HYDROGEOLOGIC ASSESSMENT REPORT

PLANT YATES
R6 CCR LANDFILL AND
ASH MANAGEMENT AREA (AMA)
COWETA COUNTY, GEORGIA

FOR

Georgia Power

October 2025

Atlantic Coast Consulting, Inc.,
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CERTIFICATION STATEMENT

I hereby certify that this *Hydrogeologic Assessment Report, Georgia Power Company – Plant Yates R6-AMA* was prepared by, or under the direct supervision of, a Qualified Groundwater Scientist, in accordance with the Georgia Environmental Protection Division (EPD) Rules of Solid Waste Management. According to 391-3-4-.01, a Qualified Groundwater Scientist is "a professional engineer or geologist registered to practice in Georgia who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action." This *Hydrogeologic Assessment Report* was developed in compliance with the Georgia EPD Rules of Solid Waste Management, Chapter 391-3-4.10(9)(c)(6).

ATLANTIC COAST CONSULTING, INC.

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Date: 10/3/2025

Richard T. Deason, P.E.
Reviewer
Date: 10/3/2025

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1.0 INTRODUCTION

In support of Georgia Department of Natural Resources Environmental Protection Division (GA EPD) Regulation 391-3-4-.10 (6) "Groundwater Monitoring and Corrective Action" as referenced in the Code of Federal Regulations (CFR) 40 CFR 257.90 – 40 CFR 257.98, Atlantic Coast Consulting, Inc. (ACC) has prepared for Georgia Power Company (Georgia Power) this Hydrogeologic Assessment Report, Georgia Power Company Plant Yates multi-units R6 CCR Landfill (R6) and the Ash Management Area (AMA). Georgia Power is proposing to close several Coal Combustion Residual (CCR) surface impoundments and landfills with "closure by removal" and "closure in-place". This report is a comprehensive summary of the hydrogeologic characteristics for Plant Yates and focuses on multi-units R6 and the AMA.

This report was originally submitted as part of the November 2018 permit application package. The document has been expanded to include additional data (requested by GA EPD) supporting the permit application package and is being resubmitted in its entirety. The additional data includes a mapping and lineament study report, hydraulic conductivity testing data, additional potentiometric data, and groundwater modeling.

1.1 Site Location & Topographic Setting

Plant Yates is located at 708 Dyer Road in Coweta County, Georgia near the Coweta and Carroll County line, approximately eight miles northwest of the city of Newnan and 13 miles southeast of the city of Carrollton. Plant Yates occupies approximately 2,400 acres. Figure 1, Site Location Map depicts the site location relative to the surrounding area. Plant Yates, once a coal fired, power generation facility, was converted to natural-gas-combustion turbines. Plant Yates is located within the northeast quarter of the Whitesburg, GA United States Geological Survey (USGS) 7.5-minute topographic quadrangle.

1.2 Coal Combustion Residuals

Plant Yates has multiple CCR units which will be permitted separately according to Chapter 391-3-4-.10, Coal Combustion Residuals of the Georgia Rules for Solid Waste Management (State CCR Rule). The CCR units at Plant Yates consist of the Gypsum Stack, R6 CCR Landfill, AP-1, Ash Pond 2 (AP-2) and the AMA. This report is provided to support the multi-unit groundwater monitoring network for Plant Yates AMA/R6 Landfill.

1.3 R6 CCR Landfill

The Plant Yates R6, Solid Waste Handling Permit 038-011D(LI) was issued by GA EPD on May 17, 1985. R6 is an Inactive CCR landfill as defined in the Georgia Rules for Solid Waste Management, 391-3-4-.10(2)(a)3. R6 will be closed in place in accordance with the solid waste permit and the CCR Rules. Figure 2, R6-AMA Monitoring Well Network illustrates the monitoring well network and Table 1, R6-AMA Well Construction Detail Summary provides the monitoring well construction details. Boring and well construction logs for the monitoring wells are provided in Appendix A, Boring and Well Construction Diagrams.

1.4 AMA

The AMA is located within the former footprints of AP-3 and AP-B'. This multi-pond area is currently being consolidated and closed in place and contains CCR from AP-1 and AP-2 (permitted separately), and AP-A and AP-B (included as part of the AMA permit application) which have been or are being closed by removal. AP-A is an inactive 8.9-acre CCR surface impoundment

that completed closure by removal in June 2017. AP-B is an inactive 6.3-acre CCR surface impoundment currently undergoing closure by removal. AP-B' is a 29.8-acre CCR surface impoundment that is being closed-in-place. AP-3 is a 55-acre surface impoundment that is being closed-in-place. Figure 2 illustrates the monitoring well network and Table 1 provides the monitoring well construction details. Boring and well construction logs for the monitoring wells are provided in Appendix A.

A multi-unit groundwater monitoring network has been designed and installed to monitor groundwater at R6 and AMA. This multi-unit groundwater monitoring network consists of a comprehensive network of groundwater monitoring wells located around the combined perimeter of R6 and the adjacent AMA (AP-A, AP-B, AP-B', and AP-3).

2.0 SURFACE AND SUBSURFACE INVESTIGATIONS

A geologic investigation was conducted by Golder Associates (Golder) in 2015 to evaluate the subsurface conditions at Plant Yates. Golder relied on published literature, topographic maps and local geologic experts in addition to on-site investigations. The field investigation included strike and dip measurements (orientation) of foliations, lineaments and fractures of outcropping bedrock across the site and remote sensing data. Rock types were identified from previous bedrock core drilling logs and rock/soil weathering profiles from the parent bedrock. Golder's report is provided as Appendix B, Geologic Mapping and Lineament Analysis Report.

2.1 Regional Geology

The Piedmont/Blue Ridge geologic province contains some of the oldest rocks in the Southeastern United States. Since their origin, approximately 276 million to 1,100 million years ago (Ma), these late Precambrian (Neoproterozoic) to late Paleozoic (Permian) rocks have undergone repeated cycles of igneous intrusions and extrusions, metamorphism, folding, faulting, shearing, and silicification. The latest regional metamorphism and associated deformation has been attributed to the collision of the North America plate with the Eurasian plate approximately 200 Ma to 230 Ma. More recent deformation and emplacement of mafic dikes is associated with the rifting of the North American craton during the Mesozoic and Cenozoic Eras.

The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are significantly weathered due to the humid climate and bedrock is typically overlain by a variably thick blanket of residual soils and saprolite. The saprolite-zone that includes partially-weathered rock, in the Piedmont/Blue Ridge is generally about 20 to 60 feet; however, this depth of weathering along discontinuities and/or very feldspathic rock units may extend to depths greater than 100 feet. Because of such variations in rock types and structure, the depth of weathering can vary significantly over short horizontal distances. Locally, significant accumulations of alluvial soils are also present in the area. Sand and gravel alluvial terraces related to changing stream base grade elevations occur above residual soils in areas near larger rivers (i.e., Chattahoochee River).

2.2 Site Geology

The site geology is typical of Piedmont weathering of igneous and metamorphic bedrock. In addition to the physical and chemical weathering soil profile that includes residuum and saprolitic soils, alluvial deposits from the Chattahoochee River were noted in the soils and sediments on the west side of the site.

2.2.1 Alluvial Deposits

Alluvial deposits were mainly identified closer to the Chattahoochee River and generally not found in the R6 and AMA areas, except for overbank flood-type deposits near surface and limited alluvial deposits in former drainages in the R6 and AMA areas. Alluvial soils primarily consist of silty-sand, clayey silt, and silty clay with well-rounded gravel and cobbles.

2.2.2 Residuum and Saprolite

Residual soils are mainly observed near ground surface in the R6 and AMA areas. These soils were derived from physical and chemical weathering of the underlying bedrock, and consist primarily of silty sand, sandy silt, and silty clay, with local gravel-sized angular fragments of weathered bedrock. A variably-thick blanket of residual soils is anticipated to overlie bedrock across most of the site.

Based on the detailed geologic mapping, rock types present at the site include granitic and migmatitic gneiss, biotite gneiss, amphibolite, and muscovite schist, all of which have highly variable mineralogy, texture and chemistry. The muscovite schist serves as a structural marker horizon. Residual soils developed from weathering of these rock types may have variable geochemical characteristics. A thin layer of soil from approximately one to ten feet thick overlies a thick layer of saprolite. The saprolite, which extends to typical depths of 20 to 40 feet below ground surface, was formed from the physical and chemical weathering of the underlying metamorphic rocks. The saprolite generally maintains the texture of the parent bedrock but is friable with unconsolidated hydraulic permeability that is typically greater than the overlying residuum.

2.2.3 Bedrock

Plant Yates is located within the Dadeville Complex of the Inner Piedmont of western Georgia, immediately southeast of the regional zone of deformation referred to as the Brevard Zone. Dadeville Complex rock units are interlayered gneiss and schists as shown in Figure 3, Plant Yates Geologic Map. At ground surface the units have weathered in place to form a layer of saprolite. A regional thrust fault, the Katy Creek Fault, forms the boundary between the Brevard Zone and the Dadeville Complex. The Dadeville Complex is considered to represent an Ordovician-age Island Arc. The rocks in the area have been subjected to several episodes of metamorphism and intrusion by igneous bodies. Extensive jointing occurs in the area. Surface expressions of the joints are observed on topographic maps and aerial photos of the Plant Yates area.

Rocks within the Dadeville complex are generally more mafic near the Brevard Zone, becoming more felsic in areas farther southeast of the Brevard Zone. The mafic portion of the Dadeville Complex observed northwest of Plant Yates primarily consists of biotite gneiss and layers of amphibolite/hornblende gneiss. The continuous and discontinuous amphibolite layers and lenses weather more deeply but less uniformly than the surrounding biotite gneiss in this area. Units underlying that area around Plant Yates and further southeast are more felsic, being comprised of a mixture of granitic intrusives, migmatitic and biotite gneiss, and alumnosilicate schists. Mappable lithologic units across the site described in Section 3.3 of Appendix B, include massive granite (OZgr), migmatitic gneiss (OZmgn), feldsphatic gneiss (OZggn), porphyroblastic schist (OZgss), biotite gneiss (OZog), and amphibolite (OZa). A geologic map prepared by Golder Associates as part of the Geologic Mapping and Lineament Analysis in October 2017 (Golder 2017) is provided on Figure 3.

Geologic cross sections for Plant Yates R6-AMA were prepared along an alignment presented on Figure 4, Cross Section Location Map. Cross section A-A' (Figure 5) is oriented northwest to southeast, B-B' (Figure 6) approximately southwest to northeast, and C-C' (Figure 7) approximately southwest to northeast.

2.3 Fractures and Structure

Regionally, two major structural/stratigraphic zones occur within the Piedmont/Blue Ridge geologic province near the site. These zones are separated by The Katy Creek Fault, a regional fault that occurs approximately 1.6 miles northwest of the Plant property and traverses northeast-southwest. The Katy Creek Fault is a thrust fault, dipping at a lower angle than the strike-slip faults present in the region. This thrust fault developed at a relatively shallow depth in the crust compared to the strike-slip faults, resulting in less-pronounced ductile structural fabrics. Uplift associated with the Appalachian Mountains and subsequent erosion has allowed modern exposure of these structural features (Golder 2017).

The Katy Creek Fault forms a boundary between a regional zone of deformation, referred to as the Brevard Zone and the Dadeville Complex. Lithologic contacts and major structural features in the Brevard Zone generally trend northeast-southwest. In addition to strike-slip and thrust faults, structural features within this shear zone consist of northwest-verging, doubly-plunging, overturned folds that have been overprinted by a shear-induced foliation (Golder 2017).

Based on detailed geologic mapping conducted by Petrologic Solutions, Inc. for the Plant Yates *Geologic Mapping and Lineament Analysis Report* (Golder, 2017), folding was mapped within the Plant Yates property boundary, but not within the R6 and AMA areas. An unnamed, right lateral, strike-slip fault trending sub-parallel to the Chattahoochee River was identified as crossing the western Plant Yates property boundary, where the fault turns to the south. The bend in the fault created compressional forces that resulted in the anti-formal structure on the northeast side of the bend, as illustrated in Figure 3. The anti-formal structure is mapped on the western portion of Plant Yates property, but not within the AMA/R6 boundary. An additional unnamed, right-lateral, strike-slip fault was identified on the southeast side of Plant Yates property, trending northeast/southwest and extends through the East Cove and South Cove sections of Former Ash Pond 3, as shown in Figure 3. This section of the unnamed fault is relatively straight and therefore lacks the associated compressional stresses and folding observed in the western portion of the Plant Yates property. These unnamed faults are inactive as there has been no displacement during the Holocene Epoch. Additionally, the 2017 Golder report did not identify any folding within the AMA/R6 boundaries.

Typically, up to four different joint sets formed in the region due to tectonic stresses imposed upon the bedrock. Dip joints form parallel to the regional dip direction of foliation/compositional layering and are typically perpendicular to fold limbs, representing extension perpendicular to the maximum principal stress direction or direction of compression. These joints are commonly near vertical. Strike joints develop parallel to the strike of foliation/compositional layering and fold limbs, typically forming from tension during relaxation of the maximum principal stress. The dip direction and angle of these joints is orthogonal to the dip direction and angle of compositional layering. Oblique joints develop diagonal (± 30°) to the principal stress direction and represent conjugate sets formed from shear along the intermediate principal stress. (Golder 2017).

Foliations measured during geologic mapping near the site reflects the dominantly north-south trending structures in this area. Mapping further northwest of the fault zone reflects the more regional orientation of foliation characteristic of the Brevard Zone, which is generally oriented about N40-45E (Golder 2017).

Four major joint sets were recorded during the detailed geologic mapping. The four major joint sets are (quadrant and azimuth, right hand rule) (Golder 2017):

- J1: N48E 61NW (228/61) – regional strike joint
- J2: N50E 72SE (050/72) – regional strike joint
- J3: N44W 72SW (136/72) – regional dip joint
- J4: N3W 87SW (177/87) – local strike joint

Joint sets 1 and 2 are oriented subparallel to regional foliation, the dip of which varies in response to the dip of foliation. These joints are referred to above as regional strike joints. Joint set 3 is oriented perpendicular to regional foliation and is referred to as a regional dip joint. Joint 4 appears to have formed locally in response to the north-south trending structures mapped on the site and southwest of the site. This joint set is referred to as the local strike joint.

3.0 SITE HYDROGEOLOGIC CONDITIONS

The composition of the unsaturated zone varies across the area and includes soils and saprolite. Sieve analyses show an upper zone in most of the area to be clays, silty sands, and clayey sands. Clays may act as a confining or semi-confining material in soils, but at this location, they are interbedded with other materials or absent, and they are not considered a true confining unit. Atterberg limit tests, visual inspection, and grain analyses indicate the presence of significant fines. The soil/rock interface has been identified as the shallowest water-bearing unit in the area. Groundwater monitoring wells have been installed in overburden and shallow bedrock at depths that will allow for consistent sample collection in the event of future drought conditions. Grain size analyses of the soils and saprolite indicate that this unit is predominantly fine to medium silty sand.

At Plant Yates, shallow groundwater is typically encountered near the overburden and saprolite/weathered rock interface. Rock becomes increasingly more competent with depth and movement of groundwater occurs only in fractures (i.e., secondary porosity). Recharge to the water-bearing zones in fractured bedrock takes place by seepage through the overlying mantle of residuum/saprolite, or by direct entrance through openings in outcrops. The ponds were established along a topographically low area formed by an unnamed tributary. Monitored aquifer zones in the subsurface at Plant Yates includes the shallow unconsolidated residuum/saprolite and the upper bedrock. Typically, in the Piedmont, fracture frequency and permeability in the igneous and metamorphic bedrock decrease with depth.

3.1 R6-AMA Site Hydrogeology

Groundwater is encountered across R6-AMA in five hydrogeologic units. The uppermost hydrogeologic layer is the residuum/saprolite layer. The residuum layer is located from the ground surface and characteristically has more fines and typically is classified as a sandy silt or clayey silt. The saprolite layer has the texture of the underlying bedrock but is friable and has less fines. Typically, the saprolite layer has nearly an order of magnitude greater hydraulic conductivity compared to the overlying residuum.

The transition zone, located below the saprolite, is hydraulically connected to the residuum/saprolite and has the highest frequency of weathered fractures in the bedrock. The bedrock varies across the site from metamorphosed granitic gneiss to amphibolites to schist. Three zones or layers of the competent bedrock (upper, middle and lower) are monitored zones. Typically, in the Piedmont, the transition zone and upper bedrock have the greatest hydraulic conductivity of the five monitoring zones. The middle and lower bedrock generally have less fractures and thus lower hydraulic conductivity.

Groundwater flow across the overall site is generally from the southeast to the northwest. Groundwater flow across the R6-AMA area is from three directions; south to north, southeast to northwest and from northeast to southwest as illustrated in the August 2024 potentiometric contour map illustrated on Figure 8. Groundwater elevations for the monitoring wells and piezometers measured during the August 2024 sampling event are presented on Table 1. The monitoring wells are either screened in the residuum/saprolite or the deeper igneous and metamorphic bedrock. Upgradient monitoring well(s) for Plant Yates are listed in Table 1 and shown in Figure 2.

Hydraulic conductivity (K) is defined as the rate at which water can move through a permeable medium. In-situ rising head and falling slug tests were performed at multiple locations on the site. The range in K values at these locations was small, indicating fairly uniform hydrogeologic layers across the saprolite and weathered rock horizon (typically range from 10^{-3} cm/sec to 10^{-4} cm/sec). Table 2A, Horizontal Hydraulic Conductivity Data Summary, presents a summary of the K values calculated from variable head testing from 2014 and 2017 from wells in CCR unit AMA-R6. The values from the field tests are consistent with other values measured at Plant Yates. Vertical K values for locations throughout Plant Yates were determined by laboratory testing of undisturbed overburden samples (Shelby Tubes) collected at multiple Plant Yates locations (Cardno ATC, 2015) and are summarized in Table 2B, Sitewide Vertical Hydraulic Conductivity Data Summary. The average depth of the water table at the R6-AMA during the August 2024 sampling event varies with topography, ranging from approximately 4 feet below ground surface (bgs) to 35 feet bgs. The water table occurs in the saprolite ranging from ten feet above the top of competent bedrock to within the upper bedrock.

3.2 Potentiometric Data

Groundwater monitoring data have been collected from 2016 through 2023, and multiple potentiometric maps of the uppermost aquifer are presented in Appendix C, 2016-2024 Historical Potentiometric Maps and Water Level Data. Groundwater monitoring wells and non-network wells were resurveyed in June 2020. Data depicted on the historical potentiometric surface maps reference slightly different top of casing elevations than those referenced in the remainder of the report. Groundwater flow across the AMA-R6 is generally from the east northeast to the west southwest. The horizontal gradients were consistent until CCR excavations in the AMA began in 2017.

The horizontal hydraulic gradient (dh/dl) across the R6-AMA was measured during the August 2024 groundwater monitoring event from YGWA-40 to YGWC-42 and YGWC-49 to PZ-24IB (Figure 8). The estimated average horizontal gradient (dh/dl) is the difference between the upgradient head (h_2) and the downgradient head (h_2), divided by the distance between the two wells, and is calculated as:
dh/dl_1 (YGWA-40 to YGWC-42) = (790.81 feet – 768.52 feet)/1,096 feet = 0.020
dh/dl_2 (YGWC-49 to PZ-24IB) = (749.89 feet – 739.05 feet)/585 feet = 0.019
$dh/dl_{average}$ = (0.020 + 0.019)/2 = 0.019

Average groundwater flow velocity in the R6-AMA area is based on K, lateral gradient (dh/dl) and effective porosity (P_e). The average K for the site is 1.49 feet/day. The effective porosity (n_e) was estimated at 0.20. The average groundwater velocity is calculated as:

Equation

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

where: v = groundwater velocity
K = hydraulic conductivity
dh/dl = hydraulic gradient
P_e = effective porosity

Values Used in Calculation

Value			Source
K =	5.3E-04	cm/sec	See note 1.
	1.49	ft/day	
			Hydraulic gradient from
dh/dl_1 =	0.020	unitless	YGWA-40 to YGWC-42
dh/dl_2 =	0.019	unitless	YGWC-49 to PZ-24IB
dh/dl_{avg} =	0.019	unitless	Average of $dh/dl_{1,2}$
P_e =	0.20	unitless	See note 2.

Calculated Flow Velocity

$$v = \frac{(1.49)\,(0.019)}{0.20}$$

v = 0.145 ft/day, or 53 ft/year

Notes

(1) Slug tests performed by Atlantic Coast Consulting, Inc. at R6/AMA (2014-2017)

(2) Default value recommended by USEPA for silty sand-type soil (USEPA, 1989)

(3) Groundwater elevations altered by dewatering activities are not used in gradient calculations

3.3 Groundwater Modeling

A numerical groundwater flow model (Groundwater Vistas®) for the AMA-R6 area, was prepared by TRC Environmental Corporation (TRC, 2020) to achieve the following objectives:

- Improve the conceptualization of the hydro-stratigraphy, hydrogeology, and groundwater/surface water dynamics at the site,
- Construct a numerical groundwater flow model that accurately depicts pre-closure groundwater flow conditions, and
- Use the numerical groundwater flow model as a tool to predict groundwater flow conditions from the implementation of closure activities.

The numerical groundwater model was set up using six layers to depict the five subsurface hydrogeologic units underlying the ash layer. The model layers are:

- Layer 1 – surficial ash layer
- Layer 2 – unconsolidated residuum/saprolite

- Layer 3 – transition zone, highly weathered upper bedrock
- Layer 4 – moderately weathered, highly fractured competent bedrock
- Layer 5 – less weathered, less fractured competent bedrock
- Layer 6 – lower bedrock with decreased fracture frequency

The model was calibrated using an industry standard software, Parameter Estimation (PEST®), which adjusts various parameters until the groundwater elevations are nearly matched. Groundwater elevation measurements collected from 2014 through 2016 and prior to closure activities were used in the model.

Based on results of modeling the current groundwater monitoring network will continue to support compliance at the site following closure. The TRC modeling report is included as Appendix D.

The TRC steady state model was used to screen various Advanced Engineering Methods (AEMs) that would enhance the closure efforts at the AMA. Following this evaluation, a hydraulic conveyance (deep subsurface drain) was chosen based on the balance of constructability, implementability and numerical modeling metrics documented in the Advanced Engineering Method Feasibility Report (AEM FS Report). The AEM FS Report is included with Part B of the permit.

3.4 Conceptual Site Model

The hydrogeologic Conceptual Site Model (CSM) for Plant Yates and R6-AMA consists of geologic and hydrologic elements.

Geologic model elements include:

- Plant Yates is located in the Ordovician-age Dadeville Complex of the Inner Piedmont Physiographic Province of western Georgia. The rocks have been subject to several episodes for metamorphism and intrusion by igneous bodies (granitic units). Rock types present at AMA-R6 include sillimanite-staurolite-garnet schist, granitic gneiss, and orange gneiss. There is no evidence of recent faulting or deformation during the Holocene period.
- Rocks have been weathered in place to form soil (silty sand residuum), weathered bedrock (saprolite), and partially weathered bedrock. These materials constitute the unconsolidated uppermost aquifer at the site.
- The facility is located approximately 1.6 miles to the southeast of the Katy Creek fault, a regional thrust fault that is the boundary between the Dadeville Complex and the Brevard Zone.
- Faulting of rock units has been observed at the site. Joints sets are observable both parallel and perpendicular to foliation.

Hydrologic elements include:

- The facility lies within the Middle Chattahoochee River basin of the Piedmont Physiographic Province, which characteristically has moderate rolling hills that are steeply cut with surface water drainages.
- The depth to groundwater is variable depending on the topography; the depth to groundwater is deeper at topographic highs and shallower at topographic lows.

- Groundwater flow in the upper aquifer is under unconfined conditions and the water table is typically noted in the saprolite near the bedrock interface. Deeper groundwater flow is within the fractured bedrock and along discontinuities. Based on site borings and well installations in Piedmont geology.
- Groundwater flow direction in the upper aquifer is controlled by topography and by drainage features such as creeks, man-made ash impoundments, and the Chattahoochee River. The general site-wide groundwater flow direction is from the east-northeast to west-southwest. Groundwater flow at R6-AMA is from three directions; south to north, southeast to northwest and from northeast to southwest.
- Surface water bodies, surface water drainage, and flow across the facility are noted on Figure 2. Surface water flows onto the property in the northeast corner and is routed around the AMA and north and east of R6 CCR Landfill emptying into the South Cove, then transmitted to impoundment AP-2 via the primary stormwater drainage ditch. Surface water discharge is regulated by a Georgia NPDES permit No. GA0001473.
- Water captured by the deep subsurface drain and its management is discussed in the site Closure Plan and Post Closure Care Plan.

4.0 GROUNDWATER MONITORING NETWORK

An adjacent stormwater drainage channel separates R6 and the AMA and is directed to the downgradient AP-2. Both the CCR units share similar lithologies and hydrogeologic framework, and the groundwater flow is predominantly towards the engineered collection drain separating the two units. For these reasons, groundwater flow from both CCR units coincides. Therefore, a multi-unit groundwater monitoring network has been designed and installed to monitor groundwater flow from the R6 and the AMA. This multi-unit groundwater monitoring network consists of a comprehensive network of upgradient monitoring wells located throughout Plant Yates, and downgradient groundwater monitoring wells located around the intersection of the perimeter of R6 and the adjacent AMA. Figure 2 illustrates the multi-unit monitoring well network and Table 1 provides the monitoring well construction details. As noted in the attached Groundwater Modeling Report, following closure and implementation of the engineered drain, groundwater flow directions will remain such that the monitoring well network will continue to support appropriate monitoring at the site through post-closure care.

The monitoring system is designed to monitor groundwater at AMA-R6 within the uppermost aquifer. Wells designated with "YGWA" are considered upgradient and with a designation of "YGWC" are considered downgradient. Wells were located to serve as upgradient and downgradient monitoring points based on groundwater flow direction (Table 1). In accordance with §257.91, a groundwater monitoring system was installed that provides the following; (1) consists of a sufficient number of wells, (2) installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) meets the performance standards of §257.91(a) and 391-3-4-.10(6).

The monitoring wells are screened in residuum/saprolite and shallow bedrock. The historical water levels for the R6-AMA are tabulated and are found in Appendix C.

4.1 Groundwater Monitoring Status

R6-AMA is monitored as one multi-unit groundwater monitoring network. In accordance with State CCR rule 391-3-4.10(6), a multi-unit groundwater monitoring network has been designed and installed to monitor groundwater at R6 and the AMA. The combined network reflects well-defined upgradient and downgradient locations to the combined CCR unit and captures the topographic variations and hydrogeologic units, providing a suitable network for compliance monitoring at the site. Additionally, the monitoring network will remain suitable for compliance following complete closure of both units, R6 and the AMA. The monitoring status of the combined AMA-R6 CCR unit will follow the schedule established for the AMA unit (i.e., relevant SSLs identified for R6 will be addressed in conjunction with AMA exceedances).

5.0 REFERENCES

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TABLES

TABLE 1
Plant Yates R6-AMA
Monitoring Well Construction Detail Summary
Plant Yates

Well ID	Well Designation	Hydraulic Location	Easting	Northing	Ground Surface Elevation	Top of Casing Elevation	Total Well Depth (ft btoc)	Top of Screen Elevation	Bottom of Screen Elevation	Screen Length (ft)	Depth to Bedrock (ft bgs)	Geologic Description of Bedrock	August 2024 Depth to Groundwater	August 2024 Groundwater Elevation	Date Completed
YGWA-1I	Detection	Upgradient	2070097.9	1256876.1	834.3	836.60	53.60	793.30	783.30	10	35.0	Biotite Gneiss/Mica Schist	38.46	798.14	5/20/2014
YGWA-1D	Detection	Upgradient	2070104.6	1256867.3	834.9	837.25	128.85	759.20	709.20	50	34.0	Biotite Gneiss/Mica Schist	50.88	786.37	5/20/2014
YGWA-2I	Detection	Upgradient	2070790.5	1256144.1	864.0	866.25	63.75	812.80	802.80	10	40.0	Biotite Gneiss/Granitic Gneiss	45.81	820.44	5/20/2014
YGWA-3I	Detection	Upgradient	2072024.2	1256405.2	794.0	796.55	59.05	747.70	737.70	10	40.0	Biotite Gneiss/Granitic Gneiss	53.09	743.46	5/20/2014
YGWA-3D	Detection	Upgradient	2072026.2	1256399.9	794.1	796.78	134.18	712.90	662.90	50	40.0	Biotite Gneiss/Granitic Gneiss	33.15	763.63	5/20/2014
YGWA-4I	Detection	Upgradient	2075455.6	1254436.7	781.9	784.21	48.81	745.70	735.70	10	30.5	Interlayered Granitic Gneiss/Biotite Gneiss	24.73	759.48	5/21/2014
YGWA-5I	Detection	Upgradient	2076218.9	1254400.0	782.1	784.54	58.94	735.90	725.90	10	41.0	Biotite Gneiss	20.48	764.06	5/21/2014
YGWA-5D	Detection	Upgradient	2076223.6	1254396.7	781.9	784.53	129.13	705.70	655.70	50	40.0	Biotite Gneiss	20.47	764.06	5/21/2014
YGWA-14S	Detection	Upgradient	2072537.2	1257828.6	746.8	748.76	34.96	724.10	714.10	10	n/a	n/a	17.10	731.66	5/20/2014
YGWA-17S	Detection	Upgradient	2076758.3	1257602.8	780.2	783.05	39.85	753.20	743.20	10	n/a	n/a	13.55	769.50	9/10/2015
YGWA-18S	Detection	Upgradient	2077015.3	1257116.1	787.6	790.57	39.97	760.90	750.90	10	n/a	n/a	21.67	768.90	9/8/2015
YGWA-18I	Detection	Upgradient	2077015.8	1257090.1	787.9	790.57	79.97	720.90	710.90	10	50.0	Granitic Gneiss	24.75	765.82	9/8/2015
YGWA-20S	Detection	Upgradient	2077410.4	1255531.6	764.6	767.12	29.52	747.90	737.90	10	n/a	n/a	11.80	755.32	9/29/2015
YGWA-21I	Detection	Upgradient	2076768.1	1255538.3	780.8	783.70	79.90	714.10	704.10	10	38.0	Granitic Gneiss	31.88	751.82	9/28/2015
YGWA-30I	Detection	Upgradient	2071107.1	1258421.9	760.1	762.58	59.48	713.40	703.40	10	31.0	Granitic Gneiss	43.27	719.31	9/23/2015
YGWA-39	Detection	Upgradient	2073865.6	1255717.1	815.6	818.19	68.59	760.10	750.10	10	33.0	Biotite Gneiss	19.63	798.56	7/7/2016
YGWA-40	Detection	Upgradient	2073431.3	1255792.0	813.5	815.73	48.23	778.00	768.00	10	36.0	Biotite Gneiss	24.92	790.81	7/7/2016
YGWA-47	Detection	Upgradient	2071818.1	1262411.8	755.6	758.22	59.19	709.60	699.60	10	36.0	Amphibolite Schist	34.93	723.29	7/11/2016
YGWC-23S	Detection	Downgradient	2074734.07	1256366.93	762.0	764.91	38.91	736.30	726.30	10	n/a	n/a	16.65	748.26	9/21/2015
YGWC-24SB	Detection	Downgradient	2073965.94	1258938.45	761.6	764.89	57.79	717.30	707.30	10	n/a	n/a	25.49	739.40	10/13/2022
YGWC-36A	Detection	Downgradient	2073748.73	1258547.74	737.7	740.88	51.20	699.70	689.70	10	n/a	n/a	7.72	733.16	9/22/2020
YGWC-38	Detection	Downgradient	2074446.80	1256108.38	797.1	799.69	49.89	760.10	750.10	10	37.0	Muscovite/Biotite gneiss	30.18	769.51	7/23/2016
YGWC-41	Detection	Downgradient	2073274.41	1256510.62	801.1	803.92	67.12	747.10	737.10	10	39.0	Granitic Gneiss	29.33	774.59	7/8/2016
YGWC-42	Detection	Downgradient	2073326.52	1257882.87	795.1	797.86	59.76	748.50	738.50	10	30.0	Granitic Gneiss	29.34	768.52	7/8/2016
YGWC-43	Detection	Downgradient	2073199.65	1257547.41	742.3	744.96	78.66	675.80	665.80	10	28.0	Granitic gneiss	17.12	727.84	7/9/2016
YGWC-49	Detection	Downgradient	2074337.51	1259375.23	780.1	782.73	78.53	715.10	705.10	10	n/a	n/a	32.84	749.89	7/13/2016
YGWC-50	Detection	Downgradient	2073321.00	1258123.39	726.5	729.78	39.28	701.80	691.80	10	35.0	n/a	5.72	724.06	10/14/2022
Non-Network Locations															
YGWA-6S	Piezometer	Upgradient	2074786.49	1260484.87	779.8	782.47	39.87	752.90	742.90	10	n/a	n/a	21.02	761.45	5/19/2014
YGWA-6I	Piezometer	Upgradient	2074790.49	1260490.02	780.2	782.73	69.03	724.00	714.00	10	48.0	Granitic Gneiss/Mica Schist	21.25	761.48	5/19/2014
PZ-04S	Piezometer	Upgradient	2075454.20	1254442.86	781.8	784.25	32.75	761.80	751.80	10	n/a	n/a	26.14	758.11	5/21/2014
PZ-05S	Piezometer	Upgradient	2076211.43	1254404.42	782.2	784.64	41.94	753.00	743.00	10	n/a	n/a	20.45	764.19	5/21/2014
PZ-06D	Piezometer	Upgradient	2074782.68	1260480.15	779.5	782.02	134.02	698.30	648.30	10	46.5	Granitic and Biotite Gneiss	23.69	758.33	5/19/2014
PZ-24IB	Piezometer	Downgradient	2073952.22	1258927.49	761.9	764.92	73.42	701.90	691.90	10	59.7	Granitic Gneiss	25.87	739.05	10/11/2022
PZ-35	Assessment	Downgradient	2073805.49	1258593.13	740.9	743.81	49.21	704.90	694.90	10	42.0	n/a	8.72	735.09	7/20/2016
PZ-37	Piezometer	Downgradient	2074699.59	1256471.14	758.0	760.78	49.78	721.50	711.50	10	37.0	Biotite Gneiss	10.80	749.98	7/6/2016
PZ-37D	Assessment	Downgradient	2074688.08	1256478.32	758.8	761.12	202.30	568.80	558.80	10	36.0	Biotite Gneiss	2.85	758.27	4/16/2021
PZ-48	Piezometer	Downgradient	2074528.00	1259868.04	777.2	779.83	58.73	731.40	721.40	10	36.0	Biotite Gneiss	22.56	757.27	7/12/2016
PZ-51	Piezometer	Downgradient	2073182.55	1257595.80	741.3	744.30	36.32	717.98	707.98	10	4.0	Gneiss/Schist	7.90	736.40	11/8/2019
PZ-52D	Assessment	Downgradient	2074676.14	1256463.09	759.9	762.79	94.89	677.90	667.90	10	40.0	Biotite Gneiss	6.37	756.42	9/28/2021
PZ-53D	Piezometer	Downgradient	2074676.14	1256463.09	759.9	762.80	162.90	609.90	599.90	10	40.0	Biotite Gneiss	4.53	758.27	9/28/2021
PZ-54D	Assessment	Downgradient	2073369.06	1256904.08	792.5	795.56	137.36	668.50	658.50	10	36.0	Biotite Gneiss	103.82	691.74	1/22/2024
PZ-55	Assessment	Downgradient	2073193.74	1257131.73	771.3	774.02	68.02	716.30	706.30	10	22.0	Biotite Gneiss	28.55	745.47	12/16/2023
PZ-56D	Piezometer	Downgradient	2073369.06	1256904.08	792.5	795.56	198.36	607.50	597.50	10	36.0	Biotite Gneiss	43.13	752.43	1/22/2024
YAMW-1	Assessment	Downgradient	2073814.89	1258602.06	740.9	743.84	69.93	683.90	673.90	10	44.0	Biotite Gneiss	8.58	735.26	9/19/2018
YAMW-2	Assessment	Downgradient	2072924.89	1256780.59	777.9	781.04	46.78	744.56	734.56	10	39.0	Gneiss/Schist	24.20	756.84	11/12/2019
YAMW-3	Assessment	Downgradient	2073345.21	1256915.25	793.2	796.05	91.74	714.61	704.61	10	29.0	Gneiss/Schist	37.43	758.62	11/6/2019
YAMW-4	Assessment	Downgradient	2073280.71	1256532.64	802.6	805.59	96.85	719.04	709.04	10	45.0	Gneiss/Schist	33.14	772.45	11/7/2019
YAMW-5	Assessment	Downgradient	2074486.69	1256140.21	785.9	788.90	90.64	708.56	698.56	10	29.0	Gneiss/Schist	15.57	773.33	11/13/2019

Notes:
1. ft BTOC indicates feet below top of casing. Note that the total well depth differs from the boring depth on the boring logs, as the total well depth is measured from the top of casing and boring depth is measured from ground surface.
2. ft bgs indicates feet below ground surface
3. ft indicates feet
4. Northings and Eastings are GA State Plane West (NAD83)
5. n/a = not applicable

TABLE 2A
HORIZONTAL HYDRAULIC CONDUCTIVITY DATA

Location	Test	Hydraulic Conductivity (cm/sec)	Hydraulic Conductivity (ft/day)	Hydraulic Conductivity (ft/yr)
PZ-4S	Slug-In Test	7.41E-04	2.10	767
	Slug-Out Test	1.52E-04	0.43	157
YGWA-4I	Slug-In Test	9.17E-05	0.26	95
	Slug-Out Test	8.11E-05	0.23	84
PZ-5S	Slug-In Test	N/A	N/A	N/A
	Slug-Out Test	4.34E-04	1.23	449
YGWA-5I	Slug-In Test	N/A	N/A	N/A
	Slug-Out Test	3.77E-04	1.07	391
YGWA-5D	Slug-In Test	1.16E-04	0.33	121
	Slug-Out Test	1.06E-04	0.30	110
YGWA-17S	Slug-In Test	3.42E-04	0.97	354
	Slug-Out Test	3.46E-04	0.98	358
YGWA-18S	Slug-In Test	9.52E-05	0.27	99
	Slug-Out Test	8.47E-05	0.24	88
YGWA-18I	Slug-In Test	7.76E-04	2.20	804
	Slug-Out Test	5.12E-04	1.45	530
YGWC-19S	Slug-In Test	3.39E-04	0.96	351
	Slug-Out Test	N/A	N/A	N/A
YGWA-20S	Slug-In Test	3.63E-04	1.03	376
	Slug-Out Test	2.22E-04	0.63	230
YGWC-22S	Slug-In Test	3.14E-04	0.89	325
	Slug-Out Test	2.93E-04	0.83	303
YGWC-23S	Slug-In Test	2.15E-04	0.61	223
	Slug-Out Test	2.40E-04	0.68	248
YGWC-24S	Slug-In Test	2.79E-04	0.79	289
	Slug-Out Test	2.93E-04	0.83	303
PZ-35	Slug-In Test	3.12E-03	8.84	3229
	Slug-Out Test	2.05E-03	5.80	2117
YGWC-32S	Slug-In Test	1.45E-03	4.10	1498
	Slug-Out Test	2.39E-03	6.77	2475
YGWC-32I	Slug-In Test	1.88E-03	5.32	1942
	Slug-Out Test	2.39E-03	6.77	2471
YGWC-33S	Slug-In Test	2.37E-03	6.71	2452
	Slug-Out Test	1.58E-03	4.49	1640
YGWC-34I	Slug-In Test	1.99E-03	5.63	2055
	Slug-Out Test	1.78E-03	5.06	1847
YGWC-36	Slug-In Test	2.34E-04	0.66	243
	Slug-Out Test	2.46E-04	0.70	255
PZ-37	Slug-In Test	2.11E-03	5.99	2188
	Slug-Out Test	1.65E-03	4.69	1711
YGWC-38 (PZ-38)	Slug-In Test	2.08E-04	0.59	215
	Slug-Out Test	1.73E-04	0.49	179
YGWA-39 (PZ-39)	Slug-In Test	1.81E-03	5.13	1874
	Slug-Out Test	1.89E-03	5.34	1952
YGWA-40 (PZ-40)	Slug-In Test	5.79E-04	1.64	599
	Slug-Out Test	7.20E-04	2.04	745
YGWC-42	Slug-In Test	2.20E-04	0.62	228
	Slug-Out Test	1.47E-04	0.42	152
YGWC-43	Slug-In Test	3.66E-03	10.38	3793
	Slug-Out Test	2.61E-03	7.41	2706
PZ-48	Slug-In Test	6.54E-04	1.85	677
	Slug-Out Test	5.58E-04	1.58	577
YGWC-49	Slug-In Test	6.92E-04	1.96	716
	Slug-Out Test	8.00E-04	2.27	828
Slug Test Geometric Mean		5.26E-04	1.49	544

Notes:

1. Slug Test on locations -1 through -16 completed in 2014, -17 through -30 in 2015, -31 and higher performed by ACC, Inc. personnel 3/2-3/9, 2017.
2. N/A = Result not available.
3. cm/sec = centimeters per second; ft/day = feet per day; ft/yr = feet per year

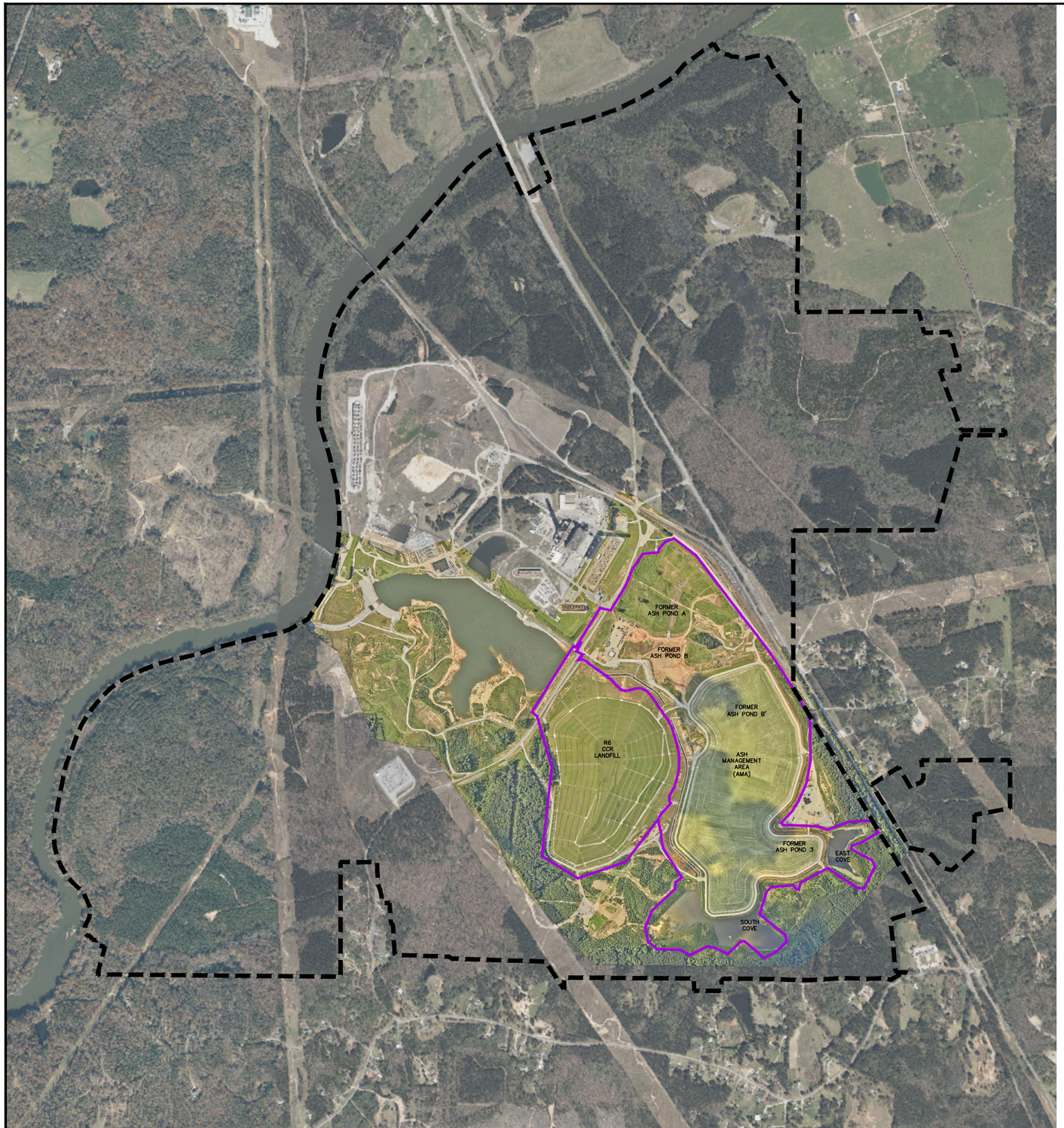
TABLE 2B
Sitewide Vertical Hydraulic Conductivity Data Summary

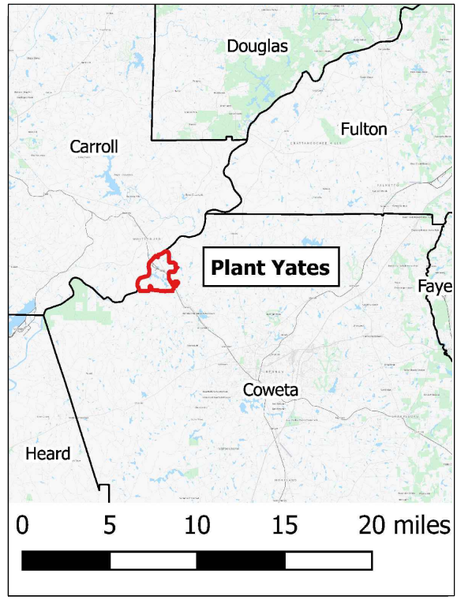
Location	Depth (ft bgs)	Hydraulic Conductivity (cm/sec)
YGWA-17S	17 – 19	6.91E-04
YGWC-19S	17 – 19	1.78E-04
YGWA-20S	17 – 19	9.72E-05
YGWC-22S	7 – 9	1.63E-03
YGWC-22S	17 – 19	4.66E-04
YGWC-24S	17 – 19	2.51E-03
YGWC-24S	37 – 39	2.50E-05
PZ-25S	33 – 35	4.13E-05
PZ-25S	44 – 46	2.00E-04
YGWC-26S	17 – 19	1.79E-06
YGWC-26S	27 – 29	3.36E-05
YGWC-27S	17 – 19	4.58E-07
YGWC-27S	27 – 29	3.56E-06
YGWC-28S	17 – 19	2.08E-07
PZ-30S	27 – 29	1.38E-05
PZ-31S	44 – 46	7.85E-04
Geometric Mean		4.88E-05

Notes:

1. Data from Shelby Tube sample analysis completed by Cardno ATC, 2015.
2. All locations original IDs were originally pre-fixed with “PZ”; pre-fixes of locations incorporated into a groundwater monitoring network were changed to “YGWA” or “YGWC” as appropriate.
3. ft bgs = feet below ground surface
4. cm/sec = centimeters per second

FIGURES





1,500 0 750 1,500

SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
- - - - -	APPROXIMATE PROPERTY BOUNDARY
———	APPROXIMATE PERMIT BOUNDARY

NOTES:

1. PHOTOGRAPHIC DATA FROM ORTHOGRAPHIC PHOTO, DATED JULY 2025.
2. ADDITIONAL PHOTOGRAPHIC DATA FROM MICROSOFT CORPORATION, MAXAR, CNES, DISTRIBUTION AIRBUS DS, TMAP EARTHSTAR GEOGRAPHICS SIO, DATED 2025.

PROJECT

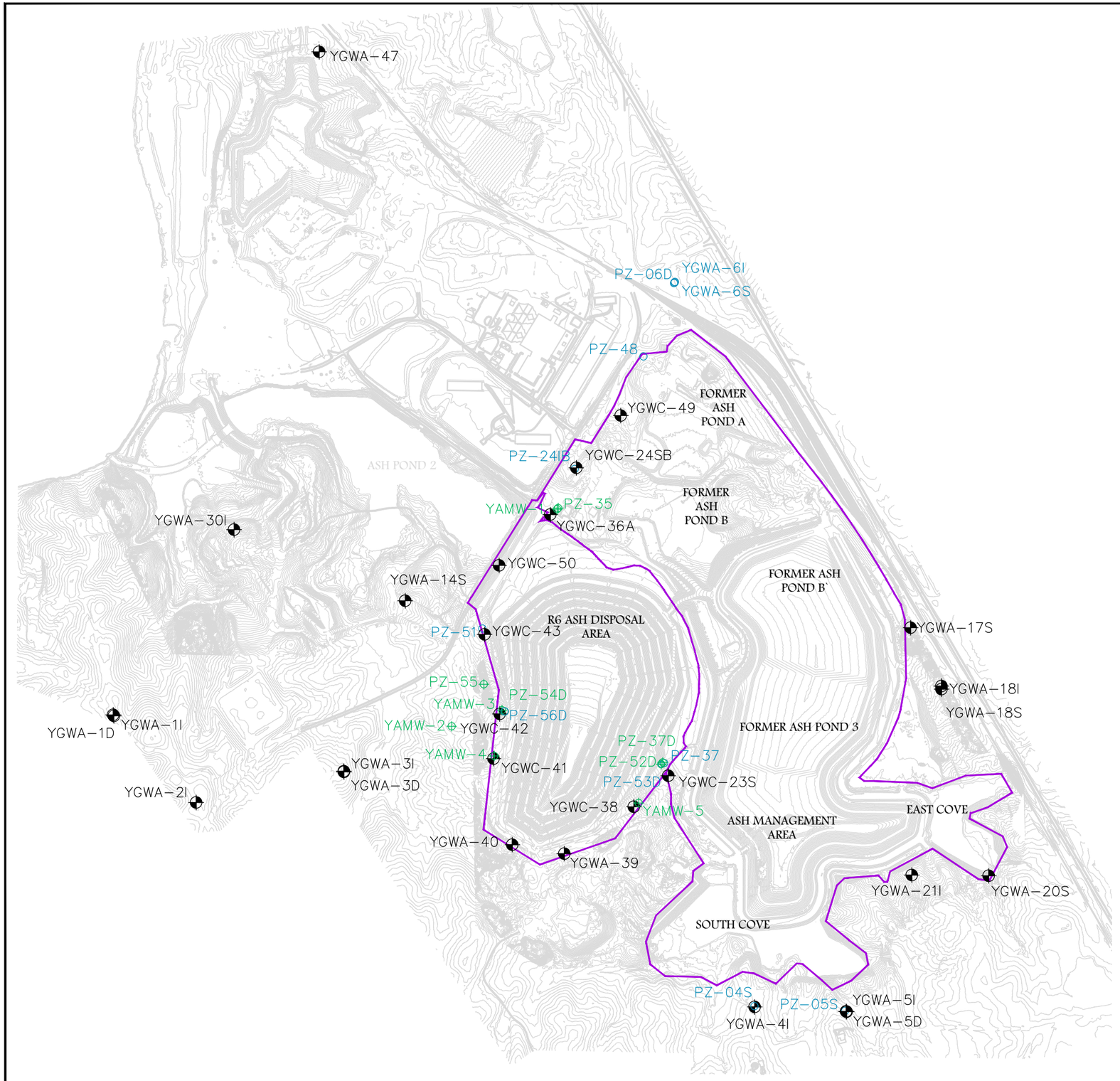
Georgia Power

GEORGIA POWER COMPANY
PLANT YATES MULTI-UNIT R6-AMA

SITE LOCATION MAP

PROJECT NO. I054-107 August 2025

DRAWN BY:	MM	FIGURE:
CHECKED BY:	MJ	1



900 0 450 900

SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
	BOUNDARY PER D&O PLAN
YGWC-38	DETECTION WELL LOCATION
YAMW-1	ASSESSMENT WELL LOCATION
PZ-04S	PIEZOMETER LOCATION

NOTES:
1. TOPOGRAPHIC SURVEY DATED JANUARY 22, 2024, JULY 26, 2021, AND MAY 26, 2017.

PROJECT

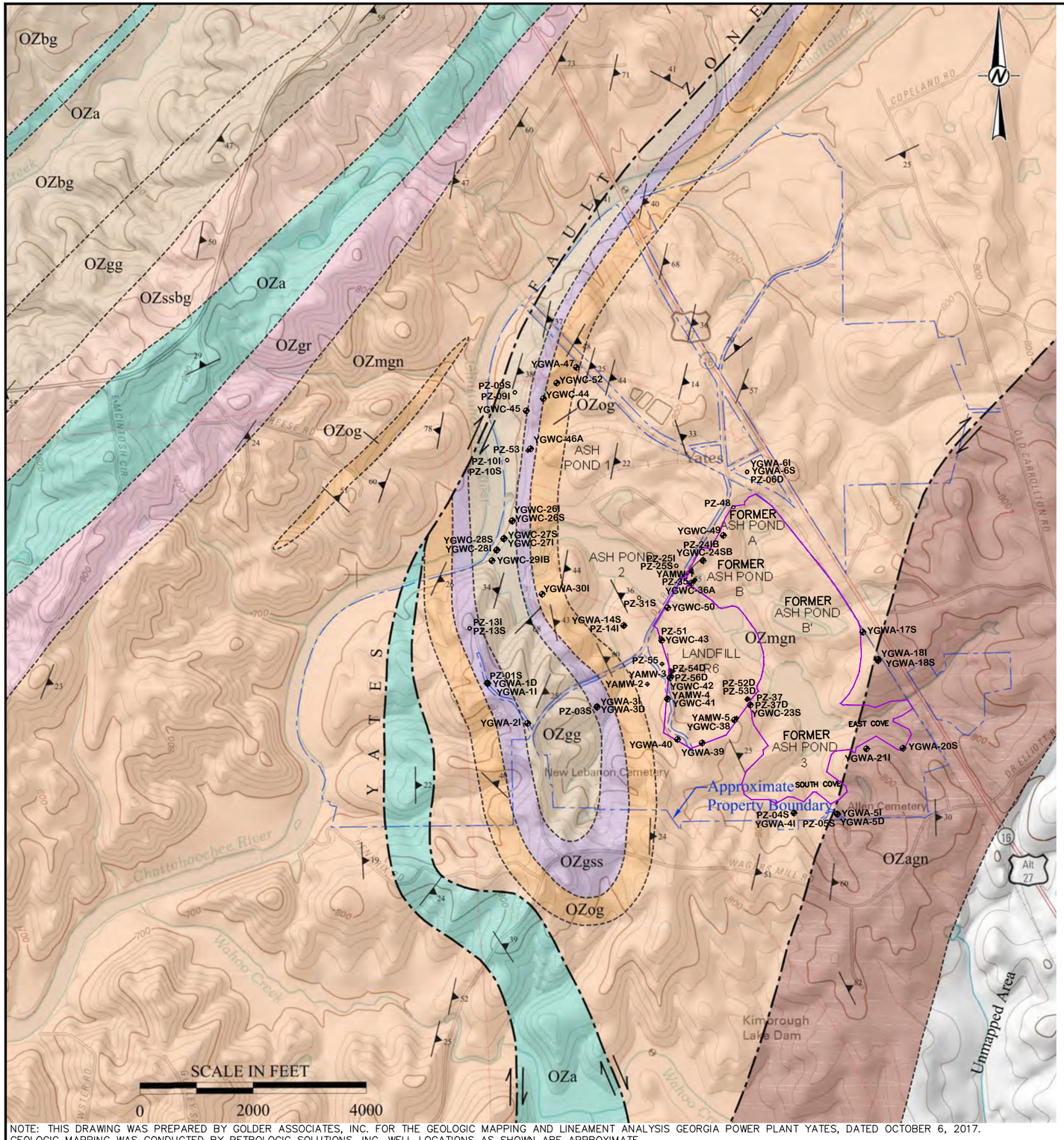
Georgia Power

GEORGIA POWER COMPANY
PLANT YATES MULTI-UNIT R6-AMA

MONITORING WELL NETWORK

PROJECT NO. I054-107 May 2025

DRAWN BY:	MM	FIGURE:	2
CHECKED BY:	MJ		



NOTE: THIS DRAWING WAS PREPARED BY GOLDER ASSOCIATES, INC. FOR THE GEOLOGIC MAPPING AND LINEAMENT ANALYSIS GEORGIA POWER PLANT YATES, DATED OCTOBER 6, 2017. GEOLOGIC MAPPING WAS CONDUCTED BY PETROLOGIC SOLUTIONS, INC. WELL LOCATIONS AS SHOWN ARE APPROXIMATE.

DESCRIPTION OF MAP UNITS

OZbg — ***Biotite Gneiss-***
garnet (small, minor)-muscovite-biotite-quartz-feldspar gneiss, fine- to medium-grained, schistose in part; interlayered with garnet (small, minor)-biotite-feldspar-quartz-muscovite schist, medium- to coarse-grained; some garnet-rich zones, all layereded with concordant and discordant pegmatite pods, lenses, and layers up to 10 feet thick; foliation wraps around pegmatite pods/lenses.

OZa — ***Amphibolite-***
amphibole/hornblende gneiss, thinly laminated, fine- to medium-grained hornblende and plagioclase; and chlorite-actinolite schist, very fine-grained; joints are close-spaced and abundant.

OZgg — ***Granitic-Gneiss-***
biotite-quartz-feldspar gneiss, very feldspathic; quartz and feldspar are medium- to coarse-grained; biotite is fine- to medium-grained. Muscovite is present where this gneiss is sheared. Shear foliation is commonly developed.

OZssbg — ***Biotite Gneiss and Sillimanite Schist-***
biotite-quartz-feldspar gneiss; interlayered with sillimanite, garnet, quartz, muscovite schist. Shear foliation is commonly developed.

OZog — ***Orange Gneiss-***
well layered, well foliated, moderately jointed, fine- to medium-grained, biotite-quartz-feldspar gneiss; this unit weathers fairly deeply relative to adjacent lithologies, forming a distinctive dark red, vermiculitic soil from weathering of biotite; the gneiss locally contains thin lenses of chlorite-actinolite schist and feldspar-hornblende gneiss/amphibolite, increasing in concentration of these ultramafic and mafic bodies to the southeast.

OZgr — ***Granite-***
generally massive, weakly foliated, poorly jointed, fine- to medium-grained, light-gray, large exfoliation boulders are common.

OZmgn — ***Migmatitic Gneiss-***
highly contorted, well layered, well foliated, poorly jointed, medium-grained muscovite-biotite-quartz-feldspar migmaticite gneiss. Granite is locally interlayered with biotite gneiss and pods/lenses of ultramafic bodies, which occur as relatively fresh, well foliated, unjointed boulders of medium- to course-grained actinolite-chlorite schist..

OZgss — ***Sillimanite Staurolite Garnet Schist-***
sillimanite-staurolite-garnet-biotite-quartz-muscovite schist, medium- to coarse-grained, sheared; staurolite and garnet are porphyroblastic, biotite and quartz content are highly variable, generally poorly weathered.

OZagn — ***Porphyroclastic Augen Gneissic-***
muscovite-biotite-quartz-feldspar gneissic granite, feldspathic; quartz and feldspar are medium- to coarse-grained; feldspar phenocrysts form porphyroclasts, biotite is fine- to medium-grained.

EXPLANATION OF MAP SYMBOLS

- Lithologic unit contact- Approximate location
- Fault (high angle)- Approximate location
- Fault (strike/slip)- Approximate location
- 65 — Strike and Dip of Foliation

REFERENCES

1. USGS 7.5 Minute Quadrangles, Whitesburg, 2011.
2. Property Boundary provided by Coweta County GIS Departm ent, 2015.

LEGEND:

EXISTING	DESCRIPTION
	BOUNDARY PER D&O PLAN
YGWC-38	DETECTION WELL LOCATION
YAMW-1	ASSESSMENT WELL LOCATION
PZ-04S	PIEZOMETER LOCATION

ATLANTIC COAST CONSULTING, INC.
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Roswell, GA
Savannah, GA
Knoxville, TN

PROJECT:

PLANT YATES
MULTI-UNIT
RG-AMA

708 Dyer Road
Newnan, Georgia

Georgia Power

REVISIONS

Drawn by:	Checked by:	QC by:
MM	MJ	

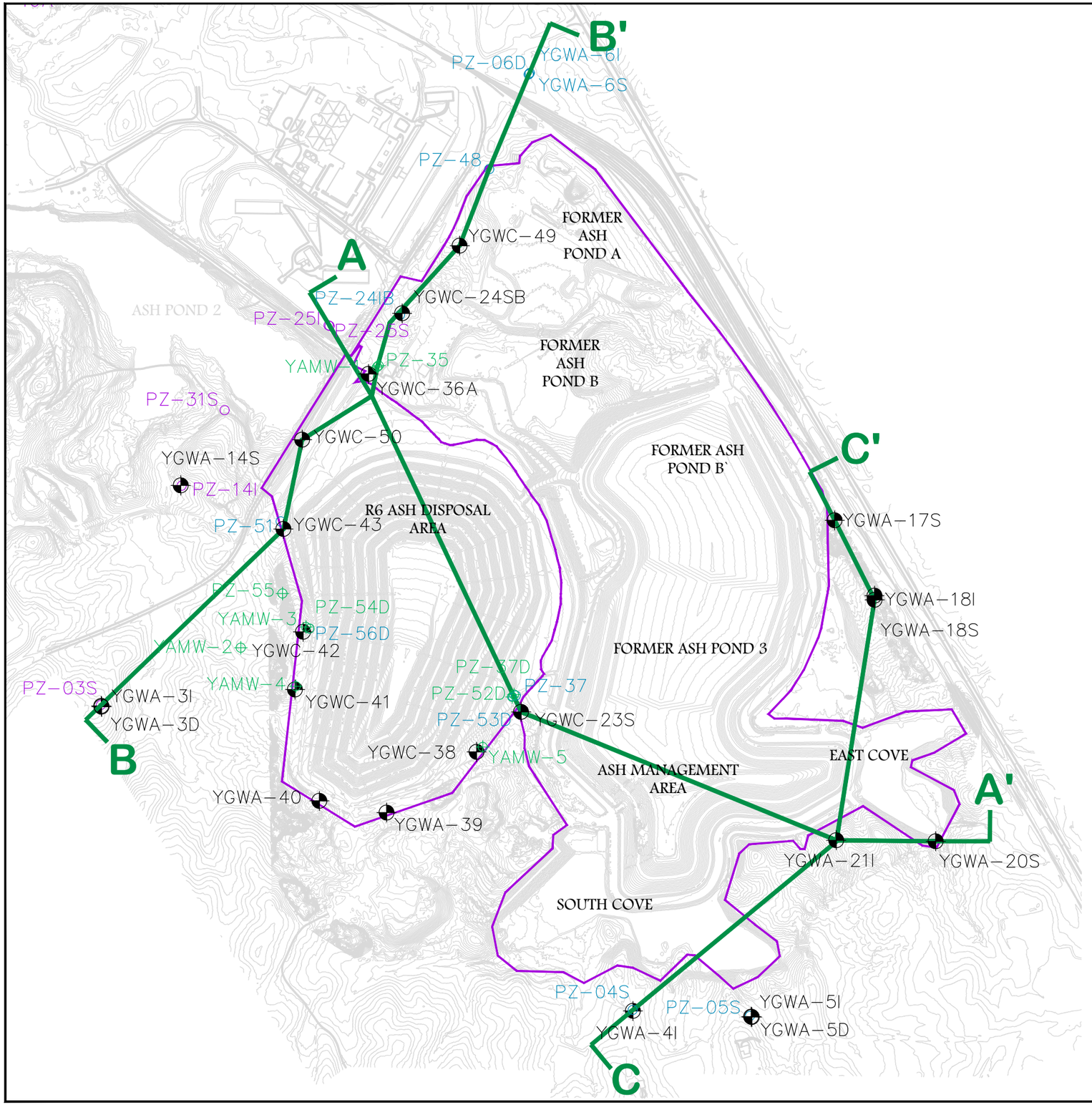
PROJECT NUMBER:

1054-107

August 2025

PLANT YATES
GEOLOGIC MAP

Figure 3



900 0 450 900

SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
	BOUNDARY PER D&O PLAN
YGWC-43	DETECTION WELL LOCATION
YAMW-1	ASSESSMENT WELL LOCATION
PZ-04S	PIEZOMETER LOCATION
PZ-25S	PIEZOMETER NOT ASSOCIATED WITH R6/AMA
A A'	CROSS-SECTION

NOTES:
1. TOPOGRAPHIC SURVEY DATED JANUARY 22, 2024, JULY 26, 2021, AND MAY 26, 2017.

HARRY M. JONES IV
No. 2141
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST

PROJECT

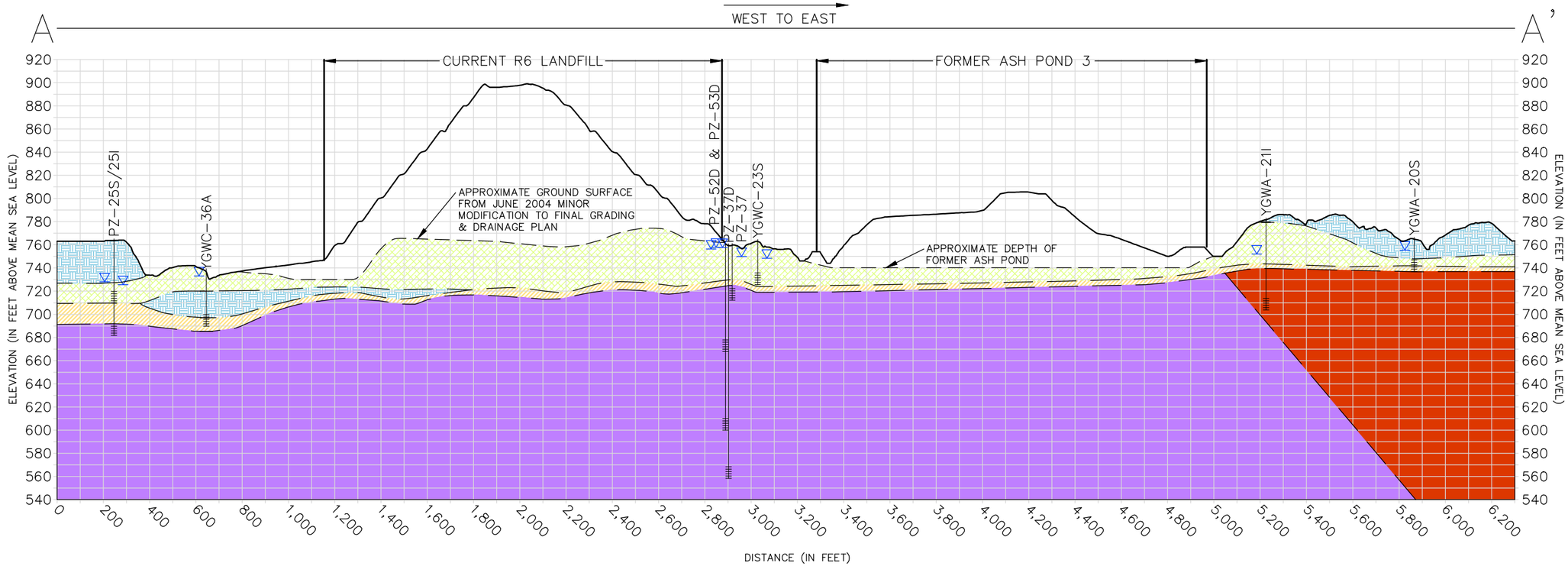
Georgia Power

GEORGIA POWER COMPANY
PLANT YATES MULTI-UNIT R6-AMA

CROSS-SECTION LOCATION MAP

PROJECT NO. I054-107 July 2025

DRAWN BY:	MM	FIGURE:
CHECKED BY:	MJ	4



SCALE:
1" = 500' HORIZONTAL
1" = 100' VERTICAL

NOTES:
1. APPROXIMATE GEOLOGIC SUBSURFACE CONTACTS AND DIP ANGLES BASED ON "GEOLOGIC MAPPING AND LINEAMENT ANALYSIS," BY GOLDER ASSOCIATES DATED OCTOBER 2017.
2. TOPOGRAPHIC GROUND SURFACE PROVIDED BY METRO ENGINEERING & SURVEYING DATED JULY 26, 2021 AND JANUARY 22, 2024.
3. DEPTH OF ASH POND 3 DERIVED FROM CLOSURE DRAWINGS BY ACC, INC. DATED NOVEMBER 2018.

LEGEND

- OZa (Amphibolite)
- OZgg (Granitic-Gneiss)
- OZog (Orange Gneiss)
- OZmgn (Migmatitic Gneiss)
- OZgss (Sillimanite Staurolite Garnet Schist)
- OZagn (Porphyroclastic Augen Gneissic)
- SILTY SAND
- CLAYEY SAND
- PARTIALLY WEATHERED ROCK
- EXISTING GROUND SURFACE
- LITHOLOGIC CHANGE
- MONITORING WELL
- WATER ELEVATION (AUGUST 2024 MEASUREMENT)
- WELL SCREEN

ATLANTIC COAST CONSULTING, INC.
770-594-5998
www.atlcc.net
Roswell, GA
Savannah, GA
Knoxville, TN

PROJECT:
PLANT YATES MULTI-UNIT R6-AMA
708 Dyer Road
Newnan, Georgia

Georgia Power

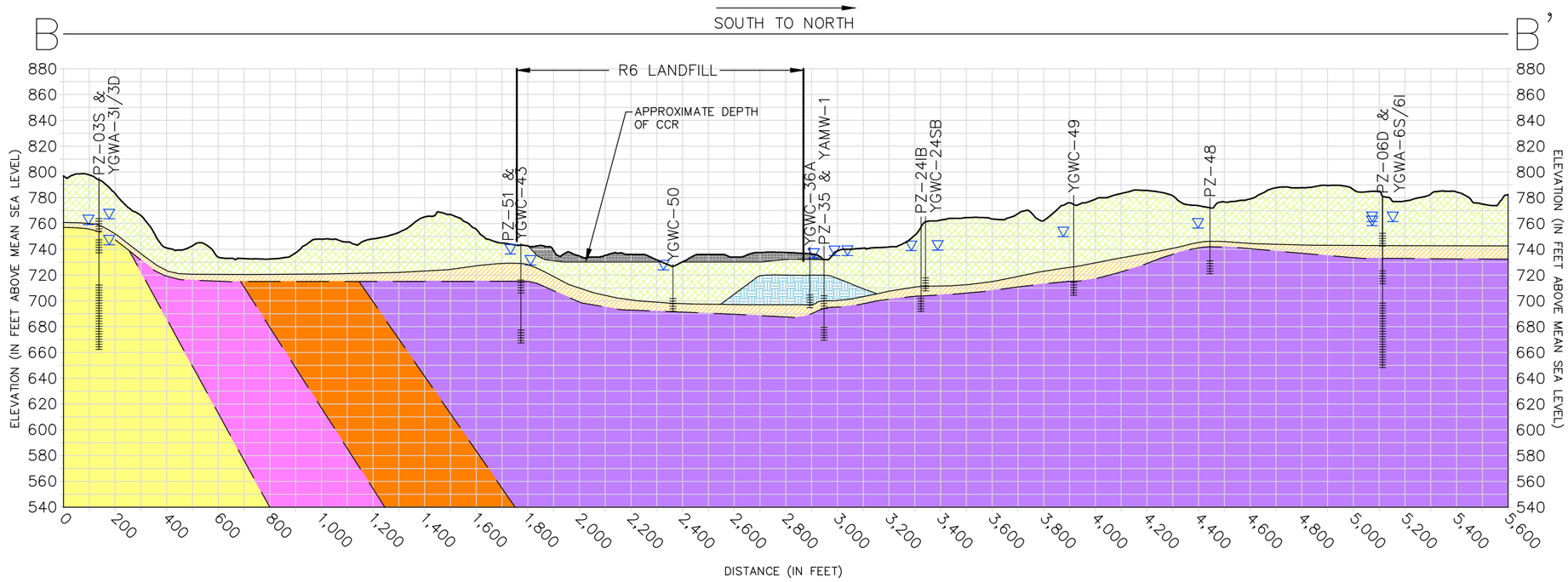
REVISIONS

Drawn by:	Checked by:	QC by:
MM	MJ	

PROJECT NUMBER:
1054-107
May 2025

SECTION A-A'

FIGURE 5



SCALE:
1" = 500' HORIZONTAL
1" = 100' VERTICAL

NOTES:
1. APPROXIMATE GEOLOGIC SUBSURFACE CONTACTS AND DIP ANGLES BASED ON "GEOLOGIC MAPPING AND LINEAMENT ANALYSIS," BY GOLDER ASSOCIATES DATED OCTOBER 2017.
2. TOPOGRAPHIC GROUND SURFACE PROVIDED BY METRO ENGINEERING & SURVEYING DATED JULY 26, 2021 AND JANUARY 22, 2024.

LEGEND

- OZa (Amphibolite)
- OZgg (Granitic-Gneiss)
- OZog (Orange Gneiss)
- OZmgn (Migmatitic Gneiss)
- OZgss (Sillimanite Staurolite Garnet Schist)
- OZagn (Porphyroclastic Augen Gneissic)
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Georgia Power

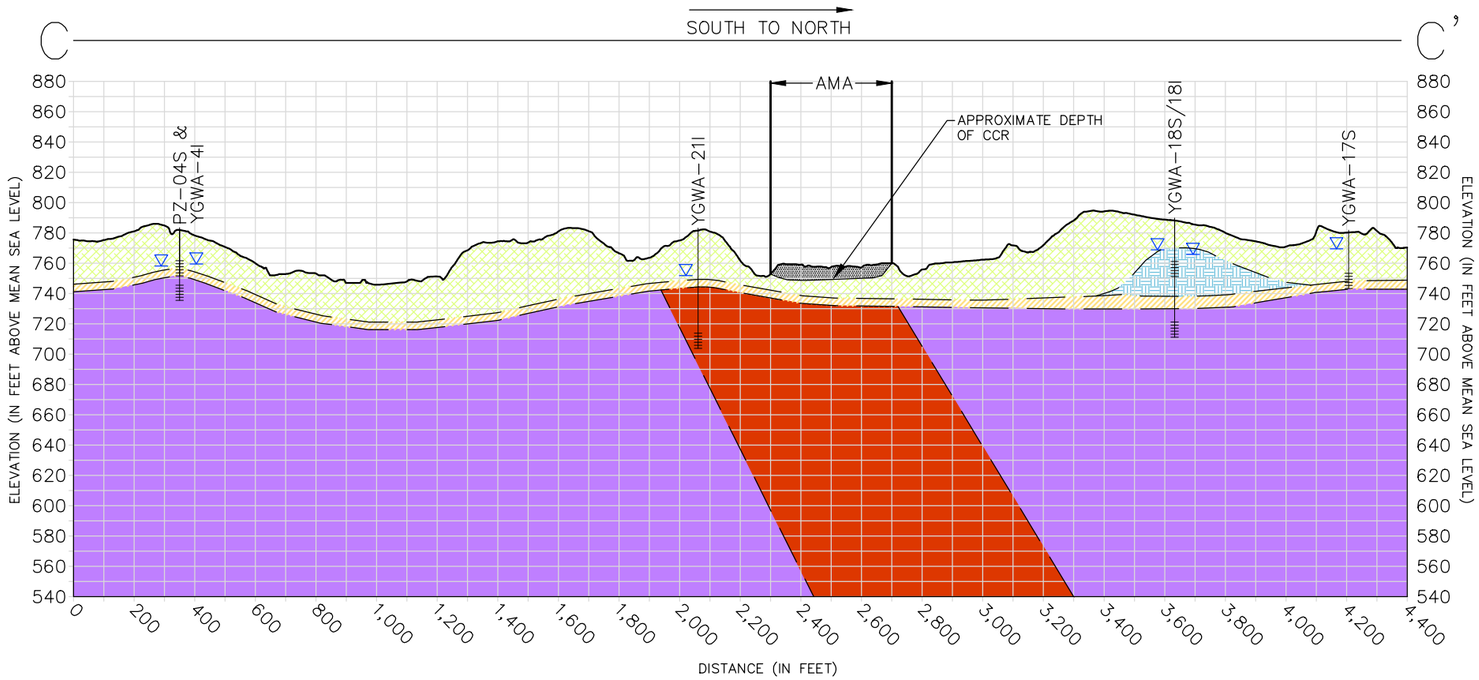
REVISIONS

Drawn by:	Checked by:	QC by:
MM	MJ	

PROJECT NUMBER:
1054-107
July 2025

SECTION B-B'

FIGURE 6



SCALE:
1" = 500' HORIZONTAL
1" = 100' VERTICAL

NOTES:
1. APPROXIMATE GEOLOGIC SUBSURFACE CONTACTS AND DIP ANGLES BASED ON "GEOLOGIC MAPPING AND LINEAMENT ANALYSIS," BY GOLDER ASSOCIATES DATED OCTOBER 2017.
2. TOPOGRAPHIC GROUND SURFACE PROVIDED BY METRO ENGINEERING & SURVEYING DATED JULY 26, 2021 AND JANUARY 22, 2024.

LEGEND

- OZa (Amphibolite)
- OZgg (Granitic-Gneiss)
- OZog (Orange Gneiss)
- OZmgn (Migmatitic Gneiss)
- OZgss (Sillimanite Staurolite Garnet Schist)
- OZagn (Porphyroclastic Augen Gneissic)
- SILTY SAND
- CLAYEY SAND
- PARTIALLY WEATHERED ROCK
- EXISTING GROUND SURFACE
- LITHOLOGIC CHANGE
- MONITORING WELL
- WATER ELEVATION (AUGUST 2024 MEASUREMENT)
- WELL SCREEN

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PLANT YATES
MULTI-UNIT
R6-AMA
708 Dyer Road
Newnan, Georgia

Georgia Power

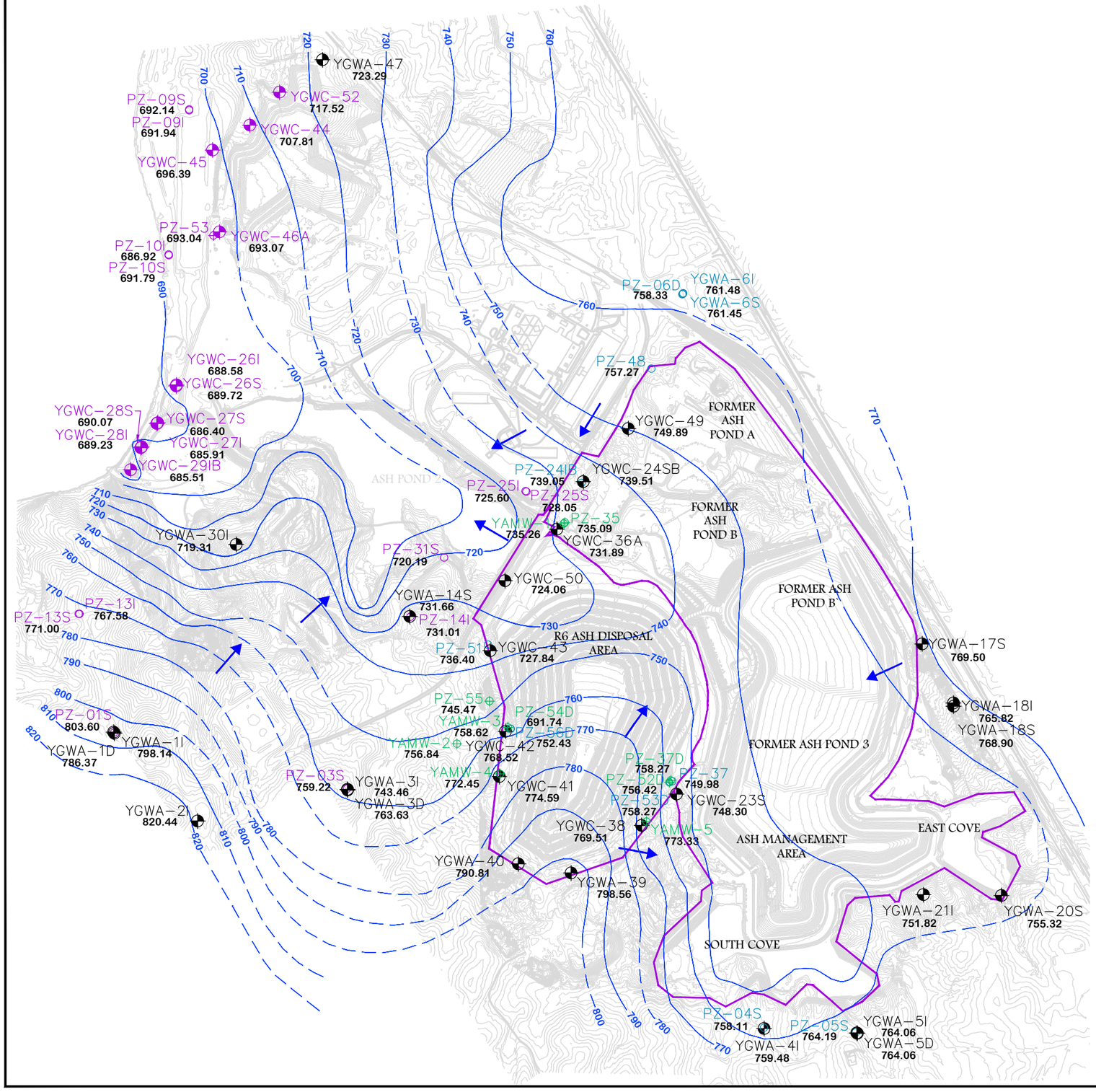
REVISIONS

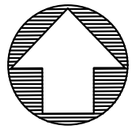
Drawn by:	Checked by:	QC by:
MM	MJ	

PROJECT NUMBER:
1054-107
May 2025

SECTION C-C'

FIGURE 7





900 0 450 900

SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
	BOUNDARY PER D&O PLAN
YGWC-43	DETECTION WELL LOCATION
YAMW-1	ASSESSMENT WELL LOCATION
PZ-04S	PIEZOMETER LOCATION
YGWC-46A	DETECTION WELL NOT ASSOCIATED WITH R6-AMA
PZ-53	ASSESSMENT WELL NOT ASSOCIATED WITH R6-AMA
PZ-01S	PIEZOMETER NOT ASSOCIATED WITH R6/AMA
804.10	GROUNDWATER ELEVATION
750 — 750	GROUNDWATER ELEVATION CONTOUR (DASHED LINE WHERE INFERRED)
	GROUNDWATER FLOW DIRECTION

NOTES:
1. TOPOGRAPHIC SURVEY DATED JANUARY 22, 2024, JULY 26, 2021, AND MAY 26, 2017.
2. POTENTIOMETRIC SURFACE CONTOURS, GROUNDWATER ELEVATIONS, AND GROUNDWATER FLOW DIRECTIONS ARE DERIVED FROM FIGURE 5, SITEWIDE GROUNDWATER ELEVATION MAP, AUGUST 2024, FROM THE 2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT BY ARCADIS, DATED JANUARY 31, 2025.

