100	10/31/21 19:13	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378151	11/06/21 15:47	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377767	11/05/21 11:00	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 10:55	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:05	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378382	10/29/21 11:34	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-4

Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 14:50	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		10			377100	10/31/21 15:07	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Dissolved	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Dissolved	Analysis	EPA 6020B		1			378338	11/09/21 12:57	RSK	TAL PIT
	Instrument ID: DORY									
Dissolved	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Dissolved	Analysis	EPA 6020B		2			378673	11/11/21 10:07	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378338	11/09/21 11:44	RSK	TAL PIT
	Instrument ID: DORY									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-4
Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		2			378673	11/11/21 09:28	RSK	TAL PIT
	Instrument ID: DORY									
Dissolved	Prep	7470A			25 mL	25 mL	378156	11/09/21 06:14	RJR	TAL PIT
Dissolved	Analysis	EPA 7470A		1			378605	11/11/21 11:14	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:06	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	377385	11/02/21 14:07	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378414	10/27/21 15:10	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-1
Date Collected: 10/28/21 13:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 15:24	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378338	11/09/21 12:22	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 09:32	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:07	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378414	10/28/21 13:10	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-2
Date Collected: 10/28/21 17:50
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 15:41	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		5			377100	10/31/21 15:57	M1D	TAL PIT
	Instrument ID: CHICS2100B									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-2

Date Collected: 10/28/21 17:50
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378338	11/09/21 12:26	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378673	11/11/21 09:35	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:08	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378414	10/28/21 17:50	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: APIPZ-5

Date Collected: 10/29/21 11:05
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			377100	10/31/21 16:46	M1D	TAL PIT
	Instrument ID: CHICS2100B									
Total/NA	Analysis	EPA 300.0 R2.1		20			377297	11/02/21 13:32	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			378338	11/09/21 12:29	RSK	TAL PIT
	Instrument ID: DORY									
Total Recoverable	Prep	3005A			50 mL	50 mL	377808	11/08/21 11:30	RGM	TAL PIT
Total Recoverable	Analysis	EPA 6020B		5			378673	11/11/21 09:39	RSK	TAL PIT
	Instrument ID: DORY									
Total/NA	Prep	7470A			25 mL	25 mL	378157	11/09/21 06:16	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			378424	11/10/21 11:09	RJR	TAL PIT
	Instrument ID: HGY									
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	377503	11/03/21 11:52	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Field Sampling		1			378414	10/29/21 11:05	KAR	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KFS = Kelly Shannon
RGM = Rebecca Manns
RJR = Ron Rosenbaum

Batch Type: Analysis

FDS = Sampler Field
J1T = Jianwu Tang
JRB = James Burzio
KAR = Kacy Reitnauer
KMM = Kendric Moore
M1D = Maureen Donlin
RJR = Ron Rosenbaum
RSK = Robert Kurtz

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: AP1GWA-1

Date Collected: 10/26/21 12:35
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1.6**		1.0	0.71	mg/L			10/29/21 08:24	1
Fluoride	**0.29**		0.10	0.026	mg/L			10/29/21 08:24	1
Sulfate	**69**	**F1**	1.0	0.76	mg/L			10/29/21 08:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 12:00	11/06/21 12:14	1
Arsenic	**0.00074**	**J**	0.0010	0.00031	mg/L		11/05/21 12:00	11/06/21 12:14	1
Barium	**0.082**		0.010	0.0016	mg/L		11/05/21 12:00	11/06/21 12:14	1
Beryllium	**0.0041**		0.0025	0.00018	mg/L		11/05/21 12:00	11/06/21 12:14	1
Boron	**0.12**		0.080	0.039	mg/L		11/05/21 12:00	11/06/21 12:14	1
Cadmium	**0.00065**	**J**	0.0025	0.00022	mg/L		11/05/21 12:00	11/06/21 12:14	1
Calcium	**22**		0.50	0.13	mg/L		11/05/21 12:00	11/06/21 12:14	1
Chromium	**0.0036**		0.0020	0.0015	mg/L		11/05/21 12:00	11/06/21 12:14	1
Cobalt	**0.015**		0.0025	0.00013	mg/L		11/05/21 12:00	11/06/21 12:14	1
Lead	**0.00013**	**J**	0.0010	0.00013	mg/L		11/05/21 12:00	11/06/21 12:14	1
Lithium	**0.019**		0.0050	0.0034	mg/L		11/05/21 12:00	11/06/21 12:14	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 12:00	11/06/21 12:14	1
Selenium	**0.0023**	**J**	0.0050	0.0015	mg/L		11/05/21 12:00	11/06/21 12:14	1
Thallium	**0.00017**	**J**	0.0010	0.00015	mg/L		11/05/21 12:00	11/06/21 12:14	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/04/21 13:40	11/05/21 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**160**		10	10	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**4.76**				SU			10/26/21 12:35	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: AP1GWA-2

Date Collected: 10/26/21 14:30
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.1**		1.0	0.71	mg/L			10/29/21 09:13	1
Fluoride	**0.074**	**J**	0.10	0.026	mg/L			10/29/21 09:13	1
Sulfate	**1.5**		1.0	0.76	mg/L			10/29/21 09:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 12:00	11/06/21 12:17	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 12:00	11/06/21 12:17	1
Barium	**0.027**		0.010	0.0016	mg/L		11/05/21 12:00	11/06/21 12:17	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 12:00	11/06/21 12:17	1
Boron	<0.039		0.080	0.039	mg/L		11/05/21 12:00	11/06/21 12:17	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 12:00	11/06/21 12:17	1
Calcium	**4.5**		0.50	0.13	mg/L		11/05/21 12:00	11/06/21 12:17	1
Chromium	**0.0072**		0.0020	0.0015	mg/L		11/05/21 12:00	11/06/21 12:17	1
Cobalt	**0.00029**	**J**	0.0025	0.00013	mg/L		11/05/21 12:00	11/06/21 12:17	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 12:00	11/06/21 12:17	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 12:00	11/06/21 12:17	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 12:00	11/06/21 12:17	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 12:00	11/06/21 12:17	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 12:00	11/06/21 12:17	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/04/21 13:40	11/05/21 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**65**		10	10	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.98**				SU			10/26/21 14:30	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: FB-1
Date Collected: 10/27/21 10:10
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-3
Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/29/21 09:29	1
Fluoride	<0.026		0.10	0.026	mg/L			10/29/21 09:29	1
Sulfate	<0.76		1.0	0.76	mg/L			10/29/21 09:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 12:00	11/06/21 12:20	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 12:00	11/06/21 12:20	1
Barium	<0.0016		0.010	0.0016	mg/L		11/05/21 12:00	11/06/21 12:20	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 12:00	11/06/21 12:20	1
Boron	<0.039		0.080	0.039	mg/L		11/05/21 12:00	11/06/21 12:20	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 12:00	11/06/21 12:20	1
Calcium	<0.13		0.50	0.13	mg/L		11/05/21 12:00	11/06/21 12:20	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 12:00	11/06/21 12:20	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/05/21 12:00	11/06/21 12:20	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 12:00	11/06/21 12:20	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 12:00	11/06/21 12:20	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 12:00	11/06/21 12:20	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 12:00	11/06/21 12:20	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 12:00	11/06/21 12:20	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 14:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/01/21 12:50	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: AP1PZ-8

Date Collected: 10/27/21 11:54
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.9**		1.0	0.71	mg/L			10/29/21 10:02	1
Fluoride	**0.25**		0.10	0.026	mg/L			10/29/21 10:02	1
Sulfate	**660**		5.0	3.8	mg/L			10/29/21 10:18	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 12:00	11/06/21 12:23	1
Arsenic	**0.00066**	**J**	0.0010	0.00031	mg/L		11/05/21 12:00	11/06/21 12:23	1
Barium	**0.076**		0.010	0.0016	mg/L		11/05/21 12:00	11/06/21 12:23	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 12:00	11/06/21 12:23	1
Boron	**2.5**		0.080	0.039	mg/L		11/05/21 12:00	11/06/21 12:23	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 12:00	11/06/21 12:23	1
Calcium	**300**		0.50	0.13	mg/L		11/05/21 12:00	11/06/21 12:23	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 12:00	11/06/21 12:23	1
Cobalt	**0.00068**	**J**	0.0025	0.00013	mg/L		11/05/21 12:00	11/06/21 12:23	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 12:00	11/06/21 12:23	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 12:00	11/06/21 12:23	1
Molybdenum	**0.47**		0.015	0.00061	mg/L		11/05/21 12:00	11/06/21 12:23	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 12:00	11/06/21 12:23	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 12:00	11/06/21 12:23	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 14:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1300**		10	10	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.67**				SU			10/27/21 11:54	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: EB-1

Date Collected: 10/26/21 10:50
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/29/21 09:46	1
Fluoride	<0.026		0.10	0.026	mg/L			10/29/21 09:46	1
Sulfate	<0.76		1.0	0.76	mg/L			10/29/21 09:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/02/21 08:30	11/03/21 18:08	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/02/21 08:30	11/03/21 18:08	1
Barium	<0.0016		0.010	0.0016	mg/L		11/02/21 08:30	11/03/21 18:08	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/02/21 08:30	11/03/21 18:08	1
Boron	<0.039		0.080	0.039	mg/L		11/02/21 08:30	11/03/21 18:08	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/02/21 08:30	11/03/21 18:08	1
Calcium	<0.13		0.50	0.13	mg/L		11/02/21 08:30	11/03/21 18:08	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/02/21 08:30	11/03/21 18:08	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/02/21 08:30	11/03/21 18:08	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/02/21 08:30	11/03/21 18:08	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/02/21 08:30	11/03/21 18:08	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/02/21 08:30	11/03/21 18:08	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/02/21 08:30	11/03/21 18:08	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/02/21 08:30	11/03/21 18:08	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 15:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/01/21 12:50	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-6

Date Collected: 10/26/21 13:05
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10		2.5	1.8	mg/L			10/29/21 11:07	2.5
Fluoride	0.13	J	0.25	0.065	mg/L			10/29/21 11:07	2.5
Sulfate	2200		25	19	mg/L			10/29/21 11:24	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/02/21 08:30	11/03/21 18:13	1
Arsenic	0.0014		0.0010	0.00031	mg/L		11/02/21 08:30	11/03/21 18:13	1
Barium	0.031		0.010	0.0016	mg/L		11/02/21 08:30	11/03/21 18:13	1
Beryllium	0.00021	J	0.0025	0.00018	mg/L		11/02/21 08:30	11/03/21 18:13	1
Boron	6.5	B	0.080	0.039	mg/L		11/02/21 08:30	11/03/21 18:13	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/02/21 08:30	11/03/21 18:13	1
Calcium	420		0.50	0.13	mg/L		11/02/21 08:30	11/03/21 18:13	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/02/21 08:30	11/03/21 18:13	1
Cobalt	0.40		0.0025	0.00013	mg/L		11/02/21 08:30	11/03/21 18:13	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/02/21 08:30	11/03/21 18:13	1
Lithium	0.0057		0.0050	0.0034	mg/L		11/02/21 08:30	11/03/21 18:13	1
Molybdenum	0.00076	J	0.015	0.00061	mg/L		11/02/21 08:30	11/03/21 18:13	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/02/21 08:30	11/03/21 18:13	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/02/21 08:30	11/03/21 18:13	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3100		20	20	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.66				SU			10/26/21 13:05	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: DUP-1
Date Collected: 10/26/21 00:01
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-3
Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10**		2.5	1.8	mg/L			10/29/21 11:40	2.5
Fluoride	**0.11**	**J**	0.25	0.065	mg/L			10/29/21 11:40	2.5
Sulfate	**2400**		25	19	mg/L			10/29/21 11:56	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/02/21 08:30	11/03/21 18:29	1
Arsenic	**0.0016**		0.0010	0.00031	mg/L		11/02/21 08:30	11/03/21 18:29	1
Barium	**0.030**		0.010	0.0016	mg/L		11/02/21 08:30	11/03/21 18:29	1
Beryllium	**0.00023**	**J**	0.0025	0.00018	mg/L		11/02/21 08:30	11/03/21 18:29	1
Boron	**6.9**	**B**	0.080	0.039	mg/L		11/02/21 08:30	11/03/21 18:29	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/02/21 08:30	11/03/21 18:29	1
Calcium	**420**		0.50	0.13	mg/L		11/02/21 08:30	11/03/21 18:29	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/02/21 08:30	11/03/21 18:29	1
Cobalt	**0.40**		0.0025	0.00013	mg/L		11/02/21 08:30	11/03/21 18:29	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/02/21 08:30	11/03/21 18:29	1
Lithium	**0.0057**		0.0050	0.0034	mg/L		11/02/21 08:30	11/03/21 18:29	1
Molybdenum	**0.00081**	**J**	0.015	0.00061	mg/L		11/02/21 08:30	11/03/21 18:29	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/02/21 08:30	11/03/21 18:29	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/02/21 08:30	11/03/21 18:29	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3100**		20	20	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.66**				SU			10/26/21 00:01	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-7

Date Collected: 10/26/21 16:18
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.8**		1.0	0.71	mg/L			10/29/21 12:13	1
Fluoride	**0.15**		0.10	0.026	mg/L			10/29/21 12:13	1
Sulfate	**1300**		10	7.6	mg/L			10/29/21 12:29	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/02/21 08:30	11/03/21 18:45	1
Arsenic	**0.0017**		0.0010	0.00031	mg/L		11/02/21 08:30	11/03/21 18:45	1
Barium	**0.077**		0.010	0.0016	mg/L		11/02/21 08:30	11/03/21 18:45	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/02/21 08:30	11/03/21 18:45	1
Boron	**2.0**	**B**	0.080	0.039	mg/L		11/02/21 08:30	11/03/21 18:45	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/02/21 08:30	11/03/21 18:45	1
Calcium	**310**		0.50	0.13	mg/L		11/02/21 08:30	11/03/21 18:45	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/02/21 08:30	11/03/21 18:45	1
Cobalt	**0.0036**		0.0025	0.00013	mg/L		11/02/21 08:30	11/03/21 18:45	1
Lead	**0.00051**	**J**	0.0010	0.00013	mg/L		11/02/21 08:30	11/03/21 18:45	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/02/21 08:30	11/03/21 18:45	1
Molybdenum	**0.0030**	**J**	0.015	0.00061	mg/L		11/02/21 08:30	11/03/21 18:45	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/02/21 08:30	11/03/21 18:45	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/02/21 08:30	11/03/21 18:45	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2000**		10	10	mg/L			11/01/21 12:50	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.45**				SU			10/26/21 16:18	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-10

Date Collected: 10/27/21 16:38
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.5**		1.0	0.71	mg/L			10/31/21 17:19	1
Fluoride	**0.40**		0.10	0.026	mg/L			10/31/21 17:19	1
Sulfate	**300**		5.0	3.8	mg/L			10/31/21 17:35	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00038**	**J**	0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 15:33	1
Arsenic	**0.0030**		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 15:33	1
Barium	**0.039**		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 15:33	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 15:33	1
Boron	**0.36**		0.080	0.039	mg/L		11/05/21 11:00	11/11/21 10:27	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 15:33	1
Calcium	**94**		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 15:33	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 15:33	1
Cobalt	**0.0018**	**J**	0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 15:33	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 15:33	1
Lithium	**0.013**		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 15:33	1
Molybdenum	**0.0045**	**J**	0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 15:33	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 15:33	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 15:33	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 10:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**520**		10	10	mg/L			11/02/21 14:07	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.58**				SU			10/27/21 16:38	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: EB-2
Date Collected: 10/28/21 11:00
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-2
Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/31/21 17:52	1
Fluoride	<0.026		0.10	0.026	mg/L			10/31/21 17:52	1
Sulfate	<0.76		1.0	0.76	mg/L			10/31/21 17:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 15:37	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 15:37	1
Barium	<0.0016		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 15:37	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 15:37	1
Boron	<0.039		0.080	0.039	mg/L		11/05/21 11:00	11/11/21 10:38	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 15:37	1
Calcium	<0.13		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 15:37	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 15:37	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 15:37	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 15:37	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 15:37	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 15:37	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 15:37	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 15:37	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/02/21 14:07	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-9

Date Collected: 10/28/21 14:40
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		1.0	0.71	mg/L			10/31/21 18:08	1
Fluoride	0.45		0.10	0.026	mg/L			10/31/21 18:08	1
Sulfate	300		5.0	3.8	mg/L			10/31/21 18:24	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00057	J	0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 15:40	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 15:40	1
Barium	0.035		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 15:40	1
Beryllium	0.00029	J	0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 15:40	1
Boron	0.75		0.080	0.039	mg/L		11/05/21 11:00	11/11/21 10:41	1
Cadmium	0.00055	J	0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 15:40	1
Calcium	69		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 15:40	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 15:40	1
Cobalt	0.079		0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 15:40	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 15:40	1
Lithium	0.099		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 15:40	1
Molybdenum	0.00068	J	0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 15:40	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 15:40	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 15:40	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	510		10	10	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.49				SU			10/28/21 14:40	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-11

Date Collected: 10/28/21 18:36
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.0**		1.0	0.71	mg/L			10/31/21 18:41	1
Fluoride	**0.15**		0.10	0.026	mg/L			10/31/21 18:41	1
Sulfate	**60**		1.0	0.76	mg/L			10/31/21 18:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00058**	**J**	0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 15:44	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 15:44	1
Barium	**0.020**		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 15:44	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 15:44	1
Boron	**0.16**		0.080	0.039	mg/L		11/05/21 11:00	11/11/21 10:51	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 15:44	1
Calcium	**25**		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 15:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 15:44	1
Cobalt	**0.00044**	**J**	0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 15:44	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 15:44	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 15:44	1
Molybdenum	**0.0022**	**J**	0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 15:44	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 15:44	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 15:44	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**190**		10	10	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.78**				SU			10/28/21 18:36	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-3

Date Collected: 10/29/21 11:34
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-5

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.7		1.0	0.71	mg/L			10/31/21 18:57	1
Fluoride	0.088	J	0.10	0.026	mg/L			10/31/21 18:57	1
Sulfate	1300		10	7.6	mg/L			10/31/21 19:13	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 15:47	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 15:47	1
Barium	0.028		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 15:47	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 15:47	1
Boron	1.6		0.080	0.039	mg/L		11/05/21 11:00	11/11/21 10:55	1
Cadmium	0.00077	J	0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 15:47	1
Calcium	370		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 15:47	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 15:47	1
Cobalt	0.056		0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 15:47	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 15:47	1
Lithium	0.058		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 15:47	1
Molybdenum	0.00086	J	0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 15:47	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 15:47	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 15:47	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		10	10	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.60				SU			10/29/21 11:34	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-4

Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.9**		1.0	0.71	mg/L			10/31/21 14:50	1
Fluoride	**0.20**		0.10	0.026	mg/L			10/31/21 14:50	1
Sulfate	**1300**		10	7.6	mg/L			10/31/21 15:07	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 11:44	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 11:44	1
Barium	**0.070**		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 11:44	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 11:44	1
Boron	**3.7**		0.16	0.077	mg/L		11/08/21 11:30	11/11/21 09:28	2
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 11:44	1
Calcium	**400**		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 11:44	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 11:44	1
Cobalt	**0.0013**	**J**	0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 11:44	1
Lead	**0.00026**	**J B**	0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 11:44	1
Lithium	**0.0073**		0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 11:44	1
Molybdenum	**0.0085**	**J**	0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 11:44	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 11:44	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 11:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 12:57	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 12:57	1
Barium	**0.062**		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 12:57	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 12:57	1
Boron	**3.7**		0.16	0.077	mg/L		11/08/21 11:30	11/11/21 10:07	2
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 12:57	1
Calcium	**360**		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 12:57	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 12:57	1
Cobalt	**0.0013**	**J**	0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 12:57	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 12:57	1
Lithium	**0.0066**		0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 12:57	1
Molybdenum	**0.0073**	**J**	0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 12:57	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 12:57	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 12:57	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:14	11/11/21 11:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2000**		20	20	mg/L			11/02/21 14:07	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-4
Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1
Matrix: Water

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.47				SU			10/27/21 15:10	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-1

Date Collected: 10/28/21 13:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2.9**		1.0	0.71	mg/L			10/31/21 15:24	1
Fluoride	**0.076**	**J**	0.10	0.026	mg/L			10/31/21 15:24	1
Sulfate	**100**		1.0	0.76	mg/L			10/31/21 15:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 12:22	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 12:22	1
Barium	**0.058**		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 12:22	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 12:22	1
Boron	**0.41**		0.080	0.039	mg/L		11/08/21 11:30	11/11/21 09:32	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 12:22	1
Calcium	**33**		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 12:22	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 12:22	1
Cobalt	**0.00073**	**J**	0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 12:22	1
Lead	**0.00013**	**J B**	0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 12:22	1
Lithium	**0.0038**	**J**	0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 12:22	1
Molybdenum	**0.00096**	**J**	0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 12:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 12:22	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 12:22	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**250**		10	10	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.44**				SU			10/28/21 13:10	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-2

Date Collected: 10/28/21 17:50
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4.0**		1.0	0.71	mg/L			10/31/21 15:41	1
Fluoride	**0.13**		0.10	0.026	mg/L			10/31/21 15:41	1
Sulfate	**820**		5.0	3.8	mg/L			10/31/21 15:57	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 12:26	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 12:26	1
Barium	**0.024**		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 12:26	1
Beryllium	**0.00047**	**J**	0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 12:26	1
Boron	**0.48**		0.080	0.039	mg/L		11/08/21 11:30	11/11/21 09:35	1
Cadmium	**0.00084**	**J**	0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 12:26	1
Calcium	**190**		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 12:26	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 12:26	1
Cobalt	**0.19**		0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 12:26	1
Lead	**0.00043**	**J B**	0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 12:26	1
Lithium	**0.021**		0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 12:26	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 12:26	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 12:26	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 12:26	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1200**		10	10	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.86**				SU			10/28/21 17:50	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-1

Client Sample ID: APIPZ-5

Date Collected: 10/29/21 11:05
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.9**		1.0	0.71	mg/L			10/31/21 16:46	1
Fluoride	**0.32**		0.10	0.026	mg/L			10/31/21 16:46	1
Sulfate	**1900**		20	15	mg/L			11/02/21 13:32	20

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 12:29	1
Arsenic	**0.0011**		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 12:29	1
Barium	**0.080**		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 12:29	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 12:29	1
Boron	**6.5**		0.40	0.19	mg/L		11/08/21 11:30	11/11/21 09:39	5
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 12:29	1
Calcium	**590**		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 12:29	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 12:29	1
Cobalt	**0.018**		0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 12:29	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 12:29	1
Lithium	**0.13**		0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 12:29	1
Molybdenum	**0.031**		0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 12:29	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 12:29	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 12:29	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 11:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2800**		20	20	mg/L			11/03/21 11:52	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.36**				SU			10/29/21 11:05	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 180-376935/6
Matrix: Water
Analysis Batch: 376935

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/29/21 08:08	1
Fluoride	<0.026		0.10	0.026	mg/L			10/29/21 08:08	1
Sulfate	<0.76		1.0	0.76	mg/L			10/29/21 08:08	1

Lab Sample ID: LCS 180-376935/5
Matrix: Water
Analysis Batch: 376935

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.2		mg/L		100	90 - 110
Fluoride	2.50	2.55		mg/L		102	90 - 110
Sulfate	50.0	49.4		mg/L		99	90 - 110

Lab Sample ID: 180-129189-1 MS
Matrix: Water
Analysis Batch: 376935

Client Sample ID: AP1GWA-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.6		50.0	52.4		mg/L		102	90 - 110
Fluoride	0.29		2.50	2.82		mg/L		101	90 - 110
Sulfate	69	F1	50.0	118		mg/L		99	90 - 110

Lab Sample ID: 180-129189-1 MSD
Matrix: Water
Analysis Batch: 376935

Client Sample ID: AP1GWA-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.6		50.0	50.2		mg/L		97	90 - 110	4	20
Fluoride	0.29		2.50	2.66		mg/L		95	90 - 110	6	20
Sulfate	69	F1	50.0	113	F1	mg/L		89	90 - 110	4	20

Lab Sample ID: MB 180-377100/7
Matrix: Water
Analysis Batch: 377100

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/31/21 13:42	1
Fluoride	<0.026		0.10	0.026	mg/L			10/31/21 13:42	1
Sulfate	<0.76		1.0	0.76	mg/L			10/31/21 13:42	1

Lab Sample ID: LCS 180-377100/6
Matrix: Water
Analysis Batch: 377100

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.3		mg/L		99	90 - 110
Fluoride	2.50	2.51		mg/L		101	90 - 110
Sulfate	50.0	48.3		mg/L		97	90 - 110

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 180-377297/7
Matrix: Water
Analysis Batch: 377297

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			11/02/21 10:15	1
Fluoride	<0.026		0.10	0.026	mg/L			11/02/21 10:15	1
Sulfate	<0.76		1.0	0.76	mg/L			11/02/21 10:15	1

Lab Sample ID: LCS 180-377297/6
Matrix: Water
Analysis Batch: 377297

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.4		mg/L		99	90 - 110
Fluoride	2.50	2.40		mg/L		96	90 - 110
Sulfate	50.0	47.9		mg/L		96	90 - 110

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

Lab Sample ID: MB 180-377248/1-A
Matrix: Water
Analysis Batch: 377542

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/02/21 08:30	11/03/21 16:22	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/02/21 08:30	11/03/21 16:22	1
Barium	<0.0016		0.010	0.0016	mg/L		11/02/21 08:30	11/03/21 16:22	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/02/21 08:30	11/03/21 16:22	1
Boron	0.0594	J	0.080	0.039	mg/L		11/02/21 08:30	11/03/21 16:22	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/02/21 08:30	11/03/21 16:22	1
Calcium	<0.13		0.50	0.13	mg/L		11/02/21 08:30	11/03/21 16:22	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/02/21 08:30	11/03/21 16:22	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/02/21 08:30	11/03/21 16:22	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/02/21 08:30	11/03/21 16:22	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/02/21 08:30	11/03/21 16:22	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/02/21 08:30	11/03/21 16:22	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/02/21 08:30	11/03/21 16:22	1
Thallium	0.000280	J	0.0010	0.00015	mg/L		11/02/21 08:30	11/03/21 16:22	1

Lab Sample ID: LCS 180-377248/2-A
Matrix: Water
Analysis Batch: 377542

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.251		mg/L		100	80 - 120
Arsenic	1.00	1.04		mg/L		104	80 - 120
Barium	1.00	1.04		mg/L		104	80 - 120
Beryllium	0.500	0.502		mg/L		100	80 - 120
Boron	1.25	1.24		mg/L		99	80 - 120
Cadmium	0.500	0.523		mg/L		105	80 - 120
Calcium	25.0	26.0		mg/L		104	80 - 120
Chromium	0.500	0.507		mg/L		101	80 - 120
Cobalt	0.500	0.527		mg/L		105	80 - 120

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

Lab Sample ID: LCS 180-377248/2-A
Matrix: Water
Analysis Batch: 377542

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.500	0.510		mg/L		102	80 - 120
Lithium	0.500	0.493		mg/L		99	80 - 120
Molybdenum	0.500	0.528		mg/L		106	80 - 120
Selenium	1.00	1.01		mg/L		101	80 - 120
Thallium	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: MB 180-377767/1-A
Matrix: Water
Analysis Batch: 378151

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 11:00	11/06/21 13:12	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 11:00	11/06/21 13:12	1
Barium	<0.0016		0.010	0.0016	mg/L		11/05/21 11:00	11/06/21 13:12	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 11:00	11/06/21 13:12	1
Boron	<0.039		0.080	0.039	mg/L		11/05/21 11:00	11/06/21 13:12	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 11:00	11/06/21 13:12	1
Calcium	<0.13		0.50	0.13	mg/L		11/05/21 11:00	11/06/21 13:12	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 11:00	11/06/21 13:12	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/05/21 11:00	11/06/21 13:12	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 11:00	11/06/21 13:12	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 11:00	11/06/21 13:12	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 11:00	11/06/21 13:12	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 11:00	11/06/21 13:12	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 11:00	11/06/21 13:12	1

Lab Sample ID: LCS 180-377767/2-A
Matrix: Water
Analysis Batch: 378151

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.250		mg/L		100	80 - 120
Arsenic	1.00	1.05		mg/L		105	80 - 120
Barium	1.00	1.04		mg/L		104	80 - 120
Beryllium	0.500	0.527		mg/L		105	80 - 120
Boron	1.25	1.15		mg/L		92	80 - 120
Cadmium	0.500	0.521		mg/L		104	80 - 120
Calcium	25.0	27.4		mg/L		110	80 - 120
Chromium	0.500	0.510		mg/L		102	80 - 120
Cobalt	0.500	0.519		mg/L		104	80 - 120
Lead	0.500	0.523		mg/L		105	80 - 120
Lithium	0.500	0.502		mg/L		100	80 - 120
Molybdenum	0.500	0.532		mg/L		106	80 - 120
Selenium	1.00	1.05		mg/L		105	80 - 120
Thallium	1.00	1.11		mg/L		111	80 - 120

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

Lab Sample ID: MB 180-377808/1-A
Matrix: Water
Analysis Batch: 378338

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/08/21 11:30	11/09/21 11:27	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/08/21 11:30	11/09/21 11:27	1
Barium	<0.0016		0.010	0.0016	mg/L		11/08/21 11:30	11/09/21 11:27	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/08/21 11:30	11/09/21 11:27	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/08/21 11:30	11/09/21 11:27	1
Calcium	<0.13		0.50	0.13	mg/L		11/08/21 11:30	11/09/21 11:27	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/08/21 11:30	11/09/21 11:27	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/08/21 11:30	11/09/21 11:27	1
Lead	0.000188	J	0.0010	0.00013	mg/L		11/08/21 11:30	11/09/21 11:27	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/08/21 11:30	11/09/21 11:27	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/08/21 11:30	11/09/21 11:27	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/08/21 11:30	11/09/21 11:27	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/08/21 11:30	11/09/21 11:27	1

Lab Sample ID: MB 180-377808/1-A
Matrix: Water
Analysis Batch: 378673

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		11/08/21 11:30	11/11/21 09:22	1

Lab Sample ID: LCS 180-377808/2-A
Matrix: Water
Analysis Batch: 378338

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.245		mg/L		98	80 - 120
Arsenic	1.00	0.988		mg/L		99	80 - 120
Barium	1.00	0.997		mg/L		100	80 - 120
Beryllium	0.500	0.489		mg/L		98	80 - 120
Cadmium	0.500	0.499		mg/L		100	80 - 120
Calcium	25.0	27.8		mg/L		111	80 - 120
Chromium	0.500	0.488		mg/L		98	80 - 120
Cobalt	0.500	0.503		mg/L		101	80 - 120
Lead	0.500	0.494		mg/L		99	80 - 120
Lithium	0.500	0.473		mg/L		95	80 - 120
Molybdenum	0.500	0.514		mg/L		103	80 - 120
Selenium	1.00	0.987		mg/L		99	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: LCS 180-377808/2-A
Matrix: Water
Analysis Batch: 378673

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.25	1.18		mg/L		95	80 - 120

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

Lab Sample ID: 180-129306-1 MS
Matrix: Water
Analysis Batch: 378338

Client Sample ID: APIPZ-4
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.00038		0.250	0.244		mg/L		97	75 - 125
Arsenic	<0.00031		1.00	1.03		mg/L		103	75 - 125
Barium	0.070		1.00	1.07		mg/L		100	75 - 125
Beryllium	<0.00018		0.500	0.490		mg/L		98	75 - 125
Cadmium	<0.00022		0.500	0.491		mg/L		98	75 - 125
Calcium	400		25.0	413	4	mg/L		71	75 - 125
Chromium	<0.0015		0.500	0.483		mg/L		97	75 - 125
Cobalt	0.0013	J	0.500	0.510		mg/L		102	75 - 125
Lead	0.00026	J B	0.500	0.494		mg/L		99	75 - 125
Lithium	0.0073		0.500	0.481		mg/L		95	75 - 125
Molybdenum	0.0085	J	0.500	0.540		mg/L		106	75 - 125
Selenium	<0.0015		1.00	0.988		mg/L		99	75 - 125
Thallium	<0.00015		1.00	1.04		mg/L		104	75 - 125

Lab Sample ID: 180-129306-1 MSD
Matrix: Water
Analysis Batch: 378338

Client Sample ID: APIPZ-4
Prep Type: Total Recoverable
Prep Batch: 377808

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.00038		0.250	0.243		mg/L		97	75 - 125	0	20
Arsenic	<0.00031		1.00	1.02		mg/L		102	75 - 125	1	20
Barium	0.070		1.00	1.07		mg/L		100	75 - 125	1	20
Beryllium	<0.00018		0.500	0.495		mg/L		99	75 - 125	1	20
Cadmium	<0.00022		0.500	0.493		mg/L		99	75 - 125	0	20
Calcium	400		25.0	412	4	mg/L		66	75 - 125	0	20
Chromium	<0.0015		0.500	0.485		mg/L		97	75 - 125	0	20
Cobalt	0.0013	J	0.500	0.509		mg/L		102	75 - 125	0	20
Lead	0.00026	J B	0.500	0.490		mg/L		98	75 - 125	1	20
Lithium	0.0073		0.500	0.481		mg/L		95	75 - 125	0	20
Molybdenum	0.0085	J	0.500	0.537		mg/L		106	75 - 125	0	20
Selenium	<0.0015		1.00	0.976		mg/L		98	75 - 125	1	20
Thallium	<0.00015		1.00	1.03		mg/L		103	75 - 125	0	20

Lab Sample ID: MB 180-377832/1-A
Matrix: Water
Analysis Batch: 377936

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377832

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		11/05/21 12:00	11/06/21 12:09	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		11/05/21 12:00	11/06/21 12:09	1
Barium	<0.0016		0.010	0.0016	mg/L		11/05/21 12:00	11/06/21 12:09	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		11/05/21 12:00	11/06/21 12:09	1
Boron	<0.039		0.080	0.039	mg/L		11/05/21 12:00	11/06/21 12:09	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		11/05/21 12:00	11/06/21 12:09	1
Calcium	<0.13		0.50	0.13	mg/L		11/05/21 12:00	11/06/21 12:09	1
Chromium	<0.0015		0.0020	0.0015	mg/L		11/05/21 12:00	11/06/21 12:09	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		11/05/21 12:00	11/06/21 12:09	1
Lead	<0.00013		0.0010	0.00013	mg/L		11/05/21 12:00	11/06/21 12:09	1
Lithium	<0.0034		0.0050	0.0034	mg/L		11/05/21 12:00	11/06/21 12:09	1

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

Lab Sample ID: MB 180-377832/1-A
Matrix: Water
Analysis Batch: 377936

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377832

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<0.00061		0.015	0.00061	mg/L		11/05/21 12:00	11/06/21 12:09	1
Selenium	<0.0015		0.0050	0.0015	mg/L		11/05/21 12:00	11/06/21 12:09	1
Thallium	<0.00015		0.0010	0.00015	mg/L		11/05/21 12:00	11/06/21 12:09	1

Lab Sample ID: LCS 180-377832/2-A
Matrix: Water
Analysis Batch: 377936

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.234		mg/L		93	80 - 120
Arsenic	1.00	0.969		mg/L		97	80 - 120
Barium	1.00	0.988		mg/L		99	80 - 120
Beryllium	0.500	0.548		mg/L		110	80 - 120
Boron	1.25	1.15		mg/L		92	80 - 120
Cadmium	0.500	0.504		mg/L		101	80 - 120
Calcium	25.0	28.9		mg/L		115	80 - 120
Chromium	0.500	0.504		mg/L		101	80 - 120
Cobalt	0.500	0.487		mg/L		97	80 - 120
Lead	0.500	0.511		mg/L		102	80 - 120
Lithium	0.500	0.489		mg/L		98	80 - 120
Molybdenum	0.500	0.515		mg/L		103	80 - 120
Selenium	1.00	1.12		mg/L		112	80 - 120
Thallium	1.00	0.988		mg/L		99	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-377215/1-A
Matrix: Water
Analysis Batch: 377253

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 377215

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/01/21 12:10	11/01/21 14:50	1

Lab Sample ID: LCS 180-377215/2-A
Matrix: Water
Analysis Batch: 377253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 377215

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00275		mg/L		110	80 - 120

Lab Sample ID: MB 180-377670/1-A
Matrix: Water
Analysis Batch: 377857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 377670

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/04/21 13:40	11/05/21 12:42	1

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

Lab Sample ID: LCS 180-377670/2-A
Matrix: Water
Analysis Batch: 377857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 377670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00234		mg/L		94	80 - 120

Lab Sample ID: MB 180-378156/1-A
Matrix: Water
Analysis Batch: 378605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 378156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:14	11/11/21 10:55	1

Lab Sample ID: LCS 180-378156/2-A
Matrix: Water
Analysis Batch: 378605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 378156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00259		mg/L		104	80 - 120

Lab Sample ID: MB 180-378157/1-A
Matrix: Water
Analysis Batch: 378424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 378157

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00013		0.00020	0.00013	mg/L		11/09/21 06:16	11/10/21 10:43	1

Lab Sample ID: LCS 180-378157/2-A
Matrix: Water
Analysis Batch: 378424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 378157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00246		mg/L		98	80 - 120

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

Lab Sample ID: MB 180-377220/2
Matrix: Water
Analysis Batch: 377220

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/01/21 12:50	1

Lab Sample ID: LCS 180-377220/1
Matrix: Water
Analysis Batch: 377220

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	422	502		mg/L		119	80 - 120

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

Lab Sample ID: 180-129191-4 DU
Matrix: Water
Analysis Batch: 377220

Client Sample ID: APIPZ-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2000			1940		mg/L				2	10

Lab Sample ID: MB 180-377385/2
Matrix: Water
Analysis Batch: 377385

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/02/21 14:07	1

Lab Sample ID: LCS 180-377385/1
Matrix: Water
Analysis Batch: 377385

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			422	402		mg/L		95	80 - 120		

Lab Sample ID: MB 180-377503/2
Matrix: Water
Analysis Batch: 377503

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			11/03/21 11:52	1

Lab Sample ID: LCS 180-377503/1
Matrix: Water
Analysis Batch: 377503

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			422	400		mg/L		95	80 - 120		

Lab Sample ID: 180-129304-3 DU
Matrix: Water
Analysis Batch: 377503

Client Sample ID: APIPZ-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	510			554		mg/L				8	10

HPLC/IC

Analysis Batch: 376935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	EPA 300.0 R2.1	
180-129189-2	AP1GWA-2	Total/NA	Water	EPA 300.0 R2.1	
180-129189-3	FB-1	Total/NA	Water	EPA 300.0 R2.1	
180-129189-4	AP1PZ-8	Total/NA	Water	EPA 300.0 R2.1	
180-129189-4	AP1PZ-8	Total/NA	Water	EPA 300.0 R2.1	
180-129191-1	EB-1	Total/NA	Water	EPA 300.0 R2.1	
180-129191-2	APIPZ-6	Total/NA	Water	EPA 300.0 R2.1	
180-129191-2	APIPZ-6	Total/NA	Water	EPA 300.0 R2.1	
180-129191-3	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
180-129191-3	DUP-1	Total/NA	Water	EPA 300.0 R2.1	
180-129191-4	APIPZ-7	Total/NA	Water	EPA 300.0 R2.1	
180-129191-4	APIPZ-7	Total/NA	Water	EPA 300.0 R2.1	
MB 180-376935/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-376935/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-129189-1 MS	AP1GWA-1	Total/NA	Water	EPA 300.0 R2.1	
180-129189-1 MSD	AP1GWA-1	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 377100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total/NA	Water	EPA 300.0 R2.1	
180-129304-1	APIPZ-10	Total/NA	Water	EPA 300.0 R2.1	
180-129304-2	EB-2	Total/NA	Water	EPA 300.0 R2.1	
180-129304-3	APIPZ-9	Total/NA	Water	EPA 300.0 R2.1	
180-129304-3	APIPZ-9	Total/NA	Water	EPA 300.0 R2.1	
180-129304-4	APIPZ-11	Total/NA	Water	EPA 300.0 R2.1	
180-129304-5	APIPZ-3	Total/NA	Water	EPA 300.0 R2.1	
180-129304-5	APIPZ-3	Total/NA	Water	EPA 300.0 R2.1	
180-129306-1	APIPZ-4	Total/NA	Water	EPA 300.0 R2.1	
180-129306-1	APIPZ-4	Total/NA	Water	EPA 300.0 R2.1	
180-129306-2	APIPZ-1	Total/NA	Water	EPA 300.0 R2.1	
180-129306-3	APIPZ-2	Total/NA	Water	EPA 300.0 R2.1	
180-129306-3	APIPZ-2	Total/NA	Water	EPA 300.0 R2.1	
180-129306-4	APIPZ-5	Total/NA	Water	EPA 300.0 R2.1	
MB 180-377100/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-377100/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 377297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-4	APIPZ-5	Total/NA	Water	EPA 300.0 R2.1	
MB 180-377297/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-377297/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 377215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-3	FB-1	Total/NA	Water	7470A	
180-129189-4	AP1PZ-8	Total/NA	Water	7470A	
180-129191-1	EB-1	Total/NA	Water	7470A	
180-129191-2	APIPZ-6	Total/NA	Water	7470A	
180-129191-3	DUP-1	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 377215 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-4	APIPZ-7	Total/NA	Water	7470A	
MB 180-377215/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-377215/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 377248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-1	EB-1	Total Recoverable	Water	3005A	
180-129191-2	APIPZ-6	Total Recoverable	Water	3005A	
180-129191-3	DUP-1	Total Recoverable	Water	3005A	
180-129191-4	APIPZ-7	Total Recoverable	Water	3005A	
MB 180-377248/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-377248/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 377253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-3	FB-1	Total/NA	Water	EPA 7470A	377215
180-129189-4	AP1PZ-8	Total/NA	Water	EPA 7470A	377215
180-129191-1	EB-1	Total/NA	Water	EPA 7470A	377215
180-129191-2	APIPZ-6	Total/NA	Water	EPA 7470A	377215
180-129191-3	DUP-1	Total/NA	Water	EPA 7470A	377215
180-129191-4	APIPZ-7	Total/NA	Water	EPA 7470A	377215
MB 180-377215/1-A	Method Blank	Total/NA	Water	EPA 7470A	377215
LCS 180-377215/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	377215

Analysis Batch: 377542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-1	EB-1	Total Recoverable	Water	EPA 6020B	377248
180-129191-2	APIPZ-6	Total Recoverable	Water	EPA 6020B	377248
180-129191-3	DUP-1	Total Recoverable	Water	EPA 6020B	377248
180-129191-4	APIPZ-7	Total Recoverable	Water	EPA 6020B	377248
MB 180-377248/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	377248
LCS 180-377248/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	377248

Prep Batch: 377670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	7470A	
180-129189-2	AP1GWA-2	Total/NA	Water	7470A	
MB 180-377670/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-377670/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 377767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total Recoverable	Water	3005A	
180-129304-2	EB-2	Total Recoverable	Water	3005A	
180-129304-3	APIPZ-9	Total Recoverable	Water	3005A	
180-129304-4	APIPZ-11	Total Recoverable	Water	3005A	
180-129304-5	APIPZ-3	Total Recoverable	Water	3005A	
MB 180-377767/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-377767/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals

Prep Batch: 377808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Dissolved	Water	3005A	
180-129306-1	APIPZ-4	Total Recoverable	Water	3005A	
180-129306-2	APIPZ-1	Total Recoverable	Water	3005A	
180-129306-3	APIPZ-2	Total Recoverable	Water	3005A	
180-129306-4	APIPZ-5	Total Recoverable	Water	3005A	
MB 180-377808/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-377808/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-129306-1 MS	APIPZ-4	Total Recoverable	Water	3005A	
180-129306-1 MSD	APIPZ-4	Total Recoverable	Water	3005A	

Prep Batch: 377832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total Recoverable	Water	3005A	
180-129189-2	AP1GWA-2	Total Recoverable	Water	3005A	
180-129189-3	FB-1	Total Recoverable	Water	3005A	
180-129189-4	AP1PZ-8	Total Recoverable	Water	3005A	
MB 180-377832/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-377832/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 377857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	EPA 7470A	377670
180-129189-2	AP1GWA-2	Total/NA	Water	EPA 7470A	377670
MB 180-377670/1-A	Method Blank	Total/NA	Water	EPA 7470A	377670
LCS 180-377670/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	377670

Analysis Batch: 377936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total Recoverable	Water	EPA 6020B	377832
180-129189-2	AP1GWA-2	Total Recoverable	Water	EPA 6020B	377832
180-129189-3	FB-1	Total Recoverable	Water	EPA 6020B	377832
180-129189-4	AP1PZ-8	Total Recoverable	Water	EPA 6020B	377832
MB 180-377832/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	377832
LCS 180-377832/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	377832

Analysis Batch: 378151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total Recoverable	Water	EPA 6020B	377767
180-129304-2	EB-2	Total Recoverable	Water	EPA 6020B	377767
180-129304-3	APIPZ-9	Total Recoverable	Water	EPA 6020B	377767
180-129304-4	APIPZ-11	Total Recoverable	Water	EPA 6020B	377767
180-129304-5	APIPZ-3	Total Recoverable	Water	EPA 6020B	377767
MB 180-377767/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	377767
LCS 180-377767/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	377767

Prep Batch: 378156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Dissolved	Water	7470A	
MB 180-378156/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-378156/2-A	Lab Control Sample	Total/NA	Water	7470A	

Metals

Prep Batch: 378157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total/NA	Water	7470A	
180-129304-2	EB-2	Total/NA	Water	7470A	
180-129304-3	APIPZ-9	Total/NA	Water	7470A	
180-129304-4	APIPZ-11	Total/NA	Water	7470A	
180-129304-5	APIPZ-3	Total/NA	Water	7470A	
180-129306-1	APIPZ-4	Total/NA	Water	7470A	
180-129306-2	APIPZ-1	Total/NA	Water	7470A	
180-129306-3	APIPZ-2	Total/NA	Water	7470A	
180-129306-4	APIPZ-5	Total/NA	Water	7470A	
MB 180-378157/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-378157/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 378338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Dissolved	Water	EPA 6020B	377808
180-129306-1	APIPZ-4	Total Recoverable	Water	EPA 6020B	377808
180-129306-2	APIPZ-1	Total Recoverable	Water	EPA 6020B	377808
180-129306-3	APIPZ-2	Total Recoverable	Water	EPA 6020B	377808
180-129306-4	APIPZ-5	Total Recoverable	Water	EPA 6020B	377808
MB 180-377808/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	377808
LCS 180-377808/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	377808
180-129306-1 MS	APIPZ-4	Total Recoverable	Water	EPA 6020B	377808
180-129306-1 MSD	APIPZ-4	Total Recoverable	Water	EPA 6020B	377808

Analysis Batch: 378424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total/NA	Water	EPA 7470A	378157
180-129304-2	EB-2	Total/NA	Water	EPA 7470A	378157
180-129304-3	APIPZ-9	Total/NA	Water	EPA 7470A	378157
180-129304-4	APIPZ-11	Total/NA	Water	EPA 7470A	378157
180-129304-5	APIPZ-3	Total/NA	Water	EPA 7470A	378157
180-129306-1	APIPZ-4	Total/NA	Water	EPA 7470A	378157
180-129306-2	APIPZ-1	Total/NA	Water	EPA 7470A	378157
180-129306-3	APIPZ-2	Total/NA	Water	EPA 7470A	378157
180-129306-4	APIPZ-5	Total/NA	Water	EPA 7470A	378157
MB 180-378157/1-A	Method Blank	Total/NA	Water	EPA 7470A	378157
LCS 180-378157/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	378157

Analysis Batch: 378605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Dissolved	Water	EPA 7470A	378156
MB 180-378156/1-A	Method Blank	Total/NA	Water	EPA 7470A	378156
LCS 180-378156/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	378156

Analysis Batch: 378673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total Recoverable	Water	EPA 6020B	377767
180-129304-2	EB-2	Total Recoverable	Water	EPA 6020B	377767
180-129304-3	APIPZ-9	Total Recoverable	Water	EPA 6020B	377767
180-129304-4	APIPZ-11	Total Recoverable	Water	EPA 6020B	377767
180-129304-5	APIPZ-3	Total Recoverable	Water	EPA 6020B	377767

Metals (Continued)

Analysis Batch: 378673 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Dissolved	Water	EPA 6020B	377808
180-129306-1	APIPZ-4	Total Recoverable	Water	EPA 6020B	377808
180-129306-2	APIPZ-1	Total Recoverable	Water	EPA 6020B	377808
180-129306-3	APIPZ-2	Total Recoverable	Water	EPA 6020B	377808
180-129306-4	APIPZ-5	Total Recoverable	Water	EPA 6020B	377808
MB 180-377808/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	377808
LCS 180-377808/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	377808

General Chemistry

Analysis Batch: 377220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	SM 2540C	
180-129189-2	AP1GWA-2	Total/NA	Water	SM 2540C	
180-129189-3	FB-1	Total/NA	Water	SM 2540C	
180-129189-4	AP1PZ-8	Total/NA	Water	SM 2540C	
180-129191-1	EB-1	Total/NA	Water	SM 2540C	
180-129191-2	APIPZ-6	Total/NA	Water	SM 2540C	
180-129191-3	DUP-1	Total/NA	Water	SM 2540C	
180-129191-4	APIPZ-7	Total/NA	Water	SM 2540C	
MB 180-377220/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-377220/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-129191-4 DU	APIPZ-7	Total/NA	Water	SM 2540C	

Analysis Batch: 377385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total/NA	Water	SM 2540C	
180-129304-2	EB-2	Total/NA	Water	SM 2540C	
180-129306-1	APIPZ-4	Total/NA	Water	SM 2540C	
MB 180-377385/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-377385/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 377503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-3	APIPZ-9	Total/NA	Water	SM 2540C	
180-129304-4	APIPZ-11	Total/NA	Water	SM 2540C	
180-129304-5	APIPZ-3	Total/NA	Water	SM 2540C	
180-129306-2	APIPZ-1	Total/NA	Water	SM 2540C	
180-129306-3	APIPZ-2	Total/NA	Water	SM 2540C	
180-129306-4	APIPZ-5	Total/NA	Water	SM 2540C	
MB 180-377503/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-377503/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-129304-3 DU	APIPZ-9	Total/NA	Water	SM 2540C	

Field Service / Mobile Lab

Analysis Batch: 377481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	Field Sampling	
180-129189-2	AP1GWA-2	Total/NA	Water	Field Sampling	
180-129189-4	AP1PZ-8	Total/NA	Water	Field Sampling	
180-129191-2	APIPZ-6	Total/NA	Water	Field Sampling	

Field Service / Mobile Lab (Continued)

Analysis Batch: 377481 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-3	DUP-1	Total/NA	Water	Field Sampling	
180-129191-4	APIPZ-7	Total/NA	Water	Field Sampling	

Analysis Batch: 378382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	APIPZ-10	Total/NA	Water	Field Sampling	
180-129304-3	APIPZ-9	Total/NA	Water	Field Sampling	
180-129304-4	APIPZ-11	Total/NA	Water	Field Sampling	
180-129304-5	APIPZ-3	Total/NA	Water	Field Sampling	

Analysis Batch: 378414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	APIPZ-4	Total/NA	Water	Field Sampling	
180-129306-2	APIPZ-1	Total/NA	Water	Field Sampling	
180-129306-3	APIPZ-2	Total/NA	Water	Field Sampling	
180-129306-4	APIPZ-5	Total/NA	Water	Field Sampling	

Cooler 2

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Eve Guilke	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: Standard			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N	D		
APIGWA-1	10/26/21	1235	G	W	N		X	X	X	X	X	X		4	pH = 4.76
APIGWA-2	10/26/21	1430	G	W	N		X	X	X	X	X	X		4	pH = 5.98
FB-1	10/27/21	1010	G	W	N		X	X	X	X	X	X		4	
APIPZ-8	10/27/21	1154	G	W	N		X	X	X	X	X	X		4	pH = 6.67

180-129189 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Daniel Howard	10/27/21 1401	Wood		10/27/21	
2		10/27/21 16:20	FTA		10/27/21 16:10	FTA
3		Date/Time:	Company	Received by:	10/28/21 1600	FTA Pitt

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

cooler 1

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Evan Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: Standard			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)
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			Other:
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N	D		
EB-1	10/26/21	1050	G	W	N		X	X	X	X	X	X		4	
APIPZ-6		1305	G	W	N		X	X	X	X	X	X		4	pH=5.66
DUP-1		—	G	W	N		X	X	X	X	X	X		4	pH=5.66
APIPZ-7	↓	1618	G	W	N		X	X	X	X	X	X		4	pH=6.45

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: David L Howard	Date/Time: 10/27/21 1401	Company	Received by:	16:10	Date/Time: 10/27/21	Company ETA
Relinquished by:	Date/Time: 10/27/21 16:00	Company ETA	Received by:	10/27/21	Date/Time: 16:00	Company ETA
Relinquished by:	Date/Time:	Company	Received by:		Date/Time: 10/28/21 1600	Company EDA P.A

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

Cooler 1

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins

244- ATLANTA

Client Information	Sampler: Daniel Howard/Ever Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: standard			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	~~N~~ D	D		
AP1PZ-10	10/27/21	1638	G	W	N		X	X	X	X	X	X		4	pH=6.58
EB-2	10/28/21	1100	G	W	N		X	X	X	X	X	X		4	
AP1PZ-9	↓	1440	G	W	N		X	X	X	X	X	X		4	pH=5.49
AP1PZ-11	↓	1836	G	W	N		X	X	X	X	X	X		4	pH=6.78
AP1PZ-3	10/29/21	1134	G	W	N		X	X	X	X	X	X		4	pH=5.60

180-129304 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel L Howard	10/29/21 / 1347	Wood	M. Washington	10-29-21 13:47	
[signature]	10/29/21 1700		[signature]	10/29/21 1700	
			D Watson	10-30-21 10:30	ETAPIH

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

Ver: 06/08/2021 11/24/2021

cooler 2

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Ever Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: standard			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered								Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	~~N~~ D	D									
APIPZ-4	10/27/21	1510	G	W	Y		X	X	X	X	X	X	X								4	pH=6.47
APIPZ-1	10/28/21	1310	G	W	N		X	X	X	X	X	X										pH=6.44
APIPZ-2	10/28/21	1750	G	W	N		X	X	X	X	X	X										pH=5.86
APIPZ-5	10/29/21	1105	G	W	N		X	X	X	X	X	X										pH=6.36

180-129306 Chain of Custody

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

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

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

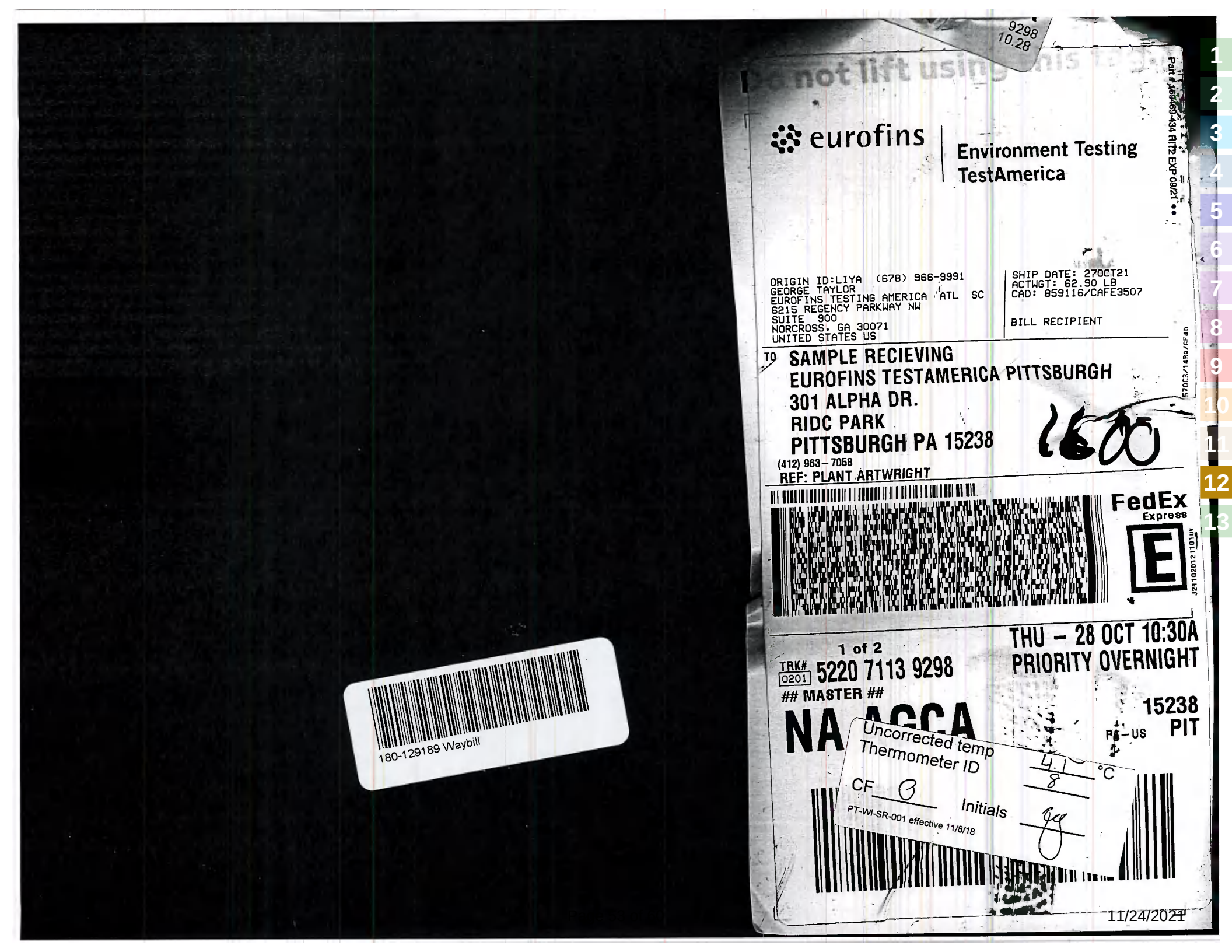
Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: Daniel L Howard	Date/Time: 10/29/21 1347	Company: Wood	Received by: M Washington	Date/Time: 10-29-21 13:47	Company
Relinquished by:	Date/Time: 10/29/21 1700	Company	Received by:	Date/Time: 10/29/21 1800	Company
Relinquished by:	Date/Time:	Company	Received by: DWatson	Date/Time: 10-30-21	Company: FEDEX

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 10:30

Ver: 06/08/2021

11/24/2021



9298
10.28

Do not lift using this tab

eurofins | Environment Testing
TestAmerica

Part # 159469-434 RIT2 EXP 09/21

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 27OCT21
ACTWGT: 62.90 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLANT ARTWRIGHT

1600

FedEx Express

E

J211020121101uv

1 of 2
TRK# 0201 5220 7113 9298
MASTER
NA AGCA

THU - 28 OCT 10:30A
PRIORITY OVERNIGHT

15238
PA-US PIT

Uncorrected temp 4.1 °C
Thermometer ID 8
CF 0
Initials
PT-WI-SR-001 effective 11/8/18

180-129189 Waybill

11/24/2021

180-129191 Waybill

Svcs: PRIORITY OVERNIGHT Mast FZ

10.28

Do not

Part # 159469-484 RIT2 EXP 09/21

eurofins | Environment Testing TestAmerica

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 27OCT21
ACTWGT: 62.90 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLANT ARTWRIGHT

FedEx Express

2 of 2
MPS# 0263 5220 7113 9302
Mstr# 5220 7113 9298

THU - 28 OCT 10:30A
PRIORITY OVERNIGHT

0201

NA AGCA

15238
PIT

Uncorrected temp 5.1 °C
Thermometer ID 8
CF 0 Initials
PT-WI-SR-001 effective 11/8/18

Part # 159469-434 RIT2 EXP 09/21

eurofins | Environment Testing TestAmerica

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 29OCT21
ACTWGT: 60.40 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLT- ARTWRIGHT

FedEx Express

1 of 2

TRK# 0201 5220 7114 0258

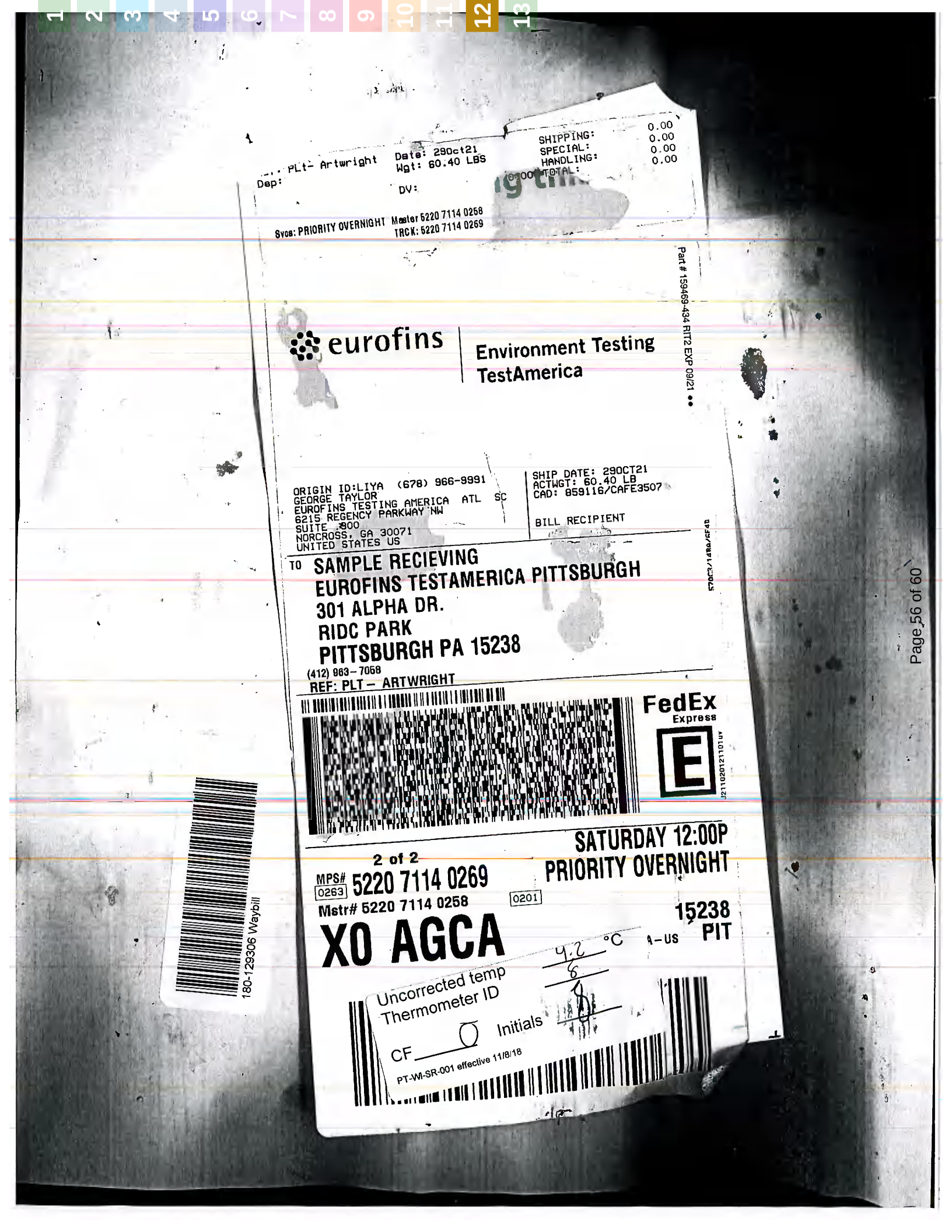
SATURDAY 12:00P
PRIORITY OVERNIGHT

MASTER
XO AGCA

15238
PA-US PIT

Uncorrected temp 4.7 °C
Thermometer ID 8
CF 0 Initials

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


Dep: PLT- Artwright
Date: 29Oct21
Wgt: 60.40 LBS
DV:
SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00
Svcs: PRIORITY OVERNIGHT
Master 5220 7114 0258
TRCK: 5220 7114 0269
Part # 159469-434 RIT2 EXP 09/21
eurofins
Environment Testing
TestAmerica
ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 300
NORCROSS, GA 30071
UNITED STATES US
SHIP DATE: 29OCT21
ACTWGT: 60.40 LB
CAD: 859116/CAFE3507
BILL RECIPIENT
TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLT - ARTWRIGHT
FedEx
Express
2 of 2
MPS# 5220 7114 0269
Mstr# 5220 7114 0258
SATURDAY 12:00P
PRIORITY OVERNIGHT
0263
0201
XO AGCA
15238
PIT
4.2 °C
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-129306 Waybill

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-1

Login Number: 129189
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-1

Login Number: 129191
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-1

Login Number: 129304
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-1

Login Number: 129306
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-129189-2
Client Project/Site: Plant Arkwright AP-1

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
12/21/2021 1:26:11 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

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Visit us at: www.eurofinsus.com/Env

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

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

PA Lab ID: 02-00416

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Job ID: 180-129189-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-129189-2

Comments
No additional comments.

