

**PLANT SCHERER
CCR SURFACE IMPOUNDMENT
(CCR UNIT AP-1)
MONROE COUNTY, GEORGIA
PART B SECTION 1
HYDROGEOLOGIC ASSESSMENT REPORT**

for



**Georgia
Power**

August 2022

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Certification

This *Hydrogeologic Assessment Report, Georgia Power Company, Plant Scherer Ash Pond 1 (AP-1)* has been prepared in compliance with applicable Georgia Solid Waste Management Rule by a qualified groundwater scientist or engineer with Golder Associates Inc., with the exception of Appendix A, which is the groundwater modeling report that has been prepared and certified by AECOM.

I hereby certify that this *Hydrogeologic Assessment Report* was prepared by, or under the direct supervision of, a "Qualified Groundwater Scientist," in accordance with the Rules of Solid Waste Management. According to 391-3-4-.01(57), 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 report was prepared to meet the requirements of Georgia Environmental Protection Division (EPD) Rules of Solid Waste Management, Chapter 391-3-4.10(9)(c)(6)(ii).

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1.0 INTRODUCTION

Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10 of the Georgia Solid Waste Management Regulations provides the requirements for permitting and closure of CCR regulated facilities in Georgia (GA). A technical report of geologic and hydrogeologic units within the disposal site is required for inactive surface impoundments as specified in Georgia EPD Rule 391-3-4-.10(9)(c)(6)(ii). This report describes geologic and hydrogeologic information for Georgia Power's Plant Scherer (Plant Scherer) Ash Pond 1 (AP-1) and will act as the technical geological and hydrogeological report to meet the requirement for permitting and closure. Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) adopt Federal CCR rules by reference, references to the Federal CCR rule herein also apply to the Georgia EPD rules. Data used in generating this report were obtained from previous investigations by Southern Company Services (SCS), Georgia Power Company (Georgia Power), AECOM, and Golder Associates Inc. (Golder).

The geologic and hydrogeologic data was used to develop a groundwater model to evaluate pre-closure and post-closure groundwater conditions at the site. The groundwater models were developed by AECOM and the modeling report is included as Appendix A to this report. The model was calibrated to pre-closure conditions observed in June 2016 and then simulated for post-closure conditions based on anticipated AP-1 closure design.

2.0 BACKGROUND INFORMATION

2.1 Site Description and Physiography

Plant Scherer is located in northeast Monroe County, GA, and is owned and operated by Georgia Power. The Plant occurs approximately 5 miles south of Juliette, GA and is surrounded primarily by agricultural and residential land use. The property occupies approximately 12,000 acres and is bounded on the south by Lake Juliette.

Plant Scherer consists of four coal-fired units with flue gas desulfurization (FGD) equipment (i.e., scrubbers). Historically, an ash pond and a cooling pond were developed on site through impoundment of natural, unnamed tributaries to the Ocmulgee River. AP-1 is situated on a topographic high and occupies approximately 550 acres.

An onsite monofill located east of AP-1 consists of four cells, three of which are utilized for gypsum disposal and one that is used for powdered activated carbon (PAC) ash disposal. These monofills have been utilized since 2011 and gypsum cell 1 and the PAC ash cell are currently in use. The total disposal area occupies approximately 325 acres along the northern portion of the property. A site location map is included as Figure 1, while Figure 2 presents the site layout. Landfill Cell 3 is a new area planned for construction and disposal of CCR in near future. A monitoring well network was established for each unit as presented on Table 1.

The site is located within the Piedmont Physiographic Province (Piedmont) of central Georgia, which is characterized by gently rolling hills and narrow valleys, with locally pronounced linear ridges. Overall, the property slopes gently south towards Lake Juliette and east toward the Ocmulgee River. AP-1 is located in a topographically high area on the property, with several relatively small, intermittent and perennial creeks and streams surrounding the pond, creating radial surface water drainage downslope of the pond. Some of these creeks and streams join Berry Creek north and east of the pond, which ultimately discharges into the Ocmulgee River. Other creeks and streams generally flow south and west, ultimately discharging into Lake Juliette. Recycle Pond is a man-made pond located upgradient of Lake Juliette and downgradient of AP-1, see Figure 2. Several topographically isolated hilltops occur west of the pond and represent topographic high points on the site, as shown on Figure 2. Topographic relief across the site is greater than 200 feet, with a natural topographic high of

over 570 feet above mean sea level (ft. msl) occurring along the topographic ridge west of AP-1, and a topographic low of less than 380 ft. msl in the eastern portion of the site near Berry Creek.

2.2 Regional Geologic and Hydrogeologic Setting

The following section and subsections include a general description of regional geologic and hydrogeologic characteristics of formations that occur beneath the site. Information presented in this section is based on published literature, discussion with local geologic experts, and experience working in this geologic terrain. This information is intended to serve as a framework for site specific conditions presented in Section 3.0.

Plant Scherer is located within the center of the East Juliette, 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 1100 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. Later deformation and emplacement of mafic dikes is associated with the rifting of the North American craton during the Mesozoic and Cenozoic Eras.

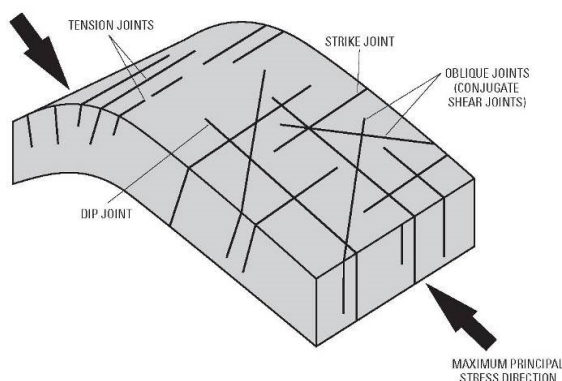
The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are deeply weathered due to the humid climate and bedrock is typically overlain 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.

2.2.1 Regional Geology

A major tectonic boundary is projected to occur through the central portion of the East Juliette, GA quadrangle. This boundary separates rocks of the Carolina Terrane to the east from rocks of the Pine Mountain structural window to the west. The Carolina Terrane represents a former island arc sequence that docked onto the North American plate during early mountain building of the Appalachians. This terrane is characterized by the presence of metasedimentary and metavolcanic rocks that are locally interlayered with mafic and ultramafic bodies and subsequently intruded by granitic sills and diabase dikes. The mafic and ultramafic intrusives are referred to regionally as the Juliette Mafic Complex. The regional Goat Rock Fault occurs southeast of the site and traverses northeast-southwest through the central portion of the Carolina Terrane. The Goat Rock Fault is characterized by near-vertical, strike-slip movement and formed at significant depth within the crust. This fault endured ductile deformation, forming in a high pressure, low temperature environment.

The Pine Mountain window consists of Grenville basement rocks (primarily the Woodland Gneiss) that are unconformably overlain by schist, quartzite and marble. Like the Carolina Terrane, this package of rocks has been intruded by granitic sills and diabase dikes. The Ocmulgee Fault juxtaposes and serves as the tectonic boundary between the Pine Mountain Window and the Carolina Terrane. This structural boundary is characterized by a zone of ductile deformation with local presence of mylonitic rocks.

Typically, up to four different joint sets formed in this area due to tectonic stresses imposed upon the bedrock. Dip joints form parallel to dip direction of foliation/compositional layering and are typically perpendicular to fold axes, representing extension in 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 axes, typically forming from tension along fold hinges. The dip direction and angle of these joints is orthogonal to the dip direction and angle of compositional layering. Oblique joints develop diagonal ($\pm 30^\circ$) to the principal stress direction and represent conjugate sets formed from shear.



Schematic diagram showing the typical joint patterns (Davis, 2012)

2.2.2 Regional Hydrogeology

Groundwater in the Piedmont/Blue Ridge geologic province can occur as perched water within residual soils, as an unconfined regional aquifer within residual soils and transitionally weathered materials, and as a series of confined to semi-confined, discrete but locally interconnected aquifer systems within the bedrock. Perched groundwater occurs above the local or regional groundwater table and is locally developed above lithologies with relatively lower permeability which temporarily retard the natural downward infiltration of groundwater. This groundwater is unconfined, recharged by precipitation, and is laterally discontinuous and temporally transient.

The regional groundwater table is laterally consistent and generally occurs within overburden overlying fresh bedrock. In general, this overburden consists of residual soils and a transitionally weathered zone typical of Piedmont settings. Due to chemical weathering, saprolitic-soil retains relict structural features of the parent rock such as foliation and compositional layering while having the texture of a soil. Saprolitic rock is similar to the saprolitic soil but less decomposed. This saprolitic material is generally more permeable than the overlying residuum, and the underlying fresh rock, and serves to concentrate ground water along a tabular zone of enhanced permeability. Although weathering generally increases porosity and permeability within this zone, some processes taking place in this zone, such as the growth of clay minerals, mineral deposition in fractures, and development of iron oxide 'hardpan,' can significantly decrease the permeability. This tabular zone of enhanced permeability is referred to as the transitionally weathered zone, which is characterized by heterogeneously interlayered, fresh to completely weathered (saprolitic) rock.

Groundwater within the overburden, which is comprised of residual soils, saprolite and transitionally weathered rock (TWR), is generally unconfined and the surface is a subdued reflection of topography. It is recharged by precipitation stored in residual soils and typically discharges into major streams and rivers. In areas where

bedrock is relatively shallow and when water levels are seasonally depressed, the regional groundwater table also occurs within the upper zones of weathered bedrock.

Bedrock aquifer systems are recharged by groundwater that is stored in the overburden. This groundwater slowly infiltrates underlying bedrock aquifer systems by moving through preferentially weathered discontinuities in the bedrock mass, such as foliation/compositional layering, joints, and faults. The occurrence and characteristics of discontinuities (e.g., size, orientation, dilation, infilling, spacing, and persistence) are dependent on the lithology of the rock and the type of stresses applied to them. These discontinuities are locally enlarged along individual planes as well as at the intersection of planes due to physical and chemical weathering, providing preferential pathways for enhanced groundwater flow. Groundwater can move readily, both vertically and horizontally, through these isolated areas of enhanced porosity and permeability, and depending upon the size, concentration, and interconnection of these secondary openings, the bedrock can either be dry or host to high-yield wells.

3.0 SITE GEOLOGIC CONDITIONS

3.1 Geologic Mapping Methodology

Geologic mapping was performed by Petrologic Solutions, Inc. (Petrologic) in 2015 within and around the site using the East Juliette, GA USGS 7.5-minute topographic quadrangle as a base map. Petrologic performed supplemental geologic mapping in early 2020 for additional property acquired by Georgia Power. Figure 3 presents interpretation of structural and lithologic features encountered during mapping of the Site. Information recorded at each map station included: lithology and mineralogy; orientation and characteristics of structural discontinuities including, shearing, faulting, jointing, cleavage, and compositional bedding; and depth and type of weathering characteristics of the rock. Map station locations were chosen based on outcrop availability and locations (rock and saprolite) and recorded using a hand-held, Wide Area Augmentation System (WAAS)-enabled Global Positioning System (GPS).

3.2 Residual Soil and Saprolite

To develop a better understanding of subsurface conditions, available boring and monitoring well installation logs were reviewed. Revised interpretations were made, primarily related to depth to bedrock and the material that constitutes bedrock, considering criteria including but not limited to blow counts, rock core recovery, and rock quality designation (RQD) values. These data were used as the basis a top of rock contour map, presented as Figure 4 and for three geologic cross sections, presented as Figures 5A through 5C. Profile orientation lines for the geologic cross sections are included on Figure 2.

Based on this review, residual soils, primarily sandy silt, silty sand, sandy clay and silty clay, occur as a variably-thick deposit overlying bedrock across most of the site, as illustrated on Figures 5A-5C. The thickness of the soil encountered in the borings is variable, ranging from little to no soil where outcrop is encountered at the surface, to as much as 168 feet. Thickness of saprolitic soils and/or saprolitic rock range in thickness across the site. Saprolitic rock is also considered to be partially weathered rock (PWR), which is defined by Standard Penetration Test (SPT) blow counts that exceed 50 blows/foot. For drill locations where SPT blow counts were not obtained (i.e., sonic drilling methods), the saprolitic rock was described as TWR on the lithologic logs as interpreted by an experienced field geologist.

The criterion used for identifying top of bedrock was largely based on the depth at which a significant thickness of relatively competent (i.e., RQD>50%) bedrock was encountered. Observations made in nearby borings,

experience working in the Piedmont, and professional judgment were also used in interpreting top of rock elevations. These elevations were used to develop the top of rock contour map and are presented on Figure 4. The cross sections were also used to bolster three-dimensional interpretation of the surface. As shown on

Figure 4, the top of rock surface generally follows topography which has been largely uniformly weathered. Material overlying the top of rock surface, including residual soils, saprolite, and transitionally weathered rock, is collectively referred to as overburden in this report.

3.3 Lithologic Units

Based on the detailed geologic mapping, graphically represented on Figure 3, the plant property is primarily underlain by fine- to medium-grained, massive, poorly-jointed, feldspathic biotite gneiss (OZog on Figure 3) that has been deeply and uniformly weathered. The gneiss is well-banded and well-foliated, locally containing schistose zones defined by areas of greater biotite enrichment as well as discontinuous interlayers and lenses of chlorite-actinolite schist and feldspar-hornblende gneiss/amphibolite. Large, discontinuous lenses or intrusive mafic and ultramafic bodies were locally observed to be interlayered with the gneiss near the northern, central and eastern portions of the site and south of Lake Juliette.

Feldspathic (meta)gabbro bodies, identified on Figure 3 as OZgb, were observed to be texturally variable, ranging from a coarse-grained cumulate texture to a relatively finer grained, thinly layered texture. The gabbro is generally unfoliated and resistant to weathering, occurring as a series of fresh exfoliation boulders in outcrop. The gabbro bodies are located north and east of AP-1, and one was identified south of Lake Juliette (OZgb on Figure 3). The gabbro body located near the northwest corner of the AP-1 contained a chlorite-pyroxene rich zone (Map Station 62) and was approximately 20-feet thick as described in lithologic drill logs. This location was identified as a former mine or mining prospect on the topographic map (USGS, 1973).

A porphyritic, hornblende-biotite-feldspar diorite sill (OZpd on Figure 3) intrudes the biotite gneiss downstream of AP-1 along Berry Creek. The diorite is generally poorly jointed, unfoliated to poorly foliated, and is resistant to weathering. The diorite occurs as a series of angular to spheroidal cobbles and boulders in outcrop. Thin lenses of amphibolite/hornblende-gneiss are described within the diorite in lithologic drill logs. A thin diabase dike (Td) intrudes the biotite gneiss and was observed north and near the central portion of AP-1. The diabase is fine-grained, equigranular and unfoliated, and generally outcrops as float blocks. Similar to the gabbro bodies, the diorite and diabase intrusives are resistant to weathering, standing out in relief relative to the surrounding differentially-weathered biotite gneiss.

The biotite gneiss in the western portion of the property has been intruded by a large, discontinuous lens of unfoliated feldspathic granite (OZg on Figure 3) which occurs as a series of isolated pavement outcrops; two smaller outcrops of the granite are also observed north of AP-1 (OZg on Figure 3). Although the granite is less weathered than the surrounding biotite gneiss, it is associated spatially with anomalously-deep weathering of the gneiss. The biotite gneiss in the southeastern corner of the property is more granitic being characterized by an increase in quartz content and is less weathered than the more feldspathic gneiss that occurs elsewhere on the property.

3.4 Geologic Structure

3.4.1 Foliation and Faults

Bedrock discontinuity orientations were statistically analyzed using lower hemisphere equal area stereonet, presented as Figure 6, to determine dominant orientations for each discontinuity type (i.e., joints, foliation, and layering). Two domains of foliation were observed on site during geologic mapping. The west side of the property near the granitic intrusion shown on Figure 3 is characterized by foliation that strikes generally north-south. Equal-area, lower-hemisphere stereonet analyses of the foliation measurements for this domain has an average pole concentration representing a foliation of N8W, dipping 39 degrees to the northeast (Figure 6). This area is also associated with an increase in concentration of schistose zones within the biotite gneiss as well as two areas of anomalously thick overburden.

The central and east side of the property, near AP-1 and monofills, is characterized by foliation that strikes generally northeast-southwest. Equal-area, lower-hemisphere stereonet analyses of the foliation measurements for the site and immediate vicinity have an average pole concentration representing a foliation of N27E, dipping 48 degrees to the southeast (Figure 6). Although no indication of faulting or shearing was observed in exposures on or adjacent to the site during geologic mapping, regional maps indicate the boundary between two tectonic terranes occurs in this area. The terrane boundary lacks evidence of faulting or shearing at the surface and shallow subsurface (Lawton, 1977). The area is not an active fault area and should be considered stable. There are no Quaternary age faults noted for this area¹.

3.4.2 Joints

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.

Most of the rocks and saprolite observed on site were poorly jointed, which may be related to the highly feldspathic and deeply weathered nature of the biotite gneiss. The mafic and felsic intrusives observed within the gneiss show exfoliations in outcrops, thus preventing observation of jointing. Consequently, orientation of the few joints measured during mapping are scattered and do not show distinct patterns, as graphically shown on the equal area stereonet of all joints measured in all lithologies on Figure 6.

One weak cluster of joints appears to be oriented variably east-west to northwest and could be related to the north-south foliation measured on the west side of the site. A weak cluster of northeast trending joints is also shown on Figure 6 which correlates with foliation strike in the central and eastern portion of the site. As previously mentioned, the biotite gneiss in the southeastern corner of the site is a harder rock due to quartz

¹ *ArcGIS Web Application*, usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf.

enrichment. A strong, northeast-trending linear fabric is evident in this area when viewing aerial photos and topo maps, discussed below.

Locally, some of the joints contain clay infilling; however, most of the joints do not contain any infilling in surface exposures. The plane-surface morphology of each joint was noted in the field descriptions. Most of the joints are planar and smooth with little to no evidence of high fluid flow based on field mapping.

3.4.3 Discussion

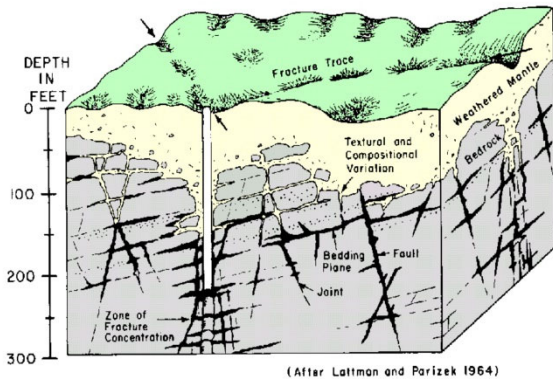
Although the entire site is generally underlain by biotite gneiss, structural and lithologic variations within the gneiss were observed during geologic mapping. As presented above, foliation orientation on site varies from nearly N-S strike in the western portion of the property to the more regional NE-trending strike elsewhere on the property. The biotite gneiss on the west side of the site is characterized by an increase in granite and interlayered schist, whereas numerous mafic bodies have intruded the biotite gneiss on central and east side of the site. The area where these lithologic and structural changes occur coincides with the projected occurrence of the Ocmulgee Fault, which serves as the boundary between two major tectonic terranes. Mafic and ultramafic bodies present in the biotite gneiss are reflective of an island arc-type depositional environment and are therefore potentially related to the Carolina Terrane.

3.5 Lineament Analysis

3.5.1 Methodology

Subsurface geologic discontinuities such as lithologic contacts between resistant or non-resistant units, fracture zones, jointing, shear planes, and faults often have ground surface expressions that can be identified through analysis of photographic and topographic images. The discontinuities expressed as lineaments at ground surface commonly have enhanced porosity and permeability in the rock mass due to differential weathering. Groundwater in igneous and metamorphic rocks generally moves along discontinuities in the bedrock, enhancing the differential weathering processes.

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 on following page). These surface manifestations are referred to as fracture traces or lineaments and were identified for this project by remote-sensing techniques using topographic maps, aerial photographs, and shaded relief maps generated from 10-meter digital elevation model (DEM) data.



Inset - Block diagram shows how lineament/fracture trace is a surface manifestation of an underlying bedrock fracture zone. (Lattman and Parizek, 1964)

Lineament analyses were conducted on USGS topographic maps, USGS DEM, and USGS low-altitude aerial photographs (verified with National High-Altitude Photography Program (NHAP) high-altitude aerial photographs). Linear features or linear groups of features were identified and traced on digital overlays of the maps, presented as Figure 7. Lineaments arise from a number of sources. 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. Rectilinear segments of streams may be associated with local weakness in the underlying bedrock related to persistent joint sets. Faults tend to be long linear features that are often difficult to detect at ground surface, but generally form photographic and topographic lineaments.

3.5.2 Discussion of Lineaments

Based on a total of 543 lineaments identified on the topographic maps, aerial photographs, and DEM, three major groups of lineament orientations were identified within and around the site by the lineament analyses and both are consistent in orientation with measured discontinuities in the bedrock:

- L1: N30 to 50W – oriented subparallel to dip joint
- L2: N40 to 50E – oriented parallel to regional strike of foliation and faults
- L3: N80 to 90W – perpendicular to local N-S oriented foliation observed on western portion of site

These lineaments are considered to be the ground surface expression of preferential weathering related to discontinuities in the bedrock. 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 to the rock body. Generally, the stress is due to regional tectonics and/or unloading due to weathering and erosion.

3.5.3 Discontinuity Mapping and Lineament analysis Correlation

Lineaments identified are considered to be the ground-surface expression of preferential weathering related to discontinuities in rock. Figure 8 shows a comparison of measured discontinuities and lineaments for this study. Based on this evaluation, the project area appears to be characterized by several persistent lineament sets whose orientations are consistent with the structural stresses experienced in this area. Because of the scatter in orientation in joint sets, it is difficult to correlate lineaments directly with joint sets on this site. However, it appears that L1 is related in orientation to dip direction of the northeast-trending foliation; L2 is related in orientation to the

strike direction of the northeast-trending foliation as well as the orientation of the Goat Rock Fault; and L3 is orthogonal to the north-south trending foliation observed in the western portion of the site.

Because lineament orientations correlate with known regional tectonic fabrics, 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 CONCEPTUAL SITE HYDROGEOLOGIC MODEL

4.1 Uppermost Aquifer

The uppermost groundwater aquifer is within the overburden at the site as supported by groundwater level data measures over several years. Boring logs and monitoring/piezometer installation logs were used to evaluate hydrostratigraphy of the site. Material types identified included residual soils, saprolitic soils, saprolitic rock (or PWR if blow counts were provided), TWR, and competent bedrock. Material overlying the top of rock surface, including residual soils, saprolite, and TWR or PWR, is collectively referred to as overburden. Based on review of site cross sections (Figures 5A-C), residual soils, primarily sandy silt, silty sand, sandy clay and silty clay, occur as a variably thick blanket overlying bedrock across most of the site. The thickness of residual soils encountered in the borings is variable, ranging from little to no soil where outcrop is encountered at the surface, to as much as 168 feet. Thickness of saprolitic soils and/or saprolitic rock is also variable across the site, ranging from 2 to over 40 feet. Based on review of the logs, the screen/filter pack interval for most of the piezometers and monitoring wells installed on site provides connection to the overburden, indicating that the site is underlain by a regional groundwater aquifer that occurs within the overburden.

A potentiometric map for the site is presented as Figure 9. As illustrated on Figure 9, the water table surface of the uppermost aquifer is a subdued reflection of topography at the site, with groundwater generally flowing outward from AP-1 because of higher pool elevation of AP-1. However, this radial flow is expected to diminish or revert to pre-site development conditions following dewatering of the pond and post-closure capping of the pond.

A series of hilltops west of AP-1 represent the upgradient locations on the property near AP-1. Regionally, the groundwater flow is from the western higher terrains towards the pond but eventually flows from the pond to north, east, and south.

As illustrated on Figures 3 in conjunction with Figure 9, upgradient areas on the site are generally underlain by the same geologic units as the downgradient areas; however, lithologic variations are locally present. Isolated bodies of granitic material and zones of more granitic material within the gneiss occur west of the pond in the areas that may provide groundwater recharge. Isolated mafic and ultramafic bodies occur in gneiss in the northern, central and eastern portions of the site and south of Lake Juliette, and the gneiss is more schistose in these areas. Weathering of different parent rocks with variable geochemical characteristics may yield overburden with variable geochemical characteristics. While the intrusives are not considered to significantly impact groundwater flow, they may locally influence the groundwater chemistry by the dissolution of major and trace elements that occur naturally in mafic and ultramafic rocks.

4.2 Hydraulic Conductivity

Hydraulic conductivity (K) data for the groundwater aquifer were tabulated from several previous reports, AQTESOLV files, and data provided by Georgia Power and SCS. Hydraulic conductivity values range from

approximately 0.2 to 32 ft/day across the site. A compilation of available site data and calculated hydraulic conductivity values for slug tests completed at the site as well as details for the hydraulic conductivities for each geologic unit included in the groundwater flow model are included in *Groundwater Model Summary Report – AP-1 Pre- and Post-Closure Conditions Plant Scherer* (AECOM, 2020).

4.3 Aquifer Characteristics

Groundwater flow rates at the site were calculated based on hydraulic gradients, hydraulic conductivity from previous slug test results, and an estimated effective porosity of the screened horizon. Based on slug test data at the site, hydraulic conductivity values are on the order of 1.31 to 2.36 feet per day (ft/day), which are used in the flow calculations. Table 2 presents a historical summary of groundwater elevations across the site. Using data presented in Table 2, the hydraulic gradient was calculated between well pairs shown on Table 3. An effective porosity of 0.2 was used based on the default values for effective porosity recommended by USEPA for a silty sand-type soil (USEPA, 1996).

Horizontal flow velocity was calculated using the commonly used derivative of Darcy's Law:

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

Where:

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

$$K = \text{Average Hydraulic Conductivity of the aquifer} \left(\frac{\text{feet}}{\text{day}} \right)$$

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

$$n_e = \text{Effective porosity}$$

Using this equation and groundwater elevation data from this sampling event, horizontal groundwater velocities are calculated for various areas of the site and are tabulated on Table 3.

As presented on Table 3 groundwater flow velocity at the site ranges from approximately 0.05 ft/day to 0.29 ft/day (approximately 20 to 105 feet per year) across AP-1. The observed groundwater velocities are generally consistent with expected velocities in the regolith-upper bedrock aquifers and confirm the groundwater monitoring system as properly located to monitor the uppermost aquifer for AP-1 at Plant Scherer.

Based on review of the potentiometric contours, horizontal hydraulic gradient is variable and reflects topography at the site. The horizontal gradient appears to be steeper around the downgradient perimeter of the ponds, particularly along embankments where groundwater flow lines are influenced by the constructed slopes for the dams. Generally, the majority of groundwater flow across the site occurs laterally in the TWR zone. Because the site is underlain by clay-rich residual soils and relatively massive bedrock, groundwater is expected to move laterally more than vertically within the TWR, which is considered to have a higher hydraulic conductivity relative to the overlying clay-rich and underlying massive bedrock material.

4.4 Regolith - Bedrock Aquifer System

The uppermost aquifer in the overburden at the site, is part of the regional regolith-bedrock aquifer system. The regolith-bedrock aquifer at the site share similar hydrogeologic characteristics as other regolith-bedrock aquifers elsewhere in the Piedmont region. Local complexities in groundwater flow within the regolith – bedrock aquifer system are influenced by topography and related top of rock variations on site.

The regolith functions as a sponge of sorts, slowly allowing groundwater to infiltrate the bedrock through areas of enhanced permeability. The bedrock is recharged by groundwater that is stored in the overburden, primarily in relatively isolated areas where secondary porosity features (e.g., faults and fractures) occur. The geologic units are relatively uniformly transmissive, with localized areas of differing flow depending on mineralogy, grain size, and correlating fracture connectivity. Preferential groundwater flow is also anticipated along lineaments and potentially around diabase dikes. Relatively thick overburden occurs across most of the site which may impede a direct connection between the uppermost aquifer and underlying bedrock aquifer systems. This rate of infiltration is very slow, as indicated by dating of groundwater in other areas in the Piedmont. Because of the topographic setting, recharge to the site is primarily through precipitation, particularly at erosionally-isolated topographic highs on the western portion of the site and the small hill south of the monofills. Generally, the number and size of fractures in the Piedmont is expected to decrease with depth due to lithostatic pressure (Daniels, 1988). This is supported by observations recorded in lithologic logs for bedrock wells located at the site, where fractures most commonly occur near the top of rock/PWR interface and are less common or rare with depth in competent rock.

Given the nature of unconfined fractured bedrock aquifer systems, typical of the Piedmont, it is expected that a significant amount of interflow occurs in the unsaturated zone, as discussed in Fetter (1988). Horizontal to subhorizontal foliation observed in the saprolitic soils may also contribute to interflow in the uppermost aquifer. The significance of interflow is dependent on the degree of hydraulic connectivity between the fractured bedrock and the overlying regolith. Good connectivity will result in greater water movement into the fracture network, resulting in a longer, deeper, more circuitous flow path to the area of discharge. Based on site-specific hydrogeologic characteristics, groundwater is expected to move laterally more than vertically within the PWR unit, and it is likely that there is limited amount of aquifer recharge occurring in the bedrock unit in and around the facility as discussed below in this section.

Based on data presented in Table 2, average historical groundwater elevations typically show a seasonal variability of approximately 8 feet. In May 2020 the maximum groundwater elevations for the AP-1 area are in the range of 516 feet msl (observed at upgradient well SGWA-3) while minimum groundwater elevations observed at AP-1 are in the range of 417 feet msl (observed at SGWC-17). Conversely, maximum groundwater elevations observed in the eastern portion of the site where the landfills are situated is 449 ft msl (observed at GWA-46) with a minimum elevation of 378 ft msl (observed at GWC-7).

Based on review of the potentiometric contours, horizontal hydraulic gradient is variable and reflects topography at the site and the pool elevation of AP-1. The horizontal gradient appears to be steeper around the perimeter of the pond, particularly along the embankment where groundwater flow lines are influenced by the constructed slope for the dam. Site specific field hydraulic conductivity tests indicate an average hydraulic conductivity on the order of 10^{-4} centimeters per second (cm/s), (refer to referenced site data and AECOM, 2020). This hydraulic conductivity is consistent with regional measurements within Piedmont overburden. In general, groundwater flow is likely faster through the TWR.

Groundwater discharges occur within tributaries onsite. Vertical hydraulic gradients between the regolith and bedrock aquifers were calculated using the May 2020 water levels measured from the shallow/deep nested well pairs, as presented in Table 4. Vertical gradients are calculated as the difference in groundwater elevation (ft) divided by the vertical distance between the midpoint of the screened interval of each well (ft).

Vertical gradient calculations show that the flow component is variable in both topographically high and low areas. In typical Piedmont settings, an upward vertical gradient would be expected in topographically low areas, as observed in well pairs PZ-49S/49D and PZ-60S/60D, and near Berry Creek at PZ-19S/19I. When the absolute values of vertical gradients are relatively high as compared to the site-wide horizontal gradients (PZ-67/67D), this may indicate poor connectivity between the regolith and bedrock aquifers. Groundwater in the bedrock aquifer is isolated within secondary porosity features and limited in extent (i.e., not laterally continuous). The vertical hydraulic gradients across the site are consistent with the regional groundwater flow in metamorphic and igneous rocks of the Piedmont.

4.5 Conceptual Site Hydrogeologic Model Summary

- 1) The site is directly underlain by a variably thick blanket of overburden, which is comprised of residual and saprolitic soils, saprolitic rock, PWR, and TWR.
- 2) The geology beneath the site is generally consistent across the site (i.e., feldspathic biotite gneiss) with isolated granitic, mafic, and ultramafic bodies. Lineaments identified around the site are consistent in orientation with structural features observed during geologic mapping, indicating that development of surface lineation is likely controlled by preferential weathering related to discontinuities in bedrock.
- 3) The top of rock surface generally mimics site topography.
- 4) The uppermost aquifer occurs within the overburden and includes the TWR. Data from boring logs, water level measurements, well development, well purging, and groundwater quality data suggest that the overburden aquifer is hydraulically connected to the bedrock aquifer, consistent with the conceptual models described for the Piedmont. Available site data suggest that the hydraulic connectivity between overburden aquifer and the bedrock aquifer is dependent on the topographic location, storage capacity of the overburden storehouse, and the occurrence of interconnected fractures to the bedrock aquifer. Lithologic and hydrogeologic data reflect limited connectivity between the uppermost aquifer and the bedrock aquifer.
- 5) The potentiometric surface for the uppermost aquifer is generally around the topographic high containing AP-1 with localized influences of topography and the effects of mounding. AP-1 pool level maintains a higher head on all sides of AP-1 except the western edge, including the knob. Thus, the groundwater surrounding AP-1 (with the exception to the west of AP-1) is elevated compared to areas further away from AP-1. Local groundwater mounding effects may induce gradients towards AP-1. However, in general, groundwater flow is from the western higher terrains towards the pond but eventually flows from the pond to north, east, and south.
- 6) Groundwater in the uppermost aquifer appears to be supporting base flow of creeks on site (many groundwater contours cross topographic contours of similar elevation at headwaters of creek).
- 7) In general, the bedrock lithology at the site is relatively uniform with the exception of discontinuous granitic bodies and granitic lenses within the gneiss. There are numerous discontinuous lenses and bodies of mafic and ultramafic rocks in the northern, central and eastern portions of the site and south of Lake Juliette, and feldspathic granitic bodies in the western portions of the site. Many of these relatively small and discontinuous mafic and ultramafic bodies remain unmapped. These differing rock types may result in geochemical variation in the overburden and groundwater chemistry.

Based on site boring/well, and piezometer logs, the geology at the site is typical of the Piedmont Physiographic Province. The lithologic descriptions in the logs were categorized into four layers for the pre- and post-closure groundwater models, as presented in AECOM's groundwater modeling report in Appendix A. The lithologic descriptions in this (Golder's) report and the corresponding (AECOM's) model layers are listed in the following table for clarity. The target lithologic layers for groundwater monitoring are within the inter-connected overburden and transitionally weathered rock that are represented by the four model layers, overlying the competent bedrock with a high RQD.

Lithologic Layers for Groundwater Modeling

Golder Lithologic Descriptions	AECOM 3D Model Layers
Overburden/Residual Soils/Saprolitic Soils	Layer 2: Saprolite (variable thickness)
Overburden/Saprolitic Rock/Transitionally Weathered Zone/PWR if blow counts >50/foot	Layer 3: Partially Weathered Rock (PWR, variable thickness)
Overburden/Transitionally Weathered Rock	Layer 4: Fractured Bedrock (FBR, 30' of top of bedrock)
Competent Bedrock (> 50% RQD)	Below Model: Competent Bedrock (CBR, >50% RQD)

4.6 Groundwater Monitoring Well Network

Based on the site conceptual model that is supported by extensive hydrogeologic data collection from the site, a groundwater monitoring network for AP-1 has been established to provide a robust detection monitoring network for groundwater flow from AP-1. This detection monitoring network is designed to detect and evaluate groundwater flow and constituents from beneath AP-1. This network has been certified by a Professional Engineer to meet the requirements of 40 CFR 257.94. The groundwater monitoring system is designed to target flow from a relatively homogenous geology/hydrogeology in the vicinity of AP-1. The well spacing is based on site hydrogeologic characteristics such as geologic formations, lineaments, depths to groundwater, overburden thickness, etc. Figure 2 presents the locations of each of the upgradient and downgradient monitoring wells around AP-1, which are designated as SGWA-1 through SGWA-5, SGWA-25, SGWA-24, and SGWC-6 through SGWC-23. Figure 10 presents each of the site detection monitoring wells utilized for routine monitoring.

Well siting factors that were considered when developing the proposed groundwater monitoring network include:

- 1) Groundwater conditions within saprolite and the transitional weathering zone are comparable to conditions within the residual soil and are therefore included in the hydrostratigraphy identified for the uppermost aquifer, collectively referred to as overburden.
- 2) Bedrock geology is structurally and stratigraphically relatively homogeneous. Discontinuities measured during mapping are consistent with lineament orientations, indicating that weathering may be controlled in part by discontinuities.
- 3) Lithologic variations in bedrock are anticipated to have relatively homogeneous geochemistry and different weathering characteristics, although minor geochemical variability is evident within the predominant rock type on site based on groundwater data. Overburden material is likely to represent variable geochemistry of the underlying parent rock.

- 4) The uppermost aquifer generally occurs within the overburden beneath the site with the exception of a few areas where overburden has been removed and topographic highs. However, regional gradient for the uppermost aquifer is generally to the south.
- 5) The potentiometric surface of this aquifer is generally radial in the vicinity of the pond, reflecting the relatively simple site geologic conditions and varied topography. Groundwater flow direction on site is locally controlled by topography and the top of rock surface.
- 6) Careful consideration is given in defining areas that represent upgradient and downgradient conditions at the site with regard to the anticipated potentiometric surface, site geology, and the structures that will require monitoring, with some local mounding occurring near the pond.

Groundwater monitoring wells are installed in the overburden to capture horizontal and vertical flow as described in Section 4.6. Groundwater network details are described below and presented on Figure 10.

Details related to drilling and sampling methodology, depths of boring, and well construction are summarized on Table 1 and included on boring logs in Appendix B.

4.6.1 Upgradient Monitoring Wells

Seven upgradient monitoring wells are established: SGWA-1, SGWA-2, SGWA-3, SGWA-4, SGWA-5, and SGWA-24 and SGWA-25. Wells SGWA-1, SGWA-2, SGWA-3, SGWA-4, SGWA-24 and SGWA-25 are located in the northwest corner of the ash pond on topographic high points and are considered to represent an upgradient position relative to the ash pond. One additional upgradient well, SGWA-5 is located within a mapped granitic lens upgradient of the pond, which will provide a more diverse representation of upgradient geochemistry.

4.6.2 Downgradient Monitoring Wells

Eighteen downgradient wells are located to monitor groundwater flow from a relatively homogenous geology/hydrogeology in the vicinity of AP-1. Monitoring wells SGWC-6 through SGWC-14 are located to the north of AP-1 while monitoring wells SGWC-15 through SGWC-18 are located along the eastern side and downstream toe of the ash pond impoundment. These wells are placed downgradient of the ash pond and upgradient of the PAC ash cell. Wells SGWC-17 and SGWC-18 are located to target the spillway area and the outflow of Berry Creek, where groundwater flow may be concentrated. Monitoring wells SGWC-19 through SGWC-23 are located downgradient of the ash disposal area on the south side of the pond. Monitoring wells are installed in the uppermost aquifer at the site within is the overburden.

Additional site piezometers are in place both upgradient and downgradient of AP-1 and are used for recording groundwater elevations only. They are not sampled as part of the detection monitoring program.

5.0 THREE-DIMENSIONAL NUMERICAL GROUNDWATER MODEL

A numerical groundwater model was developed by AECOM to compare simulated post-closure conditions to baseline (presently observed pre-closure) conditions. Model input files were created using a combination of Environmental System Research Institute ArcMap 10.4.1 and the Environmental Simulations Inc. Groundwater Vistas 7 (GV) graphical user interface. A steady state groundwater flow model was developed using the MODFLOW-NWT finite difference model code, which is an enhanced version of the MODFLOW code. The post-closure simulated model shows a reduction in the potentiometric heads compared to pre-closure conditions and an overall gentler hydraulic gradient to the east. The pre- and post-closure model construction, pre-closure

calibration, and simulated post-closure results are described in the *Groundwater Model Summary Report – AP-1 Pre- and Post-Closure Conditions Plant Scherer*, dated April 30, 2020 that is attached as Appendix A to this report.

6.0 GROUNDWATER QUALITY

Groundwater monitoring-related activities have been performed for AP-1 since May 2016 in accordance with 40 CFR 257.94 and 40 CFR 257.95.

6.1 Detection Monitoring Program

Pursuant to 40 CFR 257.94, Georgia Power established a detection monitoring program for AP-1 which consisted of (i) collecting eight independent samples from the certified monitoring well network to establish a baseline dataset and (ii) conducting the initial on annual detection monitoring sampling event.

A minimum of eight independent samples were collected from each monitoring well within the well network and analyzed for Appendix III and IV constituents as part of the background monitoring period between May 2016 and September 2017 pursuant to 40 CFR 257.94(b). Following background monitoring, the initial semiannual detection monitoring event was completed in October 2017 by collecting an additional round of groundwater samples from the certified well network and analyzing the samples for Appendix III constituents according to 40 CFR 257.94(a).

Data collected during the detection monitoring event were statistically compared against the background values in accordance with 40 CFR 257.93(h). Statistically significant increases (SSIs) over background were observed and assessment monitoring initiated.

6.2 Assessment Monitoring Program

Because SSIs over background were observed during detection monitoring, Georgia Power initiated an assessment monitoring program for groundwater at AP-1 in January 2018. Pursuant to 391-3-4.10(6), the compliance monitoring well network was sampled for Appendix IV. Cobalt was detected above the groundwater protection standard based on-site background at a statistically significant level (SSL). Details of these sampling events and statistical analyses are provided in the *Annual Groundwater Monitoring and Corrective Action Report* (Golder, 2019a, 2019b, 2020a, 2020b, 2021a, 2021b) published to Georgia Power's website. Following identification of the SSLs of cobalt in AP-1 detection monitoring wells, an *Alternate Source Demonstration* (Golder, 2019c) showing that the cobalt SSLs are the result of naturally occurring conditions was submitted in accordance with the provisions of 391-3-4.10(6) and 40 CFR 257.96. This ASD was included in the 2019 annual report and has been submitted to GA EPD. Supplemental site investigation data in support of the ASD was provided to EPD in correspondence dated September 5, 2019.

Plant Scherer AP-1 entered into Assessment Monitoring on May 15, 2018. Based on GA EPD's request on August 20, 2021, and in response to statistically significant levels of cobalt observed in groundwater, Georgia Power initiated an assessment of corrective measures (ACM) at AP-1 on November 21, 2021. AP-1 at Plant Scherer remains in assessment monitoring and current groundwater quality data supports the groundwater monitoring network.

7.0 REFERENCES

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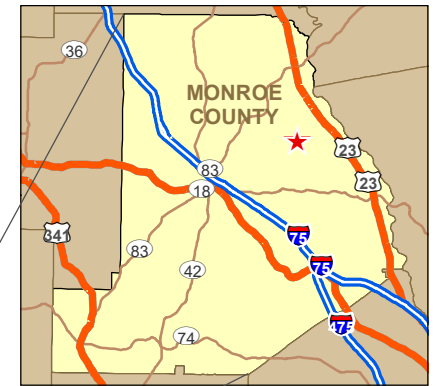
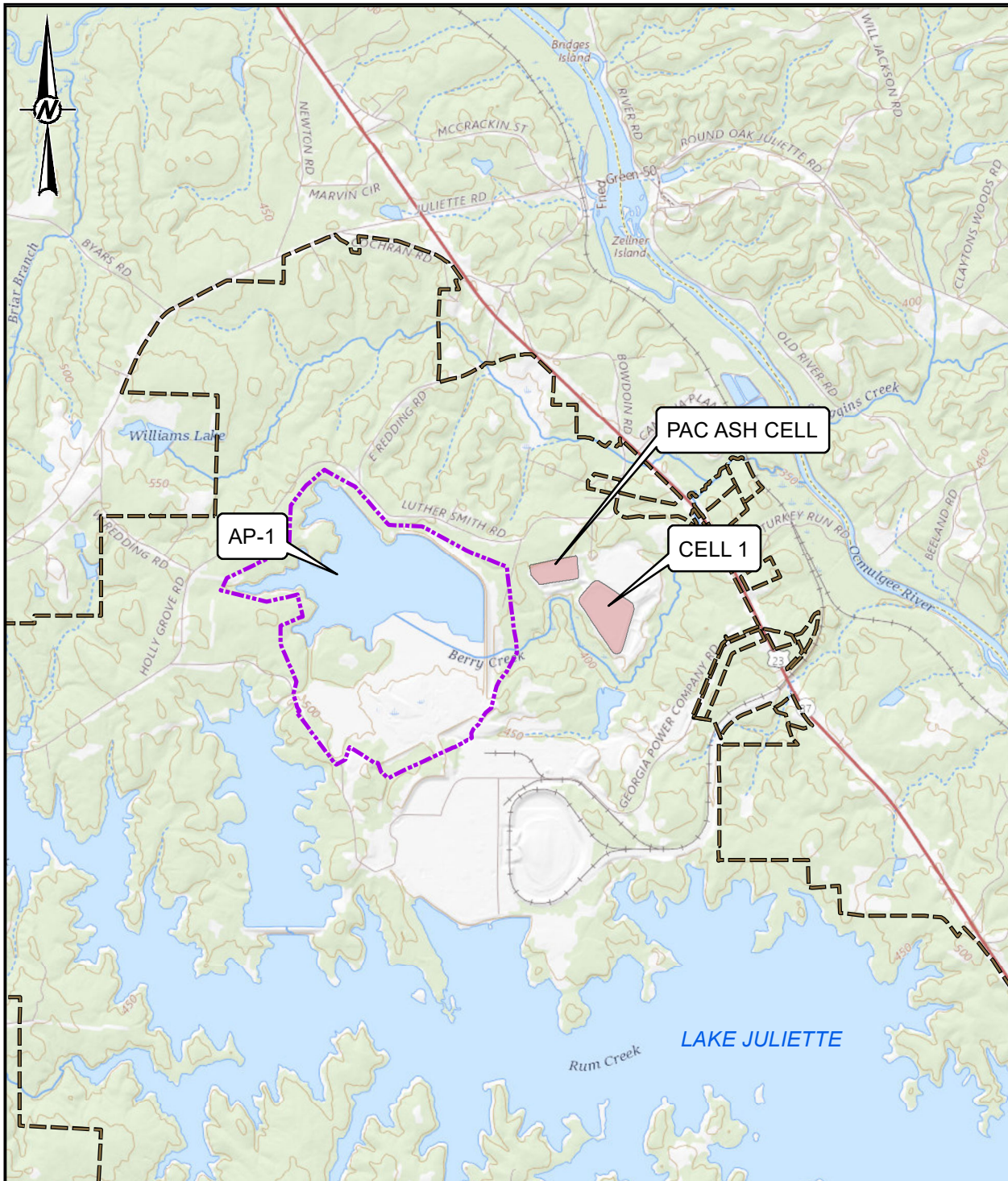
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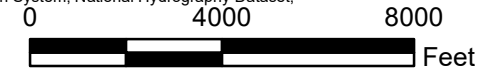
Figures



LEGEND

- PROPERTY BOUNDARY
- AP-1 PERMIT BOUNDARY

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset,



CLIENT
GEORGIA POWER COMPANY
 PLANT SCHERER



PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

TITLE
SITE LOCATION MAP

CONSULTANT



YYYY-MM-DD	2021-08-03
PREPARED	DJC
DESIGN	DJC
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT No.
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FIGURE
 1



LEGEND

- PZ-6S EXISTING PIEZOMETER LOCATIONS
- BRGWC-121 EXISTING MONITORING WELL LOCATIONS
- SURFACE WATER LOCATION
- SPT-11 HISTORICAL BORING LOCATION
- CROSS-SECTION LINES
- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- SURFACE WATER

NOTES

1. TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
2. MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 730 FEET.

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.
2. TOPOGRAPHIC MAP FROM USGS 7.5 MINUTE QUADRANGLE, EAST JULIETTE, 2011 SUPPLEMENTED WITH SITE SPECIFIC TOPO INFORMATION PROVIDED BY GEORGIA POWER COMPANY.

CLIENT
GEORGIA POWER COMPANY
 PLANT SCHERER



CONSULTANT



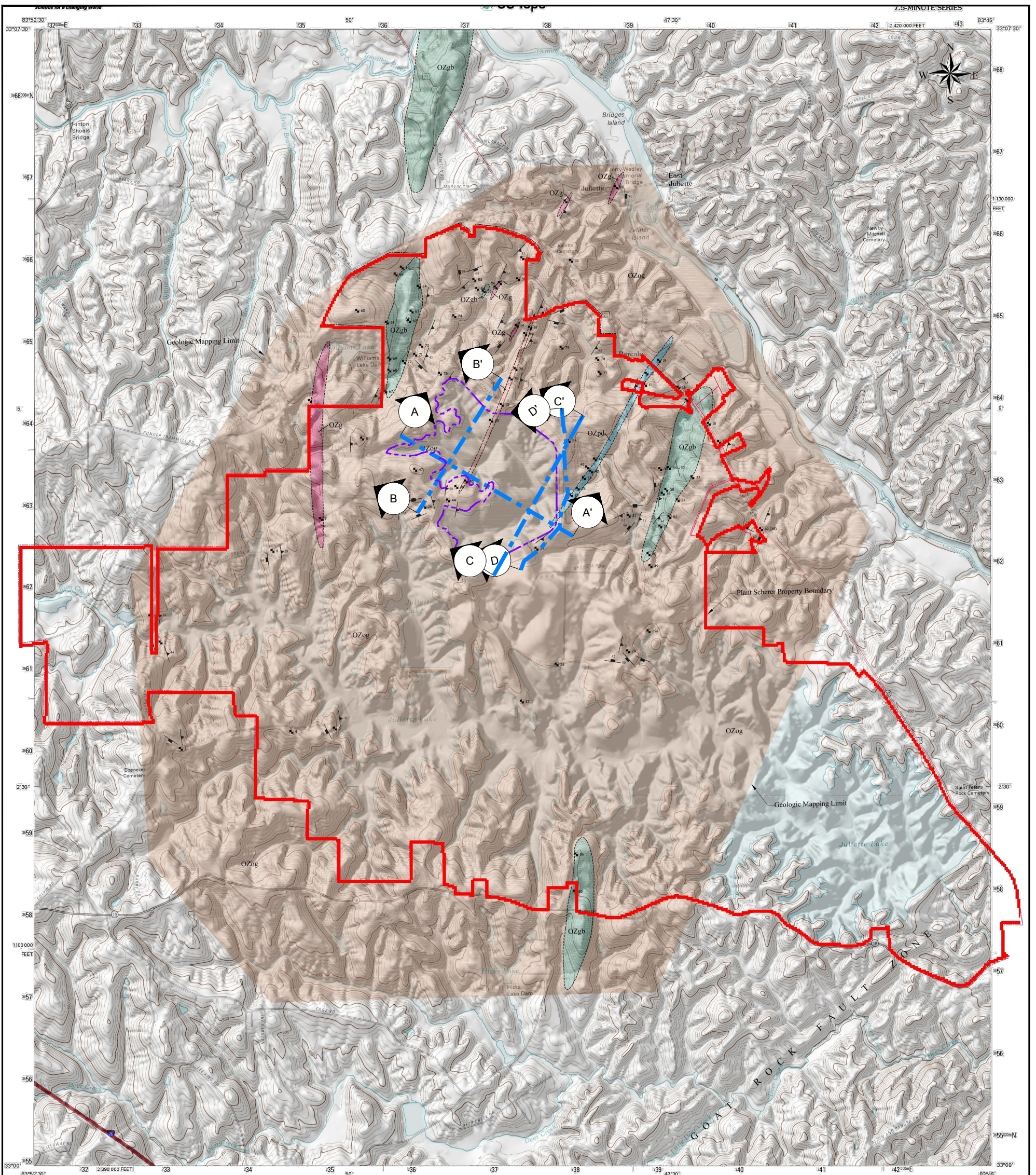
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DESIGNED	DLP
PREPARED	DJC
REVIEWED	DLP
APPROVED	RPK

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

TITLE
EXISTING CONDITIONS PLAN

PROJECT NO.	CONTROL	REV.	FIGURE
166235021	1662350C001.dwg	0	2

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS/D



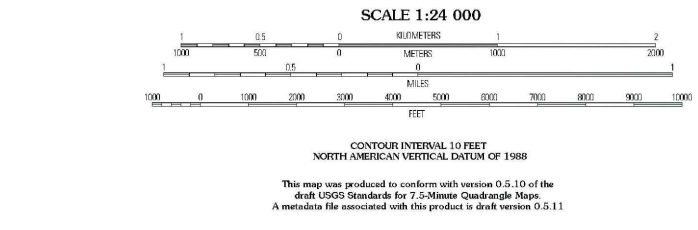
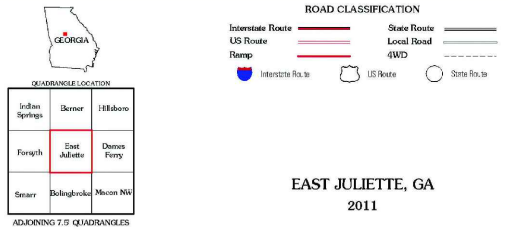
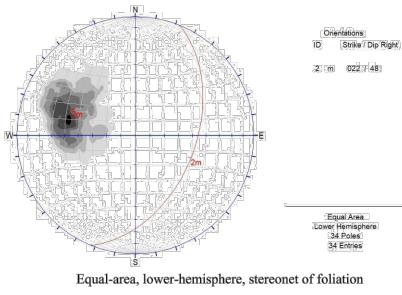
DESCRIPTION OF MAP UNITS

- Td** *Diabase (Triassic)*-pyrite (minor)-plagioclase-pyroxene diabase, fine- to medium-grained, ochergranular, unfoliated, slightly weathered to fresh, characterized by an ocherous weathering rind, forms thin soils with abundant angular cobbles.
- OZg** *Indian Springs Granite (?)*-massive, moderately foliated to weakly foliated, light-gray, porphyritic, muscovite-biotite-quartz plagioclase-microcline granite. Commonly contains zoned microcline phenocrysts; where sheared porphyroclastic. Tends to form pavement-style outcrops and large pedestal-boulder outcrops; weathers to a tan-yellow sandy saprolite, where more deeply weathered forms a light-red soil.
- OZpd** *Juliette Mafic Complex: Porphyritic Diorite*-phenocrystic plagioclase-biotite-hornblende diorite, medium-grained, fresh to slightly weathered, weakly-foliated to massive, weathers to form spheroidal sub-rounded cobbles and boulders; up to 250 ft. in outcrop width.

- OZgb** *Juliette Mafic Complex: Gabbro*-olivine-plagioclase-amphibole-pyroxene gabbro, medium- to coarse-grained, locally exhibits a cumulate texture, weakly-foliated to massive, weathers to form spheroidal cobbles and boulders, locally contains xenoliths of biotite gneiss; minor talc-chlorite-actinolite-hornblende schist (altered pyroxenite?), very coarse grained, highly altered.
- OZog** *Biotite Gneiss*-biotite-quartz-feldspar gneiss and granitic gneiss, fine- to medium-grained, deeply weathered to a soft feldspathic residuum that contains abundant vermiculite pseudomorphs after biotite, locally contains abundant concordant vein quartz; interlayered with discontinuous layers/lens of feldspar-hornblende-feldspar gneiss, fine- to medium-grained, and amphibolite, fine- to medium-grained. Deeply weathered area contain abundant heavy black opaque minerals on the surface mostly composed of ilmenite.

EXPLANATION OF MAP SYMBOLS

- Lithologic unit contact- Approximate location
- Strike and Dip of Foliation
- Strike and Dip of Joint Sets
- Map station location with associated number



- LEGEND**
- PROPERTY BOUNDARY
 - LIMITS OF AP-1
 - CROSS-SECTION LINES

NOTE
THE GEOLOGIC MAP OF PART OF THE EAST JULIETTE, GEORGIA QUADRANGLE WAS PREPARED BY PETOLOGIC SOLUTIONS, INC. (2020).

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Georgia Coordinate System of 1983
(west zone)

Imagery: NAIP, September 2009
Roads: ESRI/DeLorme, 2010
Names: GNIS, 2009
Hydrography: National Hydrography Dataset, 2009
Contours: National Elevation Dataset, 2008
Coordinate System: UTM27-17
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CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER

CONSULTANT
wsp GOLDER

DATE
2021-08-02

DESIGNED
SSG

PREPARED
DJC

CHECKED
DLP

REVIEWED/APPROVED
RPK

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER ASH POND 1

TITLE
GEOLOGIC MAP

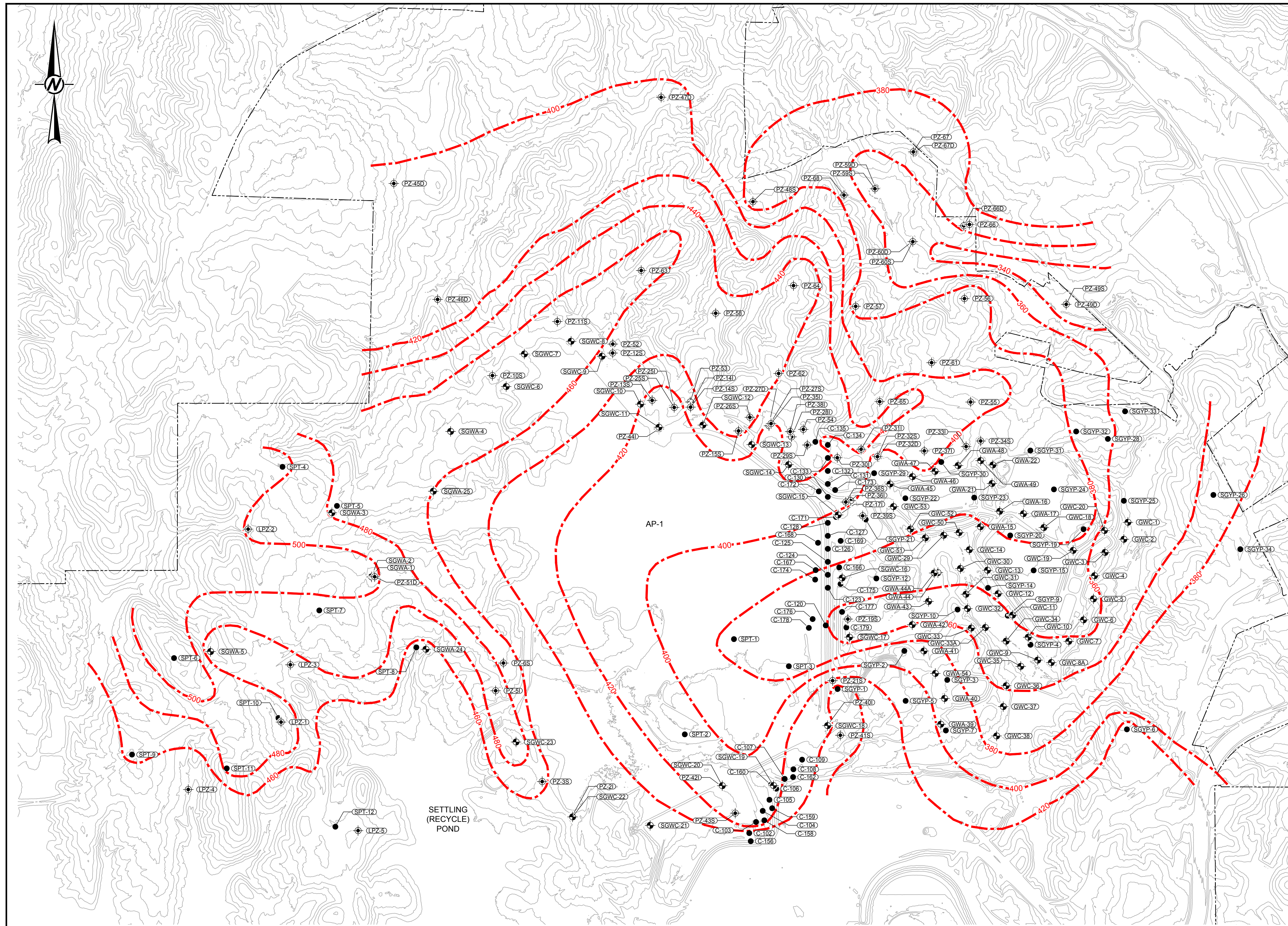
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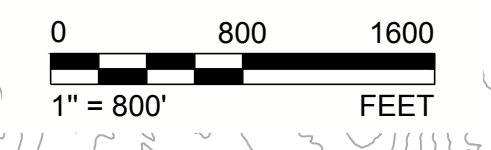
FIGURE
3

1 in. IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



Well/Piezometer/ Boring Identification	Top of Rock Elevation (feet NAVD88)	Well/Piezometer/ Boring Identification	Top of Rock Elevation (feet NAVD88)	Well/Piezometer/ Boring Identification	Top of Rock Elevation (feet NAVD88)
SGWA-1 / PZ-85*	<493	PZ-58	<443.3	C-124	<394
SGWA-2 / PZ-81	508.94	PZ-59D	355.9	C-125	<395
SGWA-3	<492.2	PZ-59S	<358.8	C-126	<405
SGWA-4	<477.3	PZ-60D	341.4	C-127	<402
SGWA-5	<475.3	PZ-60S	<366.4	C-128	<416
SGWC-6	<482.9	PZ-61	390.8	C-129	<417
SGWC-7	478.43	PZ-62	<446.3	C-130	<424
SGWC-8	476.53	PZ-63	468.9	C-131	<409
SGWC-9	<472.6	PZ-64	446.0	C-132	<417
SGWC-10	<476.3	PZ-65	<399.6	C-133	<424
SGWC-11	<467.8	PZ-66D	378.4	C-134	<409
SGWC-12	<450.4	PZ-66	374.4	C-135	<439
SGWC-13	<444.75	PZ-67D	368.7	C-156	<450
SGWC-14 / PZ-16S	<438	PZ-67	<383.2	C-158	<386
SGWC-15 / PZ-17S	<435	PZ-68	<372.1	C-159	<405
SGWC-16 / PZ-18S	<417	LPZ-1	491.97	C-160	<441
SGWC-17 / PZ-20S	<390	LPZ-2	<490.46	C-162	<421
SGWC-18 / PZ-22S	<466	LPZ-3	<476.48	C-166	<366
SGWC-19 / PZ-23S	<441	LPZ-4	<417.83	C-167*	<362
SGWC-20	<476.1	LPZ-5	453.54	C-168	<411
SGWC-21 / PZ-15	<462	GWC-1	<377	C-169	<399
SGWC-22 / PZ-25	<447	GWC-2*	<322	C-171	<393
SGWC-23 / PZ-41	483.92	GWC-3	<360	C-172	<425
SGWA-24 / PZ-7S	<462	GWC-4	<368	C-173	<411
SGWA-25 / PZ-9S	<478	GWC-5	363.09	C-174	<388
PZ-21	<447	GWC-6	378.02	C-175	<393
PZ-35	<466	GWC-7	<359	C-176	<363
PZ-51	484.93	GWC-8A	<354	C-177	<345
PZ-65	<501	GWC-9	<366	C-178	<384
PZ-91	459.81	GWC-10	<358	C-179	<355
PZ-105	<479	GWC-11	<368	SGYP-1	444.00
PZ-115	<480	GWC-12	<375	SGYP-2	<397
PZ-125	<470	GWC-13	<376	SGYP-3	<396
PZ-135	<472	GWC-14	<376	SGYP-4	<351
PZ-141	435.93	GWA-15	<385	SGYP-5	<421
PZ-145	<464	GWA-16	<386	SGYP-6	431.00
PZ-155	<466	GWA-17	<399	SGYP-7	<401
PZ-171	<435	GWC-18*	<379	SGYP-9	<360
PZ-191	359.04	GWC-19	<372	SGYP-10	<361
PZ-195	<359	GWC-20	353.16	SGYP-12	<393
PZ-201	350.21	GWA-21	<402	SGYP-14	<357
PZ-215	<466	GWA-22	<402	SGYP-15	<372
PZ-251	<399.7	GWC-29	<372	SGYP-19	389.00
PZ-255	<469.5	GWC-30	373.0	SGYP-20	<386
PZ-265	442.90	GWC-31	<370.0	SGYP-21	<410
PZ-270	416.41	GWC-32	<367.9	SGYP-22	<401
PZ-275	<427	GWC-33*	<336.8	SGYP-23	<388
PZ-281	<411.3	GWC-33A	<366.9	SGYP-24	<386
PZ-295	<442.4	GWC-34	<367.2	SGYP-25	<421
PZ-301	419.56	GWC-35	360.1	SGYP-26	<383
PZ-311	424.96	GWC-36	<376.6	SGYP-28	<362
PZ-320	393.36	GWC-37	<378.2	SGYP-29	<414
PZ-325	<395.3	GWC-38	367.0	SGYP-30	<404
PZ-331	389.95	GWA-39	394.9	SGYP-31	<398
PZ-345	<395	GWA-40	<416.4	SGYP-32	<377
PZ-351	420.57	GWA-41	387.4	SGYP-33	<353
PZ-361	413.86	GWA-42	<383.2	SGYP-34	<378
PZ-365	<423	GWA-43	<379.1	SPT-1	375.00
PZ-371	412.48	GWA-44	377.5	SPT-2	416.00
PZ-381	419.23	GWA-44A	<375.7	SPT-3	365.00
PZ-395	<391.8	GWA-45	<415	SPT-4	505.00
PZ-401	440.13	GWA-46	<414	SPT-5*	430.00
PZ-415	<443	GWA-47	<411	SPT-6	507.00
PZ-421	415.47	GWA-48	<397	SPT-7*	431.00
PZ-435	<446	GWA-49	<392	SPT-8*	384.00
PZ-441	410.87	GWC-50	<370	SPT-9	461.00
PZ-450	406.2	GWC-51	<383	SPT-10	491.00
PZ-460	414.1	GWC-52	<384	SPT-11	482.00
PZ-470	406.8	GWC-53	<403	SPT-12	456.00
PZ-485	<380.3	GWA-54	389.6		
PZ-490	329.88	C-102	452.00		
PZ-495	<340.2	C-103	410.00		
PZ-500	407.91	C-104*	369.00		
PZ-510*	468.17	C-105	<432		
PZ-52	<442.4	C-106	<429		
PZ-53	<468.6	C-107	<441		
PZ-54	<445.2	C-108	<428		
PZ-55	<408.2	C-109	<426		
PZ-56	394.85	C-120	<362		
PZ-57	<377.4	C-123	<393		

- Notes:**
- 1. NAVD88 = North American Vertical Datum 1988
 - 2. PZ-24, GWA-44, GWC-33 are abandoned
 - 3. * = anomalous elevations (not used for contouring)



LEGEND

- PROPERTY BOUNDARY
- .-.-. ESTIMATED TOP OF ROCK SURFACE CONTOUR (feet MSL)
- ⊕ PZ-6S/LPZ-5 EXISTING PIEZOMETER LOCATIONS
- ⊕ BRGWC-121 EXISTING MONITORING WELL LOCATIONS
- SPT-2/C-109 BOREHOLE LOCATIONS

NOTES

- 1. TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
- 2. TOP OF ROCK SURFACE CONTOUR INTERVAL = 20 FEET

REFERENCES

- 1. USGS 7.5 MINUTE QUADRANGLE, EAST JULIETTE, 2011. SUPPLEMENTED WITH SITE SPECIFIC TOPO INFORMATION PROVIDED BY GPC.
- 2. BORING/WELL/PIEZOMETER LOCATIONS PROVIDED BY SOUTHERN COMPANY SERVICES, INC.

CLIENT
**GEORGIA POWER COMPANY
PLANT SCHERER**



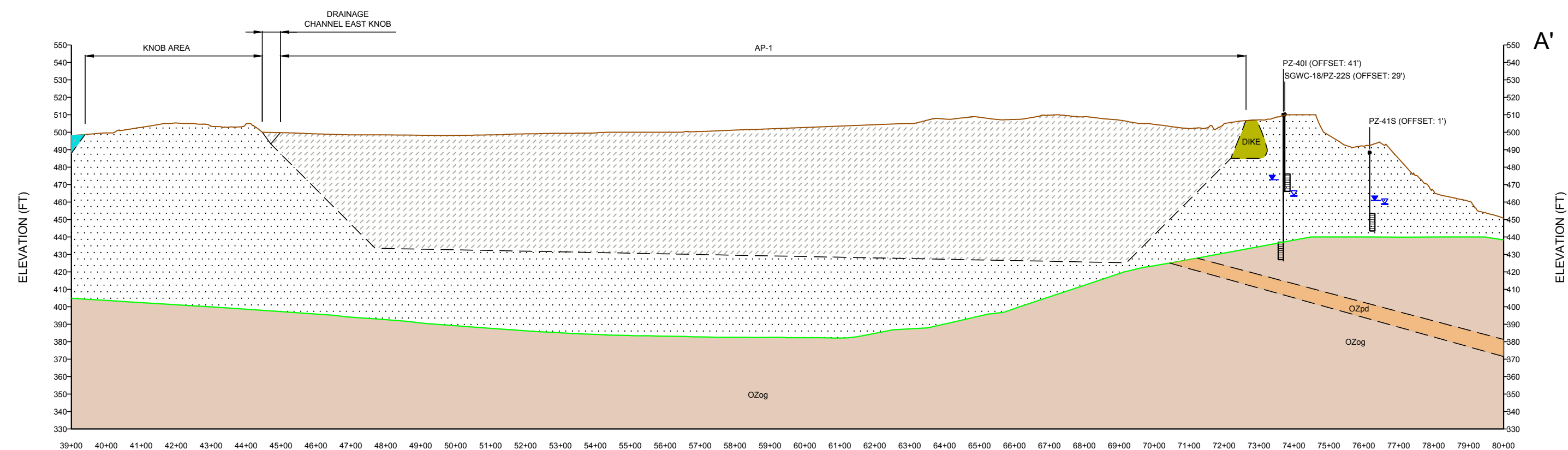
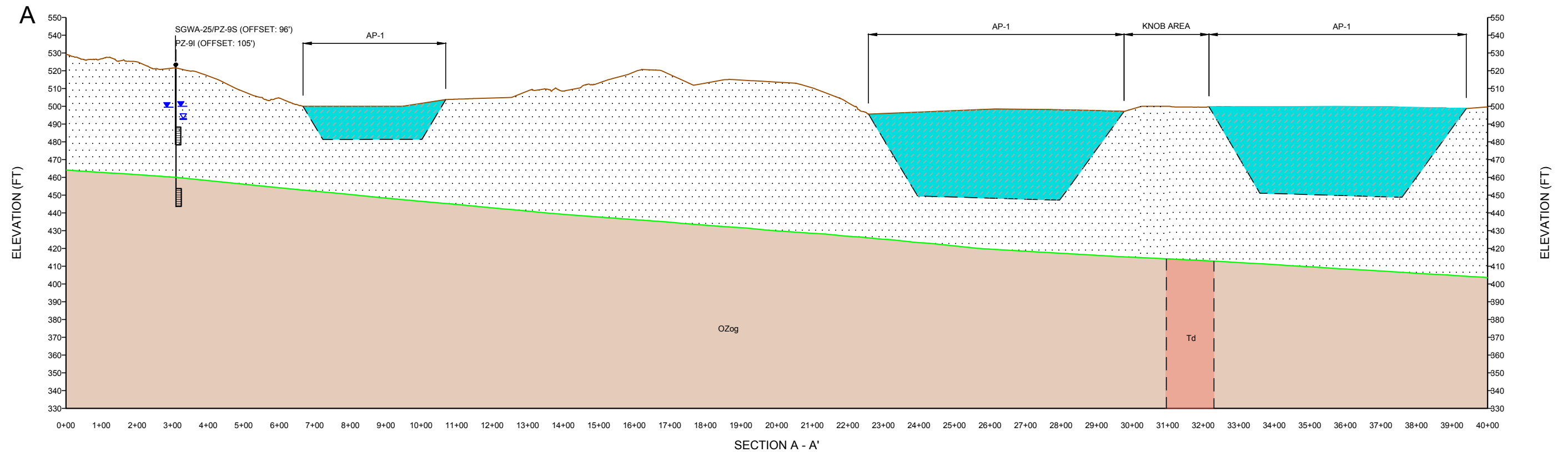
CONSULTANT
WSP GOLDER

YYYY-MM-DD	2021-08-02
DESIGNED	DLP
PREPARED	DJC
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT
**HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER ASH POND 1**

TITLE
ESTIMATED TOP OF ROCK MAP

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



LEGEND

	EXISTING GRADE
	ESTIMATED TOP OF ROCK SURFACE
	OVERBURDEN/RESIDUUM
	OZog - BIOTITE GNEISS
	OZpd - B-DIORITE (PORPHYRITIC) (ESTIMATED)
	Td - DIABASE
	ESTIMATED CCR
	WATER
	GROUNDWATER ELEVATION (MEASURED AUGUST 16, 2021)
	PREDICTED POST-CLOSURE WATER LEVEL

NOTE

- MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 730 FEET.
- NO STRUCTURAL FEATURES WERE MAPPABLE FOR THE DIORITE SILL TO USE AS A BASIS FOR THE CROSS-SECTION PROJECTION. THEREFORE, THE LOCATION DEPICTED IS ESTIMATED

REFERENCES

- EXISTING GRADE FROM USGS 7.5 MINUTE QUADRANGLE; EAST JULIETTE, 2011.
- MONITORING WELL AND PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING. BORING LOCATIONS PROVIDED BY GEORGIA POWER COMPANY.
- GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTIONS INC'S MAPPING PRESENTED IN THE GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT (NOVEMBER 2018).



CLIENT
**GEORGIA POWER COMPANY
PLANT SCHERER**

CONSULTANT
wsp GOLDER

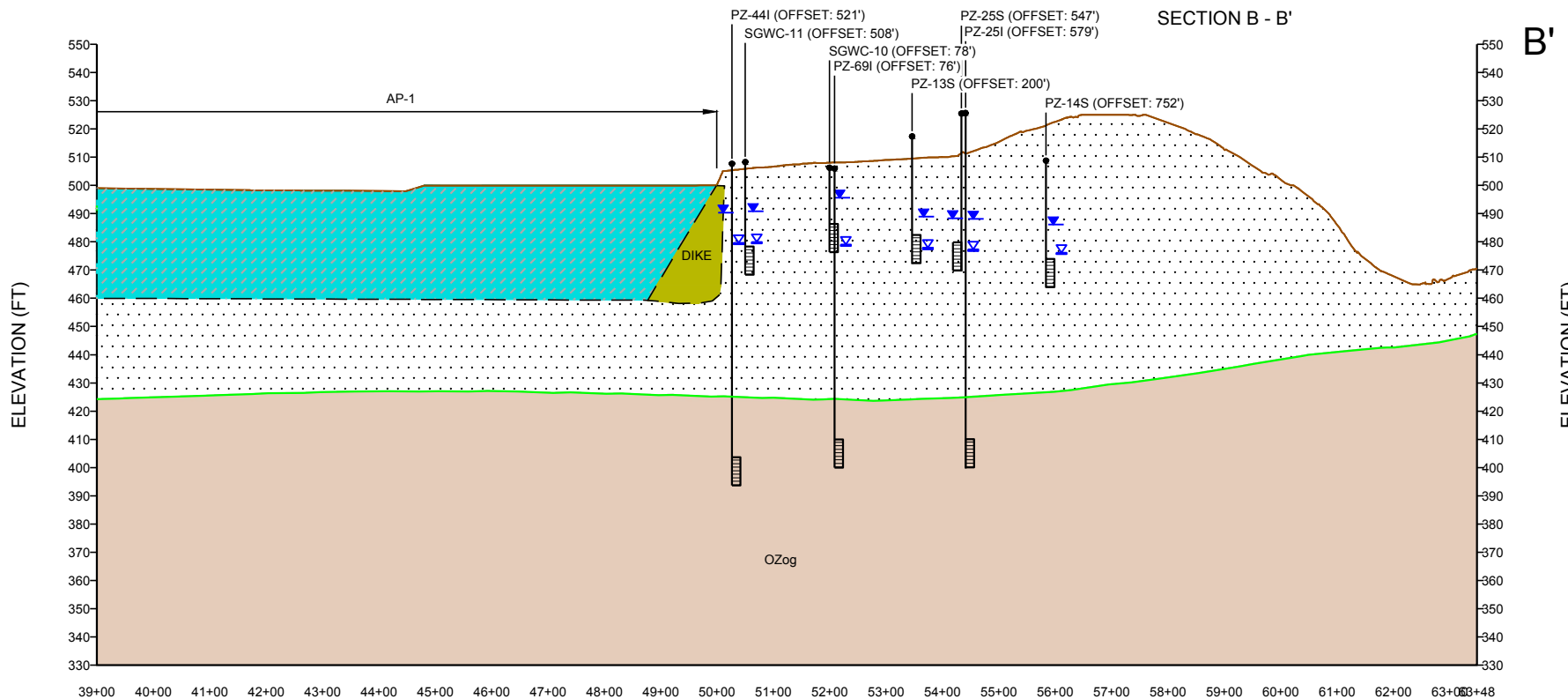
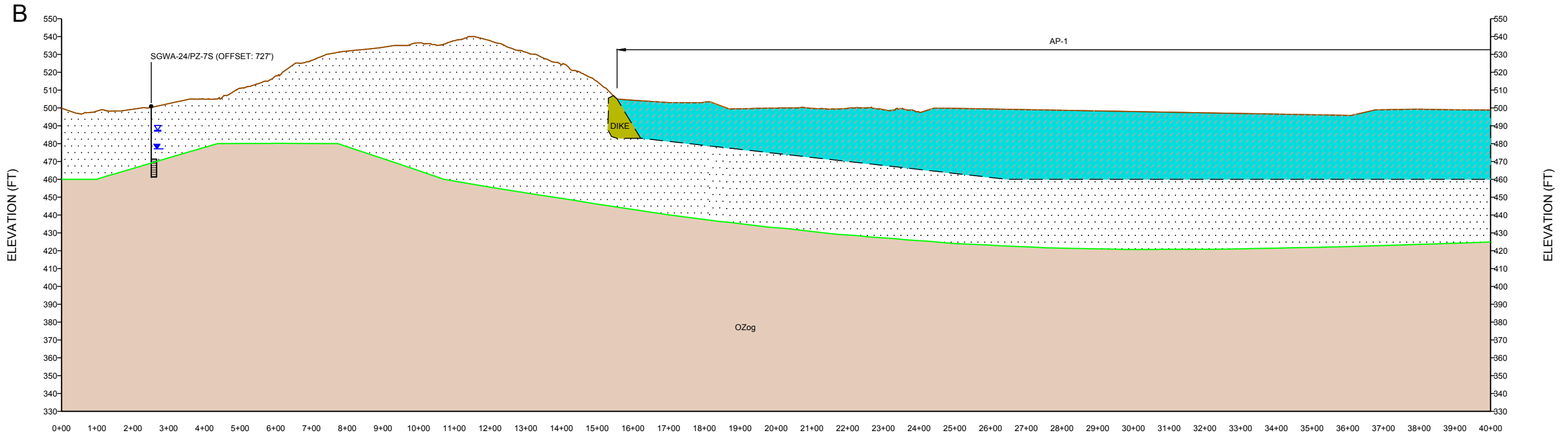
YYYY-MM-DD	2022-03-02
DESIGNED	DLP
PREPARED	DJC
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT
**HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER ASH POND 1**

TITLE
**GEOLOGIC AND HYDROGEOLOGIC
CROSS SECTIONS SCHEMATIC A-A'**

PROJECT NO.	CONTROL	REV.	FIGURE
GL166235021	1662350H002.dwg	4	5A

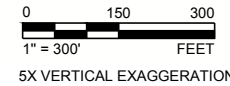
1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB



- LEGEND**
- EXISTING GRADE
 - ESTIMATED TOP OF ROCK SURFACE
 - OVERBURDEN/RESIDUUM
 - OZog - BIOTITE GNEISS
 - OZpd - B-DIORITE (PORPHYRITIC) (ESTIMATED)
 - ESTIMATED CCR
 - WATER
 - GROUNDWATER ELEVATION (MEASURED AUGUST 16, 2021)
 - PREDICTED POST-CLOSURE WATER LEVEL

NOTE
 MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 730 FEET.

- REFERENCES**
1. EXISTING GRADE FROM USGS 7.5 MINUTE QUADRANGLE; EAST JULIETTE, 2011.
 2. MONITORING WELL AND PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING. BORING LOCATIONS PROVIDED BY GEORGIA POWER COMPANY.
 3. GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTIONS INC'S MAPPING PRESENTED IN THE GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT (NOVEMBER 2018).



CLIENT
GEORGIA POWER COMPANY
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CONSULTANT
WSP GOLDER



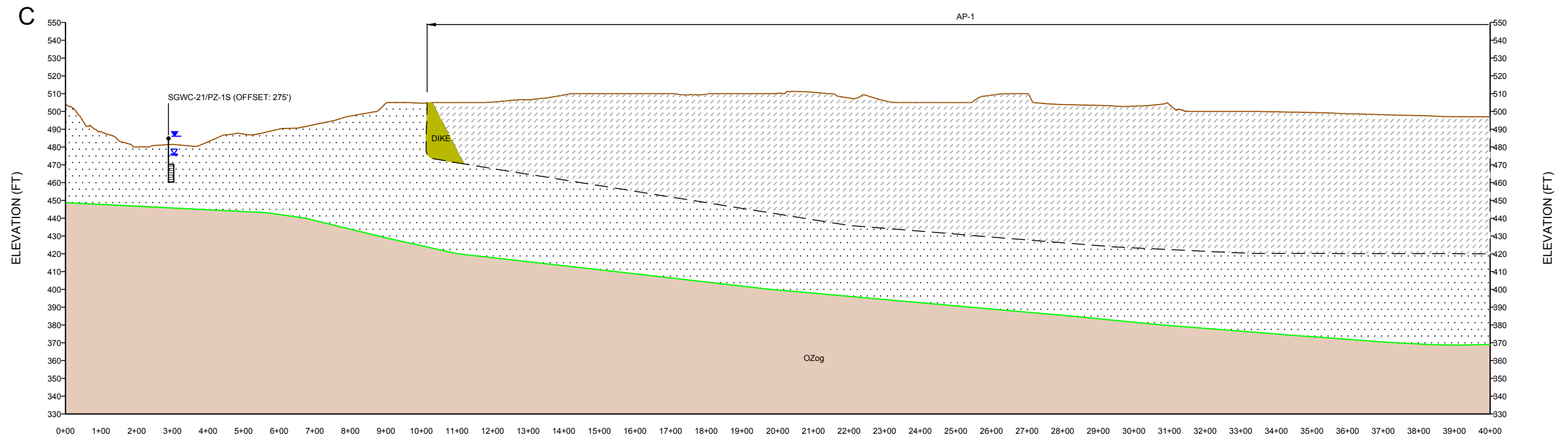
YYYY-MM-DD	2021-12-13
DESIGNED	DLP
PREPARED	DJC
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT
 HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND

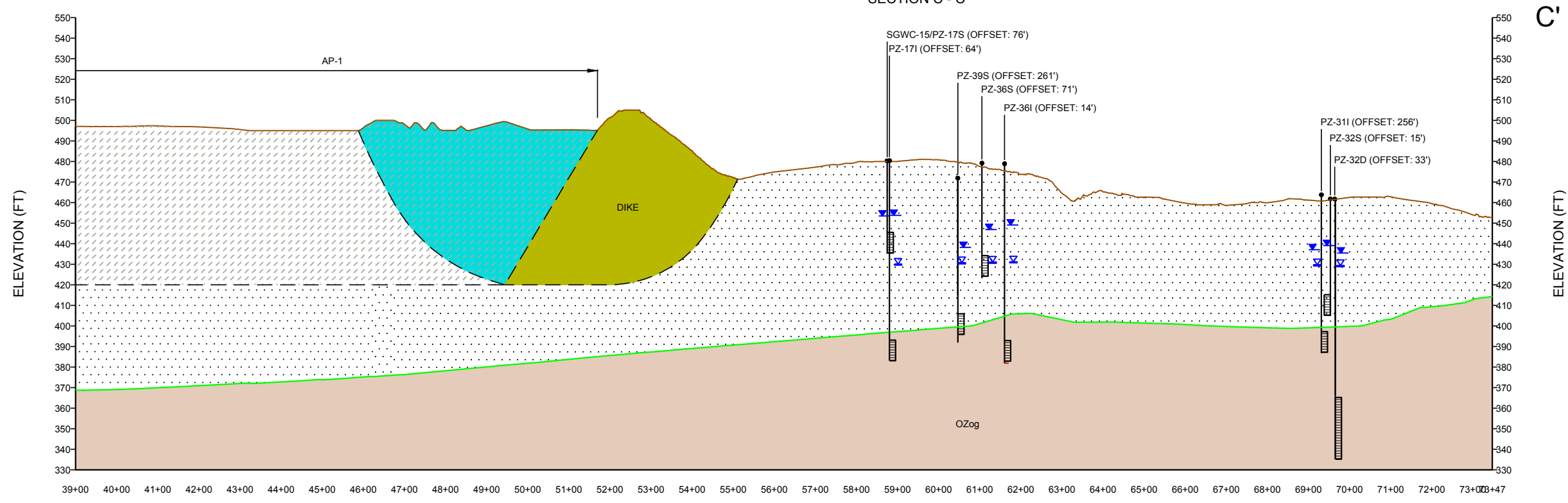
TITLE
GEOLOGIC AND HYDROGEOLOGIC
CROSS SECTIONS SCHEMATIC B-B'

PROJECT NO.	CONTROL	REV.	FIGURE
GL166235021	1662350H002.dwg	4	5B

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



SECTION C - C'

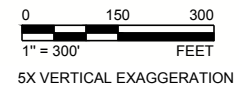


SECTION C - C'

LEGEND

- EXISTING GRADE
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- OZog - BIOTITE GNEISS
- OZpd - B-DIORITE (PORPHYRITIC) (ESTIMATED)
- ESTIMATED CCR
- WATER
- GROUNDWATER ELEVATION (MEASURED AUGUST 16, 2021)
- PREDICTED POST-CLOSURE WATER LEVEL

- NOTES**
- THE WATER LEVEL FOR PZ-1S APPEARS AS ABOVE GROUND SURFACE IS AN ARTIFACT OF PROJECTING THIS POINT ONTO THE LINE OF SECTION.
 - MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 730 FEET.
 - MONITORING WELL SGWC-20 AND PIEZOMETER PZ-42I ARE PROJECTED ONTO THE SECTION FROM A DISTANCE OF APPROXIMATELY 400 FEET. THESE WELLS ARE NOT INSTALLED WITHIN AP-1. REFER TO THE LINE OF SECTION MAP FOR ACTUAL LOCATIONS.
- REFERENCES**
- EXISTING GRADE FROM USGS 7.5 MINUTE QUADRANGLE; EAST JULIETTE, 2011.
 - MONITORING WELL AND PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING. BORING LOCATIONS PROVIDED BY GEORGIA POWER COMPANY.
 - GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTIONS INC'S MAPPING PRESENTED IN THE GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT (NOVEMBER 2018).



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GEORGIA POWER COMPANY
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CHECKED	DLP
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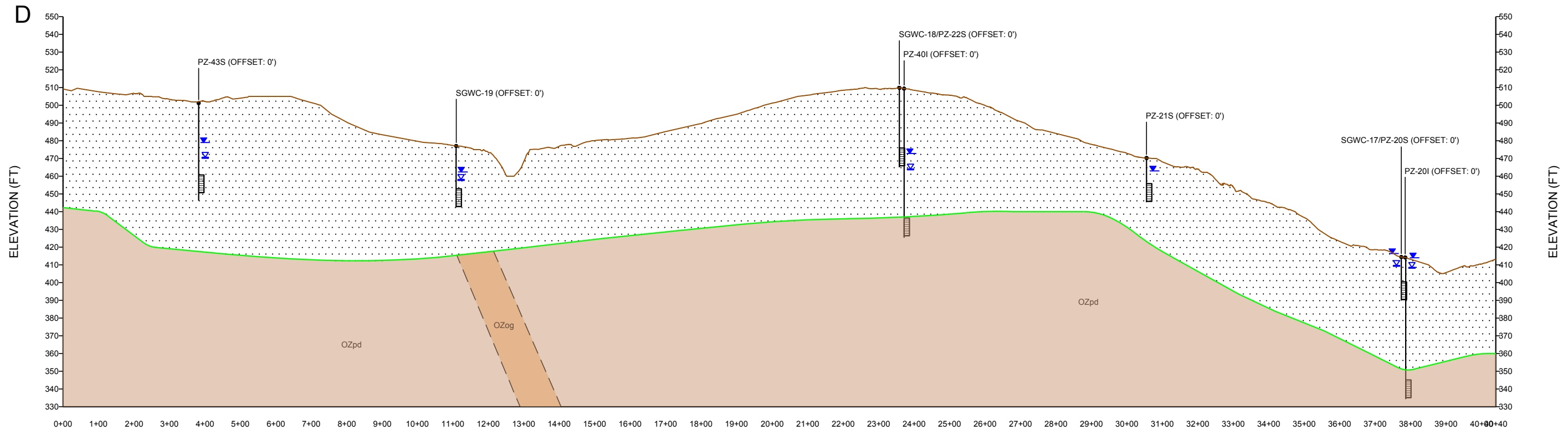
wsp GOLDER

PROJECT
 HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

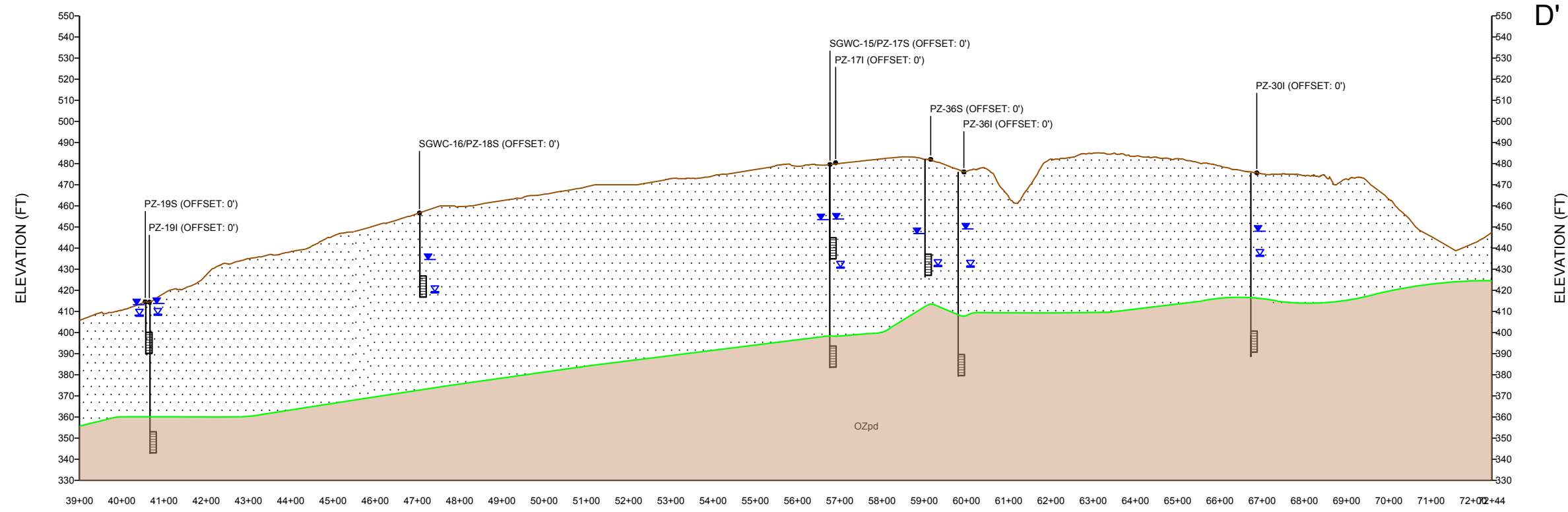
TITLE
GEOLOGIC AND HYDROGEOLOGIC
CROSS SECTIONS SCHEMATIC C-C'

PROJECT NO. GL166235021	CONTROL 1662350H002.dwg	REV. 4	FIGURE 5C
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1. IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



SECTION D - D'

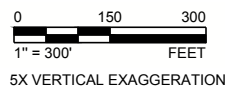


SECTION D - D'

LEGEND

	EXISTING GRADE
	ESTIMATED TOP OF ROCK SURFACE
	OVERBURDEN/RESIDUUM
	OZog - BIOTITE GNEISS
	OZpd - B-DIORITE (PORPHYRITIC) (ESTIMATED)
	GROUNDWATER ELEVATION (MEASURED AUGUST 16, 2021)
	PREDICTED POST-CLOSURE WATER LEVEL

- REFERENCES**
- EXISTING GRADE FROM USGS 7.5 MINUTE QUADRANGLE; EAST JULIETTE, 2011.
 - MONITORING WELL AND PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING. BORING LOCATIONS PROVIDED BY GEORGIA POWER COMPANY.
 - GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTIONS INC'S MAPPING PRESENTED IN THE GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT (NOVEMBER 2018).