PROJECT

Georgia Power

GEORGIA POWER COMPANY
PLANT YATES MULTI-UNIT R6-AMA

AUGUST 2024 POTENTIOMETRIC SURFACE CONTOUR MAP

PROJECT NO. I054-107

October 2025

DRAWN BY:	MM
CHECKED BY:	MJ

FIGURE: 8

APPENDICES

APPENDIX A
BORING AND WELL CONSTRUCTIONLOGS

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-1I
PAGE 1 OF 2
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/8/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 834.3 **COORDINATES:** N:1,256,876.13 E:2,070,097.91
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 51.3 ft. **GROUND WATER DEPTH: DURING** **COMP.** 33.18 ft. **DELAYED**
NOTES Top of Casing Elevation = 836.6

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Silt (ML) - reddish brown to rusty red, dry, stiff, low plasticity, very fine (silt/clay) with lower fine to upper fine sand grain, cohesive; trace mica; trace organics	831.3	← Surface Seal: concrete	832.3 (2.0)
5		**Silty Sand (SM)** - reddish brown to red (pink) with zones of light gray mottling, dry, medium dense to loose, no plasticity, lower fine to lower medium grain, noncohesive; trace gravel sized rock fragments; micaceous	828.3		
		Poorly-graded Sand with Silt (SP-SM) - rusty red with greenish gray mottling, damp, medium dense to dense, no plasticity, lower fine to upper fine grain, slightly cohesive; increasing fines (clay/silt); micaceous; quartz, plagioclase, muscovite, biotite, trace chlorite visible	825.3		
10		**Silty Sand (SM)** - reddish pink grading to light gray with pinkish to yellowish tan to dark brown mottling, damp, medium dense to loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; trace pea to gravel sized rock fragments; brittle rock fragments			
15		- SM: light gray/tan grading to reddish brown, damp, medium dense to loose, no plasticity, upper fine to upper medium grain, *saprolite*, slightly cohesive; zones of increased fines/clay content; completely weathered to residual soil; trace to little mica; quartz, plagioclase, muscovite, biotite visible		← Annular Fill: 90/10 Portland Cement/Bentonite Powder	
20					
25			808.3		
30		**Poorly-graded Sand with Silt (SP-SM)** - light brown/tan with rusty red to light gray to dark brown/black mottling, moist, medium dense, no plasticity, upper fine to upper medium grain, *saprolite*, slightly cohesive; remnant banding visible; trace mica			
35		▼	799.3		799.3 (35.0)
40		**Interlayered/Alternating Biotite Gneiss and Mica Schist** - light gray to white (gneiss) with zones of dark gray/black (schist), upper fine to lower coarse grain, medium hard to hard, slightly to not weathered, gneiss banding with zones of schistose foliation, quartz, plagioclase, biotite, muscovite, trace chlorite, pyrite, garnet; low to moderate angled fractures; most fracturing tends to occur in zones of		← Annular Seal: 3/8 Hole Plug (medium bentonite chips)	794.8

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED) ELEV. (DEPTH)
45		alternating gneiss and schist; no visible healing/fracture fill **Interlayered/Alternating Biotite Gneiss and Mica Schist** *(Con't)*		Filter: 20/30 Silica Sand Filter: 20/30 Silica Sand (39.5) 793.3 (41.0) **Well: 2" OD PVC (SCH 40)**
50		- Interlayered/Alternating Biotite Gneiss and Mica Schist: light gray to white (gneiss) with zones of dark gray/black (schist), upper fine to lower coarse grain, medium hard to hard, slightly to not weathered, gneiss banding with zones of schistose foliation, quartz, plagioclase, biotite, muscovite, trace chlorite, pyrite, garnet; low to moderate angled fractures; most fracturing tends to occur in zones of alternating gneiss and schist; no visible healing/fracture fill	783.3	Screen: 10 ft; pre-pack 783.3 Sump:0.30 ft. 783.0
		Bottom of borehole at 51.3 feet.		

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-1D
PAGE 1 OF 3
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/28/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 834.9 **COORDINATES:** N:1,256,867.34 E:2,070,104.61
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 126.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 45.89 ft. **DELAYED**
NOTES Top of Casing Elevation = 837.25

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				ELEV. (DEPTH)
		Silt (ML) - reddish brown to rusty red, dry, stiff, low plasticity, very fine (silt/clay) with lower fine to upper fine sand grain, cohesive; trace mica; trace organics	831.9	←Surface Seal: concrete 832.9 (2.0)
5		**Silty Sand (SM)** - reddish brown to red (pink) with zones of light gray mottling, dry, medium dense to loose, no plasticity, lower fine to lower medium grain, noncohesive; trace gravel sized rock fragments; micaceous	828.9	
		Poorly-graded Sand with Silt (SP-SM) - rusty red with greenish gray mottling, damp, medium dense to dense, no plasticity, lower fine to upper fine grain, slightly cohesive; increasing fines (clay/silt); micaceous; quartz, plagioclase, muscovite, biotite, trace chlorite visible	825.9	
10		**Silty Sand (SM)** - reddish pink grading to light gray with pinkish to yellowish tan to dark brown mottling, damp, medium dense to loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; trace pea to gravel sized rock fragments; brittle rock fragments		
15		- SM: light gray/tan grading to reddish brown, damp, medium dense to loose, no plasticity, upper fine to upper medium grain, *saprolite*, slightly cohesive; zones of increased fines/clay content; completely weathered to residual soil; trace to little mica; quartz, plagioclase, muscovite, biotite visible		
20				Annular Fill: 90/10 Portland Cement/Bentonite Powder
25			808.9	
		Poorly-graded Sand with Silt (SP-SM) - light brown/tan with rusty red to light gray to dark brown/black mottling, moist, medium dense, no plasticity, upper fine to upper medium grain, *saprolite*, slightly cohesive; remnant banding visible; trace mica		
30				
35			800.9	←
		Mica Schist with thinly interlayered/alternating Biotite Gneiss - dark gray/black to greenish gray (schist) with thin zones of med gray to light gray (Gneiss), lower fine to upper fine with trace lower medium to upper medium grain, medium hard to soft, slightly to moderately weathered, schistose foliation, trace banding, biotite, chlorite, muscovite, quartz, plagioclase, hornblende, trace garnet, pyrite with some pyrite being porphyroblastic; trace low angle fractures visible; fracturing tends to occur along schistose zones of		
40				

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED)
45		phyllosilicate minerals; no healing/fracture fill visible **Mica Schist with thinly interlayered/alternating Biotite Gneiss** *(Con't)*		
			788.4	
50		**Biotite Gneiss** - medium gray to light gray, very fine to lower medium grain, medium hard, not to slightly weathered, banded, quartz, plagioclase, muscovite, biotite, hornblende; low angle fractures visible; total to partial healing visible; some zones of orangish brown staining observed		Annular Fill: 90/10 Portland Cement/Bentonite Powder
55				
60		- Granitic Gneiss: very light gray to white, very fine to upper fine grain, hard to very hard, not weathered, slight/trace banding visible, quartz, plagioclase, muscovite, trace biotite (less mafic minerals than above); low to high angle fracturing observed; unable to distinguish between natural and mechanical fracturing; no visible healing/fracture fill;		
65				768.4 (66.5)
70		- Biotite Gneiss: medium gray to light gray, lower fine to upper medium grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, pyrite, hornblende (increase in mafic minerals); some zones of thinly interlayered (1-2 mm) greenish gray mica schist; low to moderately angled fractures visible; no visible healing/fracture fill; fracturing tends to occur along planes of thinly interlayered schist;		← Annular Seal: 3/8 Hole Plug (medium bentonite chips)
				762.7 (72.2)
75				← Filter: 20/30 Silica Sand
				759.2 (75.7)
			755.9	
80		**Mica Schist with thinly interlayered/alternating Biotite Gneiss** - dark gray to greenish gray, lower medium to upper medium with some upper coarse plagioclase /quartz grain, medium hard to soft, not to slightly weathered, schistose foliation, biotite, muscovite, quartz, plagioclase, pyrite; low angle fractures visible; no visible healing/fracture fill; thin zone of highly fractured (rubble zone) biotite gneiss with orangish brown staining @ approx. 88'		Screen: 50 ft; 0.01" slotted
85				

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-1D
PAGE 3 OF 3
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED)
90		**Mica Schist with thinly interlayered/alternating Biotite Gneiss** *(Con't)*		
95			738.4	
		Biotite Gneiss - medium gray to light gray, upper fine to lower coarse grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende; pyrite, garnet; @ approx. 109' thin zone with porphyroblastic garnets (2-5 mm in size); low to moderately angled fractures visible; trace to partial healing/some quartz/plagioclase fracture fill; @ approx. 110' thin (1') zone of amphibolite (very mafic, dark gray to black with white flecks, biotite, hornblende, plagioclase, trace quartz, trace pyrite in fractures; no visible texture; upper fine to upper medium grain size; low to high angled fractures; no visible healing/fracture fill, moderately hard to hard, not weathered (fresh))		
100				
105				Screen: 50 ft; 0.01" slotted **Well: 2" OD PVC (SCH 40)**
110				
115		- Biotite Gneiss: medium gray to light gray, upper fine to lower coarse grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende; pyrite, trace garnet; low to moderately angled fractures visible; trace to partial healing/some quartz/plagioclase fracture fill; highly fractured (rubble zone) @ approx. 125-126'		
120				
125			708.4	Sump:0.30 ft. 709.2 (125.7) 708.9

Bottom of borehole at 126.5 feet.

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

Note: Top of Casing Elevation = 805.62.

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **GWA-2**

Sheet 1 of 2

SITE	**Plant Yates**			HOLE DEPTH	**49.5**	SURF.ELEV.	803.1
LOCATION	Gypsum Stacking Area			COORDINATES N	1,261,383.11	E	2,073,509.98
ANGLE	0	BEARING	0	CONTRACTOR	SCS, Inc.	DRILL NO.	
DRILLING METHOD	HAS/SS -31' Rock core-49.5'			NO. SAMPLES	6	NO. U.D. SAMPLES	0
CASING SIZE	6"	LENGTH		CORE SIZE	2"	TOTAL % REC.	
WATER TABLE DEPTH	37.6	ELEV.	767.71	TIME AFTER COMP.	0	DATE TAKEN	4/17/2007
TYPE GROUT	Portland Type I/II	QUANTITY	18 gallons	MIX	6 gal:94 lbs	DRILLING START DATE	4/16/2007
DRILLER	Shawn Milan	RECORDER	Lea Millet	APPROVED		DRILLING COMP. DATE	4/17/2007

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Penetration Test From To	Blows	N	Sample No.	Comments
	0	803.1						
	1	802.1						
	2	801.1						
	3	800.1						
	4	799.1						
	5	798.1	Orange and tan silty CLAY, dry, black mottling, high mica content	4.5-6.0	2/5/6	11		50%
	6	797.1						
	7	796.1						
	8	795.1						
	9	794.1						
	10	793.1	As above	9.5-11.0	4/4/5	9		40%
	11	792.1						
	12	791.1						
	13	790.1						
	14	789.1						
	15	788.1	As above - last 3" starting into saprolite	14.5-16.0	3/5/7	12		50%
	16	787.1						
	17	786.1						
	18	785.1						
	19	784.1						
	20	783.1	Orange gneissic saprolite with mica, dry, weathered feldspar pebbles	19.5-21.0	4/3/8	11		50%
	21	782.1						
	22	781.1						
	23	780.1						
	24	779.1						

SOUTHERN COMPANY
Energy to Serve Your World™

DRILLING LOG

GEOLOGICAL SERVICES

Hole No. GWA-2

Sheet 2 of 2

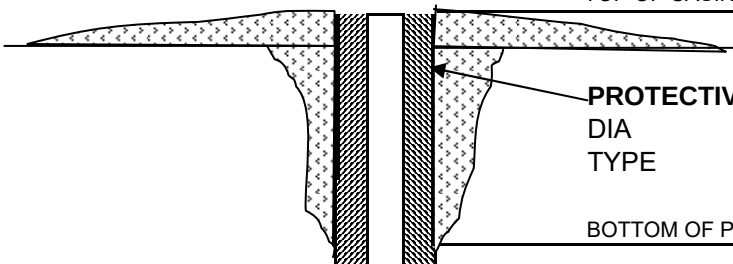
SITE **Plant Yates** OTAL DEPTH **49.5** SURF.ELEV. 805.31

Graphic Log	Depth	Elev.	Material Description, Classification and Remarks	Standard Penetration Test From To	Blows	N	Sample No.	Comments
	25	778.1	As above, no pebbles	24.5-26.0	4/4/50-3	R		
	26	777.1						
	27	776.1						
	28	775.1						
	29	774.1						
	30	773.1	Granular gneissic saprolite	29.5-31.0	50-3	R		20
	31	772.1	32' - Top of Rock					
	32	771.1	Black & white schist, verging on gneiss - chlorite, biotite, white	32-40				
			minerals	7.9/8				
	33	770.1	Fracture with iron staining, chlorite/biotite schist					
			33.7-Fracture with iron staining					
	34	769.1	Fracture with pyrite					
	35	768.1	Schist verging on gneiss, iron staining, small amount pyrite					
	36	767.1	Chlorite/biotite schist, iron staining, light clay rind					
			36.9-Iron staining in fracture					
	37	766.1	Fracture with clay rind					
			37.1-Clay rind with minimal pyrite					
	38	765.1	Visible amphibole					
	39	764.1	Pyrite crystal, high chlorite content					
	40	763.1	Abundant pyrite	40-45				
				4.8/5				
	41	762.1	Thin clay rind					
	42	761.1						
			42.7-High chlorite content, heavier clay rind					
	43	760.1	Gneissic with visible biotite books, chlorite, pyrite, thin clay rind					
	44	759.1						
				45-50				
	45	758.1	Chlorite/biotite schist, pyrite, thin clay rind	4/5				
	46	757.1	Visible amphibole					
	47	756.1	Gneissic, visible biotite, pyrite					
	48	755.1	Schistic, visible amphibole, clay rind					
			48.1-Heavy clay rind					
	49	754.1						
			49.5- Bottom of Boring					
	50	753.1						
	51							
	52							
	53							
	54							
	55							
	56							

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG		PROJECT	Background well installation	WELL NO.
SITE	Plant Yates	LOCATION	Gypsum Stacking Area	
DATE STARTED	4/17/2007	ENDED 4/17/2007	PREPARED L. Millet	GWA-2



	DEPTH	ELEVATION
TOP OF CASING		805.62
GROUND SURFACE	0	803.1
PROTECTIVE CASING DIA 4" TYPE Sch 40 PVC		
BOTTOM OF PROTECTIVE CASING	2	801.1
BACKFILL MATERIAL TYPE Portland Type I/II		
RISER CASING DIA 2" TYPE Sch 40 PVC		
WATER LEVEL: 37.6		
TOP OF SEAL	35.3	767.8
ANNULAR SEAL TYPE Bentonite		
TOP OF FILTER PACK	37.3	765.8
FILTER PACK TYPE: Grade 1A Filter Sand		
BOTTOM OF RISER/ TOP OF SCREEN	39.3	763.8
SCREEN DIA 2" TYPE Sch 40 PVC OPENING WIDTH 0.01 OPENING TYPE Slot		
BOTTOM OF SCREEN	49.3	753.8
BOTTOM OF CASING	49.3	753.8
BOTTOM OF HOLE	49.5	753.6

HOLE DIA: 6"

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-2I
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ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/8/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 864.0 **COORDINATES:** N:1,256,144.08 E:2,070,790.49
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 61.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 41.44 ft. **DELAYED**
NOTES Top of Casing Elevation = 866.25

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				ELEV. (DEPTH)
		Sandy Silt (ML) - rusty red, damp, stiff to very stiff, low plasticity, very fine to fine grain, cohesive; trace organics; micaceous	861.5	← Surface Seal: concrete 862.0 (2.0)
5		**Silty Sand (SM)** - rusty red to orangish brown, dry, loose, no plasticity, lower fine to upper fine grain, noncohesive; fine gravel sized rock fragments included; micaceous - SM: light brown to tan with some yellowish brown to rusty red mottling, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, completely weathered/residual soil; noncohesive; fine to coarse gravel sized rock fragments included; rock fragments highly weathered and brittle with angular to subangular angularity; micaceous - SM: *saprolite*, rock fragments increase in size and are less brittle/ more competent with depth; angular rock fragment angularity		
10				
15				
20		- SM: light gray to light brown, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, continued rock fragment size increase (fine to coarse gravel sized); included rock fragments brittle/highly weathered to harder/ more competent; angular rock fragments; minimal to no mottling visible;		Annular Fill: 90/10 Portland Cement/Bentonite Powder ←
25				
30		- SM: light gray to tan, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, coarse gravel with some cobble sized rock fragments; included rock fragments harder/more competent but brittle along cleavage planes of included micas (muscovite and biotite); angular rock fragments, micaceous rock fragments are gray to brown in color		
35			829.0	
		Partially Weathered Rock - light gray to tan, Pulverized Rock (powder) due to sonic drilling; no describable sample - No Recovery (36' - 40')		
40			824.0	

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-2I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
				(CONTINUED)	
45		**Interlayered Biotite Gneiss and Granitic Gneiss** - dark gray (Biotite Gneiss) to med gray to light gray (Granitic Gneiss), lower fine to upper fine with zones of lower medium to upper medium grain, medium hard, slightly weathered, slight banding visible, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, garnet visible; very thin 0.5 - 1.0 cm interlayered greenish gray to black schist; visible zones of predominately mafic minerals (Biotite Gneiss) and predominately felsic minerals (Granitic Gneiss); schistose foliation visible in some zones and in areas of mechanical fracture; moderate to high angle fractures visible; total to partial healing with quartz fracture fill		Annular Fill: 90/10 Portland Cement/Bentonite Powder	818.9 (45.1)
50				Annular Seal: 3/8 Hole Plug (medium bentonite chips)	814.3 (49.7)
				Filter: 20/30 Silica Sand	812.8 (51.2))
55		- Interlayered Biotite Gneiss/Granitic Gneiss/ Mica Schist: greenish black to greenish gray (Schist) to dark gray to medium gray (Biotite Gneiss) to light gray (Granitic Gneiss), lower fine to lower medium grain, medium hard, quartz, plagioclase, biotite, muscovite, hornblende pyrite, garnet and chlorite visible; faint banding visible within the interlayed zones of Gneiss and a schistose foliation visible in the zones of Mica Schist; decreasing high and moderate angled fracture increasing low angle fractures with apparent rubble zone @ approx. 54'-55'; minimal to no healing visible; hardness ranges from hard to moderately hard (Gneiss) to moderately soft (Schist); slight weathering in zones of softer schist with fresh Gneiss observed		**Well: 2" OD PVC (SCH 40)**	
				Screen: 10 ft; pre-pack	
60					802.8
			802.5	Sump:0.30 ft.	802.5

Bottom of borehole at 61.5 feet.

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-3I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 5/7/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 794.0 **COORDINATES:** N:1,256,405.20 E:2,072,024.20
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 56.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 46.38 ft. **DELAYED**
NOTES Top of Casing Elevation = 796.55

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Lean Clay (CL) - rusty red, moist, medium stiff, medium plasticity, very fine grain, cohesive; micaceous; trace organics		← Surface Seal: concrete	792.0
			791.5		(2.0)
5		**Silt (ML)** - rusty red, damp, medium dense, low plasticity, very fine to lower fine grain, cohesive; trace clay; micaceous	789.0		
10		**Silty Sand (SM)** - reddish brown to pinkish red with orangish brown mottling, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains; micaceous; zone @ approx. 5-5.5' with competent but brittle, gravel to cobble sized angular rock fragments; zone (5-5.5' approx.) is completely weathered but rock fabric is visibly intact - SM: reddish brown to pinkish red with orangish brown to tan to light gray mottling, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains; quartz, plagioclase, muscovite identifiable; interbedded coarse gravel to cobble sized rock fragments; rock fragments brittle/friable to moderately hard; angular to subangular grains			
15				Annular Fill: 90/10 Portland Cement/Bentonite Powder	
20		- SM: reddish brown to light brown grading to tan to grayish brown to light gray (change in color alternated from light to dark depending on whether muscovite or biotite in more abundant), damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of remnant rock fabric visible; trace hard rock fragments included; quartz, plagioclase, muscovite, biotite identifiable; micaceous; angular to subangular grains		←	
25					
30		- SM: light brown to light gray/white with orangish brown and dark brown mottling, damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; quartz, plagioclase, muscovite, biotite identifiable; trace brittle, gravel sized rock fragments included; angular grains; micaceous			

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-3I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG | STRATA DESCRIPTION | ELEV. | WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

(CONTINUED) ELEV. (DEPTH)

Silty Sand (SM)*(Con't)*

- SM: light brown to light gray/white with orangish brown and dark brown mottling, damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, ***saprolite***, noncohesive; completely weathered to residual soil; quartz, plagioclase, muscovite, biotite identifyable; trace brittle, gravel sized rock fragments included; angular grains; micaceous

754.0

Granitic Gneiss

- light gray, very fine to upper fine grain, medium hard, slightly to moderately weathered, slight banding visible, limited recovery, sample primarily broken into gravel sized chips; quartz, plagioclase, biotite, hornblende, porphyroblastic pyrite; overall, sample is too broken up to identify fracturing, but some low angle fractures with partial quartz fracture fill is visible

749.0

Amphibolite

- dark gray to greenish gray to black, lower fine to upper fine grain, hard, not weathered, slight banding visible in some zones with increased biotite, trace zones with a slight schistose foliation, hornblende, biotite, plagioclase, trace quartz, trace pyrite; zone of augen plagioclase with trace quartz; augen zone and fracture fill/pyrite have upper medium to lower coarse grain size; grain size decreases with depth; low to high angle fractures visible

744.0

Biotite Gneiss

- medium gray to light gray, lower fine to upper medium grain, hard, not weathered, banded, quartz, plagioclase, biotite, hornblende visible; trace low angle fractures visible; total healing/quartz fracture fill; zone of very coarse grained quartz and plagioclase (Granulite? high grade metamorphic)

737.5

Bottom of borehole at 56.5 feet.

Annular Fill: 90/10 Portland Cement/Bentonite Powder

752.7
(41.3)

Annular Seal: 3/8 Hole Plug (medium bentonite chips)

749.0
Filter: 20/30 Silica Sand
(45.0)
747.7
(46.3)

Well: 2" OD PVC (SCH 40)

Screen: 10 ft; pre-pack

737.7
Sump:0.20 ft.
737.5

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-3D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 5/6/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 794.1 **COORDINATES:** N:1,256,399.94 E:2,072,026.21
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 131.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 28.62 ft. **DELAYED**
NOTES Top of Casing Elevation = 796.78

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Lean Clay (CL) - rusty red, moist, medium stiff, medium plasticity, very fine grain, cohesive; micaceous; trace organics	791.6	← Surface Seal: concrete	792.1 (2.0)
5		**Silt (ML)** - rusty red, damp, medium dense, low plasticity, very fine to lower fine grain, cohesive; trace clay; micaceous	789.1		
10		**Silty Sand (SM)** - reddish brown to pinkish red with orangish brown mottling, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains; micaceous; zone @ approx. 5-5.5' with competent but brittle, gravel to cobble sized angular rock fragments; zone (5-5.5' approx.) is completely weathered but rock fabric is visibly intact - SM: reddish brown to pinkish red with orangish brown to tan to light gray mottling, dry, loose, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains; quartz, plagioclase, muscovite identifiable; interbedded coarse gravel to cobble sized rock fragments; rock fragments brittle/friable to moderately hard; angular to subangular rock fragments			
15				Annular Fill: 90/10 Portland Cement/Bentonite Powder	
20		- SM: reddish brown to light brown grading to tan to grayish brown to light gray (change in color alternated from light to dark depending on whether muscovite or biotite in more abundant), damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of remnant rock fabric visible; trace hard rock fragments included; quartz, plagioclase, muscovite, biotite identifiable; micaceous; angular to subangular grains			
25					
30		▼ - SM: light brown to light gray/white with orangish brown and dark brown mottling, damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; quartz, plagioclase, muscovite, biotite identifiable; trace brittle, gravel sized rock fragments included; angular grains; micaceous			

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED)
35		**Silty Sand (SM)***(Con't)*		
		- SM: light brown to light gray/white with orangish brown and dark brown mottling, damp, loose with zones of medium dense, no plasticity, upper fine to lower medium grain, ***saprolite***, noncohesive; completely weathered to residual soil; quartz, plagioclase, muscovite, biotite, identifyable; trace brittle, gravel sized rock fragments included; angular grains; micaceous		
40			754.1	
		Granitic Gneiss		
		- light gray, very fine to upper fine grain, medium hard, slightly to moderately weathered, slight banding visible, limited recovery, sample primarily broken into gravel sized chips; quartz, plagioclase, biotite, hornblende, porphyroblastic pyrite; overall, sample is too broken up to identify fracturing, but some low angle fractures with partial quartz fracture fill is visible		
45			749.1	
		Amphibolite		
		- dark gray to greenish gray to black, lower fine to upper fine grain, hard, not weathered, slight banding visible in some zones with increased biotite, trace zones with a slight schistose foliation, hornblende, biotite, plagioclase, trace quartz, trace pyrite; zone of augen plagioclase with trace quartz; augen zone and fracture fill/pyrite have upper medium to lower coarse grain size; grain size decreases with depth; low to high angle fractures visible; fracturing tends to be very thin with moderate to total healing visible; grades to/alternates with Biotite Gneiss towards the bottom of the sample		Annular Fill: 90/10 Portland Cement/Bentonite Powder
50			744.1	
		Biotite Gneiss		
		- medium gray to light gray, lower fine to upper medium grain, hard, not weathered, banded, quartz, plagioclase, biotite, hornblende visible; trace low angle fractures visible; total healing/quartz fracture fill; zone of very coarse grained quartz and plagioclase (Granulite? high grade metamorphic) @ approx. 56', 30 mm thick plagioclase with a 10mm thick vertical seam of translucent, grayish quartz; quartz vein stops @ the contact with the gneiss above and below the zone		
55			735.1	
		Amphibolite		
		- dark gray to greenish gray to black, lower fine to upper fine grain, hard, not weathered, slight banding visible in some zones with increased biotite, hornblende, biotite, plagioclase, trace quartz, trace pyrite; low to high angle fractures visible; moderate to total healing visible		
60			731.1	
		Interlayered/Alternating Biotite Gneiss, Granitic Gneiss and thin (1-2 mm to 4-6 mm) Mica Schist		
		- medium gray to light gray (Gneiss) with dark gray to greenish gray (Schist), upper fine to lower medium grain, hard to medium hard, not to slightly weathered, banded, slight schistose foliation, quartz,		
65				

ELEV. (DEPTH)

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG

STRATA DESCRIPTION

plagioclase, biotite, hornblende, muscovite, pyrite visible; low to moderate angled fractures; partial to no visible healing; some visible staining around the interlayered zones of schist

ELEV. 726.1

Interlayered/Alternating Biotite Gneiss, Granitic Gneiss and thin (1-2 mm to 4-6 mm) Mica Schist *(Con't)*

Granitic Gneiss

- light gray, very fine to lower fine grain, hard, not weathered, slight banding (white with thin black bands), quartz, plagioclase, decreased biotite, increased muscovite, trace hornblende, trace pyrite; some muscovite grains are upper medium to lower coarse; high to moderate angled fractures; no visible healing/fracture fill

ELEV. 719.1

Interlayered/Alternating Biotite Gneiss, Granitic Gneiss and thin (1-2 mm to 4-6 mm) Mica Schist

- medium gray to light gray (Gneiss) with dark gray to greenish gray (Schist), upper fine to lower medium grain, hard to medium hard, not to slightly weathered, banded, slight schistose foliation, quartz, plagioclase, biotite, hornblende, muscovite, pyrite visible; low to moderate angled fractures; partial to no visible healing

ELEV. 710.1

Granitic Gneiss

- light gray, very fine to lower fine grain, hard, not weathered, slight banding (white with thin black bands), quartz, plagioclase, trace biotite, muscovite, trace hornblende, trace pyrite; some muscovite grains are upper medium to lower coarse; high to moderate angled fractures; no visible healing/fracture fill

ELEV. 708.1

Interlayered/Alternating Amphibolite and Biotite Gneiss

- dark gray to black (Amphibolite) with medium gray to light gray (Biotite Gneiss), lower fine to lower coarse grain, hard, not weathered, banded, hornblende, biotite, quartz, plagioclase, muscovite, pyrite; increase in pyrite content and crystal size from above; zones of porphyroblastic plagioclase, occurring along the amphibolite/gneiss contacts; high to moderate fractures visible; quartz fracture fill visible; grain size alternates throughout the sample from fine/medium/coarse

- Interlayered/Alternating Amphibolite and Biotite Gneiss: dark gray to black (Amphibolite) with medium gray to light gray (Biotite Gneiss), lower fine to lower coarse grain, hard, not weathered, banded, hornblende, biotite, quartz, plagioclase, muscovite, pyrite; increase in pyrite content and crystal size from above; zones of porphyroblastic plagioclase, occurring along the amphibolite/gneiss contacts; high to moderate fractures visible; quartz fracture fill visible

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

(CONTINUED)

ELEV. (DEPTH)

Annular Fill: 90/10 Portland Cement/Bentonite Powder

720.7
(73.4)

Annular Seal: 3/8 Hole Plug (medium bentonite chips)

715.7
(78.4)

Filter: 20/30 Silica Sand

712.9
(81.2)

Screen: 50 ft; 0.01" slotted

Well: 2" OD PVC (SCH 40)

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-3D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG

STRATA DESCRIPTION

ELEV.

Interlayered/Alternating Amphibolite and Biotite Gneiss *(Con't)*

- Interlayered/Alternating Amphibolite and Biotite Gneiss: dark gray to black (Amphibolite) with medium gray to light gray (Biotite Gneiss), lower fine to lower coarse grain, hard, not weathered, banded, hornblende, biotite, quartz, plagioclase, muscovite, pyrite; increase in pyrite content and crystal size from above; zones of porphyroblastic plagioclase, occurring along the amphibolite/gneiss contacts; high to moderate fractures visible; quartz fracture fill visible

677.6

Biotite Gneiss

- medium gray to light gray, lower fine to upper medium grain, hard, not to slightly weathered, banded, quartz, plagioclase, biotite, hornblende visible; trace low angle fractures visible; staining visible associated with weathering

- Biotite Gneiss: medium gray to light gray, lower fine to upper medium grain, hard, not to slightly weathered, banded, quartz, plagioclase, biotite, hornblende visible; @ approx. 127' slight mineral dissolution visible along with some staining

662.6

Bottom of borehole at 131.5 feet.

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

ELEV. (DEPTH)

(CONTINUED)

Screen: 50 ft; 0.01" slotted

662.9

Sump:0.30 ft.

662.6

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 20:30 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-4I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/10/2014 **COMPLETED** 5/21/2014 **SURF. ELEV.** 781.9 **COORDINATES:** N:1,254,436.68 E:2,075,455.62
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 46.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 17.72 ft. **DELAYED**
NOTES Top of Casing Elevation = 784.21

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.
		Sandy Silt (ML) - rusty red, damp, medium stiff, low plasticity, very fine grain, cohesive; micaceous; trace organics	779.4
5		**Silty Sand (SM)** - reddish brown to light brown, dry, medium dense to loose, no plasticity, lower fine to upper medium grain, some to trace clay decreasing with depth; trace mica; trace organics - SM: medium to light brown to tan, dry, loose, no plasticity, lower fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; noncohesive; trace rock fragments (brittle); trace mica	
10		- SM: light brown to tan grading to reddish brown @ 15', damp, loose, no plasticity, lower fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; noncohesive; trace rock fragments (brittle); trace mica	
15			
20		- SM: reddish brown to tan to white with a greenish tan zone @ approx. 18-20', moist, medium dense, no plasticity, lower fine to upper medium grain, *saprolite*, visible zones where saprolite has not completely broken down to residual soil and remnant rock fabric visible; zone of more competent saprolite observed; gravel sized rock fragments included; muscovite, biotite, chlorite phyllosilicates visible	
25			
30		- SM: orangish brown to light gray to white, moist, medium dense, no plasticity, lower fine to upper medium grain, *saprolite*, increasing rock fragment size and abundance with depth; rock fragments range from coarse gravel to cobble size; angular fragments	751.4
35		**Interlayered Granitic Gneiss and Biotite Gneiss** - light gray to white with rusty red to orangish brown staining, lower fine to lower medium grain, medium hard, moderately weathered, trace banding, quartz, biotite, muscovite, plagioclase, hornblende; low to moderate angle fractures visible; slight schistose foliation visible in some weathered zones; some zones highly weathered	
40		- Interlayered Granitic Gneiss and Biotite Gneiss: light gray to white with zones of dark gray to black, upper fine to lower medium grain, hard, slightly weathered, trace banding, quartz, biotite, muscovite, plagioclase, hornblende, trace garnet; thin zones (1-2 mm to 2-4 mm) of mica schist interlayered with the gneiss; low to moderate angled fractures; total healing observed with quartz fracture fill	
45			735.4

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

ELEV. (DEPTH)

- Surface Seal: concrete — 779.9 (2.0)
- Annular Fill: 90/10 Portland Cement/Bentonite Powder — 751.3 (30.6)
- Annular Seal: 3/8 Hole Plug — 747.4 (34.5)
- Filter: 20/30 Silica Sand — 745.7 (36.2)
- **Well: 2" OD PVC (SCH 40)**
- Screen: 10 ft; pre-pack
- Sump:0.30 ft. — 735.4

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 19:25 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

Bottom of borehole at 46.5 feet.

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-5I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/9/2014 **COMPLETED** 5/21/2014 **SURF. ELEV.** 782.1 **COORDINATES:** N:1,254,399.95 E: 2,076,218.86
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 56.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 13.66 ft. **DELAYED**
NOTES Top of Casing Elevation = 784.54

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
5		**Silty Sand (SM)** - brown, dry, medium dense, no plasticity, upper fine to lower medium grain, noncohesive; trace organics; angular to sub angular grains - SM: brown, dry, medium dense, no plasticity, upper fine to lower medium grain, slight increase in clay content with depth; cohesive (slight); trace mica; trace coarse grains	777.1	← Surface Seal: concrete	780.1 (2.0)
10		**Poorly-graded Sand (SP)** - light gray to off white, dry, very loose, no plasticity, upper fine to upper medium grain, noncohesive; upper coarse to coarse gravel sized weathered rock fragments; angular to subangular grains; angular rock fragments			
15		- SP: med gray to tan to light gray /white with orangish brown to greenish gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of more competent (completely weathered) rock increasing with depth; trace lenses of silt/clay interbedded within the sand/saprolite; brittle upper coarse to lower gravel sized rock fragments included; micaceous			
20		- SP: light gray/white grading to med gray with orangish brown to dark gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains		← Annular Fill: 90/10 Portland Cement/Bentonite Powder	
25					
30		- SP: light gray to med gray, damp, loose, no plasticity, upper fine to lower medium grain, *saprolite*, increasing in gravel sized rock fragments (completely weathered, very brittle)			
35					
40		- SP: medium gray to light gray, damp, loose, no plasticity, upper fine to upper coarse grain, *saprolite*, noncohesive; completely weathered to residual soil with zones of more competent but brittle rock fragments; angular grains; micaceous	742.1		

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-5I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
		(CONTINUED)		ELEV. (DEPTH)
		Partially Weathered Rock	741.1	741.8 (40.3)
		- light gray, Pulverized Rock (powder) due to sonic drilling; no describable sample		Annular Seal: 3/8 Hole Plug (medium bentonite chips)
		Biotite Gneiss		737.6
45		- light brown to light gray to white, upper fine to upper medium grain, medium hard to soft, moderately weathered, banded, quartz, biotite, muscovite, plagioclase, hornblende, trace chlorite; low to moderate angled fractures; no visible healing/fracture fill		Filter: 20/30 Silica Sand (44.5)
				735.9 (46.2)
				Well: 2" OD PVC (SCH 40)
50		- Biotite Gneiss: light gray to medium gray, upper fine to upper medium grain, medium hard to hard, moderately weathered, banded, quartz, biotite, muscovite, plagioclase, hornblende, trace chlorite; increase in mafic minerals; orangish brown staining visible in zones; low to moderate angled fractures visible; no visible healing/fracture fill; slight schistose foliation observed in zones		Screen: 10 ft; pre-pack
55				
			725.6	725.9 Sump:0.30 ft. 725.6
		Bottom of borehole at 56.5 feet.		

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-5D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/11/2014 **COMPLETED** 5/21/2014 **SURF. ELEV.** 781.9 **COORDINATES:** N:1,254,396.67 E:2,076,223,63
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 126.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 6.84 ft. **DELAYED**
NOTES Top of Casing Elevation = 784.53

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
				← Surface Seal: concrete	779.9 (2.0)
5		**Silty Sand (SM)** - brown, dry, medium dense, no plasticity, upper fine to lower medium grain, noncohesive; trace organics; angular to sub angular grains - SM: brown, dry, medium dense, no plasticity, upper fine to lower medium grain, slight increase in clay content with depth; cohesive (slight); trace mica; trace coarse grains	776.9		
10		**Poorly-graded Sand (SP)** - light gray to off white, dry, very loose, no plasticity, upper fine to upper medium grain, noncohesive; upper coarse to coarse gravel sized weathered rock fragments; angular to subangular grains; angular rock fragments			
15		- SP: med gray to tan to light gray /white with orangish brown to greenish gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of more competent (completely weathered) rock increasing with depth; trace lenses of silt/clay interbedded within the sand/saprolite; brittle upper coarse to lower gravel sized rock fragments included; micaceous			
20		- SP: light gray/white grading to med gray with orangish brown to dark gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
25					
30		- SP: light gray to med gray, damp, loose, no plasticity, upper fine to lower medium grain, *saprolite*, increasing in gravel sized rock fragments (completely weathered, very brittle)			
35				←	
40		- SP: medium gray to light gray, damp, loose, no plasticity, upper fine to upper coarse grain, *saprolite*, noncohesive; completely weathered to residual soil with zones of more competent but brittle rock fragments; angular grains; micaceous	742.1		

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED)
45		**Biotite Gneiss** - light gray to white with light brown to tan staining, lower fine to upper fine grain, medium hard to soft, slightly to moderately weathered, banded, quartz, biotite, plagioclase, muscovite, hornblende, trace chlorite; low angle fracturing visible; 1-2 mm to 6-8 mm thick quartz fracture fill; moderate to partial healing; visible weathering characteristics include staining/discoloration and some mineral decomposition		
50		- Biotite Gneiss: light gray to white with light brown to tan staining, lower fine to upper fine grain, medium hard, moderately weathered, banded, quartz, biotite, plagioclase, muscovite, hornblende, trace chlorite; low to moderate angle fracturing visible; some quartz fracture fill visible; partial to no visible healing		
55				Annular Fill: 90/10 Portland Cement/Bentonite Powder
60		- Interlayered/Alternating Biotite Gneiss and Mica Schist: alternating dark gray and white bands (Gneiss) interlayered with thin (1-2 mm to 5-6 mm) dark gray to greenish gray (Schist), upper fine to lower medium grain, medium hard to hard, not weathered, banded, slight schistose foliation associated with the interlayered mica schist, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite, trace chlorite; primarily low to moderate angled fracturing observed, difficult to distinguish between natural and mechanical fractures; no fracture healing visible; fracturing tends to occur along thinly interlayered zones of schist		
65		- Interlayered/Alternating Biotite Gneiss and Mica Schist: alternating dark gray and white bands (Gneiss) interlayered with thin (1-2 mm to 5-6 mm) dark gray to greenish gray (Schist), upper fine to lower medium grain, medium hard to hard, not weathered, banded, slight schistose foliation associated with the interlayered mica schist, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite, trace chlorite; primarily low to moderate angled fracturing observed; no to partial healing visible; fracturing tends to occur along thinly interlayered zones of schist; @ approx. 66' and 74', 90-120 mm thick zones of white, localized, coarse grained plagioclase feldspar and quartz (Granulite? unclassified metamorphic) with thinly interlayered mica schist; no banding visible in the plagioclase/quartz zone; trace augen plagioclase surrounded by flaky/bladed habit biotite and muscovite, around the zones associated with the coarse grain plagioclase		712.2 (69.7) Annular Seal: 3/8 Hole Plug (medium bentonite chips) 707.7 Filter: 20/30 Silica Sand (74.2)
70				
75				
80		- Interlayered/Alternating Biotite Gneiss and Mica Schist: alternating dark gray and white bands (Gneiss) interlayered with thin (1-2 mm to 5-6 mm) dark gray to greenish gray (Schist), upper fine to lower medium grain, medium hard to hard, not to slightly weathered, banded, slight schistose foliation associated with the interlayered mica schist, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite, trace chlorite; primarily low to moderate angled fracturing observed; no to partial healing visible; highly fractured (rubble zone) @ approx. 84-86' with some discoloration/staining		705.7 (76.2) Screen: 50 ft; 0.01" slotted
85		- Biotite Gneiss: light gray to white with dark gray to med gray bands, lower medium to upper medium with zones of lower coarse to trace		

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED) ELEV. (DEPTH)
90		upper coarse grain, medium hard to hard, not weathered, banded, trace schistose foliation, quartz, plagioclase, biotite, muscovite, hornblende, pyrite; decrease to trace interlayered dark gray to greenish gray mica schist; low to moderate angled fractures, no visible healing/ fracture fill **Biotite Gneiss***(Con't)*		
95			685.9	
100		**Interlayered/Alternating Unclassified Metamorphic and Biotite Gneiss** - white to light gray, lower medium (gneiss) to lower coarse to upper coarse (unclassified metamorphic) grain, hard, not weathered, no banding visible, quartz, plagioclase, biotite, muscovite, hornblende, pyrite; white, coarse grained plagioclase with thin inclusions of porphyroblastic biotite, muscovite crystals in alternating layers; low to moderate angled fractures, no visible healing/ fracture fill; difficult to distinguish between natural and mechanical fractures due to sonic drilling		
105			675.9	
110		**Biotite Gneiss** - alternating light gray and dark gray, lower medium to upper medium with trace lower coarse grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite; @ approx. 114-116', highly fractured (rubble zone -no visible weathering or healing/fracture fill) of greenish gray to dark gray to medium gray alternating schist and gneiss; low angled fractures visible; no visible healing/fracture fill		Screen: 50 ft; 0.01" slotted **Well: 2" OD PVC (SCH 40)**
115		- Biotite Gneiss: alternating light gray and dark gray, lower medium to upper medium with trace lower coarse grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite; low angled fractures visible; no visible healing/fracture fill		
120				
125		- Biotite Gneiss: alternating light gray and dark gray, lower medium to upper medium with trace lower coarse grain, medium hard to hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende, trace pyrite; low angled fractures visible; no visible healing/fracture fill	655.4	655.7 Sump:0.30 ft. 655.4

Bottom of borehole at 126.5 feet.

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-14S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/23/2014 **COMPLETED** 5/20/2014 **SURF. ELEV.** 746.8 **COORDINATES:** N:1,257,828.64 E:2,072,537.24
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 33 ft. **GROUND WATER DEPTH: DURING** **COMP.** 12.14 ft. **DELAYED**
NOTES Top of Casing Elevation = 748.76

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Clayey Sand (SC) - dark brown grading to rusty red/brown, damp, dense, no plasticity, lower fine to upper fine grain, cohesive; organics visible 0-8"' organics decreasing with depth; decreasing clay content with depth	743.3	Surface Seal: concrete	744.8 (2.0)
5		- SM: light brown/tan to orangish brown with zones of dark brown to rusty red, dry, loose, no plasticity, lower fine to lower medium with trace upper medium grain, *saprolite*, noncohesive; micaceous; visible mineralogy includes quartz, plagioclase, muscovite, biotite; completely weathered to residual soil; trace brittle rock fragments; zone of more competent rock fragments observed; lighter brown and tan zones, muscovite is the dominate mica visible; in darker brown zones biotite is the dominate mica visible; distinct platy crystal habit visible of micas (muscovite or biotite) within zones where saprolite is completly weathered and brittle but still competent enough not to be completeley broken down to residual soil		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
10					
15					731.9 (16.7)
20		- SM: light brown/tan to orangish brown with zones of dark brown to rusty red, damp, loose, no plasticity, upper fine to upper medium grain, *saprolite*, noncohesive; micaceous; trace lower coarse grains observed; increasing rock fragments with depth; in zones of more competent rock fragments/saprolite, remnant rock fabric visible; lighter brown and tan zones, muscovite is the dominate mica visible; in darker brown zones biotite is the dominate mica visible		Annular Seal: 3/8 Hole Plug (medium bentonite chips)	726.0 (20.8)
				Filter: 20/30 Silica Sand	724.1 (22.7)
25				**Well: 2" OD PVC (SCH 40)**	
30		- SM: light brown to tan to orangish brown, damp, loose, no plasticity, upper fine to upper medium grain, *saprolite*, noncohesive; micaceous; trace lower coarse grains observed; increasing rock fragments with depth; in zones of more competent rock fragments/saprolite, remnant rock fragment visible; saprolite (3.5-33.0') remained relatively consistent throughout the unit		Screen: 10 ft; pre-pack	
			713.8	Sump:0.30 ft.	714.1. 713.8

Bottom of borehole at 33.0 feet.

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/23/14 13:22 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-17S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/10/2015 **COMPLETED** 9/10/2015 **SURF. ELEV.** 780.2 **COORDINATES:** N:1,257,602.79 E:2,076,758.31
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 37 ft. **GROUND WATER DEPTH: DURING** 15 ft. **COMP.** 20 ft. **DELAYED** 10.3 ft. after 24 hrs.
NOTES Top of casing elev: 783.05

DEPTH (ft)	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
	Silty Sand (SM)				Completion: protective aluminum cover with bollards; 4-foot square concrete pad
	- very pale brown (10YR 7/3) dry, fine to coarse-grained, with mica				Surface Seal: concrete
5	- mottled very pale brown (10YR 7/3) and white (10YR 8/1)				
	- pale brown (10YR 6/3)				
10	- brownish yellow (10YR 6/8)				Annular Fill: cement-bentonite grout
	- light reddish brown (2.5YR 7/3) thin banding				
15	- white (10YR 8/1) wet, massive feldspar and quartz seam				
	- light reddish brown (2.5YR 7/3)				
	- light reddish brown (2.5YR 7/4) wet				
20					
	- mottled pale yellow (2.5Y 8/3) and white / yellowish gray (5Y 8/1)				Annular Seal: bentonite pellets
25					Filter: silica filter sand
30	- grayish brown (2.5Y 5/2) saprolite				**Standpipe: 2" OD PVC (SCH 40)**
	- banded pale yellow (2.5Y 7/3) and white / yellowish gray (5Y 8/1)				Screen: 10 ft; pre-pack
35					
	Bottom of borehole at 37.0 feet.				Sump:0.299999999999997 ft.
40					

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:03 - \\ALTRCFP01\WSHAUGNE$\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-18S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/4/2015 **COMPLETED** 9/8/2015 **SURF. ELEV.** 787.6 **COORDINATES:** N:1,257,116.05 E: 2,077,015.25
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 37 ft. **GROUND WATER DEPTH: DURING** 18 ft. **COMP.** 19 ft. **DELAYED** 18.5 ft. after 24 hrs.
NOTES Top of casing elev: 790.57

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
		Clayey Sand (SC) - yellowish red (5YR 5/8) dry, no, fine to medium-grained				Completion: protective aluminum cover with bollards; 4-foot square concrete pad
5		- with mica				Surface Seal: concrete
		Silty Sand (SM) - mottled reddish yellow (7.5YR 6/8) and very pale brown (10YR 8/4) dry, fine to medium-grained, with mica				
10		- mottled pale yellow (2.5Y 7/4) and very pale brown / very pale orange (10YR 8/2) dry				Annular Fill: cement-bentonite grout
15		- moist - saprolite				
		- banded light yellowish brown (2.5Y 6/3) and white (N9) moist, fine to coarse-grained				
20		- pale olive (5Y 6/3) very moist, fine to medium-grained - mottled light yellowish brown (2.5Y 6/3) and dark olive brown (2.5Y 3/3) - mottled pale olive (5Y 6/3), dark olive brown (2.5Y 3/3) and white (N9)				
25		- wet				Annular Seal: bentonite pellets Filter: silica filter sand
		- wet				
		Clayey Silty Sand (SC-SM) - pale olive / dusky yellow (5Y 6/4) saturated, fine to coarse-grained, with mica				
30		- mottled olive / moderate olive brown (5Y 4/4) and white (N9)				**Standpipe:** **2" OD PVC (SCH 40)**
		- pale yellow (5Y 8/2)				Screen: 10 ft; pre-pack
35		- banded olive brown (2.5Y 4/4) and white (N9) - regolith - mottled pale yellow (5Y 7/3) and pale yellow (2.5Y 8/2) wet				Sump:0.299999999999997 ft.
		Bottom of borehole at 37.0 feet.				
40						

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:03 - \\ALTRCFP01\WSHAUGNE$\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-18I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/3/2015 **COMPLETED** 9/8/2015 **SURF. ELEV.** 787.9 **COORDINATES:** N:1,257,090.05 E: 2,077,015.82
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 77 ft. **GROUND WATER DEPTH: DURING** **COMP.** 19 ft. **DELAYED** 18.5 ft. after 24 hrs.
NOTES Top of casing elev: 790.57

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
		Clayey Sand (SC) - olive / light olive brown (5Y 5/6) moist, fine to coarse-grained				Completion: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete
5		**Silty Sand (SM)** - mottled strong brown (7.5YR 5/6) and very pale brown / grayish orange (10YR 7/4) dry, fine to coarse-grained, with mica				
		- pale yellow (2.5Y 8/3) dry, some residual quartz gravel				
10		- pale yellow (2.5Y 7/3)				
15		- mottled pale yellow (2.5Y 7/3) and yellow (2.5Y 7/6)				
		- mottled light brownish gray (2.5Y 6/2) and light gray (2.5Y 7/1) damp				
20		**Clayey Silty Sand (SC-SM)** - mottled pale yellow (2.5Y 7/4) and white / yellowish gray (5Y 8/1) wet, fine to coarse-grained, massive white quartz+feldspar (completely weathered), with mica - mottled pale yellow (2.5Y 7/3) and white (2.5Y 8/1)				Annular Fill: cement-bentonite grout
25		- white / yellowish gray (5Y 8/1) fine to coarse-grained, massive white quartz+feldspar (completely weathered), with mica - pale olive (5Y 6/3)				
30		- banded light olive gray (5Y 6/2) and white (2.5Y 8/1) wet, fine to coarse-grained, with mica				
		- banded light yellowish brown (2.5Y 6/3) and white (2.5Y 8/1)				
35		- saprolite				
40		- mottled light gray (2.5Y 7/2) and white (2.5Y 8/1) wet, fine to coarse-grained				

(Continued Next Page)

LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
45		**Clayey Silty Sand (SC-SM)** *(Con't)* - mottled light gray (2.5Y 7/2) and white / yellowish gray (5Y 8/1) massive quartz+feldspar - mottled dark yellowish brown (10YR 4/6) and very dark gray (10YR 3/1) weathered schist seam - mottled light gray (2.5Y 7/2) and white (2.5Y 8/1)				Completion: protective aluminum cover with bollards; 4-foot square concrete pad (CONTINUED)
50		**Silty Sand (SM)** - brown (10YR 5/3) wet, cohesive, fine to coarse-grained				
55		**Grantic gneiss** - transition zone, quartz, interbedded with mica schist - pale yellow (2.5Y 7/3) slightly to completely weathered, with gravelly silty sand (weathered zones) - dark yellowish brown (10YR 4/6) and pale yellow (2.5Y 7/3) fine to coarse grain, medium hard, slightly to completely weathered				Annular Fill: cement-bentonite grout
60		- yellowish brown (10YR 5/6) and very dark greenish gray (10G 3/1) coarse grain, soft to medium hard, highly weathered, thinly foliated, moderately fractured, fractures sub-horizontal, separates at foliation planes, feldspar, quartz, mica, water stained - dark greenish gray (10BG 4/1) and light bluish gray (5PB 7/1) slightly weathered - yellowish brown (10YR 5/6) and very dark gray (10YR 3/1) highly weathered				
65		- highly weathered, water stained				Annular Seal: bentonite pellets Filter: silica filter sand
70		- grayish brown (10YR 5/2) and black (5Y 2.5/1) coarse grain, moderately weathered, thinly foliated, moderately fractured, fractures sub-horizontal - brownish yellow (10YR 6/8) and white (10R 8/1) - white (10R 8/1) massive feldspar and quartz seam				**Standpipe:** **2" OD PVC (SCH 40)** Screen: 10 ft; pre-pack
75		- grayish brown (10YR 5/2) and white (10R 8/1) massive quartzite seam - thinly foliated - bluish gray (5PB 6/1) and white (10R 8/1) not weathered, fresh competent rock				Sump:0.299999999999997 ft.
		Bottom of borehole at 77.0 feet.				
80						
85						

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-20S
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ECS37967

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/28/2015 **COMPLETED** 9/29/2015 **SURF. ELEV.** 764.6 **COORDINATES:** N:1,255,531.55 E: 2,077,410.37
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 27 ft. **GROUND WATER DEPTH: DURING** 7 ft. **COMP.** 6.5 ft. **DELAYED** 6.5 ft. after 24 hrs.
NOTES Top of casing elev: 767.12

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
0		**Clayey Silty Sand (SC-SM)** - dark grayish brown (2.5Y 4/2) wet, fine grained - very pale brown (10YR 7/3) and yellowish brown / moderate yellowish brown (10YR 5/4) fine to coarse-grained, with quartzite gravel - mottled very pale brown (10YR 7/3) and reddish yellow (7.5YR 7/8) moist - moist - mottled light yellowish brown (2.5Y 6/3) and pale yellow (2.5Y 8/3) very moist, fine to coarse grained - dark grayish brown / dark yellowish brown (10YR 4/2) - mottled brownish yellow / dark yellowish orange (10YR 6/6) and white (10YR 8/1)				Completion: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete Annular Fill: cement-bentonite grout Annular Seal: bentonite pellets Filter: silica filter sand
20		**Silty Sand (SM)** - mottled brownish yellow / dark yellowish orange (10YR 6/6) and white (10YR 8/1) saprolite wet, fine to coarse-grained - light yellowish brown (2.5Y 6/3), pale yellow (2.5Y 8/2) and white (2.5Y 8/1)				**Standpipe: 2" OD PVC (SCH 40)** Screen: 10 ft; pre-pack
25		**Clayey Silty Sand (SC-SM)** - mottled white (2.5Y 8/1) and pinkish white (5YR 8/2) moist, massive weathered feldspar and quartzite				Sump:0.300000000000001 ft.
27		Bottom of borehole at 27.0 feet.				

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:04 - \\ALTRCFP01\WSHAUGNES\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-21I
PAGE 1 OF 2
ECS37967

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/23/2015 **COMPLETED** 9/28/2015 **SURF. ELEV.** 780.8 **COORDINATES:** N:1,255,538.27 E: 2,076,768.14
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 77 ft. **GROUND WATER DEPTH: DURING** **COMP.** 24 ft. **DELAYED** 24 ft. after 48 hrs.
NOTES Top of casing elev: 783.7

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
		Clayey Sand (SC) - mottled strong brown (7.5YR 5/6) and yellowish red / light brown (5YR 5/6) dry, fine to coarse-grained, mica				Completion: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete
		Silty Sand (SM) - reddish yellow (7.5YR 6/8) soil fine to coarse-grained				
5		**Well-graded Sand (SW)** - very pale brown (10YR 7/3) fine to coarse-grained, mica, gravel (residual rock)				
		Poorly-graded Sand with Silt (SP-SM) - pale yellow (2.5Y 8/3) and pale yellow (2.5Y 8/2) dry				
10		- fine to medium-grained - yellow (2.5Y 7/6)				
15		**Silty Sand (SM)** - mottled yellow (2.5Y 7/6), white (2.5Y 8/1) and olive brown (2.5Y 4/4) saprolite weathered schist, feldsapr, quartz, fine to coarse-grained				
		Poorly-graded Sand with Silt (SP-SM) - mottled white (2.5Y 8/1) and yellowish brown / moderate yellowish brown (10YR 5/4) dry, fine to medium-grained				
20		- highly decomposed granitic gneiss interbedded with biotite schist - mottled olive brown (2.5Y 4/3) and white (2.5Y 8/1)				Annular Fill: cement-bentonite grout
25		▼ - yellowish brown / moderate yellowish brown (10YR 5/4)				
		- mottled light olive brown (2.5Y 5/4) and pale yellow (2.5Y 8/3) moist, highly decomposed mica scist				
30		- mottled white (2.5Y 8/1) and pale brown (10YR 6/3) dry, highly decomposed granitic gneiss, feldspar quartz, mica				
35		**Well-graded Sand (SW)** - mottled brown (10YR 4/3) and pale yellow (2.5Y 8/2) moist, fine to coarse grained, mica, quartz				
		- Granitic gneiss interbedded with biotite gneiss: mottled light gray (2.5Y 7/2) and white (2.5Y 8/1)				
40		- Bedrock transition zone				

(Continued Next Page)

BORING YGWA-21I
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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
		(Con't)				Completion: protective aluminum cover with bollards; 4-foot square concrete pad
		- white (2.5Y 8/1) and dark grayish brown (2.5Y 4/2) coarse grain, soft to hard, slightly to moderately weathered, medium to thick foliation, banded, moderately fractured (veritcal to sub-vertical)				(CONTINUED)
45						
		- white (2.5Y 8/1), dark grayish brown (2.5Y 4/2) and pale yellow (2.5Y 7/3) coarse grain, soft to hard, not to highly weathered, medium to thick foliation, banded, noderately fractured (near vertical), biotite gneiss				Annular Fill: cement-bentonite grout
50						
55						
		- gray (2.5Y 6/1), dark gray (2.5Y 4/1) and white (2.5Y 8/1) coarse grain, not to highly weathered, thin to medium foliation, moderately fractured (vertical to sub-vertical), pyrite, biotite, feldspar, quartz - pale yellow / grayish yellow (5Y 8/4)				
60						
65						Annular Seal: bentonite pellets Filter: silica filter sand
		- very dark gray (2.5Y 3/1) and white (2.5Y 8/1) coarse grain, not to slightly weathered, thin to medium foliation, moderately fractured (vertical to sub-vertical)				
70						**Standpipe: 2" OD PVC (SCH 40)** Screen: 10 ft; pre-pack
75						
		Bottom of borehole at 77.0 feet.				Sump:0.299999999999997 ft.
80						
85						

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:04 - \\ALTRCFP01\WSHAUGNE$\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-30I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/22/2015 **COMPLETED** 9/23/2015 **SURF. ELEV.** 760.1 **COORDINATES:** N: 1,258,421.86 E: 2,071,107.11
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 57 ft. **GROUND WATER DEPTH: DURING** **COMP.** 34 ft. **DELAYED** 34 ft. after 48 hrs.
NOTES Top of casing elev: 762.58

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
		Clayey Sand (SC) - yellowish red (5YR 5/8) dry, fine to coarse-grained, with mica				Completion: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete
5		- mottled yellowish red (5YR 5/8) and strong brown (7.5YR 5/6)				
		Silty Sand (SM) - light reddish brown (2.5YR 7/3) fine to coarse-grained, with mica - mottled light gray (5Y 7/1) and very dark grayish brown (2.5Y 3/2) dry - light yellowish brown (2.5Y 6/3) fine to coarse-grained, some fine angular gravel (residual rock)				
10						
15		- brownish yellow / dark yellowish orange (10YR 6/6)				
		- light yellowish brown (2.5Y 6/3)				
		- yellowish brown (10YR 5/6) dry, fine to coarse-grained				
20		- olive yellow (2.5Y 6/6)				Annular Fill: cement-bentonite grout
25						
		Clayey Silty Sand (SC-SM) - dark yellowish brown (10YR 4/6) wet, fine to medium grained				
30		- dry				
		Granitic Gneiss - Bedrock transition zone				
		▼ - light gray (2.5Y 7/2), yellow (2.5Y 7/8) and yellowish red (5YR 5/8) coarse grain, soft to medium hard, moderately to completely weathered, inclined, moderately fractured (sub-vertical and on foliation planes), thin to medium foliation, water stained				
35						
		- light gray (2.5Y 7/2) and brownish yellow (10YR 6/8) coarse grain, soft to medium hard, moderately to completely weathered, inclined,				
40						

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWA-30I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
45		moderately fractured (sub-vertical and on foliation planes), thin to medium foliation, water stained **Granitic Gneiss** *(Con't)* - light gray (10YR 7/1), very pale brown (10YR 7/3) and brownish yellow (10YR 6/8) medium to coarse grain, hard, slightly to moderately weathered, inclined, slight to moderately fractured (sub-vertical to horizontal), quartz, feldspar, biotite				(CONTINUED) Completion: protective aluminum cover with bollards; 4-foot square concrete pad Annular Fill: cement-bentonite grout Annular Seal: bentonite pellets Filter: silica filter sand
50		- yellowish red / light brown (5YR 5/6) moderately to highly weathered, water stained				**Standpipe:** **2" OD PVC (SCH 40)** Screen: 10 ft; pre-pack
55		- light gray (10YR 7/1) and brownish yellow (10YR 6/8) medium to coarse grain, hard, not to slightly weathered, inclined, slight to moderately fractured (horizontal), quartz, feldspar, biotite				Sump:0.299999999999997 ft.
		Bottom of borehole at 57.0 feet.				
60						
65						
70						
75						
80						
85						

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:04 - \\ALTRCFP01\WSHAUGNE$\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWA-39/PZ-39

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 66.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/6/16
DATE COMPLETED: 7/7/16

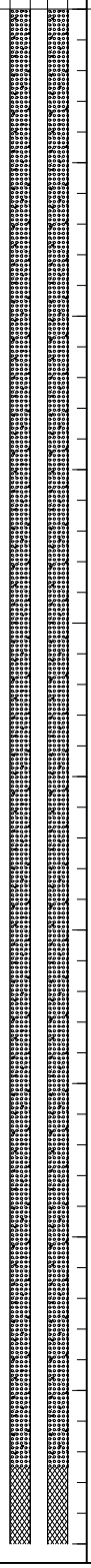
NORTHING: 1,255,717.13
EASTING: 2,073,865.58
GS ELEVATION: 815.6
TOC ELEVATION: 818.19 ft

DEPTH W.L.: 19.15 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC
0	815	0.00 - 0.40 topsoil	TOPSOIL	0.40			
		0.40 - 7.00 poorly sorted SAND with SILT, trace gravel, tan, mica fragments, dry, firm	SP-SM		1		7.00 7.00
5	810			808.6			
		7.00 - 17.00 some silt, tan, dry, firm		7.00	2		10.00 10.00
10	805						
15	800			798.6			
		17.00 - 19.00 silty SAND, non-plastic fines, orange tan, micaceous, cohesive, firm	SM	17.00 796.6	3		4.00 4.00
20	795	19.00 - 21.00 poorly graded SAND with SILT, non-plastic fines, moist, firm	SP-SM	19.00 794.6			
		21.00 - 24.00 silty SAND, 15-20% fines, orange tan with iron staining, wet (saprolite)	SM	21.00 791.6	4		6.00 6.00
25	790	24.00 - 29.00 SAND to silty SAND, some fines, mica, orange tan to tan, severely weathered fragements, dry to moist (saprolite)	SP-SM	24.00			
				786.6			
30	785	29.00 - 32.00 transitionally weathered rock - sand, some gravel, tan, rock seams, iron staining	PWR	29.00 783.6	5		3.80 6.00
		32.00 - 33.00 pulverized GNEISS, tan		32.00 782.6			
35	780	33.00 - 37.00 bedrock - biotite GNEISS, fresh to medium weathered, medium strong to extremely strong, iron stains and deposits	GNEISS	33.00	6		4.00 4.00
				778.6			
		37.00 - 39.00 biotite GNEISS, severely weathered, iron staining and deposits		37.00 776.6			
40	775	39.00 - 43.00 biotite GNEISS, severely weathered,sand layers noted iron staining and deposits		39.00			
				772.6			
		43.00 - 47.00 biotite GNEISS, severely weathered, iron staining and deposits		43.00			
45	770			768.6			
		47.00 - 57.00 biotite GNEISS, fresh to slightly weathered, medium strong to extremely strong		47.00	7		7.00 10.00
50							

Log continued on next page

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-55.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 55.5'-65.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010" Slotted Screen
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 52.5'-66.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 47.5'-52.5'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-47.5'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWA-39/PZ-39

SHEET 2 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 66.00 ft
LOCATION: Newnan, GA

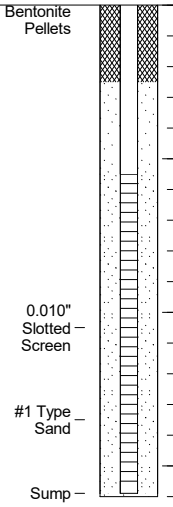
DRILL RIG: Sonic PS-150
DATE STARTED: 7/6/16
DATE COMPLETED: 7/7/16

NORTHING: 1,255,791.95
EASTING: 2,073,431.34
GS ELEVATION: 815.6
TOC ELEVATION: 818.19 ft

DEPTH W.L.: 19.15 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
50	765	47.00 - 57.00 biotite GNEISS, fresh to slightly weathered, medium strong to extremely strong *(Continued)*				7		7.00 / 10.00
55	760				758.6			
		57.00 - 66.00 bitite GNEISS, fresh to moderately weathered, discoloration, iron stains, medium strong to extremely strong			57.00	8		5.00 / 9.00
60	755							
65	750				749.6			
		Boring completed at 66.00 ft						
70	745							
75	740							
80	735							
85	730							
90	725							
95	720							
100								

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-55.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 55.5'-65.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010" Slotted Screen
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 52.5'-66.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 47.5'-52.5'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-47.5'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWA-40/PZ-40

SHEET 1 of 1

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 46.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/6/16
DATE COMPLETED: 7/7/16

NORTHING: 1,255,791.95
EASTING: 2,073,431.34
GS ELEVATION: 813.5
TOC ELEVATION: 815.73 ft

DEPTH W.L.: 23.1 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0	813.5	0.00 - 2.00 sandy SILT, fine to medium sand, reddish brown, low plastic	SM	811.5			
		2.00 - 6.00 fine to medium sand, light orange brown, micaceous, dry, loose		2.00	1		6.00 / 6.00
5	810			807.5			
		6.00 - 16.00 fine to coarse sand, low plastic silt, some gravel, brown grey to grey, corasening downward, relict laminations, more dense with depth, saprolitic, dry		6.00	2		12.00 / 10.00
10	805						
	800						
15				797.5			
		16.00 - 17.00 coarse, competent		16.00 796.5			
	795	17.00 - 19.00 transitionally weathered rock - highly weathered GNEISS, red, white, dark brown	PWR	17.00 794.5	3		3.00 / 3.00
20		19.00 - 36.00 highly weathered biotite GNEISS, oxidized staining		19.00	4		7.00 / 7.00
	790						
25							
	785						
30					5		10.00 / 10.00
	780						
35				777.5			
		36.00 - 46.00 bedrock - biotite GNEISS, some weathering, trace pyrite	GNEISS	36.00	6		9.00 / 10.00
40	775						
	770						
45				767.5			
		Boring completed at 46.00 ft					
50	765						

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES: Portland Type 1; Bentonite Pellets and Chips; 0.010" Slotted Screen; #1 Type Sand; Sump

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-35.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 35.5'-45.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010" Slotted Screen
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 32.5'-46.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 27.0'-32.5
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-27.0'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Adam M.

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE PZ-47/YGWA-47

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 56.50 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/10/16
DATE COMPLETED: 7/11/16

NORTHING: 1,262,411.84
EASTING: 2,071,818.05
GS ELEVATION: 755.6
TOC ELEVATION: 758.22

DEPTH W.L.: 21.6 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/11/2016
TIME W.L.: 07:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	SAMPLES: TYPE	SAMPLES: REC	MONITORING WELL / PIEZOMETER DIAGRAM and NOTES
0	755	0.00 - 10.00 no recovery; hydrovac			745.6				
10	745	10.00 - 13.00 silt SAND fining downward to low-plasticity CLAY, red, dry loose	SM-CL		10.00 742.6	1		6.00 6.00	
15	740	13.00 - 20.00 sandy SILT, orange to white, loose, dry	ML		13.00 735.6				Portland – Type 1
20	735	20.00 - 21.00 highly weathered, mica schist, relict laminations (saprolite)			20.00 734.6	2		10.00 10.00	
		21.00 - 24.00 orange to white, loose, dry			21.00 731.6				
25	730	24.00 - 26.00 orange to white, relict laminations, loose, dry (saprolite)			24.00 729.6				
		26.00 - 28.00 well sorted sand with some silt, relict laminations, saprolite - schistose			26.00 727.6	3		3.00 4.00	
		28.00 - 30.00 orange to white, relict laminations, loose, dry			28.00 725.6				
30	725	30.00 - 36.00 transitionally weathered rock, highly weathered mica SCHIST, pulverized from drilling, dry	PWR		30.00 719.6	4		6.00 6.00	
35	720	36.00 - 46.00 bedrock - AMPHIBOLITE/SCHIST, deep oxide staining, secondary mineralization	SCHIST		36.00 709.6	5		3.00 10.00	Bentonite Pellets and – Chips
40	715								
45	710	46.00 - 56.00 AMPHIBOLITE/SCHIST grading to GNEISS, secondary mineralization, garnet, pyrite inclusions, some quartzite banding			46.00	6		7.00 10.00	0.010" Slotted – Screen
50		Log continued on next page							

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-46.1'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 46.1'-56.1'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 43.4'-56.5'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 33.7'-43.4'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-33.7'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE PZ-47/YGWA-47

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 56.50 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/10/16
DATE COMPLETED: 7/11/16

NORTHING: 1,262,411.84
EASTING: 2,071,818.05
GS ELEVATION: 755.6
TOC ELEVATION: 758.22

DEPTH W.L.: 21.6 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/11/2016
TIME W.L.: 07:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE ft — DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	SAMPLES: TYPE	SAMPLES: REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50	705	46.00 - 56.00 AMPHIBOLITE/SCHIST grading to GNEISS, secondary mineralization, garnet, pyrite inclusions, some quartzite banding *(Continued)*				6		7.00 / 10.00	#1 Type Sand	**WELL CASING** Interval: 0.0'-46.1' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded
55	700				699.6					**WELL SCREEN** Interval: 46.1'-56.1' Material: U-Pack Schedule 40 PVC Diameter: 2' Slot Size: 0.010" End Cap: Schedule 40 PVC
		Boring completed at 56.50 ft			56.00				Sump	**FILTER PACK** Interval: 43.4'-56.5' Type: #1 Type Sand
60	695									**FILTER PACK SEAL** Interval: 33.7'-43.4' Type: Bentonite Pellets and Chips
65	690									**ANNULUS SEAL** Interval: 0.0'-33.7' Type: Portland Type 1
70	685									**WELL COMPLETION** Pad: 4'x4'x4" Protective Casing: Aluminum
75	680									**DRILLING METHODS** Soil Drill: 4" Sonic Rock Drill: 4" Sonic
80	675									
85	670									
90	665									
95	660									
100										

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

The well coordinates and elevation data were revised based on an October 2021 survey (Arcadis, October 20, 2021).