Receipt
The samples were received on 10/28/2021 4:00 PM and 10/30/2021 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.7º C, 4.1º C, 4.2º C and 4.7º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The COC was not relinquished to TAPITT.

RAD
Methods 903.0, 9315: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.
AP1GWA-1 (180-129189-1), AP1GWA-2 (180-129189-2), FB-1 (180-129189-3) and AP1PZ-8 (180-129189-4)

Methods 903.0, 9315: Radium 226 batch 535027
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EB-1 (180-129191-1), AP1PZ-6 (180-129191-2), DUP-1 (180-129191-3), AP1PZ-7 (180-129191-4), (LCS 160-535027/1-A), (LCSD 160-535027/2-A) and (MB 160-535027/23-A)

Methods 903.0, 9315: Radium 226 batch 535638
The method blank (MB) has activity above the MDC and RL. The following associated samples are below the reporting limit for the contaminant, therefore, re-analysis is not required. The data have been reported. (MB 160-535638/23-A)

Methods 903.0, 9315: Radium 226 batch 535638
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-4 (180-129306-1), AP1PZ-1 (180-129306-2), AP1PZ-2 (180-129306-3), AP1PZ-5 (180-129306-4), (LCS 160-535638/1-A), (LCSD 160-535638/2-A) and (MB 160-535638/23-A)

Methods 903.0, 9315: Radium 226 batch 538437
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-10 (180-129304-1), EB-2 (180-129304-2), AP1PZ-9 (180-129304-3), AP1PZ-11 (180-129304-4), AP1PZ-3 (180-129304-5), (LCS 160-538437/1-A) and (MB 160-538437/23-A)

Methods 904.0, 9320: Radium 228 batch 535160
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1GWA-1 (180-129189-1), AP1GWA-2 (180-129189-2), FB-1 (180-129189-3), AP1PZ-8 (180-129189-4), (LCS 160-535160/1-A), (LCSD 160-535160/2-A) and (MB 160-535160/23-A)

Methods 904.0, 9320: Radium 228 batch 535028
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. EB-1 (180-129191-1), AP1PZ-6 (180-129191-2), DUP-1 (180-129191-3), AP1PZ-7 (180-129191-4), (LCS 160-535028/1-A), (LCSD 160-535028/2-A) and (MB 160-535028/23-A)

Job ID: 180-129189-2 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Methods 904.0, 9320: Radium 228 batch 535642
The LCS/LCSD recovered at (72% & 69%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138) per method requirements. The LCS passes, no further action is required (LCS 160-535642/1-A) and (LCSD 160-535642/2-A)

Methods 904.0, 9320: Radium 228 batch 535642
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-4 (180-129306-1), AP1PZ-1 (180-129306-2), AP1PZ-2 (180-129306-3), AP1PZ-5 (180-129306-4), (LCS 160-535642/1-A), (LCSD 160-535642/2-A) and (MB 160-535642/23-A)

Methods 904.0, 9320: Radium 228 batch 538441
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. AP1PZ-10 (180-129304-1), EB-2 (180-129304-2), AP1PZ-9 (180-129304-3), AP1PZ-11 (180-129304-4), AP1PZ-3 (180-129304-5), (LCS 160-538441/1-A) and (MB 160-538441/23-A)

Method PrecSep_0: Radium-228 Prep Batch 160-535028
Insufficient sample volume was available to perform a sample duplicate for the following samples: EB-1 (180-129191-1), AP1PZ-6 (180-129191-2), DUP-1 (180-129191-3) and AP1PZ-7 (180-129191-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-535160
Insufficient sample volume was available to perform a sample duplicate for the following samples: AP1GWA-1 (180-129189-1), AP1GWA-2 (180-129189-2), FB-1 (180-129189-3) and AP1PZ-8 (180-129189-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Radium-228 Prep Batch 160-535642
The following samples were prepared at a reduced aliquot due to Matrix: AP1PZ-4 (180-129306-1) and AP1PZ-1 (180-129306-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-535027
Insufficient sample volume was available to perform a sample duplicate for the following samples: EB-1 (180-129191-1), AP1PZ-6 (180-129191-2), DUP-1 (180-129191-3) and AP1PZ-7 (180-129191-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-535029
Insufficient sample volume was available to perform a sample duplicate for the following samples: AP1GWA-1 (180-129189-1), AP1GWA-2 (180-129189-2), FB-1 (180-129189-3) and AP1PZ-8 (180-129189-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-535638
The following samples were prepared at a reduced aliquot due to Matrix: AP1PZ-4 (180-129306-1) and AP1PZ-1 (180-129306-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

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

Definitions/Glossary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Qualifiers

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-129189-1	AP1GWA-1	Water	10/26/21 12:35	10/28/21 16:00
180-129189-2	AP1GWA-2	Water	10/26/21 14:30	10/28/21 16:00
180-129189-3	FB-1	Water	10/27/21 10:10	10/28/21 16:00
180-129189-4	AP1PZ-8	Water	10/27/21 11:54	10/28/21 16:00
180-129191-1	EB-1	Water	10/26/21 10:50	10/28/21 16:00
180-129191-2	AP1PZ-6	Water	10/26/21 13:05	10/28/21 16:00
180-129191-3	DUP-1	Water	10/26/21 00:01	10/28/21 16:00
180-129191-4	AP1PZ-7	Water	10/26/21 16:18	10/28/21 16:00
180-129304-1	AP1PZ-10	Water	10/27/21 16:38	10/30/21 10:30
180-129304-2	EB-2	Water	10/28/21 11:00	10/30/21 10:30
180-129304-3	AP1PZ-9	Water	10/28/21 14:40	10/30/21 10:30
180-129304-4	AP1PZ-11	Water	10/28/21 18:36	10/30/21 10:30
180-129304-5	AP1PZ-3	Water	10/29/21 11:34	10/30/21 10:30
180-129306-1	AP1PZ-4	Water	10/27/21 15:10	10/30/21 10:30
180-129306-2	AP1PZ-1	Water	10/28/21 13:10	10/30/21 10:30
180-129306-3	AP1PZ-2	Water	10/28/21 17:50	10/30/21 10:30
180-129306-4	AP1PZ-5	Water	10/29/21 11:05	10/30/21 10:30

Method Summary

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

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

Protocol References:

None = None

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

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1GWA-1

Lab Sample ID: 180-129189-1

Date Collected: 10/26/21 12:35

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.83 mL	1.0 g	535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 11:22	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.83 mL	1.0 g	535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	9320		1			537997	11/22/21 13:26	EMH	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			542892	12/20/21 13:04	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1GWA-2

Lab Sample ID: 180-129189-2

Date Collected: 10/26/21 14:30

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.83 mL	1.0 g	535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 11:23	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.83 mL	1.0 g	535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	9320		1			537997	11/22/21 13:27	EMH	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			542892	12/20/21 13:04	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: FB-1

Lab Sample ID: 180-129189-3

Date Collected: 10/27/21 10:10

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.13 mL	1.0 g	535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 11:23	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.13 mL	1.0 g	535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	9320		1			537997	11/22/21 13:28	EMH	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			542892	12/20/21 13:04	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-8

Lab Sample ID: 180-129189-4

Date Collected: 10/27/21 11:54

Matrix: Water

Date Received: 10/28/21 16:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.99 mL	1.0 g	535029	11/04/21 09:25	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 11:23	MLK	TAL SL
	Instrument ID: GFPCPURPLE									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-8

Date Collected: 10/27/21 11:54
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			999.99 mL	1.0 g	535160	11/04/21 10:07	BMP	TAL SL
Total/NA	Analysis	9320		1			537997	11/22/21 13:28	EMH	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			542892	12/20/21 13:04	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EB-1

Date Collected: 10/26/21 10:50
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.64 mL	1.0 g	535027	11/04/21 08:46	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 13:34	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.64 mL	1.0 g	535028	11/04/21 09:20	BMP	TAL SL
Total/NA	Analysis	9320		1			538217	11/23/21 12:57	SCB	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			539552	11/30/21 15:36	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-6

Date Collected: 10/26/21 13:05
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.81 mL	1.0 g	535027	11/04/21 08:46	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 13:35	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.81 mL	1.0 g	535028	11/04/21 09:20	BMP	TAL SL
Total/NA	Analysis	9320		1			538217	11/23/21 12:58	SCB	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			539552	11/30/21 15:36	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: DUP-1

Date Collected: 10/26/21 00:01
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.34 mL	1.0 g	535027	11/04/21 08:46	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 13:35	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			1000.34 mL	1.0 g	535028	11/04/21 09:20	BMP	TAL SL
Total/NA	Analysis	9320		1			538217	11/23/21 12:58	SCB	TAL SL
	Instrument ID: GFPCPURPLE									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: DUP-1
Date Collected: 10/26/21 00:01
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			539552	11/30/21 15:36	EMH	TAL SL

Client Sample ID: AP1PZ-7
Date Collected: 10/26/21 16:18
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.28 mL	1.0 g	535027	11/04/21 08:46	BMP	TAL SL
Total/NA	Analysis	9315		1			539048	11/29/21 13:36	MLK	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			999.28 mL	1.0 g	535028	11/04/21 09:20	BMP	TAL SL
Total/NA	Analysis	9320		1			538217	11/23/21 12:58	SCB	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			539552	11/30/21 15:36	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-10
Date Collected: 10/27/21 16:38
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.40 mL	1.0 g	538437	11/24/21 09:32	LPS	TAL SL
Total/NA	Analysis	9315		1			542558	12/17/21 12:09	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.40 mL	1.0 g	538441	11/24/21 10:09	LPS	TAL SL
Total/NA	Analysis	9320		1			539995	12/02/21 12:53	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			543071	12/21/21 08:29	CAH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: EB-2
Date Collected: 10/28/21 11:00
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.11 mL	1.0 g	538437	11/24/21 09:32	LPS	TAL SL
Total/NA	Analysis	9315		1			542558	12/17/21 12:10	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			999.11 mL	1.0 g	538441	11/24/21 10:09	LPS	TAL SL
Total/NA	Analysis	9320		1			539995	12/02/21 12:53	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			543071	12/21/21 08:29	CAH	TAL SL
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-9
Date Collected: 10/28/21 14:40
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.09 mL	1.0 g	538437	11/24/21 09:32	LPS	TAL SL
Total/NA	Analysis	9315		1			542558	12/17/21 12:10	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			1000.09 mL	1.0 g	538441	11/24/21 10:09	LPS	TAL SL
Total/NA	Analysis	9320		1			539995	12/02/21 12:53	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			543071	12/21/21 08:29	CAH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-11
Date Collected: 10/28/21 18:36
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.70 mL	1.0 g	538437	11/24/21 09:32	LPS	TAL SL
Total/NA	Analysis	9315		1			542558	12/17/21 12:10	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.70 mL	1.0 g	538441	11/24/21 10:09	LPS	TAL SL
Total/NA	Analysis	9320		1			539995	12/02/21 12:53	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			543071	12/21/21 08:29	CAH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-3
Date Collected: 10/29/21 11:34
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.45 mL	1.0 g	538437	11/24/21 09:32	LPS	TAL SL
Total/NA	Analysis	9315		1			542558	12/17/21 12:10	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			1000.45 mL	1.0 g	538441	11/24/21 10:09	LPS	TAL SL
Total/NA	Analysis	9320		1			539995	12/02/21 12:54	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			543071	12/21/21 08:29	CAH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-4
Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	535638	11/09/21 10:24	LPS	TAL SL
Total/NA	Analysis	9315		1			539990	12/02/21 19:57	FLC	TAL SL
	Instrument ID: GFPCRED									

Client Sample ID: AP1PZ-4
Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.80 mL	1.0 g	535642	11/09/21 11:17	LPS	TAL SL
Total/NA	Analysis	9320		1			538450	11/24/21 13:18	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			542893	12/20/21 13:07	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-1
Date Collected: 10/28/21 13:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.23 mL	1.0 g	535638	11/09/21 10:24	LPS	TAL SL
Total/NA	Analysis	9315		1			539990	12/02/21 19:54	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.23 mL	1.0 g	535642	11/09/21 11:17	LPS	TAL SL
Total/NA	Analysis	9320		1			538451	11/24/21 13:24	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Analysis	Ra226_Ra228		1			542893	12/20/21 13:07	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-2
Date Collected: 10/28/21 17:50
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.27 mL	1.0 g	535638	11/09/21 10:24	LPS	TAL SL
Total/NA	Analysis	9315		1			539990	12/02/21 19:54	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			1000.27 mL	1.0 g	535642	11/09/21 11:17	LPS	TAL SL
Total/NA	Analysis	9320		1			538450	11/24/21 13:18	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			542893	12/20/21 13:07	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: AP1PZ-5
Date Collected: 10/29/21 11:05
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.70 mL	1.0 g	535638	11/09/21 10:24	LPS	TAL SL
Total/NA	Analysis	9315		1			539990	12/02/21 19:53	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			749.70 mL	1.0 g	535642	11/09/21 11:17	LPS	TAL SL
Total/NA	Analysis	9320		1			538451	11/24/21 13:23	FLC	TAL SL
	Instrument ID: GFPCRED									

Lab Chronicle

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-5
Date Collected: 10/29/21 11:05
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			542893	12/20/21 13:07	EMH	TAL SL

Laboratory References:

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

Analyst References:

Lab: TAL SL

Batch Type: Prep

BMP = Bailey Pinette

LPS = Lauren Szostak

Batch Type: Analysis

CAH = Chris Hough

EMH = Elizabeth Hoerchler

FLC = Fernando Cruz

MLK = Micha Korrinhizer

SCB = Sarah Bernsen

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1GWA-1

Date Collected: 10/26/21 12:35
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-1

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	0.208		0.107	0.109	1.00	0.143	pCi/L	11/04/21 09:25	11/29/21 11:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*11/04/21 09:25*	*11/29/21 11:22*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.874		0.306	0.316	1.00	0.415	pCi/L	11/04/21 10:07	11/22/21 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:26*	*1*
Y Carrier	*80.0*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:26*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.08		0.324	0.334	5.00	0.415	pCi/L		12/20/21 13:04	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1GWA-2

Date Collected: 10/26/21 14:30
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-2

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	0.168		0.0999	0.101	1.00	0.139	pCi/L	11/04/21 09:25	11/29/21 11:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/04/21 09:25*	*11/29/21 11:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.767		0.271	0.280	1.00	0.363	pCi/L	11/04/21 10:07	11/22/21 13:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:27*	*1*
Y Carrier	*87.1*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:27*	*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	0.935		0.289	0.298	5.00	0.363	pCi/L		12/20/21 13:04	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: FB-1
Date Collected: 10/27/21 10:10
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.145**		0.0966	0.0975	1.00	0.139	pCi/L	11/04/21 09:25	11/29/21 11:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/04/21 09:25*	*11/29/21 11:23*	*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	U	0.368	0.371	1.00	0.581	pCi/L	11/04/21 10:07	11/22/21 13:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*1*
Y Carrier	*58.3*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*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	**0.623**		0.380	0.384	5.00	0.581	pCi/L		12/20/21 13:04	1

Client Sample Results

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-8

Date Collected: 10/27/21 11:54
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129189-4

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	0.460		0.132	0.138	1.00	0.132	pCi/L	11/04/21 09:25	11/29/21 11:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/04/21 09:25*	*11/29/21 11:23*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.09		0.312	0.327	1.00	0.384	pCi/L	11/04/21 10:07	11/22/21 13:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*1*
Y Carrier	*79.6*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*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	1.55		0.339	0.355	5.00	0.384	pCi/L		12/20/21 13:04	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: EB-1

Date Collected: 10/26/21 10:50
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-1

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	-0.0194	U	0.0783	0.0783	1.00	0.160	pCi/L	11/04/21 08:46	11/29/21 13:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/04/21 08:46*	*11/29/21 13:34*	*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	0.245	0.246	1.00	0.398	pCi/L	11/04/21 09:20	11/23/21 12:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.0*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:57*	*1*
Y Carrier	*82.2*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:57*	*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	0.222	U	0.257	0.258	5.00	0.398	pCi/L		11/30/21 15:36	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-6

Date Collected: 10/26/21 13:05
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-2

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	**0.246**		0.110	0.112	1.00	0.137	pCi/L	11/04/21 08:46	11/29/21 13:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*11/04/21 08:46*	*11/29/21 13:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.288	U	0.249	0.250	1.00	0.399	pCi/L	11/04/21 09:20	11/23/21 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*1*
Y Carrier	*81.5*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*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	**0.534**		0.272	0.274	5.00	0.399	pCi/L		11/30/21 15:36	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: DUP-1
Date Collected: 10/26/21 00:01
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.112	U	0.0898	0.0903	1.00	0.135	pCi/L	11/04/21 08:46	11/29/21 13:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*11/04/21 08:46*	*11/29/21 13:35*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.428**		0.239	0.242	1.00	0.357	pCi/L	11/04/21 09:20	11/23/21 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*1*
Y Carrier	*81.9*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*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	**0.540**		0.255	0.258	5.00	0.357	pCi/L		11/30/21 15:36	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-7
Date Collected: 10/26/21 16:18
Date Received: 10/28/21 16:00

Lab Sample ID: 180-129191-4
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	**0.426**		0.134	0.139	1.00	0.142	pCi/L	11/04/21 08:46	11/29/21 13:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*11/04/21 08:46*	*11/29/21 13:36*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0182	U	0.181	0.181	1.00	0.328	pCi/L	11/04/21 09:20	11/23/21 12:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*1*
Y Carrier	*83.0*		*40 - 110*	*11/04/21 09:20*	*11/23/21 12:58*	*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	**0.444**		0.225	0.228	5.00	0.328	pCi/L		11/30/21 15:36	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-10

Date Collected: 10/27/21 16:38
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-1

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	0.340		0.143	0.146	1.00	0.174	pCi/L	11/24/21 09:32	12/17/21 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:09*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.709		0.350	0.356	1.00	0.503	pCi/L	11/24/21 10:09	12/02/21 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.8*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*
Y Carrier	*84.9*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05		0.378	0.385	5.00	0.503	pCi/L		12/21/21 08:29	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: EB-2
Date Collected: 10/28/21 11:00
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-2
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	0.0212	U	0.0551	0.0552	1.00	0.102	pCi/L	11/24/21 09:32	12/17/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.1*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:10*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0355	U	0.230	0.230	1.00	0.420	pCi/L	11/24/21 10:09	12/02/21 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.1*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*
Y Carrier	*86.7*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0143	U	0.237	0.237	5.00	0.420	pCi/L		12/21/21 08:29	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-9

Date Collected: 10/28/21 14:40
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.209		0.0930	0.0949	1.00	0.111	pCi/L	11/24/21 09:32	12/17/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:10*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.519		0.268	0.272	1.00	0.395	pCi/L	11/24/21 10:09	12/02/21 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*
Y Carrier	*86.7*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.728		0.284	0.288	5.00	0.395	pCi/L		12/21/21 08:29	1

Client Sample ID: AP1PZ-11

Date Collected: 10/28/21 18:36
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-4

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	**0.136**		0.0935	0.0943	1.00	0.129	pCi/L	11/24/21 09:32	12/17/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:10*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.131	U	0.329	0.329	1.00	0.612	pCi/L	11/24/21 10:09	12/02/21 12:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*
Y Carrier	*83.0*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:53*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.00478	U	0.342	0.342	5.00	0.612	pCi/L		12/21/21 08:29	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-3
Date Collected: 10/29/21 11:34
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129304-5
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	0.156		0.0777	0.0789	1.00	0.0912	pCi/L	11/24/21 09:32	12/17/21 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:10*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.970		0.327	0.339	1.00	0.446	pCi/L	11/24/21 10:09	12/02/21 12:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:54*	*1*
Y Carrier	*84.9*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:54*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.13		0.336	0.348	5.00	0.446	pCi/L		12/21/21 08:29	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-4

Date Collected: 10/27/21 15:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-1

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	0.319		0.106	0.109	1.00	0.0996	pCi/L	11/09/21 10:24	12/02/21 19:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*11/09/21 10:24*	*12/02/21 19:57*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.789		0.287	0.296	1.00	0.399	pCi/L	11/09/21 11:17	11/24/21 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*1*
Y Carrier	*86.0*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*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		0.306	0.315	5.00	0.399	pCi/L		12/20/21 13:07	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-1
Date Collected: 10/28/21 13:10
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-2
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	0.147		0.0992	0.100	1.00	0.136	pCi/L	11/09/21 10:24	12/02/21 19:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/09/21 10:24*	*12/02/21 19:54*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.259	U	0.287	0.288	1.00	0.470	pCi/L	11/09/21 11:17	11/24/21 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:24*	*1*
Y Carrier	*83.0*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:24*	*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	0.405	U	0.304	0.305	5.00	0.470	pCi/L		12/20/21 13:07	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-2
Date Collected: 10/28/21 17:50
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-3
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.259		0.0985	0.101	1.00	0.101	pCi/L	11/09/21 10:24	12/02/21 19:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/09/21 10:24*	*12/02/21 19:54*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.759		0.306	0.314	1.00	0.441	pCi/L	11/09/21 11:17	11/24/21 13:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*1*
Y Carrier	*86.4*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*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	1.02		0.321	0.330	5.00	0.441	pCi/L		12/20/21 13:07	1

Client: Southern Company
Project/Site: Plant Arkwright AP-1

Job ID: 180-129189-2

Client Sample ID: AP1PZ-5

Date Collected: 10/29/21 11:05
Date Received: 10/30/21 10:30

Lab Sample ID: 180-129306-4

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	0.183		0.103	0.104	1.00	0.126	pCi/L	11/09/21 10:24	12/02/21 19:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/09/21 10:24*	*12/02/21 19:53*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.643		0.348	0.353	1.00	0.518	pCi/L	11/09/21 11:17	11/24/21 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.5*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:23*	*1*
Y Carrier	*84.9*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:23*	*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	0.826		0.363	0.368	5.00	0.518	pCi/L		12/20/21 13:07	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-535027/23-A
Matrix: Water
Analysis Batch: 539049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535027

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02492	U	0.0710	0.0710	1.00	0.131	pCi/L	11/04/21 08:46	11/29/21 13:39	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*11/04/21 08:46*	*11/29/21 13:39*	*1*

Lab Sample ID: LCS 160-535027/1-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535027

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.20		1.09	1.00	0.146	pCi/L	90	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.0*		*40 - 110*

Lab Sample ID: LCSD 160-535027/2-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535027

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	9.657		1.04	1.00	0.160	pCi/L	85	75 - 125	0.25	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*92.0*		*40 - 110*

Lab Sample ID: MB 160-535029/23-A
Matrix: Water
Analysis Batch: 539049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535029

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1101	U	0.0834	0.0840	1.00	0.120	pCi/L	11/04/21 09:25	11/29/21 11:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*11/04/21 09:25*	*11/29/21 11:24*	*1*

Lab Sample ID: LCS 160-535029/1-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535029

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	9.997		1.06	1.00	0.134	pCi/L	88	75 - 125		

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

Lab Sample ID: LCS 160-535029/1-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535029

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	100		40 - 110

Lab Sample ID: LCSD 160-535029/2-A
Matrix: Water
Analysis Batch: 539046

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535029

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	9.750		1.03	1.00	0.139	pCi/L	86	75 - 125	0.12	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	104		40 - 110

Lab Sample ID: MB 160-535638/23-A
Matrix: Water
Analysis Batch: 539993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535638

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.309		0.244	0.271	1.00	0.182	pCi/L	11/09/21 10:24	12/02/21 20:41	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	97.7		40 - 110	11/09/21 10:24	12/02/21 20:41	1

Lab Sample ID: LCS 160-535638/1-A
Matrix: Water
Analysis Batch: 539784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535638

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	12.59		1.33	1.00	0.173	pCi/L	83	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	107		40 - 110

Lab Sample ID: LCSD 160-535638/2-A
Matrix: Water
Analysis Batch: 539784

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535638

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	12.51		1.33	1.00	0.194	pCi/L	83	75 - 125	0.03	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	99.7		40 - 110

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

Lab Sample ID: MB 160-538437/23-A
Matrix: Water
Analysis Batch: 542558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538437

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06878	U	0.0566	0.0570	1.00	0.0801	pCi/L	11/24/21 09:32	12/17/21 12:11	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*11/24/21 09:32*	*12/17/21 12:11*	*1*

Lab Sample ID: LCS 160-538437/1-A
Matrix: Water
Analysis Batch: 542557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538437

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.61		1.10	1.00	0.102	pCi/L	94	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.6*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-535028/23-A
Matrix: Water
Analysis Batch: 538233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535028

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09522	U	0.195	0.195	1.00	0.336	pCi/L	11/04/21 09:20	11/23/21 13:02	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.8*		*40 - 110*	*11/04/21 09:20*	*11/23/21 13:02*	*1*
Y Carrier	*84.5*		*40 - 110*	*11/04/21 09:20*	*11/23/21 13:02*	*1*

Lab Sample ID: LCS 160-535028/1-A
Matrix: Water
Analysis Batch: 538216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535028

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.12	9.646		1.14	1.00	0.428	pCi/L	106	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.0*		*40 - 110*
Y Carrier	*79.3*		*40 - 110*

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

Lab Sample ID: LCSD 160-535028/2-A
Matrix: Water
Analysis Batch: 538216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535028

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.12	7.977		0.997	1.00	0.440	pCi/L	87	75 - 125	0.78	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*92.0*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: MB 160-535160/23-A
Matrix: Water
Analysis Batch: 537997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535160

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4991		0.280	0.284	1.00	0.414	pCi/L	11/04/21 10:07	11/22/21 13:28	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*1*
Y Carrier	*76.6*		*40 - 110*	*11/04/21 10:07*	*11/22/21 13:28*	*1*

Lab Sample ID: LCS 160-535160/1-A
Matrix: Water
Analysis Batch: 538184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535160

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.12	8.410		1.03	1.00	0.454	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*78.1*		*40 - 110*

Lab Sample ID: LCSD 160-535160/2-A
Matrix: Water
Analysis Batch: 538184

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535160

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.12	7.866		0.945	1.00	0.362	pCi/L	86	75 - 125	0.28	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*104*		*40 - 110*
Y Carrier	*84.5*		*40 - 110*

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

Lab Sample ID: MB 160-535642/23-A
Matrix: Water
Analysis Batch: 538450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 535642

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.6999		0.347	0.353	1.00	0.509	pCi/L	11/09/21 11:17	11/24/21 13:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*1*
Y Carrier	*87.5*		*40 - 110*	*11/09/21 11:17*	*11/24/21 13:18*	*1*

Lab Sample ID: LCS 160-535642/1-A
Matrix: Water
Analysis Batch: 538449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 535642

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	8.813		1.13	1.00	0.561	pCi/L	72	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*107*		*40 - 110*
Y Carrier	*78.9*		*40 - 110*

Lab Sample ID: LCSD 160-535642/2-A
Matrix: Water
Analysis Batch: 538449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 535642

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			12.2	8.414		1.10	1.00	0.512	pCi/L	69	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*99.7*		*40 - 110*
Y Carrier	*82.2*		*40 - 110*

Lab Sample ID: MB 160-538441/23-A
Matrix: Water
Analysis Batch: 539995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538441

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.004977	U	0.244	0.244	1.00	0.439	pCi/L	11/24/21 10:09	12/02/21 12:54	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:54*	*1*
Y Carrier	*84.1*		*40 - 110*	*11/24/21 10:09*	*12/02/21 12:54*	*1*

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

Lab Sample ID: LCS 160-538441/1-A
Matrix: Water
Analysis Batch: 539994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538441

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.09	7.682		0.971	1.00	0.453	pCi/L	84	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*89.6*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Rad

Prep Batch: 535027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-1	EB-1	Total/NA	Water	PrecSep-21	
180-129191-2	AP1PZ-6	Total/NA	Water	PrecSep-21	
180-129191-3	DUP-1	Total/NA	Water	PrecSep-21	
180-129191-4	AP1PZ-7	Total/NA	Water	PrecSep-21	
MB 160-535027/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-535027/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-535027/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 535028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129191-1	EB-1	Total/NA	Water	PrecSep_0	
180-129191-2	AP1PZ-6	Total/NA	Water	PrecSep_0	
180-129191-3	DUP-1	Total/NA	Water	PrecSep_0	
180-129191-4	AP1PZ-7	Total/NA	Water	PrecSep_0	
MB 160-535028/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-535028/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-535028/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 535029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	PrecSep-21	
180-129189-2	AP1GWA-2	Total/NA	Water	PrecSep-21	
180-129189-3	FB-1	Total/NA	Water	PrecSep-21	
180-129189-4	AP1PZ-8	Total/NA	Water	PrecSep-21	
MB 160-535029/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-535029/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-535029/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 535160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129189-1	AP1GWA-1	Total/NA	Water	PrecSep_0	
180-129189-2	AP1GWA-2	Total/NA	Water	PrecSep_0	
180-129189-3	FB-1	Total/NA	Water	PrecSep_0	
180-129189-4	AP1PZ-8	Total/NA	Water	PrecSep_0	
MB 160-535160/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-535160/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-535160/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 535638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	AP1PZ-4	Total/NA	Water	PrecSep-21	
180-129306-2	AP1PZ-1	Total/NA	Water	PrecSep-21	
180-129306-3	AP1PZ-2	Total/NA	Water	PrecSep-21	
180-129306-4	AP1PZ-5	Total/NA	Water	PrecSep-21	
MB 160-535638/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-535638/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-535638/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 535642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-1	AP1PZ-4	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 535642 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129306-2	AP1PZ-1	Total/NA	Water	PrecSep_0	
180-129306-3	AP1PZ-2	Total/NA	Water	PrecSep_0	
180-129306-4	AP1PZ-5	Total/NA	Water	PrecSep_0	
MB 160-535642/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-535642/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-535642/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 538437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	AP1PZ-10	Total/NA	Water	PrecSep-21	
180-129304-2	EB-2	Total/NA	Water	PrecSep-21	
180-129304-3	AP1PZ-9	Total/NA	Water	PrecSep-21	
180-129304-4	AP1PZ-11	Total/NA	Water	PrecSep-21	
180-129304-5	AP1PZ-3	Total/NA	Water	PrecSep-21	
MB 160-538437/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-538437/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 538441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-129304-1	AP1PZ-10	Total/NA	Water	PrecSep_0	
180-129304-2	EB-2	Total/NA	Water	PrecSep_0	
180-129304-3	AP1PZ-9	Total/NA	Water	PrecSep_0	
180-129304-4	AP1PZ-11	Total/NA	Water	PrecSep_0	
180-129304-5	AP1PZ-3	Total/NA	Water	PrecSep_0	
MB 160-538441/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-538441/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Cooler 2

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Eve Guilke	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page 2 of 3
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: Standard			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N	D		
APIGWA-1	10/26/21	1235	G	W	N		X	X	X	X	X	X		4	pH = 4.76
APIGWA-2	10/26/21	1430	G	W	N		X	X	X	X	X	X		4	pH = 5.98
FB-1	10/27/21	1010	G	W	N		X	X	X	X	X	X		4	
APIPZ-8	10/27/21	1154	G	W	N		X	X	X	X	X	X		4	pH = 6.67

180-129189 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Daniel Howard	10/27/21 1401	Wood		10/27/21	
2		10/27/21 16:20	FTA		10/27/21 16:10	FTA
3		Date/Time:	Company	Received by:	Date/Time: 10/28/21 1600	Company FTA Pitt

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

cooler 1

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Evan Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: Standard			Preservation Codes:
City: Atlanta	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	N	D		
EB-1	10/26/21	1050	G	W	N		X	X	X	X	X	X		4	
APIPZ-6	↓	1305	G	W	N		X	X	X	X	X	X		4	pH=5.66
DUP-1		—	G	W	N		X	X	X	X	X	X		4	pH=5.66
APIPZ-7	↓	1618	G	W	N		X	X	X	X	X	X		4	pH=6.45

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: David L Howard	Date/Time: 10/27/21 1401	Company	Received by:	16:10	Date/Time: 10/27/21	Company ETA
Relinquished by:	Date/Time: 10/27/21 16:00	Company ETA	Received by:	10/27/21	Date/Time: 16:00	Company ETA
Relinquished by:	Date/Time:	Company	Received by:		Date/Time: 10/28/21 1600	Company EDA P.A

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

Cooler 1

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins

244- ATLANTA

Client Information	Sampler: Daniel Howard/Ever Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:			Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: standard			
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	~~N~~ D	D		
AP1PZ-10	10/27/21	1638	G	W	N		X	X	X	X	X	X		4	pH=6.58
EB-2	10/28/21	1100	G	W	N		X	X	X	X	X	X		4	
AP1PZ-9	↓	1440	G	W	N		X	X	X	X	X	X		4	pH=5.49
AP1PZ-11	↓	1836	G	W	N		X	X	X	X	X	X		4	pH=6.78
AP1PZ-3	10/29/21	1134	G	W	N		X	X	X	X	X	X		4	pH=5.60

180-129304 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Daniel L Howard	10/29/21 / 1347	Wood	M. Washington	10-29-21 13:47	
[signature]	10/29/21 1700		[signature]	10/29/21 1700	
			D Watson	10-30-21 10:30	ETAPIH

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

Ver: 06/08/2021

12/21/2021

cooler 2

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins 244- ATLANTA

Client Information	Sampler: Daniel Howard/Ever Guillen	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-75205-11995.2
Client Contact: Joju Abraham	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: GA	Page: Page ~~2 of 3~~ 1
Company: Southern Company	PWSID:	Analysis Requested		Job #:
Address: 241 Ralph McGill Blvd SE B10185	Due Date Requested: standard			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)
City: Atlanta	TAT Requested (days):			
State, Zip: GA, 30308	Compliance Project: Δ Yes Δ No			
Phone:	PO #: GPC11064570			Other:
Email: JAbraham@southernco.com	WO #:			
Project Name: Plant Arkwright CCR	Project #: 18020201			
Site: Georgia	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226 - Radium 226	6020B - Custom 14 (App III/AppIV)	300_ORGFM_28D - Chloride Fluoride Sulfate	2540C_Calcd - Total Dissolved Solids	9320_Ra228 - Radium 228	7470A - Mercury	6020B - Custom 14 (App III IV) field filtered	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N	N	N	~~N~~ D	D		
APIPZ-4	10/27/21	1510	G	W	Y		X	X	X	X	X	X	X	4	pH=6.47
APIPZ-1	10/28/21	1310	G	W	N		X	X	X	X	X	X			pH=6.44
APIPZ-2	10/28/21	1750	G	W	N		X	X	X	X	X	X			pH=5.86
APIPZ-5	10/29/21	1105	G	W	N		X	X	X	X	X	X			pH=6.36

180-129306 Chain of Custody

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

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

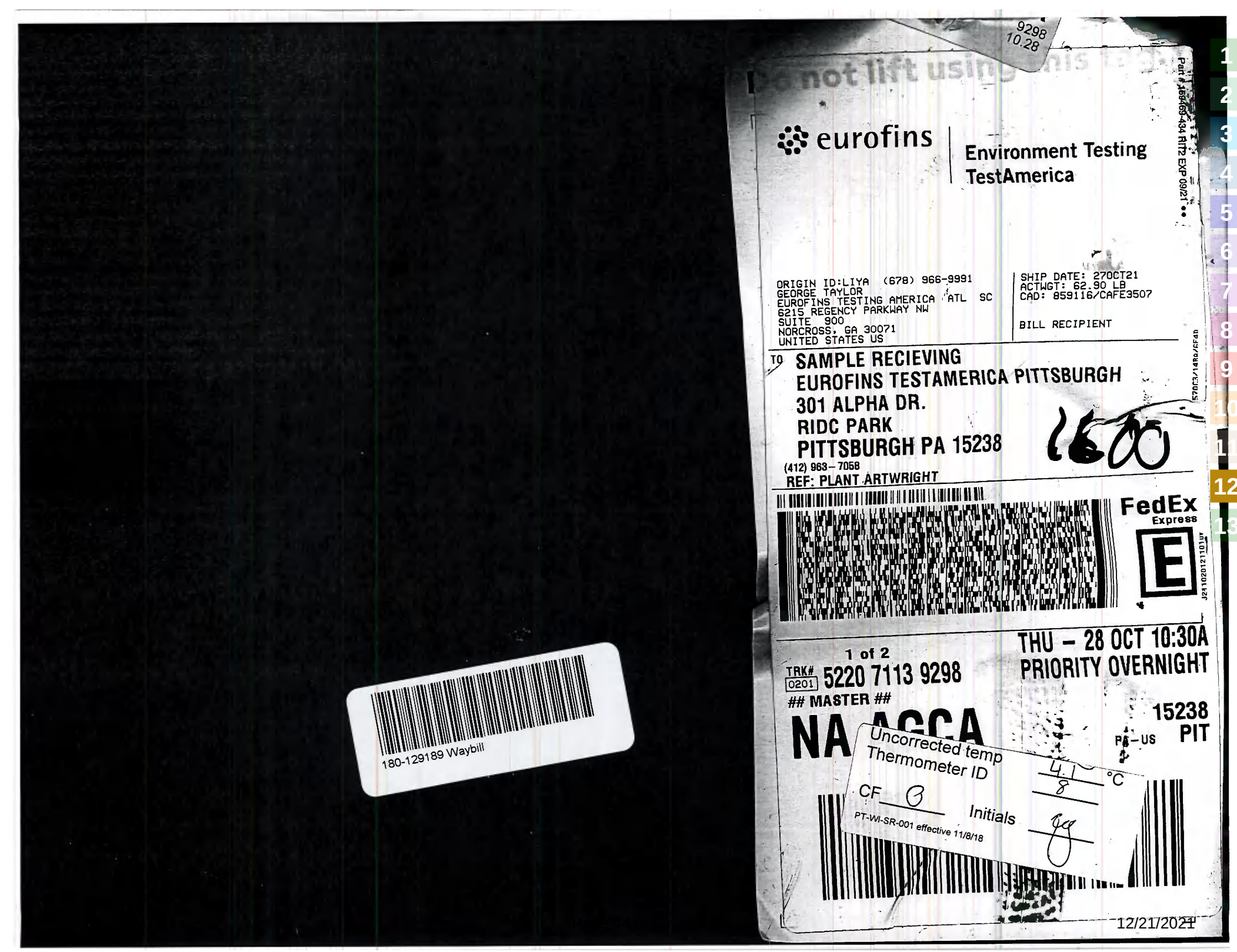
Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Daniel L Howard	10/29/21 1347	Wood	M L Washington	10-29-21 1347	
2		10/29/21 1700			10/29/21 1800	
3				DWatson	10-30-21	FEDEX

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 10.30



9298
10.28

Do not lift using this tab

Part # 159469-434 RIT2 EXP 09/21

eurofins | Environment Testing
TestAmerica

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 27OCT21
ACTWGT: 62.90 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLANT ARTWRIGHT

1600

FedEx Express

E

J211020121101uv

1 of 2
TRK# 0201 5220 7113 9298
MASTER
NA AGCA

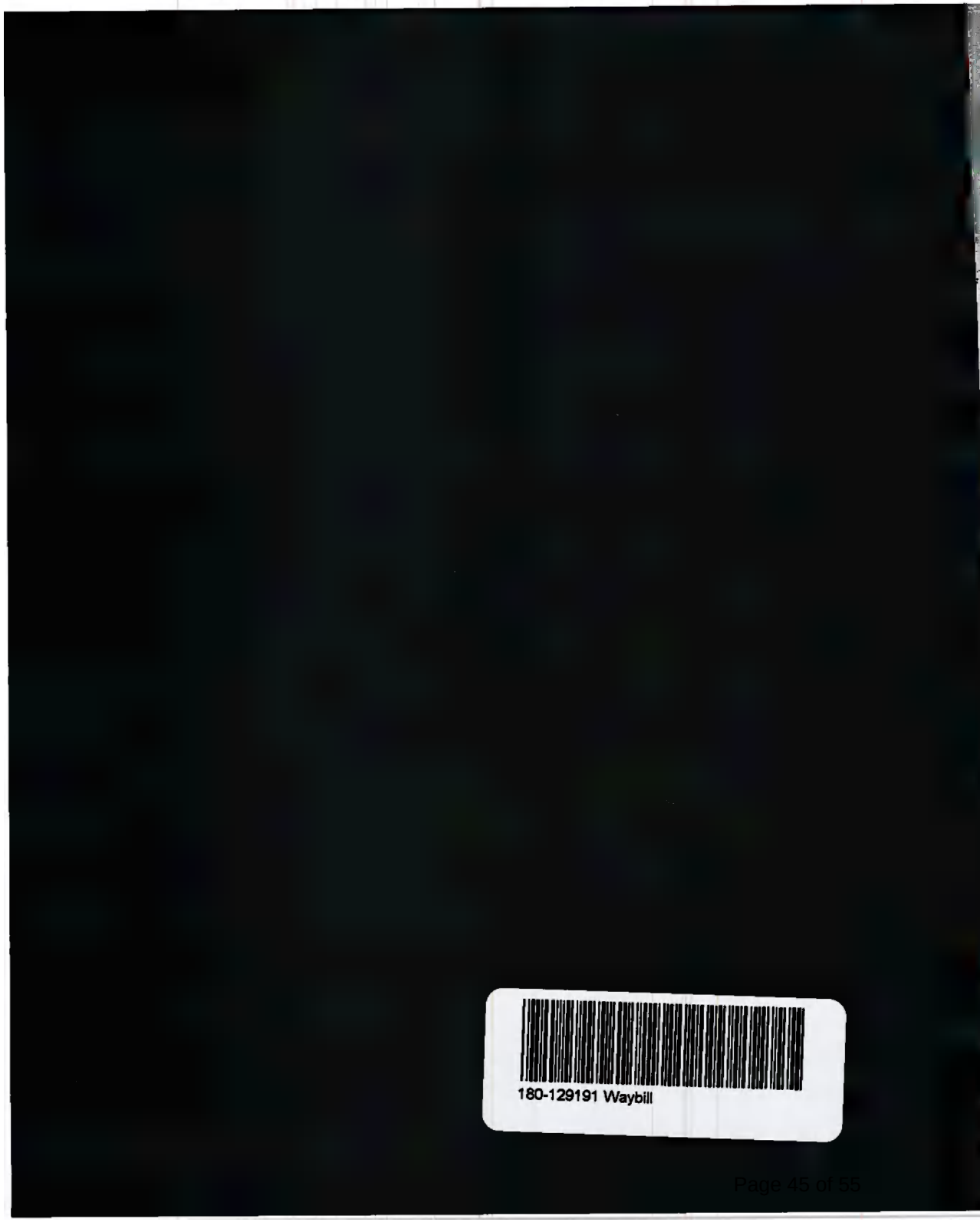
THU - 28 OCT 10:30A
PRIORITY OVERNIGHT

15238
PA-US PIT

Uncorrected temp 4.1 °C
Thermometer ID 8
CF 0
Initials
PT-WI-SR-001 effective 11/8/18

180-129189 Waybill

12/21/2021



Svcs: PRIORITY OVERNIGHT Mast FZ
TRC

10.28

Do not m... this tag

Part # 159469-434 RIT2 EXP 09/21

eurofins

Environment Testing
TestAmerica

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 27OCT21
ACTWGT: 62.90 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLANT ARTWRIGHT

FedEx Express

E

2 of 2

MPS# 0263 5220 7113 9302

Mstr# 5220 7113 9298 0201

THU - 28 OCT 10:30A
PRIORITY OVERNIGHT

NA ACCA

15238
PIT

Uncorrected temp 3.7 °C
Thermometer ID 8
CF 0 Initials
PT-WI-SR-001 effective 11/8/18

180-129191 Waybill

180-129304 Waybill

Part # 159469-434 RIT2 EXP 09/21

eurofins | Environment Testing TestAmerica

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 29OCT21
ACTWGT: 60.40 LB
CAD: 859116/CAFE3507

BILL RECIPIENT

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLT- ARTWRIGHT

FedEx Express

1 of 2

TRK# 0201 5220 7114 0258

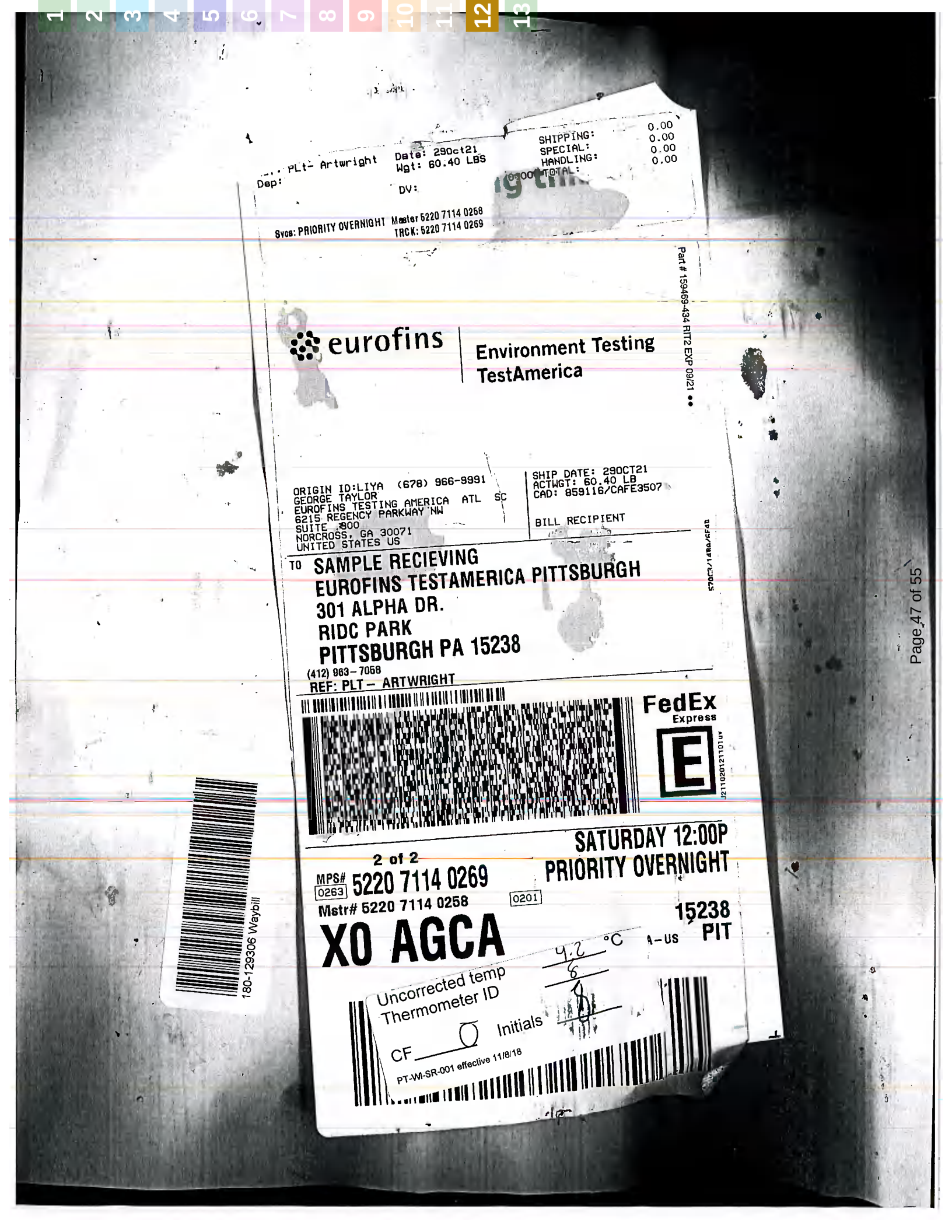
SATURDAY 12:00P
PRIORITY OVERNIGHT

MASTER
XO AGCA

15238
PA-US PIT

Uncorrected temp 4.7 °C
Thermometer ID 8
CF 0 Initials

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


PLT- Artwright
Dep:
Date: 29Oct21
Wgt: 60.40 LBS
DV:
SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00
Svcs: PRIORITY OVERNIGHT
Master 5220 7114 0258
TRCK: 5220 7114 0269
Part # 159469-434 RIT2 EXP 09/21
eurofins
Environment Testing
TestAmerica
ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 300
NORCROSS, GA 30071
UNITED STATES US
SHIP DATE: 29OCT21
ACTWGT: 60.40 LB
CAD: 859116/CAFE3507
BILL RECIPIENT
TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF: PLT - ARTWRIGHT
FedEx
Express
2 of 2
MPS# 5220 7114 0269
Mstr# 5220 7114 0258
SATURDAY 12:00P
PRIORITY OVERNIGHT
0263
0201
15238
PIT
XO AGCA
4.2 °C
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18
180-129306 Waybill

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129189
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129189
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/01/21 01:53 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129191
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129191
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/01/21 01:53 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129304
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129304
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/02/21 02:08 PM

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129306
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-129189-2

Login Number: 129306
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 11/02/21 02:08 PM

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

SURFACE WATER LABORATORY ANALYTICAL REPORTS AND FIELD SAMPLING DATA

Plant Arkwright AP-2 (Beaverdam Creek) Surface Water Samples 09/30/2021

Sample ID	Time	Temp(C)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Conductance – (mS/cm)	Coordinates
BC-0.8a	18:55	21.6	7.27	44.3	9.15	4.19	0.140	32.922739, -83.705772
BC-0.5.7	17:20	21.9	7.24	43.5	7.59	4.27	0.142	32.921547, -83.702854
BC-0.5.6	17:05	21.9	7.32	63.2	7.99	4.66	0.147	32.921195, -83.701934
BC-0.5.5	16:41	22.0	7.32	68.7	7.89	4.06	0.146	32.920697,-83.701798
BC-BR	16:16	22.2	7.42	69.1	7.85	5.69	0.138	32.920207,-83.696481
BC-0.3	15:46	22.2	7.39	153.7	8.72	4.48	0.141	32.920207,-83.696481

Plant Arkwright (Ocmulgee River) Surface Water Samples 09/30/2021

Sample ID	Total Depth	Sample Depth	Time	Temp(C)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Conductance – (mS/cm)	Coordinates
OR-0.8	2.5	1.0	14:40	25.1	8.03	195.0	12.77	7.47	0.112	32.920367,-83.696559
OR-0.3	7.3	3.5	14:00	24.9	7.96	167.7	12.47	8.09	0.113	32.920814, -83.697856
OR-0.1	3.5	1.5	13:16	24.7	7.83	141.0	13.53	3.89	0.113	32.916342,-83.696092
BC-0.1	1.4	0.75	12:47	21.2	7.55	136.2	10.33	4.84	0.152	32.916017,-83.696292
OR+0.25	2.2	1.0	12:43	24.6	7.79	175.9	15.07	4.70	0.113	32.914186,-83.691789
OR+1.0	3.4	1.5	12:13	24.3	7.81	183.9	10.21	4.32	0.113	32.908661,-83.684478

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-127990-1
Client Project/Site: Arkwright Surfacewater

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
10/18/2021 5:31:00 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

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

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

PA Lab ID: 02-00416

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Job ID: 180-127990-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-127990-1

Comments
No additional comments.

Receipt
The samples were received on 10/4/2021 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.7º C, 3.4º C and 8.4º C.