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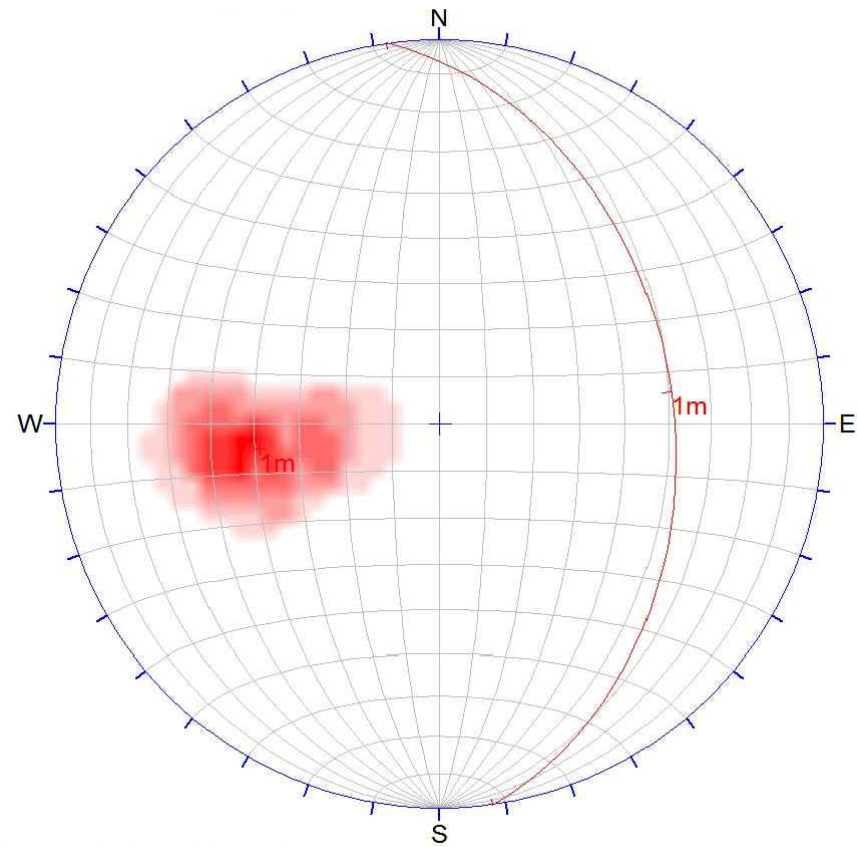
YYYY-MM-DD	2022-04-07
DESIGNED	DLP
PREPARED	DJC
CHECKED	DLP
REVIEWED/APPROVED	RPK

PROJECT
 HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

TITLE
GEOLOGIC AND HYDROGEOLOGIC
CROSS SECTIONS SCHEMATIC D-D'

PROJECT NO. 166235021	CONTROL 1662350H002.dwg	REV. 4	FIGURE 5D
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1. IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB

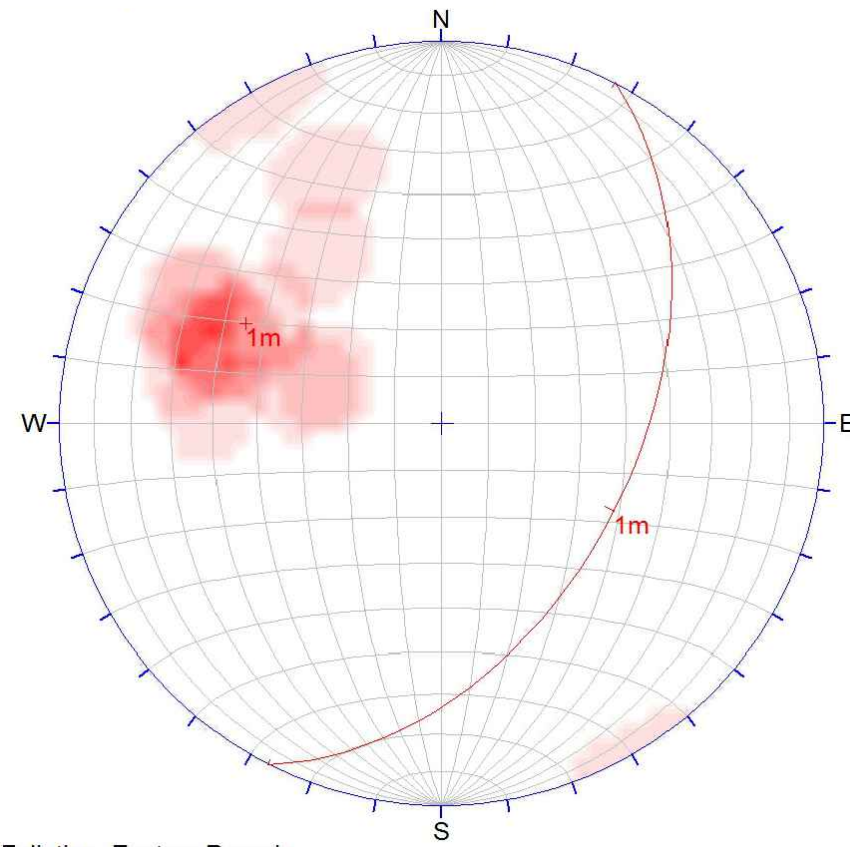


Foliation- Western Domain

Orientations

ID	Strike / Dip Right
1 m	352 / 39

Equal Area
Lower Hemisphere
7 Poles
7 Entries

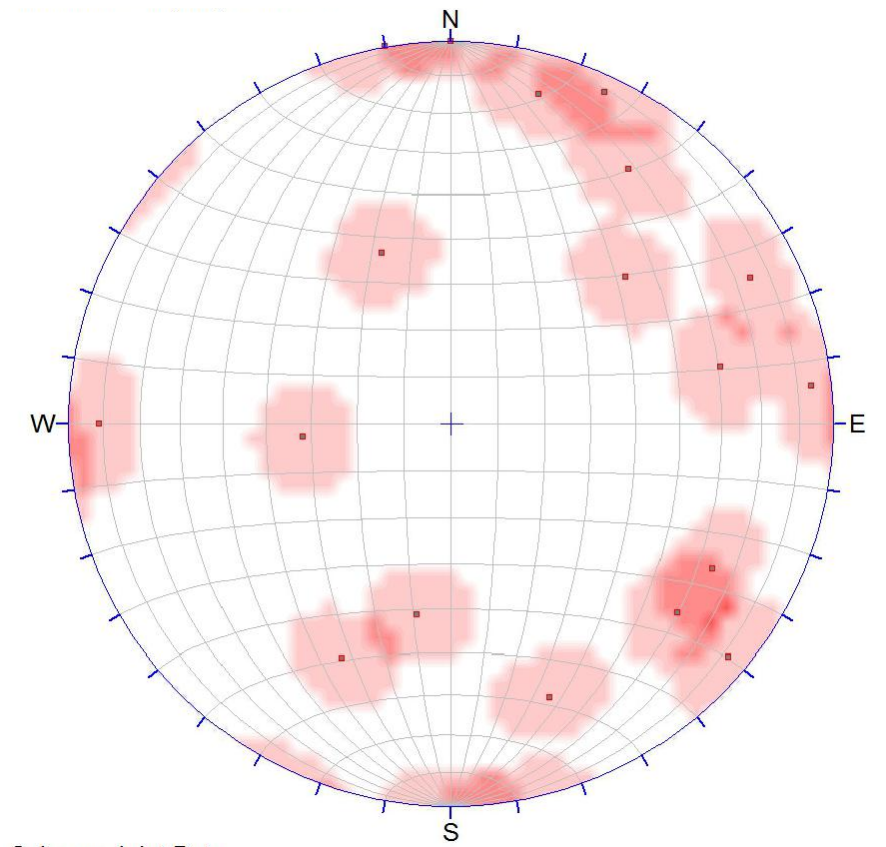


Foliation- Eastern Domain

Orientations

ID	Strike / Dip Right
1 m	027 / 48

Equal Area
Lower Hemisphere
12 Poles
12 Entries



Scherer: Joint Data

■ Poles

Equal Area
Lower Hemisphere
18 Poles
18 Entries

NOTE
DISCONTINUITY DATA COLLECTED BY PETROLOGIC SOLUTIONS, INC. CONDUCTED IN 2015.

NOT TO SCALE

CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER



CONSULTANT

YYYY-MM-DD 2021-08-02



DESIGNED DLP

PREPARED DJC

CHECKED DLP

REVIEWED/APPROVED RPK

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER ASH POND 1

TITLE
DISCONTINUITY DATA FROM GEOLOGIC MAPPING

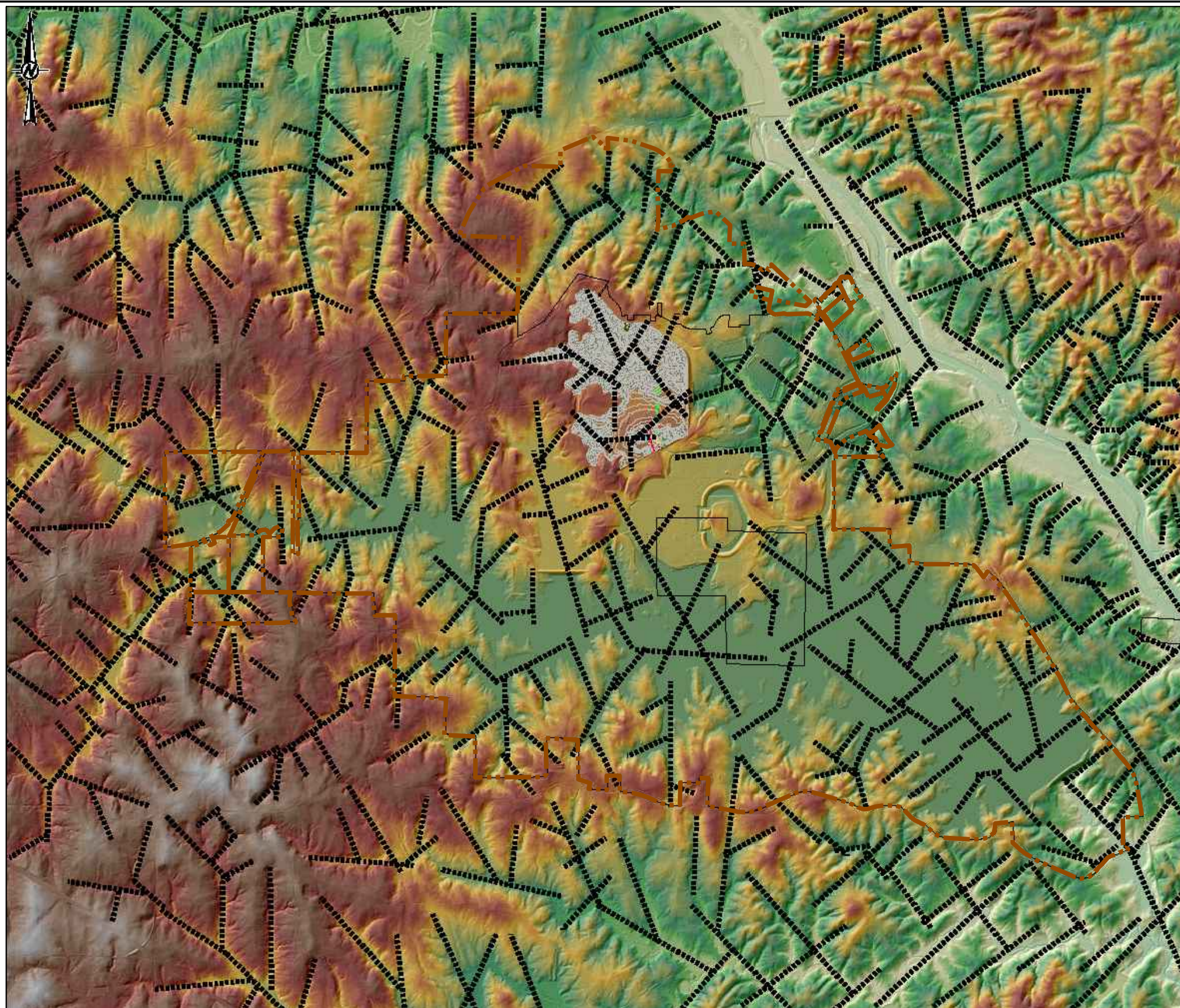
PROJECT NO.
166235021

CONTROL
1662350D006.dwg

REV.
4

FIGURE
6

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



NOT TO SCALE

CLIENT
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PROJECT
 HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

CONSULTANT



YYYY-MM-DD 2021-08-02

DESIGNED DLP

PREPARED DJC

CHECKED DLP

REVIEWED/APPROVED RPK

TITLE

REMOTE SENSING LINEAMENT MAP

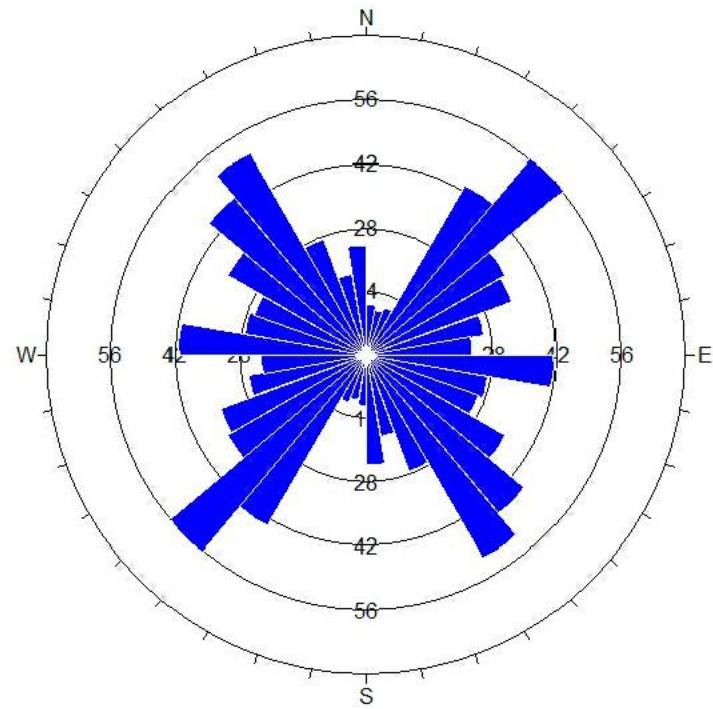
PROJECT NO.
 166235021

CONTROL
 1662350D007.dwg

REV.
 4

FIGURE
 7

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB



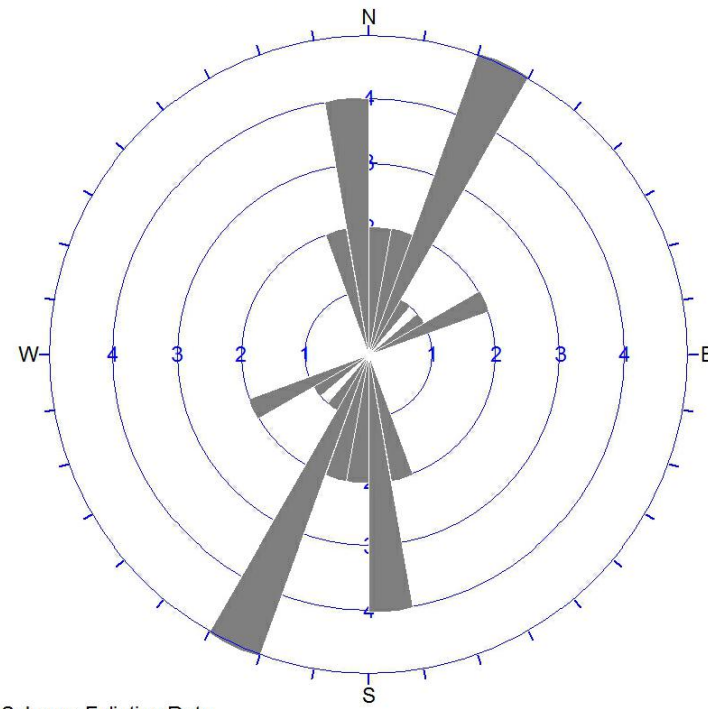
Rose Diagram of measured Lineaments.

Apparent Strike
70 max planes / arc
at outer circle

543 Planes Plotted
Within 45 and 90
Degrees of Viewing
Face

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction



Scherer: Foliation Data

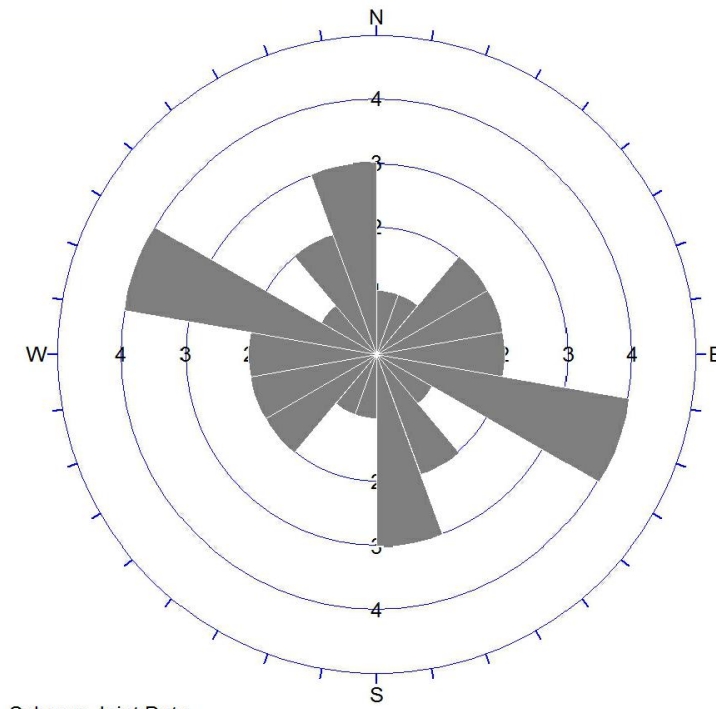
Rose Diagram of measured Foliation.

Apparent Strike
5 max planes / arc
at outer circle

19 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction



Scherer: Joint Data

Rose Diagram of measured Joints.

Apparent Strike
5 max planes / arc
at outer circle

18 Planes Plotted
Within 0 and 90
Degrees of Viewing
Face

Trend / Plunge of
Face Normal = 0, 90
(directed away from viewer)

No Bias Correction

NOT TO SCALE

CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER



CONSULTANT
YYYY-MM-DD 2021-08-02

DESIGNED DLP
PREPARED DJC

CHECKED DLP
REVIEWED/APPROVED RPK

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER ASH POND 1

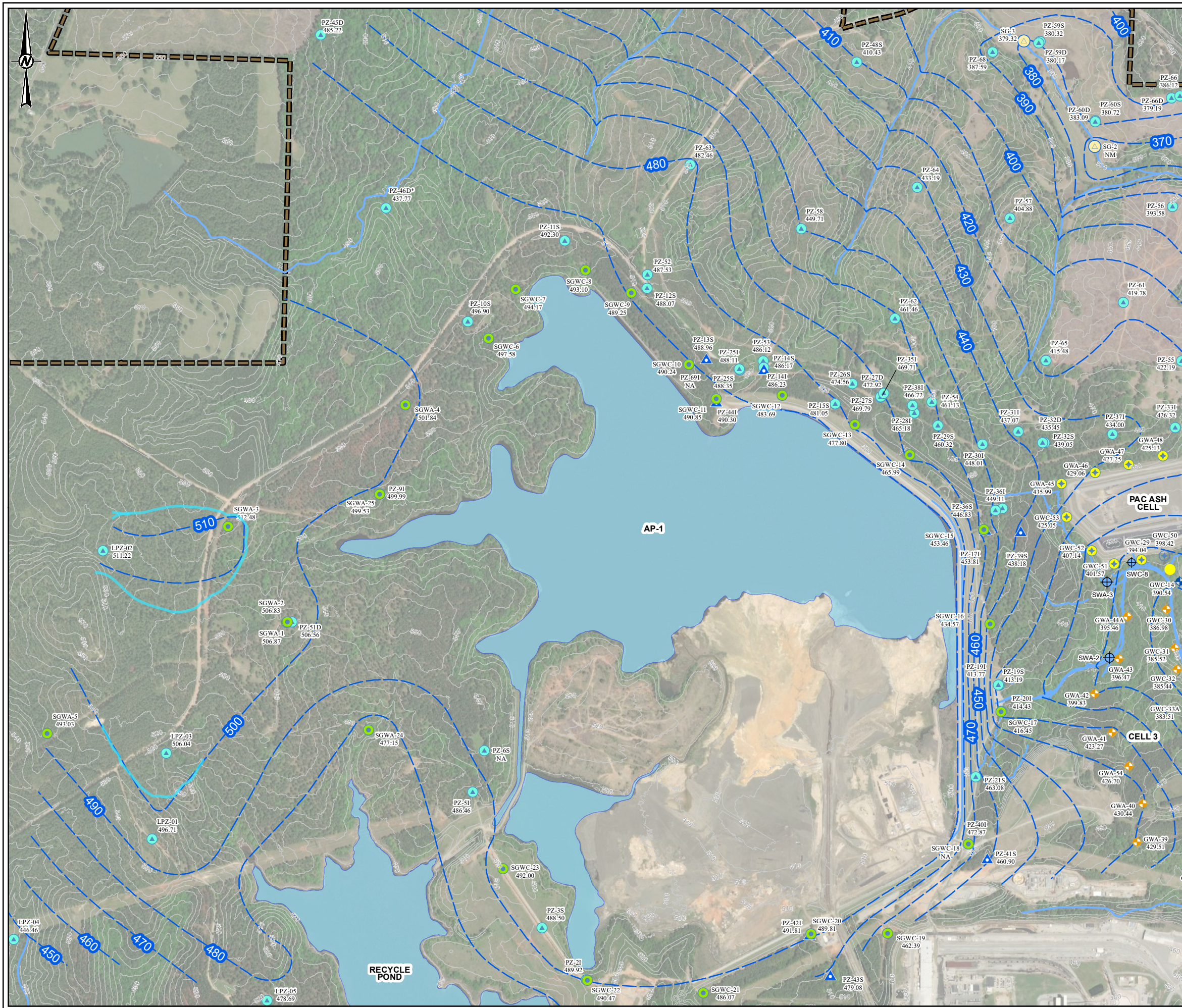
TITLE
**COMPARISON OF MEASURED
DISCONTINUITIES AND LINEAMENTS**

PROJECT NO. 166235021
CONTROL 1662350D008.dwg

REV. 4

FIGURE 8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB



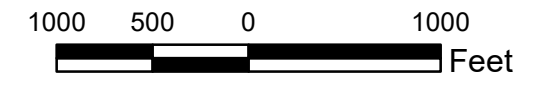
LEGEND

- SCHERER ASH POND-CCR MONITORING WELL
- ⊕ CELL 1 LANDFILL MONITORING WELL
- ⊕ PAC ASH LANDFILL MONITORING WELL
- ⊕ CELL 3 MONITORING WELL
- ▲ PIEZOMETER
- ⊕ SURFACE WATER SAMPLING LOCATION
- ⊕ STREAM GAUGE LOCATION
- ▲ ASSESSMENT WELL LOCATION
- INFERRED POTENTIOMETRIC SURFACE CONTOUR (FT-NAVD 88)
- STREAM
- PROPERTY BOUNDARY
- PONDS

NA WATER LEVEL ELEVATION NOT AVAILABLE. WATER LEVEL AT SGWC-18 WAS BELOW THE TOP OF THE PUMP. WATER LEVELS AT PZ-69I, GWA-33A AND GWA-41 WERE NOT RECORDED. THESE LOCATIONS WERE INACCESSIBLE AT THE TIME OF RECORDING DUE TO CONSTRUCTION ACTIVITIES.

- NOTES**
- GROUNDWATER ELEVATION MEASUREMENTS OBTAINED AUGUST 16, 2021 BY GOLDER ASSOCIATES.
 - GROUNDWATER ELEVATIONS DISPLAYED IN FEET-NORTH AMERICAN VERTICAL DATUM (FT-NAVD 88).
 - DEEP AND INTERMEDIATE WELL GROUNDWATER ELEVATIONS WERE NOT USED TO GENERATE GROUNDWATER CONTOURS.
 - PZ-50D IS NOT SHOWN; ITS LOCATION IS BEYOND THE MAPPED LIMITS.

- REFERENCE**
- COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET).
 - MONITORING WELL/PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING.



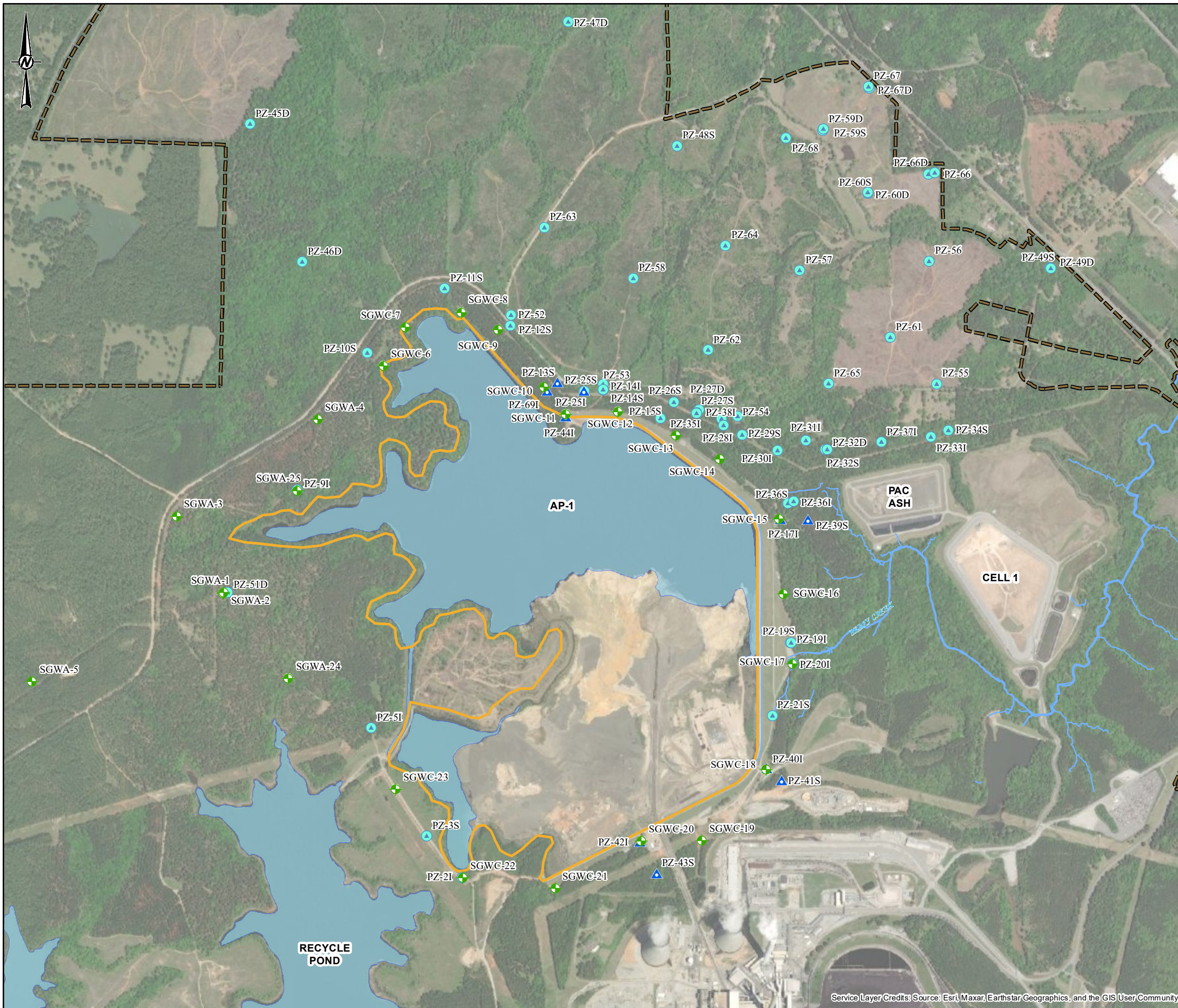
CLIENT
GEORGIA POWER COMPANY
 PLANT SCHERER
 JULIETTE, GEORGIA

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND 1

TITLE
POTENTIOMETRIC SURFACE MAP
 AUGUST 16, 2021

CONSULTANT	DATE	REVISION
	YYYY-MM-DD	2021-11-30
	PREPARED	DJC
	DESIGN	DLP
	REVIEW	DLP
	APPROVED	RPK

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSB



LEGEND

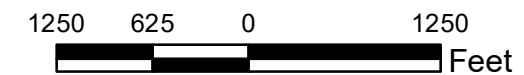
	MONITORING WELL LOCATION
	PIEZOMETER LOCATION
	ASSESSMENT WELL LOCATION
	ASH POND PERMIT BOUNDARY
	PROPERTY BOUNDARY

NOTES

- MONITORING WELL LOCATIONS PROVIDED BY JORDAN ENGINEERING.
- PIEZOMETER PZ-50 IS NOT LOCATED WITHIN THE CURRENT VIEW. IT IS SITUATED SOUTH OF LAKE JULIETTE. REFER TO THE BORING LOG FOR LOCATION COORDINATES.

REFERENCE

- COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET).
- MONITORING WELL AND PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING, INC., JULY 2020.



CLIENT
GEORGIA POWER COMPANY
 PLANT SCHERER
 JULIETTE, GEORGIA



PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
 PLANT SCHERER ASH POND AP-1

TITLE
SITE PLAN AND COMPLIANCE
MONITORING NETWORK

CONSULTANT	YYYY-MM-DD	2021-06-15
	PREPARED	DJC
	DESIGN	DLP
	CHECKED	DLP
	REVIEWED/APPROVED	RPK

PROJECT No. 166235021 CONTROL 166235021AC001-GIS.mxd Rev. 1 FIGURE 10

Path: H:\166235021\Southern Company Services\figure\acsite\plan\and\Detection\MW\LOC\MAR16\2021AC001-GIS.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANS B

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Tables

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
 Georgia Power - Plant Scherer AP-1
 Juliette, GA

Well ID	Hydraulic Location	Screened Matrix	NAD 83 Northing ^[1]	NAD 83 Easting ^[1]	Top of Casing Elevation (feet NAVD88) ^[2]	Ground Surface Elevation at Concrete Pad (feet NAVD88)	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Hydraulic Conductivity (cm/sec)	Kh/Kv	Groundwater Elevation August 16, 2021
AP-1 MONITORING WELL NETWORK															
SGWA-1	Upgradient	Overburden	1119233.10	2399899.81	546.83	544.27	544.1	50.9	503.57	493.57	10	2/11/2015	5.57E-05	Kv	506.87
SGWA-2	Upgradient	Bedrock	1119237.67	2399908.19	546.94	544.20	544.0	95.8	458.55	448.55	10	2/17/2015	1.25E-04	Kh	506.83
SGWA-3	Upgradient	Overburden	1120224.15	2399296.64	545.83	543.03	542.9	50	502.88	492.88	10	11/18/2015	1.74E-05	Kh	512.48
SGWA-4	Upgradient	Overburden	1121477.05	2401124.64	547.66	544.96	544.8	60.5	494.31	484.31	10	11/17/2015	3.06E-05	Kh	501.84
SGWA-5	Upgradient	Overburden	1118088.42	2397426.26	508.48	505.93	505.7	30	485.53	475.53	10	11/18/2015	1.33E-04	Kh	493.03
SGWC-6	Downgradient	Overburden	1122167.18	2401979.98	510.49	507.87	507.7	25	492.67	482.67	10	11/12/2015	1.75E-05	Kh	497.58
SGWC-7	Downgradient	Bedrock	1122668.61	2402259.75	506.40	503.65	503.5	35	478.45	468.45	10	11/11/2015	4.55E-04	Kh	494.17
SGWC-8	Downgradient	Overburden/Bedrock	1122865.98	2402979.50	514.28	511.68	511.5	40	481.48	471.48	10	11/11/2015	7.84E-04	Kh	493.10
SGWC-9	Downgradient	Overburden	1122634.64	2403455.19	510.62	507.88	507.6	35	482.63	472.63	10	11/6/2015	1.48E-04	Kh	489.25
SGWC-10	Downgradient	Overburden	1121895.85	2404046.92	509.41	506.80	506.6	30	486.60	476.60	10	11/5/2015	3.73E-05	Kh	490.24
SGWC-11	Downgradient	Overburden	1121542.11	2404332.12	511.47	508.77	508.6	40	478.62	468.62	10	10/29/2015	5.78E-05	Kh	490.85
SGWC-12	Downgradient	Overburden	1121576.75	2405009.92	500.53	497.80	497.7	47.6	460.70	450.70	10	10/30/2015	4.77E-05	Kh	483.69
SGWC-13	Downgradient	Overburden	1121274.85	2405761.20	482.71	480.17	479.9	35	454.92	444.92	10	11/4/2015	1.32E-04	Kh	477.80
SGWC-14	Downgradient	Overburden	1120966.13	2406329.89	476.72	473.52	473.3	35.3	448.52	438.52	10	2/24/2015	4.56E-03	Kv	465.99
SGWC-15	Downgradient	Overburden	1120191.20	2407093.92	482.75	479.76	479.7	45.2	444.86	434.86	10	2/26/2015	3.39E-03	Kv	453.46
SGWC-16	Downgradient	Overburden	1119221.42	2407155.89	460.31	457.18	457.0	39.2	428.23	418.23	10	3/3/2015	2.07E-03	Kh	434.57
SGWC-17	Downgradient	Overburden	1118308.77	2407267.44	418.00	415.13	414.9	24.5	400.83	390.83	10	3/11/2015	1.30E-03	Kh	416.45
SGWC-18	Downgradient	Overburden	1116947.75	2406931.32	513.29	510.41	510.3	44.5	476.21	466.21	10	3/17/2015	1.64E-03	Kh	BTOP
SGWC-19	Downgradient	Overburden	1116024.59	2406097.05	478.94	476.13	475.8	34.6	451.63	441.63	10	3/18/2015	3.81E-04	Kv	462.39
SGWC-20	Downgradient	Overburden	1116020.73	2405307.67	504.60	501.69	501.5	25	486.49	476.49	10	11/19/2015	7.94E-05	Kh	489.81
SGWC-21	Downgradient	Overburden	1115409.88	2404197.33	487.67	484.92	484.7	24.9	470.17	460.17	10	5/6/2015	--	--	486.07
SGWC-22	Downgradient	Overburden	1115540.08	2403001.81	518.02	515.51	515.4	50.1	478.91	468.91	10	1/22/2015	5.10E-04	Kh	490.47
SGWC-23	Downgradient	Bedrock	1116693.80	2402131.07	523.10	520.17	520.0	49.7	480.72	470.72	10	2/3/2015	3.12E-03	Kv	492.00
SGWA-24	Upgradient	Overburden	1118121.96	2400743.52	492.38	489.47	489.3	40	461.62	451.62	10	2/10/2015	--	--	477.15
SGWA-25	Upgradient	Overburen	1120555.28	2400857.08	526.49	523.45	523.2	45.0	488.60	478.60	10	2/18/2015	1.32E-03	Kv	499.53

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AP-1 ASSESSMENT MONITORING WELL NETWORK															
PZ-13S	Downgradient	Overburden	1121957.03	2404227.47	520.51	517.68	517.5	45.3	482.58	472.58	10	4/1/2015	2.21E-03	Kh	488.96
PZ-14S	Downgradient	Overburden	1121852.80	2404820.56	512.13	509.03	508.7	44.9	474.18	464.18	10	3/26/2015	1.06E-02	Kh	486.17
PZ-17I	Downgradient	Bedrock	1120190.27	2407107.37	483.03	480.20	479.9	97.3	393.20	383.20	10	2/27/2015	3.08E-03	Kh	453.81
PZ-39S	Downgradient	Overburden	1120178.43	2407470.49	474.58	471.99	471.8	76.4	405.79	395.79	10	8/21/2018	--	--	438.18
PZ-40I	Downgradient	Bedrock	1116960.39	2406934.72	512.55	510.19	510.1	83.4	437.09	427.09	10	8/15/2018	--	--	472.87
PZ-41S	Downgradient	Overburden	1116799.18	2407124.98	491.50	488.66	488.6	45.0	453.56	443.56	5	8/16/2018	--	--	460.90
PZ-42I	Downgradient	Bedrock	1116013.79	2405294.12	503.18	500.65	500.5	105.0	414.45	404.45	10	8/21/2018	--	--	491.81
PZ-43S	Downgradient	Overburden	1115598.12	2405507.16	504.03	501.34	501.2	55	460.69	450.69	10	8/17/2018	--	--	479.08
PZ-44I	Downgradient	Bedrock	1121515.40	2404330.23	510.36	507.91	507.9	114	403.86	393.86	10	9/5/2018	--	--	490.30
PZ-69I	Downgradient	Bedrock	1121906.36	2404051.36	508.85	506.44	506.0		410.00	400.00	10	1/13/2022	--	--	NA
PIEZOMETERS															
PZ-2I	Downgradient	Bedrock	1115544.85	2402990.76	517.56	515.06	514.8	84.4	440.91	430.91	10	1/27/2015	1.11E-04	Kv	489.92
PZ-3S	Downgradient	Overburden	1116085.04	2402533.80	517.29	514.57	514.4	50	474.77	464.77	10	1/29/2015	--	--	488.50
PZ-5I	Downgradient	Bedrock	1117484.15	2401816.71	523.26	520.73	520.6	47	484.03	474.03	10	2/4/2015	1.10E-02	Kh	486.46
PZ-9I	Upgradient	Bedrock	1120562.72	2400862.76	526.57	523.61	523.3	80.2	453.51	443.51	10	2/19/2015	4.71E-04	Kh	499.99
PZ-10S	Downgradient	Overburden	1122338.03	2401768.92	517.53	514.78	514.4	34.9	489.88	479.88	10	5/5/2015	3.79E-03	Kh	496.90
PZ-11S	Downgradient	Overburden	1123169.22	2402767.44	529.31	526.19	526.0	45.9	490.54	480.54	10	4/6/2015	1.67E-03	Kh	492.30
PZ-12S	Downgradient	Overburden	1122684.90	2403618.46	517.69	514.64	514.5	44.4	480.54	470.54	10	4/1/2015	4.22E-03	Kh	488.07
PZ-14I	Downgradient	Bedrock	1121866.36	2404822.43	512.89	510.03	509.7	95.2	424.93	414.93	10	3/25/2015	6.15E-04	Kh	486.23
PZ-15S	Downgradient	Overburden	1121486.96	2405558.59	500.60	497.59	497.4	40.1	467.74	457.74	10	4/28/2015	3.79E-03	Kh	481.05
PZ-19I	Downgradient	Bedrock	1118588.47	2407251.56	417.76	414.74	414.5	71.9	353.04	343.04	10	3/4/2015	6.01E-03	Kh	413.77
PZ-19S	Downgradient	Overburden	1118587.24	2407241.54	417.80	414.79	414.5	25	399.94	389.94	10	3/4/2015	6.43E-04	Kh	413.19
PZ-20I	Downgradient	Bedrock	1118318.15	2407273.36	417.41	414.46	414.3	79.6	345.11	335.11	10	3/10/2015	3.96E-04	Kh	414.43
PZ-21S	Downgradient	Overburden	1117639.19	2407006.52	473.74	470.85	470.6	23.4	457.60	447.60	10	3/12/2015	5.78E-04	Kh	463.08
PZ-25S	Downgradient	Overburden	1121848.11	2404567.52	528.24	525.78	525.5	55	480.78	470.68	10	5/25/2016	--	--	488.35
PZ-25I	Downgradient	Overburden	1121837.80	2404573.04	528.39	526.02	525.8	125	410.97	400.97	10	5/24/2016	--	--	488.11

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GYPSUM CELL 1															
GWC-1	Downgradient	Overburden	1120077.85	2411555.32	374.95	371.77	371.6	34.85	346.91	336.91	10	10/28/2009	--	--	364.94
GWC-2	Downgradient	Overburden	1119816.59	2411493.53	380.22	377.02	376.9	54.88	332.12	322.12	10	10/8/2009	1.10E-04	Kh	365.97
GWC-3	Downgradient	Overburden	1119613.99	2411202.86	410.44	407.36	407.1	46.39	370.70	360.70	10	10/29/2009	--	--	372.47
GWC-4	Downgradient	Overburden	1119255.96	2411041.82	411.75	408.50	408.4	39.91	378.70	368.70	10	11/21/2009	--	--	379.40
GWC-5	Downgradient	Overburden	1118897.72	2411025.88	396.69	393.37	393.3	30.66	372.84	362.84	10	10/22/2009	--	--	376.38
GWC-6	Downgradient	Bedrock	1118575.69	2410872.56	415.80	412.48	412.4	45.10	377.52	367.52	10	10/21/2009	8.21E-04	Kh	377.36
GWC-7	Downgradient	Overburden	1118243.67	2410645.91	418.27	414.51	414.4	54.78	369.84	359.84	10	10/20/2009	--	--	375.72
GWC-8A	Downgradient	Overburden	1117917.32	2410375.16	401.62	398.65	398.6	45.00	364.30	354.30	10	3/29/2017	--	--	378.57
GWC-9	Downgradient	Overburden	1117955.40	2410167.75	386.18	383.21	382.8	16.88	376.02	366.02	10	11/4/2009	2.57E-04	Kh	378.85
GWC-10	Downgradient	Overburden	1118306.77	2410018.28	392.87	389.49	388.9	31.68	367.50	357.50	10	11/3/2009	--	--	381.61
GWC-11	Downgradient	Overburden	1118648.98	2409778.84	402.33	399.21	398.8	31.10	377.81	367.81	10	11/3/2009	--	--	383.64
GWC-12	Downgradient	Overburden	1118977.87	2409554.57	412.89	409.66	409.2	34.40	384.94	374.94	10	11/3/2009	--	--	387.08
GWC-13	Downgradient	Overburden	1119338.68	2409390.95	419.77	416.71	416.5	40.06	386.52	376.52	10	11/2/2009	--	--	389.17
GWC-14	Downgradient	Overburden	1119655.05	2409111.75	403.60	400.41	400.2	24.13	386.09	376.09	10	11/4/2009	--	--	390.54
GWA-15	Upgradient	Overburden	1120009.40	2409282.43	415.01	412.00	411.7	26.20	395.51	385.51	10	11/4/2009	8.02E-04	Kh	403.12
GWA-16	Upgradient	Overburden	1120248.68	2409579.75	444.24	441.01	440.9	54.48	396.71	386.71	10	10/13/2009	--	--	411.57
GWA-17	Upgradient	Overburden	1120210.57	2409946.73	445.84	442.92	442.8	43.72	409.27	399.27	10	9/28/2009	--	--	416.82
GWC-18	Downgradient	Overburden	1119998.73	2410261.85	439.66	436.40	436.3	57.03	389.49	379.49	10	9/29/2009	2.24E-04	Kh	406.90
GWC-19	Downgradient	Overburden	1119645.70	2410713.20	430.20	426.34	426.3	54.10	382.45	372.45	10	10/2/2009	--	--	393.54
GWC-20	Downgradient	Overburden	1119950.51	2411195.38	426.30	423.03	423.0	69.40	363.85	353.85	10	10/6/2009	--	--	382.32

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PIEZOMETERS - continued															
PZ-26S	Downgradient	Overburden	1121696.65	2405733.23	491.65	489.17	489.1	45	454.27	444.27	10	6/1/2016	--	--	474.56
PZ-27D	Downgradient	Bedrock	1121558.94	2406023.17	475.43	472.659	472.4	125	367.61	347.61	20	6/17/2016	--	--	472.92
PZ-27S	Downgradient	Overburden	1121565.33	2406028.25	475.80	473.175	473.1	45	438.33	428.33	10	5/26/2016	--	--	469.79
PZ-28I	Downgradient	Bedrock	1121394.06	2406373.94	484.18	481.587	481.4	70	422.84	412.84	10	6/3/2016	4.54E-04	Kh	465.18
PZ-29S	Downgradient	Overburden	1121269.19	2406618.29	491.31	488.704	488.5	45.0	453.70	443.70	10	5/26/2016	--	--	460.32
PZ-30I	Downgradient	Bedrock	1121073.53	2407078.99	478.31	475.712	475.6	85.3	400.46	390.46	10	6/2/2016	--	--	448.01
PZ-31I	Downgradient	Bedrock	1121204.03	2407445.73	466.89	464.163	464.0	75.1	399.06	389.06	10	6/2/2016	--	--	437.07
PZ-32D	Downgradient	Bedrock	1121089.64	2407719.37	465.42	462.561	462.4	126.0	366.56	336.56	30	6/1/2016	--	--	435.45
PZ-32S	Downgradient	Overburden	1121089.22	2407698.44	465.06	462.52	462.3	55.0	417.47	407.47	10	6/1/2016	--	--	439.05
PZ-33I	Downgradient	Overburden	1121245.25	2409064.05	469.38	466.547	466.4	76.0	400.65	390.65	10	6/8/2016	--	--	426.32
PZ-34S	Downgradient	Overburden	1121331.59	2409288.37	443.67	441.08	440.8	45.5	405.53	395.53	10	6/4/2016	--	--	423.79
PZ-35I	Downgradient	Overburden	1121598.57	2406058.33	474.40	474.72	474.6	55.5	429.27	419.27	10	6/22/2016	--	--	469.71
PZ-36I	Downgradient	Bedrock	1120410.99	2407256.25	481.52	478.96	478.9	95.5	393.56	383.56	10	6/5/2016	--	--	449.11
PZ-36S	Downgradient	Overburden	1120401.04	2407248.04	482.35	479.50	479.4	55.4	434.40	424.40	10	8/22/2018	--	--	446.83
PZ-37I	Downgradient	Overburden/Bedrock	1121178.48	2408419.19	482.18	479.68	479.5	71.2	418.48	408.48	10	6/2/2016	--	--	434.00
PZ-38I	Downgradient	Overburden	1121475.86	2406352.98	482.24	482.38	482.2	74.0	418.43	408.43	10	6/23/2016	--	--	466.72
PZ-45D	Downgradient	Bedrock	1125296.24	2400250.55	512.33	509.94	509.7	165	399.74	344.74	55	3/9/2020	--	--	485.22
PZ-46D	Downgradient	Overburden/Bedrock	1123512.22	2400923.25	450.28	447.37	447.1	53.5	423.57	393.57	30	3/17/2020	--	--	437.77
PZ-47D	Downgradient	Bedrock	1126623.42	2404366.80	410.01	406.91	406.8	25.1	396.66	381.66	15	3/11/2020	--	--	400.27
PZ-48S	Downgradient	Overburden	1125014.71	2405779.92	444.33	441.45	441.3	61	390.55	380.55	10	3/4/2020	--	--	410.43
PZ-49D	Downgradient	Bedrock	1123429.73	2410615.29	367.41	365.13	364.9	106	288.88	258.88	30	3/6/2020	--	--	360.72
PZ-49S	Downgradient	Overburden	1123434.46	2410605.99	367.89	365.29	365.2	25.5	350.19	340.19	10	3/7/2020	--	--	359.45
PZ-50D	Upgradient	Bedrock	1103125.91	2408306.87	473.78	470.70	470.7	100	380.66	370.66	10	3/18/2020	--	--	451.43
PZ-51D	Upgradient	Bedrock	1119239.99	2399955.07	546.04	543.47	543.2	126	427.17	417.17	10	3/8/2020	--	--	506.56
PZ-52	Downgradient	Overburden	1122822.91	2403622.69	521.84	519.68	519.4	77	452.43	442.43	10	3/17/2020	--	--	487.53
PZ-53	Downgradient	Overburden	1121932.34	2404813.43	516.64	513.81	513.6	45	478.61	468.61	10	3/19/2020	--	--	486.12

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 Georgia Power - Plant Scherer AP-1
 Juliette, GA

Well ID	Hydraulic Location	Screened Matrix	NAD 83 Northing ^[1]	NAD 83 Easting ^[1]	Top of Casing Elevation (feet NAVD88) ^[2]	Ground Surface Elevation at Concrete Pad (feet NAVD88)	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Hydraulic Conductivity (cm/sec)	Kh/Kv	Groundwater Elevation August 16, 2021
PIEZOMETERS - continued															
PZ-54	Downgradient	Overburden	1121509.71	2406555.15	492.96	490.27	490.2	45	455.17	445.17	10	3/19/2020	--	--	461.13
PZ-55	Downgradient	Overburden	1121931.60	2409132.43	447.21	444.25	444.2	36	418.15	408.15	10	3/20/2020	--	--	422.19
PZ-56	Downgradient	Bedrock	1123524.68	2409037.21	433.68	431.10	430.8	46	395.10	385.10	10	3/19/2020	--	--	393.58
PZ-57	Downgradient	Overburden/Bedrock	1123405.64	2407361.88	439.51	436.55	436.4	59	387.45	377.45	10	3/19/2020	--	--	404.88
PZ-58	Downgradient	Overburden	1123299.43	2405207.09	492.21	489.35	489.3	46	453.25	443.25	10	3/16/2020	--	--	449.71
PZ-59S	Downgradient	Overburden	1125213.65	2407658.45	385.93	383.13	382.8	24	368.83	358.83	10	3/20/2020	--	--	380.32
PZ-59D	Downgradient	Bedrock	1125229.89	2407668.93	385.86	383.16	382.9	69	328.86	313.86	15	3/27/2020	--	--	380.17
PZ-60D	Downgradient	Bedrock	1124410.72	2408242.87	389.34	386.53	386.4	99.7	317.03	286.73	30	3/29/2020	--	--	380.72
PZ-60S	Downgradient	Overburden	1124400.44	2408243.59	389.88	386.66	386.4	20	376.36	366.36	10	3/31/2020	--	--	383.09
PZ-61	Downgradient	Overburden/Bedrock	1122537.21	2408531.43	439.27	436.84	436.8	49.45	397.34	387.34	10	4/11/2020	--	--	419.78
PZ-62	Downgradient	Overburden	1122370.34	2406175.11	501.32	498.45	498.3	52.25	456.00	446.00	10	4/9/2020	--	--	461.46
PZ-63	Downgradient	Bedrock	1123955.38	2404060.61	501.54	499.12	498.9	40	468.87	458.87	10	4/12/2020	--	--	482.46
PZ-64	Downgradient	Bedrock	1123724.36	2406404.18	479.52	476.09	476.0	70	416.99	406.99	10	4/8/2020	--	--	433.19
PZ-65	Downgradient	Overburden	1121937.16	2407733.04	432.42	429.77	429.6	30.25	409.57	399.57	10	4/11/2020	--	--	415.48
PZ-66D	Downgradient	Bedrock	1124644.48	2409028.45	427.60	424.64	424.4	266	-	-	open borehole	4/2/2020	--	--	379.19
PZ-66	Downgradient	Bedrock	1124664.10	2409115.98	421.24	418.68	418.4	60	373.38	358.38	15	5/8/2020	--	--	386.12
PZ-67D	Downgradient	Bedrock	1125764.81	2408259.40	428.48	424.86	424.7	301	-	-	open borehole	4/1/2020	--	--	379.33
PZ-67	Downgradient	Overburden	1125782.26	2408248.89	425.94	423.37	423.2	39.75	393.47	383.47	10	4/25/2020	--	--	401.31
PZ-68	Downgradient	Overburden	1125116.59	2407181.92	395.55	392.34	392.1	20	382.14	372.14	10	4/15/2020	--	--	387.59
LPZ-01	Upgradient	Overburden/Bedrock	1117001.58	2398513.19	553.29	550.47	550.0	65.8	495.97	485.97	10	11/10/2015	--	--	496.71
LPZ-02	Upgradient	Overburden	1119972.34	2398004.93	514.52	511.42	511.1	20.0	501.07	491.07	10	11/20/2015	--	--	511.22
LPZ-03	Upgradient	Overburden	1117883.86	2398657.00	515.45	512.55	512.2	35.0	487.15	477.15	10	11/18/2015	3.92E-06	Kv	506.04
LPZ-04	Upgradient	Overburden	1115962.59	2397083.47	461.24	458.31	458.1	32.0	440.11	430.11	10	11/19/2015	4.51E-08	Kv	446.46
LPZ-05	Upgradient	Overburden	1115328.95	2399698.53	524.51	521.81	521.5	53	479.41	469.41	10	11/5/2015	--	--	478.69

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
 Georgia Power - Plant Scherer AP-1
 Juliette, GA

Well ID	Hydraulic Location	Screened Matrix	NAD 83 Northing ^[1]	NAD 83 Easting ^[1]	Top of Casing Elevation (feet NAVD88) ^[2]	Ground Surface Elevation at Concrete Pad (feet NAVD88)	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Hydraulic Conductivity (cm/sec)	Kh/Kv	Groundwater Elevation August 16, 2021
PAC ASH CELL															
GWA-21	Upgradient	Overburden	1120675.73	2409462.70	422.58	419.81	419.7	17.82	412.04	402.04	10	6/29/2010	--	--	417.18
GWA-22	Upgradient	Overburden/Bedrock	1120962.12	2409473.22	444.50	442.01	442.0	40.00	412.29	402.29	10	6/30/2010	--	--	419.85
GWC-29	Downgradient	Overburden	1119875.58	2408717.95	399.64	396.98	396.9	24.36	382.78	372.78	10	6/28/2010	9.04E-04	Kh	394.04
GWA-45	Upgradient	Overburden	1120669.03	2407889.56	451.08	448.33	448.3	32.72	425.99	415.99	10	6/23/2010	2.33E-04	Kh	435.99
GWA-46	Upgradient	Overburden	1120783.23	2408235.69	461.13	458.37	458.3	44.17	424.38	414.38	10	6/23/2010	--	--	429.06
GWA-47	Upgradient	Overburden	1120862.63	2408585.01	465.77	463.03*	462.9	51.33	421.74	411.74	10	6/22/2010	--	--	427.25
GWA-48	Upgradient	Overburden	1120953.42	2408939.48	461.73	459.00	458.8	61.22	407.74	397.74	10	6/22/2010	--	--	425.13
GWA-49	Upgradient	Overburden	1121030.08	2409288.38	432.88	430.16	429.9	38.08	401.81	391.81	10	6/21/2010	2.52E-04	Kh	421.30
GWC-50	Downgradient	Overburden	1119917.51	2408956.10	407.16	404.44	404.3	33.64	380.88	370.88	10	6/28/2010	--	--	398.42
GWC-51	Downgradient	Overburden	1119835.51	2408436.95	410.15	407.37	407.3	23.95	393.78	383.78	10	7/27/2010	--	--	401.57
GWC-52	Downgradient	Overburden	1119972.34	2408203.99	417.13	414.43	414.4	30.17	394.53	384.53	10	6/24/2010	7.27E-04	Kh	407.14
GWC-53	Downgradient	Overburden	1120319.65	2407943.05	435.83	433.10	432.9	30.07	412.84	402.84	10	6/23/2010	--	--	425.05

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
 Georgia Power - Plant Scherer AP-1
 Juliette, GA

Well ID	Hydraulic Location	Screened Matrix	NAD 83 Northing ^[1]	NAD 83 Easting ^[1]	Top of Casing Elevation (feet NAVD88) ^[2]	Ground Surface Elevation at Concrete Pad (feet NAVD88)	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs)	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Hydraulic Conductivity (cm/sec)	Kh/Kv	Groundwater Elevation August 16, 2021
CELL 3															
GWC-30	Downgradient	Overburden/Bedrock	1119366.69	2408976.35	394.49	392.19	392.0	19	384.04	374.04	10	1/24/2020	--	--	386.98
GWC-31	Downgradient	Overburden	1118970.00	2409062.02	392.78	390.13	390.0	19.3	380.68	370.68	10	1/23/2020	--	--	385.52
GWC-32	Downgradient	Overburden	1118749.53	2409084.83	410.03	407.25	406.9	36	381.95	371.95	10	1/21/2020	--	--	385.44
GWC-33A	Downgradient	Overburden	1118458.68	2409359.58	393.96	391.32	390.9	24	376.87	366.87	10	1/25/2020	--	--	383.51
GWC-34	Downgradient	Overburden	1118248.26	2409680.41	389.29	386.48	386.2	19	377.23	367.23	10	1/13/2020	--	--	381.43
GWC-35	Downgradient	Overburden	1117860.46	2409906.21	387.90	385.35	385.1	21	375.10	365.10	10	1/12/2020	--	--	382.20
GWC-36	Downgradient	Overburden	1117561.29	2409681.44	425.12	422.52	422.0	45.4	386.62	376.62	10	1/10/2020	--	--	392.31
GWC-37	Downgradient	Overburden	1117239.70	2409636.56	429.80	427.38	427.2	43	395.23	385.23	10	1/8/2020	--	--	405.56
GWC-38	Downgradient	Overburden	1116786.45	2409533.11	418.68	416.23	416.0	39	386.98	376.98	10	1/7/2020	--	--	406.06
GWA-39	Upgradient	Bedrock	1116967.57	2408671.68	457.62	454.59	454.2	59.0	405.24	395.24	10	12/20/2019	--	--	429.51
GWA-40	Upgradient	Overburden	1117365.24	2408730.04	463.84	461.25	461.2	44.8	427.15	417.15	10	12/18/2020	--	--	430.44
GWA-41	Upgradient	Overburden	1118096.97	2408412.15	434.12	431.70	431.4	39	403.75	393.75	10	1/26/2020	--	--	423.27
GWA-42	Upgradient	Overburden	1118500.68	2408233.53	405.19	402.57	402.2	18.8	393.37	383.37	10	1/27/2020	--	--	399.83
GWA-43	Upgradient	Overburden	1118861.38	2408484.42	400.94	398.42	398.1	19	389.12	379.12	10	1/26/2020	--	--	396.47
GWA-44A	Upgradient	Overburden	1119296.99	2408569.76	399.62	396.83	396.5	19.9	386.58	376.58	10	1/27/2020	--	--	395.46
GWA-54	Upgradient	Bedrock	1117751.40	2408588.52	451.49	448.78	448.6	50	409.83	399.83	10	12/21/2020	--	--	426.70

- Notes:**
 ft = feet; feet bgs = feet below ground surface; ft BTOC = feet below top of casing; BTOC = Below top of pump; Kh = horizontal hydraulic conductivity; Kv = vertical hydraulic conductivity; NA = Not Available
 (1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.
 (2) Vertical elevations are in feet relative to the North American Vertical Datum (NAVD) 1988.
 (3) Total well depth accounts for sump if data provided on well construction logs.
 (4) Survey data provided by Jordan Engineering, Inc., July 2020.
 (5) - = not applicable

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
ASH POND				
SGWA-1	546.83	508.35	509.83	506.87
SGWA-2	546.94	508.94	510.62	506.83
SGWA-3	545.83	513.35	515.17	512.48
SGWA-4	547.66	500.23	500.42	501.84
SGWA-5	508.48	493.98	494.88	493.03
SGWC-6	510.49	497.15	497.74	497.58
SGWC-7	506.40	493.59	494.16	494.17
SGWC-8	514.28	493.22	493.63	493.10
SGWC-9	510.62	490.16	490.62	489.25
SGWC-10	509.41	491.67	491.96	490.24
SGWC-11	511.47	492.38	492.63	490.85
SGWC-12	500.53	485.18	485.31	483.69
SGWC-13	482.71	478.56	478.40	477.80
SGWC-14	476.72	466.41	466.37	465.99
SGWC-15	482.75	455.05	455.64	453.46
SGWC-16	460.31	436.11	437.11	434.57
SGWC-17	418.00	416.87	417.70	416.45
SGWC-18	513.29	BTOP	BTOP	BTOP
SGWC-19	478.94	463.34	463.76	462.39
SGWC-20	504.60	491.05	491.55	489.81
SGWC-21	487.67	486.92	487.57	486.07
SGWC-22	518.02	492.27	493.04	490.47
SGWC-23	523.10	492.59	493.37	492.00
SGWA-24	492.38	478.57	479.08	477.15
SGWA-25	526.49	500.74	501.39	499.53
PIEZOMETERS				
PZ-2I	517.56	491.60	492.54	489.92
PZ-3S	517.29	489.47	490.36	488.50
PZ-5I	523.26	487.13	487.32	486.46
PZ-6S	531.54	494.89	496.12	NM

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
PIEZOMETERS - continued				
PZ-9I	526.57	501.03	501.86	499.99
PZ-10S	517.53	496.39	497.18	496.90
PZ-11S	529.31	492.12	492.49	492.30
PZ-12S	517.69	488.72	489.07	488.07
PZ-13S	520.51	490.10	490.71	488.96
PZ-14S	512.13	487.69	488.46	486.17
PZ-14I	512.89	487.68	488.47	486.23
PZ-15S	500.60	481.88	481.69	481.05
PZ-17I	483.03	455.33	456.22	453.81
PZ-19I	417.76	414.46	415.39	413.77
PZ-19S	417.80	413.86	414.95	413.19
PZ-20I	417.41	414.81	415.01	414.43
PZ-21S	473.74	464.32	464.97	463.08
PZ-25S	528.24	489.63	500.59	488.35
PZ-25I	528.39	489.50	490.53	488.11
PZ-26S	491.65	475.73	476.25	474.56
PZ-27S	475.80	471.21	472.21	469.79
PZ-27D	475.43	474.20	474.93	472.92
PZ-28I	484.18	466.63	467.16	465.18
PZ-29S	491.31	461.42	461.75	460.32
PZ-30I	478.31	449.07	450.12	448.01
PZ-31I	466.89	438.12	439.37	437.07
PZ-32S	465.06	440.10	441.36	439.05
PZ-32D	465.42	438.03	439.17	435.45
PZ-33I	469.38	425.62	427.87	426.32
PZ-34S	443.67	426.43	427.81	423.79
PZ-35I	474.40	470.99	472.07	469.71
PZ-36S	482.35	449.54	451.15	446.83
PZ-36I	481.52	451.57	452.92	449.11
PZ-37I	482.18	434.19	434.03	434.00

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
PIEZOMETERS - continued				
PZ-38I	482.24	467.28	467.89	466.72
PZ-39S	474.58	440.70	442.48	438.18
PZ-40I	512.55	474.11	474.55	472.87
PZ-41S	491.50	461.84	461.69	460.90
PZ-42I	503.18	492.75	493.38	491.81
PZ-43S	504.03	481.24	481.73	479.08
PZ-44I	510.36	491.84	492.31	490.30
PZ-45D	512.33	486.61	488.77	485.22
PZ-46D	450.28	439.41	440.06	437.77
PZ-47D	410.01	400.37	400.75	400.27
PZ-48S	444.33	410.93	411.73	410.43
PZ-49S	367.89	361.21	361.74	359.45
PZ-49D	367.41	362.37	362.96	360.72
PZ-50D	478.01	450.26	451.01	451.43
PZ-51D	546.04	508.58	510.21	506.56
PZ-52	521.84	488.10	488.59	487.53
PZ-53	516.64	487.36	488.35	486.12
PZ-54	492.96	462.35	462.97	461.13
PZ-55	447.21	423.06	424.31	422.19
PZ-56	433.68	393.74	394.10	393.58
PZ-57	439.51	405.60	405.84	404.88
PZ-58	492.21	450.66	450.53	449.71
PZ-59S	385.93	382.00	382.33	380.32
PZ-59D	385.86	381.69	382.06	380.17
PZ-60S	389.88	381.71	383.04	380.72
PZ-60D	389.34	384.19	385.39	383.09
PZ-61	439.27	420.84	421.67	419.78
PZ-62	501.32	461.65	462.25	461.46
PZ-63	501.54	483.06	483.32	482.46

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
PIEZOMETERS - continued				
PZ-64	479.52	433.71	433.67	433.19
PZ-65	432.42	416.31	416.92	415.48
PZ-66	421.24	386.76	387.47	386.12
PZ-66D	427.60	380.33	380.85	379.19
PZ-67	425.94	401.42	402.14	401.31
PZ-67D	428.48	385.87	386.86	379.33
PZ-68	395.55	388.77	389.11	387.59
LPZ-01	553.29	496.78	496.64	496.71
LPZ-02	514.52	511.92	512.40	511.22
LPZ-03	515.45	507.22	508.70	506.04
LPZ-04	461.24	447.59	448.59	446.46
LPZ-05	524.51	479.01	479.05	478.69

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
CELL 1				
GWC-1	374.95	367.60	368.36	364.94
GWC-2	380.22	368.52	369.36	365.97
GWC-3	410.44	373.35	372.82	372.47
GWC-4	411.75	380.25	380.65	379.40
GWC-5	396.69	377.86	378.76	376.38
GWC-6	415.80	377.88	378.72	377.36
GWC-7	418.27	376.40	376.71	375.72
GWC-8A	401.62	379.27	379.81	378.57
GWC-9	386.18	379.53	380.11	378.85
GWC-10	392.87	383.12	383.57	381.61
GWC-11	402.33	385.73	386.15	383.64
GWC-12	412.89	389.19	390.07	387.08
GWC-13	419.77	391.02	391.66	389.17
GWC-14	403.60	391.75	392.74	390.54
GWA-15	415.01	404.98	405.80	403.12
GWA-16	444.24	413.32	414.05	411.57
GWA-17	445.84	416.34	417.24	416.82
GWC-18	439.66	406.66	407.09	406.90
GWC-19	430.20	394.20	394.98	393.54
GWC-20	426.30	382.65	383.18	382.32

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
PAC ASH CELL				
GWA-21	422.58	419.36	420.09	417.18
GWA-22	444.50	422.30	423.54	419.85
GWC-29	399.64	394.15	394.33	394.04
GWA-45	451.08	436.98	438.89	435.99
GWA-46	461.13	430.13	430.63	429.06
GWA-47	465.77	427.49	427.57	427.25
GWA-48	461.73	425.73	426.02	425.13
GWA-49	432.88	423.78	425.73	421.30
GWC-50	407.16	399.01	399.65	398.42
GWC-51	410.15	401.90	402.10	401.57
GWC-52	417.13	408.11	408.01	407.14
GWC-53	435.83	426.03	426.70	425.05

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS

Georgia Power - Plant Scherer
Juliette, GA

Well ID	Top of Casing Elevation (certified 7/17/2020)	GROUNDWATER ELEVATION		
		2/8/2021	3/29/2021	8/16/2021
CELL 3				
GWA-39	457.62	431.22	432.40	429.51
GWA-40	463.84	431.49	432.66	430.44
GWA-41	434.12	424.42	425.33	423.27
GWA-42	405.19	400.49	400.91	399.83
GWA-43	400.94	397.19	397.71	396.47
GWA-44A	399.62	396.12	396.24	395.46
GWA-54	451.49	427.72	428.35	426.70
GWC-30	394.49	389.09	389.89	386.98
GWC-31	392.78	387.58	387.91	385.52
GWC-32	410.03	386.82	387.26	385.44
GWC-33A	393.96	384.06	384.65	383.51
GWC-34	389.29	381.99	382.20	381.43
GWC-35	387.90	382.90	383.62	382.20
GWC-36	425.12	393.12	394.41	392.31
GWC-37	429.80	405.58	406.08	405.56
GWC-38	418.68	407.18	408.37	406.06

Notes:

Feet MSL = feet above mean sea level

NM = Not Measured

TABLE 4
HORIZONTAL GROUNDWATER VELOCITY CALCULATIONS
Ash Pond 1 - August 2021
 Georgia Power - Plant Scherer
 Juliette, GA

Flow Paths	Groundwater Elevation (feet msl)	ΔH (feet) ²	ΔL (feet) ³	Hydraulic Gradient ($\Delta h/\Delta l$)	Average Hydraulic Conductivity, K (feet per day) ⁵	Assumed Effective Porosity (n_e)	Average Linear Groundwater Velocity	
							(feet per day) ⁴	(feet per year) ⁴
AP-1 August 2021								
SGWC-14/PZ-29S	465.99	5.67	400	0.014	1.31 to 2.36	0.2	0.09 to 0.17	34 to 61
	460.32							
SGWC-13/PZ-35I	477.80	8.09	400	0.020	1.31 to 2.36	0.2	0.13 to 0.24	48 to 87
	469.71							
SGWC-20/PZ-43S	489.81	10.73	400	0.027	1.31 to 2.36	0.2	0.18 to 0.32	64 to 116
	479.08							

Notes:

1. ΔH = Change in groundwater elevation
2. ΔL = Distance along flow path
3. $I = \Delta H / \Delta L$
4. Velocity = $(I * K)/n_e$
5. Hydraulic conductivity range based on historic aquifer performance tests (revised 3/2017)
6. Effective porosity based on default values for effective porosity recommended by USEPA for a silty sand-type soil (USEPA, 1996)

TABLE 4
VERTICAL GROUNDWATER GRADIENT CALCULATIONS - MAY 2020
 Georgia Power - Plant Scherer Ash Pond
 Juliette, GA

Piezometer ID	Ground Surface Elevation (ft NAVD88)	Screened Interval (ft NAVD88)	Screen Midpoint (ft NAVD88)	Difference of Screen Midpoints (ft)	Potentiometric Surface Elevation (ft NAVD88)	Potentiometric Surface Elevation Difference (ft)	Vertical Gradient (ft/ft)	Vertical Groundwater Flow Direction
PZ-49S	365.19	340.19 - 350.19	345.19	71.31	361.28	-1.53	-0.02	Upward
PZ-49D	364.88	258.88 - 288.88	273.88		362.81			
SGWA-1	544.1	493.80 - 503.80	498.20	76.00	512.08	-0.44	-0.006	Upward
PZ-51D	543.2	417.17 - 427.17	422.20		512.52			
SGWC-17	414.9	390.70 - 400.70	392.30	52.60	417.11	1.95	0.04	Downward
PZ-20I	414.3	334.90 - 344.90	339.70		415.16			
PZ-59S	382.83	358.83 - 368.83	363.83	42.47	381.53	0.01	0.0002	Downward
PZ-59D	382.86	313.86 - 328.86	321.36		381.52			
PZ-60S	386.36	366.36 - 376.36	371.36	69.33	382.79	-2.97	-0.04	Upward
PZ-60D	386.43	287.03 - 317.03	302.03		385.76			
PZ-66	418.38	358.38 - 373.38	365.88	108.99	387.64	-0.26	-0.002	Upward
PZ-66D	424.39	158.39 - 355.39	256.89		387.90			
PZ-67	423.22	383.47 - 393.47	388.47	155.76	402.39	14.23	0.09	Downward
PZ-67D	424.71	123.71 - 341.71	232.71		388.16			

Notes:

ft = feet

ft NAVD88 = North American Vertical Datum 1988

The vertical hydraulic gradient for the uppermost aquifer was calculated using the following equation and data.

$$i_{gw} = (h_L / L)$$

Where: i_{gw} = hydraulic gradient (feet/feet)

h_L = head loss (elevation difference in feet)

L = length (vertical distance or difference of screen midpoints in feet)

Positive vertical gradients indicate a downward vertical flow component.

Negative vertical gradients indicate an upward vertical flow component.

APPENDIX A

**AECOM Groundwater Model Summary Report AP-1
Pre- and Post-Closure Conditions Plant Scherer**

GROUNDWATER MODEL SUMMARY REPORT – AP-1 PRE- AND POST-CLOSURE CONDITIONS PLANT SCHERER GEORGIA POWER COMPANY PLANT SCHERER ASH POND MONROE COUNTY, GEORGIA

April 30, 2020

AECOM – Design and Consulting Services

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This Groundwater Flow Modeling Report presents the design, setup, calibration, and results of three-dimensional, numerical steady-state, groundwater flow modeling conducted on behalf of Georgia Power Company (GPC) for the Plant Scherer Ash Pond 1 (i.e. AP-1, the site) coal combustion residuals (CCR) impoundment, located in Monroe County, Georgia. A site location map is provided as **Figure 1**. Modeling activities were undertaken in 2017 to create a calibrated groundwater flow model, which was used to simulate pre-closure conditions. Modifications to the pre-closure model were added to reflect the AP-1 closure design as of January 2020.

The objective of utilizing groundwater modeling to simulate pre- and post-closure AP-1 conditions is to evaluate the effects of the anticipated AP-1 closure design on the groundwater system.

1.1 Project Description

A steady-state groundwater flow model of the site was calibrated to represent the June 2016 (pre-closure) subsurface hydrogeologic conditions observed at the site. Once the pre-closure model was calibrated, the model was modified to represent a post-closure flow condition that incorporated the following AP-1 closure design elements:

- Remove AP-1 free water;
- Reducing of head in the CCR;
- Construction of a divider berm at the northern limits of the consolidated CCR;
- Grading of CCR within the consolidated closure-in-place footprint and topographic high peninsula (referred to in this report as the knob area) to achieve final cover lines and grades, and;
- Construction of a final cover system over the consolidated CCR and the knob area.

The knob area is a peninsula extending into AP-1. The knob area is undeveloped and does not contain CCR. As part of the closure design, the knob area is anticipated to be included in the AP-1 cover system as shown in **Figure 2**.

Model parameters including hydraulic conductivity, recharge and evapotranspiration (ET) were modified to reflect the closure design in the post-closure model.

Vertical datum used in this report is North American Vertical Datum of 1988 (NAVD88).

1.2 Site History

Plant Scherer is located in Juliette, Georgia along the northeast edge of Monroe County. The plant is approximately 30 miles north of Macon, Georgia and approximately 60 miles southeast of Atlanta, Georgia. **Figure 1** shows the site location. Plant Scherer is located in a rural area and bordered by mainly agricultural and residential properties. Plant Scherer occupies approximately 12,000 acres and is situated on the north banks of the 3,600-acre Lake Juliette, a manmade lake constructed in conjunction with the plant in the early 1980s. Prior to construction of the plant, the entire plant area was undeveloped, wooded, and hilly property with relief as much as 200 ft or more across the site.

AP-1 is a valley-filled CCR impoundment that was commissioned in 1980 and has been in operation since the plant became operational in 1982. AP-1 is located on a topographic high area of the plant that currently encompasses 550 acres. AP-1 typically operates at a normal pool of approximately El. 495 NAVD88 and discharges through a spillway structure to the adjacent 220-acre Recycle Pond.

AP-1 contains approximately 16 million cubic yards (CY) of CCR. In addition to sluiced CCR (fly and bottom ash), AP-1 accepts discharge flows from four on-site wastewater basins, runoff from the coal pile, precipitator wash down, gypsum blowdown, leachate from the PAC Ash and Gypsum landfills, and on-site sewage and other low volume wastes. Measures are being implemented by GPC and the plant to halt all waste streams to AP-1 and convert to dry-handling and landfilling of CCR generated by the power production processes by October 2020. The anticipated closure design for AP-1 is shown in **Figure 2**.

1.3 Site Geologic and Hydrologic Setting

AP-1 was constructed directly over Berry Creek, with the tallest dike section built across the creek just east of a major branch in the creek. Additional branches or drainage tributaries to Berry Creek have developed as a result of site drainage features being modified from AP-1 construction. Primarily, stormwater runoff from current site and adjacent properties flows overland and discharges into Berry Creek north of AP-1 (south of Luther Smith Road) and flow east to low-lying areas within the plant limits (**Figure 3**). Residual surface water flows from Berry Creek and the downstream areas eventually flow towards an on-site stormwater management pond referred to as the I-Pond, which eventually flows to the east.

The Recycle Pond and Lake Juliette were constructed over Rum Creek to the south. The Recycle Pond is pumped into the plant and also drains to Lake Juliette which discharges to Rum Creek via a spillway. Rum Creek joins the Ocmulgee River southeast of the plant.

Because it was important to understand predevelopment site conditions for the pre-closure groundwater flow model development, a predevelopment topographic map was created and is included as **Figure 4**. This map was created by overlaying pre-closure topography lines onto the 1973 predevelopment United States Geological Survey (USGS) East Juliette, GA SE/4 Forsyth 15' Quadrangle topographic map in CAD. A polygon was traced around the site to include topography that had been modified during development. Topographic lines within that polygon were erased and the elevation contours from the pre-development USGS map were traced. The traced contours were merged with the existing topography contours that had not been modified due to development.

Plant Scherer is in the Piedmont Geologic Province of central Georgia, which is underlain by igneous and metamorphic rock and forms the foothills of the Appalachian Mountains. The Piedmont extends west to east across Georgia, with the southern edge bordering the Coastal Plain and the northern edge bordering the Blue Ridge chain of the Appalachian Mountains to the north. It is an area of generally modest relief, rolling hills, and narrow valleys that contrasts with the more dramatic relief of the Blue Ridge.

The regolith at Plant Scherer (ground surface to the top of fractured bedrock [FBR]) ranges in thickness across the site from 35 ft to at least 126 ft, and consists of residual soils, saprolitic material, and partially weathered rock (PWR). Residual soils are underlain by saprolitic material. Saprolitic material is generally encountered in the upper 5 ft of regolith, and consists of weathered in-place rock, referred to as saprolite. Relict rock structures, such as foliation and layering, are present in the saprolite. The PWR includes interlayered fresh to partially weathered rock, and saprolite.

According to previous studies (Golder, 2017), the regolith is underlain by bedrock that has been subjected to extensive weathering and consists of well-banded and well-foliated fine- to medium-grained, massive, poorly jointed, feldspathic biotite gneiss. Schistose zones are locally present, and consist of biotite-rich areas, and discreet layers and lenses of chlorite-actinolite schist and feldspathic hornblende gneiss/amphibolite (Golder, 2019, Figure 3). Isolated intrusive granitic bodies (shown as OZg) are located east and north of AP-1, an isolated gabbro body (shown as OZpd) is located to the east of AP-1, a felsic dacite dike (shown as OZpd) is located immediately east of AP-1 and a diabase dike (shown as Td) is located north of and extends into AP-1. The top of bedrock generally mimics the topography though weathering is variable, due to varying rock hardness and density of fracturing. At some locations

along the valley, streams have eroded the weathered rock resulting in shallower depths to the top of competent bedrock which is indicative of the Piedmont Province.

Groundwater generally first occurs in the saprolitic materials overlying bedrock and is hydraulically connected to the FBR. The primary source of groundwater for the site is recharge from precipitation, which is expected to occur in the topographically high areas with groundwater flow to the east and south. The AP-1 pool level maintains a higher head at 495 ft NAVD88 on all sides of AP-1 except the western edge, including the knob area, which has an elevation of approximately 520 ft NAVD88. Thus, the groundwater surrounding AP-1 (with the exception to the west of AP-1) is elevated compared to areas further away from AP-1.

Groundwater recharge is expected to occur in the topographically high areas (including the knob area) with flow to onsite tributaries.

To develop the groundwater flow model, compiling pertinent data was necessary. Existing subsurface and relevant site information was reviewed and organized for model development. Additional data and information were collected to supplement the existing dataset and improve the model. A well-conceived conceptual site model (CSM) is necessary to develop a mathematical model and existing, pre-closure conditions at the site were reviewed and used to calibrate the model. This section documents data reviewed and used to develop the pre-closure model.

2.1 Review of Existing Site Data

Existing groundwater data and historical reports related to AP-1 and vicinity, and other relevant site data and information to support the development of the pre-closure groundwater flow model were reviewed. These efforts included reviewing the documents provided by Southern Company Services (SCS) and GPC, assimilation of data necessary for the groundwater modeling efforts, and supplemental data collection and processing necessary to fill identified data gaps to produce a robust pre-closure groundwater model.

Data relevant to the groundwater model included well, piezometer, and boring locations, subsurface lithology, potentiometric head measurements, hydraulic conductivity data, water supply well information, and other site feature information and are included as **Tables 1** through **5**. **Table 6** was created from **Tables 2** and **3** for direct input of lithology (top and bottom elevation per model layer per boring) into the groundwater model. **Figure 5** shows the boring, monitoring well, and piezometer locations, including key site features.

Boring logs and well/piezometer installation records were gathered and reviewed to understand subsurface geology. The hydrogeologic layers used in the groundwater model are typical of the Piedmont Geologic Province. Layers include saprolite, PWR, FBR, and competent bedrock (CBR). The site topography and subsurface records were used to define the top and bottom elevations of each of the three main lithologic layers (saprolite, PWR, and FBR). Additionally, elevations to fill, CCR, and alluvium were defined, where these materials were observed.

The lithology (outside AP-1) above the saprolite layer are not represented in the groundwater model since groundwater does not occur above the saprolite. For the purposes of the model, lithology between the top of the saprolite and the ground surface are lumped together as part of the saprolite layer or model Layer 2 (see **Section 4.1**). The elevations to the top and bottom of each of the lithologic layers were tabulated for use in constructing the model.

Historical subsurface investigations at the site were completed by SCS and several different consultants. For model development purposes, characteristics noted in lithologic descriptions on the historic boring logs were used to select which model layer a specific subsurface description best fit. Drilling data including standard penetration test blow counts, relict rock features, grain size, drilling method, and refusal were used for model layer selection.

The lithologic descriptions in the logs were categorized into four layers for the pre- and post-closure groundwater models. **Table A** below compares the lithology terms used in the groundwater models and the Geologic and Hydrogeologic Report, Plant Scherer Ash Pond 1 (AP-1), Rev04 (Golder 2020) from shallow to deep:

Table A. Lithologic Layer Comparison

Lithologic Layers for Groundwater Modeling	Geologic and Hydrogeologic Report, Plant Scherer Ash Pond 1 (AP-1). Rev04 Lithologic Layers
Layer 1: Within AP-1: CCR/Dike Material (variable thickness), Layer 1: Outside AP-1 extents: <ul style="list-style-type: none"> • Overburden (Any unsaturated material, inactive cells, 1-ft to 5-ft thick) • Knob Area: (Any unsaturated material, active cells, 1-ft thick) 	Overburden/Residual Soils
Layer 2: Saprolite (variable thickness)	Overburden/Residual Soils/Saprolitic Soils
Layer 3: Partially Weathered Rock (PWR) (variable thickness)	Overburden/Saprolitic Rock/Transitionally Weathered Zone/PWR if blow counts >50/ft
Layer 4: Fractured Bedrock (FBR) (30' of top of bedrock)	Overburden/Transitionally Weathered Rock
Below Model: Competent Bedrock (CBR) (>50% RQD)	Competent Bedrock (>50% RQD)

Hydraulic conductivity data were tabulated along with the screened interval geologic unit of the wells/piezometers. Hydraulic conductivity data were gathered from previous reports, AQTESOLV (Duffield, 2007) files, and a summary table provided by SCS.

Groundwater elevation data included well/piezometer IDs, date gauged, survey data, depth to water, water elevations, and screened interval of the geologic unit of the well/piezometer. Wells/piezometers were categorized by screened interval geologic unit (saprolite, PWR, or FBR). Groundwater elevations and contour maps for each of the well/piezometer categories were developed in Surfer and were used to evaluate flow directions and gradients. The most complete set of water level measurements, at the time, was the June 13, 2016 data set. This data set included the "B-series" wells screened in the CCR in AP-1. These data were used to calibrate the pre-closure model to observed June 2016 site conditions. The available surface water level measurements in June 2016 were selected for model boundary settings.

Available data on surface water features, NPDES discharges, and onsite pumping wells were studied in the pre-closure groundwater model development. The data included surface water elevations, permitted discharge, and well pumping rates that can affect the model calibration and water budgets.

2.2 Additional Data Collected for Modeling Effort

Hydraulic conductivity data was limited in some portions of the site and hydraulic conductivity values in a few wells/piezometers were uncharacteristically high for the region. Additional hydraulic conductivity tests (slug testing) were conducted in a subset of existing wells/piezometers to verify historic hydraulic conductivity data and supplement the dataset. Wells/piezometers that previously reported uncharacteristically high hydraulic conductivity values were retested and new data revealed lower hydraulic conductivity values, which is consistent with the values typical of the Piedmont region. The new hydraulic conductivity data was incorporated into the groundwater model. All hydraulic conductivity values incorporated into the groundwater model, including the values obtained from the additional slug testing are summarized in **Table 7**.

2.3 Conceptual Site Model

Groundwater modeling begins with developing a CSM which is a description of the elements of the existing groundwater system and how they interact. A CSM was developed for the groundwater

modeling based on review and interpretation of the available data. Major elements of the CSM that are incorporated into the pre-closure groundwater model are described below:

Subsurface Hydrogeology

The site is located in the rolling hills of the Piedmont Province consisting of folded and faulted metamorphic rocks. The subsurface (shallow to deep) is composed of residual soils, saprolite, PWR, and FBR, over laying the CBR. The regolith (residual soils and saprolite) thins in valleys and stream areas, but otherwise has a generally consistent thickness across the site (not including AP-1). FBR is generally in the shallow bedrock with the underlying CBR having little to no groundwater.

Uppermost Aquifer

The uppermost aquifer at the site is located above CBR (i.e. within saprolite, PWR, and FBR). The hydraulically connected uppermost aquifer units are distinguished by their degree of weathering and different hydraulic conductivities, but groundwater can readily flow vertically between these units. The bottom of the uppermost aquifer is CBR.

Groundwater Recharge

The primary source of groundwater for the site is recharge from precipitation. Lesser amounts of groundwater occur from surface water bodies that have a higher surface water elevation than surrounding groundwater.

Groundwater Flow

Groundwater flow within the uppermost aquifer is generally unconfined, although the FBR may locally behave as a confined or semi-confined unit. The water table is a subdued reflection of topography, with higher groundwater elevations beneath the hills and lower elevations beneath the valleys.

Groundwater flow is generally downward beneath recharge areas and upward near streams and other discharge points. Vertical hydraulic gradients vary locally across the site and appear reversed at times depending on seasonal and temporal rainfall.

The objective of utilizing groundwater modeling to simulate pre-closure and post-closure AP-1 conditions is to evaluate the effects of the anticipated AP-1 closure design on the subsurface flow system. In order to develop post-closure AP-1 groundwater conditions at the site, a pre-closure model was developed and calibrated to June 2016 observed groundwater conditions at the site.

3.1 Model Overview

The numerical groundwater flow model of Plant Scherer AP-1 and surrounding area was developed using the U.S. Geological Survey (USGS) computer program MODFLOW 2005 (McDonald and Harbaugh, 1988; USGS, 2005) with MODFLOW-NWT within the Groundwater Vistas® Version 7 pre- and post-processor. MODFLOW is one of the most widely used groundwater flow model. It is a three-dimensional finite-difference model, meaning that the model domain area is discretized into rows, columns, and layers.

3.2 Model Domain and Grid

The active model domain selected for the model is shown on **Figure 3**. The model domain was selected so natural physical boundaries could serve as model boundaries wherever possible. **Figure 6** shows current site topography based on ground survey and LiDAR data. The pre-construction topographic map (**Figure 4**) was used to develop the model layering for AP-1, Lake Juliette, and the Recycle Pond.

Ground surface was compared to modeled head levels by using AP-1 bathymetry data (topography below the water level of AP-1) and LiDAR data were combined as shown in **Figure 6**. The Ocmulgee River is northeast of the figure, with Berry Creek extending from the centrally located AP-1 to the east and joining an unnamed tributary shortly before the tributary enters the Ocmulgee River floodplain (see **Figure 3**). The model domain was chosen based on the assumption that the Ocmulgee River, the unnamed tributary to the north, and Lake Juliette to the south would be hydraulic boundaries. Topographic ridgetops along surface water divides were assumed to be groundwater basin divides and were modeled as inactive barriers.

The model grid is presented in **Figure 7**. The grid spacing varies between 225 ft by 222 ft in the coarsest areas of the model grid, to about 25 ft by 25 ft in areas of interest around the AP-1 outline. At the scale shown on **Figure 7**, the 25 ft by 25 ft grid is not distinguishable. **Figure 8** shows the grid at a finer scale and the individual 25 ft by 25 ft grid cells are visible. The fine grid extends around the diked area of AP-1 and to the west to provide the highest resolution in this area. The model contains 432 rows and 421 columns, with 727,488 cells. A total of 517,643 of those cells are active, covering an area of 5,937 acres.

3.3 Model Layering

The pre-closure model was based on the CSM described in **Section 2.3** and designed to include CCR and dike material overlying the three lithologic units (saprolite, PWR, and FBR). The upper, unsaturated unconsolidated soils and the lower CBR are not included as layers in the model. The lithologic layers, in addition to CCR and dike material, were assigned to the model layers as follows:

- Layer 1: The CCR and AP-1 dike material. AP-1 dikes and CCR have varying thickness on top of the underlying saprolitic material and were only included in model Layer 1. The thickness of Layer 1 within AP-1 is the CCR thickness. In areas within the model domain where CCR and dike material do not exist, Layer 1 is reduced to thicknesses varying from 1 ft to 5 ft thick to represent unconsolidated soils. Areas outside of the AP-1 boundary are inactive cells, with in exception of the knob area. The knob area is outside of AP-1 and does not contain CCR materials; however, since the knob area is a peninsula into AP-1, Layer 1 in the knob area is set as active. All Layer 1 cells in the knob area are 1-ft thick.
- Layer 2: Saprolite. The saprolitic material consists of partially to completely weathered rock resulting in groundwater flow dominated by primary porosity. The structural geologic fabric of the saprolite contains moderately to steeply plunging foliations generally trending northeast, which may create preferential groundwater flow pathways. Layer 2 extends

across the entire model domain. The thickness of Layer 2 is variable across the site with an average thickness of 46 ft.

- Layer 3: PWR. The regolith is less weathered with depth resulting in the PWR dominated by groundwater flow through primary and secondary porosity. This layer has a variable thickness based on the subsurface records and averages 20 ft thick.
- Layer 4: FBR. The FBR underlies the PWR and shows slight weathering, having secondary porosity. CBR lies beneath the FBR and contains little or no groundwater. Although variable across the site, the thickness of Layer 4 was assumed to be uniform at 30 ft for the groundwater model.

Data used to develop the model layers included monitoring well, piezometers, and borehole lithology (**Tables 2 and 3**). The direct input of lithology (top and bottom elevation per model layer per boring) into the groundwater model is included as **Table 6**. Hydraulic properties of the layers were based on the dominant material in that depth interval.

As discussed in **Section 2** above, the site subsurface records were assembled and the elevations of ground surface, and model layers were tabulated. Defining the top and bottom elevations of the model layers required interpolation between data points and extrapolation beyond where subsurface data exists.

The bottom of the CCR material (Layer 1 inside AP-1) was estimated from the boring data. Where borings did not encounter the bottom of CCR, the preconstruction topography was used to estimate the bottom of the CCR material. The bottom elevation of the dike material was determined from construction drawings which showed the top of saprolite upon which AP-1 dikes were constructed.

The top and bottom elevations of the geologic units were tabulated along with boring coordinates. A natural neighbor interpolation method in Surfer was used to interpolate between these points. Because there is a thick regolith at the site, there are more borings that penetrated the bottom of the saprolite layer than the deeper subsurface layers, thus, the bottom of the saprolite is well-defined across the model.

In areas with limited subsurface records, pre-construction ground surface elevations (see **Figure 4**) along with the average thicknesses of the saprolite and PWR were used to define the thicknesses of the model layers. Locations of subsurface record data that were used to define the top of PWR are shown on **Figure 9**. The top of PWR as it appears in the model is shown on **Figure 10**. As shown in this figure, the top elevation of PWR is variable, but less than the ground surface shown on **Figure 3**. In a similar process to calculate top of the PWR elevation, the top of the FBR was developed for the model from subsurface data and ground surface elevations. Locations of subsurface record data used to define the top of FBR are shown on **Figure 11**, while the resulting FBR top surface in the model is shown on **Figure 12**.

The layering information can also be presented in a vertical cross-sectional view. **Figure 13** shows two cross-section lines through AP-1, while the cross-sections are shown on **Figure 14**. Cross-section A-A' extends from the high topographic area to the west of AP-1 (the knob area) eastward towards Berry Creek. The cross-section intersects the Berry Creek valley twice. Cross-section B-B' is a south to north section through both the south and north dikes of AP-1, to the unnamed tributary located north of the site. Note that the ground surface is more irregular than the top of PWR and FBR, but they follow the same general trends. Layers 1, 2 (saprolite), and 3 (PWR) have variable thicknesses, while Layer 4 (FBR) is a constant 30 ft thick as noted above.

3.4 Model Boundary Conditions

The pre-closure model boundary is shown on **Figure 15** with a detailed view in the AP-1 area shown on **Figure 16**. The boundaries for AP-1, Ocmulgee River, Berry Creek, the unnamed northern tributary, and the Recycle Pond were simulated in the model using the River package. The boundary condition in the River package is used to simulate the influence of a water body on the flow of groundwater. Lake Juliette is represented with Constant Head cells. In AP-1, submerged CCR thickness is implemented at the thickness of Layer 1, with submerged areas outside of the CCR extents represented by thin cells ranging from 1 ft to 5 ft thick. River cells in AP-1 are set to a river bed thickness of 0.1 ft. A block diagram of the AP-1 River cells is shown on **Figure 16**.

Stage elevations of the major surface water bodies are posted on **Figure 15**. The active River cells in Layer 1 are simulating AP-1. The drainage features outside of AP-1 are set in Layer 2, saprolite. Surface water body stages were measured in June 2016, the same month that the groundwater elevation target calibration data set was measured. The exception is the I-Pond, which is based on the spillway elevation. The stage for the River cells for Berry Creek and the unnamed northern tributary were based on ground surface elevations from the East Juliette USGS Topographic map, or from LiDAR data. Stage elevations varied from downstream to upstream. The Ocmulgee River was set at a constant stage of 350 ft NAVD88 and was not varied along its length.