SOUTHERN COMPANY

LOG OF TEST BORING

BORING YGWC-23S
PAGE 1 OF 1
ECS37967

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT CCR Piezometers
LOCATION Plant Yates

DATE STARTED 9/18/2015 **COMPLETED** 9/21/2015 **SURF. ELEV.** 762.0 **COORDINATES:** N:1,256,366.93 E:2,074,734.07
CONTRACTOR Cascade **EQUIPMENT** **METHOD** Rotosonic
DRILLED BY L. Yancey **LOGGED BY** W. Shaughnessy **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 36 ft. **GROUND WATER DEPTH: DURING** 16 ft. **COMP.** 12.8 ft. **DELAYED** 12.6 ft. after 24 hrs.
NOTES Top of Casing Elevation = 764.91

DEPTH (ft)	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION (Weak / Moderate / Strong)	GROUNDWATER OBSERVATIONS	WELL DATA
	Clayey Sand (SC) - red (2.5YR 4/6) damp, fine to coarse-grained, with mica				Completion: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete
5	- mottled red (2.5YR 4/6) and reddish yellow (5YR 6/8)				
	Silty Sand (SM) - mottled red (2.5YR 4/6) and reddish yellow (5YR 6/8) damp, fine to coarse-grained, with mica				
10					Annular Fill: cement-bentonite grout
	- saprolite - mottled dark brown (7.5YR 3/3), light yellowish brown (10YR 6/4) and black (10YR 2/1) damp				
15					
20	- mottled brownish yellow (10YR 6/8) and white (2.5Y 8/1) wet - mottled brown (10YR 4/3) and white (2.5Y 8/1)				
	Clayey Sand (SC) - mottled brown (10YR 4/3) and white (2.5Y 8/1) wet, fine to medium-grained				Annular Seal: bentonite pellets
25	**Silty Sand (SM)** - mottled light olive brown (2.5Y 5/4) and white (2.5Y 8/1) dry, fine to coarse-grained, massive weathered feldspar and quartizite - mottled yellowish brown (10YR 5/6) and white (2.5Y 8/1)				Filter: silica filter sand
	- yellowish brown (10YR 5/8)				
30					**Standpipe: 2" OD PVC (SCH 40)** Screen: 10 ft; pre-pack
	- mottled strong brown (7.5YR 5/6) and very pale brown / very pale orange (10YR 8/2)				
35	- pale brown (10YR 6/3) damp				Sump:0.299999999999997 ft.
	Bottom of borehole at 36.0 feet.				
40					

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 11/15/15 12:04 - \\ALTRCFP01\WSHAUGNE$\DESKTOP\PLANTS PROJECTS\GEORGIA POWER\YATES\2015 PIEZOMETERS\YATES 2015 PZS.GPJ

RECORD OF BOREHOLE YGWC-24SB

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 54.5 ft
LOCATION: Newnan, GA

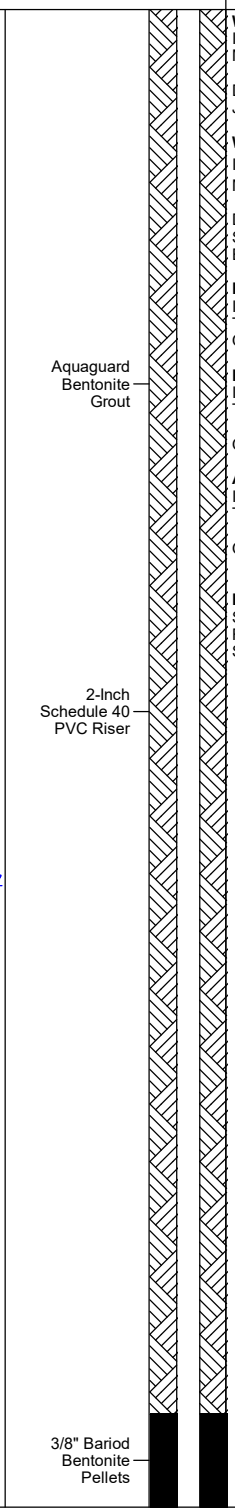
DRILL RIG: TerraSonic 150CC
DATE STARTED: 10/13/2022
DATE COMPLETED: 10/13/2022

NORTHING: 1258938.45
EASTING: 2073965.94
GS ELEVATION: 761.6
TOC ELEVATION: 764.89

DEPTH W.L.: 23.4
ELEVATION W.L.: 707.1
DATE W.L.: 10/14/2022
TIME W.L.: 2:45:00 PM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
	0.0 - 18.5 (SM) Silty SAND; loose; poorly sorted; fine to medium grained; slightly moist; micaceous; FILL.			0.0			
	Grading to 5YR 5/6.						
5					1		2.5 10.0
	Grading to 7.5YR 6/6.						
10		SM					
	Grading to 10YR 6/6.						
15	Grading to 2.5YR 6/6.				2		10.0 10.0
	Grading to 10YR 5/4.						
	18.5 - 40.0 (SM) Silty SAND; 10YR 5/4; loose; poorly sorted; fine to medium with some coarse grained; saturated; micaceous; SAPROLITE.			18.5			
20	Grading to fine to medium grained.						
	Grading to 10YR 6/3.						
25	Grading to 2.5Y 6/4.				3		10.0 10.0
		SM					
30	Grading to 2.5Y 6/3.						
	Grading to 2.5Y 7/2.						
35					4		10.0 10.0
	Grading to 10YR 5/3.						
40							

YGWC-24SB MONITORING WELL DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-44.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 44.3'-54.3'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 0.8'

FILTER PACK
Interval: 41'-54.5'
Type: U-Pack GP-1 Sand
Quantity: 4 bags

FILTER PACK SEAL
Interval: 37.5'-41'
Type: 3/8" Bariod Bentonite Pellets
Quantity: 1 x 5 gal bucket

ANNULUS SEAL
Interval: 0'-41'
Type: Aquaguard Bentonite Grout
Quantity: 2 bags + 30 gal H2O

DRILLING METHODS
Soil Drill: 4-Inch Sonic
Rock Drill: 4-Inch Sonic
Sample Type: Sonic

DRILLING COMPANY: Cascade Drilling
DRILLER: Cory Franklin

CHECKED BY: David Prouty
DATE: 12/12/2022

ARCADIS

RECORD OF BOREHOLE YGWC-24SB

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 54.5 ft
LOCATION: Newnan, GA

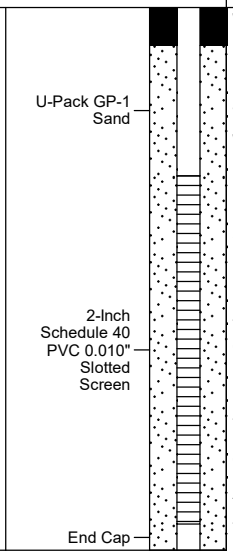
DRILL RIG: TerraSonic 150CC
DATE STARTED: 10/13/2022
DATE COMPLETED: 10/13/2022

NORTHING: 1258938.45
EASTING: 2073965.94
GS ELEVATION: 761.6
TOC ELEVATION: 764.89

DEPTH W.L.: 23.4
ELEVATION W.L.: 707.1
DATE W.L.: 10/14/2022
TIME W.L.: 2:45:00 PM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
45	40.0 - 48.0 (ML) Sandy SILT; 2.5Y 6/3, firm; non-plastic; moist; micaceous. Grading to 2.5Y 7/2; dry; heavily weathered rock pulvarized by sonic rig; friable silty sand and gravel; micaceous.	ML		40.0	5		8.0 10.0
50	48.0 - 51.0 (SP) SAND; 2.5Y 6/3; loose; poorly sorted; fine to medium grained; subangular; saturated.	SP		48.0			
	51.0 - 54.5 (SP) SAND; 10YR 8/3; loose; poorly sorted; fine to coarse grained; subangular; dry; with trace silt and some friable gravel sized weathered rock.	SP		51.0	6		5.0 4.5
55							
60							
65							
70							
75							
80							

YGWC-24SB MONITORING WELL DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-44.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 44.3'-54.3'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 0.8'

FILTER PACK
Interval: 41'-54.5'
Type: U-Pack GP-1 Sand
Quantity: 4 bags

FILTER PACK SEAL
Interval: 37.5'-41'
Type: 3/8" Bariod Bentonite Pellets
Quantity: 1 x 5 gal bucket

ANNULUS SEAL
Interval: 0'-41'
Type: Aquaguard Bentonite Grout
Quantity: 2 bags + 30 gal H2O

DRILLING METHODS
Soil Drill: 4-Inch Sonic
Rock Drill: 4-Inch Sonic
Sample Type: Sonic

DRILLING COMPANY: Cascade Drilling
DRILLER: Cory Franklin

CHECKED BY: David Prouty
DATE: 12/12/2022

ARCADIS

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YGWC-36A

Sheet: 1 of 2

Project Name: Yates
Project Number: 30061098
Project Location: Newnan, Georgia

Date Started: 09/21/2020
Date Completed: 09/22/2020

Logger: Becky Steever
Editor: Geoff Gay
Weather Conditions: Sunny & Warm

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Well Construction
1–35							(0.0-8.0'): Fill, Silty Clayey Sand (SM); tan to orange-red; fine grained to medium grained sand; no staining/odor; wet	TOC Elev. 740.88; Aluminum Stick-up with 4x4 Pad
							(8.0-10'); Sand; tan to medium gray; medium grained sand; no staining/odor; some silt; moist	
							(10-14'); Silty Sandy Clay; mottled gray; orange, tan, and brown; saprolite, relict structure; fine grained sand; dry	
							(14-35); Silty Sand (SM); medium brown; fine to medium grained sand; no staining/odor; wet	AQUAGUARD 30% Bentonite Solids; Riser; 3/8" Bentonite Pellets Seal

Drilling Co.: Cascade
Driller:
Drilling Method: Sonic
Drilling Fluid: None
Remarks:

Sampling Method: Cont.
Sampling Interval: Cont.
Water Level Start: 14
Water Level Finish: 12.1
Converted to Well: ☒ Yes ☐ No
Surface Elev.: 737.7
North Coor.: 1258547.74
East Coor.: 2073748.73

SOIL BORING LOG C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\PROJECT FILE-2.GPJ ARCADIS.GDT 11/11/20

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YGWC-36A

Sheet: 2 of 2

Project Name: Yates
Project Number: 30061098
Project Location: Newnan, Georgia

Date Started: 09/21/2020
Date Completed: 09/22/2020

Logger: Becky Steever
Editor: Geoff Gay
Weather Conditions: Sunny & Warm

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Well Construction
36–53							(35-38'); Silty Sand (SM); brown to gray; fine to medium grained sand; no staining/odor; slightly moist Same as above, some clay Pulverized rock sand; pale gray; some fine plagioclase gravel; fine grained sand	So. Products Filter Pack #1 (16-40) Top of Screen 2" PVC Screen Bottom of Screen HOLEPLUG Bentonite Backfill
54–72								

Remarks:

SOIL BORING LOG C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\PROJECT FILE-2.GPJ ARCADIS.GDT 11/11/20

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-38/PZ-38

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 67.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/20/16
DATE COMPLETED: 7/23/16

NORTHING: 1,256,108.38
EASTING: 2,074,446.80
GS ELEVATION: 797.1
TOC ELEVATION: 799.69 ft

DEPTH W.L.: 26.35 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/23/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0	795	0.00 - 1.00 silty SAND, goethite, loose, moist 1.00 - 8.00 tan to brown, mottled, loose, dry	SM	796.10 1.00	1		5.00 7.00
5	790			789.10			
10	785	8.00 - 9.00 white to tan, plagioclase, loose, dry 9.00 - 27.00 tan to brown, mottled, micaceous, loose, dry		8.00 788.10 9.00	2		10.00 10.00
15	780						
20	775				3		10.00 10.00
25	770	27.00 - 34.00 brown to tan, relict structure, moist to wet, loose (saprolite)		770.10 27.00	4		7.00 10.00
30	765						
35	760	34.00 - 37.00 transitionally weathered rock - weathered GNEISS to high grade SCHIST, garnet, muscovite, biotite, recrytallization, fractured, friable	PWR	763.10 34.00 760.10			
40	755	37.00 - 39.00 bedrock - muscovite/biotite GNEISS, hornblende, fresh 39.00 - 40.00 muscovite/biotite GNEISS, hornblende, iron staining 40.00 - 56.00 muscovite/biotite GNEISS, hornblende, fresh	GNEISS	37.00 758.10 39.00 757.10 40.00	5		7.00 10.00
45	750				6		6.00 10.00
50		Log continued on next page					

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES: Portland Type 1; 1/2" Bentonite Pellets; 0.010" Slotted Screen; #1 Type Sand; Sump

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-37.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 37.0'-47.0'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010'
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 35.0'-48.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 30.0'-35.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-30.0'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Kirk Fraley
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-38/PZ-38

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 67.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/20/16
DATE COMPLETED: 7/23/16

NORTHING: 1,256,108.38
EASTING: 2,074,446.80
GS ELEVATION: 797.1
TOC ELEVATION: 799.69 ft

DEPTH W.L.: 26.35 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/23/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		40.00 - 56.00 muscovite/biotite GNEISS, hornblende, fresh *(Continued)*								
	745								Bentonite Pellet Backfill	
						6		6.00 / 10.00		
55					741.10 / 56.00					
	740	56.00 - 58.00 muscovite/biotite GNEISS, hornblende, iron staining			739.10 / 58.00					
		58.00 - 67.00 muscovite/biotite GNEISS, hornblende, fresh								
60										
	735					7		7.00 / 10.00		
65										
	730				730.10					
		Boring completed at 67.00 ft								
70										
	725									
75										
	720									
80										
	715									
85										
	710									
90										
	705									
95										
	700									
100										

WELL CASING
Interval: 0.0'-37.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 37.0'-47.0'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010'
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 35.0'-48.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 30.0'-35.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-30.0'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Kirk Fraley
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-41/PZ-41

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 64.50 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/7/16
DATE COMPLETED: 7/8/16

NORTHING: 1,256,510.62
EASTING: 2,073,274.41
GS ELEVATION: 801.1
TOC ELEVATION: 803.92 ft

DEPTH W.L.: 22.1 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: 07:30

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
0	800	0.00 - 2.00 sandy SILT, dark reddish brown, severely weathered gneiss, dry	ML		799.10	1		4.00 4.00	
		2.00 - 4.00 silty SAND, light brown, dry, non-cohesive	SM		2.00 797.10				
5	795	4.00 - 14.00 light brown, quartz sand at ~5', dry			4.00	2		10.00 10.00	
10	790				787.10				
15	785	14.00 - 24.00 light brown, dry			14.00	3		9.00 10.00	Portland Type 1
20	780				777.10				
25	775	24.00 - 29.00 trace gravel, sand coarsening, light brown, dry			24.00	4		5.00 5.00	
					772.10				
30	770	29.00 - 38.00 transitionally weathered rock - highly weathered biotite/muscovite GNEISS	PWR		29.00	5		5.00 5.00	
35	765				763.10	6		5.00 5.00	
		38.00 - 39.00 more competent			38.00 762.1				
40	760	39.00 - 44.00 bedrock - biotite GNEISS, red to orange staining	GNEISS		39.00 757.10	7		4.00 5.00	
45	755	44.00 - 54.00 transitionally weathered rock - highly weathered biotite GNEISS, red oxide staining	PWR		44.00	8		5.00 10.00	Bentonite Pellets and Chips
50		Log continued on next page							

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-54.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 54.0'-64.0'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 51.0'-64.5'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 45.5'-51.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-45.5'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER:

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-41/PZ-41

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 64.50 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/7/16
DATE COMPLETED: 7/8/16

NORTHING: 1,256,510.62
EASTING: 2,073,274.41
GS ELEVATION: 801.1
TOC ELEVATION: 803.92 ft

DEPTH W.L.: 22.1 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: 07:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	SAMPLES TYPE	SAMPLES REC	MONITORING WELL / PIEZOMETER DIAGRAM and NOTES
50	750	44.00 - 54.00 transitionally weathered rock - highly weathered biotite GNEISS, red oxide staining *(Continued)*	PWR		747.10	8		5.00 / 10.00	
55	745	54.00 - 64.00 bedrock - biotite GNEISS, vertical oxide staining along fractures	GNEISS		54.00	9		8.00 / 10.00	0.010" Slotted Screen
60	740				737.10				#1 Type Sand
65	735	Boring completed at 64.50 ft			64.00				Sump
70	730								
75	725								
80	720								
85	715								
90	710								
95	705								
100									

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-54.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 54.0'-64.0'
Material: U-Pack Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 51.0'-64.5'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 45.5'-51.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-45.5'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER:

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-42/ PZ-42

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 57.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/7/16
DATE COMPLETED: 7/8/16

NORTHING: 1,256,882.87
EASTING: 2,073,326.52
GS ELEVATION: 795.1
TOC ELEVATION: 797.86 ft

DEPTH W.L.: 26.2 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
0	795	0.00 - 3.00 silty SAND, plastic fines, orange brown, micaceous, firm, decreasing moisture with depth	SM		792.10				
		3.00 - 7.00 poorly graded SAND, some silt, tan to black, white to red, micaceous, dry	SP		3.00 788.10	1		7.00 7.00	
5	790								
		7.00 - 10.50 some silt, tan to black, white to red, dry			7.00 784.60				
10	785	10.50 - 18.00 some silt, tan to black, white to red, increasing biotite, dry			10.50	2		10.00 10.00	
15	780				777.10				
		18.00 - 19.00 silty SAND, red seam	SM		18.00 776.10				
20	775	19.00 - 27.00 poorlyly graded SAND, some silt, tan to black, white to red, plagioclase, dry	SP		19.00	3		10.00 10.00	Portland Type 1
25	770				768.10				
		27.00 - 30.00 no recovery			27.00 765.10	4		5.00 10.00	
30	765	30.00 - 34.00 bedrock - biotite GNEISS, fresh to moderately weathered, medium strong to extremely strong, foliated	GNEISS		30.00 761.10				
35	760	34.00 - 37.00 biotite GNEISS, increased biotite, fresh to moderately weathered, medium strong to extremely strong, foliated			34.00 758.10				
		37.00 - 40.00 biotite GNEISS, fresh to moderately weathered, medium strong to extremely strong, fractured, foliated			37.00 755.10	5		8.00 10.00	Bentonite Pellets and Chips
40	755	40.00 - 50.00 biotite GNEISS, fresh to moderately weathered, medium strong to extremely strong, foliated			40.00				
45	750								
						6		6.00 10.00	#1 Type Sand
50					745.10				

Log continued on next page

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-47'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 46.6'-56.6'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 46.0'-57.0'
Type: #1 Sand

FILTER PACK SEAL
Interval: 37.5'-46.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-37.5'
Type: Portlant Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-42/ PZ-42

SHEET 2 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 57.00 ft
LOCATION: Newnan, GA

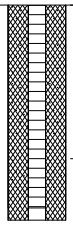
DRILL RIG: Sonic PS-150
DATE STARTED: 7/7/16
DATE COMPLETED: 7/8/16

NORTHING: 1,256,882.87
EASTING: 2,073,326.52
GS ELEVATION: 795.1
TOC ELEVATION: 797.86 ft

DEPTH W.L.: 26.2 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/8/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
50	745	50.00 - 56.00 biotite GNEISS, fresh to moderately weathered, iron staining, medium strong to extremely strong, foliated			50.00	6		6.00 10.00
55	740				739.10			
		56.00 - 57.00 biotite GNEISS, fresh to moderately weathered, iron staining, medium strong to extremely strong, foliated, stained, fractured			56.00 738.10			
		Boring completed at 57.00 ft						
60	735							
65	730							
70	725							
75	720							
80	715							
85	710							
90	705							
95	700							
100								

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-47'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 46.6'-56.6'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 46.0'-57.0'
Type: #1 Sand

FILTER PACK SEAL
Interval: 37.5'-46.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-37.5'
Type: Portlant Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-43/ PZ-43

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 77.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/8/16
DATE COMPLETED: 7/9/16

NORTHING: 1,257,547.41
EASTING: 2,073,199.65
GS ELEVATION: 742.3
TOC ELEVATION: 744.96 ft

DEPTH W.L.: 30.5 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/9/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0	745	0.00 - 5.00 SAND to silty SAND, 10-15% fines, red to tan to brown, micaceous, dry to moist	SM	737.30			8.00 8.00
5	740	5.00 - 6.00 10-15% fines, red to tan to brown, plagioclase, micaceous, dry to moist		5.00 736.30			
		6.00 - 14.00 10-15% fines, red to tan to brown, micaceous, dry to moist		6.00			
10	735						8.00 9.00
				728.30			
15	730	14.00 - 28.00 transitionally weathered rock - feldspathic GNEISS, moderately to highly weathered, medium strong to extremely strong, discolored, iron stains and deposits	PWR	14.00			
20	725						3.50 4.00
25	720						3.00 8.00
				714.30			
30	715	28.00 - 33.00 bedrock - feldspathic GNEISS, fresh to slighly weathered, medium strong to extremely strong, discolored, iron stains and deposits	GNEISS	28.00			
				709.30			
35	710	33.00 - 38.00 feldspathic GNEISS, fresh to lightly weathered, medium strong to extremely strong, fabric, discolored, some iron stains and deposits		33.00			10.00 10.00
				704.30			
40	705	38.00 - 77.00 feldspathic GNEISS, fresh, olive colored mineral, some garnet, quartz, biotite		38.00			
45	700						10.00 10.00
50							10.00

Log continued on next page

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES: Portland Type 1

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-66.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 66.5'-75.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 63.7'-77.0'
Type: #1 Sand

FILTER PACK SEAL
Interval: 58.5'-63.7'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-58.5'
Type: Portlant Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-43/ PZ-43

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 77.00 ft
LOCATION: Newnan, GA

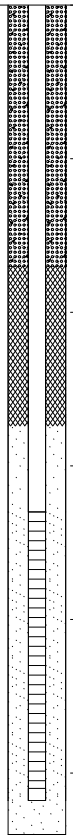
DRILL RIG: Sonic PS-150
DATE STARTED: 7/8/16
DATE COMPLETED: 7/9/16

NORTHING: 1,257,547.41
EASTING: 2,073,199.65
GS ELEVATION: 742.3
TOC ELEVATION: 744.96 ft

DEPTH W.L.: 30.5 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/9/2016
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
50	695	38.00 - 77.00 feldspathic GNEISS, fresh, olive colored mineral, some garnet, quartz, biotite *(Continued)*						10.00
55	690							10.00 10.00
60	685							
65	680							10.00 10.00
70	675							
75	670				665.30			7.00 10.00
		Boring completed at 77.00 ft						
80	665							
85	660							
90	655							
95	650							
100								

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-66.5'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 66.5'-75.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 63.7'-77.0'
Type: #1 Sand

FILTER PACK SEAL
Interval: 58.5'-63.7'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-58.5'
Type: Portlant Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Courtney Vissman
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-49/ PZ-49

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 75.90 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/12/16
DATE COMPLETED: 7/13/16

NORTHING: 1,259,375.23
EASTING: 2,074,337.51
GS ELEVATION: 780.1
TOC ELEVATION: 782.73 ft

DEPTH W.L.: 26.95 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/13/2016
TIME W.L.: 15:26

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
0		0.00 - 10.00 No recovery; Hydrovac			770.0					
10	770	10.00 - 16.00 silty SAND, fine sand, greyish brown to reddish brown, non-cohesive, dry, loose	SM		10.00 764.0	1		6.00 6.00		
15	765	16.00 - 26.00 No recovery due to soil washing out of core barrel			16.00 754.0	2		0.00 10.00	Portland Type I	
25	755	26.00 - 36.00 silty SAND, dark brown to grayish brown, relict laminations, fully weathered schist, dry, loose (saprolite)	SM		26.00 774.0	3		10.00 10.00		
35	745	36.00 - 46.00 softer zone			36.00 734.0	4		9.00 10.00		
45	735	46.00 - 54.00 some silt and some gravel increasing with depth, mottled dark brown to orange, relict laminations, dry, loose (saprolite)	SP		46.00	5		8.00 8.00		
50	730	Log continued on next page								

WELL CASING
Interval: 0.0'-65.4'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 65.4-75.4
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 63.3'-75.9'
Type: #1 Sand

FILTER PACK SEAL
Interval: 58.7'-62.2'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-58.7'
Type: N/A

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-49/ PZ-49

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 75.90 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/12/16
DATE COMPLETED: 7/13/16

NORTHING: 1,259,375.23
EASTING: 2,074,337.51
GS ELEVATION: 780.1
TOC ELEVATION: 782.73 ft

DEPTH W.L.: 26.95 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/13/2016
TIME W.L.: 15:26

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		46.00 - 54.00 some silt and some gravel increasing with depth, mottled dark brown to orange, relict laminations, dry, loose (saprolite) *(Continued)*	SP		726.0	5		8.00 / 8.00		
55	725	54.00 - 65.00 transitionally weathered rock -biotite mica SCHIST, deeply stained, highly weathered, friable	PWR		54.00 715.0	6		0.50 / 11.00	Bentonite Pellets and Chips	**WELL CASING** Interval: 0.0'-65.4' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded **WELL SCREEN** Interval: 65.4-75.4 Material: U-Pack Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC **FILTER PACK** Interval: 63.3'-75.9' Type: #1 Sand **FILTER PACK SEAL** Interval: 58.7'-62.2' Type: Bentonite Pellets and Chips **ANNULUS SEAL** Interval: 0.0'-58.7' Type: N/A **WELL COMPLETION** Pad: 4'x4'x4" Protective Casing: Aluminum **DRILLING METHODS** Soil Drill: 4" Sonic Rock Drill: 4" Sonic
60	720									
65	715	65.00 - 76.00 highly fractured			65.00				#1 Sand	
70	710					7		2.00 / 11.00	0.010" Slotted Screen	
75	705				704.0				Sump	
		Boring completed at 75.90 ft			76.00					
80	700									
85	695									
90	690									
95	685									
100	680									

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-50

SHEET 1 of 1

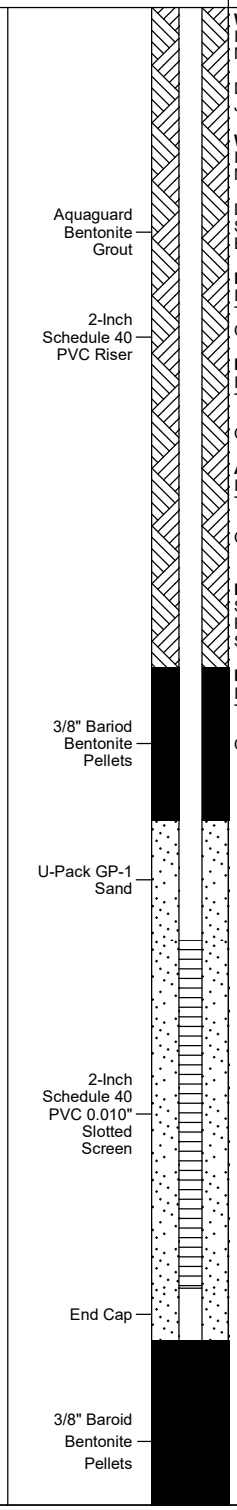
PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 40.0 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 10/14/2022
DATE COMPLETED: 10/14/2022

NORTHING: 1258123.39
EASTING: 2073321.00
GS ELEVATION: 726.5
TOC ELEVATION: 729.78

DEPTH W.L.:
ELEVATION W.L.: 686.5
DATE W.L.:
TIME W.L.:

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
	0.0 - 13.5 (SM) Silty SAND; 2.5YR 4/6; poorly sorted; fine to medium grained; moist; FILL.	SM		0.0	1		5.0 10.0
	13.5 - 14.7 (SC) Clayey SILT; 2.5YR 5/3; cohesive; poorly sorted; fine to medium grained; low plasticity; saturated.	SC		13.5	2		10.0 10.0
	14.7 - 20.0 (SP) SAND; 2.5Y 5/3; poorly sorted; fine to medium grained; subrounded; saturated; organic rich. Peat. Peat. Wood. Peat.	SP		14.7			
	20.0 - 20.8 (CL) Sandy CLAY; 2.5Y 5/2; firm; low to medium plasticity; saturated.	CL		20.0	3		10.0 10.0
	20.8 - 30.0 (SP) SAND; Gley2 6/10G; well graded; fine to medium grained; moist; some silt; some quartzite gravel 20.8-21.3; SAPROLITE. Grading to 2.5Y 5/3. Grading to 2.5Y 4/4. Grading to dry with weathered friable rock fragment; 10YR 8/3 very pale brown.	SP		20.8			
	30.0 - 31.2 (SP) SAND; 10YR 4/6 dark yellowish brown; loose; well graded; medium grained; subrounded; moist.	SP		30.0	4		5.0 5.0
	31.2 - 35.0 (SP) SAND; 10YR 8/3; loose; well graded; fine to coarse grained; subrounded; with some silt and friable weathered rock fragments.	SP		31.2			
	35.0 - 40.0 ROCK; Gley1 7/N; granite gneiss; slight weathering; thinly foliated; interbedded weathered zones washed away by coring fluids.	BED-ROCK		35.0	5		2.2 5.0



WELL CASING
Interval: 0'-24.9'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 24.7'-34.7'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 0.8'

FILTER PACK
Interval: 21.7'-35.6'
Type: U-Pack GP-1 Sand
Quantity: 5 bags

FILTER PACK SEAL
Interval: 17.6'-21.7'
Type: 3/8" Bariod Bentonite Pellets
Quantity: 1 x 5 gal bucket

ANNULUS SEAL
Interval: 0'-17.6'
Type: Aquaguard Bentonite Grout
Quantity: 1 bag + 15 gal H2O

DRILLING METHODS
Soil Drill: 4-Inch Sonic
Rock Drill: 4-Inch Sonic
Sample Type: Sonic

BACKFILL
Interval: 35.6'-40'
Type: 3/4" Bentonite Chips
Quantity: 1/2 50 lb bag

DRILLING COMPANY: Cascade Drilling
DRILLER: Cory Franklin

CHECKED BY: David Prouty
DATE: 12/12/2022

ARCADIS

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING PZ-4S
PAGE 1 OF 1
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/11/2014 **COMPLETED** 5/21/2014 **SURF. ELEV.** 781.8 **COORDINATES:** N:1,254,442.86 E:2,075,454.20
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 30.3 ft. **GROUND WATER DEPTH: DURING** **COMP.** 18.98 ft. **DELAYED**
NOTES Top of Casing Elevation = 784.25

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Sandy Silt (ML) - rusty red, damp, medium stiff, low plasticity, very fine grain, cohesive; micaceous; trace organics		Surface Seal: concrete	779.8 (2.0)
			779.3		
5		**Silty Sand (SM)** - reddish brown to light brown, dry, medium dense to loose, no plasticity, lower fine to upper medium grain, some to trace clay decreasing with depth; trace mica; trace organics			
		- SM: medium to light brown to tan, dry, loose, no plasticity, lower fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; noncohesive; trace rock fragments (brittle); trace mica		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
10		- SM: light brown to tan grading to reddish brown @ 15', damp, loose, no plasticity, lower fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; noncohesive; trace rock fragments (brittle); trace mica			
15					767.3 (14.5)
		- SM: reddish brown to tan to white with a greenish tan zone @ approx. 18-20', moist, medium dense, no plasticity, lower fine to upper medium grain, *saprolite*, visible zones where saprolite has not completely broken down to residual soil and remnant rock fabric visible; zone of more competent saprolite observed; gravel sized rock fragments included; muscovite, biotite, chlorite phyllosilicates visible		Annular Seal: 3/8 Hole Plug (medium bentonite chips)	
					763.6 (18.2)
20				Filter: 20/30 Silica Sand	
					761.8 (20.0)
				Well: 2" OD PVC (SCH 40)	
25				Screen: 10 ft; pre-pack	
		- SM: orangish brown to light gray to white, moist, medium dense, no plasticity, lower fine to upper medium grain, *saprolite*, increasing rock fragment size and abundance with depth; rock fragments range from coarse gravel to cobble size; angular fragments			
30			751.5		751.8
				Sump:0.30 ft.	751.5

Bottom of borehole at 30.3 feet.

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 19:09 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING PZ-5S
PAGE 1 OF 1
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/10/2014 **COMPLETED** 5/21/2014 **SURF. ELEV.** 782.2 **COORDINATES:** N:1,254,404.42 E:2,076,211.43
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 39.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 13.53 ft. **DELAYED**
NOTES Top of Casing Elevation = 784.64

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.
5		**Silty Sand (SM)** - brown, dry, medium dense, no plasticity, upper fine to lower medium grain, noncohesive; trace organics; angular to sub angular grains - SM: brown, dry, medium dense, no plasticity, upper fine to lower medium grain, slight increase in clay content with depth; cohesive (slight); trace mica; trace coarse grains	777.2
10		**Poorly-graded Sand (SP)** - light gray to off white, dry, very loose, no plasticity, upper fine to upper medium grain, noncohesive; upper coarse to coarse gravel sized weathered rock fragments; angular to subangular grains; angular rock fragments	
15		- SP: med gray to tan to light gray /white with orangish brown to greenish gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of more competent (completely weathered) rock increasing with depth; trace lenses of silt/clay interbedded within the sand/saprolite; brittle upper coarse to lower gravel sized rock fragments included; micaceous	
20		- SP: light gray/white grading to med gray with orangish brown to dark gray mottling, damp, medium dense, no plasticity, upper fine to lower medium grain, *saprolite*, noncohesive; completely weathered to residual soil; angular to subangular grains	
25			
30		- SP: light gray to med gray, damp, loose, no plasticity, upper fine to lower medium grain, *saprolite*, increasing in gravel sized rock fragments (completely weathered, very brittle)	
35		- SP: medium gray to light gray, damp, loose, no plasticity, upper fine to upper coarse grain, *saprolite*, noncohesive; completely weathered to residual soil with zones of more competent but brittle rock fragments; angular grains; micaceous	742.7

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

ELEV. (DEPTH)

- Surface Seal: concrete — 780.2 (2.0)
- Annular Fill: 90/10 Portland Cement/Bentonite Powder — 758.5 (23.7)
- Annular Seal: 3/8 Hole Plug (medium bentonite chips) — 754.8 (27.4)
- Filter: 20/30 Silica Sand — 753.0 (29.2)
- **Well: 2" OD PVC (SCH 40)**
- Screen: 10 ft; pre-pack — 743.0
- Sump:0.30 ft. — 742.7

Bottom of borehole at 39.5 feet.

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 18:37 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-6S/PZ-6S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/22/2014 **COMPLETED** 5/19/2014 **SURF. ELEV.** 779.8 **COORDINATES:** N: 1,260,484.87 E: 2,074,786.49
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 37.2 ft. **GROUND WATER DEPTH: DURING** **COMP.** 14.77 ft. **DELAYED**
NOTES Top of Casing Elevation = 782.47

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
				Surface Seal: concrete	777.8 (2.0)
		Poorly-graded Sand with Silt (SP-SM) - dark brown, damp, loose, no plasticity, lower fine to upper fine grain, cohesive; trace organics; trace gravel sized rock fragments; angular to subangular grains	776.8		
5		**Silty Sand (SM)** - rusty red, dry, medium dense, no plasticity, lower fine to upper fine grain, cohesive; slight increase in clay content; micaceous			
10		- SM: orangish brown to tan grading to light gray/white, dry, medium dense to loose, no plasticity, upper fine to lower medium with trace upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; trace gravel sized rock fragments; rock fragments range from brittle/friable to hard/more competent; micaceous; muscovite, chlorite, biotite, quartz, plagioclase identifiable		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
15		▼ - SM: medium brown/orangish brown to medium gray with greenish gray mottling, damp, medium dense to loose, no plasticity, upper fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of remnant banding visible; brittle to hard rock fragments included; chlorite, biotite, muscovite, quartz, plagioclase identifiable; harder/more competent rock fragments tend to be felsic (quartz, plagioclase) and brittle/friable rock fragments tend to be mafic (biotite, chlorite)			
20					759.0 (20.8)
		- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous		Annular Seal: 3/8 Hole Plug (medium bentonite chips)	
25					754.8 (25.0)
				Filter: 20/30 Silica Sand	752.9 (26.9)
30				**Well: 2" OD PVC (SCH 40)**	
				Screen: 10 ft; pre-pack	
35		- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous			
			742.8		742.9
				Sump:0.30 ft.	742.6

Bottom of borehole at 37.2 feet.

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 17:32 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-6I/PZ-6I

ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/21/2014 **COMPLETED** 5/19/2014 **SURF. ELEV.** 780.2 **COORDINATES:** N:1,260,490.02 E:2,074,790.49
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 66.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 14.9 ft. **DELAYED**
NOTES Top of Casing Elevation = 782.73

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad	
		Poorly-graded Sand with Silt (SP-SM) - dark brown, damp, loose, no plasticity, lower fine to upper fine grain, cohesive; trace organics; trace gravel sized rock fragments; angular to subangular grains		← Surface Seal: concrete	778.2
			777.2		(2.0)
5		**Silty Sand (SM)** - rusty red, dry, medium dense, no plasticity, lower fine to upper fine grain, cohesive; slight increase in clay content; micaceous			
10		- SM: orangish brown to tan grading to light gray/white, dry, medium dense to loose, no plasticity, upper fine to lower medium with trace upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; trace gravel sized rock fragments; rock fragments range from brittle/friable to hard/more competent; micaceous; muscovite, chlorite, biotite, quartz, plagioclase identifiable			
15		▼ - SM: medium brown/orangish brown to medium gray with greenish gray mottling, damp, medium dense to loose, no plasticity, upper fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of remnant banding visible; brittle to hard rock fragments included; chlorite, biotite, muscovite, quartz, plagioclase identifiable; harder/more competent rock fragments tend to be felsic (quartz, plagioclase) and brittle/friable rock fragments tend to be mafic (biotite, chlorite)		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
20					
25		- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous;		←	
30					

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 17:36 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING YGWA-6I/PZ-6I

ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG

STRATA DESCRIPTION

ELEV.

Silty Sand (SM)*(Con't)*
- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous;

743.2

Unclassified Metamorphic
- white with orangish brown to pinkish staining, lower medium to upper coarse grain, soft to medium hard, moderately weathered, no banding visible, felsic rock; abundant plagioclase with trace quartz; high to moderate angled fractures; quartz fracture fill visible; low recovery; driller notes rubble zone with no recovery 38-40.5'

739.7

Interlayered/Alternating Mica Schist and Granitic Gneiss
- dark gray/black to greenish gray (schist) with light gray (gneiss), lower fine to upper fine grain size grain, medium hard, moderately to slightly weathered, schistose foliation visible along with slight banding in the zones of interlayered gneiss, gneiss is thinly interlayered and alternating (1-2" to 4-6"); quartz, plagioclase; biotite; chlorite; muscovite; trace pyrite, hornblende; high to moderate angled fractures with rusty red to dark brown staining

732.2

Granitic Gneiss
- light gray with trace greenish gray interlayering, lower fine to upper fine grain, medium hard to hard, slightly to not weathered, slight banding, slight schistose foliation visible, greenish gray interlayering decreases with depth; thin zone of localized, coarse grained plagioclase with trace to some quartz @ 55-56' (Granulite? Unclassified Metamorphic); increase in siliceous/felsic minerals decrease in mafic; quartz, plagioclase, biotite; muscovite; trace chlorite; trace pyrite; garnet, possible hornblende visible; high to moderate angled fractures; complete to partial healing

723.7

Unclassified Metamorphic
- white, upper coarse grain, hard, not weathered, zone of coarse grained plagioclase with slightly pinkish quartz; plagioclase crystals are tabular; interlayered within the unclassified plagioclase zone is thinly (1 cm) layered schist, dark greenish gray with bladed to elongated chlorite, biotite, hornblende; moderately to high angled fractures; moderate angled fractures show more fracture fill and more complete healing than high angle fractures

721.7

Interlayered/Alternating Granitic Gniess and Mica Schist
- light gray to white (gneiss) with dark gray /black to greenish gray (schist), lower fine to upper fine with trace lower medium to lower coarse quartz fracture fill grain, medium hard to hard, slightly weathered, banded, schistose foliation visible within some fracture zones and interlayered schist, quartz, plagioclase, biotite, muscovite, trace pyrite, trace chlorite; schist layers range in thickness from 1-2" to 5-6"; moderate to high angle fractures visible; total to moderate healing/quartz fracture fill; quartz fracture fill thickness 1-2 cm to 1-2" in thickness

713.7

Bottom of borehole at 66.5 feet.

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

(CONTINUED)

ELEV. (DEPTH)

Annular Fill: 90/10 Portland Cement/Bentonite Powder

729.7 (50.5)

Annular Seal: 3/8 Hole Plug (medium bentonite chips)

725.8 (54.4)

Filter: 20/30 Silica Sand

724.0 (56.2)

Well: 2" OD PVC (SCH 40)

Screen: 10 ft; pre-pack

714.0

Sump:0.30 ft.

713.7

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING PZ-6D
PAGE 1 OF 4
ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DATE STARTED 4/22/2014 **COMPLETED** 5/19/2014 **SURF. ELEV.** 779.5 **COORDINATES:** N: 1,260,480.15 E: 2,074,782.68
CONTRACTOR Cascade Drilling **EQUIPMENT** PS-150 **METHOD** Rotosonic
DRILLED BY D. Wilcox **LOGGED BY** B. Smelser **CHECKED BY** **ANGLE** **BEARING**
BORING DEPTH 131.5 ft. **GROUND WATER DEPTH: DURING** **COMP.** 18.93 ft. **DELAYED**
NOTES Top of Casing Elevation = 782.02

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA	ELEV. (DEPTH)
		Poorly-graded Sand with Silt (SP-SM) - dark brown, damp, loose, no plasticity, lower fine to upper fine grain, cohesive; trace organics; trace gravel sized rock fragments; angular to subangular grains		Surface: protective aluminum cover with bollards; 4-foot square concrete pad Surface Seal: concrete	777.5 (2.0)
			776.5		
5		**Silty Sand (SM)** - rusty red, dry, medium dense, no plasticity, lower fine to upper fine grain, cohesive; slight increase in clay content; micaceous - SM: orangish brown to tan grading to light gray/white, dry, medium dense to loose, no plasticity, upper fine to lower medium with trace upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; trace gravel sized rock fragments; rock fragments range from brittle/friable to hard/more competent; micaceous; muscovite, chlorite, biotite, quartz, plagioclase identifiable			
10					
15		- SM: medium brown/orangish brown to medium gray with greenish gray mottling, damp, medium dense to loose, no plasticity, upper fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; zones of remnant banding visible; brittle to hard rock fragments included; chlorite, biotite, muscovite, quartz, plagioclase identifiable; harder/more competent rock fragments tend to be felsic (quartz, plagioclase) and brittle/friable rock fragments tend to be mafic (biotite, chlorite)		Annular Fill: 90/10 Portland Cement/Bentonite Powder	
20					
25		- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous			
30					

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 6/10/14 17:40 - \\ALTRCFS02\X2DBSMEL$\GINT\PLANT YATES HYDRO-GEOLOGICAL STUDY.GPJ

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG | **STRATA DESCRIPTION** | **WELL DATA**

Silty Sand (SM)*(Con't)*

- SM: white to light gray with zones of orangish brown to brown, damp, medium dense to loose, no plasticity, fine to upper medium grain, *saprolite*, noncohesive; completely weathered to residual soil; remnant banding visible in darker (more mafic) zones; gravel sized, angular rock fragments included; rock fragment size and strength (hardness) increases with depth; micaceous

ELEV. 743.0

- No Recovery (36.5-46.5')

ELEV. 733.0

Interlayered/Alternating Granitic Gneiss and Biotite Gneiss

- dark gray to light gray, lower fine to upper fine grain, medium hard, moderately to slightly weathered, trace banding visible, slight schistose foliation visible along thin zones of interlayered schist, quartz, biotite, plagioclase, muscovite, pyrite, trace chlorite, hornblende (elongated crystal habit visible); thin (1") interlayered zones of dark gray/black to greenish gray schist; moderate to high angle fractures visible; difficult to distinguish between natural and mechanical fractures; moderately angled fractures show total to moderate healing; high angled fractures not healed and tend to follow interlayered zones of schist; some dark brown staining within fractures; white to light gray, upper medium quartz fracture fill

ELEV. 731.0

Unclassified Metamorphic

- white with trace greenish gray veining (fractures?), upper medium to lower coarse grain, medium hard to hard, moderately to slightly weathered, no visible banding or foliation, Granulite? localized, high grade metamorphic; plagioclase (large, white, tabular to bladed crystals), quartz (pinkish, translucent), muscovite, trace mafics i.e. chlorite, biotite; trace orangish brown staining visible; low angled fracturing with trace high angle fractures; high angle fractures show a greenish gray, schistose appearance; difficult to distinguish between natural and mechanical fracturing; slight to no visible healing

ELEV. 728.0

Granitic Gneiss

- light gray to white, upper fine to lower medium grain, medium hard to hard, slightly weathered, banding visible, orangish brown staining @ approx. 51-52' and 56-56.5'; quartz, plagioclase, chlorite, biotite, hornblende, muscovite, trace pyrite; thin, high angled fractures observed; partially healed with greenish gray fracture fill
- Interlayered/Alternating Granitic Gneiss, Biotite Gneiss and Mica Schist: light gray to medium gray to greenish gray, upper fine to lower medium grain, medium hard to hard, slightly to not weathered, banded (dark bands grading from dark gray to greenish gray in appearance, quartz, plagioclase, muscovite, biotite, chlorite, hornblende, increase in pyrite along fracture planes, trace garnet;

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

(CONTINUED) ELEV. (DEPTH)

Annular Fill: 90/10 Portland Cement/Bentonite Powder

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SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study

LOCATION Newnan, GA

DEPTH (ft) | GRAPHIC LOG

STRATA DESCRIPTION

ELEV.

(CONTINUED)

thin, high angled fractures observed; partially healed with greenish gray fracture fill; interlayered, greenish gray schist averages 1-2 mm thick throughout the unit

Granitic Gneiss*(Con't)*

- Interlayered/Alternating Granitic Gneiss, Biotite Gneiss and Mica Schist: light gray to medium gray to greenish gray, upper fine to upper medium grain, medium hard to hard, not weathered, banded (dark bands grading from dark gray to greenish gray in appearance, quartz, plagioclase, muscovite, biotite, chlorite, hornblende, increase in pyrite along fracture planes, trace garnet; thin, high angled fractures observed; partially healed with greenish gray fracture fill; interlayered, greenish gray schist averages 1-2 mm thick

704.5

Unclassified Metamorphic

- white to light gray with dark gray /black veining (fractures?), upper medium to lower coarse to upper coarse, mafic minerals tend to be upper fine to lower medium grain, medium hard to hard, slightly to not weathered, zones of trace banding visible, Granulite? localized, high grade metamorphic; large, tabular to bladed to elongated plagioclase with quartz; dark veins of biotite, chlorite, trace muscovite; visible platy crystal habit of biotite and muscovite; veining shows a slight schistose foliation

700.5

Interlayered/Alternating Granitic Gneiss and Biotite Gneiss

- medium gray to light gray grading to white with depth, lower fine to lower medium grain, hard to very hard, not weathered, trace banding with some zones having a schistose foliation, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, trace garnet; pyrite abundant in fractures; thinly (1-2 cm to 1-2") interlayered, dark gray to greenish gray schist; moderate to high angle fractures; trace weathering visible in some fractures

- Interlayered/Alternating Granitic Gneiss and Biotite Gneiss: medium gray to light gray grading to white with depth, lower fine to lower medium grain, hard to very hard, not weathered, trace banding with some zones having a schistose foliation, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, trace garnet; pyrite abundant in fractures; thinly (1-2 cm to 1-2") interlayered, dark gray to greenish gray schist; moderate to high angle fractures; trace weathering visible in some fractures

- Interlayered/Alternating Granitic Gneiss and Biotite Gneiss: medium gray to light gray grading to white with depth, lower fine to lower medium grain, hard to very hard, not weathered, trace banding with some zones having a schistose foliation, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, trace garnet; pyrite abundant in fractures; thinly (1-2 cm to 1-2") interlayered, dark gray to greenish gray schist; moderate to high angle fractures; trace weathering visible in some fractures

WELL DATA

Surface:
protective aluminum cover with bollards; 4-foot square concrete pad

ELEV. (DEPTH)

Annular Fill: 90/10 Portland Cement/Bentonite Powder

705.9 (73.6)

Annular Seal: 3/8 Hole Plug (medium bentonite chips)

701.0 (78.5)

Filter: 20/30 Silica Sand

698.3 (81.2)

Screen: 50 ft; 0.01" slotted

Well: 2" OD PVC (SCH 40)

(Continued Next Page)

SOUTHERN COMPANY

LOG OF TEST BORING AND WELL INSTALLATION

BORING PZ-6D
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ECS37976

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Yates Hydro-Geological Study
LOCATION Newnan, GA

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	WELL DATA
				Surface: protective aluminum cover with bollards; 4-foot square concrete pad
				(CONTINUED) ELEV. (DEPTH)
105		**Interlayered/Alternating Granitic Gneiss and Biotite Gneiss** *(Con't)*		
			673.5	
		Unclassified Metamorphic		
110		- white to light gray with dark gray /black veining (fractures?), upper medium to lower coarse to upper coarse, mafic minerals tend to be upper fine to lower medium grain, medium hard to hard, not weathered, zones of trace banding visible, Granulite? localized, high grade metamorphic; large, tabular to bladed to elongated plagioclase with quartz; dark veins of biotite, chlorite, trace muscovite; visible platy crystal habit of biotite and muscovite; veining shows a slight schistose foliation; moderate to high angled fractures; partial healing/fracture fill visible		
115				
				Screen: 50 ft; 0.01" slotted
120		- Unclassified Metamorphic: white to light gray with dark gray /black veining (fractures?), upper medium to lower coarse to upper coarse, mafic minerals tend to be upper fine to lower medium grain, medium hard to hard, not weathered, zones of trace banding visible, Granulite? localized, high grade metamorphic; large, tabular to bladed to elongated plagioclase with quartz; dark veins of biotite, chlorite, trace muscovite; visible platy crystal habit of biotite and muscovite; veining shows a slight schistose foliation		
			658.5	
		Interlayered/Alternating Granitic Gneiss and Biotite Gneiss		
125		- medium gray to light gray grading to white with depth, lower fine to lower medium grain, hard to very hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, trace garnet; less, thinly interlayered, dark gray to greenish gray schist than above; moderate to high angle fractures; no visible healing/fracture fill; trace weathering visible in some fractures; little to no schistose foliation observed - Interlayered/Alternating Granitic Gneiss and Biotite Gneiss: medium gray to light gray grading to white with depth, lower fine to lower medium grain, hard to very hard, not weathered, banded, quartz, plagioclase, biotite, muscovite, hornblende, pyrite, trace garnet; less, thinly interlayered, dark gray to greenish gray schist than above; moderate to high angle fractures; no visible healing/fracture fill; trace weathering visible in some fractures		
130			648.5	648.3
				Sump:0.30 ft. 648.0

Bottom of borehole at 131.5 feet.

RECORD OF BOREHOLE PZ-24IB

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 70.4 ft
LOCATION: Newnan, GA

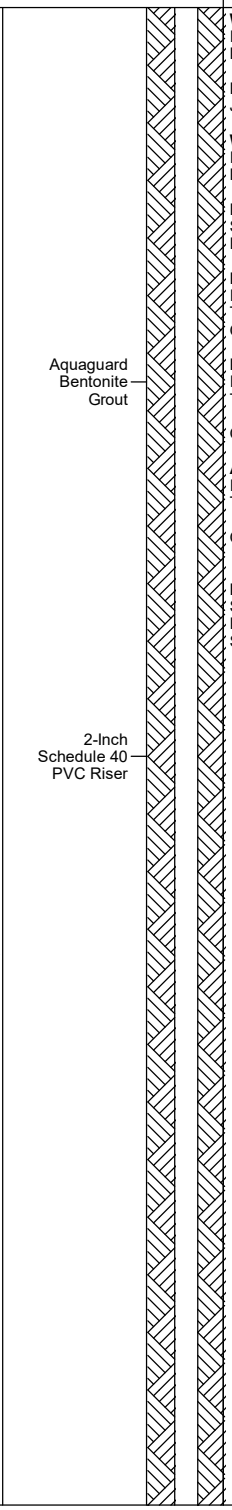
DRILL RIG: TerraSonic 150CC
DATE STARTED: 10/11/2022
DATE COMPLETED: 10/11/2022

NORTHING: 1258927.49
EASTING: 2073952.22
GS ELEVATION: 761.9
TOC ELEVATION: 764.92

DEPTH W.L.: 25.3
ELEVATION W.L.: 691.5
DATE W.L.: 10/14/2022
TIME W.L.: 2:55:00 PM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
	0.0 - 20.0 (ML) Sandy SILT; red; stiff; non-plastic; slightly moist; FILL.			0.0			
5					1		7.5 10.0
	Grading to 2.5YR 5/6.						
	Grading to 2.5YR 7/6.	ML					
10							
	Grading to 7.5YR 5/3.						
	Grading to 10YR 7/4.						
					2		7.0 10.0
15							
20							
	20.0 - 52.3 (SP) SAND; loose; well sorted; fine grained; moist; with some silt; SAPROLITE.			20.0			
	Quartz; coarse grained; subangular; wet.						
25					3		9.0 10.0
	Grading to 2.5YR 7/3; trace clay.						
30							
	Coarse micaceous layer with iron staining.	SP					
35					4		10.0 10.0
40							

PZ-24IB MONITORING WELL DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-60.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 60'-70'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 0.8'

FILTER PACK
Interval: 57'-70.4'
Type: U-Pack GP-1 Sand
Quantity: 5 bags

FILTER PACK SEAL
Interval: 53.5'-57
Type: 3/8" Bariod Bentonite Pellets
Quantity: 1 x 5 gal bucket

ANNULUS SEAL
Interval: 0'-53.5'
Type: Aquaguard Bentonite Grout
Quantity: 3 bags + 45 gal H2O

DRILLING METHODS
Soil Drill: 4-Inch Sonic
Rock Drill: 4-Inch Sonic
Sample Type: Sonic

DRILLING COMPANY: Cascade Drilling
DRILLER: Cory Franklin

CHECKED BY: David Prouty
DATE: 12/12/2022

ARCADIS

RECORD OF BOREHOLE PZ-24IB

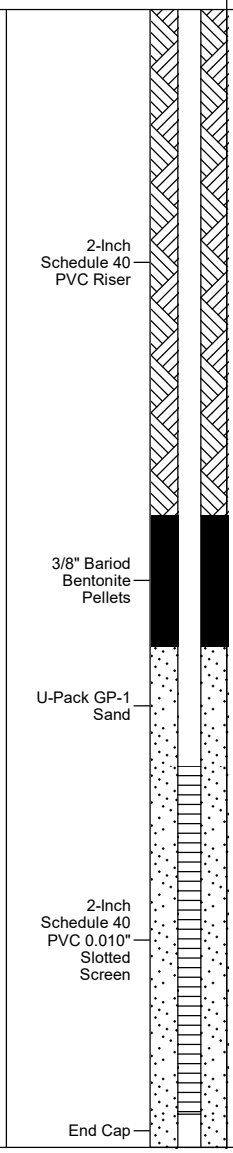
PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 70.4 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 10/11/2022
DATE COMPLETED: 10/11/2022

NORTHING: 1258927.49
EASTING: 2073952.22
GS ELEVATION: 761.9
TOC ELEVATION: 764.92

DEPTH W.L.: 25.3
ELEVATION W.L.: 691.5
DATE W.L.: 10/14/2022
TIME W.L.: 2:55:00 PM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
45	20.0 - 52.3 (SP) SAND; loose; well sorted; fine grained; moist; with some silt; SAPROLITE. Grading to 2.5Y 7/3.	SP		20.0	5		10.0 10.0
50	Grading to 2.5Y 6/3.				6		5.0 5.0
55	52.3 - 55.0 (SP) SAND; 2.5Y 6/3; poorly sorted; fine to coarse grained; subangular; dry; with some silt; some friable gravel sized weathered rock.	SP		52.3			
	55.0 - 59.7 (SP) SAND; 2.5Y 7/3; loose; poorly sorted; fine to medium grained; subangular; with trace coarse mica; fines washed away with coring.	SP		55.0	7		3.5 5.0
60	59.7 - 70.4 ROCK; granitic gneiss; 7.5YR 8/1; thin to moderately foliated; moderately weathered along foliation.			59.7			
65	Grading to GLEY1 8/N; granitic gneiss; slight weathering; thinly foliated.	BED-ROCK			8		6.0 10.4
70	Near vertical fracture with weathering and iron staining on surface.						
75							
80							



PZ-24IB MONITORING WELL DIAGRAM and NOTES

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0'-60.2'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 60'-70'
Material: Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: 0.8'

FILTER PACK
Interval: 57'-70.4'
Type: U-Pack GP-1 Sand
Quantity: 5 bags

FILTER PACK SEAL
Interval: 53.5'-57
Type: 3/8" Bariod Bentonite Pellets
Quantity: 1 x 5 gal bucket

ANNULUS SEAL
Interval: 0'-53.5'
Type: Aquaguard Bentonite Grout
Quantity: 3 bags + 45 gal H2O

DRILLING METHODS
Soil Drill: 4-Inch Sonic
Rock Drill: 4-Inch Sonic
Sample Type: Sonic

DRILLING COMPANY: Cascade Drilling
DRILLER: Cory Franklin

CHECKED BY: David Prouty
DATE: 12/12/2022

ARCADIS

The well coordinates and elevation data were revised based on a 2025 survey (Arcadis, November 19, 2025).

RECORD OF BOREHOLE PZ-35

SHEET 1 of 1

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 47.10 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/13/16
DATE COMPLETED: 7/20/16

NORTHING: 1,258,593.13
EASTING: 2,073,805.49
GS ELEVATION: 740.9
TOC ELEVATION: 743.81

DEPTH W.L.: 9.99 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/20/16
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	SAMPLES: TYPE	SAMPLES: REC	MONITORING WELL / PIEZOMETER DIAGRAM and NOTES
0	740	0.00 - 10.00 No recovery; Hydrovac			730.90				Portland Type 1
10	730	10.00 - 11.00 silty SAND, ash in core sample possibly recovered from hydrovac zone above	SM		10.00 / 29.90				
		11.00 - 14.00 CLAY, dark reddish browm, cohesive, moist	CH		11.00 / 726.90	1		7.00 / 7.00	
15	725	14.00 - 17.00 SAND, fine sand, mottled brown and grey, moist, loose	SP		14.00 / 723.90				
		17.00 - 27.00 fine sand, mottled brown and grey, relict laminations, moist, loose			17.00	2		10.00 / 10.00	
25	715				713.90				
		27.00 - 30.00 silty SAND, dull grey to brown, moist, loose	SM		27.00 / 710.90				
30	710	30.00 - 32.00 mottled brown to tan, lamination, dry to moist, loose			30.00 / 708.90	3		5.00 / 10.00	Bentonite Pellets and Chips
		32.00 - 37.00 mottled brown to tan, lamination, micaceous, dry to moist, loose			32.00				
35	705				703.90				0.010" Slotted Screen
		37.00 - 42.00 grey, dry, loose			37.00 / 698.90	4		4.00 / 10.00	#1 Type Sand
40	700								
45	695	42.00 - 47.00 transitionally weathered rock - biotite/muscovite GNEISS, weathered, friable	PWR		42.00 / 693.90				Sump
		Boring completed at 47.10 ft			47.00				
50									

WELL CASING
Interval: 0.0'-36.0'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 36.0'-46.0'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 34.0'-46.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 31.0'-34.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-31.0'
Type: Portlant Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE PZ-37

SHEET 1 of 1

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 47.00 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 6/29/16
DATE COMPLETED: 7/6/16

NORTHING: 1,256,471.14
EASTING: 2,074,699.59
GS ELEVATION: 758.0
TOC ELEVATION: 760.78

DEPTH W.L.: 6.0 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/6/2016
TIME W.L.: 07:40

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC
0	755	0.00 - 3.00 silty CLAY, red to brown, micaceous	CL-ML		755.00			
		3.00 - 5.00 silty SAND, trace gravel, pale grey to green, plagioclase nodules (saprolite)	SM		3.00 753.00	1		7.00 7.00
5		5.00 - 7.00 trace clay, white and orange nodules, plagioclase, dry (saprolite)			5.00 751.00			
	750	7.00 - 9.50 trace gravel, white to dark brown, muscovite			7.00 749.00			
10		9.50 - 17.00 trace clay, pale yellow brown, plagioclase nodules, dry (saprolite)			9.50	2		10.00 10.00
	745							
15					741.00			
	740	17.00 - 27.00 pale yellow brown to brown, white and brown nodules, saprolitic gneiss, dry			17.00			
20						3		10.00 10.00
	735							
25					731.00			
	730	27.00 - 37.00 transitionally weathered rock- feldspathic GNEISS, muscovite, biotite, feldspar, quartz, foliated and layered, dark green, amphiboile lense	PWR		27.00			
30						4		10.00 10.00
	725							
35					721.00			
	720	37.00 - 43.00 bedrock - feldspathic GNEISS, biotite, muscovite, quartz, plagioclase, grey to white, more feldspar and quartz, oxidized and fractured	GNEISS		37.00			
40						5		8.00 10.00
	715	43.00 - 47.00 more granitic, lots of feldspar and quartz			715.00 43.00			
45					711.00			
	710	Boring completed at 47.00 ft						
50								

MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES: Portland Type 1; Bentonite Pellets and Chips; 0.010" Slotted Screen; #1 Type Sand; Sump

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: 0.0'-36'
Material: Schedule 40 PVC
Diameter: 2
Joint Type: Threaded

WELL SCREEN
Interval: 36.5'-46.5'
Material: U-Pack Schedule 40 PVC
Diameter: 2
Slot Size: 0.010" Slotted Screen
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 33.0'-47.0'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 25.0'-33.0'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'-25.0'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Tom Ardito

GA INSPECTOR: Tim Richards
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Sheet: 1 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
0									
1							Sandy clay (CL); 2.5YR 5/8; some silt; little very fine grained to fine grained sand; angular to sub angular; low plasticity; dry.	Surface completion consists of a locking monument 2.32 ft. above ground surface with a weep hole, vent hole in well casing; 4'x4'x4' concrete pad; four bollards	
2									
3							Silty sand (SM); 2.5Y 8/3 (pale brown) with some 2.5Y 7/1 (light gray); very fine grained to medium grained sand; angular to sub angular; little silt; trace clay; trace granules; angular; granules composed of quartz; micaceous; dry.		
4									
5			120						
6									
7								30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
8									
9									
10									
11							Silty sand (SM); 2.5Y 6/4 (light yellowish brown) with 2.5Y 7/1 (light gray) and GLEY1 10GY 5/1 (greenish gray) mottled through out; very fine grained to fine grained sand; angular to sub angular; some silt; little clay; micaceous; saprolitic; moist.		
12									
13									
14									
15			120						
16									

Drilling Co.: Cascade
Driller: David Wilcox
Drilling Method: Rotosonic
Drilling Fluid: Water
Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; NA = not applicable / available.

Sampling Method: Core Barrel
Sampling Interval: Continous
Water Level Start (ft. bgs.):
Water Level Finish (ft. btoc.): 5.98
Converted to Well: ☒ Yes ☐ No
Surface Elev.: 758.8
North Coor: 1256478.32
East Coor: 2074688.08

ARCADIS Design & Consultancy for natural and built assets

Boring No.: PZ-37D

Boring Log/Well Construction Log

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
17							Well-graded sand (SW); 2.5Y 8/1 (white); very fine grained to very coarse grained sand; trace gravel; gravel composed of quartz.		
18							Silty sand (SM); 2.5Y 6/4 (light yellowish brown) with 2.5Y 7/1 (light gray) and GLEY1 10GY 5/1 (greenish gray) mottled through out; very fine grained to fine grained sand; angular to sub angular; some silt; little clay; micaceous; saprolitic; moist.		
19									
20									
21									
22							Pulverized rock composed of quartz.		
23							Gneiss (Partially Weathered Rock); black, white and some greenish gray mineral grains; fine grained to very coarse mineral grains; gneissic rock texture; strong to very strong rock strength; partially weathered; rock cobbles range from 0.2 to 0.4 ft in length;some dark red staining on majority of rock cobbles; some pyrite crystals observed.	30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
24									
25									
26									
27			30						
28									
29									
30									
31							Decrease in mineral grain size; very fine grained to fine grained mineral grains; dark to light orange staining on rock cobbles; slight increase in cobble size.		
32									
33									
34									
35			90						

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Sheet: 3 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
36							Gneiss (Bedrock); black and white with little greenish gray minerals grains; very fine grained to very coarse grained mineral grains; gneissic rock texture; very strong rock strength; fresh rock; trace partially weathered rock cobbles; little to trace red staining on rock cobbles; some pyrite crystals observed.		
37									
38									
39									
40									
41									
42									
43									
44									
45			96					30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
46									
47									
48									
49									
50							Trace red staining on rock cobbles		
51									
52									
53									
54									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: PZ-37D

Boring Log/Well Construction Log

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
55			120				Gneiss (Bedrock); black and white with little greenish gray minerals grains; very fine grained to very coarse grained mineral grains; gneissic rock texture; very strong rock strength; fresh rock; trace partially weathered rock cobbles; little to trace red staining on rock cobbles; some pyrite crystals observed.	30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
56									
57									
58									
59									
60									
61			108						
62									
63									
64									
65									
66									
67									
68									
69							Gneiss (Partially Weathered Rock); same composition as described above; partially weathered zone.		
70									
71									
72									
73							Gneiss (Bedrock); same composition as described above; trace to no staining on rock cobbles.		

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
75			108				Gneiss (Bedrock); same composition as described above; trace to no staining on rock cobbles.		
76									
77									
78							78.0-79.0 ft bgs; some staining on rock pieces.		
79									
80									
81									
82							Gneiss (Partially Weathered Rock); same composition as described above; partially weathered zone; abundant red staining on rock cobbles.	30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
83									
84									
85			104				Gneiss (Bedrock); same composition as described above; trace to no red staining on rock cobbles.		
86									
87									
88									
89									
90							Gneiss (Partially Weathered Rock); same composition as described above; partially weathered zone.		
91							Gneiss (Bedrock); same composition as described above; trace red staining on rock cobbles.		
92									
93									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: PZ-37D

Boring Log/Well Construction Log

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
94							Gneiss (Bedrock); same composition as described above; trace red staining on rock cobbles.	30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
95			102						
96									
97									
98									
99									
100									
101									
102									
103									
104									
105			108						
106									
107									
108									
109									
110									
111									
112									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Sheet: 7 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
113							Gneiss (Partially Weathered Rock); same composition as described above; partially weathered zone.		
114							Gneiss (Bedrock); same composition as described above; little to trace red-orangish red staining on rock cobbles		
115			108						
116									
117							117.0-120.0 ft bgs; some red staining on fracture surfaces.		
118									
119									
120									
121								30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
122									
123									
124									
125			96						
126									
127									
128									
129									
130									
131									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
132			42				Gneiss (Bedrock); same composition as described above; little to trace red-orangish red staining on rock cobbles	30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
133									
134									
135									
136			54						
137									
138									
139									
140									
141									
142									
143									
144									
145			102						
146									
147									
148									
149									
150									
151									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: PZ-37D

Boring Log/Well Construction Log

Sheet: 9 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
152			102				Gneiss (Bedrock); same composition as described above; little to trace red-orangish red staining on rock cobbles		
153									
154									
155									
156									
157									
158							158.0 ft bgs; began observing 5-10% very fine grained garnets in rock matrix; trace porphyblast garnets 0.5 inches in diameter.		
159									
160								30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
161			96						
162									
163									
164									
165									
166									
167									
168									
169									
170									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

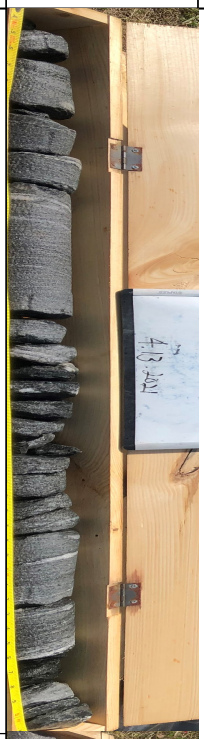
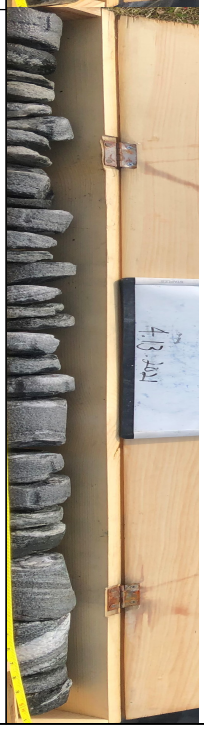
Boring No.: PZ-37D

Sheet: 10 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
171							Gniess (Bedrock); same composition as described above; little to trace red-orangish red staining on rock cobbles		
172									
173									
174									
175			120					30% solids bentonite grout (AQUAGUARD) 3-in. outer dia. with 2-in inner dia. Sch 40 PVC riser.	
176									
177									
178									
179									
180									
181									
182									
183									
184								Bentonite seal (Pel-Plug 3/8 inch pellets).	
185			120						
186									
187									
188								So. Products Filter Pack No.1 (16-40)	
189									

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring Log/Well Construction Log

Boring No.: PZ-37D

Sheet: 11 of 11

Project Name: Plant Yates
Project Number: 30086734
Project Location: Newnan, GA

Date Started: 04/05/2021
Date Completed: 04/16/2021

Logger: Grant Willford
Editor: Grant Willford
Weather Conditions: -

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description	Construction Details	Well
190							Gneiss (Bedrock); same composition as described above; little to trace red-orangish red staining on rock cobbles	3-inch outer dia. with 2 inch inner dia U-Pack Sch. 40 PVC, 0.010-in slot; 16-40 filter pack	
191									
192									
193									
194									
195			114						
196									
197									
198									
199									
200							End of boring 200.0 ft bgs.		
201									
202									
203									
204									
205									
206									
207									
208									

Remarks:

The well coordinates and elevation data were revised based on a June 2020 survey (Arcadis, June 29, 2020).

RECORD OF BOREHOLE YGWC-48/ PZ-48

SHEET 1 of 2

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 56.10 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/11/16
DATE COMPLETED: 7/12/16

NORTHING: 1,259,868.04
EASTING: 2,074,528.00
GS ELEVATION: 777.2
TOC ELEVATION: 779.83 ft

DEPTH W.L.: 17.71 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/13/2016
TIME W.L.: 15:25

DEPTH (ft)	ELEVATION (ft)	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES
0	777	0.00 - 10.00 No recovery; hydrovac			767.20				
10	765	10.00 - 12.00 clayey SAND, coarse sand, dark red, cohesive	SC		10.00 765.20				
		12.00 - 14.00 sandy SILT to silty SAND, pinkish orange	SP-ML		12.00 763.20	1		6.00 6.00	
15		14.00 - 16.00 sandy SILT, reddish brown, moist loose	ML		14.00 761.20				
20	760	16.00 - 22.00 sandy SILT to silty SAND, dark reddish brown, trace gravel, dry, loose	SP-ML		16.00 755.20	2		10.00 10.00	Portland Type 1
25	755	22.00 - 26.00 silty SAND, mottled white and grey, high plagioclase content	SM		22.00 751.20				
30	750	26.00 - 32.00 poorly sorted, greyish brown, dry, loose			26.00 745.12	3		10.00 10.00	
35	745	32.00 - 36.00 transitionally weathered rock, pegmatite GRANITE, highly weathered, large plagioclase and quartz crytals	PWR		32.00 741.20				
40	740	36.00 - 46.00 biotite GNEISS, some staining near top of core, pyrite inclusions	GNEISS		36.00 731.20	4		10.00 10.00	Bentonite Pellets and Chips
45	735	46.00 - 49.00 biotite GNEISS			46.00 728.20	5		10.00 10.00	0.010" Slotted Screen
50	730				49.00				

Log continued on next page

WELL CASING
Interval: 0.0'-45.8'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 45.8'-55.8'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010'
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 43.1'-56.1'
Type: #1 Type Sand

FILTER PACK SEAL
Interval: 38.5'-43.1'
Type: Bentonite Pellets and Chips

ANNULUS SEAL
Interval: 0.0'38.5'
Type: Portland Type 1

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Aluminum

DRILLING METHODS
Soil Drill: 4" Sonic
Rock Drill: 4" Sonic

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

RECORD OF BOREHOLE YGWC-48/ PZ-48

PROJECT: SCS Plant Yates
PROJECT NUMBER: 1660300
DRILLED DEPTH: 56.10 ft
LOCATION: Newnan, GA

DRILL RIG: Sonic PS-150
DATE STARTED: 7/11/16
DATE COMPLETED: 7/12/16

NORTHING: 1,259,868.04
EASTING: 2,074,528.00
GS ELEVATION: 777.2
TOC ELEVATION: 779.83 ft

DEPTH W.L.: 17.71 ft (bgs)
ELEVATION W.L.: (amsl)
DATE W.L.: 7/13/2016
TIME W.L.: 15:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
50		49.00 - 52.00 biotite GNEISS, migmatic gneiss bands with iron staining *(Continued)*			725.20				#1 Type Sand	**WELL CASING** Interval: 0.0'-45.8' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded
	725	52.00 - 56.00 biotite GNEISS			52.00	5		10.00 10.00		
55					721.20				Sump	**WELL SCREEN** Interval: 45.8'-55.8' Material: U-Pack Schedule 40 PVC Diameter: 2" Slot Size: 0.010' End Cap: Schedule 40 PVC
	720	Boring completed at 56.10 ft			56.00					**FILTER PACK** Interval: 43.1'-56.1' Type: #1 Type Sand
60										**FILTER PACK SEAL** Interval: 38.5'-43.1' Type: Bentonite Pellets and Chips
	715									**ANNULUS SEAL** Interval: 0.0'38.5' Type: Portland Type 1
65										**WELL COMPLETION** Pad: 4'x4'x4" Protective Casing: Aluminum
	710									**DRILLING METHODS** Soil Drill: 4" Sonic Rock Drill: 4" Sonic
70										
	705									
75										
	700									
80										
	695									
85										
	690									
90										
	685									
95										
	680									
100										

LOG SCALE: 1 in = 6.5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Dale

GA INSPECTOR: Ben Hodges
CHECKED BY: Rachel Kirkman, PG
DATE: 9/29/17

Golder Associates

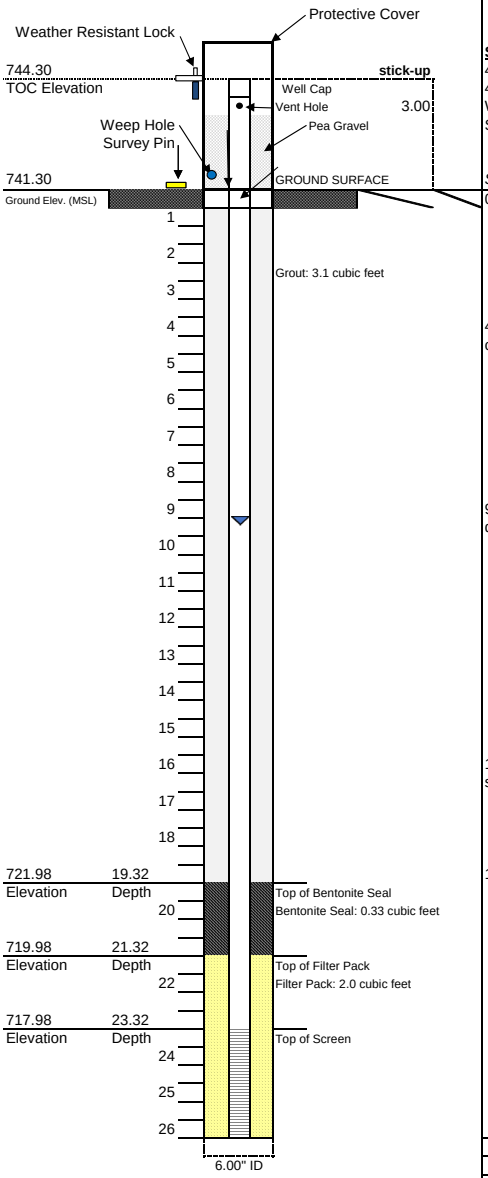
BOREHOLE RECORD YATES BORING LOGS.GPJ PIEDMONT.GDT 9/26/17

The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

ATLANTIC COAST CONSULTING, INC.

PZ-51
BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	36.69 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	7-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	8-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	7' BGS		
WATER AFTER 48 HOURS:	6.27' BGS		



Northing: 1257595.80
Easting: 2073182.55

SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0-4' Hydrovac. No observable cuttings

4-9' Hard rock. Gniessic banding/schist. Moderately weathered to competent. Some iron staining present (5/5)

9-16' As above except very competent rock. No iron staining. Very hard drilling (5/7)

16-19' As above except rock now slightly weathered and some iron staining present (2/3)

19-29' As above except now more iron staining present (6/10)

Core Photos

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

PZ-51

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	36.69 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	7-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	8-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	7' BGS		
WATER AFTER 48 HOURS:	6.27' BGS		

Core Photos

Elevation MSL	Depth BGS	
	28	
	29	29-33' As above except rock now very competent. No iron staining present. Very hard drilling (4/4)
	30	
	31	
	32	
707.98	33.32	Bottom of Screen
		Silt Trap (0.3')
Elevation	Depth	Total well depth 33.62' BGS
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	
	50	
	51	
	52	

6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-52 (PZ-52D & PZ-53D)

Soil Boring and Construction Log

Sheet: 1 of 7

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
1–5		5			(0-17 ft) SAND, fine to coarse, subangular; some silt; trace clay; poorly sorted; moist; loose; 7.5YR 6/6 - reddish yellow; no odor; blocky structure; saprolite.	(0-5 ft) Hand Auger		8" Borehole; 6.25" Surface Casing grouted in Portland cement
6–10		5				(5-55 ft) Drilled with water, Rough drilling	▼	Aquagard 30% solids bentonite grout
11–15		5						2" Sch. 40 PVC, PZ-52D Casing; 1" Sch. 40 PVC, PZ-53D Casing
16–20		5			(17-20 ft) SAND, very fine to very coarse, subangular; little silt; little small to very large pebbles, angular; trace granules, angular; trace clay; poorly sorted; dry to moist; loose; 7.5YR 6/8 - reddish yellow; no odor; saprolite. NOTE: Pebbles are highly weathered. .			
21–25		5			(20-22 ft) SAND and CLAY, medium, subangular, medium plasticity, rapid dilatancy; little silt; well sorted; moist; dense; 7.5YR 4/3 - brown; no odor; homogeneous structure; saprolite. (22-24 ft) SAND, very fine to very coarse, angular to subangular; some silt; little granules, angular to subangular; little clay; poorly sorted; dry; loose; 7.5YR 6/8 - reddish yellow; no odor; blocky structure; saprolite.			
26–30		2			(24-30 ft) SAND, medium to coarse, angular to subangular; little small to very large pebbles, angular to subangular; little granules, angular to subangular; trace small to large cobbles, angular to subangular; trace silt; trace clay; poorly sorted; dry; loose; 10YR 8/2 - pale orange yellow; no odor; Saprolite/ weathered rock. NOTE: Clasts of mechanically broken weathered rock from drilling.			

Drilling Co.: Cascade
Driller: Cory Franklin, Mike Coleman
Drilling Method: Roto-Sonic
Drill Rig: Roto-Sonic
Remarks: Lithology modifiers: 'and' = 36-50% of total sample (by volume), 'some' = 21-35%, 'little' = 10-20%, and 'trace' = <10%.

Sampling Method: Sonic
Sampling Dimensions: Continuous
First Encountered Water (ft bgs): 5
Static Water Level (ft bgs): 5.91
Top of Casing Elev: 762.80
Surface Elev: 759.90
North Coor: 1256463.09
East Coor: 2074676.14

SOIL BORING AND CONSTRUCTION LOG C:\USERS\LWOODS\ONEDRIVE - ARCADIS\FULCRUM-GINT PROJECTS\CHEVRON CHARLOTTE\GINT PROJECT-C61SLP73.GPJ GINT DATA TEMPLATE.GDT 11/3/21

ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-52 (PZ-52D & PZ-53D)

Soil Boring and Construction Log

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
31–63		10			(30-40 ft) Partially Weathered Rock, medium grained (0.25-0.5 mm) to coarse grained (0.5-2.0 mm), angular; White\\orange\\grey; 5Y 7/1 - light gray; highly weathered; medium hard (easily scratched by penknife); moderately fractured (0.1-0.3 m). NOTE: High m-f sand in cores accompanying broken rock fragments..	(5-55 ft) Drilled with water, Rough drilling		6.25" Surface Casing grouted in Portland cement; Aquagard 30% solids bentonite grout; 2" Sch. 40 PVC, PZ-52D Casing; 1" Sch. 40 PVC, PZ-53D Casing; 6" Borehole; Bentonite Pellets
		10			(40-72 ft) Metamorphic Rock, medium grained (0.25-0.5 mm) to coarse grained (0.5-2.0 mm), angular; Grey/ white; fresh; very hard (cannot be scratched by penknife); moderately fractured (0.1-0.3 m); Chlorite, biotite, feldspars, quartz; pitted; Foliated Gneiss . NOTE: Micaceous, foliated.	(40-160 ft) Drilled with water, Drill rods chattering		
		10						
		10						

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-52 (PZ-52D & PZ-53D)

Soil Boring and Construction Log

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
64					(40-72 ft) Metamorphic Rock, medium grained (0.25-0.5 mm) to coarse grained (0.5-2.0 mm), angular; Grey/ white; fresh; very hard (cannot be scratched by penknife); moderately fractured (0.1-0.3 m); Chlorite, biotite, feldspars, quartz; pitted; Foliated Gneiss . NOTE: Micaceous, foliated.	(40-160 ft) Drilled with water, Drill rods chattering		Bentonite Pellets; 2" Sch. 40 PVC, PZ-52D Casing; 1" Sch. 40 PVC, PZ-53D Casing; 2" 0.1-Slot Upack double filter Screen; FilterSil 0.85 12/30 filter sand; Sch. 40 PVC End Cap
65								
66		10						
67								
68								
69								
70								
71								
72					(72-100 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to coarse grained (0.5-2.0 mm), angular; Light grey; fresh; hard (difficult to scratch with penknife); intensely fractured (0.03-0.1 m); Chlorite, biotite, feldspars, quartz; Granitic-gneiss, foliated . NOTE: Fractures present causing yellow staining and increased localized weathering..			
73								
74								
75		10						
76								
77								
78								
79								
80								
81								
82								
83								
84								
85		10						
86								
87								
88								
89								
90								
91								
92								
93		10						
94								
95								
96								

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-52 (PZ-52D & PZ-53D)

Soil Boring and Construction Log

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
97					(72-100 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to coarse grained (0.5-2.0 mm), angular; Light grey; fresh; hard (difficult to scratch with penknife); intensely fractured (0.03-0.1 m); Chlorite, biotite, feldspars, quartz; Granitic-gneiss, foliated . NOTE: Fractures present causing yellow staining and increased localized weathering..	(40-160 ft) Drilled with water, Drill rods chattering		
98		10						
99								
100								
101					(100-130 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to medium grained (0.25-0.5 mm), angular; Grey; fresh; hard (difficult to scratch with penknife); moderately fractured (0.1-0.3 m); Biotite, muscovite, quartz, feldspars, trace euhedral garnet; Foliated granitic gneiss .			
102								
103								
104								
105		10						
106								
107								
108								Bentonite Chips
109								
110								
111								
112								
113								1" Sch. 40 PVC, PZ-53D Casing
114								
115		10						
116								
117								
118								
119								
120								
121								
122								
123								
124								
125		10						
126								
127								
128								
129								

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring and Construction Log

Boring No.: BH-52 (PZ-52D & PZ-53D)

Sheet: 5 of 7

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
130		10				(40-160 ft) Drilled with water, Drill rods chattering		
131					(130-140 ft) Metamorphic Rock, fine grained (0.06-0.25 mm), angular; Light grey; fresh; hard (difficult to scratch with penknife); slightly fractured (0.3-1 m); Biotite, muscovite, quartz, feldspars, garnet, pyrite ; Fine grained granitic gneiss. Finely Foliated.			
132								
133								
134								
135		10						
136								
137								Bentonite Chips
138								
139								
140								
141					(140-200 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to medium grained (0.25-0.5 mm), angular; fresh; hard (difficult to scratch with penknife); moderately fractured (0.1-0.3 m); Biotite, muscovite, quartz, feldspars, garnet, pyrite ; Foliated granitic gneiss.			
142								
143								
144								
145		10						
146								Bentonite Pellets
147								
148								
149								1" Sch. 40 PVC, PZ-53D Casing
150								
151								
152								
153								FilterSil 0.85 12/30 filter sand
154								
155		10						1" 0.1-Slot Sch. 40 PVC Screen
156								
157								
158								
159								
160								Sch. 40 PVC End Cap
161								
162								

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring and Construction Log

Boring No.: BH-52 (PZ-52D & PZ-53D)

Sheet: 6 of 7

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
163					(140-200 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to medium grained (0.25-0.5 mm), angular; fresh; hard (difficult to scratch with penknife); moderately fractured (0.1-0.3 m); Biotite, muscovite, quartz, feldspars, garnet, pyrite ; Foliated granitic gneiss.			FilterSil 0.85 12/30 filter sand
164								
165								
166								
167					(167-168 ft) NOTE: Fine grained mafic intrusion. Foliated.			
168								
169								
170								
171								
172								
173								
174								
175								
176								
177								
178								
179								
180								Bentonite Chips
181								
182								
183								
184								
185								
186								
187								
188								
189								
190								
191								
192								
193								
194								
195								

Remarks:

ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-52 (PZ-52D & PZ-53D)

Soil Boring and Construction Log

Sheet: 7 of 7

Client Name: Southern Company Services
Project Number: 30055278
Project Name: GPC Yates Drilling Oversight

Date Started: 08-18-2021
Date Completed: 09-28-2021
Total Depth: 200.0 ft bgs

Logger: Auguste Parrinello
Reviewer: Geoffrey Gay

Depth (feet)	Sample ID	Rec. (ft)	PID (ppm)	Graphic	Description	Drilling Fluid and Notes	Optical Viewer	Construction Details
196					(140-200 ft) Metamorphic Rock, fine grained (0.06-0.25 mm) to medium grained (0.25-0.5 mm), angular; fresh; hard (difficult to scratch with penknife); moderately fractured (0.1-0.3 m); Biotite, muscovite, quartz, feldspars, garnet, pyrite ; Foliated granitic gneiss.			Bentonite Chips
197								
198								
199								
200					200 ft. bgs End of Boring			
201								
202								
203								
204								
205								
206								
207								
208								
209								
210								
211								
212								
213								
214								
215								
216								
217								
218								
219								
220								
221								
222								
223								
224								
225								
226								
227								
228								

Remarks:

RECORD OF BOREHOLE BH-54D: PZ-54D & PZ-56D

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 200.0 ft
LOCATION: Newnan, GA

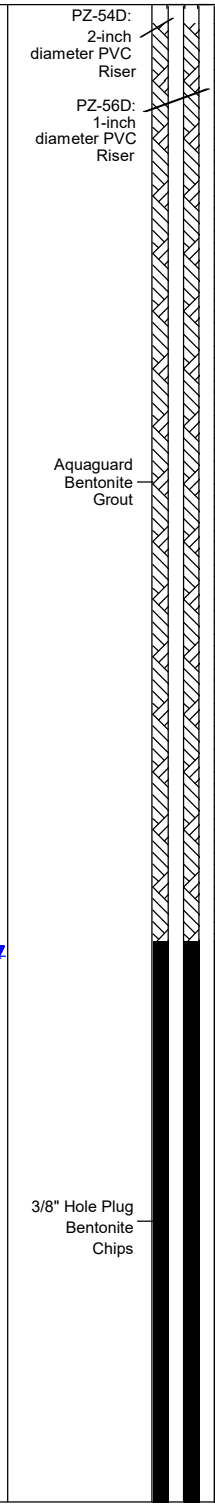
DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/17/2023
DATE COMPLETED: 01/22/2024

NORTHING: 1256904.08
EASTING: 2073369.06
GS ELEVATION: 792.5
TOC ELEVATION: 795.56

DEPTH W.L.: 25.40 / 45.75
ELEVATION W.L.: 770.16 / 749.81
DATE W.L.: 01/29/24
TIME W.L.: 09:36

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
	0.0 - 3.0 (SM) Silty SAND; 5YR 4/6; loose; poorly sorted; fine grained; moist; trace gravel; FILL.	SM		0.0			
	3.0 - 15.0 (SP) SAND; 10YR 7/3; well sorted; fine grained; dry; with some silt and coarse sand and gravel	SP		3.0	1		8.2 10.0
5							
10	Grading to 10YR 6/2.						
15	15.0 - 23.0 (SM) Silty SAND; 10YR 7/3; poorly sorted; fine grained; dry; some friable gravel-sized fragments.	SM		15.0	2		10.0 10.0
20							
	23.0 - 25.0 (ML) Sandy SILT; 5Y 5/3; hard; non-plastic; slightly moist.	ML		23.0			
25	25.0 - 36.0 (SM) Silty SAND; 10YR 6/2; poorly sorted; fine grained; dry; some friable gravel-sized fragments.	SM		25.0	3		10.0 10.0
	Grading to 10YR 7/3						
30	Grading to 10YR 5/4; moist.				4		8.0 8.0
	Grading to 10YR 7/3; with some gravel and coble size rock fragments						
35							
	36.0 - 200.0 Biotite Gneiss; GLEY2 6/5PB; hard; medium grained; finely foliated; slightly weathered.	BED-ROCK		36.0			
40	80 degree fracture, iron staining.				5		2.0 2.0

BH-54 MONITORING WELL DIAGRAM and NOTES



WELL CONSTRUCTION DETAILS

PZ-54D WELL CASING
Interval: -3.06'-124'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

PZ-54D WELL SCREEN
Interval: 124'-134'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"

PZ-54D FILTER PACK
Interval: 121.9'-137.4'
Type: Southern Products and Silica GP#2
Quantity: 2.25 cf

PZ-56D WELL CASING
Interval: -3.06'-185'
Material: Schedule 40 PVC
Diameter: 1"
Joint Type: Threaded

PZ-56D WELL SCREEN
Interval: 185'-195'
Material: Schedule 40 PVC
Diameter: 1"
Slot Size: 0.010"

PZ-56D FILTER PACK
Interval: 182.8'-200'
Type: Southern Products and Silica GP#2
Quantity: 3.5 cf

FILTER PACK SEAL
Interval: 118'-121.9'
Type: 3/8" Pel-Plug Bentonite Pellets
Quantity: 0.6 cf

ANNULUS SEAL
Interval: 25'-118'
Type: 3/8" Hole Plug Bentonite Chips
Quantity: 21.5 cf

ANNULUS SEAL
Interval: 0.5'-25'
Type: Aquaguard Bentonite Grout
Quantity: 7 cf

SURFACE COMPLETION
Protection: 6"x6" Aluminum
Pad: 4'x4' Concrete
Lock: Yes
Date: 1/22/2024

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE BH-54D: PZ-54D & PZ-56D

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 200.0 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/17/2023
DATE COMPLETED: 01/22/2024

NORTHING: 1256904.08
EASTING: 2073369.06
GS ELEVATION: 792.5
TOC ELEVATION: 795.56

DEPTH W.L.: 25.40 / 45.75
ELEVATION W.L.: 770.16 / 749.81
DATE W.L.: 01/29/24
TIME W.L.: 09:36

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC	BH-54 MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
45	Biotite Gneiss; GLEY2 6/5PB; hard; medium grained; finely foliated; slightly weathered. Biotite Schist 40.5 to 41 feet bgs.	BED-ROCK		40.0	6		7.6 10.0		
50	Slightly weathered irregular joint				7		7.8 10.0		
55	Weathered zone 10 degree iron stained fracture.								
60	1 foot weathered zone				8		10.0 10.0	3/8" Hole Plug Bentonite Chips	
65	Grading to GLEY2 6/5 PB								
70	Grading to GLEY2 7/5 NB				9		7.5 10.0		
75									
80	Moderately weathered zone 88-89								

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE BH-54D: PZ-54D & PZ-56D

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 200.0 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/17/2023
DATE COMPLETED: 01/22/2024

NORTHING: 1256904.08
EASTING: 2073369.06
GS ELEVATION: 792.5
TOC ELEVATION: 795.56

DEPTH W.L.: 25.40 / 45.75
ELEVATION W.L.: 770.16 / 749.81
DATE W.L.: 01/29/24
TIME W.L.: 09:36

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC	BH-54 MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
85	Biotite Gneiss; GLEY2 6/5PB; hard; medium grained; finely foliated; slightly weathered. Slightly weathered, iron stained vertical fracture. Slightly weathered, iron stained horizontal fracture.	BED-ROCK		80.0	10		8.4/10.0		
90	Fresh; no staning to 200 feet.				11		3.9/10.0		
95									
100					12		5.0/10.0	3/8" Hole Plug Bentonite Chips	
105									
110					13		7.9/10.0		
115									
120								3/8" Hole Plug Bentonite Chips	

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE BH-54D: PZ-54D & PZ-56D

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 200.0 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/17/2023
DATE COMPLETED: 01/22/2024

NORTHING: 1256904.08
EASTING: 2073369.06
GS ELEVATION: 792.5
TOC ELEVATION: 795.56

DEPTH W.L.: 25.40 / 45.75
ELEVATION W.L.: 770.16 / 749.81
DATE W.L.: 01/29/24
TIME W.L.: 09:36

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC	BH-54 MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
125	Biotite Gneiss; GLEY2 6/5PB; hard; medium grained; fin elyfoliated; slightly weathered.	BED-ROCK		120.0	14		5.0/10.0	3/8" Pel-Plug Bentonite Pellets; GP#2 (7-35) Silica Sand	
130								U-Pack Screen, slotted (0.010-inch)	
135					15		8.4/10.0		
140									
145	Grading very coarse grained biotite.				16		8.6/10.0	3/8" Hole Plug Bentonite Chips	
150	Visibile mineral grains								
155					17		3.4/10.0		
160									

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE BH-54D: PZ-54D & PZ-56D

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 200.0 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/17/2023
DATE COMPLETED: 01/22/2024

NORTHING: 1256904.08
EASTING: 2073369.06
GS ELEVATION: 792.5
TOC ELEVATION: 795.56

DEPTH W.L.: 25.40 / 45.75
ELEVATION W.L.: 770.16 / 749.81
DATE W.L.: 01/29/24
TIME W.L.: 09:36

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC	BH-54 MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
	Biotite Gneiss; GLEY2 6/5PB; hard; medium grained; finely foliated; slightly weathered. No apparent foliation 160.2 -164 ft			160.0					
165					18		9.2 / 10.0		
170	Very finely foliated with greenish mineral; visible mineral grains.							3/8" Hole Plug Bentonite Chips	
175					19		6.5 / 10.0		
	Recovered core section 0.5 feet. Bedrock grading more competent.								
180		BED-ROCK							
	Recovered core section 0.8 feet. Recovered core section 1.5 feet.								
185					20		10.0 / 10.0	GP#2 (7-35) Silica Sand	
190								1-inch ID Screen, slotted (0.010-inch)	
	Gneiss with visible biotite; fresh; interfoliated GLEY23/5PB and GLEY2 6/5PB								
195					21		6.5 / 10.0		
200	Boring terminated.								