Receipt Exceptions
The following samples were listed on the Chain of Custody (COC); however, no samples were received: BC-0.8a (180-127990-1), BC-0.5.7 (180-127990-2), BC-0.5.6 (180-127990-3), BC-0.5.5 (180-127990-4) and BC-BR (180-127990-5). The delayed cooler for the following samples were received at the laboratory outside the required temperature criteria of 8.4°C. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC Semi VOA
Method 300.0: The matrix spike duplicate (MSD) recoveries for the following sample associated with analytical batch 180-374012 was low outside control limits for Chloride, Fluoride, and Sulfate: (180-127990-C-6 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

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

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

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

Definitions/Glossary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Metals

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Job ID: 180-127990-1
Project/Site: Arkwright Surfacewater

Laboratory: Eurofins TestAmerica, Pittsburgh

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

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

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

Sample Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-127990-1	BC-0.8a	Water	09/30/21 18:55	10/04/21 09:35
180-127990-2	BC-0.5.7	Water	09/30/21 17:20	10/04/21 09:35
180-127990-3	BC-0.5.6	Water	09/30/21 17:05	10/04/21 09:35
180-127990-4	BC-0.5.5	Water	09/30/21 16:41	10/04/21 09:35
180-127990-5	BC-BR	Water	09/30/21 16:16	10/04/21 09:35
180-127990-6	BC-0.3	Water	09/30/21 15:46	10/02/21 09:30

Method Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

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

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.8a
Date Collected: 09/30/21 18:55
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 11:04	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 15:52	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 13:41	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: BC-0.5.7
Date Collected: 09/30/21 17:20
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 11:22	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 15:56	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 13:47	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: BC-0.5.6
Date Collected: 09/30/21 17:05
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 13:27	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 15:59	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:19	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.5.5

Date Collected: 09/30/21 16:41
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 13:45	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:03	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:25	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: BC-BR

Date Collected: 09/30/21 16:16
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 14:03	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:07	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:32	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: BC-0.3

Date Collected: 09/30/21 15:46
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127990-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			374012	10/05/21 14:21	J1T	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:10	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:37	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

MM1 = Mary Beth Miller

Batch Type: Analysis

CMT = Cassandra Tlumac
J1T = Jianwu Tang
KMM = Kendric Moore
RSK = Robert Kurtz

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.8a

Date Collected: 09/30/21 18:55
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.8		1.0	0.71	mg/L			10/05/21 11:04	1
Fluoride	0.16		0.10	0.026	mg/L			10/05/21 11:04	1
Sulfate	4.2		1.0	0.76	mg/L			10/05/21 11:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 15:52	1
Calcium	9.4		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 15:52	1
Cobalt	0.00031	J	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 15:52	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 15:52	1
Magnesium	4.7		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 15:52	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 15:52	1
Potassium	2.3		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 15:52	1
Sodium	9.3		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	92		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	54		5.0	5.0	mg/L			10/05/21 13:41	1
Bicarbonate Alkalinity as CaCO3	54		5.0	5.0	mg/L			10/05/21 13:41	1

Client Sample Results

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.5.7

Date Collected: 09/30/21 17:20
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.9		1.0	0.71	mg/L			10/05/21 11:22	1
Fluoride	0.13		0.10	0.026	mg/L			10/05/21 11:22	1
Sulfate	6.7		1.0	0.76	mg/L			10/05/21 11:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.043	J	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 15:56	1
Calcium	9.9		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 15:56	1
Cobalt	0.00045	J	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 15:56	1
Magnesium	5.0		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 15:56	1
Potassium	2.4		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 15:56	1
Sodium	9.6		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	100		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	54		5.0	5.0	mg/L			10/05/21 13:47	1
Bicarbonate Alkalinity as CaCO3	54		5.0	5.0	mg/L			10/05/21 13:47	1

Client Sample Results

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.5.6

Date Collected: 09/30/21 17:05
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.2**		1.0	0.71	mg/L			10/05/21 13:27	1
Fluoride	**0.15**		0.10	0.026	mg/L			10/05/21 13:27	1
Sulfate	**6.7**		1.0	0.76	mg/L			10/05/21 13:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 15:59	1
Calcium	**9.7**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 15:59	1
Cobalt	**0.00033**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 15:59	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 15:59	1
Magnesium	**4.9**		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 15:59	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 15:59	1
Potassium	**2.3**		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 15:59	1
Sodium	**9.2**		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**97**		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	**55**		5.0	5.0	mg/L			10/05/21 14:19	1
Bicarbonate Alkalinity as CaCO3	**55**		5.0	5.0	mg/L			10/05/21 14:19	1

Client Sample Results

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.5.5

Date Collected: 09/30/21 16:41
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.0		1.0	0.71	mg/L			10/05/21 13:45	1
Fluoride	0.11		0.10	0.026	mg/L			10/05/21 13:45	1
Sulfate	6.6		1.0	0.76	mg/L			10/05/21 13:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.041	J	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:03	1
Calcium	10		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:03	1
Cobalt	0.00056	J	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:03	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:03	1
Magnesium	4.9		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 16:03	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:03	1
Potassium	2.3		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 16:03	1
Sodium	9.5		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 16:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	110		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	52		5.0	5.0	mg/L			10/05/21 14:25	1
Bicarbonate Alkalinity as CaCO3	52		5.0	5.0	mg/L			10/05/21 14:25	1

Client Sample Results

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-BR

Date Collected: 09/30/21 16:16
Date Received: 10/04/21 09:35

Lab Sample ID: 180-127990-5

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.3		1.0	0.71	mg/L			10/05/21 14:03	1
Fluoride	0.12		0.10	0.026	mg/L			10/05/21 14:03	1
Sulfate	7.0		1.0	0.76	mg/L			10/05/21 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:07	1
Calcium	10		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:07	1
Cobalt	0.00042	J	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:07	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:07	1
Magnesium	5.0		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 16:07	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:07	1
Potassium	2.4		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 16:07	1
Sodium	9.5		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	96		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	52		5.0	5.0	mg/L			10/05/21 14:32	1
Bicarbonate Alkalinity as CaCO3	52		5.0	5.0	mg/L			10/05/21 14:32	1

Client Sample Results

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127990-1

Client Sample ID: BC-0.3

Date Collected: 09/30/21 15:46
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127990-6

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.3**	**F1**	1.0	0.71	mg/L			10/05/21 14:21	1
Fluoride	**0.12**	**F1**	0.10	0.026	mg/L			10/05/21 14:21	1
Sulfate	**6.3**	**F1**	1.0	0.76	mg/L			10/05/21 14:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:10	1
Calcium	**10**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:10	1
Cobalt	**0.00029**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:10	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:10	1
Magnesium	**4.9**		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 16:10	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:10	1
Potassium	**2.4**		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 16:10	1
Sodium	**9.4**		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 16:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**96**		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	**54**		5.0	5.0	mg/L			10/05/21 14:37	1
Bicarbonate Alkalinity as CaCO3	**54**		5.0	5.0	mg/L			10/05/21 14:37	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 180-374012/7
Matrix: Water
Analysis Batch: 374012

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/05/21 09:35	1
Fluoride	<0.026		0.10	0.026	mg/L			10/05/21 09:35	1
Sulfate	<0.76		1.0	0.76	mg/L			10/05/21 09:35	1

Lab Sample ID: LCS 180-374012/6
Matrix: Water
Analysis Batch: 374012

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	54.6		mg/L		109	90 - 110
Fluoride	2.50	2.68		mg/L		107	90 - 110
Sulfate	50.0	53.4		mg/L		107	90 - 110

Lab Sample ID: 180-127990-6 MS
Matrix: Water
Analysis Batch: 374012

Client Sample ID: BC-0.3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.3	F1	50.0	58.6		mg/L		99	90 - 110
Fluoride	0.12	F1	2.50	2.69		mg/L		103	90 - 110
Sulfate	6.3	F1	50.0	56.3		mg/L		100	90 - 110

Lab Sample ID: 180-127990-6 MSD
Matrix: Water
Analysis Batch: 374012

Client Sample ID: BC-0.3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.3	F1	50.0	50.2	F1	mg/L		82	90 - 110	16	20
Fluoride	0.12	F1	2.50	2.24	F1	mg/L		85	90 - 110	18	20
Sulfate	6.3	F1	50.0	46.9	F1	mg/L		81	90 - 110	18	20

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

Lab Sample ID: MB 180-375056/1-A
Matrix: Water
Analysis Batch: 375344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 375056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 13:26	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 13:26	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 13:26	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 13:26	1
Magnesium	<0.083		0.50	0.083	mg/L		10/13/21 09:09	10/14/21 13:26	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 13:26	1
Potassium	<0.16		0.50	0.16	mg/L		10/13/21 09:09	10/14/21 13:26	1
Sodium	<0.35		0.50	0.35	mg/L		10/13/21 09:09	10/14/21 13:26	1

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

Lab Sample ID: LCS 180-375056/2-A
Matrix: Water
Analysis Batch: 375344

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 375056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.25	1.20		mg/L		96	80 - 120
Calcium	25.0	25.3		mg/L		101	80 - 120
Cobalt	0.500	0.504		mg/L		101	80 - 120
Lithium	0.500	0.502		mg/L		100	80 - 120
Magnesium	25.0	23.8		mg/L		95	80 - 120
Molybdenum	0.500	0.514		mg/L		103	80 - 120
Potassium	25.0	23.5		mg/L		94	80 - 120
Sodium	25.0	24.4		mg/L		98	80 - 120

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

Lab Sample ID: MB 180-374236/2
Matrix: Water
Analysis Batch: 374236

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/06/21 11:39	1

Lab Sample ID: LCS 180-374236/1
Matrix: Water
Analysis Batch: 374236

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	422	406		mg/L		96	80 - 120

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-374194/6
Matrix: Water
Analysis Batch: 374194

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			10/05/21 13:03	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			10/05/21 13:03	1

Lab Sample ID: LCS 180-374194/5
Matrix: Water
Analysis Batch: 374194

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	246		mg/L		98	90 - 110

Lab Sample ID: LLCS 180-374194/4
Matrix: Water
Analysis Batch: 374194

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	15.0	17.1		mg/L		114	75 - 125

HPLC/IC

Analysis Batch: 374012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-1	BC-0.8a	Total/NA	Water	EPA 300.0 R2.1	
180-127990-2	BC-0.5.7	Total/NA	Water	EPA 300.0 R2.1	
180-127990-3	BC-0.5.6	Total/NA	Water	EPA 300.0 R2.1	
180-127990-4	BC-0.5.5	Total/NA	Water	EPA 300.0 R2.1	
180-127990-5	BC-BR	Total/NA	Water	EPA 300.0 R2.1	
180-127990-6	BC-0.3	Total/NA	Water	EPA 300.0 R2.1	
MB 180-374012/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-374012/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-127990-6 MS	BC-0.3	Total/NA	Water	EPA 300.0 R2.1	
180-127990-6 MSD	BC-0.3	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 375056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-1	BC-0.8a	Total Recoverable	Water	3005A	
180-127990-2	BC-0.5.7	Total Recoverable	Water	3005A	
180-127990-3	BC-0.5.6	Total Recoverable	Water	3005A	
180-127990-4	BC-0.5.5	Total Recoverable	Water	3005A	
180-127990-5	BC-BR	Total Recoverable	Water	3005A	
180-127990-6	BC-0.3	Total Recoverable	Water	3005A	
MB 180-375056/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-375056/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 375344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-1	BC-0.8a	Total Recoverable	Water	EPA 6020B	375056
180-127990-2	BC-0.5.7	Total Recoverable	Water	EPA 6020B	375056
180-127990-3	BC-0.5.6	Total Recoverable	Water	EPA 6020B	375056
180-127990-4	BC-0.5.5	Total Recoverable	Water	EPA 6020B	375056
180-127990-5	BC-BR	Total Recoverable	Water	EPA 6020B	375056
180-127990-6	BC-0.3	Total Recoverable	Water	EPA 6020B	375056
MB 180-375056/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	375056
LCS 180-375056/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	375056

General Chemistry

Analysis Batch: 374194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-1	BC-0.8a	Total/NA	Water	SM2320 B	
180-127990-2	BC-0.5.7	Total/NA	Water	SM2320 B	
180-127990-3	BC-0.5.6	Total/NA	Water	SM2320 B	
180-127990-4	BC-0.5.5	Total/NA	Water	SM2320 B	
180-127990-5	BC-BR	Total/NA	Water	SM2320 B	
180-127990-6	BC-0.3	Total/NA	Water	SM2320 B	
MB 180-374194/6	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-374194/5	Lab Control Sample	Total/NA	Water	SM2320 B	
LLCS 180-374194/4	Lab Control Sample	Total/NA	Water	SM2320 B	

Analysis Batch: 374236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-1	BC-0.8a	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 374236 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127990-2	BC-0.5.7	Total/NA	Water	SM 2540C	
180-127990-3	BC-0.5.6	Total/NA	Water	SM 2540C	
180-127990-4	BC-0.5.5	Total/NA	Water	SM 2540C	
180-127990-5	BC-BR	Total/NA	Water	SM 2540C	
180-127990-6	BC-0.3	Total/NA	Water	SM 2540C	
MB 180-374236/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-374236/1	Lab Control Sample	Total/NA	Water	SM 2540C	

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Johnson/Rago	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No:
Client Contact: SCS Contacts	Phone: 678.485.5298	E-Mail: shali.brown@eurofinset.com		Page:
Company: GA Power				Job #:
Address: 241 Ralph McGill Blvd SE	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308				
Phone: 404-506-7116(Tel)	PO #:			
Email: SCS Contacts	WO #:			
Project Name: CCR - Plant Arkwright Surfacewater	Project #: 18023157			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CCR App III[1]	Major Ions[2]	CCR App IV Metals[3]	Cobalt	Molybdenum	Lithium	Total Number of containers	Special Instructions/Note:
	9/30/21		Preservation Code:											
BC-0.8a	9/30/21	1855	G	W			x	x		x	x	x		CCR App III[1] - Boron, Calcium, Chloride, Fluoride, Sulfate, TDS
BC-0.5.7	9/30/21	1720	G	W			x	x		x				Major Ions[2] - Mg, Na, K, total alkalinity, bicarbonate alkalinity
BC-0.5.6	9/30/21	1705	G	W			x	x		x	x	x		
BC-0.5.5	9/30/21	1641	G	W			x	x		x	x	x		
BC-BR	9/30/21	1616	G	W			x	x		x	x	x		CCR App IV Metals[3] - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Floride, Lead, Lithium, Molydbenum, Selenium, Radium 226 and 228 combined
BC-0.3	9/30/21	1546	G	W			x	x		x	x	x		

180-127990 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10-1-21 1715			10/1/21 1715	
2		10/1/21 1715			/	
3		/			/	

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

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Johnson/Rago	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No:
Client Contact: SCS Contacts	Phone: 678.485.5298	E-Mail: shali.brown@eurofinset.com		Page:
Company: GA Power				Job #:
Address: 241 Ralph McGill Blvd SE	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308				
Phone: 404-506-7116(Tel)	PO #:			
Email: SCS Contacts	WO #:			
Project Name: CCR - Plant Arkwright Surfacewater	Project #: 18023157			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CCR App III[1]	Major Ions[2]	CCR App IV Metals[3]	Cobalt	Molybdenum	Lithium	Total Number of containers	Special Instructions/Note:
	Preservation Code:													
BC-0.8a	9/30/21	1855	G	W			x	x		x	x	x		CCR App III[1] - Boron, Calcium, Chloride, Fluoride, Sulfate, TDS
BC-0.5.7	9/30/21	1720	G	W			x	x		x				
BC-0.5.6	9/30/21	1705	G	W			x	x		x	x	x		Major Ions[2] - Mg, Na, K, total alkalinity, bicarbonate alkalinity
BC-0.5.5	9/30/21	1641	G	W			x	x		x	x	x		
BC-BR	9/30/21	1616	G	W			x	x		x	x	x		CCR App IV Metals[3] - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Floride, Lead, Lithium, Molydbenum, Selenium, Radium 226 and 228 combined
BC-0.3	9/30/21	1546	G	W			x	x		x	x	x		

Rcd 10/4/21 9:35

180-127990-02 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 10-1-21 1715	Company	Received by:	Date/Time: 10/1/21 1715	Company
Relinquished by:	Date/Time: 10/1/21 1715	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 01/16/2019

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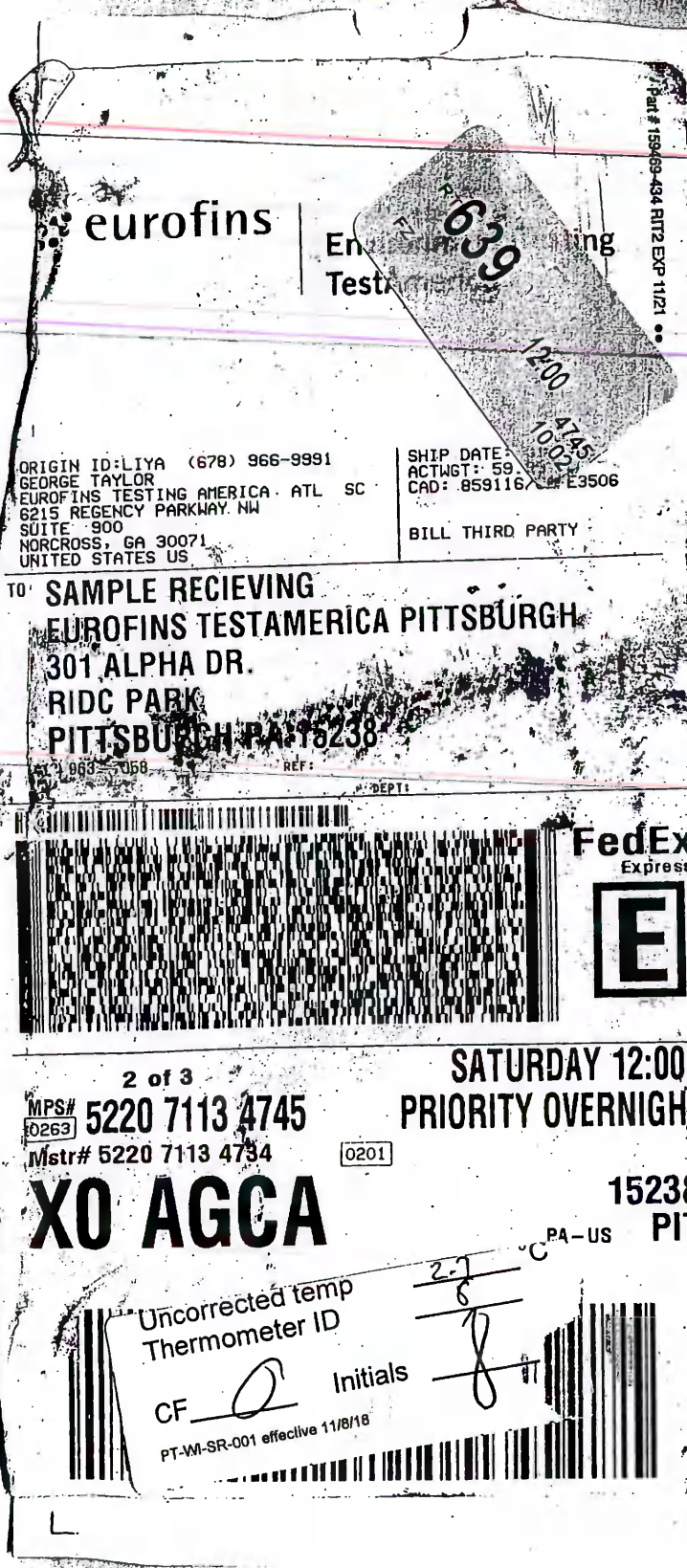
Test...



Part # 159469-434 RIT2 EXP 11/21

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10:02

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE:
ACTWGT: 59.
CAD: 859116/ E3506

BILL THIRD PARTY

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
963 058 REF:
DEPT:

FedEx Express

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MPS# 5220 7113 4745
0263
Mstr# 5220 7113 4734
0201

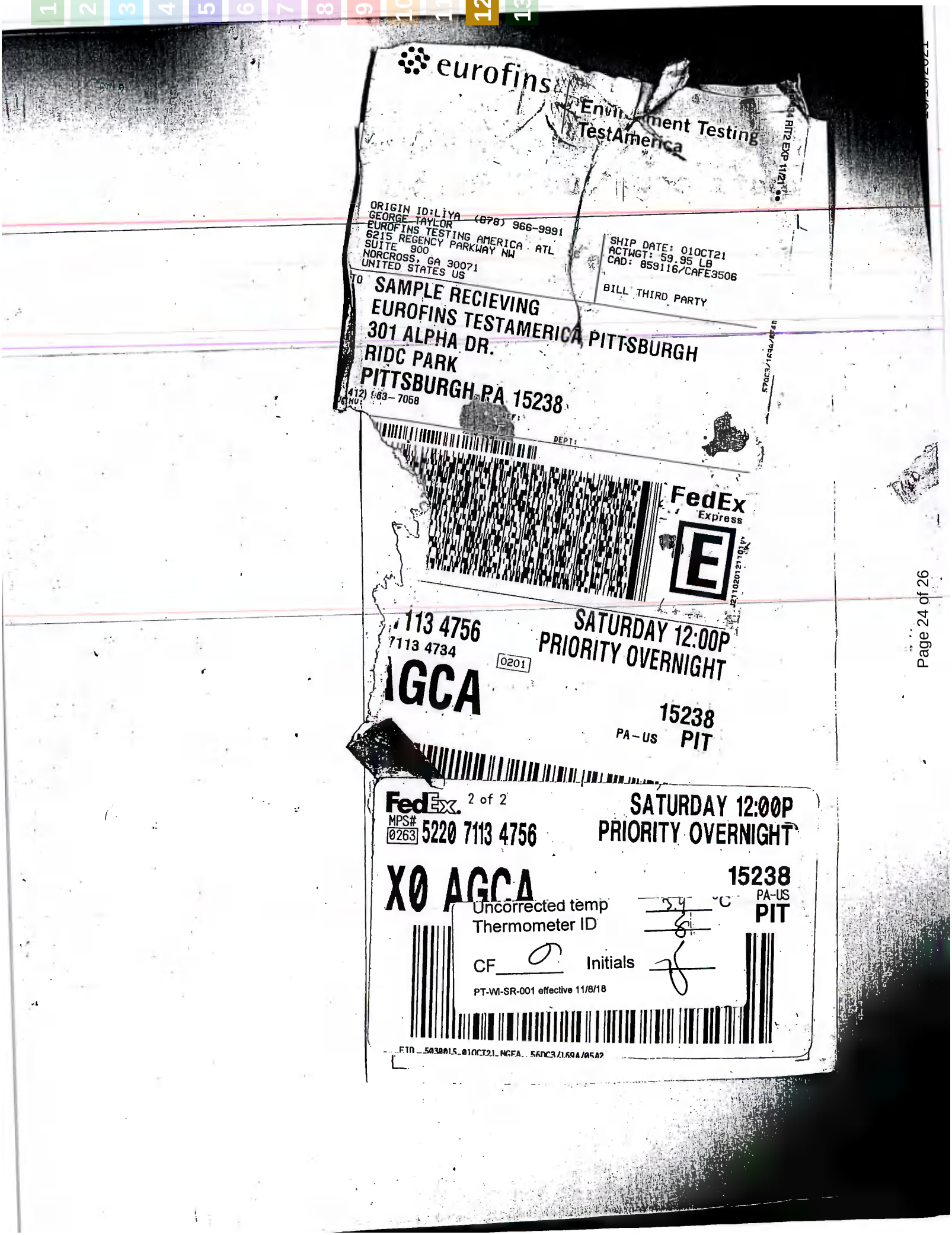
SATURDAY 12:00P
PRIORITY OVERNIGHT

XO AGCA

15238
PIT
PA-US

180-127990 Waybill

Uncorrected temp 2.7 °C
Thermometer ID 6
CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18


eurofins
Environment Testing
TestAmerica
ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA, ATL
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US
SHIP DATE: 01OCT21
ACTWGT: 59.95 LB
CAD: 859116/CAFE3506
BILL THIRD PARTY
TO SAMPLE RECIEVING
EUROFINS TESTAMERICA, PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
DEPT:
FedEx
Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
0201
AGCA
15238
PA-US
PIT
FedEx
2 of 2
MPS#
0263 5220 7113 4756
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO AGCA
15238
PA-US
PIT
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-127990-1

Login Number: 127990
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-127990-1

Login Number: 127990
List Number: 2
Creator: Kovitch, Christina M

List Source: Eurofins TestAmerica, Pittsburgh

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.	False	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-127991-1
Client Project/Site: Arkwright Surfacewater

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
10/18/2021 5:23:38 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

PA Lab ID: 02-00416

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Case Narrative

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Job ID: 180-127991-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-127991-1

Comments
No additional comments.

Receipt
The samples were received on 10/2/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 3.4º C.

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

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

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

Definitions/Glossary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Qualifiers

HPLC/IC

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

Metals

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

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

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

Sample Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-127991-1	OR + 1.0	Water	09/30/21 12:13	10/02/21 09:30
180-127991-2	OR + 0.25	Water	09/30/21 12:43	10/02/21 09:30
180-127991-3	BC - 0.1	Water	09/30/21 12:52	10/02/21 09:30
180-127991-4	OR - 0.1	Water	09/30/21 13:16	10/02/21 09:30
180-127991-5	OR - 0.3	Water	09/30/21 14:00	10/02/21 09:30
180-127991-6	OR + 0.8	Water	09/30/21 14:40	10/02/21 09:30

Method Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Method	Method Description	Protocol	Laboratory
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

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

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR + 1.0

Date Collected: 09/30/21 12:13
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/02/21 22:16	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:14	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374236	10/06/21 11:39	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:48	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: OR + 0.25

Date Collected: 09/30/21 12:43
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/02/21 23:09	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:17	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374416	10/07/21 11:38	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 14:54	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: BC - 0.1

Date Collected: 09/30/21 12:52
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/02/21 23:27	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:28	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374416	10/07/21 11:38	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 15:00	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR - 0.1

Date Collected: 09/30/21 13:16
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/02/21 23:45	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:32	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374416	10/07/21 11:38	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 15:40	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: OR - 0.3

Date Collected: 09/30/21 14:00
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/03/21 00:03	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:36	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374416	10/07/21 11:38	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 15:52	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Client Sample ID: OR + 0.8

Date Collected: 09/30/21 14:40
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 300.0 R2.1		1			373784	10/03/21 00:21	JRB	TAL PIT
	Instrument ID: INTEGRION									
Total Recoverable	Prep	3005A			50 mL	50 mL	375056	10/13/21 09:09	MM1	TAL PIT
Total Recoverable	Analysis	EPA 6020B		1			375344	10/14/21 16:39	RSK	TAL PIT
	Instrument ID: A									
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	374416	10/07/21 11:38	KMM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM2320 B		1			374194	10/05/21 13:09	CMT	TAL PIT
	Instrument ID: PCTITRATOR									

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

MM1 = Mary Beth Miller

Batch Type: Analysis

CMT = Cassandra Tlumac

JRB = James Burzio

KMM = Kendric Moore

RSK = Robert Kurtz

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR + 1.0

Date Collected: 09/30/21 12:13
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-1

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.2**		1.0	0.71	mg/L			10/02/21 22:16	1
Fluoride	**0.16**		0.10	0.026	mg/L			10/02/21 22:16	1
Sulfate	**6.4**		1.0	0.76	mg/L			10/02/21 22:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:14	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:14	1
Barium	**0.021**		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:14	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:14	1
Boron	**0.041**	**J**	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:14	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:14	1
Calcium	**7.2**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:14	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:14	1
Cobalt	**0.00015**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:14	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:14	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:14	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:14	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:14	1
Potassium	**2900**		500	160	ug/L		10/13/21 09:09	10/14/21 16:14	1
Magnesium	**2200**		500	83	ug/L		10/13/21 09:09	10/14/21 16:14	1
Sodium	**8100**		500	350	ug/L		10/13/21 09:09	10/14/21 16:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**73**		10	10	mg/L			10/06/21 11:39	1
Total Alkalinity as CaCO3 to pH 4.5	**34**		5.0	5.0	mg/L			10/05/21 14:48	1
Bicarbonate Alkalinity as CaCO3	**34**		5.0	5.0	mg/L			10/05/21 14:48	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR + 0.25

Date Collected: 09/30/21 12:43
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-2

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.7**		1.0	0.71	mg/L			10/02/21 23:09	1
Fluoride	**0.12**		0.10	0.026	mg/L			10/02/21 23:09	1
Sulfate	**6.0**		1.0	0.76	mg/L			10/02/21 23:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:17	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:17	1
Barium	**0.023**		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:17	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:17	1
Boron	**0.044**	**J**	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:17	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:17	1
Calcium	**7.4**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:17	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:17	1
Cobalt	**0.00013**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:17	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:17	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:17	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:17	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:17	1
Potassium	**3000**		500	160	ug/L		10/13/21 09:09	10/14/21 16:17	1
Magnesium	**2300**		500	83	ug/L		10/13/21 09:09	10/14/21 16:17	1
Sodium	**8200**		500	350	ug/L		10/13/21 09:09	10/14/21 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**66**		10	10	mg/L			10/07/21 11:38	1
Total Alkalinity as CaCO3 to pH 4.5	**35**		5.0	5.0	mg/L			10/05/21 14:54	1
Bicarbonate Alkalinity as CaCO3	**35**		5.0	5.0	mg/L			10/05/21 14:54	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: BC - 0.1

Date Collected: 09/30/21 12:52
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-3

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.7**		1.0	0.71	mg/L			10/02/21 23:27	1
Fluoride	**0.098**	**J**	0.10	0.026	mg/L			10/02/21 23:27	1
Sulfate	**9.2**		1.0	0.76	mg/L			10/02/21 23:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:28	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:28	1
Barium	**0.038**		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:28	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:28	1
Boron	**0.045**	**J**	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:28	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:28	1
Calcium	**10**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:28	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:28	1
Cobalt	**0.00071**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:28	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:28	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:28	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:28	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:28	1
Potassium	**2400**		500	160	ug/L		10/13/21 09:09	10/14/21 16:28	1
Magnesium	**4900**		500	83	ug/L		10/13/21 09:09	10/14/21 16:28	1
Sodium	**9100**		500	350	ug/L		10/13/21 09:09	10/14/21 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**93**		10	10	mg/L			10/07/21 11:38	1
Total Alkalinity as CaCO3 to pH 4.5	**52**		5.0	5.0	mg/L			10/05/21 15:00	1
Bicarbonate Alkalinity as CaCO3	**52**		5.0	5.0	mg/L			10/05/21 15:00	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR - 0.1

Date Collected: 09/30/21 13:16
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-4

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.5		1.0	0.71	mg/L			10/02/21 23:45	1
Fluoride	0.12		0.10	0.026	mg/L			10/02/21 23:45	1
Sulfate	5.7		1.0	0.76	mg/L			10/02/21 23:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:32	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:32	1
Barium	0.022		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:32	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:32	1
Boron	0.041	J	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:32	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:32	1
Calcium	7.1		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:32	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:32	1
Cobalt	0.00016	J	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:32	1
Lead	0.00016	J	0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:32	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:32	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:32	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:32	1
Potassium	3000		500	160	ug/L		10/13/21 09:09	10/14/21 16:32	1
Magnesium	2300		500	83	ug/L		10/13/21 09:09	10/14/21 16:32	1
Sodium	8100		500	350	ug/L		10/13/21 09:09	10/14/21 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	61		10	10	mg/L			10/07/21 11:38	1
Total Alkalinity as CaCO3 to pH 4.5	33		5.0	5.0	mg/L			10/05/21 15:40	1
Bicarbonate Alkalinity as CaCO3	33		5.0	5.0	mg/L			10/05/21 15:40	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR - 0.3

Date Collected: 09/30/21 14:00
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-5

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.9**		1.0	0.71	mg/L			10/03/21 00:03	1
Fluoride	**0.11**		0.10	0.026	mg/L			10/03/21 00:03	1
Sulfate	**6.0**		1.0	0.76	mg/L			10/03/21 00:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:36	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:36	1
Barium	**0.023**		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:36	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:36	1
Boron	**0.042**	**J**	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:36	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:36	1
Calcium	**7.5**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:36	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:36	1
Cobalt	**0.00018**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:36	1
Lead	**0.00013**	**J**	0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:36	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:36	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:36	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:36	1
Potassium	**3000**		500	160	ug/L		10/13/21 09:09	10/14/21 16:36	1
Magnesium	**2300**		500	83	ug/L		10/13/21 09:09	10/14/21 16:36	1
Sodium	**8300**		500	350	ug/L		10/13/21 09:09	10/14/21 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**62**		10	10	mg/L			10/07/21 11:38	1
Total Alkalinity as CaCO3 to pH 4.5	**34**		5.0	5.0	mg/L			10/05/21 15:52	1
Bicarbonate Alkalinity as CaCO3	**34**		5.0	5.0	mg/L			10/05/21 15:52	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

Client Sample ID: OR + 0.8

Date Collected: 09/30/21 14:40
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-6

Matrix: Water

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.7**		1.0	0.71	mg/L			10/03/21 00:21	1
Fluoride	**0.13**		0.10	0.026	mg/L			10/03/21 00:21	1
Sulfate	**5.8**		1.0	0.76	mg/L			10/03/21 00:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 16:39	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 16:39	1
Barium	**0.021**		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 16:39	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 16:39	1
Boron	**0.039**	**J**	0.080	0.039	mg/L		10/13/21 09:09	10/14/21 16:39	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 16:39	1
Calcium	**7.3**		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 16:39	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 16:39	1
Cobalt	**0.00015**	**J**	0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 16:39	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 16:39	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 16:39	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 16:39	1
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 16:39	1
Potassium	**3100**		500	160	ug/L		10/13/21 09:09	10/14/21 16:39	1
Magnesium	**2300**		500	83	ug/L		10/13/21 09:09	10/14/21 16:39	1
Sodium	**8300**		500	350	ug/L		10/13/21 09:09	10/14/21 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**65**		10	10	mg/L			10/07/21 11:38	1
Total Alkalinity as CaCO3 to pH 4.5	**34**		5.0	5.0	mg/L			10/05/21 13:09	1
Bicarbonate Alkalinity as CaCO3	**34**		5.0	5.0	mg/L			10/05/21 13:09	1

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 180-373784/7
Matrix: Water
Analysis Batch: 373784

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.71		1.0	0.71	mg/L			10/02/21 14:02	1
Fluoride	<0.026		0.10	0.026	mg/L			10/02/21 14:02	1
Sulfate	<0.76		1.0	0.76	mg/L			10/02/21 14:02	1

Lab Sample ID: LCS 180-373784/6
Matrix: Water
Analysis Batch: 373784

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.8		mg/L		98	90 - 110
Fluoride	2.50	2.40		mg/L		96	90 - 110
Sulfate	50.0	47.8		mg/L		96	90 - 110

Lab Sample ID: 180-127991-1 MS
Matrix: Water
Analysis Batch: 373784

Client Sample ID: OR + 1.0
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	8.2		50.0	54.9		mg/L		93	90 - 110
Fluoride	0.16		2.50	2.63		mg/L		99	90 - 110
Sulfate	6.4		50.0	54.2		mg/L		95	90 - 110

Lab Sample ID: 180-127991-1 MSD
Matrix: Water
Analysis Batch: 373784

Client Sample ID: OR + 1.0
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	8.2		50.0	55.5		mg/L		95	90 - 110	1	20
Fluoride	0.16		2.50	2.63		mg/L		99	90 - 110	0	20
Sulfate	6.4		50.0	54.6		mg/L		96	90 - 110	1	20

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

Lab Sample ID: MB 180-375056/1-A
Matrix: Water
Analysis Batch: 375344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 375056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00038		0.0020	0.00038	mg/L		10/13/21 09:09	10/14/21 13:26	1
Arsenic	<0.00031		0.0010	0.00031	mg/L		10/13/21 09:09	10/14/21 13:26	1
Barium	<0.0016		0.010	0.0016	mg/L		10/13/21 09:09	10/14/21 13:26	1
Beryllium	<0.00018		0.0025	0.00018	mg/L		10/13/21 09:09	10/14/21 13:26	1
Boron	<0.039		0.080	0.039	mg/L		10/13/21 09:09	10/14/21 13:26	1
Cadmium	<0.00022		0.0025	0.00022	mg/L		10/13/21 09:09	10/14/21 13:26	1
Calcium	<0.13		0.50	0.13	mg/L		10/13/21 09:09	10/14/21 13:26	1
Chromium	<0.0015		0.0020	0.0015	mg/L		10/13/21 09:09	10/14/21 13:26	1
Cobalt	<0.00013		0.0025	0.00013	mg/L		10/13/21 09:09	10/14/21 13:26	1
Lead	<0.00013		0.0010	0.00013	mg/L		10/13/21 09:09	10/14/21 13:26	1
Lithium	<0.0034		0.0050	0.0034	mg/L		10/13/21 09:09	10/14/21 13:26	1
Molybdenum	<0.00061		0.015	0.00061	mg/L		10/13/21 09:09	10/14/21 13:26	1

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

Lab Sample ID: MB 180-375056/1-A
Matrix: Water
Analysis Batch: 375344

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 375056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0015		0.0050	0.0015	mg/L		10/13/21 09:09	10/14/21 13:26	1
Potassium	<160		500	160	ug/L		10/13/21 09:09	10/14/21 13:26	1
Magnesium	<83		500	83	ug/L		10/13/21 09:09	10/14/21 13:26	1
Sodium	<350		500	350	ug/L		10/13/21 09:09	10/14/21 13:26	1

Lab Sample ID: LCS 180-375056/2-A
Matrix: Water
Analysis Batch: 375344

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 375056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.238		mg/L		95	80 - 120
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.510		mg/L		102	80 - 120
Boron	1.25	1.20		mg/L		96	80 - 120
Cadmium	0.500	0.504		mg/L		101	80 - 120
Calcium	25.0	25.3		mg/L		101	80 - 120
Chromium	0.500	0.510		mg/L		102	80 - 120
Cobalt	0.500	0.504		mg/L		101	80 - 120
Lead	0.500	0.511		mg/L		102	80 - 120
Lithium	0.500	0.502		mg/L		100	80 - 120
Molybdenum	0.500	0.514		mg/L		103	80 - 120
Selenium	1.00	1.02		mg/L		102	80 - 120
Potassium	25000	23500		ug/L		94	80 - 120
Magnesium	25000	23800		ug/L		95	80 - 120
Sodium	25000	24400		ug/L		98	80 - 120

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

Lab Sample ID: MB 180-374236/2
Matrix: Water
Analysis Batch: 374236

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/06/21 11:39	1

Lab Sample ID: LCS 180-374236/1
Matrix: Water
Analysis Batch: 374236

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	422	406		mg/L		96	80 - 120

Lab Sample ID: MB 180-374416/2
Matrix: Water
Analysis Batch: 374416

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	10	mg/L			10/07/21 11:38	1

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

Lab Sample ID: LCS 180-374416/1
Matrix: Water
Analysis Batch: 374416

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	422	418		mg/L		99	80 - 120

Lab Sample ID: 180-127991-2 DU
Matrix: Water
Analysis Batch: 374416

Client Sample ID: OR + 0.25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	66		62.0		mg/L		6	10

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-374194/30
Matrix: Water
Analysis Batch: 374194

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			10/05/21 15:35	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			10/05/21 15:35	1

Lab Sample ID: MB 180-374194/6
Matrix: Water
Analysis Batch: 374194

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	<5.0		5.0	5.0	mg/L			10/05/21 13:03	1
Bicarbonate Alkalinity as CaCO3	<5.0		5.0	5.0	mg/L			10/05/21 13:03	1

Lab Sample ID: LCS 180-374194/29
Matrix: Water
Analysis Batch: 374194

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	244		mg/L		97	90 - 110

Lab Sample ID: LCS 180-374194/5
Matrix: Water
Analysis Batch: 374194

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	250	246		mg/L		98	90 - 110

Lab Sample ID: LLCS 180-374194/28
Matrix: Water
Analysis Batch: 374194

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3 to pH 4.5	15.0	15.8		mg/L		105	75 - 125

Method: SM2320 B - Alkalinity, Total (Continued)

Lab Sample ID: LLCS 180-374194/4
Matrix: Water
Analysis Batch: 374194

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

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Alkalinity as CaCO3 to pH 4.5			15.0	17.1		mg/L		114	75 - 125		

Lab Sample ID: 180-127991-4 DU
Matrix: Water
Analysis Batch: 374194

Client Sample ID: OR - 0.1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	33			34.3		mg/L				3	20
Bicarbonate Alkalinity as CaCO3	33			34.3		mg/L				3	20

Lab Sample ID: 180-127991-6 DU
Matrix: Water
Analysis Batch: 374194

Client Sample ID: OR + 0.8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity as CaCO3 to pH 4.5	34			33.6		mg/L				0.7	20
Bicarbonate Alkalinity as CaCO3	34			33.6		mg/L				0.7	20

QC Association Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-1

HPLC/IC

Analysis Batch: 373784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total/NA	Water	EPA 300.0 R2.1	
180-127991-2	OR + 0.25	Total/NA	Water	EPA 300.0 R2.1	
180-127991-3	BC - 0.1	Total/NA	Water	EPA 300.0 R2.1	
180-127991-4	OR - 0.1	Total/NA	Water	EPA 300.0 R2.1	
180-127991-5	OR - 0.3	Total/NA	Water	EPA 300.0 R2.1	
180-127991-6	OR + 0.8	Total/NA	Water	EPA 300.0 R2.1	
MB 180-373784/7	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-373784/6	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	
180-127991-1 MS	OR + 1.0	Total/NA	Water	EPA 300.0 R2.1	
180-127991-1 MSD	OR + 1.0	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 375056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total Recoverable	Water	3005A	
180-127991-2	OR + 0.25	Total Recoverable	Water	3005A	
180-127991-3	BC - 0.1	Total Recoverable	Water	3005A	
180-127991-4	OR - 0.1	Total Recoverable	Water	3005A	
180-127991-5	OR - 0.3	Total Recoverable	Water	3005A	
180-127991-6	OR + 0.8	Total Recoverable	Water	3005A	
MB 180-375056/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-375056/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 375344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total Recoverable	Water	EPA 6020B	375056
180-127991-2	OR + 0.25	Total Recoverable	Water	EPA 6020B	375056
180-127991-3	BC - 0.1	Total Recoverable	Water	EPA 6020B	375056
180-127991-4	OR - 0.1	Total Recoverable	Water	EPA 6020B	375056
180-127991-5	OR - 0.3	Total Recoverable	Water	EPA 6020B	375056
180-127991-6	OR + 0.8	Total Recoverable	Water	EPA 6020B	375056
MB 180-375056/1-A	Method Blank	Total Recoverable	Water	EPA 6020B	375056
LCS 180-375056/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020B	375056

General Chemistry

Analysis Batch: 374194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total/NA	Water	SM2320 B	
180-127991-2	OR + 0.25	Total/NA	Water	SM2320 B	
180-127991-3	BC - 0.1	Total/NA	Water	SM2320 B	
180-127991-4	OR - 0.1	Total/NA	Water	SM2320 B	
180-127991-5	OR - 0.3	Total/NA	Water	SM2320 B	
180-127991-6	OR + 0.8	Total/NA	Water	SM2320 B	
MB 180-374194/30	Method Blank	Total/NA	Water	SM2320 B	
MB 180-374194/6	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-374194/29	Lab Control Sample	Total/NA	Water	SM2320 B	
LCS 180-374194/5	Lab Control Sample	Total/NA	Water	SM2320 B	
LLCS 180-374194/28	Lab Control Sample	Total/NA	Water	SM2320 B	
LLCS 180-374194/4	Lab Control Sample	Total/NA	Water	SM2320 B	
180-127991-4 DU	OR - 0.1	Total/NA	Water	SM2320 B	

General Chemistry (Continued)

Analysis Batch: 374194 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-6 DU	OR + 0.8	Total/NA	Water	SM2320 B	

Analysis Batch: 374236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total/NA	Water	SM 2540C	
MB 180-374236/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-374236/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 374416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-2	OR + 0.25	Total/NA	Water	SM 2540C	
180-127991-3	BC - 0.1	Total/NA	Water	SM 2540C	
180-127991-4	OR - 0.1	Total/NA	Water	SM 2540C	
180-127991-5	OR - 0.3	Total/NA	Water	SM 2540C	
180-127991-6	OR + 0.8	Total/NA	Water	SM 2540C	
MB 180-374416/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-374416/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-127991-2 DU	OR + 0.25	Total/NA	Water	SM 2540C	

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

Chain of Custody Record

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Client Information	Sampler: Johnson/Rago	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No:
Client Contact: SCS Contacts	Phone: 678.485.5298	E-Mail: shali.brown@eurofinset.com		Page:
Company: GA Power				Job #:
Address: 241 Ralph McGill Blvd SE	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308				
Phone: 404-506-7116(Tel)	PO #:			
Email: SCS Contacts	WO #:			
Project Name: CCR - Plant Arkwright Surfacewater	Project #: 18023157			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CCR App III[1]	Major Ions[2]	CCR App IV Metals[3]	Cobalt	Molybdenum	Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
OR + 1.0	9/30/21	1213	G	W			✓	✓	✓					
OR + 0.25	9/30/21	1243	G	W			✓	✓	✓					
BC - 0.1	9/30/21	1252	G	W			✓	✓	✓					
OR - 0.1	9/30/21	1316	G	W			✓	✓	✓					
OR - 0.3	9/30/21	1400	G	W			✓	✓	✓					
OR + 0.8	9/30/21	1440	G	W			✓	✓	✓					

180-127991 Chain of Custody

CCR App III[1] - Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

Major Ions[2] - Mg, Na, K, total alkalinity, bicarbonate alkalinity

CCR App IV Metals[3] - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Floride, Lead, Lithium, Molydbenum, Selenium, Radium 226 and 228 combined

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10-1-21 1715			10/1/21 1715	
2		10/1/21 1715			10/2/21 945	EST-PH
3						

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

g.

Part # 159469-434 RIT2 EXP 11/21

eurofins | En... ...ing
Test...

639

12:00
4745
10:02

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE:
ACTWGT: 59.
CAD: 859116/ E3506

BILL THIRD PARTY

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238

963 058 REF:
DEPT:

FedEx Express

E

J211020121101

2 of 3

MPS# 0263 5220 7113 4745
Mstr# 5220 7113 4734 0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO AGCA

15238
PA-US PIT

Uncorrected temp 2.7 °C
Thermometer ID 6
CF 0 Initials 8

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

180-127991 Waybill

eurofins

Environment Testing
TestAmerica

34 RIT2 EXP 11/21

ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 01OCT21
ACTWGT: 59.95 LB
CAD: 859116/CAFE3506

BILL THIRD PARTY

TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058

REF:
DEPT:

FedEx Express

E

J211020121101

113 4756
7113 4734

SATURDAY 12:00P
PRIORITY OVERNIGHT

0201

AGCA

15238
PA-US PIT

FedEx 2 of 2
MPS# 0263 5220 7113 4756

SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 AGCA

15238
PA-US
PIT

Uncorrected temp 3.4 °C
Thermometer ID 8
CF 0 Initials
PT-WI-SR-001 effective 11/8/18

FID 5030015 01OCT21 MGFA 56DC3/169A/05A2

10/18/2021

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-127991-1

Login Number: 127991
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 180-127991-2
Client Project/Site: Arkwright Surfacewater

For:
Southern Company
241 Ralph McGill Blvd SE
B10185
Atlanta, Georgia 30308

Attn: Joju Abraham

Authorized for release by:
11/13/2021 2:28:11 PM

Shali Brown, Project Manager II
(615)301-5031
Shali.Brown@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

PA Lab ID: 02-00416

Table of Contents

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Case Narrative

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Job ID: 180-127991-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-127991-2

Comments
No additional comments.

Receipt
The samples were received on 10/2/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 3.4º C.

RAD
Methods 903.0, 9315: Radium 226 batch 530550
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. OR + 1.0 (180-127991-1), OR + 0.25 (180-127991-2), BC - 0.1 (180-127991-3), OR - 0.1 (180-127991-4), OR - 0.3 (180-127991-5), OR + 0.8 (180-127991-6), (LCS 160-530550/1-A) and (MB 160-530550/24-A)

Methods 904.0, 9320: Ra-228 batch 160-530555
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. OR + 1.0 (180-127991-1), OR + 0.25 (180-127991-2), BC - 0.1 (180-127991-3), OR - 0.1 (180-127991-4), OR - 0.3 (180-127991-5), OR + 0.8 (180-127991-6), (LCS 160-530555/1-A) and (MB 160-530555/24-A)

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

Definitions/Glossary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Qualifiers

Rad

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Laboratory: Eurofins TestAmerica, St. Louis

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21 *
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

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

Sample Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-127991-1	OR + 1.0	Water	09/30/21 12:13	10/02/21 09:30
180-127991-2	OR + 0.25	Water	09/30/21 12:43	10/02/21 09:30
180-127991-3	BC - 0.1	Water	09/30/21 12:52	10/02/21 09:30
180-127991-4	OR - 0.1	Water	09/30/21 13:16	10/02/21 09:30
180-127991-5	OR - 0.3	Water	09/30/21 14:00	10/02/21 09:30
180-127991-6	OR + 0.8	Water	09/30/21 14:40	10/02/21 09:30

Method Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

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

Protocol References:

None = None

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

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

Laboratory References:

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

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: OR + 1.0

Date Collected: 09/30/21 12:13
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.28 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535390	11/08/21 10:46	JLP	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Prep	PrecSep_0			750.28 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535030	11/04/21 17:01	FLC	TAL SL
	Instrument ID: GFPCPURPLE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: OR + 0.25

Date Collected: 09/30/21 12:43
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.37 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535397	11/08/21 11:11	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.37 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535180	11/04/21 17:03	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: BC - 0.1

Date Collected: 09/30/21 12:52
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.57 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535397	11/08/21 11:12	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.57 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535180	11/04/21 17:04	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: OR - 0.1

Date Collected: 09/30/21 13:16
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.07 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535397	11/08/21 11:12	FLC	TAL SL
	Instrument ID: GFPCRED									

Lab Chronicle

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: OR - 0.1

Date Collected: 09/30/21 13:16
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			749.07 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535180	11/04/21 17:04	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: OR - 0.3

Date Collected: 09/30/21 14:00
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.39 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535397	11/08/21 11:12	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.39 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535180	11/04/21 17:04	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Client Sample ID: OR + 0.8

Date Collected: 09/30/21 14:40
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.27 mL	1.0 g	530550	10/08/21 10:44	BMP	TAL SL
Total/NA	Analysis	9315		1			535397	11/08/21 11:13	FLC	TAL SL
	Instrument ID: GFPCRED									
Total/NA	Prep	PrecSep_0			750.27 mL	1.0 g	530555	10/08/21 11:26	BMP	TAL SL
Total/NA	Analysis	9320		1			535180	11/04/21 17:04	FLC	TAL SL
	Instrument ID: GFPCORANGE									
Total/NA	Analysis	Ra226_Ra228		1			536226	11/12/21 00:56	EMH	TAL SL
	Instrument ID: NOEQUIP									

Laboratory References:

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

Analyst References:

Lab: TAL SL

Batch Type: Prep

BMP = Bailey Pinette

Batch Type: Analysis

EMH = Elizabeth Hoerchler

FLC = Fernando Cruz

JLP = James Porter

Client Sample ID: OR + 1.0

Date Collected: 09/30/21 12:13
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-1

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	0.0406	U	0.127	0.127	1.00	0.233	pCi/L	10/08/21 10:44	11/08/21 10:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*10/08/21 10:44*	*11/08/21 10:46*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.118	U	0.218	0.218	1.00	0.423	pCi/L	10/08/21 11:26	11/04/21 17:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:01*	*1*
Y Carrier	*85.6*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:01*	*1*

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	-0.0774	U	0.252	0.252	5.00	0.423	pCi/L		11/12/21 00:56	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: OR + 0.25

Date Collected: 09/30/21 12:43
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-2

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	0.0767	U	0.138	0.138	1.00	0.241	pCi/L	10/08/21 10:44	11/08/21 11:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.4*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:11*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.160	U	0.327	0.327	1.00	0.558	pCi/L	10/08/21 11:26	11/04/21 17:03	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.4*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:03*	*1*
Y Carrier	*80.0*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:03*	*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	0.236	U	0.355	0.355	5.00	0.558	pCi/L		11/12/21 00:56	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: BC - 0.1

Date Collected: 09/30/21 12:52
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-3

Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0285	U	0.101	0.101	1.00	0.215	pCi/L	10/08/21 10:44	11/08/21 11:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0481	U	0.229	0.229	1.00	0.409	pCi/L	10/08/21 11:26	11/04/21 17:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.7*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*
Y Carrier	*83.4*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*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	0.0196	U	0.250	0.250	5.00	0.409	pCi/L		11/12/21 00:56	1

Client Sample ID: OR - 0.1

Date Collected: 09/30/21 13:16
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-4

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	0.0547	U	0.116	0.116	1.00	0.207	pCi/L	10/08/21 10:44	11/08/21 11:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.307	U	0.293	0.295	1.00	0.474	pCi/L	10/08/21 11:26	11/04/21 17:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*100*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*
Y Carrier	*83.7*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*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	0.362	U	0.315	0.317	5.00	0.474	pCi/L		11/12/21 00:56	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: OR - 0.3

Date Collected: 09/30/21 14:00
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-5

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	0.0515	U	0.0973	0.0974	1.00	0.174	pCi/L	10/08/21 10:44	11/08/21 11:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:12*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.231	U	0.285	0.286	1.00	0.471	pCi/L	10/08/21 11:26	11/04/21 17:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*
Y Carrier	*84.9*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*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	0.282	U	0.301	0.302	5.00	0.471	pCi/L		11/12/21 00:56	1

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Client Sample ID: OR + 0.8

Date Collected: 09/30/21 14:40
Date Received: 10/02/21 09:30

Lab Sample ID: 180-127991-6

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	0.110	U	0.107	0.107	1.00	0.164	pCi/L	10/08/21 10:44	11/08/21 11:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:13*	*1*

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0322	U	0.238	0.238	1.00	0.426	pCi/L	10/08/21 11:26	11/04/21 17:04	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*102*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*
Y Carrier	*85.2*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*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	0.142	U	0.261	0.261	5.00	0.426	pCi/L		11/12/21 00:56	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-530550/24-A
Matrix: Water
Analysis Batch: 535397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530550

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02880	U	0.0975	0.0976	1.00	0.185	pCi/L	10/08/21 10:44	11/08/21 11:13	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*10/08/21 10:44*	*11/08/21 11:13*	*1*

Lab Sample ID: LCS 160-530550/1-A
Matrix: Water
Analysis Batch: 535397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530550

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.70		1.49	1.00	0.237	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-530555/24-A
Matrix: Water
Analysis Batch: 535180

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 530555

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2477	U	0.259	0.260	1.00	0.422	pCi/L	10/08/21 11:26	11/04/21 17:04	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*
Y Carrier	*87.1*		*40 - 110*	*10/08/21 11:26*	*11/04/21 17:04*	*1*

Lab Sample ID: LCS 160-530555/1-A
Matrix: Water
Analysis Batch: 535031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 530555

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.2	12.42		1.44	1.00	0.489	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*85.2*		*40 - 110*

QC Association Summary

Client: Southern Company
Project/Site: Arkwright Surfacewater

Job ID: 180-127991-2

Rad

Prep Batch: 530550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total/NA	Water	PrecSep-21	
180-127991-2	OR + 0.25	Total/NA	Water	PrecSep-21	
180-127991-3	BC - 0.1	Total/NA	Water	PrecSep-21	
180-127991-4	OR - 0.1	Total/NA	Water	PrecSep-21	
180-127991-5	OR - 0.3	Total/NA	Water	PrecSep-21	
180-127991-6	OR + 0.8	Total/NA	Water	PrecSep-21	
MB 160-530550/24-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-530550/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 530555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-127991-1	OR + 1.0	Total/NA	Water	PrecSep_0	
180-127991-2	OR + 0.25	Total/NA	Water	PrecSep_0	
180-127991-3	BC - 0.1	Total/NA	Water	PrecSep_0	
180-127991-4	OR - 0.1	Total/NA	Water	PrecSep_0	
180-127991-5	OR - 0.3	Total/NA	Water	PrecSep_0	
180-127991-6	OR + 0.8	Total/NA	Water	PrecSep_0	
MB 160-530555/24-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-530555/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Johnson/Rago	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No:
Client Contact: SCS Contacts	Phone: 678.485.5298	E-Mail: shali.brown@eurofinset.com		Page:
Company: GA Power				Job #:
Address: 241 Ralph McGill Blvd SE	Due Date Requested:			
City: Atlanta	TAT Requested (days): standard			
State, Zip: GA, 30308				
Phone: 404-506-7116(Tel)	PO #:			
Email: SCS Contacts	WO #:			
Project Name: CCR - Plant Arkwright Surfacewater	Project #: 18023157			
Site: Georgia	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CCR App III[1]	Major Ions[2]	CCR App IV Metals[3]	Cobalt	Molybdenum	Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
OR + 1.0	9/30/21	1213	G	W			✓	✓	✓					
OR + 0.25	9/30/21	1243	G	W			✓	✓	✓					
BC - 0.1	9/30/21	1252	G	W			✓	✓	✓					
OR - 0.1	9/30/21	1316	G	W			✓	✓	✓					
OR - 0.3	9/30/21	1400	G	W			✓	✓	✓					
OR + 0.8	9/30/21	1440	G	W			✓	✓	✓					

180-127991 Chain of Custody

CCR App III[1] - Boron, Calcium, Chloride, Fluoride, Sulfate, TDS

Major Ions[2] - Mg, Na, K, total alkalinity, bicarbonate alkalinity

CCR App IV Metals[3] - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Floride, Lead, Lithium, Molydbenum, Selenium, Radium 226 and 228 combined

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

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

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

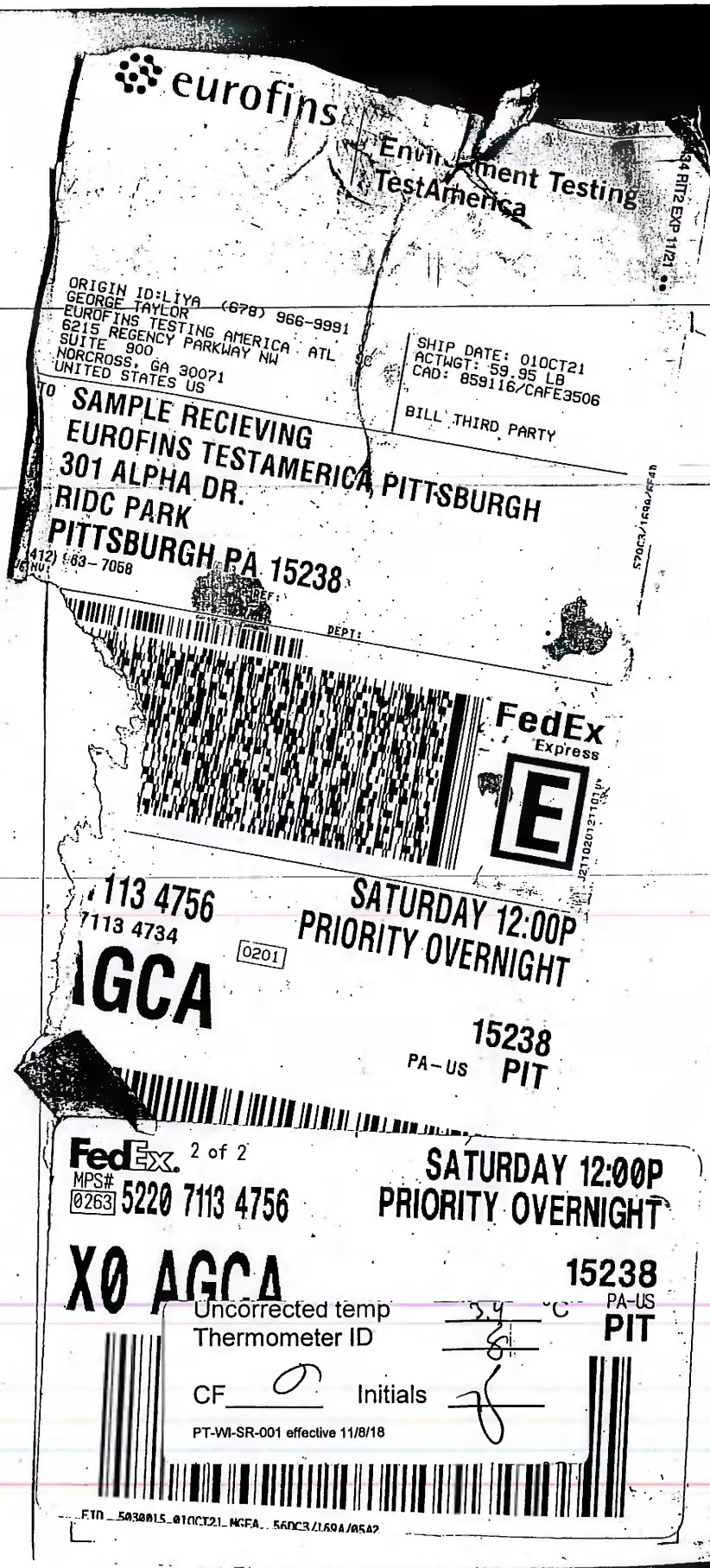
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10-1-21 1715			10/1/21 1715	
2		10/1/21 1715			10/2/21 945	EST-PH
3						

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

eurofins
Part # 159469-434 RIT2 EXP 11/21
ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US
SHIP DATE:
ACTWGT: 59
CAD: 859116/
BILL THIRD PARTY
TO SAMPLE RECIEVING
EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
REF:
DEPT:
FedEx Express
2 of 3
MPS# 5220 7113 4745
Mstr# 5220 7113 4734
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO AGCA
15238
PIT
PA-US
Uncorrected temp
Thermometer ID
Initials
CF
PT-WI-SR-001 effective 11/8/16
180-127991 Waybill


eurofins
Environment Testing
TestAmerica
ORIGIN ID:LIYA (678) 966-9991
GEORGE TAYLOR
EUROFINS TESTING AMERICA ATL SC
6215 REGENCY PARKWAY NW
SUITE 900
NORCROSS, GA 30071
UNITED STATES US
SHIP DATE: 01OCT21
ACTWGT: 59.95 LB
CAD: 859116/CAFE3506
BILL THIRD PARTY
TO SAMPLE RECIEVING
EUROFINS TESTAMERICA, PITTSBURGH
301 ALPHA DR.
RIDC PARK
PITTSBURGH PA 15238
(412) 963-7058
REF:
DEPT:
FedEx
Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
0201
15238
PA-US
PIT
FedEx
2 of 2
MPS# 5220 7113 4756
0263
SATURDAY 12:00P
PRIORITY OVERNIGHT
X0 AGCA
15238
PA-US
PIT
Uncorrected temp
°C
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Brown, Shali	Carrier Tracking No(s):	COC No: 180-445988.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Shali.Brown@Eurofinset.com	State of Origin: Georgia	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-127991-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/10/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkwright Surfacewater	Project #: 18023157			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium 226	9320_Ra228/PrecSep_0 Radium 228	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OR + 1.0 (180-127991-1)	9/30/21	12:13 Eastern		Water			X	X	X	2	
OR + 0.25 (180-127991-2)	9/30/21	12:43 Eastern		Water			X	X	X	2	
BC - 0.1 (180-127991-3)	9/30/21	12:52 Eastern		Water			X	X	X	2	
OR - 0.1 (180-127991-4)	9/30/21	13:16 Eastern		Water			X	X	X	2	
OR - 0.3 (180-127991-5)	9/30/21	14:00 Eastern		Water			X	X	X	2	
OR + 0.8 (180-127991-6)	9/30/21	14:40 Eastern		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: MO	Date/Time: 10-4-21 1700	Company: Eta Pitt	Received by: FED EX.	Date/Time:	Company
Relinquished by: FED EX	Date/Time:	Company	Received by: Micha Kornhinger	Date/Time: OCT 05 2021 09:10	Company: ETA STL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

11/13/2021

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-127991-2

Login Number: 127991
List Number: 1
Creator: Abernathy, Eric L

List Source: Eurofins TestAmerica, Pittsburgh

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

Login Sample Receipt Checklist

Client: Southern Company

Job Number: 180-127991-2

Login Number: 127991
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 10/05/21 03:43 PM

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

DATA QUALITY EVALUATION

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-125939-1

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #1 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in August 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in USEPA *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2020), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control (QC) criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The revised data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods EPA 300.0 R2.1 and SM 2540C.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica in Pittsburgh, Pennsylvania (TAL PIT) and analyzed for anions (chloride, fluoride, and sulfate) by Method 300.0 R2.1, total dissolved solids (TDS) by Method SM 2540C.