Smaller drainage features that would not be contributing to groundwater were simulated as Drain cells (see **Figures 15** and **16**). Drain cells were used to simulate discharge from the small drainages leading to the unnamed northern tributary (see **Figure 3**). Drain cells were also used to simulate the floodplain along the Ocmulgee River, the lower reaches of Berry Creek, and the area of ponded water located south of the I-Pond. Areas that appeared to have groundwater discharge in the plant area were identified and water elevations were surveyed so they could be added to the model. Topography was used as a guide between the surveyed points to connect the drains. Drain cells function as head dependent boundaries. Drain cells are similar to River cells except flow can only leave the model through a Drain cell, such as, a losing stream.

3.4.1 Model Recharge

Recharge is defined as a flux across the surface of the water table and is a model boundary condition. Recharge across the model domain is shown on **Figure 17**. A background (basin wide average) recharge value of 10.15% to 14.58 % of the annual precipitation was used in the pre-closure model, which equates to 1.37×10^{-3} ft/day (Recharge Zone 9) based on an average annual precipitation of 45.68 inches per year observed at Macon, Georgia, as listed in **Table 8**. This percentage is similar to the predicted rates from groundwater basin studies conducted in the southeastern Piedmont (Daniel and Sharpless, 1983). Recharge zones 7 and 10 are the flat-lying exposed CCR surfaces and have values of 1.52×10^{-3} ft/day and 1.06×10^{-3} ft/day, respectively. Two recharge zones in the CCR delta were used to more closely match water levels at B-103B and B-102B. Recharge was set to 0 ft/day in areas of the plant where paved surfaces or building roofs would be anticipated to prevent recharge, in the coal pile area, and at the PAC Ash and Gypsum Landfills. Surface waters were also given a recharge value of 0 ft/day as these are represented by River cells with constant heads.

3.4.2 Model Evapotranspiration

ET rates are based on local pan evaporation of 57 inches per year, or 0.013 ft/day (University of Georgia, 2020). Three values were used to represent ET: paved and surface water areas (0 ft/day), exposed CCR (0.001 ft/day), and background area with tree cover (0.0077 ft/day). An extinction depth, where ET is linearly reduced to 0, is set to 4 ft below ground surface. The ET map is shown on **Figure 18**.

3.4.3 Recovery Sumps

AP-1 includes four "bolster" areas with seepage recovery sumps. The seepage recovery sumps are located along the northeast, east, and southeast perimeters of AP-1. The sumps collect seepage water

from the seepage collection system built into the dikes and the seepage water is pumped to AP-1. The recovery sumps are gauged monthly and results are reported to the Georgia Safe Dam Program in accordance with the Category 1 Permit No. 102-032-04236-A-01. To implicitly model these features, Drain cells were placed along the location of the seepage collection system and used to simulate removal of seepage water. The Drain cell settings, primarily head elevation and conductivity, were adjusted to optimize estimated seepage flow. The locations of the seepage recovery sumps are shown on **Figure 19**.

3.5 Hydraulic Conductivity

Slug testing on select site wells/piezometers revealed hydrogeologic units ranging below 0.02 ft/day to 17 ft/day. The geometric mean is 1.1 ft/day and the average is 2.3 ft/day. **Table B** presents a summary of hydraulic conductivity values for site geologic layers. Only the wells/piezometers with the highest initial hydraulic conductivity value were retested, so the averages presented herein may still be biased high. Laboratory measurements of vertical hydraulic conductivity of saprolitic material ranged from 8.0×10^{-6} ft/day to 1.16 ft/day. Hydraulic conductivity data were tabulated along with the screened interval geologic unit of the wells/piezometers in **Table 4**.

Table B. Hydraulic Conductivity Summary for Site Geologic Layers

Testing Interval	Minimum K (ft/day)	Maximum K (ft/day)	Mean K (ft/day)	Average K (ft/day)
Saprolite (38 locations)	0.05	17	1.0	2.7
PWR (12 locations)	0.28	9.8	1.4	2.3
Bedrock (8 locations)	0.02	7.0	0.88	1.9

Source: AECOM, GPC, and SCS

CCR was characterized by the analysis of cone penetration test (CPT) sounding pore pressure dissipation test rates and laboratory testing. The 21 CPT pore pressure dissipation tests provided horizontal hydraulic conductivity values while ten flexible wall permeability tests provided vertical hydraulic conductivity values. The pre-closure model input hydraulic conductivity values are summarized in **Table 8**. The mean values for the horizontal and vertical hydraulic conductivity values were 0.38 ft/day and 0.35 ft/day, respectively. These data suggest little vertical anisotropy. The average of the vertical and horizontal hydraulic conductivity was 0.37 ft/day. A slightly higher horizontal hydraulic conductivity was used in the calibration of the model based on typical CCR hydraulic conductivity values. Hydraulic conductivity values and the number of K-zones in each model layer for the groundwater model were adjusted during the calibration process after boundary and layer modifications discussed in **Section 4.2**.

3.6 Model Calibration

The target calibration data set for the pre-closure model is the June 2016 gauging event. During model calibration, the stage of river boundaries was adjusted slightly to match the observed water levels near some of the creeks or tributaries. River cell stages based on measured values (AP-1, Recycle Pond, Lake Juliette, and the I-Pond) were not varied during calibration. Conductance terms were also adjusted in some River cells simulating creeks, especially to the east of AP-1, during model calibration.

The simulated potentiometric surfaces for the calibrated flow model (pre-closure model) are shown on **Figures 20, 21, 22, and 23** for the model Layers 1, 2, 3, and 4, respectively. **Figures 21, 22, and 23** also show the observed June 2016 values for comparison. The residuals (difference between observed and simulated heads) are also posted on these figures. An important factor in the calibration is that the simulated contours in the model are consistent with the contours associated with the observed values.

Figure 20 shows the simulated potentiometric surface contours for Layer 1 of the pre-closure model, which represents the CCR, dike material, and knob area. The inactive Layer 1 is indicated by the gray shading. There are two wells/piezometers screened in model Layer 1, which are an insufficient number to develop a separate observed head contour map. The residual values for these two wells/piezometers ranged from 1.02 ft to 1.06 ft, and closely compares to the observed June 2016 water elevations.

Figure 21 shows simulated and observed potentiometric surface contours for Layer 2 of the pre-closure model, which represents the saprolite. The model-predicted heads ranged from -6.98 ft to 3.88 ft difference from the observed heads. There are portions of the simulated potentiometric surface in the saprolite where the water surface occurs in the underlying PWR. This may be caused by a thinner saprolite in the area or the occurrence of PWR at higher elevations which intercept the water surface.

Figure 22 shows simulated and observed potentiometric surface contours for Layer 3 of the pre-closure model, which represents the PWR. The flow directions and heads generally match along Berry Creek. The largest difference between simulated and observed June 2016 potentiometric elevations is to the north of the PAC Ash Landfill with simulated potentiometric surface elevations up to 6.51 ft below the June 2016 potentiometric surface elevations. The model-predicted heads ranged from -3.94 ft to 6.51 ft difference from the observed heads.

Figure 23 shows simulated and observed potentiometric surface contours for Layer 4, which represents the FBR. There are limited observation wells/piezometers in this layer, hence limited contours. The flow directions and heads generally match along Berry Creek. The largest difference between simulated and observed June 2016 potentiometric surface elevations is to the west/southwest, between AP-1 and the Recycle Pond, with the simulated potentiometric surface elevation 6.35 ft lower than the June 2016 potentiometric surface elevation. The model-predicted heads ranged from -7.32 ft to 4.38 ft difference from the observed heads.

Figure 24 shows graphs of observed versus simulated potentiometric surface head elevations and the difference between the June 2016 observed and simulated model elevation heads. Simulated and observed heads fall close to the straight line with a 1:1 slope, indicating a good "fit". The observed heads in feet versus the residual difference between the observed and simulated heads in feet graph shows a range of +/- 4 ft at the majority of the locations for the simulated pre-closure model.

Table 10 summarizes the model calibration statistics and compares the simulated model heads to the observed June 2016 heads and calculates a residual or difference between the observed and simulated heads for the whole model and layer by layer.

As a general rule, the target absolute residual mean should be within 10% of the range of heads for a good statistical calibration. For the whole model, the range in values for the calibrated model is 149.47 ft with an absolute residual mean of 1.85 ft, or 1.24%. The statistics for the four individual model layers show that the 10% criteria are met for model Layers 2, 3, and 4. Layer 1 has only two wells/piezometers, and thus statistical methods are not reliable with the limited dataset. The residual differences between the modeled and observed June 2016 heads for the two Layer 1 wells/piezometers fall in the range for wells/piezometers in Layers 2, 3, and 4, thus the pre-closure model meets the metric for a good numerical calibration.

The flow model mass balance is 0.001% between in flow and out flow in the model, which is considered acceptable. Model Layer 2 has the largest flux primarily due to recharge. Layers 3 and 4 have progressively less flux, which is expected.

The hydraulic conductivity distributions from the calibrated pre-closure model are shown on **Figures 25** through **28** for each of the model Layers 1 through 4, respectively. The range of horizontal to vertical hydraulic ratios for the 39 K-zones is between 1:1 and 50:1 with a median value of 5:1. **Table 9** summarizes the hydraulic conductivity ratios. The background hydraulic conductivity of 0.38 ft/day in Layer 2 is within the range of observed values as shown in **Table 9**.

The zones of hydraulic conductivity for Layer 1 were based on site maps, as shown on **Figure 25**. For undisturbed material, the zones of hydraulic conductivity were based on a combination of slug test results, changes in observed head contour lines, and matching numerical head calibration targets at individual wells/piezometers. The results from the slug test data were spatially variable. To raise head levels in the model generally involves lowering hydraulic conductivity values. Matching observed head levels was given greater weight than matching the slug test values because of the variations in the slug test results. The east dike was divided into three hydraulic conductivity zones to better match nearby potentiometric head levels. Areas representing surficial soils where no CCR is present were set to 17 ft/day.

Figure 26 shows the calibrated hydraulic conductivity distribution for saprolite, Layer 2, in the pre-closure model. The majority of hydraulic conductivity data was obtained from wells/piezometers screened in Layer 2; thus, the hydraulic conductivity zones are more numerous in this layer.

Figure 27 shows the calibrated hydraulic conductivity distribution for PWR, Layer 3 in the pre-closure model. The background conductivity value of 0.33 ft/day is less than the geometric mean of 1.5 ft/day, but substantial areas of the model have values of 4.0 ft/day, 1.6 ft/day, and 0.4 ft/day. Hydraulic conductivity values in the PWR range from 0.19 ft/day to 4.0 ft/day, which is within the range of reported slug test values (see ranges in **Table 7**). Hydraulic conductivity values from slug tests are higher in the wells/piezometers located along the northern portion of AP-1; however, these wells/piezometers are nearly in a straight line, providing little guidance on varying the conductivity values spatially. In the plant area, the PWR and saprolite were assumed to be thin because of the likely removal of overburden during construction of the facility.

Figure 28 shows the calibrated hydraulic conductivity distribution for FBR, Layer 4, in the pre-closure model. Hydraulic conductivity ranges from 0.245 ft/day to 1.60 ft/day, while the range of slug tests was from 0.02 ft/day to 7 ft/day. The background value of 0.49 ft/day is close to the geometric mean of 0.88 ft/day.

3.6.1 PEST Analysis

The software PEST was utilized in conjunction with Groundwater Vistas for the purpose of optimizing model calibration based on the zonal setup of hydraulic conductivity and recharge. PEST is a software code included in Groundwater Vistas which uses of regularized inversion for calibrating highly parameterized groundwater models (Watermark Numerical Computing, 2016).

The auto-sensitivity tool in Groundwater Vistas was used to identify parameters within the existing zonal setup, which had the highest sensitivity and potential to improve model calibration. Five horizontal hydraulic conductivity zones (7, 28, 13, 24, and 1) and one recharge zone (9) were identified as calibration parameters for PEST. Vertical anisotropy ratio was held constant for each zone based on initial manual calibration. Minimum and maximum values for hydraulic conductivity were defined by the range of field data presented in **Table 8** for each hydrostratigraphic unit. Recharge was varied between 5% and 24% of annual average precipitation.

3.6.2 Auto Sensitivity Analysis

The model sensitivity analyses were conducted for each of the 39 hydraulic conductivity zones (see **Figures 25** through **30**, the drain reach conductance, river reach conductance, the three recharge zones, and the three evapotranspiration zones with a summary of the results shown in **Table 11**. Residual Sum of Squares (RSS) values for the minimum and maximum simulations with the overall range of values are provided.

For the analysis, the model was run with a single value of either K_h , K_v , drain conductance, river conductance, recharge, and evapotranspiration multiplied by a set value (varying between 0.33 ft² and 3 ft²). These simulations were repeated for each model zone with all applicable multipliers. The sensitivity

analysis indicates that in the model the K_h is more sensitive than the K_v . Changes to Drain and River cell conductance demonstrated minimal sensitivity with respect to RSS.

To further assess the sensitivity of the model parameters, the difference between the maximum and minimum RSS values were grouped by the magnitude of the RSS value. The calibration RSS value (482.12 ft²) is considered the reference value for this analysis. Four sensitivity groupings were used: slight, moderate, high, and very high. Slight sensitivity was assigned to RSS values ranging between 0% and 5% of the base RSS value; moderate was assigned to RSS values ranging between 5% and 22% of the base RSS value; high was assigned to RSS values ranging between 22% and 50% of the base RSS value; and very high was assigned to RSS values greater than 50% of the base RSS value. The sensitivity group for each K-zone is shown at the bottom of each K-zone results column. The sensitivity rankings indicate that the model K-zones are more sensitive horizontally than vertically with most of the RSS range resulting in degraded model calibration.

The sensitivity analyses for the three recharge and two evapotranspiration zones (see **Figures 17 and 18**) indicate that the current recharge value (Recharge zone 9) for most of the model domain has the best RSS value and that the model is highly sensitive to adjustments in recharge magnitude. The recharge setting across the CCR (Recharge zone 7) is close to the optimal setting and is less sensitive than Recharge zone 9; however, it does have a high sensitivity ranking. The two evapotranspiration zones were found to be at near optimal values and had sensitivity ratings of slight.

4.1 Anticipated AP-1 Closure Design

The anticipated closure design for AP-1 entails adding an earthen berm (proposed north berm) as described in **Section 1** and shown in **Figure 2**. The area north of the proposed north berm is referred to as the closure-by-removal area. The closure-by-removal area will be regraded with gentle slopes to enhance surface water flow. The consolidated CCR contained by the dikes, knob area and the proposed north berm will be graded and capped in the closure-in-place footprint. The cap for the closure-in-place footprint will be extended to cover the knob area.

The knob area is an approximate 54-acre topographic high and is currently providing recharge upgradient of AP-1. The knob area, which is shown in **Figure 2** (as well as many of the figures), is essentially a peninsula, surrounded on three sides by AP-1. As part of the closure design, the knob area will be regraded. The simulated post-closure modeling revealed that reducing precipitation/recharge via the upgradient knob area reduces the amount of lateral flow through the closed AP-1. The knob area is outside the AP-1 footprint and does not contain CCR.

The pre-closure flow model was modified to simulate the post-closure based on the anticipated closure design for AP-1 by the following edits to the MODFLOW model:

- River cells covering the open water portion of AP-1 to establish the 495 ft NAVD88 water elevation were removed;
- River cells used to simulate water flow in channels across the CCR were removed;
- The capped closure-in-place footprint and knob area were set to no recharge and no ET;
- The closure-by-removal area was set to the background recharge and ET rates;
- Layer 1 was modified to reflect the CCR/Dikes in the closure design;
- The hydraulic conductivity was modified to 0.0024 ft/day in Layer 1 to reflect the proposed north berm;
- The active cells in Layer 1 in the northern portion of the AP-1 Boundary were removed. This area was modified to reflect the anticipated closure design surface drainage system;
- The knob area was removed from Layer 1 and regraded. Hydraulic conductivity was set equal to that of the same area in Layer 2;
- Hydraulic conductivity of the CCR was lowered slightly, representing consolidation and compaction work to be completed during closure, lowering the value from the pre-closure model. The pre-closure model utilized two zones to represent the CCR, one with 1.3 ft/day and the other with 4.1 ft/day. The post-closure model used one zone with a value of 1.3 ft/day; and
- Drain cells were added along now exposed valleys and side wall drainages in the northern portion of former AP-1. These Drain cells are in Layer 2.

Cross-sections of the post-closure model setup are shown on **Figure 29**. The post-closure layout is shown in **Figure 30**. The recharge zonation was also revised to represent the anticipated AP-1 closure design, such as no recharge across the capped area, as shown in **Figure 31**. ET values for post-closure are shown in **Figure 32**. Following these structural changes to the model, the steady-state simulation was run, and the results were compared to pre-closure results. The post-closure predicted potentiometric surface contours for the saprolite, Layer 2, are shown in **Figure 33**. The simulated pre- and post-closure potentiometric heads are shown in **Figure 34** for comparison. Based on the post-closure modeling, the simulated potentiometric heads were reduced significantly compared to the pre-closure model and are projected to decrease by as much as 65 to 70 ft.

On the topographic highs at the north and northwestern sides of the capped area, recharge water is captured by the surface drainage features north of the north berm and directed away from the closure-in-place footprint.

Inside the capped closure-in-place area of AP-1 shows lower potentiometric heads. There is a gentler gradient by the east dike.

To the south of the capped AP-1 area, simulated potentiometric surface heads remain consistent with pre-closure conditions. With lower heads in the capped AP-1 area, and similar heads to the south of the closure-in-place footprint, the lateral flow to the south at AP-1 will be minimized compared to pre-closure conditions with primarily eastern flow in the vicinity of AP-1.

Directly to the east of the capped AP-1 area, simulated post-closure potentiometric surface and gradients are shown to decrease by the east dike. As groundwater travels further eastward, the hydraulic gradient in the simulated post-closure model approaches pre-closure potentiometric head levels and groundwater flow direction remains the same as pre-closure conditions.

5.1 Model Assumptions

Representing a complex hydrogeological system with a numerical model involved many assumptions and simplifications made during model development and calibration phases.

The groundwater model was designed with the goal of simulating the pre-closure (current conditions) potentiometric heads in AP-1 and vicinity, and providing a model for simulating potentiometric heads during post-closure conditions. An attempt to use the model for other purposes may yield unsatisfactory results.

Some of the information in this report and associated figures and conclusions are based on information provided by others either for this study, or previous studies. AECOM has assumed that this information is correct and valid.

The information in this report and supporting analyses are based on AECOM's current understanding of site procedures and the proposed closure design at Plant Scherer and for AP-1. The work on this study has been carried out in accordance with the standards of practice followed by the geology and engineering professions at the time of and in the location of this work. In the event that any conclusions or recommendations based upon the data obtained in this report are made by others, such conclusions or recommendations are the responsibility of others. Changes in site procedures or the proposed closure design may alter the findings in this report, until AECOM has had the opportunity to review the changes and, if necessary, modify our findings accordingly.

5.2 Model Uncertainties

There are several uncertainties associated with groundwater flow models in general. The following identifies common uncertainties inherent in groundwater flow models:

- Groundwater flow systems are generally not in steady state because of the changing precipitation, evapotranspiration, and change in storage of aquifer systems; however, a steady state assumption is reasonable in this scenario given that the goal of the simulations is to predict the long-term behavior.
- AP-1 is maintained at approximately 495 ft NAVD88 in pre-closure conditions which could obscure natural hydraulic features now submerged that would not be implemented in the post-closure steady-state model simulations.
- Groundwater flow in FBR is simulated as an equivalent porous media, as opposed to attempting to simulate groundwater flow through discrete fractures, which may bias the results.
- The bottom of the FBR in the Plant Scherer AP-1 model does not have a clear physical basis, as the subsurface records indicate many fractures to the bottom of exploration.
- Simplification of site conditions to four model layers is a necessary constraint on the model.

This report's purpose is to provide details regarding the model development and groundwater modeling completed by AECOM for the planned Plant Scherer AP-1 closure, which will include consolidating the in-place CCR to a reduced approximately 300-acre closure-in-place footprint, removing CCR from the remaining approximately 250 acres, grading the knob area, and constructing a final cover system (cap) over the consolidated CCR and the knob area.

The hydrogeology at Plant Scherer is represented by an unconfined, uppermost aquifer, which overlies the competent bedrock and consists of residual soils, saprolite, PWR, and FBR. Residual soils above groundwater consist of sandy silt, silty sand, sandy clay, and silty clay. Saprolite consists of partially to completely decomposed rock that gradually grades into the PWR, which has relict rock structures, such as foliation and layering. Groundwater flow occurs throughout the inter-connected saprolite, PWR, and FBR.

A steady-state, numerical groundwater flow model was developed based on the data review, that was then calibrated to observed site conditions in June 2016 and referred to as the pre-closure simulated groundwater flow model. The pre-closure simulated groundwater flow model was constructed for the site using parameters that fall within the expected range of values, or that are based on site-specific measured values. The model met industry accepted statistical standards for a numerical calibration. Water elevations generally matched the model domain as well as the potentiometric surface maps developed for each hydrogeologic unit, although heads did not match well in a limited area south of AP-1. Model uncertainties like this, and others described for the Plant Scherer AP-1 model are minor relative to the entire model domain and are common in groundwater modeling.

The pre-closure flow model was modified to simulate the post-closure conditions based on the anticipated closure design for AP-1. Removing free water from AP-1 will significantly reduce hydraulic gradients at the site according to the post-closure modeling and capping of the knob area was incorporated into the AP-1 closure as a further measure to control and minimize upgradient recharge.

Based on the simulated post-closure model, the hydraulic gradients in the consolidated, closed, and capped AP-1 will change significantly compared to the pre-closure conditions once free water is removed from AP-1 and the planned closure is implemented. On the hills north of the planned capped footprint, recharge water (non-contact, stormwater run-on) will travel downslope and be conveyed to the east by the engineered drainage features located in the area north of the north berm. Inside the capped AP-1 footprint, infiltration will be controlled and minimized by the closure cover system resulting in greatly reduced potentiometric surface heads. Upgradient recharge will be reduced by grading and capping the knob area. The simulated post-closure modeling shows substantially lower hydraulic gradients and reduced potentiometric surface heads in the consolidated, closed, and capped AP-1. Modeled groundwater gradients directly east of AP-1 are gentler during post-closure and groundwater flow direction will be similar to pre-closure conditions further eastward.

The most-favorable outcome of the groundwater modeling is the substantial reduction of the potentiometric surface that will result from the AP-1 closure design, which is benefited by controlling and minimizing recharge within the capped footprint and from the upgradient knob area. Reduced hydraulic gradients across the consolidated, closed, and capped AP-1 area and potentially gentler eastern gradients indicated by the post-closure modeling will result in significantly reduced lateral flow in the vicinity of AP-1 post-closure.

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TABLES

Table 1
Monitoring Well and Piezometer Construction Details
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Well Previously Named	Easting	Northing	TOC Elevation (ft msl)	Ground Elevation (ft msl)	Well Diameter	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Total Well Depth (ft bgs)	Model Layer Description for Screened Interval	Model Layer Number for Screened Interval	Geologic Unit Screened (Description from Boring Log)	Date Installed	Drilling Method
SGWA-1	APA-1/PZ-8S	2399899.287	1119232.658	546.81	543.97	2" PVC	40.5	50.5	50.9	SAP	Layer 2	Saprolite	2/11/2015	HSA/HQ Rock Core
SGWA-2	APA-11/PZ-8I	2399907.288	1119237.111	546.81	543.79	2" PVC	85.4	95.4	95.8	PWR	Layer 3	Gneiss (highly to completely weathered)	2/17/2015	HSA/HQ Rock Core
SGWA-3	APA-2	2399295.720	1120224.560	545.65	542.47	6" PVC	40	50	50	SAP	Layer 2	Saprolite	11/18/2015	4-in Sonic
SGWA-4	APA-3	2401124.350	1121478.042	547.27	544.25	6" PVC	50.5	60.5	60.5	SAP	Layer 2	Saprolite	11/17/2015	4-in Sonic
SGWA-5	APA-4	2397426.720	1118087.173	508.11	505.32	6" PVC	20.2	30.2	30.2	SAP	Layer 2	Saprolite	11/18/2015	4-in Sonic
SGWC-6	APC-1	2401979.450	1122168.292	510.57	507.94	6" PVC	15	25	25	SAP	Layer 2	Saprolite	11/12/2015	4-in Sonic
SGWC-7	APC-2	2402259.670	1122669.570	506.05	503.32	6" PVC	25	35	35	PWR	Layer 3	Biotite Gneiss	11/11/2015	4-in Sonic
SGWC-8	APC-3	2402979.660	1122866.662	513.93	511.05	6" PVC	30	40	40	FBR	Layer 4	Partially Weathered Rock/Biotite Gneiss	11/10/2015	4-in Sonic
SGWC-9	APC-4	2403455.820	1122635.284	510.37	507.61	6" PVC	25	35	35	SAP	Layer 2	Saprolite	11/6/2015	4-in Sonic
SGWC-10	APC-5	2404047.170	1121896.649	509.22	507.61	6" PVC	20	30	30	SAP	Layer 2	Saprolite	11/5/2015	4-in Sonic
SGWC-11	APC-6	2404332.790	1121542.388	511.28	508.6	6" PVC	30	40	40	SAP	Layer 2	Saprolite	10/28/2015	4-in Sonic
SGWC-12	APC-7	2405009.680	1121576.067	500.29	497.35	6" PVC	37	47	47	SAP	Layer 2	Saprolite	10/30/2015	4-in Sonic
SGWC-13	APC-8	2405760.640	1121274.076	482.58	480.05	6" PVC	25	35	35	SAP	Layer 2	Saprolite	11/4/2015	4-in Sonic
SGWC-14	APC-9/PZ-16S	2406329.205	1120965.721	476.48	476.31	2" PVC	24.8	34.8	35.3	SAP	Layer 2	Saprolite	2/24/2015	HSA
SGWC-15	APC-10/PZ-17S	2407092.841	1120191.238	483.27	480.04	2" PVC	34.8	44.8	45.2	SAP	Layer 2	Saprolite	2/26/2015	HSA
SGWC-16	APC-11/PZ-18S	2407154.726	1119221.306	460.03	456.79	2" PVC	28.8	38.8	39.2	SAP	Layer 2	Saprolite	3/2/2015	HSA
SGWC-17	APC-12/PZ-20S	2407266.725	1118309.038	417.96	414.73	2" PVC	14.1	24.1	24.5	SAP	Layer 2	Saprolite	3/11/2015	HSA
SGWC-18	APC-13/PZ-22S	2406930.957	1116946.848	513.18	510.17	2" PVC	34.1	44.1	44.5	SAP	Layer 2	Saprolite	3/17/2015	HSA
SGWC-19	APC-14/PZ-23S	2406096.077	1116024.669	478.67	475.71	2" PVC	24.2	34.2	34.6	SAP	Layer 2	Saprolite	3/18/2015	HSA
SGWC-20	APC-15	2405307.580	1116020.766	504.44	501.12	6" PVC	15	25	25	SAP	Layer 2	Saprolite	11/19/2015	4-in Sonic
SGWC-21	APC-16/PZ-1S	2404197.376	1115410.841	487.54	484.61	2" PVC	14.5	15.5	15.9	SAP	Layer 2	Saprolite	5/6/2015	HSA
SGWC-22	APC-17/PZ-2S	2403002.383	1115540.735	518.07	515.46	2" PVC	36.5	46.5	46.9	SAP	Layer 2	Saprolite	1/22/2015	HSA
SGWC-23	APC-18/PZ-4I	2402131.918	1116694.349	523.07	519.99	2" PVC	39.3	49.3	49.7	PWR	Layer 3	Partially Weathered Rock/Granitic Gneiss (moderately to highly weathered)	2/3/2015	HSA/HQ Rock Core
SGWA-24	APA-5/PZ-7S	2400742.979	1118125.665	503.86	500.75	2" PVC	27.7	37.7	38.1	SAP	Layer 2	Saprolite	2/10/2015	HSA
SGWA-25	APA-6/PZ-9S	2400856.491	1120556.049	526.39	523.08	2" PVC	34.6	44.6	45	SAP	Layer 2	Saprolite	2/18/2015	HSA
PZ-2I		2402991.209	1115545.515	517.61	514.99	2" PVC	73.9	83.9	84.3	FBR	Layer 4	Partially Weathered Rock and Gneiss (slightly to moderately to highly weathered)/Gneiss (slightly to moderately weathered, fractured)	1/27/2015	HSA/HQ Rock Core
PZ-3S		2402532.892	1116085.690	517.29	514.6	NA	39.6	49.6	49.6	SAP	Layer 2	Saprolite	1/28/2015	
PZ-5I		2401817.710	1117484.293	523.24	520.38	2" PVC	36.6	46.6	47	FBR	Layer 4	Bedrock (gneiss, fractured)	2/4/2015	HSA/HQ Rock Core
PZ-6S		2401936.713	1117910.804	531.48	528.93	2" PVC	44.4	54.4	54.8	SAP	Layer 2	Saprolite	2/4/2015	HSA
PZ-9I		2400862.201	1120563.315	527.49	523.25	2" PVC	69.8	79.8	80.2	PWR	Layer 3	Amphibolite (moderately to completely weathered)	2/19/2015	HSA/HQ Rock Core
PZ-10S		2401768.261	1122338.553	516.81	513.85	2" PVC	24.5	34.5	35.9	SAP	Layer 2	Saprolite	2/2/2015	HSA
PZ-11S		2402767.326	1123169.252	529.21	525.88	2" PVC	35.5	45.5	45.9	PWR	Layer 3	Saprolite (very hard, weathered rock fragments)	4/6/2015	HSA
PZ-12S		2403619.041	1122685.579	517.65	514.53	2" PVC	34	44	44.4	SAP	Layer 2	Saprolite	3/31/2015	HSA
PZ-13S		2404228.126	1121956.578	520.21	517.08	2" PVC	34.9	44.9	45.3	SAP	Layer 2	Saprolite	4/1/2015	HSA
PZ-14S		2404820.413	1121852.656	511.86	508.55	2" PVC	34.5	44.5	44.9	SAP	Layer 2	Saprolite	3/26/2015	HSA

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Well ID	Well Previously Named	Easting	Northing	TOC Elevation (ft msl)	Ground Elevation (ft msl)	Well Diameter	Depth to Top of Screen (ft bgs)	Depth to Bottom of Screen (ft bgs)	Total Well Depth (ft bgs)	Model Layer Description for Screened Interval	Model Layer Number for Screened Interval	Geologic Unit Screened (Description from Boring Log)	Date Installed	Drilling Method
PZ-14I		2404822.284	1121865.436	512.61	509.61	2" PVC	84.8	94.8	95.2	PWR	Layer 3	Gneiss (moderately to highly weathered), Gneiss (more competent, fractured)	3/25/2015	HSA/HQ Rock Core
PZ-15S		2405559.339	1121486.185	499.06	495.95	2" PVC	29.7	39.7	40.1	SAP	Layer 2	Saprolite	4/28/2015	HSA
PZ-17I		2407106.304	1120190.514	483.23	480.18	2" PVC	86.7	96.7	97.3	FBR	Layer 4	Amphibolite (moderately weathered, fractured), Gneiss (slightly weathered, fractured)	2/27/2015	HSA/HQ Rock Core
PZ-19S		2407241.350	1118587.897	417.67	414.66	2" PVC	14.6	24.6	25	SAP	Layer 2	Saprolite	3/4/2015	HSA
PZ-19I		2407251.482	1118589.332	417.48	414.46	2" PVC	61.5	71.5	71.9	PWR	Layer 3	Gneiss (moderately weathered, weak formation)	3/4/2015	HSA/HQ Rock Core
PZ-20I		2407272.337	1118318.135	417.11	414.11	2" PVC	69.2	79.2	79.6	PWR	Layer 3	Amphibolite Gneiss (moderately to highly weathered)	3/10/2015	HSA/HQ Rock Core
PZ-21S		2407007.551	1117638.787	473.42	470.46	2" PVC	13	23	23.4	SAP	Layer 2	Saprolite	3/12/2015	HSA
PZ-25S		2404567.730	1121847.250	527.91	525.47	2" PVC	45	55	55.2	SAP	Layer 2	Elastic Silt	5/25/2016	Rotosonic
PZ-25I		2404573.180	1121836.940	528.09	525.7	2" PVC	115	125	125.2	SAP	Layer 2	Saprolite	5/24/2016	Rotosonic
PZ-26S		2405730.730	1121695.550	491.36	488.88	2" PVC	35	45	45.2	SAP	Layer 2	Silty Sand and Poorly-Graded Sand	6/1/2016	Rotosonic
PZ-27S		2406028.420	1121564.130	475.57	472.96	2" PVC	35	45	45.5	PWR	Layer 3	Partially Weathered Rock	5/26/2016	Rotosonic
PZ-27D		2406021.760	1121559.390	475.18	472.41	2" PVC	104.5	124.5	124.7	FBR	Layer 4	Biotite Gneiss (not weathered, moderately to intensely fractured)	6/17/2016	Rotosonic
PZ-28I		2406375.090	1121393.050	483.91	481.32	2" PVC	59	69	69.2	FBR	Layer 4	Biotite Gneiss (slightly to moderately weathered, intensely fractured)	6/3/2016	Rotosonic
PZ-29S		2406618.220	1121267.680	491.02	488.43	2" PVC	35	45	45.2	PWR	Layer 3	Weathered Biotite gneiss	5/26/2016	Rotosonic
PZ-30I		2407079.440	1121071.970	478.03	475.42	2" PVC	75	85	85.2	PWR	Layer 3	Gneiss (moderately to highly weathered)	6/2/2016	Rotosonic
PZ-31i		2407445.610	1121202.950	466.56	463.8	2" PVC	64	74	74.2	FBR	Layer 4	Gneiss (slightly weathered, fractured)	6/2/2016	Rotosonic
PZ-32S		2407718.240	1121089.770	464.82	462.28	2" PVC	45	55	55.2	PWR	Layer 3	Saprolite/Pulverized Rock	6/1/2016	Rotosonic
PZ-32D		2407697.300	1121089.240	465.18	462.32	2" PVC	96	126	126.2	FBR	Layer 4	Biotite and Granitic Gneiss (not to slightly weathered, slightly to moderately fractured)	6/1/2016	Rotosonic
PZ-33I		2409063.680	1121244.080	469.08	466.25	2" PVC	66	76	76.2	PWR	Layer 3	Weathered Gneiss, Pulverized Rock, and Biotite Gneiss (moderately to highly weathered)	6/8/2016	Rotosonic
PZ-34S		2409289.270	1121329.680	443.37	440.78	2" PVC	35.5	45.5	45.7	PWR	Layer 3	Saprolite and Weathered Biotite Gneiss	6/4/2016	Rotosonic
PZ-35I		2406059.000	1121598.010	474.17	474.53	2" PVC	45	55	55.2	Not in model	Not in model	Well-Graded Sand with Pulverized Rock and Gneiss (slightly to highly weathered)	6/22/2016	Rotosonic
PZ-36S		2407248.005	1120400.372	482.19	479.21	2" PVC	45	55	55	Not in model	Not in model	Saprolite	8/22/2018	Rotosonic
PZ-36I		2407255.930	1120409.990	481.42	478.85	2" PVC	85	95	95.2	FBR	Layer 4	Biotite Gneiss (slightly weathered, fractured)	6/5/2016	Rotosonic
PZ-37I		2408419.620	1121177.670	482.02	479.54	2" PVC	61	71	71.2	Not in model	Not in model	Transition Zone Pulverized Rock and Biotite Gneiss (not to slightly weathered, moderately fractured)	6/2/2016	Rotosonic
PZ-38I		2406354.140	1121475.860	481.96	482.1	2" PVC	64	74	74.2	PWR	Layer 3	Weathered Biotite Gneiss and Biotite Gneiss (pulverized weathered rock)	6/23/2016	Rotosonic
PZ-39S		2407472.377	1120177.256	474.49	471.87	2" PVC	66	76	76	Not in model	Not in model	Saprolite	8/21/2018	Rotosonic
PZ-40I		2406962.700	1116959.586	512.22	509.76	2" PVC	73	83	83	Not in model	Not in model	Biotite Gneiss	8/15/2018	Rotosonic
PZ-41S		2407125.609	1116799.229	491.35	488.44	2" PVC	35	45	45	Not in model	Not in model	Saprolite	8/16/2018	Rotosonic
PZ-42I		2405293.296	1116014.657	502.97	500.38	2" PVC	86	96	96	Not in model	Not in model	Biotite Gneiss	8/21/2018	Rotosonic
PZ-43S		2405509.147	1115598.554	504.00	501.27	2" PVC	40.5	50.5	50.5	Not in model	Not in model	Saprolite	8/17/2018	Rotosonic
PZ-44I		2404331.321	1121515.271	510.19	507.69	2" PVC	104	114	114	Not in model	Not in model	Biotite Gneiss	9/5/2018	Rotosonic
GWC-1		2411556.160	1120077.830	374.75	371.54	2" PVC	24.69	34.69	34.99	SAP	Layer 2	Saprolite	10/28/2009	HSA
GWC-2		2411493.240	1119816.770	380.03	376.91	2" PVC	44.78	54.78	55.08	SAP	Layer 2	Saprolite	10/8/2009	HSA
GWC-3		2411202.800	1119614.010	410.22	407.19	2" PVC	36.4	46.4	46.7	PWR	Layer 3	Silty Sand	10/29/2009	HSA

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GWC-4		2411041.630	1119256.250	411.57	408.31	2" PVC	29.7	39.7	40	Not in model	Not in model	Silty Sand, Clayey Sand, Sand	11/21/2009	HSA
GWC-5		2411025.700	1118897.720	396.50	393.18	2" PVC	20.43	30.43	30.73	Not in model	Not in model	Silt, Silty Sand, Gneiss (weathered)	10/22/2009	HSA/HQ Rock Core
GWC-6		2410872.480	1118575.720	415.70	412.36	2" PVC	34.86	44.86	45.16	Not in model	Not in model	Gneiss (slightly to highly weathered), Schist (highly weathered)	10/21/2009	HSA/HQ Rock Core
GWC-7		2410645.830	1118243.660	418.07	414.29	2" PVC	44.57	54.57	54.87	Not in model	Not in model	Saprolite	10/20/2009	HSA
GWC-8		2410435.830	1117934.460	407.80	404.76	2" PVC	40.18	50.18	50.48	Not in model	Not in model	Sand, Saprolite	10/20/2009	HSA
GWC-9		2410167.440	1117955.520	386.01	383.02	2" PVC	6.79	16.79	17.09	Not in model	Not in model	Sandy Silt, Silty Sand	11/4/2009	HSA
GWC-10		2410018.160	1118306.840	392.68	389.3	2" PVC	21.39	31.39	31.69	Not in model	Not in model	Silty Sand	11/3/2009	HSA
GWC-11		2409778.450	1118649.130	402.19	399.06	2" PVC	21	31	31.3	Not in model	Not in model	Silty Sand	11/3/2009	HSA
GWC-12		2409554.100	1118978.200	412.75	409.54	2" PVC	24.22	34.22	34.52	Not in model	Not in model	Clayey Sand	11/3/2009	HSA
GWC-13		2409390.710	1119338.880	419.58	416.54	2" PVC	29.99	39.99	40.29	Not in model	Not in model	Silty Sand	11/2/2009	HSA
GWC-14		2409111.270	1119655.060	403.41	400.25	2" PVC	14.07	24.07	24.37	Not in model	Not in model	Silty Sand	11/4/2009	HSA
GWA-15		2409282.000	1120009.780	414.82	411.82	2" PVC	16.19	26.19	26.49	Not in model	Not in model	Silt, Silty Sand	11/4/2009	HSA
GWA-16		2409579.590	1120248.790	444.06	440.74	2" PVC	44.2	54.2	54.5	Not in model	Not in model	Saprolite	10/13/2009	HSA
GWA-17		2409946.330	1120211.100	445.63	442.72	2" PVC	33.55	43.55	43.85	Not in model	Not in model	Silty Sand	9/28/2009	HSA
GWC-18		2410261.900	1119998.620	439.64	436.36	2" PVC	46.81	56.81	57.11	Not in model	Not in model	Saprolite	9/29/2009	HSA
GWC-19		2410712.920	1119645.900	429.98	426.12	2" PVC	43.84	53.84	54.14	Not in model	Not in model	Saprolite	10/2/2009	HSA
GWC-20		2411195.260	1119950.630	426.09	422.82	2" PVC	59.13	69.13	69.43	Not in model	Not in model	Silt	10/6/2009	HSA
GWA-21		2409462.770	1120675.770	422.30	419.56	2" PVC	8	18	18	SAP	Layer 2	Weathered Rock	6/29/2010	Sonic
GWA-22		2409473.480	1120962.580	444.23	441.75	2" PVC	30	40	40	PWR	Layer 3	Gneiss	6/29/2010	Sonic
GWC-29		2408717.920	1119875.660	399.39	396.69	2" PVC	14	24	24	SAP	Layer 2	Saprolite	6/28/2010	Sonic
GWA-45		2407889.430	1120669.520	450.89	447.98	2" PVC	23	33	33	SAP	Layer 2	Mottled Clay, Silt, Sand	6/23/2010	Sonic
GWA-46		2408235.720	1120783.750	460.86	458.1	2" PVC	33.5	43.5	43.5	SAP	Layer 2	Mottled Clay, Silt, Sand	6/23/2010	Sonic
GWA-47		2408585.250	1120862.990	465.55	462.81	2" PVC	45	55	55	SAP	Layer 2	Saprolite, Weathered Gneiss	6/22/2010	Sonic
GWA-48		2408939.900	1120953.850	461.47	458.73	2" PVC	60	70	70	FBR	Layer 4	Gneiss	6/22/2010	Sonic
GWA-49		2409288.700	1121030.470	432.61	429.96	2" PVC	27.5	37.5	37.5	SAP	Layer 2	Saprolite	6/21/2010	Sonic
GWC-50		2408955.890	1119917.650	406.92	404.16	2" PVC	24.5	34.5	34.5	PWR	Layer 3	Saprolite, Hard Saprolite	6/28/2010	Sonic
GWC-51		2408437.100	1119835.850	409.89	406.88	2" PVC	16.5	26.5	26.5	SAP	Layer 2	Saprolite	6/28/2010	HSA
GWC-52		2408203.870	1119972.460	416.89	414.14	2" PVC	20	30	30	SAP	Layer 2	Saprolite	6/24/2010	Sonic
GWC-53		2407942.970	1120319.920	435.57	432.93	2" PVC	20	30	30	SAP	Layer 2	Clay, Sand	6/23/2010	Sonic
LPZ-1		2398512.884	1117001.063	553.16	549.84	2" PVC	54	64	64	Not in model	Not in model	Partially Weathered Rock/Biotite Gneiss	11/10/2015	HSA/HQ Rotary
LPZ-2		2398005.522	1119972.986	513.96	510.46	2" PVC	10	20	20	SAP	Layer 2	Sandy Clay/Silty Sand	11/20/2015	HSA/HQ Rotary
LPZ-3		2398656.589	1117884.204	515.11	511.48	2" PVC	25	35	34.1	SAP	Layer 2	Clayey Silt/Saprolite	11/18/2015	HSA/HQ Rotary
LPZ-4		2397083.703	1115963.340	461.06	457.83	2" PVC	18	28	28.5	SAP	Layer 2	Silty Sand/Saprolite	11/19/2015	HSA/HQ Rotary
LPZ-5		2399698.731	1115329.718	524.28	520.97	2" PVC	42.1	52.1	51.7	SAP	Layer 2	Silty Sand (weathered rock)	11/5/2015	HSA/HQ Rotary
B-102A		2,405,054	1,117,122	507.3	504.4	2" PVC	49.7	54.3	60	CCR	Layer 1	CCR (Silt)	4/8/2016	HSA
B-102B		2,405,057	1,117,126	506.6	504.4	2" PVC	15.3	20.3	20.6	CCR	Layer 1	CCR (Silt)	4/8/2016	HSA
B-103A		2,405,595	1,117,590	508.9	505.8	2" PVC	55.8	60	60.3	CCR	Layer 1	CCR (Silt)	4/5/2016	HSA

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B-103B		2,405,594	1,117,596	508.9	505.8	2" PVC	15	20	20	CCR	Layer 1	CCR (Silt)	3/29/2016	HSA
B-104A		2,405,846	1,117,967	507.5	504.2	2" PVC	55	60	60	CCR	Layer 1	CCR (Silt)	3/31/2016	HSA
B-104B		2,405,851	1,117,972	507.2	504.1	2" PVC	15	20	20	CCR	Layer 1	CCR (Sand)	3/31/2016	HSA
AP-1R		2406844.490	1118448.308	508.380	NA	2" PVC	114.4	124.1	124.4	SAP	Layer 2	Saprolite	5/3/2000	NA
AP-2		2406844.247	1118466.944	509.210	NA	NA	NA	NA	NA	Not in model	Not in model	NA	NA	NA
AP-A2A		2406015.430	1116326.17	473.110	NA	NA	NA	NA	NA	Not in model	Not in model	NA	NA	NA
AP-A2		2406017.332	1116326.835	472.820	NA	1" PVC	24	29	29	SAP	Layer 2	Decomposed Rock	5/20/1986	NA
AP-3		2406897.847	1118458.705	495.340	NA	NA	NA	NA	NA	Not in model	Not in model	NA	NA	NA
AP-A3A		2406137.451	1116414.664	481.130	NA	1" PVC	3	8	8	Not in model	Not in model	NA	5/20/1986	NA
APA-3		2406140.776	1116416.122	481.320	NA	1" PVC	22	27	27	SAP	Layer 2	Decomposed Rock	5/20/1986	NA
AP-4		2407038.779	1118463.806	457.540	NA	NA	NA	NA	NA	Not in model	Not in model	NA	NA	NA
AP-5		2407039.246	1118451.359	457.390	NA	NA	NA	NA	NA	Not in model	Not in model	NA	NA	NA
AP-A4A		2406349.895	1116540.949	483.860	NA	1" PVC	8.5	13.5	13.5	Not in model	Not in model	NA	5/12/1986	NA
AP-A4		2406349.675	1116541.17	485.360	NA	1" PVC	35.5	40.5	40.5	SAP	Layer 2	Decomposed Rock	5/13/1986	NA
AP-A5		2405926.811	1116282.42	475.370	472.02	1" PVC	37.0	42.0	42	SAP	Layer 2	Sandy Silt with Rock Fragments	5/21/1986	NA
AP-A5A		2405929.020	1116283.697	475.340	471.9	1" PVC	19.0	24.0	24	Not in model	Not in model	NA	5/21/1986	NA
AP-6		2405851.502	1121166.564	484.230	NA	1" PVC	33.5	38.5	38.5	SAP	Layer 2	Decomposed Rock	4/10/1985	NA
AP-7		2405853.689	1121165.367	483.720	NA	1" PVC	6.5	11.5	11.5	SAP	Layer 2	Decomposed Rock	4/10/1985	NA
AP-8R		2407239.783	1118493.325	413.850	411.4	2" PVC	7.0	11.4	12	SAP	Layer 2	Sand and Gravel	5/9/2000	NA
AP-9R		2407245.201	1118491.264	414.310	411.51	2" PVC	30.1	34.8	35.1	SAP	Layer 2	Sand and Gravel	5/9/2000	NA
AP-10		2405882.537	1116253.005	472.930	470.63	1" PVC	46.0	51.0	51	SAP	Layer 2	Weathered Rock	4/10/1985	NA
AP-11		2405886.985	1116254.145	474.050	471	1" PVC	20.0	25.0	25	PWR	Layer 3	NA	4/12/1985	NA
AP-12		2405793.374	1116223.681	477.170	475.14	1" PVC	38	43	43	SAP	Layer 2	Decomposed Rock	6/3/1986	NA
AP-A12		2405827.369	1116370.212	507.110	NA	1" PVC	74	79	79	SAP	Layer 2		6/3/1986	NA
AP-A12A		2405827.342	1116370.162	507.030	NA	1" PVC	50	55	55	Not in model	Not in model	NA	6/3/1986	NA
AP-13		2405792.231	1116223.511	479.300	475.14	1" PVC	23	28	28	SAP	Layer 2	Decomposed Rock	5/29/1986	NA
AP-14		2405789.221	1116221.073	479.690	476.01	1" PVC	2	12	12	Not in model	Not in model	NA	5/29/1986	NA

CCR - Coal Combustion Residuals
SAP - Saprolite
PWR - Partially Weathered Rock
FBR - Fractured Bedrock
NA - Not Available
TOC - Top of Casing
Layer 1 - CCR/Dike Material
Layer 2 - SAP
Layer 3 - PWR
Layer 4 - FBR
ft bgs - feet below ground surface
ft NAVD88 - feet in North American Vertical Datum of 1988
PVC - polyvinyl chloride

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Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGWA-1	APA-1/PZ-8S	2399899.287	1119232.658	543.97	Residuuum - Silty Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	543.97	13	530.97
					SAP	SAP	Layer 2	13	530.97	50.9	493.07
							Bottom of borehole	50.9	493.07		543.97
SGWA-2	APA-11/PZ-8I	2399907.288	1119237.111	587.79	Residuuum - Silty clay (to 8 ft bgs) and sandy silt (to 19 ft bgs)	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	587.79	19	568.79
					SAP	SAP	Layer 2	19	568.79	73	514.79
					PWR (to 79 ft bgs) and Gneiss (highly to completely weathered)	PWR	Layer 3	73	514.79	95.8	491.99
							Bottom of borehole	95.8	491.99		
SGWA-3	APA-2	2399295.720	1120224.560	542.47	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	542.47	16	526.47
					SAP	SAP	Layer 2	16	526.47	50	492.47
							Bottom of borehole	50	492.47		
SGWA-4	APA-3	2401124.350	1121478.042	544.25	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	544.25	5	539.25
					SAP	SAP	Layer 2	5	539.25	63	481.25
					SAP	PWR	Layer 3	63	481.25	67	477.25
							Bottom of borehole	67	477.25		
SGWA-5	APA-4	2397426.720	1118087.173	505.32	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	505.32	8	497.32
					SAP	SAP	Layer 2	8	497.32	30	475.32
							Bottom of borehole	30	475.32		
SGWC-6	APC-1	2401979.450	1122168.292	507.94	overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	507.94	5	502.94
					SAP	SAP	Layer 2	5	502.94	25	482.94
							Bottom of borehole	25	482.94		
SGWC-7	APC-2	2402259.670	1122669.570	503.02	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	503.02	10	493.02
					PWR/SAP	SAP	Layer 2	10	493.02	17	486.02
					Weathered rock and saprolite, and biotite gneiss	PWR	Layer 3	17	486.02	35	468.02
							Bottom of borehole	35	468.02		
SGWC-8	APC-3	240.2979.66	1122866.662	511.05	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	511.05	5	506.05
					SAP	SAP	Layer 2	5	506.05	25	486.05
					PWR	PWR	Layer 3	25	486.05	35	476.05
					Bedrock	FBR	Layer 4	35	476.05	40	471.05
							Bottom of borehole	40	471.05		
SGWC-9	APC-4	2403455.820	1122635.284	507.61	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	507.61	5	502.61
					SAP	SAP	Layer 2	5	502.61	35	472.61
							Bottom of borehole	35	472.61		

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SGWC-10	APC-5	2404047.170	1121896.649	507.61	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	507.61	10	497.61
					SAP	SAP	Layer 2	10	497.61	30	477.61
							Bottom of borehole		30	477.61	
SGWC-11	APC-6	2404332.790	1121542.388	508.6	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	508.6	10	498.6
					SAP	SAP	Layer 2	10	498.6	40	468.6
							Bottom of borehole		40	468.6	
SGWC-12	APC-7	2405009.680	1121576.067	497.35	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	497.35	5	492.35
					SAP	SAP	Layer 2	5	492.35	47.6	449.75
							Bottom of borehole		47.6	449.75	
SGWC-13	APC-8	2405760.640	1121274.076	480.05	Fill	Fill/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	480.05	10	470.05
					SAP	SAP	Layer 2	10	470.05	35	445.05
							Bottom of borehole		35	445.05	
SGWC-14	APC-9/PZ-16S	2406329.205	1120965.721	476.31	Residuuum - Silty clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	476.31	13	463.31
					SAP	SAP	Layer 2	13	463.31	35.3	441.01
							Bottom of borehole		35.3	441.01	
SGWC-15	APC-10/PZ-17S	2407092.841	1120191.238	480.04	Residuuum - Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	480.04	9	471.04
					SAP	SAP	Layer 2	9	471.04	45.2	434.84
							Bottom of borehole		45.2	434.84	
SGWC-16	APC-11/PZ-18S	2407154.726	1119221.306	456.79	Residuuum - Silty clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	456.79	13	443.79
					SAP	SAP	Layer 2	13	443.79	40.2	416.59
							Bottom of borehole		40.2	416.59	
SGWC-17	APC-12/PZ-20S	2407266.725	1118309.038	414.73	Residuuum - Fat clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	414.73	13	401.73
					SAP	SAP	Layer 2	13	401.73	24.5	390.23
							Bottom of borehole		24.5	390.23	
SGWC-18	APC-13/PZ-22S	2406930.957	1116946.848	510.17	Fill - lean clay	Fill/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	510.17	18	492.17
					SAP	SAP	Layer 2	18	492.17	44.5	465.67
							Bottom of borehole		44.5	465.67	
SGWC-19	APC-14/PZ-23S	2406096.077	1116024.669	475.71	Fill - Lean clay	Fill/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	475.71	13	462.71
					SAP	SAP	Layer 2	13	462.71	34.6	441.11
							Bottom of borehole		34.6	441.11	
SGWC-20	APC-15	2405307.580	1116020.766	501.12	Overburden	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	501.12	10	491.12
					SAP	SAP	Layer 2	10	491.12	25	476.12
							Bottom of borehole		25	476.12	

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Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGWC-21	APC-16/PZ-1S	2404197.376	1115410.841	484.61	Lean Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	484.61	9	475.61
					SAP	SAP	Layer 2	9	475.61	24.9	459.71
							Bottom of borehole	24.9	459.71		
SGWC-22	APC-17/PZ-2S	2403002.383	1115540.735	515.46	Lean Clay	Fill	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	515.46	8	507.46
					Residuum - Silt	SAP	Layer 2	8	507.46	14	501.46
					SAP	SAP	Layer 2	14	501.46	50.1	465.36
							Bottom of borehole	50.1	465.36		
SGWC-23	APC-18/PZ-4I	2402131.918	1116694.349	519.99	Residuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	519.99	8	511.99
					SAP	SAP	Layer 2	8	511.99	35	484.99
					PWR (to 35ft bgs), Granitic Gneiss (moderately to highly weathered)	PWR	Layer 3	35	484.99	49.7	470.29
							Bottom of borehole	49.7	470.29		
SGWA-24	APA-5/PZ-7S	2400742.979	1118125.665	500.75	Residuum - Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	500.75	9	491.75
					SAP	SAP	Layer 2	9	491.75	40	460.75
							Bottom of borehole	40	460.75		
SGWA-25	APA-6/PZ-9S	2400856.491	1120556.049	523.08	Residuum - Sandy silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	523.08	19	504.08
					SAP	SAP	Layer 2	19	504.08	45	478.08
							Bottom of borehole	45	478.08		
PZ-2I		2402991.209	1115545.515	514.99	Silty Clay	Fill	Layer 1	0	514.99	18	496.99
					SAP	SAP	Layer 2	18	496.99	68	446.99
					PWR (to 69 ft bgs), Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	68	446.99	75	439.99
					Biotite Gneiss slightly to mod weathered, fractured	FBR	Layer 4	75	439.99	84.3	430.69
							Bottom of borehole	84.3	430.69		
PZ-3S		2402532.892	1116085.690	514.6	Fill - Sandy Silt	Fill	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	514.6	9	505.6
					SAP	SAP	Layer 2	9	505.6	50	464.6
							Bottom of borehole	50	464.6		
PZ-5I		2401817.710	1117484.293	520.38	Fill - Silt	Fill	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	520.38	9	511.38
					SAP	SAP	Layer 2	9	511.38	34	486.38
					Saprolite with PWR (34-35 ft bgs), PWR (36-37 ft bgs)	PWR	Layer 3	34	486.38	36	484.38
					Gneiss, not weathered, fractured	FBR	Layer 4	36	484.38	47.2	473.18
							Bottom of borehole	47.2	473.18		
PZ-6S		2401936.713	1117910.804	528.93	Residuum - Sandy Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	528.93	14	514.93
					SAP	SAP	Layer 2	14	514.93	54.8	474.13
					PWR (assumed as bottom of borehole based on refusal depth)	PWR	Layer 3	54.8	474.13	54.8	474.13
							Bottom of borehole	54.8	474.13		

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Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
PZ-9I		2400862.201	1120563.315	523.25	Residuum - Sandy Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	523.25	14	509.25
					SAP	SAP	Layer 2	14	509.25	60.5	462.75
					PWR (to 64 ft bgs) and Amphibolite (moderately to highly weathered)	PWR	Layer 3	60.5	462.75	80.2	443.05
							Bottom of borehole	80.2	443.05		
PZ-10S		2401768.261	1122338.553	513.85	Residuum - Sandy silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	513.85	14	499.85
					SAP	SAP	Layer 2	14	499.85	34.9	478.95
							Bottom of borehole	34.9	478.95		
PZ-11S		2402767.326	1123169.252	525.88	SAP	SAP	Layer 2	9	516.88	34	491.88
					SAP (blow counts, weathered rocks, very hard)	PWR	Layer 3	34	491.88	45.9	479.98
							Bottom of borehole	45.9	479.98		
PZ-12S		2403619.041	1122685.579	514.53	SAP	SAP	Layer 2	9	505.53	44.4	470.13
							Bottom of borehole	44.4	470.13		
PZ-13S		2404228.126	1121956.578	517.08	Fill - Sandy Silt	Fill	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	517.08	14	503.08
					SAP	SAP	Layer 2	14	503.08	45.3	471.78
							Bottom of borehole	45.3	471.78		
PZ-14S		2404820.413	1121852.656	508.55	SAP	SAP	Layer 2	9	499.55	44.9	472.18
							Bottom of borehole	44.9	463.65		
PZ-14I		2404822.284	1121865.436	509.61	SAP	SAP	Layer 2	9	500.61	64	445.61
					SAP with abundant weathered rock fragments (to 65 ft bgs), PWR (to 74 ft bgs) and Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	64	445.61	86	423.61
					Gneiss - more competent than above	FBR	Layer 4	86	423.61	95.2	414.41
							Bottom of borehole	95.2	414.41		
PZ-15S		2405559.339	1121486.185	495.95	Fill - Sandy silt	Fill	Layer 1	0	495.95	14	481.95
					SAP	SAP	Layer 2	14	481.95	40.1	455.85
							Bottom of borehole	40.1	455.85		
PZ-17I		2407106.304	1120190.514	480.18	Residuum - Sandy silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	480.18	14	466.18
					SAP	SAP	Layer 2	14	466.18	68	412.18
					SAP with same description of PWR below it (to 75 ft bgs), PWR (to 81.5 ft bgs), Amphibolite (moderately weathered)	PWR	Layer 3	68	412.18	89	391.18
					Gneiss - fractured	FBR	Layer 4	89	391.18	97.3	382.88
							Bottom of borehole	97.3	382.88		
PZ-19S		2407241.350	1118587.897	414.66	SAP	SAP	Layer 2	9	405.66	25	455.18
							Bottom of borehole	25	389.66		
PZ-19I		2407251.482	1118589.332	414.46	Residuum - Lean clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	414.46	13	401.46
					SAP	SAP	Layer 2	13	401.46	53	361.46
					PWR (to 55 ft bgs), Biotite Gneiss (slightly to moderately weathered, soft)	PWR	Layer 3	53	361.46	71.9	342.56
							Bottom of borehole	71.9	342.56		

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PZ-20I		2407272.337	1118318.135	414.11	Residuum - Sandy fat clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	414.11	13	401.11
					SAP	SAP	Layer 2	13	401.11	60	354.11
					PWR (to 64 ft bgs), Amphibolite Gneiss (moderately to highly weathered)	PWR	Layer 3	60	354.11	79.6	334.51
						Bottom of borehole		79.6	334.51		
PZ-21S		2407007.551	1117638.787	470.46	Residuum - sandy silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	470.46	14	456.46
					SAP	SAP	Layer 2	14	456.46	25	445.46
						Bottom of borehole		25	445.46		
PZ-23I	NA	NA	NA	NA	Fill - Lean clay	Fill	Layer 1	0		13	
					SAP	SAP	Layer 2	13		65	
					PWR	PWR	Layer 3	65		86.8	
					Granitic Gneiss - Fractured	FBR	Layer 4	86.8		86.8	
						Bottom of borehole		86.8			
PZ-24S	NA	NA	NA	NA	SAP	SAP	Layer 2	11		28.9	
						Bottom of borehole		28.9			
PZ-25S		1121846.860	2404569.120	525.47	Well-graded Sand with Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	525.47	26	499.47
					Sandy Silt	SAP	Layer 2	26	499.47	36	489.47
					Elastic Silt	SAP	Layer 2	36	489.47	56	469.47
						Bottom of borehole		56	469.47		
PZ-25I		1121836.050	2404599.780	525.7	Well-graded Sand with Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	525.7	26	499.7
					Sandy Silt	SAP	Layer 2	26	499.7	36	489.7
					Elastic Silt	SAP	Layer 2	36	489.7	56	469.7
					SAP	SAP	Layer 2	56	469.7	126	399.7
						Bottom of borehole		126	399.7		
PZ-26S		1121694.340	2405733.540	488.88	Lean Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	488.88	10	478.88
					Sandy Silt	SAP	Layer 2	10	478.88	18	470.88
					Poorly-graded sand with silt	SAP	Layer 2	18	470.88	33	455.88
					Elastic Silt	SAP	Layer 2	33	455.88	35	453.88
					Silty Sand	SAP	Layer 2	35	453.88	43	445.88
					Poorly-graded sand	SAP	Layer 2	43	445.88	45	443.88
					Silty Sand	SAP	Layer 2	45	443.88	46	442.88
	Bottom of borehole		46	442.88							
PZ-27S		1121560.770	2406040.280	472.96	Clayey Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	472.96	2	470.96
					Lean Clay	SAP	Layer 2	2	470.96	9	463.96
					Well-graded sand with Silt	SAP	Layer 2	9	463.96	27	445.96
					Clayey Sand	SAP	Layer 2	27	445.96	32	440.96
					PWR	PWR	Layer 3	32	440.96	46	426.96
	Bottom of borehole		46	426.96							

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PZ-27D		1121557.130	2406040.290	472.41	Clayey Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	472.41	2	470.41
					Lean Clay	SAP	Layer 2	2	470.41	9	463.41
					Well-graded sand with Silt	SAP	Layer 2	9	463.41	27	445.41
					Clayey Sand	SAP	Layer 2	27	445.41	32	440.41
					PWR	PWR	Layer 3	32	440.41	56	416.41
					Biotite Gneiss - moderately to intensely fractured	FBR	Layer 4	56	416.41	126	346.41
					Bottom of borehole			126	346.41		
PZ-28I		1121390.920	2406377.780	481.32	Residuuum - Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	481.32	12	469.32
					SAP	SAP	Layer 2	12	469.32	47	434.32
					PWR (to 48 ft bgs), Biotite Gneiss (highly weathered)	PWR	Layer 3	47	434.32	58	423.32
					Biotite Gneiss - slightly weathered, intensely fractured	FBR	Layer 4	58	423.32	70	411.32
					Bottom of borehole			70	411.32		
PZ-29S		1121264.410	2406623.250	488.43	Sandy Lean Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	488.43	2	486.43
					Sandy Silt	SAP	Layer 2	2	486.43	22	466.43
					Sand with Silt to Weathered Biotite Gneiss	PWR	Layer 3	22	466.43	46	442.43
					Bottom of borehole			46	442.43		
PZ-30I		1121069.520	2407083.370	475.42	Residuuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	475.42	31	444.42
					SAP	SAP	Layer 2	31	444.42	56	419.42
					Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	56	419.42	87	388.42
					Bottom of borehole			87	388.42		
PZ-31I		1121201.760	2407450.470	463.8	Residuuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	463.8	28	435.8
					SAP	SAP	Layer 2	28	435.8	39	424.8
					Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	39	424.8	68	395.8
					Biotite Gneiss - fractured	FBR	Layer 4	68	395.8	77	386.8
					Bottom of borehole			77	386.8		
PZ-32S		1121089.930	2407726.520	462.28	Residuuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	462.28	6	456.28
					Clayey Sand	SAP	Layer 2	6	456.28	13	449.28
					Sandy Silt	SAP	Layer 2	13	449.28	15	447.28
					Silty Sand	SAP	Layer 2	15	447.28	29	433.28
					Sandy Silt	SAP	Layer 2	29	433.28	36	426.28
					Poorly-graded sand with clay	SAP	Layer 2	36	426.28	45	417.28
					Weathered Biotite Gneiss, pulverized rock	PWR	Layer 3	45	417.28	57	405.28
					Bottom of borehole			57	405.28		

Table 2
Monitoring Well and Piezometer Lithology
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
PZ-32D		1121086.290	2407726.530	462.32	Residuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	462.32	6	456.32
					Clayey Sand	SAP	Layer 2	6	456.32	13	449.32
					Sandy Silt	SAP	Layer 2	13	449.32	15	447.32
					Silty Sand	SAP	Layer 2	15	447.32	29	433.32
					Sandy Silt	SAP	Layer 2	29	433.32	36	426.32
					Poorly-graded sand with clay	SAP	Layer 2	36	426.32	45	417.32
					SAP (pulverized rock) (to 58 ft bgs), Weathered Biotite Gneiss (to 63 ft bgs), slightly decomposed Biotite Gneiss (69 ft bgs), Biotite Gneiss (highly weathered) (to 76 ft bgs)	PWR	Layer 3	45	417.32	76	386.32
					PWR (58-69) highly weathered Gneiss (69-76), Biotite and granitic Gneiss - not to moderately weathered, slightly to moderately fractured	FBR	Layer 4	76	386.32	126.5	335.82
	Bottom of borehole		126.5	335.82							
PZ-33I		1121243.790	2409073.690	466.25	Sandy Lean Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	466.25	6	460.25
					Sandy Silt	SAP	Layer 2	6	460.25	13	453.25
					Well-graded sand with Silt	SAP	Layer 2	13	453.25	27	439.25
					Clayey Sand	SAP	Layer 2	27	439.25	40	426.25
					Well-graded sand with Silt	SAP	Layer 2	40	426.25	56	410.25
					Pulverized rock (Biotite Gneiss) (to 72 ft bgs), Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	56	410.25	76.5	389.75
						Bottom of borehole		76.5	389.75		
PZ-34S		1121328.320	2409318.430	440.78	Lean Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	440.78	7	433.78
					Sandy Silt	SAP	Layer 2	7	433.78	8	432.78
					Elastic Silt	SAP	Layer 2	8	432.78	11	429.78
					Well-graded sand with Silt	SAP	Layer 2	11	429.78	15	425.78
					SAP	SAP	Layer 2	15	425.78	42	398.78
					Weathered Biotite Gneiss	PWR	Layer 3	42	398.78	46	394.78
						Bottom of borehole		46	394.78		
PZ-35I		1121597.940	2406059.150	474.53	Sandy Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	474.53	2	472.53
					Poorly-graded sand with silt	SAP	Layer 2	2	472.53	5	469.53
					Clayey Sand	SAP	Layer 2	5	469.53	8	466.53
					Poorly-graded sand with silt	SAP	Layer 2	8	466.53	24	450.53
					Well-graded sand with Silt	SAP	Layer 2	24	450.53	32	442.53
					Poorly-graded sand	SAP	Layer 2	32	442.53	36	438.53
					Well-Graded Sand with Silt	SAP	Layer 2	36	438.53	51	423.53
					Biotite Gneiss (slightly to highly weathered)	PWR	Layer 3	51	423.53	56	418.53
	Bottom of borehole		56	418.53							
PZ-36I		1120407.980	2407269.420	478.85	Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	478.85	21	457.85
					SAP	SAP	Layer 2	21	457.85	65	413.85
					Biotite Gneiss (moderately to highly weathered)	PWR	Layer 3	65	413.85	80	398.85
					Biotite Gneiss - fractured, slightly weathered	FBR	Layer 4	80	398.85	97	381.85
						Bottom of borehole		97	381.85		

Table 2
Monitoring Well and Piezometer Lithology
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
PZ-37I		1121176.050	2408430.710	479.54	Silt/Silty Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	479.54	53	426.54
					SAP	SAP	Layer 2	53	426.54	63	416.54
					Transition Zone Pulverized Rock	PWR	Layer 3	63	416.54	67	412.54
					Biotite Gneiss - moderately fractured, not to slightly weathered	FBR	Layer 4	67	412.54	72.5	407.04
							Bottom of borehole	72.5	407.04		
PZ-38I		1121475.610	2406354.220	482.1	Sandy Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	482.1	8	474.1
					Poorly-graded sand with silt	SAP	Layer 2	8	474.1	11	471.1
					Elastic Silt	SAP	Layer 2	11	471.1	16	466.1
					Poorly-graded sand with silt	SAP	Layer 2	16	466.1	19	463.1
					Well-graded Sand	SAP	Layer 2	19	463.1	20	462.1
					SAP	SAP	Layer 2	20	462.1	52.5	429.6
					Weathered Biotite Gneiss (to 63 ft bgs), Transition Zone Pulverized Rock	PWR	Layer 3	52.5	429.6	76	406.1
		Bottom of borehole	76	406.1							
GWC-1		2411556.160	1120077.830	371.54	Residuum	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	371.54	19.5	352.04
					SAP	SAP	Layer 2	19.5	352.04	36	335.54
							Bottom of borehole	36	335.54		
GWC-2		2411493.240	1119816.770	376.91	Silty Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	376.91	19.5	357.41
					SAP	SAP	Layer 2	19.5	357.41	54.5	322.41
							Bottom of borehole	54.5	322.41		
GWC-3		2411202.800	1119614.010	407.19	Sandy silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	407.19	28.5	378.69
					Silty Sand	SAP	Layer 2	28.5	378.69	38.5	368.69
					Silty Sand	PWR	Layer 3	38.5	368.69	46	361.19
							Bottom of borehole	46	361.19		
GWA-21		2409462.770	1120675.770	419.56	Sandy clay, clayey sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	419.56	10	409.56
					Weathered Rock	SAP	Layer 2	10	409.56	17	402.56
							Bottom of borehole	17	402.56		
GWA-22		2409473.480	1120962.580	441.75	Sandy Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	441.75	24	417.75
					SAP	SAP	Layer 2	24	417.75	33	408.75
					Gneiss	PWR	Layer 3	33	408.75	40	401.75
							Bottom of borehole	40	401.75		
GWC-29		2408717.920	1119875.660	396.69	Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	396.69	15	381.69
					SAP	SAP	Layer 2	15	381.69	25	371.69
							Bottom of borehole	25	371.69		
GWA-45		2407889.430	1120669.520	447.98	Mottled Clay, Silt, Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	447.98	33	414.98
							Bottom of borehole	33	414.98		
GWA-46		2408235.720	1120783.750	458.1	Mottled Clay, Silt, Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	458.1	43.5	414.6
							Bottom of borehole	43.5	414.6		

Table 2
Monitoring Well and Piezometer Lithology
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
GWA-47		2408585.250	1120862.990	462.81	Clay, Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	462.81	33	429.81
					SAP	SAP	Layer 2	33	429.81	50	412.81
					Weathered Gneiss	PWR	Layer 3	50	412.81	55	407.81
							Bottom of borehole	55	407.81		
GWA-48		2408939.900	1120953.850	458.73	Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	458.73	35	423.73
					SAP	SAP	Layer 2	35	423.73	45	413.73
					Weathered Gneiss	PWR	Layer 3	45	413.73	65	393.73
					Gneiss	FBR	Layer 4	65	393.73	72	386.73
							Bottom of borehole	72	386.73		
GWA-49		2409288.700	1121030.470	429.96	Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	429.96	24	405.96
					SAP	SAP	Layer 2	24	405.96	37	392.96
							Bottom of borehole	37	392.96		
GWC-50		2408955.890	1119917.650	404.16	Clay, Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	404.16	25	379.16
					SAP	SAP	Layer 2	25	379.16	30	374.16
					Hard Saprolite	PWR	Layer 3	30	374.16	35	369.16
							Bottom of borehole	35	369.16		
GWC-51		2408437.100	1119835.850	406.88	Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	406.88	13	393.88
					SAP	SAP	Layer 2	13	393.88	27	379.88
							Bottom of borehole	27	379.88		
GWC-52		2408203.870	1119972.460	414.14	Silt, Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	414.14	24	390.14
					SAP	SAP	Layer 2	24	390.14	30	384.14
							Bottom of borehole	30	384.14		
GWC-53		2407942.970	1120319.920	432.93	Clay, Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	432.93	28	404.93
							Bottom of borehole	28	404.93		
LPZ-1		2398512.884	1117001.063	549.84	Clayey Silt	SAP	Layer 2	0	549.84	14.5	535.34
					PWR	PWR	Layer 3	14.5	535.34	58	491.84
					Biotite Gneiss	FBR	Layer 4	58	491.84	65.8	484.04
							Bottom of borehole	65.8	484.04		
LPZ-2		2398005.522	1119972.986	510.46	Clayey Sand	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	510.46	13	497.46
					Silty Sand	SAP	Layer 2	13	497.46	20	490.46
							Bottom of borehole	20	490.46		
LPZ-3		2398656.589	1117884.204	511.48	Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	511.48	4	507.48
					Clayey Silt	SAP	Layer 2	4	507.48	13	498.48
					Clayey Sand	SAP	Layer 2	13	498.48	18	493.48
					Clayey Silt	SAP	Layer 2	18	493.48	30.3	481.18
					SAP	SAP	Layer 2	30.3	481.18	35	476.48
							Bottom of borehole	35	476.48		

Table 2
Monitoring Well and Piezometer Lithology
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
LPZ-4		2397083.703	1115963.340	457.83	Silty Clay	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	457.83	6	451.83
					Clay	SAP	Layer 2	6	451.83	10	447.83
					Clayey Sand	SAP	Layer 2	10	447.83	18	439.83
					Silty Sand	SAP	Layer 2	18	439.83	25	432.83
					SAP	SAP	Layer 2	25	432.83	40	417.83
					Bottom of borehole			40	417.83		
LPZ-5		2399698.731	1115329.718	520.97	Silt	RES/SAP	Layer 1: 1 ft thick Layer 2: Remaining thickness	0	520.97	8	512.97
					Silty Clay	SAP	Layer 2	8	512.97	18.2	502.77
					Silty Sand (weathered rock)	SAP	Layer 2	18.2	502.77	63	457.97
					Silty Sand (to 68 ft bgs), Gneiss (deeply weathered)	PWR	Layer 3	63	457.97	103.4	417.57
					Bottom of borehole			103.4	417.57		
B-102A		2,405,054	1,117,122	504.4	CCR	CCR	Layer 1	0	504.4	60	444.4
B-102B		2,405,057	1,117,126	504.4	CCR	CCR	Layer 1	0	504.4	20.6	483.8
B-103A		2,405,595	1,117,590	505.8	CCR	CCR	Layer 1	0	505.8	60	445.8
B-103B		2,405,594	1,117,596	525.8	CCR	CCR	Layer 1	0	525.8	20	505.8
B-104A		2,405,846	1,117,967	504.2	CCR	CCR	Layer 1	0	504.2	60	444.2
B-104B		2,405,851	1,117,972	504.1	CCR	CCR	Layer 1	0	504.1	20	484.1
AP1R		2406844.490	1118448.308	NA	Gravel	Fill	Layer 1	0		1	
					Sand	SAP	Layer 2	103.4		103.4	
					SAP	SAP	Layer 2	103.4		124.6	
					Auger Refusal	PWR	Layer 3	124.6		124.6	
					Bottom of borehole			124.6			
APA2		2406017.332	1116326.835	NA	Clayey Silt, Sandy Clay	Dike Material	Layer 1	0		18.5	
					Decomposed Rock	SAP	Layer 2	18.5		29.1	
					Bottom of borehole			29.1			
APA3		2406140.776	1116416.122	NA	Decomposed Rock	SAP	Layer 2	18		55	
					Bottom of borehole			55			
APA4		2406349.675	1116541.17	NA	Sandy Clayey Silt, Clay	Dike Material	Layer 1	0		8.5	
					Decomposed Rock	SAP	Layer 2	8.5		45	
					Bottom of borehole			45			
APA5		2405926.811	1116282.42	472.020	Crushed Rock	Dike Material	Layer 1	0		7.2	
					Silty Clay, Sandy Clayey Silt, Sandy Silt	SAP	Layer 2	7.2		24.3	
					Sandy Silt with rock fragments	SAP	Layer 2	24.3		44.3	
					Bottom of borehole			44.3			
AP6		2405851.502	1121166.564	NA	No Data	No Data	No Data	0		11.5	
					Decomposed Rock	SAP	Layer 2	11.5		35	
					Bottom of borehole			38.5		38.5	
AP7		2405853.689	1121165.367	NA	No Data	No Data	No Data	0		11.5	
					Weathered Rock	SAP	Layer 2	11.5		11.5	
					Bottom of borehole			11.5			

Table 2
Monitoring Well and Piezometer Lithology
Groundwater Modeling Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Previously Named	Easting	Northing	Ground Surface Elevation (ft msl)	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
AP-9		2407245.201	1118491.264	411.51	No Data	No Data	No Data	0		13	
					Decomposed Rock	SAP	Layer 2	13		20	
					Top of Weathered Rock	PWR	Layer 3	20		20	
						Bottom of borehole		20			
AP10		2405882.537	1116253.005	470.630	Clay	Dike Material	Layer 1	0		30	
					Weathered Rock	SAP	Layer 2	30		51	
						Bottom of borehole		51			
AP-12		2405793.374	1116223.681	475.140	Clayey Sand, Silty Clay	Dike Material	Layer 1	0		21.5	
					Decomposed Rock	SAP	Layer 2	21.5		43.5	
						Bottom of borehole		43.5			
AP13		2405792.231	1116223.511	475.140	No Data	No Data	No Data	0		19.5	
					Decomposed Rock	SAP	Layer 2	19.5		26	
						Bottom of borehole		26			

RES - Residual Soils

CCR - Coal Combustion Residuals

SAP - Saprolite

PWR - Partially Weathered Rock

FBR - Fractured Bedrock

Layer 1 - CCR/Dike Material inside AP-1 footprint, 1-foot thick layer outside AP-1 footprint

Layer 2 - SAP

Layer 3 - PWR

Layer 4 -FBR

NA - Not Available

ft bgs - feet below ground surface

ft msl - feet above mean sea level

Unit - Refers to the strata used to define vertical layers for numerical groundwater model construction

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
CP-1	Coal	CCR	Layer 1	0	455.73	10.5	445.23
		SAP	Layer 2	10.5	445.23		
		Bottom of Boring		11.4	444.33		
CP-8	Coal	CCR	Layer 1	0	459.73	15.2	444.53
		SAP	Layer 2	15.2	444.53		
		Bottom of Boring		16.4	443.33		
CP-12	Coal	CCR	Layer 1	0	461.03	16.5	444.53
		SAP	Layer 2	16.5	444.53		
		Bottom of Boring		18.5	442.53		
C-102	Sandy Silty Clay, Clayey Sandy Silt	SAP	Layer 2	0	516.3	64.4	451.9
	Auger Refusal, Biotite Gneiss (moderately hard)	PWR	Layer 3	64.4	451.9	114	402.3
	Gneiss (fractured)	FBR	Layer 4	114	402.3		
		Bottom of Boring		139	377.3		
C-103	Clayey Sandy Silt, Sandy Silt	SAP	Layer 2	0	504.9	61	443.9
		PWR	Layer 3	61	443.9	119.4	385.5
	Gneiss (fractured)	FBR	Layer 4	119.4	385.5		
		Bottom of Boring		168.5	336.4		
C-104	Sandy Clayey Silt, Sandy Silt	SAP	Layer 2	0	492.8	89	403.8
		PWR	Layer 3	89	403.8	125.9	366.9
	Gneiss (fractured)	FBR	Layer 4	125.9	366.9		
		Bottom of Boring		149	343.8		
C-105	Sandy Silt, Silty Sand	SAP	Layer 2	0	482.7		
		Bottom of Boring		51	431.7		
C-106	Sandy Silty Clay, Sandy Silt	SAP	Layer 2	0	478.6		
		Bottom of Boring		50	428.6		
C-107	Silty Sand	SAP	Layer 2	0	474.7	23	451.7
		PWR	Layer 3	23	451.7		
		Bottom of Boring		34.1	440.6		
C-108	Sandy Clayey Silt, Sandy Silt, Sand	SAP	Layer 2	0	477.9		
		Bottom of Boring		50	427.9		

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
C-109	Sandy Silt, Silty Sand	SAP	Layer 2	0	484.3	52	432.3
	PWR	PWR	Layer 3	52	432.3		
		Bottom of Boring		58.8	425.5		
C-110	Sandy Clayey Silt, Silty Sand	SAP	Layer 2	0	496.3	55	441.3
	PWR	PWR	Layer 3	55	441.3		
		Bottom of Boring		58.8	437.5		
C-120	Sand, Silty Sand	SAP	Layer 2	0	411	43	368
	PWR	PWR	Layer 3	43	368		
		Bottom of Boring		49.1	361.9		
C-123	Sandy Silty Clay, Clayey Silty Sand, Silty Sand	SAP	Layer 2	0	448.4	52	396.4
	PWR	PWR	Layer 3	52	396.4		
		Bottom of Boring		55.3	393.1		
C-124	Sandy Silty Clay, Sandy Silt, Silty Sand, Sand	SAP	Layer 2	0	454.6	53	401.6
	PWR	PWR	Layer 3	53	401.6		
		Bottom of Boring		60.9	393.7		
C-125	Sandy Silty Clay, Sandy Silt	SAP	Layer 2	0	459.9	61	398.9
	PWR	PWR	Layer 3	61	398.9		
		Bottom of Boring		65.4	394.5		
C-126	Sandy Silty Clay, Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	464.7	52.5	412.2
	PWR	PWR	Layer 3	52.5	412.2		
		Bottom of Boring		60	404.7		
C-127	Sandy Silty Clay, Sandy Silt, Silty Sand	SAP	Layer 2	0	471.6	69.7	401.9
	Auger Refusal	PWR	Layer 3	69.7	401.9		
		Bottom of Boring		69.7	401.9		
C-128	Sandy Silty Clay, Sandy Clayey Silt, Sandy Silt, Sand	SAP	Layer 2	0	477.4	61	416.4
	Auger Refusal	PWR	Layer 3	61	416.4		
		Bottom of Boring		61	416.4		
C-129	Sandy Clayey Silt, Sandy Silt, Silty Sand, Sand	SAP	Layer 2	0	477		
		Bottom of Boring		60	417		

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
C-130	Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	481.7	53	428.7
	Auger Refusal	PWR	Layer 3	53	428.7		
		Bottom of Boring		58	423.7		
C-131	Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	487.7	71	416.7
		PWR	Layer 3	71	416.7		
		Bottom of Boring		78.7	409		
C-132	Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	489.3	72.8	416.5
	Auger Refusal	PWR	Layer 3	72.8	416.5		
		Bottom of Boring		72.8	416.5		
C-133	Sandy Clayey Silt, Sandy Silt	SAP	Layer 2	0	485.5	61	424.5
		PWR	Layer 3	61	424.5		
		Bottom of Boring		64.4	421.1		
C-134	Clayey Silt, Sandy Silt, Sand	SAP	Layer 2	0	483.9	42.5	441.4
		PWR	Layer 3	42.5	441.4		
		Bottom of Boring		50	433.9		
C-135	Sandy Silty Clay, Sandy Silt	SAP	Layer 2	0	486.3	37	449.3
		PWR	Layer 3	37	449.3		
		Bottom of Boring		47	439.3		
C-156	Sandy Silty Clay, Sandy Silt, Silty Sand	SAP	Layer 2	0	519.4	62	457.4
		PWR	Layer 3	62	457.4		
		Bottom of Boring		69.6	449.8		
C-158	Sandy Silty Clay, Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	495.4	73	422.4
		PWR	Layer 3	73	422.4		
		Bottom of Boring		109.7	385.7		
C-159	Sandy Clayey Silt, Silty Sand, Sandy Silt	SAP	Layer 2	0	484.8	73	411.8
		PWR	Layer 3	73	411.8		
		Bottom of Boring		79.6	405.2		
C-160	Sandy Silty Clay, Sandy Silt, Silty Sand	SAP	Layer 2	0	478.8	47	431.8
		PWR	Layer 3	47	431.8		
		Bottom of Boring		64.7	414.1		

Table 3
Borehole Lithology
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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
C-162	Silty Sand, Sandy Silt	SAP	Layer 2	0	471.1	33	438.1
	PWR	PWR	Layer 3	33	438.1		
		Bottom of Boring		49.7	421.4		
C-166	Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	460.6	87	373.6
	PWR	PWR	Layer 3	87	373.6		
		Bottom of Boring		94.5	366.1		
C-167	Clayey Silt, Sandy Silt	SAP	Layer 2	0	451.5	72	379.5
	PWR	PWR	Layer 3	72	379.5		
		Bottom of Boring		89.7	361.8		
C-168	Sandy Silty Clay, Sandy Silt, Silty Sand	SAP	Layer 2	0	465.2	43	422.2
	PWR	PWR	Layer 3	43	422.2		
		Bottom of Boring		54.7	410.5		
C-169	Sandy Silty Clay, Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	473.3	68	405.3
	PWR	PWR	Layer 3	68	405.3		
		Bottom of Boring		74.7	398.6		
C-171	Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	477.8	71	406.8
	PWR	PWR	Layer 3	71	406.8		
		Bottom of Boring		84.6	393.2		
C-172	Sandy Silt, Silty Sand	SAP	Layer 2	0	489.8	58	431.8
	PWR	PWR	Layer 3	58	431.8		
		Bottom of Boring		64.6	425.2		
C-173	Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	485.1	62.5	422.6
	PWR	PWR	Layer 3	62.5	422.6		
		Bottom of Boring		74.6	410.5		
C-174	Sandy Silty Clay, Sandy Clayey Silt, Sandy Silt, Silty Sand	SAP	Layer 2	0	448.1	56	392.1
	PWR	PWR	Layer 3	56	392.1		
		Bottom of Boring		59.7	388.4		
C-175	Sandy Clayey Silt, Sandy Silt, Silty Sand, Sand	SAP	Layer 2	0	452.7	67	385.7
	PWR	PWR	Layer 3	67	385.7		
		Bottom of Boring		69.6	383.1		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
C-176	Sandy Silt, Silty Sand	SAP	Layer 2	0	423	42.5	380.5
	PWR	PWR	Layer 3	42.5	380.5		
		Bottom of Boring		59.6	363.4		
C-177	Sandy Silt, Silty Sand	SAP	Layer 2	0	433.8	62	371.8
	PWR	PWR	Layer 3	62	371.8		
		Bottom of Boring		89	344.8		
C-178	Alluvium, Silty Sand	SAP	Layer 2	0	408.9	22	386.9
	PWR	PWR	Layer 3	22	386.9		
		Bottom of Boring		24.6	384.3		
C-179	Sandy Silty Clay, Sand with Gravel, Sandy Silt, Silty Sand	SAP	Layer 2	0	405.1	33.5	371.6
	PWR	PWR	Layer 3	33.5	371.6		
		Bottom of Boring		50	355.1		
SGYP-1	Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	479.43	15	464.43
	SAP	SAP	Layer 2	15	464.43	35	444.43
	SAP (hard)	PWR	Layer 3	28.5	450.93	35	444.43
	Gneiss (slightly weathered, fractured)	FBR	Layer 4	35	444.43		
		Bottom of Boring		49.4	430.03		
SGYP-2	Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	449.5	15	434.5
	SAP	SAP	Layer 2	15	434.5	53	396.5
	Auger Refusal	PWR	Layer 3	53	396.5		
		Bottom of Boring		53	396.5		
SGYP-3	Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	460.4	5	455.4
	SAP	SAP	Layer 2	5	455.4	43.5	416.9
	SAP (hard)	PWR	Layer 3	43.5	416.9		
		Bottom of Boring		65	395.4		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGYP-4	Clayey Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	384.5	8	376.5
	SAP	SAP	Layer 2	8	376.5	23.5	361
	SAP (very dense)	PWR	Layer 3	23.5	361		
		Bottom of Boring		34	350.5		
SGYP-5	Sand, Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	474.9	33	441.9
	SAP	SAP	Layer 2	33	441.9	53.5	421.4
	Auger Refusal	PWR	Layer 3	53.5	421.4		
		Bottom of Boring		53.5	421.4		
SGYP-6	SAP	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	4	452.4	25	431.4
	Gneiss (weathered)	PWR	Layer 3	25	431.4	37	419.4
	Gneiss (fractured)	FBR	Layer 4	37	419.4		
		Bottom of Boring		40.3	416.1		
SGYP-7	Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	447.71	24	423.71
	SAP	SAP	Layer 2	24	423.71	33.5	414.21
	SAP (hard)	PWR	Layer 3	33.5	414.21		
		Bottom of Boring		49	398.71		
SGYP-9	Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	396.6	11	385.6
	SAP	SAP	Layer 2	11	385.6	36.5	360.1
	SAP (hard)	PWR	Layer 3	33.5	363.1		
		Bottom of Boring		36.5	360.1		
SGYP-10	Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	424.9	25	399.9
	SAP	SAP	Layer 2	25	399.9	53.5	371.4
	SAP (hard)	PWR	Layer 3	53.5	371.4		
		Bottom of Boring		64	360.9		
SGYP-12	Sandy Lean Clay, Silt, Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	437.7	33.5	404.2
	SAP	SAP	Layer 2	33.5	404.2		
		Bottom of Boring		45	392.7		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGYP-14	Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	396.6	28.5	368.1
	SAP	PWR	Layer 3	28.5	368.1		
		Bottom of Boring		40	356.6		
SGYP-15	Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	430.3	40.5	389.8
	Silty Sand	SAP	Layer 2	40.5	389.8	48.5	381.8
	SAP (hard)	PWR	Layer 3	48.5	381.8		430.3
		Bottom of Boring		58.5	371.8		430.3
SGYP-19	Sandy Silt, Clay, Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	446.8	38.5	408.3
	SAP	SAP	Layer 2	38.5	408.3	57.5	389.3
	Gneiss	PWR	Layer 3	57.5	389.3	68	378.8
	Gneiss	FBR	Layer 4	68	378.8		
		Bottom of Boring		70.1	376.7		
SGYP-20	Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	449.8	28.5	421.3
	SAP	SAP	Layer 2	28.5	421.3	48.5	401.3
	Saprolite (hard)	PWR	Layer 3	48.5	401.3	52	397.8
	Gneiss, Amphibolite	FBR	Layer 4	52	397.8		
		Bottom of Boring		64	385.8		
SGYP-21	Sandy Silty Clay, Silty Sand, Sandy Clay, Silt, Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	470.2	33.5	436.7
	SAP	SAP	Layer 2	33.5	436.7		
		Bottom of Boring		60	410.2		
SGYP-22	Sandy Clay, Sandy Silt, Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	440.7	28.5	412.2
	SAP	SAP	Layer 2	28.5	412.2		
		Bottom of Boring		40	400.7		
SGYP-23	Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	435	25.5	409.5
	SAP	SAP	Layer 2	25.5	409.5	38.5	396.5
	SAP (hard)	PWR	Layer 3	38.5	396.5		
		Bottom of Boring		47.5	387.5		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGYP-24	Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	459.7	43.5	416.2
	SAP	SAP	Layer 2	43.5	416.2	73.5	386.2
	SAP (hard)	PWR	Layer 3	73.5	386.2		
		Bottom of Boring		74	385.7		
SGYP-25	Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	371.2	18.5	352.7
	Saprolite (hard)	PWR	Layer 3	18.5	352.7		
		Bottom of Boring		30	341.2		
SGYP-26	Clayey Silt, Silty Sand, Sand, Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	454.7	38.5	416.2
	SAP	SAP	Layer 2	38.5	416.2	58.5	396.2
	Highly Weathered Rock	PWR	Layer 3	58.5	396.2	71.3	383.4
	Top of Rock	FBR	Layer 4	71.3	383.4		
		Bottom of Boring		71.3	383.4		
SGYP-28	Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	430	38.5	391.5
	SAP	SAP	Layer 2	38.5	391.5	48.5	381.5
	SAP (hard)	PWR	Layer 3	48.5	381.5		
		Bottom of Boring		68.5	361.5		
SGYP-29	Clayey Silt, Silty Clay, Sandy Silt, Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	454.4	28.5	425.9
	SAP	SAP	Layer 2	28.5	425.9	38.5	415.9
	Highly Weathered Rock	PWR	Layer 3	38.5	415.9		
		Bottom of Boring		40	414.4		
SGYP-30	Clay, Sandy Clay, Clayey Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	468.8	53.5	415.3
	SAP	SAP	Layer 2	53.5	415.3	63.5	405.3
	SAP (hard)	PWR	Layer 3	63.5	405.3		
		Bottom of Boring		65	403.8		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SGYP-31	Clayey Silt, Sandy Silt, Silty Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	462.9	53.5	409.4
	SAP	SAP	Layer 2	53.5	409.4	58.5	404.4
	SAP (hard)	PWR	Layer 3	58.5	404.4		
		Bottom of Boring		65.3	397.6		
SGYP-32	Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	444.8	48.5	396.3
	SAP	SAP	Layer 2	48.5	396.3		
		Bottom of Boring		68	376.8		
SGYP-33	Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	411.9	28.5	383.4
	SAP	SAP	Layer 2	28.5	383.4		
		Bottom of Boring		59.2	352.7		
SGYP-34	Clayey Silt, Sandy Silt	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	441.8	38.5	403.3
	SAP	SAP	Layer 2	38.5	403.3	48.5	393.3
	SAP (hard)	PWR	Layer 3	48.5	393.3		
		Bottom of Boring		63.5	378.3		
B-100	Roadway Fill and Embankment Fill	Dike Material	Layer 1	0	459.7	51	408.7
	Residuuum - Silty Sand, Silt	SAP	Layer 2	51	408.7	63.5	396.2
	SAP	SAP	Layer 2	63.5	396.2	84.5	375.2
	PWR	PWR	Layer 3	84.5	375.2		
		Bottom of Boring		100.2	359.5		
B-101	Roadway Fill and Embankment Fill	Dike Material	Layer 1	0	411.4	5	406.4
	Alluvium	SAP	Layer 2	5	406.4	15	396.4
	SAP	SAP	Layer 2	15	396.4	41.1	370.3
	Auger Refusal	PWR	Layer 3	41.1	370.3		
		Bottom of Boring		41.1	370.3		
B-102	CCR	CCR	Layer 1	0	504.4	68.5	435.9
	SAP	SAP	Layer 2	68.5	435.9	83.5	420.9
	PWR	PWR	Layer 3	83.5	420.9		
		Bottom of Boring		85	419.4		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
B-103	CCR	CCR	Layer 1	0	505.3	82	423.3
	Alluvium	SAP	Layer 2	82	423.3	88.9	416.4
	SAP	SAP	Layer 2	88.9	416.4	95	410.3
	Auger Refusal	PWR	Layer 3	95	410.3		
		Bottom of Boring		95	410.3		
B-104	CCR	CCR	Layer 1	0	504.4	83.5	420.9
	ALL	SAP	Layer 2	83.5	420.9	93	411.4
	PWR	PWR	Layer 3	93	411.4		
		Bottom of Boring		93.9	410.5		
B-105	Water	WATER		0	495.0	49.5	445.5
	CCR	CCR	Layer 1	49.5	445.5	51	444.0
	Residuum - Clay, Silt	SAP	Layer 2	51	444.0	67.5	427.5
	SAP	SAP	Layer 2	67.5	427.5		
		Bottom of Boring		85	410.0		
B-105A	Water	WATER		0	495.0	52.4	442.6
	Residuum - Silty Sand	SAP	Layer 2	52.4	442.6	67.5	427.5
	SAP	SAP	Layer 2	67.5	427.5	87	408.0
	Auger Refusal	PWR	Layer 3	87	408.0		
		Bottom of Boring		87	408.0		
B-106	Water	WATER		0	495.0	29.5	465.5
	CCR	CCR	Layer 1	29.5	465.5	30.5	464.5
	Alluvium	SAP	Layer 2	30.5	464.5	32.5	462.5
	Residuum - Silty Sand	SAP	Layer 2	32.5	462.5	35.5	459.5
	SAP	SAP	Layer 2	35.5	459.5	42.5	452.5
	Auger Refusal	PWR	Layer 3	42.5	452.5		
		Bottom of Boring		42.5	452.5		