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE PZ-55

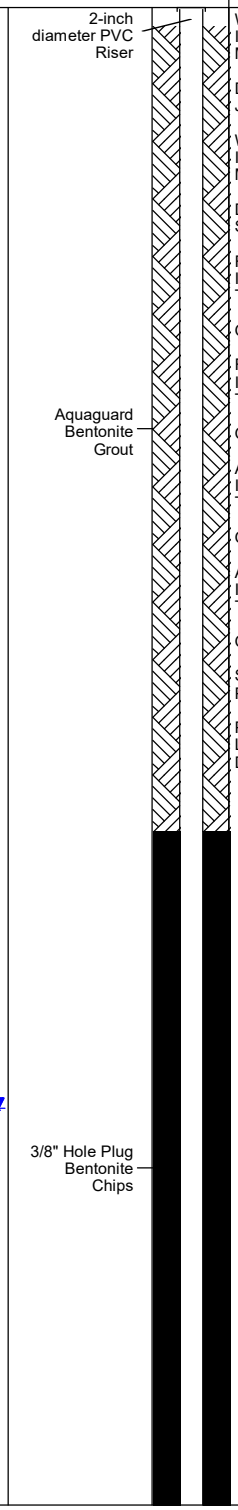
PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 65.3 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/13/2023
DATE COMPLETED: 12/16/2023

NORTHING: 1257131.73
EASTING: 2073193.74
GS ELEVATION: 771.3
TOC ELEVATION: 774.02

DEPTH W.L.: 29.4
ELEVATION W.L.: 744.62
DATE W.L.: 12/21/2023
TIME W.L.: 11:15:00 AM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC
0	0.0 - 22.0 (SM) Silty SAND; 10YR 7/4; loose; poorly sorted; fine to medium grained; slightly moist; trace coarse to medium mica; some relic rock structure.	SM		0.0	1		8.5 10.0
5	Grading to 10YR 6/6.						
10	Grading to 7.5YR 5/6				2		10.0 10.0
15	Grading to 10YR 5/3.						
20	Grading to 10YR 6/6; moist.				3		10.0 10.0
25	22.0 - 65.3 Biotite Gneiss; 5Y 7/2' highly weathered; dry; with some gravel-size less weathered fragments.	BED-ROCK		22.0			
	Grading 10YR 6/4.						
30	grading some 2 to 3 inch sections of moderately weathered gneiss and highly weathered gniess. No recovery 30-33 ft likely due to advancing core barrel with water.				4		6.5 10.0
35	PWR; Partially to moderately weathered; Gneiss; some competent to moderately weathered rock; some pieces of friable rock. Core fragments medium to large pebbles to 1-3 inch pieces of core. 35 to 36.5 ft; Fine to coarse grained sandy zone.						
40							



PZ-55 MONITORING WELL DIAGRAM and NOTES

WELL CONSTRUCTION DETAILS

WELL CASING
Interval: -2.72'-55'
Material: Schedule 40 PVC
Diameter: 2"
Joint Type: Threaded

WELL SCREEN
Interval: 55'-65'
Material: U-Pack Schedule 40 PVC
Diameter: 2"
Slot Size: 0.010"

FILTER PACK
Interval: 52.5'-65.3'
Type: Southern Products and Silica GP#2
Quantity: 2.5 cf

FILTER PACK SEAL
Interval: 50.5'-52.5'
Type: 3/8" Pel-Plug Bentonite Pellets
Quantity: 0.6 cf

ANNULUS SEAL
Interval: 22'-50.5'
Type: 3/8" Hole Plug Bentonite Chips
Quantity: 6.3 cf

ANNULUS SEAL
Interval: 0.5'-22'
Type: Aquaguard Bentonite Grout
Quantity: 4.6 cf

SURFACE COMPLETION
Protection: 4"x4" Aluminum
Pad: 4'x4' Concrete
Lock: Yes
Date: 1/5/2024

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

RECORD OF BOREHOLE PZ-55

PROJECT: Georgia Power Plant Yates
PROJECT NUMBER: 30143622
DRILLED DEPTH: 65.3 ft
LOCATION: Newnan, GA

DRILL RIG: TerraSonic 150CC
DATE STARTED: 12/13/2023
DATE COMPLETED: 12/16/2023

NORTHING: 1257131.73
EASTING: 2073193.74
GS ELEVATION: 771.3
TOC ELEVATION: 774.02

DEPTH W.L.: 29.4
ELEVATION W.L.: 744.62
DATE W.L.: 12/21/2023
TIME W.L.: 11:15:00 AM

DEPTH (ft)	DESCRIPTION	USCS	GRAPHIC LOG	DEPTH (ft)	SAMPLE NO.	PHOTO	REC	PZ-55 MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
45	Biotite Gneiss; 5Y 7/2' highly weathered; dry; with some gravel-size less weathered fragments. 40 to 45 ft; Gneiss; fresh; competent; no staining; very hard; micro-crystaline to coarse crystals; mostly felsic minerology; no staining; black and white; observed some pyrite in rock; multiple horizontal fractures; likely due to sonic drilling.	BED-ROCK		40.0	5		4.0 5.0	3/8" Hole Plug Bentonite Chips	
50	45 to 55 ft; Poor recovery, possible fracture zone; no observable loss in drilling fluid; observed some red staining on rock core; moderately fractured; mostly horizontal-low angle.				6		4.5 10.0	3/8" Pel-Plug Bentonite Pellets GP#2 (7-35) Silica Sand	
55									
60	55 to 65 ft; Poor recovery; possible fractures zone; no observed loss in drilling fluid; observed some red or orange staining. Staining on rock core around possible fracture zone; moderately fractured; fractures mostly horizontal-low angle.				7		4.9 10.0	U-Pack Screen, slotted (0.010-inch)	
65									
70	Boring terminated at 65.3 feet bgs.								
75									
80									

DRILLING COMPANY: Betts Drilling
DRILLER: Ryan McCormack

CHECKED BY: David Prouty
DATE: 2/12/2024

ARCADIS

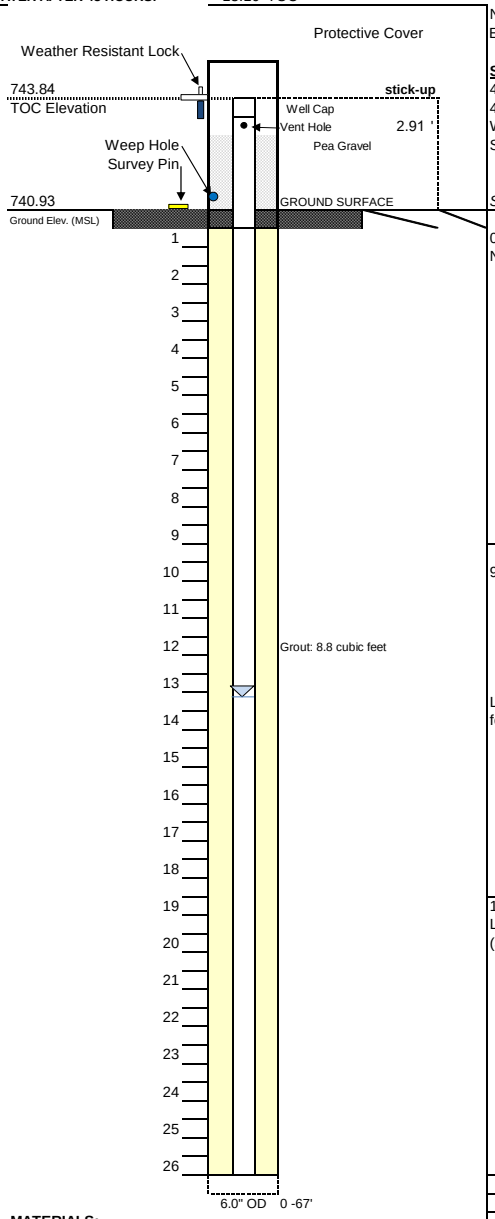
The well coordinates and elevation data were revised
based on a 2025 survey (Arcadis, November 19, 2025).

ATLANTIC COAST CONSULTING, INC.

YAMW-1

BORING ID

PROJECT:	Plant Yates - Ash Pond 3	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	70.53 ft btoc	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	18-Sep-2018	**DRILLER:**	Ray Whitt
DATE COMPLETE:	19-Sep-2018	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker	**TOC Elev:**	743.84 ft msl
WATER 1ST ENCOUNTERED:	49' BGS		
WATER AFTER 48 HOURS:	13.10' TOC		



Northing: 1258602.06
Easting: 2073814.89

SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0.00 - 10.00'
No recovery; Hydrovac

9.0 - 19.0

Light brown, moist to saturated sandy SILT (ML), feldspathic soil overburden

19.00 - 29.00
Light to medium brown, gray and white, saturated, silty SAND, saprolitic (SM)

MATERIALS:

GROUT:	Portland Type I/II Cement
MANUFACTURER:	Sakrete
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	PDS
FILTER PACK SAND:	20/40 Mesh
MANUFACTURER:	Filter Media GP#1
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-1

BORING ID

PROJECT:	Plant Yates - Ash Pond 3	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	70.53 ft. TOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	18-Sep-2018	**DRILLER:**	Ray Whitt
DATE COMPLETE:	19-Sep-2018	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker	**TOC Elev:**	743.84 ft msl
WATER 1ST ENCOUNTERED:	49' BGS		
WATER AFTER 48 HOURS:	13.10' TOC		

Elevation MSL	Depth BGS	
	28	Light to medium brown, gray and white, saturated, silty SAND, saprolitic (SM)
	29	19.0 -29.0
	30	29.0 - 39.0 Recovery (10/10)
	31	
	32	
	33	
	34	Medium brown, white and gray, dry silty SAND, micacous and saprolitic (SM)
	35	
	36	
	37	
	38	
	39	
	40	39.0 - 44.0 Recovery (5/5) Medium brown, white and gray, dry silty SAND, micacous and saprolitic (SM)
	41	
	42	
	43	
	44	
	45	44. - 49.0 Recovery (2/5)
	46	
	47	
	48	White to dark brown, Biotite/muscovite gneiss,weathered, friable, iron staining at 54' (easily fractured)
	49	
	50	49.0 -59.0 Recovery (5/10)
	51	Gray, white brown Gneiss, iron staining
	52	

6.0" OD 0 -67'

MATERIALS:

GROUT:	Portland Type I/II Cement
MANUFACTURER:	Sakrete
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	PDS
FILTER PACK SAND:	20/40 Mesh
MANUFACTURER:	Filter Media GP#1
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™

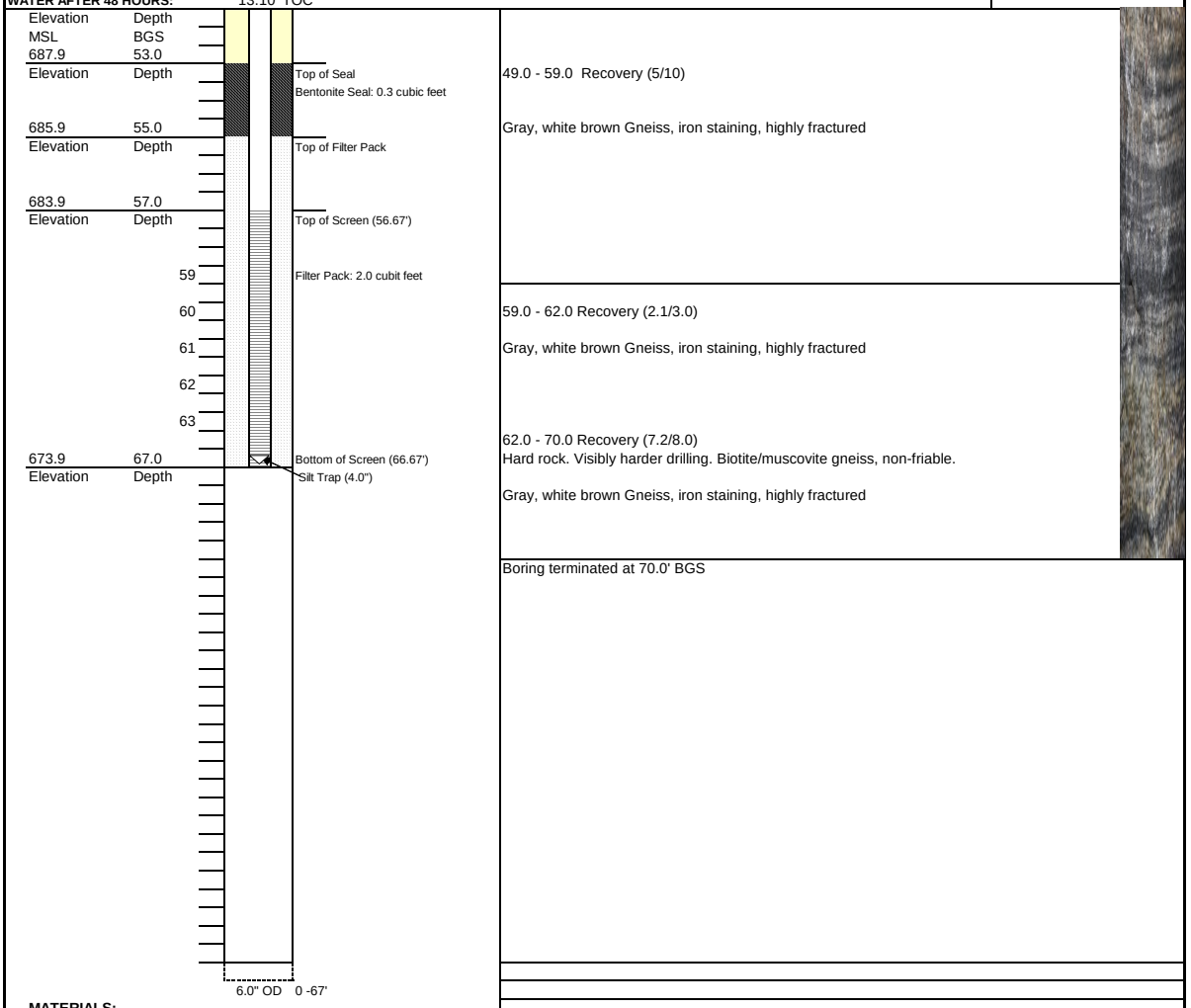
TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-1

BORING ID

PROJECT:	Plant Yates - Ash Pond 3	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	70.53 ft. TOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	18-Sep-2018	**DRILLER:**	Ray Whitt
DATE COMPLETE:	19-Sep-2018	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker	**TOC Elev:**	743.84 ft msl
WATER 1ST ENCOUNTERED:	49' BGS		
WATER AFTER 48 HOURS:	13.10' TOC		



49.0 - 59.0 Recovery (5/10)

Gray, white brown Gneiss, iron staining, highly fractured

59.0 - 62.0 Recovery (2.1/3.0)

Gray, white brown Gneiss, iron staining, highly fractured

62.0 - 70.0 Recovery (7.2/8.0)

Hard rock. Visibly harder drilling. Biotite/muscovite gneiss, non-friable.

Gray, white brown Gneiss, iron staining, highly fractured

Boring terminated at 70.0' BGS

MATERIALS:

GROUT:	Portland Type I/II Cement
MANUFACTURER:	Sakrete
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	PDS
FILTER PACK SAND:	20/40 Mesh
MANUFACTURER:	Filter Media GP#1
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line™

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

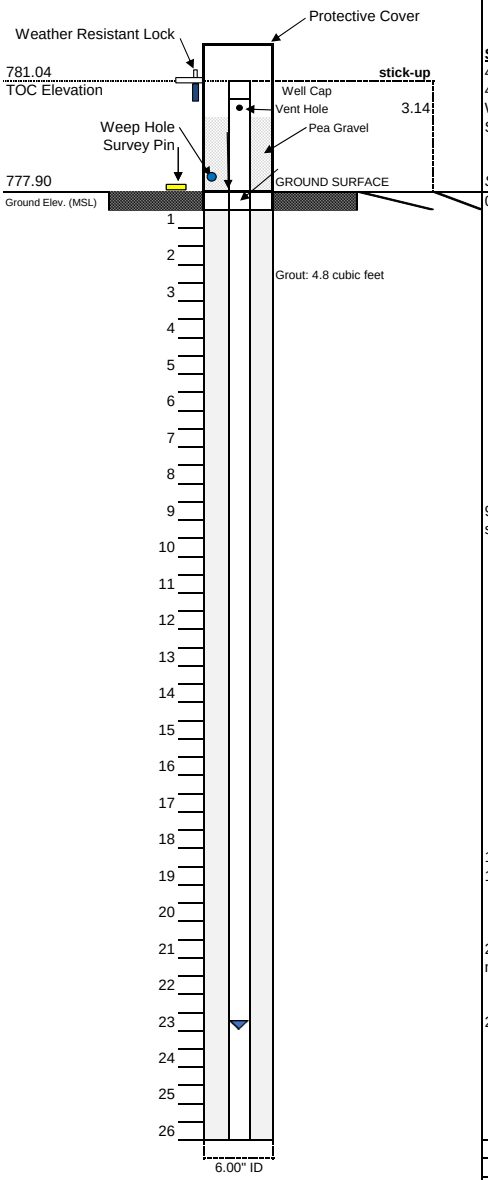
The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

ATLANTIC COAST CONSULTING, INC.

YAMW-2

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	46.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	11-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	12-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	20' BGS		
WATER AFTER 48 HOURS:	22.72' BGS		



Northing: 1256780.59
Easting: 2072924.89

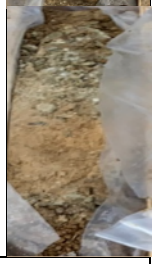
SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0-10' Hydrovac. No observable cuttings

9-19' Dark reddish brown to white/tan/pale brown. Silty sand (SC) with some silt and clays, moist to dry, soft, some saprolite. (10/10)

19-29' (10/10)
19-21' As above except mostly sand.



21-23' Mostly silt, brown, moist, medium dense, slight plasticity and micaceous.

23-29' Moslty sand (SC) brown to tan, slightly moist, some saprolite.

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

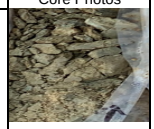
ATLANTIC COAST CONSULTING, INC.

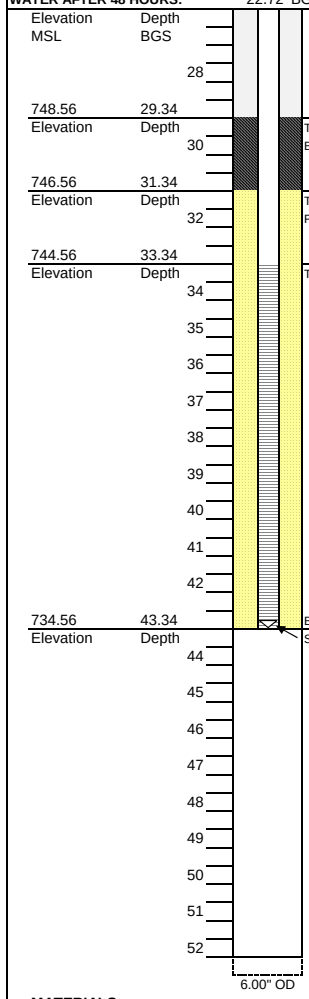
YAMW-2

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	46.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	11-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	12-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	20' BGS		
WATER AFTER 48 HOURS:	22.72' BGS		

Core Photos





29-39' Harder drilling. No recovery (0/10)

39-43' Hard rock gneissic banding/schist. Some garnet. Iron staining present (4/4)

Total well depth 43.64' BGS

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

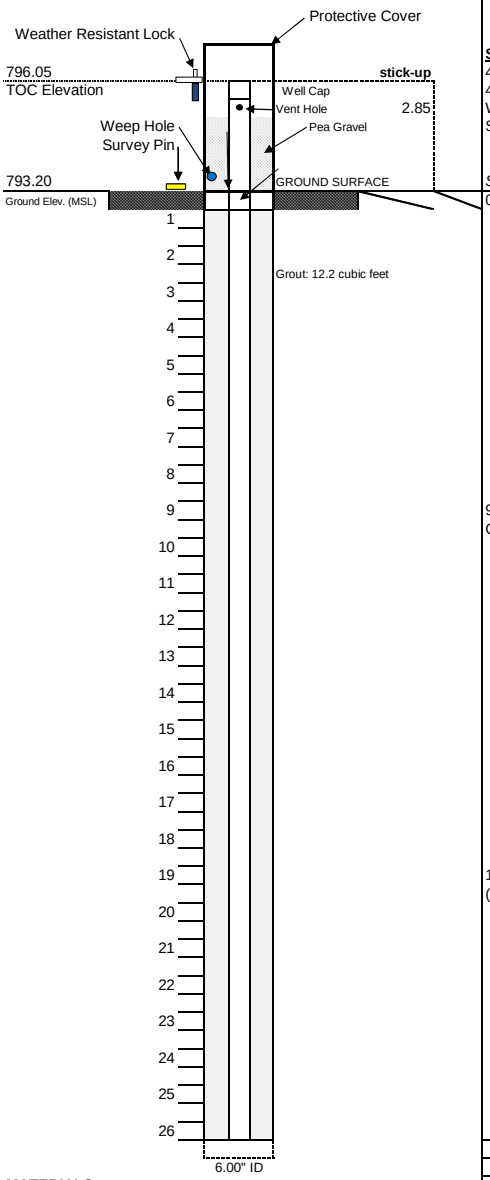
The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

ATLANTIC COAST CONSULTING, INC.

YAMW-3

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	91.96 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	6-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	34.44' BGS		



Northing: 1256915.25
Easting: 2073345.21

SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0-9' Hydrovac. No observable cuttings

9-19' Dark to pale brown silty sand. Dry, soft with some clay and gravel
Gravel is friable and medium to highly weathered

19-29' As above-tan to medium brown, some hard gravel pieces
(10/10)

Core Photos

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-3

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	91.96 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	6-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	34.44' BGS		

Core Photos

Elevation MSL / Depth BGS

28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

29-39' Hard rock-metamorphic gneiss banding/schist, fractured core iron staining (4.5/10)

39-49' As above (4.5/10)

49-59' As above-less fractured rock (8/10)

6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-3

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	91.96 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	6-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	34.44' BGS		

Core Photos

Elevation MSL	Depth BGS	
	54	
	55	
	56	
	57	
	58	
	59	59-69' As above, large rock pieces/less fractures No iron staining (5/10)
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	69-79' (10/10) 72-74' more fractured than previous 74-79' lots of iron staining. Some quartzite.
	70	
	71	
	72	
	73	
	74	
718.61 Elevation	74.59 Depth	Top of Bentonite Seal Bentonite Seal: 0.33 cubic feet
	76	
716.61 Elevation	76.59 Depth	Top of Filter Pack Filter Pack: 2.0 cubic feet
	78	

6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

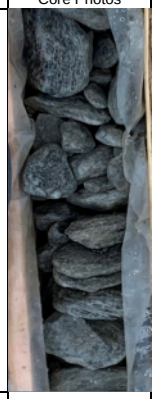
ATLANTIC COAST CONSULTING, INC.

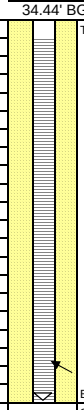
YAMW-3

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	91.96 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	6-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	34.44' BGS		

Core Photos





714.61 Elevation / 78.59 Depth — Top of Screen

80 81 82 83 84 85 86 87 88

704.61 Elevation / 88.59 Depth — Bottom of Screen

Silt Trap (0.3')

90 91 92 93 94 95 96 97 98 99 100 101 102 103 104

6.00" OD

79-88' As above. Iron staining stops at ~81'

Total well depth 88.89' BGS

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
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Page 4 of 4

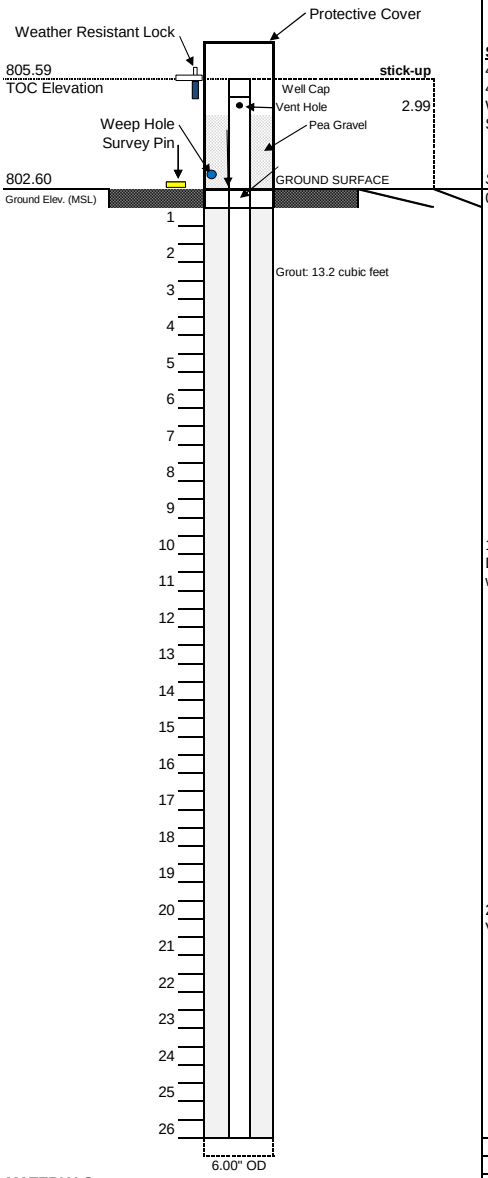
The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

ATLANTIC COAST CONSULTING, INC.

YAMW-4

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	96.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	7-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	30.68' BGS		



Northing: 1256532.64
Easting: 2073280.71

SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0-10' Hydrovac. No observable cuttings

10-20' Brown to pale brown sandy silt with some clay and some gravel
Dry, soft, slightly micaceous, low plasticity, medium to highly weathered saprolite. Friable. (10/10)

20-30' As above-slightly harder weathered rock at 20-21'-still friable
Very sandy layer at 24-25' (10/10)

Core Photos

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-4

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	96.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	7-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	30.68' BGS		

Core Photos

Elevation MSL	Depth BGS	
	28	
	29	
	30	30-35' Mostly sand silt with 10% gravel-hard to friable
	31	35-37' Clayey sand-high to medium plasticity
	32	37-40' Return to silty sand with medium to highly weathered rock. Micaceous
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	40-44' As above (5/5)
	41	
	42	
	43	
	44	
	45	45-49' Hard rock. Metamorphic gneiss banding/schist. Iron staining present. 44-45' Moderately hard, somewhat friable. (5/5)
	46	
	47	
	48	
	49	49-59' As above, moderately weathered, somewhat friable, iron staining present (2/10)
	50	
	51	
	52	

6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
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ATLANTIC COAST CONSULTING, INC.

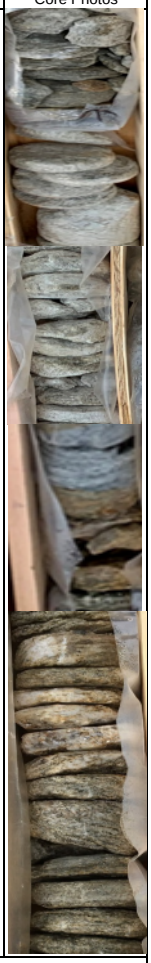
YAMW-4

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	96.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	7-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	30.68' BGS		

Core Photos

Elevation MSL	Depth BGS	
	54	
	55	
	56	
	57	
	58	
	59	59-69' As above except less weathered rock, non friable. Still some iron staining present (8/10)
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	69-79' As aboveexcept rock is more weathered. Section of quartzite at 73-74'. Iron staining ends at 77'. (7/10)
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	



6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-4

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	96.86 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	5-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	7-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	30' BGS		
WATER AFTER 48 HOURS:	30.68' BGS		

Core Photos

Elevation MSL	Depth BGS	
723.04	79.56	
Elevation	Depth	Top of Bentonite Seal
		Bentonite Seal: 0.33 cubic feet
	81	
721.04	81.56	
Elevation	Depth	Top of Filter Pack
		Filter Pack: 2.0 cubic feet
	83	
719.04	83.56	
Elevation	Depth	Top of Screen
	85	
	86	
	87	
	88	
	89	
	90	
	91	
	92	
	93	
709.04	93.56	Bottom of Screen
Elevation	Depth	Silt Trap (0.3')
	95	
	96	
	97	
	98	
	99	
	100	
	101	
	102	
	103	
	104	

6.00" OD

79-89' Very competent rock with some fracturing at 84-85' and 88-89'. Iron staining at 88-89'

89-94' Fractures and iron staining from 89-90' and 93-94'. Some slight iron staining from 90-93' but mostly solid core.

Total well depth 93.86' BGS

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
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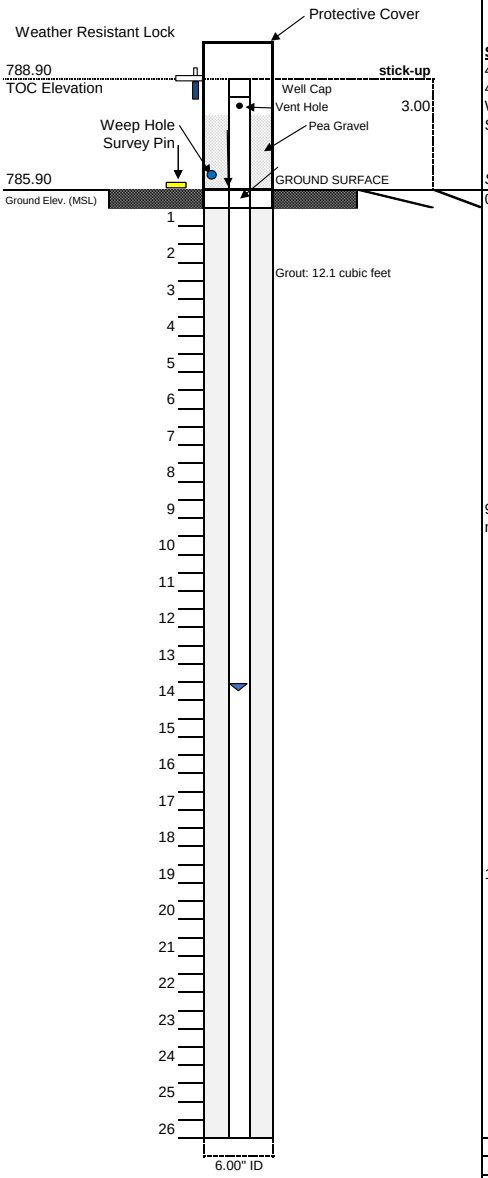
The well coordinates and elevation data were revised
based on a June 2020 survey (Arcadis, June 29, 2020).

ATLANTIC COAST CONSULTING, INC.

YAMW-5

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	90.66 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	12-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	13-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	35' BGS		
WATER AFTER 48 HOURS:	11.21' BGS		



Northing: 1256140.21
Easting: 2074486.69

SURFACE COMPLETION:
4"x4" Aluminum Protective Casing
4'x4'x4" Concrete Pad
Weather Resistant Lock
Survey Pin

SOIL DESCRIPTION

0-10' Hydrovac. No observable cuttings

9-19' tan to pale brown. Silty sand (SC) with some silt and clays, moist to dry, soft, some saprolite. (10/10)

19-29' As above (9/10).

Core Photos

MATERIALS:

GROUT:		Bentonite Grout
MANUFACTURER:		AquaGuard
BENTONITE SEAL:		3/8" Bentonite Pellets
MANUFACTURER:		Pel-Plug
FILTER PACK SAND:		20/30 Mesh
MANUFACTURER:		Filter Media
WELL SCREEN:		Sch. 40 - 2" PVC
MANUFACTURER:		Campbell Monoflex
SLOT SIZE:		0.010-Inch Slot
WELL CASING:		Sch. 40 - 2" PVC
MANUFACTURER:		Campbell Monoflex

Soil Descriptions from Unified Soil Classification System

BTOC - Below Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-5

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	90.66 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	12-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	13-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	35' BGS		
WATER AFTER 48 HOURS:	11.21' BGS		

Core Photos

Elevation MSL	Depth BGS	
	28	
	29	29-39' Harder drilling. Gniessic banding with schist. Iron and manganese staining. Some fractures present.
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	39-49' As above except no iron staining (7/10)
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	49-59' As above (8/10)
	50	
	51	
	52	

6.00" OD

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

ATLANTIC COAST CONSULTING, INC.

YAMW-5

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	90.66 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	12-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	13-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	35' BGS		
WATER AFTER 48 HOURS:	11.21' BGS		

Core Photos

Elevation MSL	Depth BGS	
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
712.56	73.34	Top of Bentonite Seal
Elevation	Depth	Bentonite Seal: 0.33 cubic feet
	74	
710.56	75.34	Top of Filter Pack
Elevation	Depth	Filter Pack: 2.0 cubic feet
	76	
708.56	77.34	Top of Screen
Elevation	Depth	
	78	

6.00" OD

59-69' As above except more competent rock. Iron staining and fractures present (6/10)

69-79' As above except no iron staining (9/10)

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
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ATLANTIC COAST CONSULTING, INC.

YAMW-5

BORING ID

PROJECT:	Plant Yates	**PROJECT NO.:**	I054-110
TOTAL DEPTH:	90.66 ft. BTOC	**SITE LOCATION:**	Newnan, Georgia
DATE BEGIN:	12-Nov-2019	**DRILLER:**	Isaac Young
DATE COMPLETE:	13-Nov-2019	**RIG TYPE:**	T-300 Rotosonic
INSTALLED BY:	Cascade	**METHOD:**	Rotosonic
SUPERVISED BY:	Ryan Walker		
WATER 1ST ENCOUNTERED:	35' BGS		
WATER AFTER 48 HOURS:	11.21' BGS		

Core Photos

Elevation MSL | Depth BGS

80
81
82
83
84
85
86

698.56 | 87.34 — Bottom of Screen; Silt Trap (0.3')

Elevation | Depth

88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104

6.00" OD

79-87' As above except rock slightly weathered. Iron staining and some fractures present (6/10)

Total well depth 87.64' BGS

MATERIALS:

GROUT:	Bentonite Grout
MANUFACTURER:	AquaGuard
BENTONITE SEAL:	3/8" Bentonite Pellets
MANUFACTURER:	Pel-Plug
FILTER PACK SAND:	20/30 Mesh
MANUFACTURER:	Filter Media
WELL SCREEN:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line
SLOT SIZE:	0.010-Inch Slot
WELL CASING:	Sch. 40 - 2" PVC
MANUFACTURER:	Silver-Line

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
MSL - Mean Sea Level
BGS - Below Ground Surface

APPENDIX B
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

October 13, 2017 1659442, 1772632

Mr. Joju Abraham
Southern Company Services, Inc.
241 Ralph McGill Blvd NE
Atlanta, GA 30308
jabraham@southernco.com
(404) 506-7239

RE: GEOLOGIC MAPPING AND LINEAMENT ANALYSIS
GEORGIA POWER PLANT YATES NEWNAN, GEORGIA

Dear Joju:

We have enclosed our Geologic Mapping and Lineament Analysis for Plant Yates. Golder appreciates the opportunity to work with SCS on this project. Should you require additional information related to this lineament analysis, please do not hesitate to contact us at (770) 496-1893.

Sincerely,

GOLDER ASSOCIATES INC.

Timothy I. Richards, PG
Associate and Senior Environmental Consultant

Rachel P. Kirkman, PG
Associate and Senior Consultant

Enclosure: Geologic Mapping and Lineament Analysis

Golder Associates Inc.
3730 Chamblee Tucker Road
Atlanta, Georgia 30341
Tel: 770-496-1893 Fax: 770-934-9476 www.golder.com

DRAFT REPORT

GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

GEORGIA POWER - PLANT YATES

COWETA COUNTY, GEORGIA

Submitted By: Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30341

October 2017 **1537247, 1772632**

A world of capabilities delivered locally

Golder Associates

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1.0 INTRODUCTION

Georgia Power Company operates a natural gas-fired station at Plant Yates approximately 7 miles northwest of Newnan, Georgia (GA) Coweta County. The plant property encompasses approximately 2,400 acres, bounded by the Chattahoochee River to the north and west, Highway16 to the east, and residential property along Wagers Mill Road to the south.

The plant currently operates two natural gas-fired units (units 6 and 7) to produce electricity. It is our understanding that Georgia Power has retired the five coal-fired units (units 1 through 5) and will continue to operate this station as a natural gas-fired plant. Plant Yates has seven coal combustion residual (CCR) ash ponds and one permitted "dry stacking" landfill as identified in the RFP. Ash Pond 1 is dry and uncovered; Ash Ponds 2 and 3 are wet ponds; and Ash Ponds A, B, and C are dry and covered, with C partially underneath the R6 Landfill. The B Ash Pond is currently being used to dewater wet ash before being landfilled at R6.

Golder Associates Inc. (Golder) was retained by Southern Company Services (SCS) to perform an evaluation of the geologic conditions in and around Plant Yates. For this evaluation, a review of limited site-specific information was conducted, a desktop study was conducted to review existing information on geologic conditions within the vicinity of Plant Yates; a lineament analysis was performed to identify linear features that may control groundwater flow within the bedrock; and detailed geologic mapping was conducted by Golder's subcontractor Petrologic Solutions, Inc. (Petrologic). Information collected during this investigation can be used by SCS to provide a framework for development a site conceptual groundwater model.

Information that we relied upon for the desk study, lineament analysis and geologic mapping includes:

1. Limited review during geologic mapping of available rock core collected by SCS on Plant property
2. Boring logs for PZ-35 through PZ-49 from Golder's 2017 Piezometer Installation Report
3. Publically Available Information
    - Whitesburg, GA USGS 7.5 minute topographic quadrangle
    - 10-m Digital Elevation Model taken from the USGS Whitesburg and Newnan North, Georgia, 7.5 minute quadrangles.
    - McConnell, K. and Abrams, C., 1984. Geology of the Greater Atlanta Region, Georgia: Geological Survey Bulletin 96.
    - Redwine, J., Tinsely, R., Patel, D., and Bloomberg, D., 1991. Geology, Hydrogeology, and Ground-Water Chemistry of the Plant Yates Gypsum Stacking Area, Coweta County, Georgia: Proceedings of the 1991 Ground Water Resources Conference March 19-21, 1991, pp 326-330.

- Steltenpohl, M., Kish, S., and Neilson, M., 1990. Geology of the Southern Inner Piedmont, Alabama and Southwest Georgia: Guidebook for Field Trip VII April 7-8, 1990.

2.0 BACKGROUND INFORMATION

2.1 General

Information presented in this section is based on published literature, discussion with local geologic experts, and experience working in this geologic terrain. This section is presented to provide an overview of regional geology in the area. A detailed discussion of large-scale, site-specific geology is presented in Section 3.0.

2.2 Physiography

Plant Yates is located within the Piedmont Physiographic Province of western GA, which is characterized by gently rolling hills and narrow valleys, with locally pronounced linear ridges. Topographic relief within the vicinity of the site is greater than 150 feet, with topographic highs of over 860 feet above mean sea level (ft. MSL) occurring on small hilltops, and topographic lows of less than 700 ft. MSL near the Chattahoochee River. The site has generally been constructed in a valley with several north-south to northwest-trending tributaries to the Chattahoochee River, as shown on Figure 1.

2.3 Regional Geologic Setting

Plant Yates is located within the northeast quarter of the Whitesburg, GA United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Piedmont/Blue Ridge geologic province contains some of the oldest rocks in the Southeastern United States. Since their origin, approximately 276 to 1,100 million years ago (Ma), these late Precambrian (Neoproterozoic) to late Paleozoic (Permian) rocks have undergone repeated cycles of igneous intrusions and extrusions, metamorphism, folding, faulting, shearing, and silicification. The latest regional metamorphism and associated deformation has been attributed to the collision of the North America plate with the Eurasian plate approximately 200 to 230 Ma. More recent deformation and emplacement of mafic dikes is associated with the rifting of the North American craton during the Mesozoic and Cenozoic Eras.

The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are deeply weathered due to the humid climate and bedrock is typically overlain by a variably thick blanket of residual soils and saprolite. The overall depth of weathering in the Piedmont/Blue Ridge is generally about 20 to 60 feet; however, the depth of weathering along discontinuities and/or very feldspathic rock units may extend to depths greater than 100 feet. Because of such variations in rock types and structure, the depth of weathering can vary significantly over short horizontal distances. Locally, significant accumulations of alluvial soils are also present in the area. Sand and gravel alluvial

terraces related to changing stream base grade elevations occur above residual soils in areas near larger rivers.

2.4 Regional Stratigraphy and Structure

Two major structural/stratigraphic packages occur within the Piedmont/Blue Ridge around the site. These packages are separated by The Katy Creek Fault, a regional fault that occurs northwest of the Plant property and traverses northeast-southwest through this area. This Fault is a thrust fault, dipping at a lower angle than the strike-slip faults present in the region. This thrust fault developed at a relatively shallower depth in the crust than the strike-slip faults, resulting in less-pronounced ductile structural fabrics. Uplift associated with building of the Appalachian Mountains and subsequent erosion has allowed modern exposure of these structural features.

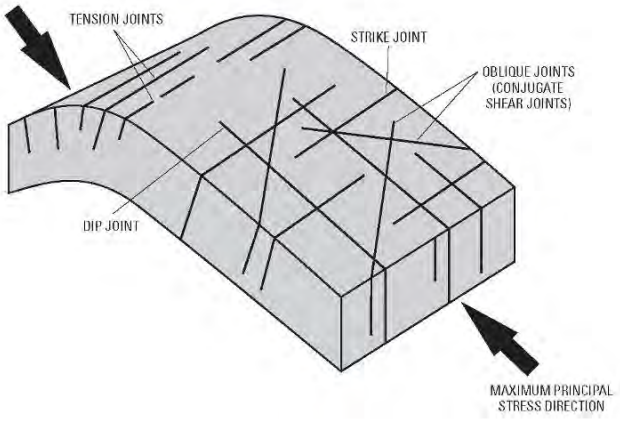
The Katy Creek Fault forms boundary between a regional zone of deformation, referred to as the Brevard Zone, and the Dadeville Complex. Lithologic contacts and major structural features in the Brevard Zone generally trend northeast-southwest. In addition to strike-slip and thrust faults, structural features within this shear zone consist of northwest-verging, doubly-plunging, overturned folds that have been overprinted by a shear-induced foliation.

The Brevard Zone includes fine-grained and porphyroblastic schists, button schists, phyllonitic schists, biotite schists, and schists locally interlayered with amphibolite/hornblende gneiss, and ultamafic bodies; mylonites, ultramylonites, and flinty crush rock; metagraywacke and feldspathic quartzite; and granitic gneiss. Rocks within these various lithologic units have been intensely deformed, sheared, chemically altered, silicified and are generally repeated because of movement along faults both within and outside of the Brevard Zone.

The Dadeville Complex occurs southeast of the Brevard Zone and is considered to represent an Ordovician-age Island Arc. Rocks within this complex are generally more mafic near the Brevard Zone, becoming more felsic in areas further southeast of the Brevard. The mafic portion of the Dadeville Complex primarily consists of biotite gneiss and thick, mappable layers of amphibolite/hornblende gneiss. The biotite gneiss is also interlayered with thin, discontinuous layers, lenses and pods of amphibolite. The continuous and discontinuous amphibolite layers and lenses weather more deeply but less uniformly than the surrounding biotite gneiss in this area. These mafic units are observed northwest of Plant Yates. Units underlying that area around Plant Yates and further southeast are more felsic, being comprised of a mixture of granitic intrusives, migamitic and biotite gneiss, and alumnosilicate schists.

Typically up to four different joint sets formed in this area due to tectonic stresses imposed upon the bedrock. Dip joints form parallel to the regional dip direction of foliation/compositional layering and are typically perpendicular to fold limbs, representing extension perpendicular to the maximum principal

stress direction or direction of compression. These joints are commonly near vertical. Strike joints develop parallel to the strike of foliation/compositional layering and fold limbs, typically forming from tension during relaxation of the maximum principal stress. The dip direction and angle of these joints is orthogonal to the dip direction and angle of compositional layering. Oblique joints develop diagonal (± 30°) to the principal stress direction and represent conjugate sets formed from shear along the intermediate principal stress.



Schematic diagram showing the typical joint patterns

3.0 SITE GEOLOGIC CONDITIONS

3.1 Geologic Mapping Methodology

Detailed geologic mapping was performed by Petrologic within and around the site within the more felsic portion of the Dadevile Complex, using the Whitesburg, GA USGS 7.5-minute topographic quadrangle as a base map. Mafic lithologies of the Dadeville that occur further northwest of the site, labeled OZa, OZssbg and Ozgg on Figure 2, are not considered to influence groundwater conditions around Plant Yates, and therefore are not discussed in this report.

Figure 2 presents interpretation of structural and lithologic features encountered during mapping of the area, Information recorded at each map station included: lithology and mineralogy; orientation and characteristics of structural discontinuities including, shearing, faulting, jointing, cleavage, and compositional layering; and depth and type of weathering characteristics of the rock. Bedrock discontinuity orientations were statistically analyzed by Petrologic using lower hemisphere equal-area stereonets, presented as Figure 3, to determine dominant orientations for each discontinuity type (i.e., faults, joints, and foliation). Map station locations were recorded using a hand-held, Wide Area Augmentation System (WAAS)-enabled Global Positioning System (GPS).

3.2 Alluvial and Residual Soils

Limited boring logs were available for review based on Golder's June and July 2017 piezometer installation. A review of boring logs indicates that surficial soils are composed of a mixture of sands, silts, and clays.

Also, both alluvial and residual soils were observed at ground surface around the site. Alluvial soils primarily consisted of courser material that may be related to a former Chattahoochee River terrace, consisting of silty-sand, clayey silt, and silty clay with well-rounded gravel and cobbles. The terrace was observed primarily within point bars of the Chattahoochee with up to 20 feet of relief. Overbank, floodplain-type deposits are anticipated to underlie the Plant, as well as former river channels related to previous migration of the Chattahoochee.

Residual soils were also observed at ground surface. These soils were derived from physical and chemical weathering of the underlying bedrock, and consist primarily of silty sand, sandy silt, and silty clay, with local gravel-sized angular fragments of weathered bedrock. A variably-thick blanket of residual soils is anticipated to overlie bedrock across most of the site.

Based on the detailed geologic mapping, rock types present at the site includes granitic and migmatitic gneiss, biotite gneiss and amphibolite, all of which have highly variably mineralogy, texture and chemistry, and a muscovite schist that serves as a structural marker horizon. Residual soils developed from weathering of these rock types may have variable geochemical characteristics. These descriptions are consistent with bedrock descriptions from Golder's June-July 2017 piezometer installation report, which indicate the presence of biotite gneiss, granitic gneiss, and amphibolite beneath the site.

3.3 Lithologic Units.

During geologic mapping, distinct lithologic units were identified to underlie the site. A brief description of these lithologies is presented below and the aerial distribution of each unit is shown on Figure 2.

Massive Granite (OZgr): Massive, weakly foliated, poorly jointed, fine-to medium-grained granite. Large, relatively unweathered, exfoliation boulders are commonly observed within the residual and saprolitic soils. Weathering of this granite may yield Uranium and daughter products (e.g., Radium 226/228); however, this unit is separated from the site by the Chattahoochee River. Consequently it is unlikely that this unit will impact groundwater quality on site.

Migmatitic Gneiss (OZmgn): Highly contorted, well layered, well foliated, poorly jointed, medium-grained muscovite-biotite-quartz-feldspar migmaticitc gneiss. Granite is locally interlayered with biotite gneiss and pods/lenses of ultramafic bodies, which occur as relatively fresh, well foliated, unjointed boulders of medium- to course-grained actinolite-chlorite schist. A relatively large body of granite occurs within the migmatitic gneiss southwest of the site. Overall, this unit does not weather deeply, but exhibits differential weathering where the magmatic gneiss and schist are relatively fresh compared to the biotite gneiss. Most of the biotite gneiss occurs as unmappable layers within the magmatic gneiss; however, one mappable lens of biotite gneiss was observed north of the Chattahoochee River (labeled OZog on

Figure 2). Weathering of ultramafic bodies could produce naturally elevated metals in groundwater, this unit occurs north of the Chattahoochee but also underlies the property and may potentially impact groundwater quality on site.

Feldspathic Gneiss (OZggn): Variably well foliated to weakly foliated, slightly sheared, weakly jointed, fine- to medium-grained micaceous, feldspathic granitic gneiss. Due to the high feldspar content, this unit weathers more deeply than others observed on site, as indicated by the formation of a natural valley in areas where this unit occurs.

Porphyroblasitc Schist (OZgss): Well foliated, crenulated, highly sheared, poorly jointed, medium- to course-grained, silliminate-quartz-muscovite schist with porphyroblastic garnet and staurolite. This unit is very distinctive and is used as a marker horizon to delineate structure on site, discussed further in Section 3.4. Although this unit is typically fresh, weathering of the porphyroblastic garnets and staurolite may promote naturally enriched Fe, Mn, Ca, and Zn in groundwater.

Biotite Gneiss (OZog): Well layered, well foliated, moderately jointed, fine- to medium-grained, biotite-uartz-feldspar gneiss. This unit weathers fairly deeply relative to adjacent lithologies, forming a distinctive dark red, vermiculitic soil from weathering of biotite. The gneiss locally contains thin lenses of chlorite-actinolite schist and feldspar-hornblende gneiss/amphibolite, increasing in concentration of these ultramafic and mafic bodies to the southeast.

Amohibolite (OZa): Thinly laminated, moderately jointed, fine- to medium-grained hornblende-plagioclase gneiss/amphibolite with interlayered chlorite-actinolite schist. Weathering of this unit may promote naturally enriched Fe, Mn, Mg, and Ca in groundwater.

In general, the lithologic units observed to underlie the site do not weather deeply and do not have well-developed secondary permeability; consequently, preferential pathways for groundwater flow are likely not enhanced, significantly limiting the potential for groundwater flow in the bedrock aquifer systems.

3.4 Geologic Structure

Based on detailed geologic mapping by Petrologic, indication of folding and faulting has been observed at and near the site. As shown on Figure 2, the migmatitic gneiss occurs both north and south of the Chattahoochee River. This unit is truncated northwest and southwest of the site by an unnamed, strike-slip fault, referred to in this report as the Yates Fault. This fault occurs subparallel to the Chattahoochee River near the site but abruptly turns south in the southwest corner of the site. A relatively hard knot of migmatitic granite occurs in the gneiss where the fault deflects south. There is likely to be a rheologic contrast between the migmatitic gneiss and the mass of granite, with the granite being much harder than the surrounding gneiss. This hard mass likely forced the fault to deflect around the mass in this area. Rocks that were being transported in the southeastern block of the fault appear to have been “piled” up, creating an upright, slightly overturned, west verging antiformal structure, as shown on Figure 2.

The core of this fold in comprised of feldspathic gneiss, which weathers more deeply than other lithologic units observed on site. Rimming this unit is the porphyroblastic schist, which serves as a distinctive marker horizon for delineating structure on site. Lithologies related to the OZa Amphibolite unit, which is

observed in the mafic portion of the Dadeville Complex are also present adjacent to the fault on the southeastern block.

Foliation measured during geologic mapping near the site reflects the dominantly north-south trending structures in this area, with an average foliation of N9E, 38SE, as graphically shown on the equal-area, lower hemisphere stereonet and rose diagram presented as Figure 3 (prepared by Petrologic). Mapping further northwest of the fault reflects the more regional orientation of foliation characteristic of the Brevard Zone, which is generally oriented about N40-45E.

Because the evaluation of joints is visual and judgmental, an effort is made for consistency in describing the relative frequency of occurrence using the following designations: Abundant (A); Common (C); and Scarce (S). These designations are relative to one another but are used consistently in descriptions made throughout the study area. An effort is made to record all of the different joint sets and, if an exposure is large, several same (or similar) joints may be recorded at the same Map Station. This deliberate method of visual evaluation in the field is more scientifically relevant and efficient than saturation-measurement of joints.

Four major joint sets were recorded during the detailed geologic mapping. Equal-area stereonet analysis of all joints measured in all lithologies is presented in Figure 4.

The four major joint sets are (quadrant and azimuth, right hand rule):

- J1: N48E 61NW (228/61) – regional strike joint
- J2: N50E 72SE (050/72) – regional strike joint
- J3: N44W 72SW (136/72) – regional dip joint
- J4: N3W 87SW (177/87) – local strike joint

Joint sets 1 and 2 are oriented subparalell to regional foliation, the dip of which varies in response to the dip of foliation. These joints are referred to above as regional strike joints. Joint set 3 is oriented perpendicular to regional foliation and is referred to as a regional dip joint. Joint 4 appears to have formed locally in response to the north-south trending structures mapped on the site and southwest of the site. This joint set is referred to as the local strike joint.

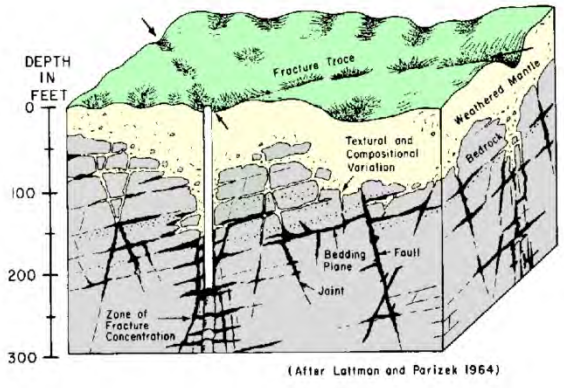
3.5 Lineament Analysis

3.5.1 Methodology

Preferential weathering of subsurface geologic discontinuities such as lithologic contacts between resistant or non-resistant units, fracture zones, jointing, shear planes, and faults often results in ground surface expressions that can be identified through analysis of photographic and topographic images. These topographic expressions, which are referred to as lineaments, commonly have enhanced porosity and permeability in the rock mass due to differential weathering. Ground water in igneous and

metamorphic rocks generally moves along discontinuities in the bedrock, enhancing the differential weathering processes.

Many lineaments observed on the small scale imagery or maps are related to fence, property, and section lines. However, many lineaments are related to local and regional geologic anomalies. Because discontinuity zones are typically less resistant to weathering, they are often expressed as natural topographic lows, such as straight stream valley segments, swales, aligned depressions and gaps in ridges or as linear tonal or vegetative alignments due to variations in soil thickness and moisture (see inset). Faults tend to be long linear features that are often difficult to detect at ground surface, but generally form photographic and topographic lineaments.



Inset - Block diagram shows how lineament/fracture trace is a surface manifestation of an underlying bedrock fracture zone.

Lineaments were identified for this project using shaded relief maps generated from USGS 10-meter digital elevation model (DEM) data, presented as Figure 5. Use of DEM as a base has an advantage over imagery and topographic maps in that the horizontal and vertical light (sun position) can be adjusted to enhance the visibility of a lineament. Additionally, other lineaments may be well defined on the different image maps. Lineaments identified using the different sun angles are graphically represented on the rose diagrams presented as Figure 6. The center rose diagram on this figure is a composite of lineaments identified using all sun angles. Once lineaments have been identified on the DEMs, they can be correlated with discontinuities identified during geologic mapping.

3.5.2 Discussion of Lineaments

As discussed above, orientations and relative persistence of lineaments identified on the DEM are illustrated on Figure 5 and summarized in rose diagrams presented on Figure 6. As shown on the summary rose diagram, a total of 297 lineaments were identified on the DEM viewed with light source from various angles (i.e., NW, NE, SE, and SW as shown on the individual rose diagrams). A total of two major lineaments and two minor lineaments were identified:

- L1: N30-50E
- L2: N10W–N10E
- L3: N20-40W
- L4: N70-80W

Major lineaments L1 and L2 were identified using every light source angle; although not as dominant, L3 was also identified on every light source. Lineament L4 was observed as a minor lineament on only the southwest light source (lower left rose diagram). DEM lineation orientations are tabulated in Appendix A.

3.5.3 Discontinuity Mapping and Lineament Analysis Correlation

Structural weaknesses in rocks are reflected by the fractures formed, which subsequently can be weathered to form lineaments. These fractures are caused by application of directional stresses on the rock body. Generally, the stress is due to regional tectonics and/or unloading due to weathering and erosion but can also be influenced by local structure.

The project area is characterized by four lineament sets whose orientations are consistent with the structural stresses experienced in this area (as indicated by foliation and joint orientation). L1 is subparallel to regional foliation and the measured orientations of J1 and J2, which are considered to be strike joints related to the regional foliation. These features likely developed in response to Brevard Zone shearing. L3 is subparallel to J3 and is considered to represent dip joints formed in response to regional foliation. L2 is subparallel to local foliation and J4, which are related to structures that occur near the site (Yate Fault and antiformal fold axis). Although a dip joint related to these local structures was not observed during geologic mapping, the orientation of lineament L4 is consistent with the orientation that would be predicted for a dip joint forming in response to these structures. Because lineament orientations identified during this analysis correlate with known regional tectonic fabrics and local structures, it is likely that most are true manifestations of subsurface fracture zones or low-resistance stratigraphic layers within the rock formations underlying the site.

4.0 DISCUSSION

Groundwater likely occurs within overburden residual and alluvial soils beneath the site. The alluvial soils are locally present adjacent to the Chattahoochee River and may be present near an unnamed tributary that flows through the site. These soils will have greater permeability relative to adjacent residual soils and will likely be the preferred pathway for groundwater flow beneath the site. The hydrochemistry of alluvial soils may differ from that of the residual soils.

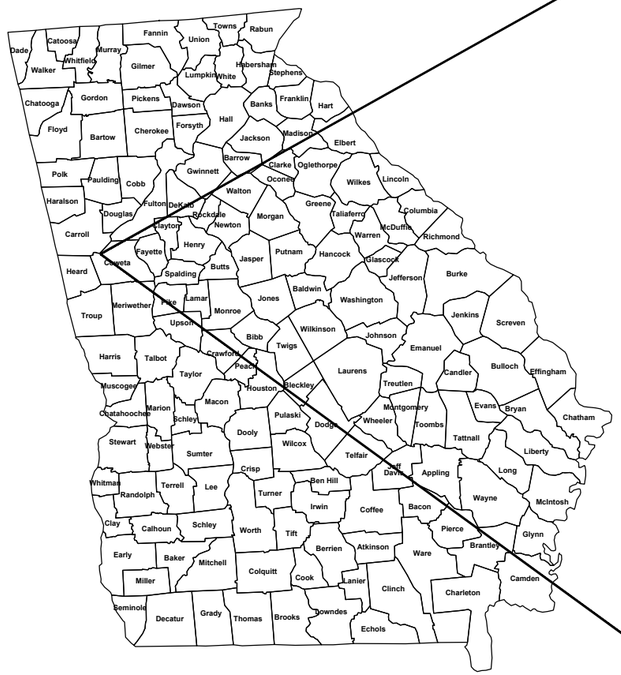
Different lithologic units will develop residual soils of variable geochemistry; consequently, geochemistry of groundwater flowing through residual soils may be locally influenced by naturally occurring elements and metals in the groundwater. These soils are expected to be fairly fine-grained in nature, creating lower hydraulic conductivity characteristics. Consequently, groundwater is expected to flow through the overburden, more slowly through residual soils, with preferential flow paths through alluvial soils where present, ultimately discharging into the Chattahoochee River.

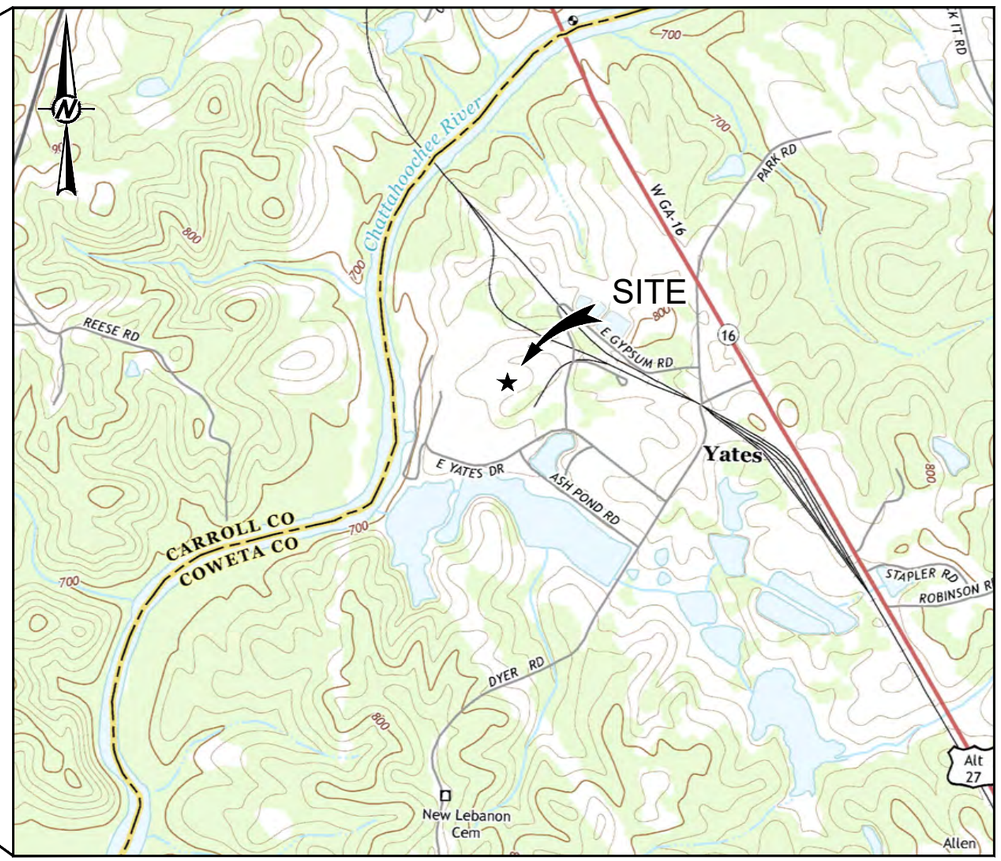
Groundwater may also occur in a series of discreet bedrock aquifer systems beneath the site. Flow characteristics related to the different geologic units on site are largely anticipated to be consistent. Geologic units OZa, OZggn, OZmgn, and OZgss are all generally massive and weakly jointed and anticipated to have low water-bearing potential. Groundwater flow potential is relatively greater in areas of deeper weathering associated with discontinuities, particularly in the OZggn and OZmgn units. The OZog geologic unit observed on site may have preferred groundwater flow relative to other units on site due to differential weathering of amphobilite lenses within the well-jointed gneiss, shown to rim the antiformal structure on Figure 2.

Naturally occurring uranium and daughter products (e.g., ^{226}Ra and ^{228}Ra) may be associated with granite in the OZgr unit. The distance between the mapped occurrence of this unit and the site is significant, however, and therefore considered unlikely to influence groundwater chemistry upgradient of the site. Naturally occurring metals may be associated with the ultramafic bodies present in the OZmgn unit. This unit occurs southeast of the Yates Fault and is likely upgradient of many of the CCR units at the site. Naturally elevated concentrations of Fe, Mn, Ca, and Zn (associated with porphyroblastic garnet and staurolite) may occur in groundwater flowing through the OZgss unit; and naturally elevated concentrations of Fe, Mg, Mn, and Ca may occur in groundwater flowing thought the OZa (amphibolite) unit.

PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS
OCTOBER 2017

INDEX OF FIGURES





SITE LOCATION MAP

0 1000 2000
1" = 2000' FEET

PREPARED FOR:

Southern Company

SOUTHERN COMPANY SERVICES, INC.
42 INVERNESS CENTER PARKWAY
BIRMINGHAM, AL 35424

SITE ADDRESS AND OPERATOR:
GEORGIA POWER
708 DYER ROAD
NEWNAN, GA 30263

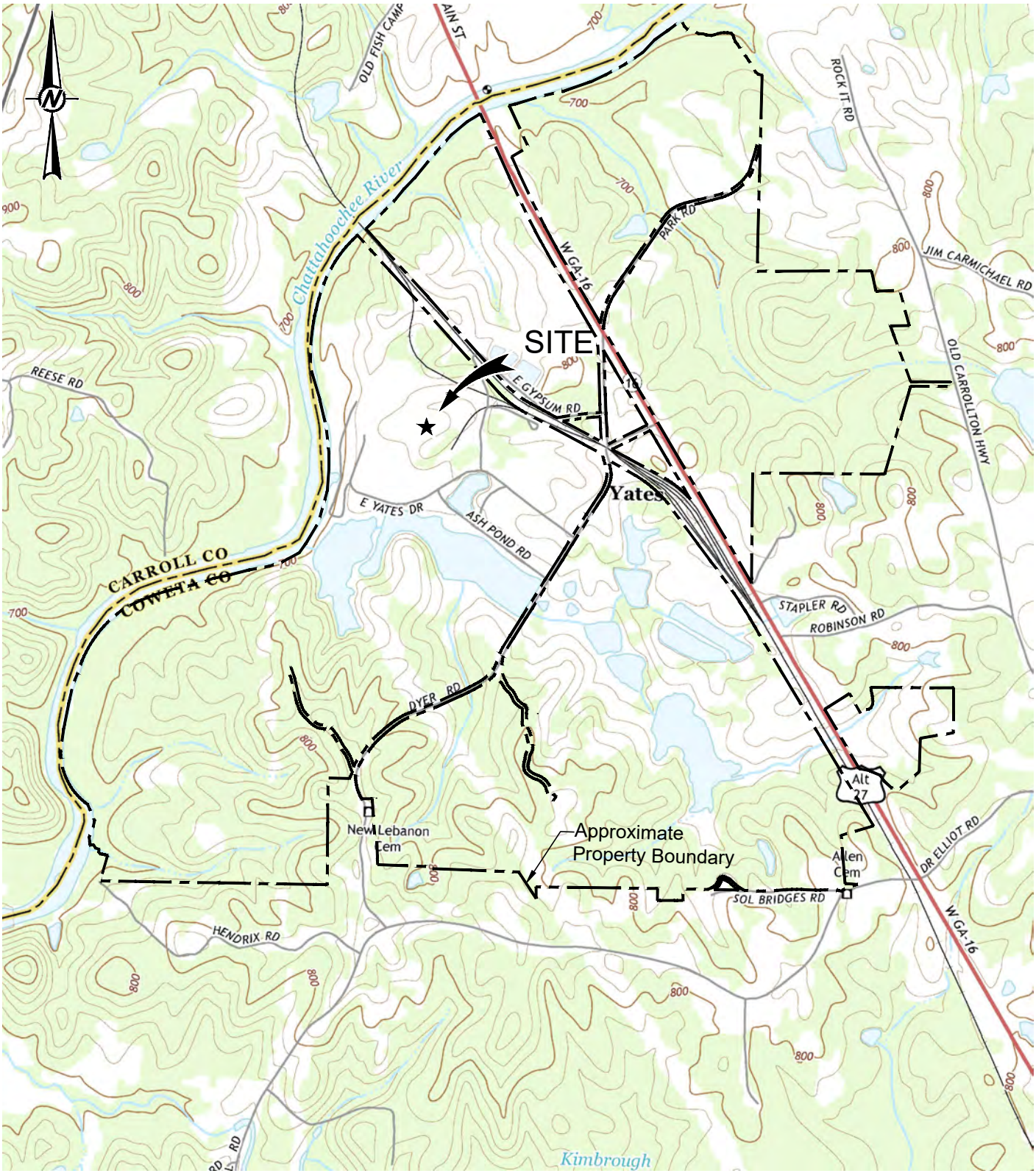
CLIENT CONTACT: **MR. JOJU ABRAHAM**

PHONE NUMBER: **205-992-6075**

PLANS PREPARED BY:
GOLDER ASSOCIATES INC.
3730 CHAMBLEE TUCKER ROAD
ATLANTA, GA 30341
TELEPHONE: 770-496-1893

Golder Associates

FIGURE 0



REFERENCES

1. USGS 7.5 MINUTE QUADRANGLE, WHITESBURG, 2014.
2. PROPERTY BOUNDARY PROVIDED BY COWETA COUNTY GIS DEPARTMENT, 2015.

0 1000 2000
1" = 2000' FEET

CLIENT
Southern Company

CONSULTANT
Golder Associates

YYYY-MM-DD	2017/10/06
DESIGNED	-
PREPARED	SEP
REVIEWED	TIR
APPROVED	RPK

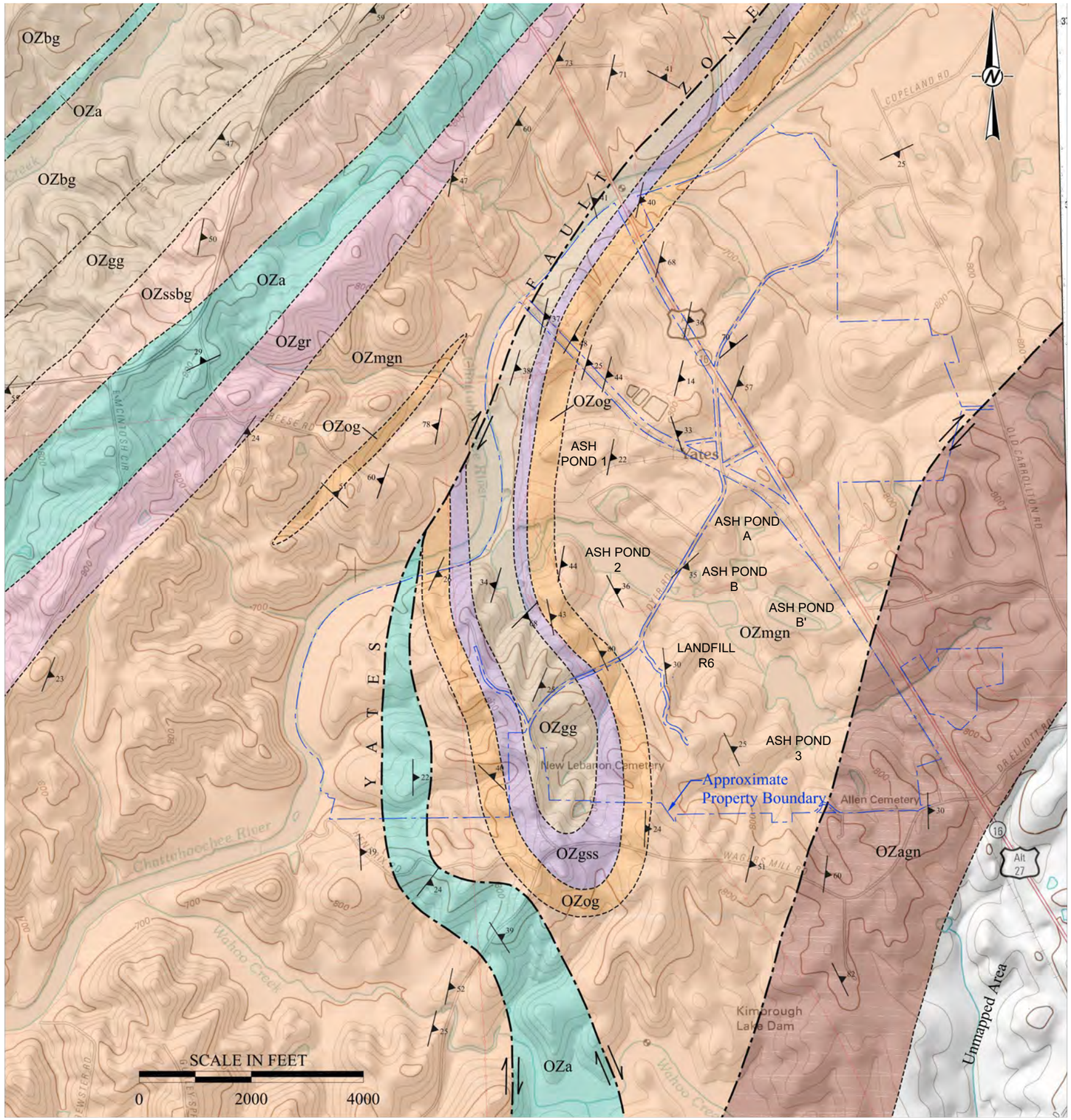
PROJECT
PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE
SITE LOCATION MAP

PROJECT NO. 1537247
REV. -
FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

Path: \\greensboro\data\PROJECTS\Southern Company Services\Confidential GW Characterization Yates\Final\CAD\1537247-001 Site Location Map - GA 01. 2013\Production\ | File Name: 1537247-001 Site Location Map.dwg



DESCRIPTION OF MAP UNITS

OZbg — ***Biotite Gneiss-***
garnet (small, minor)-muscovite-biotite-quartz-feldspar gneiss, fine- to medium-grained, schistose in part; interlayered with garnet (small, minor)-biotite-feldspar-quartz-muscovite schist, medium- to coarse-grained; some garnet-rich zones, all layereded with concordant and discordant pegmatite pods, lenses, and layers up to 10 feet thick; foliation wraps around pegmatite pods/lenses.

OZa — ***Amphibolite-***
amphibole/hornblende gneiss, thinly laminated, fine- to medium-grained hornblende and plagioclase; and chlorite-actinolite schist, very fine-grained; joints are close-spaced and abundant.

OZgg — ***Granitic-Gneiss-***
biotite-quartz-feldspar gneiss, very feldspathic; quartz and feldspar are medium- to coarse-grained; biotite is fine- to medium-grained. Muscovite is present where this gneiss is sheared. Shear foliation is commonly developed.

OZssbg — ***Biotite Gneiss and Sillimanite Schist-***
biotite-quartz-feldspar gneiss; interlayered with sillimanite, garnet, quartz, muscovite schist. Shear foliation is commonly developed.

OZog — ***Orange Gneiss-***
well layered, well foliated, moderately jointed, fine- to medium-grained, biotite-quartz-feldspar gneiss; this unit weathers fairly deeply relative to adjacent lithologies, forming a distinctive dark red, vermiculitic soil from weathering of biotite; the gneiss locally contains thin lenses of chlorite-actinolite schist and feldspar-hornblende gneiss/amphibolite, increasing in concentration of these ultramafic and mafic bodies to the southeast.

OZgr — ***Granite-***
generally massive, weakly foliated, poorly jointed, fine- to medium-grained, light-gray, large exfoliation boulders are common.

OZmgn — ***Migmatitic Gneiss-***
highly contorted, well layered, well foliated, poorly jointed, medium-grained muscovite-biotite-quartz-feldspar migmaticitc gneiss. Granite is locally interlayered with biotite gneiss and pods/lenses of ultramafic bodies, which occur as relatively fresh, well foliated, unjointed boulders of medium- to course-grained actinolite-chlorite schist..

OZgss — ***Sillimanite Staurolite Garnet Schist-***
sillimanite-staurolite-garnet-biotite-quartz-muscovite schist, medium- to coarse-grained, sheared; staurolite and garnet are porphyroblastic, biotite and quartz content are highly variable, generally poorly weathered.

OZagn — ***Porphyroclastic Augen Gneissic-***
muscovite-biotite-quartz-feldspar gneissic granite, feldspathic; quartz and feldspar are medium- to coarse-grained; feldspar phenocrysts form porphyroclasts, biotite is fine- to medium-grained.