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact, within temperature range, and properly preserved. Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and/or quality control (QC) samples:

Sample ID	Sample Date	DQE Level	Sample ID	Sample Date	DQE Level
AP1PZ-7	08/18/21	II	AP1PZ-2	08/19/21	II
AP1PZ-8	08/18/21	II	AP1PZ-3	08/19/21	II
AP1GWA-1	08/17/21	II	AP1PZ-6	08/23/21	II
AP1GWA-2	08/18/21	II	**QC Samples:**		
AP1PZ-9	08/19/21	II	FB-1	08/18/21	II
AP1PZ-10	08/20/21	II	EB-1	08/18/21	II
AP1PZ-4	08/20/21	II	DUP-1	08/18/21	II
AP1PZ-5	08/20/21	II	EB-2	08/19/21	II
AP1PZ-11	08/20/21	II	FB-2	08/20/21	II
AP1PZ-1	08/18/21	II	DUP-2	08/19/21	II

These samples were collected from Ash Pond No. 1 monitoring wells between August 18 and August 23, 2021. Sample *DUP-1* is a field duplicate of *AP1PZ-8, and DUP-2 is a field duplicate of AP1PZ-2*. The field and equipment blanks associated with this event include field blanks FB-1 and FB-2 and equipment blanks EB-1 and EB-2. Wood added a date code suffix (e.g. -081821) to the sample IDs to create unique IDs in the database.

The analytical results for the anions and TDS data are usable with the qualifications discussed in this narrative. A summary of the data quality is presented below.

Anions (EPA 300.0 R2.1)

The samples were submitted to TAL PIT for anions (chloride, fluoride, and sulfate) by Method 300.0 R2.1. Each of the Level II components were within the QC limits except for MS/MSD recoveries, equipment blank contamination, and field duplicate precision.

Holding Times

The sample analyses were performed within the 28-day analysis holding time.

Method Blanks

The method blank associated with the samples analyzed in this SDG contained no reportable detections of anions.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs for anions were performed on samples AP1PZ-1 and AP1PZ-11, and the sulfate recoveries for AP1PZ-1 were below the lower QC limit indicating possible low bias: **Reason Code: M-**

Action: The sulfate result for sample AP1PZ-1 was qualified as estimated and flagged "J".

Field Duplicate Precision

Two field duplicate/sample pairs were collected with this SDG, and the RPD was outside of the QC limit for fluoride in DUP-1/AP1PZ-8. **Reason Code: FD**

Action: The fluoride results for samples DUP-1 and AP1PZ-8 were qualified as estimated and flagged "J".

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. Field blanks FB-1 and FB-2 and equipment blank EB-2 did not contain anion, however equipment blank EB-1 reported fluoride between the MDL and the RL.

Results less than five times the blank are considered not detected as a possible field artifact: **Reason Code: BE**

Action: The fluoride result for AP1GWA-2 was qualified as not detected due to equipment blank contamination and flagged "U".*

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of anions by USEPA Method 300 R2.1. Samples that required a dilution resulted in elevated RLs. The following sample dilutions were performed:

Sample	Anion	Dilution
AP1PZ-7	sulfate	10x
AP1PZ-8	sulfate	10x
DUP-1	sulfate	10x
AP1PZ-9	sulfate	5x
AP1PZ-10	sulfate	5x
AP1PZ-4	sulfate	10x
AP1PZ-5	sulfate	10x
AP1PZ-2	sulfate	10x
DUP-2	sulfate	10x
AP1PZ-3	sulfate	10x
AP1PZ-6	chloride	2.5x
	fluoride	2.5x
	sulfate	25x

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

TDS (SM 2540C)

The samples were submitted to TAL PIT for TDS by Method SM 2540C. Each of the Level II components were within the QC limits except for field duplicate precision.

Holding Times

The sample analyses were performed within the 7-day analysis holding time.

Method Blanks

The method blanks did not contain reportable levels of TDS.

Laboratory Control Samples (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Field Duplicate Precision

Two field duplicate/sample pairs in this SDG were analyzed for TDS, and the RPDs were outside of QC limits for both pairs. **Reason Code: FD**

> *Action: The TDS results for samples DUP-1, AP1PZ-8, DUP-2, and AP1PZ-2 were qualified as estimated and flagged "J".*

Laboratory Duplicate Precision

A laboratory duplicate was analyzed on project samples AP1PZ-1 and the RPD was within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

The equipment blank samples and field blank samples did not contain TDS.

Reporting Limits

The laboratory RL met the SCS project RL and was below the screening value of 500 mg/L for samples submitted for the analysis of TDS by Method SM 2540C and no samples required dilutions; therefore, RLs were met for this project. Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory, however there were none in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was not used to modify flags applied to any results reported in this SDG.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the August 2021 background event #1 according to the Scope of Work provided for the background and delineation sampling. The results for anions and TDS for each of the wells and QC samples were reported in this SDG.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-542-R-20-006, November 2020.

Prepared by/Date: DWK 09/08/21
Checked by/Date: JAH 09/13/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP 180-125939-1
SAMPLING DATES: August 18-23, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #1

Field Sample ID	Location ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1PZ-8	AP1PZ-8	N	180-125939-1	300.0 R2.1	fluoride	0.33		J	FD	mg/L
AP1PZ-8	AP1PZ-8	N	180-125939-1	2540C	total dissolved solids	840		J	FD	mg/L
AP1GWA-2	AP1GWA-2	N	180-125939-1	300.0 R2.1	fluoride	0.071	J	U*	BE	mg/L
AP1PZ-2	AP1PZ-2	N	180-125939-1	2540C	total dissolved solids	1500		J	FD	mg/L
AP1PZ-3	AP1PZ-3	N	180-125939-1	300.0 R2.1	fluoride	0.063	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	N	180-125939-1	300.0 R2.1	sulfate	100	F1	J	M-	mg/L
EB-1	EB-1	EB	180-125939-1	300.0 R2.1	fluoride	0.031	J	J	--	mg/L
DUP-1	AP1PZ-8	FD	180-125939-1	300.0 R2.1	fluoride	0.25		J	FD	mg/L
DUP-1	AP1PZ-8	FD	180-125939-1	2540C	total dissolved solids	1200		J	FD	mg/L
DUP-2	AP1PZ-2	FD	180-125939-1	2540C	total dissolved solids	1200		J	FD	mg/L

Notes:
Laboratory Qualifiers:
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 exceeds control limits.

Reason Codes:
BE = Equipment blank contamination. The result should be considered "not-detected".
FD = Field duplicate precision.
M- = MS and MSD recoveries outside acceptance limits. The result may be biased low.
-- = No Reason Code assigned for values detected between the method detection limit (MDL) and the reporting limit (RL); estimated quantitation.

Validation Qualifiers:
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only. The associated numerical value is the approximate concentration of the analyte in the sample.
U* = This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

Prepared by/Date: DWK 09/08/21
Checked by/Date: JAH 09/13/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Anions (chloride, fluoride, and sulfate) by E300.0 R2.1
Laboratory and Lot: TAL PIT SDG: 180-125939-1
Reviewer/Date: D. Knaub 09/08/21 **Senior Reviewer/Date:** JAH 09/13/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6ºC)** OK, 2.1, 2.4, 3.6, 3.7, 4.1, and 4.2°C	
X			**Holding time met (Cl, SO_4, F – 28 days)** Coll: 08/17/21 - 08/20/21, 08/23/21 Anal: 09/01/21, 09/03/21, 09/04/21	
	X		**QC Blanks Review** Method Blanks: p. 33 MB 180-339870/7 (9/01/21)= ND p. 33 MB 180-370035/44 (9/02/21) = ND p. 34 MB 180-370187/50, 6 (9/03/21) = ND p. 34 MB 180-370188/38, 7 (9/03/21) = ND Field Blanks: FB-1 = ND FB-2 = ND Equipment Blanks: EB-1 F = 0.031 J x 5 = **0.155 mg/L** ***Flag results <5x blank "U*":*** AP1GWA-2 EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (90-110%)** p. 33 LCS 180-369870/6 = All OK p. 33 LCS 180-370035/43 = All OK p. 34 LCS 180-370187/49 = All OK p. 34 LCS 180-370188/37, 6 = All OK	
	X		**Lab Duplicate - Field Duplicate precision goals met (20%)**	

	Dup-1 (mg/L)	AP1PZ-8 (mg/L)	RPD	
Cl	4.7	4.6	2.2	
F	0.25	0.33	27.6	***Flag both results "J"***
SO_4	570	580	1.7	

	Dup-2 (mg/L)	AP1PZ-2 (mg/L)	RPD
Cl	4.2	4.3	2.4
F	0.14	0.13	7.4
SO_4	950	930	2.1

Metals by SW6020B (cont.)

YES	NO	NA	COMMENTS
X			**Matrix Spike recoveries and RPDs within limits (lab %Rec limits, RPD = 20)** p. 33 AP1PZ-1 Cl = 99, 101% RPD = 1 F = 102, 103% RPD = 0 SO_4 = 84, 87% RPD = 1 ***Flag assoc. results "J"***
			p. 35 AP1PZ-11 Cl = 106, 104% RPD = 2 F = 108, 104% RPD = 4 SO_4 = 99, 93% RPD = 3
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked

Sample	**Anion**	**Dilution**
AP1PZ-7	sulfate	10x
AP1PZ-8	sulfate	10x
DUP-1	sulfate	10x
AP1PZ-9	sulfate	5x
AP1PZ-10	sulfate	5x
AP1PZ-4	sulfate	10x
AP1PZ-5	sulfate	10x
AP1PZ-2	sulfate	10x
DUP-2	sulfate	10x
AP1PZ-3	sulfate	10x
AP1PZ-6	chloride	2.5x
	fluoride	2.5x
	sulfate	25x

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Total Dissolved Solids (TDS) by SM 2540C
Laboratory and Lot: TAL PIT SDG: 180-125939-1
Reviewer/Date: D. Knaub 09/08/21 **Senior Reviewer/Date:** JAH 09/13/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review**	
			OK	
X			**Sample Preservation and cooler temperature met (Cool to 6ºC)**	
			OK, 2.1, 2.4, 3.6, 3.7, 4.1, and 4.2°C	
X			**Holding times met (7 days)**	
			Coll: 08/17/21 - 08/20/21, 08/23/21	
			Anal: 08/22/21, 08/23/21, 08/25/21 – 08/27/21, 08/29/21	
X			**QC Blanks Review**	
			Method Blanks	
			p. 35 MB 180-368810/2 TDS = ND	p. 35 MB 180-368905/2 TDS = ND
			p. 36 MB 180-368908/2 TDS = ND	p. 36 MB 180-369142/2 TDS = ND
			p. 36 MB 180-369349/2 TDS = ND	p. 36 MB 180-369476/2 TDS = ND
			p. 37 MB 180-369500/2 TDS = ND	p. 37 NB 180-369553/2 TDS = ND
			Equipment Blanks:	
			EB-1 TDS = ND	EB-2 TDS = ND
			Field Blanks:	
			FB-1 TDS = ND	FB-2 TDS = ND
X			**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)**	
			p. 35 LCS 180-368810/1 TDS = 95% - OK	p. 36 LCS 180-368905/1 TDS = 98% - OK
			p. 36 LCS 180-368908/1 TDS = 98% - OK	p. 36 LCS 180-369142/1 TDS = 103% - OK
			p. 36 LCS 180-369349/1 TDS = 100% - OK	p. 37 LCS 180-369476/1 TDS = 95% - OK
			p. 37 LCS 180-367500/1 TDS = 95% - OK	p. 37 LCS 180-369553/1 TDS = 103% - OK
	X		**Lab Duplicate - Field Duplicate precision goals met (20%)**	
			Dup-1 (mg/L) AP1PZ-8 (mg/L) RPD	
			TDS 1200 840 35.3% ***Flag both results "J"***	
			Dup-2 (mg/L) AP1PZ-2 (mg/L) RPD	
			TDS 1200 1500 22.2% ***Flag both results "J"***	
			p. 37 Lab dup on AP1PZ-1 RPD = 4 OK	
		X	**Matrix Spike recoveries and RPDs within limits (if applicable)**	
			MS/MSD not applicable for TDS	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)**	
			All sample results checked vs. hardcopy.	

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-125939-2 (Radium)

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #1 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in August 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in USEPA Region IV *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy* (USEPA, 2011) and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2017), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods 9315 and 9320.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica laboratory located in St. Louis, Missouri (TAL SL) via the Pittsburgh, Pennsylvania location and analyzed for radium-226 and 228 combined by Methods SW9315 and SW9320. As requested by SCS, the anions and total dissolved solids data was reported separately from the other CCR Appendix III and IV parameters (reported in SDG 180-125939-1).

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact and within the temperature range and preservation requirements. Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and quality control (QC) samples:

Sample ID	Sample Date	DQE Level	Sample ID	Sample Date	DQE Level
AP1PZ-7	08/18/21	II	AP1PZ-2	08/19/21	II
AP1PZ-8	08/18/21	II	AP1PZ-3	08/19/21	II
AP1GWA-1	08/17/21	II	AP1PZ-6	08/23/21	II
AP1GWA-2	08/18/21	II	**QC Samples:**		
AP1PZ-9	08/19/21	II	FB-1	08/18/21	II
AP1PZ-10	08/20/21	II	EB-1	08/18/21	II
AP1PZ-4	08/20/21	II	DUP-1	08/18/21	II
AP1PZ-5	08/20/21	II	EB-2	08/19/21	II
AP1PZ-11	08/20/21	II	FB-2	08/20/21	II
AP1PZ-1	08/18/21	II	DUP-2	08/19/21	II

These samples were collected from Ash Pond No. 1 monitoring wells between August 18 and August 23, 2021. Sample *DUP-1* is a field duplicate of *AP1PZ-8, and DUP-2 is a field duplicate of AP1PZ-2*. The field and equipment blanks associated with this event include field blanks FB-1 and FB-2 and equipment blanks EB-1 and EB-2. Wood added a date code suffix (e.g. -081821) to the sample IDs to create unique IDs in the database.

Radium (SW9315/SW9320)

The samples were submitted to TAL SL for radium-226, radium-228 and total radium by Methods SW9315 and SW9320. Total radium was measured by calculation. Each of the Level II components were within laboratory QC limits except for method blank and field blank contamination, and LCS recoveries.

Holding Times

The sample analyses were performed within the 6 months analysis holding times.

Method Blanks

One of the method blanks contained radium-226 above the MDC, and any result less than the two-sigma (2σ) normalized absolute difference (NAD) limit of 2.58 are considered "not detected" as possible lab artifacts. However, none of the samples associated with this method blank were detected with concentrations of radium-226.

One of the method blanks contained radium-228 above the MDC, and any result less than the two-sigma (2σ) normalized absolute difference (NAD) limit of 2.58 are considered "not detected" as possible lab artifacts: **Reason Code: BL**

> *Action: The total radium results for AP1PZ-7 and radium-228 and total radium results for sample AP1PZ-8 were qualified as not detected and flagged "U*". However, professional judgment was used to edit the flags for sample AP1PZ-8. Refer to the Overall Site Evaluation and Professional Judgment Flagging Changes section for details.*

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits.

Laboratory Duplicate Precision

Laboratory duplicate analyses were performed via the analysis of LCSDs. The relative error ratios (RERs) between the LCS and LCSDs were within QC limits.

Field Duplicate Precision

Two field duplicate pairs (AP1PZ-8/DUP-1 and AP1PZ-2/DUP-2) were submitted in this SDG. The RPD could not be calculated for AP1PZ-2/DUP-2 because the results in one or both samples were less than the MDCs. The RPDs in field duplicate pair AP1PZ-8/DUP-1 were above the QC limits for constituents of interest.

> *Action: The Ra-226, Ra-228, and total radium results for samples AP1PZ-8 and DUP-1 were qualified as estimated and flagged "J".*

Sampling Accuracy (Equipment Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. The equipment blanks did not contain radium-226 or radium-228. One of the field blanks, FB-2, was reported with radium-228 and total radium detections above the MDC. Any result less than the two-sigma (2σ) normalized absolute difference (NAD) limit of 2.58 are considered "not detected" as possible lab artifacts: **Reason Code: BF**

> *Action: The radium-228 and/or total radium results for samples AP1PZ-5 and AP1PZ-6 were qualified as not detected and flagged "U*".*

Carrier and Tracer Yield Recoveries

The carrier and tracer yield recoveries for the samples and QC were within the QC limits of 40% to 110%.

Reporting Limits/Minimum Detectable Concentrations

The RLs (MDCs) met the SCS project RLs and were below the screening level of 5 pCi/L for samples submitted for the analysis of radium-226 and radium-228 by Methods SW9315 and SW9320.

Sample results in which the values were reported at concentrations below the MDC were flagged "U" and considered not detected.

Total and Dissolved Radium Comparison

If total and dissolved radium samples were collected, comparison of the total and dissolved results can aid in the representativeness of the total radium value verses the radium that may be associated with suspended solids and radium actually dissolved within the water column. The dissolved radium results should be less than or equal to the total radium concentration for positive results greater than 5 times the RL. No total and dissolved samples were collected and reported in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was used to modify flags for Ra-228 and total radium results reported in sample AP1PZ-8 as previously detailed in the Method Blanks section. Due to detections for Ra-228 and total radium in the field duplicate sample (DUP-1) of AP1PZ-8, which was analyzed with a clean method blank, the Ra-228 and total radium results reported for sample AP1PZ-8 were qualified as estimated with a possible high bias in lieu of a non-detect.

> Action: The Ra-228 and total radium results reported for sample AP1PZ-8 were qualified as estimated with a possible high bias and flagged "J". **Reason Code PJ**.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the August 2021 background event #1 according to the Scope of Work provided for the background and delineation sampling. The results for radium for each of the wells and QC samples were reported in this SDG.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2011. Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0; September 2011.

USEPA, 2017. National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0; January 2017.

Prepared by/Date: JPM 10/20/21
Checked by/Date: JAH 11/05/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP: 180-125939-2
SAMPLING DATES: August 17-20, 2021 through August 23, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #1

Field Sample ID	Location ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1PZ-5	AP1PZ-5	N	180-125939-2	9315 + 9320	total radium	1.03		U*	BF	pCi/L
AP1PZ-6	AP1PZ-6	N	180-125939-2	9315 + 9320	total radium	0.517		U*	BF	pCi/L
AP1PZ-7	AP1PZ-7	N	180-125939-2	9315 + 9320	total radium	0.713		U*	BL	pCi/L
AP1PZ-8	AP1PZ-8	N	180-125939-2	9315	radium-226	0.703		J	FD	pCi/L
AP1PZ-8	AP1PZ-8	N	180-125939-2	9320	radium-228	0.749		J	FD, PJ	pCi/L
AP1PZ-8	AP1PZ-8	N	180-125939-2	9315 + 9320	total radium	1.45		J	FD, PJ	pCi/L
DUP-1	AP1PZ-8	N	180-125939-2	9315	radium-226	0.335		J	FD	pCi/L
DUP-1	AP1PZ-8	N	180-125939-2	9320	radium-228	0.472		J	FD	pCi/L
DUP-1	AP1PZ-8	N	180-125939-2	9315 + 9320	total radium	0.807		J	FD	pCi/L

Notes:

Reason Codes:
BF = Field blank contamination. The result should be considered "not-detected".
BL = Laboratory blank contamination. The result should be considered "not-detected".
FD = Field duplicate imprecision.
PJ = Professional judgment

Validation Qualifiers:
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.The associated numerical value is the approximate concentration of the analyte in the sample.
U* = This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

Prepared by/Date: JPM 10/20/21
Checked by/Date: JAH 11/05/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright 2nd Semiannual Event
Project No: 6123211714.2105.****
Method: Radium-226, Radium-228 and Combined Radium by Methods 9315 and 9320
Laboratory and Lot: TAL PIT SDG: 180-125939-2
Reviewer/Date: J. McIntyre 10/20/21 **Senior Reviewer/Date:** J. Hartness 11/5/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review**	
			OK – Samples anal. @ TAL-St. Louis	
X			**Sample Preservation and cooler temperature met (HNO_3 to pH<2)**	
			OK, 2.1, 2.4, 3.6, 3.7, 4.1, and 4.2° C.	
X			**Holding times met (180 days)**	
			Collected: 08/17/21-08/20/21, 08/23/21	
			Ra-226: prep: 08/25/21, 08/27/21, 08/30/21, 09/01/21, 09/02/21;	
			anal: 09/16/21, 09/21/21, 09/22/21, 09/23/21, 09/26/21	
			Ra 228: prep: 08/25/21, 08/27/21, 08/30/21, 09/01/21, 09/02/21;	
			anal: 09/16/21, 09/22/21, 09/23/21	
			Ra, combined: anal: 09/23/21-09/24/21, 09/27/21	
	X		**QC Blanks Review (net blank value <MDC)**	
			Ra-226	
			p. 34 MB 160-524072/24-A Ra-226 < MDC	
			p. 34 MB 160-524328/23-A Ra-226 < MDC	
			p. 34 MB 160-524659/23-A Ra-226 < MDC	
			p. 35 MB 160-525034/23-A Ra-226 < MDC	
			p. 36 MB 160-525267/25-A Ra-226 = 0.4165 pCi/L	
			(associated samples: AP1PZ-6)	
			Assoc. results ND ; no flags applied	
			Ra-228	
			p. 36 MB 160-524081/24-A Ra-228 = 0.5380 pCi/L	
			(associated samples: FB-1, EB-1, AP1PZ-7, AP1PZ-8)	
			Assoc. results < NAD 2σ flagged "U*"	
			Reason code: BL AP1PZ-7 and AP1PZ-8	
			AP1PZ-8 *- "U" flag changed to "**J**": due to detections for Ra-228 in the field duplicate sample (DUP-1), which was analyzed with a clean method blank, the Ra-228 and total radium results reported for sample AP1PZ-8 were qualified as estimated with a possible high bias and flagged "J".* ***Reason Code PJ****.*	
			p. 37 MB 160-524342/23-A Ra-228 < MDC	
			p. 37 MB 160-524669/23-A Ra-228 < MDC	
			p. 38 MB 160-525041/23-A Ra-228 < MDC	
			p. 38 MB 160-525276/25-A Ra-228 < MDC	

YES	NO	NA	COMMENTS
	X		**QC Blanks Review (net blank value <MDC)(continued)** Equipment Blanks: (non-dedicated equip.) EB-1 - All < MDC EB-2 – All <MDC Field Blanks: (DI water) FB-1- All < MDC FB-2 – Ra-228 = **0.670** pCi/L, Ra-226+228 = **0.699** pCi/L ***Assoc. results < NAD 2σ flagged "U*"***
X			**Laboratory Control Sample (LCS) recovery within lab limits (75-125%; RPD = 25%)** Ra-226 p. 34 LCS 160-524072/1-A Ra-226 = 100% p. 34 LCS 160-524328/1-A Ra-226 = 104% p. 35 LCS/LCSD 160-524659/1-A, 2-A Ra-226 = 95, 93% RER = 0.09 p. 35 LCS 160-525034/1-A Ra-226 = 97% p. 36 LCS 160-525267/1-A Ra-226 = 100% Ra-228 p. 36 LCS 160-524081/1-A Ra-228 = 82% p. 37 LCS 160-524342/1-A Ra-228 = 104% p. 37 LCS/LCSD 160-524669/1-A, 2-A Ra-228 = 98, 99% RER = 0.06 p. 38 LCS 160-525041/1-A, Ra-228 = 110% p. 39 LCS 160-525276/1-A Ra-228 = 109%
	X		**Lab Duplicate - Field Duplicate precision goals met (lab limits); lab dup every 10 samples (Lab Dup RPD = 25%) (Field dup RPD = 20%)** *Field Duplicate: AP1PZ-2= DUP-2-081921 RPD* *Ra-226 <MDC <MDC NC* *Ra-226 <MDC <MDC NC* *Ra, total 0.589 <MDC diff =0.589; RL=5 – OK* *Field Duplicate: AP1PZ-8 = DUP-1-081821 RPD Flag* *Ra-226 0.703 0.335* ***70.9*** ***J*** *Ra-226 0.749 0.472* ***45.4*** ***J*** *Ra, total 1.45 0.807* ***57*** ***J***
		X	**Matrix Spike recoveries and RPDs within limits (if applicable)** NA
X			**Carrier/Tracer Yield Recovery Ra-226 (Carrier: Ba); Ra-228 (Carrier Ba, Tracer: Y) (40-110%)** All ok
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)**

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-125940-1 Rev. 1

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #1 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in August 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in USEPA Region IV *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy* (USEPA, 2011) and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2020), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control (QC) criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The revised data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods SW6020B and SW7470A. An expedited turn-around time (5 days) was requested and provided by the laboratory.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica in Pittsburgh, Pennsylvania (TAL PIT) and analyzed for specific total Appendix III and IV metals by Method SW6020B, including mercury by Method SW7470A.

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact, within temperature range, and properly preserved. Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and/or quality control (QC) samples:

Sample ID	Sample Date	DQE Level	QC Samples:	Sample Date	DQE Level
AP1PZ-7	08/18/21	II	EB-1	08/18/21	II
AP1PZ-8	08/18/21	II	FB-1	08/18/21	II
AP1GWA-1	08/17/21	II	DUP-1	08/18/21	II
AP1GWA-2	08/18/21	II			

These samples were collected from Ash Pond No. 1 monitoring wells on August 17 and 18, 2021. Sample *DUP-1* is a field duplicate of *AP1PZ-8*. The field and equipment blanks associated with this event include field blank FB-1 and equipment blank EB-1. Wood added a date code suffix (-080721 or -081821) to the sample IDs to create unique IDs in the database.

The analytical results for the metals and mercury data are usable with the qualifications discussed in this narrative. A summary of the data quality is presented below.

Metals (SW6020B)

The samples were submitted to TAL PIT for total CCR Appendix III and IV metals by Methods SW6020B. The CCR Appendix III metals are: boron (B) and calcium (Ca). The CCR Appendix IV metals are: antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), lithium (Li), mercury (Hg – discussed below), molybdenum (Mo), selenium (Se), and thallium (Tl). Each of the Level II components were within the QC limits except field blank contamination; however, no qualification was required.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of metals.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was not performed on any sample from this SDG.

Post Digestion Spike (PDS)

A PDS analysis was not available for review.

Field Duplicate Precision

One field duplicate/sample pair was collected and reported with this SDG, and the RPDs between the parent and duplicate were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. One field blank (FB-1) and one equipment blank (EB-1) were collected with this sampling event, and metals were not detected in EB-1. Sample FB-1 reported detections of boron and thallium between the method detection limit (MDL) and the reporting limit (RL), and associated results less than ten times the blank value are considered estimated. **Reason Code: BF**

> *Action: No qualification was required because the metal results were greater than ten times the field blank results or were not detected in any of the associated samples.*

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW6020B. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

Total and Dissolved Metals Comparison

If total and dissolved metals samples were collected, comparison of the total and dissolved results can aid in the representativeness of the total metals value verses the metals that may be associated with suspended solids and metals actually dissolved within the water column. The dissolved metals results should be less than or equal to the total metals concentration for positive results greater than 5 times the RL. Dissolved metals were not reported for any of the samples in this SDG.

Mercury (SW7470A)

The samples were submitted to TAL PIT for total mercury by Method SW7470A. Each of the Level II components were within the QC limits.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of mercury.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was not performed on any sample from this SDG.

Field Duplicate Precision

One field duplicate/sample pair was collected and reported with this SDG, and the RPDs between the parent and duplicate were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. One field blank (FB-1) and one equipment blank (EB-1) were collected with this sampling event, and mercury was not detected.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW7470A. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. However, there were none in this SDG.

Total and Dissolved Metals Comparison

Dissolved mercury was not reported for any of the samples in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was not used to modify flags applied to any results reported in this SDG.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the August 2021 background event #1 according to the Scope of Work provided for the background and delineation sampling. Four of those wells were reported in this SDG along with one field duplicate, field blank, and equipment blank.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2011. Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0; September 2011.

USEPA, 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-542-R-20-006, November 2020.

Prepared by/Date: DWK 08/27/21
Checked by/Date: JAH 08/31/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP 180-125940-1
SAMPLING DATES: August 17-18, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #1

Field Sample ID	Location ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1PZ-7	AP1PZ-7	N	180-125940-1	6020B	antimony	0.00041	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	N	180-125940-1	6020B	chromium	0.0015	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	N	180-125940-1	6020B	lead	0.00013	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	N	180-125940-1	6020B	lithium	0.0038	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	N	180-125940-1	6020B	molybdenum	0.011	J	J	--	mg/L
AP1PZ-8	AP1PZ-8	N	180-125940-1	6020B	cobalt	0.0009	J	J	--	mg/L
DUP-1	AP1PZ-8	FD	180-125940-1	6020B	cobalt	0.001	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	N	180-125940-1	6020B	beryllium	0.0019	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	N	180-125940-1	6020B	cadmium	0.0004	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	N	180-125940-1	6020B	selenium	0.003	J	J	--	mg/L
AP1GWA-2	AP1GWA-2	N	180-125940-1	6020B	boron	0.066	J	J	--	mg/L

Notes:
Metals results are total metals unless otherwise noted.

Laboratory Qualifiers:
J= Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Reason Codes:
-- = No Reason Code assigned for values detected between the method detection limit (MDL) and the reporting limit (RL);estimated quantitation.

Validation Qualifiers:
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only. The associated numerical value is the approximate concentration of the analyte in the sample.

Prepared by/Date: DWK 08/27/21
Checked by/Date: JAH 08/30/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Metals by SW6020B
Laboratory and Lot: TAL PIT SDG: 180-125940-1 Rev. 1
Reviewer/Date: D. Knaub 08/27/21 **Senior Reviewer/Date:** J. Hartness 08/31/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK – *Revisions as requested were included in the revised report*	
X			**Sample Preservation and cooler temperature met (HNO_3 to pH<2)** OK, 2.1, 3.6°C Temp	
X			**Holding times met (180 days)** Coll: 08/17/21, 08/18/21 Prep: Total metals – 08/20/21 Anal: Total metals – 08/21/21	
	X		**QC Blanks Review** Method Blanks: p. 17 MB 180-368732/1-A = All ND Field Blank: FB-1: B= 0.054 J x 10 **= 0.54 mg/L** Tl= 0.0027 J x 10 **= 0.027 mg/L** *No flags, Tl results ND* ***Flag results <10x blank "U*": B -*** *AP1GWA-1, AP1GWA-2 – no flags, samples >10x blank* Equipment Blank: EB-1 = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (Metals 80-120%, Hg = 80-120%)** p. 17 LCS 180-368732/2-A = All OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)** No lab dups reported with this SDG	

	Dup-1 (mg/L)	AP1PZ-8 (mg/L)	RPD
As	0.0017	0.0016	6.1
Ba	0.084	0.085	1.2
B	2.3	2.4	4.3
Ca	250	250	0.0
Co	0.0010J	0.00090 J	NC
Mo	0.41	0.41	0.0

Metals by SW6020B (cont.)

YES	NO	NA	COMMENTS
		X	**Matrix Spike recoveries and RPDs within limits (75-125%, RPD 20)** *No MS/MSDs for metals in this SDG*
		X	**Total metals vs dissolved metals within limits (RPD < 20% or diff. < RL)** *Total metals only was reported*
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Mercury by SW7470A
Laboratory and Lot: TAL PIT SDG: 180-125940-1 Rev. 1
Reviewer/Date: D. Knaub 08/27/21 **Senior Reviewer/Date:** J. Hartness 08/31/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6ºC)** OK, 2.1, 3.6°C Temp	
X			**Holding times met (28 days)** Coll: 08/17/21, 08/18/21 Prep: 08/20/21 Anal: 08/23/21	
X			**QC Blanks Review** Method Blanks p. 17 MB 180-368676/1-A = ND Field Blanks: FB-1 = ND Equipment Blank: EB-1 = ND	
X			**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)** p. 18 LCS 180-368676/2-A = 85% - OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)** No Lab duplicate reported with this SDG Dup-1 = AP1PZ-8 RPD *Both samples ND for mercery ok*	
		X	**Matrix Spike recoveries and RPDs within limits (if applicable)** MS/MSD not reported with this SDG	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked	

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-126095-1

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #1 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in August 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in USEPA Region IV *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy* (USEPA, 2011) and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2020), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control (QC) criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods SW6020B and SW7470A. An expedited turn-around time (5 days) was requested and provided by the laboratory.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica in Pittsburgh, Pennsylvania (TAL PIT) and analyzed for specific total Appendix III and IV metals by Method SW6020B, including mercury by Method SW7470A.

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact, within temperature range, and properly preserved. Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and/or quality control (QC) samples:

Sample ID	Sample Date	DQE Level	Sample ID	Sample Date	DQE Level
AP1PZ-9	08/19/21	II	AP1PZ-2	08/19/21	II
AP1PZ-10	08/20/21	II	AP1PZ-3	08/19/21	II
AP1PZ-4	08/20/21	II	**QC Samples:**		
AP1PZ-5	08/20/21	II	EB-2	08/19/21	II
AP1PZ-11	08/20/21	II	FB-2	08/20/21	II
AP1PZ-1	08/18/21	II	DUP-2		

These samples were collected from Ash Pond No. 1 monitoring wells on August 18 through August 20, 2021. Sample *DUP-2* is a field duplicate of *AP1PZ-2*. The field and equipment blanks associated with this event include field blank FB-2 and equipment blank EB-2. Wood added a date code suffix (e.g. -081821) to the sample IDs to create unique IDs in the database.

The analytical results for the metals and mercury data are usable with the qualifications discussed in this narrative. A summary of the data quality is presented below.

Metals (SW6020B)

The samples were submitted to TAL PIT for total CCR Appendix III and IV metals by Methods SW6020B. The CCR Appendix III metals are: boron (B) and calcium (Ca). The CCR Appendix IV metals are: antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), lithium (Li), mercury (Hg – discussed below), molybdenum (Mo), selenium (Se), and thallium (Tl). Each of the Level II components were within the QC limits except field blank contamination.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of metals.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was performed on sample EB-2, and the recoveries and RPDs were within QC limits.

Post Digestion Spike (PDS)

A PDS analysis was not available for review.

Field Duplicate Precision

One field duplicate/sample pair was collected and reported with this SDG, and the RPDs between the parent and duplicate were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. One field blank (FB-2) and one equipment blank (EB-2) were collected with this sampling event, and metals were not detected in EB-2. Sample FB-2 reported a detection of boron between the method detection limit (MDL) and the reporting limit (RL), and associated results less than ten times the blank value are considered estimated. **Reason Code: BF**

> *Action: The boron results for samples AP1PZ-10, AP1PZ-11, AP1PZ-1, AP1PZ-2, and DUP-2 were qualified as not detected due to blank contamination.*

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW6020B. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

Total and Dissolved Metals Comparison

If total and dissolved metals samples were collected, comparison of the total and dissolved results can aid in the representativeness of the total metals value verses the metals that may be associated with suspended solids and metals actually dissolved within the water column. The dissolved metals results should be less than or equal to the total metals concentration for positive results greater than 5 times the RL. Total and dissolved metals were reported for sample AZ1PZ-9, and the results for dissolved molybdenum were greater than the associated total results.

> *Action: The total and dissolved molybdenum results were less than 5 times the RL, and the difference was less than 10%; therefore, no qualification was necessary.*

Mercury (SW7470A)

The samples were submitted to TAL PIT for total mercury by Method SW7470A. Each of the Level II components were within the QC limits.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of mercury.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was performed on sample AP1PZ-1, and the recoveries and RPDs were within QC limits.

Field Duplicate Precision

One field duplicate/sample pair was collected and reported with this SDG, and the RPDs between the parent and duplicate were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. One field blank (FB-2) and one equipment blank (EB-2) were collected with this sampling event, and mercury was not detected.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW7470A. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. However, there were none in this SDG.

Total and Dissolved Metals Comparison

Total and dissolved mercury were reported for sample AZ1PZ-9, and mercury was not detected.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was not used to modify flags applied to any results reported in this SDG.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the August 2021 background event #1 according to the Scope of Work provided for the background and delineation sampling. Eight of those wells were reported in this SDG along with one field duplicate, field blank, and equipment blank.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2011. Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0; September 2011.

USEPA, 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-542-R-20-006, November 2020.

Prepared by/Date: DWK 08/31/21
Checked by/Date: JAH 09/01/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP 180-126095-1
SAMPLING DATES: August 18-20, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #1

Field Sample ID	Location ID	Fraction	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1PZ-9	AP1PZ-9	total	N	180-126095-1	6020B	antimony	0.00070	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-126095-1	6020B	arsenic	0.00041	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-126095-1	6020B	beryllium	0.00028	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-126095-1	6020B	cadmium	0.00064	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-126095-1	6020B	molybdenum	0.0021	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	dissolved	N	180-126095-1	6020B	arsenic	0.00036	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	dissolved	N	180-126095-1	6020B	beryllium	0.00023	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	dissolved	N	180-126095-1	6020B	cadmium	0.00057	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	dissolved	N	180-126095-1	6020B	molybdenum	0.0022	J	J	--	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-126095-1	6020B	boron	0.40		U*	BF	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-126095-1	6020B	cobalt	0.0023	J	J	--	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-126095-1	6020B	molybdenum	0.0050	J	J	--	mg/L
AP1PZ-3	AP1PZ-3	total	N	180-126095-1	6020B	cadmium	0.00050	J	J	--	mg/L
AP1PZ-3	AP1PZ-3	total	N	180-126095-1	6020B	molybdenum	0.0014	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	total	N	180-126095-1	6020B	arsenic	0.00055	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	total	N	180-126095-1	6020B	cobalt	0.0016	J	J	--	mg/L
AP1PZ-5	AP1PZ-5	total	N	180-126095-1	6020B	antimony	0.00040	J	J	--	mg/L
AP1PZ-5	AP1PZ-5	total	N	180-126095-1	6020B	lead	0.00023	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-126095-1	6020B	boron	0.40		U*	BF	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-126095-1	6020B	cobalt	0.00065	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-126095-1	6020B	molybdenum	0.0015	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-126095-1	6020B	boron	0.57		U*	BF	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-126095-1	6020B	beryllium	0.00071	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-126095-1	6020B	cadmium	0.0014	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-126095-1	6020B	lead	0.00035	J	J	--	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-126095-1	6020B	boron	0.2		U*	BF	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-126095-1	6020B	cobalt	0.0013	J	J	--	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-126095-1	6020B	lead	0.00023	J	J	--	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-126095-1	6020B	molybdenum	0.0023	J	J	--	mg/L
FB-2	FB-2	total	FB	180-126095-1	6020B	boron	0.061	J	J	--	mg/L
DUP-2	AP1PZ-2	total	FD	180-126095-1	6020B	boron	0.56		U*	BF	mg/L
DUP-2	AP1PZ-2	total	FD	180-126095-1	6020B	beryllium	0.00071	J	J	--	mg/L
DUP-2	AP1PZ-2	total	FD	180-126095-1	6020B	cadmium	0.0015	J	J	--	mg/L
DUP-2	AP1PZ-2	total	FD	180-126095-1	6020B	lead	0.00033	J	J	--	mg/L

Notes:

Laboratory Qualifiers:

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

Reason Codes:

BF = Field blank contamination. The result should be considered "not-detected".

-- = No Reason Code assigned for values detected between the method detection limit (MDL) and the reporting limit (RL);estimated quantitation.

Validation Qualifiers:

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only. The associated numerical value is the approximate concentration of the analyte in the sample.

U* = This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

Prepared by/Date: DWK 08/31/21
Checked by/Date: JAH 09/01/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Metals by SW6020B
Laboratory and Lot: TAL PIT SDG: 180-126095-1
Reviewer/Date: D. Knaub 08/31/21 **Senior Reviewer/Date:** J. Hartness 09/01/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (HNO_3 to pH<2)** OK. 4.1, 2.4, 3.7°C (temps listed on packing labels- pgs. 30-32) p. 33-35 receipt forms noted the preservation and temps were acceptable.	
X			**Holding times met (180 days)** Coll: 08/18/21-08/20/21 Prep: Total metals – 08/24/21 Diss metals - 08/24/21 Anal: Total metals – 08/25/21 Diss metals - 08/25/21	
	X		**QC Blanks Review** Method Blanks: p. 22 MB 180-368990/1-A = All ND Field Blank: FB-2: B= 0.061 J x 10 = **0.61 mg/L** ***Flag results <10x blank "U*":*** *AP1PZ-10, AP1PZ-11, AP1PZ-1, AP1PZ-2, DUP-2* Equipment Blank: EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (Metals 80-120%, Hg = 80-120%)** p. 22 LCS 180-368990/2-A = All OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)** No lab dups reported with this SDG	

	Dup-2 (mg/L)	AP1PZ-2 (mg/L)	RPD
Ba	0.035	0.035	0.0
Be	0.00071 J	0.00071 J	NC
B	0.56 U*	0.57 U*	NC
Cd	0.0015 J	0.0014 J	NC
Ca	240	240	0.0
Co	0.30	0.30	0.0
Pb	0.00033 J	0.00035 J	NC
Li	0.028	0.028	0.0

Metals by SW6020B (cont.)

YES	NO	NA	COMMENTS
X			**Matrix Spike recoveries and RPDs within limits (75-125%, RPD 20)** p. 22-23 EB-2 - All %rec and RPDs OK
	X		**Total metals vs dissolved metals within limits (Diss < 10% more than total)** *AP1PZ-9 anal for total and dissolved metals* Mo (tot) = 0.0021 J Mo (diss) = 0.0022 J *no flags applied, detected at <5x RL and diss < 10% more than tot*
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Mercury by SW7470A
Laboratory and Lot: TAL PIT SDG: 180-126095-1
Reviewer/Date: D. Knaub 08/31/21 **Senior Reviewer/Date:** J. Hartness 09/01/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6°C)** OK. 4.1, 2.4, 3.7°C (temps listed on packing labels- pgs. 30-32) p. 33-35 receipt forms noted the preservation and temps were acceptable.	
X			**Holding times met (28 days)** Coll: 08/18/21-08/20/21 Prep: Total - 08/25/21 Diss - 08/25/21 Anal: Total - 08/26/21 Diss - 08/26/21	
X			**QC Blanks Review** Method Blanks p. 23 MB 180-369187/1-A = ND Field Blanks: FB-2 = ND Equipment Blank: EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)** p. 23 LCS 180-369187/2-A = 104% - OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)** No lab duplicate reported with this SDG Dup-2 = AP1PZ-2 *Both samples ND for mercery ok*	
X			**Matrix Spike recoveries and RPDs within limits (if applicable)** p. 23-24 AP1PZ-1 Hg = 113, 106% RPD = 6 OK	
X			**Total metals vs dissolved metals within limits (Diss < 10% more than total)** *AP1PZ-9 anal for total and dissolved Hg, both ND - OK*	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked	

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-126160-1

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #1 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in August 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in USEPA Region IV *Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy* (USEPA, 2011) and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2020), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control (QC) criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods SW6020B and SW7470A. An expedited turn-around time (5 days) was requested and provided by the laboratory.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica in Pittsburgh, Pennsylvania (TAL PIT) and analyzed for specific total Appendix III and IV metals by Method SW6020B, including mercury by Method SW7470A.

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact, within temperature range, and properly preserved. Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and/or quality control (QC) samples:

Sample ID	Sample Date	DQE Level
AP1PZ-6	08/23/21	II

This sample was collected from Ash Pond No. 1 monitoring wells on August 23, 2021. No field or equipment blanks were collected with this SDG. Wood added a date code suffix (-082321) to the sample ID to create a unique ID in the database. Associated field and equipment blanks were reported in SDGs 180-125940-1 and 180-126095-1.

The analytical results for the metals and mercury data are usable with the qualifications discussed in this narrative. A summary of the data quality is presented below.

Metals (SW6020B)

The samples were submitted to TAL PIT for total CCR Appendix III and IV metals by Methods SW6020B. The CCR Appendix III metals are: boron (B) and calcium (Ca). The CCR Appendix IV metals are: antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), lithium (Li), mercury (Hg – discussed below), molybdenum (Mo), selenium (Se), and thallium (Tl). Each of the Level II components were within the QC limits with the exception of field blank contamination; however, no qualification was required.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of metals.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was not performed on any sample from this SDG.

Post Digestion Spike (PDS)

A PDS analysis was not available for review.

Field Duplicate Precision

No field duplicate samples were collected and reported with this SDG.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. No field or equipment blanks were collected with the samples in this SDG; however, field blanks (FB-1, FB-2) and equipment blanks (EB-1, EB-2) were collected with the AP-1 sampling event, and metals were not detected in the equipment blanks. Sample FB-1 reported detections of boron and thallium and sample FB-2 reported a detection of boron between the method detection limit (MDL) and the reporting limit (RL), and associated results less than ten times the blank value are considered estimated. **Reason Code: BF**

> *Action: No qualification was required because the metal results were greater than ten times the field blank results or were not detected in the associated sample.*

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW6020B. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

Total and Dissolved Metals Comparison

If total and dissolved metals samples were collected, comparison of the total and dissolved results can aid in the representativeness of the total metals value verses the metals that may be associated with suspended solids and metals actually dissolved within the water column. The dissolved metals results should be less than or equal to the total metals concentration for positive results greater than 5 times the RL. Total and dissolved metals were not reported for any sample in this SDG.

Mercury (SW7470A)

The samples were submitted to TAL PIT for total mercury by Method SW7470A. Each of the Level II components were within the QC limits except LCS recovery and MS/MSD recoveries and RPDs.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of mercury.

Laboratory Control Sample (LCS)

Percent recoveries for mercury was above the upper QC limit in the LCS, indicating possible high bias.

> *Action: No qualification was necessary because the bias was high and mercury was not detected in the associated sample.*

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was performed on sample AP1PZ-6, and the MS recovery and RPD were outside of QC limits. Since the MS recovery was high and mercury was not detected in the associated sample, no qualification was applied due to potential high bias. However, the MS/MSD also serves as a laboratory duplicate, and therefore the associated result is considered estimated. ***Reason Code: LD***

> *Action: The mercury result for AP1PZ-6 was qualified as not detected with an approximate detection limit and flagged "UJ".*

Field Duplicate Precision

No field duplicate samples were collected and reported with this SDG.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. No field or equipment blanks were collected and reported with this SDG; however. field blanks (FB-1, FB-2) and equipment blanks (EB-1, EB-2) were collected with the AP-1 sampling event, and mercury was not detected.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW7470A. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. However, there were none in this SDG.

Total and Dissolved Metals Comparison

Dissolved mercury was not reported for any of the samples in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was not used to modify flags applied to any results reported in this SDG.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the August 2021 background event #1 according to the Scope of Work provided for the background and delineation sampling. One of those wells was reported in this SDG.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2011. Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0; September 2011.

USEPA, 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-542-R-20-006, November 2020.

Prepared by/Date: DWK 08/31/21
Checked by/Date: JAH 09/01/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP 180-126160-1
SAMPLING DATES: August 23, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #1

Field Sample ID	Location ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1PZ-6	AP1PZ-6	N	180-126160-1	6020B	molybdenum	0.0013	J	J	--	mg/L
AP1PZ-6	AP1PZ-6	N	180-126160-1	7470A	mercury	<0.00013	F2 F1 *+	UJ	LD	mg/L

Notes:
Metals results are total metals unless otherwise noted.

Laboratory Qualifiers:
*+ = LCS and/or LCSD is outside acceptance limits, high biased
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 exceeds control limits.
F2 = MS/MSD RPD exceeds control limits

Reason Codes:
LD = Laboratory duplicate precision.
-- = No Reason Code assigned for values detected between the method detection limit (MDL) and the reporting limit (RL);estimated quantitation.

Validation Qualifiers:
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only. The associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Prepared by/Date: DWK 08/31/21
Checked by/Date: JAH 09/01/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Metals by SW6020B
Laboratory and Lot: TAL PIT SDG: 180-126160-1
Reviewer/Date: D. Knaub 08/31/21 **Senior Reviewer/Date:** J. Hartness 09/01/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (HNO_3 to pH<2)** OK, 4.2°C	
X			**Holding times met (180 days)** Coll: 08/23/21 Prep: Total metals – 08/26/21 Anal: Total metals – 08/27/21	
X			**QC Blanks Review** Method Blanks: p. 10 MB 180-369320/1-A = All ND Field Blank: FB-1 (SDG: 180-125940-1): B= 0.054 J x 10 **= 0.54 mg/L** Tl= 0.0027 J x 10 **= 0.027 mg/L** ***Flag results <10x blank "U*"*** *- No flags, B results in sample >10x FB-1 and Tl results ND* FB-2 (SDG: 180-126095-1): B= 0.061 J x 10 **= 0.61 mg/L** ***Flag results <10x blank "U*"*** *No flags, B results in sample >10x FB-2* Equipment Blank: EB-1 (SDG: 180-125940-1) = ND EB-2 (SDG: 180-126095-1) = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (Metals 80-120%, Hg = 80-120%)** p. 10 LCS 180-369320/2-A = All OK	
		X	**Lab Duplicate - Field Duplicate precision goals met (20%)** No field or lab dups reported with this SDG	
		X	**Matrix Spike recoveries and RPDs within limits (75-125%, RPD 20)** None in this SDG	
		X	**Total metals vs dissolved metals within limits (Diss < 10% more than total)** *Total metals only*	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked	

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Mercury by SW7470A
Laboratory and Lot: TAL PIT SDG: 180-126160-1
Reviewer/Date: D. Knaub 08/31/21 **Senior Reviewer/Date:** J. Hartness 09/01/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6°C)** OK, 4.2°C	
X			**Holding times met (28 days)** Coll: 08/23/21 Prep: 08/26/21 Anal: 08/30/21	
X			**QC Blanks Review** Method Blanks p. 10 MB 180-369283/1-A = ND Field Blank: FB-1 (SDG: 180-125940-1) = ND FB-2 (SDG: 180-126095-1) = ND Equipment Blank: EB-1 (SDG: 180-125940-1) = ND EB-2 (SDG: 180-126095-1) = ND	
	X		**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)** p. 11 LCS 180-369283/2-A = 189% ***Flag assoc. positive results J*** *No flags necessary, bias is high and assoc. result ND*	
	X		**Lab Duplicate - Field Duplicate precision goals met (20%)** No field duplicate reported with this SDG Use MS/MSD for lab duplicate	
	X		**Matrix Spike recoveries and RPDs within limits (if applicable)** p. 11 AP1PZ-6 Hg = 129, 97% RPD = 29 ***Flag assoc. result UJ:*** ***Reason Code: LD***	
		X	**Total metals vs dissolved metals within limits (Diss < 10% more than total)** *Total Hg only in this SDG*	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked	

Data Evaluation Narrative
Project: Plant Arkwright AP1 Background and Delineation Sampling
Wood Project Number: 6123211714.2105.**
Site: Ash Pond No. 1 – Former Plant Arkwright, Georgia
Matrix: Groundwater

Eurofins TestAmerica SDG No: 180-129189-1

Introduction

A data quality evaluation (DQE) was performed on the laboratory data reported for the Background and Delineation groundwater sampling event #2 for Ash Pond No. 1 at the former Plant Arkwright, located in Arkwright, Georgia in October 2021 for Southern Company Services (SCS). The samples were collected and analyzed per the protocols presented in the *Draft Former Plant Arkwright Field Sampling Plan* (FSP) (SCS, 2016) and in accordance with the monitoring requirements of §§ 257.90 through 257.95 as referenced in the Georgia Environmental Protection Division (EPD) Rules 391-3-4-.10(6)(a)-(c) and 391-3-4-.14. GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

The following sections provide summary discussions of the required data qualifications for the analytical methods for samples collected. A Level II DQE validation was performed on the samples analyzed by the fixed-based laboratory within these sample delivery groups (SDGs). A Level II DQE consists of review of the following criteria: sample integrity, holding times, method blanks, laboratory control samples (LCSs), matrix spikes/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), post digestion spikes (PDS), where applicable, laboratory and field duplicate RPDs, field and/or equipment blanks, and reporting limits. Additionally, the data summary tables generated from the electronic data deliverable (EDD) were compared to the laboratory hardcopy data report to verify that the EDD and laboratory data report agree.

The data were reviewed using the laboratory's precision and accuracy limits, the method requirements, and the SCS Field Sampling Plan (FSP) (SCS, 2016). DQE data qualifications were applied, if necessary, using the procedures in United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, 2020), as guidance, and professional judgment using the following qualifiers:

Qualifier	Usable Data
J	The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. *SCS Definition: Value J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce as reliable of a value. Therefore, the value displayed (value J) is qualified by the laboratory as estimated.*
UJ	The analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

Qualifier	Usable Data (continued)
U	Analyte was analyzed for but was not detected above the level of the reported sample reporting/method detection limit. *Note: SCS does not use the "U" flag except when reporting results for radium that are detected below the Minimum Detection Concentration (MDC).*
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

Qualifier	Unusable Data
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control (QC) criteria. The presence or absence of the analyte cannot be confirmed.
UR	The analyte was analyzed for but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

The analytical results for the samples reported in this SDG are usable with the qualifications discussed in this narrative. A summary of the data with associated qualifiers is presented in **Table 1**.

Deliverables

The revised data package as submitted to Wood Environment & Infrastructure Solutions, Inc. (Wood) is complete to perform a Level II DQE for USEPA Methods SW6020B, SW7470A, EPA 300.0 R2.1, and SM 2540C.

Sample Integrity

The groundwater samples were submitted to Eurofins TestAmerica in Pittsburgh, Pennsylvania (TAL PIT) and analyzed for specific total and dissolved Appendix III and IV metals by Method SW6020B including mercury by Method SW7470A, anions (chloride, fluoride, and sulfate) by Method 300.0 R2.1, and total dissolved solids (TDS) by Method SM 2540C.

Based on the information provided on the Chain-of-Custody (COC) forms, the field samples arrived at the laboratory intact, within temperature range, and properly preserved. However, it was noted that the COCs were not properly relinquished to the TAL PIT laboratory from the Eurofins Service Center in Norcross, GA or from the courier to the Eurofins Service Center.

> *Action: Corrective action has been initiated by the laboratory on proper custody procedures and COC documentation.*

Completed COC documents are included in the data package.

Sample Identification

This SDG contains the following groundwater and/or quality control (QC) samples:

Sample ID	Sample Date	DQE Level	Sample ID	Sample Date	DQE Level
AP1GWA-1	10/26/21	II	AP1PZ-4	10/27/21	II
AP1GWA-2	10/26/21	II	AP1PZ-1	10/28/21	II
AP1PZ-8	10/27/21	II	AP1PZ-2	10/28/21	II
AP1PZ-6	10/26/21	II	AP1PZ-5	10/29/21	II
AP1PZ-7	10/26/21	II	**QC Samples:**		

Sample ID	Sample Date	DQE Level	Sample ID	Sample Date	DQE Level
AP1PZ-10	10/27/21	II	FB-1	10/27/21	II
AP1PZ-9	10/28/21	II	EB-1	10/26/21	II
AP1PZ-11	10/28/21	II	DUP-1	10/26/21	II
AP1PZ-3	10/29/21	II	EB-2	10/28/21	II

These samples were collected from Ash Pond No. 1 monitoring wells between October 26 and October 29, 2021. Sample *DUP-1* is a field duplicate of *AP1PZ-6*. The field and equipment blanks associated with this event include field blank FB-1 and equipment blanks EB-1 and EB-2. Wood added a date code suffix (e.g. -102821) to the sample IDs to create unique IDs in the database. It was also noted that the laboratory interpreted the sample IDs on the COC to contain the letter "l" instead of the number '"1", however the correct sample IDs were entered into the database.

Action: The laboratory was informed and reissued the laboratory report with corrected sample IDs.

The analytical results for the metals, mercury, anions, and TDS data are usable with the qualifications discussed in this narrative. A summary of the data quality is presented below.

Metals (SW6020B)

The samples were submitted to TAL PIT for total and dissolved CCR Appendix III and IV metals by Methods SW6020B. The CCR Appendix III metals are: boron (B) and calcium (Ca). The CCR Appendix IV metals are: antimony (Sb), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), lithium (Li), mercury (Hg – discussed below), molybdenum (Mo), selenium (Se), and thallium (Tl). Each of the Level II components were within the QC limits except for method blank contamination and MS/MSD recoveries.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

One or more of the method blanks associated with the samples analyzed in this SDG contained reportable concentrations of B and Tl or Pb between the method detection limit (MDL) and the reporting limit (RL). Associated results less than ten times (10x) the blank value are considered not detected. **Reason Code: BL**

Action: The Pb results for AP1PZ-4, AP1PZ-1, and AP1PZ-2 were qualified as not detected due to blank contamination and flagged "U". No qualification was necessary for B or Tl because the associated results were greater than 10x or not detected in the associated samples.*

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis was performed on sample AP1PZ-4. The recoveries and RPDs were within QC limits except for the Ca recoveries, which were below the lower QC limit indicating possible low bias.

> *Action: No qualification was necessary because the parent sample result was greater than 4x the spike amount.*

Post Digestion Spike (PDS)

A PDS analysis was not available for review.