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
B-107	Water	WATER		0	495.0	20.5	474.5
	CCR	CCR	Layer 1	20.5	474.5	21	474.0
	Topsoil	SAP	Layer 2	21	474.0	22.5	472.5
	Residuum - Clay	SAP	Layer 2	22.5	472.5	30	465.0
	PWR	PWR	Layer 3	30	465.0		
		Bottom of Boring			30.25	464.8	
B-108	Water	WATER		0	495.0	46.8	448.2
	CCR	CCR	Layer 1	46.8	448.2	47.5	447.5
	Topsoil	SAP	Layer 2	47.5	447.5	49	446.0
	Alluvium	SAP	Layer 2	49	446.0	52	443.0
	Residuum - Clay	SAP	Layer 2	52	443.0	58	437.0
	SAP	SAP	Layer 2	58	437.0	85	410.0
	PWR	PWR	Layer 3	85	410.0		
	Bottom of Boring			91	404.0		
B-109	Water	WATER		0	495.0	31	464.0
	CCR	CCR	Layer 1	31	464.0	31.8	463.2
	Alluvium	SAP	Layer 2	31.8	463.2	36	459.0
	Residuum - Sandy Clay	SAP	Layer 2	36	459.0	40.3	454.7
	PWR	PWR	Layer 3	40.3	454.7		
		Bottom of Boring			43.5	451.5	
B-110	Water	WATER		0	495.0	47.8	447.2
	CCR	CCR	Layer 1	47.8	447.2	48.3	446.7
	Topsoil	SAP	Layer 2	48.3	446.7	50.3	444.7
	Residuum - Silt	SAP	Layer 2	50.3	444.7	68.5	426.5
	SAP	SAP	Layer 2	68.5	426.5	78.5	416.5
	PWR	PWR	Layer 3	78.5	416.5		
		Bottom of Boring			87	408.0	

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B-111	Water	WATER		0	495.0	58.4	436.6
	CCR	CCR	Layer 1	58.4	436.6	60	435.0
	Residuum - Sandy Clay	SAP	Layer 2	60	435.0	63	432.0
	SAP	SAP	Layer 2	63	432.0	73	422.0
	PWR	PWR	Layer 3	73	422.0		
		Bottom of Boring			91.5	403.5	
B-112	Water	WATER		0	495.0	42	453.0
	CCR	CCR	Layer 1	42	453.0	43	452.0
	Residuum - Clay, Silty Sand	SAP	Layer 2	43	452.0	48.3	446.7
	Alluvium	SAP	Layer 2	48.3	446.7	54	441.0
	SAP	SAP	Layer 2	54	441.0	81	414.0
	PWR	PWR	Layer 3	81	414.0		
	Bottom of Boring			82.2	412.8		
B-113	Water	WATER		0	495.0	12	483.0
	CCR	CCR	Layer 1	12	483.0	13	482.0
	Residuum - Silt, Silty Sand	SAP	Layer 2	13	482.0	26	469.0
	SAP	SAP	Layer 2	26	469.0	32	463.0
	PWR	PWR	Layer 3	32	463.0		
		Bottom of Boring			40.67	454.3	
B-114	Water	WATER		0	495.0	28.5	466.5
	CCR	CCR	Layer 1	28.5	466.5	29	466.0
	Topsoil	SAP	Layer 2	29	466.0	30	465.0
	Residuum - Clay, Silty Sand	SAP	Layer 2	30	465.0	46	449.0
	PWR	PWR	Layer 3	46	449.0		
		Bottom of Boring			49.5	445.5	

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Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SPT-01	Coal Combustion Byproduct (Ash)	CCR	Layer 1	0	505.31	73	432.31
	SAP	SAP	Layer 2	73	432.31	104	401.31
	Gneiss (moderately to highly weathered)	PWR	Layer 3	104	401.31	113	392.31
	Gneiss (not to moderately weathered, moderately to intensely fractured)	FBR	Layer 4	113	392.31		
		Bottom of Boring			140	365.31	
SPT-02	Coal Combustion Byproduct (Ash)	CCR	Layer 1	0	509.49	3	506.49
	Coal Combustion Byproduct (Gypsum)	CCR	Layer 1	3	506.49	28	481.49
	Coal Combustion Byproduct (Ash)	CCR	Layer 1	28	481.49	73	436.49
	Alluvium	SAP	Layer 2	73	436.49	78	431.49
	SAP	SAP	Layer 2	78	431.49	88.5	420.99
	Gneiss (moderately to highly weathered), PWR	PWR	Layer 3	88.5	420.99	92.5	416.99
	Gneiss (not to slightly weathered, slightly to moderately fractured)	FBR	Layer 4	92.5	416.99		
		Bottom of Boring			114.8	394.69	
SPT-03	Coal Combustion Byproduct (Gypsum)	CCR	Layer 1	0	499.93	17	482.93
	Coal Combustion Byproduct (Ash)	CCR	Layer 1	17	482.93	68	431.93
	SAP	SAP	Layer 2	68	431.93	79.5	420.43
	Gneiss (moderately to completely weathered), PWR	PWR	Layer 3	79.5	420.43	117	382.93
	Gneiss (moderately weathered, slightly to intensely fractured)	FBR	Layer 4	117	382.93		
		Bottom of Boring			146.5	353.43	
SPT-04	Lean Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	540.7	8	532.7
	Sandy Silt	SAP	Layer 2	8	532.7	18	522.7
	SAP	SAP	Layer 2	18	522.7	36	504.7
	Gneiss (not to slightly weathered, unfractured to moderately fractured)	FBR	Layer 4	36	504.7		
		Bottom of Boring			53.9	486.8	

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SPT-05	Silty Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	543.43	33	510.43
	Lean Clay	SAP	Layer 2	33	510.43	43	500.43
	Elastic Silt	SAP	Layer 2	43	500.43	48	495.43
	Sandy Silt	SAP	Layer 2	48	495.43	63	480.43
	Highly Weathered Rock	PWR	Layer 3	63	480.43	125	418.43
	Not to Moderately Weathered Rock (slightly to moderately fractured)	FBR	Layer 4	125	418.43		
		Bottom of Boring			132.9	410.53	
SPT-06	Silty Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	540.02	3	537.02
	Sandy Silt	SAP	Layer 2	3	537.02	5.5	534.52
	Silty Sand	SAP	Layer 2	5.5	534.52	14	526.02
	Granitic Gneiss (slightly to highly weathered)	PWR	Layer 3	14	526.02	36	504.02
	Granitic Gneiss (not to slightly weathered, moderately fractured)	FBR	Layer 4	36	504.02		
		Bottom of Boring			43.3	496.72	
SPT-07	Sandy Lean Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	554.51	28	526.51
	Clayey Sand	SAP	Layer 2	28	526.51	33	521.51
	Elastic Silt	SAP	Layer 2	33	521.51	58	496.51
	Sandy Elastic Silt	SAP	Layer 2	58	496.51	65.5	489.01
	Gneiss (moderately to highly weathered)	PWR	Layer 3	65.5	489.01	96.5	458.01
	Granitic Gneiss (slightly to moderately weathered, moderately to intensely fractured)	FBR	Layer 4	96.5	458.01		
		Bottom of Boring			170.1	384.41	

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SPT-08	Fat Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	493.11	3	490.11
	Lean Clay	SAP	Layer 2	3	490.11	13	480.11
	Silt	SAP	Layer 2	13	480.11	18	475.11
	Silty Sand	SAP	Layer 2	18	475.11	23	470.11
	Sandy Lean Clay	SAP	Layer 2	23	470.11	33	460.11
	Silt	SAP	Layer 2	33	460.11	38	455.11
	Clayey Sand	SAP	Layer 2	38	455.11	43	450.11
	SAP	SAP	Layer 2	43	450.11	83	410.11
	PWR	PWR	Layer 3	83	410.11	106.5	386.61
	Gneiss (not to moderately weathered, moderately to intensely fractured)	FBR	Layer 4	106.5	386.61		
	Bottom of Boring			144.2	348.91		
SPT-09	Silty Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	505.06	5.5	499.56
	Well-graded Sand with Silt	SAP	Layer 2	5.5	499.56	38	467.06
	Gneiss (not to highly weathered)	PWR	Layer 3	38	467.06	56.5	448.56
	Gneiss (not to slightly weathered, moderately fractured)	FBR	Layer 4	56.5	448.56		
		Bottom of Boring			58.9	446.16	
SPT-10	Residuum - Lean Clay, Silty Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	547.31	18	529.31
	Silt	SAP	Layer 2	18	529.31	23	524.31
	Elastic Silt	SAP	Layer 2	23	524.31	27	520.31
	Silt	SAP	Layer 2	27	520.31	48	499.31
	Silty Sand	SAP	Layer 2	48	499.31	56	491.31
	Gneiss (not to highly weathered)	PWR	Layer 3	56	491.31	67	480.31
	Gneiss (not to slightly weathered, slightly fractured)	FBR	Layer 4	67	480.31		
		Bottom of Boring			74.7	472.61	

Table 3
Borehole Lithology
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Boring ID	Lithologic Description from Boring Log	AECOM Classification	Model Layer	Depth to Top of Unit (ft bgs)	Top of Unit Elevation (ft msl)	Depth to Bottom of Unit (ft bgs)	Bottom of Unit Elevation (ft msl)
SPT-11	Clayey Sand	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	526.69	3	523.69
	Well-graded Sand with Silt	SAP	Layer 2	3	523.69	28	498.69
	PWR, Granitic Gneiss (moderately to highly weathered)	PWR	Layer 3	28	498.69	45.5	481.19
	Granitic Gneiss (not to slightly weathered, slightly to moderately fractured)	FBR	Layer 4	45.5	481.19		
		Bottom of Boring		54.6	472.09		
SPT-12	Lean Clay	RES/SAP	Layer 1: 1 ft Thick Layer 2: Remaining Thickness	0	511.51	13	498.51
	Sandy Silt	SAP	Layer 2	13	498.51	23	488.51
	Sandy Elastic Silt	SAP	Layer 2	23	488.51	28	483.51
	Sandy Silt	SAP	Layer 2	28	483.51	38	473.51
	SAP	SAP	Layer 2	38	473.51	52	459.51
	PWR, Gneiss (slightly to highly weathered)	PWR	Layer 3	52	459.51	66	445.51
	Gneiss (not weathered, slightly to moderately fractured)	FBR	Layer 4	66	445.51		
		Bottom of Boring		69.3	442.21		
S-1	Clayey Silt, Sandy Silt	RES	Layer 1	0		66	
S-2	Clayey Silt, Sandy Silt	RES	Layer 1	0		126	
S-3	Clayey Silt, Sandy Silt	RES	Layer 1	0		101	

RES - Residual Soils (includes Alluvium)
CCR - Coal Combustion Residuals
SAP - Saprolite
PWR - Partially Weathered Rock
FBR - Fractured Bedrock
BH - Borehole
Layer 1 - CCR/Dike Material
Layer 2 - SAP
Layer 3 - PWR
Layer 4 - FBR
NA - Not Available
ft bgs - feet below ground surface
ft msl - feet above mean sea level
Unit - Refers to the strata used to define vertical layers for numerical groundwater model construction

Table 4
Hydraulic Conductivity Data
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Geologic Unit Tested	Screen (ft bgs)		Lithology ¹ and Depth of Sample	Test 1 (ft/day)	Test 2 (ft/day)	Source (Slug, Aquifer, Lab)	Kh or Kv	Comments
SGWA-1	SAP			SAP Silt (30'-32')	1.58E-01	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
SGWA-2	PWR	85.4	95.4		0.3817	0.3243	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGWA-3	SAP	40	50		0.0632	0.0354	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWA-4	SAP	50.5	60.5		0.0899	0.0833	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWA-5	SAP	20.2	30.2		0.3232	0.4309	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-6	SAP	15	25		0.0986	0.0961	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-7	PWR	25	35		0.5953	1.9814	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-8	PWR/FBR	30	40		0.5159	3.9402	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-9	SAP	25	35		0.4847	0.3515	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-10	SAP	20	30		0.2035	0.0079	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-11	SAP	30	40		0.1468	0.1809	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-12	SAP	37	47		0.1678	0.1029	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-13	SAP	25	35		0.4167	0.3345	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-14	SAP			SAP Silty Sand (13'-15')	0.0033	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP			SAP Silty Sand (28'-30')	0.0706	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP	24.8	34.8		32	28.75	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	24.8	34.8		9.0920	7.76	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGWC-15	SAP			SAP Silt (35'-37')	1.162	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP	34.8	44.8		17.75	17.75	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	34.8	44.8		3.76	7.65	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGWC-16	SAP	28.8	38.8		9.751	8.45	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	28.8	38.8		2.60	2.67	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGWC-17	SAP	14.1	24.1		4.71	2.649	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
SGWC-18	SAP	34.1	44.1		4.362	4.932	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
SGWC-19	SAP			SAP Clay (25'-27')	7.11E-05	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP			SAP Sand (25'-27')	3.00E-01	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP	24.2	34.2		1.98	2.116	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
SGWC-20	SAP	15	25		0.3883	6.18E-02	Golder monitoring well installation report (3/28/16)	Kh	Field Slug Test, specifies that it is Kh in report
SGWC-21	SAP	14.5	15.5		6.131	-	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
SGWC-22	SAP	36.5	46.5		1.876	1.015	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method

Table 4
Hydraulic Conductivity Data
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Geologic Unit Tested	Screen (ft bgs)		Lithology ¹ and Depth of Sample	Test 1 (ft/day)	Test 2 (ft/day)	Source (Slug, Aquifer, Lab)	Kh or Kv	Comments
SGWC-23	SAP			SAP Silty Sand (30'-32')	0.4677	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	PWR	39.3	49.3		11.87	12.22	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	PWR	39.3	49.3		9.901	9.70	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGWC-24	SAP			SAP Silty Sand (25'-27')	0.0706	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
SGWA-25	SAP			SAP Sandy Silt (35'-37')	0.2424	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP	34.6	44.6		7.503	6.759	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	34.6	44.6		2.263	1.93	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-2I	SAP			SAP Silty Sand (25'-27')	2.44E-05	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP			SAP Silty Sand (38'-40')	0.1902	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	FBR	73.9	83.9		0.6279	0.4423	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-5I	FBR	36.6	46.6		60.64	60.64	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	FBR	36.6	46.6		2.58	1.01	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-6S	SAP			SAP Silty Sand (25'-26.5')	0.3657	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP	44.4	54.4		0.3391	0.1341	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-9I	PWR	69.8	79.8		1.345	1.325	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-10S	SAP	24.5	34.5		12.37	9.121	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-11S	PWR	35.5	45.5		5.343	4.148	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-12S	SAP	34	44		14.77	14.33	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP				11.25	7.45	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-13S	SAP	34.9	44.9		7.48	7.866	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	34.9	44.9		5.86	3.82	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-14S	SAP	34.5	44.5		39.38	47.38	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	SAP	34.5	44.5		15.53	18.34	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-14I	SAP			SAP Silty Sand (25'-27')	2.35E-04	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	PWR	84.8	94.8		2.366	2.864	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-15S	SAP	29.7	39.7		12.37	9.121	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-17I	FBR	86.7	96.7		2.532	-	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	FBR				0.4486	0.4143	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-19I/S	RES			RES Clay (10'-12')	0.0323	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP			SAP Silty Sand (20'-22')	2.68E-03	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
PZ-19S	SAP	14.6	24.6		2.052	1.591	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method

Table 4
Hydraulic Conductivity Data
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Geologic Unit Tested	Screen (ft bgs)		Lithology ¹ and Depth of Sample	Test 1 (ft/day)	Test 2 (ft/day)	Source (Slug, Aquifer, Lab)	Kh or Kv	Comments
PZ-19I	FBR	61.5	71.5		25.47	28.56	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
	FBR	61.5	71.5		7.36	6.72	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-20I/S	RES			RES Clay (5'-7')	3.03E-03	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
	SAP			SAP Silty Sand (20'-22')	8.42E-06	-	6/5/2015 Lab tests - Cardno ATC	Kv	2015 Lab test , assumed KV due to nature of data collection method
PZ-20I	PWR	69.2	79.2		1.552	0.6878	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-21S	SAP	13	23		1.907	1.394	AQTESOLV files from SCS	Kh	Field Slug Tests conducted 5/26/2015-6/16/2015, assumed Kh due to nature of data collection method
PZ-28I	FBR	59	69		1.628	0.9429	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-32D	FBR	96	126		0.0418	0.006408	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-33I	PWR	66	76		0.6067	0.5697	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
PZ-38	PWR	64	74		0.9437	0.7829	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
SGYP1	FBR				1.3	1.33	Provided in summary table from SCS		
SGYP20	FBR				1.39	4.82	Provided in summary table from SCS		
SGYP3	SAP				0.77	0.91	Provided in summary table from SCS		
SGYP9	SAP				1.45	1.88	Provided in summary table from SCS		
SGYP14	SAP				0.34	0.82	Provided in summary table from SCS		
SGYP29	SAP				6.52	4.25	Provided in summary table from SCS		
SGYP32	SAP				0.82	0.77	Provided in summary table from SCS		
GWA-15	SAP	16.19	26.19		2.604	1.939	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWA-45	SAP	23	33		0.6841	0.6386	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWA-49	SAP	27.5	37.5		0.7649	0.6632	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-2	SAP	44.78	54.78		0.3664	0.2554	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-6	PWR	34.86	44.86		2.561	2.091	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-8	PWR	40.18	50.18		0.4249	0.1333	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-9	SAP	6.79	16.79		0.7177	0.7361	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-18	SAP	46.81	56.81		0.6615	0.6076	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-29	SAP	14	24		2.649	2.476	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
GWC-52	SAP	20	30		2.039	2.082	2017 AECOM Requested Additional Slug Testing	Kh	Field Slug Tests conducted 2017, assumed Kh due to nature of data collection method
LPZ-03	RES			RES Clayey Silt (4'-6')	1.11E-02	-	3/16/2016 Golder Piezometer installation report	Kv	2015 Lab test , assumed KV due to nature of data collection method
LPZ-04	RES			RES Clayey Sand (10'-12')	1.28E-04	-	3/16/2016 Golder Piezometer installation report	Kv	2015 Lab test , assumed KV due to nature of data collection method

RES - Residium
SAP - Saprolite
PWR - Partially Weathered Rock
FBR - Fractured Bedrock
¹Lithology determined from boring logs

Table 5
Potentiometric Surface Elevation Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well or Piezometer ID	Easting	Northing	Screened in Unit	Potentiometric Surface Elevation (ft msl)													
				5/9/2016	6/13/2016	8/8/2016	11/28/2016	12/15/2016	2/6/2017	4/4/2017	6/19/2017	10/3/2017	3/19/2018	6/4/2018	10/1/2018	3/25/2019	9/9/2019
SGWA-1	2399899.287	1119232.658	SAP/PWR	512.16	510.85	508.14	504.30	506.360	506.52	507.33	506.31	503.43	502.31	505.46	504.93	510.50	505.53
SGWA-2	2399907.288	1119237.111	PWR	512.63	510.98	508.00	504.08	550.700	507.39	508.02	506.61	503.48	503.31	506.67	505.05	511.27	505.45
SGWA-3	2399295.720	1120224.560	SAP	515.96	514.97	512.92	509.93	511.410	512.90	512.40	511.21	509.26	509.15	512.16	509.28	514.05	510.16
SGWA-4	2401124.350	1121478.042	SAP	500.08	500.67	500.63	499.11	497.810	498.22	497.81	499.57	496.76	495.76	495.26	495.12	496.19	497.39
SGWA-5	2397426.720	1118087.173	SAP	493.56	493.24	492.01	489.71	489.120	490.85	490.99	490.68	489.23	488.39	489.97	489.22	493.19	491.19
SGWC-6	2401979.450	1122168.292	SAP	497.34	497.01	495.95	494.65	495.610	495.33	495.64	495.47	494.65	495.12	495.33	494.05	496.17	494.41
SGWC-7	2402259.670	1122669.570	PWR	493.46	493.38	492.60	491.30	491.930	491.60	491.84	491.91	491.18	491.38	491.64	490.80	492.23	491.20
SGWC-8	240.2979.66	1122866.662	PWR	493.67	493.49	492.51	491.23	491.890	491.82	492.05	491.86	491.05	491.42	491.41	490.63	492.48	490.98
SGWC-9	2403455.820	1122635.284	SAP	491.13	490.74	489.93	488.94	489.670	490.07	490.14	489.77	489.13	489.43	489.82	488.77	490.73	488.92
SGWC-10	2404047.170	1121896.649	SAP	494.6	493.96	492.92	492.02	493.600	492.81	492.81	492.27	491.58	492.35	492.16	490.32	493.86	490.29
SGWC-11	2404332.790	1121542.388	SAP	494.05	493.25	492.19	491.47	493.170	493.65	493.44	492.76	492.08	492.93	492.86	490.55	493.37	490.52
SGWC-12	2405009.680	1121576.067	SAP	486.85	486.25	485.09	484.18	485.750	486.12	485.89	485.33	485.67	485.39	485.73	483.82	486.23	482.54
SGWC-13	2405760.640	1121274.076	SAP	478.57	478.42	478.17	478.21	478.750	478.79	478.67	478.31	478.30	478.58	478.47	477.82	478.48	477.17
SGWC-14	2406329.205	1120965.721	SAP	465.81	465.62	465.34	465.49	466.120	466.08	465.97	465.54	465.60	460.08	466.02	465.58	466.13	464.99
SGWC-15	2407092.841	1120191.238	SAP	455.78	454.73	453.44	452.64	454.430	455.61	455.65	454.70	453.64	454.45	454.93	452.86	455.57	452.49
SGWC-16	2407154.726	1119221.306	SAP	436.65	435.34	434.19	433.61	435.520	437.75	436.53	435.08	434.41	435.47	437.20	434.08	436.48	433.43
SGWC-17	2407266.725	1118309.038	SAP	417.44	417.34	417.31	417.38	417.580	417.56	417.54	417.46	417.96	417.37	417.16	417.96	416.76	416.86
SGWC-18	2406930.957	1116946.848	SAP	480.8	479.88	477.91	475.89	480.480	478.65	477.77	476.68	476.81	476.65	477.39	478.82	480.58	477.16
SGWC-19	2406096.077	1116024.669	SAP	463.29	462.49	461.85	461.46	463.150	463.47	462.92	462.47	462.65	462.96	463.73	462.29	463.11	462.18
SGWC-20	2405307.580	1116020.766	SAP	491.66	490.92	490.65	489.55	491.810	492.01	491.09	490.76	490.44	490.71	492.43	490.49	491.11	489.56
SGWC-21	2404197.376	1115410.841	SAP	487.04	486.49	486.04	485.61	487.080	486.85	486.61	486.17	485.79	486.49	486.97	487.14	486.64	485.42
SGWC-22	2403002.383	1115540.735	SAP	493.15	492.18	491.15	490.18	491.870	492.82	492.47	492.25	491.23	492.27	493.35	491.71	494.08	491.48
SGWC-23	2402131.918	1116694.349	PWR	492.28	493.06	491.26	490.02	491.870	491.27	491.91	492.06	491.86	492.19	493.25	493.02	495.70	493.14
SGWA-24	2400742.979	1118125.665	SAP	490.24	489.47	488.54	487.44	489.220	490.05	489.46	488.61	487.66	488.96	490.17	488.18	490.05	487.67
SGWA-25	2400856.491	1120556.049	SAP	501.02	499.85	497.74	495.19	506.700	497.91	498.16	497.14	495.44	496.84	497.67	495.36	499.71	495.56
PZ-2I	2402991.209	1115545.515	FBR	492.45	491.55	490.59	489.65	491.290	492.25	491.88	491.86	490.70	491.72	492.80	491.14	493.45	490.98
PZ-3S	2402532.892	1116085.690	SAP	490.31	489.85	488.88	487.87	NM	489.75	489.78	489.89	489.30	489.95	490.84	489.81	491.81	489.47
PZ-5I	2401817.710	1117484.293	FBR	485.7	484.79	483.21	481.66	483.240	484.42	484.44	483.93	482.95	483.97	484.68	482.88	485.92	483.03
PZ-6S	2401936.713	1117910.804	SAP	496.98	496.91	496.06	494.82	495.260	494.94	495.39	495.38	494.75	494.72	494.97	494.44	496.03	494.79
PZ-9I	2400862.201	1120563.315	PWR	502.61	501.59	499.55	496.90	498.930	498.96	499.33	498.35	496.74	497.67	498.46	496.64	500.91	497.19
PZ-10S	2401768.261	1122338.553	SAP	495.48	494.86	493.52	491.95	493.570	493.38	493.79	493.35	492.25	492.74	493.19	491.80	494.31	492.13
PZ-11S	2402767.326	1123169.252	PWR	492.9	492.66	491.63	490.04	490.710	490.45	490.70	490.51	489.80	489.99	490.25	489.60	491.34	490.03
PZ-12S	2403619.041	1122685.579	SAP	490.31	489.97	489.09	488.07	488.370	488.93	489.14	488.82	488.12	488.45	488.79	487.91	489.81	488.17
PZ-13S	2404228.126	1121956.578	SAP	492.81	491.95	490.44	489.03	491.100	491.16	491.51	490.83	489.70	490.86	491.17	488.91	491.88	488.82
PZ-14S	2404820.413	1121852.656	SAP	490.74	489.75	488.21	486.82	488.880	489.43	489.26	488.42	487.24	488.31	489.40	486.46	489.59	486.26
PZ-14I	2404822.284	1121865.436	PWR	490.81	489.83	488.27	486.87	488.920	NM	489.30	488.46	487.27	488.33	489.37	486.49	489.75	486.30
PZ-15S	2405559.339	1121486.185	SAP	480.75	480.60	480.32	480.23	480.870	NM	NM	488.52	480.34	480.56	480.61	479.65	481.16	479.32

**Table 5
Potentiometric Surface Elevation Summary
Groundwater Model Summary Report - AP-1
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Monroe County, Georgia**

Well or Piezometer ID	Easting	Northing	Screened in Unit	Potentiometric Surface Elevation (ft msl)													
				5/9/2016	6/13/2016	8/8/2016	11/28/2016	12/15/2016	2/6/2017	4/4/2017	6/19/2017	10/3/2017	3/19/2018	6/4/2018	10/1/2018	3/25/2019	9/9/2019
PZ-17I	2407106.304	1120190.514	FBR	455.82	454.77	453.48	452.72	454.440	455.77	455.74	454.71	453.58	454.53	455.02	453.08	455.78	452.45
PZ-19S	2407241.350	1118587.897	SAP	414.05	413.42	412.48	412.23	413.430	414.00	413.87	413.12	412.92	413.71	414.19	412.80	413.86	411.96
PZ-19I	2407251.482	1118589.332	FBR	414.58	413.82	412.71	412.44	413.860	414.56	414.38	413.69	413.18	414.07	414.66	413.08	414.54	414.45
PZ-20I	2407272.337	1118318.135	PWR	415.06	414.91	414.58	414.60	415.030	415.18	415.10	414.91	414.78	415.02	415.09	414.68	414.65	414.09
PZ-21S	2407007.551	1117638.787	SAP	466.52	465.95	464.97	464.37	466.240	466.12	465.77	465.23	465.00	465.50	466.40	465.36	466.37	464.57
PZ-25S	2404569.120	1121846.860	SAP	NM	491.93	490.18	488.50	NM	491.12	491.20	490.35	489.11	490.30	491.10	488.34	491.79	487.23
PZ-25I	2404599.780	1121836.050	SAP	NM	491.68	489.99	488.39	NM	491.42	491.13	490.26	489.09	490.30	491.63	488.24	491.67	488.07
PZ-26S	2405733.540	1121694.340	SAP	NM	475.15	474.34	474.04	NM	476.08	475.46	474.95	474.49	475.38	476.35	474.34	475.98	473.86
PZ-27S	2406040.280	1121560.770	PWR	NM	469.82	468.79	468.89	NM	471.18	470.91	469.73	469.42	470.77	471.45	469.22	471.12	468.37
PZ-27D	2406040.290	1121557.130	FBR	NM	NM	472.38	472.43	NM	474.47	474.17	473.54	473.06	473.98	474.79	472.69	474.48	472.09
PZ-28I	2406377.780	1121390.920	FBR	NM	465.37	464.15	464.17	NM	466.60	466.21	465.40	464.85	466.26	466.74	464.73	466.77	463.93
PZ-29S	2406623.250	1121264.410	PWR	NM	461.11	459.73	459.00	NM	460.93	461.07	NM	459.84	461.03	461.37	459.94	461.96	459.44
PZ-30I	2407083.370	1121069.520	PWR	NM	449.73	447.64	445.63	NM	447.87	448.45	448.04	446.59	447.52	448.71	447.01	450.42	446.54
PZ-31I	2407450.470	1121201.760	FBR	NM	438.47	436.30	433.70	NM	436.13	436.53	435.96	434.54	435.47	437.01	435.28	439.20	435.10
PZ-32S	2407726.520	1121089.930	PWR	NM	441.06	438.49	435.33	NM	437.52	438.68	438.33	436.36	437.49	438.88	437.17	441.54	432.80
PZ-32D	2407726.530	1121086.290	FBR	NM	437.76	435.83	433.81	NM	435.64	436.03	435.46	433.98	435.16	436.38	434.86	438.75	434.83
PZ-33I	2409073.690	1121243.790	PWR	NM	430.02	426.01	423.42	NM	423.93	424.28	423.67	422.44	422.41	423.32	422.88	426.43	424.54
PZ-34S	2409318.430	1121328.320	SAP/PWR	NM	425.41	422.73	420.32	NM	424.01	423.79	NM	NM	421.98	424.09	421.27	426.59	421.58
PZ-35S	2406059.150	1121597.940	PWR	NM	NM	467.55	468.57	NM	471.02	470.71	469.56	469.25	470.53	471.31	468.97	470.97	468.16
PZ-36S	2407248.005	1120400.372	SAP	NM	NM	NM	447.33	NM	NM	NM	NM	NM	NM	NM	445.46	449.49	444.51
PZ-36I	2407269.420	1120407.980	FBR	NM	449.65	447.67	NM	NM	450.91	451.30	NM	448.22	449.17	450.32	447.67	451.30	446.67
PZ-37I	2408430.710	1121176.050	PWR/FBR	NM	435.32	435.13	433.30	NM	432.29	432.13	432.04	431.42	430.62	430.73	431.17	432.42	433.21
PZ-38I	2406354.220	1121475.610	PWR	NM	NM	464.79	464.76	NM	467.06	466.95	466.06	465.48	466.90	467.40	465.36	467.44	464.57
PZ-39S	2407472.377	1120177.256	SAP	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	437.01	441.64	436.06
PZ-40I	2406962.700	1116959.586	Bedrock	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	479.50	481.31	477.75
PZ-41S	2407125.609	1116799.229	SAP	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	463.28	465.78	463.34
PZ-42I	2405293.296	1116014.657	Bedrock	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	492.12	492.85	491.55
PZ-43S	2405509.147	1115598.554	SAP	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	480.25	482.86	478.69
PZ-44I	2404331.321	1121515.271	Bedrock	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	490.11	493.14	490.14
LPZ-01	2398513.820	1117001.205	PWR/Bedrock	NM	NM	NM	494.34	NM	493.81	493.78	493.66	492.36	492.49	492.36	492.52	493.87	494.79
LPZ-02	2398005.122	1119972.841	SAP	NM	NM	NM	507.07	NM	509.73	509.97	508.75	507.50	508.98	509.79	507.79	510.66	506.96
LPZ-03	2398654.995	1117884.312	SAP	NM	NM	NM	503.38	NM	507.03	506.55	505.26	503.61	504.06	507.42	504.23	507.93	504.13
LPZ-04	2397083.414	1115963.419	SAP	NM	NM	NM	443.57	NM	446.13	446.60	445.87	444.20	445.50	447.10	445.50	448.69	445.29
LPZ-05	2399698.567	1115329.895	SAP	NM	NM	NM	476.94	NM	476.31	476.38	476.06	474.96	474.40	474.64	475.57	478.07	477.57
GWC-1	2411556.160	1120077.830	SAP	NM	365.50	364.15	363.64	NM	NM	NM	NM	NM	NM	NM	NM	368.08	364.55
GWC-2	2411493.240	1119816.770	SAP	NM	366.46	365.06	364.38	NM	NM	NM	NM	NM	NM	NM	NM	368.82	365.54
GWC-3	2411202.800	1119614.010	SAP/PWR	NM	380.13	378.53	376.24	NM	NM	NM	NM	NM	NM	NM	NM	382.08	379.69

Table 5
Potentiometric Surface Elevation Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well or Piezometer ID	Easting	Northing	Screened in Unit	Potentiometric Surface Elevation (ft msl)													
				5/9/2016	6/13/2016	8/8/2016	11/28/2016	12/15/2016	2/6/2017	4/4/2017	6/19/2017	10/3/2017	3/19/2018	6/4/2018	10/1/2018	3/25/2019	9/9/2019
GWC-4	2411041.630	1119256.250	SAP/PWR	NM	382.29	380.62	378.97	NM	NM	NM	NM	NM	NM	NM	NM	382.97	380.37
GWC-5	2411025.700	1118897.720	SAP/PWR	NM	378.39	376.69	374.79	NM	NM	NM	NM	NM	NM	NM	NM	377.65	376.39
GWC-6	2410872.480	1118575.720	PWR	NM	379.35	377.89	375.50	NM	NM	NM	NM	NM	NM	NM	NM	380.10	377.50
GWC-7	2410645.830	1118243.660	SAP/PWR	NM	377.07	376.04	375.08	NM	NM	NM	NM	NM	NM	NM	NM	377.84	375.72
GWC-8	2410435.830	1117934.460	PWR	NM	378.00	377.52	377.25	NM	NM	NM	NM	NM	NM	NM	NM	385.73	378.03
GWC-9	2410167.440	1117955.520	SAP	NM	378.27	378.67	378.69	NM	NM	NM	NM	NM	NM	NM	NM	379.33	377.92
GWC-10	2410018.160	1118306.840	SAP	NM	381.85	381.26	381.12	NM	NM	NM	NM	NM	NM	NM	NM	382.93	380.94
GWC-11	2409778.450	1118649.130	SAP	NM	384.02	382.89	382.75	NM	NM	NM	NM	NM	NM	NM	NM	385.53	382.89
GWC-12	2409554.100	1118978.200	SAP	NM	387.87	386.23	385.18	NM	NM	NM	NM	NM	NM	NM	NM	389.74	386.31
GWC-13	2409390.710	1119338.880	SAP	NM	389.41	387.85	387.18	NM	NM	NM	NM	NM	NM	NM	NM	390.94	387.92
GWC-14	2409111.270	1119655.060	SAP	NM	390.19	389.37	389.27	NM	NM	NM	NM	NM	NM	NM	NM	391.50	389.86
GWA-15	2409282.000	1120009.780	SAP	NM	402.90	401.60	400.49	NM	NM	NM	NM	NM	NM	NM	NM	404.76	401.33
GWA-16	2409579.590	1120248.790	SAP/PWR	NM	412.19	410.46	408.56	NM	NM	NM	NM	NM	NM	NM	NM	413.71	410.18
GWA-17	2409946.330	1120211.100	PWR	NM	413.14	413.61	412.81	NM	NM	NM	NM	NM	NM	NM	NM	414.93	415.12
GWC-18	2410261.900	1119998.620	SAP	NM	405.14	404.99	404.12	NM	NM	NM	NM	NM	NM	NM	NM	406.52	406.45
GWC-19	2410712.920	1119645.900	PWR	NM	396.44	395.79	394.73	NM	NM	NM	NM	NM	NM	NM	NM	398.21	397.20
GWC-20	2411195.260	1119950.630	SAP/PWR	NM	385.94	384.29	382.04	NM	NM	NM	NM	NM	NM	NM	NM	388.61	386.92
GWA-21	2409462.770	1120675.770	SAP	NM	417.85	416.09	414.28	NM	NM	NM	NM	NM	NM	NM	NM	419.37	415.20
GWA-22	2409473.480	1120962.580	PWR	NM	421.36	419.02	416.78	NM	NM	NM	NM	NM	NM	NM	NM	422.77	417.83
GWA-45	2407889.430	1120669.520	SAP	NM	436.48	433.83	431.26	NM	NM	NM	NM	NM	NM	NM	NM	438.00	432.55
GWA-46	2408235.720	1120783.750	SAP	NM	431.15	429.58	427.42	NM	NM	NM	NM	NM	NM	NM	NM	430.65	428.21
GWA-47	2408585.250	1120862.990	SAP	NM	428.47	427.85	425.95	NM	NM	NM	NM	NM	NM	NM	NM	426.75	426.26
GWA-48	2408939.900	1120953.850	SAP/PWR	NM	426.33	425.24	423.02	NM	NM	NM	NM	NM	NM	NM	NM	425.57	429.74
GWA-49	2409288.700	1121030.470	FBR	NM	422.39	419.98	418.06	NM	NM	NM	NM	NM	NM	NM	NM	423.96	418.72
GWC-29	2408717.920	1119875.660	SAP	NM	393.74	393.55	393.48	NM	NM	NM	NM	NM	NM	NM	NM	394.06	393.40
GWC-50	2408955.890	1119917.650	SAP/PWR	NM	398.21	397.69	397.20	NM	NM	NM	NM	NM	NM	NM	NM	398.72	397.36
GWC-51	2408437.100	1119835.850	SAP	NM	401.13	400.88	400.47	NM	NM	NM	NM	NM	NM	NM	NM	401.49	400.53
GWC-52	2408203.870	1119972.460	SAP	NM	407.86	407.75	407.49	NM	NM	NM	NM	NM	NM	NM	NM	407.93	407.48
GWC-53	2407942.970	1120319.920	SAP	NM	425.55	424.43	422.86	NM	NM	NM	NM	NM	NM	NM	NM	426.16	423.62
AP1R	2406844.49	1118448.308	SAP	440.32	439.92	439.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-2	2406844.247	1118466.944	NA	471.09	470.89	471.09	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A2A	2406015.43	1116326.17	NA	471.72	471.62	471.12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A2	2406017.332	1116326.835	NA	471.91	471.51	471.11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-3	2406897.847	1118458.705	NA	436.82	436.72	436.52	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A3A	2406137.451	1116414.664	SAP	474.96	474.86	474.46	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A3	2406140.776	1116416.122	NA	474.49	473.89	472.79	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-4	2407038.779	1118463.806	NA	420.23	420.23	420.23	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Table 5
Potentiometric Surface Elevation Summary
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Plant Scherer
Monroe County, Georgia

Well or Piezometer ID	Easting	Northing	Screened in Unit	Potentiometric Surface Elevation (ft msl)													
				5/9/2016	6/13/2016	8/8/2016	11/28/2016	12/15/2016	2/6/2017	4/4/2017	6/19/2017	10/3/2017	3/19/2018	6/4/2018	10/1/2018	3/25/2019	9/9/2019
AP-5	2407039.246	1118451.359	NA	421.29	420.39	419.99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A4A	2406349.895	1116540.949	SAP	478.42	477.62	475.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A5	2405926.811	1116282.42	NA	473.00	472.13	473.50	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-A5A	2405929.02	1116283.697	SAP	473.17	472.08	472.00	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-6	2405851.502	1121166.564	NA	478.89	478.47	478.56	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-7	2405853.689	1121165.367	NA	478.77	478.44	478.44	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-8R	2407239.783	1118493.325	SAP	411.41	410.95	410.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-9R	2407245.201	1118491.264	SAP	412.82	412.32	411.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-10	2405882.537	1116253.005	SAP	473.79	473.08	474.08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-11	2405886.985	1116254.145	PWR	474.59	473.59	475.42	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-12	2405793.374	1116223.681	SAP	476.50	475.75	476.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-12A	2405827.369	1116370.212	SAP	465.88	465.78	465.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-13	2405792.231	1116223.511	NA	476.36	475.86	475.86	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP-14	2405789.221	1116221.073	NA	477.67	476.58	476.08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
B-102A	2405054.068	1117121.557	CCR	NM	498.47	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	500.73	NM
B-102B	2405057.183	1117125.61	CCR	NM	499.63	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	500.43	NM
B-103A	2405594.902	1117590.23	CCR	NM	495.47	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	500.43	NM
B-103B	2405593.689	1117596.145	CCR	NM	499.79	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	500.40	NM
B-104A	2405845.762	1117967.14	CCR	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	499.99	NM
B-104B	2405851.386	1117971.732	CCR	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	500.03	NM

ft msl - feet above mean sea level

SAP - Saprolite

PWR - Partially Weathered Rock

FBR - Fractured Bedrock

NM - Not Measured

Table 6
Model Layer Elevation Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Easting	Northing	Ground Surface Elevation (ft msl)	Total Depth (ft)	Fill Top Elevation (ft msl)	Fill Bottom Elevation (ft msl)	CCR Top Elevation (ft msl)	CCR Bottom Elevation (ft msl)	Gypsum Top Elevation (ft msl)	Gypsum Bottom Elevation (ft msl)	Alluvium Top Elevation (ft msl)	Alluvium Bottom Elevation (ft msl)	Residuuum Top Elevation (ft msl)	Residuuum Bottom Elevation (ft msl)	Saprolite Top Elevation (ft msl)	Saprolite Bottom Elevation (ft msl)	PWR Top Elevation (ft msl)	PWR Bottom Elevation (ft msl)	FBR Top Elevation (ft msl)	FBR Bottom Elevation (ft msl)	
SGWA-1	2399899.29	1119232.66	543.97	50.9									543.97	530.97	530.97	493.97					
SGWA-2	2399907.29	1119237.11	587.79	95.8									587.79	568.79	568.79	514.79	514.79				
SGWA-3	2399295.72	1120224.56	542.47	50.0									542.47	526.47	526.47						
SGWA-4	2401124.35	1121478.04	544.25	67.0									544.25	539.25	539.25	481.25	481.25	477.25			
SGWA-5	2397426.72	1118087.17	505.32	30.0									505.32	497.32	497.32						
SGWC-6	2401979.45	1122168.29	507.94	25.0									507.94	502.94	502.94						
SGWC-7	2402259.67	1122669.57	503.02	35.0									503.02	493.02	493.02	486.02	486.02				
SGWC-8	240.2979.66	1122866.66	511.05	40.0									511.05	506.05	506.05	486.05	486.05	476.05	476.05		
SGWC-9	2403455.82	1122635.28	507.61	35.0									507.61	502.61	502.61						
SGWC-10	2404047.17	1121896.65	507.61	30.0									507.61	497.61	497.61						
SGWC-11	2404332.79	1121542.39	508.60	40.0									508.60	498.60	498.60						
SGWC-12	2405009.68	1121576.07	497.35	47.6									497.35	492.35	492.35						
SGWC-13	2405760.64	1121274.08	480.05	35.0									480.05	470.05	470.05						
SGWC-14	2406329.21	1120965.72	476.31	35.3									476.31	463.31	463.31						
SGWC-15	2407092.84	1120191.24	480.04	45.2									480.04	471.04	471.04						
SGWC-16	2407154.73	1119221.31	456.79	40.2									456.79	443.79	443.79						
SGWC-17	2407266.73	1118309.04	414.73	24.5									414.73	401.73	401.73						
SGWC-18	2406930.96	1116946.85	510.17	44.5	510.17	492.17									492.17						
SGWC-19	2406096.08	1116024.67	475.71	34.6	475.71	462.71									462.71						
SGWC-20	2405307.58	1116020.77	501.12	25.0									501.12	491.12	491.12						
SGWC-21	2404197.38	1115410.84	484.61	24.9									484.61	475.61	475.61						
SGWC-22	2403002.38	1115540.74	515.46	50.1	515.46	507.46							507.46	501.46	501.46						
SGWC-23	2402131.92	1116694.35	519.99	49.7									519.99	511.99	511.99	484.99	484.99				
SGWA-24	2400742.98	1118125.67	500.75	40.0									500.75	491.75	491.75						
SGWA-25	2400856.49	1120556.05	423.40	45.0									423.40	404.40	404.40						
PZ-2I	2402991.21	1115545.52	514.99	84.3	514.99	496.99									446.99	446.99	439.99	439.99			
PZ-5I	2401817.71	1117484.29	520.38	47.2	520.38	511.38									511.38	486.38	486.38	484.38	484.38		
PZ-6S	2401936.71	1117910.80	528.93	54.8									528.93	514.93	514.93	474.13	474.13				
PZ-9i	2400862.20	1120563.32	523.25	80.2									523.25	509.25	509.25	462.75	462.75				
PZ-10S	2401768.26	1122338.55	513.85	34.9									513.85	499.85	499.85						
PZ-11S	2402767.33	1123169.25	525.88	45.9											516.88	491.88	491.88	479.98			
PZ-12S	2403619.04	1122685.58	514.53	44.4											505.53	470.13					
PZ-13S	2404228.13	1121956.58	517.08	45.3	517.08	503.08									503.08						
PZ-14S	2404820.41	1121852.66	508.55	44.9											499.55						
PZ-14i	2404822.28	1121865.44	509.61	95.2											500.61	445.61	445.61	423.61	423.61		
PZ-15S	2405559.34	1121486.19	495.95	40.1	495.95	481.95									481.95						
PZ-17I	2407106.30	1120190.51	480.18	97.3									480.18	466.18	466.18	412.18	412.18	391.18	391.18		
PZ-19S	2407241.35	1118587.90	414.66	25.0											405.66						
PZ-19I	2407251.48	1118589.33	414.46	71.9									414.46	401.46	401.46	361.46	361.46				
PZ-20I	2407272.34	1118318.14	414.11	79.6									414.11	401.11	401.11	354.11	354.11				
PZ-21S	2407007.55	1117638.79	470.46	25.0									470.46	456.46	456.46						
PZ-25S	1121846.86	2404569.12	525.47	56.0									525.47								
PZ-25I	1121836.05	2404599.78	525.70	126.0									525.70	469.70	469.70						
PZ-26S	1121694.34	2405733.54	488.88	46.0									488.88								
PZ-27S	1121560.77	2406040.28	472.96	46.0									472.96	440.96			440.96				
PZ-27D	1121557.13	2406040.29	472.41	126.0									472.41	440.41			440.41	416.41	416.41		
PZ-28I	1121390.92	2406377.78	481.32	70.0									481.32	469.32	469.32	434.32	434.32	423.32	423.32		

Table 6
Model Layer Elevation Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Easting	Northing	Ground Surface Elevation (ft msl)	Total Depth (ft)	Fill Top Elevation (ft msl)	Fill Bottom Elevation (ft msl)	CCR Top Elevation (ft msl)	CCR Bottom Elevation (ft msl)	Gypsum Top Elevation (ft msl)	Gypsum Bottom Elevation (ft msl)	Alluvium Top Elevation (ft msl)	Alluvium Bottom Elevation (ft msl)	Residuum Top Elevation (ft msl)	Residuum Bottom Elevation (ft msl)	Saprolite Top Elevation (ft msl)	Saprolite Bottom Elevation (ft msl)	PWR Top Elevation (ft msl)	PWR Bottom Elevation (ft msl)	FBR Top Elevation (ft msl)	FBR Bottom Elevation (ft msl)
PZ-29S	1121264.41	2406623.25	488.43	46.0									488.43	466.43			466.43			
PZ-30I	1121069.52	2407083.37	475.42	87.0									475.42	444.42	444.42	419.42	419.42			
PZ-31i	1121201.76	2407450.47	463.80	77.0									463.80	435.80	435.80	424.80	424.80	395.80	395.80	
PZ-32S	1121089.93	2407726.52	462.28	57.0									462.28	456.28	456.28	417.28	417.28			
PZ-32D	1121086.29	2407726.53	462.32	126.5									462.32	456.32	456.32	417.32	417.32	386.32	386.32	
PZ-33I	1121243.79	2409073.69	466.25	76.5									466.25	410.25			410.25			
PZ-34S	1121328.32	2409318.43	440.78	46.0									440.78	425.78	425.78	398.78	398.78			
PZ-35I	1121597.94	2406059.15	474.53	56.0									474.53	438.53	438.53	423.53	423.53			
PZ-36I	1120407.98	2407269.42	478.85	97.0									478.85	457.85	457.85	413.85	413.85	398.85	398.85	
PZ-37I	1121176.05	2408430.71	479.54	72.5									479.54	426.54	426.54	416.54	416.54	412.54	412.54	
PZ-38I	1121475.61	2406354.22	482.10	76.0									482.10	462.10	462.10	429.60	429.60			
GWC-1	2411556.16	1120077.83	371.54	35.0									371.54	352.04	352.04					
GWC-2	2411493.24	1119816.77	376.91	54.5									376.91	357.41	357.41					
GWC-3	2411202.80	1119614.01	407.19	46.0									407.19	378.69	378.69	368.69	368.69			
GWC-4	2411041.63	1119256.25	408.31	39.5									408.31	379.80	379.80	374.81				
GWC-5	2411025.70	1118897.72	393.18	34.8									393.18	364.20			364.20	363.20		
GWC-6	2410872.48	1118575.72	412.36	44.5									412.36	392.40	392.40	382.86	382.86			
GWC-7	2410645.83	1118243.66	414.29	54.5									414.29	398.30	398.30	359.70	359.70			
GWC-8	2410435.83	1117934.46	404.76	54.5									404.76	380.26	380.26	360.26	360.26			
GWC-9	2410167.44	1117955.52	383.02	16.5									383.02							
GWC-10	2410018.16	1118306.84	389.30	35.5									389.30	369.80	369.80					
GWC-11	2409778.45	1118649.13	399.06	30.0									399.06	375.56	375.56					
GWC-12	2409554.10	1118978.20	409.54	33.5									409.54	381.04	381.04					
GWC-13	2409390.71	1119338.88	416.54	39.5									416.54	386.50	386.50					
GWC-14	2409111.27	1119655.06	400.25	25.0									400.30	381.80	381.80					
GWA-15	2409282.00	1120009.78	411.82	25.0									411.80	394.80	394.80					
GWA-16	2409579.59	1120248.79	440.74	55.0									440.74	401.20	401.20	391.24	391.24			
GWA-17	2409946.33	1120211.10	442.72	43.3									442.72	418.20	418.20	413.22	413.22			
GWC-18	2410261.90	1119998.62	436.36	59.5									436.36	383.80	383.80	367.30	367.30			
GWC-19	2410712.92	1119645.90	426.12	70.0									426.10	391.60	391.60	376.60	376.60			
GWC-20	2411195.26	1119950.63	422.82	69.6									422.82	383.32	383.32	363.30	363.30			
GWA-21	2409462.77	1120675.77	419.56	17.0									419.56	409.56	409.56					
GWA-22	2409473.48	1120962.58	441.75	40.0									441.75	417.75	417.75	408.75	408.75			
GWC-29	2408717.92	1119875.66	396.69	25.0									396.69	381.69	381.69					
GWA-45	2407889.43	1120669.52	447.98	33.0									447.98		447.98					
GWA-46	2408235.72	1120783.75	458.10	43.5									458.10		458.10					
GWA-47	2408585.25	1120862.99	462.81	55.0									462.81	429.81	429.81	412.81	412.81			
GWA-48	2408939.90	1120953.85	458.73	72.0									458.73	423.73	423.73	413.73	413.73	393.73	393.73	
GWA-49	2409288.70	1121030.47	429.96	37.0									429.96	405.96	405.96					
GWC-50	2408955.89	1119917.65	404.16	35.0									404.16	379.16	379.16	374.16	374.16			
GWC-51	2408437.10	1119835.85	406.88	27.0									406.88	393.88	393.88					
GWC-52	2408203.87	1119972.46	414.14	30.0									414.14	390.14	390.14					
GWC-53	2407942.97	1120319.92	432.93										432.93		432.93					
LPZ-1	2398512.88	1117001.06	549.84	65.8									549.84	535.34	535.34	491.84	491.84			
LPZ-2	2398005.52	1119972.99	510.46	20.0									510.46							
LPZ-3	2398656.59	1117884.20	511.48	35.0									511.48	481.18	481.18					
LPZ-4	2397083.70	1115963.34	457.83	40.0									457.83	432.83	432.83					

Table 6
Model Layer Elevation Summary
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Well ID	Easting	Northing	Ground Surface Elevation (ft msl)	Total Depth (ft)	Fill Top Elevation (ft msl)	Fill Bottom Elevation (ft msl)	CCR Top Elevation (ft msl)	CCR Bottom Elevation (ft msl)	Gypsum Top Elevation (ft msl)	Gypsum Bottom Elevation (ft msl)	Alluvium Top Elevation (ft msl)	Alluvium Bottom Elevation (ft msl)	Residuum Top Elevation (ft msl)	Residuum Bottom Elevation (ft msl)	Saprolite Top Elevation (ft msl)	Saprolite Bottom Elevation (ft msl)	PWR Top Elevation (ft msl)	PWR Bottom Elevation (ft msl)	FBR Top Elevation (ft msl)	FBR Bottom Elevation (ft msl)	
LPZ-5	2399698.73	1115329.72	520.97	103.4									520.97	502.77	502.77	457.97	457.97				
B-102A	2405054.07	1117121.56	504.38	60.0			504.38	444.38													
B-102B	2405057.18	1117125.61	504.44	20.6			504.44	483.84													
B-103A	2405594.90	1117590.23	505.84	60.0			505.84	445.84													
B-103B	2405593.69	1117596.15	525.82	20.0			525.82	505.82													
B-104A	2405845.76	1117967.14	504.16	60.0			504.16	444.16													
B-104B	2405851.39	1117971.73	504.13	20.0			504.13	484.13													
C-102	2405723.34	1115291.08	516.30	139.0									516.30	451.90	516.30	451.90	451.90	402.30			
C-103	2405827.34	1115462.08	504.90	168.5									504.90	443.90	504.90	443.90	443.90	385.50	385.50		
C-104	2405930.34	1115633.08	492.80	149.0									492.80	403.80	492.80	403.80	403.80	366.90	366.90		
C-105	2406034.35	1115804.08	482.70	51.0									482.70		482.70						
C-106	2406138.35	1115975.08	478.60	50.0									478.60		478.60						
C-107	2406269.36	1116126.08	474.70	34.1									474.70	451.70	474.70	451.70	451.70				
C-108	2406403.36	1116274.08	477.90	50.0									477.90		477.90						
C-109	2406537.36	1116422.08	484.30	58.8									484.30	432.30	484.30	432.30	432.30				
C-120	2406901.39	1118490.07	411.00	49.1									411.00	368.00	411.00	368.00	368.00				
C-123	2406933.40	1119069.07	448.40	55.3									448.40	396.40	448.40	396.40	396.40				
C-124	2406933.40	1119269.07	454.60	60.9									454.60	401.60	454.60	401.60	401.60				
C-125	2406933.40	1119469.06	459.90	65.4									459.90	398.90	459.90	398.90	398.90				
C-126	2406933.41	1119669.06	464.70	60.0									464.70	412.20	464.70	412.20	412.20				
C-127	2406933.41	1119869.06	471.60	69.7									471.60	401.90	471.60	401.90	401.90				
C-128	2406933.41	1120069.06	477.40	61.0									477.40	416.40	477.40	416.40	416.40				
C-129	2406933.42	1120869.05	477.00	60.0									477.00		477.00						
C-130	2406933.42	1120469.06	481.70	58.0									481.70	428.70	481.70	428.70	428.70				
C-131	2406933.42	1120669.05	487.70	78.7									487.70	416.70	487.70	416.70	416.70				
C-132	2406933.42	1120869.05	489.30	72.8									489.30	416.50	489.30	416.50	416.50				
C-133	2406933.42	1121069.05	485.50	64.4									485.50	424.50	485.50	424.50	424.50				
C-134	2406933.42	1121269.05	483.90	50.0									483.90	441.40	483.90	441.40	441.40				
C-135	2406741.42	1121317.05	486.30	47.0									486.30	449.30	486.30	449.30	449.30				
C-156	2405746.34	1115167.08	519.40	69.6									519.40	457.40	519.40	457.40	457.40				
C-158	2405955.34	1115488.08	495.40	109.7									495.40	422.40	495.40	422.40	422.40				
C-159	2406076.35	1115674.08	484.80	79.6									484.80	411.80	484.80	411.80	411.80				
C-160	2406057.35	1116034.08	478.80	64.7									478.80	431.80	478.80	431.80	431.80				
C-162	2406398.36	1116154.08	471.10	49.7									471.10	438.10	471.10	438.10	438.10				
C-166	2407108.41	1119383.07	460.60	94.5									460.60	373.60	460.60	373.60	373.60				
C-167	2406746.40	1119342.06	451.50	89.7									451.50	379.50	451.50	379.50	379.50				
C-168	2406782.41	1119762.06	465.20	54.7									465.20	422.20	465.20	422.20	422.20				
C-169	2407130.41	1119792.07	473.30	74.7									473.30	405.30	473.30	405.30	405.30				
C-171	2407059.41	1120160.06	477.80	84.6									477.80	406.80	477.80	406.80	406.80				
C-172	2406794.41	1120554.05	489.80	64.6									489.80	431.80	489.80	431.80	431.80				
C-173	2407046.42	1120575.06	485.10	74.6									485.10	422.60	485.10	422.60	422.60				
C-174	2406738.40	1119195.06	448.10	59.7									448.10	392.10	448.10	392.10	392.10				
C-175	2407129.40	1119128.07	452.70	69.6									452.70	385.70	452.70	385.70	385.70				
C-176	2406699.39	1118588.07	423.00	59.6									423.00	380.50	423.00	380.50	380.50				
C-177	2407152.40	1118698.07	433.80	89.0									433.80	371.80	433.80	371.80	371.80				
C-178	2406641.39	1118452.07	408.90	24.6									408.90	386.90	408.90	386.90	386.90				
C-179	2407218.40	1118458.08	405.10	50.0									405.10	371.60	405.10	371.60	371.60				

**Table 6
Model Layer Elevation Summary
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Plant Scherer
Monroe County, Georgia**

Well ID	Easting	Northing	Ground Surface Elevation (ft msl)	Total Depth (ft)	Fill Top Elevation (ft msl)	Fill Bottom Elevation (ft msl)	CCR Top Elevation (ft msl)	CCR Bottom Elevation (ft msl)	Gypsum Top Elevation (ft msl)	Gypsum Bottom Elevation (ft msl)	Alluvium Top Elevation (ft msl)	Alluvium Bottom Elevation (ft msl)	Residuum Top Elevation (ft msl)	Residuum Bottom Elevation (ft msl)	Saprolite Top Elevation (ft msl)	Saprolite Bottom Elevation (ft msl)	PWR Top Elevation (ft msl)	PWR Bottom Elevation (ft msl)	FBR Top Elevation (ft msl)	FBR Bottom Elevation (ft msl)	
SGYP-1	2407053.25	1117510.02	479.43	49.4									479.43	464.43	464.43	444.43	450.93	444.43	444.43		
SGYP-2	2405112.30	1115097.45	449.50	53.0									449.50	434.50	434.50	396.50	396.50				
SGYP-3	2405772.54	1117650.36	460.40	65.0									460.40	455.40	455.40	416.90	416.90				
SGYP-4	2410054.70	1118191.86	384.50	34.0									384.50	376.50	376.50	361.00	361.00				
SGYP-5	2408131.34	1117328.09	474.90	53.5									474.90	441.90	441.90	421.40	421.40				
SGYP-6	2411539.97	1116889.38	456.40	40.3											452.40	431.40	431.40	419.40	419.40		
SGYP-7	2408751.36	1116871.70	447.71	49.0									447.71	423.71	423.71	414.21	414.21				
SGYP-9	2419704.94	1118640.02	396.60	36.5									396.60	385.60	385.60	360.10	363.10				
SGYP-10	2408932.02	1118734.05	424.90	64.0									424.90	399.90	399.90	371.40	371.40				
SGYP-12	2407680.44	1119213.22	437.70	45.0									437.70	404.20	404.20						
SGYP-14	2409400.21	1119068.07	396.60	40.0									396.60	368.10			368.10				
SGYP-15	2410103.16	1119337.26	430.30	58.5									430.30	389.80	389.80	381.80	381.80	371.80			
SGYP-19	2410870.90	1119971.81	446.80	70.1									446.80	408.30	408.30	389.30	389.30	378.80	378.80		
SGYP-20	2409742.53	1119875.57	449.80	64.0									449.80	421.30	421.30	401.30	401.30	397.80	397.80		
SGYP-21	2407517.13	1120120.32	470.20	60.0									470.20	436.70	436.70						
SGYP-22	2408127.27	1120448.20	440.70	40.0									440.70	412.20	412.20						
SGYP-23	2409187.98	1120457.88	435.00	47.5									435.00	409.50	409.50	396.50	396.50				
SGYP-24	2410416.17	1120585.25	459.70	74.0									459.70	416.20	416.20	386.20	386.20				
SGYP-25	2411492.29	1120409.44	371.20	30.0									371.20	352.70	352.70						
SGYP-26	2412871.34	1120499.04	454.70	71.3									454.70	416.20	416.20	396.20	396.20	383.40	383.40		
SGYP-28	2411246.46	1121362.47	430.00	68.5									430.00	391.50	391.50	381.50	381.50				
SGYP-29	2407646.52	1120834.38	454.40	40.0									454.40	425.90	425.90	415.90	415.90				
SGYP-30	2408680.51	1121005.97	468.80	65.0									468.80	415.30	415.30	405.30	405.30				
SGYP-31	2410052.52	1121183.70	462.90	65.3									462.90	409.40	409.40	404.40	404.40				
SGYP-32	2410757.99	1121476.48	444.80	68.0									444.80	396.30	396.30						
SGYP-33	2411511.18	2411511.18	411.90	59.2									411.90	383.40	383.40						
SGYP-34	2413286.60	1119663.64	441.80	63.5									441.80	403.30	403.30	393.30	393.30				
B-100	2407033.15	1118343.84	459.65	100.2	459.65	408.65							408.65	396.15	396.15	375.15	375.15				
B-101	2407266.41	1118355.00	411.42	41.1	411.42	406.42					406.42	396.42			396.42	370.32	370.32				
B-102	2405060.32	1117113.04	504.36	85.0			504.36	435.86							435.86	420.86	420.86				
B-103	2405582.90	1117592.72	505.29	95.0			505.29	423.29			423.29	416.39			416.39	410.29	410.29				
B-104	2405854.52	1117965.60	504.38	93.9			504.38	420.88			420.88	411.38					411.38				
B-105	2404998.90	1120433.00	495.00	85.0			445.50	444.00					444.00	427.50	427.50						
B-105A	2405009.50	1120401.20	495.00	87.0									442.60	427.50	427.50	408.00	408.00				
B-106	2403003.60	1119785.90	495.00	42.5			465.50	464.50			464.50	462.50	462.50	459.50	459.50	452.50	452.50				
B-107	2402037.30	1120366.30	495.00	30.3			474.50	474.00					472.50	465.00			465.00				
B-108	2403754.10	1120563.10	495.00	91.0			448.20	447.50			446.00	443.00	443.00	437.00	437.00	410.00	410.00				
B-109	2403091.20	1122059.00	495.00	43.5			464.00	463.20			463.20	459.00	459.00	454.70			454.70				
B-110	2405728.00	1120234.30	495.00	87.0			447.20	446.70					444.70	426.50	426.50	416.50	416.50				
B-111	2404512.40	1120256.50	495.00	91.5			436.60	435.00					435.00	432.00	432.00	422.00	422.00				
B-112	2403275.50	1119527.30	495.00	82.2			453.00	452.00			446.70	441.00	452.00	446.70	441.00	414.00	414.00				
B-113	2402983.50	1120116.00	495.00	40.7			483.00	482.00					482.00	469.00	469.00	463.00	463.00				
B-114	2403549.70	1121368.90	495.00	49.5			466.50	466.00					465.00	449.00			449.00				
SPT-01	2405487.21	1118279.08	505.31	140.0			505.31	432.31							432.31	401.31	401.31	392.31	392.31		
SPT-02	2404730.36	1116812.56	509.49	114.8			509.49	506.49	506.49	481.49	436.49	431.49			431.49	420.99	420.99	416.99	416.99		
SPT-02	2404730.36	1116812.56	509.49	114.8			481.49	436.49													
SPT-03	2406333.05	1117861.45	499.93	146.5			482.93	431.93	499.93	482.93					431.93	420.43	420.43	382.93	382.93		

Table 6
Model Layer Elevation Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Easting	Northing	Ground Surface Elevation (ft msl)	Total Depth (ft)	Fill Top Elevation (ft msl)	Fill Bottom Elevation (ft msl)	CCR Top Elevation (ft msl)	CCR Bottom Elevation (ft msl)	Gypsum Top Elevation (ft msl)	Gypsum Bottom Elevation (ft msl)	Alluvium Top Elevation (ft msl)	Alluvium Bottom Elevation (ft msl)	Residuuum Top Elevation (ft msl)	Residuuum Bottom Elevation (ft msl)	Saprolite Top Elevation (ft msl)	Saprolite Bottom Elevation (ft msl)	PWR Top Elevation (ft msl)	PWR Bottom Elevation (ft msl)	FBR Top Elevation (ft msl)	FBR Bottom Elevation (ft msl)
SPT-04	2398535.02	1120931.90	540.70	53.9									540.70	522.70	522.70	504.70			504.70	
SPT-05	2399372.68	1120330.70	543.43	132.9									543.43	480.43			480.43	418.43	418.43	
SPT-06	2396864.08	1117987.02	540.02	43.3									540.02	526.02			526.02	504.02	504.02	
SPT-07	2399101.18	1118720.71	554.51	170.1									554.51	489.01			489.01	458.01	458.01	
SPT-08	2400596.34	1118152.29	493.11	144.2									493.11	450.11	450.11	410.11	410.11	386.61	386.61	
SPT-09	2396216.77	1116500.74	505.06	58.9									505.06	467.06			467.06	448.56	448.56	
SPT-10	2398471.94	1117063.33	547.31	74.7									547.31	529.31	529.31	491.31	491.31	480.31	480.31	
SPT-11	2397675.59	1116287.37	526.69	54.6									526.69	498.69			498.69	481.19	481.19	
SPT-12	2399348.62	1115389.82	511.51	69.3									511.51	473.51	473.51	459.51	459.51	445.51	445.51	

CCR - coal combustion residuals

PWR - partially weathered rock

FBR - fractured bedrock

ft - feet

ft NAVD88 - feet North American Vertical Datum of 1988

Table 7
Slug Testing Data and Results
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Geologic Unit Screened	Test 1 (ft/day)	Test 2 (ft/day)	Average (ft/day)	Source (Slug, Aquifer, Lab)
SGWA-3	SAP	6.32E-02	3.54E-02	0.05	Slug Test
SGWA-4	SAP	8.99E-02	8.33E-02	0.09	Slug Test
SGWA-5	SAP	3.23E-01	4.31E-01	0.38	Slug Test
SGWC-6	SAP	9.86E-02	9.61E-02	0.10	Slug Test
SGWC-9	SAP	4.85E-01	3.51E-01	0.42	Slug Test
SGWC-10	SAP	2.04E-01	7.91E-03	0.11	Slug Test
SGWC-11	SAP	1.47E-01	1.81E-01	0.16	Slug Test
SGWC-12	SAP	1.68E-01	1.03E-01	0.14	Slug Test
SGWC-13	SAP	4.17E-01	3.34E-01	0.38	Slug Test
SGWC-14	SAP	9.09	7.76	8.43	AECOM Analysis 2017 (slug in and slug out)
SGWC-15	SAP	3.76	7.65	5.71	AECOM Analysis 2017 (slug in and slug out)
SGWC-16	SAP	2.60	2.67	2.64	AECOM Analysis 2017 (slug in and slug out)
SGWC-17	SAP	4.71	2.65	3.68	AQTESOLV files from SCS
SGWC-18	SAP	4.36	4.93	4.65	AQTESOLV files from SCS
SGWC-19	SAP	1.98	2.12	2.05	AQTESOLV files from SCS
SGWC-20	SAP	3.88E-01	6.18E-02	0.23	Slug Test
SGWC-21	SAP	6.13	-	6.13	AQTESOLV files from SCS
SGWC-22	SAP	1.88	1.02	1.45	AQTESOLV files from SCS
SGWA-25	SAP	2.26	1.93	2.09	AECOM Analysis 2017 (slug in and slug out)
PZ-6S	SAP	0.34	0.13	0.24	AQTESOLV files from SCS
PZ-12S	SAP	11.25	7.45	9.35	AECOM Analysis 2017 (slug in and slug out)
PZ-13S	SAP	5.86	3.82	4.84	AECOM Analysis 2017 (slug in and slug out)
PZ-14S	SAP	15.53	18.34	16.94	AECOM Analysis 2017 (slug in and slug out)
PZ-19S	SAP	2.05	1.59	1.82	AQTESOLV files from SCS
PZ-21S	SAP	1.91	1.39	1.65	AQTESOLV files from SCS
SGWC-7	PWR	5.95E-01	1.98E+00	1.29	Slug Test
SGWC-23	PWR	9.90	9.70	9.80	AECOM Analysis 2017 (slug in and slug out)
PZ-9I	PWR	1.35	1.33	1.34	AQTESOLV files from SCS
PZ-11S	PWR	5.34	4.15	4.75	AQTESOLV files from SCS
PZ-14I	PWR	2.37	2.86	2.62	AQTESOLV files from SCS
PZ-20I	PWR	1.55	0.69	1.12	AQTESOLV files from SCS
PZ-2I	FBR	0.63	0.44	0.54	AQTESOLV files from SCS

Table 7
Slug Testing Data and Results
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Well ID	Geologic Unit Screened	Test 1 (ft/day)	Test 2 (ft/day)	Average (ft/day)	Source (Slug, Aquifer, Lab)
PZ-5I	FBR	2.58	1.01	1.79	AECOM Analysis 2017 (slug in and slug out)
PZ-19I	FBR	7.36	6.72	7.04	AECOM Analysis 2017 (slug in and slug out)
SGWC-8	PWR/FBR	5.16E-01	3.94E+00	2.23	Slug Test
SGYP1	FBR	1.30	1.33	1.32	SCS Summary Table
SGYP20	FBR	1.39	4.82	3.11	SCS Summary Table
SGYP3	SAP	0.77	0.91	0.84	SCS Summary Table
SGYP9	SAP	1.45	1.88	1.67	SCS Summary Table
SGYP14	SAP	0.34	0.82	0.58	SCS Summary Table
SGYP29	SAP	6.52	4.25	5.39	SCS Summary Table
SGYP32	SAP	0.82	0.77	0.80	SCS Summary Table
GWA-15	SAP	2.60	1.94	2.27	AECOM Analysis 2017 (slug in and slug out)
GWA-45	SAP	0.68	0.64	0.66	AECOM Analysis 2017 (slug in and slug out)
GWA-49	SAP	0.76	0.66	0.71	AECOM Analysis 2017 (slug in and slug out)
GWC-2	SAP	0.37	0.26	0.31	AECOM Analysis 2017 (slug in and slug out)
GWC-6	PWR	2.56	2.09	2.33	AECOM Analysis 2017 (slug in and slug out)
GWC-8	PWR	0.42	0.13	0.28	AECOM Analysis 2017 (slug in and slug out)
GWC-9	SAP	0.72	0.74	0.73	AECOM Analysis 2017 (slug in and slug out)
GWC-18	SAP	0.66	0.61	0.63	AECOM Analysis 2017 (slug in and slug out)
GWC-29	SAP	2.65	2.48	2.56	AECOM Analysis 2017 (slug in and slug out)
GWC-52	SAP	2.04	2.08	2.06	AECOM Analysis 2017 (slug in and slug out)
PZ-17I	FBR	0.45	0.41	0.43	AECOM Analysis 2017 (slug in and slug out)
PZ-28I	FBR	1.63	0.94	1.29	AECOM Analysis 2017 (slug in and slug out)
PZ-32D	FBR	0.04	0.01	0.02	AECOM Analysis 2017 (slug in and slug out)
PZ-33I	PWR	0.61	0.57	0.59	AECOM Analysis 2017 (slug in and slug out)
PZ-38	PWR	0.94	0.78	0.86	AECOM Analysis 2017 (slug in and slug out)
SGWA-2	PWR	0.38	0.32	0.35	AECOM Analysis 2017 (slug in and slug out)

SAP - Saprolite
PWR - Partially Weathered Rock
FBR - Fractured Bedrock
ft/day - feet per day

Table 8
Groundwater Model Summary Report - AP-1
Model Input Parameters
Plant Scherer
Monroe County, Georgia

Parameter	Range of Reported Values	Average	Geometric Mean	Unit	Source	Reference	Range of Values in Model	Units	Comment
Layer 1 CCR Material Hydraulic Conductivity									
Horizontal	0.03 to 1.62	0.38		ft/day	pore pressure dissipation tests	3	1.306 to 4.08	ft/day	adjusted during calibration
Vertical ²	0.06 to 1.08	0.35		ft/day	laboratory testing	3	0.408 to 0.1306	ft/day	adjusted during calibration
Layer 1 Dike Material Hydraulic Conductivity									
Horizontal	NR			NA	assumed	NA	0.01 to 0.0064	ft/day	adjusted during calibration
Vertical	NR			NA	assumed	NA	0.0008 to 0.005	ft/day	adjusted during calibration
Layer 2 Saprolite Hydraulic Conductivity									
Horizontal	0.05 to 16.94	2.65	1.01	ft/day	slug tests	1	0.0016 to 9.0	ft/day	adjusted during calibration
Vertical	0.000008 to 1.62	0.18	0.01	ft/day	laboratory testing	2	0.0016 to 1.8	ft/day	adjusted during calibration
Layer 3 PWR Hydraulic Conductivity									
Horizontal	0.28 to 9.8	2.3	1.41	ft/day	slug tests	1	0.193 to 4.0	ft/day	adjusted during calibration
Vertical	NR			NA	NA	NA	0.033 to 0.8	ft/day	
Layer 4 FBR Hydraulic Conductivity									
Horizontal	0.02 to 7.04	1.94	0.88	ft/day	slug tests	1	0.245 to 1.6	ft/day	adjusted during calibration
Vertical	NR			NA	NA	NA	0.123 to 1.6	ft/day	
Effective Porosity									
Layer 1 CCR Material	0.45 ³			unitless	calculated	NA	0.25	unitless	assumed
Layer 1 Berm Material	0.30 ³			unitless	calculated	NA	0.30	unitless	assumed
Layer 2 Saprolite	0.41 ³			unitless	calculated	NA	0.25	unitless	assumed
Layer 3 PWR	0.15			unitless	calculated	NA	0.25	unitless	assumed
Layer 4 FBR	0.03			unitless	assumed	NA	0.03	unitless	assumed
Recharge									
Recharge-Background (as percent annual precipitation)	16% to 24% Annual Precip			%	literature	4	10.15% to 14.58%	%	adjusted during calibration
Background	NA			NA	NA	NA	0.00137	ft/day	Based on 45.68 in/yr (0.0104 ft/day) annual precipitation ⁵
CCR Material	NA			NA	NA	NA	0.00106 to 0.00152	ft/day	adjusted during calibration
Buildings and Landfill Covers	NA			NA	NA	NA	0.00	ft/day	assumed
Evaporation - Transpiration									
ET Background (as percentage of annual Pan Evaporation) Extinction Depth in Feet	varies			Inches/Year and Feet	literature	6	0% to 59% (extinction depth range 0 ft to 4 ft)	%	Based on 57 inches per year (0.013 ft/day) Pan Evaporation rate and adjusted during calibration ⁶
Brush and Trees	NA			NA	NA	NA	0.0077 (extinction depth: 4 ft)	ft/day	adjusted during calibration
CCR Material	NA			NA	NA	NA	0.001 (extinction depth: 1 ft)	ft/day	adjusted during calibration
Buildings/Paved Surfaces and Surface Waters	NA			NA	NA	NA	0 (extinction depth: 0 ft)	ft/day	adjusted during calibration

9 ft/day was used for alluvial material along the Ocmulgee River.

Four residuum samples were excluded because of their shallow depth.

Effective porosity was estimated from literature values.

(1) Slug Testing Data and Results (Table 7 of this Report)

(2) Cardno ATC lab tests of 6/5/2016 and the Golder Piezometer Installation report of 3/16/2016

(3) Calculated from field from Phase II Closure Study

(4) Daniel, Charles C., III and N. Bonar Sharpless, CAPE FEAR RIVER BASIN STUDY, North Carolina Department of Natural Resources and Community Development and U.S. Water Resources Council, 1983.

(5) <http://www.ncdc.noaa.gov/land-based-station-data/climate-normals/1981-2010-normals-data>

(6) <https://site.extension.uga.edu/climate/2016/07/evapotranspiration-and-evaporation-data-for-georgia/>

Table 9
Model Hydraulic Conductivity Zones
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Zone #	K _x (ft/day)	K _y (ft/day)	K _v (ft/day)	K _h : K _v	Layer	Lithology
1	0.38	0.38	0.070	5.49	2	Background
2	4.08	4.08	0.408	10.00	1	CCR
3	0.01	0.01	0.005	2.00	1	East Dike
4	0.32	0.32	0.064	5.00	2	NNE Edge Area
5	0.10	0.10	0.020	5.00	2	NE Gypsom Cell
6	3.00	3.00	0.144	20.85	2	NE of AP-1
7	0.50	0.50	0.100	5.00	2	ENE of AP-1
8	3.04	3.04	0.608	5.00	2	Along Berry Crk.
9	9.00	9.00	1.800	5.00	2	Along Ocmulgee R.
10	5.00	5.00	1.000	5.00	2	Along N Berry Crk.
11	1.04	1.04	0.176	5.91	2	SE of AP-1
12	2.35	2.35	0.470	5.00	2	SW Background
13	0.12	0.12	0.004	28.90	2	SE of AP-1
14	0.80	0.80	0.100	8.00	2	NW of AP-1
15	0.72	0.72	0.144	5.00	2	N of AP-1
16	0.002	0.002	0.002	1.00	2	Recycle Pond Dam
17	0.15	0.15	0.028	5.49	2	N side AP-1
18	1.31	1.31	0.131	10.00	1	CCR
19	0.0064	0.0064	0.00128	5.00	1	East Dike
20	0.33	0.33	0.033	10.00	3	W Background
21	0.19	0.19	0.038	5.00	3	NNE Area
22	2.40	2.40	0.048	50.00	3	NE Area
23	4.00	4.00	0.800	5.00	3	South
24	0.68	0.68	0.136	5.00	3	SE AP-1 Area
25	1.60	1.60	0.320	5.00	3	NW Area
26	0.31	0.31	0.031	10.00	2	Below CCR
27	17.00	17.00	17.000	1.00	1	Knob Area/Surficial Soils Outside of AP-1
28	0.41	0.41	0.082	5.00	3	East
29	0.77	0.77	0.102	7.50	2	NE of AP-1
30	0.25	0.25	0.123	1.99	4	E Background
31	0.64	0.64	0.205	3.14	4	N Area
32	1.60	1.60	1.600	1.00	4	SW Area
33	0.40	0.40	0.160	2.50	4	S & SE Area
34	0.30	0.30	0.030	10.00	2	NE Edge of AP-1
35	0.49	0.49	0.250	1.96	4	W Area
36	0.65	0.65	0.110	5.91	2	SW Side of AP-1
37	0.008	0.008	0.0008	10.00	1	East Dike
38	0.20	0.20	0.020	10.00	2	Beneath Dike
39 (pre-closure)/ 40(post-closure)	17.00	17.00	17.000	1.00	1	Pond outside of CCR/Surficial Soils
39 (post-closure)	0.002	0.002	0.0006	3.72		North Berm

Zone #: Hydraulic Conductivity Zone Number
K_x: Horizontal hydraulic conductivity in east-west direction
K_y: Horizontal hydraulic conductivity in north-south direction
K_h: Horizontal hydraulic conductivity
K_v: Vertical hydraulic conductivity

Table 10
Model Calibration Statistics
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Layer 1-CCR/Dike Material			
Well ID	Observed (ft msl)	Simulated (ft msl)	Residual (ft)
B-102B	499.63	498.67	0.96
B-103B	499.79	498.84	0.95

Layer 2-Saprolite			
Well ID	Observed (ft msl)	Simulated (ft msl)	Residual (ft)
GWA-15	402.90	401.46	1.44
GWA-21	417.85	423.06	-5.21
GWA-45	436.48	435.59	0.89
GWA-46	431.15	429.52	1.63
GWA-47	428.47	426.03	2.44
GWA-49	422.39	423.97	-1.58
GWC-1	365.50	368.77	-3.27
GWC-10	381.85	381.14	0.71
GWC-11	384.02	383.69	0.33
GWC-12	387.87	386.29	1.58
GWC-13	389.41	388.56	0.85
GWC-14	390.19	390.19	0.00
GWC-18	405.14	412.14	-7.00
GWC-2	366.46	370.43	-3.97
GWC-29	393.74	395.14	-1.40
GWC-4	382.29	381.78	0.51
GWC-5	378.39	378.44	-0.05
GWC-51	401.13	400.58	0.55
GWC-52	407.86	407.71	0.15
GWC-53	425.55	425.26	0.29
GWC-7	377.07	378.89	-1.82
GWC-9	378.27	379.28	-1.01
PZ-10S	494.86	492.15	2.71
PZ-12S	489.97	490.44	-0.47
PZ-13S	491.95	492.46	-0.51
PZ-14S	489.75	488.65	1.10
PZ-15S	480.60	480.25	0.35
PZ-19S	413.42	412.34	1.08
PZ-21S	465.95	466.90	-0.95
PZ-25I	491.68	490.95	0.73
PZ-25S	491.93	491.10	0.83
PZ-26S	475.15	473.05	2.10
PZ-6S	496.91	496.54	0.37
SGWA-1	510.85	511.46	-0.61
SGWA-24	489.47	487.87	1.60
SGWA-25	499.85	500.73	-0.88
SGWA-3	514.97	514.12	0.85
SGWA-4	500.67	499.09	1.58
SGWC-10	493.96	494.07	-0.11
SGWC-11	493.25	494.74	-1.49
SGWC-12	486.25	488.83	-2.58
SGWC-13	478.42	476.46	1.96
SGWC-14	465.62	466.77	-1.15
SGWC-15	454.73	457.68	-2.95
SGWC-16	435.34	438.20	-2.86
SGWC-17	417.34	413.46	3.88
SGWC-18	479.88	480.54	-0.66
SGWC-19	462.49	464.76	-2.27
SGWC-20	490.92	487.71	3.21
SGWC-21	486.49	484.21	2.28
SGWC-22	492.18	490.71	1.47
SGWC-6	497.01	495.29	1.72
SGWC-9	490.74	492.62	-1.88

Layer 3-PWR			
Well ID	Observed (ft msl)	Simulated (ft msl)	Residual (ft)
GWA-16	412.19	414.70	-2.51
GWA-17	413.14	417.11	-3.97
GWA-22	421.36	423.39	-2.03
GWC-19	396.44	395.29	1.15
GWC-20	385.94	383.69	2.25
GWC-3	380.13	381.45	-1.32
GWC-50	398.21	396.10	2.11
GWC-6	379.35	379.64	-0.29
GWC-8	378.00	378.83	-0.82
PZ-11S	492.66	490.92	1.74
PZ-14i	489.83	487.96	1.87
PZ-20I	414.91	413.90	1.01
PZ-27S	469.82	466.05	3.77
PZ-29S	461.11	457.94	3.17
PZ-30S	449.73	451.92	-2.19
PZ-32S	441.06	438.04	3.02
PZ-33S	430.02	423.54	6.48
PZ-34S	425.41	422.32	3.09
PZ-9i	501.59	500.48	1.11
SGWC-23	493.06	489.66	3.40
SGWC-7	493.38	492.73	0.65

Layer 4-FBR			
Well ID	Observed (ft msl)	Simulated (ft msl)	Residual (ft)
GWA-48	426.33	423.70	2.63
PZ-5I	484.79	492.11	-7.32
PZ-2I	491.55	490.19	1.36
PZ-28I	465.37	460.99	4.38
PZ-17I	454.77	457.21	-2.44
PZ-19I	413.82	413.23	0.59
PZ-36I	449.65	452.09	-2.44
PZ-31I	438.47	441.47	-3.00
PZ-32D	437.76	437.63	0.13
SGWC-8	493.49	494.31	-0.82

Summary of Calibration Statistics					
	All	Layer 1	Layer 2	Layer 3	Layer 4
Residual Mean	0.13	0.96	-0.10	1.03	-0.69
Res. Std. Dev.	2.36	0.00	2.07	2.46	3.14
Sum of Squares	482	1.83	227.0	149.9	103.4
Abs. Res. Mean	1.85	0.96	1.58	2.28	2.51
Min. Residual	-7.32	0.95	-7.00	-3.97	-7.32
Max. Residual	6.48	0.96	3.88	6.48	4.38
Max Observed	514.97	499.79	514.97	501.59	493.49
Min Observed	365.50	499.63	365.50	378.00	413.82
Range	149.47	0.16	149.47	123.59	79.67
Std/Range	1.58%	2.5%	1.38%	1.99%	3.94%
ARM/Range	1.24%	597.2%	1.06%	1.85%	3.15%
Count:	86	2	53	21	10

Recharge Zones, Base RSS: 482.12 ft ²			
Recharge (ft/day)	0.00152	0.00137	0.00106
R Zone	7	9	10
Max:	833.74	9621.57	483.18
Min:	482.12	482.12	479.57
Range:	351.63	9,139.5	3.61
+ Delta	0	0	2.55
% Delta	0.0%	0.0%	0.53%

Evapotranspiration Zones Base RSS: 482.12 ft ²		
ET (ft/day)	0.00100	0.00768
ET Zone	2	3
Max:	483.31	617.94
Min:	480.96	470.40
Range:	2.35	147.54
+ Delta	1.16	11.71
% Delta	0.24%	2.49%

Sensitivity Ranking % of Base RSS (482.12 ft ²)					
12	Kz	Min	Max	RSS ft ²	Rating
(count)	(count)				
15	34	0%	5%	24.11	slight
13	2	5%	22%	106.07	moderate
6	0	22%	50%	241.06	high
2	0	> 50%			very high

Horizontal Conductivity Zones - all		
	RSS	Difference
Max	2489.919	2007.8
Min	440.7384	-41.38
Range	2049.181	--
Average	520.0448	

Vertical Conductivity Zones - all		
	RSS	Difference
Max	563.8593	79.81
Min	0	-484.05
Range	563.8593	--
Average	396.7062	

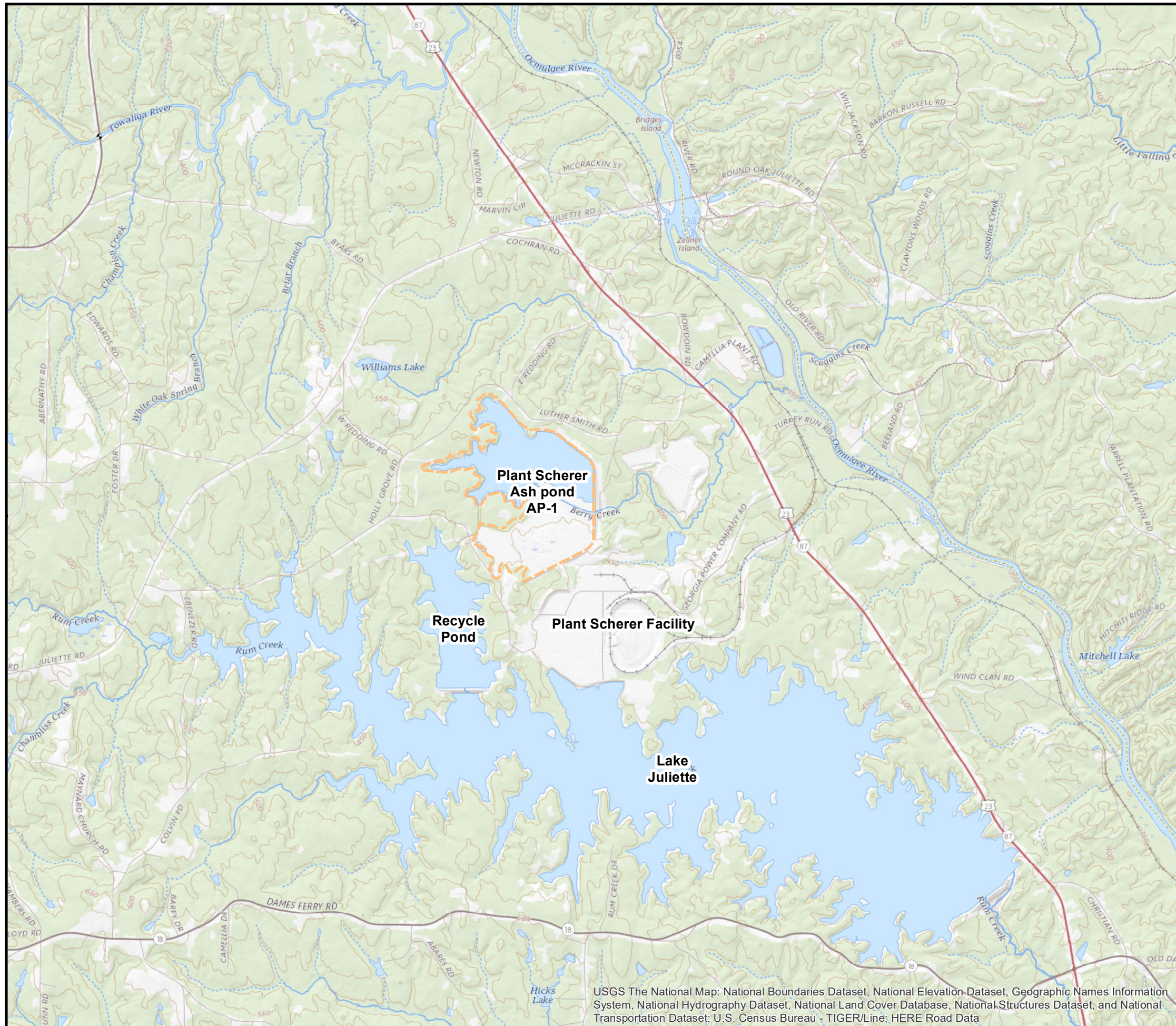
RSS Residual Sum of Squares
 K_h horizontal hydraulic conductivity in ft/day
 K_v vertical hydraulic conductivity
 Rec Recharge
 ET Evapotranspiration
 Max Maximum
 Min Minimum
 ft/day feet per day
 ft² square feet

Delta indicates the difference between RSS for current setting and the lowest value in the analysis.