EXPLANATION OF MAP SYMBOLS

- Lithologic unit contact- Approximate location
- Fault (high angle)- Approximate location
- Fault (strike/slip)- Approximate location
- 65 — Strike and Dip of Foliation

REFERENCES

1. USGS 7.5 Minute Quadrangles, Whitesburg, 2011.
2. Property Boundary provided by Coweta County GIS Department, 2015.

NOTE

GEOLOGIC MAPPING CONDUCTED BY PETROLOGIC SOLUTIONS, INC.

YYYY-MM-DD	2017/10/06
DESIGNED	-
PREPARED	SEP
REVIEWED	TIR
APPROVED	RPK

CLIENT: Southern Company
CONSULTANT: Golder Associates

PROJECT: PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE: **GEOLOGIC MAP**

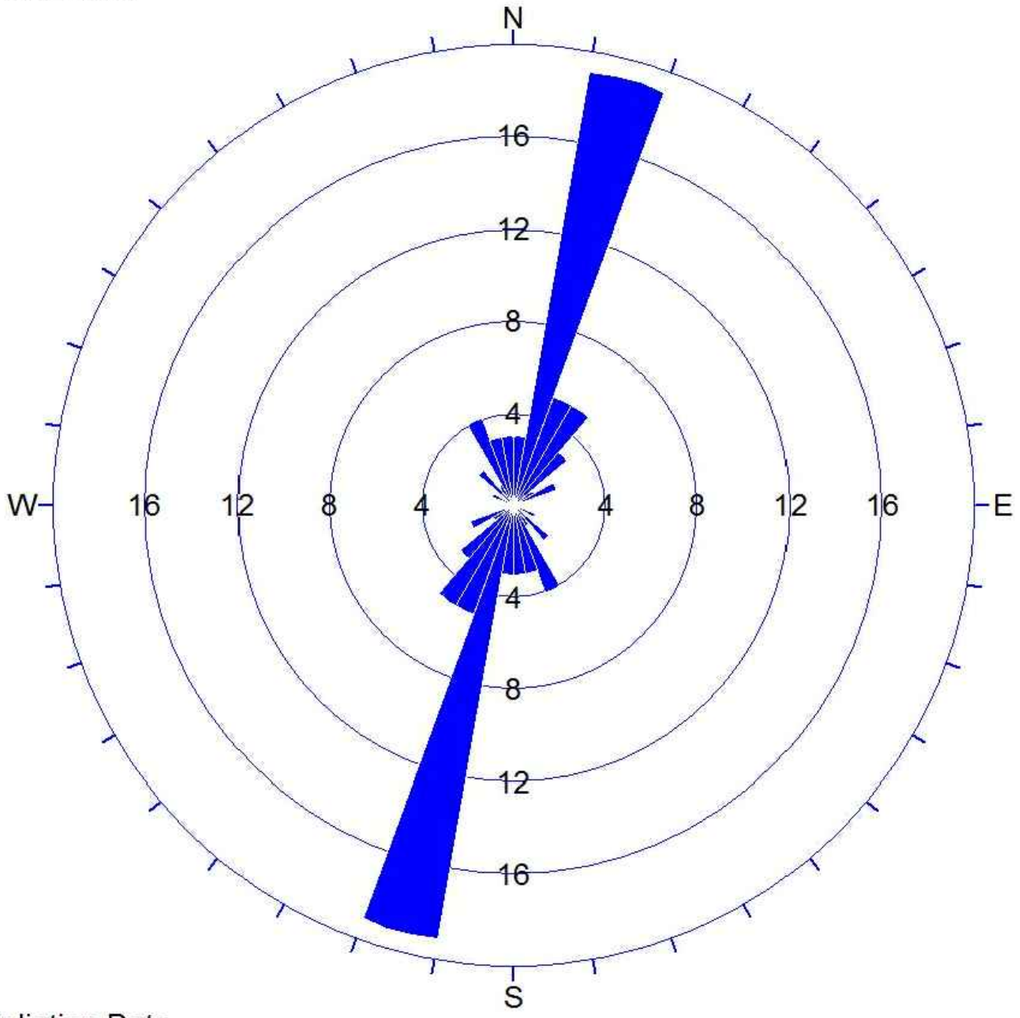
PROJECT NO. 1537247

REV. -

FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Plant Yates



Foliation Data

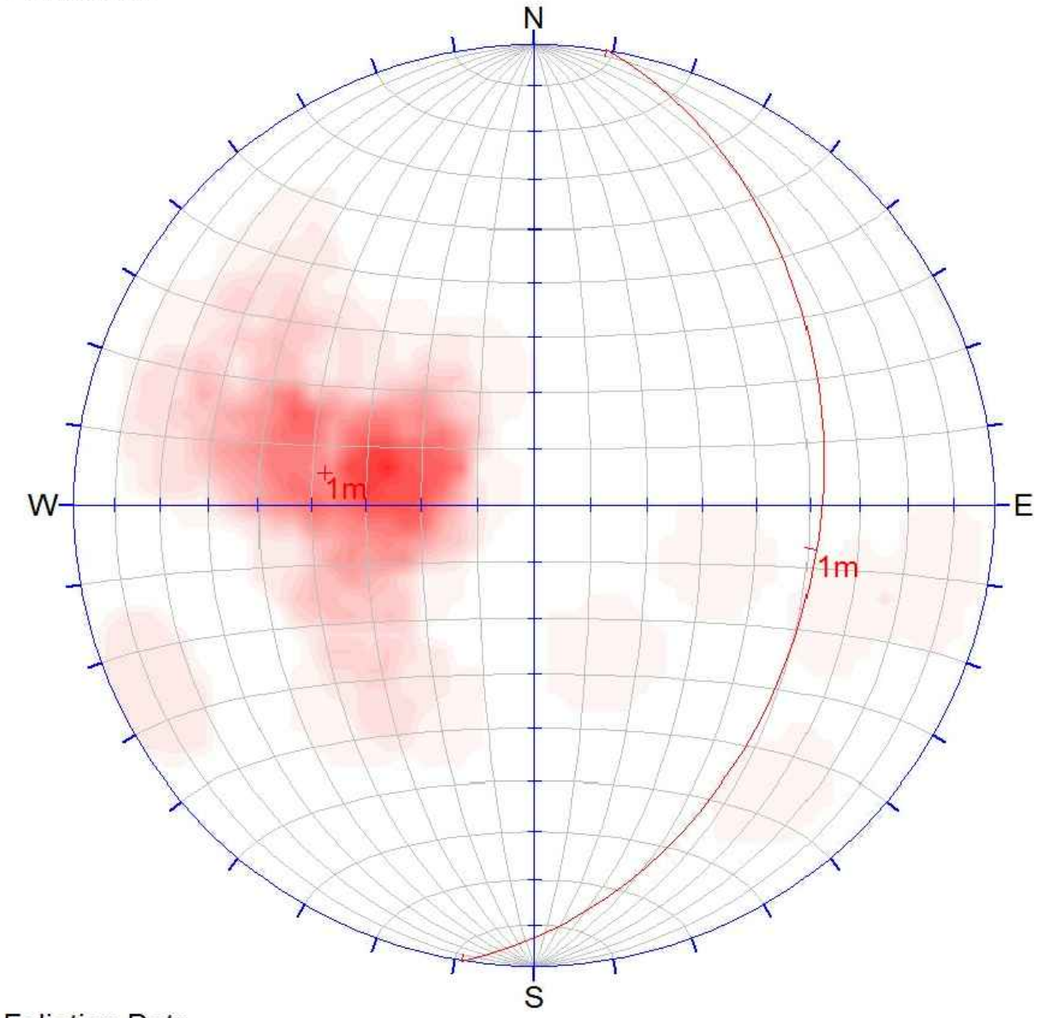
Apparent Strike
20 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

52 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Plant Yates



Foliation Data

Orientations

ID		Strike / Dip Right
1	m	009 / 38

Equal Area
Lower Hemisphere
52 Poles
52 Entries

NOTE

DISCONTINUITY DATA COLLECTED BY PETROLOGIC SOLUTIONS, INC.

YYYY-MM-DD 2017/10/06
DESIGNED -
PREPARED SEP
REVIEWED TIR
APPROVED RPK

CLIENT Southern Company
CONSULTANT Golder Associates

PROJECT
PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE
DISCONTINUITY DATA FROM GEOLOGIC MAPPING

PROJECT NO. 1537247

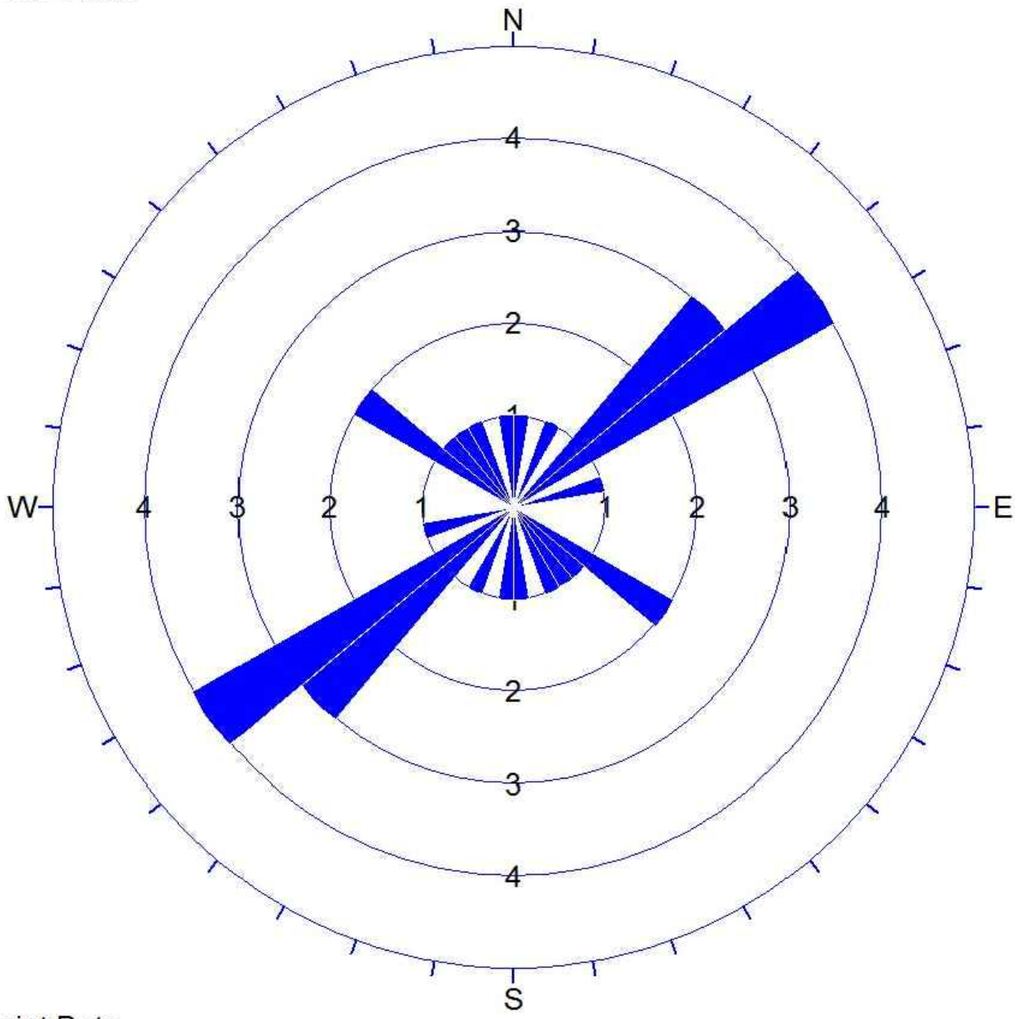
REV. -

FIGURE 3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\greensboro\data\PROJECTS\Southern Company Services\Confidential GW Characterization Yates\Final\GA01\1537247-003 Discontinuity Data from Geologic Mapping - GA 01, 2013\Production\ | File Name: 1537247-003 Discontinuity Data from Geologic Mapping.dwg

Plant Yates



Joint Data

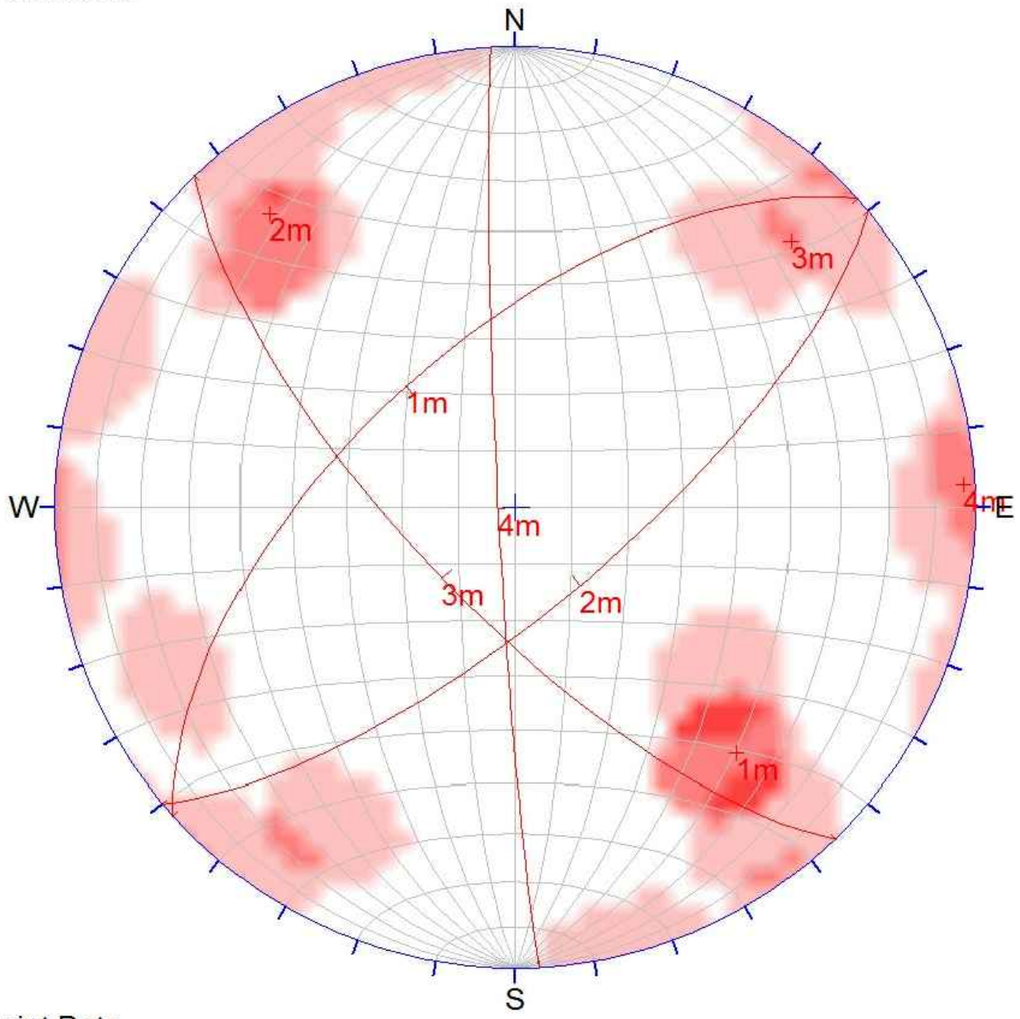
Apparent Strike
5 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

16 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Plant Yates



Joint Data

Orientations

ID		Strike / Dip Right
1	m	228 / 61
2	m	050 / 72
3	m	136 / 72
4	m	177 / 87

Equal Area
Lower Hemisphere
16 Poles
16 Entries

NOTE

DISCONTINUITY DATA COLLECTED BY PETROLOGIC SOLUTIONS, INC.

YYYY-MM-DD 2017/10/06
DESIGNED -
PREPARED SEP
REVIEWED TIR
APPROVED RPK

CLIENT Southern Company
CONSULTANT Golder Associates

PROJECT
PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE
COMPARISON OF MEASURED DISCONTINUITIES AND LINEAMENTS

PROJECT NO. 1537247

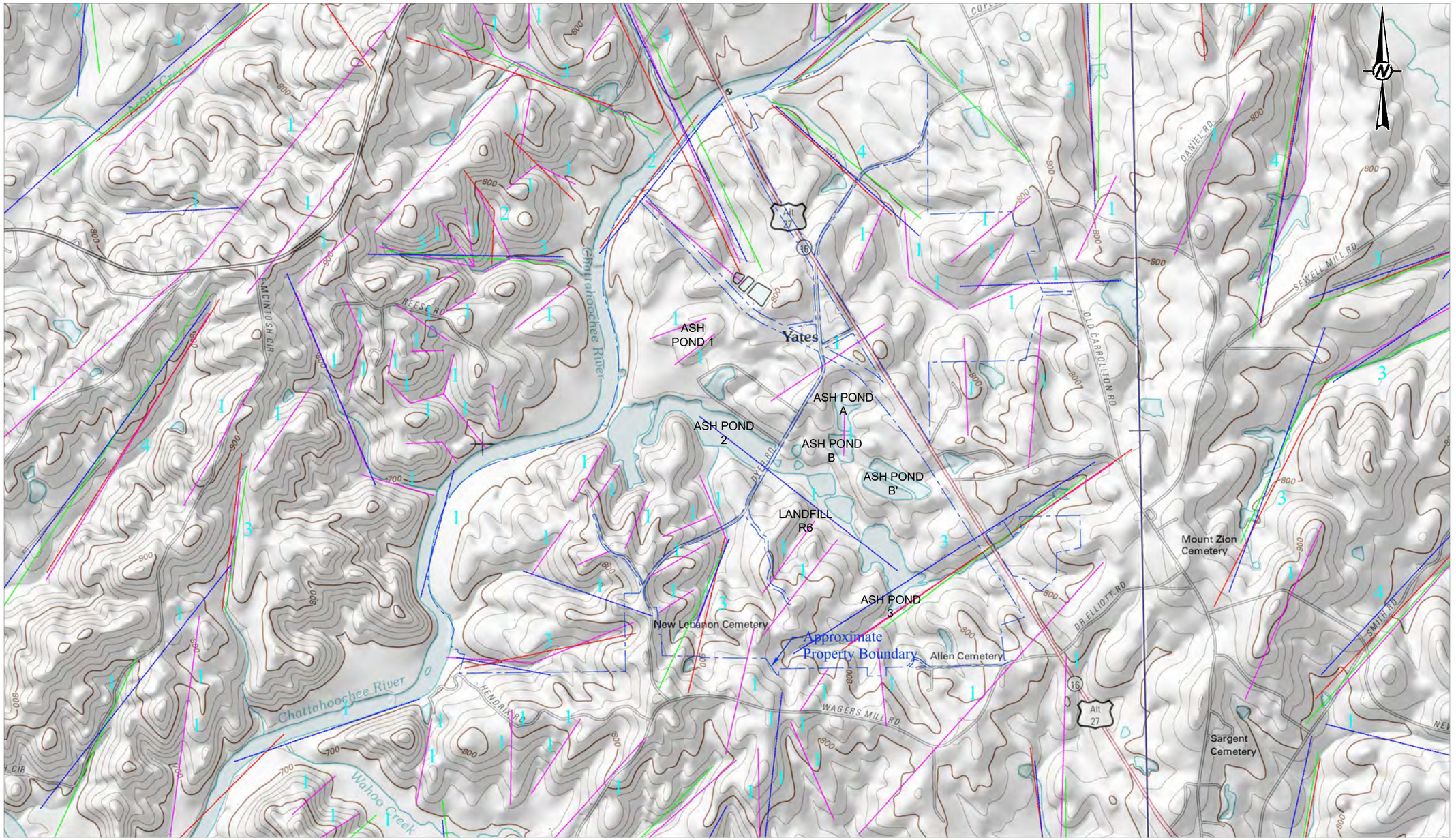
REV. -

FIGURE 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in
0

Path: \\greensboro\data\PROJECTS\Southern Company Services\Confidential GW Characterization Yates\Final\GA01537247-004 Comparison of Measured Discontinuities and Lineaments - GA 01, 2013\Production\ | File Name: 1537247-004 Comparison of Measured Discontinuities and Lineaments.dwg



Southeast Sun Angle Lineaments

Northeast Sun Angle Lineaments

Northwest Sun Angle Lineaments

Southwest Sun Angle Lineaments

2 Lineament Count- number of occurrences using different sun angles, 4 = significant (occurs on all four sun angle views) and 1 = less significant (only occurs on one sun angle view)

REF: DIGITAL ELEVATION MODEL TAKEN FROM THE USGS WHITESBURG AND NEWNAN NORTH, GEORGIA, 7.5 MINUTE QUADRANGLES.
PROPERTY BOUNDARY PROVIDED BY COWETA COUNTY GIS DEPARTMENT, 2015.

NOT TO SCALE

YYYY-MM-DD	2017/10/06
DESIGNED	-
PREPARED	SEP
REVIEWED	TIR
APPROVED	RPK

CLIENT: Southern Company

CONSULTANT: Golder Associates

PROJECT: PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE: **REMOTE SENSING LINEAMENT MAP**

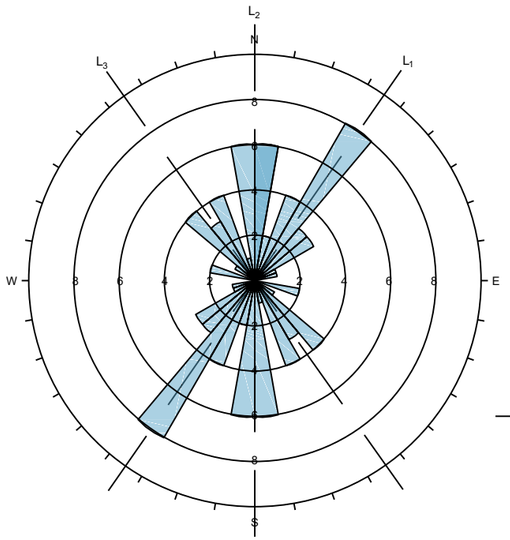
PROJECT NO. 1537247

REV. -

FIGURE 5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\greensboro\data\PROJECTS\Southern Company Services\Confidential GW Characterization Yates\Final\CAD\September 2017\ | File Name: 1537247-005 Remote Sensing Lineament Map.dwg



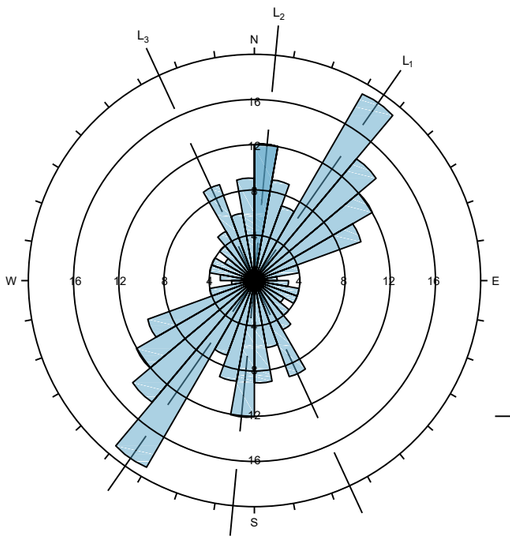
Apparent Strike
10 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

49 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Northwest Sun Angle- DEM Lineations



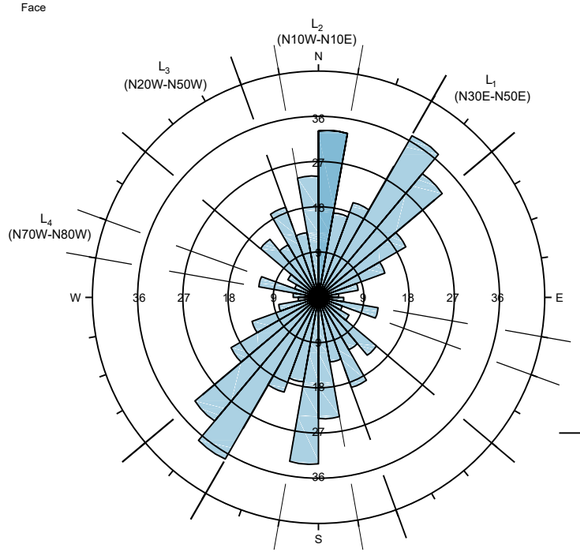
Apparent Strike
20 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

136 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Northeast Sun Angle- DEM Lineations



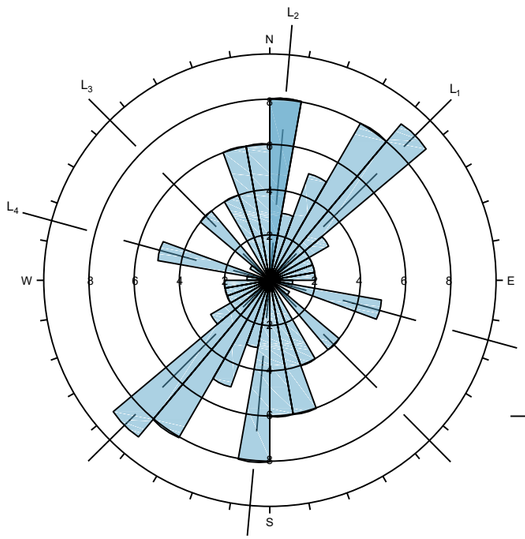
Apparent Strike
45 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

297 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

All DEM Lineations



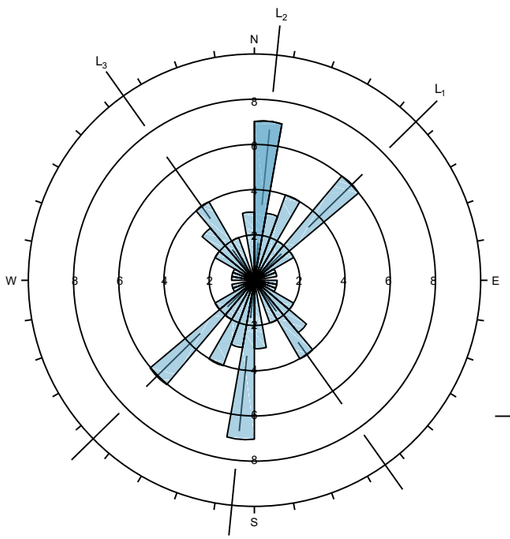
Apparent Strike
10 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

69 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Southwest Sun Angle- DEM Lineations



Apparent Strike
10 max planes / arc
at outer circle

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

43 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Southeast Sun Angle- DEM Lineations

NOT TO SCALE

YYYY-MM-DD	2017/10/06
DESIGNED	-
PREPARED	SEP
REVIEWED	TIR
APPROVED	RPK

CLIENT: Southern Company

CONSULTANT: Golder Associates

PROJECT: PLANT YATES
GEOLOGIC MAPPING AND LINEAMENT ANALYSIS

TITLE: **DEM LINEAMENT ROSE DIAGRAMS**

PROJECT NO. 1537247

REV. -

FIGURE 6

1 in
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\greensboro\data\PROJECTS\Southern Company Services\Confidential GW Characterization Yates\Final\CAD\1537247-006 DEM Lineament Rose Diagrams - GA 01 2013\Production\ | File Name: 1537247-006 DEM Lineament Rose Diagrams.dwg

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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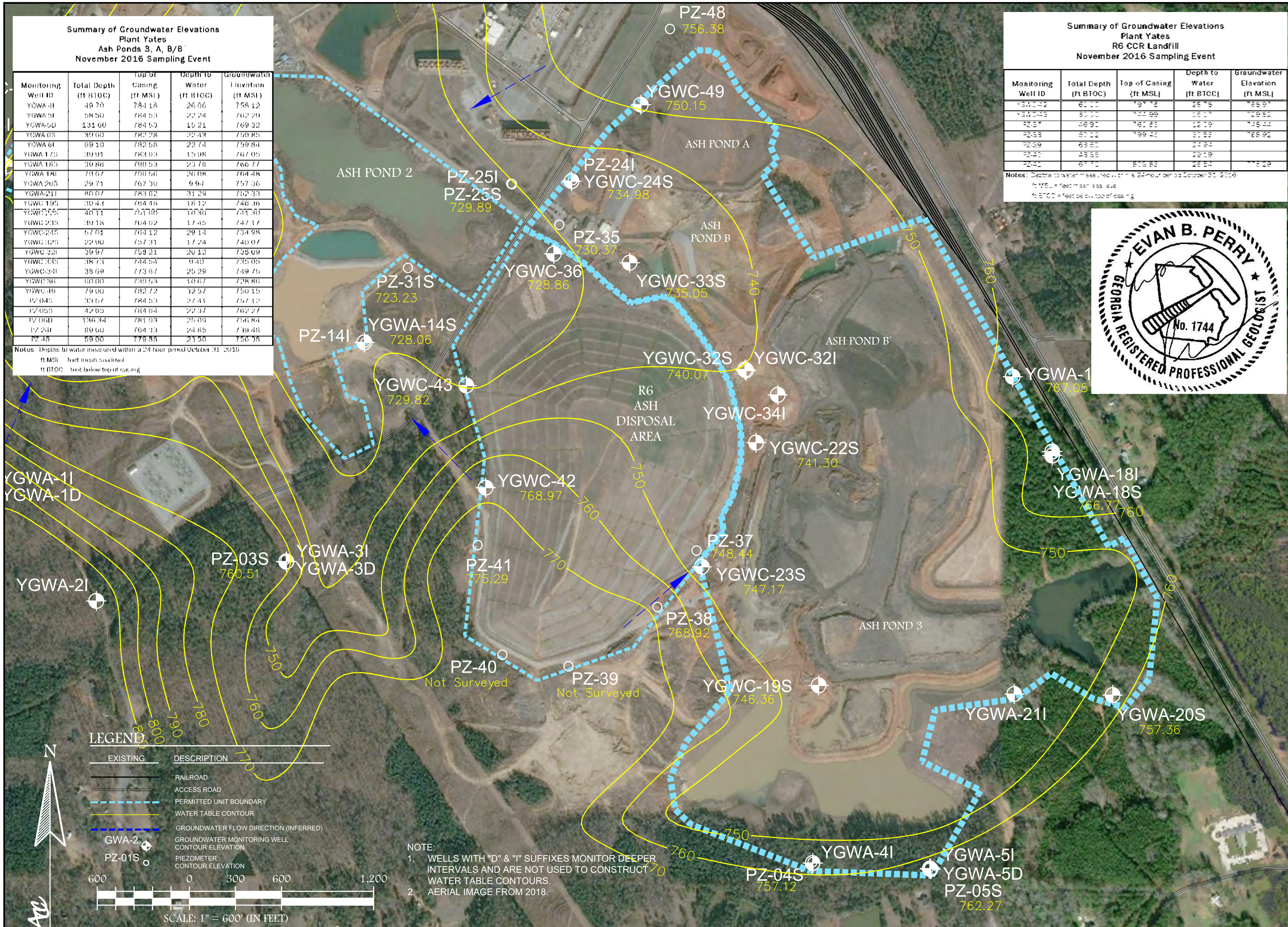
3730 Chamblee Tucker Rd.
Atlanta, GA 30341
Tel: (770 496-1893
Fax: (770) 934-9476

APPENDIX C
HISTORICAL POTENTIOMETRIC MAPS (2016 – 2024) AND WATER LEVEL DATA



NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
November 2016 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	26.06	758.12
YGWA-5I	58.50	784.53	22.24	762.29
YGWA-5D	131.60	784.53	15.21	769.32
YGWA-6S	39.60	782.28	22.43	759.85
YGWA-6I	69.10	782.58	22.74	759.84
YGWA-17S	39.91	783.03	15.98	767.05
YGWA-18S	39.86	790.53	23.76	766.77
YGWA-18I	79.67	790.56	26.08	764.48
YGWA-20S	29.71	767.30	9.94	757.36
YGWA-21I	80.07	783.62	31.29	752.33
YGWC-19S	30.43	764.48	18.12	746.36
YGWC-22S	40.11	751.60	10.30	741.30
YGWC-23S	39.18	764.62	17.45	747.17
YGWC-24S	57.01	764.12	29.14	734.98
YGWC-32S	22.90	757.31	17.24	740.07
YGWC-32I	39.97	758.21	20.12	738.09
YGWC-33S	38.73	744.54	9.49	735.05
YGWC-34I	38.69	773.67	25.29	749.75
YGWC-36	60.00	739.53	10.67	728.86
YGWC-49	79.00	782.72	32.57	750.15
PZ-04S	33.57	784.53	27.41	757.12
PZ-05S	42.85	784.64	22.37	762.27
PZ-06D	136.34	781.93	25.09	756.84
PZ-24I	89.60	764.13	24.85	739.48
PZ-48	59.00	779.88	23.50	756.38

Notes: Depths to water measured within a 24 hour period October 31, 2016
ft MSL feet mean sea level
ft BTOC feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
November 2016 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	61.10	797.72	28.75	768.97
YGWC-43	50.00	744.99	15.17	729.82
PZ-37	46.90	761.53	13.09	748.44
PZ-38	50.02	799.42	30.50	768.92
PZ-39	63.60		24.94	
PZ-40	43.35		22.19	
PZ-41	67.70	803.83	28.54	775.29

Notes: Depths to water measured within a 24-hour period October 31, 2016
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

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Suite 100
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EVAN B. PERRY
No. 1744
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST

PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
November 2016

NOVEMBER 2016 WATER TABLE CONTOUR MAP

FIGURE C-1

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
January 2017 Sampling Event

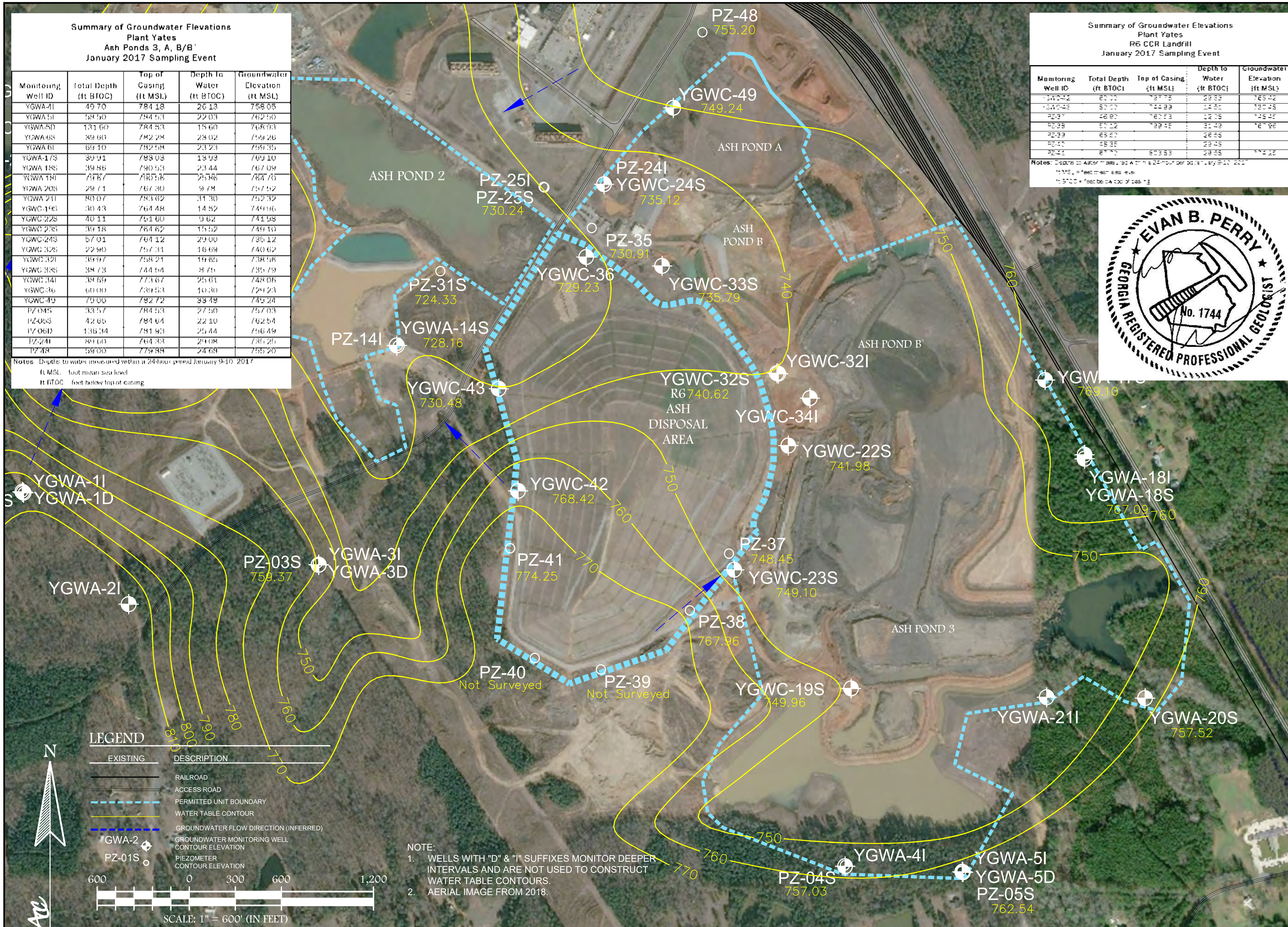
Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	26.13	758.05
YGWA-5I	58.50	784.53	22.03	762.50
YGWA-5D	131.60	784.53	15.60	768.93
YGWA-6S	39.60	782.28	23.02	759.26
YGWA-6I	69.10	782.58	23.23	759.35
YGWA-17S	39.91	783.03	13.93	769.10
YGWA-18S	39.86	790.53	23.44	767.09
YGWA-18I	79.67	790.56	25.86	764.70
YGWA-20S	29.71	767.30	9.78	757.52
YGWA-21I	80.07	783.62	31.30	752.32
YGWC-19S	30.43	764.48	14.52	749.96
YGWC-22S	40.11	751.60	9.62	741.98
YGWC-23S	39.18	764.62	15.52	749.10
YGWC-24S	57.01	764.12	29.00	735.12
YGWC-32S	22.90	757.31	16.69	740.62
YGWC-32I	39.97	758.21	19.65	738.56
YGWC-33S	38.73	744.54	8.75	735.79
YGWC-34I	38.69	773.67	25.61	748.06
YGWC-36	60.00	739.53	10.30	729.23
YGWC-49	79.00	782.72	33.48	749.24
PZ-04S	33.57	784.53	27.50	757.03
PZ-05S	42.65	784.64	22.10	762.54
PZ-06D	136.34	781.93	25.44	756.49
PZ-24I	89.60	764.33	29.08	735.25
PZ-48	59.00	779.89	24.69	755.20

Notes: Depths to water measured within a 24-hour period January 9-10, 2017
ft MSL - foot mean sea level
ft BTOC - feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
January 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	80.00	791.75	23.33	768.42
YGWC-43	50.00	754.99	24.51	730.48
PZ-37	46.80	760.53	12.08	748.45
PZ-38	50.12	799.45	31.49	767.96
PZ-39	65.50		26.65	
PZ-40	48.35		23.45	
PZ-41	[illegible]	803.53	[illegible]	774.25

Notes: Depths to water measured within a 24-hour period January 9-10, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing



NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

EVAN B. PERRY
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Suite 100
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www.atlcc.net

PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
February 2017

JANUARY 2017 WATER TABLE CONTOUR MAP

FIGURE C-2

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
February 2017 Sampling Event

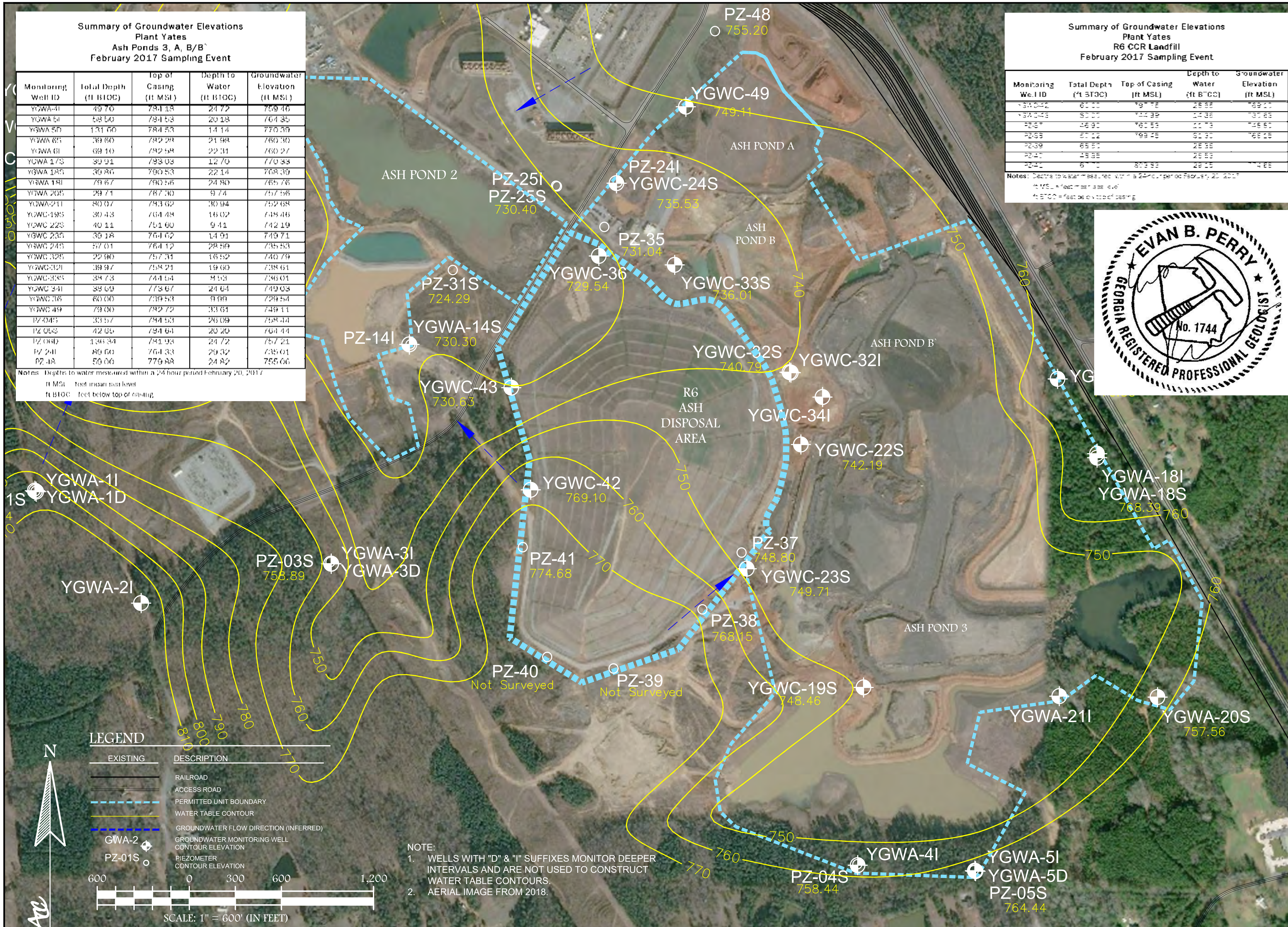
Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	24.72	759.46
YGWA-5I	58.50	784.53	20.18	764.35
YGWA-5D	131.60	784.53	14.14	770.39
YGWA-6S	39.60	782.28	21.98	760.30
YGWA-6I	69.10	782.58	22.31	760.27
YGWA-17S	30.91	783.03	12.70	770.33
YGWA-18S	39.86	790.53	22.14	768.39
YGWA-18I	79.67	790.56	24.80	765.76
YGWA-20S	29.71	767.30	9.74	757.56
YGWA-21I	80.07	783.62	30.94	752.68
YGWC-19S	30.43	764.48	16.02	748.46
YGWC-22S	40.11	751.60	9.41	742.19
YGWC-23S	39.18	764.62	14.91	749.71
YGWC-24S	57.01	764.12	28.59	735.53
YGWC-32S	22.90	757.31	16.52	740.79
YGWC-32I	39.97	758.21	19.60	738.61
YGWC-33S	38.73	744.54	8.53	736.01
YGWC-34I	38.69	773.67	24.64	749.03
YGWC-36	60.00	739.53	9.99	729.54
YGWC-49	79.00	782.72	33.61	749.11
PZ-04S	33.57	784.53	26.09	758.44
PZ-05S	42.65	784.64	20.20	764.44
PZ-06D	136.34	781.93	24.72	757.21
PZ-24I	89.60	764.33	29.32	735.01
PZ-48	59.00	779.88	24.82	755.06

Notes: Depths to water measured within a 24 hour period February 20, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
February 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	60.00	797.76	28.66	769.10
YGWC-43	50.00	744.99	14.36	730.63
PZ-37	46.90	760.53	11.73	748.80
PZ-38	50.12	799.45	31.30	768.15
PZ-39	65.50		26.36	
PZ-40	49.35		26.53	
PZ-41	[illegible]	803.83	29.15	774.68

Notes: Depths to water measured within a 24-hour period February 20, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing



NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

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PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
I054-110
March 2017

FEBRUARY 2017 WATER TABLE CONTOUR MAP

FIGURE C-3

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
April 2017 Sampling Event

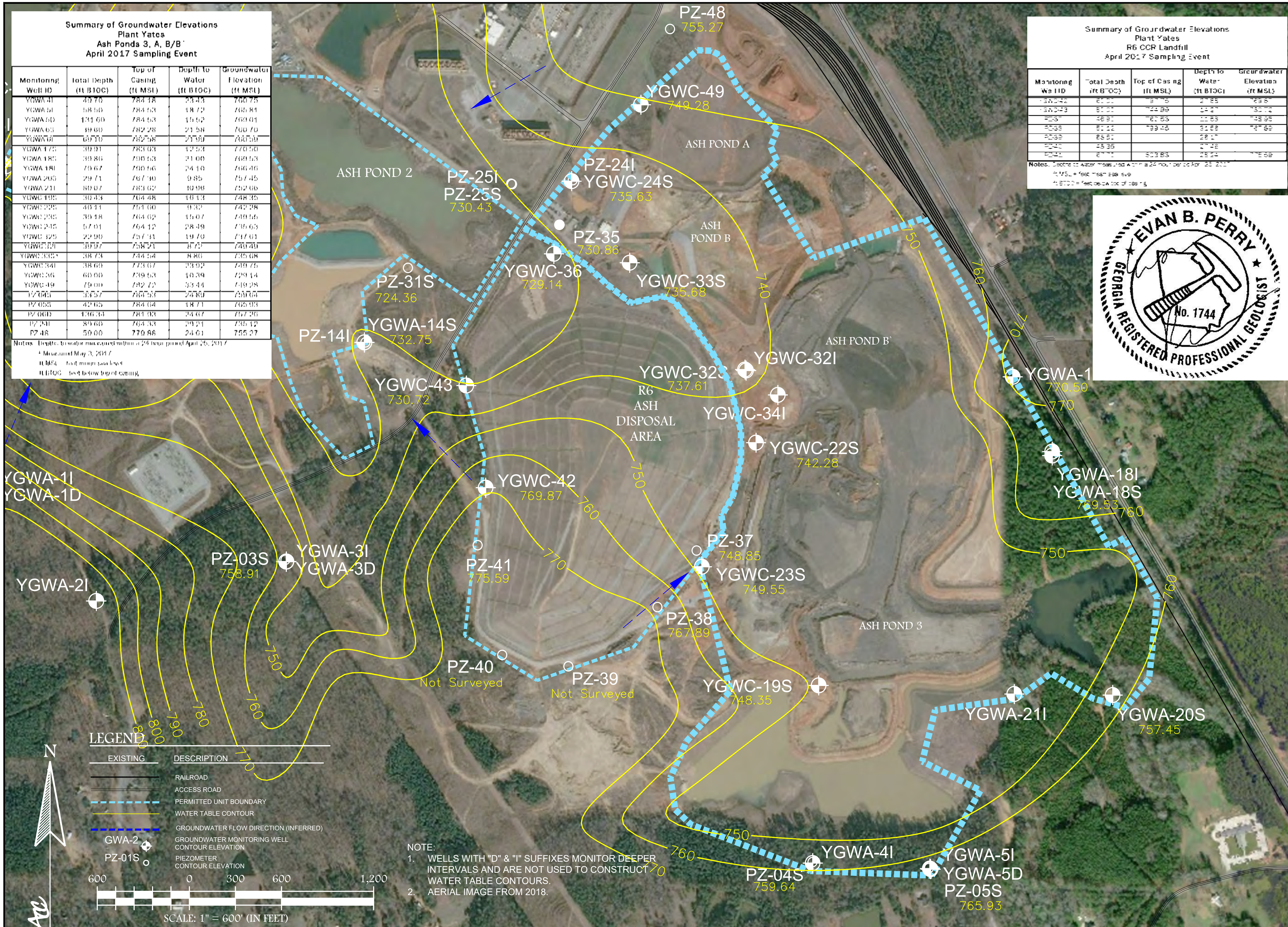
Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	23.43	760.75
YGWA-5I	58.50	784.53	18.72	765.81
YGWA-5D	131.60	784.53	15.52	769.01
YGWA-6S	49.60	782.28	21.58	760.70
YGWA-6I	69.10	782.58	21.99	760.59
YGWA-17S	39.91	783.03	12.53	770.50
YGWA-18S	39.86	790.53	21.00	769.53
YGWA-18I	79.67	790.56	24.10	766.46
YGWA-20S	29.71	767.30	9.85	757.45
YGWA-21I	60.07	763.02	10.96	752.06
YGWC-19S	30.43	764.48	16.13	748.35
YGWC-22S	40.11	751.60	9.32	742.28
YGWC-23S	39.18	764.62	15.07	749.55
YGWC-24S	57.01	764.12	28.49	735.63
YGWC-32S	22.90	757.31	19.70	737.61
YGWC-32I	39.97	758.21	8.72	749.49
YGWC-33S*	38.73	744.54	8.86	735.68
YGWC-34I	38.60	773.67	23.92	749.75
YGWC-36	60.00	739.53	10.39	729.14
YGWC-49	79.00	782.72	33.44	749.28
PZ-04S	33.57	784.53	24.89	759.64
PZ-05S	42.65	784.64	18.71	765.93
PZ-06D	136.34	781.93	24.67	757.26
PZ-24I	89.60	764.33	29.21	735.12
PZ-48	59.00	779.88	24.61	755.27

Notes: Depths to water measured within a 24 hour period April 25, 2017
* Measured May 3, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
April 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	60.00	797.75	27.88	769.87
YGWC-43	50.00	744.99	14.27	730.72
PZ-37	46.90	760.65	11.80	748.85
PZ-35	51.12	759.45	31.68	727.69
PZ-39	65.50		28.17	
PZ-40	45.35		27.48	
PZ-41	67.71	803.83	28.24	775.59

Notes: Depths to water measured within a 24 hour period April 25, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing



NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

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PROJECT:
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708 DYER ROAD
NEWNAN, GEORGIA

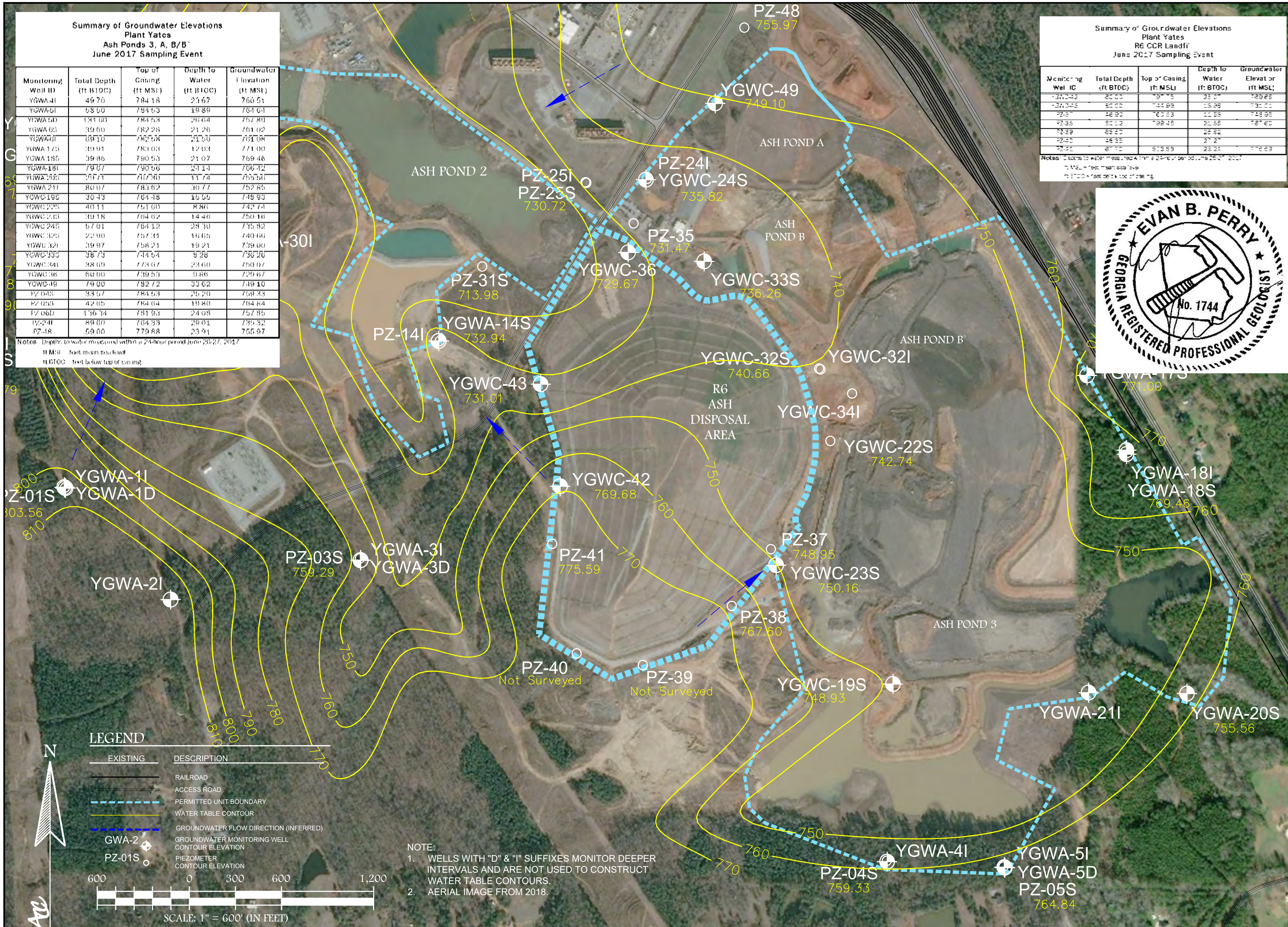
REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
May 2017

APRIL 2017 WATER TABLE CONTOUR MAP

FIGURE C-4



Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
June 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	23.67	760.51
YGWA-5I	58.50	784.53	19.89	764.64
YGWA-5D	131.60	784.53	26.64	757.89
YGWA-6S	39.60	782.28	21.26	761.02
YGWA-6I	69.10	782.58	21.50	761.08
YGWA-17S	39.91	783.03	12.03	771.00
YGWA-18S	39.86	790.53	21.07	769.46
YGWA-18I	79.67	790.56	24.14	766.42
YGWA-20S	39.71	767.30	11.74	755.56
YGWA-21I	80.07	783.62	30.77	752.85
YGWC-19S	30.43	764.48	15.55	748.93
YGWC-22S	40.11	751.60	8.86	742.74
YGWC-23S	39.18	764.62	14.46	750.16
YGWC-24S	57.01	764.12	28.30	735.82
YGWC-32S	22.90	757.31	16.65	740.66
YGWC-32I	39.97	758.21	19.21	739.00
YGWC-33S	38.73	744.54	8.28	736.26
YGWC-34I	38.69	773.67	23.60	750.07
YGWC-36	60.00	739.53	9.86	729.67
YGWC-49	79.00	782.72	33.62	749.10
PZ-04S	33.57	784.53	25.20	759.33
PZ-05S	42.65	784.64	19.80	764.84
PZ-06D	136.34	781.93	24.08	757.85
PZ-24I	89.60	764.33	29.01	735.32
PZ-48	59.00	779.88	23.91	755.97

Notes: Depths to water measured within a 24-hour period June 26-27, 2017
ft MSL feet mean sea level
ft BTOC feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
June 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	60.00	794.75	25.07	769.68
YGWC-43	50.00	744.99	13.98	731.01
PZ-37	46.90	760.53	11.58	748.95
PZ-38	50.12	799.45	31.85	767.60
PZ-39	65.60		25.62	
PZ-40	46.35		27.27	
PZ-41	67.70	803.83	28.24	775.59

Notes: Depths to water measured within a 24-hour period June 26-27, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

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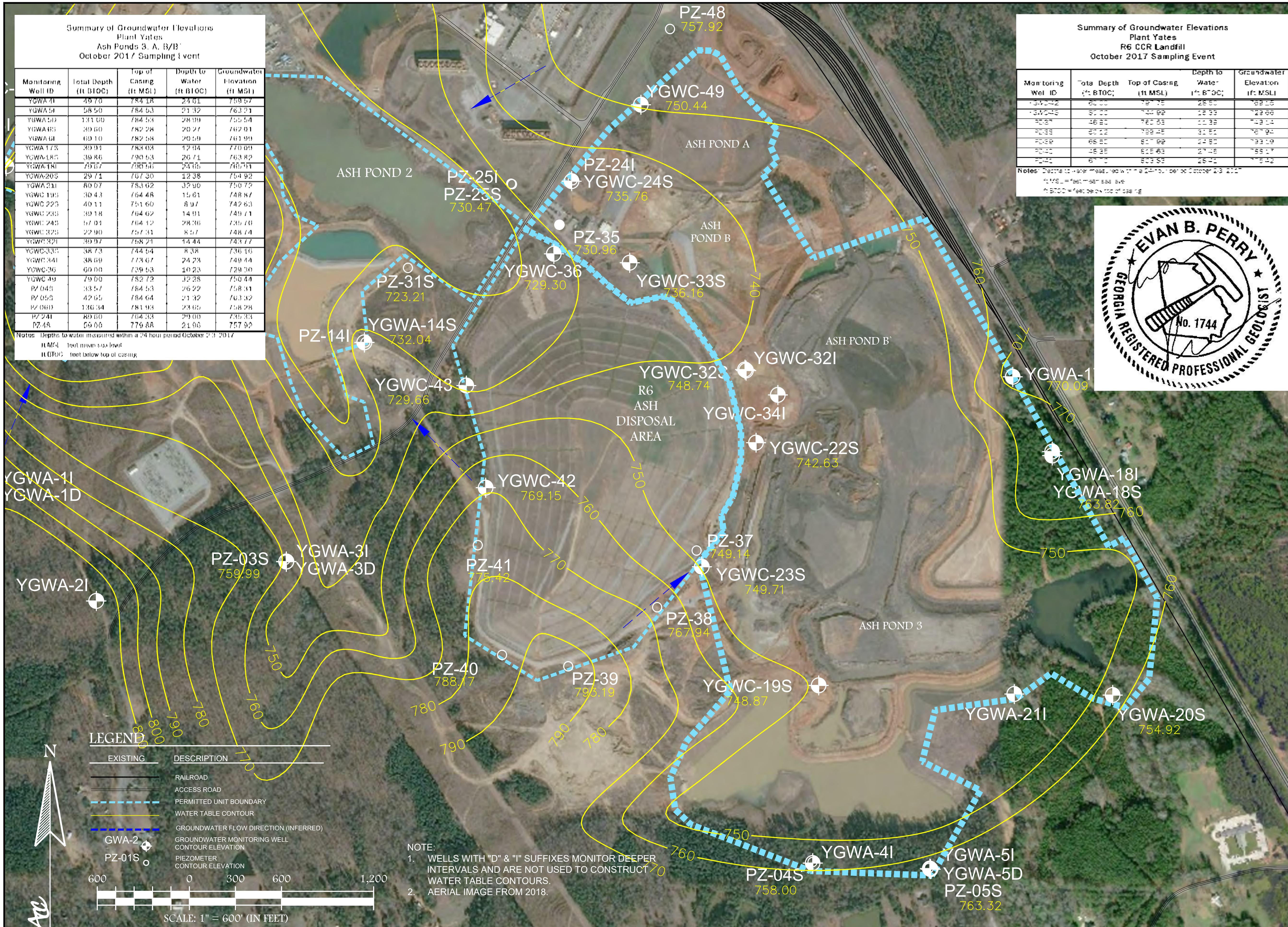
July 2017

JUNE 2017 WATER TABLE CONTOUR MAP

FIGURE C-5



Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
October 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	24.61	759.57
YGWA-5I	58.50	784.53	21.32	763.21
YGWA-5D	131.00	784.53	28.99	755.54
YGWA-6S	39.60	782.28	20.27	762.01
YGWA-6I	69.10	782.58	20.59	761.99
YGWA-17S	39.91	783.03	12.94	770.09
YGWA-18S	39.86	790.53	26.71	763.82
YGWA-18I	79.67	790.56	24.65	765.91
YGWA-20S	29.71	767.30	12.38	754.92
YGWA-21I	80.07	783.62	32.90	750.72
YGWC-19S	30.43	764.48	15.61	748.87
YGWC-22S	40.11	751.60	8.97	742.63
YGWC-23S	39.18	764.62	14.91	749.71
YGWC-24S	57.01	764.12	28.36	735.76
YGWC-32S	22.90	757.31	8.57	748.74
YGWC-32I	39.97	758.21	14.44	743.77
YGWC-33S	38.73	744.54	8.38	736.16
YGWC-34I	38.69	773.67	24.23	749.44
YGWC-36	60.00	739.53	10.23	729.30
YGWC-49	79.00	782.72	32.28	750.44
PZ-04S	33.57	784.53	26.22	758.31
PZ-05S	42.65	784.64	21.32	763.32
PZ-06D	136.34	781.93	23.65	758.28
PZ-24I	89.60	764.33	29.00	735.33
PZ-48	59.00	779.88	21.96	757.92

Notes: Depths to water measured within a 24 hour period October 2-3, 2017
ft MSL feet mean sea level
ft BTOC feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
October 2017 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	80.00	797.75	28.60	769.15
YGWC-43	90.00	744.99	15.33	729.66
PZ-37	46.80	760.53	11.39	749.14
PZ-38	50.12	799.45	31.51	767.94
PZ-39	65.50	817.99	24.80	793.19
PZ-40	45.35	815.63	27.46	788.17
PZ-41	67.70	803.83	28.41	775.42

Notes: Depths to water measured within a 24-hour period October 2-3, 2017
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

NOTE:
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2. AERIAL IMAGE FROM 2018.

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PROJECT:
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708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
I054-110
October 2017

OCTOBER 2017 WATER TABLE CONTOUR MAP

FIGURE C-6

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B`
January 2018 Sampling Event

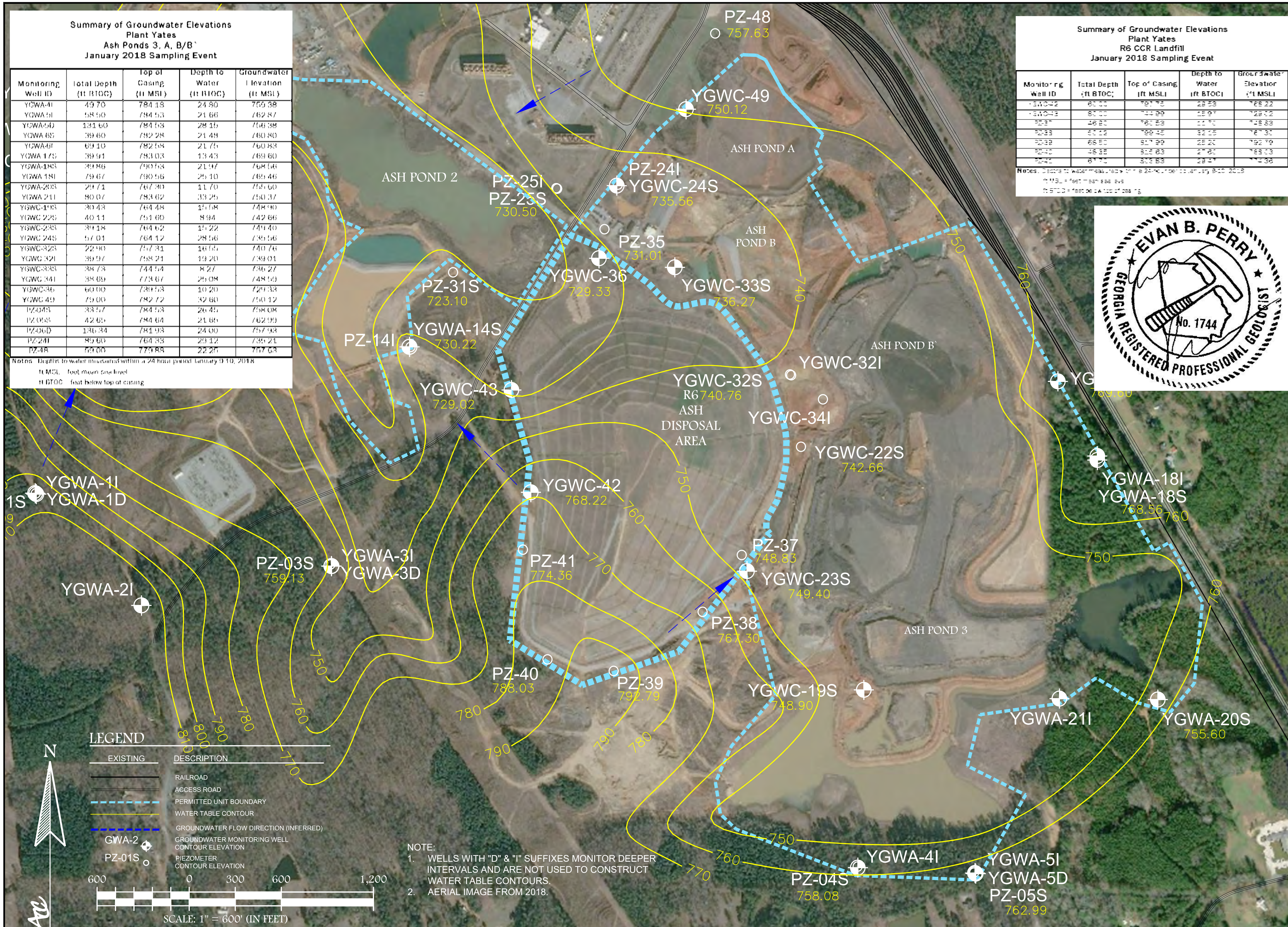
Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	24.80	759.38
YGWA-5I	58.50	784.53	21.66	762.87
YGWA-5D	131.60	784.53	28.15	756.38
YGWA-6S	39.60	782.28	21.48	760.80
YGWA-6I	69.10	782.58	21.75	760.83
YGWA-17S	39.91	783.03	13.43	769.60
YGWA-18S	39.86	790.53	21.97	768.56
YGWA-18I	79.67	790.56	25.10	765.46
YGWA-20S	29.71	767.30	11.70	755.60
YGWA-21I	80.07	783.62	33.25	750.37
YGWC-19S	30.43	764.48	15.58	748.90
YGWC-22S	40.11	751.60	8.94	742.66
YGWC-23S	39.18	764.62	15.22	749.40
YGWC-24S	57.01	764.12	28.56	735.56
YGWC-32S	22.90	757.31	16.55	740.76
YGWC-32I	39.97	758.21	19.20	739.01
YGWC-33S	38.73	744.54	8.27	736.27
YGWC-34I	38.69	773.67	25.08	748.59
YGWC-36	60.00	739.53	10.20	729.33
YGWC-49	79.00	782.72	32.60	750.12
PZ-04S	33.57	784.53	26.45	758.08
PZ-05S	42.65	784.64	21.65	762.99
PZ-06D	136.34	781.93	24.00	757.93
PZ-24I	89.60	764.33	29.12	735.21
PZ-48	59.00	779.88	22.25	757.63

Notes: Depths to water measured within a 24 hour period January 9-10, 2018
ft MSL feet mean sea level
ft BTOC feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
January 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	60.00	791.75	23.53	768.22
YGWC-43	80.00	744.99	15.97	729.02
PZ-37	46.80	760.53	11.70	748.83
PZ-38	50.12	799.45	32.15	767.30
PZ-39	68.50	817.99	25.20	792.79
PZ-40	46.35	815.63	27.60	788.03
PZ-41	61.70	803.83	29.47	774.36

Notes: Depths to water measured within a 24-hour period January 9-10, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing



NOTE:
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2. AERIAL IMAGE FROM 2018.

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PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
March 2018

JANUARY 2018 WATER TABLE CONTOUR MAP

FIGURE C-7

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
April 2018 Sampling Event

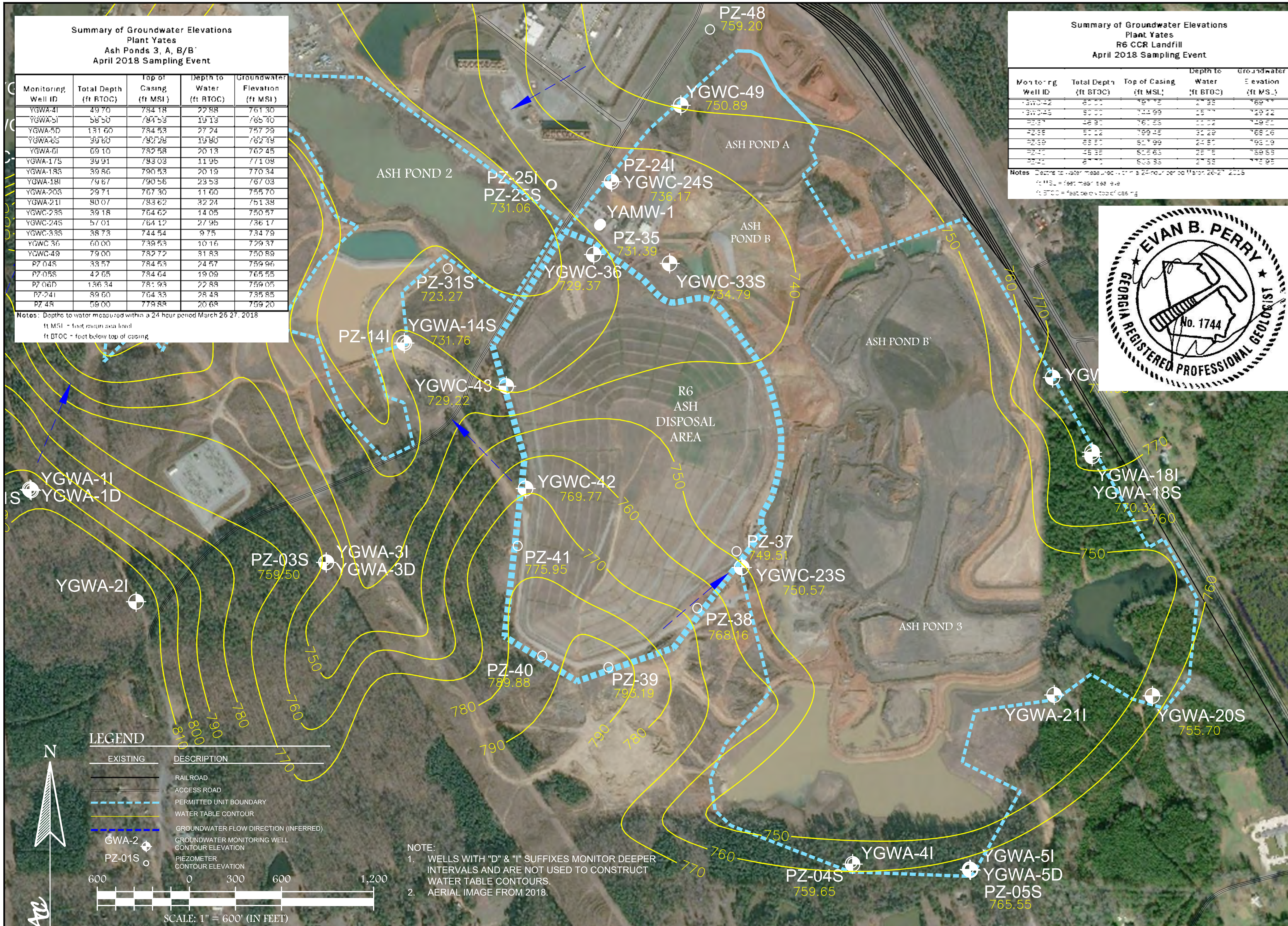
Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	22.88	761.30
YGWA-5I	58.50	784.53	19.13	765.40
YGWA-5D	131.60	784.53	27.24	757.29
YGWA-6S	39.60	782.28	19.80	762.49
YGWA-6I	69.10	782.58	20.13	762.45
YGWA-17S	39.91	783.03	11.95	771.08
YGWA-18S	39.86	790.53	20.19	770.34
YGWA-18I	79.67	790.56	23.53	767.03
YGWA-20S	29.71	767.30	11.60	755.70
YGWA-21I	80.07	783.62	32.24	751.38
YGWC-23S	39.18	764.62	14.05	750.57
YGWC-24S	57.01	764.12	27.95	736.17
YGWC-33S	38.73	744.54	9.75	734.79
YGWC-36	60.00	739.53	10.16	729.37
YGWC-49	79.00	782.72	31.83	750.89
PZ-04S	33.57	784.53	24.57	759.96
PZ-05S	42.65	784.64	19.09	765.55
PZ-06D	136.34	781.93	22.88	759.05
PZ-24I	89.60	764.33	28.48	735.85
PZ-48	59.00	779.88	20.68	759.20

Notes: Depths to water measured within a 24 hour period March 26-27, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
April 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	[illegible]	[illegible]	[illegible]	[illegible]
YGWC-43	[illegible]	744.99	[illegible]	729.22
PZ-37	46.90	[illegible]	11.02	[illegible]
PZ-38	50.12	799.45	[illegible]	768.16
PZ-39	[illegible]	[illegible]	[illegible]	[illegible]
PZ-40	[illegible]	[illegible]	[illegible]	[illegible]
PZ-41	[illegible]	[illegible]	[illegible]	[illegible]

Notes: Depths to water measured within a 24-hour period March 26-27, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing



NOTE:
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2. AERIAL IMAGE FROM 2018.

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PROJECT:
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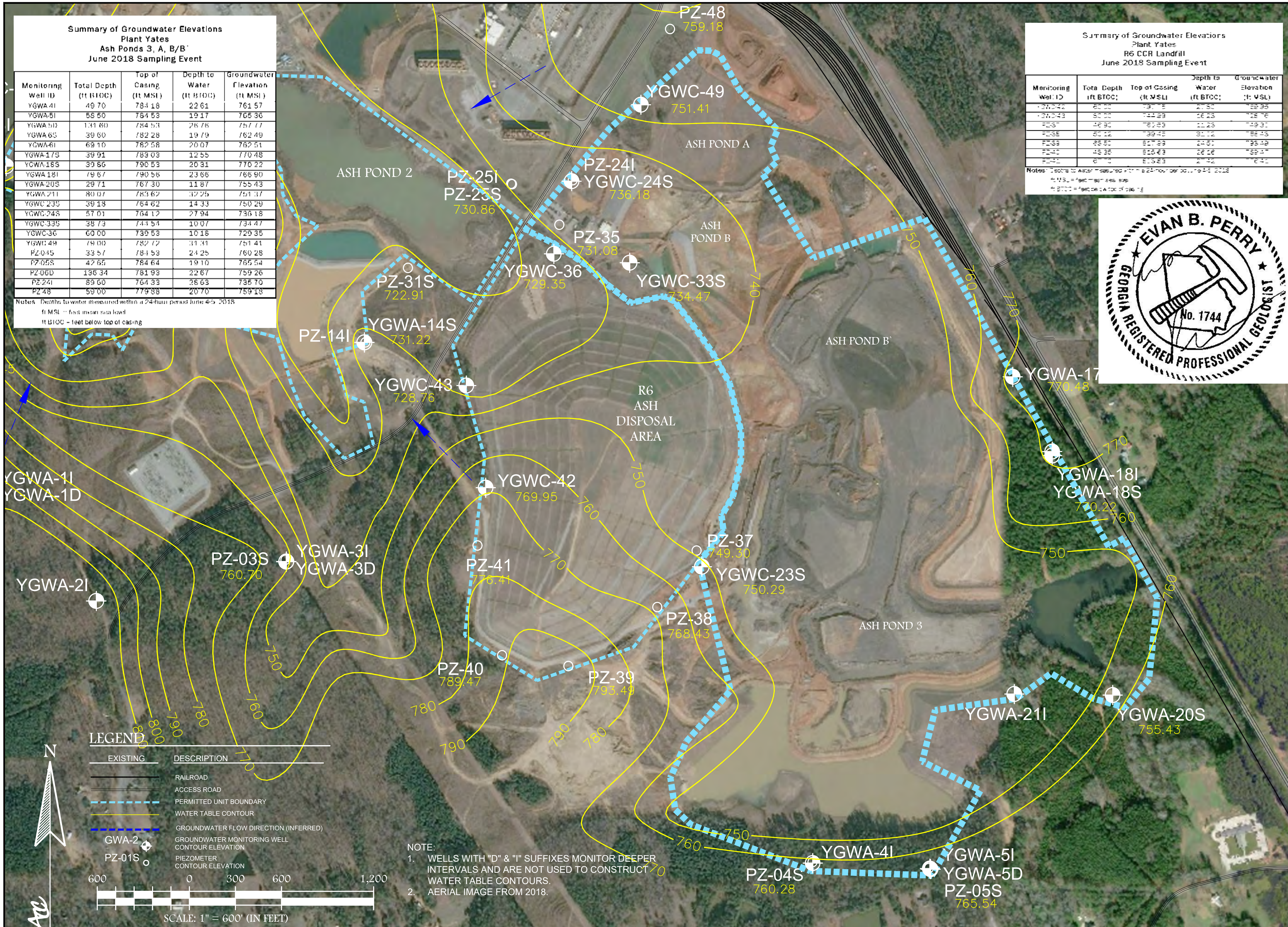
APRIL 2018 WATER TABLE CONTOUR MAP

FIGURE C-8



Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
June 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	22.61	761.57
YGWA-5I	58.50	784.53	19.17	765.36
YGWA-5D	131.60	784.53	26.76	757.77
YGWA-6S	39.60	782.28	19.79	762.49
YGWA-6I	69.10	782.58	20.07	762.51
YGWA-17S	39.91	783.03	12.55	770.48
YGWA-18S	39.86	790.53	20.31	770.22
YGWA-18I	79.67	790.56	23.66	766.90
YGWA-20S	29.71	767.30	11.87	755.43
YGWA-21I	80.07	783.62	32.25	751.37
YGWC-23S	39.18	764.62	14.33	750.29
YGWC-24S	57.01	764.12	27.94	736.18
YGWC-33S	38.73	744.54	10.07	734.47
YGWC-36	60.00	739.53	10.18	729.35
YGWC-49	79.00	782.72	31.31	751.41
PZ-04S	33.57	784.53	24.25	760.28
PZ-05S	42.65	784.64	19.10	765.54
PZ-06D	136.34	781.93	22.67	759.26
PZ-24I	89.60	764.33	28.63	735.70
PZ-48	59.00	779.88	20.70	759.18

Notes: Depths to water measured within a 24-hour period June 4-5, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
June 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	60.00	797.75	27.80	769.95
YGWC-43	50.00	744.99	16.23	728.76
PZ-37	46.90	760.53	11.23	749.30
PZ-38	50.12	799.43	31.00	768.43
PZ-39	25.50	817.99	24.50	793.49
PZ-40	45.35	815.63	26.16	789.47
PZ-41	67.70	803.83	27.42	776.41

Notes: Depths to water measured within a 24-hour period June 4-5, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing

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PROJECT:
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708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
I054-110
July 2018

JUNE 2018 WATER TABLE CONTOUR MAP

FIGURE C-9

NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B'
August 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.70	784.18	23.35	760.83
YGWA-5I	58.50	784.53	19.80	764.73
YGWA-5D	131.60	784.53	25.77	758.76
YGWA-6S	39.60	782.28	19.32	762.96
YGWA-6I	69.10	782.58	19.56	763.02
YGWA-17S	39.91	783.03	12.73	770.30
YGWA-18S	39.86	790.53	20.93	769.60
YGWA-18I	79.67	790.56	24.15	766.41
YGWA-20S	29.71	767.30	11.86	755.44
YGWA-21I	80.07	783.62	*	751.40
YGWC-23S	39.18	764.62	*	750.30
YGWC-24S	57.01	764.12	28.21	735.91
YGWC-33S	38.73	744.54	*	734.47
YGWC-36	60.00	739.53	*	729.39
YGWC-49	79.00	782.72	31.42	751.30
PZ-04S	33.57	784.53	24.93	759.60
PZ-05S	42.65	784.64	19.79	764.85
PZ-06D	136.34	781.93	22.32	759.61
PZ-24I	89.60	764.33	28.95	735.38
PZ-48	59.00	779.88	20.43	759.45

Notes: Depths to water measured within a 24 hour period August 6-7, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
* Depth to water recorded from transducer reading from 12:00pm June 7, 2018

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
August 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	*	[illegible]
[illegible]	[illegible]	[illegible]	*	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
I054-110
August 2018

AUGUST 2018 WATER TABLE CONTOUR MAP

FIGURE C-10

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B`
September 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWA-4I	49.76	784.18	23.97	760.21
YGWA-5I	58.50	784.53	20.61	763.92
YGWA-5D	131.60	784.53	26.28	758.25
YGWA 17S	39.01	783.03	14.10	768.93
YGWA 18S	39.86	790.53	21.85	768.68
YGWA-18I	79.67	790.56	25.03	765.53
YGWA-20S	29.71	767.30	12.68	754.62
YGWA-21I	80.07	783.62	*	752.06
YGWC-23S	39.58	784.62	*	746.57
YGWC 24S	57.01	764.12	28.87	735.25
YGWC 33S	38.73	744.54	*	729.88
YGWC-36	60.00	739.53	*	729.05
YGWC-49	79.00	782.72	31.66	751.06
PZ-04S	33.57	784.53	25.43	759.10
PZ-05S	42.65	784.64	20.63	764.01
YGWA 6S	39.60	762.28	20.24	762.04
YGWA 6I	69.10	762.58	20.53	762.05
PZ-06D	136.34	781.93	23.18	758.75
PZ-24I	89.60	761.33	29.56	734.77
PZ-48	59.00	779.88	21.07	758.81

Notes: Depths to water measured within a 24-hour period September 17, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
* Depth to water recorded from transducer reading from 11:00am, September 14, 2018

Summary of Groundwater Elevations
Plant Yates
R6 CCR Landfill
September 2018 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YGWC-42	69.00	797.75	29.31	768.44
YGWC-49	80.00	792.99	41.93	751.06
PZ-37	46.90	790.53	*	745.24
PZ-38	80.12	799.45	*	767.97
PZ-39	68.80	817.99	24.53	793.46
PZ-40	49.35	815.63	27.37	788.26
PZ-41	67.40	809.93	28.67	775.26

Notes: Depths to water measured within a 24-hour period September 17, 2018
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
* Depth to water recorded from transducer reading from 11:00am, September 14, 2018

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REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
I054-110
October 2018

SEPTEMBER 2018
WATER TABLE
CONTOUR MAP

FIGURE C-11

LEGEND

EXISTING	DESCRIPTION
	RAILROAD
	ACCESS ROAD
	PERMITTED UNIT BOUNDARY
	WATER TABLE CONTOUR
	GROUNDWATER FLOW DIRECTION (INFERRED)
GWA-2	GROUNDWATER MONITORING WELL CONTOUR ELEVATION
PZ-01S	PIEZOMETER CONTOUR ELEVATION

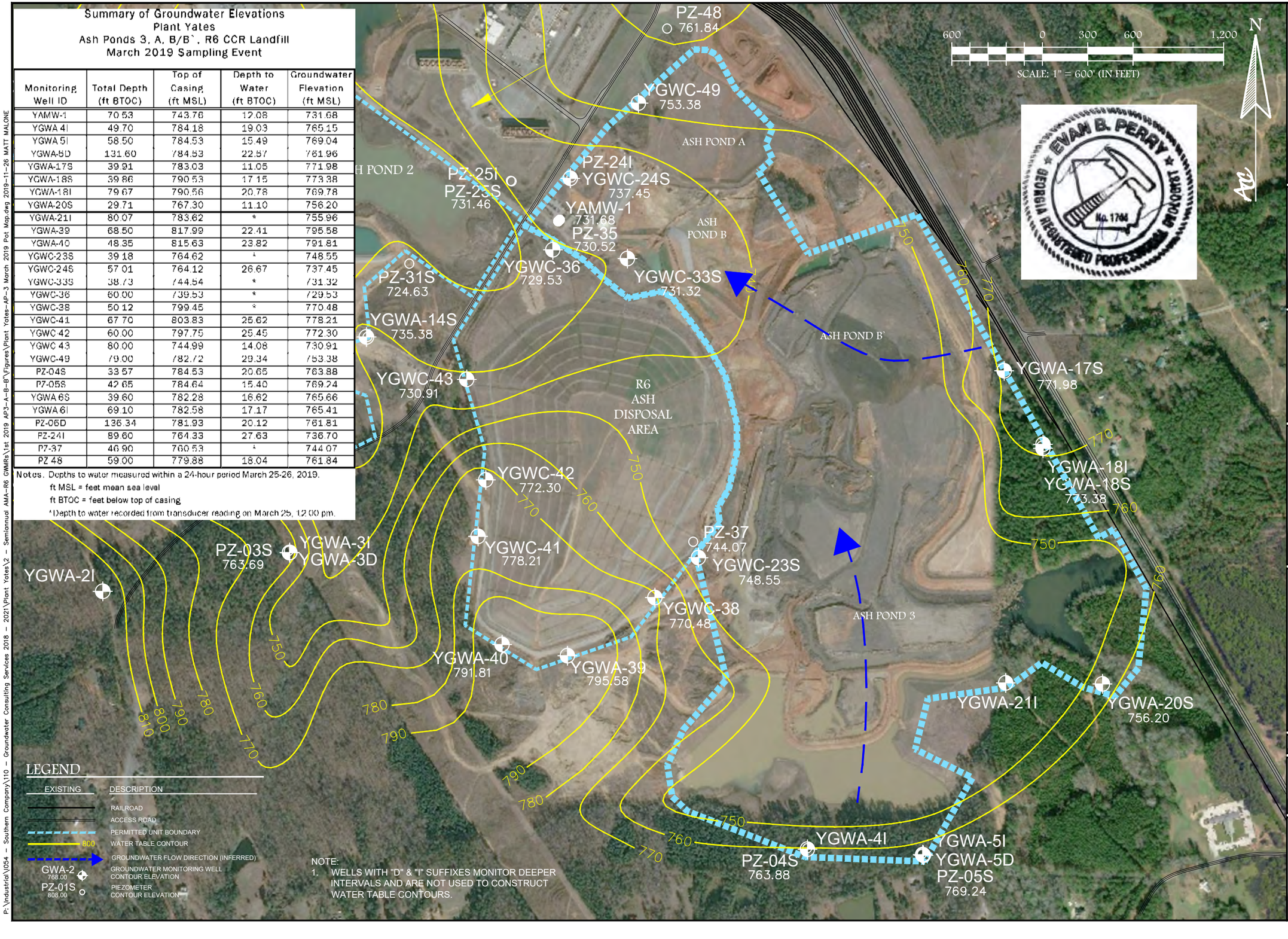
600 0 300 600 1,200
SCALE: 1" = 600' (IN FEET)

NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.
2. AERIAL IMAGE FROM 2018.