Field Duplicate Precision

One field duplicate/sample pair was submitted with this SDG and was analyzed for metals, and the RPDs were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. Equipment rinsate blanks are collected to monitor the decontamination process on non-dedicated sampling equipment. Field blanks are collected to assess the water used to decontaminate the equipment and the containers into which samples are placed. Field blank (FB-1) and equipment blanks (EB-1, EB-2) were reported with this SDG, and metals were not detected in the equipment or field blanks.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW6020B. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

Total and Dissolved Metals Comparison

If total and dissolved metals samples were collected, comparison of the total and dissolved results can aid in the representativeness of the total metals value verses the metals that may be associated with suspended solids and metals actually dissolved within the water column. The dissolved metals results should be less than or equal to the total metals concentration for positive results greater than 5 times the RL. Total and dissolved metals were reported for AP1PZ-4, and the totals metals results were greater than their associated dissolved metal.

Mercury (SW7470A)

The samples were submitted to TAL PIT for total mercury by Method SW7470A, and each of the Level II components were within the QC limits.

Holding Times

The sample analyses were performed within the 6-month analysis holding time.

Method Blanks

The method blanks associated with the samples analyzed within this SDG did not contain reportable concentrations of mercury.

Laboratory Control Sample (LCS)

The percent recoveries for mercury were within the QC limits.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A batch MS/MSD analysis for mercury was not performed on any samples in this SDG.

Field Duplicate Precision

One field duplicate/sample pair was submitted with this SDG and was analyzed for mercury, and the RPD could not be calculated because mercury was not detected in the associated samples.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. The field blank (FB-1) and equipment blanks (EB-1 and EB-2) were collected with this SDG, and mercury was not detected.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of metals by USEPA Method SW7470A. The laboratory RL was elevated where dilutions were required to place the constituent within the calibration range. None of the samples in this SDG required dilution.

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. However, there were none in this SDG.

Total and Dissolved Metals Comparison

Total and dissolved mercury was reported for AP1PZ-4, and mercury was not detected in either sample.

Anions (EPA 300.0 R2.1)

The samples were submitted to TAL PIT for anions (chloride, fluoride, and sulfate) by Method 300.0 R2.1. Each of the Level II components were within the QC limits except for MS/MSD recoveries, however no qualification was necessary.

Holding Times

The sample analyses were performed within the 28-day analysis holding time.

Method Blanks

The method blank associated with the samples analyzed in this SDG contained no reportable detections of anions.

Laboratory Control Sample (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs for anions were performed on samples AP1GWA-1, and the MSD recovery for sulfate was below the lower QC limit indicating possible low bias:

Action: No qualification was necessary because the MS recovery and RPD were within QC limits.

Field Duplicate Precision

One field duplicate/sample pair was collected with this SDG, and the RPDs were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

Field accuracy was measured through the collection of equipment/rinsate blanks and field blanks. The field blank (FB-1) and equipment blanks (EB-1 and EB-2) were collected with this SDG, and anions were not detected.

Reporting Limits

The laboratory RLs met the SCS project RLs and were below the screening values for samples submitted for the analysis of anions by USEPA Method 300 R2.1. Samples that required a dilution resulted in elevated RLs. The following sample dilutions were performed:

Sample	Anion	Dilution
AP1PZ-2	sulfate	5x
AP1PZ-3	sulfate	10x
AP1PZ-4	sulfate	10x
AP1PZ-5	sulfate	20x
AP1PZ-6	chloride	2.5x
	fluoride	2.5x
	sulfate	25x

Sample	Anion	Dilution
DUP-1	chloride	2.5x
	fluoride	2.5x
	sulfate	25x
AP1PZ-7	sulfate	10x
AP1PZ-8	sulfate	5x
AP1PZ-9	sulfate	5x
AP1PZ-10	sulfate	5x

Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory. The "J" qualifier is maintained by the data validator.

TDS (SM 2540C)

The samples were submitted to TAL PIT for TDS by Method SM 2540C, and each of the Level II components were within the QC limits.

Holding Times

The sample analyses were performed within the 7-day analysis holding time.

Method Blanks

The method blanks did not contain reportable levels of TDS.

Laboratory Control Samples (LCS)

Percent recoveries for target analytes were within quality control limits in the LCS.

Field Duplicate Precision

One field duplicate/sample pair was collected with this SDG, and the RPD was within QC limits.

Laboratory Duplicate Precision

A laboratory duplicate was analyzed on project samples AP1PZ-7 and AP1PZ-9, and the RPDs were within QC limits.

Sampling Accuracy (Equipment Rinsate Blanks, Field Blanks)

The equipment blank samples and field blank samples did not contain TDS.

Reporting Limits

The laboratory RL met the SCS project RL and was below the screening value of 500 mg/L for samples submitted for the analysis of TDS by Method SM 2540C and no samples required dilutions; therefore, RLs were met for this project. Additionally, data are evaluated down to the MDL and results reported between the MDL and RL are considered quantitative estimates. Results reported between the MDL and RL were qualified as estimated and flagged "J" by the laboratory, however there were none in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The chemical data included in this SDG was validated in general accordance with the guidelines contained in the project work plan and validation SOPs. Professional judgment was not used to modify flags applied to any results reported in this SDG.

Completeness

A total of 13 wells in Ash Pond No. 1, along with the required QC samples, was sampled and analyzed during the October 2021 background event #2 according to the Scope of Work provided for the background and delineation sampling. The results for metals, mercury, anions, and TDS for each of the wells and QC samples were reported in this SDG.

Completeness of the field sampling activities were assessed in terms of the actual number and type of sample results received from the field and laboratory, as compared with the planned number and type of sample results. All samples planned were collected which meets a field completeness of 100%.

Analytical completeness of data is a measure of the number of valid project-specific data results obtained in comparison to the total number of data results projected to achieve project DQOs. Valid data are defined as data that meet the project specific DQOs. Each of the sample results in this SDG were usable which equals a completeness of 100%, which exceeds the 90 percent goal for field and laboratory data expected for this project.

References

SCS, 2016, Draft Field Sampling Plan – Former Plant Arkwright, Georgia Power Company, Earth Science and Environmental Engineering Technical Services, Southern Company Services, Inc. (SCS), August 17, 2016. Permit modification to include the Appendix III and IV sampling requirements; approval of modified permit and FSP pending.

USEPA, 2020. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-542-R-20-006, November 2020.

Prepared by/Date: DWK 12/08/21
Checked by/Date: JAH 12/15/21

TABLE 1
SUMMARY OF DATA QUALIFIERS

TABLE 1
SUMMARY OF DATA QUALIFIERS
SAMPLE DELIVERY GROUP 180-129189-1
SAMPLING DATES: October 26-29, 2021
Plant Arkwright Ash Pond No. 1 - Background Event #2

Field Sample ID	Location ID	Fraction	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
AP1GWA-1	AP1GWA-1	total	N	180-129189-1	6020B	arsenic	0.00074	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	total	N	180-129189-1	6020B	cadmium	0.00065	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	total	N	180-129189-1	6020B	lead	0.00013	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	total	N	180-129189-1	6020B	selenium	0.0023	J	J	--	mg/L
AP1GWA-1	AP1GWA-1	total	N	180-129189-1	6020B	thallium	0.00017	J	J	--	mg/L
AP1GWA-2	AP1GWA-2	total	N	180-129189-1	300.0 R2.1	fluoride	0.074	J	J	--	mg/L
AP1GWA-2	AP1GWA-2	total	N	180-129189-1	6020B	cobalt	0.00029	J	J	--	mg/L
AP1PZ-8	AP1PZ-8	total	N	180-129189-1	6020B	arsenic	0.00066	J	J	--	mg/L
AP1PZ-8	AP1PZ-8	total	N	180-129189-1	6020B	cobalt	0.00068	J	J	--	mg/L
AP1PZ-6	AP1PZ-6	total	N	180-129189-1	300.0 R2.1	fluoride	0.13	J	J	--	mg/L
AP1PZ-6	AP1PZ-6	total	N	180-129189-1	6020B	beryllium	0.00021	J	J	--	mg/L
AP1PZ-6	AP1PZ-6	total	N	180-129189-1	6020B	molybdenum	0.00076	J	J	--	mg/L
DUP-1	AP1PZ-6	total	FD	180-129189-1	300.0 R2.1	fluoride	0.11	J	J	--	mg/L
DUP-1	AP1PZ-6	total	FD	180-129189-1	6020B	beryllium	0.00023	J	J	--	mg/L
DUP-1	AP1PZ-6	total	FD	180-129189-1	6020B	molybdenum	0.00081	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	total	N	180-129189-1	6020B	lead	0.00051	J	J	--	mg/L
AP1PZ-7	AP1PZ-7	total	N	180-129189-1	6020B	molybdenum	0.003	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-129189-1	6020B	antimony	0.00057	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-129189-1	6020B	beryllium	0.00029	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-129189-1	6020B	cadmium	0.00055	J	J	--	mg/L
AP1PZ-9	AP1PZ-9	total	N	180-129189-1	6020B	molybdenum	0.00068	J	J	--	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-129189-1	6020B	antimony	0.00038	J	J	--	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-129189-1	6020B	cobalt	0.0018	J	J	--	mg/L
AP1PZ-10	AP1PZ-10	total	N	180-129189-1	6020B	molybdenum	0.0045	J	J	--	mg/L
AP1PZ-3	AP1PZ-3	total	N	180-129189-1	300.0 R2.1	fluoride	0.088	J	J	--	mg/L
AP1PZ-3	AP1PZ-3	total	N	180-129189-1	6020B	cadmium	0.00077	J	J	--	mg/L
AP1PZ-3	AP1PZ-3	total	N	180-129189-1	6020B	molybdenum	0.00086	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	total	N	180-129189-1	6020B	cobalt	0.0013	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	total	N	180-129189-1	6020B	lead	0.0026	J B	U*	BL	mg/L
AP1PZ-4	AP1PZ-4	total	N	180-129189-1	6020B	molybdenum	0.0085	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	dissolved	N	180-129189-1	6020B	cobalt	0.0013	J	J	--	mg/L
AP1PZ-4	AP1PZ-4	dissolved	N	180-129189-1	6020B	molybdenum	0.0073	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-129189-1	300.0 R2.1	fluoride	0.076	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-129189-1	6020B	cobalt	0.00073	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-129189-1	6020B	lead	0.00013	J B	U*	BL	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-129189-1	6020B	lithium	0.00065	J	J	--	mg/L
AP1PZ-1	AP1PZ-1	total	N	180-129189-1	6020B	molybdenum	0.00096	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-129189-1	6020B	beryllium	0.00047	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-129189-1	6020B	cadmium	0.00084	J	J	--	mg/L
AP1PZ-2	AP1PZ-2	total	N	180-129189-1	6020B	lead	0.00043	J B	U*	BL	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-129189-1	6020B	antimony	0.00058	J	J	--	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-129189-1	6020B	cobalt	0.00044	J	J	--	mg/L
AP1PZ-11	AP1PZ-11	total	N	180-129189-1	6020B	molybdenum	0.0022	J	J	--	mg/L

Notes:
Metals results are total metals unless otherwise noted.

Laboratory Qualifiers:
B = Compound was found in the blank and sample.
J= Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Reason Codes:
BL = Laboratory blank contamination. The result should be considered "not-detected".
-- = No Reason Code assigned for values detected between the method detection limit (MDL) and the reporting limit (RL);estimated quantitation.

Validation Qualifiers:
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only. The associated numerical value is the approximate concentration of the analyte in the sample.
U* = This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

Prepared by/Date: DWK 12/08/21
Checked by/Date: JAH 12/09/21

DQE CHECKLISTS

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Metals by SW6020B
Laboratory and Lot: TAL PIT SDG: 180-129189-1
Reviewer/Date: D. Knaub 12/08/21 **Senior Reviewer/Date:** J. Hartness 12/09/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (HNO_3 to pH<2)** OK, 3.7, 4.1, 4.2, and 4.7°C	
X			**Holding times met (180 days)** Coll: 10/26/21 – 10/29/21 Prep: Total metals – 11/02/21, 11/05/21, 11/08/21 Diss metals – 11/08/21 Anal: Total metals – 11/03/21, 11/06/21, 11/09/21, 11/11/21 Diss metals – 11/09/21	
	X		**QC Blanks Review** Method Blanks: p. 36 MB 180-377248/1-A B= 0.0594 J x 10 **= 0.594 mg/L** Tl= 0.00028 J x 10 **= 0.0028 mg/L** 11/3 ***Flag results <10x blank "U*":*** *No flags, assoc. results > 10x or ND* p. 37 MB 180-377767/1-A = All ND p. 38 MB 180-377808/1-A Pb = 0.000188 J x 10 **= 0.00188 mg/L** 11/9 ***Flag results <10x blank "U*": AP1PZ-4, AP1PZ-1, AP1PZ-2*** p. 38 MB 180-377808/1-A B only = ND p. 39 MB 180-377832/1-A = All ND Field Blank: FB-1 = ND Equipment Blank: EB-1 = ND EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (Metals 80-120%, Hg = 80-120%)** p. 36 LCS 180-377248/2-A = all OK p. 37 LCS 180-377767/2-A = all OK p. 38 LCS 180-377808/2-A = all OK p. 40 LCS 180-377832/2-A = all OK	

☒ **Lab Duplicate - Field Duplicate precision goals met (20%)**

	Dup-1 (mg/L)	AP1PZ-6 (mg/L)	RPD	Diff	RL
As	0.0016	0.0014	13.3		
Ba	0.03	0.031	3.3		
Be	0.00023J	0.00021J		0.00002	0.0025
B	6.9	6.5	6.0		
Ca	420	420	0.0		
Co	0.4	0.4	0.0		
Li	0.0057	0.0057	0.0		
Mo	0.00081J	0.00076J		0.00005	0.015

All ok

☒ **Matrix Spike recoveries and RPDs within limits (75-125%, RPD 20)**

p. 39 AP1PZ-4 Ca = 71, 66% RPD = 0 *No flag, sample > 4x spike*

☒ **Total metals vs dissolved metals within limits (Diss < 10% more than total)**

Sample *AP1PZ-4* anal. for diss. metals

All total metals > assoc. dissolved metal

☒ **EDD Data Verification vs. Hardcopy (10% samples for each SDG)**

100% of results were checked

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Mercury by SW7470A
Laboratory and Lot: TAL PIT SDG: 180-129189-1
Reviewer/Date: D. Knaub 12/08/21 **Senior Reviewer/Date:** J. Hartness 12/09/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review**	
			OK	
X			**Sample Preservation and cooler temperature met (Cool to 6°C)**	
			OK, 3.7, 4.1, 4.2, and 4.7°C	
X			**Holding times met (28 days)**	
			Coll: 10/26/21 – 10/29/21	
			Prep: 11/01/21, 11/04/21, 11/09/21 Anal: 11/01/21, 11/05/21, 11/10/21, 11/11/21	
X			**QC Blanks Review**	
			Method Blanks	
			p. 40 MB 180-377215/1-A = ND p. 40 MB 180-377670/1-A = ND	
			p. 41 MB 180-378156/1-A = ND p. 41 MB 180-378157/1-A = ND	
			Field Blank:	
			FB-1 = ND	
			Equipment Blank:	
			EB-1 = ND EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)**	
			p. 40 LCS 180-377215/2-A = 110% p. 41 LCS 180-377670/2-A = 94%	
			p. 41 LCS 180-378156/2-A = 104% p. 41 LCS 180-378157/2-A = 98%	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)**	
			Dup-1 = AP1PZ-6	
			both samples ND for Hg - ok	
		X	**Matrix Spike recoveries and RPDs within limits (if applicable)**	
			No MS/MSDs for Hg in this SDG	
X			**Total metals vs dissolved metals within limits (Diss < 10% more than total)**	
			Sample *AP1PZ-4* anal. for diss. Hg.	
			Both results ND	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)**	
			100% of results were checked	

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Anions (chloride, fluoride, and sulfate) by E300.0 R2.1
Laboratory and Lot: TAL PIT SDG: 180-129189-1
Reviewer/Date: D. Knaub 12/08/21 **Senior Reviewer/Date:** J. Hartness 12/09/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6°C)** OK, 3.7, 4.1, 4.2, and 4.7°C	
X			**Holding time met (Cl, SO_4, F – 28 days)** Coll: 10/26/21 – 10/29/21 Anal: 10/29/21 and 10/31/21	
X			**QC Blanks Review** Method Blanks: p. 35 MB 180-376935/6 (10/29/21) = ND p. 35 MB 180-377100/7 (10/31/21) = ND p. 36 MB 180-377297/7 (11/02/21) = ND Field Blanks: FB-1 = ND Equipment Blanks: EB-1 = ND EB-2 = ND	
X			**Laboratory Control Sample (LCS) recovery within limits (90-110%)** p. 35 LCS 180-376935/5 = All OK p. 35 LCS 180-377100/6 = All OK p. 36 LCS 180-377297/6 = All OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)**	

	Dup-1 (mg/L)	AP1PZ-6 (mg/L)	RPD	Diff	RL
Cl	10	10	0.0		
F	0.11 J	0.13 J		0.02	0.25
SO_4	2400	2200	8.7		

All ok

	X		**Matrix Spike recoveries and RPDs within limits (lab %Rec limits, RPD = 20)** p. 35 AP1GWA-1 Cl = 102, 97% RPD = 4 F = 101, 95% RPD = 6 SO_4 = 99, 89% RPD = 4 *No flag, MS and RPD ok*	

Metals by SW6020B (cont.)

YES	NO	NA	COMMENTS
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** 100% of results were checked

Sample	Anion	Dilution
AP1PZ-7	sulfate	10x
AP1PZ-8	sulfate	5x
DUP-1	chloride	2.5x
	fluoride	2.5x
	sulfate	25x
AP1PZ-9	sulfate	5x
AP1PZ-10	sulfate	5x
AP1PZ-4	sulfate	10x
AP1PZ-5	sulfate	20x
AP1PZ-2	sulfate	5x
AP1PZ-3	sulfate	10x
AP1PZ-6	chloride	2.5x
	fluoride	2.5x
	sulfate	25x

LEVEL II DATA QUALITY VALIDATION RECORD

Project: Plant Arkwright Background and Delineation
Project No: 6123211714.2105.****
Method: Total Dissolved Solids (TDS) by SM 2540C
Laboratory and Lot: TAL PIT SDG: 180-129189-1
Reviewer/Date: D. Knaub 12/08/21 **Senior Reviewer/Date:** J. Hartness 12/09/21

YES	NO	NA		COMMENTS
X			**Case Narrative and COC Completeness Review** OK	
X			**Sample Preservation and cooler temperature met (Cool to 6ºC)** OK, 3.7, 4.1, 4.2, and 4.7ºC	
X			**Holding times met (7 days)** Coll: 10/26/21 – 10/29/21 Anal: 11/01/21 – 11/03/21	
X			**QC Blanks Review** Method Blanks p. 41 MB 180-377220/2 TDS = ND p. 42 MB 180-377385/2 TDS = ND p. 42 MB 180-377503/2 TDS = ND Equipment Blanks: EB-1 TDS = ND Field Blanks: FB-1 TDS = ND FB-2 TDS = ND	
X			**Laboratory Control Sample (LCS) recovery within lab limits (80-120%)** p. 41 LCS 180-377220/1 TDS = 119% - OK p. 42 LCS 180-377385/1 TDS = 95% - OK p. 42 LCS 180-377503/1 TDS = 95% - OK	
X			**Lab Duplicate - Field Duplicate precision goals met (20%)** Dup-1 (mg/L) AP1PZ-6 (mg/L) RPD TDS 3100 3100 0.0% p. 42 Lab dup on AP1PZ-7 RPD = 2 OK p. 42 lab dup on AP1PZ-9 RPD = 8 OK	
		X	**Matrix Spike recoveries and RPDs within limits (if applicable)** *MS/MSD not applicable for TDS*	
X			**EDD Data Verification vs. Hardcopy (10% samples for each SDG)** *All sample results checked vs. hardcopy.*	

FIELD SAMPLING DATA

Low-Flow Test Report:

Test Date / Time: 8/17/2021 2:38:32 PM
Project: Plant Arkwright
Operator Name: Ever Guillen

Location Name: AP1GWA-1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.5 ft** **Total Depth: 37.5 ft** **Initial Depth to Water: 25.28 ft**	**Pump Type: Peristaltic** **Tubing Type: PE** **Pump Intake From TOC: 36 ft** **Estimated Total Volume Pumped: 4306.667 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
AP1GWA-1
Sample time = 1510

Weather Conditions:
Hot, humid, rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.5	+/- 10	+/- 10	+/- 5	
8/17/2021 2:38 PM	00:00	5.29 pH	22.54 °C	204.43 µS/cm	2.90 mg/L	10.20 NTU	183.1 mV	770.53 cm	200.00 ml/min
8/17/2021 2:43 PM	05:00	5.27 pH	22.73 °C	204.70 µS/cm	2.90 mg/L	9.16 NTU	139.1 mV	770.53 cm	200.00 ml/min
8/17/2021 2:48 PM	10:00	5.18 pH	22.55 °C	208.69 µS/cm	2.92 mg/L	7.11 NTU	129.8 mV	770.53 cm	200.00 ml/min
8/17/2021 2:53 PM	15:00	5.27 pH	22.43 °C	204.48 µS/cm	2.90 mg/L	5.69 NTU	126.1 mV	770.53 cm	200.00 ml/min
8/17/2021 2:58 PM	20:00	5.24 pH	22.14 °C	206.57 µS/cm	2.86 mg/L	5.16 NTU	124.2 mV	770.53 cm	200.00 ml/min
8/17/2021 3:00 PM	21:32	5.23 pH	22.13 °C	207.17 µS/cm	2.93 mg/L	3.71 NTU	129.7 mV	770.53 cm	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/18/2021 11:21:38 AM
Project: Plant Arkwright
Operator Name: Ever Guillen

Location Name: AP1GWA-2 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 21.1 ft** **Total Depth: 31.1 ft**	**Pump Type: Peristaltic** **Tubing Type: PE** **Pump Intake From TOC: 30 ft** **Estimated Total Volume Pumped: 6000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
Sample time = 1155

Weather Conditions:
Hot, clear, dry

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/18/2021 11:21 AM	00:00	6.02 pH	23.10 °C	85.46 µS/cm	0.50 mg/L	15.70 NTU	-64.0 mV	18.60 ft	200.00 ml/min
8/18/2021 11:26 AM	05:00	6.02 pH	23.30 °C	84.92 µS/cm	0.48 mg/L	13.80 NTU	-39.9 mV	18.60 ft	200.00 ml/min
8/18/2021 11:31 AM	10:00	6.03 pH	22.73 °C	85.78 µS/cm	0.48 mg/L	11.10 NTU	-38.4 mV	18.60 ft	200.00 ml/min
8/18/2021 11:36 AM	15:00	6.03 pH	22.44 °C	85.90 µS/cm	0.47 mg/L	8.36 NTU	-38.3 mV	18.60 ft	200.00 ml/min
8/18/2021 11:41 AM	20:00	6.03 pH	22.26 °C	86.01 µS/cm	0.47 mg/L	6.13 NTU	-38.4 mV	18.60 ft	200.00 ml/min
8/18/2021 11:46 AM	25:00	6.03 pH	22.13 °C	86.16 µS/cm	0.46 mg/L	5.31 NTU	-38.1 mV	18.60 ft	200.00 ml/min
8/18/2021 11:51 AM	30:00	6.03 pH	22.70 °C	86.38 µS/cm	0.44 mg/L	4.54 NTU	-41.6 mV	18.60 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/18/2021 2:38:26 PM
Project: Plant Arkwright (2)
Operator Name: Ever Guillen

Location Name: AP1PZ-1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 77.62 ft** **Total Depth: 87.62 ft** **Initial Depth to Water: 41.15 ft**	**Pump Type: Peristaltic** **Tubing Type: PE** **Pump Intake From TOC: 84 ft** **Estimated Total Volume Pumped: 41206.668 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 3.54 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
Sample time = 1815

Weather Conditions:
Hot, clear, humid

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/18/2021 2:38 PM	00:00	6.44 pH	32.74 °C	367.37 µS/cm	7.32 mg/L	158.00 NTU	-41.6 mV	42.57 ft	200.00 ml/min
8/18/2021 2:43 PM	05:00	6.50 pH	30.01 °C	372.10 µS/cm	2.06 mg/L	136.00 NTU	-75.3 mV	42.72 ft	200.00 ml/min
8/18/2021 2:48 PM	10:00	6.53 pH	30.05 °C	374.43 µS/cm	1.31 mg/L	113.00 NTU	-85.4 mV	42.96 ft	200.00 ml/min
8/18/2021 2:53 PM	15:00	6.57 pH	24.60 °C	365.81 µS/cm	0.50 mg/L	92.00 NTU	-84.7 mV	43.28 ft	200.00 ml/min
8/18/2021 2:58 PM	20:00	6.60 pH	24.51 °C	365.99 µS/cm	0.39 mg/L	104.00 NTU	-87.4 mV	43.57 ft	200.00 ml/min
8/18/2021 3:03 PM	25:00	6.59 pH	25.23 °C	367.09 µS/cm	0.59 mg/L	90.00 NTU	-82.5 mV	44.22 ft	200.00 ml/min
8/18/2021 3:04 PM	26:02	6.59 pH	25.25 °C	366.08 µS/cm	0.47 mg/L	77.80 NTU	-80.4 mV	44.42 ft	200.00 ml/min
8/18/2021 3:14 PM	36:02	6.56 pH	28.31 °C	365.41 µS/cm	0.53 mg/L	49.80 NTU	-80.1 mV	44.68 ft	200.00 ml/min
8/18/2021 3:24 PM	46:02	6.52 pH	28.94 °C	365.81 µS/cm	0.51 mg/L	29.60 NTU	-68.1 mV	44.69 ft	200.00 ml/min
8/18/2021 3:34 PM	56:02	6.51 pH	30.25 °C	364.21 µS/cm	0.46 mg/L	30.60 NTU	-66.1 mV	44.69 ft	200.00 ml/min
8/18/2021 3:44 PM	01:06:02	6.52 pH	28.41 °C	364.81 µS/cm	0.45 mg/L	23.50 NTU	-62.4 mV	44.69 ft	200.00 ml/min
8/18/2021 3:54 PM	01:16:02	6.55 pH	27.40 °C	363.65 µS/cm	0.44 mg/L	25.80 NTU	-58.8 mV	44.69 ft	200.00 ml/min
8/18/2021 4:04 PM	01:26:02	6.56 pH	25.23 °C	359.97 µS/cm	0.32 mg/L	23.20 NTU	-55.9 mV	44.69 ft	200.00 ml/min

8/18/2021 4:14 PM	01:36:02	6.59 pH	25.86 °C	366.21 µS/cm	0.33 mg/L	17.40 NTU	-69.9 mV	44.69 ft	200.00 ml/min
8/18/2021 4:24 PM	01:46:02	6.56 pH	26.88 °C	363.18 µS/cm	0.32 mg/L	11.30 NTU	-60.1 mV	44.69 ft	200.00 ml/min
8/18/2021 4:34 PM	01:56:02	6.57 pH	25.86 °C	359.94 µS/cm	0.32 mg/L	10.70 NTU	-55.8 mV	44.69 ft	200.00 ml/min
8/18/2021 4:44 PM	02:06:02	6.57 pH	24.60 °C	359.44 µS/cm	0.32 mg/L	9.47 NTU	-54.4 mV	44.69 ft	200.00 ml/min
8/18/2021 4:54 PM	02:16:02	6.58 pH	24.81 °C	359.27 µS/cm	0.31 mg/L	8.65 NTU	-54.5 mV	44.69 ft	200.00 ml/min
8/18/2021 5:04 PM	02:26:02	6.59 pH	24.11 °C	358.06 µS/cm	0.31 mg/L	7.35 NTU	-53.6 mV	44.69 ft	200.00 ml/min
8/18/2021 5:14 PM	02:36:02	6.59 pH	23.79 °C	357.11 µS/cm	0.30 mg/L	7.03 NTU	-51.7 mV	44.69 ft	200.00 ml/min
8/18/2021 5:24 PM	02:46:02	6.59 pH	24.69 °C	359.07 µS/cm	0.30 mg/L	6.32 NTU	-52.8 mV	44.69 ft	200.00 ml/min
8/18/2021 5:34 PM	02:56:02	6.59 pH	24.24 °C	358.27 µS/cm	0.30 mg/L	5.99 NTU	-52.2 mV	44.69 ft	200.00 ml/min
8/18/2021 5:44 PM	03:06:02	6.60 pH	24.55 °C	358.42 µS/cm	0.29 mg/L	5.50 NTU	-52.0 mV	44.69 ft	200.00 ml/min
8/18/2021 5:54 PM	03:16:02	6.59 pH	25.30 °C	359.84 µS/cm	0.29 mg/L	5.02 NTU	-52.7 mV	44.69 ft	200.00 ml/min
8/18/2021 6:04 PM	03:26:02	6.59 pH	25.34 °C	360.46 µS/cm	0.29 mg/L	4.92 NTU	-51.9 mV	44.69 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/19/2021 10:14:09 AM
Project: Plant Arkwright (3)
Operator Name: Ever Guillen

Location Name: AP1PZ-2 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 52.67 ft** **Total Depth: 62.67 ft** **Initial Depth to Water: 41.68 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 59 ft** **Estimated Total Volume Pumped: 41000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.34 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
AP1PZ-2
Sample time = 1345

Weather Conditions:
Hot, clear, humid

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/19/2021 10:14 AM	00:00	5.90 pH	23.67 °C	1,140.4 µS/cm	1.32 mg/L	155.00 NTU	63.5 mV	42.02 ft	200.00 ml/min
8/19/2021 10:19 AM	05:00	5.98 pH	22.18 °C	1,175.4 µS/cm	2.61 mg/L	106.00 NTU	66.2 mV	42.02 ft	200.00 ml/min
8/19/2021 10:24 AM	10:00	6.02 pH	22.20 °C	1,184.0 µS/cm	3.65 mg/L	86.10 NTU	69.9 mV	42.02 ft	200.00 ml/min
8/19/2021 10:29 AM	15:00	6.04 pH	22.08 °C	1,191.9 µS/cm	4.32 mg/L	66.80 NTU	71.4 mV	42.02 ft	200.00 ml/min
8/19/2021 10:34 AM	20:00	6.04 pH	22.09 °C	1,203.8 µS/cm	4.51 mg/L	60.70 NTU	74.8 mV	42.02 ft	200.00 ml/min
8/19/2021 10:39 AM	25:00	6.04 pH	22.09 °C	1,209.7 µS/cm	4.56 mg/L	52.10 NTU	75.4 mV	42.02 ft	200.00 ml/min
8/19/2021 10:44 AM	30:00	6.04 pH	22.22 °C	1,228.7 µS/cm	4.70 mg/L	37.20 NTU	76.6 mV	42.02 ft	200.00 ml/min
8/19/2021 10:49 AM	35:00	6.04 pH	22.39 °C	1,236.5 µS/cm	4.79 mg/L	33.90 NTU	77.5 mV	42.02 ft	200.00 ml/min
8/19/2021 10:54 AM	40:00	6.04 pH	22.32 °C	1,246.8 µS/cm	4.71 mg/L	29.10 NTU	78.4 mV	42.02 ft	200.00 ml/min
8/19/2021 10:59 AM	45:00	6.04 pH	22.24 °C	1,255.3 µS/cm	4.69 mg/L	27.20 NTU	80.0 mV	42.02 ft	200.00 ml/min
8/19/2021 11:04 AM	50:00	6.03 pH	22.48 °C	1,267.0 µS/cm	4.67 mg/L	24.90 NTU	82.3 mV	42.02 ft	200.00 ml/min
8/19/2021 11:09 AM	55:00	6.02 pH	22.58 °C	1,282.0 µS/cm	4.86 mg/L	20.70 NTU	82.8 mV	42.02 ft	200.00 ml/min
8/19/2021 11:14 AM	01:00:00	6.03 pH	22.22 °C	1,287.5 µS/cm	4.99 mg/L	18.70 NTU	83.4 mV	42.02 ft	200.00 ml/min

8/19/2021 11:19 AM	01:05:00	6.02 pH	22.50 °C	1,294.3 µS/cm	4.94 mg/L	16.50 NTU	83.4 mV	42.02 ft	200.00 ml/min
8/19/2021 11:24 AM	01:10:00	6.02 pH	22.49 °C	1,302.4 µS/cm	4.99 mg/L	14.80 NTU	84.9 mV	42.02 ft	200.00 ml/min
8/19/2021 11:29 AM	01:15:00	6.02 pH	22.55 °C	1,307.1 µS/cm	4.93 mg/L	15.50 NTU	85.1 mV	42.02 ft	200.00 ml/min
8/19/2021 11:34 AM	01:20:00	6.02 pH	22.21 °C	1,306.3 µS/cm	4.85 mg/L	15.00 NTU	85.7 mV	42.02 ft	200.00 ml/min
8/19/2021 11:39 AM	01:25:00	6.01 pH	22.20 °C	1,327.9 µS/cm	5.08 mg/L	13.10 NTU	85.6 mV	42.02 ft	200.00 ml/min
8/19/2021 11:44 AM	01:30:00	6.00 pH	22.11 °C	1,335.1 µS/cm	5.09 mg/L	14.50 NTU	85.4 mV	42.02 ft	200.00 ml/min
8/19/2021 11:49 AM	01:35:00	6.00 pH	22.26 °C	1,344.4 µS/cm	5.05 mg/L	12.30 NTU	84.6 mV	42.02 ft	200.00 ml/min
8/19/2021 11:54 AM	01:40:00	5.99 pH	22.08 °C	1,348.3 µS/cm	5.05 mg/L	13.20 NTU	85.3 mV	42.02 ft	200.00 ml/min
8/19/2021 11:59 AM	01:45:00	5.99 pH	21.83 °C	1,355.8 µS/cm	5.05 mg/L	12.00 NTU	84.6 mV	42.02 ft	200.00 ml/min
8/19/2021 12:04 PM	01:50:00	5.99 pH	21.86 °C	1,366.2 µS/cm	5.08 mg/L	11.80 NTU	83.9 mV	42.02 ft	200.00 ml/min
8/19/2021 12:09 PM	01:55:00	5.98 pH	21.81 °C	1,370.4 µS/cm	4.76 mg/L	9.50 NTU	83.5 mV	42.02 ft	200.00 ml/min
8/19/2021 12:14 PM	02:00:00	5.96 pH	22.21 °C	1,390.4 µS/cm	4.62 mg/L	9.21 NTU	83.9 mV	42.02 ft	200.00 ml/min
8/19/2021 12:19 PM	02:05:00	5.95 pH	22.29 °C	1,402.6 µS/cm	4.68 mg/L	9.26 NTU	83.5 mV	42.02 ft	200.00 ml/min
8/19/2021 12:24 PM	02:10:00	5.95 pH	22.20 °C	1,416.8 µS/cm	4.71 mg/L	9.36 NTU	84.3 mV	42.02 ft	200.00 ml/min
8/19/2021 12:29 PM	02:15:00	5.94 pH	21.93 °C	1,431.7 µS/cm	4.83 mg/L	8.72 NTU	83.9 mV	42.02 ft	200.00 ml/min
8/19/2021 12:34 PM	02:20:00	5.93 pH	22.07 °C	1,433.1 µS/cm	4.69 mg/L	8.07 NTU	83.4 mV	42.02 ft	200.00 ml/min
8/19/2021 12:39 PM	02:25:00	5.93 pH	22.08 °C	1,441.1 µS/cm	4.81 mg/L	8.26 NTU	83.0 mV	42.02 ft	200.00 ml/min
8/19/2021 12:44 PM	02:30:00	5.92 pH	22.00 °C	1,448.3 µS/cm	4.81 mg/L	7.58 NTU	83.3 mV	42.02 ft	200.00 ml/min
8/19/2021 12:49 PM	02:35:00	5.92 pH	22.04 °C	1,459.7 µS/cm	4.91 mg/L	7.92 NTU	83.0 mV	42.02 ft	200.00 ml/min
8/19/2021 12:54 PM	02:40:00	5.92 pH	22.04 °C	1,455.2 µS/cm	4.72 mg/L	7.01 NTU	82.6 mV	42.02 ft	200.00 ml/min
8/19/2021 12:59 PM	02:45:00	5.91 pH	21.92 °C	1,464.7 µS/cm	4.71 mg/L	6.18 NTU	82.7 mV	42.02 ft	200.00 ml/min
8/19/2021 1:04 PM	02:50:00	5.89 pH	22.31 °C	1,487.6 µS/cm	5.12 mg/L	6.43 NTU	84.2 mV	42.02 ft	200.00 ml/min
8/19/2021 1:09 PM	02:55:00	5.89 pH	22.02 °C	1,484.9 µS/cm	4.59 mg/L	6.70 NTU	84.0 mV	42.02 ft	200.00 ml/min
8/19/2021 1:14 PM	03:00:00	5.88 pH	22.08 °C	1,503.8 µS/cm	4.81 mg/L	6.15 NTU	84.8 mV	42.02 ft	200.00 ml/min
8/19/2021 1:19 PM	03:05:00	5.87 pH	21.97 °C	1,503.3 µS/cm	4.77 mg/L	5.66 NTU	84.7 mV	42.02 ft	200.00 ml/min
8/19/2021 1:24 PM	03:10:00	5.87 pH	22.14 °C	1,497.5 µS/cm	4.55 mg/L	5.61 NTU	84.8 mV	42.02 ft	200.00 ml/min
8/19/2021 1:29 PM	03:15:00	5.86 pH	22.08 °C	1,505.1 µS/cm	4.55 mg/L	5.33 NTU	85.4 mV	42.02 ft	200.00 ml/min
8/19/2021 1:34 PM	03:20:00	5.85 pH	22.20 °C	1,511.3 µS/cm	4.51 mg/L	5.47 NTU	85.8 mV	42.02 ft	200.00 ml/min
8/19/2021 1:39 PM	03:25:00	5.84 pH	22.38 °C	1,511.4 µS/cm	4.44 mg/L	4.94 NTU	87.0 mV	42.02 ft	200.00 ml/min

Low-Flow Test Report:

Test Date / Time: 8/19/2021 3:30:48 PM
Project: Plant Arkwright (4)
Operator Name: Ever Guillen

Location Name: AP1PZ-3 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.44 ft** **Total Depth: 67.44 ft** **Initial Depth to Water: 42.38 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 14000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 1.07 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
Sample time = 1645

Weather Conditions:
AP1PZ-3

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/19/2021 3:30 PM	00:00	5.75 pH	27.35 °C	1,738.1 µS/cm	3.62 mg/L	25.40 NTU	-23.8 mV	43.45 ft	200.00 ml/min
8/19/2021 3:35 PM	05:00	5.62 pH	21.74 °C	2,117.4 µS/cm	0.38 mg/L	22.10 NTU	-38.8 mV	43.45 ft	200.00 ml/min
8/19/2021 3:40 PM	10:00	5.62 pH	22.43 °C	2,125.6 µS/cm	0.36 mg/L	18.90 NTU	-45.6 mV	43.45 ft	200.00 ml/min
8/19/2021 3:45 PM	15:00	5.62 pH	22.40 °C	2,128.2 µS/cm	0.33 mg/L	16.50 NTU	-52.0 mV	43.45 ft	200.00 ml/min
8/19/2021 3:50 PM	20:00	5.62 pH	22.68 °C	2,131.5 µS/cm	0.29 mg/L	15.40 NTU	-58.4 mV	43.45 ft	200.00 ml/min
8/19/2021 3:55 PM	25:00	5.62 pH	22.90 °C	2,128.9 µS/cm	0.27 mg/L	13.20 NTU	-61.5 mV	43.45 ft	200.00 ml/min
8/19/2021 4:00 PM	30:00	5.62 pH	23.07 °C	2,125.7 µS/cm	0.25 mg/L	10.60 NTU	-65.1 mV	43.45 ft	200.00 ml/min
8/19/2021 4:05 PM	35:00	5.61 pH	23.00 °C	2,120.4 µS/cm	0.23 mg/L	9.13 NTU	-66.7 mV	43.45 ft	200.00 ml/min
8/19/2021 4:10 PM	40:00	5.61 pH	23.11 °C	2,118.0 µS/cm	0.21 mg/L	7.89 NTU	-68.9 mV	43.45 ft	200.00 ml/min
8/19/2021 4:15 PM	45:00	5.61 pH	23.25 °C	2,115.9 µS/cm	0.21 mg/L	6.71 NTU	-68.1 mV	43.45 ft	200.00 ml/min
8/19/2021 4:20 PM	50:00	5.61 pH	23.37 °C	2,120.2 µS/cm	0.21 mg/L	7.46 NTU	-70.3 mV	43.45 ft	200.00 ml/min
8/19/2021 4:25 PM	55:00	5.61 pH	23.33 °C	2,114.4 µS/cm	0.20 mg/L	6.99 NTU	-69.1 mV	43.45 ft	200.00 ml/min
8/19/2021 4:30 PM	01:00:00	5.61 pH	23.20 °C	2,117.1 µS/cm	0.20 mg/L	5.69 NTU	-71.1 mV	43.45 ft	200.00 ml/min

8/19/2021 4:35 PM	01:05:00	5.60 pH	23.09 °C	2,116.8 µS/cm	0.19 mg/L	5.07 NTU	-68.4 mV	43.45 ft	200.00 ml/min
8/19/2021 4:40 PM	01:10:00	5.60 pH	22.98 °C	2,108.7 µS/cm	0.19 mg/L	4.43 NTU	-69.9 mV	43.45 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/20/2021 9:30:58 AM
Project: Plant Arkwright (5)
Operator Name: Ever Guillen

Location Name: AP1PZ-4 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.42 ft** **Total Depth: 67.42 ft** **Initial Depth to Water: 46.92 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 23000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.2 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
AP1PZ-4
Sample time = 1130

Weather Conditions:
Hot, cloudy, humid

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/20/2021 9:30 AM	00:00	6.02 pH	24.83 °C	1,958.8 µS/cm	4.41 mg/L	36.70 NTU	-34.3 mV	47.12 ft	200.00 ml/min
8/20/2021 9:35 AM	05:00	6.63 pH	21.80 °C	2,297.8 µS/cm	0.71 mg/L	31.20 NTU	-119.4 mV	47.12 ft	200.00 ml/min
8/20/2021 9:40 AM	10:00	6.75 pH	22.27 °C	2,284.0 µS/cm	0.70 mg/L	26.10 NTU	-121.2 mV	47.12 ft	200.00 ml/min
8/20/2021 9:45 AM	15:00	6.80 pH	22.11 °C	2,286.7 µS/cm	0.62 mg/L	21.40 NTU	-119.5 mV	47.12 ft	200.00 ml/min
8/20/2021 9:50 AM	20:00	6.81 pH	22.22 °C	2,272.1 µS/cm	0.59 mg/L	17.30 NTU	-118.3 mV	47.12 ft	200.00 ml/min
8/20/2021 9:55 AM	25:00	6.81 pH	22.13 °C	2,261.3 µS/cm	0.65 mg/L	13.70 NTU	-114.2 mV	47.12 ft	200.00 ml/min
8/20/2021 10:00 AM	30:00	6.81 pH	22.15 °C	2,261.3 µS/cm	0.60 mg/L	11.00 NTU	-111.5 mV	47.12 ft	200.00 ml/min
8/20/2021 10:05 AM	35:00	6.79 pH	22.21 °C	2,270.1 µS/cm	0.56 mg/L	8.92 NTU	-108.0 mV	47.12 ft	200.00 ml/min
8/20/2021 10:10 AM	40:00	6.79 pH	22.35 °C	2,264.9 µS/cm	0.52 mg/L	8.02 NTU	-107.0 mV	47.12 ft	200.00 ml/min
8/20/2021 10:15 AM	45:00	6.77 pH	22.35 °C	2,267.0 µS/cm	0.49 mg/L	7.28 NTU	-102.9 mV	47.12 ft	200.00 ml/min
8/20/2021 10:20 AM	50:00	6.76 pH	22.41 °C	2,262.5 µS/cm	0.48 mg/L	6.06 NTU	-101.4 mV	47.12 ft	200.00 ml/min
8/20/2021 10:25 AM	55:00	6.74 pH	22.40 °C	2,257.0 µS/cm	0.47 mg/L	5.88 NTU	-98.1 mV	47.12 ft	200.00 ml/min
8/20/2021 10:30 AM	01:00:00	6.72 pH	22.49 °C	2,260.3 µS/cm	0.45 mg/L	5.79 NTU	-96.2 mV	47.12 ft	200.00 ml/min

8/20/2021 10:35 AM	01:05:00	6.70 pH	22.48 °C	2,255.0 µS/cm	0.44 mg/L	5.74 NTU	-92.1 mV	47.12 ft	200.00 ml/min
8/20/2021 10:40 AM	01:10:00	6.68 pH	22.47 °C	2,249.3 µS/cm	0.43 mg/L	5.87 NTU	-91.1 mV	47.12 ft	200.00 ml/min
8/20/2021 10:45 AM	01:15:00	6.68 pH	22.44 °C	2,249.0 µS/cm	0.44 mg/L	5.97 NTU	-89.2 mV	47.12 ft	200.00 ml/min
8/20/2021 10:50 AM	01:20:00	6.65 pH	22.44 °C	2,245.7 µS/cm	0.44 mg/L	5.75 NTU	-86.9 mV	47.12 ft	200.00 ml/min
8/20/2021 10:55 AM	01:25:00	6.64 pH	22.44 °C	2,242.4 µS/cm	0.44 mg/L	5.39 NTU	-83.9 mV	47.12 ft	200.00 ml/min
8/20/2021 11:00 AM	01:30:00	6.62 pH	22.45 °C	2,243.8 µS/cm	0.45 mg/L	5.12 NTU	-83.4 mV	47.12 ft	200.00 ml/min
8/20/2021 11:05 AM	01:35:00	6.61 pH	22.55 °C	2,239.9 µS/cm	0.44 mg/L	5.42 NTU	-80.7 mV	47.12 ft	200.00 ml/min
8/20/2021 11:10 AM	01:40:00	6.60 pH	22.52 °C	2,237.4 µS/cm	0.43 mg/L	5.34 NTU	-79.9 mV	47.12 ft	200.00 ml/min
8/20/2021 11:15 AM	01:45:00	6.58 pH	22.56 °C	2,233.9 µS/cm	0.41 mg/L	5.12 NTU	-77.9 mV	47.12 ft	200.00 ml/min
8/20/2021 11:20 AM	01:50:00	6.57 pH	22.45 °C	2,237.9 µS/cm	0.39 mg/L	5.04 NTU	-78.2 mV	47.12 ft	200.00 ml/min
8/20/2021 11:25 AM	01:55:00	6.56 pH	22.58 °C	2,237.7 µS/cm	0.38 mg/L	4.96 NTU	-77.6 mV	47.12 ft	200.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/20/2021 1:43:38 PM
Project: Plant Arkwright (6)
Operator Name: Ever Guillen

Location Name: AP1PZ-5 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.25 ft** **Total Depth: 67.25 ft** **Initial Depth to Water: 48.81 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 10000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.81 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 642531**

Test Notes:
AP1PZ-5
Sample time = 1440

Weather Conditions:
Hot, cloudy, humid

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
8/20/2021 1:43 PM	00:00	7.13 pH	26.88 °C	1,301.6 µS/cm	7.82 mg/L	11.50 NTU	-67.8 mV	48.96 ft	200.00 ml/min
8/20/2021 1:48 PM	05:00	6.60 pH	22.29 °C	2,375.1 µS/cm	0.88 mg/L	11.10 NTU	-89.0 mV	49.17 ft	200.00 ml/min
8/20/2021 1:53 PM	10:00	6.59 pH	22.71 °C	2,351.5 µS/cm	1.31 mg/L	9.82 NTU	-90.4 mV	49.29 ft	200.00 ml/min
8/20/2021 1:58 PM	15:00	6.58 pH	22.80 °C	2,336.9 µS/cm	1.53 mg/L	7.61 NTU	-88.4 mV	49.52 ft	200.00 ml/min
8/20/2021 2:03 PM	20:00	6.57 pH	23.09 °C	2,313.0 µS/cm	1.64 mg/L	6.34 NTU	-87.2 mV	49.62 ft	200.00 ml/min
8/20/2021 2:08 PM	25:00	6.57 pH	23.34 °C	2,316.1 µS/cm	1.76 mg/L	3.34 NTU	-85.9 mV	49.62 ft	200.00 ml/min
8/20/2021 2:13 PM	30:00	6.57 pH	23.61 °C	2,299.5 µS/cm	1.88 mg/L	4.33 NTU	-85.4 mV	49.62 ft	200.00 ml/min
8/20/2021 2:18 PM	35:00	6.58 pH	23.03 °C	2,278.1 µS/cm	1.96 mg/L	3.07 NTU	-82.1 mV	49.62 ft	200.00 ml/min
8/20/2021 2:23 PM	40:00	6.58 pH	23.19 °C	2,293.5 µS/cm	2.06 mg/L	2.54 NTU	-82.2 mV	49.62 ft	200.00 ml/min
8/20/2021 2:28 PM	45:00	6.59 pH	22.60 °C	2,263.8 µS/cm	2.08 mg/L	2.48 NTU	-78.5 mV	49.62 ft	200.00 ml/min
8/20/2021 2:33 PM	50:00	6.60 pH	22.85 °C	2,268.0 µS/cm	2.15 mg/L	2.42 NTU	-78.1 mV	49.62 ft	200.00 ml/min

Low-Flow Test Report:

Test Date / Time: 8/23/2021 1:09:48 PM
Project: Plant Arkwright CCR (6)
Operator Name: Daniel Howard

Location Name: AP1PZ-6 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 62.7 ft** **Total Depth: 72.7 ft** **Initial Depth to Water: 56.39 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 67.7 ft** **Estimated Total Volume Pumped: 12036.667 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.42 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-6 sample time 1412.

Weather Conditions:
Hot and humid. Temp 87.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/23/2021 1:09 PM	00:00	5.55 pH	23.25 °C	3,316.3 µS/cm	0.78 mg/L	63.30 NTU	13.2 mV	56.39 ft	200.00 ml/min
8/23/2021 1:14 PM	05:00	5.59 pH	21.73 °C	3,420.5 µS/cm	0.43 mg/L	50.40 NTU	-5.3 mV	56.81 ft	200.00 ml/min
8/23/2021 1:19 PM	10:00	5.59 pH	21.92 °C	3,440.6 µS/cm	0.36 mg/L	34.70 NTU	-11.2 mV	56.81 ft	200.00 ml/min
8/23/2021 1:24 PM	15:00	5.59 pH	21.99 °C	3,431.0 µS/cm	0.31 mg/L	27.50 NTU	-14.2 mV	56.81 ft	200.00 ml/min
8/23/2021 1:29 PM	20:00	5.59 pH	21.95 °C	3,427.8 µS/cm	0.28 mg/L	22.80 NTU	-15.9 mV	56.81 ft	200.00 ml/min
8/23/2021 1:34 PM	25:00	5.59 pH	21.64 °C	3,418.6 µS/cm	0.26 mg/L	17.70 NTU	-16.4 mV	56.81 ft	200.00 ml/min
8/23/2021 1:39 PM	30:00	5.58 pH	21.61 °C	3,428.3 µS/cm	0.24 mg/L	11.90 NTU	-15.9 mV	56.81 ft	200.00 ml/min
8/23/2021 1:44 PM	35:00	5.54 pH	21.73 °C	3,419.5 µS/cm	0.21 mg/L	8.38 NTU	-12.4 mV	56.81 ft	200.00 ml/min
8/23/2021 1:49 PM	40:00	5.52 pH	21.55 °C	3,400.6 µS/cm	0.20 mg/L	6.69 NTU	-10.1 mV	56.81 ft	200.00 ml/min
8/23/2021 1:54 PM	45:00	5.52 pH	21.50 °C	3,410.1 µS/cm	0.19 mg/L	5.74 NTU	-12.7 mV	56.81 ft	200.00 ml/min
8/23/2021 1:59 PM	50:00	5.51 pH	21.51 °C	3,412.0 µS/cm	0.19 mg/L	5.16 NTU	-10.9 mV	56.81 ft	200.00 ml/min
8/23/2021 2:04 PM	55:00	5.50 pH	21.84 °C	3,428.8 µS/cm	0.18 mg/L	4.65 NTU	-10.5 mV	56.81 ft	200.00 ml/min
8/23/2021 2:09 PM	01:00:11	5.50 pH	21.64 °C	3,402.3 µS/cm	0.17 mg/L	4.51 NTU	-10.7 mV	56.81 ft	200.00 ml/min

Low-Flow Test Report:

Test Date / Time: 8/18/2021 12:03:53 PM
Project: Plant Arkwright CCR
Operator Name: Daniel Howard

Location Name: AP1PZ-7 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 67.75 ft** **Total Depth: 77.75 ft** **Initial Depth to Water: 50.3 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 72.75 ft** **Estimated Total Volume Pumped: 6500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-7 sample time 1310.

Weather Conditions:
Partly sunny, temp 82

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/18/2021 12:03 PM	00:00	6.45 pH	23.88 °C	2,329.1 µS/cm	0.58 mg/L	10.40 NTU	-54.8 mV	50.30 ft	100.00 ml/min
8/18/2021 12:08 PM	05:00	6.43 pH	24.98 °C	2,326.7 µS/cm	0.60 mg/L	11.70 NTU	-56.5 mV	50.35 ft	100.00 ml/min
8/18/2021 12:13 PM	10:00	6.40 pH	25.24 °C	2,321.2 µS/cm	0.59 mg/L	9.07 NTU	-55.6 mV	50.35 ft	100.00 ml/min
8/18/2021 12:18 PM	15:00	6.40 pH	25.09 °C	2,322.1 µS/cm	0.58 mg/L	8.43 NTU	-56.0 mV	50.32 ft	100.00 ml/min
8/18/2021 12:23 PM	20:00	6.40 pH	25.15 °C	2,322.7 µS/cm	0.55 mg/L	8.10 NTU	-56.4 mV	50.30 ft	100.00 ml/min
8/18/2021 12:28 PM	25:00	6.40 pH	24.96 °C	2,316.6 µS/cm	0.54 mg/L	6.80 NTU	-55.7 mV	50.29 ft	100.00 ml/min
8/18/2021 12:33 PM	30:00	6.40 pH	24.69 °C	2,323.2 µS/cm	0.51 mg/L	6.75 NTU	-56.2 mV	50.29 ft	100.00 ml/min
8/18/2021 12:38 PM	35:00	6.40 pH	24.85 °C	2,325.8 µS/cm	0.48 mg/L	6.61 NTU	-56.5 mV	50.29 ft	100.00 ml/min
8/18/2021 12:43 PM	40:00	6.40 pH	24.84 °C	2,316.7 µS/cm	0.47 mg/L	5.98 NTU	-56.1 mV	50.29 ft	100.00 ml/min
8/18/2021 12:48 PM	45:00	6.40 pH	24.74 °C	2,324.6 µS/cm	0.43 mg/L	6.03 NTU	-56.4 mV	50.29 ft	100.00 ml/min
8/18/2021 12:53 PM	50:00	6.41 pH	24.72 °C	2,316.2 µS/cm	0.43 mg/L	5.71 NTU	-55.8 mV	50.29 ft	100.00 ml/min
8/18/2021 12:58 PM	55:00	6.41 pH	24.80 °C	2,303.9 µS/cm	0.37 mg/L	5.52 NTU	-56.0 mV	50.29 ft	100.00 ml/min
8/18/2021 1:03 PM	01:00:00	6.41 pH	24.26 °C	2,314.4 µS/cm	0.36 mg/L	4.83 NTU	-55.7 mV	50.29 ft	100.00 ml/min

8/18/2021 1:08 PM	01:05:00	6.41 pH	24.24 °C	2,319.2 µS/cm	0.35 mg/L	4.39 NTU	-56.0 mV	50.30 ft	100.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/18/2021 3:32:42 PM
Project: Plant Arkwright CCR (2)
Operator Name: Daniel Howard

Location Name: AP1PZ-8 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 56.09 ft** **Total Depth: 66.09 ft** **Initial Depth to Water: 46.62 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 61.09 ft** **Estimated Total Volume Pumped: 8.05 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 125 ml/min** **Final Draw Down: 0.08 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-8 sample time 1638. Also collected DUP-1.

Weather Conditions:
Hot and humid, temp 91.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/18/2021 3:32 PM	00:00	6.75 pH	24.44 °C	1,561.2 µS/cm	0.46 mg/L	31.30 NTU	-86.9 mV	46.62 ft	200.00 ml/min
8/18/2021 3:37 PM	05:00	6.75 pH	25.46 °C	1,575.3 µS/cm	0.47 mg/L	25.10 NTU	-97.3 mV	46.62 ft	200.00 ml/min
8/18/2021 3:42 PM	10:00	6.75 pH	24.83 °C	1,573.6 µS/cm	0.47 mg/L	17.00 NTU	-102.9 mV	46.77 ft	200.00 ml/min
8/18/2021 3:47 PM	15:00	6.75 pH	25.73 °C	1,557.2 µS/cm	0.46 mg/L	13.10 NTU	-97.9 mV	46.73 ft	200.00 ml/min
8/18/2021 3:52 PM	20:00	6.75 pH	25.08 °C	1,558.1 µS/cm	0.39 mg/L	11.30 NTU	-98.0 mV	46.71 ft	200.00 ml/min
8/18/2021 3:57 PM	25:00	6.76 pH	25.14 °C	1,557.1 µS/cm	0.34 mg/L	12.00 NTU	-98.5 mV	46.70 ft	200.00 ml/min
8/18/2021 4:02 PM	30:00	6.75 pH	25.33 °C	1,554.3 µS/cm	0.32 mg/L	8.50 NTU	-98.2 mV	46.70 ft	200.00 ml/min
8/18/2021 4:07 PM	35:00	6.75 pH	25.83 °C	1,548.4 µS/cm	0.30 mg/L	8.24 NTU	-98.0 mV	46.70 ft	200.00 ml/min
8/18/2021 4:12 PM	40:00	6.75 pH	26.05 °C	1,544.6 µS/cm	0.28 mg/L	7.50 NTU	-97.5 mV	46.70 ft	200.00 ml/min
8/18/2021 4:17 PM	45:00	6.74 pH	26.03 °C	1,555.1 µS/cm	0.27 mg/L	5.87 NTU	-97.4 mV	46.70 ft	200.00 ml/min
8/18/2021 4:22 PM	50:00	6.74 pH	25.89 °C	1,554.1 µS/cm	0.26 mg/L	5.70 NTU	-96.2 mV	46.70 ft	200.00 ml/min
8/18/2021 4:27 PM	55:00	6.75 pH	25.33 °C	1,549.4 µS/cm	0.25 mg/L	5.18 NTU	-94.5 mV	46.70 ft	200.00 ml/min
8/18/2021 4:32 PM	01:00:00	6.74 pH	25.73 °C	1,556.0 µS/cm	0.24 mg/L	4.05 NTU	-94.6 mV	46.70 ft	200.00 ml/min

8/18/2021 4:37 PM	01:05:00	6.74 pH	24.92 °C	1,557.5 µS/cm	0.24 mg/L	4.12 NTU	-92.5 mV	46.70 ft	200.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/19/2021 11:42:44 AM
Project: Plant Arkwright CCR (3)
Operator Name: Daniel Howard

Location Name: AP1PZ-9 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 m** **Top of Screen: 47.35 m** **Total Depth: 57.35 ft** **Initial Depth to Water: 40.41 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 52.35 ft** **Estimated Total Volume Pumped: 15205.833 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 50 ml/min** **Final Draw Down: 7.63 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-9 sample collected at 1650. Total and dissolved metals were collected due to turbidity >5 but < 10NTU after 5 hours of Purging well low flow.