LEGEND

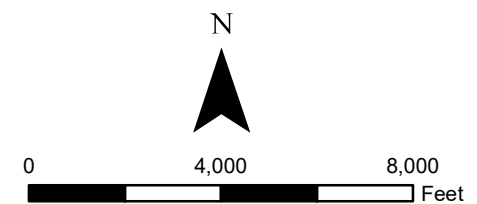
Layer	Layer 1	Model Layer
K _h	1.3056	Zone in ft/day
Zone ID	K _v 16	zone identification for K, Rec, ET
Base RSS: 482.12 ft ²		
Max:	505.83	
Min:	474.38	
Range:	31.46	
+ Delta	1.02	
% Delta	0.21%	Percent of current K value RSS the lowest RSS value represents

FIGURES



Legend

----- AP-1 Boundary



AECOM

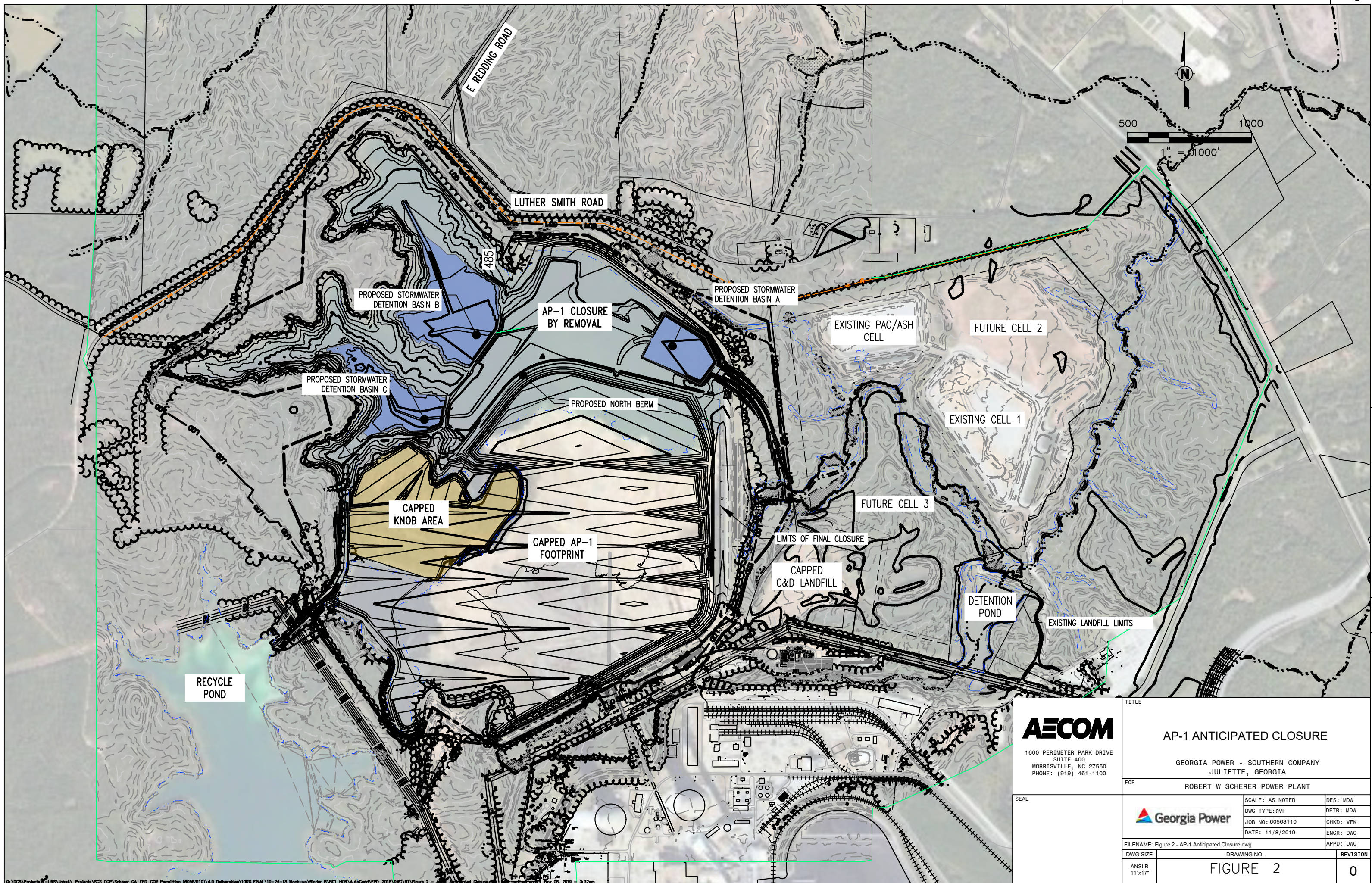
**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

SITE LOCATION AND TOPOGRAPHY

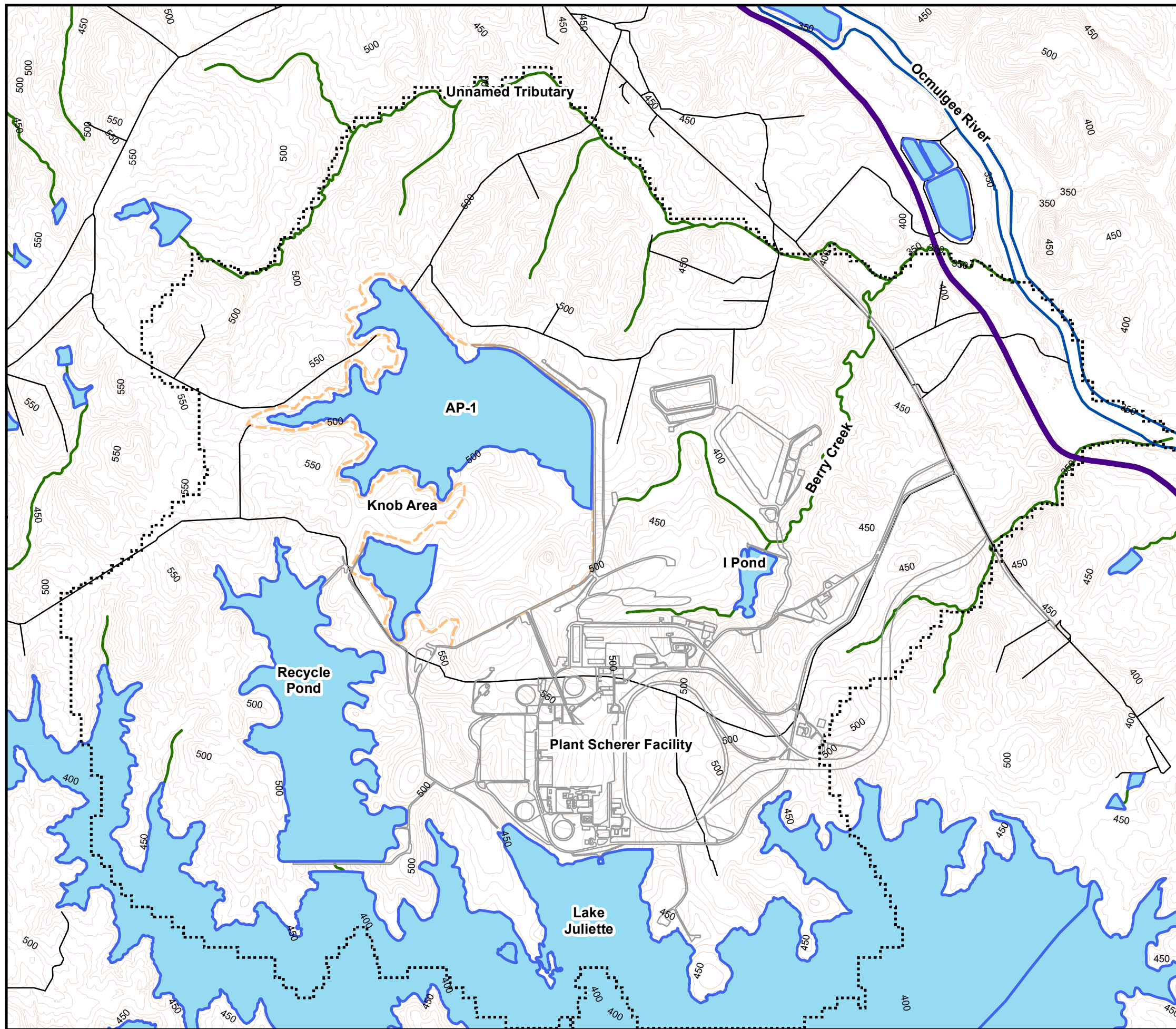
FILENAME:	DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
	DAE	MMS	60563110	4/20/2020	1

USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data












AECOM
 1600 PERIMETER PARK DRIVE
 SUITE 400
 MORRISVILLE, NC 27560
 PHONE: (919) 461-1100

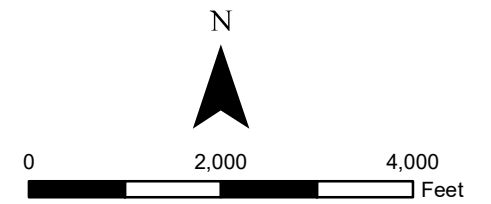
TITLE		
AP-1 ANTICIPATED CLOSURE		
GEORGIA POWER - SOUTHERN COMPANY JULIETTE, GEORGIA		
FOR		
ROBERT W SCHERER POWER PLANT		
SEAL	SCALE: AS NOTED	DES: MDW
	DWG TYPE: CVL	DFTR: MDW
	JOB NO: 60563110	CHKD: VEK
	DATE: 11/8/2019	ENGR: DWC
FILENAME: Figure 2 - AP-1 Anticipated Closure.dwg		APPD: DWC
DWG SIZE	DRAWING NO.	REVISION
ANSI B 11"x17"	FIGURE 2	0



Legend

-  Active Model Domain
-  Water Surface
-  Plant Scherer Buildings and Roads
-  US Highway 23
-  Road
-  Ocmulgee River
-  Streams
-  AP-1 Boundary
-  Topographic Contour (10 ft interval, ft msl)

Note:
 Vertical Datum NAVD 88
 Topography Source:
 USGS 7.5 Minute Quadrangle, East Juliette, 2011



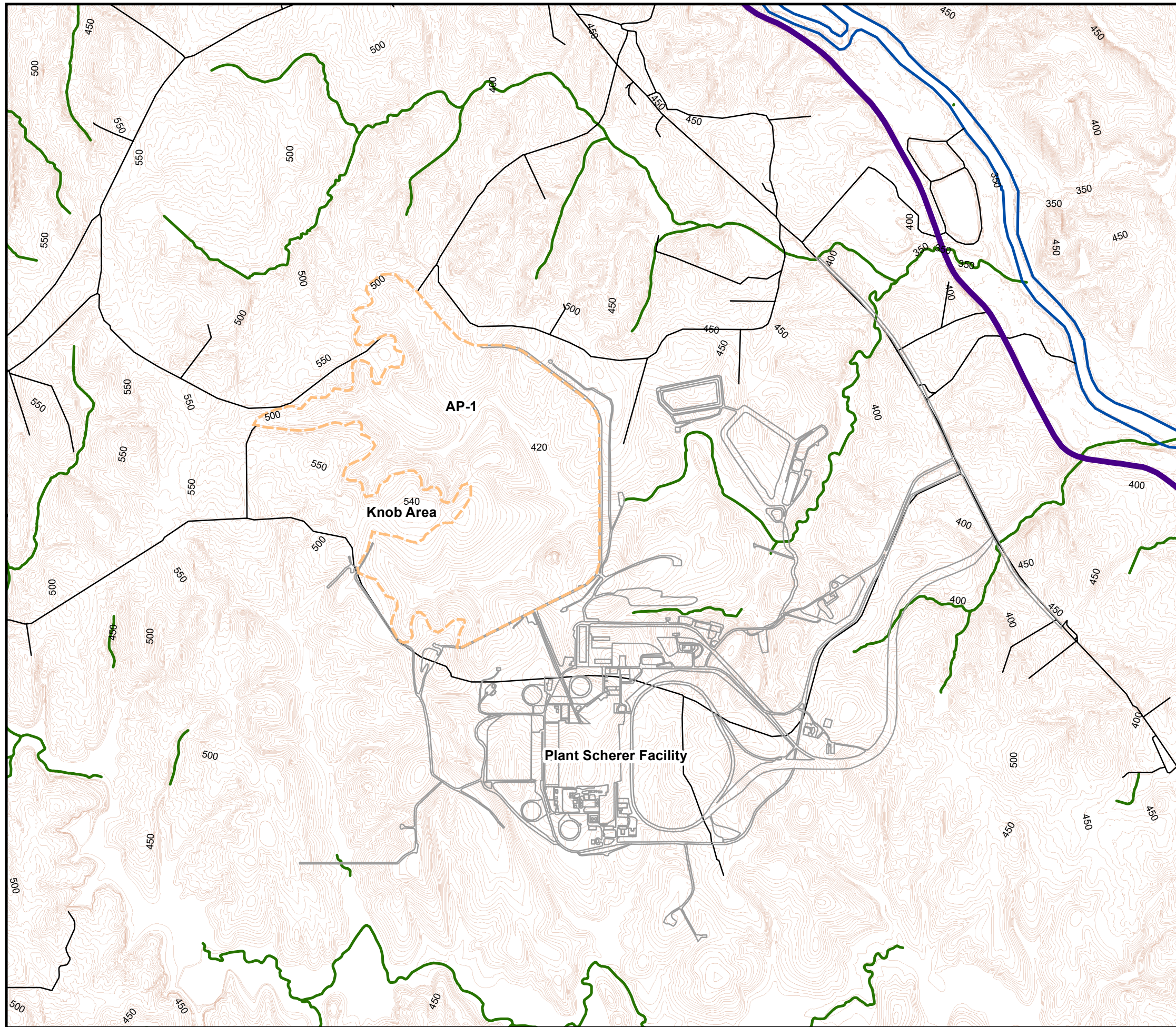
AECOM

**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

SITE MAP WITH MODEL BOUNDARY

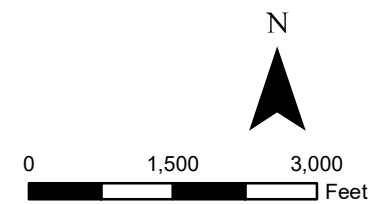
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/24/2020	FIGURE NO. 3
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Legend

- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- - - AP-1 Boundary
- Pre-Development Topographic Contour (5 ft interval, ft msl)

Note:
 Vertical Datum NAVD88
 Source:
 USGS 15 Minute Quadrangle East Juliette, GA (1973)



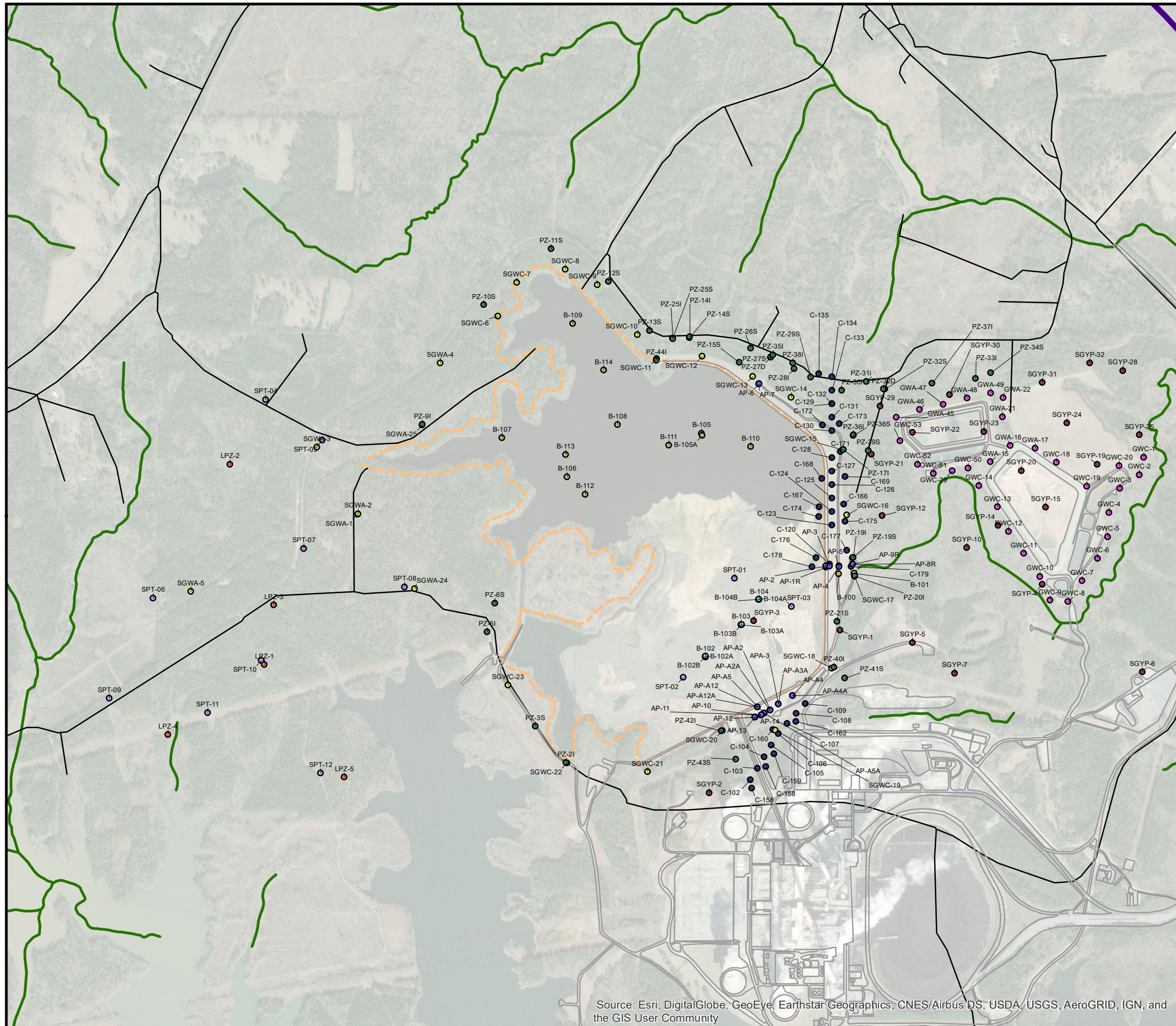
AECOM

**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-DEVELOPMENT TOPOGRAPHY**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 4
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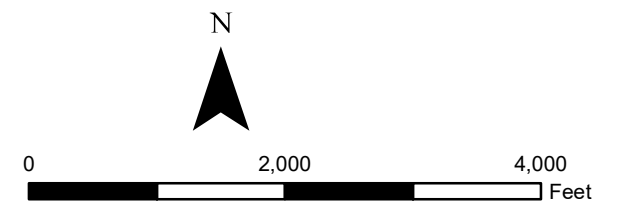
Legend

- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- - - AP-1 Boundary

Boring and Well Locations

Type

- APA Series Monitoring Wells
- Ash Pond Monitoring Wells
- B Series Borings
- B-Series Wells
- C Series Borings
- LPZ Piezometers
- PAC Ash / Gypsum Cell Monitoring Wells
- Piezometers
- SGYP Series Borings
- SPT Series Borings



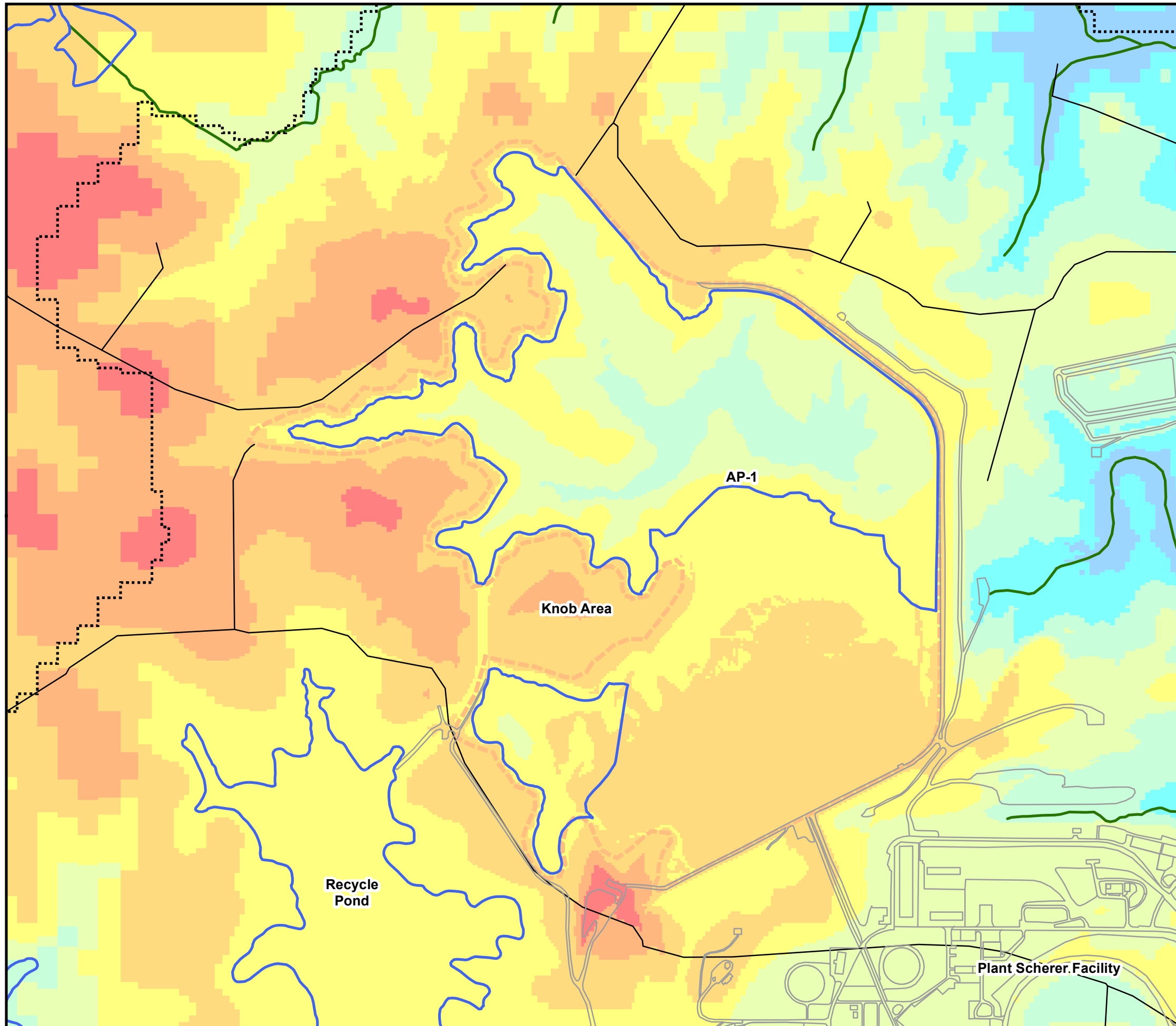
**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **BORING AND WELL/PIEZOMETER LOCATIONS**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/24/2020	FIGURE NO. 5
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

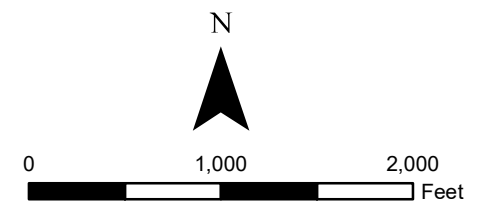
- Active Model Domain
- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Topography/Bathymetry (ft msl)

- < 360
- 360 - 375
- 375 - 400
- 400 - 425
- 425 - 450
- 450 - 475
- 475 - 500
- 500 - 525
- 525 - 550
- 550 - 575

Note:

Vertical Datum NAVD 88
 Topography from 2014 Lidar Data, sampled every 100 ft and interpolated in Surfer using Natural Neighbor method and 25 ft grid spacing. Elevations in AP-1 below pond level is based on bathymetry data and a ground surface survey above the pond elevation.

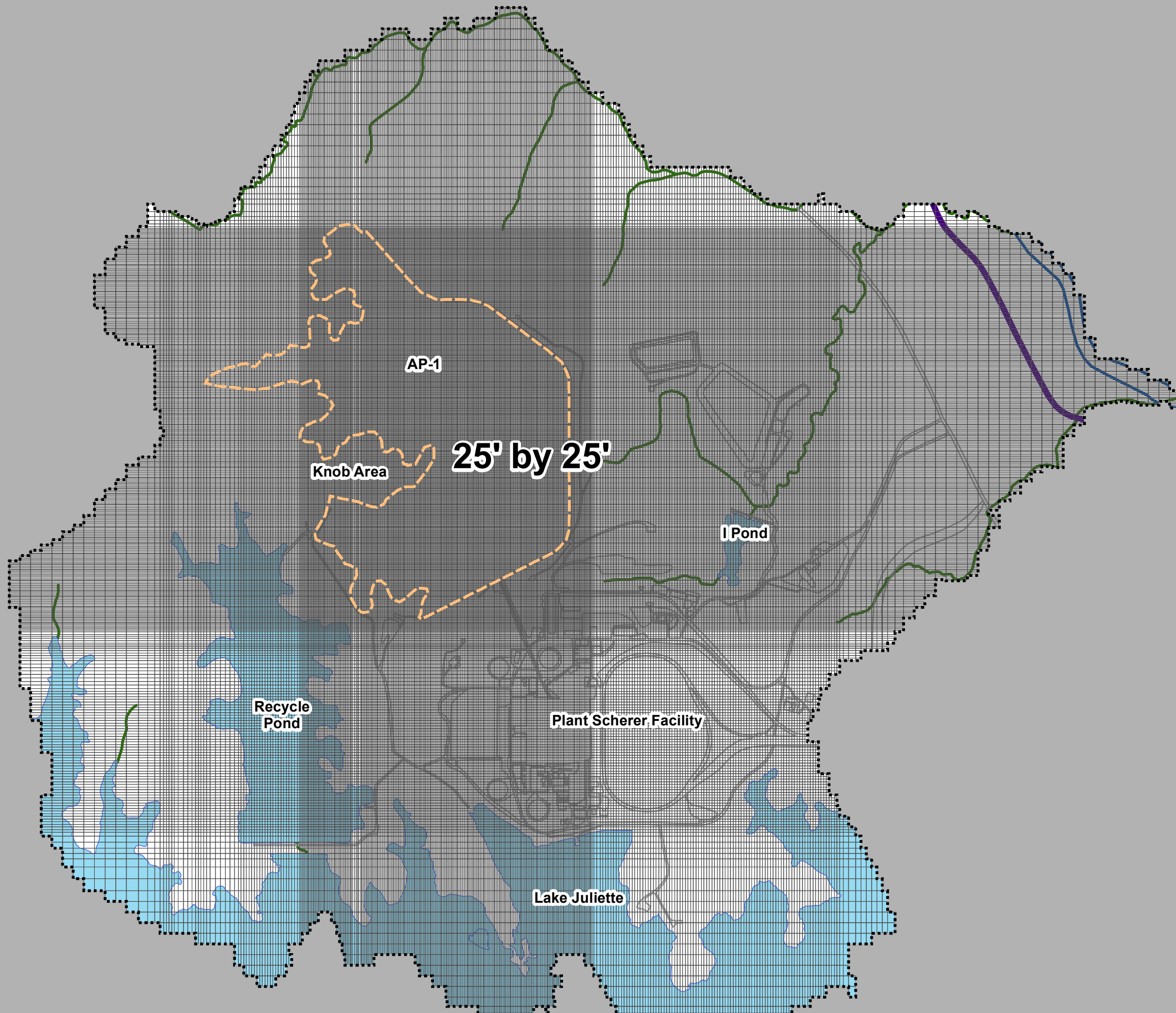


**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE TOPOGRAPHY WITHIN
 AP-1 WITH ASH POND BATHYMETRY**

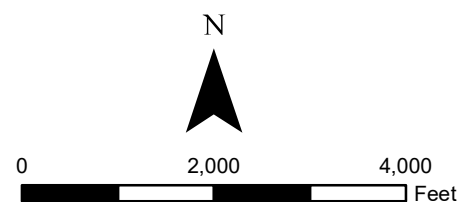
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/20/2020	FIGURE NO. 6
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Legend

- - - AP-1 Boundary
- Active Model Domain
- Active Model Cell
- Inactive Cell
- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Ocmulgee River
- Streams

Note:
 Finest grid spacing of 25 by 24.5 ft.
 Majority of finest spacing is 25 ft by 25 ft.
 Coarsest grid spacing 225 by 222 ft.
 Majority of coarsest grid spacing is 200 ft by 200 ft.

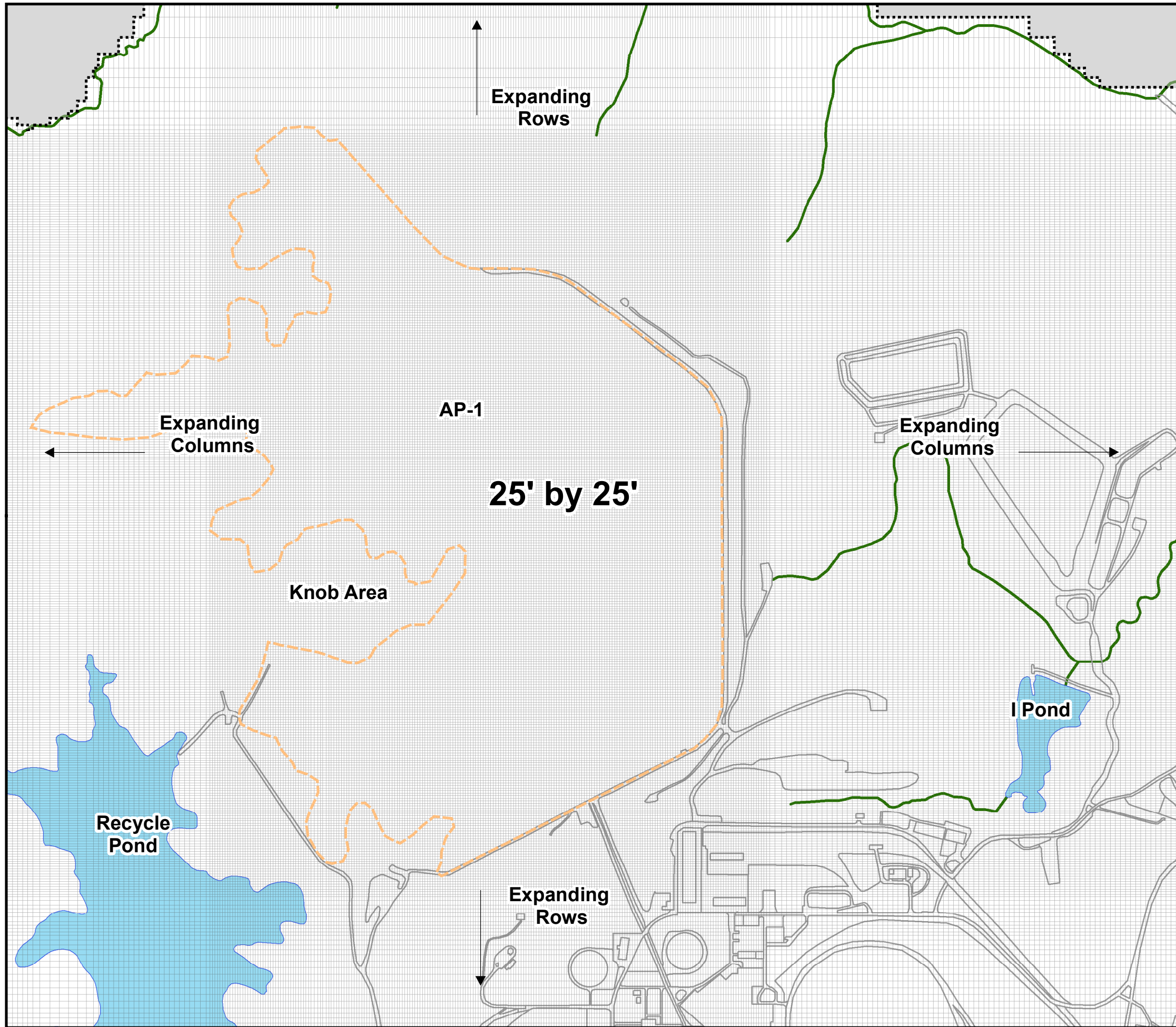


**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

FILENAME: **MODEL GRID**

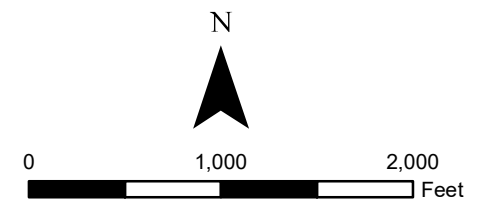
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/20/2020	FIGURE NO. 7
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Legend

- - - AP-1 Boundary
- Active Model Domain
- Active Model Cell
- Inactive Cell
- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Ocmulgee River
- Streams

Note:
 Finest grid spacing of 25 by 24.5 ft.
 Majority of finest spacing is 25 ft by 25 ft.
 Coarsest grid spacing 225 by 222 ft.
 Majority of coarsest grid spacing is 200 ft by 200 ft.



AECOM

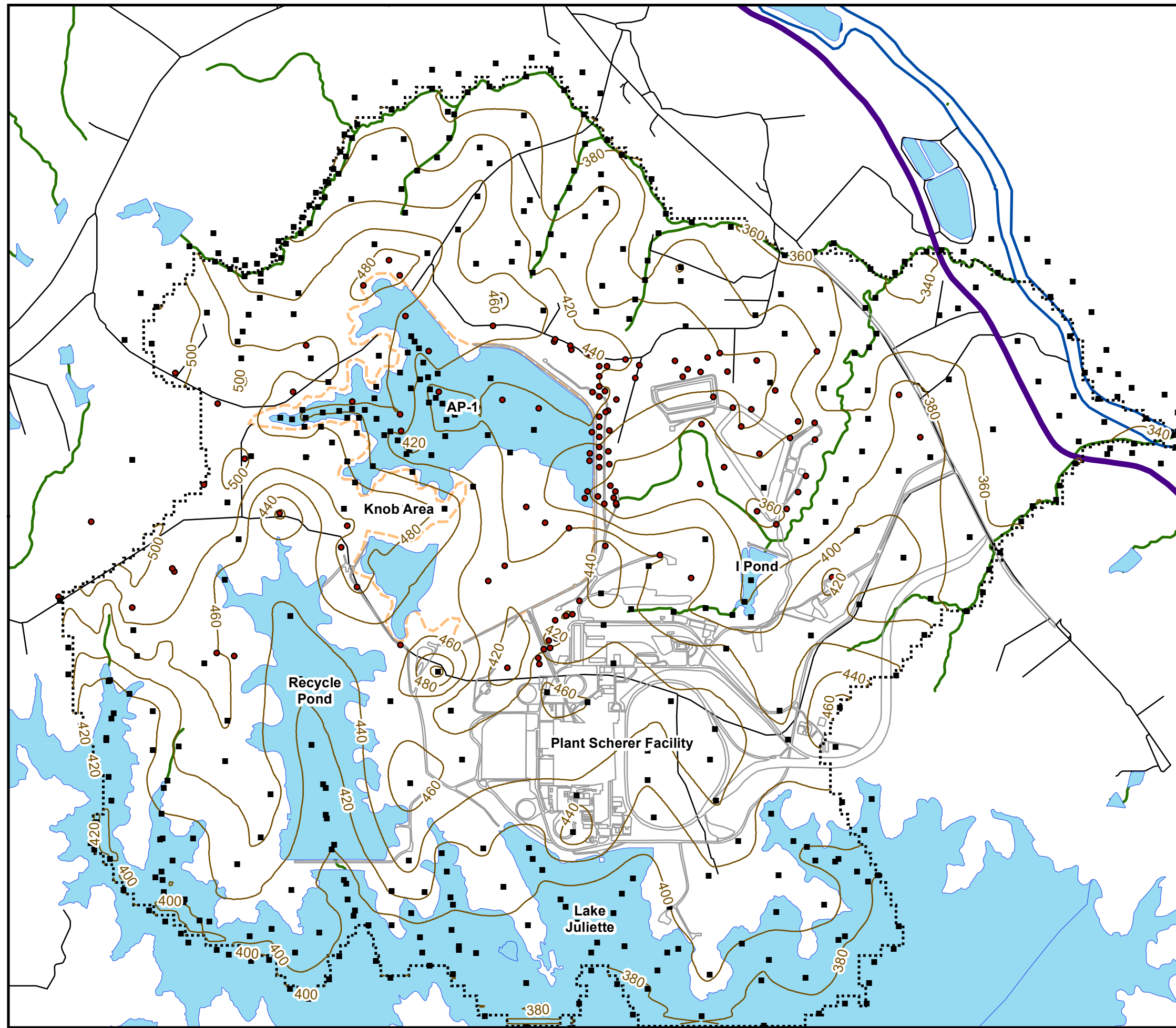
GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1

FILENAME:

MODEL GRID CLOSE UP

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/20/2020	FIGURE NO. 8
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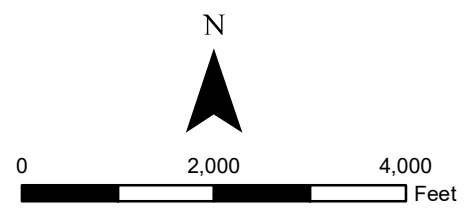


Legend

- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary
- Active Model Domain
- Boring Location
- Inferred Control Point
- Top of PWR Contour (ft msl)

Note:
Boring log lithology used to define top of PWR.

Inferred control points used average thickness to predict top of PWR. If a boring did not tag PWR, information from nearby borings or average thickness of Residuum or Saprolite was used to estimate the elevation of the top of the PWR.

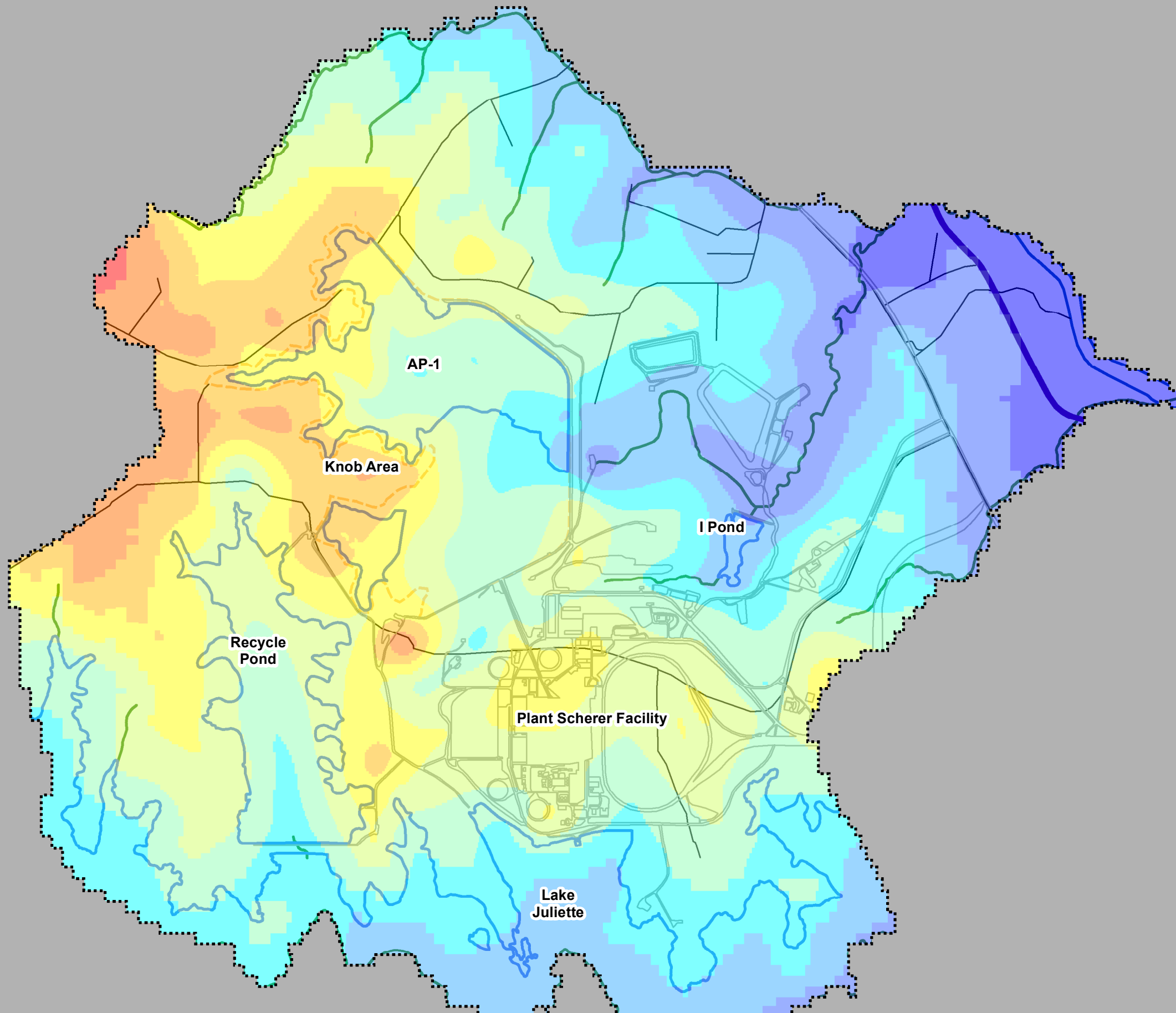


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **DATA USED TO DEFINE TOP OF PWR - LAYER 3**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	9



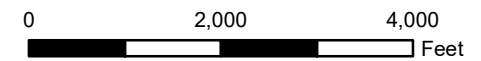
Legend

- Active Model Domain
- Inactive Cells
- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Top of PWR (ft msl)

- 330 - 350
- 350 - 370
- 370 - 390
- 390 - 410
- 410 - 430
- 430 - 450
- 450 - 470
- 470 - 490
- 490 - 510
- 510 - 530

Note:
Vertical Datum NAVD 88
Color flood for top of the PWR based
on the data shown in Figure 9

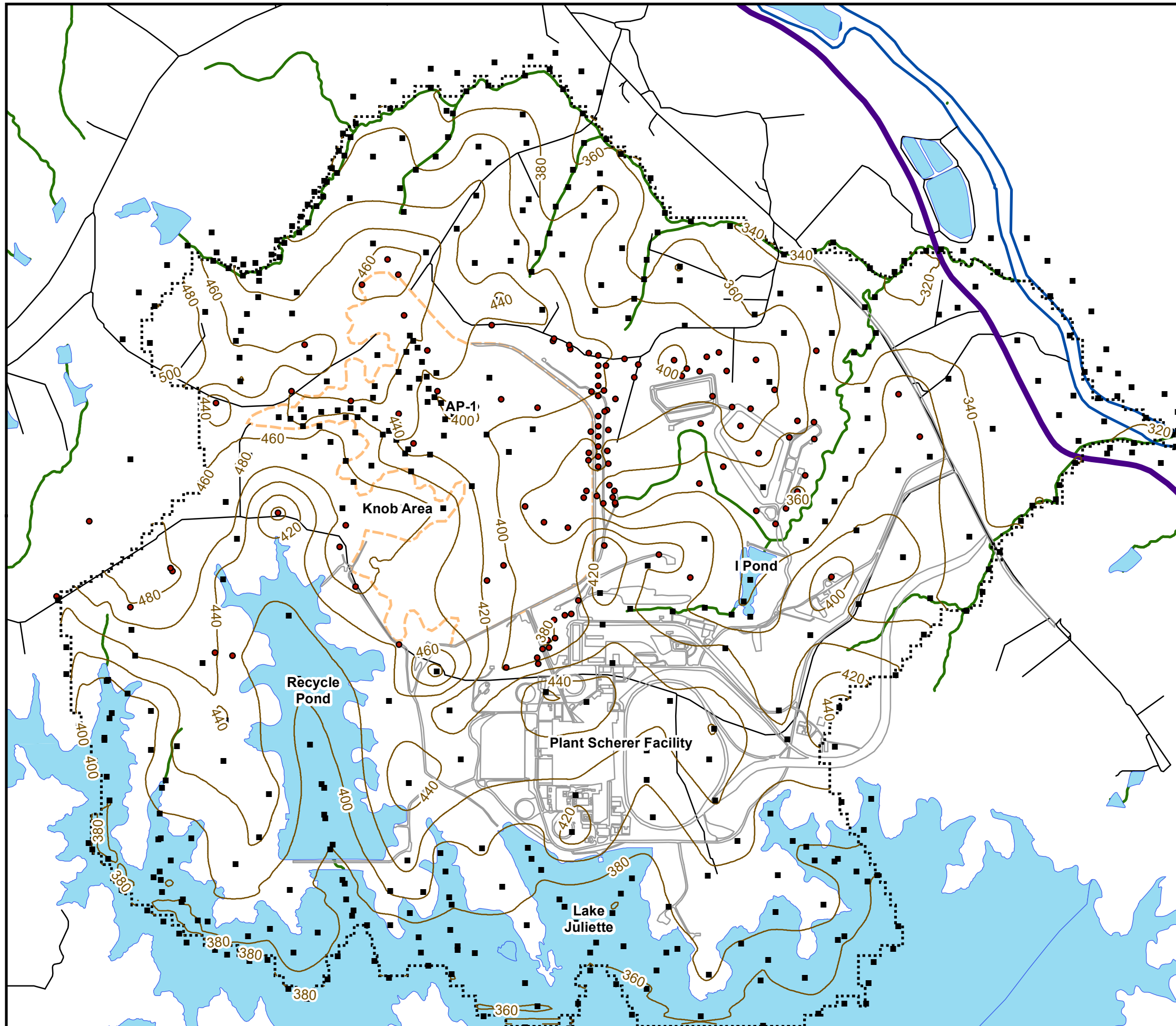


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **COLOR FLOOD OF TOP OF PWR / MODEL LAYER 3**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	10

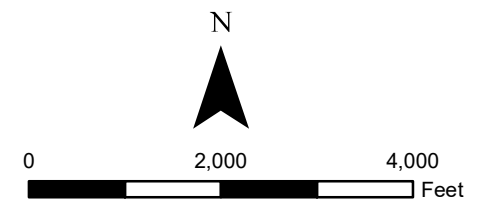


Legend

- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary
- Active Model Domain
- Boring Location
- Inferred Control Point
- Top of FBR Contour (ft msl)

Note:
Boring log lithology used to define top of FBR.

Inferred control points used average thickness to predict top of FBR. If a boring did not tag FBR, information from nearby borings or average thickness of Residuum/Saprolite and PWR was used to estimate the elevation of the top of the FBR.



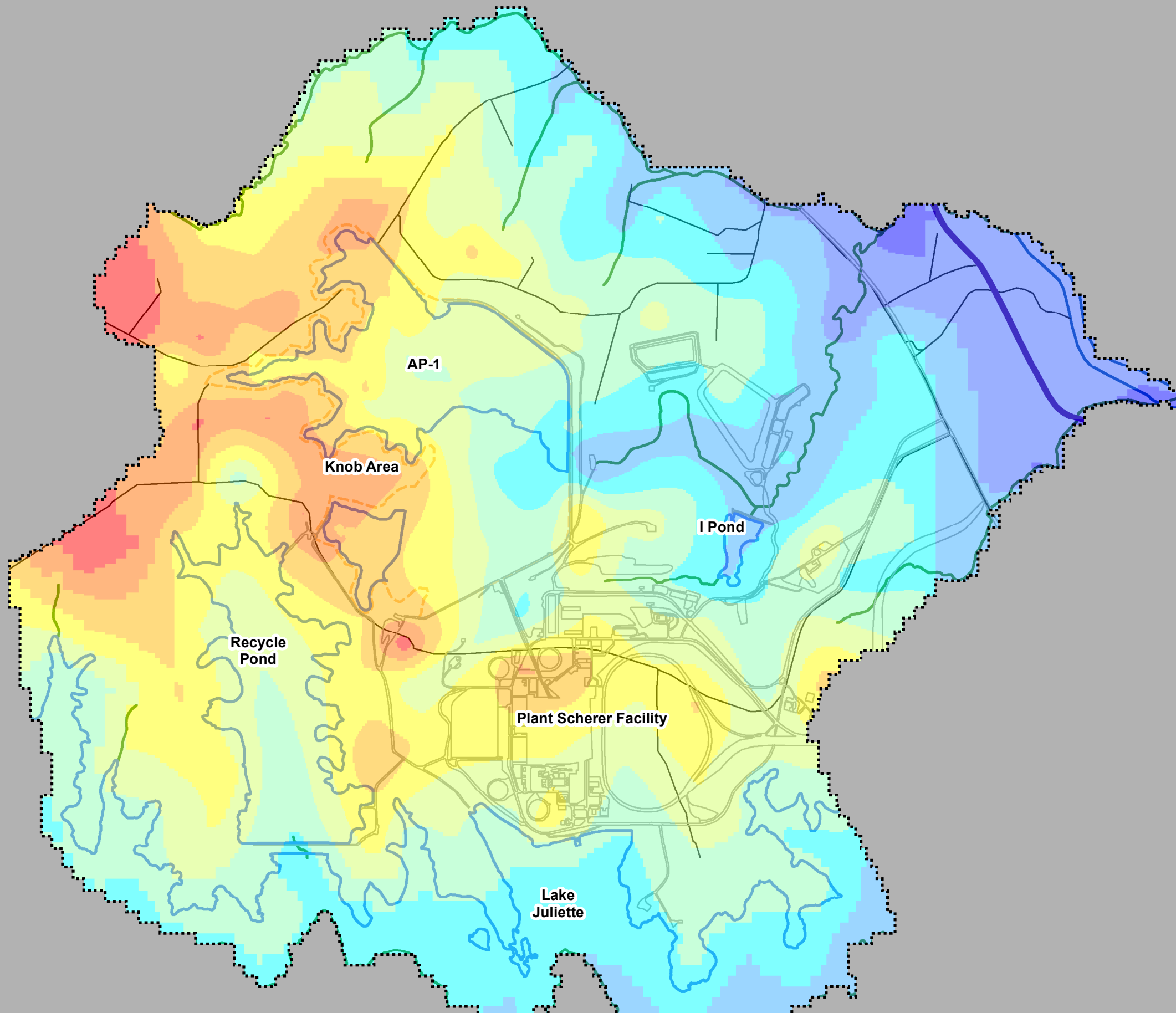
AECOM

**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **DATA USED TO DEFINE TOP OF FBR - LAYER 4**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	11



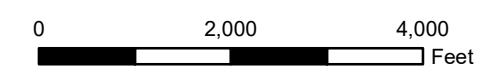
Legend

- Active Model Domain
- Inactive Cells
- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Top of FBR (ft msl)

- 300 - 320
- 320 - 340
- 340 - 360
- 360 - 380
- 380 - 400
- 400 - 420
- 420 - 440
- 440 - 460
- 460 - 480
- 480 - 500

Note:
Vertical Datum NAVD 88
Color flood for top of the FBR based
on the data shown in Figure 11

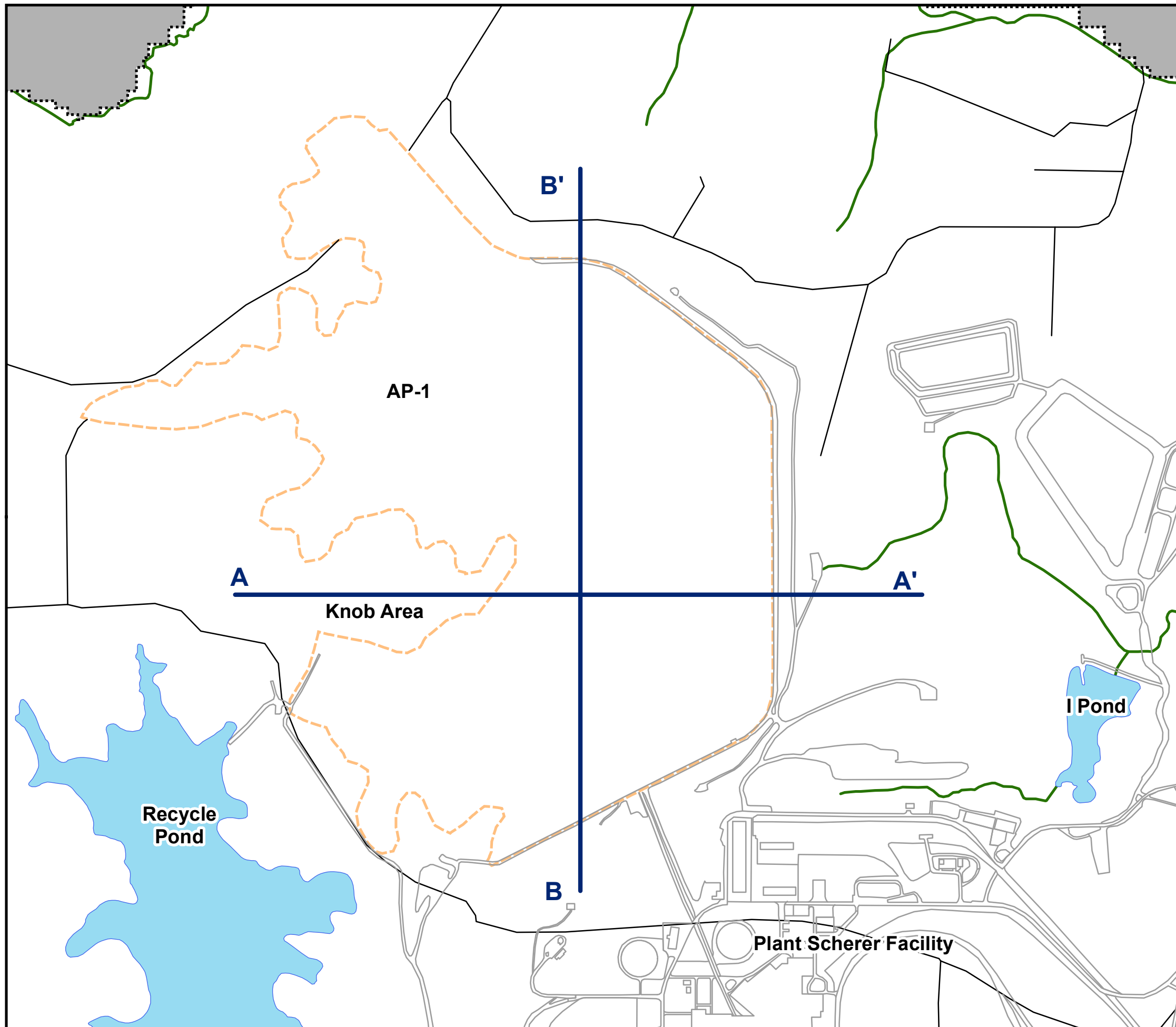


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

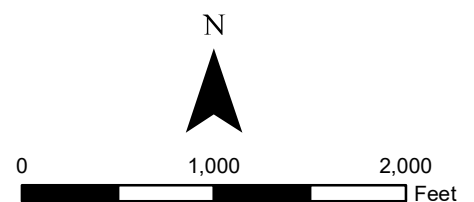
FILENAME: **COLOR FLOOD OF TOP OF FBR / MODEL LAYER 4**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	12



Legend

- Water Surface
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary
- Active Model Domain
- Inactive Cells

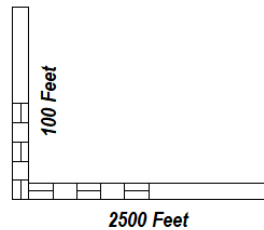
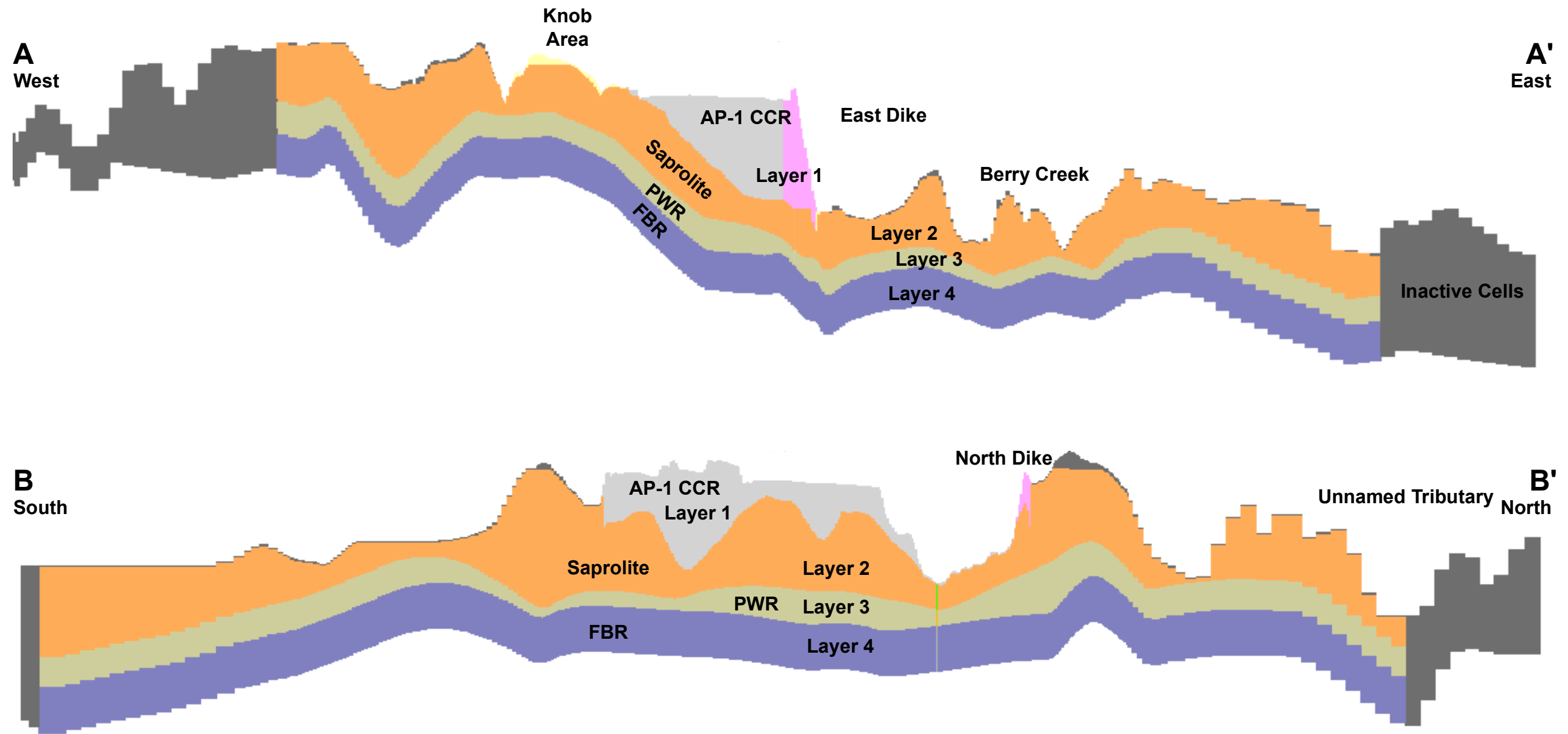


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **CROSS SECTION LOCATIONS**

DRAWN BY:	CHECKED BY:	PROJECT NO.:	DATE:	FIGURE NO.:
DAE	MMS	60563110	4/22/2020	13



Note:
 PWR - Partially Weathered Bedrock
 FBR - Fractured Bedrock
 Vertical Exaggeration 20x
 Cross sections were exported from
 Groundwater Vistas with color floods to
 represent model layers

AECOM

GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1

FILENAME:

MODEL LAYER CROSS SECTION

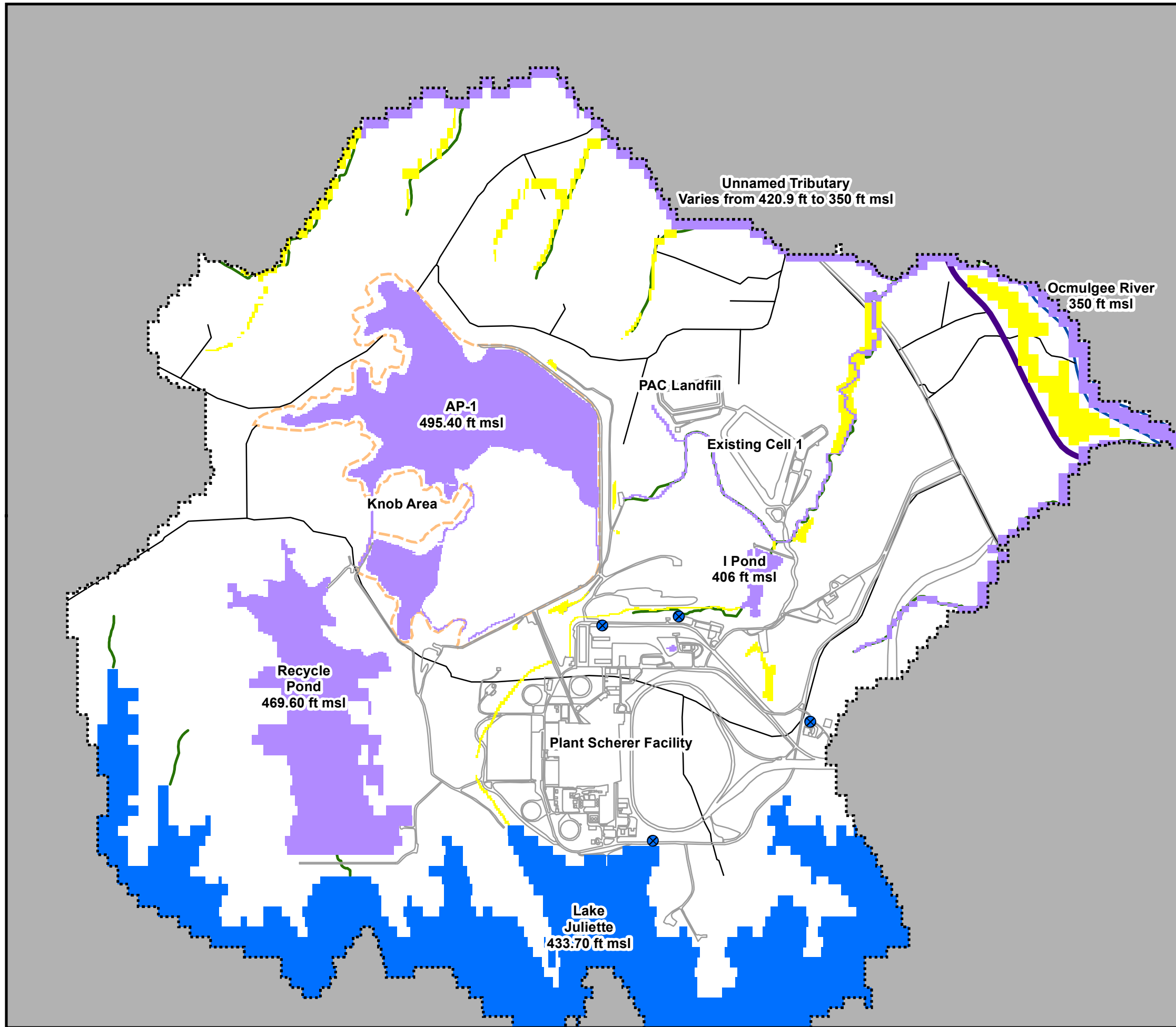
DRAWN BY:
DAE

CHECKED BY:
MMS

PROJECT NO.
60563110

DATE:
4/20/2020

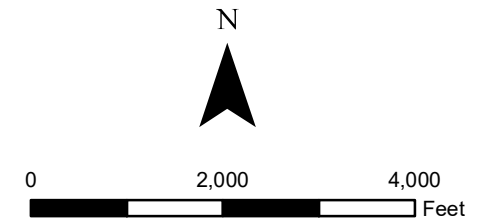
FIGURE NO.
14



Legend

- Active Model Domain
- Pumping Well
- Constant Head Cells
- Drain Cells
- River Cells
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Note:
 AP-1 water surfaces are in Layer 1.
 The other lakes, rivers, and streams are in Layers 2 and 3.
 Site drainage features are in Layer 2.

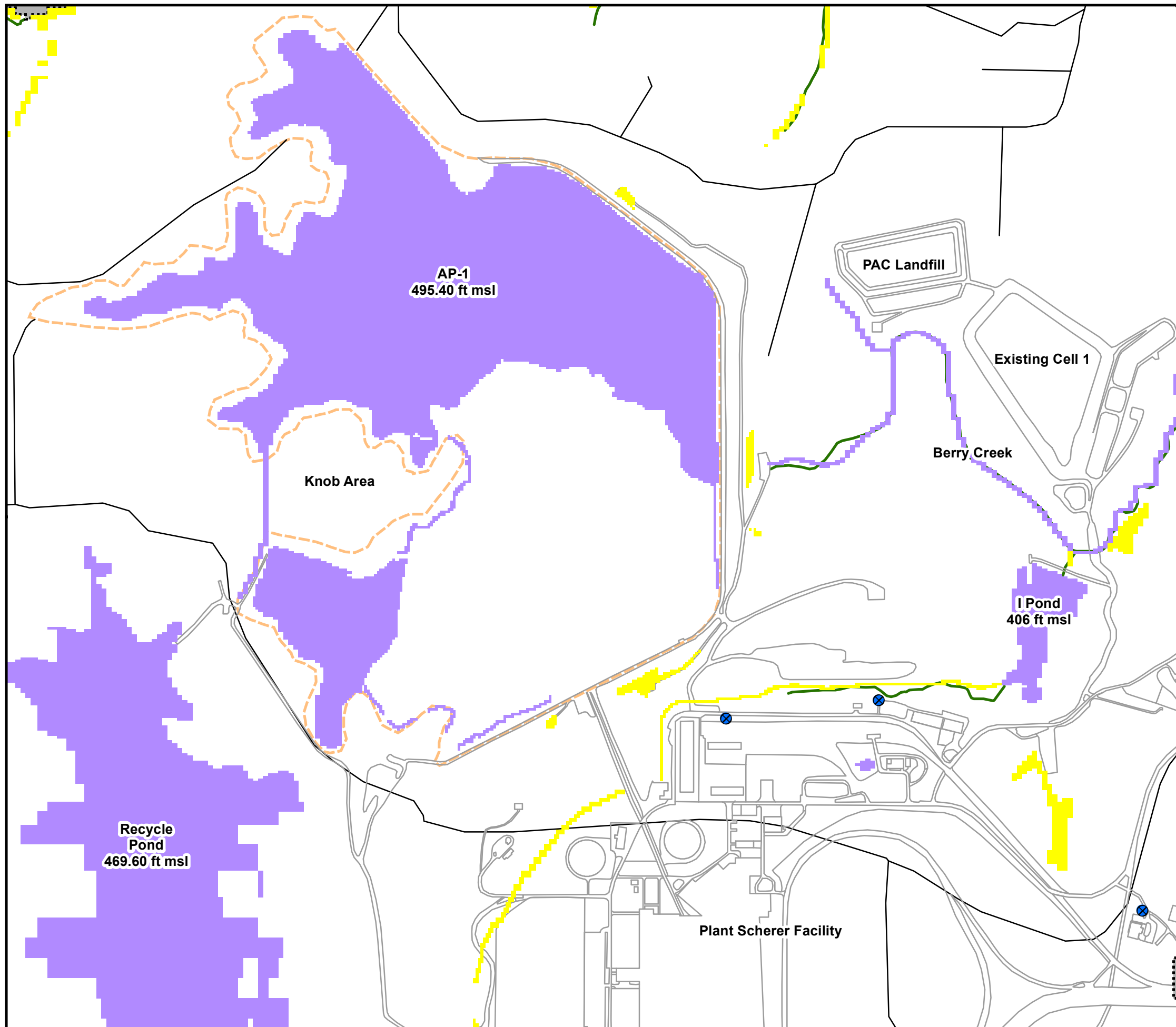


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 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

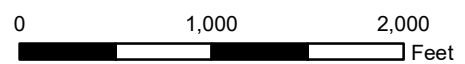
FILENAME: **PRE-CLOSURE MODEL BOUNDARY CONDITIONS**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/24/2020	FIGURE NO. 15
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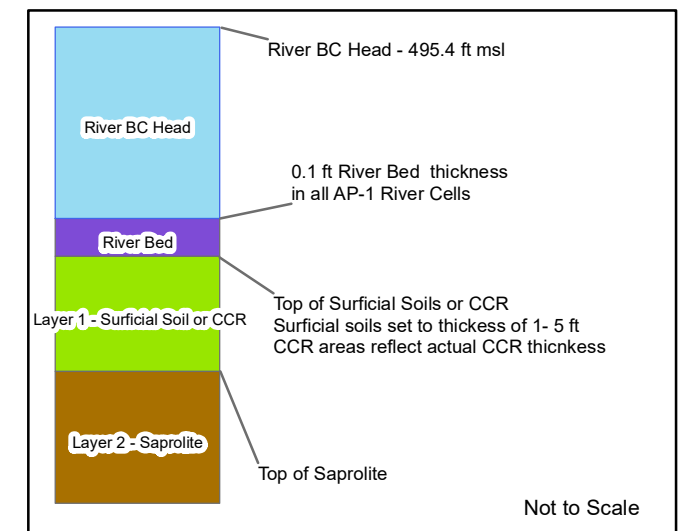
Legend

- Plant Scherer Buildings and Roads
- Road
- Streams
- - - AP-1 Boundary
- - - Active Model Domain
- ⊗ Pumping Well
- Drain Cells
- River Cells
- Inactive Cells



Note:
 AP-1 water surfaces are in Layer 1.
 The other lakes, rivers, and streams are in Layers 2 and 3.
 Site drainage features are in Layer 2.

Block Diagram of AP-1 River Boundary Conditions Cells



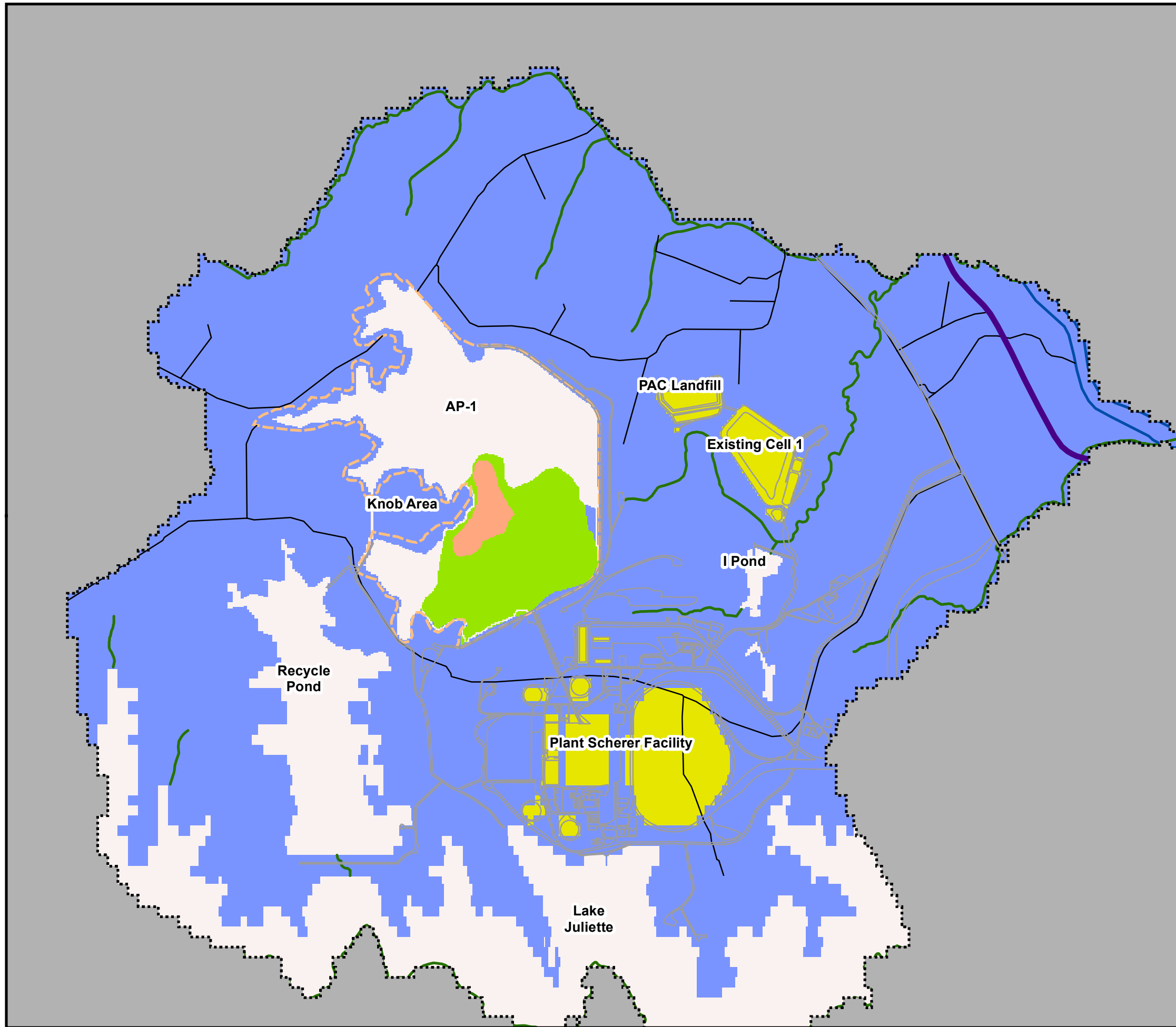
AECOM

**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL BOUNDARY CONDITIONS CLOSE UP**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 16
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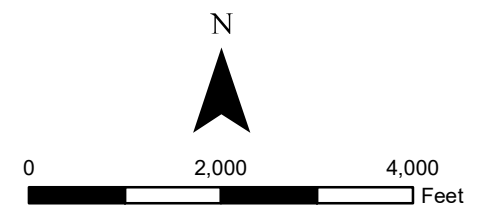
Legend

- Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Recharge Zone

- 2 0 ft/d
- 7 1.52E-3 ft/d
- 8 0 ft/d
- 9 1.37E-3 ft/d
- 10 1.06E-3 ft/d

Note:
Recharge values are shown in units of feet per day and are applied to the highest active model layer.

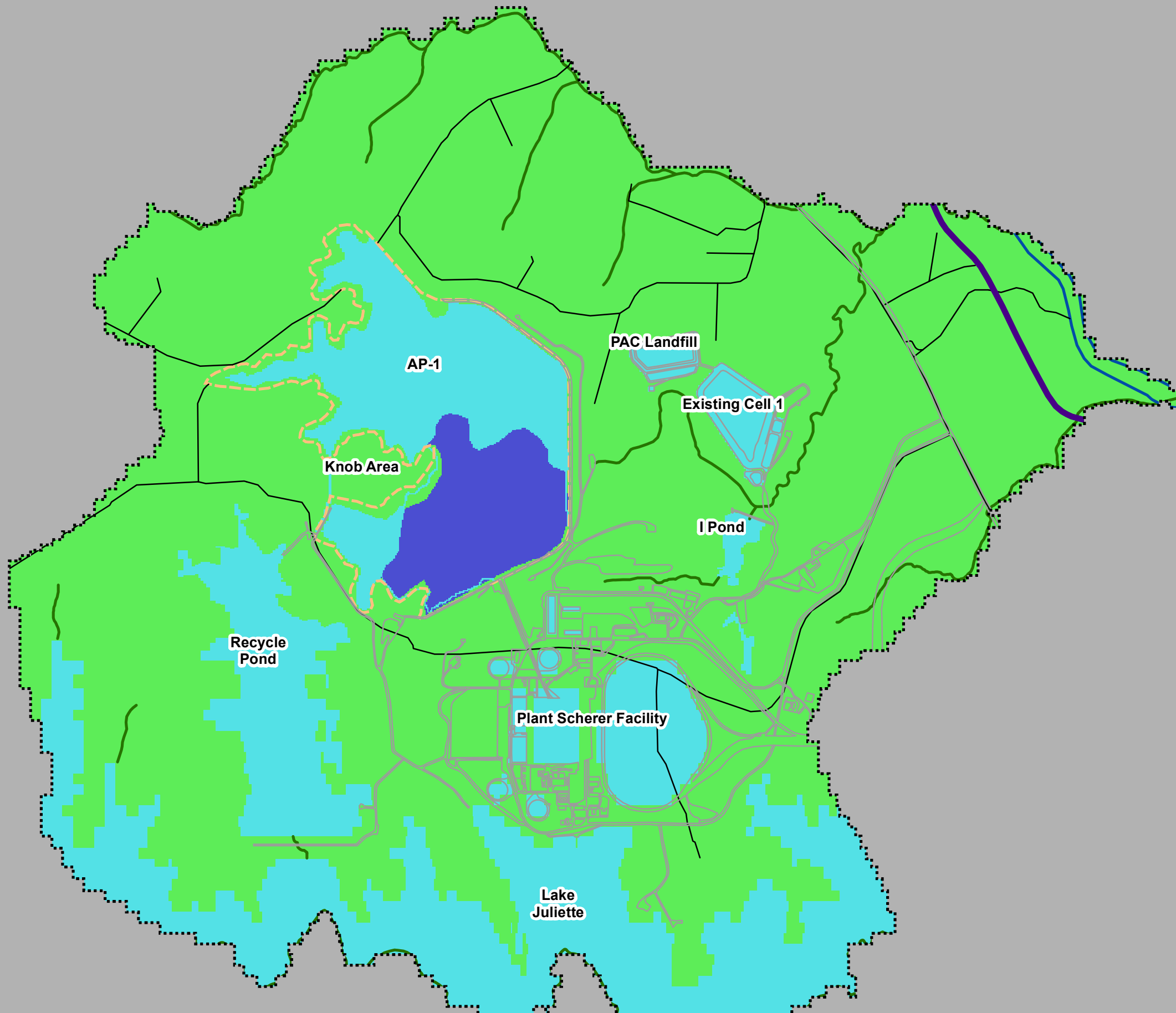


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL RECHARGE VALUES**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	17



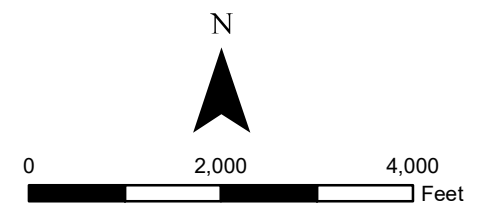
Legend

- Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Evapotranspiration Zone

- 1 *Rate = 0 ft/d ExtDepth = 0 ft*
- 2 *Rate = 0.0010 ft/d ExtDepth = 1 ft*
- 3 *Rate = 0.0077 ft/d ExtDepth = 4 ft*

Note:
Evapotranspiration rates are shown in units of feet per day and are applied to the highest active model layer.

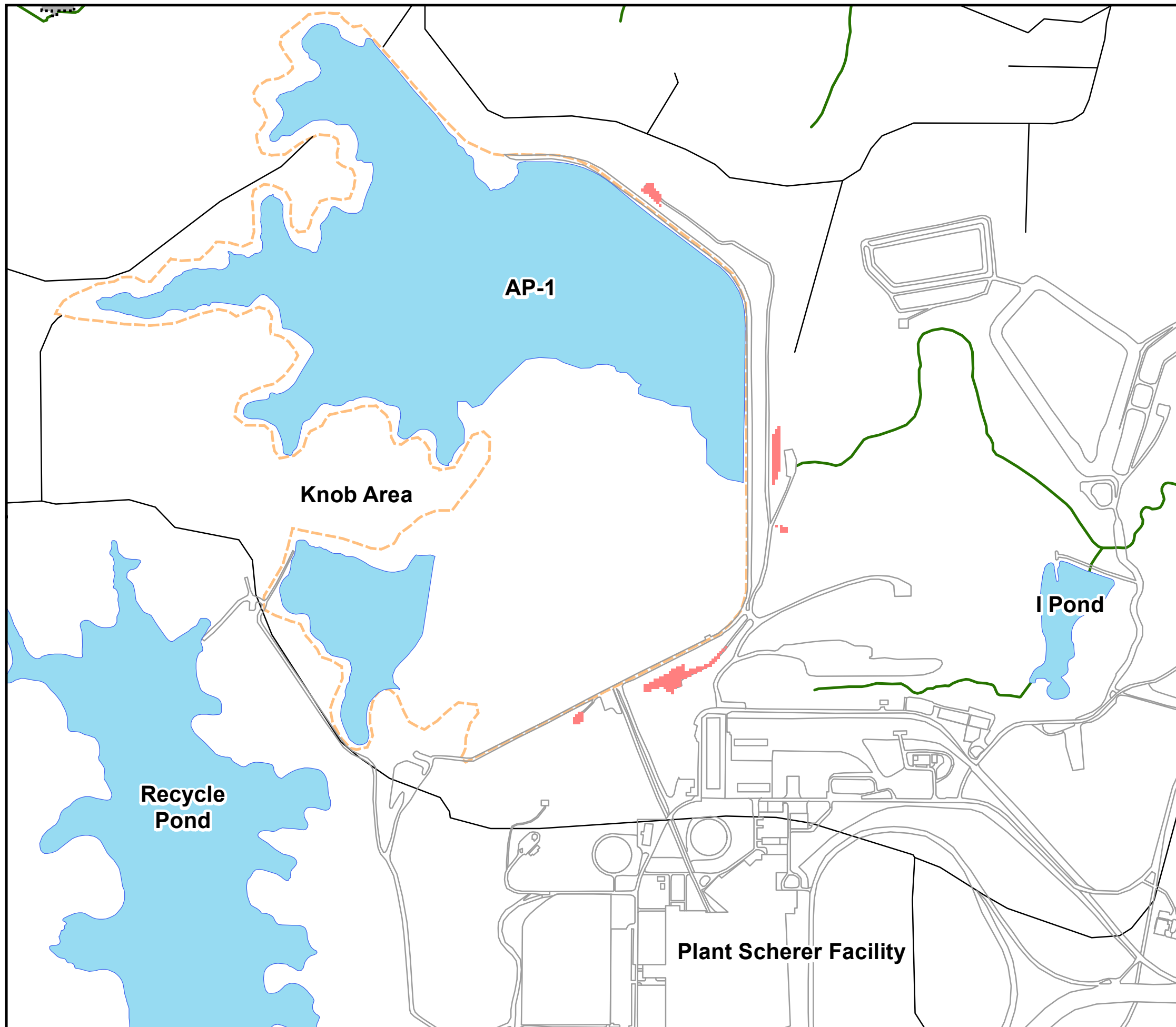


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**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

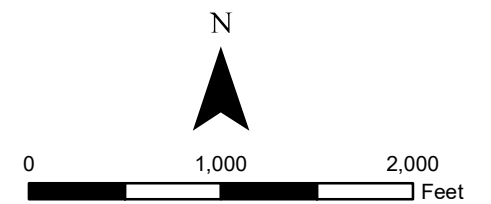
FILENAME: **PRE-CLOSURE MODEL EVAPOTRANSPIRATON VALUES**

DRAWN BY:	CHECKED BY:	PROJECT NO.:	DATE:	FIGURE NO.:
DAE	MMS	60563110	4/22/2020	18



Legend

- Sump (Drain Cell)
- Water Surface
- Plant Scherer Buildings and Roads
- Road
- Streams
- AP-1 Boundary
- Active Model Domain
- Inactive Cells



AECOM

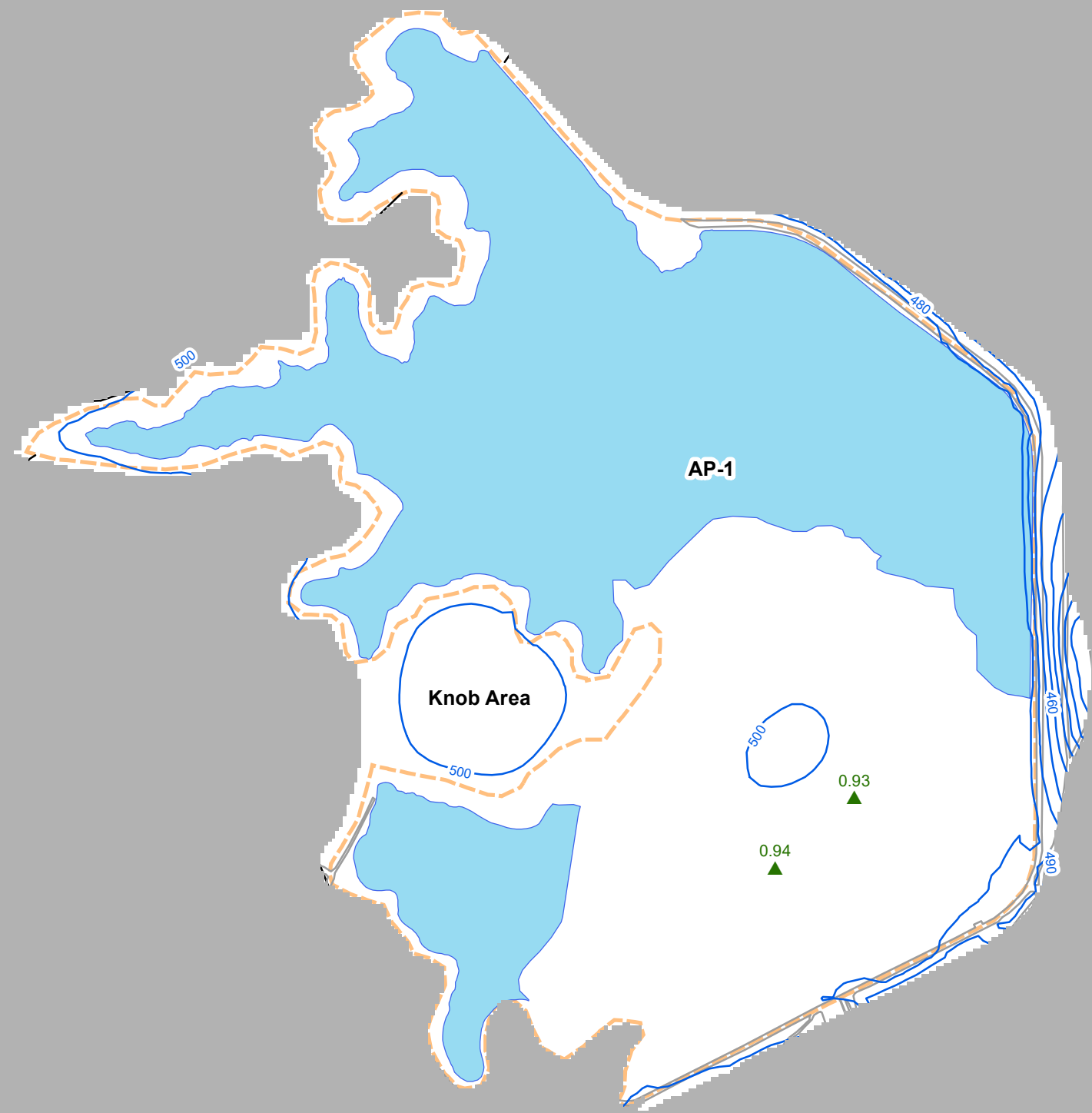
**GEORGIA POWER COMPANY
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MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME:

RECOVERY SUMP LOCATIONS

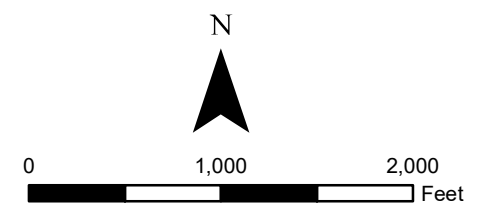
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/21/2020	19



Legend

- - - AP-1 Boundary
- Inactive Cells
- Active Model Domain
- Water Surface
- ▼ Simulated head higher than observed head (ft)
- ▲ Simulated head lower than observed head (ft)
- 500— Simulated Potentiometric Surface Contour (ft msl)

Note:
Observed June 13, 2016 water levels provided by SCS/GPC.



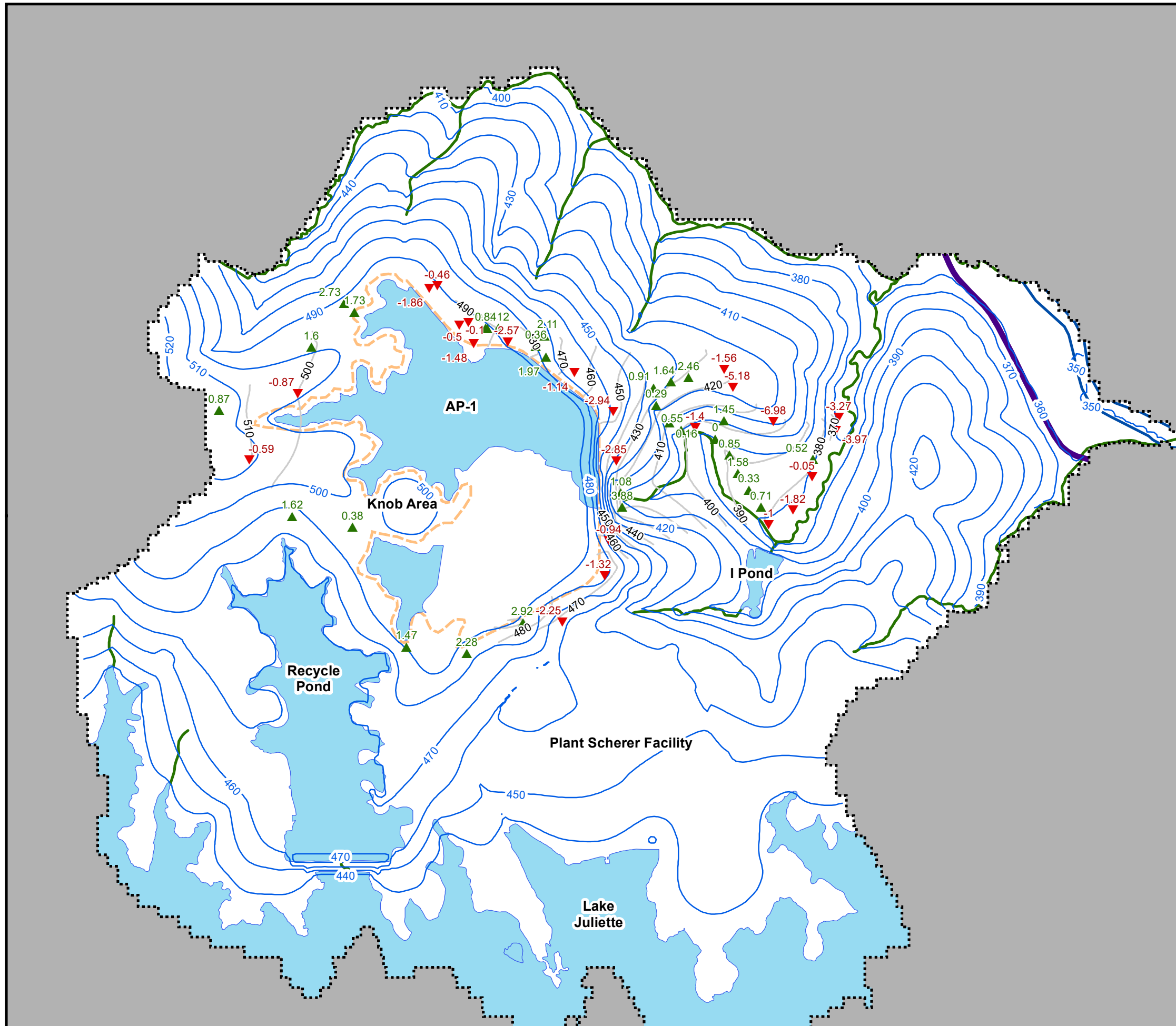
AECOM

**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE CCR AND DIKES/LAYER 1
SIMULATED POTENTIOMETRIC SURFACE**

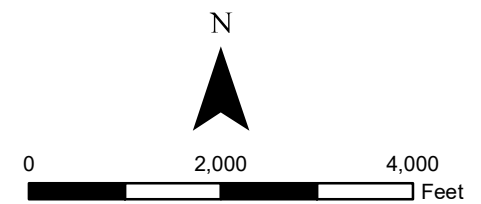
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 20
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Legend

- Water Surface
- US Highway 23
- Ocmulgee River
- Streams
- AP-1 Boundary
- Active Model Domain
- Inactive Cells
- Simulated head higher than observed head (ft)
- Simulated head lower than observed head (ft)
- 500- Simulated Potentiometric Surface Contour (ft msl)
- 500- Observed Potentiometric Surface Contour (ft msl)

Note:
 Observed June 13, 2016 water levels provided by SCS/GPC.
 Potentiometric surface contours interpolated in Surfer.