Summary of Groundwater Elevations
Plant Yates
Ash Ponds 3, A, B/B`, R6 CCR Landfill
March 2019 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YAMW-1	70.53	743.76	12.08	731.68
YGWA 4I	49.70	784.18	19.03	765.15
YGWA 5I	58.50	784.53	15.49	769.04
YGWA-5D	131.60	784.53	22.57	761.96
YGWA-17S	39.91	783.03	11.05	771.98
YGWA-18S	39.86	790.53	17.15	773.38
YGWA-18I	79.67	790.56	20.78	769.78
YGWA-20S	29.71	767.30	11.10	756.20
YGWA-21I	80.07	783.62	*	755.96
YGWA-39	68.50	817.99	22.41	795.58
YGWA-40	48.35	815.63	23.82	791.81
YGWC-23S	39.18	764.62	*	748.55
YGWC-24S	57.01	764.12	26.67	737.45
YGWC-33S	38.73	744.54	*	731.32
YGWC-36	60.00	739.53	*	729.53
YGWC-38	50.12	799.45	*	770.48
YGWC-41	67.70	803.83	25.62	778.21
YGWC 42	60.00	797.75	25.45	772.30
YGWC 43	80.00	744.99	14.08	730.91
YGWC-49	79.00	782.72	29.34	753.38
PZ-04S	33.57	784.53	20.65	763.88
PZ-05S	42.65	784.64	15.40	769.24
YGWA 6S	39.60	782.28	16.62	765.66
YGWA 6I	69.10	782.58	17.17	765.41
PZ-06D	136.34	781.93	20.12	761.81
PZ-24I	89.60	764.33	27.63	736.70
PZ-37	46.90	760.53	*	744.07
PZ 48	59.00	779.88	18.04	761.84

Notes. Depths to water measured within a 24-hour period March 25-26, 2019.
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
*Depth to water recorded from transducer reading on March 25, 12:00 pm.



LEGEND

EXISTING	DESCRIPTION
	RAILROAD
	ACCESS ROAD
	PERMITTED UNIT BOUNDARY
800	WATER TABLE CONTOUR
	GROUNDWATER FLOW DIRECTION (INFERRED)
GWA-2 768.00	GROUNDWATER MONITORING WELL CONTOUR ELEVATION
PZ-01S 808.00	PIEZOMETER CONTOUR ELEVATION

NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.

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NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
July 2019

MARCH 2019
WATER TABLE
CONTOUR MAP

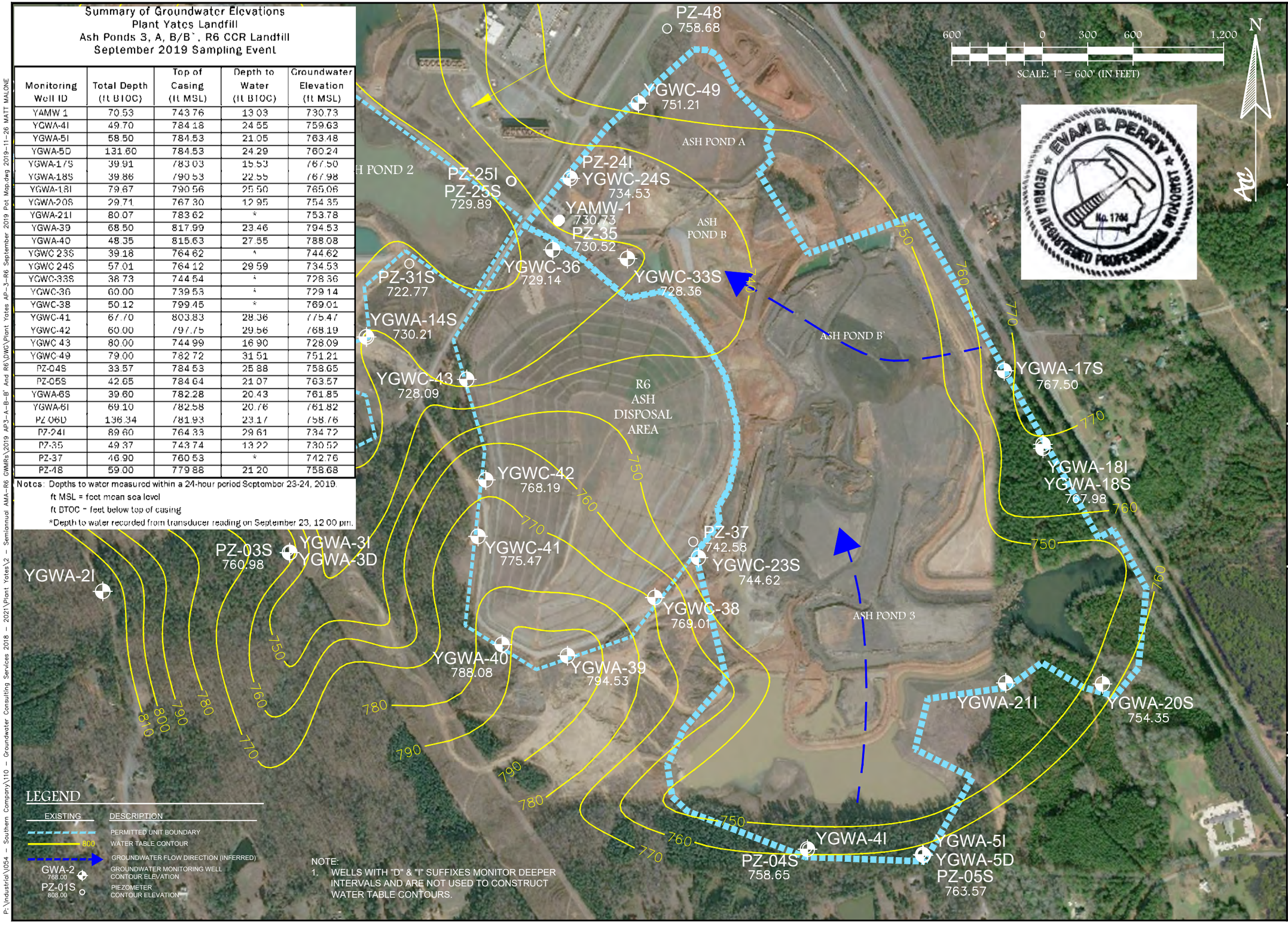
FIGURE C-12

P:\Industrial\0054 - Southern Company\110 - Groundwater Consulting Services 2018 - 2021\Plant Yates\2 - Semiannual AMA-R6 GWMPs\1st 2019 AP3-A-B-B`\Figures\Plant Yates-AP-3 March 2019 Pot Map.dwg 2019-11-26 MATT MALONE

Summary of Groundwater Elevations
Plant Yates Landfill
Ash Ponds 3, A, B/B`, R6 CCR Landfill
September 2019 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YAMW 1	70.53	743.76	13.03	730.73
YGWA-4I	49.70	784.18	24.55	759.63
YGWA-5I	58.50	784.53	21.05	763.48
YGWA-5D	131.60	784.53	24.29	760.24
YGWA-17S	39.91	783.03	15.53	767.50
YGWA-18S	39.86	790.53	22.55	767.98
YGWA-18I	79.67	790.56	25.50	765.06
YGWA-20S	29.71	767.30	12.95	754.35
YGWA-21I	80.07	783.62	*	753.78
YGWA-39	68.50	817.99	23.46	794.53
YGWA-40	48.35	815.63	27.55	788.08
YGWC 23S	39.18	764.62	*	744.62
YGWC 24S	57.01	764.12	29.59	734.53
YGWC-33S	38.73	744.54	*	728.36
YGWC-36	60.00	739.53	*	729.14
YGWC-38	50.12	799.45	*	769.01
YGWC-41	67.70	803.83	28.36	775.47
YGWC-42	60.00	797.75	29.56	768.19
YGWC 43	80.00	744.99	16.90	728.09
YGWC-49	79.00	782.72	31.51	751.21
PZ-04S	33.57	784.53	25.88	758.65
PZ-05S	42.65	784.64	21.07	763.57
YGWA-6S	39.60	782.28	20.43	761.85
YGWA-6I	69.10	782.58	20.76	761.82
PZ 06D	136.34	781.93	23.17	758.76
PZ-24I	89.60	764.33	29.61	734.72
PZ-35	49.37	743.74	13.22	730.52
PZ-37	46.90	760.53	*	742.76
PZ-48	59.00	779.88	21.20	758.68

Notes: Depths to water measured within a 24-hour period September 23-24, 2019.
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
*Depth to water recorded from transducer reading on September 23, 12:00 pm.



LEGEND

EXISTING	DESCRIPTION
	PERMITTED UNIT BOUNDARY
800	WATER TABLE CONTOUR
	GROUNDWATER FLOW DIRECTION (INFERRED)
GWA-2 768.00	GROUNDWATER MONITORING WELL CONTOUR ELEVATION
PZ-01S 808.00	PIEZOMETER CONTOUR ELEVATION

NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.

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PROJECT:
PLANT YATES

708 DYER ROAD
NEWNAN, GEORGIA

REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
October 2019

SEPTEMBER 2019
WATER TABLE
CONTOUR MAP

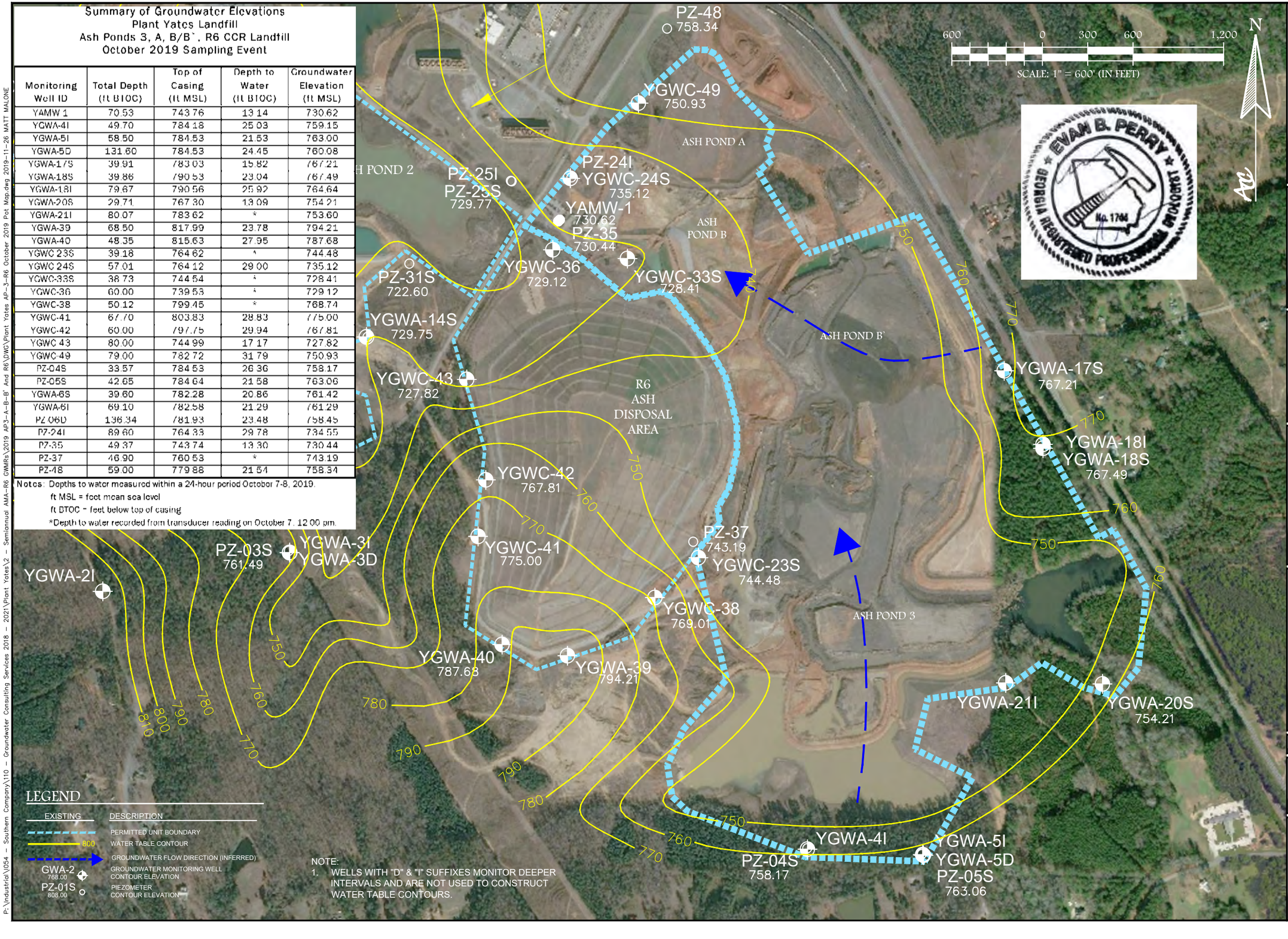
FIGURE C-13

P:\Industrial\1054 - Southern Company\110 - Groundwater Consulting Services 2018 - 2021\Plant Yates\2 - Semiannual AMA-R6 GWMRs\2019 AP3-A-B` And R6\DWG\Plant Yates AP-3-R6 September 2019 Pot Map.dwg 2019-11-26 MATT MALONE

Summary of Groundwater Elevations
Plant Yates Landfill
Ash Ponds 3, A, B/B`, R6 CCR Landfill
October 2019 Sampling Event

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
YAMW 1	70.53	743.76	13.14	730.62
YGWA-4I	49.70	784.18	25.03	759.15
YGWA-5I	58.50	784.53	21.53	763.00
YGWA-5D	131.60	784.53	24.45	760.08
YGWA-17S	39.91	783.03	15.82	767.21
YGWA-18S	39.86	790.53	23.04	767.49
YGWA-18I	79.67	790.56	25.92	764.64
YGWA-20S	29.71	767.30	13.09	754.21
YGWA-21I	80.07	783.62	*	753.60
YGWA-39	68.50	817.99	23.78	794.21
YGWA-40	48.35	815.63	27.95	787.68
YGWC 23S	39.18	764.62	*	744.48
YGWC 24S	57.01	764.12	29.00	735.12
YGWC-33S	38.73	744.54	*	728.41
YGWC-36	60.00	739.53	*	729.12
YGWC-38	50.12	799.45	*	768.74
YGWC-41	67.70	803.83	28.83	775.00
YGWC-42	60.00	797.75	29.94	767.81
YGWC 43	80.00	744.99	17.17	727.82
YGWC-49	79.00	782.72	31.79	750.93
PZ-04S	33.57	784.53	26.36	758.17
PZ-05S	42.65	784.64	21.58	763.06
YGWA-6S	39.60	782.28	20.86	761.42
YGWA-6I	69.10	782.58	21.29	761.29
PZ 06D	136.34	781.93	23.48	758.45
PZ-24I	89.60	764.33	29.78	734.55
PZ-35	49.37	743.74	13.30	730.44
PZ-37	46.90	760.53	*	743.19
PZ-48	59.00	779.88	21.54	758.34

Notes: Depths to water measured within a 24-hour period October 7-8, 2019.
ft MSL = feet mean sea level
ft BTOC = feet below top of casing
*Depth to water recorded from transducer reading on October 7, 12:00 pm.



LEGEND

EXISTING	DESCRIPTION
	PERMITTED UNIT BOUNDARY
800	WATER TABLE CONTOUR
	GROUNDWATER FLOW DIRECTION (INFERRED)
GWA-2 768.00	GROUNDWATER MONITORING WELL CONTOUR ELEVATION
PZ-01S 808.00	PIEZOMETER CONTOUR ELEVATION

NOTE:
1. WELLS WITH "D" & "I" SUFFIXES MONITOR DEEPER INTERVALS AND ARE NOT USED TO CONSTRUCT WATER TABLE CONTOURS.

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REVISIONS

Drawn by: MM
Checked by: EP

PROJECT NUMBER:
1054-110
November 2019

OCTOBER 2019
WATER TABLE
CONTOUR MAP

FIGURE C-14

P:\Industrial\1054 - Southern Company\110 - Groundwater Consulting Services 2018 - 2021\Plant Yates\2 - Semiannual AMA-R6 GWMRs\2019 AP3-A-B' And R6\DWG\Plant Yates AP-3-R6 October 2019 Pot Map.dwg 2019-11-26 MATT MALONE

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

710 720 730 740 750 760 770 780 790

PZ-06D 762.56
YGWA-6S 767.32
YGWA-6I 766.91
PZ-48* 782.45
YGWC-49 753.39
ASH POND A
ASH POND 2
PZ-24I 737.30
YGWC-24S 738.16
PZ-35 731.87
YAMW-1 732.09
YGWC-36* 730.07
YGWC-33S* 729.67
ASH POND B
ASH POND B'
YGWA-17S 773.66
YGWA-18S 774.53
YGWA-18I 770.70
PZ-51 738.48
YGWC-43* 731.01
R6 ASH DISPOSAL AREA
YAMW-3* 765.87
YGWC-42 773.42
YAMW-2 765.44
YAMW-4* 778.52
YGWC-41 779.68
PZ-37 747.85
YGWC-23S* 748.69
YGWC-38 771.20
YAMW-5* 774.58
ASH MANAGEMENT AREA
YGWA-40 794.28
YGWA-39 796.55
YGWA-21I 757.85
YGWA-20S 756.25
YGWA-4I 765.26
PZ-04S 763.98
PZ-05S 770.26
YGWA-5I 770.01
YGWA-5D 763.22

LEGEND

- SAPROLITE NETWORK MONITORING WELL LOCATION
- TRANSITION NETWORK MONITORING WELL LOCATION
- BEDROCK NETWORK MONITORING WELL LOCATION
- SAPROLITE NON-NETWORK WELL/PIEZOMETER
- TRANSITION NON-NETWORK WELL/PIEZOMETER
- BEDROCK NON-NETWORK WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- 773.31 GROUNDWATER ELEVATION (FEET)

NOTES:

1. * = DEPTH TO WATER RECORDED FROM TRANSDUCER READING ON MARCH 16 AT 12PM.

2. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

3. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

4. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

5. AERIAL IMAGE SOURCES: NOVEMBER 11, 2020 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2019 IMAGERY.

6. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power
PLANT YATES
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT – 2020

GROUNDWATER ELEVATION MAP MARCH 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE **C-15**

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

YGWA-6S 764.25
YGWA-6I 764.25
PZ-06D 760.59
PZ-48 779.89
YGWC-49 751.73
PZ-24IA 735.20
YGWC-24SA 736.23
PZ-35 728.37
YAMW-1 728.69
YGWC-36A
PZ-51 737.36
YGWC-43 729.85
YAMW-3 760.77
YGWC-42 770.38
YAMW-2 758.86
YGWC-41 777.01
YAMW-4 774.98
PZ-37 746.40
YGWC-23S 747.44
YAMW-5 776.06
YGWC-38 768.78
YGWA-40 790.29
YGWA-39 796.38
YGWA-17S 770.43
YGWA-18S 770.18
YGWA-18I 766.98
YGWA-21I 756.1
YGWA-20S 755.68
YGWA-4I 760.76
PZ-04S 759.30
PZ-05S 764.83
YGWA-5I 764.72
YGWA-5D 762.02

ASH POND 2
ASH POND A
ASH POND B
ASH POND B'
R6 ASH DISPOSAL AREA
ASH POND 3
ASH MANAGEMENT AREA

LEGEND

- SAPROLITE NETWORK MONITORING WELL LOCATION
- TRANSITION NETWORK MONITORING WELL LOCATION
- BEDROCK NETWORK MONITORING WELL LOCATION
- SAPROLITE NON-NETWORK WELL/PIEZOMETER
- TRANSITION NON-NETWORK WELL/PIEZOMETER
- BEDROCK NON-NETWORK WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- **773.31** GROUNDWATER ELEVATION (FEET)

NOTE:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. SAPROLITE WELL YGWC-36A NOT USED FOR CONTOURING, WELL WAS INSTALLED DURING THE SEPTEMBER 2020 MONITORING EVENT.

5. AERIAL IMAGE SOURCES: NOVEMBER 11, 2020 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2019 IMAGERY.

6. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power
PLANT YATES
ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT – 2020

GROUNDWATER ELEVATION MAP SEPTEMBER 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE **C-16**

PATH: T:_ENVGA_Power\GPC_Plant_Yates\MXD\2020\Annual_GW_Corrective_Action\F5_GWE_Sep2020_AAA_SAP_TRANS.mxd DATE SAVED: 1/27/2021 3:43:12 PM LAST SAVED BY: Idrum

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

740 750 760 770 730 720 710 710 720 730 740 750 760 770 780 790 800 800 790 780

PZ-06D 760.30
YGWA-6S 764.93
YGWA-6I 763.83
PZ-48 780.09
YGWC-49 751.01
FORMER ASH POND A
PZ-24IA 736.08
YGWC-24SA 737.00
ASH POND 2
PZ-35 732.56
YAMW-1 732.76
YGWC-36A 731.30
ASH POND B
ASH POND B'
YGWA-17S 771.20
PZ-51 736.94
YGWC-43 728.60
R6 ASH DISPOSAL AREA
YGWA-18S 771.02
YGWA-18I 767.67
YAMW-2 760.25
YAMW-3 760.59
YGWC-42 769.67
YAMW-4 774.50
YGWC-41 776.48
ASH POND 3
PZ-37 746.40
YGWC-23S 747.44
YGWC-38 768.78
YAMW-5 775.42
ASH MANAGEMENT AREA
YGWA-40 792.80
YGWA-39 800.82
YGWA-21I 756.10
YGWA-20S 755.93
PZ-04S 760.12
PZ-05S 765.95
YGWA-4I 761.59
YGWA-5I 765.79
YGWA-5D 762.76

LEGEND

- SAPROLITE NETWORK MONITORING WELL LOCATION
- TRANSITION NETWORK MONITORING WELL LOCATION
- BEDROCK NETWORK MONITORING WELL LOCATION
- SAPROLITE NON-NETWORK WELL/PIEZOMETER
- TRANSITION NON-NETWORK WELL/PIEZOMETER
- BEDROCK NON-NETWORK WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- 736.94 GROUNDWATER ELEVATION (FEET)

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: NOVEMBER 11, 2020 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2019 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2021 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP FEBRUARY 2021

ARCADIS

FIGURE
C-17

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

740 750 760 770 730 720 710 710 720 730 740 750 760 770 780 790 800 800 790 780

PZ-06D 760.80
YGWA-6S 764.60
YGWA-6I 764.48
PZ-48 780.48
YGWC-49 751.23
FORMER ASH POND A
PZ-24IA 736.65
YGWC-24SA 737.55
ASH POND 2
PZ-35 732.67
YAMW-1 733.03
YGWC-36A 730.86
ASH POND B
ASH POND B'
PZ-51 737.32
YGWC-43 728.81
R6 ASH DISPOSAL AREA
YGWA-17S 771.67
YGWA-18S 771.63
YGWA-18I 768.16
YAMW-3 761.47
YGWC-42 770.32
YAMW-2 761.29
YAMW-4 775.27
YGWC-41 777.04
PZ-37 746.40
YGWC-23S 747.44
YGWC-38 768.78
YAMW-5 775.87
ASH MANAGEMENT AREA
YGWA-40 793.34
YGWA-39 801.53
YGWA-21I 756.10
YGWA-20S 755.84
YGWA-4I 762.09
PZ-04S 760.51
PZ-05S 766.50
YGWA-5I 766.35
YGWA-5D 762.65

LEGEND

- SAPROLITE NETWORK MONITORING WELL LOCATION
- TRANSITION NETWORK MONITORING WELL LOCATION
- BEDROCK NETWORK MONITORING WELL LOCATION
- SAPROLITE NON-NETWORK WELL/PIEZOMETER
- TRANSITION NON-NETWORK WELL/PIEZOMETER
- BEDROCK NON-NETWORK WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- **773.31** GROUNDWATER ELEVATION (FEET)

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: NOVEMBER 11, 2020 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2019 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA
2021 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP MARCH 2021

ARCADIS

FIGURE **C-18**

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

740 750 760 770 730 720 710 730 720 710 740 750 760 770 780 790 800 800 790 780

PZ-06D 760.04
YGWA-6S 763.56
YGWA-6I 763.51
PZ-48 779.55
YGWC-49 750.62
FORMER ASH POND A
PZ-24IA 736.13
YGWC-24SA 737.28
ASH POND 2
PZ-35 733.57
YAMW-1 733.55
YGWC-36A 732.11
ASH POND B
ASH POND B'
PZ-51 734.58
YGWC-43 723.42
R6 ASH DISPOSAL AREA
YAMW-2 759.84
YAMW-3 759.74
YGWC-42 768.97
YAMW-4 773.70
YGWC-41 775.50
PZ-52D 756.90
PZ-53D 757.11
PZ-37 749.40
PZ-37D 756.90
YGWC-23S 748.63
YAMW-5 775.24
YGWC-38 769.29
ASH POND 3
ASH MANAGEMENT AREA
YGWA-40 793.02
YGWA-39 800.57
YGWA-17S 771.31
YGWA-18S 770.76
YGWA-18I 767.52
YGWA-21I 753.52
YGWA-20S 756.12
YGWA-4I 761.92
PZ-04S 760.45
PZ-05S 766.71
YGWA-5I 766.58
YGWA-5D 764.99

LEGEND

- SAPROLITE NETWORK MONITORING WELL LOCATION
- TRANSITION NETWORK MONITORING WELL LOCATION
- BEDROCK NETWORK MONITORING WELL LOCATION
- SAPROLITE NON-NETWORK WELL/PIEZOMETER
- TRANSITION NON-NETWORK WELL/PIEZOMETER
- BEDROCK NON-NETWORK WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- **757.11** GROUNDWATER ELEVATION (FEET)

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: JANUARY 10, 2022 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2019 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON FEBRUARY 7, 2022.

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2022 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP FEBRUARY 2022

ARCADIS

FIGURE
C-19

84°54'20"W 84°54'10"W 84°54'0"W 84°53'50"W 84°53'40"W 84°53'30"W 84°53'20"W 84°53'10"W 84°53'0"W 84°52'50"W 84°52'40"W

33°27'50"N
33°27'40"N
33°27'30"N
33°27'20"N
33°27'10"N
33°27'0"N
33°26'50"N

PZ-06D 758.88
YGWA-6S 761.95
YGWA-6I 761.97
PZ-48 778.02
YGWC-49 750.08
FORMER ASH POND A
ASH POND 2
PZ-35 731.51
YAMW-1 731.77
YGWC-36A 729.32
ASH POND B
ASH POND B'
PZ-51 734.88
YGWC-43 721.06
R6 ASH DISPOSAL AREA
YAMW-2 757.15
YAMW-3 759.02
YGWC-42 768.72
YAMW-4 773.26
YGWC-41 775.28
PZ-52D 756.68
PZ-53D 757.36
PZ-37 749.08
PZ-37D 757.30
YGWC-23S 748.16
YAMW-5 774.15
YGWC-38 769.69
ASH POND 3
ASH MANAGEMENT AREA
YGWA-40 792.09
YGWA-39 800.47
YGWA-17S 769.60
YGWA-18S 768.99
YGWA-18I 764.99
YGWA-21I 751.97
YGWA-20S 755.48
YGWA-4I 760.15
PZ-04S 758.71
PZ-05S 764.00
YGWA-5I 763.91
YGWA-5D 762.66

740 750 760 730 720 710 710 720 730 740 750 760 770 780 790 800 750 760 770 780 790 800

LEGEND

- SAPROLITE DETECTION MONITORING WELL LOCATION
- TRANSITION DETECTION MONITORING WELL LOCATION
- BEDROCK DETECTION MONITORING WELL LOCATION
- SAPROLITE ASSESSMENT WELL/PIEZOMETER
- TRANSITION ASSESSMENT WELL/PIEZOMETER
- BEDROCK ASSESSMENT WELL/PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- **757.11** GROUNDWATER ELEVATION (FEET)

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: AUGUST 30, 2022 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2021 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON AUGUST 29, 2022.

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

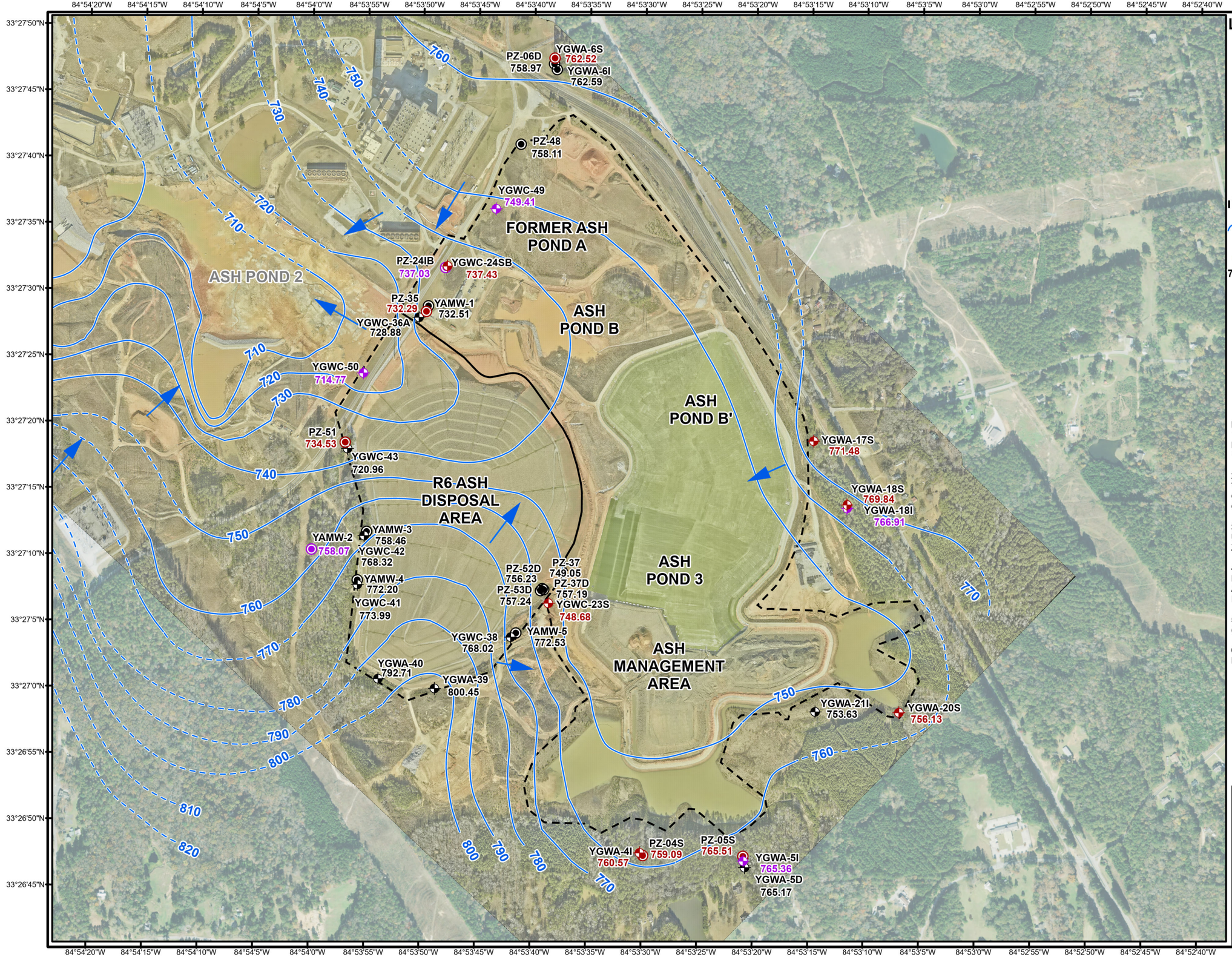
PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP AUGUST 2022

ARCADIS

FIGURE **C-20**



LEGEND

- SAPROLITE DETECTION MONITORING WELL LOCATION
- TRANSITION DETECTION MONITORING WELL LOCATION
- BEDROCK DETECTION MONITORING WELL LOCATION
- SAPROLITE ASSESSMENT WELL/ PIEZOMETER
- TRANSITION ASSESSMENT WELL/ PIEZOMETER
- BEDROCK ASSESSMENT WELL/ PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- 757.11 GROUNDWATER ELEVATION (FEET)

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: JANUARY 2023 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2021 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON FEBRUARY 6, 2023.

0 350 700 1,400

GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2023 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP FEBRUARY 2023

ARCADIS

FIGURE
C-21

84°54'20"W 84°54'15"W 84°54'10"W 84°54'5"W 84°54'0"W 84°53'55"W 84°53'50"W 84°53'45"W 84°53'40"W 84°53'35"W 84°53'30"W 84°53'25"W 84°53'20"W 84°53'15"W 84°53'10"W 84°53'5"W 84°53'0"W 84°52'55"W 84°52'50"W 84°52'45"W 84°52'40"W

33°27'50"N
33°27'45"N
33°27'40"N
33°27'35"N
33°27'30"N
33°27'25"N
33°27'20"N
33°27'15"N
33°27'10"N
33°27'5"N
33°27'0"N
33°26'55"N
33°26'50"N
33°26'45"N

PZ-06D 758.40
YGWA-6S 761.69
YGWA-6I 761.66
PZ-48 751.99
YGWC-49 750.33
FORMER ASH POND A
ASH POND 2
PZ-24IB 737.11
YGWC-24SB 737.55
PZ-35 732.03
YAMW-1 732.22
YGWC-36A 728.74
ASH POND B
YGWC-50 714.54
ASH POND B'
PZ-51 734.78
YGWC-43 720.68
R6 ASH DISPOSAL AREA
YAMW-2 757.34
YAMW-3 759.36
YGWC-42 769.06
YAMW-4 773.50
YGWC-41 775.62
PZ-52D 756.64
PZ-53D 757.82
PZ-37 749.79
PZ-37D 757.76
YGWC-23S 748.10
ASH POND 3
YGWC-38 770.01
YAMW-5 773.78
YGWA-40 792.03
YGWA-39 800.58
ASH MANAGEMENT AREA
YGWA-17S 768.67
YGWA-18S 762.60
YGWA-18I 765.67
YGWA-21I 751.90
YGWA-20S 755.58
YGWA-4I 759.94
PZ-04S 758.58
PZ-05S 764.05
YGWA-5I 763.96
YGWA-5D 763.64

760 750 740 730 720 710 770 760 750 740 730 720 710 750 760 770 780 790 800 810 820 800 790 780 770

LEGEND

- SAPROLITE DETECTION MONITORING WELL LOCATION
- TRANSITION DETECTION MONITORING WELL LOCATION
- BEDROCK DETECTION MONITORING WELL LOCATION
- SAPROLITE ASSESSMENT WELL/ PIEZOMETER
- TRANSITION ASSESSMENT WELL/ PIEZOMETER
- BEDROCK ASSESSMENT WELL/ PIEZOMETER
- PERMITTED UNIT BOUNDARY
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- 757.11 GROUNDWATER ELEVATION (FEET)

GEORGIA REGISTERED No. PE027801 PROFESSIONAL ENGINEER JON LEONARD

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: JULY 17, 2023 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2021 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON AUGUST 14, 2023.

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP AUGUST 2023

ARCADIS

FIGURE **C-22**

84°54'18"W 84°54'11"W 84°54'4"W 84°53'57"W 84°53'50"W 84°53'43"W 84°53'36"W 84°53'29"W 84°53'22"W 84°53'15"W 84°53'8"W 84°53'1"W 84°52'54"W 84°52'47"W 84°52'40"W

33°27'50"N
33°27'45"N
33°27'40"N
33°27'35"N
33°27'30"N
33°27'25"N
33°27'20"N
33°27'15"N
33°27'10"N
33°27'5"N
33°27'0"N
33°26'55"N
33°26'50"N
33°26'45"N

PZ-06D 757.28
YGWA-6S 760.45
YGWA-6I 760.71
PZ-48 756.52
YGWC-49 748.63
FORMER ASH POND A
ASH POND 2
PZ-24IB 736.86
YGWC-24SB 737.25
PZ-35 732.99
YAMW-1 733.17
YGWC-36A 729.86
ASH POND B
YGWC-50 722.09
ASH POND B'
PZ-51 733.78
YGWC-43 725.14
YGWA-17S 770.84
R6 ASH DISPOSAL AREA
PZ-55 742.52
PZ-56D 750.61
PZ-54D 666.64
YAMW-3 757.09
YGWC-42 767.90
YGWA-18S 768.46
YGWA-18I 765.79
YAMW-2 756.09
PZ-52D 756.26
PZ-53D 757.84
PZ-37 749.24
PZ-37D 757.76
YGWC-23S 748.32
ASH POND 3
YAMW-4 771.46
YGWC-41 773.52
YAMW-5 772.36
YGWC-38 767.78
ASH MANAGEMENT AREA
YGWA-40 790.74
YGWA-39 797.16
YGWA-21I 752.09
YGWA-20S 755.87
YGWA-4I 759.01
PZ-04S 757.63
PZ-05S 763.65
YGWA-5I 763.54
YGWA-5D 764.46

760 750 740 730 720 710 740 720 730 740 750 760 770 780 790 800 810 820 800 790 780 770 750 760 770

LEGEND

- SAPROLITE DETECTION MONITORING WELL LOCATION
- TRANSITION DETECTION MONITORING WELL LOCATION
- BEDROCK DETECTION MONITORING WELL LOCATION
- SAPROLITE ASSESSMENT WELL/ PIEZOMETER
- TRANSITION ASSESSMENT WELL/ PIEZOMETER
- BEDROCK ASSESSMENT WELL/ PIEZOMETER
- PERMITTED UNIT BOUNDARY
- GROUNDWATER FLOW DIRECTION
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- **757.11** GROUNDWATER ELEVATION (FEET)

GEORGIA REGISTERED No. PE027801 PROFESSIONAL ENGINEER GEOTECHNICAL

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: JANUARY 22, 2024 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2023 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON FEBRUARY 19, 2024.

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP FEBRUARY 2024

ARCADIS

FIGURE **C-23**

84°54'18"W 84°54'12"W 84°54'6"W 84°54'0"W 84°53'54"W 84°53'48"W 84°53'42"W 84°53'36"W 84°53'30"W 84°53'24"W 84°53'18"W 84°53'12"W 84°53'6"W 84°53'0"W 84°52'54"W 84°52'48"W 84°52'42"W

33°27'50"N
33°27'45"N
33°27'40"N
33°27'35"N
33°27'30"N
33°27'25"N
33°27'20"N
33°27'15"N
33°27'10"N
33°27'5"N
33°27'0"N
33°26'55"N
33°26'50"N
33°26'45"N

760 750 740 730 720 710 710 720 730 740 750 760 770 780 790 800 810 820 800 790 780 770 760 750

PZ-06D 758.33
YGWA-6S 761.45
YGWA-6I 761.48
PZ-48 757.27
YGWC-49 749.89
FORMER ASH POND A
PZ-24IB 739.05
YGWC-24SB 739.40
ASH POND 2
PZ-35 735.09
YAMW-1 735.25
YGWC-36A 731.89
ASH POND B
YGWC-50 724.06
ASH POND B'
PZ-51 736.40
YGWC-43 727.84
YGWA-17S 769.50
PZ-55 745.47
R6 ASH DISPOSAL AREA
PZ-56D 752.43
PZ-54D 691.74
YAMW-3 758.62
YGWC-42 768.52
YAMW-2 756.84
YGWA-18S 768.90
YGWA-18I 765.82
PZ-52D 756.42
PZ-53D 758.27
PZ-37 749.98
PZ-37D 758.27
YGWC-23S 748.26
ASH POND 3
YAMW-4 772.45
YGWC-41 774.59
YAMW-5 773.33
YGWC-38 769.51
ASH MANAGEMENT AREA
YGWA-40 790.81
YGWA-39 798.56
YGWA-21I 751.82
YGWA-20S 755.32
YGWA-4I 759.48
PZ-04S 758.11
PZ-05S 764.19
YGWA-5I 764.06
YGWA-5D 764.06

LEGEND

- SAPROLITE DETECTION MONITORING WELL LOCATION
- TRANSITION DETECTION MONITORING WELL LOCATION
- BEDROCK DETECTION MONITORING WELL LOCATION
- SAPROLITE ASSESSMENT WELL/ PIEZOMETER
- TRANSITION ASSESSMENT WELL/ PIEZOMETER
- BEDROCK ASSESSMENT WELL/ PIEZOMETER
- PERMITTED UNIT BOUNDARY
- GROUNDWATER FLOW DIRECTION
- APPROXIMATE POTENTIOMETRIC CONTOUR (FEET) DASHED WHERE INFERRED
- **757.11** GROUNDWATER ELEVATION (FEET)

GEORGIA REGISTERED No. PE027801 PROFESSIONAL ENGINEER JON CODY RAY

NOTES:

1. SHALLOW GROUNDWATER ELEVATIONS ARE DERIVED FROM SOIL COMPRISED OF SAPROLITE, RANGING FROM 15 - 60 FEET BELOW GROUND SURFACE.

2. BEDROCK WELLS YGWA-40, YGWA-39, YGWC-38, YGWC-41, YGWC-42 USED FOR CONTOURING. ALL OTHER BEDROCK WELLS NOT USED TO CREATE CONTOURS.

3. SAPROLITE WELL GROUNDWATER ELEVATIONS WERE USED FOR CONTOURING FOR SAPROLITE/TRANSITION ZONE/BEDROCK WELL CLUSTER LOCATIONS.

4. AERIAL IMAGE SOURCES: JANUARY 22, 2024; JUNE 20, 2024 IMAGERY FLOWN AND PROCESSED BY SAM LLC; NATIONAL AGRICULTURE IMAGERY PROGRAM (NAIP) 2023 IMAGERY.

5. ELEVATION IS PRESENTED IN U.S. SURVEY FEET (NAVD 1988).

6. GROUNDWATER ELEVATIONS COLLECTED ON AUGUST 19, 2024.

0 350 700 1,400
GRAPHIC SCALE IN FEET

COORDINATE SYSTEM: NAD 1983 STATEPLANE GEORGIA WEST FIPS 1002 FEET

Georgia Power

PLANT YATES AP-3, A, B, B', AND R6 CCR LANDFILL
NEWNAN, GA

2024 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

GROUNDWATER ELEVATION MAP AUGUST 2024

ARCADIS

FIGURE **C-24**

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-04S	33.57	784.53	27.41	757.12	10/31/2016
PZ-04S	33.57	784.53	27.50	757.03	1/9/2017
PZ-04S	33.57	784.53	26.09	758.44	2/20/2017
PZ-04S	33.57	784.53	24.89	759.64	4/25/2017
PZ-04S	33.57	784.53	25.20	759.33	6/26/2017
PZ-04S	33.57	784.53	26.22	758.31	10/2/2017
PZ-04S	33.57	784.53	26.45	758.08	1/9/2018
PZ-04S	33.57	784.53	24.57	759.96	3/26/2018
PZ-04S	33.57	784.53	24.25	760.28	6/4/2018
PZ-04S	33.57	784.53	24.93	759.60	8/6/2018
PZ-04S	33.57	784.53	25.43	759.10	9/17/2018
PZ-04S	33.57	784.53	21.45	763.08	2/25/2019
PZ-04S	33.57	784.53	20.65	763.88	3/25/2019
PZ-04S	33.57	784.53	24.59	759.94	8/19/2019
PZ-04S	33.57	784.53	25.88	758.65	9/23/2019
PZ-04S	33.57	784.53	26.36	758.17	10/7/2019
PZ-04S	33.57	784.25	24.18	760.07	2/10/2020
PZ-04S	33.57	784.25	20.27	763.98	3/16/2020
PZ-04S	33.57	784.25	24.95	759.30	9/21/2020
PZ-04S	32.75	784.25	24.13	760.12	2/8/2021
PZ-04S	32.75	784.25	23.74	760.51	3/2/2021
PZ-04S	32.75	784.25	24.79	759.46	8/17/2021
PZ-04S	32.75	784.25	23.80	760.45	2/7/2022
PZ-04S	32.75	784.25	25.54	758.71	8/29/2022
PZ-04S	32.75	784.25	25.16	759.09	2/6/2023
PZ-04S	32.75	784.25	25.67	758.58	8/14/2023
PZ-04S	32.75	784.25	26.62	757.63	2/19/2024
PZ-04S	32.75	784.25	26.14	758.11	8/19/2024
PZ-05S	42.65	784.64	22.37	762.27	10/31/2016
PZ-05S	42.65	784.64	22.10	762.54	1/9/2017
PZ-05S	42.65	784.64	20.20	764.44	2/20/2017
PZ-05S	42.65	784.64	18.71	765.93	4/25/2017
PZ-05S	42.65	784.64	19.80	764.84	6/26/2017
PZ-05S	42.65	784.64	21.32	763.32	10/2/2017
PZ-05S	42.65	784.64	21.65	762.99	1/9/2018
PZ-05S	42.65	784.64	19.09	765.55	3/26/2018
PZ-05S	42.65	784.64	19.10	765.54	6/4/2018
PZ-05S	42.65	784.64	19.79	764.85	8/6/2018
PZ-05S	42.65	784.64	20.63	764.01	9/17/2018
PZ-05S	42.65	784.64	15.62	769.02	2/25/2019
PZ-05S	42.65	784.64	15.40	769.24	3/25/2019

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-05S	42.65	784.64	19.69	764.95	8/19/2019
PZ-05S	42.65	784.64	21.07	763.57	9/23/2019
PZ-05S	42.65	784.64	21.58	763.06	10/7/2019
PZ-05S	42.65	784.64	18.25	766.39	2/10/2020
PZ-05S	42.65	784.64	14.38	770.26	3/16/2020
PZ-05S	42.65	784.64	19.81	764.83	9/21/2020
PZ-05S	41.94	784.64	18.69	765.95	2/8/2021
PZ-05S	41.94	784.64	18.14	766.50	3/2/2021
PZ-05S	41.94	784.64	19.55	765.09	8/17/2021
PZ-05S	41.94	784.64	18.14	766.50	2/7/2022
PZ-05S	41.94	784.64	20.64	764.00	8/29/2022
PZ-05S	41.94	784.64	19.13	765.51	2/6/2023
PZ-05S	41.94	784.64	20.59	764.05	8/14/2023
PZ-05S	41.94	784.64	20.99	763.65	2/19/2024
PZ-05S	41.94	784.64	20.45	764.19	8/19/2024
PZ-06D	136.34	781.93	25.09	756.84	10/31/2016
PZ-06D	136.34	781.93	25.44	756.49	1/9/2017
PZ-06D	136.34	781.93	24.72	757.21	2/20/2017
PZ-06D	136.34	781.93	24.67	757.26	4/25/2017
PZ-06D	136.34	781.93	24.08	757.85	6/26/2017
PZ-06D	136.34	781.93	23.65	758.28	10/2/2017
PZ-06D	136.34	781.93	24.00	757.93	1/9/2018
PZ-06D	136.34	781.93	22.88	759.05	3/26/2018
PZ-06D	136.34	781.93	22.67	759.26	6/4/2018
PZ-06D	136.34	781.93	22.32	759.61	8/6/2018
PZ-06D	136.34	781.93	23.18	758.75	9/17/2018
PZ-06D	136.34	781.93	20.37	761.56	2/25/2019
PZ-06D	136.34	781.93	20.12	761.81	3/25/2019
PZ-06D	136.34	781.93	22.16	759.77	8/19/2019
PZ-06D	136.34	781.93	23.17	758.76	9/23/2019
PZ-06D	136.34	781.93	23.48	758.45	10/7/2019
PZ-06D	136.34	782.02	21.81	760.21	2/10/2020
PZ-06D	136.34	782.02	19.46	762.56	3/16/2020
PZ-06D	136.34	782.02	21.43	760.59	9/21/2020
PZ-06D	134.02	782.02	21.72	760.30	2/8/2021
PZ-06D	134.02	782.02	21.22	760.80	3/2/2021
PZ-06D	134.02	782.02	22.31	759.71	8/17/2021
PZ-06D	134.02	782.02	21.98	760.04	2/7/2022
PZ-06D	134.02	782.02	23.14	758.88	8/29/2022
PZ-06D	134.02	782.02	23.05	758.97	2/6/2023
PZ-06D	134.02	782.02	23.62	758.40	8/14/2023

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-06D	134.02	782.02	24.74	757.28	2/19/2024
PZ-06D	134.02	782.02	23.69	758.33	8/19/2024
PZ-24I	89.60	764.33	24.85	739.48	10/31/2016
PZ-24I	89.60	764.33	29.08	735.25	1/9/2017
PZ-24I	89.60	764.33	29.32	735.01	2/20/2017
PZ-24I	89.60	764.33	29.21	735.12	4/25/2017
PZ-24I	89.60	764.33	29.01	735.32	6/26/2017
PZ-24I	89.60	764.33	29.00	735.33	10/2/2017
PZ-24I	89.60	764.33	29.12	735.21	1/9/2018
PZ-24I	89.60	764.33	28.48	735.85	3/26/2018
PZ-24I	89.60	764.33	28.63	735.70	6/4/2018
PZ-24I	89.60	764.33	28.95	735.38	8/6/2018
PZ-24I	89.60	764.33	29.56	734.77	9/17/2018
PZ-24I	89.60	764.33	27.49	736.84	2/25/2019
PZ-24I	89.60	764.33	27.63	736.70	3/25/2019
PZ-24I	89.60	764.33	29.04	735.29	8/19/2019
PZ-24I	89.60	764.33	29.61	734.72	9/23/2019
PZ-24I	89.60	764.33	29.78	734.55	10/7/2019
PZ-24I	89.60	764.33	28.29	736.04	2/11/2020
PZ-24I	89.60	764.33	27.03	737.30	3/16/2020
PZ-24IA	89.53	764.33	29.13	735.20	9/21/2020
PZ-24IA	89.53	764.33	28.25	736.08	2/8/2021
PZ-24IA	89.53	764.33	27.68	736.65	3/2/2021
PZ-24IA	89.53	764.33	28.82	735.51	8/16/2021
PZ-24IA	89.53	764.33	28.20	736.13	2/7/2022
PZ-24IB	73.42	764.92	27.89	737.03	2/6/2023
PZ-24IB	73.42	764.92	27.81	737.11	8/14/2023
PZ-24IB	73.42	764.92	28.06	736.86	2/19/2024
PZ-24IB	73.42	764.92	25.87	739.05	8/19/2024
PZ-35	49.37	743.74	11.81	731.93	2/25/2019
PZ-35	49.37	743.74	13.22	730.52	3/25/2019
PZ-35	49.37	743.74	12.94	730.80	8/19/2019
PZ-35	49.37	743.74	13.22	730.52	9/23/2019
PZ-35	49.37	743.74	13.30	730.44	10/7/2019
PZ-35	49.37	743.81	12.14	731.67	2/11/2020
PZ-35	49.37	743.81	11.94	731.87	3/16/2020
PZ-35	49.37	743.81	15.44	728.37	9/21/2020
PZ-35	50.01	743.81	11.25	732.56	2/8/2021
PZ-35	50.01	743.81	11.14	732.67	3/2/2021
PZ-35	50.01	743.81	13.04	730.77	8/16/2021
PZ-35	50.01	743.81	10.24	733.57	2/7/2022

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-35	50.01	743.81	12.30	731.51	8/29/2022
PZ-35	50.01	743.81	11.52	732.29	2/6/2023
PZ-35	50.01	743.81	11.78	732.03	8/14/2023
PZ-35	50.01	743.81	10.82	732.99	2/19/2024
PZ-35	50.01	743.81	8.72	735.09	8/19/2024
PZ-37	46.90	760.53	12.09	748.44	10/31/2016
PZ-37	46.90	760.53	12.08	748.45	1/9/2017
PZ-37	46.90	760.53	11.73	748.80	2/20/2017
PZ-37	46.90	760.53	11.58	748.95	4/25/2017
PZ-37	46.90	760.53	11.58	748.95	6/26/2017
PZ-37	46.90	760.53	11.39	749.14	10/2/2017
PZ-37	46.90	760.53	11.70	748.83	1/9/2018
PZ-37	46.90	760.53	11.02	749.51	3/26/2018
PZ-37	46.90	760.53	11.23	749.30	6/4/2018
PZ-37	46.90	760.53	*	749.49	7/7/2018
PZ-37	46.90	760.53	*	745.24	9/17/2018
PZ-37	46.90	760.53	*	744.22	2/25/2019
PZ-37	46.90	760.53	*	744.07	3/25/2019
PZ-37	46.90	760.53	*	744.07	8/19/2019
PZ-37	46.90	760.53	*	742.58	9/23/2019
PZ-37	46.90	760.53	*	743.19	10/7/2019
PZ-37	46.90	760.78	14.13*	746.65	2/11/2020
PZ-37	46.90	760.78	12.68*	748.10	3/16/2020
PZ-37	46.90	760.78	13.79	746.99	9/21/2020
PZ-37	49.78	760.78	12.55	748.23	2/8/2021
PZ-37	49.78	760.78	11.93	748.85	3/2/2021
PZ-37	49.78	760.78	11.74	749.04	8/16/2021
PZ-37	49.78	760.78	11.38	749.40	2/7/2022
PZ-37	49.78	760.78	11.70	749.08	8/29/2022
PZ-37	49.78	760.78	11.54	749.24	2/19/2024
PZ-37	49.78	760.78	10.80	749.98	8/19/2024
PZ-37D	202.30	761.12	5.86	755.26	8/16/2021
PZ-37D	202.30	761.12	4.22	756.90	2/7/2022
PZ-37D	202.30	761.12	3.82	757.30	8/29/2022
PZ-37D	202.30	761.12	3.93	757.19	2/6/2023
PZ-37D	202.30	761.12	3.36	757.76	8/14/2023
PZ-37D	202.30	761.12	3.36	757.76	2/19/2024
PZ-37D	202.30	761.12	2.85	758.27	8/19/2024
PZ-48	59.00	779.88	23.50	756.38	10/31/2016
PZ-48	59.00	779.88	24.68	755.20	1/9/2017
PZ-48	59.00	779.88	24.82	755.06	2/20/2017

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-48	59.00	779.88	24.61	755.27	4/25/2017
PZ-48	59.00	779.88	23.92	755.96	6/26/2017
PZ-48	59.00	779.88	21.96	757.92	10/2/2017
PZ-48	59.00	779.88	22.25	757.63	1/9/2018
PZ-48	59.00	779.88	20.68	759.20	3/26/2018
PZ-48	59.00	779.88	20.70	759.18	6/4/2018
PZ-48	59.00	779.88	20.43	759.45	8/6/2018
PZ-48	59.00	779.88	21.07	758.81	9/17/2018
PZ-48	59.00	779.88	18.14	761.74	2/25/2019
PZ-48	59.00	779.88	18.04	761.84	3/25/2019
PZ-48	59.00	779.88	20.23	759.65	8/19/2019
PZ-48	59.00	779.88	21.20	758.68	9/23/2019
PZ-48	59.00	779.88	21.54	758.34	10/7/2019
PZ-48	59.00	779.83	19.43	760.40	2/10/2020
PZ-48	59.00	779.83	17.38	762.45	3/16/2020
PZ-48	59.00	779.83	19.94	779.89	9/21/2020
PZ-48	58.73	779.83	19.74	760.09	2/8/2021
PZ-48	58.73	779.83	19.35	760.48	3/2/2021
PZ-48	58.73	799.83	20.50	779.33	8/16/2021
PZ-48	58.73	799.83	20.28	779.55	2/7/2022
PZ-48	58.73	799.83	21.81	778.02	8/29/2022
PZ-48	58.73	799.83	21.72	778.11	2/6/2023
PZ-48	58.73	799.83	21.84	777.99	8/14/2023
PZ-48	58.73	799.83	23.31	776.52	2/19/2024
PZ-48	58.73	799.83	22.56	777.27	8/19/2024
PZ-51	36.32	744.30	6.69	737.61	2/11/2020
PZ-51	36.32	744.30	5.82	738.48	3/16/2020
PZ-51	36.32	744.30	6.94	737.36	9/21/2020
PZ-51	36.32	744.30	7.36	736.94	2/8/2021
PZ-51	36.32	744.30	6.98	737.32	3/2/2021
PZ-51	36.32	744.30	10.06	734.24	8/16/2021
PZ-51	36.32	744.30	9.72	734.58	2/7/2022
PZ-51	36.32	744.30	9.42	734.88	8/29/2022
PZ-51	36.32	744.30	9.77	734.53	2/6/2023
PZ-51	36.32	744.30	9.52	734.78	8/14/2023
PZ-51	36.32	744.30	10.52	733.78	2/19/2024
PZ-51	36.32	744.30	7.90	736.40	8/19/2024
PZ-52D	94.89	762.79	6.09	756.70	11/4/2021
PZ-52D	94.89	762.79	5.89	756.90	2/7/2022
PZ-52D	94.89	762.79	6.11	756.68	8/29/2022
PZ-52D	94.89	762.79	6.56	756.23	2/6/2023

Notes:
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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
PZ-52D	94.89	762.79	6.15	756.64	8/14/2023
PZ-52D	94.89	762.79	6.53	756.26	2/19/2024
PZ-52D	94.89	762.79	6.37	756.42	8/19/2024
PZ-53D	162.90	762.80	5.69	757.11	2/7/2022
PZ-53D	162.90	762.80	5.44	757.36	8/29/2022
PZ-53D	162.90	762.80	5.56	757.24	2/6/2023
PZ-53D	162.90	762.80	4.98	757.82	8/14/2023
PZ-53D	162.90	762.80	4.96	757.84	2/19/2024
PZ-53D	162.90	762.80	4.53	758.27	8/19/2024
PZ-54D	137.36	795.56	128.92	666.64	2/19/2024
PZ-54D	137.36	795.56	103.82	691.74	8/19/2024
PZ-55	68.02	774.02	31.50	742.52	2/19/2024
PZ-55	68.02	774.02	28.55	745.47	8/19/2024
PZ-56D	198.36	795.56	44.95	750.61	2/19/2024
PZ-56D	198.36	795.56	43.13	752.43	8/19/2024
YAMW-1	69.66	743.76	11.54	732.22	2/25/2019
YAMW-1	69.66	743.76	12.08	731.68	3/25/2019
YAMW-1	69.66	743.76	12.74	731.02	8/19/2019
YAMW-1	69.66	743.76	13.03	730.73	9/23/2019
YAMW-1	69.66	743.76	13.14	730.62	10/7/2019
YAMW-1	69.66	743.83	11.99	731.84	2/11/2020
YAMW-1	69.66	743.83	11.74	732.09	3/16/2020
YAMW-1	69.66	743.83	15.14	728.69	9/21/2020
YAMW-1	69.93	743.83	11.07	732.76	2/8/2021
YAMW-1	69.93	743.83	10.80	733.03	3/2/2021
YAMW-1	69.93	743.83	12.73	731.10	8/16/2021
YAMW-1	69.93	743.83	10.28	733.55	2/7/2022
YAMW-1	69.93	743.83	12.06	731.77	8/29/2022
YAMW-1	69.93	743.83	11.32	732.51	2/6/2023
YAMW-1	69.93	743.83	11.61	732.22	8/14/2023
YAMW-1	69.93	743.83	10.66	733.17	2/19/2024
YAMW-1	69.93	743.84	8.58	735.26	8/19/2024
YAMW-2	46.48	781.04	18.60	762.44	2/11/2020
YAMW-2	46.48	781.04	15.60	765.44	3/16/2020
YAMW-2	46.48	781.04	22.18	758.86	9/21/2020
YAMW-2	46.48	781.04	20.79	760.25	2/8/2021
YAMW-2	46.48	781.04	19.75	761.29	3/2/2021
YAMW-2	46.48	781.04	22.29	758.75	8/16/2021
YAMW-2	46.48	781.04	21.20	759.84	2/7/2022
YAMW-2	46.48	781.04	23.89	757.15	8/29/2022
YAMW-2	46.48	781.04	22.97	758.07	2/6/2023

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YAMW-2	46.48	781.04	23.70	757.34	8/14/2023
YAMW-2	46.48	781.04	24.95	756.09	2/19/2024
YAMW-2	46.48	781.04	24.20	756.84	8/19/2024
YAMW-3	91.44	796.05	35.36	760.69	2/10/2020
YAMW-3	91.44	796.05	30.18	765.87	3/16/2020
YAMW-3	91.44	796.05	35.28	760.77	9/21/2020
YAMW-3	91.44	796.05	35.46	760.59	2/8/2021
YAMW-3	91.44	796.05	34.58	761.47	3/2/2021
YAMW-3	91.44	796.05	36.12	759.93	8/16/2021
YAMW-3	91.44	796.05	36.31	759.74	2/7/2022
YAMW-3	91.44	796.05	37.03	759.02	8/29/2022
YAMW-3	91.44	796.05	37.59	758.46	2/6/2023
YAMW-3	91.44	796.05	36.69	759.36	8/14/2023
YAMW-3	91.44	796.05	38.96	757.09	2/19/2024
YAMW-3	91.44	796.05	37.43	758.62	8/19/2024
YAMW-4	96.55	805.59	31.19	774.40	2/11/2020
YAMW-4	96.55	805.59	27.07	778.52	3/16/2020
YAMW-4	96.55	805.59	30.61	774.98	9/21/2020
YAMW-4	96.55	805.59	31.09	774.50	2/8/2021
YAMW-4	96.55	805.59	30.32	775.27	3/2/2021
YAMW-4	96.55	805.59	31.45	774.14	8/16/2021
YAMW-4	96.55	805.59	31.89	773.70	2/7/2022
YAMW-4	96.55	805.59	32.33	773.26	8/29/2022
YAMW-4	96.55	805.59	33.39	772.20	2/6/2023
YAMW-4	96.55	805.59	32.09	773.50	8/14/2023
YAMW-4	96.55	805.59	34.13	771.46	2/19/2024
YAMW-4	96.55	805.59	33.14	772.45	8/19/2024
YAMW-5	90.34	788.90	31.73	757.17	2/11/2020
YAMW-5	90.34	788.90	14.32	774.58	3/16/2020
YAMW-5	90.34	788.90	12.84	776.06	9/21/2020
YAMW-5	90.34	788.90	13.48	775.42	2/8/2021
YAMW-5	90.34	788.90	13.03	775.87	3/2/2021
YAMW-5	90.34	788.90	12.70	776.20	8/16/2021
YAMW-5	90.34	788.90	13.66	775.24	2/7/2022
YAMW-5	90.34	788.90	14.75	774.15	8/29/2022
YAMW-5	90.34	788.90	16.37	772.53	2/6/2023
YAMW-5	90.34	788.90	23.70	765.20	8/14/2023
YAMW-5	90.34	788.90	16.54	772.36	2/19/2024
YAMW-5	90.34	788.90	15.57	773.33	8/19/2024
YGWA-17S	39.91	783.03	15.98	767.05	10/31/2016
YGWA-17S	39.91	783.03	13.93	769.10	1/9/2017

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-17S	39.91	783.03	12.70	770.33	2/20/2017
YGWA-17S	39.91	783.03	12.53	770.50	4/25/2017
YGWA-17S	39.91	783.03	12.03	771.00	6/26/2017
YGWA-17S	39.91	783.03	12.94	770.09	10/2/2017
YGWA-17S	39.91	783.03	13.43	769.60	1/9/2018
YGWA-17S	39.91	783.03	11.95	771.08	3/26/2018
YGWA-17S	39.91	783.03	12.55	770.48	6/4/2018
YGWA-17S	39.91	783.03	12.73	770.30	8/6/2018
YGWA-17S	39.91	783.03	14.10	768.93	9/17/2018
YGWA-17S	39.91	783.03	10.02	773.01	2/25/2019
YGWA-17S	39.91	783.03	11.05	771.98	3/25/2019
YGWA-17S	39.91	783.03	14.63	768.40	8/19/2019
YGWA-17S	39.91	783.03	15.53	767.50	9/23/2019
YGWA-17S	39.91	783.03	15.82	767.21	10/7/2019
YGWA-17S	39.91	783.05	10.49	772.56	2/10/2020
YGWA-17S	39.91	783.05	9.39	773.66	3/16/2020
YGWA-17S	39.91	783.05	12.62	770.43	9/21/2020
YGWA-17S	39.85	783.05	11.85	771.20	2/8/2021
YGWA-17S	39.85	783.05	11.38	771.67	3/2/2021
YGWA-17S	39.85	783.05	13.30	769.75	8/16/2021
YGWA-17S	39.85	783.05	11.74	771.31	2/7/2022
YGWA-17S	39.85	783.05	13.45	769.60	8/29/2022
YGWA-17S	39.85	783.05	11.57	771.48	2/6/2023
YGWA-17S	39.85	783.05	14.38	768.67	8/14/2023
YGWA-17S	39.85	783.05	12.21	770.84	2/19/2024
YGWA-17S	39.85	783.05	13.55	769.50	8/19/2024
YGWA-18I	79.67	790.56	26.08	764.48	10/31/2016
YGWA-18I	79.67	790.56	25.86	764.70	1/9/2017
YGWA-18I	79.67	790.56	24.80	765.76	2/20/2017
YGWA-18I	79.67	790.56	24.10	766.46	4/25/2017
YGWA-18I	79.67	790.56	24.14	766.42	6/26/2017
YGWA-18I	79.67	790.56	24.65	765.91	10/2/2017
YGWA-18I	79.67	790.56	25.10	765.46	1/9/2018
YGWA-18I	79.67	790.56	23.53	767.03	3/26/2018
YGWA-18I	79.67	790.56	23.66	766.90	6/4/2018
YGWA-18I	79.67	790.56	24.15	766.41	8/6/2018
YGWA-18I	79.67	790.56	25.03	765.53	9/17/2018
YGWA-18I	79.67	790.56	20.92	769.64	2/25/2019
YGWA-18I	79.67	790.56	20.78	769.78	3/25/2019
YGWA-18I	79.67	790.56	24.37	766.19	8/19/2019
YGWA-18I	79.67	790.56	25.50	765.06	9/23/2019

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-18I	79.67	790.56	25.92	764.64	10/7/2019
YGWA-18I	79.67	790.57	22.57	768.00	2/10/2020
YGWA-18I	79.67	790.57	19.87	770.70	3/16/2020
YGWA-18I	79.67	790.57	23.59	766.98	9/21/2020
YGWA-18I	79.97	790.57	22.90	767.67	2/8/2021
YGWA-18I	79.97	790.57	22.41	768.16	3/2/2021
YGWA-18I	79.97	790.57	23.94	766.63	8/16/2021
YGWA-18I	79.97	790.57	23.05	767.52	2/7/2022
YGWA-18I	79.97	790.57	25.58	764.99	8/29/2022
YGWA-18I	79.97	790.57	23.66	766.91	2/6/2023
YGWA-18I	79.97	790.57	24.90	765.67	8/14/2023
YGWA-18I	79.97	790.57	24.78	765.79	2/19/2024
YGWA-18I	79.97	790.57	24.75	765.82	8/19/2024
YGWA-18S	39.86	790.53	23.76	766.77	10/31/2016
YGWA-18S	39.86	790.53	23.44	767.09	1/9/2017
YGWA-18S	39.86	790.53	22.14	768.39	2/20/2017
YGWA-18S	39.86	790.53	21.00	769.53	4/25/2017
YGWA-18S	39.86	790.53	21.07	769.46	6/26/2017
YGWA-18S	39.86	790.53	26.71	763.82	10/2/2017
YGWA-18S	39.86	790.53	21.97	768.56	1/9/2018
YGWA-18S	39.86	790.53	20.19	770.34	3/26/2018
YGWA-18S	39.86	790.53	20.31	770.22	6/4/2018
YGWA-18S	39.86	790.53	20.93	769.60	8/6/2018
YGWA-18S	39.86	790.53	21.85	768.68	9/17/2018
YGWA-18S	39.86	790.53	17.35	773.18	2/25/2019
YGWA-18S	39.86	790.53	17.15	773.38	3/25/2019
YGWA-18S	39.86	790.53	21.22	769.31	8/19/2019
YGWA-18S	39.86	790.53	22.55	767.98	9/23/2019
YGWA-18S	39.86	790.53	23.04	767.49	10/7/2019
YGWA-18S	39.86	790.57	19.43	771.14	2/10/2020
YGWA-18S	39.86	790.57	16.04	774.53	3/16/2020
YGWA-18S	39.86	790.57	20.39	770.18	9/21/2020
YGWA-18S	39.97	790.57	19.55	771.02	2/8/2021
YGWA-18S	39.97	790.57	18.94	771.63	3/2/2021
YGWA-18S	39.97	790.57	20.73	769.84	8/16/2021
YGWA-18S	39.97	790.57	19.81	770.76	2/7/2022
YGWA-18S	39.97	790.57	21.58	768.99	8/29/2022
YGWA-18S	39.97	790.57	20.73	769.84	2/6/2023
YGWA-18S	39.97	790.57	21.97	768.60	8/14/2023
YGWA-18S	39.97	790.57	22.11	768.46	2/19/2024
YGWA-18S	39.97	790.57	21.67	768.90	8/19/2024

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-20S	29.71	767.30	9.94	757.36	10/31/2016
YGWA-20S	29.71	767.30	9.78	757.52	1/9/2017
YGWA-20S	29.71	767.30	9.74	757.56	2/20/2017
YGWA-20S	29.71	767.30	9.85	757.45	4/25/2017
YGWA-20S	29.71	767.30	11.74	755.56	6/26/2017
YGWA-20S	29.71	767.30	12.38	754.92	10/2/2017
YGWA-20S	29.71	767.30	11.70	755.60	1/9/2018
YGWA-20S	29.71	767.30	11.60	755.70	3/26/2018
YGWA-20S	29.71	767.30	11.87	755.43	6/4/2018
YGWA-20S	29.71	767.30	11.86	755.44	8/6/2018
YGWA-20S	29.71	767.30	12.68	754.62	9/17/2018
YGWA-20S	29.71	767.30	11.01	756.29	2/25/2019
YGWA-20S	29.71	767.30	11.10	756.20	3/25/2019
YGWA-20S	29.71	767.30	12.46	754.84	8/19/2019
YGWA-20S	29.71	767.30	12.95	754.35	9/23/2019
YGWA-20S	29.71	767.30	13.09	754.21	10/7/2019
YGWA-20S	29.71	767.12	11.05	756.07	2/10/2020
YGWA-20S	29.71	767.12	10.87	756.25	3/16/2020
YGWA-20S	29.71	767.12	11.44	755.68	9/21/2020
YGWA-20S	29.52	767.12	11.19	755.93	2/8/2021
YGWA-20S	29.52	767.12	11.28	755.84	3/2/2021
YGWA-20S	29.52	767.12	11.08	756.04	8/17/2021
YGWA-20S	29.52	767.12	11.00	756.12	2/7/2022
YGWA-20S	29.52	767.12	11.00	756.12	8/29/2022
YGWA-20S	29.52	767.12	10.99	756.13	2/6/2023
YGWA-20S	29.52	767.12	11.54	755.58	8/14/2023
YGWA-20S	29.52	767.12	11.25	755.87	2/19/2024
YGWA-20S	29.52	767.12	11.80	755.32	8/19/2024
YGWA-21I	80.07	783.62	31.29	752.33	10/31/2016
YGWA-21I	80.07	783.62	31.30	752.32	1/9/2017
YGWA-21I	80.07	783.62	30.94	752.68	2/20/2017
YGWA-21I	80.07	783.62	30.96	752.66	4/25/2017
YGWA-21I	80.07	783.62	30.77	752.85	6/26/2017
YGWA-21I	80.07	783.62	32.90	750.72	10/2/2017
YGWA-21I	80.07	783.62	33.25	750.37	1/9/2018
YGWA-21I	80.07	783.62	32.24	751.38	3/26/2018
YGWA-21I	80.07	783.62	32.25	751.37	6/4/2018
YGWA-21I	80.07	783.62	*	751.40	7/7/2018
YGWA-21I	80.07	783.62	*	752.06	9/14/2018
YGWA-21I	80.07	783.62	*	755.51	2/25/2019
YGWA-21I	80.07	783.62	*	755.96	3/25/2019

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-21I	80.07	783.62	*	755.96	8/19/2019
YGWA-21I	80.07	783.62	*	753.78	9/23/2019
YGWA-21I	80.07	783.62	*	753.60	10/7/2019
YGWA-21I	80.07	783.70	27.52*	756.18	2/11/2020
YGWA-21I	80.07	783.70	25.77*	757.93	3/16/2020
YGWA-21I	80.07	783.70	31.29	756.10	9/21/2020
YGWA-21I	79.90	783.70	31.21	752.49	2/8/2021
YGWA-21I	79.90	783.70	31.10	752.60	3/2/2021
YGWA-21I	79.90	783.70	21.50	762.20	8/17/2021
YGWA-21I	79.90	783.70	30.18	753.52	2/7/2022
YGWA-21I	79.90	783.70	31.73	751.97	8/29/2022
YGWA-21I	79.90	783.70	30.07	753.63	2/6/2023
YGWA-21I	79.90	783.70	31.80	751.90	8/14/2023
YGWA-21I	79.90	783.70	31.61	752.09	2/19/2024
YGWA-21I	79.90	783.70	31.88	751.82	8/19/2024
YGWA-39	68.50	817.99	24.94	793.05	10/31/2016
YGWA-39	68.50	817.99	26.58	791.41	1/9/2017
YGWA-39	68.50	817.99	26.38	791.61	2/20/2017
YGWA-39	68.50	817.99	26.17	791.82	4/25/2017
YGWA-39	68.50	817.99	25.82	792.17	6/26/2017
YGWA-39	68.50	817.99	24.80	793.19	10/2/2017
YGWA-39	68.50	817.99	25.20	792.79	1/9/2018
YGWA-39	68.50	817.99	24.80	793.19	3/26/2018
YGWA-39	68.50	817.99	24.50	793.49	6/4/2018
YGWA-39	68.50	817.99	24.33	793.66	8/6/2018
YGWA-39	68.50	817.99	24.53	793.46	9/17/2018
YGWA-39	68.50	817.99	24.15	793.84	2/25/2019
YGWA-39	68.50	817.99	22.41	795.58	3/25/2019
YGWA-39	68.50	817.99	22.88	795.11	8/19/2019
YGWA-39	68.50	817.99	23.46	794.53	9/23/2019
YGWA-39	68.50	817.99	23.78	794.21	10/7/2019
YGWA-39	68.50	818.19	23.45	794.74	2/11/2020
YGWA-39	68.50	818.19	21.64	796.55	3/16/2020
YGWA-39	68.50	818.19	21.81	796.38	9/21/2020
YGWA-39	68.59	818.19	17.37	800.82	2/8/2021
YGWA-39	68.59	818.19	16.66	801.53	3/2/2021
YGWA-39	68.59	818.19	16.63	801.56	8/16/2021
YGWA-39	68.59	818.19	17.62	800.57	2/7/2022
YGWA-39	68.59	818.19	17.72	800.47	8/29/2022
YGWA-39	68.59	818.19	17.74	800.45	2/6/2023
YGWA-39	68.59	818.19	17.61	800.58	8/14/2023