Weather Conditions:
Hot and humid, temp 87.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/19/2021 11:42 AM	00:00	6.35 pH	29.22 °C	725.63 µS/cm	4.86 mg/L	37.20 NTU	39.4 mV	40.41 ft	50.00 ml/min
8/19/2021 11:47 AM	05:00	6.00 pH	28.15 °C	751.41 µS/cm	2.72 mg/L	40.00 NTU	30.3 mV	40.90 ft	50.00 ml/min
8/19/2021 11:52 AM	10:00	6.00 pH	27.87 °C	747.49 µS/cm	2.37 mg/L	38.70 NTU	29.0 mV	41.11 ft	50.00 ml/min
8/19/2021 11:57 AM	15:00	6.00 pH	27.02 °C	743.63 µS/cm	2.20 mg/L	38.30 NTU	30.2 mV	41.27 ft	50.00 ml/min
8/19/2021 12:02 PM	20:00	6.00 pH	26.47 °C	745.82 µS/cm	2.09 mg/L	40.50 NTU	30.7 mV	41.58 ft	50.00 ml/min
8/19/2021 12:07 PM	25:00	6.00 pH	26.42 °C	749.13 µS/cm	1.99 mg/L	40.30 NTU	30.5 mV	41.84 ft	50.00 ml/min
8/19/2021 12:12 PM	30:00	5.99 pH	26.61 °C	753.04 µS/cm	1.95 mg/L	39.10 NTU	30.2 mV	42.03 ft	50.00 ml/min
8/19/2021 12:17 PM	35:00	5.99 pH	27.41 °C	751.26 µS/cm	1.89 mg/L	39.00 NTU	29.1 mV	42.29 ft	50.00 ml/min
8/19/2021 12:22 PM	40:00	5.98 pH	27.40 °C	745.85 µS/cm	1.86 mg/L	40.90 NTU	30.1 mV	42.53 ft	50.00 ml/min
8/19/2021 12:27 PM	45:00	5.99 pH	26.55 °C	745.97 µS/cm	1.83 mg/L	38.40 NTU	31.3 mV	42.75 ft	50.00 ml/min
8/19/2021 12:32 PM	50:00	5.99 pH	26.15 °C	746.83 µS/cm	1.81 mg/L	35.60 NTU	32.0 mV	43.01 ft	50.00 ml/min
8/19/2021 12:37 PM	55:00	5.99 pH	26.08 °C	746.07 µS/cm	1.81 mg/L	36.80 NTU	32.7 mV	43.18 ft	50.00 ml/min
8/19/2021 12:42 PM	01:00:00	5.99 pH	25.95 °C	748.69 µS/cm	1.79 mg/L	35.10 NTU	33.0 mV	43.43 ft	50.00 ml/min

8/19/2021 12:47 PM	01:05:00	5.98 pH	26.01 °C	748.08 µS/cm	1.78 mg/L	33.10 NTU	33.9 mV	43.67 ft	50.00 ml/min
8/19/2021 12:52 PM	01:10:00	5.97 pH	26.24 °C	747.15 µS/cm	1.79 mg/L	32.60 NTU	34.9 mV	43.87 ft	50.00 ml/min
8/19/2021 12:57 PM	01:15:00	5.95 pH	26.36 °C	748.28 µS/cm	1.84 mg/L	32.00 NTU	37.5 mV	44.01 ft	50.00 ml/min
8/19/2021 1:02 PM	01:20:00	5.93 pH	26.79 °C	745.49 µS/cm	1.95 mg/L	31.70 NTU	40.8 mV	44.27 ft	50.00 ml/min
8/19/2021 1:07 PM	01:25:00	5.91 pH	26.80 °C	740.73 µS/cm	2.01 mg/L	31.60 NTU	44.0 mV	44.42 ft	50.00 ml/min
8/19/2021 1:12 PM	01:30:00	5.91 pH	26.42 °C	737.36 µS/cm	2.06 mg/L	30.50 NTU	46.6 mV	44.59 ft	50.00 ml/min
8/19/2021 1:17 PM	01:35:00	5.90 pH	26.37 °C	735.69 µS/cm	2.08 mg/L	29.30 NTU	48.7 mV	44.75 ft	50.00 ml/min
8/19/2021 1:22 PM	01:40:00	5.89 pH	26.05 °C	734.38 µS/cm	2.18 mg/L	26.40 NTU	51.9 mV	44.93 ft	50.00 ml/min
8/19/2021 1:27 PM	01:45:00	5.88 pH	26.15 °C	734.55 µS/cm	2.21 mg/L	25.60 NTU	52.0 mV	45.08 ft	50.00 ml/min
8/19/2021 1:32 PM	01:50:00	5.88 pH	26.23 °C	735.48 µS/cm	2.23 mg/L	24.20 NTU	53.0 mV	45.25 ft	50.00 ml/min
8/19/2021 1:37 PM	01:55:00	5.87 pH	26.35 °C	729.64 µS/cm	2.22 mg/L	24.10 NTU	54.8 mV	45.38 ft	50.00 ml/min
8/19/2021 1:42 PM	02:00:00	5.87 pH	26.34 °C	728.27 µS/cm	2.22 mg/L	23.10 NTU	55.6 mV	45.56 ft	50.00 ml/min
8/19/2021 1:47 PM	02:05:00	5.86 pH	26.15 °C	725.32 µS/cm	2.23 mg/L	23.20 NTU	57.3 mV	45.65 ft	50.00 ml/min
8/19/2021 1:52 PM	02:10:00	5.86 pH	26.15 °C	725.89 µS/cm	2.25 mg/L	22.50 NTU	58.0 mV	45.84 ft	50.00 ml/min
8/19/2021 1:57 PM	02:15:00	5.86 pH	26.12 °C	725.37 µS/cm	2.24 mg/L	22.30 NTU	59.3 mV	46.00 ft	50.00 ml/min
8/19/2021 2:02 PM	02:20:00	5.85 pH	26.17 °C	724.92 µS/cm	2.24 mg/L	22.00 NTU	61.2 mV	46.13 ft	50.00 ml/min
8/19/2021 2:07 PM	02:25:00	5.85 pH	25.75 °C	724.68 µS/cm	2.27 mg/L	21.30 NTU	62.8 mV	46.30 ft	50.00 ml/min
8/19/2021 2:12 PM	02:30:00	5.85 pH	25.46 °C	724.28 µS/cm	2.26 mg/L	21.40 NTU	64.2 mV	46.42 ft	50.00 ml/min
8/19/2021 2:17 PM	02:35:00	5.85 pH	25.17 °C	722.62 µS/cm	2.26 mg/L	20.20 NTU	66.0 mV	46.57 ft	50.00 ml/min
8/19/2021 2:22 PM	02:40:00	5.86 pH	24.60 °C	723.82 µS/cm	2.24 mg/L	20.90 NTU	66.3 mV	46.68 ft	50.00 ml/min
8/19/2021 2:27 PM	02:45:00	5.86 pH	24.35 °C	723.71 µS/cm	2.28 mg/L	20.30 NTU	67.2 mV	46.84 ft	50.00 ml/min
8/19/2021 2:32 PM	02:50:00	5.86 pH	24.24 °C	726.94 µS/cm	2.30 mg/L	19.30 NTU	67.3 mV	46.98 ft	50.00 ml/min
8/19/2021 2:37 PM	02:55:00	5.85 pH	24.22 °C	724.40 µS/cm	2.30 mg/L	19.00 NTU	67.8 mV	47.09 ft	50.00 ml/min
8/19/2021 2:42 PM	03:00:00	5.86 pH	24.02 °C	725.52 µS/cm	2.26 mg/L	19.30 NTU	66.7 mV	47.15 ft	50.00 ml/min
8/19/2021 2:47 PM	03:05:00	5.85 pH	23.86 °C	726.30 µS/cm	2.32 mg/L	19.20 NTU	67.3 mV	47.11 ft	50.00 ml/min
8/19/2021 2:52 PM	03:10:00	5.84 pH	23.95 °C	726.64 µS/cm	2.33 mg/L	18.60 NTU	68.0 mV	47.16 ft	50.00 ml/min
8/19/2021 2:57 PM	03:15:00	5.84 pH	24.02 °C	725.76 µS/cm	2.30 mg/L	18.20 NTU	67.3 mV	47.16 ft	50.00 ml/min
8/19/2021 3:06 PM	03:23:40	5.84 pH	23.88 °C	724.65 µS/cm	2.32 mg/L		67.4 mV	47.16 ft	50.00 ml/min
8/19/2021 3:06 PM	03:23:54	5.84 pH	23.88 °C	724.83 µS/cm	2.31 mg/L		68.6 mV	47.16 ft	50.00 ml/min

8/19/2021 3:06 PM	03:24:07	5.84 pH	23.88 °C	725.23 µS/cm	2.32 mg/L		68.9 mV	47.16 ft	50.00 ml/min
8/19/2021 3:11 PM	03:29:07	5.84 pH	24.07 °C	727.48 µS/cm	2.38 mg/L	18.60 NTU	68.8 mV	47.33 ft	50.00 ml/min
8/19/2021 3:16 PM	03:34:07	5.83 pH	24.42 °C	732.02 µS/cm	2.56 mg/L	19.50 NTU	72.4 mV	47.39 ft	50.00 ml/min
8/19/2021 3:21 PM	03:39:07	5.81 pH	24.87 °C	739.22 µS/cm	2.60 mg/L	17.90 NTU	73.1 mV	47.41 ft	50.00 ml/min
8/19/2021 3:26 PM	03:44:07	5.80 pH	25.28 °C	740.86 µS/cm	2.63 mg/L	16.50 NTU	76.3 mV	47.48 ft	50.00 ml/min
8/19/2021 3:31 PM	03:49:07	5.78 pH	25.65 °C	743.62 µS/cm	2.65 mg/L	14.90 NTU	81.2 mV	47.50 ft	50.00 ml/min
8/19/2021 3:36 PM	03:54:07	5.78 pH	25.85 °C	744.45 µS/cm	2.63 mg/L	14.20 NTU	80.3 mV	47.54 ft	50.00 ml/min
8/19/2021 3:41 PM	03:59:07	5.78 pH	25.83 °C	753.80 µS/cm	2.62 mg/L	12.90 NTU	81.1 mV	47.54 ft	50.00 ml/min
8/19/2021 3:46 PM	04:04:07	5.77 pH	26.06 °C	758.45 µS/cm	2.65 mg/L	13.20 NTU	86.4 mV	47.62 ft	50.00 ml/min
8/19/2021 3:51 PM	04:09:07	5.78 pH	26.33 °C	759.40 µS/cm	2.59 mg/L	12.30 NTU	82.8 mV	47.68 ft	50.00 ml/min
8/19/2021 3:56 PM	04:14:07	5.75 pH	26.58 °C	760.79 µS/cm	2.58 mg/L	10.90 NTU	87.8 mV	47.70 ft	50.00 ml/min
8/19/2021 4:01 PM	04:19:07	5.76 pH	26.44 °C	761.04 µS/cm	2.61 mg/L	10.40 NTU	88.2 mV	47.73 ft	50.00 ml/min
8/19/2021 4:06 PM	04:24:07	5.77 pH	26.64 °C	760.76 µS/cm	2.57 mg/L	10.70 NTU	87.6 mV	47.79 ft	50.00 ml/min
8/19/2021 4:11 PM	04:29:07	5.76 pH	26.59 °C	760.56 µS/cm	2.56 mg/L	10.50 NTU	88.9 mV	47.82 ft	50.00 ml/min
8/19/2021 4:16 PM	04:34:07	5.77 pH	26.37 °C	763.62 µS/cm	2.54 mg/L	10.50 NTU	92.1 mV	47.86 ft	50.00 ml/min
8/19/2021 4:21 PM	04:39:07	5.76 pH	26.70 °C	764.41 µS/cm	2.51 mg/L	10.10 NTU	92.8 mV	47.87 ft	50.00 ml/min
8/19/2021 4:26 PM	04:44:07	5.76 pH	26.79 °C	763.44 µS/cm	2.48 mg/L	9.95 NTU	89.4 mV	47.90 ft	50.00 ml/min
8/19/2021 4:31 PM	04:49:07	5.77 pH	26.60 °C	763.65 µS/cm	2.46 mg/L	8.96 NTU	88.6 mV	47.93 ft	50.00 ml/min
8/19/2021 4:36 PM	04:54:07	5.77 pH	26.76 °C	763.21 µS/cm	2.44 mg/L	9.22 NTU	89.1 mV	47.93 ft	50.00 ml/min
8/19/2021 4:41 PM	04:59:07	5.77 pH	26.69 °C	761.92 µS/cm	2.44 mg/L	9.08 NTU	88.2 mV	48.00 ft	50.00 ml/min
8/19/2021 4:46 PM	05:04:07	5.77 pH	26.48 °C	759.17 µS/cm	2.42 mg/L	8.60 NTU	93.4 mV	48.04 ft	50.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/20/2021 10:52:46 AM
Project: Plant Arkwright CCR (4)
Operator Name: Daniel Howard

Location Name: AP1PZ-10 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 46.48 ft** **Total Depth: 56.48 ft** **Initial Depth to Water: 38.04 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 51.48 ft** **Estimated Total Volume Pumped: 5250 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 75 ml/min** **Final Draw Down: 1.19 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-10 sample time 1130.

Weather Conditions:
Partly cloudy, temp 80

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/20/2021 10:52 AM	00:00	6.36 pH	22.72 °C	744.47 µS/cm	0.86 mg/L	10.10 NTU	-22.0 mV	38.04 ft	150.00 ml/min
8/20/2021 10:57 AM	05:00	6.37 pH	23.03 °C	744.49 µS/cm	0.82 mg/L	10.60 NTU	-37.6 mV	38.97 ft	150.00 ml/min
8/20/2021 11:02 AM	10:00	6.39 pH	23.72 °C	746.14 µS/cm	0.80 mg/L	6.90 NTU	-47.6 mV	39.02 ft	150.00 ml/min
8/20/2021 11:07 AM	15:00	6.43 pH	24.01 °C	751.86 µS/cm	0.79 mg/L	6.08 NTU	-57.0 mV	39.08 ft	150.00 ml/min
8/20/2021 11:12 AM	20:00	6.47 pH	24.04 °C	759.31 µS/cm	0.74 mg/L	4.57 NTU	-67.2 mV	39.13 ft	150.00 ml/min
8/20/2021 11:17 AM	25:00	6.50 pH	24.15 °C	762.30 µS/cm	0.71 mg/L	3.48 NTU	-71.8 mV	39.16 ft	150.00 ml/min
8/20/2021 11:22 AM	30:00	6.53 pH	24.10 °C	764.88 µS/cm	0.65 mg/L	3.06 NTU	-75.6 mV	39.20 ft	150.00 ml/min
8/20/2021 11:27 AM	35:00	6.53 pH	24.16 °C	763.88 µS/cm	0.59 mg/L	2.74 NTU	-76.0 mV	39.23 ft	150.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 8/20/2021 1:58:38 PM
Project: Plant Arkwright CCR (5)
Operator Name: Daniel Howard

Location Name: AP1PZ-11 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 63.3 ft** **Total Depth: 73.3 ft** **Initial Depth to Water: 37.9 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 68.3 ft** **Estimated Total Volume Pumped: 34000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.2 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
AP1PZ-11 sample time 1650.

Weather Conditions:
Partly sunny. Temp 83

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
8/20/2021 1:58 PM	00:00	6.76 pH	22.31 °C	395.67 µS/cm	1.92 mg/L	86.20 NTU	16.9 mV	37.90 ft	200.00 ml/min
8/20/2021 2:03 PM	05:00	6.73 pH	21.93 °C	401.06 µS/cm	1.81 mg/L	115.00 NTU	20.0 mV	38.16 ft	200.00 ml/min
8/20/2021 2:08 PM	10:00	6.72 pH	22.00 °C	399.26 µS/cm	1.69 mg/L	85.60 NTU	24.3 mV	38.16 ft	200.00 ml/min
8/20/2021 2:13 PM	15:00	6.71 pH	22.09 °C	397.97 µS/cm	1.58 mg/L	78.70 NTU	27.6 mV	38.16 ft	200.00 ml/min
8/20/2021 2:18 PM	20:00	6.71 pH	21.91 °C	396.69 µS/cm	1.49 mg/L	56.50 NTU	30.1 mV	38.16 ft	200.00 ml/min
8/20/2021 2:23 PM	25:00	6.71 pH	22.00 °C	394.04 µS/cm	1.43 mg/L	49.50 NTU	32.8 mV	38.16 ft	200.00 ml/min
8/20/2021 2:28 PM	30:00	6.71 pH	21.66 °C	388.96 µS/cm	1.32 mg/L	44.30 NTU	34.8 mV	38.16 ft	200.00 ml/min
8/20/2021 2:33 PM	35:00	6.72 pH	21.60 °C	383.09 µS/cm	1.27 mg/L	40.80 NTU	35.7 mV	38.16 ft	200.00 ml/min
8/20/2021 2:38 PM	40:00	6.71 pH	21.77 °C	377.61 µS/cm	1.29 mg/L	33.10 NTU	36.4 mV	38.16 ft	200.00 ml/min
8/20/2021 2:43 PM	45:00	6.72 pH	21.79 °C	368.75 µS/cm	1.31 mg/L	28.30 NTU	36.9 mV	38.16 ft	200.00 ml/min
8/20/2021 2:48 PM	50:00	6.73 pH	21.64 °C	361.96 µS/cm	1.46 mg/L	26.50 NTU	37.5 mV	38.16 ft	200.00 ml/min
8/20/2021 2:53 PM	55:00	6.73 pH	21.60 °C	358.18 µS/cm	1.42 mg/L	22.40 NTU	38.2 mV	38.16 ft	200.00 ml/min
8/20/2021 2:58 PM	01:00:00	6.72 pH	21.82 °C	354.92 µS/cm	1.46 mg/L	20.80 NTU	39.2 mV	38.16 ft	200.00 ml/min

8/20/2021 3:03 PM	01:05:00	6.72 pH	21.82 °C	349.46 µS/cm	1.45 mg/L	17.60 NTU	40.3 mV	38.16 ft	200.00 ml/min
8/20/2021 3:08 PM	01:10:00	6.73 pH	21.55 °C	345.70 µS/cm	1.48 mg/L	15.30 NTU	41.2 mV	38.16 ft	200.00 ml/min
8/20/2021 3:13 PM	01:15:00	6.73 pH	21.46 °C	342.48 µS/cm	1.49 mg/L	14.90 NTU	41.7 mV	38.16 ft	200.00 ml/min
8/20/2021 3:18 PM	01:20:00	6.72 pH	21.51 °C	340.70 µS/cm	1.55 mg/L	13.00 NTU	42.3 mV	38.16 ft	200.00 ml/min
8/20/2021 3:23 PM	01:25:00	6.73 pH	21.79 °C	338.07 µS/cm	1.58 mg/L	12.80 NTU	42.1 mV	38.16 ft	200.00 ml/min
8/20/2021 3:28 PM	01:30:00	6.72 pH	22.14 °C	336.35 µS/cm	1.61 mg/L	12.10 NTU	42.5 mV	38.16 ft	200.00 ml/min
8/20/2021 3:33 PM	01:35:00	6.72 pH	22.09 °C	333.03 µS/cm	1.63 mg/L	10.90 NTU	43.2 mV	38.16 ft	200.00 ml/min
8/20/2021 3:38 PM	01:40:00	6.72 pH	22.22 °C	332.27 µS/cm	1.63 mg/L	10.90 NTU	43.8 mV	38.16 ft	200.00 ml/min
8/20/2021 3:43 PM	01:45:00	6.72 pH	22.18 °C	330.40 µS/cm	1.65 mg/L	11.20 NTU	44.1 mV	38.11 ft	200.00 ml/min
8/20/2021 3:48 PM	01:50:00	6.72 pH	22.11 °C	329.77 µS/cm	1.70 mg/L	9.89 NTU	44.3 mV	38.11 ft	200.00 ml/min
8/20/2021 3:53 PM	01:55:00	6.72 pH	22.25 °C	328.25 µS/cm	1.72 mg/L	9.76 NTU	45.5 mV	38.11 ft	200.00 ml/min
8/20/2021 3:58 PM	02:00:00	6.71 pH	22.31 °C	327.55 µS/cm	1.74 mg/L	9.51 NTU	46.0 mV	38.11 ft	200.00 ml/min
8/20/2021 4:03 PM	02:05:00	6.71 pH	22.43 °C	326.11 µS/cm	1.73 mg/L	9.41 NTU	46.5 mV	38.11 ft	200.00 ml/min
8/20/2021 4:08 PM	02:10:00	6.71 pH	22.45 °C	324.58 µS/cm	1.74 mg/L	9.18 NTU	47.2 mV	38.10 ft	200.00 ml/min
8/20/2021 4:13 PM	02:15:00	6.71 pH	22.71 °C	325.02 µS/cm	1.78 mg/L	8.32 NTU	46.9 mV	38.10 ft	200.00 ml/min
8/20/2021 4:18 PM	02:20:00	6.71 pH	22.65 °C	323.21 µS/cm	1.78 mg/L	8.31 NTU	48.3 mV	38.10 ft	200.00 ml/min
8/20/2021 4:23 PM	02:25:00	6.71 pH	22.79 °C	322.18 µS/cm	1.76 mg/L	7.76 NTU	48.3 mV	38.10 ft	200.00 ml/min
8/20/2021 4:28 PM	02:30:00	6.71 pH	22.82 °C	322.34 µS/cm	1.79 mg/L	6.06 NTU	48.4 mV	38.10 ft	200.00 ml/min
8/20/2021 4:33 PM	02:35:00	6.71 pH	22.89 °C	320.56 µS/cm	1.79 mg/L	5.64 NTU	48.8 mV	38.10 ft	200.00 ml/min
8/20/2021 4:38 PM	02:40:00	6.71 pH	22.83 °C	319.52 µS/cm	1.81 mg/L	5.11 NTU	49.2 mV	38.10 ft	200.00 ml/min
8/20/2021 4:43 PM	02:45:00	6.71 pH	22.52 °C	319.00 µS/cm	1.83 mg/L	5.10 NTU	49.9 mV	38.10 ft	200.00 ml/min
8/20/2021 4:48 PM	02:50:00	6.71 pH	22.13 °C	318.40 µS/cm	1.84 mg/L	4.24 NTU	49.8 mV	38.10 ft	200.00 ml/min

Samples

Sample ID:	Description:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: EB-1 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Direct Pour

DUP./REP. OF: —

WELL DIAMETER: —

DEPTH TO WATER: —

TOTAL DEPTH: —

GRAB (x) COMPOSITE ( )

Pump Intake Set at (btoc): —

or

Tubing Inlet Set at (btoc): —

WATER COLUMN HEIGHT: —

PURGE VOLUME: —

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Collected Equip Blank of QED Sample Pro Bladder Pump (ID: 21734). Used ASTM Type I Deionized water (7732-18-5)

SAMPLE DATE: 8/18/21

SAMPLE TIME: 0945

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	App. III Anions (F, Cl, SO4)
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly ~~Cote~~Cloudy, Temp 80°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ To Eurofins TestAmerica	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: FB-01 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Direct Fill

DUP./REP. OF: —

WELL DIAMETER: —

DEPTH TO WATER: —

TOTAL DEPTH: —

WATER COLUMN HEIGHT: —

PURGE VOLUME: —

GRAB (x) COMPOSITE ( )

Pump Intake Set at (btoc): —

or

Tubing Inlet Set at (btoc): —

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Collected Field Blank FB-1 of ASTM Type I Deionized water Type I (7732-18-5) ASTM D5196. Field Blank at Ash Pond 1

SAMPLE DATE: 8/18/21

SAMPLE TIME: 0935

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	✓	Cool to 6°C	EPA 300.0 R2.1	App. III Anions F, Cl, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:		
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ Eurofin Test America	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: EB-2 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Gravity Fed Through Tubing

DUP./REP. OF: ~

Pump Intake Set at (btoc): ~

or

Tubing Inlet Set at (btoc): ~

WELL DIAMETER: ~

DEPTH TO WATER: ~

TOTAL DEPTH: ~

WATER COLUMN HEIGHT: ~

PURGE VOLUME: ~

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs ~~Cotted~~ Collected Equip Blank of Tubing used with Peristaltic pump LDPE Lot# 2158073. Used ASTM Type I Deionized water (7732-18-5)

SAMPLE DATE: 8/19/21

SAMPLE TIME: 0950

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pHcheck	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	Cl, F, SO_4 App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly Cloudy, Temp 79°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com Eurofins TestAmerica	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: FB-2 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Direct Pour

DUP./REP. OF: —

WELL DIAMETER: —

DEPTH TO WATER: —

TOTAL DEPTH: —

WATER COLUMN HEIGHT: —

PURGE VOLUME: —

GRAB (x) COMPOSITE ( )

Pump Intake Set at (btoc): —

or

Tubing Inlet Set at (btoc): —

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Collected Field Blank FB-2 of ASTM Type I deionized water (7732-18-5) ASTM D5196. Field Blank at Ash Pond I

SAMPLE DATE: 3/20/21

SAMPLE TIME: 0910

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS	pH<2
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions	
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS	
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver	✓
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined	✓

L

GENERAL INFORMATION		
WEATHER:	Partly Cloudy, Temp 78°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ Eurofins Test America	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIGWA-1 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Peristaltic

DUP./REP. OF:_____

Pump Intake Set at (btoc): 26.0'
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2"
DEPTH TO WATER: 25.28
TOTAL DEPTH: 37.50
WATER COLUMN HEIGHT: 12.22
PURGE VOLUME: 2.07 X 3 = 6.23
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1439 0.0	0.25	2.90	183.1	5.29	204.43	22.54	10.2	200 ( )	25.37
1444 5	0.5	2.90	139.1	5.27	204.70	22.~~63~~73	9.16	200	25.37
1449 10	0.75	2.92	129.8	5.18	208.69	22.55	7.11	200	25.37
1454 15	1.0	2.90	126.1	5.27	204.48	22.43	5.69	200	25.37
1459 20	1.25	2.86	124.2	5.24	206.57	22.14	5.16	200	25.37
1505 2132	1.5	2.93	129.7	5.23	207.17	22.13	3.71	200	25.37
1510	Collect Sample								

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-17-21
SAMPLE TIME: 1510

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot - Humid - Rain	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: APIGWA-2 MATRIX: Groundwater

WELL MATERIAL: ✓PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow - PERISTALTIC

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 30.0'

WELL DIAMETER: 2"

DEPTH TO WATER: 18.62 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 31.10

WATER COLUMN HEIGHT: 12.48 X .17 = 2.12 X 3 = 6.36

PURGE VOLUME: 6.36

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1122	0.25	0.50	-64.0	6.02	85.46	23.10	15.7	200 ( )	18.60
1127 ~~1130~~	0.50	0.48	-39.9	6.02	84.92	23.30	13.8	200	18.60
1132	0.75	0.48	-38.4	6.03	85.78	23.73	11.1	200	18.60
1137	1.0	0.47	-38.3	6.03	85.90	22.44	8.36	200	18.60
1142	1.25	0.47	-38.4	6.03	86.01	22.26	6.13	200	18.60
1147	1.5	0.46	-38.1	6.03	86.16	22.13	5.31	200	18.60
1152	1.75	0.44	-41.6	6.03	86.38	22.70	4.54	200	18.60
1155	Collect	Sample							

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-18-21

SAMPLE TIME: 1155

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot - Clear - Dry	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: AP1PZ-1 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder Pump

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 84'

WELL DIAMETER: 2"
DEPTH TO WATER: 42.57 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 87.62
WATER COLUMN HEIGHT: 45.05 X 0.17 = 7.66 X 3 =
PURGE VOLUME: 22.98
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1438	0.25	7.32	-41.6	6.44	367.37	32.74	158	200 ( )	42.57
1443	0.5	2.06	-75.3	6.50	372.10	30.01	136	200	42.72
1448	0.75	1.31	-85.4	6.53	374.43	30.05	113	200	42.96
1453	1.0	0.50	-84.7	6.57	365.81	24.60	92	200	43.28
1458	1.25	0.39	-87.4	6.60	365.99	24.51	104	200	43.57
1503	1.375	0.59	-82.5	6.59	367.09	25.23	90	100	44.22
1504	1.40	0.47	-80.4	6.59	366.08	25.25	77.8	100	44.42
1514	1.5	0.53	-80.1	6.56	365.41	28.31	49.8	100	44.68
1524	1.75	0.51	-68.1	6.52	365.81	28.94	29.6	100	44.69
1534	2.0	0.46	-66.1	6.51	364.21	30.25	30.6	100	44.69
1544	2.25	0.45	-62.4	6.52	364.81	28.41	23.5	100	44.69
1554	2.50	0.44	-58.8	6.55	363.65	27.40	25.8	100	44.69
1604	2.75	0.32	-55.9	6.56	359.97	25.23	23.2	100	44.69
1614	3.0	0.33	-69.9	6.59	366.21	25.86	17.4	100	44.69

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-18-21
SAMPLE TIME: 1815

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION			
WEATHER:	Hot - Clear - Humid		
SHIPPED VIA:	FED-X		
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com		
SAMPLER:	Ever Guillen	OBSERVER:	

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-1 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder Pump

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 84.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 42.57
TOTAL DEPTH: 87.62
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1624	3.25	0.32	-60.1	6.56	363.18	26.88	11.3	100 ( )	44.69
1634	3.5	0.32	-55.8	6.57	359.94	25.86	10.7	100	44.69
1644	3.75	0.32	-54.4	6.57	359.44	24.60	9.47	100	44.69
1654	4.0	0.31	-54.5	6.58	359.27	24.81	8.65	100	44.69
1704	4.25	0.31	-53.6	6.59	358.06	24.11	7.35	100	44.69
1714	4.5	0.30	-51.7	6.59	357.11	23.79	7.03	100	44.69
1724	4.75	0.30	-52.8	6.59	359.07	24.69	6.32	100	44.69
1734	5.0	0.30	-52.2	6.59	358.27	24.24	5.99	100	44.69
1744	5.25	0.29	-52.0	6.60	358.42	24.55	5.50	100	44.69
1754	5.5	0.29	-52.7	6.59	359.84	25.30	5.02	100	44.69
1804	5.75	0.29	-51.9	6.59	360.46	25.34	4.92	100	44.69
1815	COLLECT SAMPLE								

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8-18-21
SAMPLE TIME: 1815

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE (pH check)	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION

WEATHER:	Hot - Clear - Humid	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-2 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder Pump

DUP./REP. OF: DUP-2

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 59.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 41.68 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 62.67
WATER COLUMN HEIGHT: 20.99 X .17 = 3.57 X 3 = 10.70
PURGE VOLUME: 10.70
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1013	0.25	1.32	63.5	5.90	1140.4	23.67	155	200 ( )	42.02
1019 ~~1018~~	0.5	2.61	66.2	5.98	1175.4	22.18	106	200	42.02
1024	0.75	3.65	69.9	6.02	1184.0	22.20	86.1	200	42.02
1029	1.0	4.32	71.4	6.04	1191.9	22.08	66.8	200	42.02
1034	1.25	4.51	74.8	6.04	1203.8	22.09	60.7	200	42.02
1039	1.5	4.56	75.4	6.04	1209.7	22.09	52.1	200	42.02
1044	1.75	4.70	76.6	6.04	1228.7	22.22	37.2	200	42.02
1049	2.0	4.79	77.5	6.04	1236.5	22.39	33.9	200	42.02
1054	2.25	4.71	78.4	6.04	1246.8	22.32	29.1	200	42.02
1059	2.5	4.69	80.0	6.04	1255.3	22.24	27.2	200	42.02
1104	2.75	4.67	82.3	6.03	1267.0	22.48	24.9	200	42.02
1109	3.0	4.86	82.8	6.02	1282.0	22.58	20.7	200	42.02
1114	3.25	4.99	83.4	6.03	1287.5	22.22	18.7	200	42.02
1119	3.5	4.94	83.4	6.02	1294.3	22.50	16.5	200	42.02

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8-19-21
SAMPLE TIME: 1345

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	HOT - CLEAR - HUMID	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER:	EVER GUILLEN	OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: AP1PZ-2 MATRIX: Groundwater
WELL MATERIAL: ~~PVC~~ __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder

DUP./REP. OF: Dup-2

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 59.10

WELL DIAMETER: 2
DEPTH TO WATER: 41.68
TOTAL DEPTH: 62.67
WATER COLUMN HEIGHT: 20.99
PURGE VOLUME: 10.70
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1124	3.75	4.99	84.9	6.02	1302.4	22.49	14.8	200 ( )	42.02
1129	4.0	4.93	85.1	6.02	1307.1	22.55	15.5	200	42.02
1134	4.25	4.85	85.7	6.02	1306.3	22.21	15.0	200	42.02
1139	4.5	5.08	85.6	6.01	1327.9	22.20	13.1	200	42.02
1144	4.75	5.09	85.4	6.00	1335.1	22.11	14.5	200	42.02
1149	5.0	5.05	84.6	6.0	1344.4	22.26	12.3	200	42.02
1154	5.25	5.05	85.3	5.99	1348.3	22.08	13.2	200	42.02
1159	5.5	5.05	84.6	5.99	1355.8	21.83	12.0	200	42.02
1204	5.75	5.08	83.9	5.99	1366.2	21.86	11.8	200	42.08
1209	6.0	4.76	83.5	5.98	1370.4	21.81	9.50	200	42.02
1214	6.25	4.62	83.9	5.96	1390.4	22.21	9.21	200	42.02
1219	6.5	4.68	83.5	5.95	1402.6	22.29	9.26	200	42.02
1224	6.75	4.71	84.3	5.95	1416.8	22.20	9.36	200	42.02
1229	7.0	4.83	83.9	5.94	1431.7	21.93	8.72	200	42.02

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8-19-21
SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	HOT - CLEAR - HUMID	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER:	EVER GUILLEN	OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-2 MATRIX: Groundwater
WELL MATERIAL: __ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - BLADDER

DUP./REP. OF: Dup-2

WELL DIAMETER: 2"
DEPTH TO WATER:_____
TOTAL DEPTH:_____
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc):_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1234	7.25	4.69	83.4	5.93	1433.1	22.07	8.07	200 ( )	42.02
1239	7.5	4.81	83.0	5.93	1441.1	22.08	8.26	200	42.02
1244	7.75	4.81	83.3	5.92	1448.3	22.00	7.58	200	42.02
1249	8.0	4.91	83.0	5.92	1459.7	22.04	7.92	200	42.02
1254	8.25	4.72	82.6	5.92	1455.2	22.04	7.01	200	42.02
1259	8.5	4.71	82.7	5.91	1464.7	21.92	6.18	200	42.02
1304	8.75	5.12	84.2	5.89	1487.6	22.31	6.43	200	42.02
1309	9.0	84.59	84.0	5.89	1484.9	22.02	6.70	200	42.02
1314	9.25	4.81	84.8	5.88	1503.8	22.08	6.15	200	42.02
1319	9.5	4.77	84.7	5.87	1503.3	21.97	5.66	200	42.02
1324	9.75	4.55	84.8	5.87	1497.5	22.14	5.61	200	42.02
1329	10.0	4.55	85.4	5.86	1505.1	22.08	5.33	200	42.02
1334	10.25	4.51	85.8	5.85	1511.3	22.20	5.47	200	42.02
1339	10.5	4.44	87.0	5.84	1511.4	22.38	4.94	200	42.02

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-19-21
SAMPLE TIME: 1345

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:		
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-3 MATRIX: Groundwater
WELL MATERIAL: PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 63.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 42.38
TOTAL DEPTH: 67.44
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1530	0.125	3.62	-23.8	5.75	1738.1	27.35	25.4	200 ( )	43.45
1535	0.5	0.38	-38.8	5.62	2117.4	21.74	22.1	200	43.45
1540	0.75	0.36	-45.6	5.62	2125.6	22.43	18.9	200	43.45
1545	1.0	0.33	-52	5.62	2128.2	22.40	16.5	200	43.45
1550	1.25	0.29	-58.4	5.62	2131.5	22.68	15.4	200	43.45
1555	1.5	0.27	-61.5	5.62	2128.9	22.90	13.2	200	43.45
1600	1.75	0.25	-61.5	5.62	2125.7	23.07	10.6	200	43.45
1605	2.0	0.23	-66.7	5.61	2120.4	2300	9.13	200	43.45
1610	2.25	0.21	-68.9	5.61	2118.0	23.11	7.89	200	43.45
1615	2.5	0.21	-68.1	5.61	2115.9	23.25	6.71	200	43.45
1620	2.75	0.21	-70.3	5.61	2120.2	23.37	7.46	200	43.45
1625	3.0	0.20	-69.1	5.61	2114.4	23.33	6.99	200	43.45
1630	3.25	0.20	-71.1	5.61	2117.1	23.20	5.69	200	43.45
1635	3.5	0.19	-68.4	5.60	2116.8	23.09	5.07	200	43.45

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-19-21
SAMPLE TIME: 1645

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot - T-storms - Humid - Some Rain	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-3 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2"
DEPTH TO WATER: 42.38
TOTAL DEPTH: 67.44
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1640	3.75	0.19	-69.9	5.60	2108.7	22.98	4.43	200 ( )	43.45
1645	Collect Sample								

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8-19-21
SAMPLE TIME: 1645

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:		
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-4 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - BLADDER

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 63.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 46.92
TOTAL DEPTH: 67.42
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 930	0.125	4.41	-34.3	6.02	1958.8	24.83	36.7	100 ( )	47.12
935	0.25	0.71	-119.4	6.63	2297.8	21.80	31.2	100	47.12
940	0.375	0.70	-121.2	6.75	2284.0	22.27	26.1	100	47.12
945	0.5	0.62	-119.5	6.80	2286.7	22.11	21.4	100	47.12
950	0.625	0.59	-118.3	6.81	2272.1	22.22	17.3	100	47.12
955	0.75	0.65	-114.2	6.81	2261.3	22.13	13.7	100	47.12
1000	0.875	0.60	-115.5	6.81	2261.3	22.15	11.0	100	47.12
1005	1.0	0.56	-108.0	6.79	2270.1	22.21	8.92	100	47.12
1010	1.125	0.52	-107.0	6.79	2264.9	22.35	8.02	100	47.12
1015	1.25	0.49	-102.9	6.77	2267.0	22.35	7.28	100	47.12
1020	1.375	0.48	-101.4	6.76	2262.5	22.41	6.06	100	47.12
1025	1.5	0.47	-98.1	6.74	2257.0	22.40	5.88	100	47.12
1030	1.625	0.45	-96.2	6.72	2260.3	22.49	5.79	100	47.12
1035	1.75	0.44	-92.1	6.70	2255.0	22.48	5.74	100	47.12

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-20-21
SAMPLE TIME: 1130

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS	
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions	
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS	
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver	
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined	

GENERAL INFORMATION		
WEATHER:	Hot - Cloudy - Humid	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Ever Guillen		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-4 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder

DUP./REP. OF:_____

WELL DIAMETER: 2"
DEPTH TO WATER: 46.92
TOTAL DEPTH: 67.42
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 63'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: ~~1040~~	~~210~~	~~1.875~~						~~100~~ ( )	~~47.12~~
1040	1.875	0.43	-91.1	6.68	2249.3	22.47	5.87	100	47.12
1045	2.0	0.44	-89.2	6.68	2249.0	22.44	5.97	100	47.12
1050	2.125	0.44	-86.9	6.65	2245.7	22.44	5.75	100	47.12
1055	2.25	0.44	-83.9	6.64	2242.4	22.44	5.39	100	47.12
1100	2.375	0.45	-83.4	6.62	2243.8	22.45	5.12	100	47.12
1105	2.5	0.44	-80.7	6.61	2239.9	22.55	5.42	100	47.12
1110	2.675	0.43	-79.9	6.60	2237.4	22.52	5.34	100	47.12
1115	2.75	0.41	-77.9	6.58	2233.9	22.56	5.12	100	47.12
1120	2.875	0.39	-78.2	6.57	2237.9	22.45	5.04	100	47.12
1125	3.0	0.38	-77.6	6.56	2237.7	22.58	4.96	100	47.12
1130	~~3400~~	Collect Sample							

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-20-21
SAMPLE TIME: 1130

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION			
WEATHER:			
SHIPPED VIA:	FED-X		
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com		
SAMPLER:	EVER GUILLEN	OBSERVER:	

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE. (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-5 MATRIX: Groundwater
WELL MATERIAL: __ PVC __ SS __ OTHER
SAMPLE METHOD: Low Flow - Bladder

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____
or
Tubing Inlet Set at (btoc): 63.0'

WELL DIAMETER: 2"
DEPTH TO WATER: 48.81
TOTAL DEPTH: 67.25
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1347	0.125	7.82	-67.8	7.13	1301.6	26.88	11.5	200 ( )	48.96
1348	0.25	0.88	-89.0	6.60	2375.1	22.29	11.1	200	49.17
1353	0.5	1.31	-90.4	6.59	2351.5	22.71	9.82	200	49.29
1358	0.75	1.53	-88.4	6.58	2336.9	22.80	7.61	200	49.52
1403	1.0	1.64	-87.2	6.57	2313.0	23.09	6.34	200	49.62
1408	1.25	1.76	-85.9	6.57	2316.1	23.34	5.34	200	49.62
1413	1.5	1.88	-85.4	6.57	2299.5	23.61	4.33	200	49.62
1418	1.75	1.96	-82.1	6.58	2278.1	23.03	3.07	200	49.62
1423	2.0	2.06	-82.2	6.58	2293.5	23.19	2.54	200	49.62
1428	2.25	2.08	-78.5	6.59	2263.8	22.60	2.48	200	49.62
1433	2.5	2.15	-78.1	6.60	2268.0	22.85	2.42	200	49.62
1440	Collect	SAMPLE							

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8-20-21
SAMPLE TIME: 1440

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot - Cloudy - Humid	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER:	Ever Guillen	OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: AP1PZ-6 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder Pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 67.7
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 56.39
TOTAL DEPTH: 72.70
WATER COLUMN HEIGHT:_____
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1309	0	0.78	13.2	5.55	3316.3	23.25	63.3	200( )	56.39
1314	0.25	0.43	-5.3	5.59	3420.5	21.73	50.4	200	56.81
1319	0.5	0.36	-11.2	5.59	3440.6	21.92	34.7	200	56.81
1324	0.75	0.31	-14.2	5.59	3431.0	21.99	27.5	200	56.81
1329	1.0	0.28	-15.9	5.59	3427.8	21.95	22.8	200	56.81
1334	1.25	0.26	-16.4	5.59	3418.6	21.84	17.7	200	56.81
1339	1.5	0.24	-15.9	5.58	3428.3	21.61	11.9	200	56.81
1344	1.75	0.21	-12.4	5.54	3419.5	21.73	8.38	200	56.81
1349	2.0	0.20	-10.1	5.52	3400.6	21.55	6.69	200	56.81
1354	2.25	0.19	-12.7	5.52	3410.1	21.50	5.74	200	56.81
1359	2.50	0.19	-10.9	5.51	3412.0	21.51	5.16	200	56.81
1404	2.75	0.18	-10.5	5.50	3428.8	21.84	4.65	200	56.81
1409	3.0	0.17	-10.7	5.50	3402.3	21.64	4.51	200	56.81

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8/23/21
SAMPLE TIME: 1412

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot + Humid, Temp 87°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel; betsy.mcdaniel@pacelabs.com~~ Eurofins Test America	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-7 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder Pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 72.75
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: ~~50.30~~ 46.99 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 77.75
WATER COLUMN HEIGHT: ~~27.45~~ 27.45
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME Start 1204	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1204	0	0.58	-54.8	6.45	2329.1	23.88	10.4	100 ( )	50.30
1209	0.125	0.60	-56.5	6.43	2326.7	24.98	11.7	100	50.35
1214	0.25	0.59	-55.6	6.40	2321.2	25.24	9.07	100	50.35
1219	0.375	0.58	-56.0	6.40	2322.1	25.09	8.43	100	50.32
1224	0.50	0.55	-56.4	6.40	2322.7	25.15	8.10	100	50.30
1229	0.675	0.54	-55.7	6.40	2316.6	24.96	6.80	100	50.29
1234	0.75	0.51	-56.2	6.40	2323.2	24.69	6.75	100	50.29
1239	0.875	0.48	-56.5	6.40	2325.8	24.85	6.61	100	50.29
1244	1.0	0.47	-56.1	6.40	2316.7	24.84	5.98	100	50.29
1249	1.125	0.43	-56.4	6.40	2324.6	24.74	6.03	100	50.29
1254	1.25	0.3743	-56.0	6.41	2303.9	24.80	5.71	100	50.29
1259	1.375	0.36	-56.0	6.41	2303.9	24.80	5.52	100	50.29
1304	1.5	0.35	-55.7	6.41	2314.4	24.26	4.83	100	50.30
1309	1.675	0.35	-56.0	6.41	2319.2	24.24	4.39	100	50.30

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/18/21
SAMPLE TIME: 1310

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION

WEATHER:	Partly Sunny, Temp 82°F
SHIPPED VIA:	FED-X
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel:~~ betsy.mcdaniel@pacelabs.com Eurofins TestAmerica
SAMPLER: Daniel Howard	OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-8 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump

DUP./REP. OF: DUP-1

Pump Intake Set at (btoc): 61.09

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: ~~45.25~~ 46.62 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 66.09

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1] 46.62
Initial: 1532	0	0.46	-86.9	6.75	1561.2	24.44	31.3	125 ( )	~~46.87~~
1537	0.15	0.47	-97.3	6.75	1575.3	25.46	25.7	125	46.82
1542	0.3	0.47	-102.9	6.75	1573.6	24.83	17.0	125	46.77
1547	0.45	0.46	-97.9	6.75	1557.2	25.73	13.1	125	46.73
1552	0.6	0.39	-98.0	6.75	1558.1	25.08	11.3	125	46.71
1557	0.75	0.34	-98.5	6.76	1557.1	25.14	12.0	125	46.70
1602	0.9	0.32	-98.2	6.75	1554.3	25.33	8.50	125	46.70
1607	1.05	0.30	-98.0	6.75	1548.4	25.83	8.24	125	46.70
1612	1.3	0.28	-97.5	6.75	1544.6	26.06	7.50	125	46.70
1617	1.45	0.27	-97.4	6.74	1555.1	26.03	5.87	125	46.70
1622	1.6	0.26	-96.2	6.74	1554.1	25.89	5.70	1.25	46.70
1627	1.75	0.25	-94.5	6.75	1549.4	25.33	5.18	1.25	46.70
1632	1.9	0.24	-94.6	6.74	1556.0	25.73	4.05	1.25	46.70
1637	2.05	0.24	-92.5	6.74	1557.5	24.92	4.12	1.25	46.70

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Also collected DUP-1 all analyses

SAMPLE DATE: 8/18/21

SAMPLE TIME: 1638

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions
500 mL/Poly	2	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	2	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	4	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot & Humid, Temp 91°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ EurofinsTestAmerica	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.35
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 40.41
TOTAL DEPTH: 57.35
WATER COLUMN HEIGHT: 16.94
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1142	0	4.86	39.4	6.35	725.63	29.22	37.2	50 ( )	40.41
1147	0.06	2.72	30.3	6.00	751.41	28.15	40.0	50	40.90
1152	0.12	2.37	29.0	6.00	747.49	27.87	38.7	50	41.11
1157	0.18	2.20	30.2	6.00	743.63	27.02	38.3	50	41.27
1202	0.24	2.09	30.7	6.00	745.82	26.47	40.5	50	41.58
1207	0.30	1.99	30.5	6.00	749.13	26.42	40.3	50	41.84
1212	0.36	1.95	30.2	5.99	753.04	26.61	39.1	50	42.03
1217	0.42	1.89	29.1	5.99	751.26	27.41	39.0	50	42.29
1222	0.48	1.86	30.1	5.98	745.85	27.40	40.9	50	42.53
1227	0.54	1.83	31.3	5.99	745.97	26.55	38.4	50	42.75
1232	0.60	1.81	32.0	5.99	746.83	26.15	35.6	50	43.01
1237	0.66	1.81	32.7	5.99	746.07	26.08	36.8	50	43.18
1242	0.72	1.79	33.0	5.99	748.69	25.95	35.1	50	43.43
1247	0.78	1.78	33.9	5.98	748.08	26.01	33.1	50	43.67

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/19/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION			
WEATHER:	Hott Humid, Temp 87°F		
SHIPPED VIA:	FED-X		
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ Eurofins TestAmerica		
SAMPLER:	Daniel Howard	OBSERVER:	

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.35
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 40.41
TOTAL DEPTH: 57.35
WATER COLUMN HEIGHT: 16.94
PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1252	0.84	1.79	34.9	5.97	747.15	26.24	32.6	50 ( )	43.87
1257	0.9	1.84	37.5	5.95	748.28	26.36	32.0	50	44.01
1302	0.96	1.95	40.8	5.93	745.49	26.79	31.7	50	44.27
1307	1.02	2.01	44.0	5.91	740.73	26.80	31.6	50	44.42
1312	1.08	2.06	46.6	5.91	737.36	26.42	30.5	50	44.59
1317	1.14	2.08	48.7	5.90	735.69	26.37	29.3	50	44.75
1322	1.2	2.18	51.9	5.89	734.38	26.05	26.4	50	44.93
1327	1.26	2.21	52.0	5.88	734.55	26.15	25.6	50	45.08
1332	1.32	2.23	53.0	5.88	735.48	26.23	24.2	50	45.25
1337	1.38	2.22	54.8	5.87	729.64	26.35	24.1	50	45.38
1342	1.44	2.22	55.6	5.87	728.27	26.34	23.1	50	45.56
1347	1.50	2.23	57.3	5.86	725.32	26.15	23.2	50	45.65
1352	1.56	2.25	58.0	5.86	726.89	26.15	22.5	50	45.84
1357	1.62	2.24	59.3	5.86	725.37	26.12	22.3	50	46.00

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/19/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot + Humid, Temp 87°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com	
SAMPLER: Daniel Heward		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.35
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 40.41
TOTAL DEPTH: 57.35
WATER COLUMN HEIGHT: 16.94
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1402	1.68	2.24	61.2	5.85	724.92	26.17	22.0	50 ( )	46.13
1407	1.74	2.27	62.8	5.85	724.68	25.75	21.3	50	46.30
1412	1.80	2.26	64.2	5.85	724.28	25.46	21.4	50	46.42
1417	1.86	2.26	66.0	5.85	722.62	25.17	20.2	50	46.57
1422	1.92	2.24	66.3	5.86	723.82	24.60	20.9	50	46.68
1427	1.98	2.28	67.2	5.86	723.71	24.35	20.3	50	46.84
1432	2.04	2.30	67.3	5.86	726.94	24.24	19.3	50	46.98
1437	2.1	2.30	67.8	5.85	724.40	24.22	19.0	50	47.09
1442	2.16	2.26	66.7	5.86	725.52	24.02	19.3	50	47.15
1447	2.22	2.32	67.3	5.85	726.30	23.86	19.2	50	47.11
1452	2.28	2.33	68.0	5.84	726.64	23.95	18.6	50	47.16
1457	2.34	2.30	67.3	5.84	725.76	24.02	18.2	50	47.22
15086	2.40	2.32	67.4	5.84	724.65	23.88	—	50	4—
15096	2.46	2.32	68.9	5.84	725.23	23.88	—	50	—

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/19/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Hot + Humid, Temp 87°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel:~~ betsy.mcdaniel@pacelabs.com Encofins TestAmerica	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater
WELL MATERIAL: ✓ PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder Pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.35
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 40.41
TOTAL DEPTH: 57.35
WATER COLUMN HEIGHT: 16.94
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1512	2.52	2.38	68.8	5.84	727.48	24.07	18.6	50 ( )	47.33
1517	2.58	2.56	72.4	5.83	732.02	24.42	19.5	50	47.39
1522	2.64	2.60	73.1	5.81	739.22	24.87	17.9	50	47.41
1527	2.7	2.63	76.3	5.80	740.86	25.28	16.5	50	47.48
1532	2.76	2.65	81.2	5.78	743.62	25.65	14.9	50	47.50
1537	2.82	2.63	80.3	5.78	744.45	25.85	14.2	50	47.54
1542	2.88	2.62	81.1	5.78	753.80	25.83	12.9	50	47.59
1547	2.94	2.65	86.4	5.77	758.45	26.06	13.2	50	47.62
1552	3.00	2.59	82.8	5.78	759.40	26.33	12.3	50	47.68
1557	3.06	2.58	87.8	5.76	760.90	26.58	10.9	50	47.70
1602	3.12	2.61	88.2	5.76	761.04	26.44	10.4	50	47.73
1607	3.18	2.57	87.6	5.77	760.76	26.64	10.7	50	47.79
1612	3.24	2.54	88.9	5.76	760.56	26.59	10.5	50	47.82
1617	3.3	2.	92.1	5.77	763.62	26.37	10.5	50	47.86

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/19/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS	
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions	
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS	
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver	
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined	

pH check

GENERAL INFORMATION	
WEATHER:	Hot & Humid, Temp 87°F
SHIPPED VIA:	FED-X
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel:~~ betsy.mcdaniel@pacelabs.com Eurofins TestAmerica
SAMPLER: Daniel Howard	OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: ~~APIPZ-9~~ QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.35

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 40.41

TOTAL DEPTH: 57.35

WATER COLUMN HEIGHT: 16.94

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1622	3.36	2.51	92.8	5.76	764.41	26.70	10.1	50 ( )	47.87
1627	3.42	2.48	89.4	5.76	763.44	26.79	9.95	50	47.90
1632	3.48	2.46	88.6	5.77	763.65	26.60	8.96	50	47.93
1637	3.54	2.44	89.1	5.77	763.21	26.76	9.22	50	47.96
1642	3.60	2.44	88.2	5.77	761.92	26.69	9.08	50	48.00
1647	3.66	2.42	93.4	5.77	759.17	26.48	8.60	50	48.04
1'									

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8/19/21

SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C pH check	EPA 300.0 R2.1	Cl, F, SO4 App. III Anions
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:		
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ Eurofins TestAmerica	
SAMPLER: Daniel Howard	OBSERVER:	

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: AP1PZ-10 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 51.48
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 38.04
TOTAL DEPTH: 56.48
WATER COLUMN HEIGHT: 18.44
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

GRAB (x) COMPOSITE ( )

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1] 38.04
Initial: 1052	0	0.86	-22.0	6.36	744.47	22.72	10.1	60 ( )	~~38.35~~
1057	0.1	0.82	-37.6	6.37	744.49	23.03	10.6	75	38.97
~~0147~~ 1102	0.2	0.80	-47.6	6.39	746.14	23.72	6.9	75	39.02
1107	0.3	0.79	-57.0	6.43	751.86	24.01	6.08	75	39.08
1112	0.4	0.74	-67.2	6.47	759.31	24.04	4.57	75	39.13
1117	0.5	0.71	-71.8	6.50	762.30	24.15	3.48	75	39.16
1122	0.6	0.65	-75.6	6.53	764.88	24.10	3.06	75	39.20
1127	0.7	0.59	-76.0	6.53	763.88	24.16	2.74	75	39.23

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/20/21
SAMPLE TIME: 1130

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE		ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	pH check	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C		SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	✓	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly Cloudy, Temp 80°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Botsy McDaniel: botsy.mcdaniel@pacelabs.com~~ EuroFins TestAmerica	
SAMPLER: Daniel Howard		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-11 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 68.3
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 37.90 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 73.30
WATER COLUMN HEIGHT: 35.40
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1358	0	1.92	16.9	6.76	395.67	22.31	86.2	200	37.90
1403	0.25	1.81	20.0	6.73	401.06	21.93	11.5	200	38.16
1408	0.5	1.69	24.3	6.72	399.26	22.00	85.6	200	38.16
1413	0.75	1.58	27.6	6.71	397.97	22.09	78.7	200	38.16
1418	1.0	1.49	30.1	6.71	396.69	21.91	56.5	200	38.16
1423	1.25	1.43	32.8	6.71	394.04	22.00	49.5	200	38.16
1428	1.5	1.32	34.8	6.71	388.96	21.66	44.3	200	38.16
1433	1.75	1.27	35.7	6.72	383.09	21.60	40.8	200	38.16
1438	2.0	1.29	36.4	6.71	377.61	21.77	33.1	200	38.16
1443	2.25	1.31	36.9	6.72	368.75	21.79	28.3	200	38.16
1448	2.5	1.46	37.5	6.73	361.96	21.64	26.5	200	38.16
1453	2.75	1.42	38.2	6.73	358.18	21.60	22.4	200	38.16
1458	3.0	1.46	39.2	6.72	354.92	21.82	20.8	200	38.16
1503	3.25	1.45	40.3	6.72	349.46	21.82	17.6	200	38.16

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8/20/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly Sunny, Temp 83°F	
SHIPPED VIA:	FED-X	
SHIPPED TO:	~~RACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4200 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ Eurofins TestAmerica	
SAMPLER: Daniel Haward		OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-11 MATRIX: Groundwater
WELL MATERIAL: X PVC __ SS __ OTHER
SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 68.3
or
Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2
DEPTH TO WATER: 37.90 GRAB (x) COMPOSITE ( )
TOTAL DEPTH: 73.30
WATER COLUMN HEIGHT: 35.40
PURGE VOLUME:_____
[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1508	3.5	1.48	41.2	6.73	345.70	21.55	15.3	200 ( )	38.16
1513	3.75	1.49	41.7	6.73	342.48	21.46	14.9	200	38.16
1518	4.0	1.55	42.3	6.72	340.70	21.51	13.0	200	38.16
1523	4.25	1.58	42.1	6.73	338.07	21.79	12.8	200	38.16
1528	4.5	1.61	42.5	6.72	336.35	22.14	12.1	200	38.16
1533	4.75	1.63	43.2	6.72	333.03	22.09	10.9	200	38.16
1538	5.0	1.63	43.8	6.72	332.27	22.22	10.9	200	38.16
1543	5.25	1.65	44.1	6.72	330.40	22.18	11.2	200	38.11
1548	5.5	1.70	44.3	6.72	329.77	22.11	9.89	200	38.11
1553	5.75	1.72	45.5	6.72	328.25	22.25	9.76	200	38.11
1558	6.0	1.74	46.0	6.71	327.55	22.31	9.51	200	38.11
1603	6.25	1.73	46.5	6.71	326.11	22.43	9.41	200	38.11
1608	6.5	1.74	47.2	6.71	324.58	22.45	9.18	200	38.10
1613	6.75	1.78	46.9	6.71	325.02	22.71	8.32	200	38.10

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 8/20/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION

WEATHER: Partly Sunny, Temp 85°F
SHIPPED VIA: FED-X
SHIPPED TO: ~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ EuroFins TestAmerica
SAMPLER: Daniel Howard OBSERVER:

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6122-20-1429.2001

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2020 2nd Semmi-Annual Event; ___ OTHER
WELL ID / SAMPLE ID: APIPZ-11 MATRIX: Groundwater
WELL MATERIAL: X PVC SS OTHER
SAMPLE METHOD: ~~APIPZ-11~~ QED Bladder Pump

DUP./REP. OF: 6

Pump Intake Set at (btoc): 68.3
or
Tubing Inlet Set at (btoc): _____

WELL DIAMETER: 2
DEPTH TO WATER: 37.90
TOTAL DEPTH: 73.36
WATER COLUMN HEIGHT: 35.40
PURGE VOLUME: _____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]
[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]
[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1618	7.0	1.78	48.3	6.71	323.21	22.65	8.31	200 ( )	38.10
1623	7.25	1.76	48.3	6.71	322.18	22.79	7.76	200	38.10
1628	7.5	1.79	48.4	6.71	322.34	22.82	6.06	200	38.10
1633	7.75	1.79	48.8	6.71	320.56	22.89	5.64	200	38.10
1638	8.0	1.81	49.2	6.71	319.52	22.83	5.11	200	38.10
1643	8.25	1.83	49.9	6.71	319.00	22.52	5.10	200	38.10
1648	8.5	1.84	49.8	6.71	318.40	22.13	4.25	200	38.10