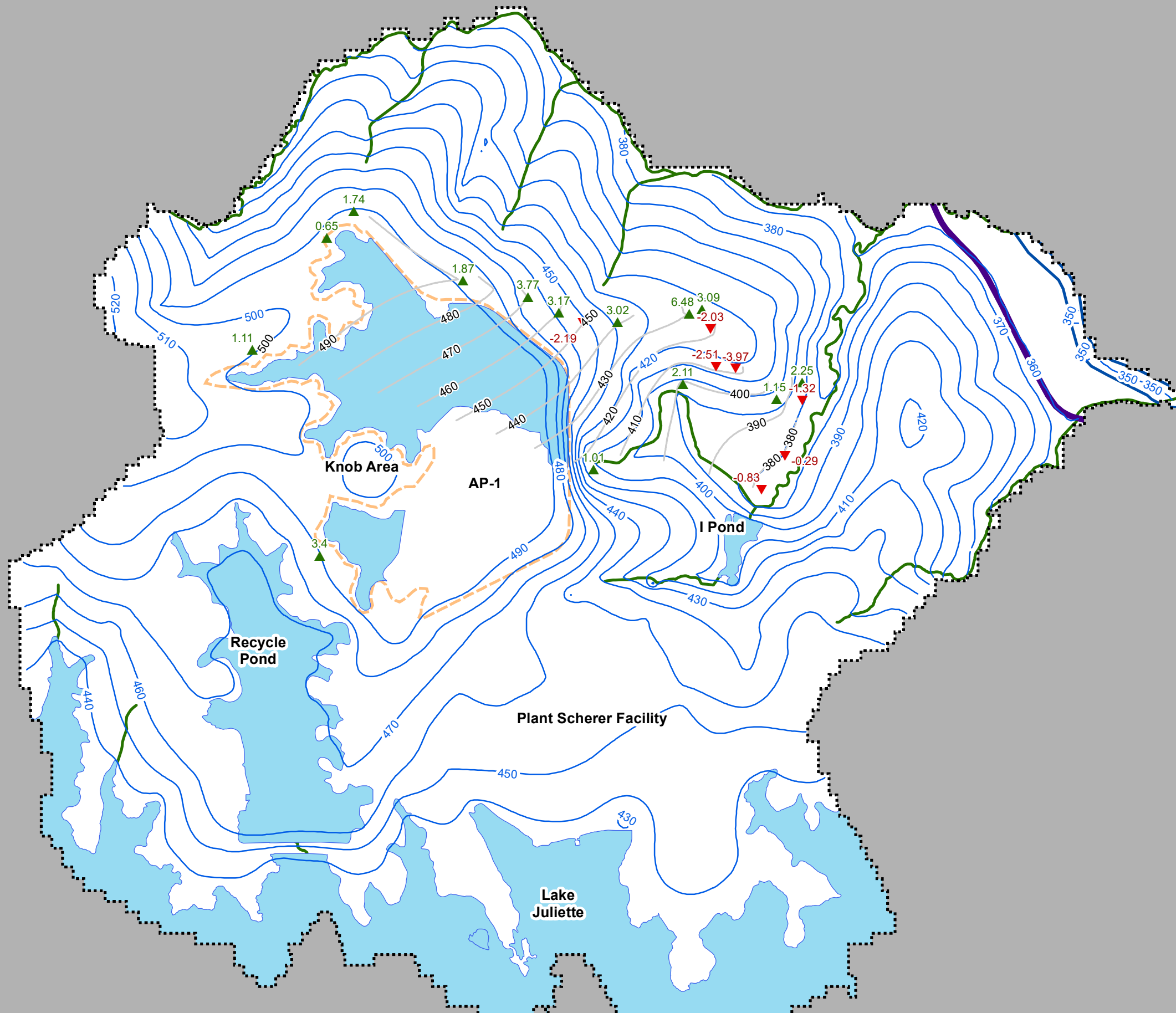


**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE SAPROLITE/LAYER 2
 SIMULATED AND OBSERVED POTENTIOMETRIC SURFACE**

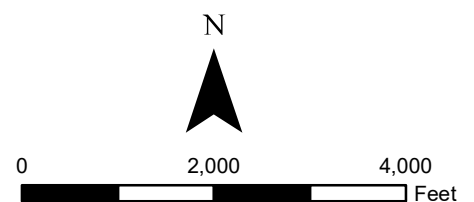
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 21
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Legend

- Water Surface
- US Highway 23
- Ocmulgee River
- Streams
- AP-1 Boundary
- Inactive Cells
- Active Model Domain
- Simulated head higher than observed head (ft)
- Simulated head lower than observed head (ft)
- 500- Observed Potentiometric Surface Contour (ft msl)
- 500- Simulated Potentiometric Surface Contour (ft msl)

Note:
Observed June 13, 2016 water levels provided by SCS/GPC.
Potentiometric surface contours interpolated in Surfer.

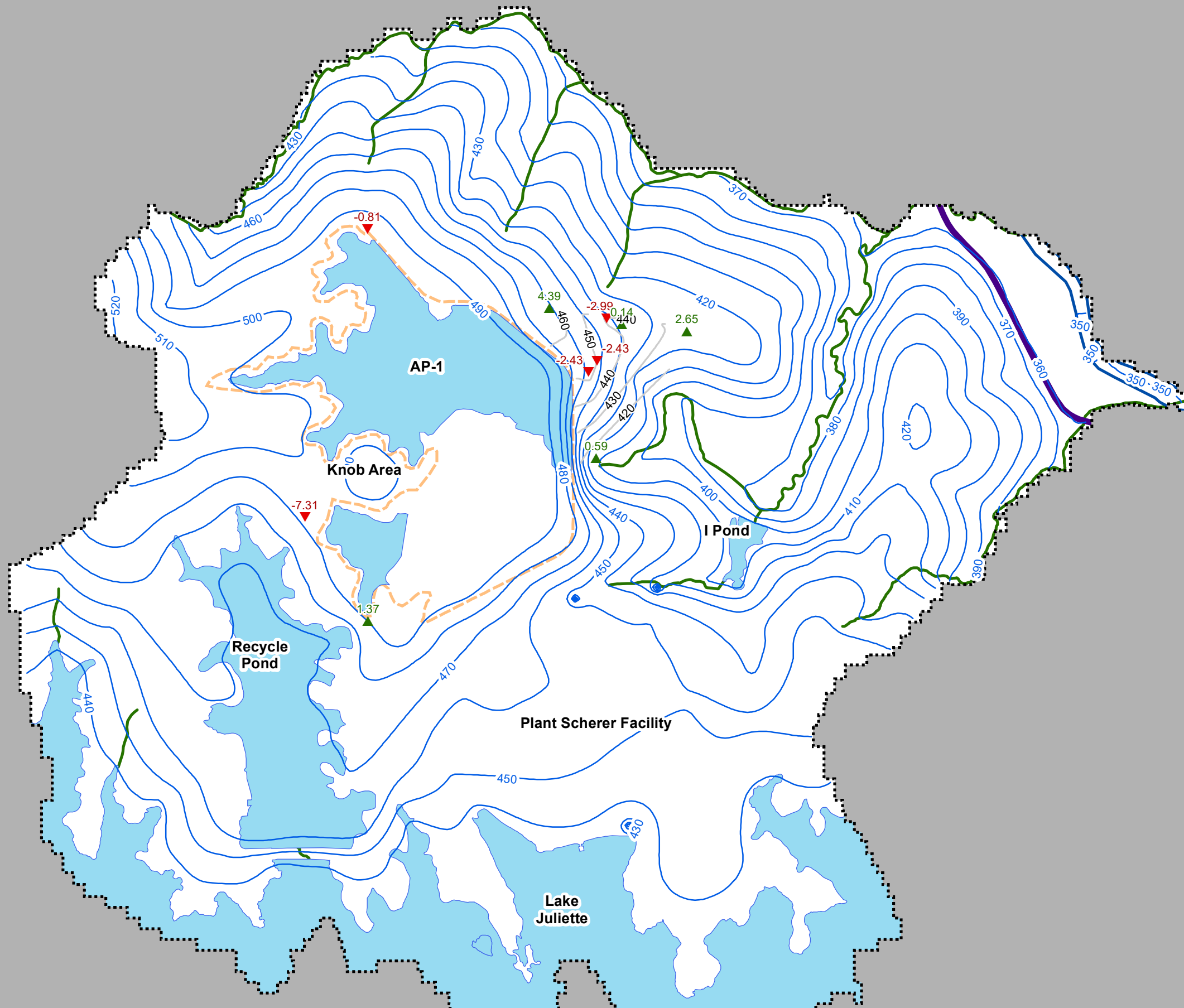


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE PWR/LAYER 3
SIMULATED AND OBSERVED POTENTIOMETRIC SURFACE**

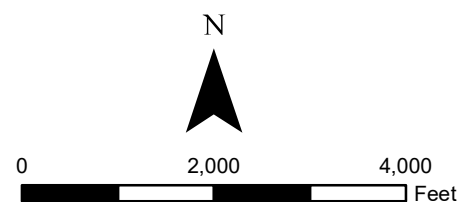
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/27/2020	22



Legend

- Water Surface
- US Highway 23
- Ocmulgee River
- Streams
- AP-1 Boundary
- Active Model Domain
- Inactive Cells
- Simulated head higher than observed head (ft)
- Simulated head lower than observed head (ft)
- 500— Observed Potentiometric Surface Contour
- 500— Simulated Potentiometric Surface Contour

Note:
 Observed June 13, 2016 water levels provided by SCS/GPC.
 Potentiometric surface contours interpolated in Surfer.

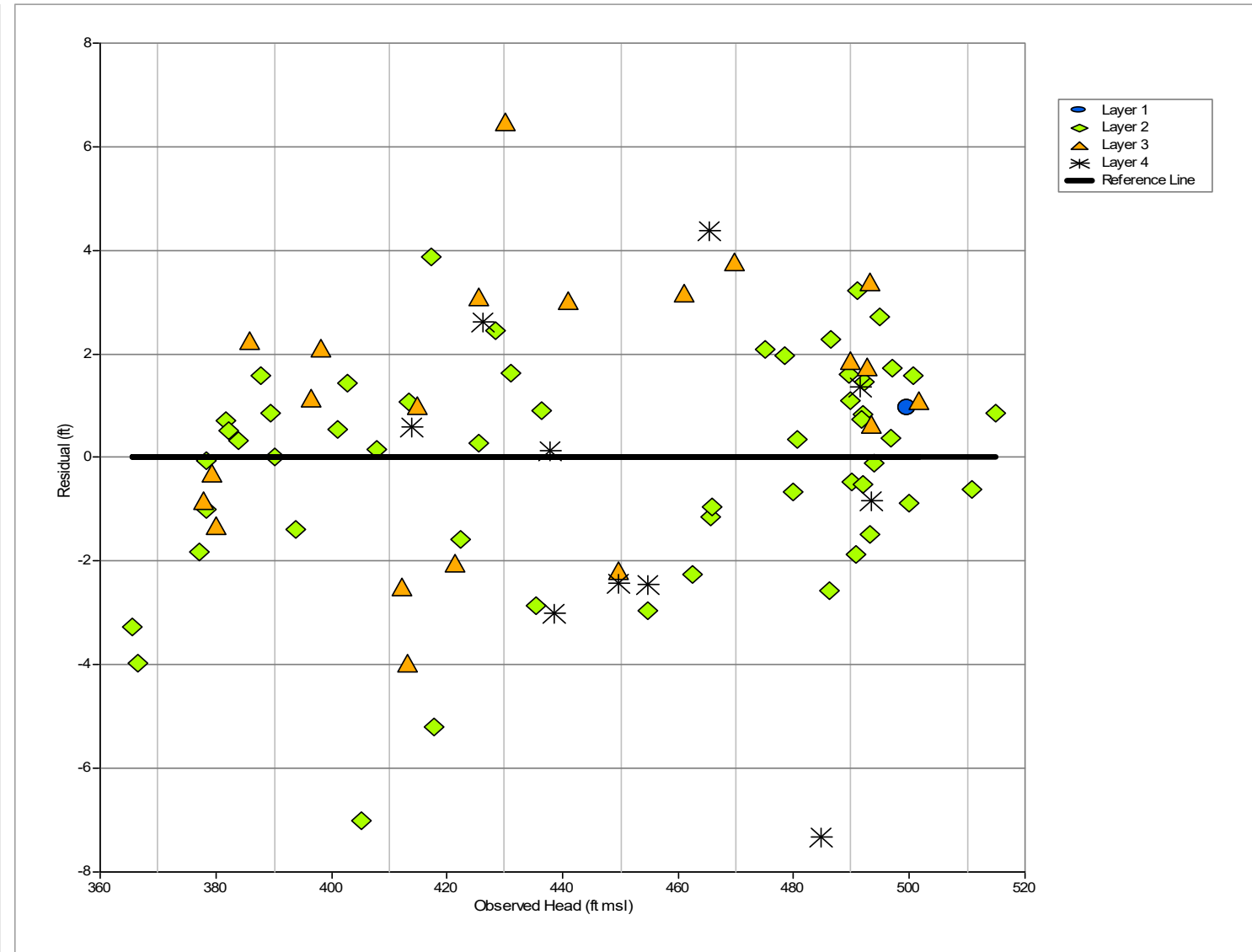
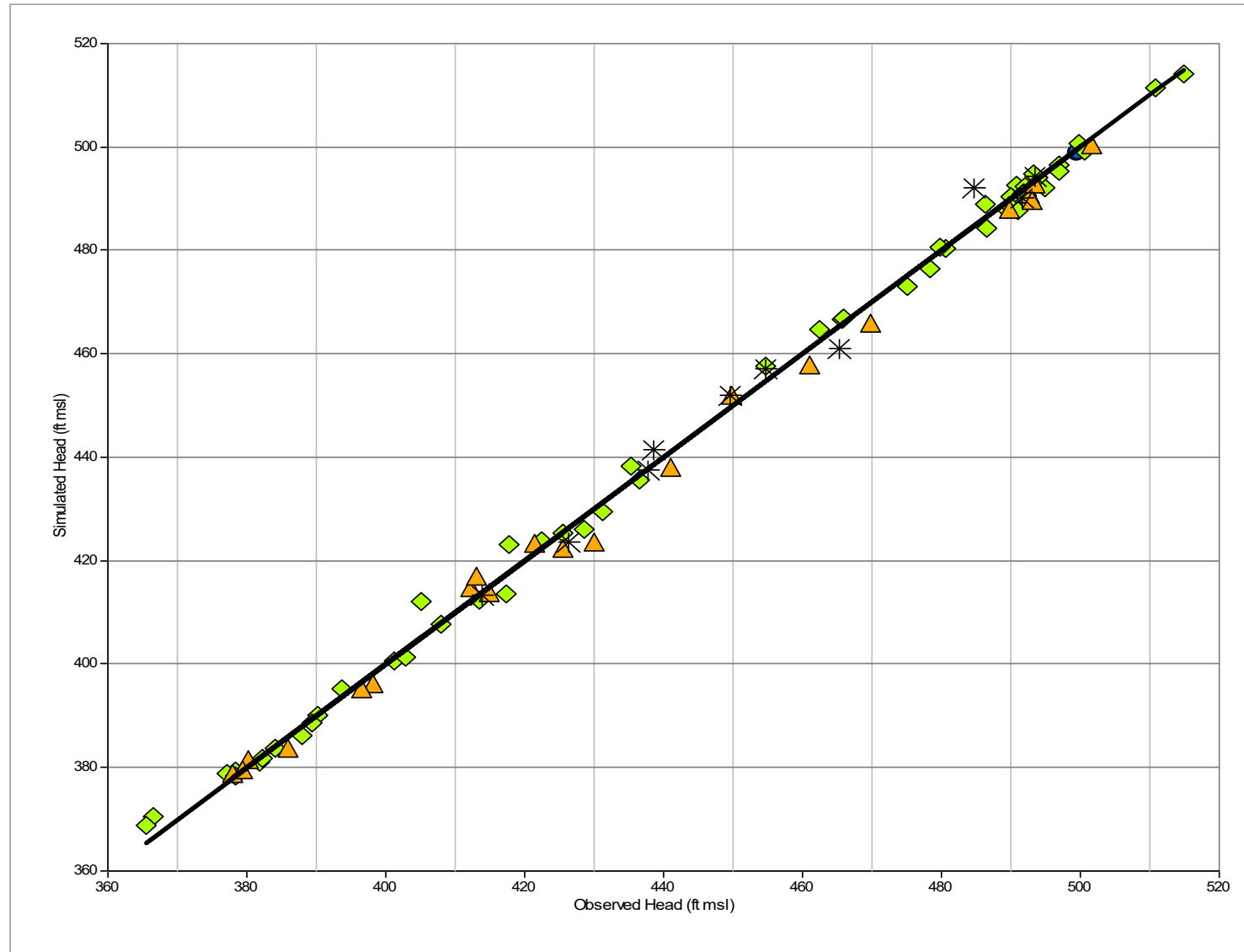


**GEORGIA POWER COMPANY
 PLANT SCHERER
 MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1**

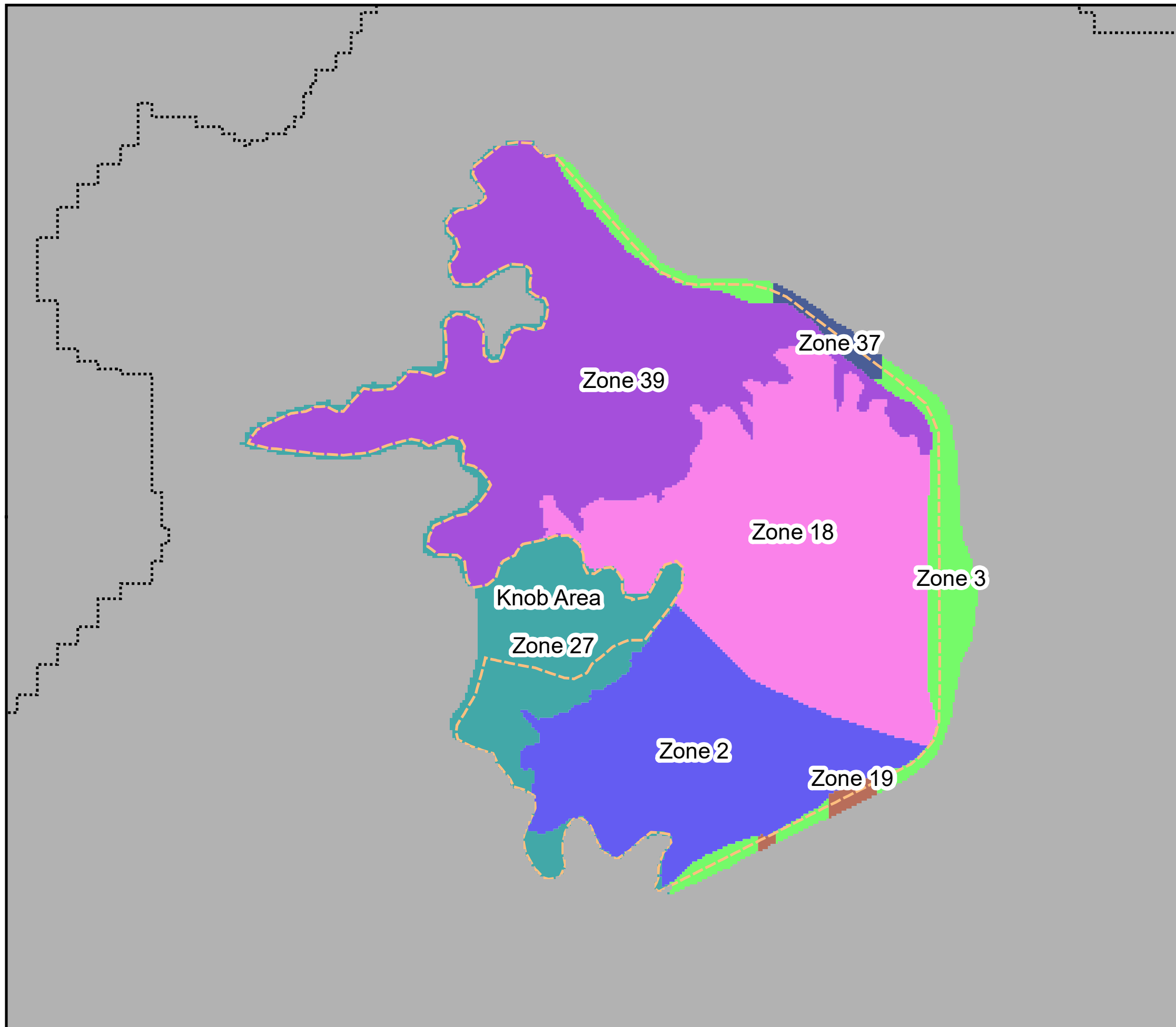
FILENAME: **PRE-CLOSURE FBR/LAYER 4
 SIMULATED AND OBSERVED POTENTIOMETRIC SURFACE**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/27/2020	23






Note:
Observed June 13, 2016 water levels provided by SCS/GPC.

AECOM				
GEORGIA POWER COMPANY PLANT SCHERER MONROE COUNTY, GEORGIA				
GROUNDWATER MODELING SUMMARY REPORT FOR AP-1				
FILENAME: PLOTS OF OBSERVED VERSUS SIMULATED HEADS AND RESIDUALS				
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 24



Legend

-  Active Model Domain
-  Inactive Cells
-  AP-1 Boundary

Hydraulic Conductivity Zone

Zone #	K_h (ft/d)	K_z (ft/d)
 2	4.08E+00	4.08E-01
 3	1.00E-02	5.00E-03
 18	1.31E+00	1.31E-01
 19	6.40E-03	1.28E-03
 27	1.70E+01	1.70E+01
 37	8.00E-03	8.00E-04
 39	1.70E+01	1.70E+01

Note:
Horizontal hydraulic conductivity in feet/day.
Values are summarized in Table 9.



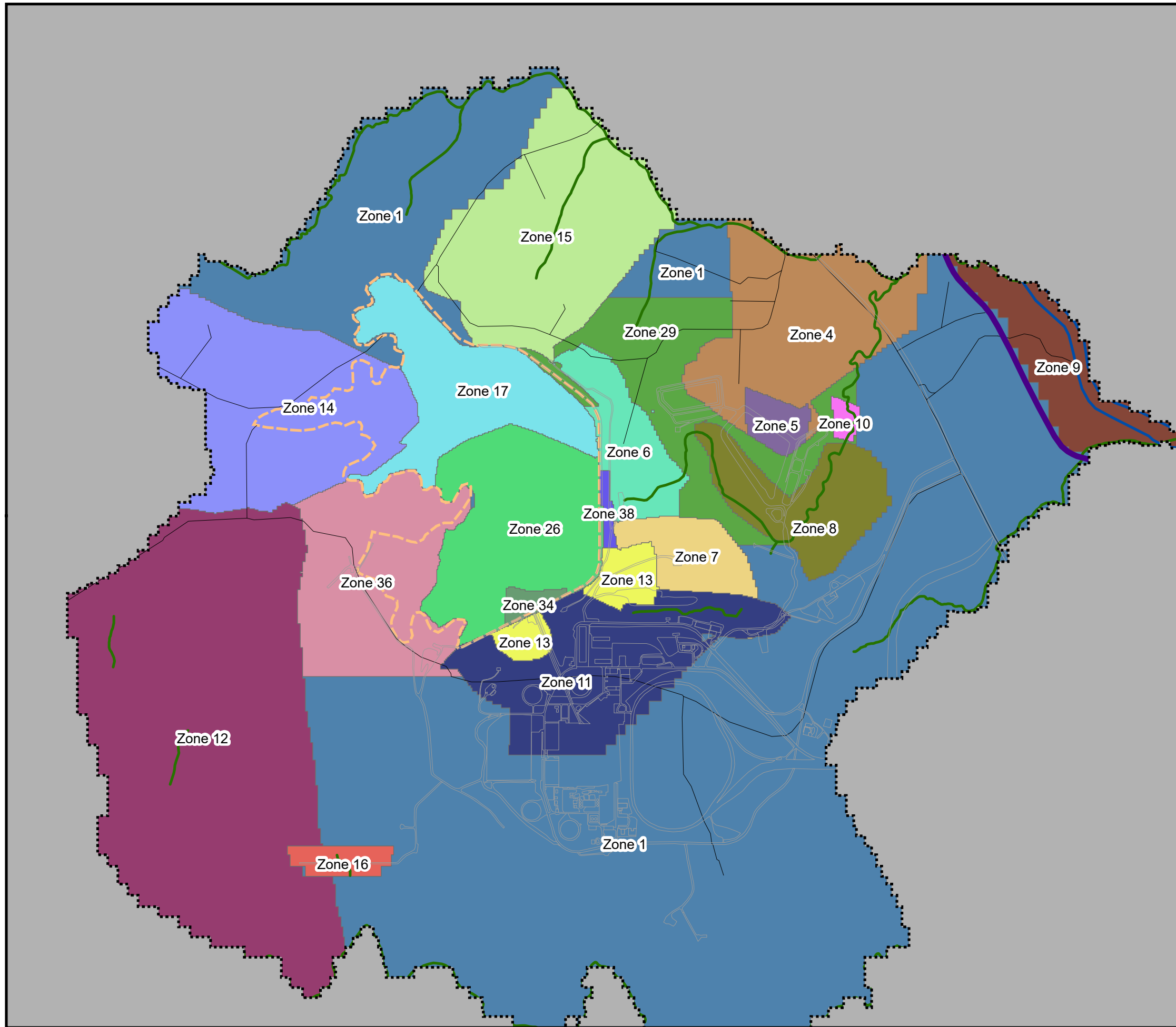
AECOM

**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL LAYER 1
HYDRAULIC CONDUCTIVITY VALUES**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 25
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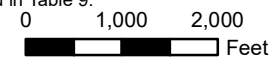
Legend

- Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Hydraulic Conductivity Zone

Zone #	Kxy (ft/d)	Kz (ft/d)
1	3.85E-01	7.00E-02
4	3.20E-01	6.40E-02
5	1.00E-01	2.00E-02
6	3.00E+00	1.44E-01
7	4.99E-01	9.99E-02
8	3.04E+00	6.08E-01
9	9.00E+00	1.80E+00
10	5.00E+00	1.00E+00
11	1.04E+00	1.76E-01
12	2.35E+00	4.70E-01
13	1.06E-01	3.66E-03
14	8.00E-01	1.00E-01
15	7.20E-01	1.44E-01
16	1.60E-03	1.60E-03
17	1.54E-01	2.80E-02
26	3.07E-01	3.07E-02
29	7.68E-01	1.02E-01
34	3.00E-01	3.00E-02
36	6.50E-01	1.10E-01
38	2.00E-01	2.00E-02

Note:
Hydraulic conductivity in feet/day. Values are summarized in Table 9.

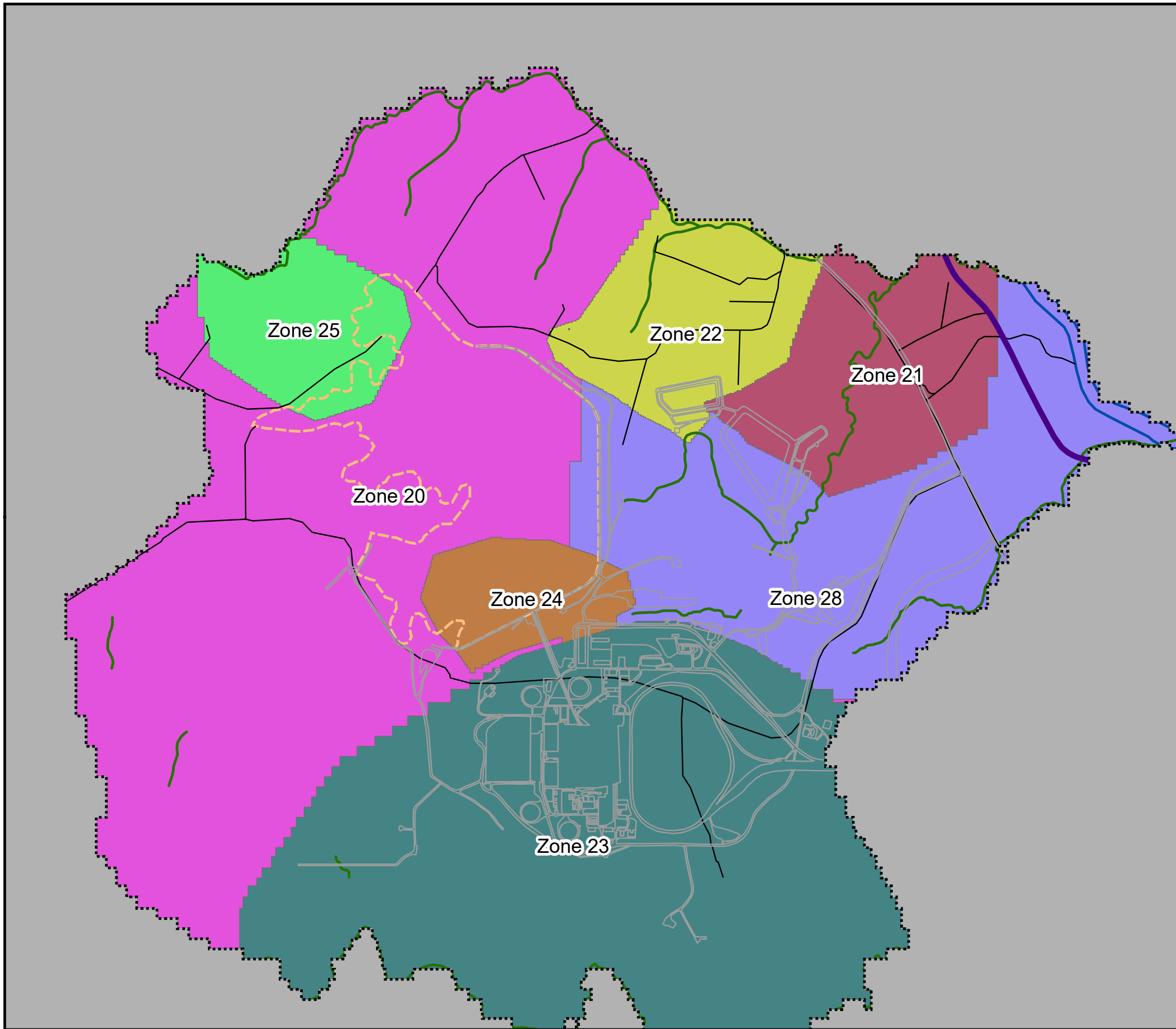


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**









**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL LAYER 2
HYDRAULIC CONDUCTIVITY VALUES**








DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 26
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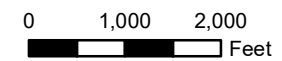
Legend

-  Active Model Domain
-  Inactive Cells
-  Plant Scherer Buildings and Roads
-  US Highway 23
-  Road
-  Ocmulgee River
-  Streams
-  AP-1 Boundary

Hydraulic Conductivity Zone

Zone #	Kh (ft/d)	Kv (ft/d)
 20	3.30E-01	3.30E-02
 21	1.92E-01	3.84E-02
 22	2.40E+00	4.80E-02
 23	4.00E+00	8.00E-01
 24	6.79E-01	1.36E-01
 25	1.60E+00	3.20E-01
 28	4.11E-01	8.21E-02

Note:
Hydraulic conductivity in feet/day.
Values are summarized in Table 9.



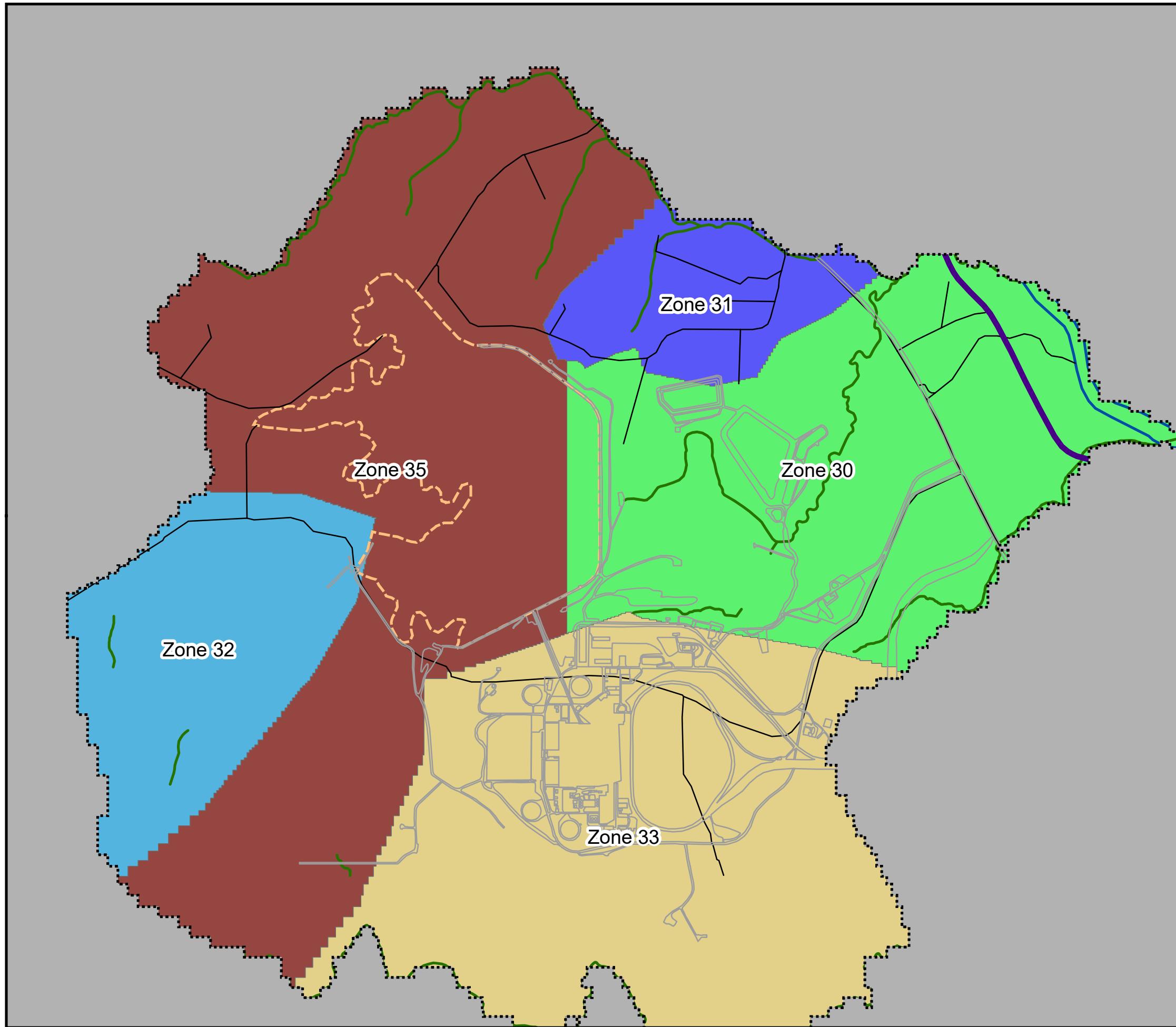
AECOM

**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL LAYER 3
HYDRAULIC CONDUCTIVITY VALUES**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 27
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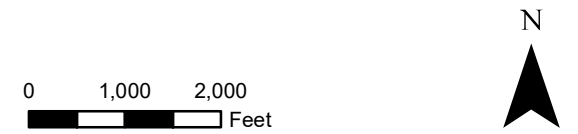
Legend

- Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary

Hydraulic Conductivity Zone

Zone #	Kh (ft/d)	Kv (ft/d)
30	2.45E-01	1.23E-01
31	6.43E-01	2.05E-01
32	1.60E+00	1.60E+00
33	4.00E-01	1.60E-01
35	4.90E-01	2.50E-01

Note:
Hydraulic conductivity in feet/day.
Values are summarized in Table 9.

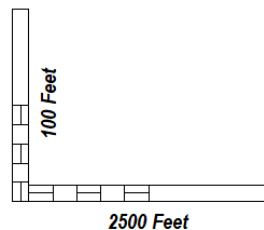
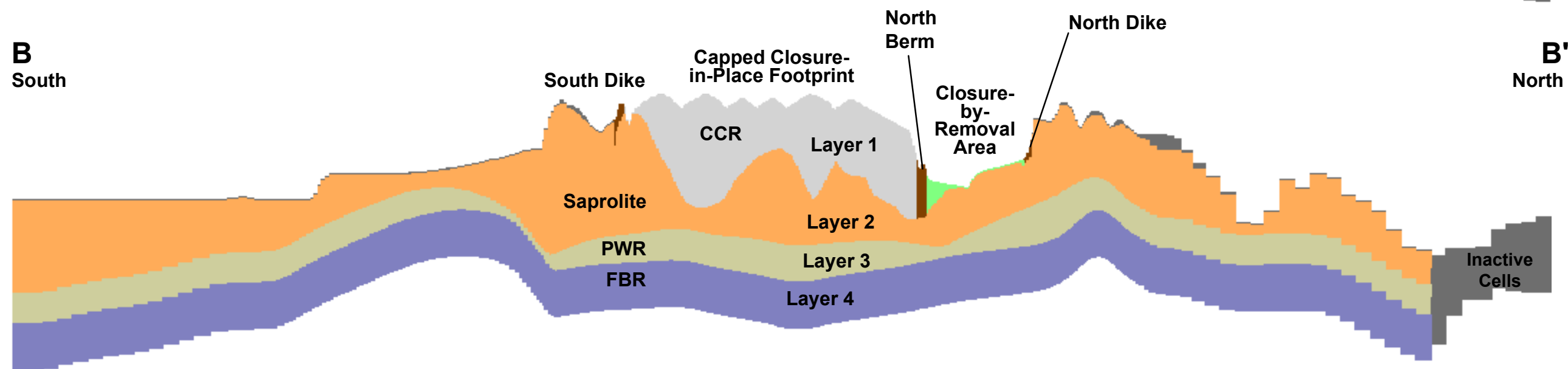
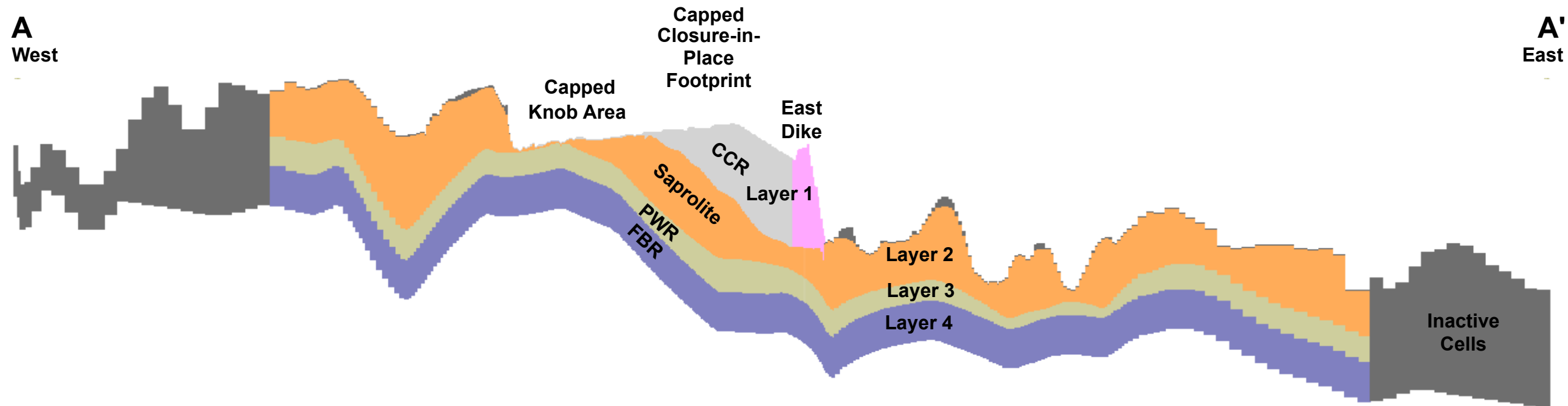


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE-CLOSURE MODEL LAYER 4
HYDRAULIC CONDUCTIVITY VALUES**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 28
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Note:
 PWR - Partially Weathered Bedrock
 FBR - Fractured Bedrock
 Vertical Exaggeration 20x
 Cross sections were exported from
 Groundwater Vistas with color floods to
 represent model layers

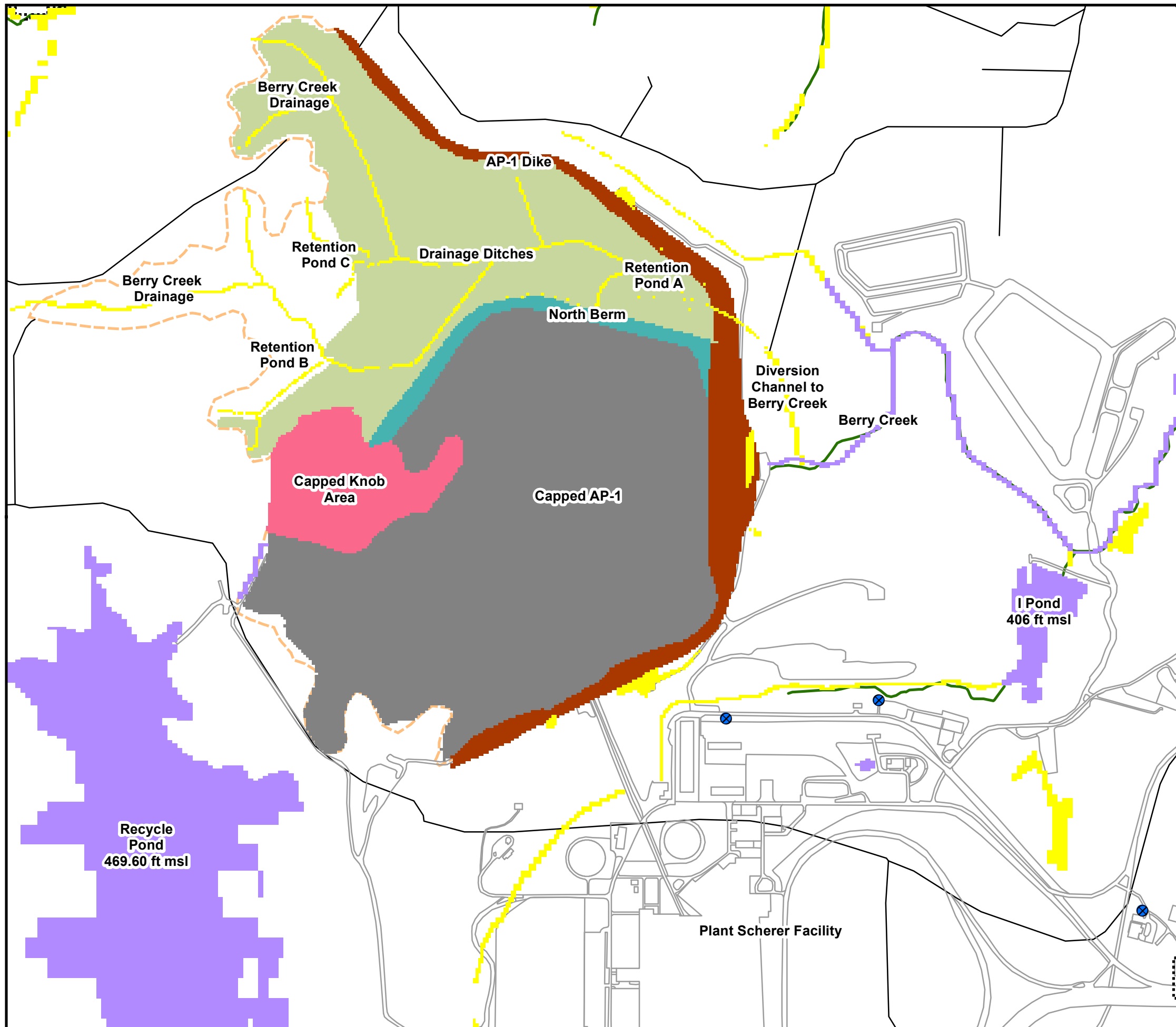
AECOM

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 PLANT SCHERER
 MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
 SUMMARY REPORT FOR AP-1

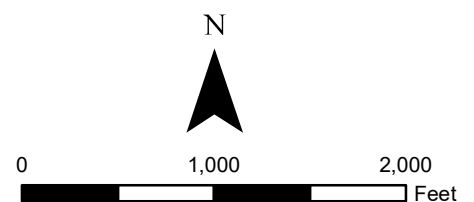
FILENAME: **POST-CLOSURE CONCEPTUAL MODEL LAYERS**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 29
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Legend

- Road
- Streams
- - - AP-1 Boundary
- Plant Scherer Buildings and Roads
- ⊗ Pumping Well
- Drain Cells
- River Cells
- AP-1 Dike
- Graded Fill
- Capped AP-1
- Capped Knob Area
- North Berm
- ⋯ Active Model Domain



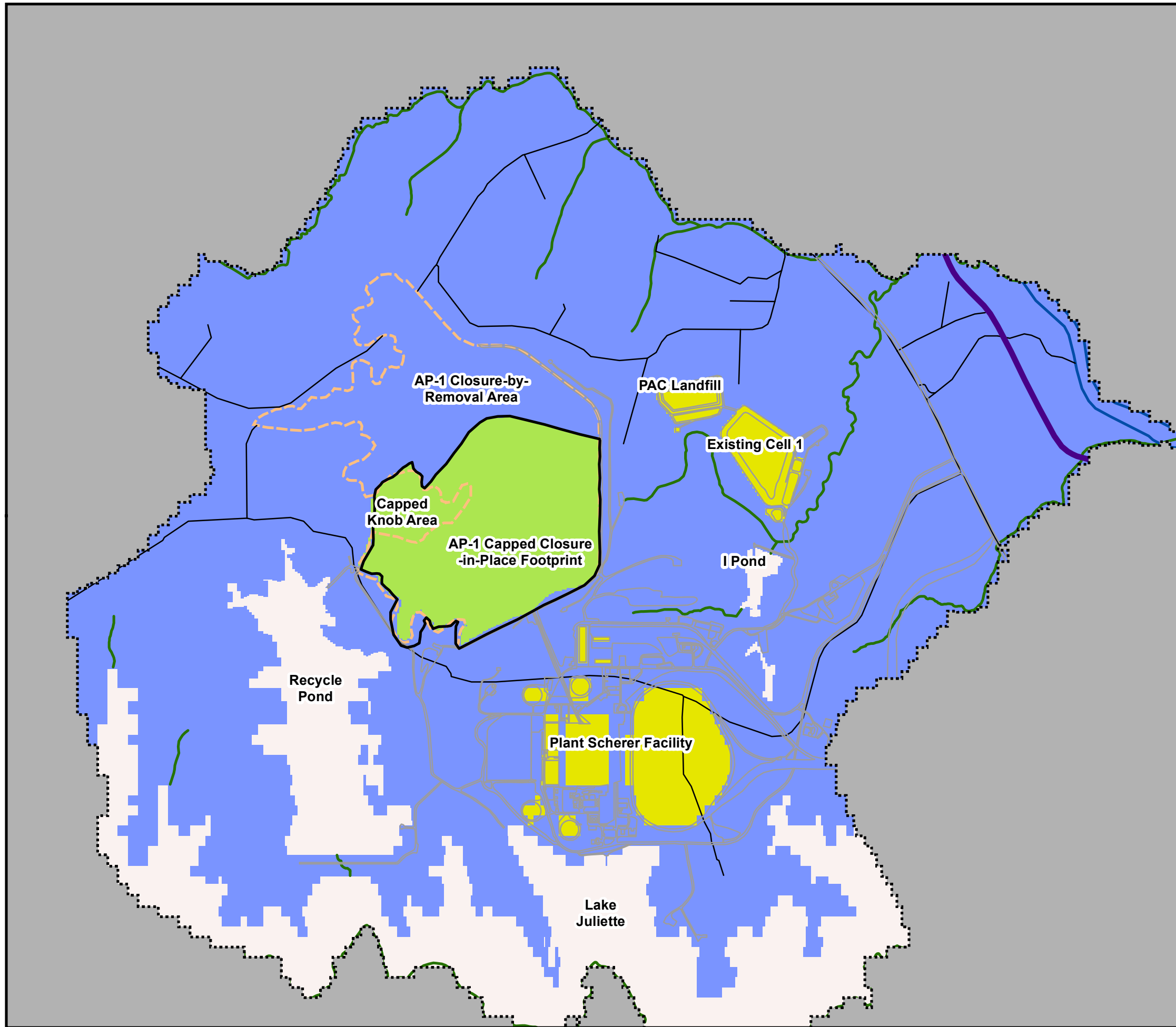
AECOM

GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1

FILENAME: **POST-CLOSURE MODEL BOUNDARY CONDITIONS**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 30
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Legend

- Approximate AP-1 Cap Outline
- ⋯ Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- - - AP-1 Boundary

Recharge Zone

zone

- 1 0 ft/d
- 2 0 ft/d
- 8 0 ft/d
- 9 1.27E-3 ft/d

Note:
Recharge values are shown in units of feet per day and are applied to the highest active model layer.



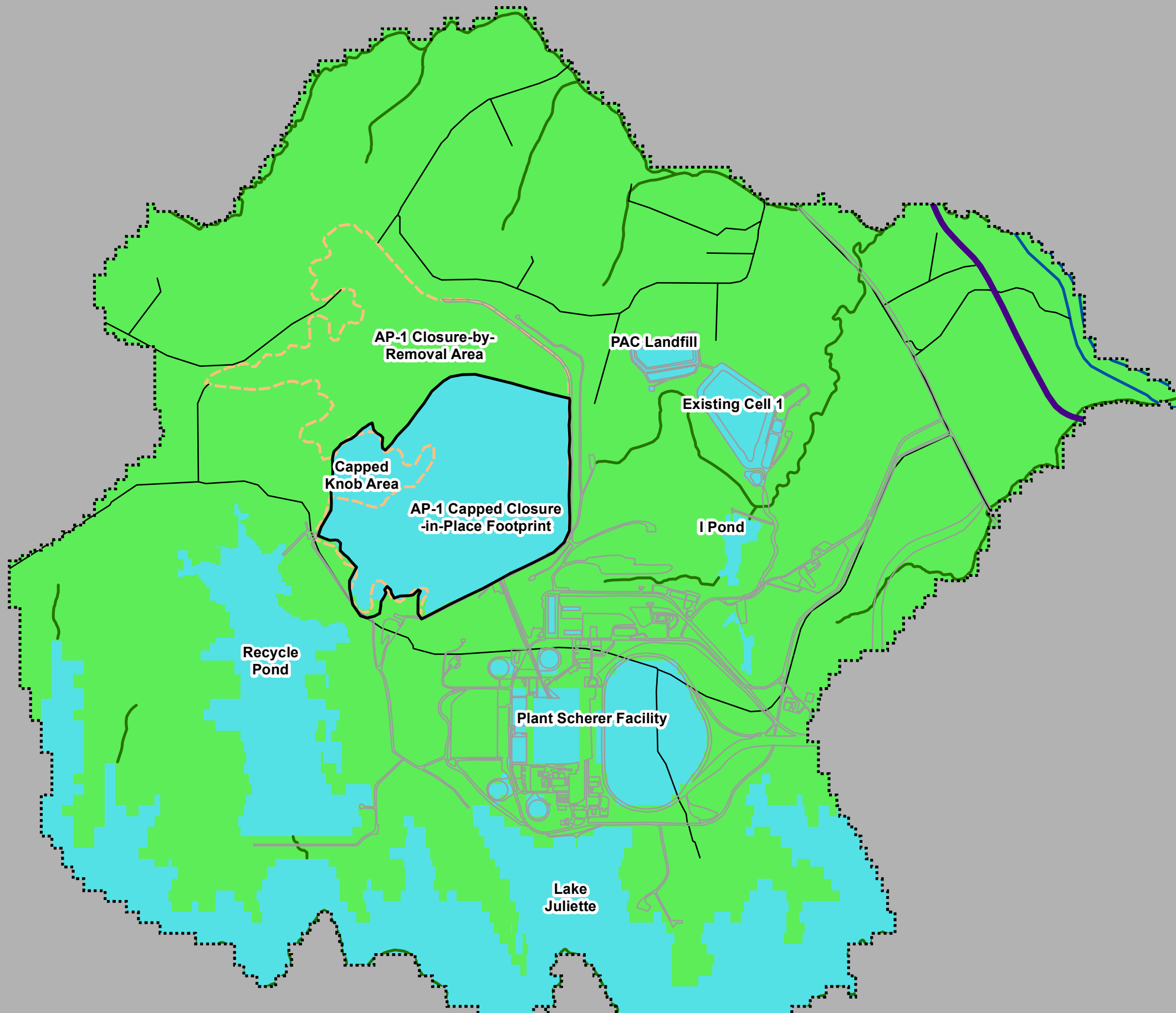
AECOM

GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1

FILENAME: **POST-CLOSURE MODEL RECHARGE VALUES**

DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 31
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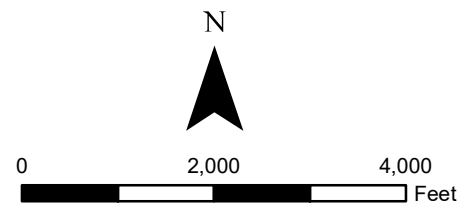
Legend

- Approximate AP-1 Cap Outline
- ⋯ Active Model Domain
- Inactive Cells
- Plant Scherer Buildings and Roads
- US Highway 23
- Road
- Ocmulgee River
- Streams
- - - AP-1 Boundary

Evapotranspiration Zone

- 1 Rate = 0 ft/d ExtDepth = 0 ft
- 3 Rate = 0.0077 ft/d ExtDepth = 4 ft

Note:
Evapotranspiration rates are shown in units of feet per day and are applied to the highest active model layer.

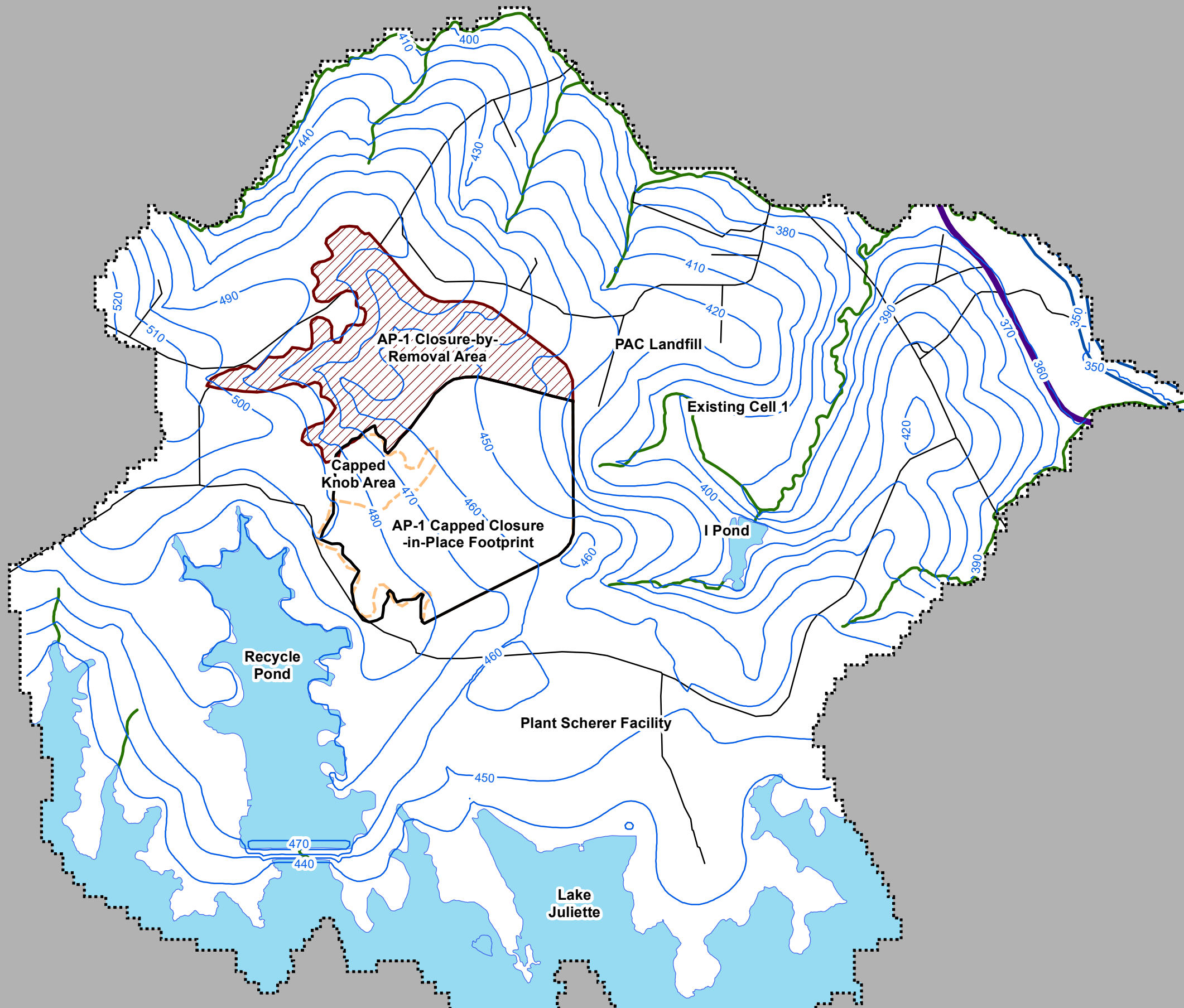


**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **POST-CLOSURE MODEL EVAPOTRANSPIRATON VALUES**

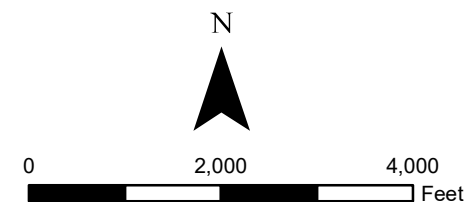
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/22/2020	FIGURE NO. 32
------------------	--------------------	-------------------------	--------------------	-------------------------



Legend

- Water Surface
- US Highway 23
- Road
- Ocmulgee River
- Streams
- AP-1 Boundary
- 350 Simulated Potentiometric Surface (ft msl)
- Active Model Domain
- Inactive Cells
- Approximate Closure-by-Removal Area
- Approximate Closure-in-Place Footprint

Note:
Vertical Datum NAVD88



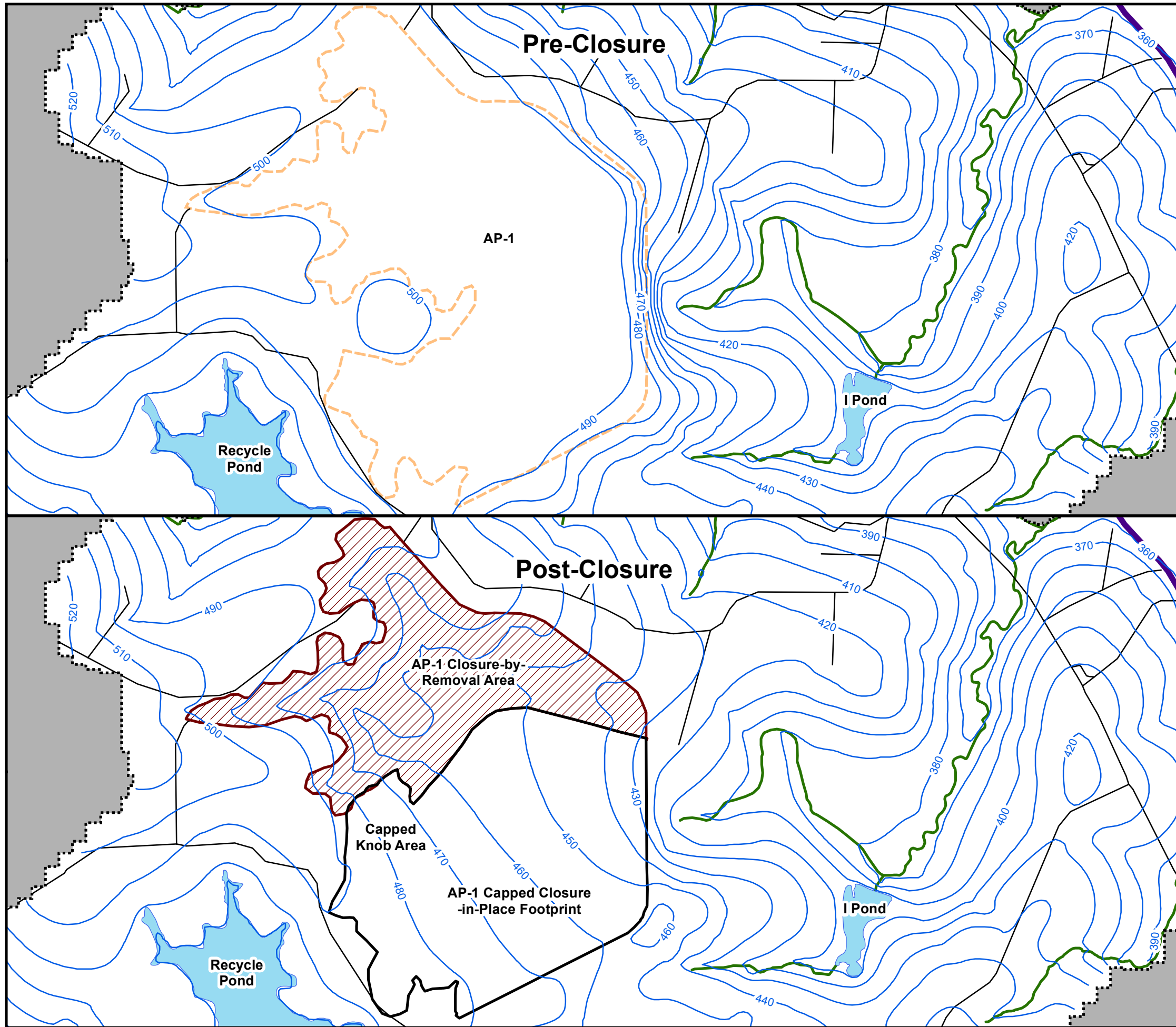
AECOM

**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **POST-CLOSURE SAPROLITE/LAYER 2
SIMULATED POTENTIOMETRIC SURFACE**

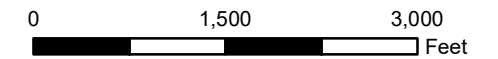
DRAWN BY:	CHECKED BY:	PROJECT NO.:	DATE:	FIGURE NO.:
DAE	MMS	60563110	4/24/2020	33



Legend

- Water Surface
- US Highway 23
- Road
- Ocmulgee River
- Streams
- Active Model Domain
- Inactive Cells
- AP-1 Boundary
- Approximate Closure-by-Removal Area
- Approximate Closure-in-Place Footprint
- 400- Simulated Potentiometric Surface Contour (ft msl)

Note:
Vertical Datum NAVD88



**GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA**

**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

FILENAME: **PRE- AND POST-CLOSURE SAPROLITE/LAYER 2
SIMULATED POTENTIOMETRIC SURFACES**

DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/27/2020	34

APPENDIX B

Boring Logs and Well Construction Diagrams

APPENDIX B-1
AP-1 Detection Monitoring Wells
Monitoring Well Logs and Construction Diagrams



LOG OF TEST BORING

BORING SGWA-1/PZ-08S
 PAGE 1 OF 2
 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 2/11/2015 COMPLETED 2/11/2015 SURF. ELEV. 544.1 COORDINATES: N 1119233.10 E 2399899.81
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger; HQ Rock Core
 DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 50.9 ft. GROUND WATER DEPTH: DURING 35 ft. COMP. 37.3 ft. DELAYED 37.2 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUP\SPAC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Silty Clay (CL) - dark red (2.5YR 3/6) residuum dry, very stiff, trace mica			SPT N=22bpf(@3.5ft.)
10		- mottled dark reddish brown (2.5YR 3/4) and red (10R 4/8) residuum dry, stiff, micaceous, trace residual quartz and sand			SPT N=13bpf(@8.5ft.)
15		Sandy Silt (ML) - mottled reddish yellow (5YR 6/8) and red (10R 4/8) saprolite moist, medium stiff, trace muscovite, biotite, residual quartz			SPT N=8bpf(@13.5ft.)
20		- mottled red (2.5YR 4/8) and light red / moderate reddish orange (10R 6/6) saprolite moist, stiff, trace medium sand, muscovite, biotite, residual quartz, hornblende			SPT N=10bpf(@18.5ft.)
25		- yellow (10YR 7/8) saprolite moist, medium stiff			SPT N=7bpf(@23.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-1/PZ-08S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUP\SPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL	REACTION	COMMENTS
		Sandy Silt (ML) (Cont')				
30		Sandy Elastic Silt (MH) - mottled light red (2.5YR 6/8) and reddish yellow (7.5YR 6/8) saprolite moist, stiff, trace muscovite, biotite, residual quartz, hornblende				SPT N=11bpf(@28.5ft.)(LL=55; PI=13; FC = 51.3%; Gravel = 0%) (MC = 58.3%; UW(d) = 64.4pcf; PERM. = 5.57E-5cm/sec)
35		Silty Sand (SM) - mottled reddish yellow (5YR 6/8) and red (10R 4/8) saprolite moist, medium dense, very fine to fine grained, with residual quartz, muscovite, biotite, hornblende				SPT N=11bpf(@33.5ft.)
40		- strong brown (7.5YR 5/8) saprolite wet, medium dense, very fine to fine grained				SPT N=19bpf(@38.5ft.)
45		- strong brown (7.5YR 5/8) saprolite wet, medium dense, very fine to fine grained				SPT N=12bpf(@43.5ft.)
50		- gray (7.5YR 5/1) saprolite wet, medium dense, very fine to fine grained, micaceous, with residual quartz, feldspar, muscovite, biotite, weathered rock fragments				SPT N=14bpf(@48.5ft.)
		Bottom of borehole at 50.9 feet.				
55						



RECORD OF WELL CONSTRUCTION

WELL: SGWA-1/PZ-08S
PAGE 1 OF 2
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

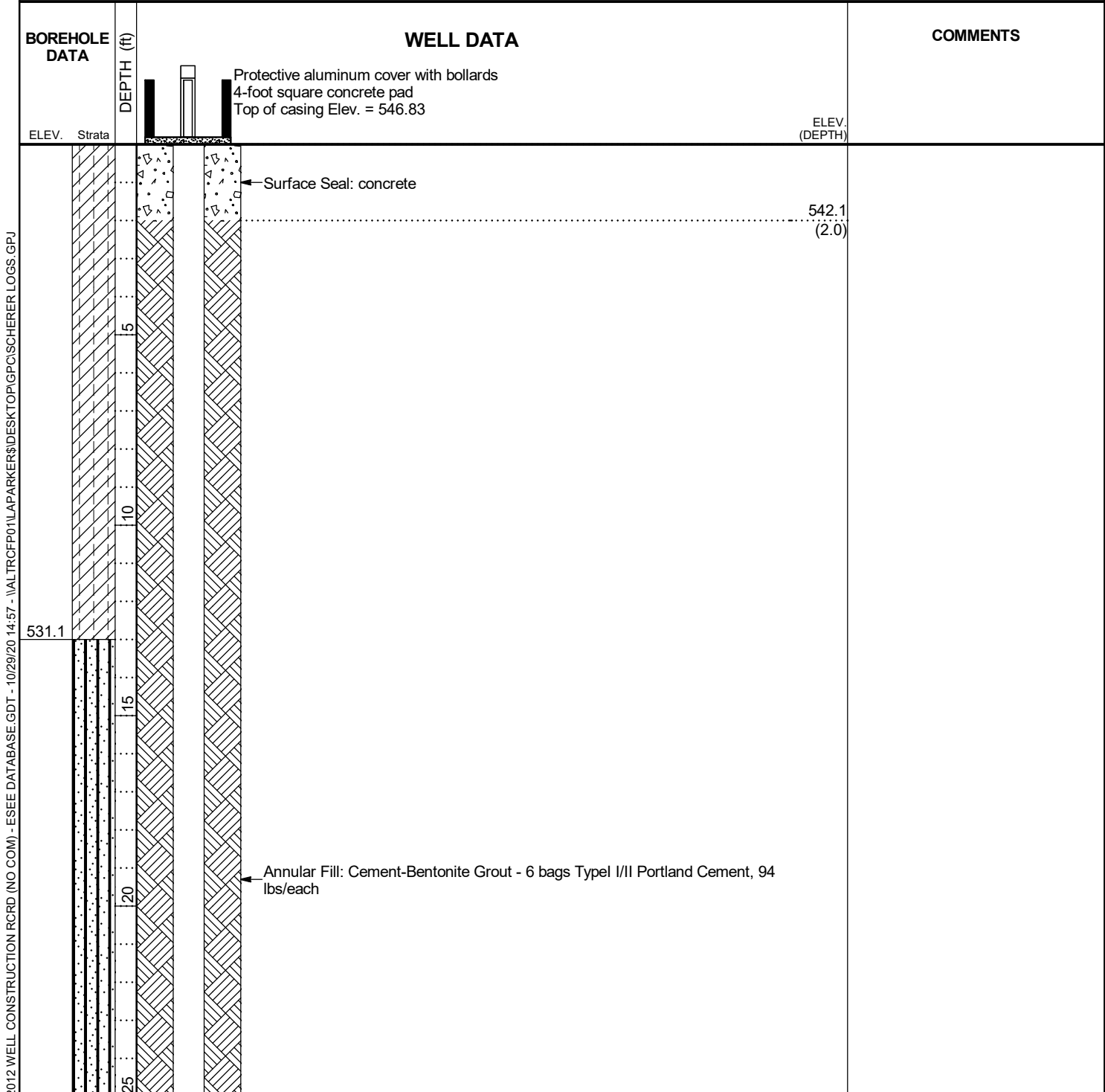
DATE STARTED 2/11/2015 COMPLETED 2/11/2015 GROUND ELEVATION 544.1 ft COORDINATES N 1119233.1 E 2399899.81

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 50.9 ft.

GROUND WATER DEPTH: DURING 35 ft. COMP. 37.3 ft. DELAYED 37.2 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWA-1/PZ-08S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 546.83	ELEV. (DEPTH)
516.1	30		
511.1	35		
	40	← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each ← Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	507.5 (36.6) 505.5 (38.6)
	45	← Well: 2" OD PVC (SCH 40) ← Screen: 10 ft. pre-pack	503.6 (40.5)
493.2	50	← Sump: 0.40 ft.	493.6

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWZ-2/PZ-081

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/12/2015 COMPLETED 2/17/2015 SURF. ELEV. 544.0 COORDINATES: N 1119237.67 E 2399908.19
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger; HQ Rock Core
 DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 95.8 ft. GROUND WATER DEPTH: DURING 38.5 ft. COMP. 37.5 ft. DELAYED 37.3 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Silty Clay (CL) - mottled dark red (10R 3/6) and brownish yellow (10YR 6/8) residuum dry, very stiff, trace mica			SPT N=28bpf(@3.5ft.)
10		Sandy Silt (ML) - variegated dark red (10R 3/6) and dusky red (10R 3/2) residuum dry, stiff, trace clay and mica			SPT N=15bpf(@8.5ft.)
15		- mottled red (2.5YR 5/8) and brownish yellow (10YR 6/8) residuum dry, stiff			SPT N=10bpf(@13.5ft.)
20		- mottled strong brown (7.5YR 4/6) and dusky red / dark reddish brown (10R 3/4) saprolite moist, stiff, micaceous, trace muscovite and residual quartz			SPT N=10bpf(@18.5ft.)
25		- mottled strong brown (7.5YR 5/8) and dark red (10R 3/6) saprolite moist, medium stiff, micaceous, trace muscovite, biotite, residual quartz, hornblende			SPT N=7bpf(@23.5ft.)
30		Silty Sand (SM) - mottled reddish yellow (7.5YR 6/8) and very dark brown / dusky yellowish brown (10YR 2/2) saprolite moist, loose, very fine to fine grained, micaceous, trace muscovite, biotite, residual quartz, hornblende			SPT N=8bpf(@28.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-2/PZ-081
 PAGE 2 OF 3
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
35		Silty Sand (SM) (Con't) - mottled reddish yellow (7.5YR 6/8) and red (10R 4/8) saprolite moist, loose, very fine to fine grained			SPT N=6bpf(@33.5ft.)
40		- mottled greenish gray (10Y 5/1), grayish olive green (5GY 3/2) and red (10R 4/8) saprolite wet, medium dense, very fine to fine grained, trace mica, residual quartz, feldspar, hornblende			SPT N=13bpf(@38.5ft.)
45		- mottled greenish gray (10Y 5/1), grayish olive green (5GY 3/2) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, chlorite, biotite			SPT N=18bpf(@43.5ft.)
50		- mottled reddish yellow (7.5YR 6/8) and very dark greenish gray (10BG 3/1) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, chlorite, muscovite, biotite			SPT N=14bpf(@48.5ft.)
55		- mottled white / yellowish gray (5Y 8/1) and very dark brown / dusky yellowish brown (10YR 2/2) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, muscovite, biotite, chlorite			SPT N=26bpf(@53.5ft.)
60		- mottled yellow (10YR 7/6) and very dark greenish gray (10BG 3/1) saprolite wet, medium dense, very fine to fine grained, trace medium residual quartz grains, feldspar, biotite, muscovite, hornblende			SPT N=26bpf(@58.5ft.)
65		- mottled very dark bluish gray (5PB 3/1) and white (10R 8/1) saprolite wet, very dense, very fine to coarse grained, trace red staining, weathered rock fragments, residual quartz, feldspar, hornblende, biotite, chlorite, muscovite			SPT N=95bpf(@63.5ft.)
70		Silt (ML) - brown (7.5YR 4/4) saprolite wet, hard, with partially weathered rock fragments			SPT N=37bpf(@68.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-2/PZ-081
 PAGE 3 OF 3
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION	COMMENTS
75		PARTIALLY WEATHERED ROCK - hard to very hard, highly weathered, partially weathered rock fragments						
80		GNEISS - white (N9) and light gray (N7) fine to coarse grain, very soft to soft, highly to completely weathered, inclined, intensely fractured, moderate-angle fractures (30 - 45d) along schistosity, abundant pyrite throughout, orangish-red oxidation along fractures						
85		- black (N1) and dark gray (N3) fine to coarse grain, very soft to soft, highly to completely weathered, inclined, 17 moderate-angle fractures (30 - 45d) along foliation, interbedded with thin layers of Biotite Gneiss, with quartz, feldspar, pyrite, biotite, hornblende, periodic zones of oxidation, no apparent zones of healing						
90		- white (N9) and light gray (N7) fine to coarse grain, very soft to soft, highly to completely weathered, inclined, 23 moderate-angle fractures (30 - 45d) along foliation, very intensely fractured 93.5' - 95.0' bgs, interbedded Amphibolite, heavy oxidation, with quartz, biotite, muscovite, hornblende, pyrite, no apparent healing, feldspar and quartz crystallization in fractures						
95								
Bottom of borehole at 95.8 feet.								
100								
105								
110								



RECORD OF WELL CONSTRUCTION

WELL: SGWA-2/PZ-08I
PAGE 1 OF 3
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

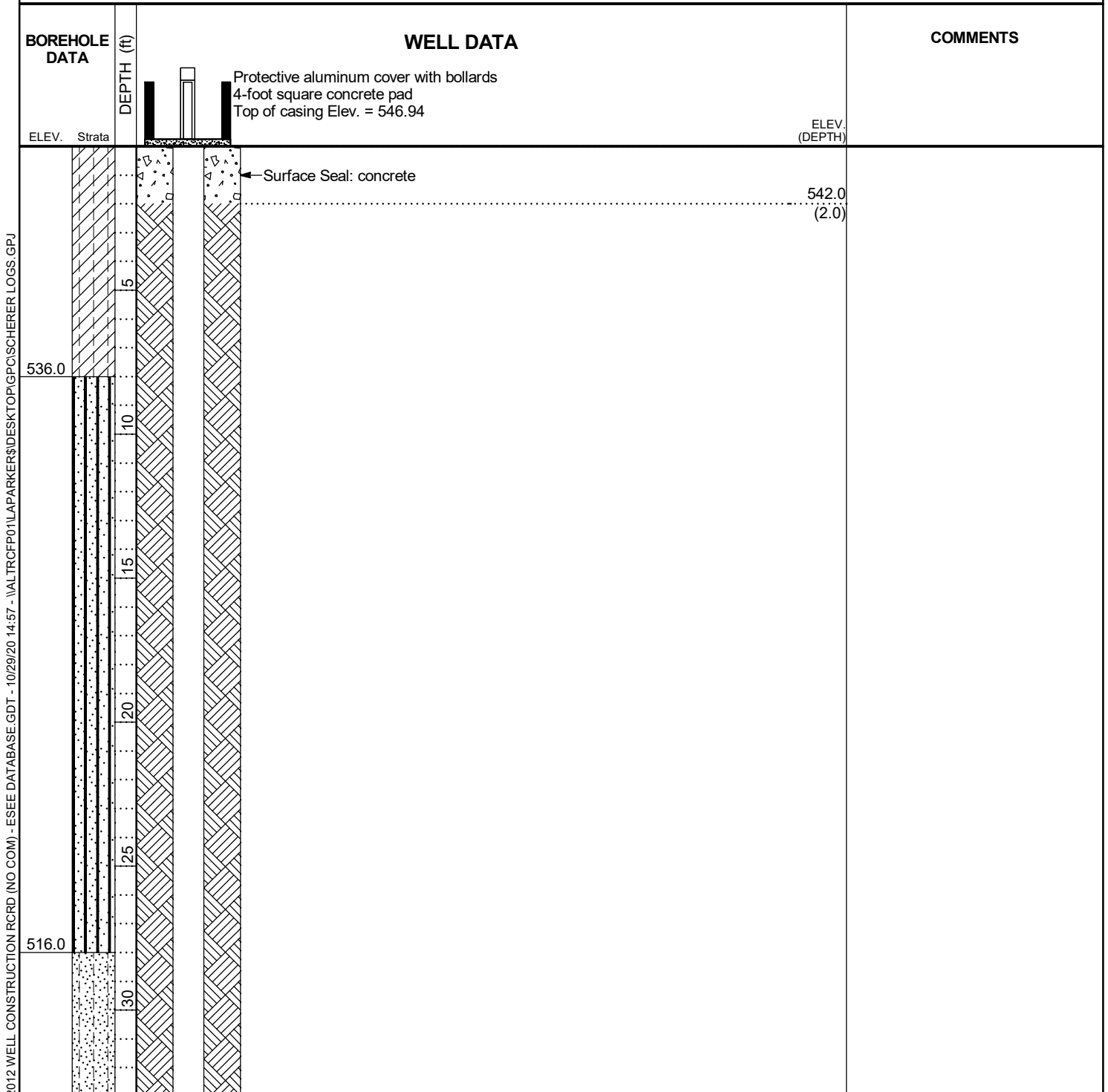
DATE STARTED 2/12/2015 COMPLETED 2/17/2015 GROUND ELEVATION 544 ft COORDINATES N 1119237.67 E 2399908.19

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 95.8 ft.