Notes:
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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-39	68.59	818.19	21.03	797.16	2/19/2024
YGWA-39	68.59	818.19	19.63	798.56	8/19/2024
YGWA-40	48.35	815.63	29.19	786.44	10/31/2016
YGWA-40	48.35	815.63	29.48	786.15	1/9/2017
YGWA-40	48.35	815.63	28.53	787.10	2/20/2017
YGWA-40	48.35	815.63	27.46	788.17	4/25/2017
YGWA-40	48.35	815.63	27.27	788.36	6/26/2017
YGWA-40	48.35	815.63	27.46	788.17	10/2/2017
YGWA-40	48.35	815.63	27.60	788.03	1/9/2018
YGWA-40	48.35	815.63	25.75	789.88	3/26/2018
YGWA-40	48.35	815.63	26.16	789.47	6/4/2018
YGWA-40	48.35	815.63	26.65	788.98	8/6/2018
YGWA-40	48.35	815.63	27.37	788.26	9/17/2018
YGWA-40	48.35	815.63	23.89	791.74	2/25/2019
YGWA-40	48.35	815.63	23.82	791.81	3/25/2019
YGWA-40	48.35	815.63	26.54	789.09	8/19/2019
YGWA-40	48.35	815.63	27.55	788.08	9/23/2019
YGWA-40	48.35	815.63	27.95	787.68	10/7/2019
YGWA-40	48.35	815.73	24.90	790.83	2/11/2020
YGWA-40	48.35	815.73	21.45	794.28	3/16/2020
YGWA-40	48.35	815.73	25.44	790.29	9/21/2020
YGWA-40	48.23	815.73	22.93	792.80	2/8/2021
YGWA-40	48.23	815.73	22.39	793.34	3/2/2021
YGWA-40	48.23	815.73	23.18	792.55	8/16/2021
YGWA-40	48.23	815.73	22.71	793.02	2/7/2022
YGWA-40	48.23	815.73	23.64	792.09	8/29/2022
YGWA-40	48.23	815.73	23.02	792.71	2/6/2023
YGWA-40	48.23	815.73	23.70	792.03	8/14/2023
YGWA-40	48.23	815.73	24.99	790.74	2/19/2024
YGWA-40	48.23	815.73	24.92	790.81	8/19/2024
YGWA-4I	49.70	784.18	26.06	758.12	10/31/2016
YGWA-4I	49.70	784.18	26.13	758.05	1/9/2017
YGWA-4I	49.70	784.18	24.72	759.46	2/20/2017
YGWA-4I	49.70	784.18	23.43	760.75	4/25/2017
YGWA-4I	49.70	784.18	23.67	760.51	6/26/2017
YGWA-4I	49.70	784.18	24.61	759.57	10/2/2017
YGWA-4I	49.70	784.18	24.80	759.38	1/9/2018
YGWA-4I	49.70	784.18	22.88	761.30	3/26/2018
YGWA-4I	49.70	784.18	22.61	761.57	6/4/2018
YGWA-4I	49.70	784.18	23.35	760.83	8/6/2018
YGWA-4I	49.70	784.18	23.97	760.21	9/17/2018

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-4I	49.70	784.18	19.79	764.39	2/25/2019
YGWA-4I	49.70	784.18	19.03	765.15	3/25/2019
YGWA-4I	49.70	784.18	23.17	761.01	8/19/2019
YGWA-4I	49.70	784.18	24.55	759.63	9/23/2019
YGWA-4I	49.70	784.18	25.03	759.15	10/7/2019
YGWA-4I	49.70	784.21	22.66	761.55	2/10/2020
YGWA-4I	49.70	784.21	18.95	765.26	3/16/2020
YGWA-4I	49.70	784.21	23.45	760.76	9/21/2020
YGWA-4I	48.81	784.21	22.62	761.59	2/8/2021
YGWA-4I	48.81	784.21	22.12	762.09	3/2/2021
YGWA-4I	48.81	784.21	23.32	760.89	8/17/2021
YGWA-4I	48.81	784.21	22.29	761.92	2/7/2022
YGWA-4I	48.81	784.21	24.06	760.15	8/29/2022
YGWA-4I	48.81	784.21	23.64	760.57	2/6/2023
YGWA-4I	48.81	784.21	24.27	759.94	8/14/2023
YGWA-4I	48.81	784.21	25.20	759.01	2/19/2024
YGWA-4I	48.81	784.21	24.73	759.48	8/19/2024
YGWA-5D	131.60	784.53	15.21	769.32	10/31/2016
YGWA-5D	131.60	784.53	15.60	768.93	1/9/2017
YGWA-5D	131.60	784.53	14.14	770.39	2/20/2017
YGWA-5D	131.60	784.53	15.52	769.01	4/25/2017
YGWA-5D	131.60	784.53	26.64	757.89	6/26/2017
YGWA-5D	131.60	784.53	28.99	755.54	10/2/2017
YGWA-5D	131.60	784.53	28.15	756.38	1/9/2018
YGWA-5D	131.60	784.53	27.24	757.29	3/26/2018
YGWA-5D	131.60	784.53	26.76	757.77	6/4/2018
YGWA-5D	131.60	784.53	25.77	758.76	8/6/2018
YGWA-5D	131.60	784.53	26.28	758.25	9/17/2018
YGWA-5D	131.60	784.53	23.91	760.62	2/25/2019
YGWA-5D	131.60	784.53	22.57	761.96	3/25/2019
YGWA-5D	131.60	784.53	23.32	761.21	8/19/2019
YGWA-5D	131.60	784.53	24.29	760.24	9/23/2019
YGWA-5D	131.60	784.53	24.45	760.08	10/7/2019
YGWA-5D	131.60	784.53	22.81	761.72	2/10/2020
YGWA-5D	131.60	784.53	21.31	763.22	3/16/2020
YGWA-5D	131.60	784.53	22.51	762.02	9/21/2020
YGWA-5D	129.13	784.53	21.77	762.76	2/8/2021
YGWA-5D	129.13	784.53	21.88	762.65	3/2/2021
YGWA-5D	129.13	784.53	22.23	762.30	8/17/2021
YGWA-5D	129.13	784.53	19.54	764.99	2/7/2022
YGWA-5D	129.13	784.53	21.87	762.66	8/29/2022

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-5D	129.13	784.53	19.36	765.17	2/6/2023
YGWA-5D	129.13	784.53	20.89	763.64	8/14/2023
YGWA-5D	129.13	784.53	20.07	764.46	2/19/2024
YGWA-5D	129.13	784.53	20.47	764.06	8/19/2024
YGWA-5I	58.50	784.53	22.24	762.29	10/31/2016
YGWA-5I	58.50	784.53	22.03	762.50	1/9/2017
YGWA-5I	58.50	784.53	20.18	764.35	2/20/2017
YGWA-5I	58.50	784.53	18.72	765.81	4/25/2017
YGWA-5I	58.50	784.53	19.89	764.64	6/26/2017
YGWA-5I	58.50	784.53	21.32	763.21	10/2/2017
YGWA-5I	58.50	784.53	21.66	762.87	1/9/2018
YGWA-5I	58.50	784.53	19.13	765.40	3/26/2018
YGWA-5I	58.50	784.53	19.17	765.36	6/4/2018
YGWA-5I	58.50	784.53	19.80	764.73	8/6/2018
YGWA-5I	58.50	784.53	20.61	763.92	9/17/2018
YGWA-5I	58.50	784.53	15.75	768.78	2/25/2019
YGWA-5I	58.50	784.53	15.49	769.04	3/25/2019
YGWA-5I	58.50	784.53	19.68	764.85	8/19/2019
YGWA-5I	58.50	784.53	21.05	763.48	9/23/2019
YGWA-5I	58.50	784.53	21.53	763.00	10/7/2019
YGWA-5I	58.50	784.54	18.33	766.21	2/10/2020
YGWA-5I	58.50	784.54	14.53	770.01	3/16/2020
YGWA-5I	58.50	784.54	19.82	764.72	9/21/2020
YGWA-5I	58.94	784.54	18.75	765.79	2/8/2021
YGWA-5I	58.94	784.54	18.19	766.35	3/2/2021
YGWA-5I	58.94	784.54	19.57	764.97	8/17/2021
YGWA-5I	58.94	784.54	17.96	766.58	2/7/2022
YGWA-5I	58.94	784.54	20.63	763.91	8/29/2022
YGWA-5I	58.94	784.54	19.18	765.36	2/6/2023
YGWA-5I	58.94	784.54	20.58	763.96	8/14/2023
YGWA-5I	58.94	784.54	21.00	763.54	2/19/2024
YGWA-5I	58.94	784.54	20.48	764.06	8/19/2024
YGWA-6I	69.10	782.58	22.74	759.84	10/31/2016
YGWA-6I	69.10	782.58	23.23	759.35	1/9/2017
YGWA-6I	69.10	782.58	22.31	760.27	2/20/2017
YGWA-6I	69.10	782.58	21.99	760.59	4/25/2017
YGWA-6I	69.10	782.58	21.50	761.08	6/26/2017
YGWA-6I	69.10	782.58	20.59	761.99	10/2/2017
YGWA-6I	69.10	782.58	21.75	760.83	1/9/2018
YGWA-6I	69.10	782.58	20.13	762.45	3/26/2018
YGWA-6I	69.10	782.58	20.07	762.51	6/4/2018

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-6I	69.10	782.58	19.56	763.02	8/6/2018
YGWA-6I	69.10	782.58	20.53	762.05	9/17/2018
YGWA-6I	69.10	782.58	17.12	765.46	2/25/2019
YGWA-6I	69.10	782.58	17.17	765.41	3/25/2019
YGWA-6I	69.10	782.58	19.61	762.97	8/19/2019
YGWA-6I	69.10	782.58	20.76	761.82	9/23/2019
YGWA-6I	69.10	782.58	21.29	761.29	10/7/2019
YGWA-6I	69.10	782.73	17.74	764.99	2/10/2020
YGWA-6I	69.10	782.73	15.82	766.91	3/16/2020
YGWA-6I	69.10	782.73	18.48	764.25	9/21/2020
YGWA-6I	69.03	782.73	18.90	763.83	2/8/2021
YGWA-6I	69.03	782.73	18.25	764.48	3/2/2021
YGWA-6I	69.03	782.73	4.05	778.68	8/16/2021
YGWA-6I	69.03	782.73	19.22	763.51	2/7/2022
YGWA-6I	69.03	782.73	20.76	761.97	8/29/2022
YGWA-6I	69.03	782.73	19.95	762.78	2/6/2023
YGWA-6I	69.03	782.73	21.07	761.66	8/14/2023
YGWA-6I	69.03	782.73	22.02	760.71	2/19/2024
YGWA-6I	69.03	782.73	21.25	761.48	8/19/2024
YGWA-6S	39.60	782.28	22.43	759.85	10/31/2016
YGWA-6S	39.60	782.28	23.02	759.26	1/9/2017
YGWA-6S	39.60	782.28	21.98	760.30	2/20/2017
YGWA-6S	39.60	782.28	21.58	760.70	4/25/2017
YGWA-6S	39.60	782.28	21.26	761.02	6/26/2017
YGWA-6S	39.60	782.28	20.27	762.01	10/2/2017
YGWA-6S	39.60	782.28	21.48	760.80	1/9/2018
YGWA-6S	39.60	782.28	19.80	762.48	3/26/2018
YGWA-6S	39.60	782.28	19.79	762.49	6/4/2018
YGWA-6S	39.60	782.28	19.32	762.96	8/6/2018
YGWA-6S	39.60	782.28	20.24	762.04	9/17/2018
YGWA-6S	39.60	782.28	16.66	765.62	2/25/2019
YGWA-6S	39.60	782.28	16.62	765.66	3/25/2019
YGWA-6S	39.60	782.28	19.27	763.01	8/19/2019
YGWA-6S	39.60	782.28	20.43	761.85	9/23/2019
YGWA-6S	39.60	782.28	20.86	761.42	10/7/2019
YGWA-6S	39.60	782.47	17.40	765.07	2/10/2020
YGWA-6S	39.60	782.47	15.15	767.32	3/16/2020
YGWA-6S	39.60	782.47	18.22	764.25	9/21/2020
YGWA-6S	39.87	782.47	17.54	764.93	2/8/2021
YGWA-6S	39.87	782.47	17.87	764.60	3/2/2021
YGWA-6S	39.87	782.47	18.92	763.55	8/17/2021

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWA-6S	39.87	782.47	18.91	763.56	2/7/2022
YGWA-6S	39.87	782.47	20.52	761.95	8/29/2022
YGWA-6S	39.87	782.47	20.14	762.33	2/6/2023
YGWA-6S	39.87	782.47	20.78	761.69	8/14/2023
YGWA-6S	39.87	782.47	22.02	760.45	2/19/2024
YGWA-6S	39.87	782.47	21.02	761.45	8/19/2024
YGWC-19S	30.43	764.48	18.12	746.36	10/31/2016
YGWC-19S	30.43	764.48	14.52	749.96	1/9/2017
YGWC-19S	30.43	764.48	16.02	748.46	2/20/2017
YGWC-19S	30.43	764.48	16.13	748.35	4/25/2017
YGWC-19S	30.43	764.48	15.55	748.93	6/26/2017
YGWC-19S	30.43	764.48	15.61	748.87	10/2/2017
YGWC-19S	30.43	764.48	15.58	748.90	1/9/2018
YGWC-22S	40.11	751.60	10.30	741.30	10/31/2016
YGWC-22S	40.11	751.60	9.62	741.98	1/9/2017
YGWC-22S	40.11	751.60	9.41	742.19	2/20/2017
YGWC-22S	40.11	751.60	9.32	742.28	4/25/2017
YGWC-22S	40.11	751.60	8.86	742.74	6/26/2017
YGWC-22S	40.11	751.60	8.97	742.63	10/2/2017
YGWC-22S	40.11	751.60	8.94	742.66	1/9/2018
YGWC-23S	39.18	764.62	17.45	747.17	10/31/2016
YGWC-23S	39.18	764.62	15.52	749.10	1/9/2017
YGWC-23S	39.18	764.62	14.91	749.71	2/20/2017
YGWC-23S	39.18	764.62	15.07	749.55	4/25/2017
YGWC-23S	39.18	764.62	14.46	750.16	6/26/2017
YGWC-23S	39.18	764.62	14.91	749.71	10/2/2017
YGWC-23S	39.18	764.62	15.22	749.40	1/9/2018
YGWC-23S	39.18	764.62	14.05	750.57	3/26/2018
YGWC-23S	39.18	764.62	14.33	750.29	6/4/2018
YGWC-23S	39.18	764.62	*	750.30	7/7/2018
YGWC-23S	39.18	764.62	*	746.57	9/14/2018
YGWC-23S	39.18	764.62	*	749.43	2/25/2019
YGWC-23S	39.18	764.62	*	748.55	3/25/2019
YGWC-23S	39.18	764.62	*	748.55	8/19/2019
YGWC-23S	39.18	764.62	*	744.62	9/23/2019
YGWC-23S	39.18	764.62	*	744.48	10/7/2019
YGWC-23S	39.18	764.91	17.18*	747.73	2/11/2020
YGWC-23S	39.18	764.91	15.93*	748.98	3/16/2020
YGWC-23S	39.18	764.91	17.61	747.44	9/21/2020
YGWC-23S	38.91	764.95	16.95	748.00	2/8/2021
YGWC-23S	38.91	764.95	16.59	748.36	3/2/2021

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Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-23S	38.91	764.95	16.72	748.23	8/25/2021
YGWC-23S	38.91	764.95	16.32	748.63	2/7/2022
YGWC-23S	38.91	764.95	16.79	748.16	8/29/2022
YGWC-23S	38.91	764.95	16.23	748.72	2/6/2023
YGWC-23S	38.91	764.95	16.81	748.14	8/14/2023
YGWC-23S	38.91	764.95	16.59	748.36	2/19/2024
YGWC-23S	38.91	764.95	16.65	748.30	8/19/2024
YGWC-24S	57.01	764.12	29.14	734.98	10/31/2016
YGWC-24S	57.01	764.12	29.00	735.12	1/9/2017
YGWC-24S	57.01	764.12	28.59	735.53	2/20/2017
YGWC-24S	57.01	764.12	28.49	735.63	4/25/2017
YGWC-24S	57.01	764.12	28.30	735.82	6/26/2017
YGWC-24S	57.01	764.12	28.36	735.76	10/2/2017
YGWC-24S	57.01	764.12	28.56	735.56	1/9/2018
YGWC-24S	57.01	764.12	27.95	736.17	3/26/2018
YGWC-24S	57.01	764.12	27.94	736.18	6/4/2018
YGWC-24S	57.01	764.12	28.21	735.91	8/6/2018
YGWC-24S	57.01	764.12	28.87	735.25	9/17/2018
YGWC-24S	57.01	764.12	26.56	737.56	2/25/2019
YGWC-24S	57.01	764.12	26.67	737.45	3/25/2019
YGWC-24S	57.01	764.12	28.23	735.89	8/19/2019
YGWC-24S	57.01	764.12	29.59	734.53	9/23/2019
YGWC-24S	57.01	764.12	29.00	735.12	10/7/2019
YGWC-24S	57.01	764.12	27.53	736.59	2/11/2020
YGWC-24S	57.01	764.12	25.96	738.16	3/16/2020
YGWC-24SA	57.00	765.00	28.77	736.23	9/21/2020
YGWC-24SA	57.00	765.00	28.00	737.00	2/8/2021
YGWC-24SA	57.00	765.00	27.45	737.55	3/2/2021
YGWC-24SA	57.00	765.00	28.21	736.79	8/16/2021
YGWC-24SA	57.00	765.00	27.72	737.28	2/7/2022
YGWC-24SB	57.79	764.89	27.46	737.43	2/6/2023
YGWC-24SB	57.79	764.89	27.34	737.55	8/14/2023
YGWC-24SB	57.79	764.89	27.64	737.25	2/19/2024
YGWC-24SB	57.79	764.89	25.49	739.40	8/19/2024
YGWC-32I	39.97	758.21	20.12	738.09	10/31/2016
YGWC-32I	39.97	758.21	19.65	738.56	1/9/2017
YGWC-32I	39.97	758.21	19.60	738.61	2/20/2017
YGWC-32I	39.97	758.21	8.72	749.49	4/25/2017
YGWC-32I	39.97	758.21	19.21	739.00	6/26/2017
YGWC-32I	39.97	758.21	14.44	743.77	10/2/2017
YGWC-32I	39.97	758.21	19.20	739.01	1/9/2018

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-32S	22.90	757.31	17.24	740.07	10/31/2016
YGWC-32S	22.90	757.31	16.69	740.62	1/9/2017
YGWC-32S	22.90	757.31	16.52	740.79	2/20/2017
YGWC-32S	22.90	757.31	19.70	737.61	4/25/2017
YGWC-32S	22.90	757.31	16.65	740.66	6/26/2017
YGWC-32S	22.90	757.31	8.57	748.74	10/2/2017
YGWC-32S	22.90	757.31	16.55	740.76	1/9/2018
YGWC-33S	38.73	744.54	9.49	735.05	10/31/2016
YGWC-33S	38.73	744.54	8.75	735.79	1/9/2017
YGWC-33S	38.73	744.54	8.53	736.01	2/20/2017
YGWC-33S	38.73	744.54	8.86	735.68	5/3/2017
YGWC-33S	38.73	744.54	8.28	736.26	6/26/2017
YGWC-33S	38.73	744.54	8.38	736.16	10/2/2017
YGWC-33S	38.73	744.54	8.27	736.27	1/9/2018
YGWC-33S	38.73	744.54	9.75	734.79	3/26/2018
YGWC-33S	38.73	744.54	10.07	734.47	6/4/2018
YGWC-33S	38.73	744.54	*	734.47	7/7/2018
YGWC-33S	38.73	744.54	*	729.88	9/14/2018
YGWC-33S	38.73	744.54	*	732.07	2/25/2019
YGWC-33S	38.73	744.54	*	731.32	3/25/2019
YGWC-33S	38.73	744.54	*	731.32	8/19/2019
YGWC-33S	38.73	744.54	*	728.36	9/23/2019
YGWC-33S	38.73	744.54	*	728.41	10/7/2019
YGWC-33S	38.73	744.54	15.41*	729.13	2/11/2020
YGWC-33S	38.73	744.54	14.87*	729.67	3/16/2020
YGWC-34I	38.69	773.67	25.29	749.75	10/31/2016
YGWC-34I	38.69	773.67	25.61	748.06	1/9/2017
YGWC-34I	38.69	773.67	24.64	749.03	2/20/2017
YGWC-34I	38.69	773.67	23.92	749.75	4/25/2017
YGWC-34I	38.69	773.67	23.60	750.07	6/26/2017
YGWC-34I	38.69	773.67	24.23	749.44	10/2/2017
YGWC-34I	38.69	773.67	25.08	748.59	1/9/2018
YGWC-36	60.00	739.53	10.67	728.86	10/31/2016
YGWC-36	60.00	739.53	10.30	729.23	1/9/2017
YGWC-36	60.00	739.53	9.99	729.54	2/20/2017
YGWC-36	60.00	739.53	10.39	729.14	4/25/2017
YGWC-36	60.00	739.53	9.86	729.67	6/26/2017
YGWC-36	60.00	739.53	10.23	729.30	10/2/2017
YGWC-36	60.00	739.53	10.20	729.33	1/9/2018
YGWC-36	60.00	739.53	10.16	729.37	3/26/2018
YGWC-36	60.00	739.53	10.18	729.35	6/4/2018

Notes:
1. * = indicates depth to water recorded from transducer.
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3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-36	60.00	739.53	*	729.39	7/7/2018
YGWC-36	60.00	739.53	*	729.05	9/14/2018
YGWC-36	60.00	739.53	*	729.88	2/25/2019
YGWC-36	60.00	739.53	*	729.53	3/25/2019
YGWC-36	60.00	739.53	*	729.53	8/19/2019
YGWC-36	60.00	739.53	*	729.14	9/23/2019
YGWC-36	60.00	739.53	*	729.12	10/7/2019
YGWC-36	60.00	739.61	9.28*	730.33	2/11/2020
YGWC-36	60.00	739.61	9.46*	730.15	3/16/2020
YGWC-36A	51.20	740.88	9.58	731.30	2/8/2021
YGWC-36A	51.20	740.88	10.02	730.86	3/2/2021
YGWC-36A	51.20	740.88	12.60	728.28	8/16/2021
YGWC-36A	51.20	740.88	8.77	732.11	2/7/2022
YGWC-36A	51.20	740.88	11.56	729.32	8/29/2022
YGWC-36A	51.20	740.88	10.73	730.15	2/6/2023
YGWC-36A	51.20	740.88	10.87	730.01	8/14/2023
YGWC-36A	51.20	740.88	9.75	731.13	2/19/2024
YGWC-36A	51.20	740.88	7.72	733.16	8/19/2024
YGWC-38	50.12	799.45	30.53	768.92	10/31/2016
YGWC-38	50.12	799.45	31.49	767.96	1/9/2017
YGWC-38	50.12	799.45	31.30	768.15	2/20/2017
YGWC-38	50.12	799.45	31.56	767.89	4/25/2017
YGWC-38	50.12	799.45	31.85	767.60	6/26/2017
YGWC-38	50.12	799.45	31.51	767.94	10/2/2017
YGWC-38	50.12	799.45	32.15	767.30	1/9/2018
YGWC-38	50.12	799.45	31.29	768.16	3/26/2018
YGWC-38	50.12	799.45	31.02	768.43	6/4/2018
YGWC-38	50.12	799.45	*	768.45	7/7/2018
YGWC-38	50.12	799.45	*	767.97	9/17/2018
YGWC-38	50.12	799.45	*	769.88	2/25/2019
YGWC-38	50.12	799.45	*	770.48	3/25/2019
YGWC-38	50.12	799.45	*	770.48	8/19/2019
YGWC-38	50.12	799.45	*	769.01	9/23/2019
YGWC-38	50.12	799.45	*	768.74	10/7/2019
YGWC-38	50.12	799.69	30.67*	769.02	2/11/2020
YGWC-38	50.12	799.69	28.25*	771.44	3/16/2020
YGWC-38	50.12	799.69	29.82	768.78	9/21/2020
YGWC-38	49.59	799.69	30.75	768.94	2/8/2021
YGWC-38	49.59	799.69	30.42	769.27	3/2/2021
YGWC-38	49.59	799.69	29.75	768.78	8/16/2021
YGWC-38	49.59	799.69	30.40	769.29	2/7/2022

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-38	49.59	799.69	30.00	769.69	8/29/2022
YGWC-38	49.59	799.69	31.67	768.02	2/6/2023
YGWC-38	49.59	799.69	29.68	770.01	8/14/2023
YGWC-38	49.59	799.69	31.91	767.78	2/19/2024
YGWC-38	49.59	799.69	30.18	769.51	8/19/2024
YGWC-41	67.70	803.83	28.54	775.29	10/31/2016
YGWC-41	67.70	803.83	29.58	774.25	1/9/2017
YGWC-41	67.70	803.83	29.15	774.68	2/20/2017
YGWC-41	67.70	803.83	28.24	775.59	4/25/2017
YGWC-41	67.70	803.83	28.24	775.59	6/26/2017
YGWC-41	67.70	803.83	28.41	775.42	10/2/2017
YGWC-41	67.70	803.83	29.47	774.36	1/9/2018
YGWC-41	67.70	803.83	27.88	775.95	3/26/2018
YGWC-41	67.70	803.83	27.42	776.41	6/4/2018
YGWC-41	67.70	803.83	27.85	775.98	8/6/2018
YGWC-41	67.70	803.83	28.57	775.26	9/17/2018
YGWC-41	67.70	803.83	28.23	775.60	2/25/2019
YGWC-41	67.70	803.83	25.62	778.21	3/25/2019
YGWC-41	67.70	803.83	27.20	776.63	8/19/2019
YGWC-41	67.70	803.83	28.36	775.47	9/23/2019
YGWC-41	67.70	803.83	28.83	775.00	10/7/2019
YGWC-41	67.70	803.92	27.90	776.02	2/11/2020
YGWC-41	67.70	803.92	24.24	779.68	3/16/2020
YGWC-41	67.70	803.92	26.91	777.01	9/21/2020
YGWC-41	66.82	803.92	27.44	776.48	2/8/2021
YGWC-41	66.82	803.92	26.88	777.04	3/2/2021
YGWC-41	66.82	803.92	27.68	776.24	8/16/2021
YGWC-41	66.82	803.92	28.42	775.50	2/7/2022
YGWC-41	66.82	803.92	28.64	775.28	8/29/2022
YGWC-41	66.82	803.92	29.93	773.99	2/6/2023
YGWC-41	66.82	803.92	28.30	775.62	8/14/2023
YGWC-41	66.82	803.92	30.40	773.52	2/19/2024
YGWC-41	66.82	803.92	29.33	774.59	8/19/2024
YGWC-42	60.00	797.75	28.78	768.97	10/31/2016
YGWC-42	60.00	797.75	28.78	768.97	10/31/2016
YGWC-42	60.00	797.75	29.33	768.42	1/9/2017
YGWC-42	60.00	797.75	28.65	769.10	2/20/2017
YGWC-42	60.00	797.75	27.88	769.87	4/25/2017
YGWC-42	60.00	797.75	28.07	769.68	6/26/2017
YGWC-42	60.00	797.75	28.60	769.15	10/2/2017
YGWC-42	60.00	797.75	29.53	768.22	1/9/2018

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-42	60.00	797.75	27.98	769.77	3/26/2018
YGWC-42	60.00	797.75	27.80	769.95	6/4/2018
YGWC-42	60.00	797.75	28.77	768.98	8/6/2018
YGWC-42	60.00	797.75	29.31	768.44	9/17/2018
YGWC-42	60.00	797.75	28.99	768.76	2/25/2019
YGWC-42	60.00	797.75	25.45	772.30	3/25/2019
YGWC-42	60.00	797.75	28.46	769.29	8/19/2019
YGWC-42	60.00	797.75	29.56	768.19	9/23/2019
YGWC-42	60.00	797.75	29.94	767.81	10/7/2019
YGWC-42	60.00	797.86	27.65	770.21	2/11/2020
YGWC-42	60.00	797.86	24.44	773.42	3/16/2020
YGWC-42	60.00	797.86	27.48	770.38	9/21/2020
YGWC-42	59.76	797.86	28.19	769.67	2/8/2021
YGWC-42	59.76	797.86	27.54	770.32	3/2/2021
YGWC-42	59.76	797.86	28.62	769.24	8/16/2021
YGWC-42	59.76	797.86	28.89	768.97	2/7/2022
YGWC-42	59.76	797.86	29.14	768.72	8/29/2022
YGWC-42	59.76	797.86	29.54	768.32	2/6/2023
YGWC-42	59.76	797.86	28.80	769.06	8/14/2023
YGWC-42	59.76	797.86	29.96	767.90	2/19/2024
YGWC-42	59.76	797.86	29.34	768.52	8/19/2024
YGWC-43	80.00	744.99	15.17	729.82	10/31/2016
YGWC-43	80.00	744.99	14.51	730.48	1/9/2017
YGWC-43	80.00	744.99	14.36	730.63	2/20/2017
YGWC-43	80.00	744.99	14.27	730.72	4/25/2017
YGWC-43	80.00	744.99	13.98	731.01	6/26/2017
YGWC-43	80.00	744.99	15.33	729.66	10/2/2017
YGWC-43	80.00	744.99	15.97	729.02	1/9/2018
YGWC-43	80.00	744.99	15.77	729.22	3/26/2018
YGWC-43	80.00	744.99	16.23	728.76	6/4/2018
YGWC-43	80.00	744.99	15.95	729.04	8/6/2018
YGWC-43	80.00	744.99	16.23	728.76	9/17/2018
YGWC-43	80.00	744.99	13.79	731.20	2/25/2019
YGWC-43	80.00	744.99	14.08	730.91	3/25/2019
YGWC-43	80.00	744.99	15.74	729.25	8/19/2019
YGWC-43	80.00	744.99	16.90	728.09	9/23/2019
YGWC-43	80.00	744.99	17.17	727.82	10/7/2019
YGWC-43	80.00	744.96	14.48	730.48	2/11/2020
YGWC-43	80.00	744.96	13.95	731.01	3/16/2020
YGWC-43	80.00	744.96	15.11	729.85	9/21/2020
YGWC-43	79.66	744.96	16.36	728.60	2/8/2021

Notes:
1. * = indicates depth to water recorded from transducer.
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3. ft BTOC = feet below top of casing.

Historical Groundwater Elevations
Plant Yates
R6 CCR Landfill - Ash Management Area

Monitoring Well ID	Total Depth (ft BTOC)	Top of Casing (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)	Date (m/d/yyyy)
YGWC-43	79.66	744.96	16.15	728.81	3/2/2021
YGWC-43	79.66	744.96	22.69	722.27	8/16/2021
YGWC-43	79.66	744.96	21.54	723.42	2/7/2022
YGWC-43	79.66	744.96	23.90	721.06	8/29/2022
YGWC-43	79.66	744.96	24.00	720.96	2/6/2023
YGWC-43	79.66	744.96	24.28	720.68	8/14/2023
YGWC-43	79.66	744.96	19.82	725.14	2/19/2024
YGWC-43	79.66	744.96	17.12	727.84	8/19/2024
YGWC-49	79.00	782.72	32.57	750.15	10/31/2016
YGWC-49	79.00	782.72	33.48	749.24	1/9/2017
YGWC-49	79.00	782.72	33.61	749.11	2/20/2017
YGWC-49	79.00	782.72	33.44	749.28	4/25/2017
YGWC-49	79.00	782.72	33.62	749.10	6/26/2017
YGWC-49	79.00	782.72	32.28	750.44	10/2/2017
YGWC-49	79.00	782.72	32.60	750.12	1/9/2018
YGWC-49	79.00	782.72	31.83	750.89	3/26/2018
YGWC-49	79.00	782.72	31.31	751.41	6/4/2018
YGWC-49	79.00	782.72	31.42	751.30	8/6/2018
YGWC-49	79.00	782.72	31.66	751.06	9/17/2018
YGWC-49	79.00	782.72	29.81	752.91	2/25/2019
YGWC-49	79.00	782.72	29.34	753.38	3/25/2019
YGWC-49	79.00	782.72	49.53	733.19	8/19/2019
YGWC-49	79.00	782.72	31.51	751.21	9/23/2019
YGWC-49	79.00	782.72	31.79	750.93	10/7/2019
YGWC-49	79.00	782.73	31.70	751.03	2/10/2020
YGWC-49	79.00	782.73	29.34	753.39	3/16/2020
YGWC-49	79.00	782.73	31.00	751.73	9/21/2020
YGWC-49	78.53	782.73	31.72	751.01	2/8/2021
YGWC-49	78.53	782.73	31.50	751.23	3/2/2021
YGWC-49	78.53	782.73	31.89	750.84	8/16/2021
YGWC-49	78.53	782.73	32.11	750.62	2/7/2022
YGWC-49	78.53	782.73	32.65	750.08	8/29/2022
YGWC-49	78.53	782.73	33.32	749.41	2/6/2023
YGWC-49	78.53	782.73	32.40	750.33	8/14/2023
YGWC-49	78.53	782.73	34.10	748.63	2/19/2024
YGWC-49	78.53	782.73	32.84	749.89	8/19/2024
YGWC-50	39.28	729.78	15.01	714.77	2/6/2023
YGWC-50	39.28	729.78	15.24	714.54	8/14/2023
YGWC-50	39.28	729.78	7.69	722.09	2/19/2024
YGWC-50	39.28	729.78	5.72	724.06	8/19/2024

Notes:
1. * = indicates depth to water recorded from transducer.
2. ft MSL = feet mean sea level.
3. ft BTOC = feet below top of casing.

APPENDIX D
NUMERICAL MODELING REPORT

Groundwater Modeling Report

Georgia Power Company

Plant Yates

April 2020

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Executive Summary

Georgia Power Company (Georgia Power) converted from coal to natural gas at its Plant Yates facility (Site) located near Newnan, Georgia. There are currently several inactive ash-related units at Plant Yates which are being closed in accordance with state and federal regulations, namely the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10 and the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) 257 Subpart D. A CCR Unit Solid Waste Handling Permit application for R6 CCR landfill (R6 landfill) was submitted to GA EPD in November 2018 and is currently under review.

A component of the closure approach being developed and implemented for selected impoundments at the Site consists of consolidating ash and placing it within the ash management area (AMA). To better understand the hydrology of the Site, TRC Environmental Corporation (TRC) prepared a groundwater model. The primary objectives of the groundwater model were to:

- Improve the conceptualization of the hydro-stratigraphy, hydrogeology, and groundwater/surface water dynamics at the Site.
- Construct a numerical groundwater flow model that accurately depicts pre-closure groundwater flow conditions.
- Use the calibrated numerical groundwater flow model as a tool to predict groundwater flow conditions following the implementation of closure activities.

Groundwater flow modeling was conducted using Groundwater Vistas. The groundwater model was set up based on the site conceptual hydrogeologic model using six layers to depict the Site lithology. The surficial aquifer includes two modeled layers: a coal residual ash material as Layer 1, where applicable, and the unconsolidated regolith/saprolite as Layer 2. A transition zone consisting of weathered bedrock underlies the surficial aquifer as Layer 3. The competent bedrock beneath the transition zone was segregated as upper bedrock and lower bedrock based on the degree of weathering. The upper bedrock included model Layers 4 and 5. Layer 4 consisted of soft, moderately weathered, fractured biotite gneiss and/or mica schist. Layer 5 was similar to Layer 4 with the exception that the fracture density decreased, and the bedrock was less weathered. The lower bedrock included Layer 6 which represented basement bedrock with little to no weathering or fractures.

The model was calibrated using a combination of trial and error and automated adjustments using Parameter Estimation (PEST) developed by Watermark Numerical Computing (2004), an industry-standard inverse modeling software package. Calibration was accomplished by adjusting various parameters within realistic and expected ranges until simulated groundwater elevations were in reasonable agreement with observed groundwater elevations. The model was calibrated with 49 target groundwater elevations from June 26, 2014 representing pre-closure conditions. The calibration

statistics indicated a residual sum of squares (RSS) value of 1,450 with a root mean square error (RMS error) of 5.44. A small RSS value indicates a tight fit of the model to the Site data. The RSS value observed during the calibration process suggests a reasonable calibration was achieved using PEST. Additionally, the RMS error indicates that groundwater may fluctuate plus/minus 5.44 feet which is within the range of observed seasonal groundwater fluctuations at the Site. Furthermore, the absolute residual mean value (3.94) from the calibration statistics is lower than the 10 percent of the simulated difference in heads, which is generally considered a target value for the acceptance of a model calibration (Anderson and Woessner, 1992).

Following groundwater model calibration, the proposed closure plan was incorporated to build a post-closure groundwater flow model. The post-closure model incorporated the potential future layout of the R6 landfill and the AMA. The post-closure groundwater flow model was used to provide an estimate of changes to Site water levels following completion of closure activities. The overall general groundwater flow direction in the predicted model was to the northwest, which is similar to pre-closure conditions. However, groundwater flow in the R6 landfill area appears to have shifted more to the northeast around the landfill as compared to beneath it, as in previous conditions. The hydraulic gradient in the post-closure model ranged from a minimum of approximately 0.01 ft/ft in the northern portion of the AMA to a maximum of approximately 0.09 ft/ft to the south of AP-2 West. With respect to groundwater elevation, the post-closure model estimated an average decrease of approximately between less than 1 foot to over 4 feet within the R6 landfill and approximately between less than 2 feet to over 8 feet within the AMA as compared to pre-closure conditions.

Section 1
Introduction

Georgia Power (Georgia Power) converted from coal to natural gas at its Plant Yates facility (Site) located near Newnan, Georgia. There are currently several inactive ash-related units at Plant Yates which are being closed in accordance with state and federal regulations, namely the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10 and the United States Environmental Protection Agency (US EPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) 257 Subpart D. The six original coal ash impoundments subject to the CCR Rule included ash ponds (AP) AP-1, AP-2 (west and east), AP-3, AP-A, AP-B, and AP-B' as shown on **Figure 1-1**. A component of the closure approach being developed and implemented for selected impoundments consists of consolidating ash from AP-2 (including AMAX Cove) and the coves of AP-3, where the ash will be used as subgrade material in the ash management area (AMA) that will encompass AP-A, AP-B', AP-B and the remaining portion of AP-3. AP-2 and the AP-3 coves will be closed by removal of CCR. A CCR Unit Solid Waste Handling Permit application for R6 CCR Landfill (R6 landfill) was submitted to GA EPD in November 2018 and is currently under review.

To better understand the Site hydrology and the potential changes in groundwater flow conditions that may result from CCR unit closure activities, TRC Environmental Corporation (TRC) prepared a groundwater flow model. The groundwater modeling effort consisted of a two-phase approach. The first phase was to create a calibrated groundwater flow model that accurately depicted baseline pre-closure groundwater flow conditions. The second phase was to use the calibrated model as a tool to predict post-closure groundwater flow conditions following the implementation of proposed closure activities. This document presents a summary of procedures and results of the groundwater modeling process. Specifically, the report is organized as follows:

- Section 2 summarizes the groundwater model objectives.
- Section 3 presents the development of the conceptual site model.
- Section 4 presents a summary of the calibrated pre-closure groundwater flow model, including a description of the program used, domain and computational grid, layers, boundary conditions, calibration process and results, and pre-closure groundwater flow conditions.
- Section 5 includes a summary of the post-closure groundwater model which was used to estimate groundwater flow conditions at the completion of closure activities.
- Section 6 includes a summary of this report.
- Section 7 presents the references used for this report.

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

SHEET TITLE:
SITE LAYOUT

DRAWN BY: RAM	SCALE: 1: 9,600	PROJ. NO.	242211.0001.0.6
CHECKED BY: MAH		FILE NO.	Fig03-01_SiteLayout.mxd
APPROVED BY: KCS	DATE PRINTED:	**FIGURE 1-1**	
DATE: JANUARY 2020			

TRC

Patewood Plaza Three, Suite 150
50 International Drive
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Phone: 864-281-0030
FAX: 864-281-0288

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Path: P:\Clients\Southern Company\Plant Yates\242211 - SCS Plant Yates\ArcGIS\10201605191\Fig03-01_SiteLayout.mxd
Coordinate System: NAD 1983 StatePlane Georgia West FIPS 1002 Feet (Foot US)
0

TRC - GIS

Section 2
Groundwater Model Objectives

The groundwater flow model was prepared consistent with the Georgia Environmental Protection (EPD) Guidance: Groundwater Contaminant Fate and Transport Modeling (Georgia EPD, 2016). The primary objectives of the groundwater modeling effort were to:

- Improve the conceptualization of the hydro-stratigraphy, hydrogeology, and groundwater/surface water dynamics at the Site.
- Construct a numerical groundwater flow model that accurately depicts pre-closure groundwater flow conditions.
- Use the calibrated numerical groundwater flow model as a tool to predict groundwater flow conditions following the implementation of closure activities.

Section 3
Development of Conceptual Site Model

TRC developed an overall understanding of the hydrogeology, lithology and groundwater quality for the Site using numerous site-specific investigation reports that are referenced within this report and summarized in Section 7.

3.1 Geologic Setting

The geology of the Site is within the Inner Piedmont Physiographic province of western Georgia, immediately southeast of the regional zone of deformation referred to as the Brevard Zone (ACC, 2019). This province is underlain by metamorphic rocks including chlorite schists and quartzofeldspathic gneisses. A thin layer of soil from one to two feet thick overlies a thick layer of saprolite. The saprolite, which extends to typical depths of 20-40 feet below ground surface, was formed in-place by the physical and chemical weathering of the underlying metamorphic rocks. There is typically a zone of variable thickness (approximately 5-20 feet) of transitionally weathered rock between the saprolite and competent bedrock. Localized alluvial soils consisting of generally coarser material (silty-sand, clayey silt, and silty clay with well-rounded gravel and cobbles) than that observed in saprolite may be related to historical river channel migration (ACC, 2019). The groundwater aquifer is unconfined and most of the groundwater flow occurs through the transition zone.

3.2 Hydrogeologic Setting

The Site is in an area of significant groundwater recharge, yet no portion of the Site is within the 100-year floodplain (Southern Company Services (SCS), 2014). The hydraulic gradients observed between piezometer clusters indicate groundwater recharge in upland areas and groundwater discharge near lowland areas with groundwater flow generally from the south, southwestern, and northeastern areas towards the central valley and the Chattahoochee River (SCS, 2014). Based on field values of hydraulic conductivity estimates available at the time of model construction, the hydraulic conductivity values ranged from approximately 0.1 to 5.86 feet/day in the saprolite, from approximately 1.21 to 8.92 feet/day in the transition zone, and from approximately 0.07 to 2.65 feet/day in the upper bedrock. Field estimates of groundwater flow velocities range from approximately 0.05 to 2 feet/day (ACC, 2019). A conceptual site model (CSM) from pre-closure conditions (June 2014) is included as **Figure 3-1**.

3.3 Summary of Supplemental Investigations

3.3.1 Summary of Pre-Closure Groundwater Flow Conditions

A site-wide groundwater gauging event that represented typical pre-closure groundwater conditions occurred in June 2014. The direction of groundwater flow during this event was beneath the R6 landfill area and AMA toward the northwest.

3.3.2 Summary of Supplemental Hydraulic Conductivity Testing within Ash

Aquifer hydraulic conductivities are often determined through the performance of single-well aquifer tests, commonly referred to as slug tests. The tests are conducted by producing a rapid ("instantaneous") change in the water level within the well and recording the recovery of the water level over time. The instantaneous change is produced by submerging a solid plastic rod ("slug") into the groundwater within the well, allowing the water level to return to an equilibrium water level, then rapidly withdrawing the slug from the well. The recovery of the water level is recorded using a down-well pressure transducer connected to a programmable data logger. The data is then downloaded to specialized software and used to calculate hydraulic conductivity.

To refine hydraulic conductivity of the ash, TRC conducted supplemental slug testing on February 1 and 2, 2018 in advance of the initiation of a stability and dewatering investigation conducted by MoreTrench along the AP-3 earthen dam. As part of this investigation, a series of dewatering wells were installed by MoreTrench along the crest of the AP-3 earthen dam. Initially, the plan was to conduct a constant rate pumping test on one of the dewatering wells to ascertain hydrogeological properties of the ash. As such, observation wells were installed to monitor water levels during the pumping test. During the installation of the dewatering wells however, it was discovered that the ash thickness was less than anticipated in the study area and that performance of a successful pumping test was unlikely. As an alternative, slug testing was conducted on the dewatering and observation wells to determine the hydraulic conductivity of the ash.

The slug tests were conducted by displacing a known volume of water within the well and measuring the fluctuation of the groundwater level. This procedure was followed for conducting both a falling-head (slug lowered into a well) and a rising-head (slug removed from the well) slug test. A rising and falling-head slug test was conducted at each well and the data was processed using the aquifer test analysis software AQTESOLV. The hydraulic conductivity estimate from each slug test was evaluated using the Bouwer and Rice (1976) straight-line method for unconfined aquifers. The results of the slug tests are presented in **Table 3-1**.

Observation wells P-1 and P-2 were installed by MoreTrench under the direction of TRC personnel and both wells were screened completely within the ash. The hydraulic conductivity geometric mean for the ash at these two locations was 7.5 x 10^{-6} cm/sec or 0.021 feet/day. Slug testing was conducted on additional wells during this study however, review of available field notes for these wells (DW-1, WP-1, and WP-2) indicated that the borings for each well were advanced without sample collection to the base of the ash. As such, the wells were installed partially penetrating or in contact with the underlying higher conductivity natural material (ash/saprolite/transition zone) and therefore were not suitable for hydraulic conductivity testing of the ash given that these wells were screened across multiple units. Since P-1 and P-2 were screened completely within the ash, the hydraulic conductivity value obtained from the slug test results for these wells was incorporated into the groundwater model for the ash hydraulic conductivity. Copies of the AQTESOLV output files are provided in **Appendix A**.

3.3.3 Summary of Lithology Investigations

Bedrock Investigation Along Dyer Road

In June 2017, Georgia Power performed a subsurface boring investigation along Dyer Road, which runs on the northwest side of the R6 landfill as illustrated in **Figure 3-2**. The investigation focused on delineating the ash thickness in this area under the roadway and near the natural gas line located in the right-of-way. TRC requested that four of the borings (YTPR-38, YTPR-46, YTPR-51, and YTPR-55) be advanced 5 feet into the bedrock surface. Drilling was performed by hollow stem auguring through saprolite and NQ™ Diamond Core technology through the transition zone and bedrock. TRC provided oversight of the bedrock borings and it was observed that competent rock ranged from approximately 42 feet to 52 feet below land surface (bls). Upon drilling completion, each borehole was abandoned by grouting from the termination depth to the ground surface and topped off with asphalt patch at the surface. Details from this investigation were incorporated into the groundwater model construction.

Table 3-1
Summary of Supplemental Hydraulic Conductivity Testing within Ash
Plant Yates, Georgia

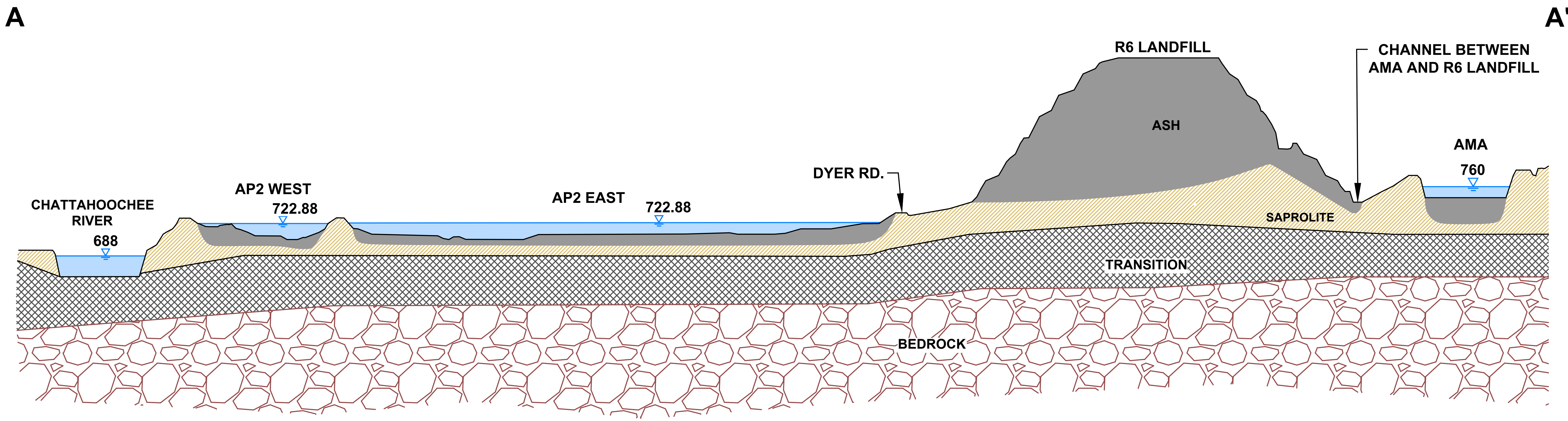
WATER TABLE AQUIFER WELLS				
WELL	**GEOLOGIC MATERIAL**	**ESTIMATED K (ft/day)**	**PER WELL AVERAGE K (ft/day)**	**PER UNIT GEOMETRIC MEAN K (ft/day)**
P-1 (FH)	Ash	0.01828	0.01667	0.02124
P-1 (RH)	Ash	0.01506		
P-2 (FH)	Ash	0.04986	0.03235	
P-2 (RH)	Ash	0.01484		

Hydraulic conductivity testing conducted in February 2018.

(FH) Falling Head Test

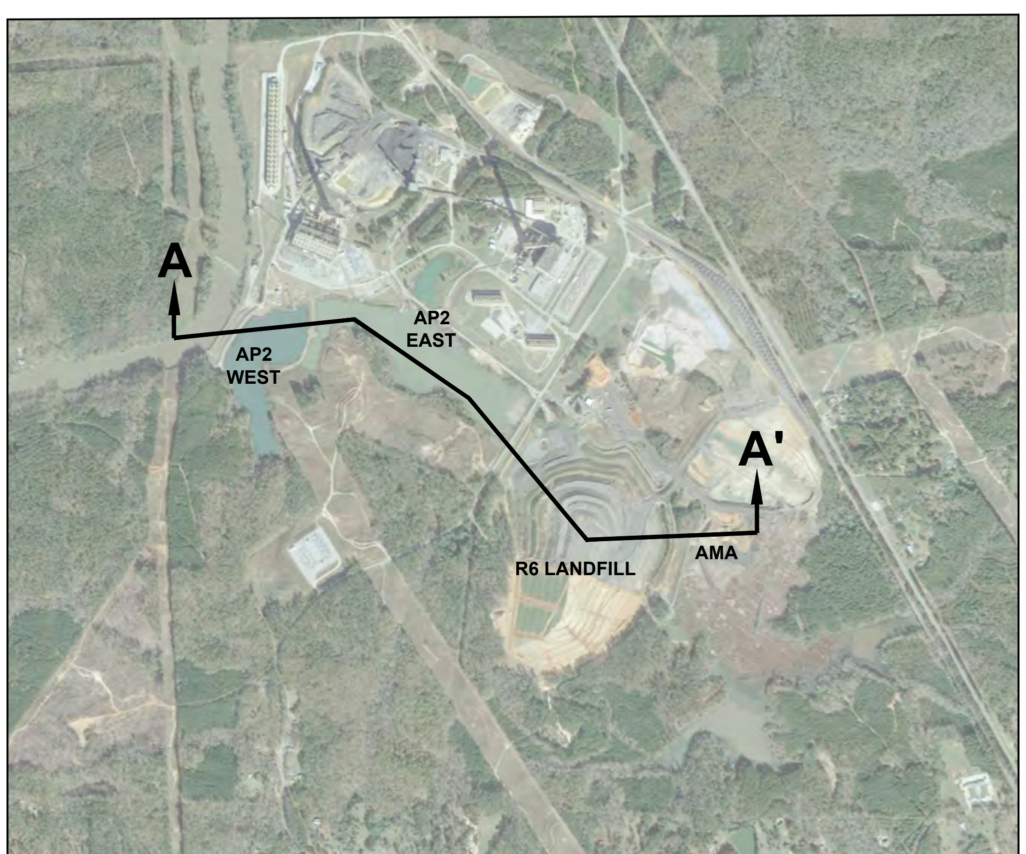
(RH) Rising Head Test

* Results for second Falling Head or Rising Head Test



CROSS SECTION A-A'

NOT TO SCALE



CROSS SECTION LAYOUT MAP

SCALE: 1=2000'

LEGEND

- ASH
- SAPROLITE
- TRANSITION ZONE
- BEDROCK
- 688 APPROXIMATE WATER SURFACE ELEVATION

NOTE

1. CROSS-SECTION DEPTICS PRE-CLOSURE CONDITIONS. (JUNE 2014)

SOURCE

1. PROFILE IS BASED ON MAY 2014 LIDAR TAKEN FROM METRO ENGINEERING & SURVEYING CO. INC. DRAWING SUPPLIED BY PLANT YATES, 4143YSP.DWG.

PROJECT: GEORGIA POWER COMPANY - PLANT YATES, NEWNAN, GEORGIA	
TITLE: CONCEPTUAL SITE MODEL CROSS SECTION A-A'	
DRAWN BY: C. NEWELL	PROJ NO.: 242211.0001.0.6
CHECKED BY: M. HAYS	FIGURE 3-1
APPROVED BY: K. SAUCIER	
DATE: APRIL 2020	
TRC	50 International Drive, Patewood Plaza Three, Suite 150, Greenville, SC 29615, Phone: 864.281.0030
FILE NO.: 242211-CROSS-SECTION.dwg	

11x17 --- ATTACHED XREF'S: --- ATTACHED IMAGES: 20151113-Google_Aerial;
DRAWING NAME: J:\CAD\Yates\242211-SCS Plant Yates\0001\ 242211-CROSS-SECTION.dwg --- PLOT DATE: April 08, 2020 - 11:00AM --- LAYOUT: FIGURE 3-1

TRC - GIS

Coordinate System: NAD 1983 StatePlane South Carolina FIPS 3900 Feet Intl (Foot)
Map Rotation: 0

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Path: U:\Southern Company\ArcGIS\Fig5-1_Dyer Road Soil Boring Locations.mxd

LEGEND

- Soil Boring Locations
- Soil Boring Locations that extend to Bedrock

N

0 200 Feet

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

SHEET TITLE:
BEDROCK INVESTIGATION ALONG DYER ROAD

DRAWN BY:	DJS	SCALE: 1: 1,200	PROJ. NO. 242211.0001.0.6
CHECKED BY:	MAH		FILE NO. FIGURE 3-2
APPROVED BY:	KCS	DATE PRINTED:	**FIGURE 3-2**
DATE:	JANUARY 2020		

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Section 4
Pre-Closure Groundwater Flow Modeling

Groundwater modeling efforts were conducted using the numerical modeling software Groundwater Vistas (version 7.24). The following narrative presents an overview of TRC's Groundwater Flow Model (model).

4.1 Groundwater Model Software Selection

Groundwater flow modeling was conducted using Groundwater Vistas. The flexibility of Groundwater Vistas' finite-difference structure makes it easy to conform the model geometry to streams, channels, ponds, and other hydrologic features. The software provides a graphical interface for building, running, and analyzing three-dimensional (3D) groundwater flow models using the MODFLOW suite of codes.

4.2 Model Domain and Computational Grid

The model domain and grid layout are shown on **Figure 4-1**. The model domain has been extended to natural hydraulic boundaries that define the Site watershed. The groundwater and surface water within this watershed drain to the Chattahoochee River located along the western model boundary.

The finite-difference grid consists of 598 rows by 588 columns that was constructed by dividing the model domain into square or rectangular regions called blocks or cells. In plan view, the Site model domain consists of 931,330 active cells. Aquifer hydraulic properties are specified within each cell and layer. The cell size resolution within the model is 20 feet by 20 feet.

4.3 Hydrogeologic Layers and Properties

The groundwater model was set up using six layers to depict the Site lithology. The model layering is illustrated on **Figure 4-2** which represents an east-west cross-sectional view through the central portion of the R6 landfill. The model layers that comprise the surficial aquifer includes two layers: (1) a coal residual ash material (Layer 1 - Ash) where applicable and (2) the unconsolidated regolith/saprolite (Layer 2 - Saprolite). In areas outside of the coal ash footprint, Layer 1 was set to be very thin (0.1-foot thick) and made inactive (no-flow boundary condition). The presence of the thin inactive cells was accommodated in the model by applying the vertical infiltration (recharge) to the underlying Layer 2. This condition in the model was set so that the regolith/saprolite would not be split in half thus creating excessive dry cells within Layer 1 and to allow for better model convergence.

A transition zone (Layer 3 – Transition Zone) consisting of weathered bedrock underlies the surficial aquifer and was modeled as Layer 3. The competent bedrock beneath the transition zone was

segregated into upper bedrock and lower bedrock based on the degree of weathering. The upper bedrock (Layer 4 – Upper Bedrock (some fractures) and Layer 5 – Upper Bedrock (fresh, few fractures)) included Layers 4 and 5. Layer 4 consisted of soft, moderately weathered, fractured biotite gneiss and/or mica schist. Layer 5 was similar to Layer 4 with the exception that the fracture density decreased, and the bedrock was less weathered. The lower bedrock (Layer 6 – Lower Bedrock (fresh, no fractures)) included Layer 6 which represented basement bedrock with little to no weathering or fractures. **Table 4-1** depicts the layer details used in the groundwater model.

The top of the model represents the land surface. The distribution of the land surface elevation was obtained from a May 2014 LIDAR survey which was provided by SCS (SCS, 2014). Information from Site groundwater monitoring well boring logs was used to define the layer elevations where available. The bottom of the saprolite aquifer (Layer 2) was interpolated using mapping software (Surfer®) from boring logs PZ-1S, PZ-2I, PZ-3S through PZ-10S, PZ-13S, PZ-14S, PZ-16S through PZ-20S, PZ-20I, PZ-22S through PZ-28S, PZ-29I, PZ-30I, PZ-31S through PZ-33S, PZ-34 through PZ-49, GYP-1, GYP-4 through GYP-28, and YTPR-36 through YTPR-55.

Ash was included in the groundwater model (Layer 1) at the AP-2 and AP-3 impoundments, the R6 landfill, and the R6 channel. The ash was not modeled as a continuous layer and pinched out outside of these areas. When present, the ash layer exists on top of the saprolite and represents the top of the model. The ash thickness in AP-2 varied between 3.43 to 19.65 feet and was incorporated into the model based on previous investigative activities conducted by TRC. Additionally, the ash thickness of the R6 landfill, R6 channel, and AP-3 was incorporated into the model based on pre-existing ground surface elevations for these areas. This included the November 2000 United States Geological Survey (USGS) digital elevation model (DEM) for the topography of the R6 landfill and R6 channel area, and the 1976 topographic map (digitized in AutoCAD) for the AP-3 pond/coves. Ash thickness in the R6 landfill/ R6 channel ranged between 0.18 to 160.68 feet and in AP-3 between 4.72 to 31.45 feet.

The bottom elevation of the transition zone (Layer 3) was interpolated from boring logs PZ-1I through PZ-10I, PZ-13I, PZ-14I, PZ-16I, PZ-18I, PZ-21I, PZ-24I through PZ-30I, PZ-32I, PZ-34I, PZ-35 through PZ-49, GYP-1, GYP-4 through GYP-6, GYP-8, GYP-10, GYP-13, GYP-16, GYP-19, GYP-20, GYP-23, GYP-26, GYP-28, YTPR-38, YTPR-46, YTPR-51, and YTPR-55. Boring logs PZ-1D, PZ-3D, PZ-5D, PZ-6D, PZ-38, PZ-40, PZ-43, and PZ-48 were used to help define the bedrock layers. However, sufficient spatial information on bedrock layers was not available for interpolation, and as such a uniform thickness of 5 feet was assumed for shallow/fractured bedrock (Layer 4) and 15 feet for Layer 5. The thickness of the lower bedrock (Layer 6) varied and the model base was set at an elevation of 500 feet above mean sea level.

Hydraulic conductivity properties were assigned within the model using specific zones. In general, a zone correlated to the model layer and represented the average hydraulic conductivity value for the associated lithology. The hydraulic conductivity values used for each zone were assigned based on a

combination of available slug testing data and through the process of model calibration. Model calibration is described separately in Section 4.5. **Table 4-2** provides a summary of available hydraulic conductivity estimates from Site slug testing results. The hydraulic conductivity values assigned within the model are presented on **Table 4-3**. Additionally, the hydraulic conductivity zones modeled within the ash layer (Layer 1) and saprolite (Layer 2) are depicted on **Figure 4-3**. For visual purposes, the ash from Layer 1 is superimposed onto Layer 2 in **Figure 4-3**.

The horizontal (Kh) hydraulic conductivities shown in **Table 4-3** are generally similar to the average hydraulic conductivity values observed from available slug testing data (**Table 4-2**) with respect to the saprolite. For example, the model Kh for the saprolite was 0.031 feet/day in the uplands (zone 8) and 1.61 feet/day in the valley (zone 1) while the average Kh from slug testing data for 21 wells installed in the saprolite was 1.44 feet/day. The model Kh for the transition zone, however, was 0.01 feet/day which is lower than the average Kh from slug testing for 11 wells installed in the transition zone was 4.72 feet/day. In regard to the upper fractured bedrock layer (Layer 4), the model Kh results were also lower (0.021 feet/day) than the 1.69 feet/day average from slug testing at seven wells. The upper slightly fractured bedrock layer (Layer 5) Kh from the model was 0.01 feet/day and the average from slug testing at 13 wells was 0.28 feet/day. The Kh for the lower bedrock (Layer 6) and the vertical (Kv) hydraulic conductivities were estimated during model calibration.

4.4 Boundary Conditions

Boundary conditions were specified for the model perimeter, model top, and model bottom. These boundary conditions include constant head, lake, drainage channels, recharge, evapotranspiration, and inactive cells (no flow).

4.4.1 Model Perimeter

The watershed drainage basin surrounding the Site was used to establish the model perimeter. Inactive cells were used to represent the edge or topographic ridge surrounding the watershed encompassing the Site. One exception to this was along the western extent of the model perimeter at the Chattahoochee River where a constant head elevation ranging from approximately 688 feet above mean sea level (AMSL) at the upstream portion of the river to 685 feet AMSL at the downstream extent. This elevation was approximated from the May 2014 LIDAR survey data (SCS, 2014).

For the bottom of the model, vertical flow between the upper bedrock (Layer 5) and underlying deep/basement bedrock (Layer 6) was assumed to be very small compared with flow in the overlying fractured bedrock and thus served as the model base consisting of inactive cells. With respect to the model top, the topography of the Site dictates as previously discussed. Recharge and evapotranspiration fluxes were applied to the highest active layer as described below.

4.4.2 Drains

Information was not readily available regarding the geometry, bed conductance, or flow characteristics of the Site tributaries. As such, these features were treated as drains in the groundwater model. The drain feature is a type of head-dependent boundary condition in Groundwater Vistas that will only allow water to be removed from the system. For instance, if the head computed by the model is less than the head in the boundary (drain), the boundary condition is turned off.

The drain boundary condition in the groundwater model was set close to or equal to the ground surface elevation for each cell within a tributary footprint. Using this approach, any water above the ground surface within the model would be removed from the system reducing the likelihood of artificially flooded areas. In general, the drain boundary condition served to keep the water table at or close to the tributary bottom. As with the Site tributaries, the R6 channel was similarly modeled as a drain.

4.4.3 Ash Ponds

The two ash ponds at the Site included in the groundwater model were AP-2 (AP-2 East and AP-2 West) and the AP-3 pond/coves. AP-2 was modeled using the lake boundary condition. This represents a head-dependent boundary condition in which a boundary head and conductance term are assigned to allow for the flux of water into or out of the cell. Since the entire base of AP-2 is covered in ash, this boundary condition was most suitable to allow for water to migrate into or out of the ash layer.

AP-3 was modeled using the constant head boundary condition. This boundary condition differs than that used for AP-2 in that the bottom of AP-3 does not contain a continuous layer of ash and therefore the constant head boundary condition was suitable. Constant head boundary conditions are assigned a head that does not vary throughout the model simulation.

For AP-2, the boundary head was set at 722.88 feet above mean sea level (AMSL). The AP-3 elevation was set at 754 feet AMSL. These elevations were selected based on staff gauge measurements collected by TRC during ash thickness investigation activities conducted in 2016.

4.4.4 Additional Surface Water Features

In review of historical aerial imagery of the Site, several small ponds appear to be historically present and were included in the model using the constant head boundary condition. The water surface elevation of each pond was estimated using the topography of the pond shoreline/edge

from the May 2014 LIDAR survey data (SCS, 2014). The following constant head elevations were used in the model:

- Pond 1 – 804 feet AMSL
- Pond 2 – 777 feet AMSL
- Pond 3 – 778 feet AMSL
- Pond 4 – 782 feet AMSL
- Pond 5 – 779 feet AMSL
- Pond 6 – 725 feet AMSL

4.4.5 Recharge and Evapotranspiration

Recharge is the rate at which infiltrating water reaches the water table while evapotranspiration (ET) is the sum of evaporation from the land surface plus transpiration from plants. Both recharge and ET were expressed in units of feet per day in the model. Recharge and ET are represented in the groundwater model as specified flux boundary cells; however, they are treated as properties because they are distributed to every cell in the top (or highest active) layer of the model.

As reported in the 2014 Hydrogeological Characterization Report (SCS, 2014), the mean annual precipitation observed in the Newnan, Georgia area based on 85 years of data is 51.4 inches per year. In general, approximately 70 percent of precipitation in Georgia is lost to evapotranspiration (Rasmussen, 2016). An initial conservative estimate of 15.4 inches per year (0.0035 feet/day) for recharge was used based on ET loss alone (precipitation minus 70 percent loss to ET). This initial value did not however, account for surface runoff. In using this initial value, the groundwater model was inundated with excessive surface water thus flooding most of the model area. Information regarding the Site surface water features/tributaries was not readily available to provide an estimate of surface runoff and groundwater recharge. Recharge in the model was assigned using zones that were based on simulations conducted during model calibration. A recharge rate of 3.5 inches per year (0.0008 feet/day) was used for the lowland/valley portions of the site while the upland areas were assigned a recharge rate of 2.2 inches per year (0.0005 feet/day). Model calibration is discussed in Section 4.5.

A recharge rate of 1 inch per year (0.00023 feet/day) was used within the R6 landfill footprint to account for the clay liner that serves as the cap for the landfill. The recharge zones modeled within Layer 1 is depicted on **Figure 4-4**.

Evapotranspiration from the water table can be significant in this region of Georgia, as in general, there is a relatively shallow water table at many locations, including Plant Yates. The

computed ET decreases linearly with depth of the water table below the land surface to a value of zero at a specified root extinction depth. The extinction depth is a function of vegetative cover, soil type, and land use. Similar to recharge, ET and extinction depth in the model was assigned using zones that were based on simulations conducted during model calibration. An ET rate of 175 inches per year (0.04 feet/day) with an extinction depth of 1 foot was used for the lowland/valley portions of the site while the upland areas were assigned an ET rate of 191 inches per year (0.0437 feet/day) with an extinction depth of 10 feet. These ET rates are higher than what you would anticipate from actual site conditions however, ET does not remove water from the model if groundwater is below the extinction depth. Additionally, a shallow extinction depth as used in the lowland areas of the model (1 foot) may represent removal of water from the ground surface via overland flow. Review of the volumetric budget of the model indicated that the amount of recharge was similar to the amount of ET. The evapotranspiration zones modeled within Layer 1 are depicted on **Figure 4-5**.

4.5 Groundwater Flow Model Calibration

The groundwater flow model was calibrated using a comparison of the observed heads in monitoring wells to model computed heads for steady-state simulations representing average hydrologic conditions. The observed heads from Site monitoring wells were selected from the June 26, 2014 groundwater measurement event which represents data that was closest to the time interval of the May 2014 LIDAR topographic survey data. This provided the best spatial coverage closest to the time of the topographic survey which was used as the ground surface for the model. The observed heads used in the calibration process are depicted on **Table 4-4**.

The groundwater model was calibrated using a combination of trial and error and automated adjustments using Parameter Estimation (PEST), an industry-standard inverse modeling software package developed by Watermark Numerical Computing (2004). PEST uses calibration targets to compute statistics that guide the selection of aquifer property values. The calibration targets used in the model calibration were observed groundwater elevations as presented on **Table 4-4**. An upper and lower boundary was assigned in PEST to refine the model hydrogeological parameters. The objective of PEST was to find the best set of parameter estimates that minimized the sum of weighted squared deviations between certain model outcomes and the corresponding field-measured counterparts.

The PEST parameters estimated during model calibration were recharge, ET, Kh, and Kv. A total of 49 groundwater head measurements (targets) were used during the calibration process. The results of the observed versus simulated target values following use of the PEST calibration tool is presented on **Figure 4-6**. For a perfect fit of modeled results to observed values, all points would plot on a line extending at a 45-degree angle through the origin of the modeled versus observed value chart. As

depicted in **Figure 4-6**, the majority of the points fall on or close to the line indicating a good fit between the observed and modeled results.

A statistical summary of the minimum residual, maximum residual, and the absolute residual mean are presented in **Table 4-5**. The residual is the difference between observed groundwater elevations and simulated groundwater elevations. If the residual is positive, the observed groundwater elevation is higher than the simulated groundwater elevation. If the residual is negative, the observed groundwater elevation is lower than the simulated groundwater elevation. The standard deviation of the residuals and the range of observed groundwater elevations are also provided in **Table 4-5**. A common statistical test to examine calibration is the standard deviation of the residuals (the difference between observed and simulated values) divided by the range of observed values. Rumbaugh (2004) suggests that a good calibration yields a value less than 10 to 15 percent or (0.10 to 0.15). The standard deviation of the residuals divided by the range of observed groundwater elevations for the calibrated model is 0.039.

The summary also includes the value of the sum of squared residuals, which was used as the objective function during parameter estimation. Finally, the summary includes the frequency of residuals within 1-foot, 2.5-foot, and 5-foot intervals. A graphical summary showing the match between the observed and simulated groundwater elevations is shown on **Figure 4-6**. Sixteen percent of the simulated groundwater elevations are within ± 1 foot of the observed groundwater elevations, 49 percent are within ± 2.5 feet, while 71 percent are within ± 5 feet. A model output of the pre-closure calibrated head contours is presented as **Figure 4-7**.

A mass balance conducted on the calibrated model concluded that the model reflects a good conservation of mass (inputs and outputs) with a total calculated error of only 0.002 percent.

4.6 Groundwater Flow Model Sensitivity Analysis

A sensitivity analysis evaluated how changes in selected model parameters affect the model. One parameter at a time was varied while all the other parameters were held constant. The tested model parameters were varied by 50 percent of the calibrated values. The sensitivity analysis was conducted on horizontal and vertical conductivity, recharge, and evapotranspiration. A sensitivity analysis was not conducted on the constant head boundary conditions as these values were designated by SCS as operational requirements for the facility. Results of the sensitivity analysis are presented in **Table 4-6**. These results were analyzed to identify the parameters causing the greatest sensitivity when changed, and to confirm that final calibrated values fall within the range of expected values according to the ranges set during conceptual model formulation.

Model results are most sensitive to changes in recharge rate and horizontal conductivity in the saprolite zone. Calibrated values for these parameters are consistent with observed values in the study area, as identified during the conceptual model formulation stage. No significant improvement in the model

calibration was noted to by adjusting these parameters. Thus, changes to the model are unwarranted, and the model was accepted for post-closure use, according to the objectives set forth at the beginning of the modeling process and the model-calibration criteria established during numerical model development.

4.7 Groundwater Flow Model Verification

The groundwater flow model was evaluated to determine the suitability for post-closure simulations. This was accomplished by testing the calibrated model to determine if the simulated groundwater elevations would match those from a separate historic data set of observed groundwater elevations, a process commonly referred to as model verification. The data set used for the verification process was the February 20, 2017 observed groundwater elevations. The observed groundwater elevations from February 20, 2017 are listed on **Table 4-7**, along with the simulated groundwater elevations from the model. **Table 4-7** also lists the residuals which is the difference between observed groundwater elevations and simulated groundwater elevations. As previously discussed, if the residual is positive, the observed groundwater elevation is higher than the simulated groundwater elevation. If the residual is negative, the observed groundwater elevation is lower than the simulated groundwater elevation. The results of the observed versus simulated target values for the February 20, 2017 event are also graphically depicted on **Figure 4-8**.

A statistical summary of the fit of the February 20, 2017 data set using the calibrated model is presented on **Table 4-8**. The standard deviation of the residuals divided by the range of observed groundwater elevations using the February 20, 2017 verification data set is 0.036. As previously discussed, a good fit yields a value less than 0.10 to 0.15 (Rumbaugh, 2004) suggesting the independent data set is a good match to the calibrated model. Additionally, the statistical summary includes the frequency of residuals within 1-foot, 2.5-foot, and 5-foot intervals. Twelve percent of the simulated groundwater elevations are within ± 1-foot of the observed groundwater elevations, 27 percent are within ± 2.5 feet, while 58 percent are within ± 5 feet.

Of the approximately 42 percent (25 water level measurements) of the simulated groundwater elevations that were outside of the ± 5-foot range of observed groundwater elevations, 40 percent or 10 of the 15 measurements were in the northwestern area of the site near the Chattahoochee River. The USGS maintains a stream gauge approximately a half mile upstream of the site. In reviewing the historical gage height data, the river was approximately 5.5 feet lower during the February 20, 2017 event compared to that used for the calibrated model. Additionally, 28 percent or seven of the 25 simulated groundwater elevations that were outside of the ± 5-foot range of observed groundwater elevations were located within bedrock which has the least amount of information available for the site.

Although there is slightly more variation in the simulated groundwater elevations using the February 20, 2017 data set, the overall fit of the data seemed to match the observed values and thus the calibrated model was accepted for post-closure use.

Table 4-1
Groundwater Model Layer Description

LAYER NUMBER	DESCRIPTION	LAYER THICKNESS (ft)	TOP LAYER ELEVATION (ft msl)
1	CCR Ash(1)	Between 0.18 to 160.68	700 to 878
2	Saprolite/Regolith/Alluvium	Between 5 to 88	685 to 885
3	Transition Zone	Between 8 to 45	653 to 855
4	Upper Bedrock (some fractures)	Assumed 5	633 to 808
5	Upper Bedrock (fresh, few fractures)	Assumed 15	628 to 803
6	Lower Bedrock (fresh, no fractures)	Varies, greater than 20	613 to 788

(1) The CCR Ash does not cover the entire layer and Layer 1 is inactive outside of the ash footprint.

Table 4-2
Summary of Available Hydraulic Conductivity Testing
Plant Yates, Georgia

WELL	DESCRIPTION/LAYER	LAYER	ESTIMATED K (ft/day)	AVERAGE K (ft/day)	PER UNIT GEOMETRIC MEAN K (ft/day)
PZ-4S	Saprolite	2	1.3	1.44	0.87
PZ-5S	Saprolite	2	1.2		
PZ-7S	Saprolite	2	0.1		
PZ-8S	Saprolite	2	0.7		
PZ-9S	Saprolite	2	0.6		
PZ-10S	Saprolite	2	0.4		
PZ-14S	Saprolite	2	1.4		
PZ-17S	Saprolite	2	0.98		
PZ-18S	Saprolite	2	0.25		
PZ-19S	Saprolite	2	0.92		
PZ-20S	Saprolite	2	0.83		
PZ-22S	Saprolite	2	0.86		
PZ-23S	Saprolite	2	0.64		
PZ-24S	Saprolite	2	0.81		
PZ-25S	Saprolite	2	0.47		
PZ-26S	Saprolite	2	0.22		
PZ-28S	Saprolite	2	0.90		
PZ-31S	Saprolite	2	5.86		
PZ-32S	Saprolite	2	5.45		
PZ-33S	Saprolite	2	5.62		
PZ-36	Saprolite	2	0.69		
PZ-18I	Transition Zone	3	1.82	4.72	3.98
PZ-26I	Transition Zone	3	1.21		
PZ-30I	Transition Zone	3	6.19		
PZ-32I	Transition Zone	3	6.06		
PZ-35	Transition Zone	3	7.35		
PZ-37	Transition Zone	3	5.36		
PZ-39	Transition Zone	3	5.25		
PZ-41	Transition Zone	3	5.35		
PZ-43	Transition Zone	3	8.92		
PZ-47	Transition Zone	3	2.28		
PZ-49	Transition Zone	3	2.12		
PZ-5I	Fractured Bedrock	4	1.10	1.69	1.63
PZ-3D	Fractured Bedrock	4	1.60		
PZ-40	Fractured Bedrock	4	1.85		
PZ-41	Fractured Bedrock	4	2.65		
PZ-45	Fractured Bedrock	4	1.15		
PZ-46	Fractured Bedrock	4	1.78		
PZ-48	Fractured Bedrock	4	1.73		
PZ-1D	Slightly Fractured Bedrock	5	0.20	0.28	0.23
PZ-3I	Slightly Fractured Bedrock	5	0.30		
PZ-4I	Slightly Fractured Bedrock	5	0.20		
PZ-5D	Slightly Fractured Bedrock	5	0.30		
PZ-6D	Slightly Fractured Bedrock	5	0.30		
PZ-21I	Slightly Fractured Bedrock	5	0.07		
PZ-25 I	Slightly Fractured Bedrock	5	0.09		
PZ-27I	Slightly Fractured Bedrock	5	0.51		
PZ-28I	Slightly Fractured Bedrock	5	0.10		
PZ-29I	Slightly Fractured Bedrock	5	0.13		
PZ-38	Slightly Fractured Bedrock	5	0.54		
PZ-42	Slightly Fractured Bedrock	5	0.53		
PZ-44	Slightly Fractured Bedrock	5	0.31		

Data from 2014 Draft Hydrogeological Characterization Report and March 2017 Slug Test Summary

Table 4-3
Groundwater Model Hydraulic Conductivity Parameters

LAYER NUMBER	LAYER/ MATERIAL DESCRIPTION	AQUIFER TYPE	MODEL ZONE NUMBER	Kh (feet/day)	Kv (feet/day)
1	CCR Ash	Unconfined	6	0.0028	0.0011
2	Saprolite/Regolith - Valley	Unconfined	1	1.61	0.2
	Saprolite/Regolith - Uplands	Unconfined	8	0.031	0.002
	Alluvial/Fluvial Deposits(1)	Unconfined	7	10	4
3	Transition Zone	Unconfined	2	0.01	0.001
4	Upper Bedrock (some fractures)	Unconfined	3	0.021	0.0025
5	Upper Bedrock (fresh, few fractures)	Unconfined	5	0.01	0.005
6	Lower Bedrock (fresh, no fractures)	Unconfined	4	0.013	0.0013

(1) A narrow band of alluvial/fluvial deposits adjacent to the Chattahoochee River are included in the model within the saprolite layer.

Table 4-4
Groundwater Model Calibration Targets
June 26, 2014

PIEZOMETER / WELL ID	GROUNDWATER ELEVATION[1]	MODEL LAYER	PIEZOMETER / WELL ID	GROUNDWATER ELEVATION[1]	MODEL LAYER
PZ-1S	805.88	2	PZ-14S/YGWA-14S	733.37	2
PZ-1I/YGWA-1I	800.95	3	PZ-14I	732.46	3
PZ-1D/YGWA-1D	788.77	4	PZ-16S	766.66	2
PZ-2I/YGWA-2I	822.65	3	PZ-16I	766.31	3
PZ-3S	762.40	2	GYP-1	775.87	3
PZ-3I/YGWA-3I	747.03	3	GYP-4	765.27	3
PZ-3D/YGWA-3D	765.96	4	GYP-5	823.69	3
PZ-4S	762.25	2	GYP-6	756.68	3
PZ-4I/YGWA-4I	763.20	3	GYP-8	787.51	3
PZ-5S	767.73	2	GYP-9	732.78	2
PZ-5I/YGWA-5I	767.66	3	GYP-11	731.66	2
PZ-5D/YGWA-5D	774.51	4	GYP-13	749.86	3
PZ-6S/YGWA-6S	764.38	2	GYP-14	770.40	2
PZ-6I/YGWA-6I	764.46	3	GYP-15	754.04	2
PZ-6D	760.81	4	GYP-16	787.62	3
PZ-7S	723.32	2	GYP-17	757.09	2
PZ-7I	723.56	3	GYP-18	758.95	3
PZ-8S	733.93	2	GYP-19	759.80	3
PZ-8I	734.68	3	GYP-21	769.00	2
PZ-9S	694.76	2	GYP-22	758.69	2
PZ-9I	694.58	3	GYP-23	757.82	3
PZ-10S	693.39	2	GYP-24	770.40	2
PZ-10I	687.06	3	GYP-25	766.24	2
PZ-13S	772.05	2	GYP-28	755.93	3
PZ-13I	769.32	3			

(1) Groundwater elevation measured in feet above mean sea level.

Groundwater elevations for PZ 1 through PZ-16 from Yate-wlupdate-2017 file provided by Southern Company Services, Inc.

Groundwater elevations for GYP-1 through GYP-28 from GYP water levels file provided by Southern Company Services, Inc.