NOTES:
[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
If well is purged dry, allow to recharge and sample within 24 hrs.
Turbidity < 5 NTUs

SAMPLE DATE: 8/20/21
SAMPLE TIME: 1650

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE pH check	ANALYTICAL METHOD	ANALYSIS
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions Cl, F, SO4
500 mL/Poly	1	Cool to 6°C	SM 2540C	TDS
250 mL/Poly	1	HNO3 to pH <2 ✓	SW6020B/SW7470A	App. III & IV Metals & Silver
1 L/Poly	2	HNO3 to pH <2 ✓	E9315/9320	Radium 226 & 228 Combined

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GENERAL INFORMATION	
WEATHER:	Partly Sunny, Temp 83°F
SHIPPED VIA:	FED-X
SHIPPED TO:	~~PACE Laboratories - 110 Technology Pkwy, Peachtree Corners, GA 30092 PH: (770) 734-4203 POC: Betsy McDaniel: betsy.mcdaniel@pacelabs.com~~ — Eurofins TestAmerica
SAMPLER: Daniel Howard	OBSERVER:

Low-Flow Test Report:

Test Date / Time: 10/26/2021 11:40:43 AM
Project: Plant Arkwright
Operator Name: Ever Guillen

Location Name: AP1GWA-1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 27.5 ft** **Total Depth: 37.5 ft** **Initial Depth to Water: 22.83 ft**	**Pump Type: Peristaltic** **Tubing Type: HDPE** **Pump Intake From TOC: 30 ft** **Estimated Total Volume Pumped: 10000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.08 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time = 1235

Weather Conditions:
Sunny, warm, dry

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/26/2021 11:40 AM	00:00	4.46 pH	20.04 °C	242.14 µS/cm	4.18 mg/L	62.20 NTU	97.5 mV	22.91 ft	200.00 ml/min
10/26/2021 11:45 AM	05:00	4.49 pH	20.14 °C	240.40 µS/cm	3.91 mg/L	37.30 NTU	106.5 mV	22.91 ft	200.00 ml/min
10/26/2021 11:50 AM	10:00	4.40 pH	20.44 °C	237.98 µS/cm	3.85 mg/L	34.30 NTU	127.5 mV	22.91 ft	200.00 ml/min
10/26/2021 11:55 AM	15:00	4.48 pH	20.26 °C	237.31 µS/cm	3.80 mg/L	25.20 NTU	130.7 mV	22.91 ft	200.00 ml/min
10/26/2021 12:00 PM	20:00	4.50 pH	20.48 °C	237.38 µS/cm	3.72 mg/L	18.60 NTU	108.6 mV	22.91 ft	200.00 ml/min
10/26/2021 12:05 PM	25:00	4.56 pH	20.70 °C	233.51 µS/cm	3.68 mg/L	13.10 NTU	128.1 mV	22.91 ft	200.00 ml/min
10/26/2021 12:10 PM	30:00	4.59 pH	20.57 °C	232.82 µS/cm	3.52 mg/L	9.05 NTU	104.3 mV	22.91 ft	200.00 ml/min
10/26/2021 12:15 PM	35:00	4.58 pH	21.19 °C	234.64 µS/cm	3.85 mg/L	6.35 NTU	123.7 mV	22.91 ft	200.00 ml/min
10/26/2021 12:20 PM	40:00	4.71 pH	20.93 °C	223.70 µS/cm	3.36 mg/L	4.46 NTU	124.1 mV	22.91 ft	200.00 ml/min
10/26/2021 12:25 PM	45:00	4.73 pH	20.84 °C	224.28 µS/cm	3.29 mg/L	4.34 NTU	100.8 mV	22.91 ft	200.00 ml/min
10/26/2021 12:30 PM	50:00	4.76 pH	20.79 °C	224.50 µS/cm	3.33 mg/L	3.51 NTU	119.2 mV	22.91 ft	200.00 ml/min

Samples

Low-Flow Test Report:

Test Date / Time: 10/26/2021 1:31:22 PM
Project: Plant Arkwright (2)
Operator Name: Ever Guillen

Location Name: AP1GWA-2 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 21.1 ft** **Total Depth: 31.1 ft** **Initial Depth to Water: 17.32 ft**	**Pump Type: Peristaltic** **Tubing Type: HDPE** **Pump Intake From TOC: 29 ft** **Estimated Total Volume Pumped: 11000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time = 1430

Weather Conditions:
Warm, sunny, dry

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/26/2021 1:31 PM	00:00	6.08 pH	22.60 °C	72.22 µS/cm	5.38 mg/L	77.60 NTU	95.6 mV	17.32 ft	200.00 ml/min
10/26/2021 1:36 PM	05:00	6.06 pH	22.04 °C	72.32 µS/cm	5.50 mg/L	54.00 NTU	88.2 mV	17.32 ft	200.00 ml/min
10/26/2021 1:41 PM	10:00	6.03 pH	22.12 °C	70.66 µS/cm	5.23 mg/L	47.30 NTU	84.4 mV	17.32 ft	200.00 ml/min
10/26/2021 1:46 PM	15:00	6.01 pH	22.03 °C	69.67 µS/cm	4.99 mg/L	36.10 NTU	83.2 mV	17.32 ft	200.00 ml/min
10/26/2021 1:51 PM	20:00	5.98 pH	22.07 °C	69.90 µS/cm	4.90 mg/L	22.40 NTU	82.6 mV	17.32 ft	200.00 ml/min
10/26/2021 1:56 PM	25:00	5.99 pH	22.04 °C	69.47 µS/cm	4.92 mg/L	17.60 NTU	81.8 mV	17.32 ft	200.00 ml/min
10/26/2021 2:01 PM	30:00	5.99 pH	22.29 °C	69.03 µS/cm	4.88 mg/L	19.70 NTU	81.8 mV	17.32 ft	200.00 ml/min
10/26/2021 2:06 PM	35:00	6.00 pH	22.28 °C	69.39 µS/cm	4.80 mg/L	13.20 NTU	79.4 mV	17.32 ft	200.00 ml/min
10/26/2021 2:11 PM	40:00	5.99 pH	22.45 °C	68.89 µS/cm	4.71 mg/L	9.65 NTU	79.3 mV	17.32 ft	200.00 ml/min
10/26/2021 2:16 PM	45:00	5.99 pH	22.44 °C	68.55 µS/cm	4.68 mg/L	6.48 NTU	78.7 mV	17.32 ft	200.00 ml/min
10/26/2021 2:21 PM	50:00	5.99 pH	22.44 °C	68.13 µS/cm	4.54 mg/L	5.43 NTU	78.4 mV	17.32 ft	200.00 ml/min
10/26/2021 2:26 PM	55:00	5.98 pH	22.50 °C	68.33 µS/cm	4.47 mg/L	2.07 NTU	78.4 mV	17.32 ft	200.00 ml/min

Low-Flow Test Report:

Test Date / Time: 10/28/2021 10:54:15 AM
Project: Plant Arkwright (5)
Operator Name: Ever Guillen

Location Name: AP1PZ-1 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 77.62 ft** **Total Depth: 87.62 ft** **Initial Depth to Water: 44.72 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 13000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 0.39 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time =1310

Weather Conditions:
Cold, Rain,

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/28/2021 10:54 AM	00:00	6.29 pH	18.57 °C	319.72 µS/cm	3.19 mg/L	11.60 NTU	52.9 mV	44.98 ft	100.00 ml/min
10/28/2021 11:04 AM	10:00	6.41 pH	18.62 °C	319.60 µS/cm	2.86 mg/L	32.00 NTU	19.0 mV	45.11 ft	100.00 ml/min
10/28/2021 11:14 AM	20:00	6.41 pH	18.41 °C	318.94 µS/cm	2.36 mg/L	28.10 NTU	9.3 mV	45.11 ft	100.00 ml/min
10/28/2021 11:24 AM	30:00	6.43 pH	17.72 °C	318.67 µS/cm	2.11 mg/L	24.80 NTU	10.7 mV	45.11 ft	100.00 ml/min
10/28/2021 11:34 AM	40:00	6.43 pH	17.99 °C	316.54 µS/cm	1.60 mg/L	17.90 NTU	-0.5 mV	45.11 ft	100.00 ml/min
10/28/2021 11:44 AM	50:00	6.43 pH	17.78 °C	318.65 µS/cm	1.42 mg/L	15.80 NTU	-2.7 mV	45.11 ft	100.00 ml/min
10/28/2021 11:54 AM	01:00:00	6.43 pH	18.19 °C	321.09 µS/cm	1.37 mg/L	12.90 NTU	-5.8 mV	45.11 ft	100.00 ml/min
10/28/2021 12:04 PM	01:10:00	6.43 pH	18.08 °C	320.18 µS/cm	1.40 mg/L	11.60 NTU	-8.0 mV	45.11 ft	100.00 ml/min
10/28/2021 12:14 PM	01:20:00	6.44 pH	17.54 °C	317.79 µS/cm	1.20 mg/L	10.00 NTU	-7.6 mV	45.11 ft	100.00 ml/min
10/28/2021 12:24 PM	01:30:00	6.43 pH	17.92 °C	319.93 µS/cm	1.14 mg/L	9.47 NTU	-9.6 mV	45.11 ft	100.00 ml/min
10/28/2021 12:34 PM	01:40:00	6.43 pH	18.77 °C	317.57 µS/cm	1.06 mg/L	8.18 NTU	-12.3 mV	45.11 ft	100.00 ml/min
10/28/2021 12:44 PM	01:50:00	6.44 pH	18.91 °C	317.94 µS/cm	1.27 mg/L	6.42 NTU	-13.0 mV	45.11 ft	100.00 ml/min
10/28/2021 12:54 PM	02:00:00	6.44 pH	18.12 °C	319.03 µS/cm	1.28 mg/L	5.97 NTU	-11.0 mV	45.11 ft	100.00 ml/min

10/28/2021 1:04 PM	02:10:00	6.44 pH	18.34 °C	318.98 µS/cm	0.96 mg/L	4.73 NTU	-11.1 mV	45.11 ft	100.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/28/2021 3:06:33 PM
Project: Plant Arkwright (6)
Operator Name: Ever Guillen

Location Name: AP1PZ-2 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 52.67 ft** **Total Depth: 62.67 ft** **Initial Depth to Water: 4090 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 57 ft** **Estimated Total Volume Pumped: 15000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: -4049.1 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time = 1750

Weather Conditions:
Cool, rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/28/2021 3:06 PM	00:00	6.04 pH	20.94 °C	943.06 µS/cm	0.57 mg/L	220.00 NTU	59.5 mV	40.90 ft	100.00 ml/min
10/28/2021 3:16 PM	10:00	5.99 pH	20.38 °C	1,039.8 µS/cm	0.33 mg/L	163.00 NTU	53.8 mV	40.90 ft	100.00 ml/min
10/28/2021 3:26 PM	20:00	5.96 pH	20.30 °C	1,076.7 µS/cm	0.24 mg/L	148.00 NTU	54.6 mV	40.90 ft	100.00 ml/min
10/28/2021 3:36 PM	30:00	5.95 pH	20.22 °C	1,092.8 µS/cm	0.20 mg/L	109.00 NTU	55.9 mV	40.90 ft	100.00 ml/min
10/28/2021 3:46 PM	40:00	5.93 pH	21.54 °C	1,108.4 µS/cm	0.21 mg/L	68.90 NTU	55.3 mV	40.90 ft	100.00 ml/min
10/28/2021 3:56 PM	50:00	5.92 pH	20.82 °C	1,124.9 µS/cm	0.24 mg/L	62.30 NTU	56.9 mV	40.90 ft	100.00 ml/min
10/28/2021 4:06 PM	01:00:00	5.92 pH	21.19 °C	1,139.0 µS/cm	0.28 mg/L	52.00 NTU	56.7 mV	40.90 ft	100.00 ml/min
10/28/2021 4:16 PM	01:10:00	5.90 pH	21.02 °C	1,157.3 µS/cm	0.38 mg/L	34.80 NTU	57.4 mV	40.90 ft	100.00 ml/min
10/28/2021 4:26 PM	01:20:00	5.90 pH	20.85 °C	1,154.6 µS/cm	0.57 mg/L	24.10 NTU	57.8 mV	40.90 ft	100.00 ml/min
10/28/2021 4:36 PM	01:30:00	5.89 pH	20.68 °C	1,177.8 µS/cm	0.55 mg/L	18.20 NTU	59.7 mV	40.90 ft	100.00 ml/min
10/28/2021 4:46 PM	01:40:00	5.89 pH	20.53 °C	1,175.5 µS/cm	0.72 mg/L	13.40 NTU	60.0 mV	40.90 ft	100.00 ml/min
10/28/2021 4:56 PM	01:50:00	5.86 pH	20.66 °C	1,209.5 µS/cm	1.16 mg/L	11.60 NTU	63.7 mV	40.90 ft	100.00 ml/min
10/28/2021 5:06 PM	02:00:00	5.86 pH	23.79 °C	1,209.1 µS/cm	1.28 mg/L	7.92 NTU	62.4 mV	40.90 ft	100.00 ml/min

10/28/2021 5:16 PM	02:10:00	5.86 pH	23.48 °C	1,212.2 µS/cm	1.31 mg/L	6.65 NTU	64.6 mV	40.90 ft	100.00 ml/min
10/28/2021 5:26 PM	02:20:00	5.88 pH	22.72 °C	1,224.1 µS/cm	0.93 mg/L	5.36 NTU	65.7 mV	40.90 ft	100.00 ml/min
10/28/2021 5:36 PM	02:30:00	5.89 pH	22.36 °C	1,224.8 µS/cm	1.35 mg/L	4.77 NTU	68.0 mV	40.90 ft	100.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 10/26/2021 4:05:09 PM
Project: Plant Arkwright (3)
Operator Name: Ever Guillen

Location Name: AP1PZ-3 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.44 ft** **Total Depth: 67.44 ft** **Initial Depth to Water: 46.52 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 23000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 1.25 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time =

Weather Conditions:
Warm, sunny, dry

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/26/2021 4:05 PM	00:00	6.71 pH	22.18 °C	2,294.3 µS/cm	2.54 mg/L	169.20 NTU	-69.5 mV	46.52 ft	200.00 ml/min
10/26/2021 4:10 PM	05:00	6.77 pH	21.75 °C	2,300.8 µS/cm	3.64 mg/L	143.00 NTU	-77.3 mV	47.77 ft	200.00 ml/min
10/26/2021 4:15 PM	10:00	6.80 pH	21.79 °C	2,285.6 µS/cm	3.96 mg/L	139.00 NTU	-74.8 mV	47.77 ft	200.00 ml/min
10/26/2021 4:20 PM	15:00	6.80 pH	21.57 °C	2,259.1 µS/cm	4.26 mg/L	128.10 NTU	-63.1 mV	47.77 ft	200.00 ml/min
10/26/2021 4:25 PM	20:00	6.81 pH	21.46 °C	2,247.1 µS/cm	4.81 mg/L	113.80 NTU	-69.7 mV	47.77 ft	200.00 ml/min
10/26/2021 4:30 PM	25:00	6.81 pH	21.41 °C	2,234.1 µS/cm	5.09 mg/L	98.10 NTU	-69.8 mV	47.77 ft	200.00 ml/min
10/26/2021 4:35 PM	30:00	6.79 pH	21.84 °C	2,238.3 µS/cm	5.04 mg/L	84.60 NTU	-63.2 mV	47.77 ft	200.00 ml/min
10/26/2021 4:40 PM	35:00	6.76 pH	21.88 °C	2,231.3 µS/cm	4.52 mg/L	70.90 NTU	-70.2 mV	47.77 ft	200.00 ml/min
10/26/2021 4:45 PM	40:00	6.75 pH	21.80 °C	2,222.6 µS/cm	4.45 mg/L	62.60 NTU	-59.9 mV	47.77 ft	200.00 ml/min
10/26/2021 4:50 PM	45:00	6.75 pH	21.82 °C	2,215.9 µS/cm	4.45 mg/L	89.30 NTU	-67.3 mV	47.77 ft	200.00 ml/min
10/26/2021 4:55 PM	50:00	6.74 pH	21.76 °C	2,216.4 µS/cm	4.41 mg/L	84.10 NTU	-66.6 mV	47.77 ft	200.00 ml/min
10/26/2021 5:00 PM	55:00	6.72 pH	21.73 °C	2,208.1 µS/cm	4.35 mg/L	79.20 NTU	-65.8 mV	47.77 ft	200.00 ml/min
10/26/2021 5:05 PM	01:00:00	6.71 pH	21.69 °C	2,247.3 µS/cm	4.35 mg/L	66.40 NTU	-56.9 mV	47.77 ft	200.00 ml/min

10/26/2021 5:10 PM	01:05:00	6.71 pH	21.54 °C	2,234.9 µS/cm	4.41 mg/L	58.20 NTU	-55.7 mV	47.77 ft	200.00 ml/min
10/26/2021 5:15 PM	01:10:00	6.72 pH	21.51 °C	2,234.6 µS/cm	4.31 mg/L	54.10 NTU	-62.7 mV	47.77 ft	200.00 ml/min
10/26/2021 5:20 PM	01:15:00	6.72 pH	21.75 °C	2,247.9 µS/cm	4.36 mg/L	48.70 NTU	-64.0 mV	47.77 ft	200.00 ml/min
10/26/2021 5:25 PM	01:20:00	6.72 pH	22.18 °C	2,247.4 µS/cm	4.55 mg/L	42.20 NTU	-65.1 mV	47.77 ft	200.00 ml/min
10/26/2021 5:30 PM	01:25:00	6.62 pH	21.67 °C	2,240.7 µS/cm	3.54 mg/L	32.90 NTU	-63.9 mV	47.77 ft	200.00 ml/min
10/26/2021 5:35 PM	01:30:00	6.71 pH	21.24 °C	2,209.4 µS/cm	4.59 mg/L	45.80 NTU	-61.7 mV	47.77 ft	200.00 ml/min
10/26/2021 5:40 PM	01:35:00	6.72 pH	21.11 °C	2,209.9 µS/cm	4.87 mg/L	43.00 NTU	-62.8 mV	47.77 ft	200.00 ml/min
10/26/2021 5:45 PM	01:40:00	6.72 pH	21.07 °C	2,206.2 µS/cm	5.00 mg/L	44.40 NTU	-55.6 mV	47.77 ft	200.00 ml/min
10/26/2021 5:50 PM	01:45:00	6.71 pH	20.97 °C	2,213.7 µS/cm	5.15 mg/L	34.40 NTU	-61.9 mV	47.77 ft	200.00 ml/min
10/26/2021 5:55 PM	01:50:00	6.79 pH	20.75 °C	2,194.2 µS/cm	5.61 mg/L	59.30 NTU	-68.1 mV	47.77 ft	200.00 ml/min
10/26/2021 6:00 PM	01:55:00	6.81 pH	20.07 °C	2,175.8 µS/cm	6.08 mg/L	53.90 NTU	-68.6 mV	47.77 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/29/2021 9:56:22 AM
Project: Plant Arkwright CCR (7)
Operator Name: Daniel Howard

Location Name: AP1PZ-3 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.38 ft** **Total Depth: 67.38 ft** **Initial Depth to Water: 42.06 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 62.38 ft** **Estimated Total Volume Pumped: 14250 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.37 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-3 sample time 1134.

Weather Conditions:
Overcast, temp 55

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/29/2021 9:56 AM	00:00	5.59 pH	17.72 °C	2,258.5 µS/cm	1.73 mg/L	26.10 NTU	-10.0 mV	42.06 ft	150.00 ml/min
10/29/2021 10:01 AM	05:00	5.63 pH	18.08 °C	2,276.1 µS/cm	1.27 mg/L	21.40 NTU	-8.8 mV	42.48 ft	150.00 ml/min
10/29/2021 10:06 AM	10:00	5.62 pH	18.35 °C	2,282.5 µS/cm	1.09 mg/L	19.80 NTU	-13.6 mV	42.48 ft	150.00 ml/min
10/29/2021 10:11 AM	15:00	5.62 pH	18.43 °C	2,275.9 µS/cm	0.98 mg/L	15.00 NTU	-0.7 mV	42.45 ft	150.00 ml/min
10/29/2021 10:16 AM	20:00	5.62 pH	18.52 °C	2,281.6 µS/cm	0.88 mg/L	13.30 NTU	-8.0 mV	42.45 ft	150.00 ml/min
10/29/2021 10:21 AM	25:00	5.61 pH	18.63 °C	2,278.7 µS/cm	0.80 mg/L	11.80 NTU	-7.2 mV	42.45 ft	150.00 ml/min
10/29/2021 10:26 AM	30:00	5.61 pH	18.52 °C	2,274.7 µS/cm	0.74 mg/L	9.77 NTU	-4.9 mV	42.43 ft	150.00 ml/min
10/29/2021 10:31 AM	35:00	5.61 pH	18.65 °C	2,276.0 µS/cm	0.69 mg/L	9.22 NTU	-6.0 mV	42.43 ft	150.00 ml/min
10/29/2021 10:36 AM	40:00	5.60 pH	18.59 °C	2,270.0 µS/cm	0.61 mg/L	7.57 NTU	5.0 mV	42.43 ft	150.00 ml/min
10/29/2021 10:41 AM	45:00	5.60 pH	18.70 °C	2,275.4 µS/cm	0.57 mg/L	7.72 NTU	4.2 mV	42.43 ft	150.00 ml/min
10/29/2021 10:46 AM	50:00	5.61 pH	18.63 °C	2,275.9 µS/cm	0.52 mg/L	6.58 NTU	3.9 mV	42.43 ft	150.00 ml/min
10/29/2021 10:51 AM	55:00	5.61 pH	18.61 °C	2,276.4 µS/cm	0.47 mg/L	6.97 NTU	3.6 mV	42.43 ft	150.00 ml/min
10/29/2021 10:56 AM	01:00:00	5.60 pH	18.55 °C	2,269.6 µS/cm	0.44 mg/L	6.51 NTU	3.4 mV	42.43 ft	150.00 ml/min

10/29/2021 11:01 AM	01:05:00	5.61 pH	18.60 °C	2,277.1 µS/cm	0.39 mg/L	6.22 NTU	-7.8 mV	42.43 ft	150.00 ml/min
10/29/2021 11:06 AM	01:10:00	5.61 pH	18.44 °C	2,264.7 µS/cm	0.36 mg/L	6.45 NTU	3.3 mV	42.43 ft	150.00 ml/min
10/29/2021 11:11 AM	01:15:00	5.60 pH	18.56 °C	2,271.4 µS/cm	0.34 mg/L	6.03 NTU	2.6 mV	42.43 ft	150.00 ml/min
10/29/2021 11:16 AM	01:20:00	5.60 pH	18.75 °C	2,272.4 µS/cm	0.31 mg/L	5.73 NTU	1.2 mV	42.43 ft	150.00 ml/min
10/29/2021 11:21 AM	01:25:00	5.60 pH	18.61 °C	2,267.7 µS/cm	0.29 mg/L	5.22 NTU	1.2 mV	42.43 ft	150.00 ml/min
10/29/2021 11:26 AM	01:30:00	5.60 pH	18.71 °C	2,273.5 µS/cm	0.27 mg/L	4.88 NTU	0.2 mV	42.43 ft	150.00 ml/min
10/29/2021 11:31 AM	01:35:00	5.60 pH	18.74 °C	2,270.8 µS/cm	0.25 mg/L	4.66 NTU	-12.1 mV	42.43 ft	150.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 10/27/2021 10:47:17 AM
Project: Plant Arkwright (4)
Operator Name: Ever Guillen

Location Name: AP1PZ-4 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.42 ft** **Total Depth: 67.42 ft** **Initial Depth to Water: 46.77 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 63 ft** **Estimated Total Volume Pumped: 52000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time =1510

Weather Conditions:
Cool, sunny, dry

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/27/2021 10:47 AM	00:00	6.45 pH	16.44 °C	2,260.9 µS/cm	8.51 mg/L	88.10 NTU	23.9 mV	46.77 ft	200.00 ml/min
10/27/2021 10:52 AM	05:00	6.52 pH	18.82 °C	2,239.2 µS/cm	2.51 mg/L	210.00 NTU	-35.9 mV	46.77 ft	200.00 ml/min
10/27/2021 10:57 AM	10:00	6.68 pH	19.37 °C	2,137.2 µS/cm	6.07 mg/L	163.00 NTU	-35.4 mV	46.77 ft	200.00 ml/min
10/27/2021 11:02 AM	15:00	6.69 pH	19.23 °C	2,167.9 µS/cm	6.12 mg/L	102.00 NTU	-46.8 mV	46.77 ft	200.00 ml/min
10/27/2021 11:07 AM	20:00	6.66 pH	19.56 °C	2,170.4 µS/cm	5.18 mg/L	85.20 NTU	-52.6 mV	46.77 ft	200.00 ml/min
10/27/2021 11:12 AM	25:00	6.66 pH	19.26 °C	2,158.3 µS/cm	4.98 mg/L	62.00 NTU	-45.9 mV	46.77 ft	200.00 ml/min
10/27/2021 11:17 AM	30:00	6.60 pH	19.32 °C	2,191.7 µS/cm	3.96 mg/L	52.70 NTU	-51.6 mV	46.77 ft	200.00 ml/min
10/27/2021 11:22 AM	35:00	6.61 pH	19.52 °C	2,176.6 µS/cm	3.98 mg/L	61.20 NTU	-44.9 mV	46.77 ft	200.00 ml/min
10/27/2021 11:27 AM	40:00	6.61 pH	19.73 °C	2,170.6 µS/cm	4.24 mg/L	57.70 NTU	-43.4 mV	46.77 ft	200.00 ml/min
10/27/2021 11:32 AM	45:00	6.61 pH	19.60 °C	2,168.3 µS/cm	4.39 mg/L	54.60 NTU	-47.1 mV	46.77 ft	200.00 ml/min
10/27/2021 11:37 AM	50:00	6.60 pH	19.59 °C	2,176.1 µS/cm	4.38 mg/L	56.10 NTU	-41.2 mV	46.77 ft	200.00 ml/min
10/27/2021 11:42 AM	55:00	6.62 pH	19.95 °C	2,185.6 µS/cm	4.50 mg/L	56.50 NTU	-43.7 mV	46.77 ft	200.00 ml/min
10/27/2021 11:47 AM	01:00:00	6.60 pH	20.17 °C	2,173.2 µS/cm	4.16 mg/L	52.90 NTU	-46.6 mV	46.77 ft	200.00 ml/min

10/27/2021 11:52 AM	01:05:00	6.59 pH	19.95 °C	2,166.4 µS/cm	4.12 mg/L	50.90 NTU	-45.1 mV	46.77 ft	200.00 ml/min
10/27/2021 11:57 AM	01:10:00	6.59 pH	19.79 °C	2,169.7 µS/cm	4.33 mg/L	48.80 NTU	-38.6 mV	46.77 ft	200.00 ml/min
10/27/2021 12:02 PM	01:15:00	6.58 pH	19.68 °C	2,175.6 µS/cm	4.18 mg/L	43.20 NTU	-42.4 mV	46.77 ft	200.00 ml/min
10/27/2021 12:07 PM	01:20:00	6.58 pH	19.88 °C	2,170.7 µS/cm	4.08 mg/L	45.40 NTU	-42.2 mV	46.77 ft	200.00 ml/min
10/27/2021 12:12 PM	01:25:00	6.57 pH	20.22 °C	2,171.5 µS/cm	3.97 mg/L	44.50 NTU	-38.2 mV	46.77 ft	200.00 ml/min
10/27/2021 12:17 PM	01:30:00	6.56 pH	20.08 °C	2,168.7 µS/cm	3.90 mg/L	43.20 NTU	-37.0 mV	46.77 ft	200.00 ml/min
10/27/2021 12:22 PM	01:35:00	6.56 pH	19.98 °C	2,161.5 µS/cm	3.84 mg/L	42.70 NTU	-35.9 mV	46.77 ft	200.00 ml/min
10/27/2021 12:27 PM	01:40:00	6.56 pH	19.68 °C	2,166.6 µS/cm	3.89 mg/L	41.10 NTU	-39.5 mV	46.77 ft	200.00 ml/min
10/27/2021 12:32 PM	01:45:00	6.56 pH	19.59 °C	2,163.2 µS/cm	3.99 mg/L	39.40 NTU	-35.0 mV	46.77 ft	200.00 ml/min
10/27/2021 12:37 PM	01:50:00	6.56 pH	19.63 °C	2,163.9 µS/cm	4.09 mg/L	38.90 NTU	-39.0 mV	46.77 ft	200.00 ml/min
10/27/2021 12:42 PM	01:55:00	6.55 pH	19.86 °C	2,169.2 µS/cm	4.23 mg/L	38.60 NTU	-34.6 mV	46.77 ft	200.00 ml/min
10/27/2021 12:47 PM	02:00:00	6.55 pH	19.72 °C	2,157.8 µS/cm	4.20 mg/L	37.80 NTU	-33.4 mV	46.77 ft	200.00 ml/min
10/27/2021 12:52 PM	02:05:00	6.55 pH	19.95 °C	2,163.7 µS/cm	4.15 mg/L	37.10 NTU	-38.0 mV	46.77 ft	200.00 ml/min
10/27/2021 12:57 PM	02:10:00	6.55 pH	19.86 °C	2,157.7 µS/cm	4.19 mg/L	36.10 NTU	-33.3 mV	46.77 ft	200.00 ml/min
10/27/2021 1:02 PM	02:15:00	6.55 pH	19.81 °C	2,161.1 µS/cm	4.29 mg/L	33.90 NTU	-33.0 mV	46.77 ft	200.00 ml/min
10/27/2021 1:07 PM	02:20:00	6.54 pH	19.90 °C	2,162.4 µS/cm	4.26 mg/L	33.70 NTU	-37.0 mV	46.77 ft	200.00 ml/min
10/27/2021 1:12 PM	02:25:00	6.54 pH	20.13 °C	2,157.9 µS/cm	4.16 mg/L	32.60 NTU	-32.8 mV	46.77 ft	200.00 ml/min
10/27/2021 1:17 PM	02:30:00	6.53 pH	20.08 °C	2,172.7 µS/cm	4.14 mg/L	32.10 NTU	-36.6 mV	46.77 ft	200.00 ml/min
10/27/2021 1:22 PM	02:35:00	6.53 pH	20.46 °C	2,152.0 µS/cm	4.03 mg/L	32.40 NTU	-32.3 mV	46.77 ft	200.00 ml/min
10/27/2021 1:27 PM	02:40:00	6.52 pH	20.21 °C	2,164.1 µS/cm	4.03 mg/L	31.90 NTU	-36.2 mV	46.77 ft	200.00 ml/min
10/27/2021 1:32 PM	02:45:00	6.52 pH	20.53 °C	2,157.8 µS/cm	4.08 mg/L	31.30 NTU	-32.1 mV	46.77 ft	200.00 ml/min
10/27/2021 1:37 PM	02:50:00	6.52 pH	20.44 °C	2,156.5 µS/cm	4.05 mg/L	30.10 NTU	-35.5 mV	46.77 ft	200.00 ml/min
10/27/2021 1:42 PM	02:55:00	6.52 pH	20.42 °C	2,149.9 µS/cm	4.09 mg/L	29.50 NTU	-31.2 mV	46.77 ft	200.00 ml/min
10/27/2021 1:47 PM	03:00:00	6.51 pH	20.57 °C	2,157.3 µS/cm	4.08 mg/L	30.40 NTU	-35.1 mV	46.77 ft	200.00 ml/min
10/27/2021 1:52 PM	03:05:00	6.51 pH	20.59 °C	2,157.5 µS/cm	4.06 mg/L	27.60 NTU	-30.9 mV	46.77 ft	200.00 ml/min
10/27/2021 1:57 PM	03:10:00	6.51 pH	20.58 °C	2,153.3 µS/cm	4.06 mg/L	27.70 NTU	-34.5 mV	46.77 ft	200.00 ml/min
10/27/2021 2:02 PM	03:15:00	6.51 pH	20.77 °C	2,156.3 µS/cm	4.03 mg/L	27.90 NTU	-34.5 mV	46.77 ft	200.00 ml/min
10/27/2021 2:07 PM	03:20:00	6.50 pH	21.04 °C	2,152.4 µS/cm	3.92 mg/L	27.70 NTU	-30.8 mV	46.77 ft	200.00 ml/min
10/27/2021 2:12 PM	03:25:00	6.50 pH	20.73 °C	2,155.1 µS/cm	4.05 mg/L	26.50 NTU	-34.0 mV	46.77 ft	200.00 ml/min

10/27/2021 2:17 PM	03:30:00	6.50 pH	20.57 °C	2,154.0 µS/cm	4.09 mg/L	26.10 NTU	-29.8 mV	46.77 ft	200.00 ml/min
10/27/2021 2:22 PM	03:35:00	6.50 pH	21.06 °C	2,159.7 µS/cm	4.05 mg/L	25.70 NTU	-34.1 mV	46.77 ft	200.00 ml/min
10/27/2021 2:27 PM	03:40:00	6.50 pH	20.88 °C	2,158.3 µS/cm	4.04 mg/L	25.20 NTU	-29.5 mV	46.77 ft	200.00 ml/min
10/27/2021 2:32 PM	03:45:00	6.49 pH	20.91 °C	2,159.5 µS/cm	4.10 mg/L	26.90 NTU	-33.0 mV	46.77 ft	200.00 ml/min
10/27/2021 2:37 PM	03:50:00	6.49 pH	21.33 °C	2,159.2 µS/cm	4.08 mg/L	26.50 NTU	-29.8 mV	46.77 ft	200.00 ml/min
10/27/2021 2:42 PM	03:55:00	6.49 pH	21.01 °C	2,157.1 µS/cm	4.07 mg/L	25.20 NTU	-32.9 mV	46.77 ft	200.00 ml/min
10/27/2021 2:47 PM	04:00:00	6.49 pH	21.02 °C	2,150.5 µS/cm	4.05 mg/L	24.70 NTU	-28.5 mV	46.77 ft	200.00 ml/min
10/27/2021 2:52 PM	04:05:00	6.49 pH	21.12 °C	2,161.9 µS/cm	4.01 mg/L	24.10 NTU	-32.6 mV	46.77 ft	200.00 ml/min
10/27/2021 2:57 PM	04:10:00	6.48 pH	21.04 °C	2,154.9 µS/cm	3.97 mg/L	24.40 NTU	-28.3 mV	46.77 ft	200.00 ml/min
10/27/2021 3:02 PM	04:15:00	6.48 pH	21.13 °C	2,157.8 µS/cm	3.99 mg/L	23.50 NTU	-32.2 mV	46.77 ft	200.00 ml/min
10/27/2021 3:07 PM	04:20:00	6.47 pH	21.50 °C	2,163.2 µS/cm	3.99 mg/L	22.40 NTU	-32.0 mV	46.77 ft	200.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/29/2021 9:41:30 AM
Project: Plant Arkwright (7)
Operator Name: Ever Guillen

Location Name: AP1PZ-5 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 57.25 ft** **Total Depth: 67.25 ft** **Initial Depth to Water: 48.5 ft**	**Pump Type: Bladder** **Tubing Type: PE** **Pump Intake From TOC: 57 ft** **Estimated Total Volume Pumped: 8000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 1.42 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 843593**

Test Notes:
Sample time = 1105

Weather Conditions:
Cold, rain

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 0.2	+/- 5	+/- 10	+/- 0.3	
10/29/2021 9:41 AM	00:00	6.25 pH	16.85 °C	2,566.1 µS/cm	1.03 mg/L	13.70 NTU	-9.9 mV	48.50 ft	100.00 ml/min
10/29/2021 9:51 AM	10:00	6.30 pH	17.14 °C	2,524.9 µS/cm	0.49 mg/L	11.20 NTU	-39.6 mV	49.92 ft	100.00 ml/min
10/29/2021 10:01 AM	20:00	6.32 pH	17.13 °C	2,532.7 µS/cm	0.47 mg/L	9.88 NTU	-50.2 mV	49.92 ft	100.00 ml/min
10/29/2021 10:11 AM	30:00	6.33 pH	17.53 °C	2,517.6 µS/cm	0.44 mg/L	6.71 NTU	-60.1 mV	49.92 ft	100.00 ml/min
10/29/2021 10:21 AM	40:00	6.36 pH	18.03 °C	2,508.7 µS/cm	0.62 mg/L	5.68 NTU	-67.1 mV	49.92 ft	100.00 ml/min
10/29/2021 10:31 AM	50:00	6.35 pH	17.75 °C	2,507.0 µS/cm	0.45 mg/L	4.89 NTU	-66.8 mV	49.92 ft	100.00 ml/min
10/29/2021 10:41 AM	01:00:00	6.35 pH	17.87 °C	2,506.8 µS/cm	0.38 mg/L	3.02 NTU	-68.1 mV	49.92 ft	100.00 ml/min
10/29/2021 10:51 AM	01:10:00	6.35 pH	17.81 °C	2,500.3 µS/cm	0.35 mg/L	2.18 NTU	-67.4 mV	49.92 ft	100.00 ml/min
10/29/2021 11:01 AM	01:20:00	6.36 pH	17.94 °C	2,529.2 µS/cm	0.22 mg/L	1.43 NTU	-70.2 mV	49.92 ft	100.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/26/2021 12:12:35 PM
Project: Plant Arkwright CCR
Operator Name: Daniel Howard

Location Name: AP1PZ-6 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 62.65 ft** **Total Depth: 72.65 ft** **Initial Depth to Water: 56.94 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 67.65 ft** **Estimated Total Volume Pumped: 10000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.31 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-6 sample time 1305. Also collected DUP-1.

Weather Conditions:
Clear and sunny, Temp 60

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/26/2021 12:12 PM	00:00	5.68 pH	19.85 °C	3,437.7 µS/cm	0.88 mg/L	11.00 NTU	-1.6 mV	56.94 ft	200.00 ml/min
10/26/2021 12:17 PM	05:00	5.68 pH	20.10 °C	3,423.6 µS/cm	0.76 mg/L	11.10 NTU	-15.7 mV	57.28 ft	200.00 ml/min
10/26/2021 12:22 PM	10:00	5.69 pH	20.11 °C	3,409.7 µS/cm	0.71 mg/L	10.50 NTU	-6.1 mV	57.25 ft	200.00 ml/min
10/26/2021 12:27 PM	15:00	5.69 pH	20.04 °C	3,402.2 µS/cm	0.72 mg/L	8.95 NTU	-15.2 mV	57.25 ft	200.00 ml/min
10/26/2021 12:32 PM	20:00	5.68 pH	19.89 °C	3,406.8 µS/cm	0.62 mg/L	8.67 NTU	-5.4 mV	57.25 ft	200.00 ml/min
10/26/2021 12:37 PM	25:00	5.68 pH	19.75 °C	3,395.5 µS/cm	0.58 mg/L	7.74 NTU	-14.0 mV	57.25 ft	200.00 ml/min
10/26/2021 12:42 PM	30:00	5.68 pH	19.86 °C	3,387.0 µS/cm	0.55 mg/L	6.91 NTU	-3.9 mV	57.25 ft	200.00 ml/min
10/26/2021 12:47 PM	35:00	5.67 pH	19.73 °C	3,372.8 µS/cm	0.47 mg/L	5.99 NTU	-13.5 mV	57.25 ft	200.00 ml/min
10/26/2021 12:52 PM	40:00	5.67 pH	19.52 °C	3,380.0 µS/cm	0.42 mg/L	5.54 NTU	-14.3 mV	57.25 ft	200.00 ml/min
10/26/2021 12:57 PM	45:00	5.66 pH	19.42 °C	3,372.4 µS/cm	0.38 mg/L	4.70 NTU	-14.2 mV	57.25 ft	200.00 ml/min
10/26/2021 1:02 PM	50:00	5.66 pH	19.27 °C	3,367.3 µS/cm	0.36 mg/L		-3.7 mV	57.25 ft	200.00 ml/min

Samples

Low-Flow Test Report:

Test Date / Time: 10/26/2021 3:31:52 PM
Project: Plant Arkwright CCR (2)
Operator Name: Daniel Howard

Location Name: AP1PZ-7 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 67.6 ft** **Total Depth: 77.6 ft** **Initial Depth to Water: 50.25 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 72.6 ft** **Estimated Total Volume Pumped: 4500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 2.65 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-7 sample time 1618.

Weather Conditions:
Clear and sunny, Temp 68

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/26/2021 3:31 PM	00:00	6.47 pH	23.59 °C	2,297.7 µS/cm	0.98 mg/L	10.50 NTU	-99.8 mV	50.25 ft	100.00 ml/min
10/26/2021 3:36 PM	05:00	6.47 pH	23.38 °C	2,288.2 µS/cm	0.79 mg/L	5.09 NTU	-104.5 mV	51.28 ft	100.00 ml/min
10/26/2021 3:41 PM	10:00	6.47 pH	23.58 °C	2,263.4 µS/cm	0.77 mg/L	5.67 NTU	-124.5 mV	51.48 ft	100.00 ml/min
10/26/2021 3:46 PM	15:00	6.47 pH	23.25 °C	2,200.2 µS/cm	0.70 mg/L	4.70 NTU	-107.3 mV	51.58 ft	100.00 ml/min
10/26/2021 3:51 PM	20:00	6.47 pH	22.75 °C	2,152.9 µS/cm	0.58 mg/L	4.83 NTU	-107.9 mV	51.58 ft	100.00 ml/min
10/26/2021 3:56 PM	25:00	6.47 pH	22.67 °C	2,106.9 µS/cm	0.51 mg/L	5.47 NTU	-133.0 mV	52.18 ft	100.00 ml/min
10/26/2021 4:01 PM	30:00	6.46 pH	22.80 °C	2,098.6 µS/cm	0.42 mg/L	5.01 NTU	-109.7 mV	52.27 ft	100.00 ml/min
10/26/2021 4:06 PM	35:00	6.46 pH	22.65 °C	2,048.4 µS/cm	0.38 mg/L	5.38 NTU	-109.6 mV	52.42 ft	100.00 ml/min
10/26/2021 4:11 PM	40:00	6.46 pH	22.89 °C	2,016.1 µS/cm	0.36 mg/L	5.06 NTU	-110.5 mV	52.66 ft	100.00 ml/min
10/26/2021 4:16 PM	45:00	6.45 pH	22.02 °C	1,983.1 µS/cm	0.33 mg/L	4.12 NTU	-108.9 mV	52.90 ft	100.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/27/2021 11:11:23 AM
Project: Plant Arkwright CCR (3)
Operator Name: Daniel Howard

Location Name: AP1PZ-8 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 56.06 ft** **Total Depth: 66.06 ft** **Initial Depth to Water: 46.15 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 61.06 ft** **Estimated Total Volume Pumped: 5000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 125 ml/min** **Final Draw Down: 1.88 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-8 sample time 1154.

Weather Conditions:
Clear, temp 63

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/27/2021 11:11 AM	00:00	6.69 pH	22.45 °C	1,641.1 µS/cm	1.80 mg/L	3.74 NTU	-76.4 mV	46.15 ft	125.00 ml/min
10/27/2021 11:16 AM	05:00	6.68 pH	21.55 °C	1,657.3 µS/cm	1.13 mg/L	3.40 NTU	-119.8 mV	47.36 ft	125.00 ml/min
10/27/2021 11:21 AM	10:00	6.68 pH	21.69 °C	1,639.7 µS/cm	0.92 mg/L	3.42 NTU	-124.0 mV	47.59 ft	125.00 ml/min
10/27/2021 11:26 AM	15:00	6.67 pH	21.75 °C	1,626.0 µS/cm	0.78 mg/L	5.08 NTU	-93.1 mV	47.74 ft	125.00 ml/min
10/27/2021 11:31 AM	20:00	6.67 pH	21.73 °C	1,608.8 µS/cm	0.72 mg/L	5.88 NTU	-92.5 mV	47.87 ft	125.00 ml/min
10/27/2021 11:36 AM	25:00	6.67 pH	21.90 °C	1,594.8 µS/cm	0.65 mg/L	5.68 NTU	-126.4 mV	47.93 ft	125.00 ml/min
10/27/2021 11:41 AM	30:00	6.67 pH	21.88 °C	1,578.1 µS/cm	0.59 mg/L	5.40 NTU	-93.8 mV	47.97 ft	125.00 ml/min
10/27/2021 11:46 AM	35:00	6.67 pH	22.01 °C	1,561.7 µS/cm	0.49 mg/L	4.57 NTU	-93.5 mV	47.99 ft	125.00 ml/min
10/27/2021 11:51 AM	40:00	6.67 pH	22.04 °C	1,582.4 µS/cm	0.43 mg/L	4.59 NTU	-93.3 mV	48.03 ft	125.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/28/2021 12:32:23 PM
Project: Plant Arkwright CCR (5)
Operator Name: Daniel Howard

Location Name: AP1PZ-9 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 47.3 ft** **Total Depth: 57.3 ft** **Initial Depth to Water: 39.76 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 52.3 ft** **Estimated Total Volume Pumped: 6250 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 50 ml/min** **Final Draw Down: 4.06 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-9 sample time 1440.

Weather Conditions:
Rain on and off, temp 60

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/28/2021 12:32 PM	00:00	5.52 pH	18.26 °C	770.43 µS/cm	1.74 mg/L	25.20 NTU	100.1 mV	39.76 ft	50.00 ml/min
10/28/2021 12:37 PM	05:00	5.53 pH	18.30 °C	773.30 µS/cm	1.27 mg/L	44.80 NTU	127.6 mV	40.27 ft	50.00 ml/min
10/28/2021 12:42 PM	10:00	5.53 pH	18.38 °C	772.81 µS/cm	0.96 mg/L	43.70 NTU	109.4 mV	40.64 ft	50.00 ml/min
10/28/2021 12:47 PM	15:00	5.53 pH	18.36 °C	773.78 µS/cm	0.80 mg/L	39.20 NTU	124.1 mV	40.82 ft	50.00 ml/min
10/28/2021 12:52 PM	20:00	5.53 pH	18.44 °C	775.28 µS/cm	0.75 mg/L	40.60 NTU	109.1 mV	41.09 ft	50.00 ml/min
10/28/2021 12:57 PM	25:00	5.52 pH	18.39 °C	773.09 µS/cm	0.68 mg/L	36.30 NTU	107.7 mV	41.36 ft	50.00 ml/min
10/28/2021 1:02 PM	30:00	5.52 pH	18.35 °C	771.81 µS/cm	0.63 mg/L	37.30 NTU	121.2 mV	41.58 ft	50.00 ml/min
10/28/2021 1:07 PM	35:00	5.52 pH	18.44 °C	771.97 µS/cm	0.61 mg/L	35.70 NTU	121.3 mV	41.83 ft	50.00 ml/min
10/28/2021 1:12 PM	40:00	5.52 pH	18.46 °C	771.70 µS/cm	0.58 mg/L	32.50 NTU	107.5 mV	42.11 ft	50.00 ml/min
10/28/2021 1:17 PM	45:00	5.51 pH	18.52 °C	770.72 µS/cm	0.57 mg/L	28.80 NTU	107.3 mV	42.35 ft	50.00 ml/min
10/28/2021 1:22 PM	50:00	5.50 pH	18.57 °C	768.07 µS/cm	0.52 mg/L	25.70 NTU	108.1 mV	42.50 ft	50.00 ml/min
10/28/2021 1:27 PM	55:00	5.49 pH	18.58 °C	766.53 µS/cm	0.51 mg/L	24.40 NTU	109.0 mV	42.65 ft	50.00 ml/min
10/28/2021 1:32 PM	01:00:00	5.49 pH	18.57 °C	763.47 µS/cm	0.49 mg/L	23.80 NTU	109.8 mV	42.86 ft	50.00 ml/min

10/28/2021 1:37 PM	01:05:00	5.48 pH	18.61 °C	762.66 µS/cm	0.48 mg/L	20.80 NTU	110.6 mV	43.09 ft	50.00 ml/min
10/28/2021 1:42 PM	01:10:00	5.48 pH	18.64 °C	762.87 µS/cm	0.47 mg/L	17.80 NTU	111.3 mV	43.25 ft	50.00 ml/min
10/28/2021 1:47 PM	01:15:00	5.47 pH	18.66 °C	760.73 µS/cm	0.46 mg/L	15.70 NTU	111.6 mV	43.41 ft	50.00 ml/min
10/28/2021 1:52 PM	01:20:00	5.46 pH	18.88 °C	757.60 µS/cm	0.44 mg/L	13.90 NTU	112.4 mV	43.57 ft	50.00 ml/min
10/28/2021 1:57 PM	01:25:00	5.46 pH	19.16 °C	754.74 µS/cm	0.43 mg/L	12.50 NTU	125.8 mV	43.72 ft	50.00 ml/min
10/28/2021 2:02 PM	01:30:00	5.46 pH	19.26 °C	752.89 µS/cm	0.44 mg/L	11.10 NTU	113.9 mV	43.89 ft	50.00 ml/min
10/28/2021 2:07 PM	01:35:00	5.46 pH	19.32 °C	749.42 µS/cm	0.43 mg/L	9.54 NTU	113.4 mV	44.04 ft	50.00 ml/min
10/28/2021 2:12 PM	01:40:00	5.46 pH	19.37 °C	747.43 µS/cm	0.41 mg/L	8.80 NTU	113.2 mV	44.18 ft	50.00 ml/min
10/28/2021 2:17 PM	01:45:00	5.47 pH	19.46 °C	745.86 µS/cm	0.40 mg/L	7.03 NTU	112.4 mV	44.31 ft	50.00 ml/min
10/28/2021 2:22 PM	01:50:00	5.45 pH	19.41 °C	742.01 µS/cm	0.39 mg/L	5.81 NTU	112.8 mV	43.43 ft	50.00 ml/min
10/28/2021 2:27 PM	01:55:00	5.48 pH	19.31 °C	740.07 µS/cm	0.39 mg/L	5.27 NTU	112.1 mV	43.56 ft	50.00 ml/min
10/28/2021 2:32 PM	02:00:00	5.49 pH	19.24 °C	735.34 µS/cm	0.38 mg/L	5.03 NTU	110.6 mV	43.69 ft	50.00 ml/min
10/28/2021 2:37 PM	02:05:00	5.49 pH	19.38 °C	733.04 µS/cm	0.38 mg/L	4.56 NTU	110.3 mV	43.82 ft	50.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/27/2021 4:11:24 PM
Project: Plant Arkwright CCR (4)
Operator Name: Daniel Howard

Location Name: AP1PZ-10 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 46.43 ft** **Total Depth: 56.43 ft** **Initial Depth to Water: 36.8 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 51.43 ft** **Estimated Total Volume Pumped: 2500 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 75 ml/min** **Final Draw Down: 1.93 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-10 sample time 1638.

Weather Conditions:
Clear and sunny, temp 77

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/27/2021 4:11 PM	00:00	6.61 pH	22.82 °C	798.86 µS/cm	0.68 mg/L	3.25 NTU	-83.8 mV	36.80 ft	100.00 ml/min
10/27/2021 4:16 PM	05:00	6.60 pH	22.14 °C	799.71 µS/cm	0.52 mg/L	3.69 NTU	-84.6 mV	37.95 ft	100.00 ml/min
10/27/2021 4:21 PM	10:00	6.59 pH	21.85 °C	795.12 µS/cm	0.46 mg/L	1.78 NTU	-105.9 mV	38.19 ft	100.00 ml/min
10/27/2021 4:26 PM	15:00	6.59 pH	21.51 °C	788.07 µS/cm	0.40 mg/L	1.51 NTU	-83.8 mV	38.44 ft	100.00 ml/min
10/27/2021 4:31 PM	20:00	6.59 pH	21.28 °C	777.18 µS/cm	0.36 mg/L	1.99 NTU	-83.3 mV	38.57 ft	100.00 ml/min
10/27/2021 4:36 PM	25:00	6.58 pH	21.28 °C	764.27 µS/cm	0.33 mg/L	1.54 NTU	-81.3 mV	38.73 ft	100.00 ml/min

Samples

Sample ID:	Description:

Low-Flow Test Report:

Test Date / Time: 10/28/2021 4:49:23 PM
Project: Plant Arkwright CCR (6)
Operator Name: Daniel Howard

Location Name: AP1PZ-11 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 63.3 ft** **Total Depth: 73.3 ft** **Initial Depth to Water: 36.38 ft**	**Pump Type: QED Bladder Pump** **Tubing Type: LDPE** **Pump Intake From TOC: 68.3 ft** **Estimated Total Volume Pumped: 15750 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.5 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 850767**

Test Notes:
AP1PZ-11 sample time 1836.

Weather Conditions:
Partly cloudy, temp 70

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 0.3	
10/28/2021 4:49 PM	00:00	6.70 pH	20.14 °C	364.23 µS/cm	2.60 mg/L	99.70 NTU	47.6 mV	36.38 ft	150.00 ml/min
10/28/2021 4:54 PM	05:00	6.70 pH	19.79 °C	366.00 µS/cm	2.56 mg/L	102.00 NTU	60.6 mV	36.82 ft	150.00 ml/min
10/28/2021 4:59 PM	10:00	6.71 pH	19.77 °C	364.92 µS/cm	2.49 mg/L	94.00 NTU	59.3 mV	36.83 ft	150.00 ml/min
10/28/2021 5:04 PM	15:00	6.71 pH	19.81 °C	363.57 µS/cm	2.42 mg/L	72.20 NTU	58.4 mV	36.86 ft	150.00 ml/min
10/28/2021 5:09 PM	20:00	6.71 pH	19.68 °C	363.29 µS/cm	2.36 mg/L	65.90 NTU	57.7 mV	36.86 ft	150.00 ml/min
10/28/2021 5:14 PM	25:00	6.71 pH	19.63 °C	361.66 µS/cm	2.27 mg/L	44.00 NTU	57.5 mV	36.86 ft	150.00 ml/min
10/28/2021 5:19 PM	30:00	6.72 pH	19.57 °C	360.36 µS/cm	2.10 mg/L	24.10 NTU	70.8 mV	36.86 ft	150.00 ml/min
10/28/2021 5:24 PM	35:00	6.73 pH	19.52 °C	354.65 µS/cm	1.94 mg/L	18.60 NTU	56.7 mV	36.86 ft	150.00 ml/min
10/28/2021 5:29 PM	40:00	6.75 pH	19.50 °C	351.69 µS/cm	1.92 mg/L	16.70 NTU	54.5 mV	36.86 ft	150.00 ml/min
10/28/2021 5:34 PM	45:00	6.74 pH	19.50 °C	347.94 µS/cm	1.92 mg/L	11.40 NTU	53.9 mV	36.86 ft	150.00 ml/min
10/28/2021 5:39 PM	50:00	6.74 pH	19.47 °C	344.21 µS/cm	1.91 mg/L	9.61 NTU	65.9 mV	36.86 ft	150.00 ml/min
10/28/2021 5:44 PM	55:00	6.75 pH	19.41 °C	339.41 µS/cm	1.90 mg/L	8.70 NTU	53.8 mV	36.88 ft	150.00 ml/min
10/28/2021 5:49 PM	01:00:00	6.75 pH	19.37 °C	335.64 µS/cm	1.91 mg/L	7.93 NTU	52.5 mV	36.88 ft	150.00 ml/min

10/28/2021 5:54 PM	01:05:00	6.76 pH	19.33 °C	332.51 µS/cm	1.90 mg/L	7.77 NTU	51.1 mV	36.88 ft	150.00 ml/min
10/28/2021 5:59 PM	01:10:00	6.76 pH	19.32 °C	330.09 µS/cm	1.86 mg/L	6.87 NTU	49.2 mV	36.88 ft	150.00 ml/min
10/28/2021 6:04 PM	01:15:00	6.77 pH	19.32 °C	329.15 µS/cm	1.83 mg/L	6.68 NTU	56.6 mV	36.88 ft	150.00 ml/min
10/28/2021 6:09 PM	01:20:00	6.77 pH	19.29 °C	326.99 µS/cm	1.81 mg/L	6.25 NTU	43.8 mV	36.88 ft	150.00 ml/min
10/28/2021 6:14 PM	01:25:00	6.77 pH	19.28 °C	326.59 µS/cm	1.80 mg/L	6.16 NTU	47.5 mV	36.88 ft	150.00 ml/min
10/28/2021 6:19 PM	01:30:00	6.77 pH	19.25 °C	323.64 µS/cm	1.85 mg/L	5.90 NTU	39.0 mV	36.88 ft	150.00 ml/min
10/28/2021 6:24 PM	01:35:00	6.78 pH	19.26 °C	324.32 µS/cm	1.81 mg/L	5.68 NTU	43.5 mV	36.88 ft	150.00 ml/min
10/28/2021 6:29 PM	01:40:00	6.77 pH	19.25 °C	323.17 µS/cm	1.85 mg/L	4.94 NTU	43.2 mV	36.88 ft	150.00 ml/min
10/28/2021 6:34 PM	01:45:00	6.78 pH	19.24 °C	321.65 µS/cm	1.84 mg/L	4.94 NTU	36.3 mV	36.88 ft	150.00 ml/min

Samples

Sample ID:	Description:

Created using VuSitu from In-Situ, Inc.