GROUND WATER DEPTH: DURING 38.5 ft. COMP. 37.5 ft. DELAYED 37.3 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWA-2/PZ-08I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	(CONTINUED)	ELEV. (DEPTH)
476.0		35	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 546.94 Annular Fill: Cement-Bentonite Grout - 8 bags Typel I/II Portland Cement, 94 lbs/each	
		40		
		45		
		50		
		55		
		60		
		65		
		70		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWA-2/PZ-081
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 546.94	ELEV. (DEPTH)
471.0	75		
465.0	80	← Annular Seal: bentonite pellets - 0.75 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	465.9 (78.1)
	85	← Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each	460.8 (83.2)
	90	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	458.6 (85.4)
448.2	95	Sump: 0.40 ft.	448.6

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

RECORD OF BOREHOLE SGWA-3/APA-2

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 50.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/17/15
 DATE COMPLETED: 11/18/15

NORTHING: 1,120,224.15
 EASTING: 2,399,296.64
 GS ELEVATION: 542.9
 TOC ELEVATION: 545.83 ft

DEPTH W.L.: 32'
 ELEVATION W.L.:
 DATE W.L.: 11/18/15
 TIME W.L.: 08:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 16.00 SILTY SAND; orange to red silty sand, fat clay, moist, soft to firm (overburden)							WELL CASING Interval: -3'-40' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 40'-50' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 37'7"-50' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 35'6"-37'7" Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-36'6" Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
540									
5		5.00: Shelby Tube Collected: 5'-6'							
535			SM						
10									
530									
15					526.9				
525		16.00 - 40.00 CLAYEY SILT; no quartz, <5% black weathered minerals, deeply weathered biotite gneiss, saprolite, foliation not apparent, white, orange and brown, moist, soft to firm			16.00				
20		20.00: Shelby Tube Collected: 20'-22'							
520									
25									
515			MH						
30									
510									
35		35.00: Shelby Tube Collected: 35'-37'							
505									
40		40.00 - 45.00 foliated texture observed, saprolite			502.9 40.00				
500									
45		Log continued on next page			497.9				

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: Shannon George, P.G.
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWA-3/APA-2

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 50.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/17/15
 DATE COMPLETED: 11/18/15

NORTHING: 1,120,224.15
 EASTING: 2,399,296.64
 GS ELEVATION: 542.9
 TOC ELEVATION: 545.83 ft

DEPTH W.L.: 32'
 ELEVATION W.L.:
 DATE W.L.: 11/18/15
 TIME W.L.: 08:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
45		45.00 - 50.30 light brown clayey silt interbedded with white to black foliations, deeply weathered biotite gneiss, saprolite, orange-brown to light brown clay, moist to wet		|||||	45.00				screen #1 sand	<p>WELL CASING Interval: -3'-40' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 40'-50' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 37'-50" Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 35'-37" Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-36" Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
49.5					492.6					
50		Boring completed at 50.00 ft			50.30					
55										
60										
65										
70										
75										
80										
85										
90										

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: Shannon George, P.G.
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWA-4/APA-3

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 67.0 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/17/15
 DATE COMPLETED: 11/17/15

NORTHING: 1,121,477.05
 EASTING: 2,401,124.64
 GS ELEVATION: 544.8
 TOC ELEVATION: 547.66 ft

DEPTH W.L.: 25.71'
 ELEVATION W.L.:
 DATE W.L.: 11/13/15
 TIME W.L.: 13:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 5.00 CLAY (CH); clay, reddish brown, some organic material, trace quartz, trace mica, dry to moist, firm, overburden	CH		539.8				WELL CASING Interval: -3'-50.5' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 50.5'-60.5' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 49'-61.5' Type: #1 sand/ Prepack Filter Quantity: FILTER PACK SEAL Interval: 46.7'-49' Type: 3/8" Bentonite Pellets Quantity: ANNULUS SEAL Interval: 0'-46.7' Type: Portland Type I/Type II/Gel Mix Quantity: WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
5	540	5.00 - 10.00 CLAYEY SILT; silt with some clay, reddish brown to yellow saprolite, micaceous, trace quartz, trace biotite, trace weathered rock, dry, firm	MH		5.00				
10	535	10.00 - 15.00 silt, mottled brown/yellow/red/orange saprolite, trace clay, trace quartz, trace mica, some large biotite deposits, moist to wet Shelby Tube Collected: 10'-12'			534.8	10.00			
15	530	15.00 - 20.00 silt, mottled brown/yellow/orange saprolite, trace quartz, trace mica, trace biotite, trace clay, soft, moist to wet Shelby Tube Collected: 17'-19'			529.8	15.00			
20	525	20.00 - 25.00 mottled orange/brown/yellow silty saprolite, larger biotite deposits, trace quartz and weathered rock, soft, moist to wet			524.8	20.00			
25	520	25.00 - 30.00 silt and fine sand, trace quartz (angular ~5-10mm diameter), trace weathered rock, micaceous, mottled orange/reddish/yellow/black saprolite, dry, firm			519.8	25.00			
30	515	30.00 - 35.00 mottled orange/yellow/reddish/black silty saprolite, black streaking, trace quartz, trace clays, micaceous, moist, firm			514.8	30.00			
35	510	35.00 - 40.00 mottled orange/yellow/white silty saprolite, biotite, mica, trace quartz, trace clay, moist, firm			509.8	35.00			
40	505	40.00 - 67.00 SILTY SAND; brown/grey/white/orange silty saprolite, trace quartz, micaceous, fine grains, moist, firm Shelby Tube Collected: 40'-42'	SM		504.8	40.00			
45	500	Log continued on next page							

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 11/16/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWA-4/APA-3

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 67.0 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/17/15
 DATE COMPLETED: 11/17/15

NORTHING: 1,121,477.05
 EASTING: 2,401,124.64
 GS ELEVATION: 544.8
 TOC ELEVATION: 547.66 ft

DEPTH W.L.: 25.71'
 ELEVATION W.L.:
 DATE W.L.: 11/13/15
 TIME W.L.: 13:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
45		40.00 - 67.00 SILTY SAND; brown/grey/white/orange silty saprolite, trace quartz, micaceous, fine grains, moist, firm Shelby Tube Collected: 40'-42' (Continued)			494.8				<p>WELL CASING Interval: -3'-50.5' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 50.5'-60.5' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 49'-61.5' Type: #1 sand/ Prepack Filter Quantity:</p> <p>FILTER PACK SEAL Interval: 46.7'-49' Type: 3/8" Bentonite Pellets Quantity:</p> <p>ANNULUS SEAL Interval: 0'-46.7' Type: Portland Type I/Type II/Gel Mix Quantity:</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
50	495	50.00 - 55.00 grey/white/brown/orange silty saprolite, medium grain, mica, iron pyrite, trace quartz, trace biotite, moist, firm			50.00				
55	490	55.00 - 60.00 grey/white/brown/orange silty saprolite, medium grain sand, mica, iron pyrite, trace quartz, trace biotite, some clay lenses, moist, very firm	SM		489.8 55.00				
60	485	60.00 - 63.00 SANDY SILT; fine to medium sand, grey, saturated, saprolite	SM		484.8 60.00				
65	480	63.00 - 67.00 grey, saprolite biotite gneiss, trace thin clay lenses, grey, very firm			481.8 63.00				
		Boring completed at 60.50 ft			477.8 67.00				
70	475								
75	470								
80	465								
85	460								
90	455								

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 11/16/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWA-5/APA-4

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 30.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/18/15
 DATE COMPLETED: 11/18/15

NORTHING: 1,118,088.42
 EASTING: 2,397,426.26
 GS ELEVATION: 505.7
 TOC ELEVATION: 508.48 ft

DEPTH W.L.: 15.23'
 ELEVATION W.L.:
 DATE W.L.: 11/18/15
 TIME W.L.: 16:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC			
0	505	0.00 - 5.00 CLAY; red/brown overburden, changes to mottled orange/red/brown/white soils, trace biotite and mica, dry to moist	CH		500.7				<p style="font-size: small;">Portland Type I/ Type II/ Gel mix</p> <p style="font-size: small;">3/8" Bentonite Pellets</p> <p style="font-size: small;">0.010" slot screen #1 sand</p>	<p>WELL CASING Interval: -3'-20.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 20.2'-30.2' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 18'-30.2' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 15.7'-18' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-15.7' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
5	500	5.00 - 8.00 mottled orange/brown/white clay, trace quartz and biotite, dry to moist, firm, saprolite			5.00						
		8.00 - 10.00 CLAYEY SAND; dry mottled orange/white fine grained saprolite, firm and non cohesive	SC		497.7						
		10.00 - 12.00 mottled red/orange/white saprolite, trace quartz and biotite, some large quartz pieces			495.7						
10	495	12.00 - 14.00 mottled orange/brown/red saprolite, some clay, micaceous, moist			493.7						
		14.00 - 15.00 brown/orange/grey clayey sand, silt, iron pyrite, mica, trace biotite, moist			12.00						
		15.00 - 16.50 grey/brown/white saprolite, fine to medium grain sand, trace quartz, trace iron pyrite and mica, moist			491.7						
15	490	16.50 - 17.00 band of orange/brown/grey clayey sand, weathered biotite, wet			14.00						
		17.00 - 22.00 SILT; grey/white/orange saprolite, trace mica, iron pyrite, medium grained sand, moist	ML		490.7						
		22.00 - 25.00 mottled orange/black/dark brown/grey/white saprolite, trace quartz, mica and iron pyrite, foliated and weathered, quartz and deeply weathered biotite layers, wet			15.00						
		25.00 - 27.00 white/grey.brown medium grained, mottled saprolite with interbedded quartz layers, trace rose quartz and iron pyrite, micaceous, wet			489.2						
		27.00 - 28.00 brown/orange/grey/white saprolite, micaceous, medium grained sand, wet			488.7						
		28.00 - 30.00 brown, medium grained saprolite with orange and white layers, weathered biotite, trace clay, trace quartz, mica and iron pyrite, foliated, wet			487.7						
		Boring completed at 30.00 ft				486.7					
					17.00						
					483.7						
					22.00						
					480.7						
					25.00						
					478.7						
					27.00						
					477.7						
					28.00						
					475.7						

BOREHOLE RECORD: SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-6/APC-1

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 25.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/12/15
 DATE COMPLETED: 11/12/15

NORTHING: 1,122,167.18
 EASTING: 2,401,979.98
 GS ELEVATION: 507.7
 TOC ELEVATION: 510.49 ft

DEPTH W.L.: 11.4'
 ELEVATION W.L.:
 DATE W.L.: 11/12/15
 TIME W.L.: 15:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 SILTY CLAY (CL)/OVERBURDEN; clay with silt and very fine sand, trace quartz, mica and angular rock pieces, reddish-brown fill, black streaking, dry to moist, firm	MH	|||||	502.7					<p>WELL CASING Interval: -3'-15' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 15'-25' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 12.9'-25' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 10.1'-12.9' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-10.1' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5		5.00 - 10.00 CLAYEY SILT (MH)/SAPROLITE; mottled red/brown/orange saprolite with lenses of silty clay, trace mica and quartz, black streaking, moist, firm Shelby Tube Collected: 7'-9'	MH	|||||	5.00					
10		10.00 - 15.00 mottled orange/brown/reddish/yellow saprolite, trace quartz and weathered rock, micaceous, black streaking, wet, firm		|||||	497.7					
15		15.00 - 20.00 SILTY SAND/SAPROLITE; mottled orange/brown/white/yellow saprolite, trace quartz and weathered rock, micaceous, trace clay, medium grain, moist to wet, firm Shelby Tube Collected: 15'-17'	SM	|||||	15.00					
20		20.00 - 25.00 mottled brown/grey/orange saprolite with trace clay, silty gravel with medium grained sands, trace quartz and weathered rock, micaceous, wet		|||||	487.7					
25		Boring completed at 25.00 ft		|||||	482.7					

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-7/APC-2

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 35.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/10/15
 DATE COMPLETED: 11/11/15

NORTHING: 1,122,668.61
 EASTING: 2,402,259.75
 GS ELEVATION: 503.5
 TOC ELEVATION: 506.40 ft

DEPTH W.L.: 22'
 ELEVATION W.L.:
 DATE W.L.: 11/11/15
 TIME W.L.: 11:40

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 CLAYEY SAND (SC)/OVERBURDEN; top soil followed by transitionally weathered rock pieces and silty gravel, transitions to brown/reddish fill with organic material, some clay, firm	SC		498.5					<p>WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-21' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5		5.00 - 10.00 OVERBURDEN/SAND (SW); densely compacted coarse grained sand, some silt, trace clay, micaceous, loose, W<PL	SW		5.00					
10		10.00 - 15.00 COARSE SAND and TRANSITIONALLY WEATHERED ROCK/SAPROLITE (GP); brown/grey/orange deeply weathered rock with some larger pieces, coarse sand, trace mica and iron pyrite, dry to moist	GP		493.5					
15		15.00 - 20.00 SILTY GRAVEL (GM); mottled brown/grey/orange/white weathered rock and saprolite, trace clays and mica, some larger quartz and rock pieces, coarse sand, dry	GM		488.5					
20		20.00 - 25.00 NO RECOVERY; apparent washout			483.5					
25		25.00 - 30.00 ROCK (BR); biotite gneiss, ~45° angle on banding, 1 near vertical healed fracture, 3 near horizontal fractures with possible weathering from water movement	BR		478.5					
30		30.00 - 35.00 biotite gneiss, mica, iron pyrite, some layer quartz pieces, at least 6 apparent fractures with lesser partial fractures along core, some weathering from water apparent			473.5					
35		Boring completed at 35.00 ft				468.5				

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-8/APC-3

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 40.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/9/15
 DATE COMPLETED: 11/10/15

NORTHING: 1,122,865.98
 EASTING: 2,402,979.50
 GS ELEVATION: 511.5
 TOC ELEVATION: 514.28 ft

DEPTH W.L.: 25'
 ELEVATION W.L.:
 DATE W.L.: 11/10/15
 TIME W.L.: 13:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
0	510	0.00 - 5.00 SANDY SILT; brown silt with clay changing to sandy silt, fine-grained, trace clay, dry, overburden	ML	506.5				<p style="text-align: center;">Portland Type I/ Type II/ Gel mix</p> <p style="text-align: center;">3/8" Bentonite Pellets</p> <p style="text-align: center;">0.010" slot screen #1 sand</p>	<p>WELL CASING Interval: -3'-30' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 30'-40' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 27.5'-40' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 25.6'-27.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-25.6' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
5	505	5.00 - 10.00 SILTY GRAVEL; silty sand, trace quartz and rock pieces, mottled orange/brown/yellow/grey, non-cohesive, trace clay and weathered rock fragments, densely compacted, fin grained, dry, saprolite	GM	5.00						
10	500	10.00 - 15.00 grey gravelly sand and silt with large pieces of gneiss, biotite gneiss at 12' with several near horizontal fractures and chemical weathering, changing back to micaceous, fine-medium silty sand, saprolite	GP	501.5						
15	495	15.00 - 20.00 GRAVELLY SAND/SILT (GP); grey, gravelly fine sand/silt, weathered rock with pieces of quartz, trace pyrite and mica, weathered soil, trace clay, fine-medium grain, brown/grey/orange, dry, saprolite	GP	496.5						
20	490	20.00 - 25.00 CLAYEY SILT; mottled brown/grey/orange saprolite, densely compacted, medium-coarse grain silt, trace clay, mica and black streaking, trace quartz and weathered rock, dry-moist, saprolite	MH	491.5						
25	485	25.00 - 30.00 TRANSITIONALLY WEATHERED ROCK/SILTY SAND; with gravel, mica, biotite quartz, iron pyrite, feldspar, some coarse grain sands, trace clay, wet	TWR	486.5						
30	480	30.00 - 35.00 gravel and coarse grained sand, large quartz pieces, mica, iron pyrite, densely compacted brown/grey/orange, moist-wet	TWR	481.5						
35	475	35.00 - 40.00 BEDROCK (BR); biotite gneiss, gravelly coarse sand, large quartz pieces, brown/orange/grey, moist-wet	BR	476.5						
40	470	Boring completed at 40.00 ft				471.5				

BOREHOLE RECORD: SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-9/APC-4

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 35.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/5/15
 DATE COMPLETED: 11/6/15

NORTHING: 1,122,634.64
 EASTING: 2,403,455.19
 GS ELEVATION: 507.6
 TOC ELEVATION: 510.62 ft

DEPTH W.L.: 18'
 ELEVATION W.L.:
 DATE W.L.: 11/6/15
 TIME W.L.: 10:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 OVERBURDEN; reddish brown fill, micaceous, some organic material, dry-moist, firm (fill)	FILL		502.6				<p style="font-size: small;">Well casing: Schedule 40 PVC, 6" diameter, threaded joints. Well screen: Schedule 40 PVC, 2" diameter, 0.010" slot size. Filter pack: #1 sand/prepack filter. Filter pack seal: 3/8" bentonite pellets. Annulus seal: Portland Type I/II gel mix. Well completion: 4"x4" pad, anodized aluminum casing.</p>	<p>WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-21' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5		5.00 - 10.00 CLAY/SAPROLITE; mottled reddish/brown/orange clay, black streaking, micaceous, dry-moist, firm	CH		5.00					
10		10.00 - 15.00 CLAYEY SILT (MH)/SAPROLITE; mottled orange/red/brown/yellow silt, black streaking, micaceous, fine grained, trace clay, dry-moist, soft	MH		497.6					
15		15.00 - 20.00 mottled brown/orange/grey/white silt, trace clay, micaceous, fine-medium grained, black streaking, moist, soft Shelby Tube Collected: 15'-17'			492.6					
20		20.00 - 25.00 SILT (ML)/SAPROLITE; mottled grey/brown/orange soft saprolite changing to firm grey/white/orange/yellow silt, medium grained, trace clay, trace quartz and weathered rock pieces, black banding, mica and biotite layers, iron pyrite, moist	ML		487.6					
25		25.00 - 30.00 mottled grey/white/brown saprolite, trace quartz and weathered rock, black banding, iron pyrite, moist, firm			482.6					
30		30.00 - 35.00 mottled grey/white/brown/orange saprolite, densely compacted, trace quartz and weathered rock, medium to coarse grained, difficult to determine water content but steam generated during drilling			477.6					
35		Boring completed at 35.00 ft				472.6				

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-10/APC-5

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 30.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/4/15
 DATE COMPLETED: 11/5/15

NORTHING: 1,121,895.85
 EASTING: 2,404,046.92
 GS ELEVATION: 506.6
 TOC ELEVATION: 509.41 ft

DEPTH W.L.: 17'
 ELEVATION W.L.:
 DATE W.L.: 11/5/15
 TIME W.L.: 13:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	505	0.00 - 5.00 CLAY/OVERBURDEN; reddish/brown silty fine grained fill, some rock fragments and organic material, trace clay, micaceous, dry-moist, firm, W<PL	CH		501.6			<p style="font-size: small;">Portland Type I/ Type II/ Gel mix</p> <p style="font-size: small;">3/8" Bentonite Pellets</p> <p style="font-size: small;">0.010" slot screen #1 sand</p>	<p>WELL CASING Interval: -3'-20' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 20'-30' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 18'-30' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 15.5'-18' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-15.5' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5	500	5.00 - 10.00 mottled brown/reddish/orange micaceous fill, changing to saprolite soils with black streaking, trace quartz, moist, firm			5.00				
10	495	10.00 - 15.00 SILTY CLAY (CL)/SAPROLITE; mottled orange/brown/yellow/reddish saprolite, micaceous, trace quartz and angular rock fragments, firm to soft, moist	CL		496.6	10.00			
15	490	15.00 - 20.00 mottled orange/brown/yellow/reddish saprolite, some clay, micaceous, black streaking, trace quartz and weathered rock fragments, soft, wet, ~17"			491.6	15.00			
20	485	20.00 - 25.00 SILTY SAND (SM)/SAPROLITE; mottled orange/brown/reddish/yellow saprolite, trace clay, trace quartz and weathered rock fragments, micaceous, soft, wet	SM		486.6	20.00			
25	480	25.00 - 30.00 mottled brown/grey/orange/white saprolite, fin grained, trace clay, trace quartz and weathered rock fragments, soft, wet			481.6	25.00			
30	475	Boring completed at 30.00 ft			476.6				

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-11/APC-6

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 40.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 10/28/15
 DATE COMPLETED: 10/29/15

NORTHING: 1,121,542.11
 EASTING: 2,404,332.12
 GS ELEVATION: 508.6
 TOC ELEVATION: 511.47 ft

DEPTH W.L.: 29'
 ELEVATION W.L.: 29'
 DATE W.L.: 10/29/15
 TIME W.L.: 17:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 5.00 CLAY (CH)/OVERBURDEN; reddish brown silty overburden, micaceous, dry, firm (fill/topsoil)	CH		503.6			<p style="font-size: small;">Portland Type I/ Type II/ Gel mix</p> <p style="font-size: small;">3/8" Bentonite Pellets</p> <p style="font-size: small;">0.010" slot screen #1 sand</p>	<p>WELL CASING Interval: -3'-30' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 30'-40' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 28'-40' Type: #1 sand</p> <p>FILTER PACK SEAL Interval: 26'-28' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-26' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5		5.00 - 10.00 SILTY CLAY; reddish brown silty clay, micaceous; changes to mottled reddish/light brown/brown, black streaking, trace quartz, dry, firm to soft	CL		5.00				
10		10.00 - 15.00 CLAYEY SILT; clay with some silt, saprolitic at 10'-11', black streaks, micaceous, mottled light brown/brown/reddish/orange, soft, dry to moist	MH		498.6				
15		15.00 - 20.00 CLAY (CL); mottled reddish/brown/orange/light brown saprolite, black streaking, trace clay and quartz, micaceous, possible weathered rock, soft, dry-moist	CL		493.6				
20		20.00 - 22.00 SILTY CLAY/CLAYEY SILT/SAPROLITE (CL-ML); clayey silt lense, trace clay, very soft, wet	CL-ML		488.6				
25		22.00 - 25.00 mottled orange/reddish/light brown/yellow saprolite, black streaks, residual quartz, moist	CL-ML		486.6				
30		25.00 - 30.00 CLAYEY SILT (ML)/SAPROLITE; mottled orange/red/brown/white/grey saprolite, weathered rock fragments, trace clay, black streaking, soft-medium, moist	ML		483.6				
35		30.00 - 35.00 mottled brown/orange/yellow/red with some grey and white saprolite, quartz fragments, some weathered rock pieces, trace clay, soft-medium, moist	ML		478.6				
40		35.00 - 40.50 mottled brown/orange/grey/light brown saprolite, quartz fragments and weathered rock pieces, trace clay, black streaks, wet	ML		473.6				
45		Boring completed at 40.00 ft			468.1				

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-12/APC-7

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 47.60 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 10/29/15
 DATE COMPLETED: 10/30/15

NORTHING: 1,121,576.75
 EASTING: 2,405,009.92
 GS ELEVATION: 497.7
 TOC ELEVATION: 500.53 ft

DEPTH W.L.: 29'
 ELEVATION W.L.:
 DATE W.L.: 10/30/15
 TIME W.L.: 10:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 2.00 OVERBURDEN/FILL (CH); reddish brown silt and fine grained sand	CH		495.7					WELL CASING Interval: -3'-37' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 37'-47' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 35'-47' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 32.5'-35' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-32.5' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
495		2.00 - 5.00 reddish brown silt with trace clay, micaceous, dry, firm			2.00					
5		5.00 - 10.00 SILTY SAND/SAPROLITE (SM); mottled reddish brown and grey saprolite, micaceous, trace quartz fragments, some clay, dry	SM		492.7					
490					5.00					
10		10.00 - 15.00 CLAYEY SILT; mottled brown/orange/yellow clayey silt, trace quartz and weathered rock fragments, micaceous, firm trending to stiff, dry-moist	MH		487.7					
485					10.00					
15		15.00 - 18.00 mottled brown/orange/yellow clayey silt, trace quartz and weathered rock fragments, micaceous, firm-stiff, moist	ML		482.7					
480					15.00					
20		18.00 - 25.00 SANDY SILT; trace biotite, trace quartz, micaceous, mottled brown/orange/reddish/yellow, firm-stiff, fine grained, loose, black streaks, firm-stiff	ML		479.7					
475					18.00					
25		25.00 - 30.00 mottled brown/orange/yellow sandy clay, fine grained, micaceous, some quartz pieces, greyish white with black streaking, trace weathered rock fragments, coarse sand, moist to wet, soft	ML		472.7					
470					25.00					
30		30.00 - 35.00 SILTY SAND; mottled grey/white/reddish sandy silt, fine to medium grained, micaceous, trace clay, some quartz, trace weathered rock fragments, moist, W<PL	SM		467.7					
465					30.00					
35		35.00 - 40.00 mottled brown/grey/black saprolite, fine grained, micaceous, trace clay, trace quartz and weathered rock fragments, W<PL, soft but densely compacted, wet	SM		462.7					
460					35.00					
40		40.00 - 45.00 mottled grey/white/black/brown saprolite, fine grained, trace quartz and weathered rock fragments, micaceous, black streaks, densely compacted, wet	SM		457.7					
455					40.00					
45		Log continued on next page			452.7					

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-12/APC-7

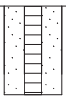
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 47.60 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 10/29/15
 DATE COMPLETED: 10/30/15

NORTHING: 1,121,576.75
 EASTING: 2,405,009.92
 GS ELEVATION: 497.7
 TOC ELEVATION: 500.53 ft

DEPTH W.L.: 29'
 ELEVATION W.L.:
 DATE W.L.: 10/30/15
 TIME W.L.: 10:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
45		45.00 - 47.00 black/gray/white/brown fine grained saprolite, tightly compacted, trace biotite and mica, soft, moist-wet		45.00					<p>WELL CASING Interval: -3'-37' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 37'-47' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 35'-47' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 32.5'-35' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-32.5' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
450		Boring completed at 47.60 ft		450.7 47.00						
50										
55										
60										
65										
70										
75										
80										
85										
90										

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17



RECORD OF BOREHOLE SGWC-13/APC-8

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 35.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/3/15
 DATE COMPLETED: 11/4/15

NORTHING: 1,121,274.85
 EASTING: 2,405,761.20
 GS ELEVATION: 479.9
 TOC ELEVATION: 482.71 ft

DEPTH W.L.: 22'
 ELEVATION W.L.:
 DATE W.L.: 11/4/15
 TIME W.L.: 13:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 CLAYEY SILT (MH)/FILL; mottled reddish brown fill, some clay, micaceous, some black streaks and organic material, moist, stiff, W~PL	MH	|||||	474.9				<p style="font-size: small;">Well casing: Schedule 40 PVC, 6" diameter, threaded joints. Well Screen: Schedule 40 PVC, 2" diameter, 0.010" slot size, end cap. Filter Pack: #1 sand/Prepack Filter. Filter Pack Seal: 3/8" Bentonite Pellets. Annulus Seal: Portland Type I/Type II/Gel mix. Well Completion: 4"x4" pad, anodized aluminum casing. Drilling Methods: 4-inch Sonic Soil Drill, 4-inch Sonic Rock Drill.</p>	<p>WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-21' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5	475	5.00 - 10.00 overburden, reddish brown fill, some clay, trace mica, firm, moist, W<PL			5.00					
10	470	10.00 - 15.00 SILT (ML)/SAPROLITE; mottled reddish/brown/orange saprolite, micaceous, trace quartz fragments, fine grained, soft to firm, W<PL	ML	|||||	469.9					
15	465	15.00 - 20.00 mottled brown/orange/reddish saprolite, micaceous, trace quartz, black streaking, fine grained, moist, firm			464.9					
20	460	20.00 - 25.00 mottled red/orange/brown/yellow saprolite, micaceous, trace quartz and biotite, fine grained, some clays, soft, wet, W-PL			459.9					
25	455	25.00 - 30.00 SAPROLITE; mottled brown/orange/yellow saprolite, fine gained, trace clay, trace quartz and biotite, micaceous, black streaking/banding, soft, wet, water noted	MH	|||||	454.9					
30	450	30.00 - 35.00 mottled brown/grey/white saprolite, trace quartz weathered rock fragments, micaceous, black streaking, firm-stiff			449.9					
35	445	Boring completed at 35.00 ft				444.9				
40	440									
45	435									

BOREHOLE RECORD: SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jeremy Triepke

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17





LOG OF TEST BORING

BORING SGWC-14/PZ-16S
 PAGE 1 OF 2
 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 2/24/2015 COMPLETED 2/24/2015 SURF. ELEV. 473.3 COORDINATES: N 1120966.13 E 2406329.89
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 35.3 ft. GROUND WATER DEPTH: DURING 18.5 ft. COMP. 9.91 ft. DELAYED 9.91 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		Silty Clay (CL) - mottled red (2.5YR 5/8) and light red / moderate reddish orange (10R 6/6) residuum moist, stiff				SPT N=11bpf(@3.5ft.)
10		- mottled red (2.5YR 5/8) and light red / moderate reddish orange (10R 6/6) residuum moist, medium stiff				SPT N=5bpf(@8.5ft.)
15		Silty Sand (SM) - mottled reddish yellow (5YR 7/8) and red (10R 4/8) saprolite moist, medium stiff, with weathered rock fragments, black streaking, trace clay				(MC = 44.4%; UW(d) = 72.8pcf; PERM. = 1.18E-6cm/sec) SPT N=6bpf(@13.5ft.)(LL=63; PI=16; FC = 40.2%; Gravel = 16.3%)
20		- mottled reddish yellow (5YR 6/8) and yellow (10YR 7/6) saprolite wet, medium stiff, with white and black streaking, trace weathered rock fragments				SPT N=6bpf(@18.5ft.)
25		- mottled reddish yellow (5YR 6/8) and yellow (10YR 7/6) saprolite wet, medium stiff, with black streaking, trace weathered rock fragments				SPT N=7bpf(@23.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-14/PZ-16S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
30		<p>Silty Sand (SM) (Cont)</p> <p>- mottled reddish yellow (5YR 6/8), pale green (10G 6/2) and white (10YR 8/1) saprolite wet, stiff, gravelly, trace weathered rock fragments</p>				<p>SPT N=13bpf(@28.5ft.)(LL=45; PI=7; FC = 26.1%; Gravel = 0%) (MC = 47.4%; UW(d) = 77.9pcf; PERM. = 2.49E-5cm/sec)</p>
35		<p>- mottled grayish olive (10Y 4/2) and pale green (10G 6/2) saprolite wet, hard, trace weathered rock fragments, residual quartz, biotite</p>				<p>SPT N=38bpf(@33.5ft.)</p>
Bottom of borehole at 35.3 feet.						
40						
45						
50						
55						

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: SGWC-14/PZ-16S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

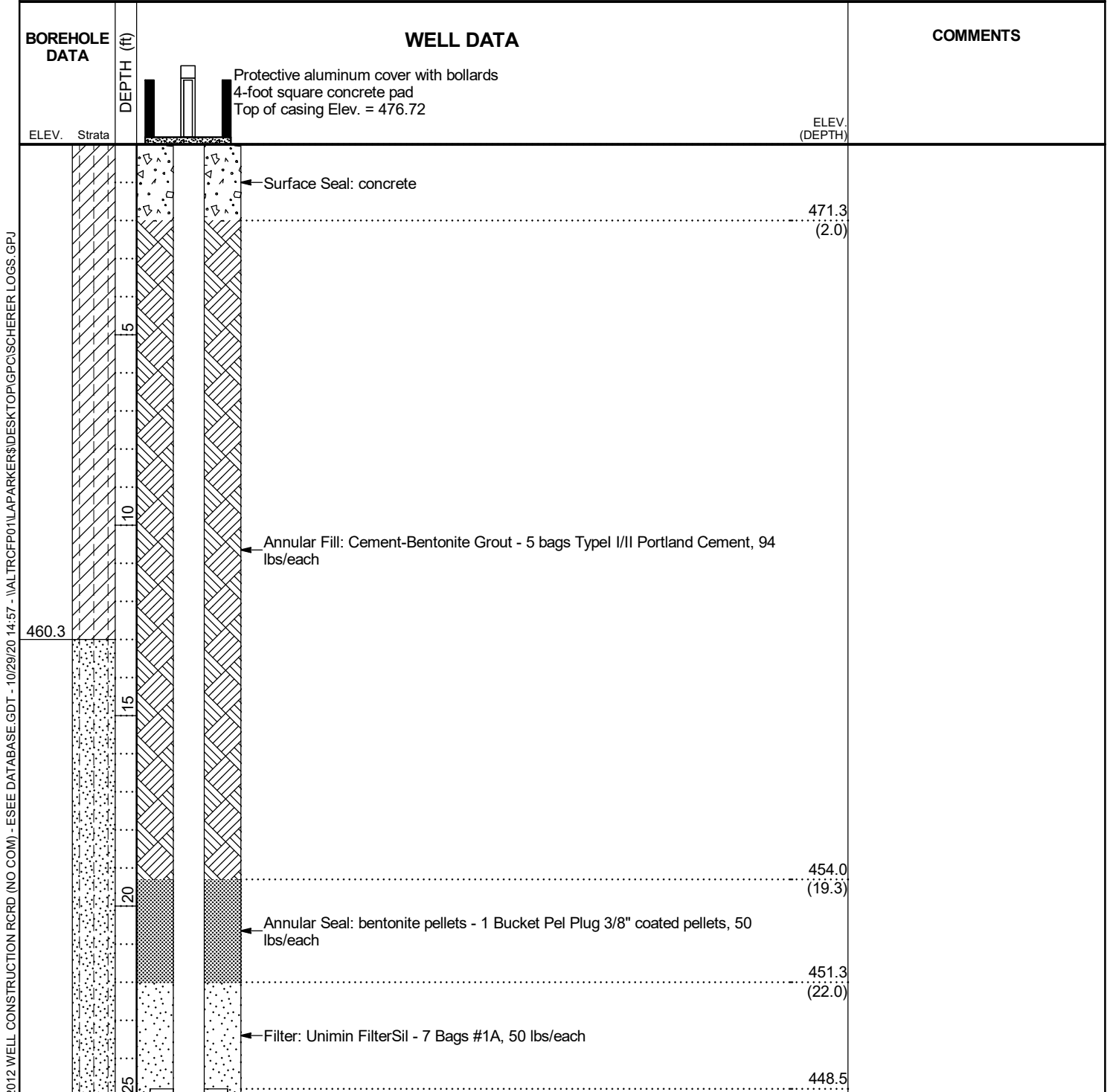
DATE STARTED 2/24/2015 COMPLETED 2/24/2015 GROUND ELEVATION 473.3 ft COORDINATES N 1120966.13 E 2406329.89

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 35.3 ft.

GROUND WATER DEPTH: DURING 18.5 ft. COMP. 9.91 ft. DELAYED 9.91 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPCISCHERER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-14/PZ-16S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata		Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 476.72	
	(CONTINUED)		ELEV. (DEPTH)
	30	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	(24.8)
438.0	35	Sump: 0.50 ft.	438.5 (34.8)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-15/PZ-17S
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 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 2/25/2015 COMPLETED 2/26/2015 SURF. ELEV. 479.7 COORDINATES: N 1120191.20 E 2407093.92
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 45.2 ft. GROUND WATER DEPTH: DURING 23.5 ft. COMP. 33.81 ft. DELAYED 31.66 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUP\SPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
		Silt (ML)				
5		- mottled red (2.5YR 4/8) and dark reddish brown (2.5YR 2.5/4) residuum moist, very stiff, trace clay				SPT N=18bpf(@3.5ft.)
10		- mottled red (2.5YR 4/8) and yellow (10YR 7/8) saprolite moist, stiff, trace coarse sand				SPT N=10bpf(@8.5ft.)
15		- mottled red (2.5YR 4/8) and yellow (10YR 7/8) saprolite moist, medium stiff, with black streaking, trace residual quartz and mica				SPT N=5bpf(@13.5ft.)
20		- mottled reddish brown (2.5YR 4/3) and dusky red / dark reddish brown (10R 3/4) saprolite moist, medium stiff, with black streaking, trace weathered rock fragments, biotite, muscovite, residual quartz				SPT N=6bpf(@18.5ft.)
25		▽ - mottled reddish brown (2.5YR 4/3) and dusky red / dark reddish brown (10R 3/4) saprolite wet, soft, with black spots, trace weathered rock fragments				SPT N=3bpf(@23.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-15/PZ-17S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
30		<p>Silt (ML) (Cont)</p> <p>- mottled light red (2.5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, stiff, with black streaking, trace weathered rock fragments</p>				SPT N=9bpf(@28.5ft.)
35		<p>Sandy Elastic Silt (MH)</p> <p>- mottled reddish brown (2.5YR 4/3) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium stiff, with black streaking, trace weathered rock fragments</p>				<p>SPT N=5bpf(@33.5ft.)(LL=55; PI=23; FC = 54.7%; Gravel = 0%)</p> <p>(MC = 51.6%; UW(d) = 70.3pcf; PERM. = 4.10E-4cm/sec)</p>
40		<p>Silt (ML)</p> <p>- mottled reddish brown (2.5YR 4/3) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium stiff, trace weathered rock fragments, residual quartz, biotite, muscovite</p>				SPT N=8bpf(@38.5ft.)
45		<p>- mottled reddish brown (2.5YR 4/3) and light red / moderate reddish orange (10R 6/6) saprolite wet, stiff, with black streaking, trace weathered rock fragments, biotite, muscovite, residual quartz</p>				SPT N=12bpf(@43.5ft.)
Bottom of borehole at 45.2 feet.						
50						
55						



RECORD OF WELL CONSTRUCTION

WELL: SGWC-15/PZ-17S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 2/25/2015 COMPLETED 2/26/2015 GROUND ELEVATION 479.7 ft COORDINATES N 1120191.2 E 2407093.92

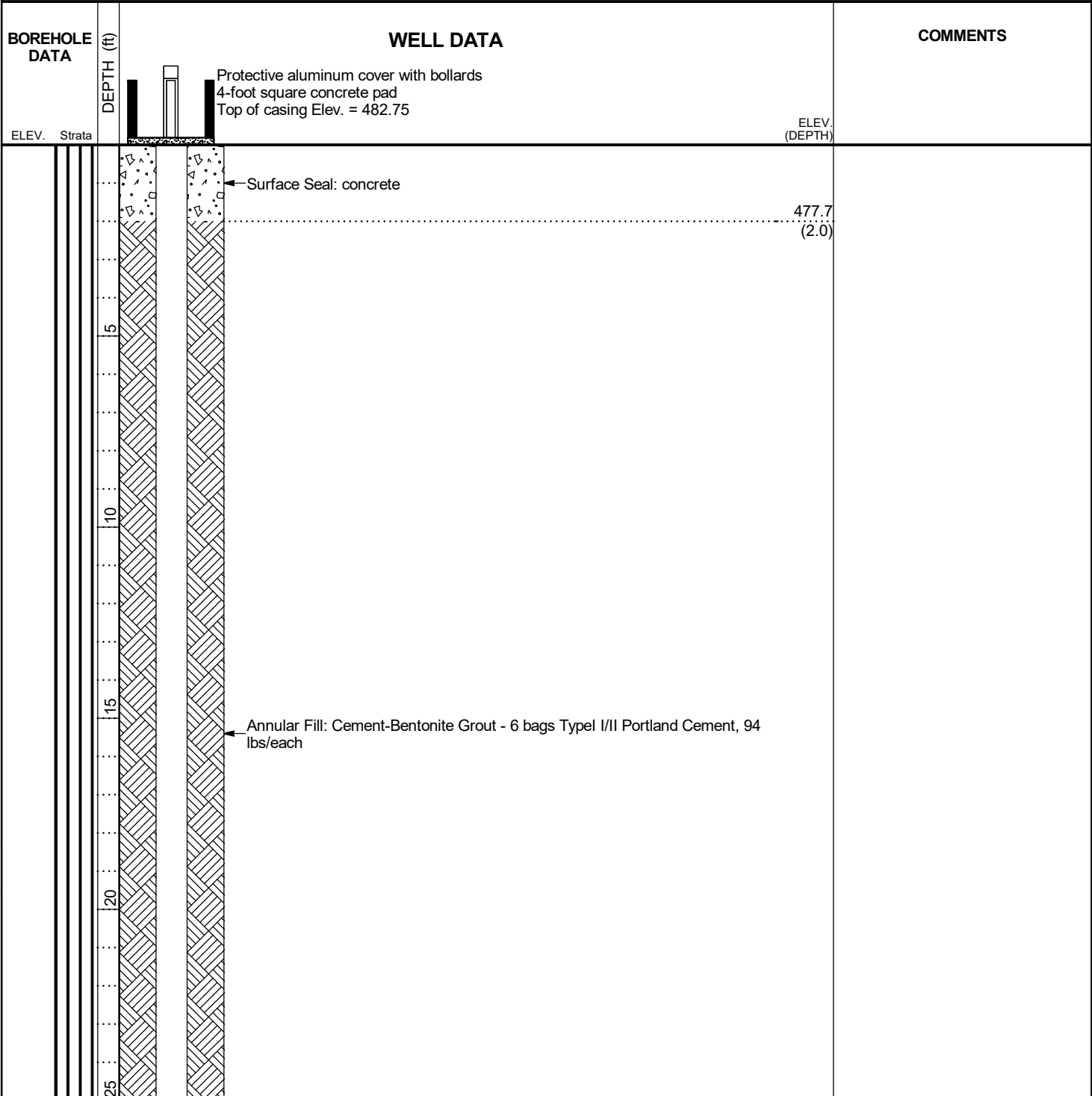
CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 45.2 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 33.81 ft. DELAYED 31.66 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	ELEV. (DEPTH)	
		(CONTINUED)		
			450.9 (28.8)	
		← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each		
446.7		← Filter: Unimin FilterSil - 5.5 Bags #1A, 50 lbs/each	447.1 (32.6)	
			444.9 (34.8)	
441.7		← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack		
434.5		← Sump: 0.40 ft.	434.9	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LAPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-16/PZ-18S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 3/3/2015 COMPLETED 3/3/2015 SURF. ELEV. 457.0 COORDINATES: N 1119221.42 E 2407155.89
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 40.2 ft. GROUND WATER DEPTH: DURING 18.5 ft. COMP. 29.95 ft. DELAYED 29.33 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Silty Clay (CL) - Hand auger 5' for utilities clearance			
10		- mottled red (2.5YR 4/8) and light red / moderate reddish orange (10R 6/6) residuum dry, very stiff, trace roots			SPT N=16bpf(@8.5ft.)
15		Sandy Silt (ML) - mottled red (2.5YR 4/8) and white (10R 8/1) saprolite dry, stiff, with black streaking, trace residual quartz			SPT N=11bpf(@13.5ft.)
20		▽ - mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, soft, trace weathered rock fragments			SPT N=4bpf(@18.5ft.)
25		- mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium stiff, with black streaking, trace residual quartz and biotite			SPT N=5bpf(@23.5ft.)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-16/PZ-18S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
		Sandy Silt (ML) (Cont')				
30		- mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, soft, trace weathered rock fragments ▼ ▼				SPT N=3bpf(@28.5ft.)
35		- mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, soft, with white streaking, trace biotite and residual quartz				SPT N=4bpf(@33.5ft.)
40		- mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, soft, with black and white streaking, trace biotite and residual quartz				SPT N=4bpf(@38.5ft.)
Bottom of borehole at 40.2 feet.						
45						
50						
55						

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: SGWC-16/PZ-18S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

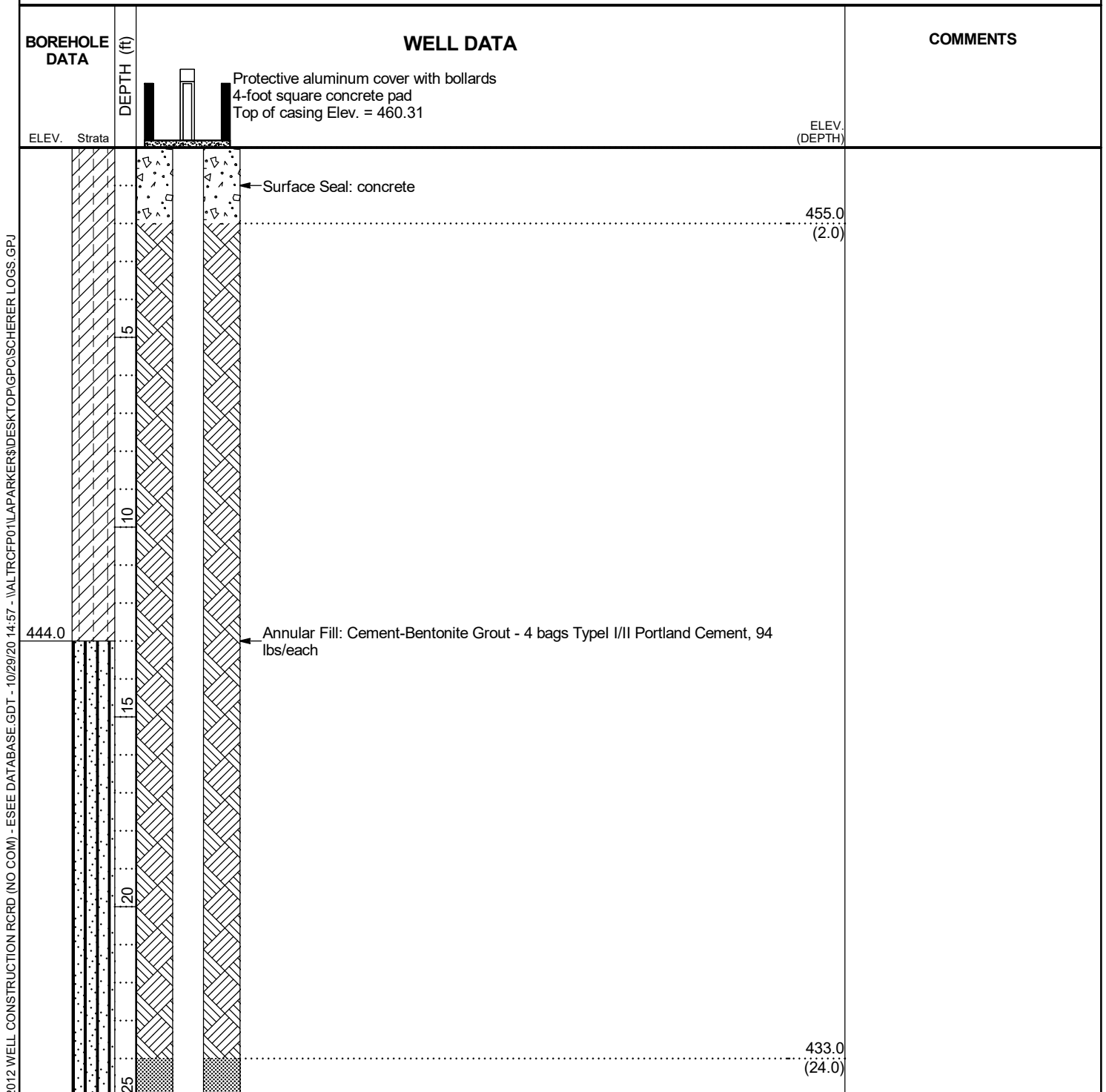
DATE STARTED 3/3/2015 COMPLETED 3/3/2015 GROUND ELEVATION 457 ft COORDINATES N 1119221.42 E 2407155.89

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 40.2 ft.

GROUND WATER DEPTH: DURING 18.5 ft. COMP. 29.95 ft. DELAYED 29.33 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCF001\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWC-16/PZ-18S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 460.31	
416.8	40	Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	ELEV. (DEPTH) 430.2 (26.8)
	30	Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	428.2 (26.8)
	35	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
	40	Sump: 0.40 ft.	418.2 (38.8)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-17/PZ-20S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 3/11/2015 COMPLETED 3/11/2015 SURF. ELEV. 414.9 COORDINATES: N 1118308.77 E 2407267.44
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 24.5 ft. GROUND WATER DEPTH: DURING 0.5 ft. COMP. 6.1 ft. DELAYED 5.9 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:59 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		∇ Fat Clay (CL) - Hand auger 5' for utilities clearance				
10		- mottled strong brown (7.5YR 4/6) and red (10R 4/8) residuum wet, hard, with sand, trace roots and weathered rock fragments				SPT N=50bpf(@8.5ft.)
15		Silty Sand (SM) - mottled gray (7.5YR 5/1) saprolite wet, loose, very fine to fine grained, with white speckling and black streaking, trace weathered rock fragments				SPT N=6bpf(@13.5ft.)
20		- mottled gray (7.5YR 5/1) saprolite wet, medium dense, very fine to fine grained, with white speckling and black streaking, trace weathered rock fragments				SPT N=13bpf(@18.5ft.)
25		- mottled very dark gray (7.5YR 3/1) saprolite wet, medium dense, very fine to fine grained, with white speckling and black streaking, trace residual quartz, iron oxide staining, weathered rock fragments Bottom of borehole at 24.5 feet.				SPT N=18bpf(@23.5ft.)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-17/PZ-20S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

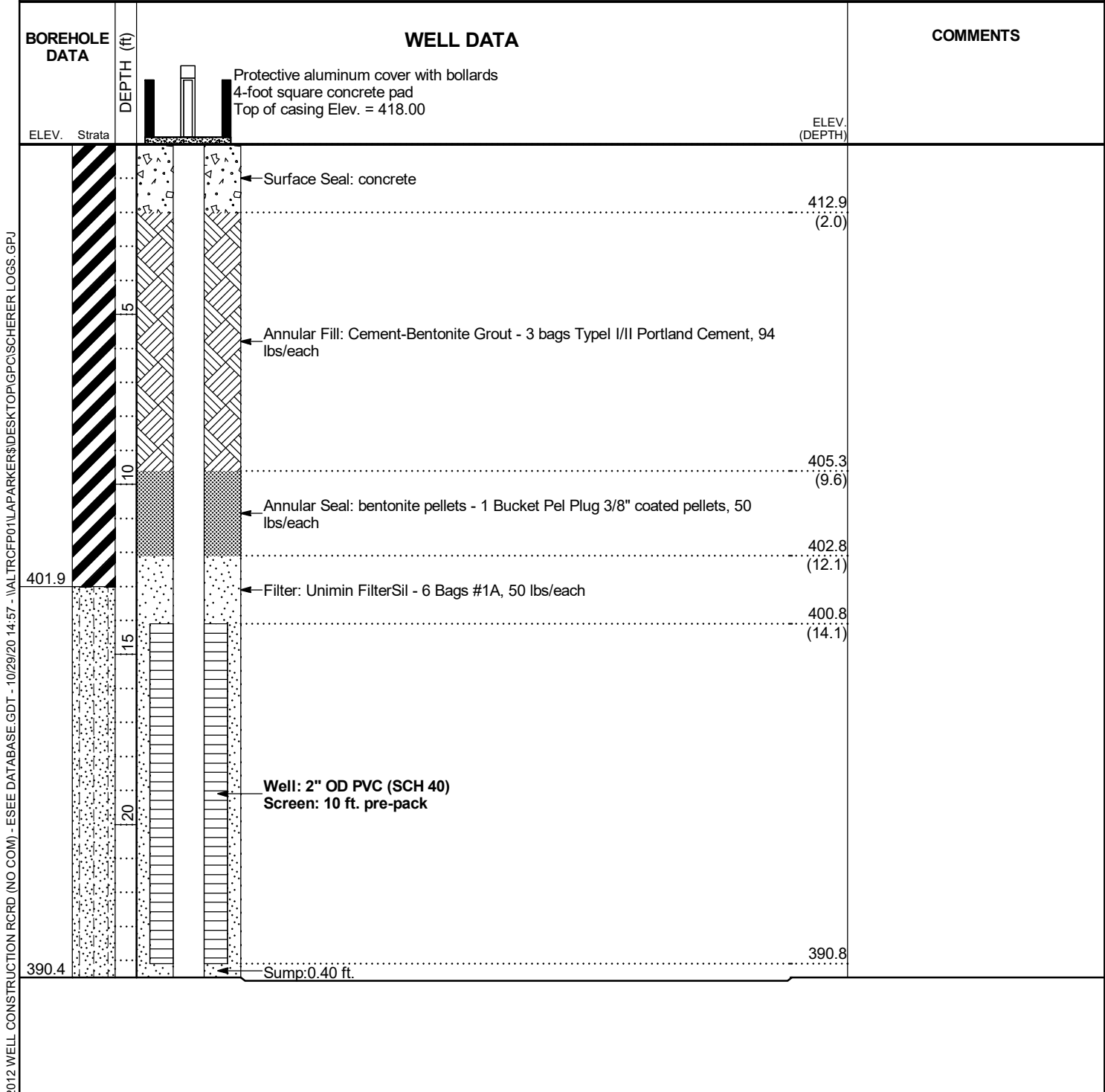
DATE STARTED 3/11/2015 COMPLETED 3/11/2015 GROUND ELEVATION 414.9 ft COORDINATES N 1118308.77 E 2407267.44

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 24.5 ft.

GROUND WATER DEPTH: DURING 0.5 ft. COMP. 6.1 ft. DELAYED 5.9 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-18/PZ-22S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 3/16/2015 COMPLETED 3/17/2015 SURF. ELEV. 510.3 COORDINATES: N 1116947.75 E 2406931.32
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 44.5 ft. GROUND WATER DEPTH: DURING 28.5 ft. COMP. 31.4 ft. DELAYED 31.1 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:59 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Lean Clay (CL) - Hand auger 5' for utilities clearance			
10		- mottled brown (7.5YR 5/2) and yellow (10YR 7/6) fill moist, stiff, micaceous			SPT N=9bpf(@8.5ft.)
15		- mottled brown (7.5YR 5/2) and yellow (10YR 7/6) fill moist, medium stiff, micaceous			SPT N=5bpf(@13.5ft.)
20		Silt (ML) - mottled reddish yellow (7.5YR 7/8) and white (10R 8/1) saprolite moist, medium stiff, with black spots, trace weathered rock fragments			SPT N=7bpf(@18.5ft.)
25		- mottled reddish yellow (7.5YR 7/8) and white (10R 8/1) saprolite moist, medium stiff, with black spots, trace weathered rock fragments, residual quartz, biotite, muscovite			SPT N=5bpf(@23.5ft.)

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RECORD OF WELL CONSTRUCTION

WELL: SGWC-18/PZ-22S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

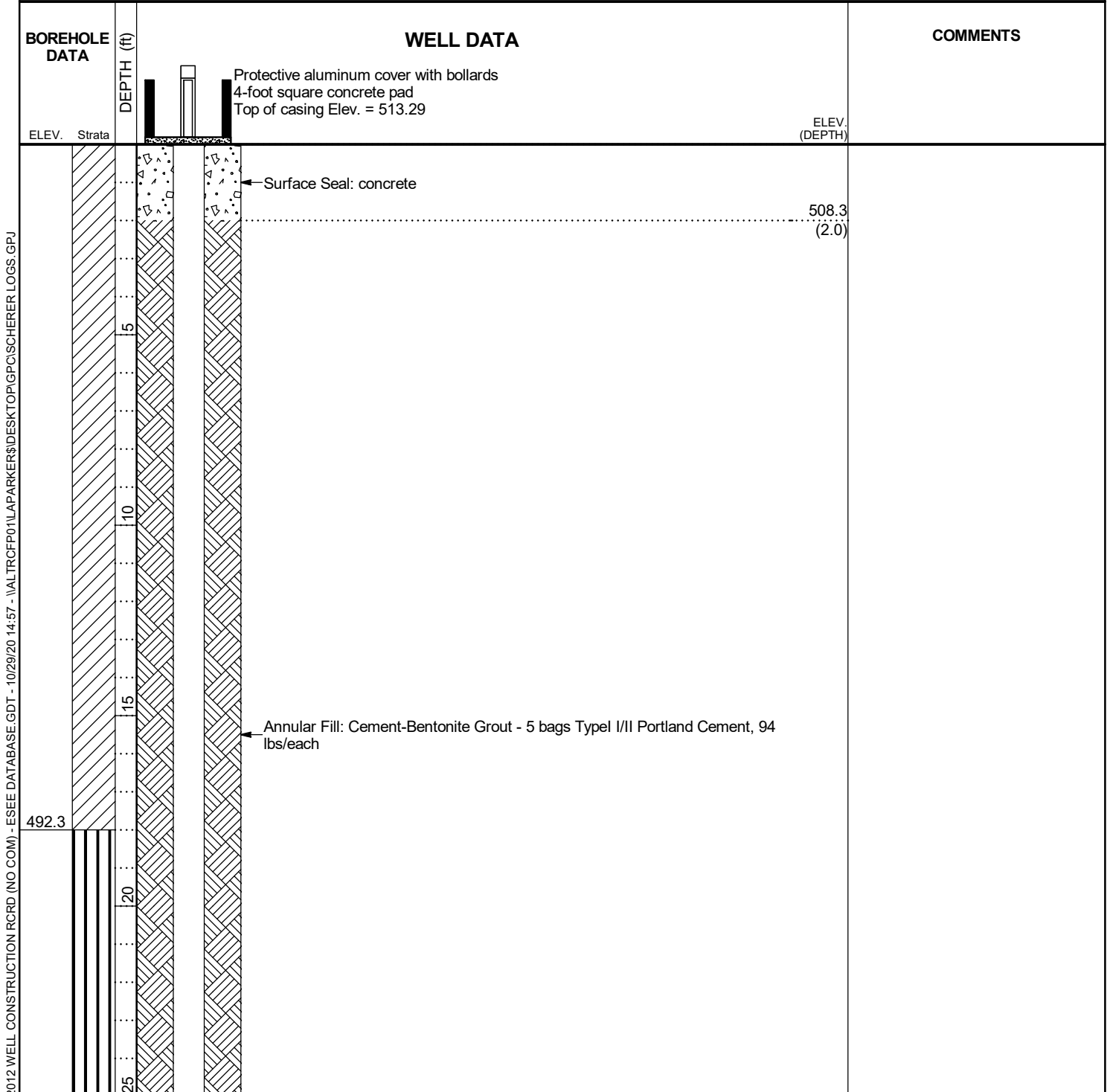
DATE STARTED 3/16/2015 COMPLETED 3/17/2015 GROUND ELEVATION 510.3 ft COORDINATES N 1116947.75 E 2406931.32

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 44.5 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 31.4 ft. DELAYED 31.1 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-18/PZ-22S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 513.29	
	30	Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	ELEV. (DEPTH) 481.3 (29.0)
	35	Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	478.1 (32.2)
	40	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	476.2 (34.1)
465.8		Sump: 0.40 ft.	466.2

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-19/PZ-23S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 3/18/2015 COMPLETED 3/18/2015 SURF. ELEV. 475.8 COORDINATES: N 1116024.59 E 2406097.05
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 34.6 ft. GROUND WATER DEPTH: DURING 13.5 ft. COMP. 15.1 ft. DELAYED 12.1 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:59 - S:\WORKGROUP\SPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		Lean Clay (CL) - Hand auger 5' for utilities clearance				
10		- mottled red (2.5YR 5/8) fill moist, medium stiff, trace mica				SPT N=8bpf(@8.5ft.)
15		Silt (ML) - mottled reddish gray (2.5YR 5/1) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium stiff, black spots, with trace residual quartz				SPT N=5bpf(@13.5ft.)
20		- mottled reddish yellow (7.5YR 7/8) saprolite wet, medium stiff, trace mica				SPT N=6bpf(@18.5ft.)
25		Silty Sand (SM) - mottled white (7.5YR 8/1) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, muscovite, biotite				SPT N=10bpf(@23.5ft.)

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LOG OF TEST BORING

BORING SGWC-19/PZ-23S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:59 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
30		<p>Silty Sand (SM) (Cont)</p> <p>- mottled white (7.5YR 8/1) saprolite wet, medium dense, very fine to fine grained, black streaking, trace weathered rock fragments and mica</p>		Weak Moderate Strong	<p>SPT N=20bpf(@28.5ft.)</p>
35		<p>- mottled white (7.5YR 8/1) saprolite wet, dense, very fine to fine grained, black streaking, trace muscovite, biotite, residual quartz</p>			<p>SPT N=39bpf(@33.5ft.)</p>
		<p>Bottom of borehole at 34.6 feet.</p>			



RECORD OF WELL CONSTRUCTION

WELL: SGWC-19/PZ-23S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

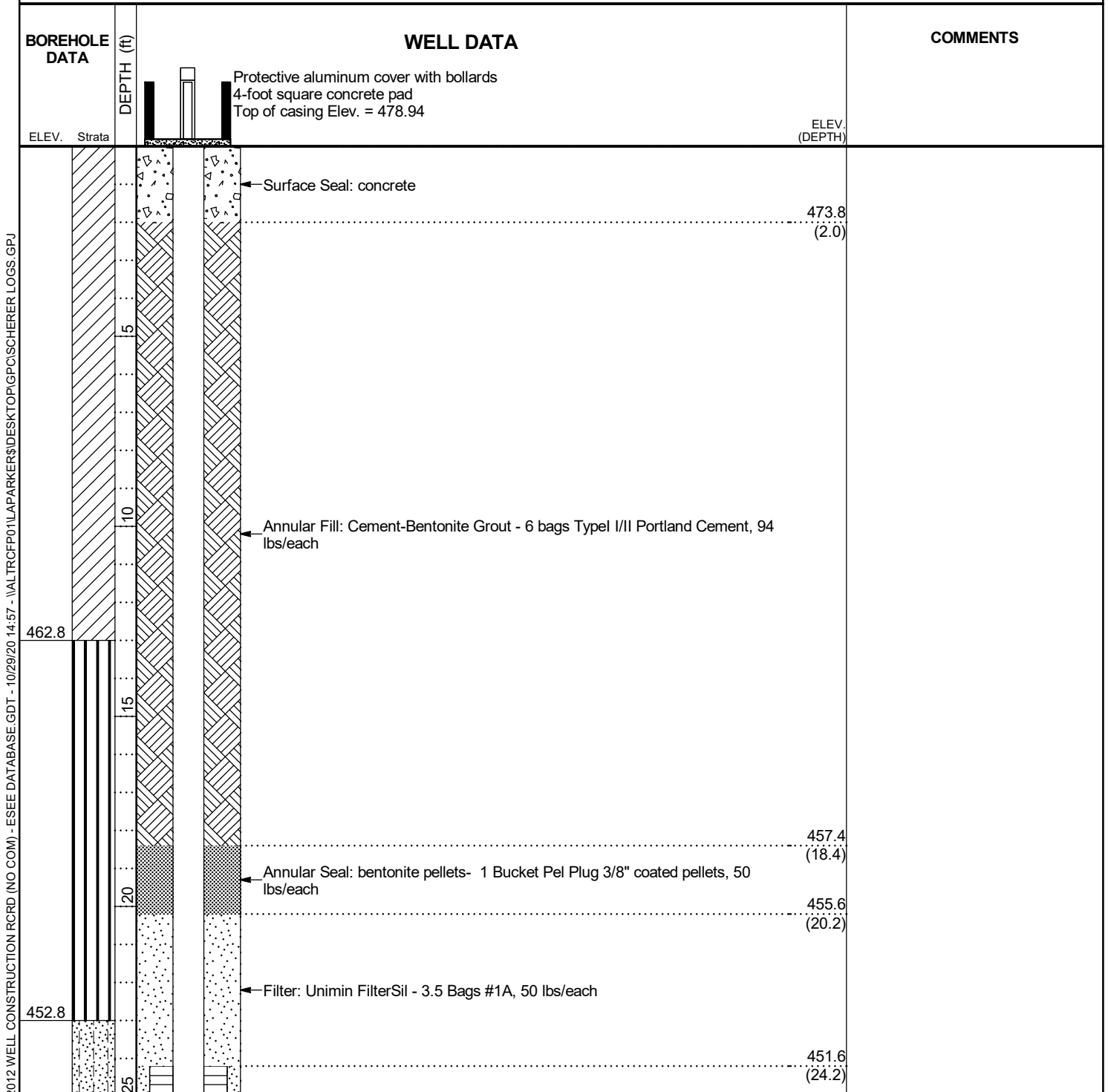
DATE STARTED 3/18/2015 COMPLETED 3/18/2015 GROUND ELEVATION 475.8 ft COORDINATES N 1116024.59 E 2406097.05

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 34.6 ft.

GROUND WATER DEPTH: DURING 13.5 ft. COMP. 15.1 ft. DELAYED 12.1 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWC-19/PZ-23S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	(CONTINUED)	ELEV. (DEPTH)
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 478.94	
441.2		30	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
			Sump: 0.40 ft.	441.6

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER LOGS.GPJ

RECORD OF BOREHOLE SGWC-20/APC-15

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 25.00 ft
 LOCATION: Juliette, GA

DRILL RIG: C 100 Track Mounted Rig
 DATE STARTED: 11/19/15
 DATE COMPLETED: 11/19/15

NORTHING: 1,116,020.73
 EASTING: 2,405,307.67
 GS ELEVATION: 501.5
 TOC ELEVATION: 504.60 ft

DEPTH W.L.: 8.20'
 ELEVATION W.L.:
 DATE W.L.: 11/20/15
 TIME W.L.: 11:35

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	500	0.00 - 5.00 CLAY (CH)/FILL; clayey silty overburden, red/brown, moist (vacuum cleared by Southern Company Services to 10 feet prior to drilling activities)	CH		496.5					<p>WELL CASING Interval: -3'-15' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 15'-25' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 12.7'-25' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 10.6'-12.7' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-10.6' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
5	495	5.00 - 10.00 clayey silt, red/brown, moist			5.00					
10	490	10.00 - 13.00 CLAYEY SILT (ML)/SAPROLITE; clayey silts, fat clay, trace biotite streaking and mica, red/orange/brown, moist	ML		491.5					
15	485	13.00 - 15.00 FAT CLAY (CH)/SAPROLITE; silt and fine sand with trace quartz, micaceous, trace biotite, red/brown, wet	CH		488.5					
20	480	15.00 - 20.00 SILT/SAPROLITE; clayey silty, mottled saprolite, trace biotite, red/orange/brown, very soft, wet Shelby Tube Collected: 15'-17'	MH		486.5					
25	475	20.00 - 25.00 mottled saprolite, weathered biotite, micaceous, trace quartz, foliation (clayey silt with interbedded fine sand), orange/red/brown, very wet			481.5					
45	470	Boring completed at 25.00 ft			476.5					

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vernon Scott

GA INSPECTOR: James Mullooly
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 9/29/17





LOG OF TEST BORING

BORING SGWC-21/PZ-01S
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 5/6/2015 COMPLETED 5/6/2015 SURF. ELEV. 484.7 COORDINATES: N 1115409.88 E 2404197.33
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 24.9 ft. GROUND WATER DEPTH: DURING 14.4 ft. COMP. 0 ft. DELAYED 2.7 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUP\SPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
		Lean Clay (CL) - Hand auger 5' for utilities clearance - mottled red (10R 5/8) and pink / moderate orange pink (5YR 8/4) saprolite moist, soft, micaceous - light gray (10R 7/1) saprolite moist, stiff, micaceous, trace silt			
5					SPT N=4bpf(@8.5ft.)
10					SPT N=14bpf(@13.5ft.)
15					
20		Silt (ML) - light gray (10R 7/1) saprolite very moist, medium stiff, micaceous, trace clay			SPT N=8bpf(@18.5ft.)
25		Silty Sand (SM) - mottled light gray (10R 7/1) and pinkish white / grayish orange pink (10R 8/2) saprolite moist, medium dense, fine to coarse grained, trace weathered rock			SPT N=19bpf(@23.5ft.)
Bottom of borehole at 24.9 feet.					



RECORD OF WELL CONSTRUCTION

WELL: SGWC-21/PZ-01S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 5/6/2015 COMPLETED 5/6/2015 GROUND ELEVATION 484.7 ft COORDINATES N 1115409.88 E 2404197.33

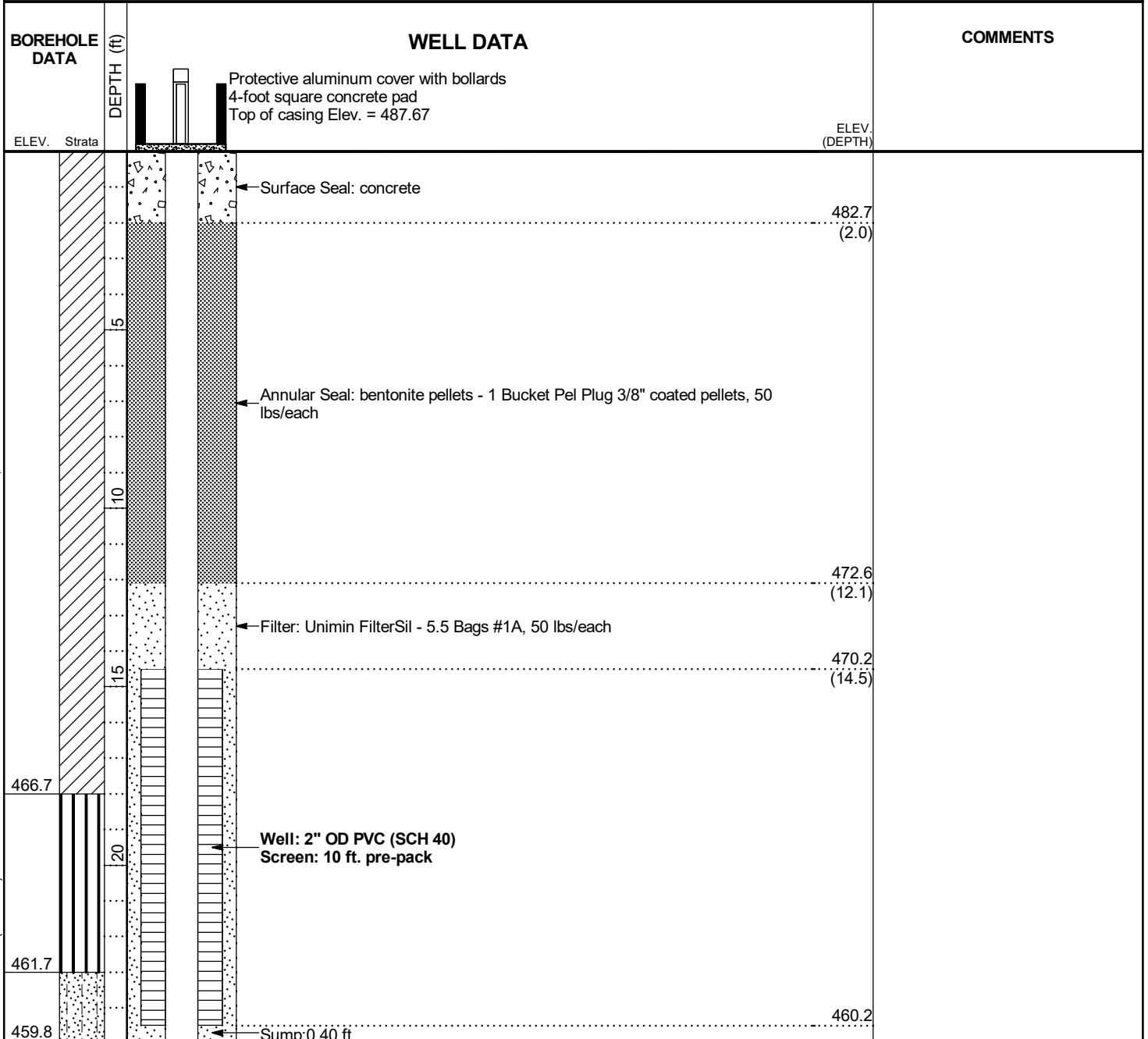
CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 24.9 ft.

GROUND WATER DEPTH: DURING 14.4 ft. COMP. 0 ft. DELAYED 2.7 ft. after 24 hrs.

NOTES

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ





BORING LOG

BORING SGWC-22/PZ-02S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 1/21/2015 COMPLETED 1/22/2015 GROUND ELEVATION 515.4 ft COORDINATES: N 1115540.08 E 2403001.81

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 50.1 ft.

GROUND WATER DEPTH: DURING 25.5 ft. COMP. 25.5 ft. DELAYED 24.51 ft. after 24 hrs.

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	HCL REACTION	COMMENTS
			Weak Moderate Strong	
5		Lean Clay (CL) - mottled dusky red (5R 3/4), light red / moderate reddish orange (10R 6/6) and pinkish white / grayish orange pink (10R 8/2) fill moist, very stiff		SPT N=21bpf(@3.5ft.)
10		Silt (ML) - mottled dusky red (5R 3/4), pinkish white (7.5YR 8/2) and pale red / moderate orange pink (10R 7/4) residuum moist, very stiff, white banding, micaceous		SPT N=20bpf(@8.5ft.)
15		- mottled dusky red (5R 3/4), very pale brown / very pale orange (10YR 8/2) and very pale brown / very pale orange (10YR 8/2) saprolite moist, stiff, with black spots		SPT N=9bpf(@13.5ft.)
20		- mottled brown (10YR 4/3), light brown (7.5YR 6/4) and white (2.5YR 8/1) saprolite moist, medium stiff		SPT N=8bpf(@18.5ft.)
25		Silty Sand (SM) - mottled brown (10YR 4/3), very pale brown / very pale orange (10YR 8/2) and pale red / moderate orange pink (10R 7/4) saprolite wet, loose, very fine to fine grained, with black spots		SPT N=6bpf(@23.5ft.)

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\IAPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
		<p>▼ Silty Sand (SM)(Con't)</p>		
30		- mottled brown (10YR 4/3), very pale brown / very pale orange (10YR 8/2) and pale red / moderate orange pink (10R 7/4) saprolite wet, medium dense, very fine to fine grained, with black spots		SPT N=12bpf(@28.5ft.)
35		- mottled very pale brown / very pale orange (10YR 8/2), very pale brown / very pale orange (10YR 8/2) and light brownish gray / pale yellowish brown (10YR 6/2) saprolite wet, medium dense, very fine to fine grained, with black spots		SPT N=20bpf(@33.5ft.)
40		- mottled light greenish gray (10BG 7/1), white (7.5YR 8/1) and white (10R 8/1) saprolite wet, dense, very fine to fine grained, micaceous, trace weathered rock fragments		SPT N=42bpf(@38.5ft.)
45		- mottled brown (10YR 4/3), very pale brown / very pale orange (10YR 8/2) and white (10R 8/1) saprolite wet, medium dense, very fine to fine grained, micaceous, with black spots		SPT N=27bpf(@43.5ft.)
50		- mottled brown (10YR 4/3), very pale brown / very pale orange (10YR 8/2) and white (10R 8/1) saprolite wet, dense, very fine to fine grained, micaceous, with black spots		SPT N=43bpf(@48.5ft.)
		Bottom of borehole at 50.1 feet.		
55				



RECORD OF WELL CONSTRUCTION

WELL: SGWC-22/PZ-02S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

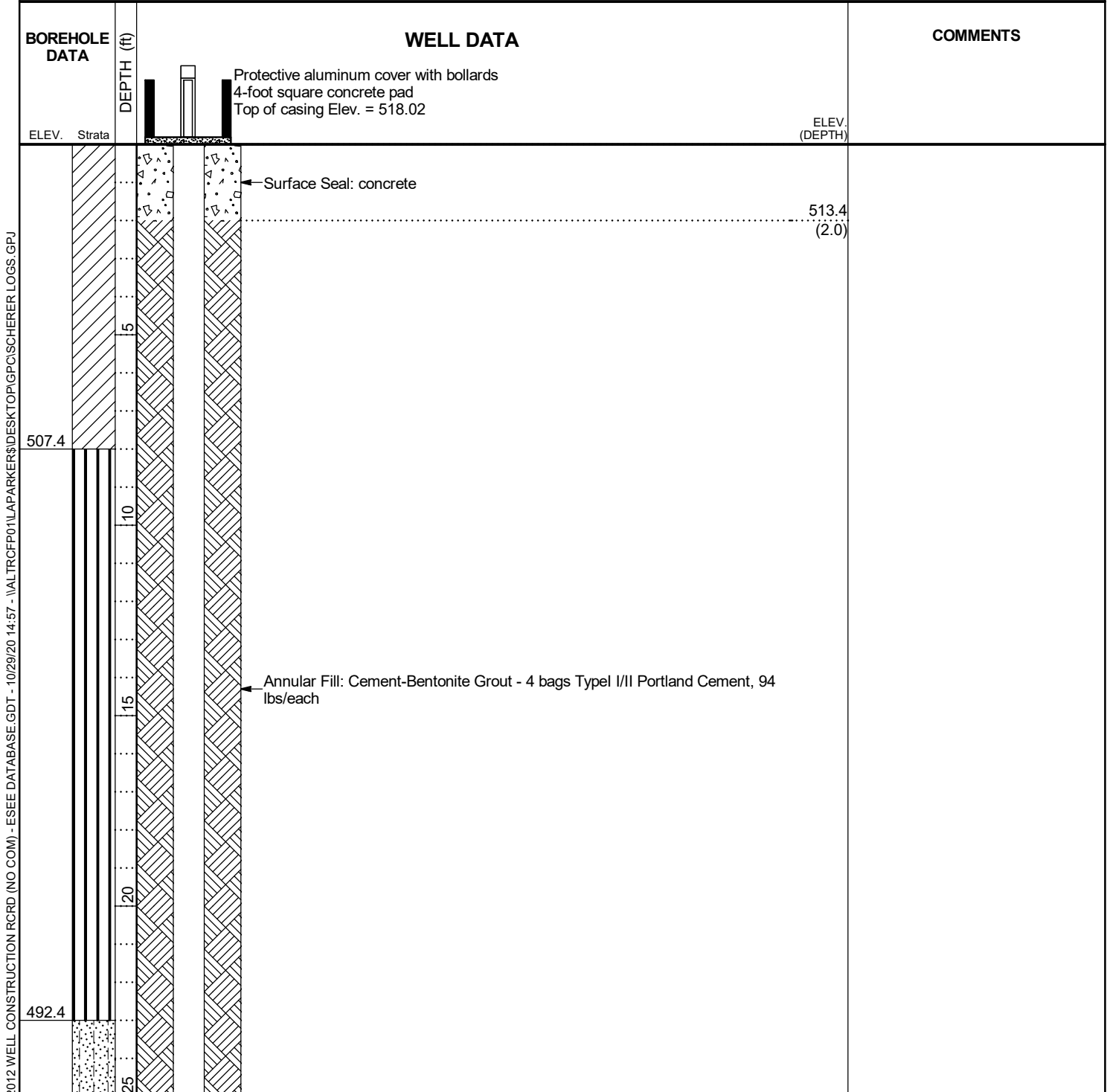
DATE STARTED 1/21/2015 COMPLETED 1/22/2015 GROUND ELEVATION 515.4 ft COORDINATES N 1115540.08 E 2403001.81

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 50.1 ft.

GROUND WATER DEPTH: DURING 25.5 ft. COMP. 25.5 ft. DELAYED 24.51 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-22/PZ-02S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p> <p style="text-align: center;">DEPTH (ft)</p> <p style="text-align: center;">(CONTINUED)</p> <p style="text-align: right;">ELEV. (DEPTH)</p>	<p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 518.02</p> <p>Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each</p> <p>Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each</p> <p>Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack</p> <p>Sump: 0.40 ft</p> <p>Backfill:</p>	<p>488.8 (26.6)</p> <p>486.2 (29.2)</p> <p>478.9 (36.5)</p> <p>468.9 (46.5)</p> <p>468.5 (46.9)</p>
<p>465.3</p>		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCF001\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWC-23/PZ-041
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 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 1/29/2015 COMPLETED 2/3/2015 SURF. ELEV. 520.0 COORDINATES: N 1116693.80 E 2402131.07
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger; HQ Rock Core
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 49.7 ft. GROUND WATER DEPTH: DURING 34.9 ft. COMP. 33.1 ft. DELAYED 33.9 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - mottled red / moderate reddish brown (10R 4/6) and light red / moderate reddish orange (10R 6/6) residuum moist, very stiff, micaceous			SPT N=24bpf(@3.5ft.)
10		Silty Sand (SM) - mottled white (10YR 8/1) saprolite dry, medium dense, very fine to fine grained, with trace coarse subangular grains - mottled white (10YR 8/1) and red / moderate reddish brown (10R 4/6) saprolite dry, medium dense, very fine to fine grained, with trace coarse subangular grains			SPT N=20bpf(@8.5ft.) SPT N=14bpf(@13.5ft.)
20		Sandy Silt (ML) - mottled greenish gray (10BG 5/1) saprolite moist, very stiff, white banding, with trace weathered rock fragments			SPT N=17bpf(@18.5ft.)
25		- mottled greenish gray (10BG 5/1) and light red / moderate reddish orange (10R 6/6) saprolite moist, very stiff, with white streaking, trace weathered rock fragments			SPT N=20bpf(@23.5ft.)

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LOG OF TEST BORING

BORING SGWC-23/PZ-041
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION	COMMENTS
		Sandy Silt (ML) (Cont)						
30		Silty Sand (SM) - mottled greenish gray (10BG 5/1) and light red / moderate reddish orange (10R 6/6) saprolite moist, medium dense, very fine to fine grained, with white streaking and black spots, trace weathered rock fragments and mica						SPT N=17bpf(@28.5ft.)(PL=NP; FC = 32.5%; Gravel = 0%) (MC = 23%; UW(d) = 96pcf; PERM. = 1.65E-4cm/sec)
35		PARTIALLY WEATHERED ROCK - variegated with greenish gray (10BG 5/1) fine to coarse grain, very soft, highly weathered						SPT N=36bpf(@33.5ft.)
40		GRANITIC GNEISS - variegated with very pale brown / grayish orange (10YR 7/4) coarse grain, hard to very hard, slightly to moderately weathered, massive, banded, 2 low angle-fractures (10 - 25d), 3 moderate-angle fractures (30 - 45d), 2 high-angle fractures (65 - 90d), with iron oxide staining, quartz, feldspar, mica						
45		- variegated with dark gray (N3) coarse to medium grain, very soft to soft, moderately to highly weathered, inclined, banded, moderately fractured, 10 low-angle fractures (10 - 30d), 11 moderate-angle fractures (30 - 45d), with iron oxide staining, quartz, amphibole						
50								
55		Bottom of borehole at 49.7 feet.						



RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

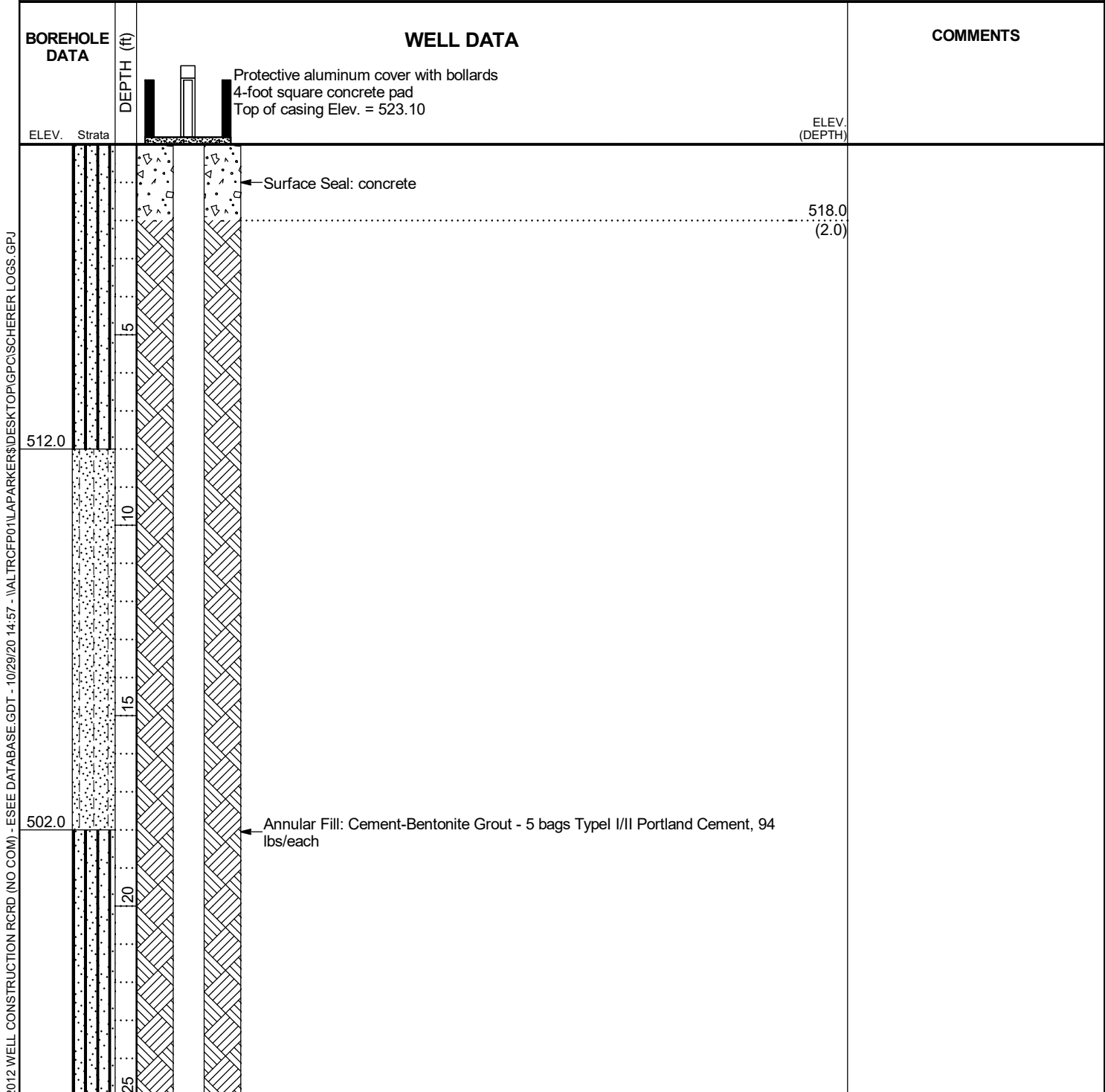
DATE STARTED 1/29/2015 COMPLETED 2/3/2015 GROUND ELEVATION 520 ft COORDINATES N 1116693.8 E 2402131.07

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 49.7 ft.

GROUND WATER DEPTH: DURING 34.9 ft. COMP. 33.1 ft. DELAYED 33.9 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWC-23/PZ-04I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 523.10	ELEV. (DEPTH)
492.0	30		
485.0	35	← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	485.9 (34.1)
483.5		← Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each	483.5 (36.5)
	40		480.7 (39.3)
	45	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
470.3		← Sump: 0.40 ft.	470.7

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCF001\APARKER\DESKTOP\GPCISCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWA-24/PZ-07S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/10/2015 COMPLETED 2/10/2015 SURF. ELEV. 489.3 COORDINATES: N 1118121.96 E 2400743.52
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 40 ft. GROUND WATER DEPTH: DURING 33.5 ft. COMP. 12.1 ft. DELAYED 12.25 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUP\SPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		<p>Silt (ML)</p> <p>- mottled strong brown (7.5YR 5/6) and light gray (10YR 7/1) residuum dry, very stiff</p>				SPT N=24bpf(@3.5ft.)
10		<p>- mottled yellowish red (5YR 5/8) and light gray (10YR 7/2) saprolite moist, very stiff, with relict quartz, biotite</p>				SPT N=17bpf(@8.5ft.)
15		<p>- mottled brown (10YR 5/3) saprolite moist, hard, trace sand, relict quartz, biotite</p>				SPT N=32bpf(@13.5ft.)
20		<p>- mottled dark yellowish brown (10YR 4/4) saprolite moist, very stiff, trace coarse silt and sand grains, biotite layering visible</p>				SPT N=21bpf(@18.5ft.)
25		<p>Silty Sand (SM)</p> <p>- brown (7.5YR 5/4) saprolite moist, medium dense, very fine to fine grained, with biotite and relict quartz, trace weathered rock fragments</p>				SPT N=24bpf(@23.5ft.)(LL=32; PI=8; FC = 24.6%; Gravel = 1%)

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LOG OF TEST BORING

BORING SGWA-24/PZ-07S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION COMMENTS
30		<p>Silty Sand (SM) (Cont)</p> <p>- mottled yellowish brown (10YR 5/8) and very dark brown / dusky yellowish brown (10YR 2/2) saprolite moist, medium dense, very fine to fine grained, trace biotite layering and zones of platy greenish chlorite</p>					<p>(MC = 13.1%; UW(d) = 119.8pcf; PERM. = 2.49E-5cm/sec)</p> <p>SPT N=18bpf(@28.5ft.)</p>
35		<p>▽</p> <p>- mottled reddish brown (2.5YR 5/3) and olive brown (2.5Y 4/4) saprolite wet, dense, very fine to fine grained, trace quartz, coarse silt, sand, biotite</p>					<p>SPT N=36bpf(@33.5ft.)</p>
40		<p>- mottled brown (10YR 5/3) and very pale brown (10YR 8/4) saprolite wet, very dense, very fine to fine grained, trace biotite, residual quartz, feldspar</p>					<p>SPT N=50bpf(@38.5ft.)</p>
Bottom of borehole at 40.0 feet.							
45							
50							
55							



RECORD OF WELL CONSTRUCTION

WELL: SGWA-24/PZ-07S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

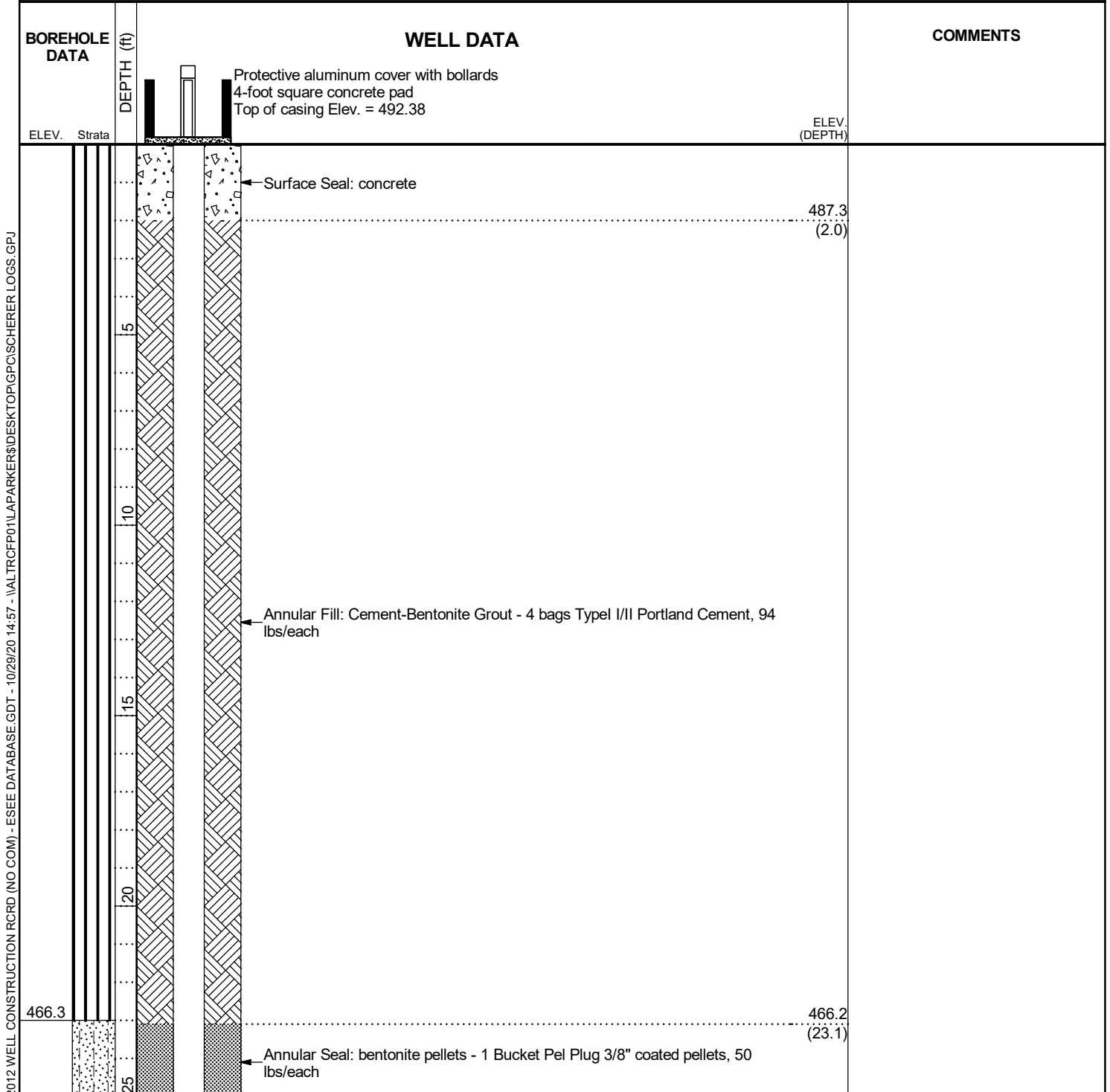
DATE STARTED 2/10/2015 COMPLETED 2/10/2015 GROUND ELEVATION 489.3 ft COORDINATES N 1118121.96 E 2400743.52

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 40 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 12.1 ft. DELAYED 12.25 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: SGWA-24/PZ-07S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 492.38	
			ELEV. (DEPTH)
		← Filter: Unimin FilterSil - 7 Bags #1A, 50 lbs/each	464.2 (25.1)
		← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	461.6 (27.7)
	30		
	35		
		← Sump: 0.40 ft.	451.6 (37.7)
		← Backfill:	451.2 (38.1)
449.3	40		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



LOG OF TEST BORING

BORING SGWA-25/PZ-09S
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 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

DATE STARTED 2/17/2015 COMPLETED 2/18/2015 SURF. ELEV. 523.2 COORDINATES: N 1120555.28 E 2400857.08
 CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger
 DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 45 ft. GROUND WATER DEPTH: DURING 33.5 ft. COMP. 25.9 ft. DELAYED 25.5 ft. after 24 hrs.
 NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZODRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		<p>Sandy Silt (ML)</p> <p>- mottled red (2.5YR 4/6) and bluish gray (10B 6/1) residuum moist, stiff, micaceous, trace clay and muscovite</p>				SPT N=10bpf(@3.5ft.)
10		<p>- red (2.5YR 5/8) residuum dry, medium stiff, micaceous, trace clay</p>				SPT N=6bpf(@8.5ft.)
15		<p>- mottled yellowish red / light brown (5YR 5/6) and light reddish brown / light brown (5YR 6/4) residuum dry, medium stiff, trace mica</p>				SPT N=6bpf(@13.5ft.)
20		<p>- mottled yellow (10YR 7/8) and yellow (10YR 7/8) saprolite moist, stiff, micaceous, with muscovite, biotite, hornblende</p>				SPT N=9bpf(@18.5ft.)
25		<p>- mottled strong brown (7.5YR 4/6) and yellow (10YR 7/8) saprolite moist, stiff, micaceous, with muscovite, residual quartz, felspar</p>				SPT N=9bpf(@23.5ft.)

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LOG OF TEST BORING

BORING SGWA-25/PZ-09S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 6/24/15 07:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS	
				Weak	Moderate Strong		
		▼ Sandy Silt (ML) (Cont) ▼ - mottled brown (7.5YR 5/4) and very pale brown / very pale orange (10YR 8/2) saprolite moist, very stiff, micaceous				SPT N=18bpf(@28.5ft.)	
30							
		▼ - mottled dark yellowish brown (10YR 3/6) and yellow (10YR 7/8) saprolite wet, stiff, micaceous, trace muscovite, biotite, chlorite, hornblende, feldspar, residual quartz				SPT N=15bpf(@33.5ft.) (MC = 53.6%; UW(d) = 66.1pcf; PERM. = 8.55E-5cm/sec)	
35							
		- mottled light gray (2.5Y 7/1), reddish brown / moderate brown (5YR 4/4) and dark olive brown (2.5Y 3/3) saprolite wet, very stiff, micaceous, trace clay, chlorite, muscovite, biotite, residual quartz, hornblende, feldspar				SPT N=22bpf(@38.5ft.)	
40							
		- mottled grayish olive (10Y 4/2), strong brown (7.5YR 5/8) and weak red / pale reddish brown (10R 5/4) saprolite wet, very stiff, micaceous, trace clay, muscovite, biotite, chlorite, residual quartz, feldspar				SPT N=29bpf(@43.5ft.)	
45							
		Bottom of borehole at 45.0 feet.					
50							
55							



RECORD OF WELL CONSTRUCTION

WELL: SGWA-25/PZ-09S
PAGE 1 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 2/17/2015 COMPLETED 2/18/2015 GROUND ELEVATION 523.2 ft COORDINATES N 1120555.28 E 2400857.08

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 45 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 25.9 ft. DELAYED 25.5 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
ELEV. <u>Strata</u> 	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.49 ← Surface Seal: concrete ← Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94 lbs/each ELEV. (DEPTH) 521.2 (2.0)	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWA-25/PZ-09S
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.49	
478.2	45	Sump: 0.40 ft.	ELEV. (DEPTH)
	35	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	488.6 (34.6)
	30	Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	490.5 (32.7)
	30	Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs each	493.1 (30.1)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

APPENDIX B-2

Cell 1 Monitoring Well Logs and Construction Diagrams



LOG OF TEST BORING

BORING GWC-1
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/28/2009 COMPLETED 10/28/2009 SURF. ELEV. 371.6 COORDINATES: N 1120077.85 E 2411555.32

CONTRACTOR SCS Field Services EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY P. Smith LOGGED BY D. Brooks CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 36 ft. GROUND WATER DEPTH: DURING 6 ft. COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Residuum, sandy SILT (MLS) and silty SAND (SM)						
10								
15								
20			352.0					
		Silty SAND (SM); mottled black and white; fine grained; gnessic saprolite		SS-1	19.5-21.0	3-5-16 (21)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GPJ

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LOG OF TEST BORING

BORING GWC-1
PAGE 2 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Silty SAND (SM); mottled black and white; fine grained; gnessic saprolite (<i>Cont</i>)		SS -2	24.5-26.0	11-7-9 (16)		
30				SS -3	29.5-31.0	21-15-11 (26)		
35		SS -4	34.5-36.0	7-9-21 (30)				
		335.5	Bottom of borehole at 36.0 feet.					
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: P. Smith	
LOCATION: Cell 1	RIG TYPE: CME 550	
LOGGER: D. Brooks	DRILLING METHODS: HSA	GWC-1
DATE CONSTRUCTED: 10/28/2009		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.35	374.95
	GROUND SURFACE	0.00	371.6
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>	BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 8 cubic feet</p>			
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	19.50	352.10
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>	TOP OF FILTER PACK	22.00	349.60
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 2.5 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	24.69	346.91
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	34.69	336.91
	BOTTOM OF CASING	34.85	336.75

▼ El. 366.61
12/6/2009

HOLE DIA: 9"



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/7/2009 **COMPLETED** 10/7/2009 **SURF. ELEV.** 376.9 **COORDINATES:** N 1119816.59 E 2411493.53

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY S. Denty **LOGGED BY** L. Millet **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 54.5 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Very moist, sandy SILT (MLS) and silty SAND (SM)						
10								
15			357.4	SS -1	19.5- 21.0	2-3-6 (9)		
20								
		Wet, silty SAND (SM); green and white with occasional orange mottling; gneissic saprolite						

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GPJ



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Wet, silty SAND (SM); green and white with occasional orange mottling; gneissic saprolite (Cont)						
		Wet, silty SAND (SM); green and white with occasional lite orange and black mottling; soft; gneissic saprolite		SS -2	24.5-26.0	3-5-7 (12)		
30		Wet, silty SAND (SM); green and white with occasional orange mottling; soft; gneissic saprolite		SS -3	29.5-31.0	6-5-6 (11)		
35				SS -4	34.5-36.0	5-5-9 (14)		
40				SS -5	39.5-41.0	4-5-8 (13)		
45				SS -6	44.5-46.0	4-6-10 (16)		
50			Wet, silty SAND (SM); black, green and white with occasional lite orange mottling; micaceous;		SS -7	49.5-51.0	6-7-10 (17)	

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
		gneissic saprolite Wet, silty SAND (SM); green and white with occasional orange mottling; gneissic saprolite (Cont)						
55			320.9	SS -8	54.5-56.0	7-10-15 (25)		Bottom of borehole at 54.5 feet.
60								
65								
70								
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage facility	DRILLER: S. Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	
LOGGER: L. Millet	DRILLING METHODS: HSA	GWC-2
DATE CONSTRUCTED: 10/8/2009		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 2" Threaded Riser Cap Pea Gravel in annular space TOP OF RISER	-3.32	380.22
GROUND SURFACE 4-ft x 4-ft x 4" concrete pad Pea Gravel in annular space PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING	0.00	376.9
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4.5 cubic feet RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	40.98	335.92
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	42.98	333.92
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 6 3/4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	44.78	332.12
SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	54.78	322.12
BOTTOM OF CASING	54.88	322.02

▼ El. 368.01
12/5/2009

HOLE DIA: 9"



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/29/2009 **COMPLETED** 10/29/2009 **SURF. ELEV.** 407.1 **COORDINATES:** N 1119613.99 E 2411202.86

CONTRACTOR Ranger **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY Ranger **LOGGED BY** D. Brooks **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 46 ft. **GROUND WATER DEPTH: DURING** 38 ft. **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) and SILT (ML)						
10								
15								
20		Sandy SILT (MLS), mottled orange, tan and black, micaceous		SS -1	18.5-20.0	4-4-7 (11)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER.GYP.GPJ



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Sandy SILT (MLS) and SILT (ML) (<i>Cont</i>) Sandy SILT (MLS), mottled orange, tan and black with tan lean CLAY (CL), micaceous		SS -2	23.5-25.0	5-5-7 (12)		
30		Silty SAND (SM), mottled orange, tan, white and black, fine grained, micaceous	378.7	SS -3	28.5-30.0	8-9-14 (23)		
35		Silty SAND (SM), mottled orange and tan with trace amounts of white sand, fine grained, micaceous		SS -4	33.5-35.0	11-12-22 (34)		
40		Silty SAND (SM), mottled orange and whit, fine to medium grained, micaceous		SS -5	38.5-40.0	17-28-44 (72)		
45		Silty SAND (SM), mottled orange, tan, and black, fine grained, micaceous		SS -6	43.5-43.9	24-30-50/-7" (100+)		
			Bottom of borehole at 46.0 feet.	361.2				
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility Solid Waste Management	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 55	
LOGGER: D. Brooks	DRILLING METHODS: HSA	GWC-3
DATE CONSTRUCTED: 10/29/2009		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 2" Threaded Riser Cap Pea Gravel in annular space TOP OF RISER	-3.34	410.44
GROUND SURFACE PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING	0.00	407.1
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 14 cubic feet RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	31.90	375.20
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	34.40	372.70
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 6.5 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	36.40	370.70
SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	46.40	360.70
BOTTOM OF CASING	46.39	360.71

▼ El. 370.68
12/5/2009

HOLE DIA: 9"



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/2/2009 **COMPLETED** 11/2/2009 **SURF. ELEV.** 408.4 **COORDINATES:** N 1119255.96 E 2411041.82

CONTRACTOR Ranger **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY Ranger **LOGGED BY** W. Clanton **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 39.5 ft. **GROUND WATER DEPTH: DURING** 27.5 ft. **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) and SILT (ML)						
10								
15								
20		Damp, soft, SILT (ML), mottled black, tan and orange, micaceous	389.8	SS -1	18.5-20.0	11-7-10 (17)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ



LOG OF TEST BORING

BORING GWC-4
PAGE 2 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Damp, soft, SILT (ML), mottled black, tan and orange, micaceous (<i>Cont</i>) Very damp, soft, SILT (ML), mottled black, tan, white and orange, micaceous		SS -2	23.5-25.0	7-8-11 (19)		
			379.8					
30		Very moist, soft, silty SAND (SM) and SILT (ML); mottled black, tan, orange and white; fine grained; very micaceous with large mica flakes		SS -3	28.5-30.0	9-13-20 (33)		
35		Moist, soft, silty SAND (SM); mottled black, tan, orange and white; fine to medium grained; micaceous		SS -4	33.5-33.9	50/5" (100+)		
			369.8					
40		Moist, soft, clayey SAND (SC); black with orange, tan and white mottles; fine grained; micaceous	368.8	SS -5	38.5-39.0	50 (0)		auger refusal.
		Bottom of borehole at 39.5 feet.						
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	
LOGGER: W. Clanton	DRILLING METHODS: HSA	GWC-4
DATE CONSTRUCTED: 11/21/2009		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.35	411.75
GROUND SURFACE		0.00	408.4	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 11.5 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	26.30	382.10
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1.25 buckets PLACEMENT: Tremie</p>		TOP OF FILTER PACK	27.95	380.45
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5.5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	29.70	378.70
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	39.70	368.70
		BOTTOM OF CASING	39.91	368.49

▼ El. 381.02
12/4/2009

HOLE DIA: 9"



LOG OF TEST BORING

BORING GWC-5
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/7/2009 COMPLETED 10/7/2009 SURF. ELEV. 393.3 COORDINATES: N 1118897.72 E 2411025.88

CONTRACTOR SCS Field Services EQUIPMENT CME-550 METHOD Hollow Stem Auger; HQ Rock Core

DRILLED BY T. Milam LOGGED BY LM/BG CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 34.8 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 20.2 ft. after 18 hrs.