Table 4-5
Statistical Summary of Simulated Groundwater Elevations in Calibrated Model

CALIBRATION STATISTIC	CALIBRATED MODEL VALUE
Minimum Residual (feet)	-19.50
Maximum Residual (feet)	6.64
Absolute Residual Mean (feet)	3.94
Average Residual (feet)	-1.26
Standard Deviation of Residuals	5.29
Range of Observed Groundwater Elevations (feet)	136.63
Standard Deviation/Range	0.039
Absolute Residual Mean/Range*100	2.88
Sum of Squared Residuals	1450
Percent of residuals within:	
± 1 ft	16
± 2.5 ft	49
± 5 ft	71

Table 4-6
Summary of Groundwater Model Sensitivity Analysis

MODEL PARAMETER	MULTIPLIER	NORMALIZED RSS[1]
Recharge Rate (Lowlands – Zone 1)	0.5	1.05
	1.5	1.15
Recharge Rate (R6 landfill Footprint)	0.5	1.00
	1.5	1.00
Recharge Rate (Uplands – Zone 3)	0.5	1.21
	1.5	1.26
Evapotranspiration Rate (Lowlands – Zone 1)	0.5	1.00
	1.5	1.00
Evapotranspiration Rate (Uplands – Zone 3)	0.5	1.01
	1.5	1.00
Evapotranspiration Extinction Depth (Lowlands – Zone 1)	0.5	1.00
	1.5	1.00
Evapotranspiration Extinction Depth (Uplands – Zone 3)	0.5	1.45
	1.5	0.95
Horizontal Conductivity of Ash (Layer 1)	0.5	1.00
	1.5	1.00
Horizontal Conductivity of Saprolite/Regolith in Lowlands (Layer 2 – Zone 1)	0.5	1.24
	1.5	0.99
Horizontal Conductivity of Saprolite/Regolith in Uplands (Layer 2 – Zone 8)	0.5	1.23
	1.5	0.92
Horizontal Conductivity of Alluvial/Fluvial Deposits (Layer 2 – Zone 7)	0.5	1.00
	1.5	1.00
Horizontal Conductivity of Transition Zone (Layer 3)	0.5	1.00
	1.5	0.98
Horizontal Conductivity of Upper Bedrock (Layer 4)	0.5	1.03
	1.5	0.98
Horizontal Conductivity of Upper Bedrock (Layer 5)	0.5	1.04
	1.5	0.97
Horizontal Conductivity of Lower Bedrock (Layer 6)	0.5	1.01
	1.5	1.00
Vertical Conductivity of Ash (Layer 1)	0.5	1.00
	1.5	1.00

Table 4-6
Summary of Groundwater Model Sensitivity Analysis

MODEL PARAMETER	MULTIPLIER	NORMALIZED RSS[1]
Vertical Conductivity of Saprolite/Regolith in Lowlands (Layer 2 – Zone 1)	0.5	1.02
	1.5	0.99
Vertical Conductivity of Saprolite/Regolith in Uplands (Layer 2 – Zone 8)	0.5	0.98
	1.5	1.01
Vertical Conductivity of Alluvial/Fluvial Deposits (Layer 2 – Zone 7)	0.5	1.00
	1.5	1.00
Vertical Conductivity of Transition Zone (Layer 3)	0.5	1.00
	1.5	1.00
Vertical Conductivity of Upper Bedrock (Layer 4)	0.5	1.00
	1.5	1.00
Vertical Conductivity of Upper Bedrock (Layer 5)	0.5	1.00
	1.5	1.00
Vertical Conductivity of Lower Bedrock (Layer 6)	0.5	1.03
	1.5	0.99

(1) Normalized RSS (residual sum of squares) is the new RSS from the sensitivity analysis divided by calibrated model RSS.

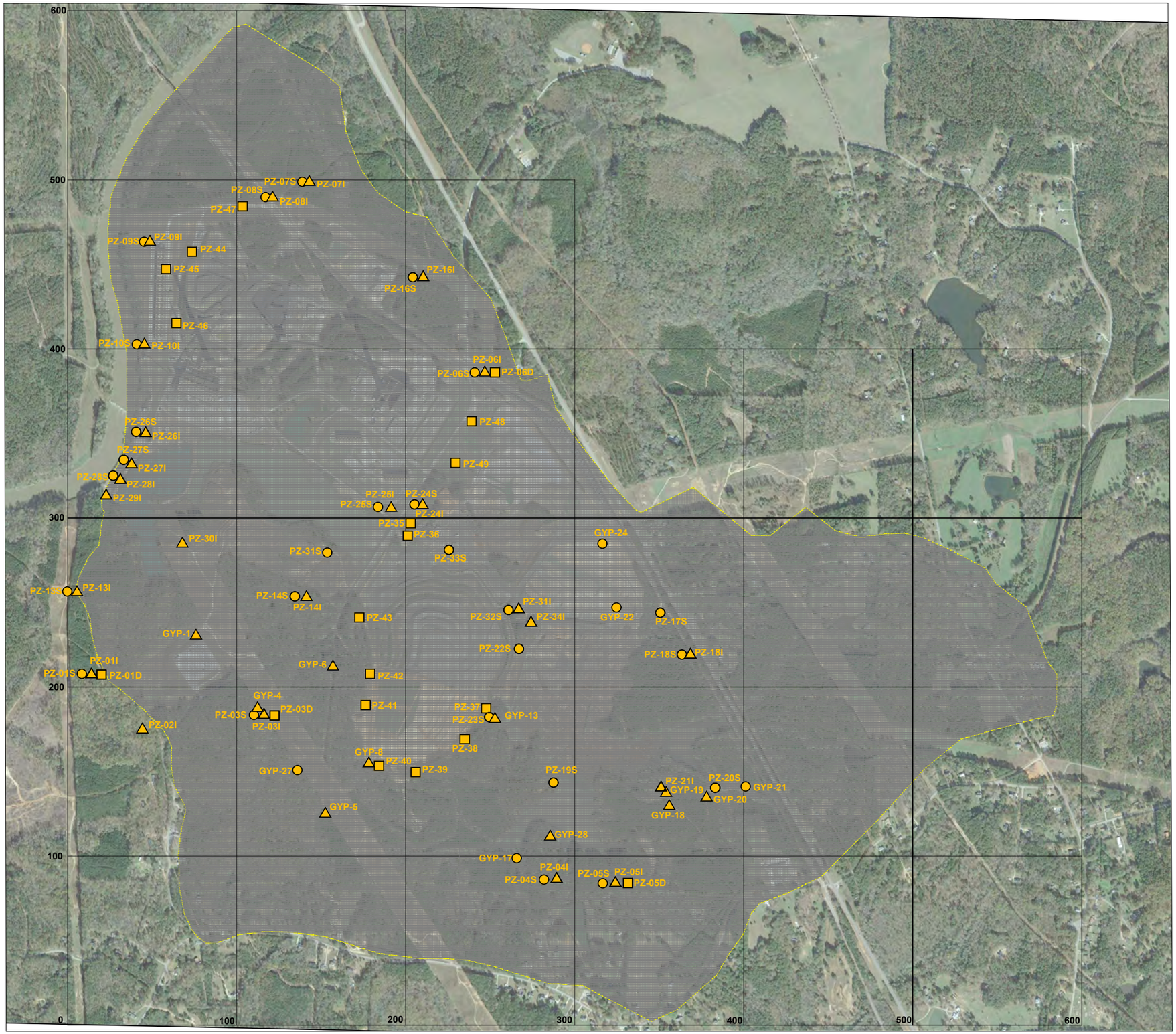
Table 4-7
Groundwater Model Verification – February 20, 2017 Observed Water Levels

WELL ID	OBSERVED	SIMULATED	RESIDUAL	MODEL LAYER	WELL ID	OBSERVED	SIMULATED	RESIDUAL	MODEL LAYER
PZ-1S	801.24	803.84	-2.60	2	PZ-23S	749.71	745.61	4.10	2
PZ-1I	796.93	799.09	-2.16	3	PZ-24S	735.53	741.17	-5.64	2
PZ-2I	819.21	821.52	-2.31	3	PZ-24I	735.01	740.53	-5.52	3
PZ-3S	758.89	765.84	-6.95	2	PZ-25S	730.40	735.52	-5.12	2
PZ-4S	758.44	757.51	0.93	2	PZ-25I	729.02	735.62	-6.60	3
PZ-4I	759.46	758.87	0.59	3	PZ-26S	695.70	700.35	-4.65	2
PZ-5S	764.44	762.61	1.83	2	PZ-26I	691.49	699.68	-8.19	3
PZ-5I	764.35	764.15	0.20	3	PZ-27S	689.24	696.53	-7.29	2
PZ-5D	770.39	765.57	4.82	4	PZ-27I	688.15	696.88	-8.73	3
PZ-6S	760.30	765.54	-5.24	2	PZ-28S	695.37	697.01	-1.64	2
PZ-6I	760.27	764.97	-4.70	3	PZ-28I	693.78	698.08	-4.30	3
PZ-6D	757.21	764.53	-7.32	4	PZ-29I	690.86	695.11	-4.25	3
PZ-7S	720.86	733.97	-13.11	2	PZ-30I	724.29	727.55	-3.26	3
PZ-7I	720.78	731.91	-11.13	3	PZ-31S	724.29	722.62	1.67	2
PZ-8S	733.21	732.28	0.93	2	PZ-35	731.04	734.43	-3.39	3
PZ-8I	733.37	738.56	-5.19	3	PZ-36	729.54	732.39	-2.85	2
PZ-9S	693.57	702.62	-9.05	2	PZ-37	748.80	746.49	2.31	3
PZ-9I	693.46	704.65	-11.19	3	PZ-38	768.15	763.01	5.14	3
PZ-10S	692.98	696.06	3.08	2	PZ-39	791.61	790.81	0.80	4
PZ-10I	686.57	696.07	-9.50	3	PZ-40	787.10	792.32	-5.22	3
PZ-14S	730.30	735.08	-4.78	2	PZ-41	774.68	772.13	2.55	4
PZ-14I	730.29	733.08	-2.79	3	PZ-42	769.10	765.41	3.69	4
PZ-16S	765.58	765.99	-0.41	2	PZ-43	730.63	734.30	-3.67	4
PZ-17S	770.33	769.01	1.32	2	PZ-44	708.89	719.45	-10.56	4
PZ-18S	768.39	767.28	1.11	2	PZ-45	696.77	709.75	-12.98	3
PZ-18I	765.76	767.39	-1.63	3	PZ-46	700.36	715.20	-14.84	3
PZ-19S	748.46	754.04	-5.58	2	PZ-47	726.93	737.93	-11.00	4
PZ-20S	757.56	755.87	1.69	2	PZ-48	755.06	762.34	-7.28	4
PZ-21I	752.68	756.30	-3.62	3	PZ-49	749.11	754.68	-5.57	3
PZ-22S	742.19	742.02	0.17	2					

(1) Groundwater elevations listed in feet above mean sea level.

Table 4-8
Statistical Summary of Model Verification Evaluation
Using February 20, 2017 Observed Groundwater Elevations

CALIBRATION STATISTIC	CALIBRATED MODEL VALUE
Minimum Residual (feet)	-14.84
Maximum Residual (feet)	5.14
Absolute Residual Mean (feet)	4.89
Average Residual (feet)	-3.75
Standard Deviation of Residuals	4.73
Range of Observed Groundwater Elevations (feet)	132.64
Standard Deviation/Range	0.036
Absolute Residual Mean/Range*100	3.69
Sum of Squared Residuals	2150
Percent of residuals within:	
± 1 ft	12
± 2.5 ft	27
± 5 ft	76



LEGEND

- EXISTING SHALLOW (SAPROLITE) PIEZOMETER
- EXISTING INTERMEDIATE (TRANSITION ZONE) PIEZOMETER
- EXISTING DEEP (BEDROCK) PIEZOMETER
- GROUNDWATER MODEL DOMAIN
- GRID LAYOUT (EACH CELL IS 20'X20')

SOURCE

1. NOVEMBER 2015 AERIAL WAS OBTAINED FROM GOOGLE EARTH AT https://www.google.com/

N

0 1200 2400

SCALE IN FEET

PROJECT:

GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

TITLE:

GROUNDWATER MODEL DOMAIN AND GRID LAYOUT

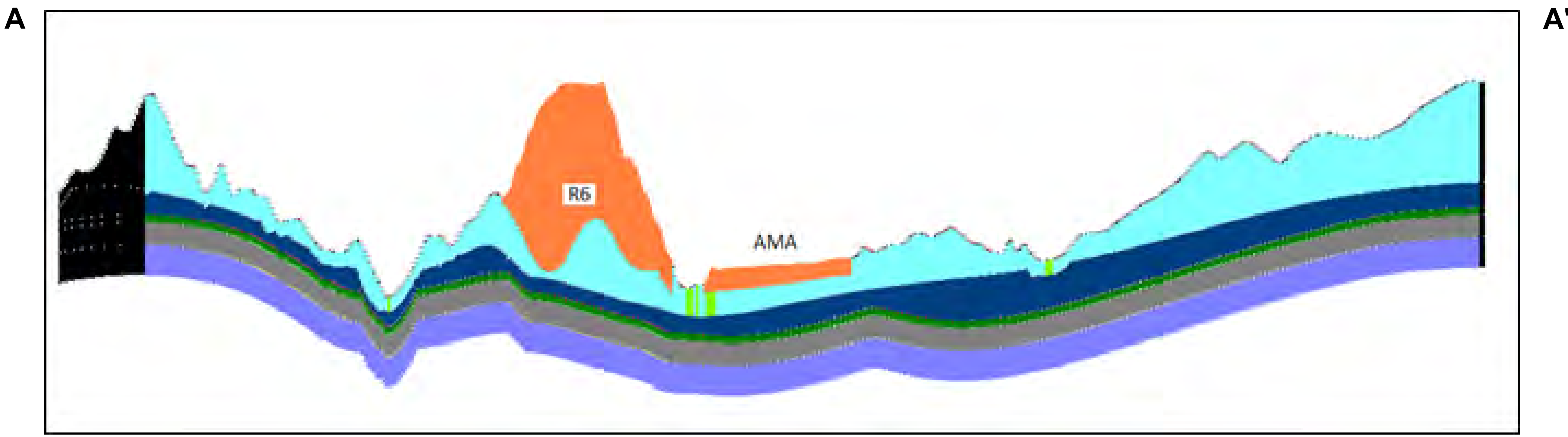
DRAWN BY:	A. PEEBLES	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 4-1**
DATE:	APRIL 2020		

TRC

50 International Drive
Patewood Plaza Three, Suite 150
Greenville, SC 29615
Phone: 864.281.0030

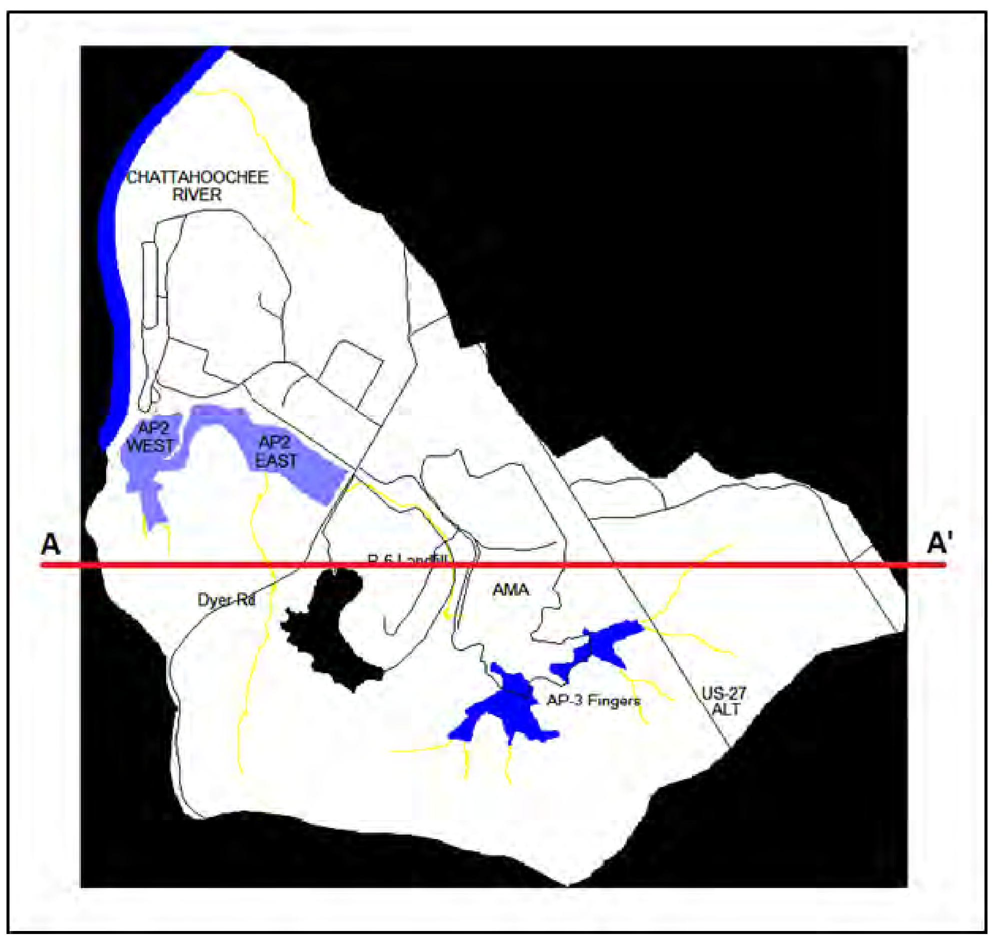
FILE NO.: 242211-DATA_GAP-GRIDBOUND.dwg

11x17 -- ATTACHED XREFS: -- ATTACHED IMAGES: 20151113-Google_Aerial
DRAWING NAME: J:\CAD\Yates\242211-SCS Plant Yates\0001\242211-DATA_GAP-GRIDBOUND.dwg -- PLOT DATE: April 06, 2020 - 10:44AM -- LAYOUT: FIGURE 4-1



CROSS SECTION A-A'

NOT TO SCALE



CROSS SECTION LAYOUT MAP

NOT TO SCALE

LEGEND

- Ash
- Saprolite
- Transition Zone
- Upper Bedrock (some fractures)
- Upper Bedrock (fresh, few fractures)
- Lower Bedrock (fresh, no fractures)

SOURCE

1. PROFILE IS BASED ON MAY 2014 LIDAR TAKEN FROM METRO ENGINEERING & SURVEYING CO. INC. DRAWING SUPPLIED BY PLANT YATES, 4143YSP.DWG.

PROJECT: GEORGIA POWER COMPANY - PLANT YATES NEWNAN, GEORGIA	
TITLE: GROUNDWATER MODEL LAYER CROSS SECTION A-A'	
DRAWN BY: R. MAYER	PROJ NO.: 242211.0001.0.6
CHECKED BY: M. HAYS	FIGURE 4-2
APPROVED BY: K. SAUCIER	
DATE: JANUARY 2020	
TRC	50 International Drive Patewood Plaza Three, Suite 150 Greenville, SC 29615 Phone: 864.281.0030
FILE NO.: 242211-CROSS-SECTION.pdf	

DRAWING NAME: J:\CAD\Yates\242211-SCS Plant Yates\0001\242211-CROSS-SECTION.dwg --- PLOT DATE: September 09, 2019 - 9:38AM --- LAYOUT: FIGURE 2-1

Figure 4-3
Horizontal Hydraulic Conductivity Zones – Ash/Saprolite (Layers 1 and 2)

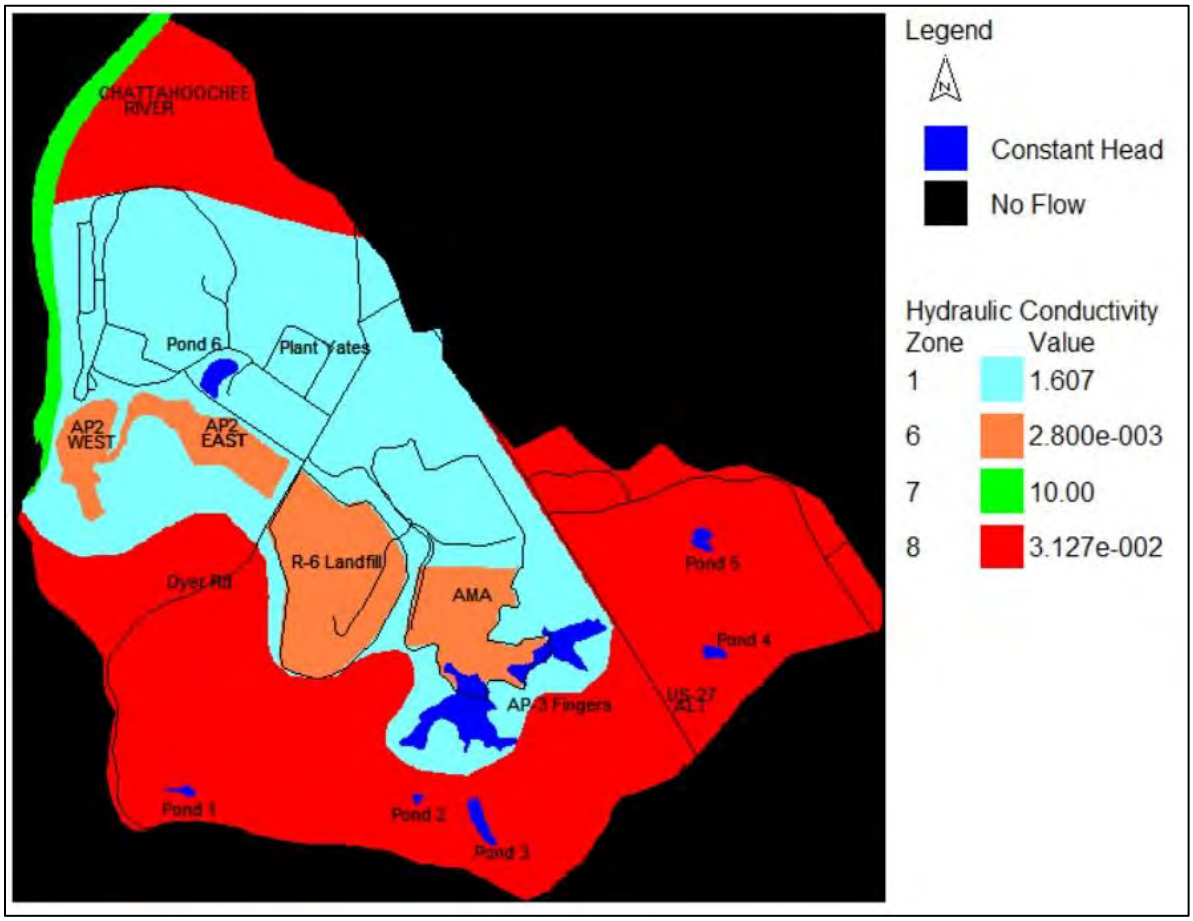


Figure 4-4
Recharge Zones – Layer 1

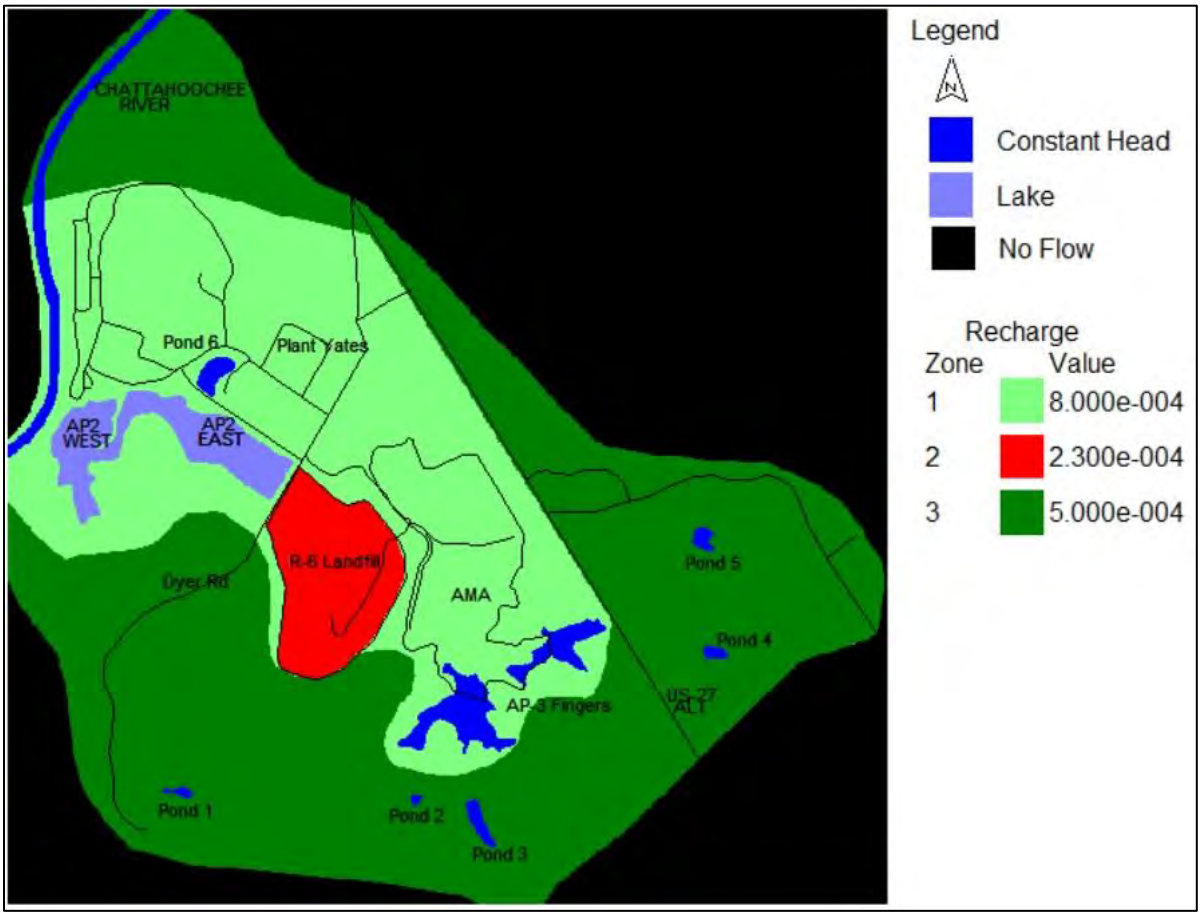


Figure 4-5
Evapotranspiration Zones – Layer 1

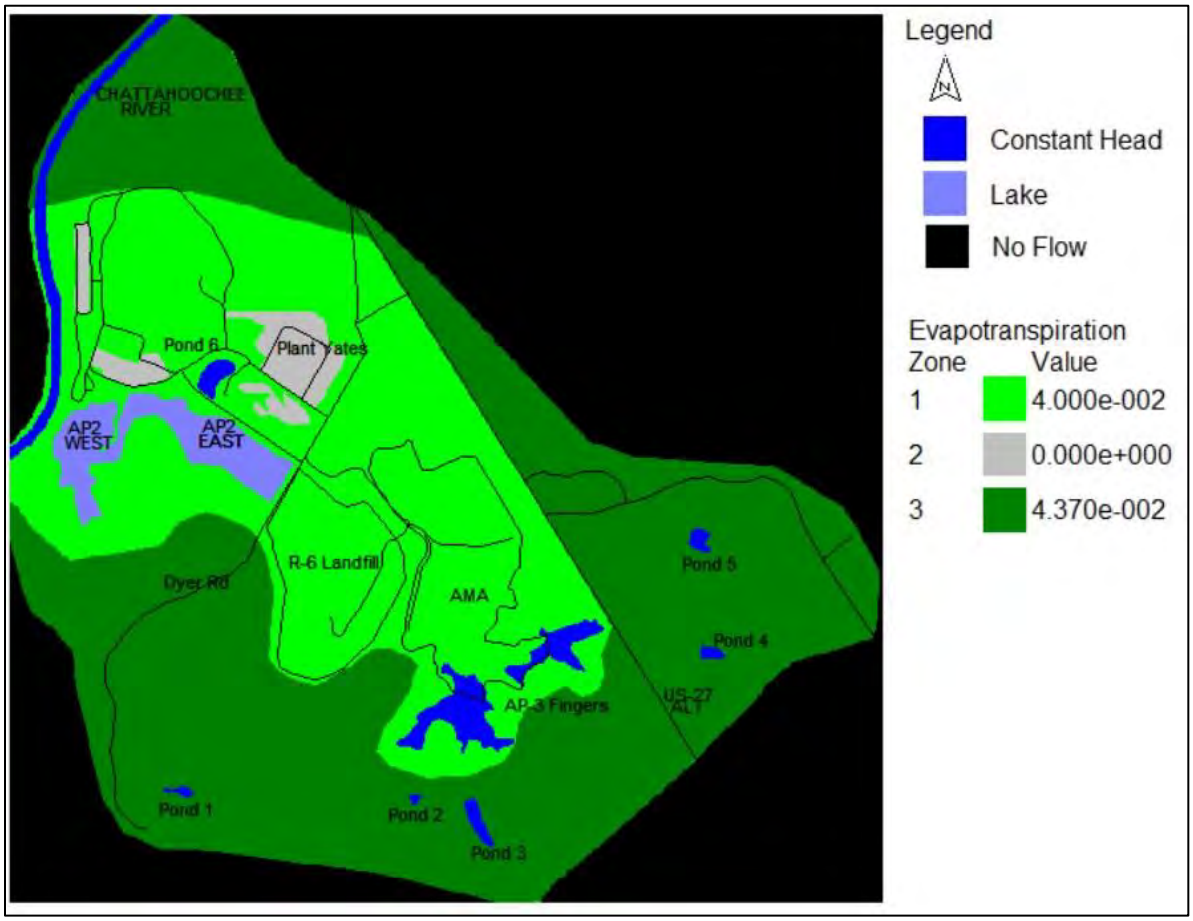
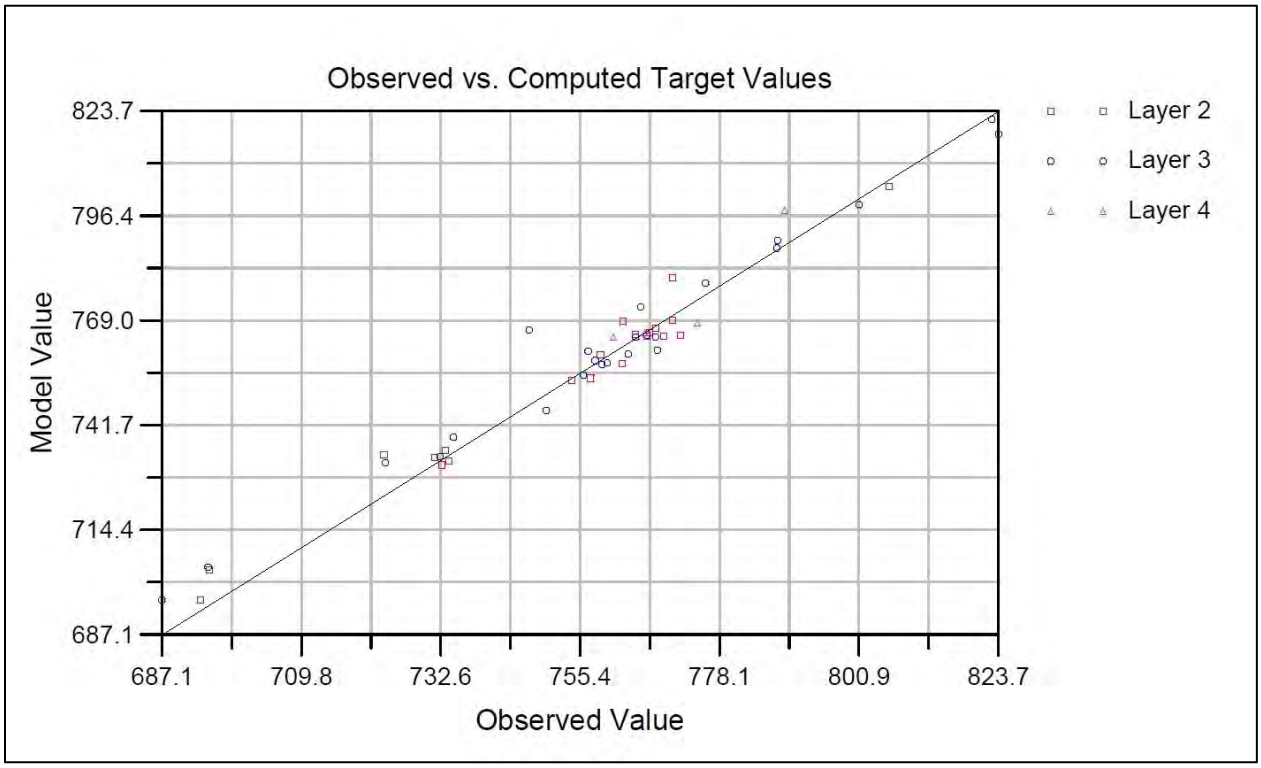


Figure 4-6
Plot of Observed Versus Simulated Groundwater Levels



LEGEND

- EXISTING SHALLOW (SAPROLITE) PIEZOMETER
- EXISTING INTERMEDIATE (TRANSITION ZONE) PIEZOMETER
- EXISTING DEEP (BEDROCK) PIEZOMETER
- 720 GROUNDWATER CONTOURS

NOTE:
PRE-CLOSURE CONTOURS ARE FROM JUNE 26, 2014 GROUND WATER ELEVATIONS.

SOURCE

1. NOVEMBER 2015 AERIAL WAS OBTAINED FROM GOOGLE EARTH AT https://www.google.com/

0 800 1600
SCALE IN FEET

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

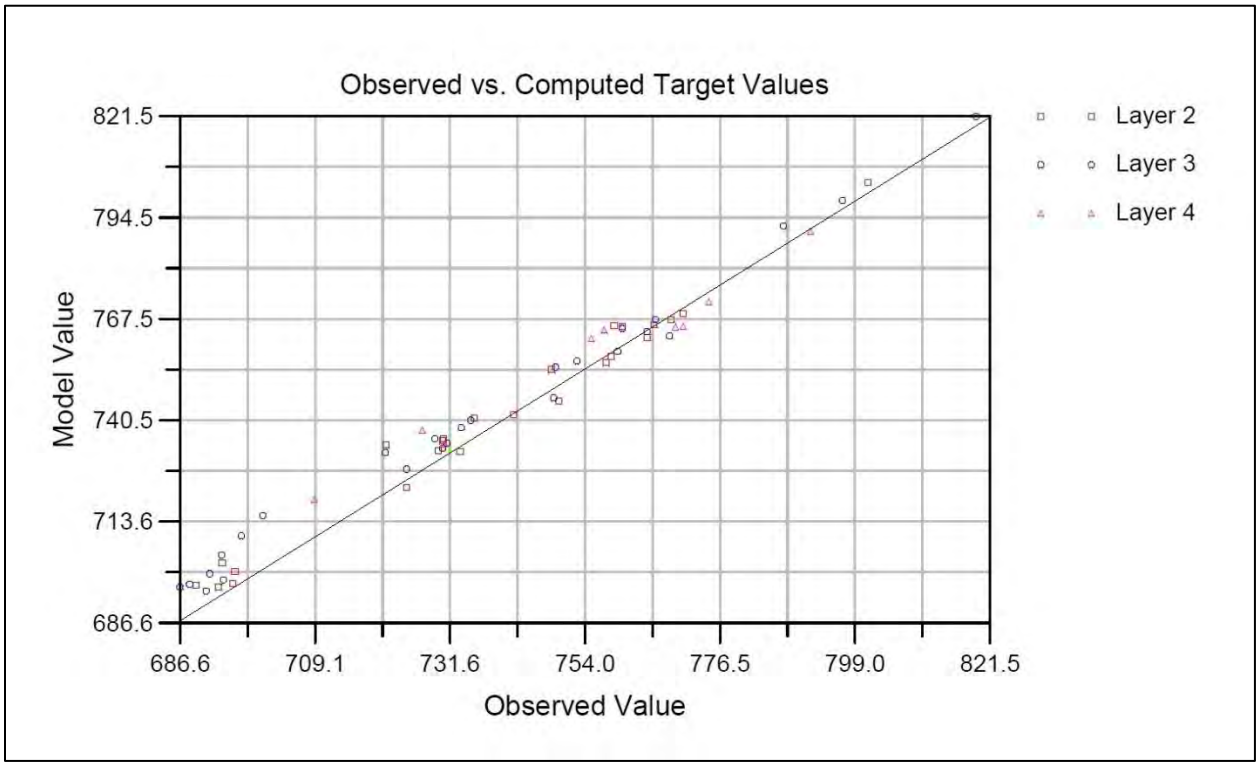
TITLE:
PRE-CLOSURE GROUNDWATER CONTOURS

DRAWN BY:	A. PEEBLES	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 4-7**
DATE:	APRIL 2020		

TRC
50 International Drive
Patewood Plaza Three, Suite 150
Greenville, SC 29615
Phone: 864.281.0030

FILE NO.: 242211-DATA_GAP-11-2019-calibratedhead.dwg

Figure 4-8
Plot of Observed Versus Simulated Groundwater Levels – February 20, 2017



Section 5
Post-Closure Groundwater Flow Modeling

Following groundwater modeling calibration, the calibrated parameter values such as hydraulic conductivity, recharge, and ET were used to create a post-closure groundwater flow model. The post-closure model represented the potential future Site closure plan and was used as a predictive tool for evaluating the impact of the closure plan to Site groundwater flow conditions.

The post-closure model incorporated the potential future layout of the R6 landfill and the AMA. This included the following changes:

- Consolidation of on-site ash within the AMA footprint. This change to the post-closure model was created by removing the ash layer from AP-2 and reflecting its placement within a revised AMA footprint.

- The ash consolidated within the AMA is covered with a synthetic liner. To account for the synthetic liner over the AMA, a recharge rate of zero inches per year was assigned to within the AMA footprint.

- The layout of the AMA and corresponding berm contour details was provided by SCS in an AutoCAD file titled AMA with AP-B, dated August 14, 2017. The features depicted in the AutoCAD file in addition to an updated topographic survey from April 2017 (UAV drone survey) were incorporated into the post-closure model to update the revised topographic surface.

- The AP-3 area was modified to reflect the separation into the East Cove and South Cove. Based on the anticipated operating levels provided by SCS, a constant head boundary condition of 748.50 feet AMSL was applied to the East Cove and a constant head elevation of 744.50 feet AMSL was applied to the South Cove.

- The addition of perimeter surface drains designed to convey surface water from the synthetic liner covering the AMA was included in the post-closure model. This was accomplished by setting the drain elevation within the post-closure model equal to the ground surface elevation.

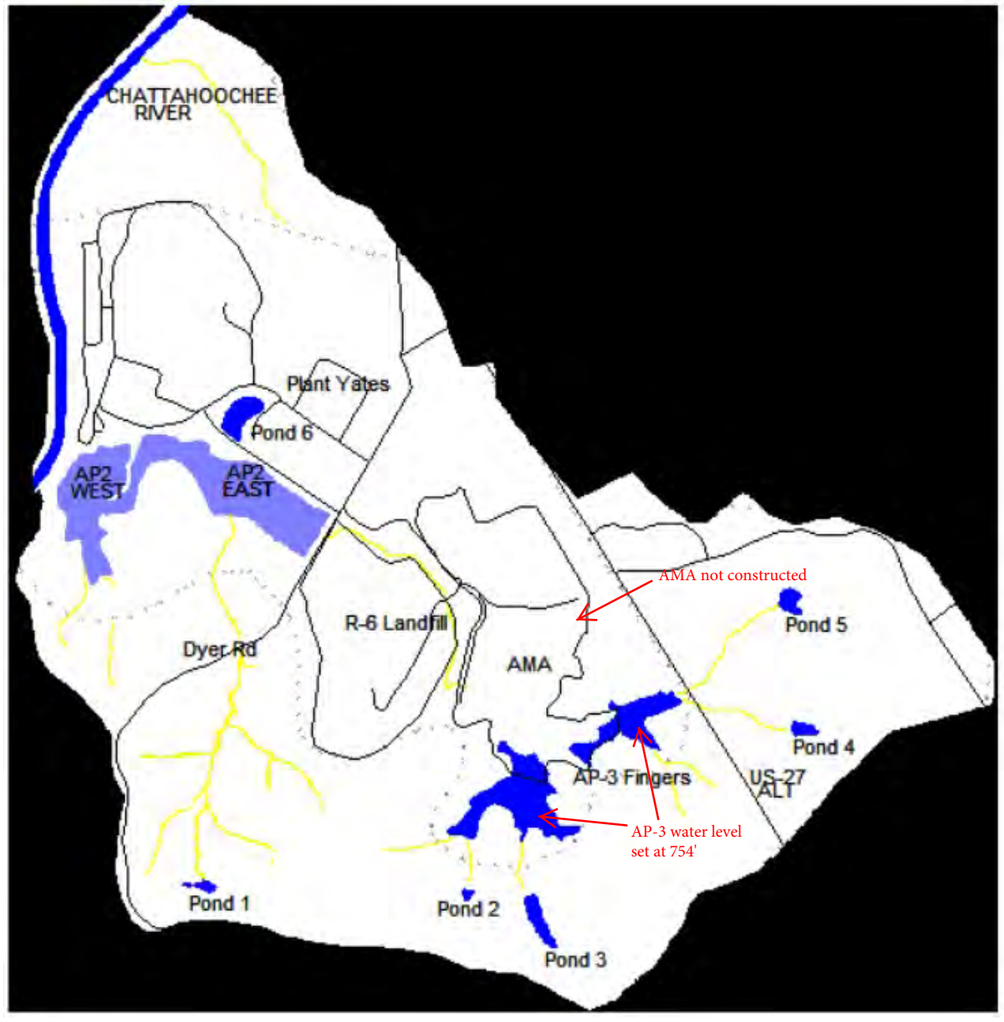
- A storm water retention basin was added to the post-closure model north of the R6 landfill. Based on the anticipated operating level provided by SCS, a constant head boundary condition of 730 feet AMSL was applied to the basin.

Figure 5-1 depicts a comparison of the pre-closure model configuration to the post-closure model configuration.

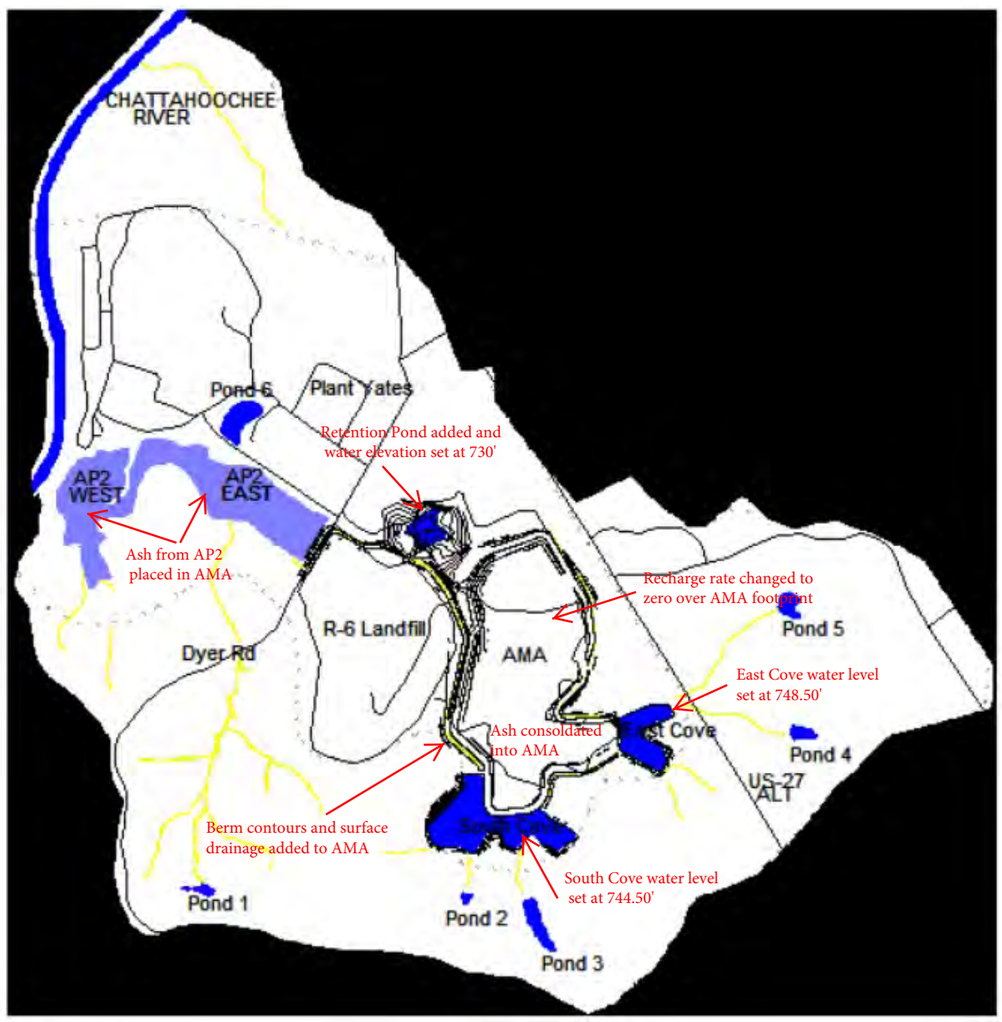
The post-closure groundwater flow model was used to provide an estimate of changes to Site water levels following completion of closure activities. The post-closure model was run to achieve steady-state using the hydraulic properties obtained from the calibrated model. The predicted groundwater contours from

the model are depicted on **Figure 5-2**. Additionally, a side by side comparison of the pre-closure groundwater contour output to the post-closure groundwater contour output is depicted on **Figure 5-3**. The overall general groundwater flow direction in the predicted model was to the northwest, which is similar to pre-closure conditions. However, groundwater flow in the R6 landfill area appears to have shifted more to the northeast around the landfill as compared to through it, as in previous conditions. The hydraulic gradient in the predictive model ranged from approximately 0.01 ft/ft in the northern portion of the AMA to approximately 0.09 ft/ft to the south of AP-2 West.

The change in post-closure groundwater elevation is depicted on **Figure 5-4**. With respect to the change in groundwater elevations, the predicted change in groundwater elevations in the post-closure model appears to decrease from approximately less than 1 foot to over 4 feet within the R6 landfill and approximately less than 2 feet to over 8 feet within the AMA compared to pre-closure conditions.



PRE-CLOSURE MODEL CONFIGURATION



POST-CLOSURE MODEL CONFIGURATION

LEGEND

- CONSTANT HEAD BOUNDARY CONDITION
- DRAIN BOUNDARY CONDITION
- LAKE BOUNDARY CONDITION
- INACTIVE CELLS

N

NOT TO SCALE

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

TITLE:
COMPARISON OF PRE-CLOSURE VERSUS POST-CLOSURE GROUNDWATER MODEL CONFIGURATIONS

DRAWN BY:	R. MAYER	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 5-1**
DATE:	APRIL 2020		

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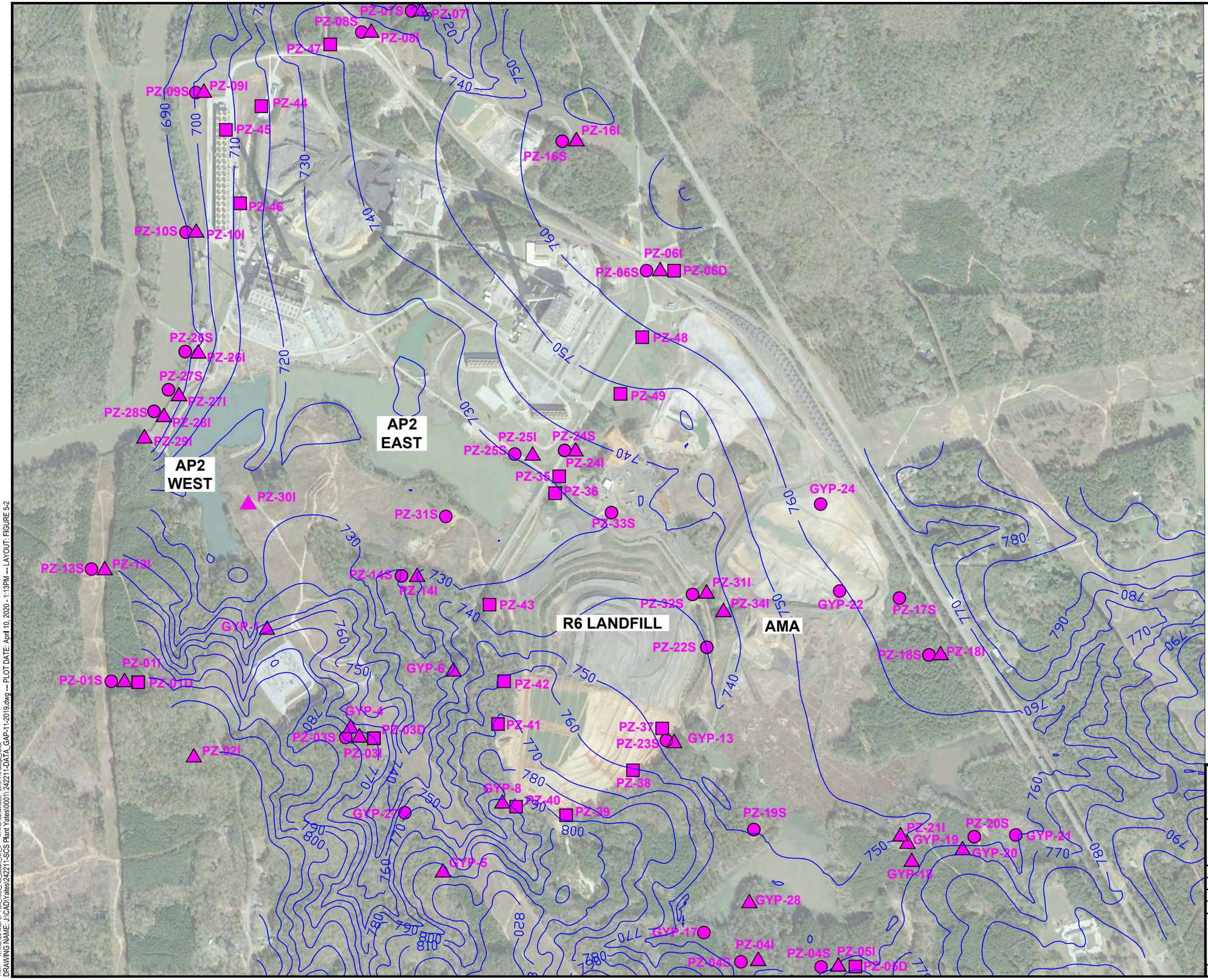
Greenville, SC 29615
Phone: 864.281.0030

FILE NO.: 242211-DATA_GAP-11-2019-FIGURE_5-1.dwg



LEGEND

- EXISTING SHALLOW (SAPROLITE) PIEZOMETER
- EXISTING INTERMEDIATE (TRANSITION ZONE) PIEZOMETER
- EXISTING DEEP (BEDROCK) PIEZOMETER
- 720 GROUNDWATER CONTOURS

NOTE:
POST-CLOSURE MODELED GROUNDWATER CONTOURS AR BASED ON PLANT YATES' CLOSURE PLAN AS OF APRIL 2017.

SOURCE

1. NOVEMBER 2015 AERIAL WAS OBTAINED FROM GOOGLE EARTH AT https://www.google.com/

N

0 800 1600

SCALE IN FEET

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

TITLE:
POST-CLOSURE GROUNDWATER CONTOURS

DRAWN BY:	A. PEEBLES	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 5-2**
DATE:	APRIL 2020		

TRC
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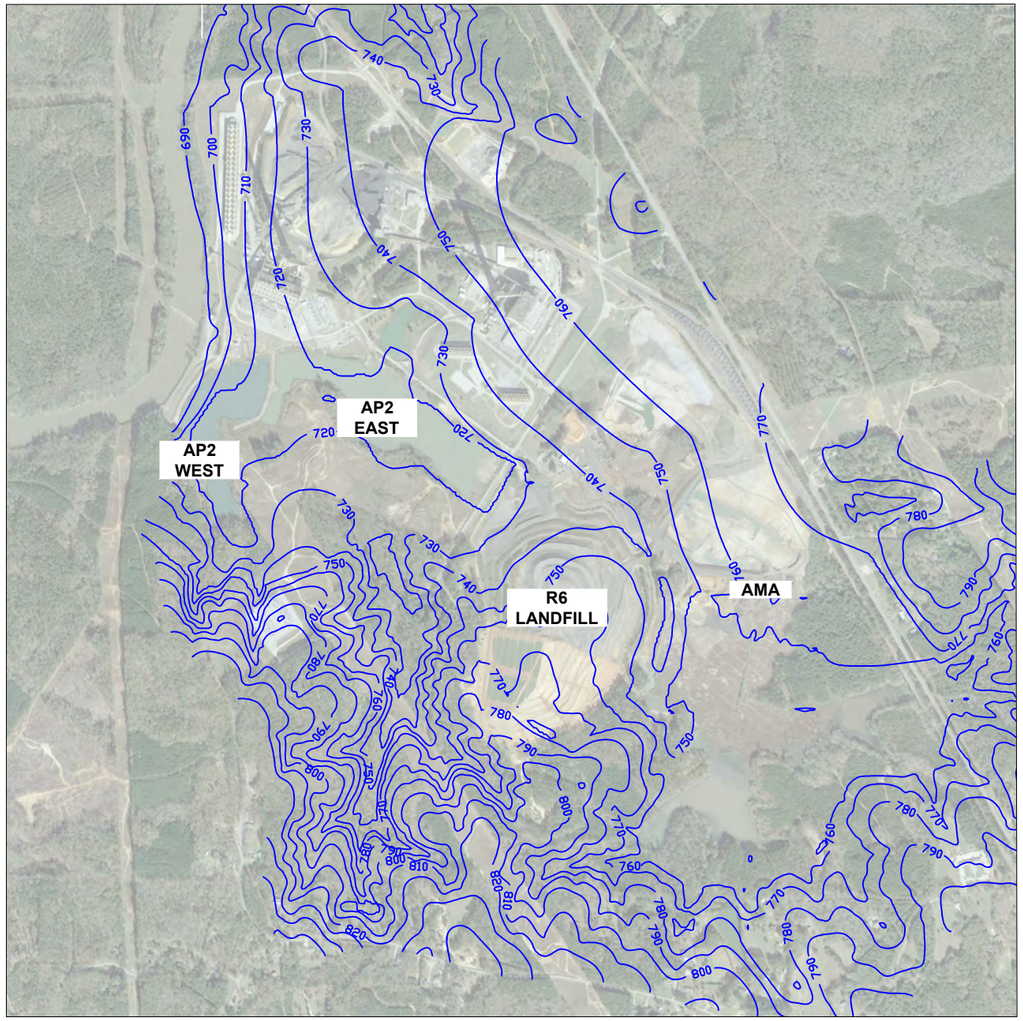
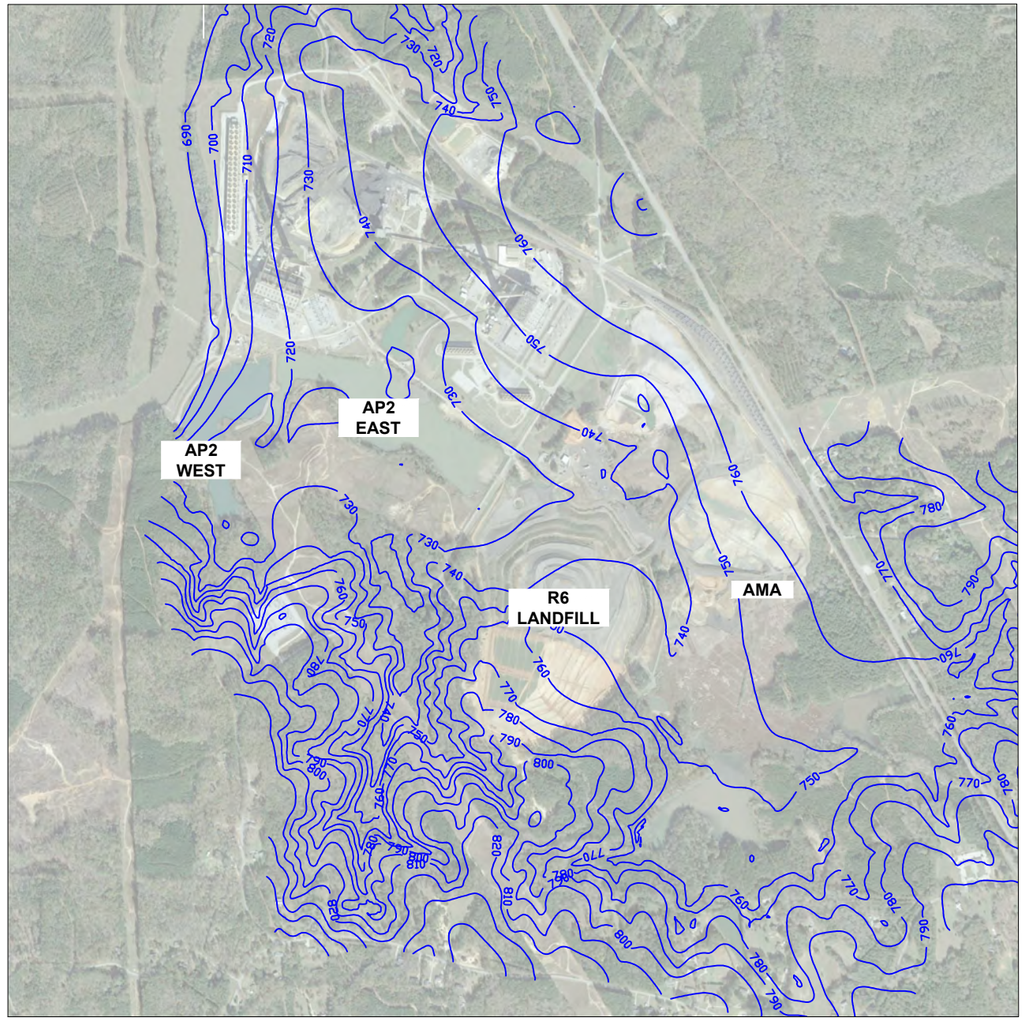
Greenville, SC 29615
Phone: 864.281.0030

FILE NO.: 242211-DATA_GAP-11-2019.dwg



PRE-CLOSURE



POST-CLOSURE

LEGEND

720 — MODEL GROUNDWATER CONTOURS

SOURCE

1. NOVEMBER 2015 AERIAL WAS OBTAINED FROM GOOGLE EARTH AT https://www.google.com/

N

0 1500 3000

SCALE IN FEET

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

TITLE:
COMPARISON OF PRE-CLOSURE VERSUS POST-CLOSURE GROUNDWATER CONTOURS

DRAWN BY:	A. PEEBLES	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 5-3**
DATE:	APRIL 2020		

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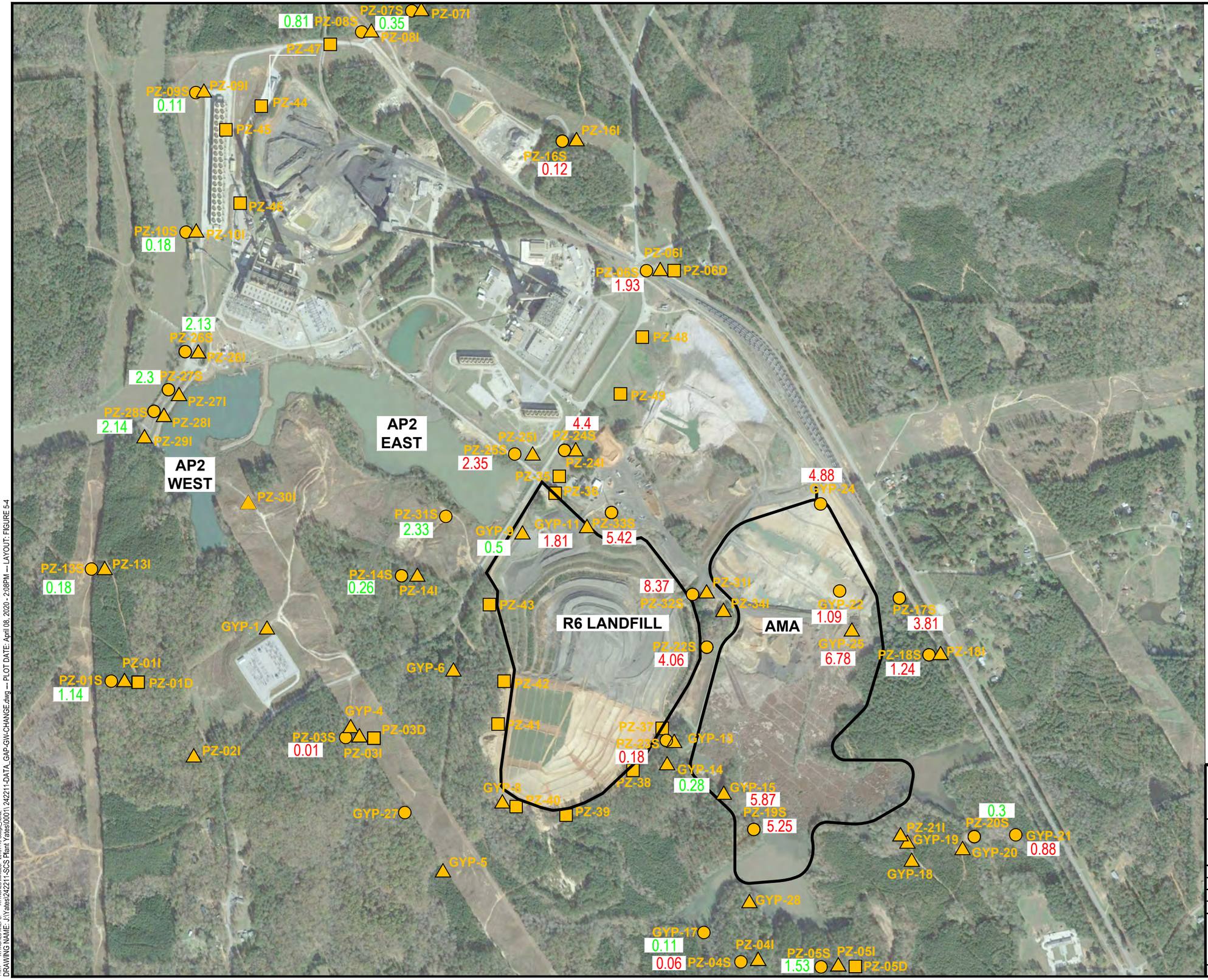
Greenville, SC 29615
Phone: 864.281.0030

FILE NO.: 242211-DATA_GAP-11-2019-FIGURE_5-3.dwg



LEGEND

- EXISTING SHALLOW (SAPROLITE) PIEZOMETER
- EXISTING INTERMEDIATE (TRANSITION ZONE) PIEZOMETER
- EXISTING DEEP (BEDROCK) PIEZOMETER
- 0.94 — INDICATES AN INCREASE IN POST-CLOSURE GROUNDWATER ELEVATION LEVEL (FEET)
- 4.03 — INDICATES A DECREASE IN POST-CLOSURE GROUNDWATER ELEVATION LEVEL (FEET)

SOURCE

1. NOVEMBER 2015 AERIAL WAS OBTAINED FROM GOOGLE EARTH AT https://www.google.com/

N

0 800 1600

SCALE IN FEET

PROJECT:
GEORGIA POWER COMPANY - PLANT YATES
NEWNAN, GEORGIA

TITLE:
CHANGE IN POST-CLOSURE GROUNDWATER ELEVATIONS

DRAWN BY:	A. PEEBLES	PROJ NO.:	242211.0001.0.6
CHECKED BY:	M. HAYS		
APPROVED BY:	K. SAUCIER		**FIGURE 5-4**
DATE:	APRIL 2020		

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Phone: 864.281.0030

FILE NO.: 242211-DATA_GAP-GW-CHANGE.dwg

11x17 -- ATTACHED XREFS: -- ATTACHED IMAGES: 20151113-Google_Aerial
DRAWING NAME: J:\Yates\242211-SCS Plant Yates\000\1 242211-DATA_GAP-GW-CHANGE.dwg -- PLOT DATE: April 08, 2020 - 2:08PM -- LAYOUT: FIGURE 5-4

Section 6
Summary

This report documents the development and application of groundwater flow modeling for the Georgia Power Plant Yates Facility located near Newnan, Georgia. Groundwater modeling was performed at the Site to help predict changes in groundwater levels following the completion of closure activities. Groundwater Vistas was used to create a calibrated model that accurately depicted pre-closure groundwater levels for the Site. Following groundwater modeling calibration, the proposed closure plan was incorporated to build a post-closure groundwater flow model. The post-closure model incorporated the potential future layout of the R6 landfill and the AMA. The post-closure groundwater flow model was used to provide an estimate of changes to Site water levels and groundwater flow dynamics following completion of closure activities.

Based on the results of the modeling efforts, the following conditions are predicted to occur:

- The overall general groundwater flow direction in the predicted model is anticipated to remain similar to pre-closure conditions which is flow to the northwest;
- Groundwater flow in the R6 landfill area appears to have shifted more to the northeast around the landfill as compared to through it, as in previous conditions;
- The hydraulic gradient is predicted to range from a minimum of approximately 0.01 ft/ft in the northern portion of the AMA to a maximum of approximately 0.09 ft/ft to the south of AP-2 West; and
- The predicted change in groundwater elevations appears to decrease from approximately less than 1 foot to over 4 feet within the R6 landfill and approximately less than 2 feet to over 8 feet within the AMA.

Section 7
References

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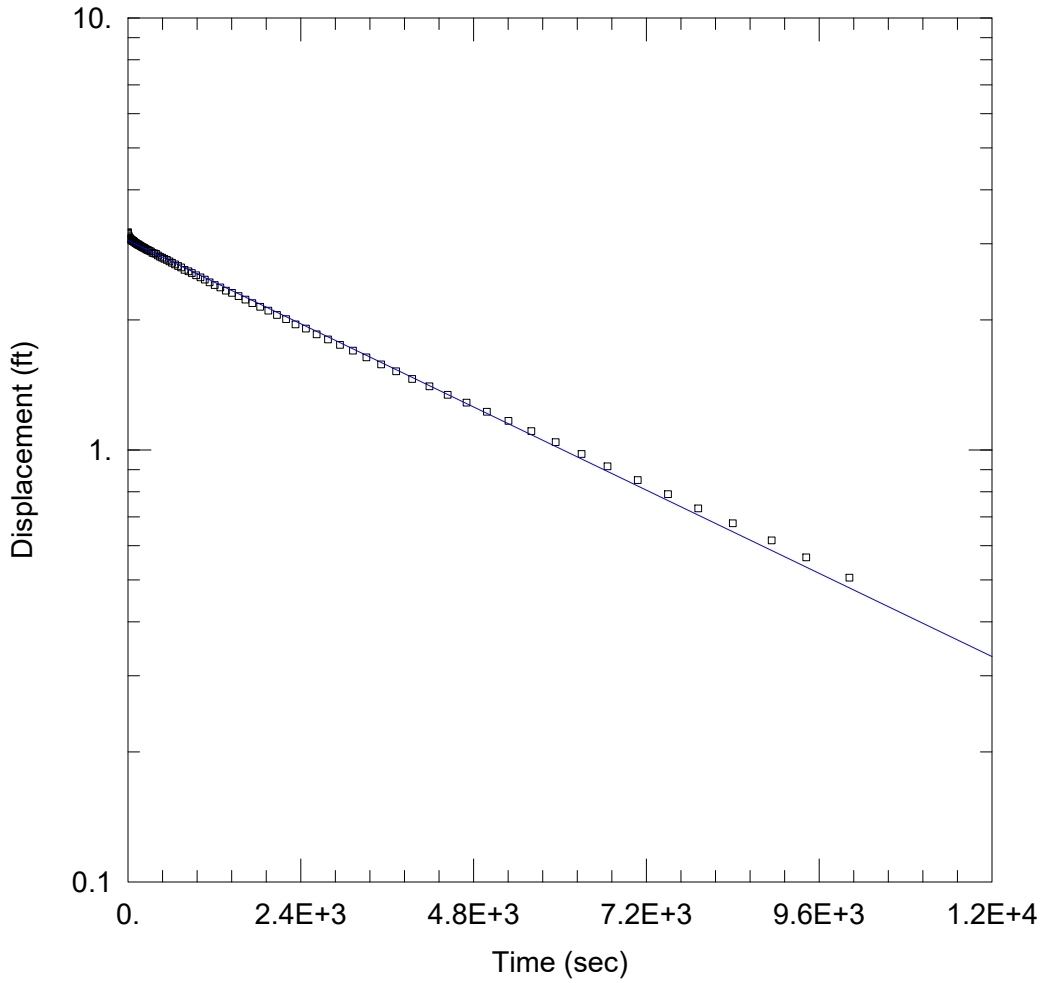
Appendix A
AQTESOLV Slug Test Data Outputs



P-1 FALLING HEAD TEST

Data Set: P:\...\P-1 Falling Head.aqt
Date: 02/15/18 Time: 08:49:11

PROJECT INFORMATION

Company: TRC
Client: SCS
Project: 242211
Location: Plant Yates, GA
Test Well: P-1
Test Date: 2/1/2018

AQUIFER DATA

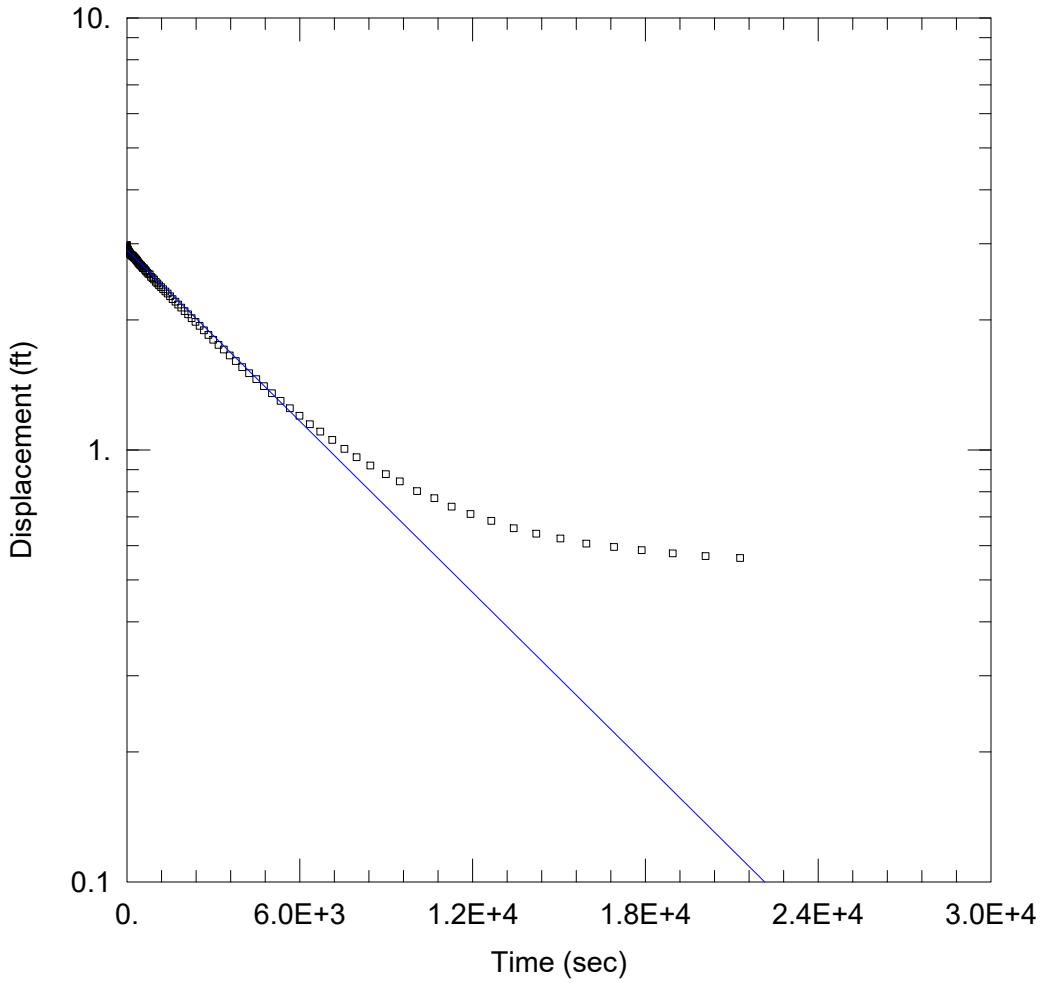
Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-1)

Initial Displacement: 3.19 ft
Total Well Penetration Depth: 22. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 8. ft
Screen Length: 10. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01828 ft/day
y0 = 3.051 ft



P-1 RISING HEAD TEST

Data Set: P:\...\P-1 Rising Head.aqt
Date: 02/15/18 Time: 08:49:42

PROJECT INFORMATION

Company: TRC
Client: SCS
Project: 242211
Location: Plant Yates, GA
Test Well: P-1
Test Date: 2/1/2018

AQUIFER DATA

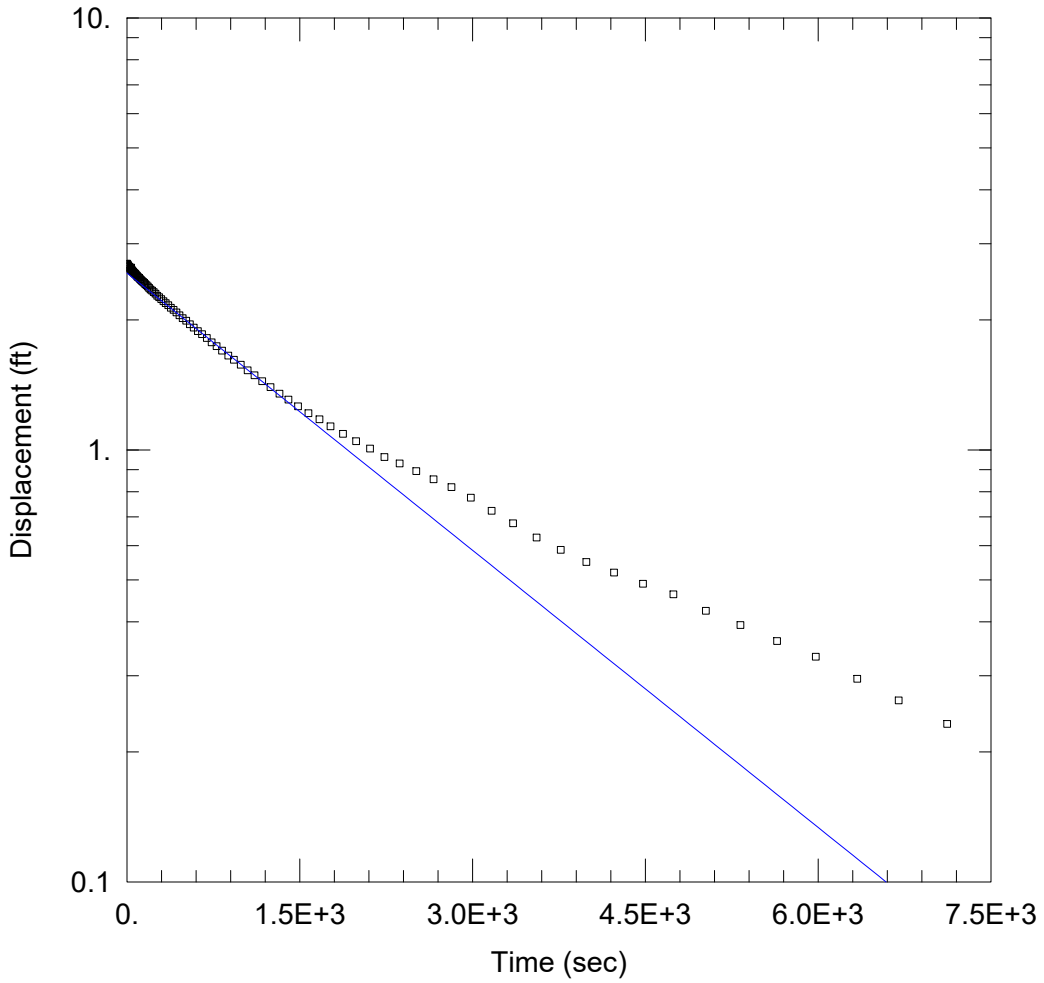
Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-1)

Initial Displacement: 2.98 ft
Total Well Penetration Depth: 22. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 8. ft
Screen Length: 10. ft
Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01506 ft/day
y0 = 2.903 ft



P-2 FALLING HEAD TEST

Data Set: P:\...\P-2 Falling Head.aqt
Date: 02/15/18 Time: 08:50:25

PROJECT INFORMATION

Company: TRC
Client: SCS
Project: 242211
Location: Plant Yates, GA
Test Well: P-2
Test Date: 2/2/2018

AQUIFER DATA

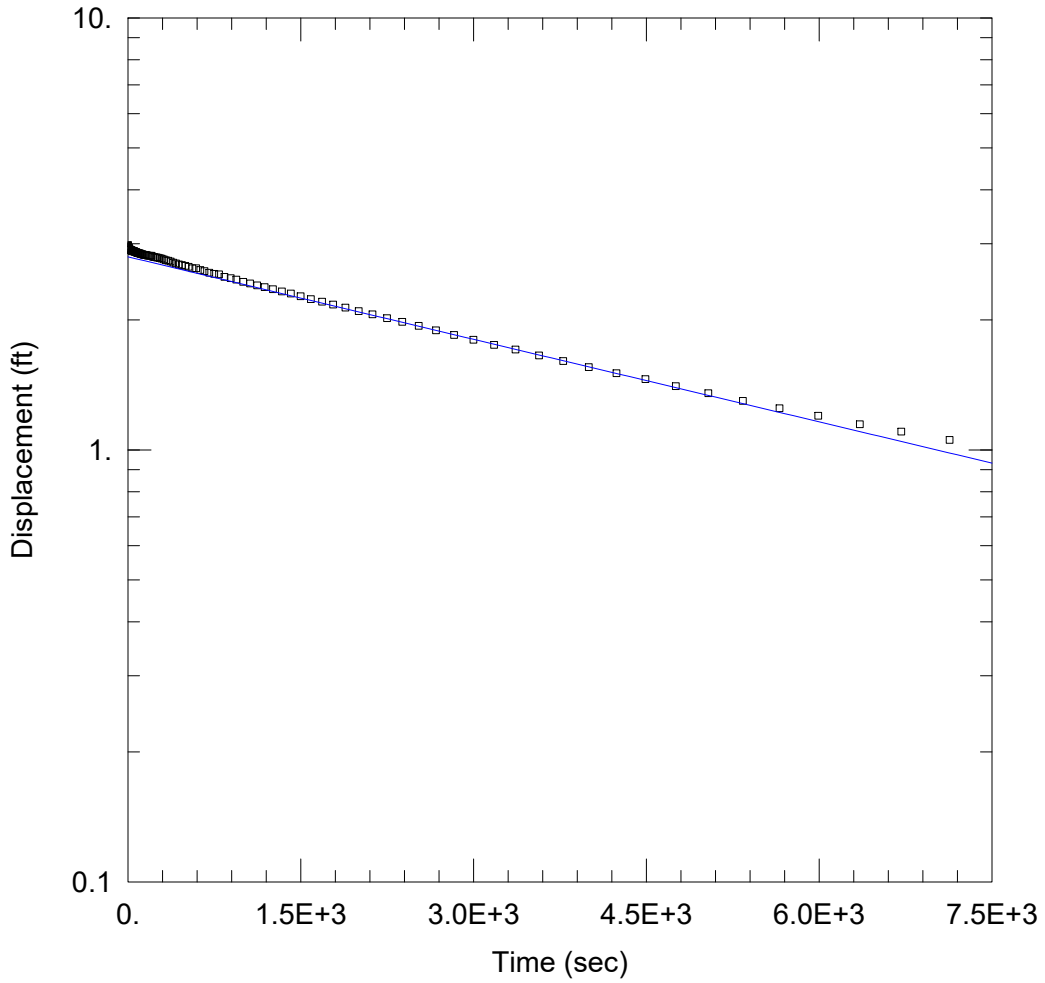
Saturated Thickness: 18. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-2)

Initial Displacement: 2.7 ft Static Water Column Height: 8. ft
Total Well Penetration Depth: 25. ft Screen Length: 10. ft
Casing Radius: 0.08333 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.04986 ft/day y0 = 2.566 ft



P-2 RISING HEAD TEST

Data Set: P:\...\P-2 Rising Head.aqt
Date: 02/15/18 Time: 08:43:54

PROJECT INFORMATION

Company: TRC
Client: SCS
Project: 242211
Location: Plant Yates, GA
Test Well: P-2
Test Date: 2/2/2018

AQUIFER DATA

Saturated Thickness: 18. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (P-2)

Initial Displacement: 2.98 ft Static Water Column Height: 8. ft
Total Well Penetration Depth: 25. ft Screen Length: 10. ft
Casing Radius: 0.08333 ft Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.01484 ft/day y0 = 2.799 ft

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Suite 100
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Knoxville, TN 37923
Phone: 865.531.9143