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: ~~Equipment Blank #~~ EB-1 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Direct Pour

DUP./REP. OF: —

Pump Intake Set at (btoc): —

or

Tubing Inlet Set at (btoc): —

WELL DIAMETER: —

DEPTH TO WATER: —

TOTAL DEPTH: —

WATER COLUMN HEIGHT: —

PURGE VOLUME: —

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Collected equipment blank EB-1 of QED Sample Pro Bladder Pump 1106206571 Used ASTM Type I Deionized water (D5196)

SAMPLE DATE: 10/26/21

SAMPLE TIME: 1050

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE (pH check)	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2 <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250~~ mL/Poly	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2 <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear & Sunny, Breezy, Temp 65°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: ~~Field Blank #1~~ FB-1 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Direct Fill

DUP./REP. OF: —

Pump Intake Set at (btoc): —

or

Tubing Inlet Set at (btoc): —

WELL DIAMETER: —

DEPTH TO WATER: —

TOTAL DEPTH: —

WATER COLUMN HEIGHT: —

PURGE VOLUME: —

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs Collected Field Blank FB-1 of ASTM Type I Deionized water ASTM D5196. Field Blank at Ash Pond 1 APIP2-5

SAMPLE DATE: 10/27/21

SAMPLE TIME: 1010

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear, Temp 60°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: **AP1GWA-1** MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: PERISTALTIC Low Flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 30.0'

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2"

DEPTH TO WATER: 22.83 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 37.5

WATER COLUMN HEIGHT: 14.67 X 0.17 = 2.49 X 3 = 7.48

PURGE VOLUME: 7.48

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. ~~(& pump setting) (100 ml/min)~~	Water Level (Ft BTOC)[1]
Initial: 0.0 (1140)	0.01	4.18	97.5	4.46	242.14	20.04	62.2	~~200~~	22.91
1145 5.0	0.25	3.91	106.5	4.49	240.40	20.14	37.3	200	22.91
1150 10	0.50	3.85	127.5	4.40	237.98	20.44	34.3	200	22.91
1155 15	0.75	3.80	130.7	4.48	237.31	20.26	25.2	200	22.91
~~1200 20~~	~~1.0~~	~~3.12~~	~~128.1~~ 108.6	~~4.56~~	~~233.51~~	~~20.70~~	~~18.6~~	~~200~~	~~22.91~~
~~1205 25~~	~~1.25~~	~~3.68~~	~~128.1~~				~~13.1~~		
1200 20	1.0	3.72	108.6	4.50	237.38	20.48	18.6	200	22.91
1205 25	1.25	3.68	128.1	4.56	233.51	20.70	13.10	200	22.91
1210 30	1.5	3.52	104.3	4.59	232.82	20.57	9.05	200	22.91
1215 35	1.75	3.85	123.7	4.58	234.64	20.19	6.35	200	22.91
1220 40	2.0	3.36	124.1	4.71	223.70	20.93	4.46	200	22.91
1225 45	2.25	3.29	100.8	4.73	224.28	20.84	4.34	200	22.91
1230 50	2.5	3.33	119.2	4.76	224.50	20.79	3.51	200	22.91
1235	Collect Sample								

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs PRESERVED SAMPLE PH = <2.0

SAMPLE DATE: 10-26-21

SAMPLE TIME: 1235

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	WARM - CLEAR - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER GUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1GWA-2 MATRIX: Groundwater

WELL MATERIAL: ~~PVC~~ __ SS __ OTHER

SAMPLE METHOD: Low Flow - Peristaltic

WELL DIAMETER: 2"

DEPTH TO WATER: 17.32 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 31.10

WATER COLUMN HEIGHT: 13.78 X 0.17 = 2.34 X 3 = 7.03

PURGE VOLUME: 7.03

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 29.0'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1331 0.0	0.01	5.38	95.6	6.08	72.22	22.60	77.6	400)	17.32
1336 5.0	0.25	5.50	88.2	6.06	72.32	22.04	54.0	200	17.32
1341 10.0	0.50	5.23	84.4	6.03	70.36	22.12	47.3	200	17.32
1346 15.0	0.75	4.99	83.2	6.01	69.67	22.03	36.1	200	17.32
1351 20	1.0	4.90	82.6	5.98	69.90	22.07	22.1	200	17.32
1356 25	1.25	4.92	81.8	5.99	69.47	22.04	17.6	200	17.32
1401 30	1.5	4.88	81.8	5.99	69.03	22.29	19.70	200	17.32
1406 35	1.75	4.80	79.4	6.00	69.39	22.28	13.2	200	17.32
1411 40	2.0	4.71	79.3	5.99	68.89	22.45	9.65	200	17.32
1416 45	2.25	4.68	78.7	5.99	68.56	2244	6.48	200	17.32
1421 50	2.5	4.54	78.4	5.99	68.13	22.44	5.43	200	17.32
1426 55	2.75	4.47	78.4	5.98	68.33	22.50	2.07	200	17.32
1430	Collect Sample								

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 10-26-31

SAMPLE TIME: 1430

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	WARM - Clear - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Ever Guillen		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-1 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (PERISTALTIC)

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 82'

WELL DIAMETER: 2"

DEPTH TO WATER: 44.61 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 87.62

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1054 0.0	0.01	3.19	52.9	6.29	319.72	18.57	11.60	100	44.98
1104 10.0	0.25	2.86	19.0	6.41	319.60	18.62	32.0	100	45.11
1114 20.0	0.5	2.36	9.3	6.41	318.94	18.41	28.1	100	45.11
1124 30.0	0.75	2.11	10.7	6.43	318.67	17.92	24.8	100	45.11
1134 40.0	1.0	1.60	-0.5	6.43	316.54	17.99	17.9	100	45.11
1144 50.0	1.25	1.42	-2.7	6.43	318.65	17.78	15.8	100	45.11
1154 60.0	1.5	1.37	-5.8	6.43	321.09	18.19	12.9	100	45.11
1204 70.0	1.75	1.40	-8.0	6.43	320.18	18.08	11.6	100	45.11
1214 80.0	2.0	1.20	-7.6	6.44	317.79	17.54	10.0	100	45.11
1224 90.0	2.25	1.14	-9.6	6.43	319.93	17.92	9.47	100	45.11
1234 100	2.5	1.06	-12.3	6.43	317.57	18.77	8.18	100	45.11
1244 110	2.75	1.27	-13.0	6.44	317.94	18.91	6.42	100	45.11
1254 120	3.0	1.28	-11.0	6.44	319.03	18.12	5.97	100	45.11
1304 130	3.25	0.96	-11.1	6.44	318.98	18.34	4.73	100	45.11

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-28-21

SAMPLE TIME: 1310

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	COLD - RAINING	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER BUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-2 MATRIX: Groundwater

WELL MATERIAL: PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (PERISTALTIC)

WELL DIAMETER: 2"

DEPTH TO WATER: 40.90 GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

TOTAL DEPTH: 62.67

WATER COLUMN HEIGHT:_____

Pump Intake Set at (btoc):_____

PURGE VOLUME:_____

or

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

Tubing Inlet Set at (btoc): 57'

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1506 0.0	0.01	0.57	59.5	6.04	943.06	20.94	220.0	100	40.90
1516 10.0	0.25	0.33	53.8	5.99	1039.8	20.38	163.0	100	41.36
1526 20.0	0.50	0.24	54.6	5.96	1076.7	20.30	148.0	100	41.36
1536 30.0	0.75	0.20	55.9	5.95	1092.8	20.22	109.0	100	41.36
1546 40.0	1.0	0.21	55.3	5.93	1108.4	21.54	68.9	100	41.36
1556 50.0	1.25	0.24	56.9	5.92	1124.9	20.82	62.3	100	41.36
1606 60.0	1.5	0.28	56.7	5.92	1139.0	21.19	52.0	100	41.36
1616 70.0	1.75	0.38	57.4	5.90	1157.3	21.02	34.8	100	41.36
1626 80.0	2.0	0.57	57.8	5.90	1154.6	20.85	24.1	100	41.36
1636 90.0	2.25	0.55	59.7	5.89	1177.8	20.68	18.2	100	41.36
1646 100	2.5	0.72	60.0	5.89	1175.5	20.53	13.4	100	41.36
1656 110	2.75	1.16	63.7	5.86	1209.5	20.66	11.6	100	41.36
1706 120	3.0	1.28	62.4	5.86	1209.1	23.79	7.92	100	41.36
1726 130	3.25	1.31	64.6	5.86	1212.2	23.48	6.65	100	41.36

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-28-21

SAMPLE TIME: 1750

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	COOL - RAINING	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER GUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-02 MATRIX: Groundwater

WELL MATERIAL: PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow Peristactic

WELL DIAMETER: 2"

DEPTH TO WATER: 40.90

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

TOTAL DEPTH: 62.67

WATER COLUMN HEIGHT:_____

Pump Intake Set at (btoc):_____

PURGE VOLUME:_____

or

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

Tubing Inlet Set at (btoc): 57'

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1736 140	3.50	0.93	65.7	5.88	1224.1	22.72	5.36	100	41.36
1746 150	3.75	1.35	68.0	5.89	1224.8	22.36	4.77	100	41.36

NOTES:	
	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-28-21

SAMPLE TIME: 1750

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION	
WEATHER:	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058
SAMPLER:	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-03 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump lowflow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 62.38

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 42.06

TOTAL DEPTH: 67.38

WATER COLUMN HEIGHT: 25.32

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 0956	0	1.73	-10.0	5.59	2258.5	17.72	26.1	150	42.48
1001	0.2	1.27	-8.8	5.63	2276.1	18.08	21.4	150	42.48
1006	0.4	1.09	-13.6	5.62	2282.5	18.35	19.8	150	42.45
1011	0.6	0.98	-0.7	5.62	2275.9	18.43	15.0	150	42.45
1016	0.8	0.88	-8.0	5.62	2281.6	18.52	13.3	150	42.45
1021	1.0	0.80	-7.2	5.61	2278.7	18.63	11.8	150	42.45
1026	1.2	0.74	-4.9	5.61	2274.7	18.52	9.77	150	42.43
1031	1.4	0.69	-6.0	5.61	2276.0	18.65	9.22	150	42.43
1036	1.6	0.61	5.0	5.60	2270.0	18.59	7.55	150	42.43
1041	1.8	0.57	4.2	5.60	2275.4	18.70	7.72	150	42.43
1046	2.0	0.52	3.9	5.61	2275.9	18.63	6.58	150	42.43
1051	2.2	0.47	3.6	5.61	2276.4	18.61	6.97	150	42.43
1056	2.4	0.44	3.4	5.60	2269.6	18.55	6.51	150	42.43
1101	2.6	0.39	-7.8	5.61	2277.1	18.60	6.22	150	42.43

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/29/21

SAMPLE TIME: 1134

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION	
WEATHER:	Overcast, Temp 55°F
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058
SAMPLER: Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-3 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc): 62.38

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 42.06 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 67.38

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1106	2.8	0.36	3.3	5.61	2264.7	18.44	6.45	150)	42.43
1111	3.0	0.34	2.6	5.60	2271.4	18.56	6.03	150	42.43
1116	3.2	0.31	1.2	5.60	2272.4	18.75	5.73	150	42.43
1121	3.4	0.29	1.2	5.60	2267.7	18.61	5.22	150	42.43
1126	3.6	0.27	0.2	5.60	2273.5	18.71	4.98	150	42.43
1131	3.8	0.25	-12.1	5.60	2270.8	18.74	4.66	150	42.43

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 10/29/21

SAMPLE TIME: 1134

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Overcast, Temp 55°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-14 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: LOW FLOW (BLADDER

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 63.0'

WELL DIAMETER: 2"

DEPTH TO WATER: 46.52 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 67.44

WATER COLUMN HEIGHT: 20.92 X .17 = 3.56 X 3 = 10.67

PURGE VOLUME: 10.67

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1605 0.0	0.01	2.54	-69.5	6.71	2294.3	22.18	169.2	200)	46.52
1610 5.0	0.25	3.64	-77.3	6.77	2300.8	21.75	143.0	200	47.77
1615 10.0	0.5	3.96	-74.8	6.80	2285.6	21.79	139.0	200	47.77
1620 15.0	0.75	4.26	-63.1	6.80	2259.1	21.57	128.1	200	47.77
1625 20	1.0	4.81	-69.7	6.81	2247.1	21.46	113.8	200	47.77
1630 25	1.25	5.09	-69.8	6.81	2234.1	21.41	98.10	200	47.77
1635 30	1.5	5.04	-63.2	6.79	2238.3	21.84	84.6	200	47.77
1640 35	1.75	4.52	-70.2	6.76	2231.3	21.88	70.9	200	47.77
1645 40	2.0	4.45	-59.9	6.75	2222.6	21.80	62.6	200	47.77
1650 45	2.25	4.45	-67.3	6.75	2215.9	21.82	89.3	200	47.77
1655 50	2.5	4.41	-66.6	6.74	2216.4	21.76	84.1	200	47.77
1700 55	2.75	4.35	-65.8	6.72	2208.1	21.73	79.2	200	47.77
1705 60	3.0	4.35	-56.9	6.71	2247.3	21.54	66.4	200	47.77
1710 65	3.25	4.41	-55.7	6.71	2234.9	21.54	58.2	200	47.77

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

WATER HAS GRAY (DARK) APPEARENCE

SAMPLE DATE: 10-26-21

SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	WARM, Clear - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER GUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-4 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD:_____

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: _____

DEPTH TO WATER:_____ GRAB (x) COMPOSITE ( )

TOTAL DEPTH:_____

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1715 70	3.5	4.31	-62.7	6.72	2234.6	21.51	54.1	200	47.77
1720 75	3.75	4.36	-64.0	6.72	2247.9	21.75	48.7	200	47.77
1725 80	4.0	4.55	-65.1	6.72	2247.4	22.18	42.2	200	47.77
1730 85	4.25	3.54	-63.9	6.62	2240.7	21.67	32.9	200	47.77
1735 90	4.50	4.59	-61.7	6.71	2209.4	21.24	45.8	200	47.77
1740 95	4.75	4.87	-62.8	6.72	2209.9	21.11	43.0	200	47.77
1745 100	5.0	5.00	-55.6	6.72	2206.2	21.07	44.4	200	47.77
1750 105	5.25	5.15	-61.9	6.71	2213.7	20.97	34.4	200	47.77
1755 110	5.5	5.61	-68.1	6.79	2194.2	20.75	59.3	200	47.77
1800 115	5.75	6.08	-68.6	6.81	2175.8	20.07	53.9	200	47.77
1805	will let well settle overnight & resume purging								

NOTES:	
	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-26-21

SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION	
WEATHER:	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058
SAMPLER:	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

10-27-21

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: APIP2-4 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (BLADDER)

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 63'

WELL DIAMETER: 2"

DEPTH TO WATER: 46.77

TOTAL DEPTH: 67.42

GRAB (x) COMPOSITE ( )

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1047 0.0	0.01	8.51	23.9	6.45	2260.9	16.44	88.1	200)	46.77
1052 5.0	0.125	2.51	-35.9	6.52	2239.2	18.82	210	200	46.77
1057 10.0	0.375	6.07	-35.4	6.68	2137.2	19.37	163	100	46.77
1102 15.0	0.5	6.12	-46.8	6.69	2169.9	19.23	102	100	46.77
1107 20.0	0.625	5.18	-52.6	6.66	2170.4	19.56	85.2	100	46.77
1112 25	0.75	4.98	-45.9	6.66	2158.3	19.26	62	100	46.77
1117 30	0.875	3.96	-51.6	6.60	2191.7	19.32	52.7	100	46.77
1122 35	1.0	3.98	-44.9	6.61	2176.6	19.52	61.2	100	46.77
1127 40	1.125	4.24	-43.4	6.61	2170.6	19.73	57.7	100	46.77
1132 45	1.25	4.39	-47.1	6.61	2168.3	19.60	54.6	100	46.77
1137 50	1.375	4.38	-41.2	6.60	2176.1	19.59	56.1	100	46.77
1142 55	1.5	4.50	-43.7	6.62	2185.6	19.95	56.5	100	46.77
1147 60	1.625	4.16	-46.6	6.60	2173.2	20.17	52.9	100	46.77
1152 65	1.75	4.12	-45.1	6.59	2166.4	19.95	50.9	100	46.77

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-27-21

SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	COOL - Clear - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	EVER GUILLEN	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

10-27-21

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1 PZ-4 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (BLADDER)

WELL DIAMETER: 2"

DEPTH TO WATER: 46.77

TOTAL DEPTH: 67.42

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 63'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1157 70	1.875	4.33	-38.6	6.59	2169.7	19.79	48.8	100	46.77
1202 75	2.0	4.18	-42.4	6.58	2175.6	19.68	43.2	100	46.77
1207 80	2.125	4.08	-42.2	6.58	2170.7	19.88	45.4	100	46.77
1212 85	2.5	3.97	-38.2	6.57	2171.5	20.22	44.5	100	46.77
1217 90	2.675	3.90	-37.0	6.56	2168.7	20.08	43.2	100	46.77
1222 95	2.75	3.84	-35.9	6.56	2161.5	19.98	42.7	100	46.77
1227 100	2.875	3.89	-39.5	6.56	2166.6	19.68	41.1	100	46.77
1232 105	3.0	3.99	-35.0	6.56	2163.2	19.59	39.4	100	46.77
1237 110	3.125	4.09	-39.0	6.56	2163.9	19.63	38.9	100	46.77
1242 115	3.25	4.23	-34.6	6.55	2169.2	19.86	38.6	100	46.77
1247 120	3.375	4.20	-33.4	6.55	2157.8	19.72	37.8	100	46.77
1252 125	3.50	4.15	-38.0	6.55	2163.7	19.95	37.1	100	46.77
1257 130	3.675	4.19	-33.3	6.55	2157.7	19.86	36.1	100	46.77
1302 135	3.75	4.29	-33.0	6.55	2161.1	19.81	33.9	100	46.77

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-27-21

SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	WARM - Clear - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	EVER GUILLEN	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

10-27-21

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-4 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (Bladder)

WELL DIAMETER: 2"

DEPTH TO WATER: 46.77

TOTAL DEPTH: 67.42

GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 63'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1307 140	3.875	4.26	-37.0	6.54	2162.4	19.90	33.7	100)	46.77
1312 145	4.0	4.16	-32.8	6.54	2157.9	20.13	32.6	100	46.77
1317 150	4.125	4.14	-36.6	6.53	2172.7	20.08	32.1	100	46.77
1322 155	4.25	4.03	-32.3	6.53	2152.0	20.46	32.4	100	46.77
1327 160	4.375	4.03	-36.2	6.52	2164.1	20.21	31.9	100	46.77
1332 165	4.50	4.08	-32.1	6.52	2157.8	20.53	31.3	100	46.77
1337 170	4.675	4.05	-35.5	6.52	2156.5	20.44	30.1	100	46.77
1342 175	4.75	4.09	-31.2	6.52	2149.9	20.42	29.5	100	46.77
1347 180	4.875	4.08	-35.1	6.51	2157.3	20.57	30.4	100	46.77
1352 185	5.0	4.06	-30.9	6.51	2157.5	20.59	27.6	100	46.77
1357 190	5.125	4.06	-34.5	6.51	2153.3	20.58	27.7	100	46.77
1402 195	5.25	4.03	-34.5	6.51	2156.3	20.77	27.9	100	46.77
1407 200	5.375	3.92	-30.8	6.50	2152.4	21.04	27.7	100	46.77
1412 205	5.5	4.05	-34.0	6.50	2155.1	20.73	26.5	100	46.77

NOTES:	
	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-27-21

SAMPLE TIME:_____

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION	
WEATHER:	WARM - Clear - DRY
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058
SAMPLER: EVER GUILLEN	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

10-27-21

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1 PZ-4 MATRIX: Groundwater

WELL MATERIAL: _X_PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (BLADDER)

WELL DIAMETER: 2"

DEPTH TO WATER: 46.77 GRAB (x) COMPOSITE ( )

DUP./REP. OF:_____

TOTAL DEPTH: 62.42

WATER COLUMN HEIGHT:_____

Pump Intake Set at (btoc):_____

PURGE VOLUME:_____

or

Tubing Inlet Set at (btoc): 63'

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
						20.06			
Initial: ~~1417 210~~	~~5,675~~	~~4.09~~	~~-29.8~~	~~6.50~~	~~2159.0~~	~~20.88~~ 37	~~26.10~~	~~100~~	~~46.77~~
~~1422 215~~	~~5,75~~	~~4.05~~	~~-34.1~~	~~6.50~~	~~2159.7~~	~~20.88~~	~~25.70~~	~~100~~	~~46.77~~
						20.91			
1417 210	5,675	4.09	-29.8	6.50	2154.0	20.57	26.10	100	46.77
1422 215	5.75	4.05 3rd	-34.1	6.50	2159.7	21.06	25.70	100	46.77
1427 220	5,875	4.04	-29.5	6.50	2158.3	20.88	25.2	100	46.77
1432 225	6.0	4.10	-33.0	6.49	2159.5	20.91	26.9	100	46.77
1437 230	6.125	4.08	-29.8	6.49	2159.2	21.33	26.5	100	46.77
1442 235	6.25	4.07	-32.9	6.49	2157.1	21.01	25.2	100	46.77
1447 240	6.375	4.05	-28.5	6.49	2150.5	21.02	24.7	100	46.77
1452 245	6.5	4.01	-32.6	6.49	2161.9	21.12	24.1	100	46.77
1457 250	6.675	3.97	-28.3	6.48	2154.9	21.04	24.4	100	46.77
1502 255	6.75	3.99	-32.2	6.48	2157.8	21.13	23.5	100	46.77
1507 260	6.875	3.99	-32.0	6.47	2163.2	21.50	22.4	100	46.77

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-27-21

SAMPLE TIME: 1510

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	WARM - Clear - DRY	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER GUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-5 MATRIX: Groundwater

WELL MATERIAL: ✓PVC __ SS __ OTHER

SAMPLE METHOD: Low Flow (~~PERI~~ BLADDER)

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc): 62'

WELL DIAMETER: 2"

DEPTH TO WATER: 48.50

TOTAL DEPTH: 67.25

GRAB (x) COMPOSITE ( )

WATER COLUMN HEIGHT:_____

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 941 0.0	0.01	1.03	-9.9	6.25	2566.1	16.85	13.70	100	48.50
951 10.0	0.25	0.49	-39.6	6.30	2524.9	17.14	11.20	100	49.92
1001 20	0.5	0.47	-50.2	6.32	2532.7	17.13	9.88	100	49.92
1011 30	0.75	0.44	-60.1	6.33	2517.6	17.53	6.71	100	49.92
1021 40	1.0	0.62	-67.1	6.36	2508.7	18.03	5.68	100	49.92
1031 50	1.25	0.45	-66.8	6.35	2507.0	17.75	4.89	100	49.92
1041 60	1.5	0.38	-68.1	6.35	2506.8	17.87	3.02	100	49.92
1051 70	1.75	0.35	-67.4	6.35	2500.3	17.81	2.18	100	49.92
1101 80	2.0	0.22	-70.2	6.36	2529.2	17.94	1.43	100	49.92
1105 Collect	Sample								

NOTES:	
	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10-29-21

SAMPLE TIME: 1105

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
250 mL/Poly	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	COLD - RAINING	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: EVER GUILLEN		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-6 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump lowflow

DUP./REP. OF: DUP-1

Pump Intake Set at (btoc): 67.65

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 56.94

TOTAL DEPTH: 72.65

WATER COLUMN HEIGHT: 15.71

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1212	0	0.88	-1.6	5.68	3437.7	19.85	11.0	200)	56.94
1217	0.25	0.76	-15.7	5.68	3423.6	20.10	11.1	200	57.28
1222	0.5	0.71	-6.1	5.69	3409.7	20.11	10.5	200	57.25
1227	0.75	0.72	-15.2	5.69	3402.2	20.04	8.95	200	57.25
1232	1.0	0.62	-5.4	5.68	3406.8	19.89	8.67	200	57.25
1237	1.25	0.58	-14.0	5.68	3395.5	19.75	7.74	200	57.25
1242	1.5	0.55	-3.9	5.68	3387.0	19.86	6.91	200	57.25
1247	1.75	0.47	-13.5	5.67	3372.8	19.73	5.99	200	57.25
1252	2.0	0.42	-14.3	5.67	3380.0	19.52	5.54	200	57.25
1257	2.25	0.38	-14.2	5.66	3372.4	19.42	4.70	200	57.25
1302	2.5	0.36	-3.7	5.66	3367.3	19.27	3.69	200	57.25

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 10/26/21

SAMPLE TIME: 1305

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE (pH check)	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2 <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2 <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear + Sunny, Temp 60°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: ~~Duplicate #1~~ DUP-1 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump

DUP./REP. OF:_____

Pump Intake Set at (btoc):_____

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 56.94

TOTAL DEPTH: 72.65

WATER COLUMN HEIGHT: 15.71

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial:								( )	

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs See APIPZ-6 for field parameters

SAMPLE DATE: 10/26/21

SAMPLE TIME: —

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	pH check	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	< 2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	1	Cool to 6°C		EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C		SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	< 2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear + Sunny, Temp 60°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-7 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 72.6

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 50.25

TOTAL DEPTH: 77.60

WATER COLUMN HEIGHT: 27.35

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1531	0	0.98	-99.8	6.47	2297.7	23.59	10.5	100( )	50.25
1536	0.125	0.79	-104.5	6.47	2288.2	23.38	5.09	100	51.28
1541	0.25	0.77	-124.5	6.47	2263.4	23.58	5.67	100	51.48
1546	0.375	0.70	-107.3	6.47	2200.2	23.25	4.70	100	51.58
1551	0.5	0.58	-107.9	6.47	2152.9	22.75	4.83	100	51.86
1556	0.625	0.51	-133.0	6.47	2106.9	22.67	5.47	100	52.18
1601	0.75	0.42	-109.7	6.46	2098.6	22.80	5.01	100	52.27
1606	0.875	0.38	-109.6	6.46	2048.4	22.65	5.38	100	52.42
1611	1.0	0.36	-110.5	6.46	2016.1	22.89	5.06	100	52.66
1616	1.125	0.33	-108.9	6.45	1983.1	22.02	4.12	100	52.90
1"									

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 10/26/21

SAMPLE TIME: 1618

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	1	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear & Sunny. Temp 68°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-8 MATRIX: Groundwater

WELL MATERIAL: __ PVC __ SS __ OTHER

SAMPLE METHOD: A.E.D Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 61.06

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 46.15 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 66.06

WATER COLUMN HEIGHT: 19.91

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1111	0.00	1.80	-76.4	6.69	1641.1	22.45	3.74	125( )	46.15
1116	0.15	1.13	-119.8	6.68	1657.3	21.55	~~3.40~~	125	47.36
1121	0.3	0.92	-124.0	6.68	1639.7	21.69	3.42	125	47.59
1126	0.45	0.78	-93.1	6.67	1626.0	21.75	5.08	125	47.74
1131	0.6	0.72	-92.5	6.67	1608.8	21.73	5.88	125	47.87
1136	0.75	0.65	-126.4	6.67	1594.8	21.90	5.68	125	47.93
1141	0.9	0.59	-93.8	6.67	1578.1	21.88	5.40	125	47.97
1146	~~1.05~~	0.49	-93.5	6.67	1561.7	22.01	4.57	125	47.99
1151	1.2	0.43	-93.3	6.67	1582.4	22.04	~~4.56~~ 4.59	125	48.03

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/27/21

SAMPLE TIME: 1154

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear, Temp 63°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-9 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.30

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 39.76 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 57.30

WATER COLUMN HEIGHT: 17.54

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1232	0.00	1.74	100.1	5.52	770.43	18.26	25.2	50( )	39.76
1237	0.05	1.27	127.6	5.53	773.30	18.30	44.8	50	40.27
1242	0.1	0.96	109.4	5.53	772.81	18.38	43.7	50	40.64
1247	0.15	0.80	124.1	5.53	773.78	18.36	39.2	50	40.82
1252	0.2	0.75	109.1	5.53	775.28	18.44	40.6	50	41.09
1257	0.25	0.68	107.7	5.52	773.09	18.39	36.3	50	41.36
1302	0.30	0.63	121.2	5.52	771.61	18.35	37.3	50	41.58
1307	0.35	0.61	121.3	5.52	774.97	18.44	35.7	50	41.83
1312	0.4	0.58	107.5	5.52	771.70	18.46	32.5	50	42.11
1317	0.45	0.57	102.3	5.51	770.72	18.52	28.8	50	42.35
1322	0.5	0.52	108.1	5.50	768.07	18.57	25.7	50	42.50
1327	0.55	0.51	109.0	5.49	766.53	18.58	24.4	50	42.65
1332	0.6	0.49	109.8	5.49	763.47	18.57	23.3	50	42.86
1337	0.65	0.48	110.6	5.48	762.66	18.61	20.8	50	43.09

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/28/21

SAMPLE TIME: 1440

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Rain on + off, Temp 60°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-9 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 52.30

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 39.76 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 57.30

WATER COLUMN HEIGHT: 17.54

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1342	0.7	0.47	111.3	5.48	762.87	18.64	17.3	50( )	43.25
1347	0.75	0.46	111.6	5.47	760.73	18.66	15.7	50	43.41
1352	0.8	0.44	112.4	5.46	757.60	18.88	13.9	50	43.57
1357	0.85	0.43	125.8	5.46	754.74	19.16	12.5	50	43.72
1402	0.9	0.44	113.9	5.46	752.89	19.26	11.1	50	43.89
1407	0.95	0.43	113.4	5.46	749.42	19.32	9.54	50	44.04
1412	1.0	0.41	113.2	5.46	747.43	19.37	8.80	50	44.18
1417	1.05	0.40	112.4	5.47	745.86	19.46	7.03	50	43.31
1422	1.1	0.39	112.8	5.45	742.01	19.41	5.81	50	43.43
1427	1.15	0.39	112.1	5.48	740.07	19.31	5.27	50	43.56
1432	1.20	0.38	110.6	5.49	735.34	19.24	5.03	50	43.69
1437	1.25	0.38	110.3	5.49	733.04	19.38	4.56	50	43.82

NOTES:	
	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/28/21

SAMPLE TIME: 1440

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Rain on + off, Temp 60°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-10 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 51.43

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 36.80 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 56.43

WATER COLUMN HEIGHT: 19.63

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1611	0	0.68	-83.8	6.61	798.86	22.82	3.25	100( )	36.80
1616	0.1	0.52	-84.6	6.60	799.71	22.14	3.69	75	37.95
1621	0.2	0.46	-105.9	6.59	795.12	21.85	1.78	75	38.19
1626	0.3	0.40	-83.8	6.59	788.07	21.51	1.51	75	38.44
1631	0.4	0.36	-83.3	6.59	777.18	21.28	1.99	75	38.57
1636	0.5	0.33	-81.3	6.58	764.27	21.28	1.54	75	38.73

NOTES:

[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.

If well is purged dry, allow to recharge and sample within 24 hrs.

Turbidity < 5 NTUs

SAMPLE DATE: 10/27/21

SAMPLE TIME: 1638

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Clear & Sunny, Temp 75°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER: Daniel Howard		OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: _X_ 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: AP1PZ-11 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 68.30

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 36.38

TOTAL DEPTH: 73.30

WATER COLUMN HEIGHT: 36.92

PURGE VOLUME:_____

GRAB (x) COMPOSITE ( )

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1649	0	2.60	47.6	6.70	364.23	20.14	99.7	150)	~~36.83~~ 36.38
1654	0.2	2.56	60.6	6.70	366.00	19.79	102	150	36.82
1659	0.4	2.49	59.3	6.71	364.92	19.77	94	150	36.83
1704	0.6	2.42	58.7	6.71	363.59	19.81	72.2	150	36.86
1709	0.8	2.36	57.7	6.71	363.29	19.68	65.9	150	36.86
1714	1.0	2.27	57.5	6.71	361.66	19.63	44.0	150	36.86
1719	1.2	2.10	70.8	6.72	360.36	19.57	24.1	150	36.86
1724	1.4	1.94	56.7	6.73	354.65	19.52	18.6	150	36.86
1729	1.6	1.92	54.5	6.75	351.69	19.50	16.7	150	36.86
1734	1.8	1.92	53.9	6.74	347.94	19.50	11.4	150	36.86
1739	2.0	1.91	55.9	6.74	344.21	19.47	9.61	150	36.86
1744	2.2	1.90	53.8	6.75	339.41	19.41	8.70	150	36.88
1749	2.4	1.91	52.5	6.75	335.64	19.37	7.93	150	36.88
1754	2.6	1.90	51.1	6.76	332.51	19.33	7.77	150	36.88

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/28/21

SAMPLE TIME: 1836

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly Cloudy, Temp 70°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

PROJECT NAME: Plant Arkwright, GA - CCR GW

PLANT Arkwright FIELD SAMPLING REPORT

Project Number: 6123211714.2105

Wood E&I Solutions, Inc.
1075 BIG SHANTY ROAD NW SUITE 100 KENNESAW GA 30144
PHONE: (770) 421-3400 / FAX: (770) 421-3486

SAMPLING EVENT: X 2021 AP-1 2nd Background Sampling Event; ___ OTHER

WELL ID / SAMPLE ID: APIPZ-11 MATRIX: Groundwater

WELL MATERIAL: X PVC __ SS __ OTHER

SAMPLE METHOD: QED Bladder pump low flow

DUP./REP. OF:_____

Pump Intake Set at (btoc): 68.30

or

Tubing Inlet Set at (btoc):_____

WELL DIAMETER: 2

DEPTH TO WATER: 36.38 GRAB (x) COMPOSITE ( )

TOTAL DEPTH: 73.30

WATER COLUMN HEIGHT: 36.92

PURGE VOLUME:_____

[0.163 x water column height (ft) x 3 (well volumes) for 2" wells]

[0.653 x water column height (ft) x 3 (well volumes) for 4" wells]

[1.47 x water column height (ft) x 3 (well volumes) for 6" wells]

TIME	VOL. PURGED (gal)	DO (±0.2 mg/L or 10% for DO > 0.5 mg/L/ for DO < 0.5 mg/L record only	ORP (mV) record only	pH (+/- 0.1 pH units)	SPEC. COND. (µs/cm) [+/- 5%]	TEMP (°C) Record only	TURB. (NTU) [<5 NTU]	Pump Rate ml/min. (& pump setting) (100 ml/min)	Water Level (Ft BTOC)[1]
Initial: 1759	2.8	1.86	49.2	6.76	330.09	19.32	6.87	150)	36.88
1804	3.0	1.83	56.6	6.77	329.15	19.32	6.68	150	36.88
1809	3.2	1.81	43.8	6.77	326.99	19.29	6.25	150	36.88
1814	3.4	1.80	47.5	6.77	326.59	19.28	6.16	150	36.88
1819	3.6	1.85	39.0	6.77	323.64	19.25	5.90	150	36.88
1824	3.8	1.81	43.5	6.78	324.32	19.26	5.68	150	36.88
1829	~~3~~ 4.0	1.85	43.2	6.77	323.17	19.25	4.94	150	36.88
1834	4.2	1.84	~~D~~ 36.3	6.78	321.65	19.24	4.94	150	36.88

NOTES:	[1] Stabilization of water column will be considered achieved when 3 consecutive water level measurements vary by 0.3 foot or less at a pumping rate no greater than 100 ml/min and the water level is above the top of the screen.
	If well is purged dry, allow to recharge and sample within 24 hrs.
	Turbidity < 5 NTUs

SAMPLE DATE: 10/28/21

SAMPLE TIME: 1836

CONTAINER SIZE/TYPE	NO.	PRESERVATIVE	ANALYTICAL METHOD	ANALYSIS
250 mL/Poly	1	HNO3 to pH <2	SW6010D/SW6020B/SW7470A	App. III & IV Metals, SW6020B/SW7470A*
~~250 mL/Poly~~	~~1~~	Cool to 6°C	EPA 300.0 R2.1	App. III Anions**
500 mL/Poly	1	Cool to 6°C	SM2540C	TDS
1 L/Poly	2	HNO3 to pH <2	E9315/9320	Radium 226 & 228 Combined

GENERAL INFORMATION		
WEATHER:	Partly Cloudy, Temp 70°F	
SHIPPED VIA:	Courier to Eurofins TestAmerica Service Center. Service Center to ship samples to Pittsburg, PA lab.	
SHIPPED TO:	Eurofins TestAmerica Service Center - 6215 Regency Parkway, Norcross GA 30071 PH: (678) 966-9991 POC: Shali Brown at Shali.Brown@Eurofinset.com 615-301-5031 Eurofins TestAmerica Pittsburgh - 301 Alpha Drive RIDC Park Pittsburgh, PA 15238 412-963-7058	
SAMPLER:	Daniel Howard	OBSERVER:

*App. III Metals - Boron, Calcium; App. IV Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium

**App. III Anions - Chloride, Fluoride, Sulfate

CALIBRATION DATA

Date: 8/17/21
Time: 0910
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.
6122201429

~~Pine~~ Sonde ID: 728566
Pine Handset ID: _____
Battery Voltage %: 92

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		26.74
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1001.1 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	7.98
DO concentration after Calibration (mg/L):		~~7.99~~ 7.29
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	100.94
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.08346

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)		1.413
Temperature (°C)	Lot 19410200	26.61
Reading before Calibration (mS/cm)		1.419.1
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.007

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 19450117 2/22	7.11
pH 7.0 value after calibration:	25.87	7.00
pH 7.0 mV **(range is -50 to +50 mV)**:		-8.2
pH 10 value before calibration:	Lot 21010067 2/22	10.78
pH 10 value after calibration:	25.51	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-178.3
pH 4.0 value before calibration:	Lot 20440203 2/22	4.06
pH 4.0 value after calibration:	25.43	4.00
pH 4.0 mV **(range is 130 to 230 mV)**:		168.0

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	25.51
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.44
Reading before calibration (mV):		223.7
Reading after calibration (mV):		228.44

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0136 8/21	Before Cal:	After Cal:	20.2
100 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	99.7
800 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	800
10 NTU Turbidity Check STD	Before Cal:	After Cal:	10.5
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 18110C071494

Date: 8-19-21
Time: 900
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No. 6122201429

Pine Sonde ID: 642531
Pine Handset ID: AIRENTAL74
Battery Voltage %: 60

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		22.89
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	1010.2MBAR	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	
DO concentration after Calibration (mg/L):		8.42
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.068746

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (~~mS~~/cm) uS/M	19410200	1.413
Temperature (°C)		23.11
Reading before Calibration (~~mS~~/cm) uS/M		1392.4
Reading AFTER Calibration (~~mS~~/cm) uS/M		1413
Conductivity Cell Constant (unitless):		0.985

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	21010066 08/22	7.06
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-2.1
pH 10 value before calibration:	21080189 06/22	10.10
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-166.2
pH **4.0** value before calibration:	21070193 08/22	4.07
pH **4.0** value after calibration:		4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		160.9

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	19460167 02/2022	23.56
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.0
Reading before calibration (mV):		229.6
Reading after calibration (mV):		230.98

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
10 NTU Turbidity Standard	Before Cal:	10.4	After Cal:	10.3
20 NTU Turbidity Standard	Before Cal:		After Cal:	19.6
100 NTU Turbidity Standard	Before Cal:		After Cal:	99.7
800 NTU Turbidity Check STD	Before Cal:		After Cal:	792
_____ NTU Turbidity Check STD	Before Cal:		After Cal:	
CALIBRATION SUCCESSFUL?				YES

Date: 8/18/21
Time: 0845
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.
6122201429

Pine Sonde ID: 728566
Pine Handset ID: _____
Battery Voltage %: 80

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		24.06
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1010.2 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.37
DO concentration after Calibration (mg/L):		7.71
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	99.77
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.086087

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19410200	1.413
Temperature (°C)		24.47
Reading before Calibration (mS/cm)		1.384
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.029

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 19450117 2/22	7.00
pH 7.0 value after calibration:	24.87	7.00
pH 7.0 mV **(range is -50 to +50 mV)**:		-8.2
pH 10 value before calibration:	Lot 21010067 2/22	10.02
pH 10 value after calibration:	25.23	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-179.5
pH **4.0** value before calibration:	Lot 20440203 2/22	4.01
pH **4.0** value after calibration:	25.24	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		167.8

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	228.80
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	25.23
Reading before calibration (mV):		228.3
Reading after calibration (mV):		228.8

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0136 8/21	Before Cal:	After Cal:	20.0
100 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	100.0
800 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	804
10 NTU Turbidity Check STD	Before Cal:	After Cal:	10.2
_____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100 Q ID: 18110C0714 94

Date: ~~8-18-21~~ 8-18-21
Time: 800
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No. 6122201429

Pine Sonde ID: 642531
Pine Handset ID: AIRRENTAL74
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		24.59
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:	987.64 MBAR	
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	
DO concentration after Calibration (mg/L):		7.73
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1,049323

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19410200	1.413
Temperature (°C)		25.32
Reading before Calibration (mS/cm)		1.499
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		0.969

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	21010066 08/22	7.0
pH **7.0** value after calibration:		7.07
pH **7.0** mV **(range is -50 to +50 mV)**:		0.9
pH 10 value before calibration:	21080189 06/22	10.0
pH 10 value after calibration:		10.06
pH 10 mV **(range is -130 to -230 mV)**:		-160.9
pH **4.0** value before calibration:	21070193 08/22	4.0
pH **4.0** value after calibration:		4.15
pH **4.0** mV **(range is 130 to 230 mV)**:		164.7

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	19460167 02/22	24.62
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228
Reading before calibration (mV):		220.8
Reading after calibration (mV):		229.73

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
10 NTU Turbidity Standard	Before Cal:	9.69	After Cal:	10.2
20 NTU Turbidity Standard	Before Cal:		After Cal:	18.3
100 NTU Turbidity Standard	Before Cal:		After Cal:	101
800 NTU Turbidity Check STD	Before Cal:		After Cal:	808
_____ NTU Turbidity Check STD	Before Cal:		After Cal:	
CALIBRATION SUCCESSFUL?				YES

Date: 8/19/21
Time: 0835
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.
6122201429

Pine Sonde ID: 728566
Pine Handset ID: _____
Battery Voltage %: 69

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		26.92
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1009.4 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	~~7.86~~ 7.86
DO concentration after Calibration (mg/L):		7.24
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	99.01
DO Charge (DO ch):	Acceptable Range is 25 to 75	—
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.097464

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19410200	1.413
Temperature (°C)		26.70
Reading before Calibration (mS/cm)		1.395.1
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.043

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 19450117 2/22	7.01
pH **7.0** value after calibration:	26.60	7.00
pH 7.0 mV **(range is -50 to +50 mV)**:		-8.9
pH 10 value before calibration:	Lot 21010067 2/22	9.99
pH 10 value after calibration:	26.51 ~~26.50~~	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-179.9
pH **4.0** value before calibration:	Lot 20410203 2/22	4.04
pH **4.0** value after calibration:	26.45	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		166.8

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	26.42
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	227.26
Reading before calibration (mV):		226.0
Reading after calibration (mV):		227.26

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
20 NTU Turbidity Standard	Lot A0136 8/21	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard	Lot A0139 8/21	Before Cal:	After Cal:	99.8
800 NTU Turbidity Standard	Lot A0139 8/21	Before Cal:	After Cal:	796
10 NTU Turbidity Check STD		Before Cal:	After Cal:	10.3
_____ NTU Turbidity Check STD		Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?				

Hach 2100Q ID: 18110C071494

Date: 8-19-20
Time: 840
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No. 6122201429

Pine Sonde ID: 642531
Pine Handset ID: AIRLENTAL 74
Battery Voltage %: 80

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		~~22~~ 27.11
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	1009.3 MBAR	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	
DO concentration after Calibration (mg/L):		7.50
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.05547

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19410200	1.413
Temperature (°C)		27.19
Reading before Calibration (mS/cm)		1.417
Reading AFTER Calibration (mS/cm)		1413
Conductivity Cell Constant (unitless):		0.998

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	21010066 8/22	7.05
pH 7.0 value after calibration:		7.0
pH 7.0 mV **(range is -50 to +50 mV)**:		-5.0
pH 10 value before calibration:	21080189 6/22	9.97
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-166.1
pH 4.0 value before calibration:	21070193 8/22	4.11
pH 4.0 value after calibration:		4.0
pH 4.0 mV **(range is 130 to 230 mV)**:		156.3

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	19460167 2/22	25.66
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228
Reading before calibration (mV):		228.26
Reading after calibration (mV):		227.3

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
10 NTU Turbidity Standard	Before Cal:	10.7	After Cal:	10.2
20 NTU Turbidity Standard	Before Cal:		After Cal:	19.7
100 NTU Turbidity Standard	Before Cal:		After Cal:	98.9
800 NTU Turbidity Check STD	Before Cal:		After Cal:	792
_____ NTU Turbidity Check STD	Before Cal:		After Cal:	
CALIBRATION SUCCESSFUL?				YES

Date: 8/20/21
Time: 0830
Prepared By: _____
Checked By: _____

Wood.
Project No.
6122201429

Pine Sonde ID: 728566
Pine Handset ID: _____
Battery Voltage %: 99

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		24.84
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1005.1 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.29
DO concentration after Calibration (mg/L):		7.56
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	100.97
DO Charge (DO ch):	Acceptable Range is 25 to 75	—
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.056523

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19410200	1.413
Temperature (°C)		24.29
Reading before Calibration (mS/cm)		1.416
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.041

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 19450117 2/22	7.02
pH **7.0** value after calibration:	23.74	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-9.7
pH 10 value before calibration:	Lot 21010067 2/22	10.02
pH 10 value after calibration:	23.75	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-179.7
pH **4.0** value before calibration:	Lot 20440203 2/22	4.02
pH **4.0** value after calibration:	23.97	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		164.4

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	24.15
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	230.22
Reading before calibration (mV):		228.5
Reading after calibration (mV):		230.22

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
20 NTU Turbidity Standard	Lot A0136 8/21	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard	Lot A0139 8/21	Before Cal:	After Cal:	100
800 NTU Turbidity Standard	Lot A0139 8/21	Before Cal:	After Cal:	802
10 NTU Turbidity Check STD		Before Cal:	After Cal:	10.2
_____ NTU Turbidity Check STD		Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?				

Hach 2100Q ID: 18110C071494

Date: 8-20-21
Time:
Prepared By: EVER GUILLEN
Checked By:

Wood.
Project No. 6122201429

Pine Sonde ID: 642551
Pine Handset ID: AIRRENTAL 74
Battery Voltage %:

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		23.99
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	1005.7 MBAR	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	
DO concentration after Calibration (mg/L):		8.19
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.075094

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)		1.413
Temperature (°C)		24.67
Reading before Calibration (mS/cm)		1497.5
Reading AFTER Calibration (mS/cm)		1488.7
Conductivity Cell Constant (unitless):		0.941

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:		7.03
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-6.3
pH 10 value before calibration:		10.04
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-168.8
pH **4.0** value before calibration:		4.02
pH **4.0** value after calibration:		4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		155.7

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):		24.92
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228
Reading before calibration (mV):		229.7
Reading after calibration (mV):		229.21

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**

10 NTU Turbidity Standard	Before Cal:	1016	After Cal:	
20 NTU Turbidity Standard	Before Cal:		After Cal:	20.2
100 NTU Turbidity Standard	Before Cal:		After Cal:	100
800 NTU Turbidity Check STD	Before Cal:		After Cal:	806
____ NTU Turbidity Check STD	Before Cal:		After Cal:	
CALIBRATION SUCCESSFUL?				

Date: 8/23/21
Time: 1130
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No. 6122201429

Pine Sonde ID: 72 8566
Pine Handset ID: _____
Battery Voltage %: 79

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		27.80
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1004.5 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	7.78
DO concentration after Calibration (mg/L):		
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	99.96
DO Charge (DO ch):	Acceptable Range is 25 to 75	—
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.087282

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19410200	1.413
Temperature (°C)		26.79
Reading before Calibration (mS/cm)		1.3985
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.052

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 19450117 2/22	7.13
pH 7.0 value after calibration:	26.69	7.00
pH 7.0 mV **(range is -50 to +50 mV)**:		-17.2
pH 10 value before calibration:	Lot 21010067 2/22	9.79
pH 10 value after calibration:	26.71	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-169.4
pH 4.0 value before calibration:	Lot 20440203 2/22	4.43
pH 4.0 value after calibration:	26.93	4.00
pH 4.0 mV **(range is 130 to 230 mV)**:		141.0

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	226.35
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	27.11
Reading before calibration (mV):		225.5
Reading after calibration (mV):		226.35

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0136 8/21	Before Cal:	After Cal:	20.2
100 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	99.9
800 NTU Turbidity Standard Lot A0139 8/21	Before Cal:	After Cal:	796
10 NTU Turbidity Check STD	Before Cal:	After Cal:	10.2
_____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100Q ID: 18110C071494

Date: 10-26-21
Time:
Prepared By: EVER GUILLEN
Checked By:

Wood.
Project No.

~~Pine~~ Sonde ID: 843593
~~Pine~~ Handset ID: 73
Battery Voltage %: 90

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		17.31
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	1001.7 MBar	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.99
DO concentration after Calibration (mg/L):	8.83	8.83
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.07318

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19150155	1.413
Temperature (°C)		1.6620
Reading before Calibration (mS/cm)	1.6620	~~14.03~~ 18.03
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		0.932

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	~~2010~~ 21010066 8/22	7.07
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-14.5
pH 10 value before calibration:	21080189 6/22	10.05
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-182.3
pH **4.0** value before calibration:	21070193 8/22	4.11
pH **4.0** value after calibration:		4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		158.0

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	21140141 8/22	19.74
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.0
Reading before calibration (mV):		235.96
Reading after calibration (mV):		227.7

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
10 NTU Turbidity Standard	Before Cal: 11.1	After Cal:	10.1
20 NTU Turbidity Standard	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard	Before Cal:	After Cal:	98.5
800 NTU Turbidity Check STD	Before Cal:	After Cal:	789
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			YES

2283

Date: 10-27-21
Time: 950
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No.

~~Pine~~ Sonde ID: 843593
~~Pine~~ Handset ID: 73
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		15.86
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	1002.8MB	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	9.62
DO concentration after Calibration (mg/L):		10.34
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.017711

Note:

CONDUCTIVITY [Note: Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19150155	1.413
Temperature (°C)		15.35
Reading before Calibration (mS/cm)		1.451
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		0.906

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	21010066 8/22	7.07
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-163
pH 10 value before calibration:	21070189 6/22	10.14
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:	-186.9	~~-186.~~ ~~-186.8~~
pH **4.0** value before calibration:	~~21140141~~ 21070193 8/22	4.07
pH **4.0** value after calibration:		4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		152.1

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	21140141 8/22	16.38
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.0
Reading before calibration (mV):		240.35
Reading after calibration (mV):		240.4

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
10 NTU Turbidity Standard	Before Cal: 10.8	After Cal:	10.4
20 NTU Turbidity Standard	Before Cal:	After Cal:	20.5
100 NTU Turbidity Standard	Before Cal:	After Cal:	99.2
800 NTU Turbidity Check STD	Before Cal:	After Cal:	786
_____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Date: 10-28-21
Time: 830
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No.

~~Pine~~ Sonde ID: 893593
~~Pine~~ Handset ID: 73
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		19.18
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	975.27 MB	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.33
DO concentration after Calibration (mg/L):		8.16
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	-
DO Charge (DO ch):	Acceptable Range is 25 to 75	-
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.082445

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19150155	1.413
Temperature (°C)		18.57
Reading before Calibration (mS/cm)		1.427
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		0.806

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	21010066 8/22	7.09
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-20.0
pH 10 value before calibration:	21070189 6/22	10.03
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-186.0
pH **4.0** value before calibration:	21070193 8/22	4.02
pH **4.0** value after calibration:		4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		152.6

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	21140141 8/22	19.27
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.0
Reading before calibration (mV):		236.6
Reading after calibration (mV):		234.8

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
10 NTU Turbidity Standard	Before Cal:	10.8	After Cal:	10.3
20 NTU Turbidity Standard	Before Cal:		After Cal:	20.3
100 NTU Turbidity Standard	Before Cal:		After Cal:	99.1
800 NTU Turbidity Check STD	Before Cal:		After Cal:	787
_____ NTU Turbidity Check STD	Before Cal:		After Cal:	
CALIBRATION SUCCESSFUL?				YES

Date: 10-29-21
Time: 830
Prepared By: EVER GUILLEN
Checked By: _____

Wood.
Project No.

~~Pine~~ Sonde ID: 843593
~~Pine~~ Handset ID: 73
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		15.16
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):	989.79 MBAR	
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	10.29
DO concentration after Calibration (mg/L):		9.51
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	1.03207

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	19150155	1.413
Temperature (°C)		15.57
Reading before Calibration (mS/cm)		1.504
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		0.842

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	21010066 8/22	6.97
pH **7.0** value after calibration:		7.0
pH **7.0** mV **(range is -50 to +50 mV)**:		-16.9
pH 10 value before calibration:	21070189 6/22	10.06
pH 10 value after calibration:		10.0
pH 10 mV **(range is -130 to -230 mV)**:		-185.6
pH **4.0** value before calibration:	21070193 8/22	4.03
pH **4.0** value after calibration:		4.0
pH **4.0** mV **(range is 130 to 230 mV)**:		149.7

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	21140141 8/22	16.40
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	228.0
Reading before calibration (mV):		240.36
Reading after calibration (mV):		241.4

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
10 NTU Turbidity Standard	Before Cal: 10.8	After Cal:	10.5
20 NTU Turbidity Standard	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard	Before Cal:	After Cal:	99.1
800 NTU Turbidity Check STD	Before Cal:	After Cal:	800
_____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			YES

Date: 10/26/21
Time: 0940
Prepared By: Daniel Howard
Checked By: _____

Amec Foster Wheeler
Project No. 6122150235

Pine Sonde ID: _____
Pine Handset ID: 850767
Battery Voltage %: 91
AquaTroll

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No_____ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		16.78
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1002.5 mbar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	10.06
DO concentration after Calibration (mg/L):		10.46
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	104.81
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	0.917488

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19150155	1.413
Temperature (°C)		18.06
Reading before Calibration (mS/cm)		1.394
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.039

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 21010066 8/22	7.10
pH **7.0** value after calibration:	19.05°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-2.3
pH 10 value before calibration:	Lot 21010067 2/22	10.23
pH 10 value after calibration:	18.83°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-175.4
pH **4.0** value before calibration:	Lot 21070193 8/22	4.11
pH **4.0** value after calibration:	18.21°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		169.6

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	18.17
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	238.1
Reading before calibration (mV):		229.1
Reading after calibration (mV):		238.1

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0255 12/21	Before Cal:	After Cal:	19.9
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	103
800 NTU Turbidity Standard Lot —	Before Cal:	After Cal:	703
10 NTU Turbidity Check STD Lot —	Before Cal:	After Cal:	9.97
_____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach2100Q: 1811C71494

Date: 10/26/27/21
Time: 0845
Prepared By: Daniel Howard
Checked By: _____

Amec Foster Wheeler
Project No. 6122150235

Pine Sonde ID: _____
Pine Handset ID: 850767
Battery Voltage %: 82

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes_____ No ✓ Date:_____ Time:_____	
Current Air Temperature °C (meter reading):		27.06
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	1003.3 m bar
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	94.7.47
DO concentration after Calibration (mg/L):		8.14
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	94.4
DO Charge (DO ch):	Acceptable Range is 25 to 75	
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	0.982091

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19150155	1.413
Temperature (°C)		21.33
Reading before Calibration (mS/cm)		1,335.1
Reading AFTER Calibration (mS/cm)		1,413
Conductivity Cell Constant (unitless):		1.097

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH 7.0 value before calibration:	Lot 21010067 2/22	7.05
pH 7.0 value after calibration:	17.69	7.00
pH 7.0 mV (**range is -50 to +50 mV**):		-4.0
pH 10 value before calibration:	Lot 21070193 8/22	10.05
pH 10 value after calibration:	16.83	10.00
pH 10 mV (**range is -130 to -230 mV**):		-175.6
pH 4.0 value before calibration:	Lot 19460167 2/22	4.02
pH 4.0 value after calibration:	16.53	4.00
pH 4.0 mV (**range is 130 to 230 mV**):		168.9

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	16.47
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	~~241.3~~ 240.2
Reading before calibration (mV):		241.1
Reading after calibration (mV):		240.2

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard Lot A0255 12/21	Before Cal:	After Cal:	20.1
100 NTU Turbidity Standard Lot A0217 11/21	Before Cal:	After Cal:	101
800 NTU Turbidity Standard Lot —	Before Cal:	After Cal:	801
10 NTU Turbidity Check STD Lot —	Before Cal:	After Cal:	9.85
____ NTU Turbidity Check STD	Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?			

Hach 2100 Q: 1811 C 071494

Date: 10/28/21
Time: ~~0930~~ 1015
Prepared By: Daniel Howard
Checked By: _____

Amec Foster Wheeler
Project No. 6122150235

Pine Sonde ID: _____
Pine Handset ID: 850767
Battery Voltage %: 74

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		17.84
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	mbar 994.21
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	9.46
DO concentration after Calibration (mg/L):		9.77
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	101.1
DO Charge (DO ch):	Acceptable Range is 25 to 75	—
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	0.953442

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19150155	1.413
Temperature (°C)		17.32
Reading before Calibration (mS/cm)		1.468.4
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.056

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 21010067 2/22	7.02
pH **7.0** value after calibration:	17.27°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-4.2
pH 10 value before calibration:	Lot 21070193 8/22	10.08
pH 10 value after calibration:	17.09°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-176.3
pH **4.0** value before calibration:	Lot 19460167 2/22	4.00
pH **4.0** value after calibration:	17.14°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		167.7

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	17.14
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	239.32
Reading before calibration (mV):		238.5
Reading after calibration (mV):		239.32

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**				
20 NTU Turbidity Standard	Lot A0255 12/21	Before Cal:	After Cal:	20.1
100 NTU Turbidity Standard	Lot A0217 11/21	Before Cal:	After Cal:	99.6
800 NTU Turbidity Standard	—	Before Cal:	After Cal:	796
10 NTU Turbidity Check STD	—	Before Cal:	After Cal:	9.94
____ NTU Turbidity Check STD		Before Cal:	After Cal:	
CALIBRATION SUCCESSFUL?				

Date: 10/29/21
Time: 0515
Prepared By: Daniel Howard
Checked By: _____

Wood.
Project No.

Pine Sonde ID: _____
Pine Handset ID: 850767
Battery Voltage %: 100

CALIBRATION PRIOR TO SAMPLING

DISSOLVED OXYGEN (DO)		**VALUE**
Was DO membrane changed?	Yes____ No ✓ Date:____ Time:____	
Current Air Temperature °C (meter reading):		24.18
Current Barometric Pressure (from Weather Channel or NOAA.gov, which is corrected to sea level):		
Elevation Corrected Barometric Pressure to enter into YSI DO calibration:	Ex.: 30.02 in. Hg x 25.4 = mm Hg; **subtract** 2.54 mm Hg for every 100 ft. above sea level: 565/100 x 2.54 = 14.4 mm Hg	mbar 985.81
Theoretical DO (mg/L) from DO table based on current temperature and elevation corrected pressure:		
DO concentration before Calibration (mg/L):	Depending on meter version, this may not be available.	8.12
DO concentration after Calibration (mg/L):		8.51
% Recovery (actual/theory x 100)	Range is 90 to 110% Recovery	99.60
DO Charge (DO ch):	Acceptable Range is 25 to 75	—
DO Gain (should be between -0.7 and 1.5):	Exit Calibration menu and go to Advanced/Cal Constants	0.9580424 slope

Note:

CONDUCTIVITY [**Note:** Calibrate before pH to avoid carry-over from pH standards (i.e. pH buffers are conductive)]		
Calibration standard used (mS/cm)	Lot 19150155	1.413
Temperature (°C)		23.92
Reading before Calibration (mS/cm)		1.3976
Reading AFTER Calibration (mS/cm)		1.413
Conductivity Cell Constant (unitless):		1.068

Note: Be sure conductivity cell is submerged and free of bubbles (gently tap sonde on table)

pH		
pH **7.0** value before calibration:	Lot 21010067 2/22	7.02
pH **7.0** value after calibration:	23.88°C	7.00
pH **7.0** mV **(range is -50 to +50 mV)**:		-5.5
pH 10 value before calibration:	Lot 21070193 8/22	10.05
pH 10 value after calibration:	23.97°C	10.00
pH 10 mV **(range is -130 to -230 mV)**:		-177.5
pH **4.0** value before calibration:	Lot 19460167 2/22	4.05
pH **4.0** value after calibration:	23.93°C	4.00
pH **4.0** mV **(range is 130 to 230 mV)**:		168.8

Note: Span between ph 4 and 7, and 7 and 10 should be between 165 to 180 mV

OXIDATION/REDUCTION POTENTIAL (ORP)		
Calibration Temperature (°C):	Lot 19460167 2/22	23.88
Theoretical Calibration standard (mV)	0.231+0.0013(25-T) x 1000 = mV (T is Temperature °C)	230.57
Reading before calibration (mV):		227.7
Reading after calibration (mV):		230.57

Note: mV theory will change with temperature, so calculate based on your current temp.

TURBIDITY **Note: Lens wiper should be parked 180 degrees from the optics.**			
20 NTU Turbidity Standard	Lot A0255 12/21	Before Cal:	After Cal: 20.1
100 NTU Turbidity Standard	Lot A0217 11/21	Before Cal:	After Cal: 101
800 NTU Turbidity Standard	—	Before Cal:	After Cal: 799
10 NTU Turbidity Check STD	—	Before Cal:	After Cal: 9.80
____ NTU Turbidity Check STD		Before Cal:	After Cal:
CALIBRATION SUCCESSFUL?			