NOTES Elevation based on stake. Offset 5' west of stake. Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		CLAY (CL); red and tan; medium stiff; damp; low plasticity						
10								
15								
20								
			372.2	SS-1	19.5-21.0	2-3-5 (8)		
		SILT (ML); gray; medium dense; moist; micaceous						

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		SILT (ML); gray; medium dense; moist; micaceous (<i>Cont</i>)						
			367.2	SS -2	24.5-26.0	3-3-6 (9)		
		Silty SAND (SM); gray; fine grained; dense; very moist; micaceous	364.2					
30		GNEISS - black and white, weathered, hard augering	363.2	SS -3	29.5-29.7	50/2" (100+)		Auger refusal.
		GNEISS - black and white, fine to medium grain, hard, not weathered						
				RC -1	30.0-34.8		100 (100)	
35		Bottom of borehole at 34.8 feet.						
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: S. Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-5
LOGGER: B. Gallagher	DRILLING METHODS: HAS/HQ Core	
DATE CONSTRUCTED: 10/22/09		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.39	396.69
	GROUND SURFACE	0.00	393.3
<p>▼ El. 379.16 12/3/2009</p>	TOP OF SEAL	14.97	378.33
	TOP OF FILTER PACK	16.97	376.33
	BOTTOM OF RISER / TOP OF SCREEN	20.43	372.87
	BOTTOM OF SCREEN	30.43	362.87
	BOTTOM OF CASING	30.66	362.64
HOLE DIA: 9"			



LOG OF TEST BORING

BORING GWC-6
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/8/2009 COMPLETED 10/8/2009 SURF. ELEV. 412.4 COORDINATES: N 1118575.69 E 2410872.56

CONTRACTOR SCS Field Services EQUIPMENT CME-550 METHOD Hollow Stem Auger; HQ Rock Core

DRILLED BY T. Milam LOGGED BY LM/BG CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 44.5 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED _____

NOTES Offset 5' west of stake. Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		CLAY (CL)						
10		SILT (ML)	402.4					
15		Silty SAND (SM); tan with orange and black mottling; loose; dry; abundant mica	397.4					
20		Silty SAND (SM); tan with orange and black mottling; loose; dry; abundant mica	392.4	SS-1	19.5-21.0	3-5-6 (11)		

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Silty SAND (SM); black and tan with occasional black mottling; very fine to fine grained; loose; dry; mica		SS -2	24.0-25.5	5-6-10 (16)		
30		White cobble		SS -3	29.5-29.8	50/4" (100+)		
35		GNEISS - white and black, medium to fine grain, soft to medium hard, slightly to highly weathered, banded Micaceous seam at 35.9'		RC -1	34.0-35.5		100 (0)	
40				RC -2	35.5-40.5		100	
			370.7					
		SCHIST - black, soft, highly weathered Secondary quartz seam at 41.9'		RC -3	40.5-44.5		50 (30)	Lost all water return at 42.0'..
		Nearly completely weathered mica seam at 43.8'	367.9					
45		Bottom of borehole at 44.5 feet.						
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: S. Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-6
LOGGER: B. Gallagher	DRILLING METHODS: HAS/HQ Core	
DATE CONSTRUCTED: 10/21/09		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 	TOP OF RISER	-3.40 415.8
	GROUND SURFACE	0.00 412.4
PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 13 cubic feet RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL		29.86 382.54
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: PLACEMENT: Tremie TOP OF FILTER PACK		31.86 380.54
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN		34.86 377.54
SCREEN DIA: 2-inch TYPE: Schedule 40 PVC OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN		44.86 367.54
	BOTTOM OF CASING	45.10 367.30

▼ El. 378.60
12/3/2009

HOLE DIA: 9"



LOG OF TEST BORING

BORING GWC-7
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/19/2009 COMPLETED 10/20/2009 SURF. ELEV. 414.4 COORDINATES: N 1118243.67 E 2410645.91

CONTRACTOR SCS Field Services EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY S. Denty LOGGED BY B. Gallagher CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 54.5 ft. GROUND WATER DEPTH: DURING 39.5 ft. COMP. _____ DELAYED _____

NOTES Elevation based on stake. Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		<i>Residuum, CLAY (CL); red; medium dense; damp; low plasticity; trace mica</i>						
10		<i>Residuum, SILT (ML); tan; medium dense; damp; with mica</i>	405.3					
15								
20		<i>Saprolite, silty SAND (SM); tan and black; medium dense; damp; with mica (remnant gneiss texture)</i>	398.3					
				SS-1	19.5-21.0	5-6-8 (14)		

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS	
25		<i>Saprolite</i> , silty SAND (SM); tan and black; medium dense; damp; with mica (remnant gneiss texture) (Con't)	389.8						
		<i>Saprolite</i> , poorly graded SAND with SILT (SP-SM); tan, white and black; medium dense; damp; with iron oxide stain (remnant gneiss texture)	384.8	SS-2	24.5-26.0	6-8-16 (24)			
30		<i>Saprolite</i> , silty SAND (SM); white and tan; medium dense; moist		SS-3	29.5-31.0	6-6-8 (14)			
35				SS-4	34.5-36.0	3-5-6 (11)			
40		▽	<i>Saprolite</i> , poorly graded SAND (SP); white, black, and tan; medium dense to dense; moist; trace mica	374.8	SS-5	39.5-41.0	5-8-10 (18)		
45				SS-6	44.5-46.0	5-11-15 (26)			
50				SS-7	49.5-51.0	17-23-28 (51)			

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
	[Dotted pattern]	<i>Saprolite</i> , poorly graded SAND (SP); white, black, and tan; medium dense to dense; moist; trace mica (<i>Cont</i>)	359.7	▲				
55		Bottom of borehole at 54.5 feet.		SS -8	54.5- 54.6	50/1" (100+)		
60								
65								
70								
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: P. Smith	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-7
LOGGER: Ben Gallagher	DRILLING METHODS: HSA	
DATE CONSTRUCT	10/20/2009	

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.87	418.27
	GROUND SURFACE	0.00	414.4
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p>			
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 18 cubic feet</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	39.90	374.50
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>	TOP OF FILTER PACK	41.70	372.70
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	44.57	369.83
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	54.57	359.83
	BOTTOM OF CASING	54.78	359.62
HOLE DIA: 9"			

▼ El. 377.90
12/3/2009



LOG OF TEST BORING

BORING GWC-8
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/20/2009 **COMPLETED** 10/20/2009 **SURF. ELEV.** 404.8 **COORDINATES:** N 1,117,934.46 E 2,410,435.83

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY S. Denty **LOGGED BY** B. Gallagher **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 54.5 ft. **GROUND WATER DEPTH: DURING** 40 ft. **COMP.** _____ **DELAYED** _____

NOTES Elevation based on stake. Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS		
5		Silty SAND (SM); white and tan; fine grained; loose; damp								
10										
15										
20										
						SS-1	19.5-21.0	3-3-4 (7)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ



LOG OF TEST BORING

BORING GWC-8
PAGE 2 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Silty SAND (SM); white and tan; fine grained; loose; damp (Cont)						
		<i>Saprolite</i> , white and green; very damp; trace root hairs		SS -2	24.5-26.0	2-2-4 (6)		
30		<i>Saprolite</i> , SILT (ML); tan; loose; moist; micaceous	375.3	SS -3	29.5-31.0	2-3-4 (7)		
35		<i>Saprolite</i> , silty SAND (SM); white and tan; fine grained; medium dense; micaceous	370.3	SS -4	34.5-36.0	3-5-9 (14)		
40		Poorly graded SAND (SP); white and black; fine grained; dense; wet	365.3	SS -5	39.5-41.0	7-12-27 (39)		-water on rods at 40.0 feet..
45		Tan; very dense; trace mica		SS -6	44.5-46.0	23-27-34 (61)		
50				SS -7	49.5-51.0			

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

BORING GWC-8
PAGE 3 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
	[Dotted pattern]	Poorly graded SAND (SP); white and black; fine grained; dense; wet (Con't)						
55		<i>Saprolite</i> , poorly graded SAND (SP); white and black; fine grained; very dense; wet Bottom of borehole at 54.5 feet.	350.0	SS-8	54.5-54.8	50/3" (100+)		
60								
65								
70								
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER.GYP.GPJ

RECORD OF BOREHOLE GWC-8A

SHEET 1 of 1

PROJECT: SCS-Plant Scherer
 PROJECT NUMBER: 1662350A-01
 DRILLED DEPTH: 45.00 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550
 DATE STARTED: 3/29/17
 DATE COMPLETED: 3/29/17

NORTHING: 1117917.32
 EASTING: 2410375.16
 GS ELEVATION: 398.6 ft
 TOC ELEVATION: 401.62 ft

DEPTH W.L.: 22.4'
 DATE W.L.: 3/30/2017
 TIME W.L.: 9:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS			
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC		
0		0.00 - 8.50 SM, SILTY SAND, non-plastic; dark brown; non-cohesive, dry, w<PL, loose.	SM								Protective Aluminum Casing	WELL CASING Interval: 0' - 44.7' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Screw WELL SCREEN Interval: 34.3' - 44.3' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010 End Cap: 44.3' - 44.7" FILTER PACK Interval: 27.8' - 45' Type: FilterSil FILTER PACK SEAL Interval: 24.7' - 27.8' Type: Pel-Plug Bentonite Pellets ANNULUS SEAL Interval: 0' - 24.7' Type: CETCO Pure Gold Grout (70:30) WELL COMPLETION Pad: 6'x6'x6" Protective Casing: Aluminum 4" x 4" x 5" Bollards: 5' Round Steel DRILLING METHODS Soil Drill: 4.25 inch HSA Rock Drill: N/A		
395					S1	DO	2-2-2	4	0.00 1.50					
5														
390		8.50 - 18.50 CL, CLAY with trace organics, moderate plasticity; dark brown to red brown; cohesive, moist, w~PL very soft.	CL		399.7 8.50	S2	DO	1-2-1	3	0.16 1.50	CETCO Pure Gold Grout (70:30)			
10														
385														
15														
380		18.50 - 19.50 ML, SILT with trace fine sand, non to low plasticity; red brown to black; cohesive, moist, w<PL, soft.	ML		379.7 18.50	S4	DO	3-4-6	10	1.50 1.50	Pel-Plug Bentonite			
20														
375		19.50 - 23.50 SP, Poorly-graded SAND, fine to coarse, non plastic; white to black; non-cohesive, moist, w<pl, loose.	SP		378.7 19.50									
25														
370		23.50 - 33.50 SM, SILTY SAND, fine to coarse, non to low plasticity; white to black to bronze, saprolite, biotite gneiss; non-cohesive, moist, w<PL, loose	SM		374.7 23.50	S5	DO	2-7-10	17	1.50 1.50	FilterSil			
30														
365														
35		33.50 - 45.00 SC, CLAYEY SAND, fine to coarse, non-plastic; gray to olive; non-cohesive, wet, w<PL, very dense.	SC		364.7 33.50	S7	DO	20-50/5	50/5	0.75 1.50	0.010" Slotte Schedule 40 PVC			
40														
360														
355														
45					353.2	S9	DO	50/5	50/5	0.33 1.50				
		Boring completed at 45.00 ft												

BOREHOLE RECORD 1662350A-01.GPJ PIEDMONT.GDT 4/21/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: Sean Denty

GA INSPECTOR: Michael Boatman, P.G.
 CHECKED BY: Rachel Kirkman, PG
 DATE: 4/21/17





LOG OF TEST BORING

BORING GWC-9
PAGE 1 OF 1

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/4/2009 COMPLETED 11/4/2009 SURF. ELEV. 382.8 COORDINATES: N 1117955.40 E 2410167.75

CONTRACTOR Ranger EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY Ranger LOGGED BY W. Clanton CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 16.5 ft. GROUND WATER DEPTH: DURING 2.5 ft. COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15		Damp, silty SAND (SM); dark greenish gray with white and pale brown mottles; fine grained; micaceous; gneissic saprolite	368.5	SS-1	14.5-16.0	8-8-33 (41)		
		Bottom of borehole at 16.5 feet.						auger refusal.
20								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-9
LOGGER: Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/4/2009		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.38	386.18
	GROUND SURFACE	0.00	382.8
	BOTTOM OF PROTECTIVE CASING		
	TOP OF SEAL	2.49	380.31
	TOP OF FILTER PACK	4.79	378.01
	BOTTOM OF RISER / TOP OF SCREEN	6.79	376.01
	BOTTOM OF SCREEN	16.79	366.01
	BOTTOM OF CASING	16.70	366.10
HOLE DIA: 9"			

▼ El. 379.82
12/6/2009



LOG OF TEST BORING

BORING GWC-10
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/3/2009 COMPLETED 11/3/2009 SURF. ELEV. 388.9 COORDINATES: N 1118306.77 E 2410018.28

CONTRACTOR SCS Field Services EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY S. Denty LOGGED BY W. Clanton CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 35.5 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20			369.8	SS -1	19.5- 21.0	7-8-16 (24)		

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Damp, silty SAND (SM); mottled green, orange, reddish brown, black, and light brownish yellow with laminations of pink SAND; fine grained; very micaceous (<i>Cont</i>)		SS -2	24.5-26.0	7-12-21 (33)		
30		Damp, silty SAND (SM); mottled reddish brown, dark brown, reddish orange, white, and tan; fine grained; micaceous		SS -3	29.5-31.0	10-13-20 (33)		
35		Damp, silty SAND (SM); mottled green, reddish yellow, reddish brown, white, yellowish brown, and dark brown with shards of pink silica; fine grained; micaceous Bottom of borehole at 35.5 feet.	353.8	SS -4	34.5-36.0	11-20-24 (44)		
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: S. Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-10
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/3/09		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.97	392.87
	GROUND SURFACE	0.00	388.9
<p>▼ El. 386.36 12/6/2009</p> <p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 10 cubic feet</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p> <p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p> <p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 6 bags PLACEMENT: Tremie; wash with water</p> <p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF PROTECTIVE CASING		
	TOP OF SEAL	17.19	371.71
	TOP OF FILTER PACK	19.19	369.71
	BOTTOM OF RISER / TOP OF SCREEN	21.39	367.51
	BOTTOM OF SCREEN	31.39	357.51
	BOTTOM OF CASING	31.10	357.80
HOLE DIA: 9"			



LOG OF TEST BORING

BORING GWC-11
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/3/2009 **COMPLETED** 11/3/2009 **SURF. ELEV.** 398.8 **COORDINATES:** N 1118648.98 E 2409778.84

CONTRACTOR Ranger **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY Ranger **LOGGED BY** W. Clanton **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 30 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20		Moist, silty SAND (SM); mottled white, light brown, orange, and black; fine grained; micaceous	380.6	SS-1	18.5-20.0	6-7-10 (17)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Moist, silty SAND (SM); mottled white, light brown, orange, and black; fine grained; micaceous (<i>Cont'</i>)	369.1	SS -2	23.5-25.0	5-9-11 (20)		
30		Moist, silty SAND (SM); light brown with orange, green and black mottles; fine grained; micaceous; some gneissic saprolite		SS -3	28.5-30.0	6-14-18 (32)		
Bottom of borehole at 30.0 feet.								
35								
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-11
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/3/09		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.53	402.33
GROUND SURFACE		0.00	398.8	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 7 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	16.50	382.30
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	19.00	379.80
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	21.00	377.80
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	31.00	367.80
		BOTTOM OF CASING	30.90	367.90
HOLE DIA: 9"				

▼ El. 387.70
12/14/2009



LOG OF TEST BORING

BORING GWC-12
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/3/2009 **COMPLETED** 11/3/2009 **SURF. ELEV.** 409.2 **COORDINATES:** N 1118977.87 E 2409554.57

CONTRACTOR Ranger **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY Ranger **LOGGED BY** W. Clanton **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 33.5 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Moist, lean CLAY (CL); mottled orange, black and light brown; micaceous						
10								
15								
20									SS -1	18.5-20.0	17-11-3 (14)

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Wet, clayey SAND (SC); mottled orange, white, tan and black; fine grained; micaceous	386.0	SS -2	23.5-25.0	5-6-7 (13)		
30			376.0	SS -3	28.5-30.0	7-11-15 (26)		
35		Bottom of borehole at 33.5 feet.		SS -4	33.5-35.0	6-11-8 (19)		
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-12
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/3/09		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.69	412.89
		GROUND SURFACE	0.00	409.2
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 8.5 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	20.12	389.08
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	22.22	386.98
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	24.22	384.98
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	34.22	374.98
		BOTTOM OF CASING	34.04	375.16
<p>HOLE DIA: 9"</p>				

▼ El. 392.88
 12/14/2009



LOG OF TEST BORING

BORING GWC-13
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/2/2009 COMPLETED 11/2/2009 SURF. ELEV. 416.5 COORDINATES: N1119338.68 E 2409390.95

CONTRACTOR Ranger EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY Ranger LOGGED BY W. Clanton CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 39.5 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
			398.0					
20		SILT (ML); brownish yellow with black mottles; micaceous with large flakes of mica		SS -1	18.5-20.0	7-5-6 (11)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		SILT (ML); brownish yellow with black mottles; micaceous with large flakes of mica (<i>Cont</i>) Damp, SILT (ML) and silty SAND (SM); mottled light brown, black, orange and white; micaceous		SS -2	23.5-25.0	4-7-11 (18)		
30		Very damp, SILT (ML) with very fine grain silty SAND (SM); mottled black and dark brown; micaceous Damp, SILT (ML) with very fine grain silty SAND (SM); mottled light brown, black, orange and white; micaceous	386.5	SS -3	29.5-31.0	6-8-11 (19)		
35		Very damp, silty SAND (SM); mottled white, tan, orange, and black; fine grained; micaceous		SS -4	33.5-35.0	12-16-20 (36)		
40		Very damp, silty SAND (SM); mottled white, tan, and black; fine grained; micaceous Bottom of borehole at 39.5 feet.	377.0	SS -5	38.5-40.0	5-9-12 (21)		
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-13
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/2/09		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.27	419.77
	GROUND SURFACE	0.00	416.5
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p>			
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 11.25 cubic feet</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	25.69	390.81
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>	TOP OF FILTER PACK	27.69	388.81
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	29.99	386.51
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	39.99	376.51
	BOTTOM OF CASING	40.06	376.44
HOLE DIA: 9"			

▼ El. 392.38
12/14/2009



LOG OF TEST BORING

BORING GWC-14
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/4/2009 COMPLETED 11/4/2009 SURF. ELEV. 400.2 COORDINATES: N 1119655.05 E 2409111.75

CONTRACTOR Ranger EQUIPMENT CME-550 METHOD Hollow Stem Auger

DRILLED BY Ranger LOGGED BY W. Clanton CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 25 ft. GROUND WATER DEPTH: DURING 9.5 ft. COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20		Moist, silty SAND (SM); greenish black, white, yellow, and brown; fine grained; micaceous	381.8	SS -1	18.5-20.0	5-8-13 (21)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Moist, silty SAND (SM); greenish black, white, yellow, and brown; fine grained; micaceous (Cont)	375.3					
Bottom of borehole at 25.0 feet.								
30								
35								
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-14
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 11/4/09		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.40	403.6
		GROUND SURFACE	0.00	400.2
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4.05 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	10.07	390.13
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	12.17	388.03
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	14.07	386.13
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	24.07	376.13
		BOTTOM OF CASING	24.13	376.07
<p>HOLE DIA: 9"</p>				

▼ El. 392.47
1/6/2010



LOG OF TEST BORING

BORING GWA-15
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 11/4/2009 **COMPLETED** 11/4/2009 **SURF. ELEV.** 411.7 **COORDINATES:** N 1120009.40 E 2409282.43

CONTRACTOR Ranger **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY Ranger **LOGGED BY** W. Clanton **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 25 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20		Moist, SILT (ML) with silty SAND (SM); yellowish orange with black mottles; fine grained; micaceous		SS -1	18.5-20.0	10-10-15 (25)		
			389.8					
		Moist, silty SAND (SM); mottled light brown, orange, and black; fine grained; micaceous						

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

BORING GWA-15
PAGE 2 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Moist, silty SAND (SM); mottled light brown, orange, and black; fine grained; micaceous (Cont)	386.8	SS-2	23.5-25.0	6-9-18 (27)		
Bottom of borehole at 25.0 feet.								
30								
35								
40								
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Ranger	
LOCATION: Cell 1	RIG TYPE: CME 550	GWA-15
LOGGER: W. Clanton	DRILLING METHODS: HSA	
DATE CONSTRUCT	11/4/2009	

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.31	415.01
GROUND SURFACE		0.00	411.7	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 4.5 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	11.69	400.01
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	13.94	397.76
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	16.19	395.51
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	26.19	385.51
		BOTTOM OF CASING	26.18	385.52
HOLE DIA: 9"				

▼ El. 403.71
12/1/2009



LOG OF TEST BORING

BORING GWA-16
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/13/2009 **COMPLETED** 10/13/2009 **SURF. ELEV.** 440.9 **COORDINATES:** N 1120248.68 E 2409579.75

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY P. Smith **LOGGED BY** D. Brooks **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 55 ft. **GROUND WATER DEPTH: DURING** 35 ft. **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20			421.2					
		Silty SAND (SM); mottled orange and black; fine grained; micaceous		SS-1	19.5-21.0	3-3-4 (7)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Silty SAND (SM); mottled orange and black; fine grained; micaceous (<i>Con't</i>)		SS -2	24.5-26.0	3-3-6 (9)		
30		Silty SAND (SM) with trace amounts of light brown CLAY (CL); mottled orange, light yellowish brown and black; fine grained; micaceous		SS -3	29.5-31.0	2-3-4 (7)		
35		▽ Clayey silty SAND (SC-SM); mottled light brown, black and white; fine grained; micaceous; pyrite present; gneissic saprolite	406.2	SS -4	34.5-36.0	3-3-4 (7)		
40		SAND (SP); mottled black, white and orange; saprolite	401.2	SS -5	39.5-41.0	6-9-11 (20)		
45				SS -6	44.5-46.0	12-15-19 (34)		
50		SAND (SP); mottled black, white and orange; saprolite; harder than above		SS -7	49.5-51.0	23-36-43 (79)		

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
		SAND (SP); mottled black, white and orange; saprolite (Con't)						
55			385.7	SS-8	54.5-54.8	50/4" (100+)		auger refusal.
Bottom of borehole at 55.0 feet.								
60								
65								
70								
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Phillip Smith	
LOCATION: Cell 1	RIG TYPE: CME 550	GWA-16
LOGGER: D. Brooks	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 10/13/09		

		DEPTH FEET	ELEVATION FT, MSL
		TOP OF RISER	-3.34 444.24
		GROUND SURFACE	0.00 440.9
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING	
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 18 cubic feet</p>			
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	39.70 401.20
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	42.20 398.70
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	44.20 396.70
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	54.20 386.70
		BOTTOM OF CASING	54.48 386.42
<p>HOLE DIA: 9"</p>			

▼ El. 410.16
12/1/2009



LOG OF TEST BORING

BORING GWA-17
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 9/28/2009 **COMPLETED** 9/28/2009 **SURF. ELEV.** 442.8 **COORDINATES:** N 1120210.57 E 2409946.73

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550X **METHOD** Hollow Stem Auger

DRILLED BY S. Denty **LOGGED BY** J. Jordan **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 43.3 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
	[Hatched Box]	Dark red, sandy LEAN CLAY (CL)						Auger cuttings used for soil classifications from 0-20 ft..
			439.2					
5		SILT (ML), yellowish red, micaceous, trace of fine sand						
10								
15								
20		Sandy, dry, yellowish brown, with black stringers		SS -1	19.5- 21.0	2-3-4 (7)		

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
		SILT (ML), yellowish red, micaceous, trace of fine sand (Con't)	418.2					
25		White to light olive brown, medium dense, SILTY SAND (SM), with relict structure and reddish black stringers		SS -2	24.5-26.0	7-11-10 (21)		
30		Very dense, moist		SS -3	29.5-31.0	17-28-34 (62)		
35		SAPROLITE		SS -4	34.5-34.8	50/4" (100+)		
40		Saturated		SS -5	39.5-39.8	50/4" (100+)		
		Auger refusal at 43.3 feet.	399.4					
		Bottom of borehole at 43.3 feet.						
45								
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWA-17
LOGGER: Jordan	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 9/28/09		

		DEPTH FEET	ELEVATION FT, MSL
		TOP OF RISER	-3.04 445.84
		GROUND SURFACE	0.00 442.8
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING	
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 13.25 cubic feet</p>			
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	28.55 414.25
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	30.55 412.25
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	33.55 409.25
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	43.55 399.25
		BOTTOM OF CASING	43.72 399.08
<p>HOLE DIA: 9"</p>			

▼ El. 412.35
12/10/2009



LOG OF TEST BORING

BORING GWC-18
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 9/29/2009 COMPLETED 9/29/2009 SURF. ELEV. 436.3 COORDINATES: N 1119998.73 E 2410261.85

CONTRACTOR SCS Field Services EQUIPMENT CME-550X METHOD Hollow Stem Auger

DRILLED BY S. Denty LOGGED BY J. Jordan CHECKED BY R. Tinsley ANGLE _____ BEARING _____

BORING DEPTH 59.5 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED _____

NOTES Well installed. Refer to well data sheet.

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
0 - 5		LEAN CLAY (CL), silty, red, trace fine sand						Auger cuttings used for classifications from 0 -19.5 feet.
5 - 10		Grading silty, moist, yellowish red						
10 - 15		Strong brown						
15 - 20								
20		Firm, strong brown SILT (ML), with yellowish red layers, moist	408.8	SS-1	19.5-21.0	2-3-2 (5)		

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-18
PAGE 2 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
		Firm, strong brown SILT (ML), with yellowish red layers, moist (Con't)						
25		Medium dense, reddish yellow SILTY SAND (SM), with weathered rock	403.8	SS -2	24.5-26.0	3-5-8 (13)		
30		Dark olive, white, and orange speckled SAPROLITE		SS -3	29.5-31.0	4-5-8 (13)		"Salt and pepper" appearance.
35		Dark olive and white		SS -4	34.5-36.0	5-6-5 (11)		
40				SS -5	39.5-41.0	7-8-10 (18)		
45		Alternating zones of olive, black, and white and zones of micaceous, strong brown SANDY SILT (ML) SAPROLITE, very moist	383.8	SS -6	44.5-46.0	3-5-9 (14)		
50		Gold, yellowish red, and dark olive, thinly layered		SS -7	49.5-51.0	6-16-9 (25)		Free water in rods.

(Continued Next Page)



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
55		with white nodules of weathered calcite Alternating zones of olive, black, and white and zones of micaceous, strong brown SANDY SILT (ML) SAPROLITE, very moist (Cont)						
				SS -8	54.5-56.0	12-17-21 (38)		
60		Boring terminated at 61 feet.						
			367.3	SS -9	59.5-61.0	19-30-48 (78)		
		Bottom of borehole at 59.5 feet.						
65								
70								
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-18
LOGGER: Jordan	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 9/29/09		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.36	439.66
		GROUND SURFACE	0.00	436.3
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 20 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	42.89	393.41
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	44.89	391.41
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	46.81	389.49
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	56.81	379.49
		BOTTOM OF CASING	57.03	379.27
<p>HOLE DIA: 9"</p>				

▼ EI N/A
1/12/2010



LOG OF TEST BORING

BORING GWC-19
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/2/2009 **COMPLETED** 10/2/2009 **SURF. ELEV.** 426.3 **COORDINATES:** N 1119645.70 E 2410713.20

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY S. Denty **LOGGED BY** L. Millet **CHECKED BY** R. Tinsley **ANGLE** **BEARING**

BORING DEPTH 70 ft. **GROUND WATER DEPTH: DURING** **COMP.** **DELAYED**

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) to silty SAND (SM)						
10								
15								
20			406.6	SS -1	19.5- 21.0	2-3-2 (5)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Dry, silty SAND (SM); red with occasional white lenses and black mottles; very fine to fine grained; micaceous; friable (Cont)		SS-2	24.5-26.0	3-2-3 (5)		
30				SS-3	29.5-31.0	4-4-6 (10)		
35		Dry, clayey SAND (SC); mottled green, black and light orangish brown; very fine to fine grained; micaceous; soft; gneissic saprolite	391.6	SS-4	34.5-36.0	4-5-7 (12)		
40			SS-5	39.5-41.0	4-6-8 (14)			
45			SS-6	44.5-46.0	8-8-16 (24)			
50		Dry, clayey SAND (SC); white and dark tan; very fine to medium grained; micaceous; soft;		SS-7	49.5-51.0	18-25-25 (50)		

(Continued Next Page)

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-19
LOGGER: Millet	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 10/2/09		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-3.90	430.2
GROUND SURFACE		0.00	426.3	
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 20.25 cubic feet</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	39.74	386.56
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>		TOP OF FILTER PACK	41.74	384.56
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>		BOTTOM OF RISER / TOP OF SCREEN	43.84	382.46
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>		BOTTOM OF SCREEN	53.84	372.46
		BOTTOM OF CASING	54.10	372.20
<p>HOLE DIA: 9"</p>				

▼ El. 398.48
1/6/2010



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/6/2009 **COMPLETED** 10/6/2009 **SURF. ELEV.** 423.0 **COORDINATES:** N 1119950.51 E 2411195.38

CONTRACTOR SCS Field Services **EQUIPMENT** CME-550 **METHOD** Hollow Stem Auger

DRILLED BY S. Denty **LOGGED BY** L. Millet **CHECKED BY** R. Tinsley **ANGLE** _____ **BEARING** _____

BORING DEPTH 69.6 ft. **GROUND WATER DEPTH: DURING** _____ **COMP.** _____ **DELAYED** _____

NOTES Well installed. Refer to well data sheet.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Sandy SILT (MLS) and silty SAND (SM)						
10								
15								
20		Dry, sandy SILT (MLS); orange with light brown and black mottles; friable		SS-1	19.5-21.0	4-5-6 (11)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE.GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER.GYP.GPJ



LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Sandy SILT (MLS) and silty SAND (SM) (Cont'd)						
		Dry, sandy SILT (MLS); orange and light brown with black organics; friable; micaceous	393.3	SS -2	24.5-26.0	4-4-6 (10)		
30		Dry, silty SAND (SM); light orange and tan with occasional black mottles; friable; micaceous	393.3	SS -3	29.5-31.0	4-5-7 (12)		
35		Dry, clayey SAND (SC); black, green and light tan with occasional light orange mottling; very fine to fine grained; micaceous	388.3	SS -4	34.5-36.0	6-5-6 (11)		
40		Moist, clayey SAND (SC); black and white with black and orange mottling; very fine to fine grained; micaceous; gneissic saprolite		SS -5	39.5-41.0	6-7-9 (16)		
45		Moist, clayey SAND (SC); black and white with black and orange mottling; very fine to fine grained; micaceous; soft		SS -6	44.5-46.0	8-10-16 (26)		
50				373.3	SS -7	49.5-51.0	11-19-24 (43)	

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

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LOG OF TEST BORING

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
		Moist, silty SAND (SM); brown and white striated with orange mottling; very fine to fine grained; micaceous (<i>Cont'</i>)						
55		Wet, silty SAND (SM); black and white with dark brown mottling; very fine to fine grained; micaceous; gneissic saprolite		SS -8	54.5-56.0	19-18-20 (38)		
60		Wet, sandy SILT (MLS); black with light and dark orange mottling; micaceous	363.3	SS -9	59.5-61.0	34-45-48 (93)		
65		Wet, sandy SILT (MLS); black and white with occasional orange mottling; micaceous; garnets; gneissic saprolite		SS -10	64.5-66.0	15-20-19 (39)		
70		SLATE; gray	353.0	SS -11	69.5-69.7	50/2" (100+)		Bottom of borehole at 69.6 feet.
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: SCS, Inc.	WELL NAME
CCB Storage Facility	DRILLER: Denty	
LOCATION: Cell 1	RIG TYPE: CME 550	GWC-20
LOGGER: Millet	DRILLING METHODS: HSA	
DATE CONSTRUCTED: 10/6/09		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-3.30	426.3
	GROUND SURFACE	0.00	423
<p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p>	BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 15.3 cubic feet</p>			
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>	TOP OF SEAL	55.10	367.90
<p>ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie</p>	TOP OF FILTER PACK	57.03	365.97
<p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	59.13	363.87
<p>SCREEN DIA: 2-inch TYPE: Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	69.13	353.87
	BOTTOM OF CASING	69.40	353.60
HOLE DIA: 9"			

▼ El. 378.97
12/5/2009

APPENDIX B-3

**PAC Ash Cell Monitoring Well Logs and Construction
Diagrams**



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-21

Sheet 1 of 1

SITE Georgia Power Company Plant Scherer HOLE DEPTH 17 SURF.ELEV. 419.70
 LOCATION PAC/Ash Cell COORDINATES N 1120675.73 E 2409462.7
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/29/2010
 DRILLER S. Gautney RECORDER D. Brooks APPROVED _____ DRILLING COMP. DATE 6/29/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	419.70	Sandy CLAY							
1	418.70								
2	417.70								
3	416.70								
4	415.70	Clayey SAND							
5	414.70								
6	413.70								
7	412.70								
8	411.70								
9	410.70	Weathered rock							
10	409.70								
11	408.70								
12	407.70								
13	406.70								
14	405.70								
15	404.70								
16	403.70								
17	402.70	17' - Bottom of boring							
18	401.70								
19	400.70								
20	399.70								
21	398.70								
22	397.70								
23	396.70								
24	395.70								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWA-21
LOGGER: D. Brooks	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/29/2010		

		DEPTH FEET	ELEVATION FT, MSL	
Locking Hinged Top		TOP OF RISER	-2.88	422.58
1/4-inch Vent				
1/4-inch Weep Hole				
4-ft x 4-ft x 4-inch concrete pad		GROUND SURFACE	0.00	419.7
		BOTTOM OF PROTECTIVE CASING		
		TOP OF SEAL	3.66	416.04
		TOP OF FILTER PACK	5.66	414.04
		BOTTOM OF RISER / TOP OF SCREEN	7.66	412.04
		BOTTOM OF SCREEN	17.66	402.04
		BOTTOM OF CASING	17.82	401.88

HOLE DIA: 6"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-22

Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 40 SURF.ELEV. 442.00
 LOCATION PAC/Ash Cell COORDINATES N 1120962.12 E 2409473.22
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/29/2010
 DRILLER S. Gautney RECORDER D. Brooks APPROVED _____ DRILLING COMP. DATE 6/30/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	442.00	Reddish orange sandy SILT, dry, micaceous							
1	441.00								
2	440.00								
3	439.00								
4	438.00								
5	437.00								
6	436.00								
7	435.00								
8	434.00								
9	433.00								
10	432.00	-Same as above							
11	431.00								
12	430.00	Orange, tan, and white clayey SILT, dry, micaceous							
13	429.00								
14	428.00								
15	427.00								
16	426.00								
17	425.00								
18	424.00								
19	423.00								
20	422.00	-Same as above							
21	421.00								
22	420.00								
23	419.00								
24	418.00								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-22

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 40 SURF.ELEV. 442

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	417.00	SAPROLITIC GNEISS, moist							
26	416.00								
27	415.00								
28	414.00								
29	413.00								
30	412.00								
31	411.00								
32	410.00								
33	409.00		Intact GNEISS, fractured with iron staining						
34	408.00								
35	407.00								
36	406.00								
37	405.00								
38	404.00								
39	403.00								
40	402.00								
41	401.00	40' - Bottom of boring							
42	400.00								
43	399.00								
44	398.00								
45	397.00								
46	396.00								
47	395.00								
48	394.00								
49	393.00								
50	392.00								
51	391.00								
52	390.00								
53	389.00								
54	388.00								
55	387.00								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWA-22
LOGGER: D. Brooks	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/30/2010		

	DEPTH FEET	ELEVATION FT, MSL	
	TOP OF RISER	-2.50	444.5
	GROUND SURFACE	0.00	442.0
<p>PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p>			
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>			
	TOP OF SEAL	25.97	416.03
<p>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie</p>	TOP OF FILTER PACK	27.97	414.03
<p>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	29.72	412.28
<p>SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	39.72	402.28
	BOTTOM OF CASING	40.00	402.00
HOLE DIA: 6"			

▼ El. 421.73
7/15/2010



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWC-29
Sheet 1 of 1

SITE Georgia Power Company Plant Scherer HOLE DEPTH 25 SURF.ELEV. 396.90
 LOCATION PAC/Ash Cell COORDINATES N 1119875.58 E 2408717.95
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/28/2010
 DRILLER S. Gautney RECORDER D. Brooks APPROVED _____ DRILLING COMP. DATE 6/28/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	396.90	Orangish-red clayey SILT, dry, micaceous							
1	395.90								
2	394.90								
3	393.90								
4	392.90								
5	391.90								
6	390.90								
7	389.90								
8	388.90								
9	387.90	-Same as above, tan and orange							
10	386.90								
11	385.90								
12	384.90								
13	383.90								
14	382.90								
15	381.90	Gray and white SAPROLITE, gneissic, wet, micaceous							
16	380.90								
17	379.90								
18	378.90								
19	377.90								
20	376.90								
21	375.90								
22	374.90								
23	373.90								
24	372.90								
25	371.90	25' - Bottom of boring							

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWC-29
LOGGER: D. Brooks	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/28/2010		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 6-ft x 6-ft x 4" concrete pad TOP OF RISER	-2.74	399.64
2" Threaded Riser Cap Pea Gravel in annular space GROUND SURFACE	0.00	396.9
PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	10.35	386.55
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	12.35	384.55
FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	14.10	382.80
SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	24.10	372.80
BOTTOM OF CASING	24.36	372.54

▼ El. 394.69
7/15/2010

HOLE DIA: 6"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWA-45**

Sheet **1** of **2**

SITE **Georgia Power Company Plant Scherer** HOLE DEPTH **33** SURF.ELEV. **448.30**
 LOCATION **PAC/Ash Cell** COORDINATES **N 1120669.03 E 2407889.56**
 ANGLE **0** BEARING **0** CONTRACTOR **Boart Longyear** DRILL NO. **BL100C**
 DRILLING METHOD **Sonic** NO. SAMPLES **Continuous** NO. U.D. SAMPLES **0**
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE **6/23/2010**
 DRILLER **S. Gautney** RECORDER **L. Millet** APPROVED _____ DRILLING COMP. DATE **6/23/2010**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	448.30	Dark red silty CLAY, dry, hard, occasional black mottling, mica							
1	447.30								
2	446.30								
3	445.30								
4	444.30								
5	443.30								
6	442.30								
7	441.30								
8	440.30								
9	439.30	Red, orange, and tan clayey SILT, black and white mottling, mica							
10	438.30								
11	437.30								
12	436.30								
13	435.30								
14	434.30								
15	433.30								
16	432.30								
17	431.30								
18	430.30	Brown, tan, green, and orange silty SAND, saturated, with white mottling, high mica content							
19	429.30								
20	428.30								
21	427.30								
22	426.30								
23	425.30								
24	424.30								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-45

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 33 SURF.ELEV. 448.3

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	423.30								
26	422.30								
27	421.30								
28	420.30								
29	419.30								
30	418.30	Green and white SAND, wet, orange mottling, mica							
31	417.30								
32	416.30								
33	415.30								
34	414.30	33' - Bottom of boring							
35	413.30								
36	412.30								
37	411.30								
38	410.30								
39	409.30								
40	408.30								
41	407.30								
42	406.30								
43	405.30								
44	404.30								
45	403.30								
46	402.30								
47	401.30								
48	400.30								
49	399.30								
50	398.30								
51	397.30								
52	396.30								
53	395.30								
54	394.30								
55	393.30								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
LOCATION: PAC/Ash Cell	DRILLER: S. Gautney	
LOGGER: L. Millet	RIG TYPE: BL100C	GWA-45
DATE CONSTRUCTED: 6/23/2010	DRILLING METHODS: Sonic	

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 2" Threaded Riser Cap Pea Gravel in annular space 6-ft x 6-ft x 4" concrete pad TOP OF RISER	-2.78	451.08
PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING	0.00	448.3
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	18.29	430.01
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	20.29	428.01
FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	22.29	426.01
SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	32.29	416.01
BOTTOM OF CASING	32.72	415.58

▼ El. 437.03
7/15/2010

HOLE DIA: 6"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-46

Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 43.5 SURF.ELEV. 458.30
 LOCATION PAC/Ash Cell COORDINATES N 1120783.23 E 2408235.69
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/23/2010
 DRILLER S. Gautney RECORDER L. Millet APPROVED _____ DRILLING COMP. DATE 6/23/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	458.30	Red silty CLAY, dry, hard, with occasional black mottling, mica							
1	457.30								
2	456.30								
3	455.30								
4	454.30								
5	453.30								
6	452.30								
7	451.30								
8	450.30								
9	449.30	Orange clayey SILT, wet, with mica							
10	448.30								
11	447.30								
12	446.30	Orange and pink silty CLAY, dry, with black and white mottling, trace mica							
13	445.30								
14	444.30								
15	443.30								
16	442.30								
17	441.30								
18	440.30								
19	439.30								
20	438.30	Tan sandy CLAY, wet, with black mottling, trace mica							
21	437.30								
22	436.30								
23	435.30								
24	434.30								

APPENDIX B-4

Cell 3 Monitoring Well Logs and Construction Diagrams

APPENDIX B-5

**AP-1 Piezometers Piezometer Logs and Construction
Diagrams**

APPENDIX B-6
SPT Logs

APPENDIX B-7
C-Series Logs

APPENDIX B-8
SGYPT Logs

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DRILLING LOG
GEOLOGICAL SERVICES

Hole No. **GWA-46**
Sheet **2** of **2**

SITE **Georgia Power Company Plant Scherer** TOTAL DEPTH **43.5** SURF.ELEV. **458.3**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	433.30	Tan silty CLAY, wet, with heavy black mottling, trace mica							
26	432.30								
27	431.30								
28	430.30								
29	429.30								
30	428.30	Brown and orange silty SAND, wet, with black and white mottling							
31	427.30								
32	426.30								
33	425.30								
34	424.30								
35	423.30								
36	422.30	Green and white SAND, wet, medium to coarse grained, with mica							
37	421.30								
38	420.30								
39	419.30	Green and brown sandy SILT, wet, with mica, clay							
40	418.30								
41	417.30								
42	416.30								
43	415.30								
44	414.30		43.5' - Bottom of boring						
45	413.30								
46	412.30								
47	411.30								
48	410.30								
49	409.30								
50	408.30								
51	407.30								
52	406.30								
53	405.30								
54	404.30								
55	403.30								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
LOCATION: PAC/Ash Cell	DRILLER: S. Gautney	
LOGGER: L. Millet	RIG TYPE: BL100C	
DATE CONSTRUCTED: 6/23/2010	DRILLING METHODS: Sonic	GWA-46

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 2" Threaded Riser Cap Pea Gravel in annular space 4-ft x 4-ft x 4" concrete pad TOP OF RISER	-2.83	461.13
GROUND SURFACE 0.00 458.3	0.00	458.3
PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
▼ El. 432.05 7/16/2010 BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 36 gal RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	29.94	428.36
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	31.94	426.36
FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	33.94	424.36
SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	43.94	414.36
BOTTOM OF CASING	44.17	414.13
HOLE DIA: 6"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-47

Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 55 SURF.ELEV. 462.9
 LOCATION PAC/Ash Cell COORDINATES N 1120862.63 E 2408585.01
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/22/2010
 DRILLER S. Gautney RECORDER L. Millet APPROVED _____ DRILLING COMP. DATE 6/22/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	462.90	Dark red silty CLAY, dry, hard, trace mica							
1	461.90								
2	460.90								
3	459.90								
4	458.90								
5	457.90								
6	456.90								
7	455.90								
8	454.90								
10	452.90	Orange, tan, and pink sandy SILT, dry, with clay, mica							
11	451.90								
12	450.90								
13	449.90	Orange and white sandy CLAY, dry, with mica, pink and black mottling							
14	448.90								
15	447.90								
16	446.90	Orange and white sandy CLAY, dry, trace mica, dark brown and pink mottling							
17	445.90								
18	444.90								
19	443.90								
20	442.90								
21	441.90								
22	440.90								
23	439.90								
24	438.90								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-47

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 55 SURF.ELEV. 462.9

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	437.90	-As above with black mottling, high mica content							
26	436.90								
27	435.90								
28	434.90								
29	433.90								
30	432.90	Tan sandy SILT, wet, loose, with clay							
31	431.90								
32	430.90								
33	429.90	Green and white SAPROLITIC GNEISS, with black and orange mottling, mica							
34	428.90								
35	427.90								
36	426.90								
37	425.90								
38	424.90								
39	423.90								
40	422.90	Gray and white SAPROLITIC GNEISS, wet, with occasional orange mottling, mica							
41	421.90								
42	420.90								
43	419.90								
44	418.90								
45	417.90								
46	416.90								
47	415.90								
48	414.90								
49	413.90								
50	412.90	Weathered black and white GNEISS, dry							
51	411.90								
52	410.90								
53	409.90								
54	408.90								
55	407.90								
		55' - Bottom of boring							

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
LOCATION: PAC/Ash Cell	DRILLER: S. Gautney	
LOGGER: L. Millet	RIG TYPE: BL100C	
DATE CONSTRUCTED: 6/22/10	DRILLING METHODS: Sonic	GWA-47

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 2" Threaded Riser Cap Pea Gravel in annular space TOP OF RISER	-2.87	465.77
GROUND SURFACE 0.00 462.9	0.00	462.9
PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 60 gal RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	37.16	425.74
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	39.16	423.74
FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	41.16	421.74
SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	51.16	411.74
BOTTOM OF CASING	51.33	411.57

▼ El. 430.95
7/13/2010

HOLE DIA: 6"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWA-48**

Sheet **1** of **3**

SITE Georgia Power Company Plant Scherer		HOLE DEPTH 72	SURF.ELEV. 458.8
LOCATION PAC/Ash Cell	COORDINATES N 1120953.42	E 2408939.48	
ANGLE 0	BEARING 0	CONTRACTOR Boart Longyear	DRILL NO. BL100C
DRILLING METHOD Sonic	NO. SAMPLES Continuous	NO. U.D. SAMPLES 0	
WATER TABLE DEPTH _____	ELEV. _____	TIME AFTER COMP. _____	DATE TAKEN _____
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 6/21/2010
DRILLER S. Gautney	RECORDER L. Millet	APPROVED _____	DRILLING COMP. DATE 6/22/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	458.80	Dark red silty CLAY, dry, hard, trace mica							
1	457.80								
2	456.80								
3	455.80								
4	454.80								
5	453.80	Black and white GNEISS							
6	452.80								
7	451.80	Dark orange and red silty CLAY, dry, hard, black mottling trace mica							
8	450.80								
9	449.80								
10	448.80								
11	447.80	Orange and black silty CLAY, dry, trace mica							
12	446.80								
13	445.80								
14	444.80								
15	443.80								
16	442.80								
17	441.80								
18	440.80	Gneiss boulder, about 6" Orange sandy CLAY, dry, loose, trace mica							
19	439.80								
20	438.80								
21	437.80								
22	436.80								
23	435.80								
24	434.80								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWA-48

Sheet 2 of 3

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 72 SURF.ELEV. 458.8

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	433.80	Orange sandy SILT, dry, loose with black, pink and white mottling, trace mica							
26	432.80								
27	431.80								
28	430.80								
29	429.80								
30	428.80	Orange silty CLAY, moist, trace mica with black and tan mottling							
31	427.80								
32	426.80								
33	425.80								
34	424.80								
35	423.80	Green, black and white saprolitic GNEISS							
36	422.80								
37	421.80								
38	420.80								
39	419.80								
40	418.80	Light green and white relict GNEISS, high clay content, m							
41	417.80								
42	416.80								
43	415.80								
44	414.80		-relict GNEISS						
45	413.80	Dark green and white weathered GNEISS with orange mottling, dry							
46	412.80								
47	411.80								
48	410.80								
49	409.80								
50	408.80	Black, white and green weathered GNEISS, dry							
51	407.80								
52	406.80								
53	405.80								
54	404.80								
55	403.80								
56	402.73								



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. GWA-48

Sheet 3 of 3

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 72 SURF.ELEV. 458.8

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
57	401.80	Dark gray green clayey SILT, dry, hard, with mica, trace sand							
58	400.80								
59	399.80								
60	389.80								
61	397.80								
62	396.80	Dark green gray clayey SAND, wet, very fine to fine-grained							
63	395.80								
64	394.80								
65	393.80								
66	392.80	Intact black and white GNEISS							
67	391.80								
68	390.80								
69	389.80	72' - Bottom of boring							
70	388.80								
71	387.80								
72	386.80								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
LOCATION: PAC/Ash Cell	DRILLER: S. Gautney	
LOGGER: L. Millet	RIG TYPE: BL100C	GWA-48
DATE CONSTRUCTED: 6/22/2010	DRILLING METHODS: Sonic	

		DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top			
1/4-inch Vent			
1/4-inch Weep Hole			
	TOP OF RISER	-2.93	461.73
4-ft x 4-ft x 4" concrete pad			
	GROUND SURFACE	0.00	458.8
	PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum		
	BOTTOM OF PROTECTIVE CASING		
	BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 64 gal		
	RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded		
	TOP OF SEAL	47.11	411.69
	ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie		
	TOP OF FILTER PACK	49.11	409.69
	FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water		
	BOTTOM OF RISER / TOP OF SCREEN	51.11	407.69
	SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch		
	BOTTOM OF SCREEN	61.11	397.69
	BOTTOM OF CASING	61.22	397.58
HOLE DIA: 6"			

▼ El. 427.94
7/16/2010



DRILLING LOG GEOLOGICAL SERVICES

Hole No. GWA-49
Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 37 SURF.ELEV. 429.9
 LOCATION PAC/Ash Cell COORDINATES N 1121030.08 E 2409288.38
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/21/2010
 DRILLER S. Gautney RECORDER L. Millet APPROVED _____ DRILLING COMP. DATE 6/21/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	429.90	Orange and reddish orange silty CLAY, with mica, black organics							
1	428.90								
2	427.90								
3	426.90								
4	425.90								
5	424.90								
6	423.90	-As above with black mottling and increasing mica							
7	422.90								
8	421.90								
9	420.90	-As above with light green mottling and increasing mica							
10	419.90	Tan and black silty CLAY, high mica content, with dark orange mottling							
11	418.90								
12	417.90								
13	416.90								
14	415.90	-Pink, orange and white as above							
15	414.90								
16	413.90								
17	412.90	-As above with black mottling, moist							
18	411.90								
19	410.90	Orange and white sandy CLAY, moist, with pink and black mottling							
20	409.90								
21	408.90	Dark orange and white sandy CLAY, moist, with mica, black mottling							
22	407.90								
23	406.90								
24	405.90								



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWA-49**
Sheet **2** of **2**

SITE **Georgia Power Company Plant Scherer** TOTAL DEPTH **37** SURF.ELEV. **429.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	404.90	Dark green, black, and white SAPROLITIC GNEISS, with orange mottling, some mice							
26	403.90								
27	402.90								
28	401.90								
29	400.90								
30	399.90								
31	398.90	Dark green, black, and white clayey SAND, saturated, loose, medium to coarse grained							
32	397.90								
33	396.90	Dark green, black, and white SAPROLITIC GNEISS, dry							
34	395.90								
35	394.90								
36	393.90								
37	392.90								
38	391.90	37' - Bottom of boring							
39	390.90								
40	389.90								
41	388.90								
42	387.90								
43	386.90								
44	385.90								
45	384.90								
46	383.90								
47	382.90								
48	381.90								
49	380.90								
50	379.90								
51	378.90								
52	377.90								
53	376.90								
54	375.90								
55	374.90								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	
LOGGER: L. Millet	DRILLING METHODS: Sonic	GWA-49
DATE CONSTRUCTED: 6/21/2010		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 4-ft x 4-ft x 4" concrete pad 	TOP OF RISER	-2.98 432.88
	GROUND SURFACE	0.00 429.9
	BOTTOM OF PROTECTIVE CASING	
	TOP OF SEAL	24.05 405.85
	TOP OF FILTER PACK	26.05 403.85
	BOTTOM OF RISER / TOP OF SCREEN	28.05 401.85
	BOTTOM OF SCREEN	38.05 391.85
	BOTTOM OF CASING	38.02 391.88
HOLE DIA: 6"		

▼ El. 423.00
7/13/2010



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-50

Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 35 SURF.ELEV. 404.3
 LOCATION PAC/Ash Cell COORDINATES N 1119917.51 E 2408956.1
 ANGLE 0 BEARING 0 CONTRACTOR Boart Longyear DRILL NO. BL100C
 DRILLING METHOD Sonic NO. SAMPLES Continuous NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 6/28/2010
 DRILLER S. Gautney RECORDER D. Brooks APPROVED _____ DRILLING COMP. DATE 6/28/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	404.30	Red sandy CLAY, dry, micaceous							
1	403.30								
2	402.30								
3	401.30								
4	400.30								
5	399.30								
6	398.30								
7	397.30								
8	396.30								
9	395.30	Pink, tan, and orange sandy SILT, with clay, dry, micaceous							
10	394.30								
11	393.30								
12	392.30								
13	391.30								
14	390.30								
15	389.30								
16	388.30								
17	387.30								
18	386.30	White, orange, and tan sandy SILT, dry, micaceous							
19	385.30								
20	384.30								
21	383.30								
22	382.30								
23	381.30								
24	380.30								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-50

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 35 SURF.ELEV. 404.3

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	379.30	Gray and white gneissic SAPROLITE, wet, micaceous Hard saprolite							
26	378.30								
27	377.30								
28	376.30								
29	375.30								
30	374.30								
31	373.30								
32	372.30								
33	371.30								
34	370.30								
35	369.30	35' - Bottom of boring							
36	368.30								
37	367.30								
38	366.30								
39	365.30								
40	364.30								
41	363.30								
42	362.30								
43	361.30								
44	360.30								
45	359.30								
46	358.30								
47	357.30								
48	356.30								
49	355.30								
50	354.30								
51	353.30								
52	352.30								
53	351.30								
54	350.30								
55	349.30								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWC-50
LOGGER: D. Brooks	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/28/2010		

		DEPTH FEET	ELEVATION FT, MSL	
		TOP OF RISER	-2.86	407.16
		GROUND SURFACE	0.00	404.3
<p>PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum</p>		BOTTOM OF PROTECTIVE CASING		
<p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal</p>				
<p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p>		TOP OF SEAL	19.71	384.59
<p>▼ El. 399.01 7/17/2010</p>	<p>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie</p>	TOP OF FILTER PACK	21.71	382.59
	<p>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water</p>	BOTTOM OF RISER / TOP OF SCREEN	23.46	380.84
	<p>SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch</p>	BOTTOM OF SCREEN	33.46	370.84
		BOTTOM OF CASING	33.64	370.66
<p>HOLE DIA: 6"</p>				



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-51

Sheet 1 of 2

SITE Georgia Power Company Plant Scherer HOLE DEPTH 26.5 SURF.ELEV. 407.3
 LOCATION PAC/Ash Cell COORDINATES N 1119835.51 E 2408436.95
 ANGLE 0 BEARING 0 CONTRACTOR Ranger DRILL NO. CME550
 DRILLING METHOD HSA NO. SAMPLES 5 NO. U.D. SAMPLES 0
 WATER TABLE DEPTH _____ ELEV. _____ TIME AFTER COMP. _____ DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 7/26/2010
 DRILLER J. Crowe RECORDER L. Garland APPROVED _____ DRILLING COMP. DATE 7/27/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	407.30	reddish brown slightly sandy SILT micaceous							
1	406.30								
2	405.30								
3	404.30								
4	403.30	yellow brown slightly sandy SILT micaceous	1	3.5-5	4-5-6	11			
5	402.30								
6	401.30								
7	400.30								
8	399.30	gary and orangish brown sandy SILT with some coarse to fine quartz							
9	398.30		2	8.5-10	5-13-14	27			
10	397.30								
11	396.30								
12	395.30	saprolite medium to fine grained sandy SILT							
13	394.30								
14	393.30		3	13.5-15	4-6-7	13			
15	392.30								
16	391.30	Saprolite slightly clayey SILT							
17	390.30								
18	389.30								
19	388.30		4	18.5-20	6-10-16	26			
20	387.30								
21	386.30								
22	385.30								
23	384.30								
24	383.30								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-51

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 26.5 SURF.ELEV. 407.3

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	382.30	yellow and gray medium to fine grained sandy SILT 27' - Bottom of boring	5	23.5-25	5-25-50	75			
26	381.30								
27	380.30								
28	379.30								
29	378.30								
30	377.30								
31	376.30								
32	375.30								
33	374.30								
34	373.30								
35	372.30								
36	371.30								
37	370.30								
38	369.30								
39	368.30								
40	367.30								
41	366.30								
42	365.30								
43	364.30								
44	363.30								
45	362.30								
46	361.30								
47	360.30								
48	359.30								
49	358.30								
50	357.30								
51	356.30								
52	355.30								
53	354.30								
54	353.30								
55	352.30								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Ranger	WELL NAME
	DRILLER: J. Crowe	
LOCATION: PAC/Ash Cell	RIG TYPE CME 550	GWC-51
LOGGER: L. Garland	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 7/27/2010		

	DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top 1/4-inch Vent 1/4-inch Weep Hole 6-ft x 6-ft x 4" concrete pad TOP OF RISER	-2.85	410.15
2" Threaded Riser Cap Pea Gravel in annular space GROUND SURFACE	0.00	407.3
PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
▼ El. 400.99 7/29/2010 BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	9.94	397.36
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	11.94	395.36
FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	13.49	393.81
SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch BOTTOM OF SCREEN	23.49	383.81
BOTTOM OF CASING	23.95	383.35
HOLE DIA: 6"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWC-52**

Sheet **1** of **2**

SITE Georgia Power Company Plant Scherer		HOLE DEPTH 30	SURF.ELEV. 414.4
LOCATION PAC/Ash Cell	COORDINATES N 1119972.34	E 2408203.99	
ANGLE 0	BEARING 0	CONTRACTOR Boart Longyear	DRILL NO. BL100C
DRILLING METHOD Sonic	NO. SAMPLES Continuous	NO. U.D. SAMPLES 0	
WATER TABLE DEPTH _____	ELEV. _____	TIME AFTER COMP. _____	DATE TAKEN _____
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 6/24/2010
DRILLER S. Gautney	RECORDER L. Millet	APPROVED _____	DRILLING COMP. DATE 6/24/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0	414.40	Orange clayey SILT, wet, sticky, with mica							
1	413.40								
2	412.40								
3	411.40								
4	410.40								
5	409.40								
6	408.40								
7	407.40	Orange and brown clayey SILT, wet, with green mottling, mica							
8	406.40								
9	405.40								
10	404.40	Tan and white clayey SILT, wet, mica							
11	403.40								
12	402.40								
13	401.40								
14	400.40								
15	399.40	-Dark brown, black, orange, and green as above							
16	398.40	Tan sandy SILT, wet, white and black mottling, mica							
17	397.40								
18	396.40								
19	395.40								
20	394.40	Brown silty SAND, saturated, very fine to fine grained, occasional black mottling, mica							
21	393.40								
22	392.40								
23	391.40								
24	390.40								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-52

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 30 SURF.ELEV. 414.4

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	389.40	Green and white SAPROLITIC GNEISS, wet, with mica 30' - Bottom of boring							
26	388.40								
27	387.40								
28	386.40								
29	385.40								
30	384.40								
31	383.40								
32	382.40								
33	381.40								
34	380.40								
35	379.40								
36	378.40								
37	377.40								
38	376.40								
39	375.40								
40	374.40								
41	373.40								
42	372.40								
43	371.40								
44	370.40								
45	369.40								
46	368.40								
47	367.40								
48	366.40								
49	365.40								
50	364.40								
51	363.40								
52	362.40								
53	361.40								
54	360.40								
55	359.40								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWC-52
LOGGER: L. Millet	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/24/2010		

		DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top	TOP OF RISER	-2.73	417.13
1/4-inch Vent			
1/4-inch Weep Hole			
6-ft x 6-ft x 4" concrete pad	GROUND SURFACE	0.00	414.4
	PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum		
	BOTTOM OF PROTECTIVE CASING		
	BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 7 gal		
	RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded		
	TOP OF SEAL	15.85	398.55
	ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie		
	TOP OF FILTER PACK	17.85	396.55
	FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water		
	BOTTOM OF RISER / TOP OF SCREEN	19.85	394.55
	SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch		
	BOTTOM OF SCREEN	29.85	384.55
	BOTTOM OF CASING	30.17	384.23
HOLE DIA: 6"			

▼ El.408.19
7/14/2010



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **GWC-53**

Sheet **1** of **2**

SITE Georgia Power Company Plant Scherer		HOLE DEPTH 28	SURF.ELEV. 432.9
LOCATION PAC/Ash Cell	COORDINATES N 1120319.65	E 2407943.05	
ANGLE 0	BEARING 0	CONTRACTOR Boart Longyear	DRILL NO. BL100C
DRILLING METHOD Sonic	NO. SAMPLES Continuous	NO. U.D. SAMPLES 0	
WATER TABLE DEPTH _____	ELEV. _____	TIME AFTER COMP. _____	DATE TAKEN _____
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 6/23/2010
DRILLER S. Gautney	RECORDER L. Millet	APPROVED _____	DRILLING COMP. DATE 6/23/2010

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
0	432.90	Dark red silty CLAY, dry, hard, with mica							
1	431.90								
2	430.90								
3	429.90								
4	428.90								
5	427.90	Orange and tan silty CLAY, dry, hard, trace mica							
6	426.90								
7	425.90								
8	424.90								
9	423.90								
10	422.90	Tan, orange, and light green silty CLAY, dry, plastic, trace mica, occasional sandy zones							
11	421.90								
12	420.90								
13	419.90								
14	418.90								
15	417.90	Tan and brown silty CLAY, wet, with mica and dark brown mottling							
16	416.90								
17	415.90								
18	414.90								
19	413.90								
20	412.90	Green and tan clayey SAND, saturated, very fine to fine grained, with mica							
21	411.90								
22	410.90	Tan sandy CLAY, wet, white mottling, with mica							
23	409.90								
24	408.90								
24	408.90								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. GWC-53

Sheet 2 of 2

SITE Georgia Power Company Plant Scherer TOTAL DEPTH 28 SURF.ELEV. 432.9

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From	To	Blows			
25	407.90	Green silty CLAY, wet, tan and white mottling, with mica							
26	406.90								
27	405.90								
28	404.90								
29	403.90	28' - Bottom of boring							
30	402.90								
31	401.90								
32	400.90								
33	399.90								
34	398.90								
35	397.90								
36	396.90								
37	395.90								
38	394.90								
39	393.90								
40	392.90								
41	391.90								
42	390.90								
43	389.90								
44	388.90								
45	387.90								
46	386.90								
47	385.90								
48	384.90								
49	383.90								
50	382.90								
51	381.90								
52	380.90								
53	379.90								
54	378.90								
55	377.90								

WELL CONSTRUCTION LOG

Southern Company Generation

PROJECT: Plant Scherer	DRILLING CO.: Boart Longyear	WELL NAME
	DRILLER: S. Gautney	
LOCATION: PAC/Ash Cell	RIG TYPE: BL100C	GWC-53
LOGGER: L. Millet	DRILLING METHODS: Sonic	
DATE CONSTRUCTED: 6/23/2010		

		DEPTH FEET	ELEVATION FT, MSL
Locking Hinged Top	TOP OF RISER	-2.93	435.83
1/4-inch Vent			
1/4-inch Weep Hole			
6-ft x 6-ft x 4" concrete pad	GROUND SURFACE	0.00	432.9
	PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum		
	BOTTOM OF PROTECTIVE CASING		
	BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 16 gal		
	RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded		
▼ El. 426.15 7/14/2010	TOP OF SEAL	16.06	416.84
	ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie		
	TOP OF FILTER PACK	18.06	414.84
	FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water		
	BOTTOM OF RISER / TOP OF SCREEN	20.06	412.84
	SCREEN DIA: 2-inch TYPE: ASTM-NSF Schedule 40 PVC Prepack OPENING WIDTH: 0.01-inch OPENING TYPE: Slotted SLOT SPACING: 0.25-inch SLOT LENGTH: 1.5-inch		
	BOTTOM OF SCREEN	30.06	402.84
	BOTTOM OF CASING	30.07	402.83
HOLE DIA: 6"			

APPENDIX B-4

**Cell 3 Monitoring Well Logs and Construction
Diagrams**

RECORD OF BOREHOLE GWC-30

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/24/20
 DATE COMPLETED: 1/24/20

NORTHING: 1,119,366.69
 EASTING: 2,408,976.35
 GS ELEVATION: 392.0
 TOC ELEVATION: 394.49 ft

DEPTH W.L.: 4.81'
 ELEVATION W.L.: 389.3'
 DATE W.L.: 1/28/2020
 TIME W.L.: 9:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
0	390	0.00 - 3.00 SILT, some sand and clay, fine sand, cohesive, brown, soft, w-PL	ML		389					<p>WELL CASING Interval: 0' - 8' Material: Schedul 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 8' - 18' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 6' - 8' Type: #1 Sand Quantity: 2.5 bags</p> <p>FILTER PACK SEAL Interval: 3' - 6' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
5	385	3.00 - 10.00 SAND, some silt, coarse sand, non-cohesive, grey with tan and black mottling, loose, wet	SP		3.00					
10	380	10.00 - 19.00 Bedrock, gneiss, well foliated, with fractures at 12' and 15', quartz and mica, grey, slightly weathered	BR		10.00					
15	375				382					
20	370				10.00	1	ROTO SONIC			
25	365				373					
		Boring completed at 19.00 ft								

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-31

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/23/20
 DATE COMPLETED: 1/23/20

NORTHING: 1,118,970.00
 EASTING: 2,409,062.02
 GS ELEVATION: 390.0
 TOC ELEVATION: 392.78 ft

DEPTH W.L.: 2.75'
 ELEVATION W.L.: 389.76'
 DATE W.L.: 1/28/2020
 TIME W.L.: 9:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES		MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	390	0.00 - 2.00 SILT, some clay, sand and organics, cohesive, brown, w~PL, soft	ML	| | | |	388			Cement Riser 3/8" Bentonite Pellets	WELL CASING Interval: 0' - 9.3' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 9.3' - 19.3' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 6.95' - 19.3' Type: #1 Sand Quantity: 3 bags FILTER PACK SEAL Interval: 3.60' - 6.95' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
		2.00 - 4.00 Clayey SILT, some sand, cohesive, grey mottled brown, low plasticity, w~PL, soft			386				
5	385	4.00 - 7.00 Clayey SILT, some sand, cohesive, tan brown, low plasticity, w>PL, soft			4.00				
		7.00 - 9.00 Silty SAND, some clay, non-cohesive, medium coarse sand, grey mottled brown, some 1" diameter gravel, wet, compact	SM	| | | |	383			#1 Sand	
		9.00 - 12.00 SAND, some silt, fine sand, non-cohesive, grey with brown and white mottling, loose, moist			7.00				
10	380		SP	| | | |	381			0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
		12.00 - 14.00 SAND, some silt clay and transitionally weathered rock, fine sand, highly weathered, cohesive, grey with brown and white mottling, firm, w~PL			9.00				
		14.00 - 19.00 SAND and Transitionally Weathered Rock, some silt, non-cohesive, grey and white/brown, fine sand, highly weathered, loose, moist			12.00				
15	375		TWR	| | | |	378	1	ROTO 10.00 SONIC 10.00		
					14.00				
20	370	Boring completed at 19.00 ft			371				

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-32

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 39.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/21/20
 DATE COMPLETED: 1/21/20

NORTHING: 1,118,749.53
 EASTING: 2,409,084.83
 GS ELEVATION: 406.9
 TOC ELEVATION: 410.03 ft

DEPTH W.L.: 22.21'
 ELEVATION W.L.: 387.28'
 DATE W.L.: 1/28/2020
 TIME W.L.: 905

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	405	0.00 - 3.50 Silty CLAY, some micaceous silt, cohesive, orange, medium to low plasticity, firm, w<PL, FILL	CL-ML		403.4				<p>WELL CASING Interval: 0' - 25' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 25' - 35' Material: Schedule 40 PVC Double Wall U-Pack Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 23' - 35' Type: #1 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 19.6' - 23' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucet</p> <p>ANNULUS SEAL Interval: 3' - 19.6' Type: Aquaguard Bentonite Grout Quantity: 2 bags 30 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5	400	3.50 - 6.00 SILT, some sand, cohesive, fine sand, tan, w<PL, soft, FILL	ML		3.50				
10	395	6.00 - 9.00 SILT, some sand, clay and micaceous silt, cohesive to non-cohesive, tan brown, loose, dry, FILL			6.00				
15	390	9.00 - 14.00 Clayey SILT, some micaceous silt, cohesive, orange, mottled white, medium plasticity, firm, w<PL to w-PL			9.00				
		14.00 - 17.00 SILT, some sand and clay, cohesive, tan, medium plasticity, firm to soft, w-PL			392.9	1	ROTO 10.00 SONIC 10.00		
		17.00 - 19.00 SILT, some clay and sand, tan, mottled white, low plasticity, firm, w<PL			389.9				
		19.00 - 26.00 Silty SAND, some clay and transitionally weathered rock, fine sand, highly weathered, tan mottled white, compact, moist, SAPROLITE	SM		387.9				
		26.00 - 29.00 SAND, some silt and transitionally weathered rock, fine sand, highly weathered, non-cohesive, tan and white mottled pink, dense, moist, SAPROLITE	TWR		380.9	2	ROTO 10.00 SONIC 10.00		
		29.00 - 39.00 SAND and TWR, some gneiss with feldspar, coarse sand, highly weathered, foliated, white mottled tan, very dense, moist, SAPROLITE			377.9				
		Boring completed at 39.00 ft			367.9	3	ROTO 10.00 SONIC 10.00		

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-33

SHEET 1 of 2

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 54.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/24/20
 DATE COMPLETED: 1/25/20

NORTHING: 1,118,448.77
 EASTING: 2,409,141.89
 GS ELEVATION: 432.08
 TOC ELEVATION: 434.87 ft

DEPTH W.L.: 44.36'
 ELEVATION W.L.: 390.51'
 DATE W.L.: 1/28/2020
 TIME W.L.: 900

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	430	0.00 - 2.00 Silty CLAY, cohesive, red, high plasticity, stiff, w>PL, FILL	CL-ML	[Hatched Pattern]	430.08			Cement - Riser - AquaGuard Bentonite - Grout	WELL CASING Interval: 0' - 44.1' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 44.1' - 54.1' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 42' - 54.4' Type: #1 Sand Quantity: 5 bags FILTER PACK SEAL Interval: 38.1' - 42' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: 3' - 38.1' Type: AquaGuard Bentonite Grout Quantity: 3.5 bags 35 gallons water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
430	425	2.00 - 7.00 Clayey SILT, cohesive, orange tan, mottled black, some sand, fine sand, med to low plasticity, firm to soft, w~PL, w<PL	ML	[Vertical Lines]	425.08				
425	420	7.00 - 9.00 SILT, some sand, fine sand, non-cohesive, orange, loose, dry		[Vertical Lines]	423.08				
420	415	9.00 - 11.00 SILT, some sand and clay, fine sand, cohesive, orange, soft, w~PL		[Vertical Lines]	421.08				
415	410	11.00 - 19.00 Sandy SILT, some clay, fine sand, tan mottled orange and black, some transitionally weathered rock 15'-19', non-cohesive, compact to loose, dry to moist	MLS	[Vertical Lines]	413.08	1	ROTO <u>10.00</u> SONIC 10.00		
410	405	19.00 - 29.00 SAND, some silt, transitionally weathered rock and clay, fine sand, highly weathered, tan beige, non-cohesive, loose, moist	TWR	[Triangle Pattern]	413.08				
405	400	29.00 - 39.00 Silty SAND, some transitionally weathered rock, fine sand, highly weathered, non-cohesive, tan grey, compact 29'-32', loose, moist, SAPROLITE		[Triangle Pattern]	403.08	2	ROTO <u>10.00</u> SONIC 10.00		
400	395	39.00 - 49.00 SAND and Transitionally Weathered Rock, some silt, fine sand, highly weathered feldspar, non-cohesive, tan grey mottled white orange and black, compact to dense, moist to wet, SAPROLITE		[Triangle Pattern]	393.08	3	ROTO <u>10.00</u> SONIC 10.00		
395	390			[Triangle Pattern]	393.08				
390	385			[Triangle Pattern]	383.08	4	ROTO <u>10.00</u> SONIC 10.00		
385	380			[Triangle Pattern]	383.08				
380	375			[Triangle Pattern]	49.00	5	ROTO <u>5.00</u>		

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

Log continued on next page

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-33

SHEET 2 of 2

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 54.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/24/20
 DATE COMPLETED: 1/25/20

NORTHING: 1,118,448.77
 EASTING: 2,409,141.89
 GS ELEVATION: 432.08
 TOC ELEVATION: 434.87 ft

DEPTH W.L.: 44.36'
 ELEVATION W.L.: 390.51'
 DATE W.L.: 1/28/2020
 TIME W.L.: 900

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
50	380	49.00 - 54.00 SAND and Transitionally Weathered Rock, some silt, fine sand, highly weathered feldspar, non-cohesive, tan grey mottled white orange and black, compact, moist to wet, SAPROLITE <i>(Continued)</i>			378.08	5	SONIC 5.00 ROTO 5.00 SONIC 5.00	<p>0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen</p>	<p>WELL CASING Interval: 0' - 44.1' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 44.1' - 54.1' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 42' - 54.4' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 38.1' - 42' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 38.1' Type: AquaGuard Bentonite Grout Quantity: 3.5 bags 35 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
55	375	Boring completed at 54.00 ft							
60	370								
65	365								
70	360								
75	355								
80	350								
85	345								
90	340								
95	335								
100									

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-33A

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 24.00 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550
 DATE STARTED: 5/26/20
 DATE COMPLETED: 5/27/20

NORTHING: 1,118,458.68
 EASTING: 2,409,359.58
 GS ELEVATION: 390.9
 TOC ELEVATION: 393.96 ft

DEPTH W.L.: 9.9
 ELEVATION W.L.: 381
 DATE W.L.: 5/27/2020
 TIME W.L.: 0745

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES				MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
0	390	0.00 - 2.25 sandy SILTY CLAY, medium plasticity, medium sand, brown, trace organics, homogenous, cohesive, w-pl, stiff	CL		388.65	1	SPT	2-2-3-2	5	<u>0.92</u> 2.00	<p>Cement - Riser - 3/8" Bentonite Pellets #1 Sand - 0.010" Slotted Schedule 40 PVC Screen</p>	<p>WELL CASING Interval: 0' - 14' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 14' - 24' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 4"</p> <p>FILTER PACK Interval: 11.5' - 24' Type: #1 Sand Quantity: 7.5</p> <p>FILTER PACK SEAL Interval: 7.5' - 11.5' Type: 3/8" Bentonite Pellets Quantity: 2-5 gal bucket</p> <p>ANNULUS SEAL Interval: 0' - 7.5' Type: Portland Cement/Bentonite Powder/Water Quantity: 1.5 bag (46.2 lb) Portland/1.5 bag (50 lb) Bentonite/17.5 gallons Water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Hollow Stem Auger Rock Drill: N/A</p>
		2.25 - 7.50 CLAY, high plasticity, light grey, spotted orange, some fine sand, cohesive, w-pl, very stiff	CH		382	2	SPT	2-2-4-5	6	<u>1.92</u> 2.00		
		7.50 - 8.90 CLAYEY SAND, medium sand, high plasticity, orange, iron-stained, non-cohesive, moist, loose	SC		383.4	3	SPT	5-8-8-10	16	<u>1.92</u> 2.00		
		8.90 - 14.00 SILTY SAND, fine to medium sand, no plasticity, laminated white & tan, micaceous, saprolitic, non-cohesive, moist, loose	SM		376.9	4	SPT	3-3-4-6	7	<u>1.92</u> 2.00		
		14.00 - 18.00 SILTY SAND, fine to medium sand, no plasticity, laminated white & tan, micaceous, saprolitic, 0.5 foot green hornblende vein, non-cohesive, moist, loose	SM		372.9	5	SPT	3-5-4-6	9	<u>1.75</u> 2.00		
		18.00 - 24.00 SILTY SAND, fine to medium sand, no plasticity, laminated white & tan, micaceous, saprolitic, hornblende interlayers at 18.6 (1-inch thick), 20.1 (0.25-inch thick) and 22.3-22.5, and pegmatitic interlayer 22.5-23.3 ft, non-cohesive, moist, dense	SM		366.9	6	SPT	4-4-6-8	10	<u>1.67</u> 2.00		
						7	SPT	4-6-8-12	14	<u>1.50</u> 2.00		
						8	SPT	6-10-12-18	22	<u>1.58</u> 2.00		
						9	SPT	6-10-16-13	26	<u>1.75</u> 2.00		
						10	SPT	9-12-22-29	34	<u>1.50</u> 2.00		
						11	SPT	6-9-19-24	38	<u>1.75</u> 2.00		
						12	SPT	7-14-19	33	<u>1.33</u> 1.50		
25	365	Boring completed at 24.00 ft										
30	360											
35	355											
40	350											
45	345											
50												

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

LOG SCALE: 1 in = 6.5 ft
 DRILLING COMPANY: SCS Drilling Services
 DRILLER: Jim Castelberry

GA INSPECTOR: Heather Brissey
 CHECKED BY: Timothy Richards, PG
 DATE: 6/4/20



RECORD OF BOREHOLE GWC-34

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/13/20
 DATE COMPLETED: 1/13/20

NORTHING: 1,118,248.26
 EASTING: 2,409,680.41
 GS ELEVATION: 386.2
 TOC ELEVATION: 389.29 ft

DEPTH W.L.: 6.7'
 ELEVATION W.L.: 382.49'
 DATE W.L.: 1/28/2020
 TIME W.L.: 855

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC			
0	385	0.00 - 3.00 Silty CLAY, some organics, cohesive, brown red, high plasticity, firm, w~PL	CL-ML		383.2			1	Cement - Riser - 3/8" PEL-PLUG Bentonite Pellets 0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen #1 Sand -	WELL CASING Interval: 0' - 9' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 9' - 19' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" Slotted End Cap: 3" FILTER PACK Interval: 7' - 19' Type: GP #1 Sand Quantity: 2.5 bags FILTER PACK SEAL Interval: 3' - 7' Type: 3/8" Bentonite Pellets Pel-Plug Quantity: 5 gallon bucket ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A	
5		3.00 - 5.00 Silty CLAY, cohesive, brown, med plasticity, soft, w>PL		3.00		381.2					
10	380	5.00 - 11.00 CLAY with silt, some fine sand, layer of SAPROLITE at ~ 8, grey, med plasticity, soft to firm, w>PL		5.00		375.2					
15	375	11.00 - 16.00 SAND with clay and silt, some transitionally weathered rock with large gravel, non-cohesive, fine sand, grey, compact, moist	TWR		11.00			ROTO -10.00 SONIC 10.00			
20	370	16.00 - 19.30 SAND with silt and transitionally weathered rock, non-cohesive, fine sands, highly weathered, grey and white, loose, moist		16.00		370.2					
25	365	Boring completed at 19.00 ft		19.30		366.9					

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-35

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 25.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/12/20
 DATE COMPLETED: 1/12/20

NORTHING: 1,117,860.46
 EASTING: 2,409,906.21
 GS ELEVATION: 385.1
 TOC ELEVATION: 387.90 ft

DEPTH W.L.: 4.5'
 ELEVATION W.L.: 383.30'
 DATE W.L.: 1/28/2020
 TIME W.L.: 850

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES		MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE REC		
0	385	0.00 - 5.00 Clayey SILT, some organics, cohesive, brown, high plasticity, stiff to very stiff, w~PL to w<PL	ML						<p>WELL CASING Interval: 0' - 10' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 10' - 20' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 8' - 20' Type: #1 Sand Quantity: 3.5 bags</p> <p>FILTER PACK SEAL Interval: 4' - 8' Type: 3/8" Bentonite Pellets Quantity: 1/2 50 lb bag</p> <p>ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5	380	5.00 - 7.00 CLAY with silt, cohesive, tan, high plasticity, stiff, w~PL	CL-ML		380.1 5.00				
		7.00 - 8.00 Sandy SILT, some clay, fine to coarse sand, non-cohesive, grey, compact, wet	MLS		378.1 7.00				
		8.00 - 9.00 SAND, some silt, fine sands, non-cohesive, grey, loose, wet	SM		8.00 377.1				
10	375	9.00 - 12.00 SAND, some silt, fine sands, non-cohesive, grey, loose, moist			9.00				
		12.00 - 15.00 SAND, some silty clay and transitionally weathered rock, non-cohesive, fine sand, highly weathered, grey and white, loose to compact, moist			373.1 12.00				
15	370	15.00 - 17.00 SAND and SILT, some transitionally weathered rock, non-cohesive, fine sand, highly weathered, grey and white with grey mottling, loose to compact, dry			370.1 15.00	1 ROTO 10.00 SONIC 10.00			
		17.00 - 22.00 SAND, some silt and transitionally weathered rock, non-cohesive, fine sand, grey with white and black mottling, compact, dry			368.1 17.00				
20	365	22.00 - 25.00 Transitionally weathered rock, Gneiss, weathered, grey, cobbled gneiss, dry	TWR		363.1 22.00	2 ROTO 6.00 SONIC 6.00			
25	360	Boring completed at 25.00 ft			360.1				

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-36

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 45.40 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/10/20
 DATE COMPLETED: 1/10/20

NORTHING: 1,117,561.29
 EASTING: 2,409,681.44
 GS ELEVATION: 422.0
 TOC ELEVATION: 425.12 ft

SHEET 1 of 1

DEPTH W.L.: 33.0'
 ELEVATION W.L.: 391.94'
 DATE W.L.: 1/28/2020
 TIME W.L.: 845

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	420	0.00 - 6.00 CLAY, some micaceous silt and organics, cohesive, red, high to medium plasticity, stiff, w<PL	CH		416 6.00					<p>WELL CASING Interval: 0' - 35.4' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 35.4' - 45.4' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 35.6' - 45.7' Type: #1 Sand Quantity: 3.5 bags</p> <p>FILTER PACK SEAL Interval: 29' - 32.6' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 29' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons of water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5	415	6.00 - 8.00 Silty CLAY, some micaceous silt, cohesive, red, high plasticity, very stiff, w<PL	CL-ML		414 8.00 413 9.00					
10	410	8.00 - 9.00 Clayey SILT, some micaceous silt, red, cohesive, medium to low plasticity, firm w<PL	ML		411 11.00					
15	405	9.00 - 11.00 Clayey SILT, cohesive, orange red mottled with black, low plasticity, soft, w<PL			406 16.00		1	ROTO <u>10.00</u> SONIC 10.00		
20	400	11.00 - 16.00 SILT, some clay, cohesive, orange, low plasticity, soft, w<PL			403 19.00					
25	395	16.00 - 19.00 SILT, some sand and micaceous silt, fine sand, trace clay, cohesive to non-cohesive, very soft/loose dry	SM		401 21.00					
30	390	19.00 - 21.00 Silty SAND, some clay at approximately 21', fine sand, non-cohesive, tan to brown, loose to compact, dry			398 24.00		2	ROTO <u>10.00</u> SONIC 10.00		
35	385	21.00 - 24.00 Silty SAND, tan, some transitionally weathered rock, fine sand, non-cohesive, loose, moist	SP		393 29.00					
40	380	24.00 - 29.00 SAND, some silt and transitionally weathered rock, fine sand, poorly sorted, non-cohesive, tan, mottled white and brown, loose, moist			383 39.00		3	ROTO <u>10.00</u> SONIC 10.00		
45	375	29.00 - 39.00 SAND, some silt, fine sand, grey mottled with brown, non-cohesive, loose to compact, moist to wet			377 45.00					
50	370	39.00 - 45.00 SAND, some transitionally weathered rock, fine sand, grey mottled tan and white, non-cohesive, loose to compact, moist to wet, SAPROLITE	TWR				4	ROTO <u>6.00</u> SONIC 6.00		
		Boring completed at 45.40 ft								

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-37

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 49.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/8/20
 DATE COMPLETED: 1/8/20

NORTHING: 1,117,239.70
 EASTING: 2,409,636.56
 GS ELEVATION: 427.2
 TOC ELEVATION: 429.80 ft

DEPTH W.L.: 24.45
 ELEVATION W.L.: 405.07'
 DATE W.L.: 1/28/2020
 TIME W.L.: 840

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES		MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	425	0.00 - 5.00 CLAY, some silt, trace organics and micaceous silt, cohesive, red brown, high plasticity, very stiff, w<PL	CH		422.2				<p>WELL CASING Interval: 0' - 32' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 32' - 42' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 29.7 - 42' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 27' - 29.7' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 27' Type: AquaGuard Bentonite Grout Quantity: 2 bags, 30 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5	420	5.00 - 6.00 Silty CLAY, some micaceous silt, cohesive, orange, medium plasticity, very stiff to stiff, w<PL	CL-ML		5.00 421.2				
		6.00 - 9.00 Clayey SILT, some micaceous silt and sand, cohesive, medium plasticity, orange, firm, w<PL	ML		6.00				
		9.00 - 11.00 Clayey SILT, cohesive, red orange, low to medium plasticity, soft, w<PL			418.2 9.00				
		11.00 - 13.00 SILT with clay, some sand, fine sand, cohesive, orange, soft to very soft, w<PL			416.2 11.00				
		13.00 - 16.00 Clayey SILT, trace micaceous silt, cohesive, orange, soft to firm, w<PL			414.2 13.00	1	ROTO SONIC 10.00		
		16.00 - 19.00 Clayey SILT, some sand, fine sand, cohesive, tan with brown grey mottling, soft to very soft, moist/w~PL			411.2 16.00				
		19.00 - 24.00 Sandy SILT, some clay, fine sand, non-cohesive, grey, compact to dense, moist	MLS		408.2 19.00				
		24.00 - 29.00 Silty SAND, some clay, fine sand, non-cohesive, grey, mottled black and tan, compact, moist	SM		403.2 24.00	2	ROTO SONIC 10.00		
		29.00 - 34.00 Silty SAND, some micaceous silt and clay, fine sand, non-cohesive, grey mottled white, compact to dense, moist			398.2 29.00				
		34.00 - 39.00 SAND with some silt, trace micaceous silt, fine sand, non-cohesive, tan grey, loose to compact, moist	SP		393.2 34.00	3	ROTO SONIC 10.00		
		39.00 - 42.00 SAND, some silt, fine sand, grey mottled with brown, non-cohesive, compact, moist to wet			388.2 39.00				
		42.00 - 44.00 SAND some silt, fine sand, dark grey, mottled tan brown, compact to dense, moist			385.2 42.00				
		44.00 - 49.00 SAND, some silt, fine sand, grey with white mottling, poorly sorted, compact to loose, moist			383.2 44.00	4	ROTO SONIC 10.00		
		Boring completed at 49.00 ft				378.2			

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWC-38

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 49.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/7/20
 DATE COMPLETED: 1/7/20

NORTHING: 1,116,786.45
 EASTING: 2,409,533.11
 GS ELEVATION: 416.0
 TOC ELEVATION: 418.68 ft

DEPTH W.L.: 12.11'
 ELEVATION W.L.: 406.33'
 DATE W.L.: 1/28/2020
 TIME W.L.: 835

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES		MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE REC		
0	415	0.00 - 5.00 CLAY, some silt, orange brown, cohesive, medium to high plasticity, stiff, w<PL	CH		411			<p>Cement -</p> <p>Riser -</p> <p>AquaGuard Bentonite - Grout</p> <p>3/8" Bentonite Pellets</p> <p>#1 Sand -</p> <p>0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen</p>	<p>WELL CASING Interval: 0' - 29' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 29' - 39' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 27' - 49' Type: #1 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 24' - 27' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 24' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
5	410	5.00 - 8.00 Clayey SILT, some micaceous silt, orange brown, cohesive, low plasticity, firm, w-PL	ML		5.00				
		8.00 - 9.00 Silty SAND, fine sand, some clay, brown tan, cohesive, w<PL	SM		8.00				
		9.00 - 15.00 Silty CLAY, some micaceous silt, tan, cohesive, medium plasticity, firm to stiff, w-PL	CL-ML		9.00				
15	400	15.00 - 19.00 Sandy SILT, little clay, fine sand, cohesion variable mostly non-cohesive, low plasticity, grey, loose, moist to dry	MLS		15.00				
		19.00 - 22.00 Sandy Clayey SILT, biotite/mica gneiss, SAPROLITE, fine sand, grey with brown mottling, compact to dense, dry			19.00				
		22.00 - 24.00 Silty SAND, fine to coarse, gravelly, poorly sorted, grey and grey brown, loose, dry	SM		22.00				
		24.00 - 29.00 Silty SAND, fine sand, some gravel, poorly sorted, sand, non-cohesive, grey mottled white and black, dense to very dense, dry, SAPROLITE			24.00	2 ROTO SONIC	10.00		
30	385	29.00 - 39.00 Gravelly Silty SAND, biotite gneiss to transitionally weathered rock, fine to coarse sand, highly weathered, up to 2" diameter cobble, moderate to poorly foliated, grey, dry, SAPROLITE	TWR		29.00	3 ROTO SONIC	10.00		
40	375	39.00 - 49.00 Bedrock, biotite gneiss, moderate to well foliated, and fractured, dark grey and black some white banding	BR		39.00	4 ROTO SONIC	3.00		
50		Boring completed at 49.00 ft							

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-39

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 59.30 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 12/20/19
 DATE COMPLETED: 12/20/19

NORTHING: 1,116,967.57
 EASTING: 2,408,671.68
 GS ELEVATION: 454.2
 TOC ELEVATION: 457.62 ft

SHEET 1 of 2

DEPTH W.L.: 19.21'
 ELEVATION W.L.: 438.38'
 DATE W.L.: 1/28/2020
 TIME W.L.: 8:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 6.00 CLAY and GRAVEL, some sand and silt, biotite gneiss gravel up to 1" diameter, red and red-brown, some dark orange brown, w<PL, very stiff, medium to high plasticity	GC	[Graphic: Clay and Gravel]	448.2					<p>WELL CASING Interval: 0' - 49' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 49' - 59' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 47' - 59.3' Type: #1 Sand Quantity: 3.5 bags</p> <p>FILTER PACK SEAL Interval: 44' - 47' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 44' Type: AquaGuard Bentonite Grout Quantity: 4 bags, 60 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
450		6.00 - 9.00 SAND, non-cohesive, fine sand, some silt, tan and light orange brown, some white, dry	SP	[Graphic: Sand]	6.00					
445		9.00 - 11.50 Sandy CLAY, some micaceous silt, fat clay, brown, mottled dark red-brown and dark red, sand increases with depth, high plasticity, w>PL	CLS	[Graphic: Sandy Clay]	9.00					
440		11.50 - 19.00 Sandy SILT, some clay, fine sand, micaceous, mostly non-cohesive, tan-brown and light brown with some orange and mottled some white and black with some areas of finer cohesive (w<PL, low to no plasticity) material throughout, loose, dry	MLS	[Graphic: Sandy Silt]	11.50	1	ROTO SONIC	10.00 10.00		
435		19.00 - 29.00 Sandy Clayey SILT, biotite/mica gneiss Saprolite, cohesive, fine sand, more clay less sand 24'-29', moderately foliated, brown and grey-brown mottled mostly white and tan brown, some black and orange brown, firm to stiff, w<PL	ML	[Graphic: Sandy Clayey Silt]	19.00					
430			ML	[Graphic: Sandy Clayey Silt]	435.2	2	ROTO SONIC	10.00 10.00		
425		29.00 - 39.00 Silty SAND, non-cohesive, fine to coarse, poorly sorted sand, some clay, moderate to well foliated mica/biotite, quartz, feldspar, gneissic SAPROLITE, grey mottled white and black, some orange-brown, dense to very dense, dry to moist	SM	[Graphic: Silty Sand]	29.00					
420			SM	[Graphic: Silty Sand]	425.2	3	ROTO SONIC	10.00 10.00		
415		39.00 - 44.00 SAND, some silt, trace clay and gravel, dark grey, some black, some white, biotite gneiss SAPROLITE, poorly foliated, fine to coarse poorly sorted sand, compact, dry	SP	[Graphic: Sand]	39.00					
410		44.00 - 46.00 Gravelly SAND, biotite gneiss transitionally weathered rock, fine to coarse sand, poorly sorted, biotite gneiss gravel up to 2" diameter, moderate to poorly foliated, grey brown, grey and dark grey, some white and black, dense, dry	TWR	[Graphic: Gravelly Sand]	410.2	4	ROTO SONIC	10.00 10.00		
405		46.00 - 49.00 Bedrock, biotite gneiss, moderate to well foliated, highly weathered and fractured, dark grey and black with some white, some orange-brown staining along fractures	BR	[Graphic: Bedrock]	408.2					
50			BR	[Graphic: Bedrock]	405.2	5	ROTO	49.00		

Log continued on next page

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: William Ballow
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-39

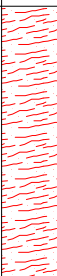
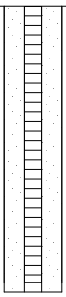
SHEET 2 of 2

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 59.30 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 12/20/19
 DATE COMPLETED: 12/20/19

NORTHING: 1,116,967.57
 EASTING: 2,408,671.68
 GS ELEVATION: 454.2
 TOC ELEVATION: 457.62 ft

DEPTH W.L.: 19.21'
 ELEVATION W.L.: 438.38'
 DATE W.L.: 1/28/2020
 TIME W.L.: 825

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
50		49.00 - 59.00 Bedrock, gneiss and partially weathered rock, moderately foliated, black with bands of white and some pink, highly weathered and fractured, orange-brown staining around fractures (<i>Continued</i>)	BR					#1 Sand - 0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen		WELL CASING Interval: 0' - 49' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 49' - 59' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 47' - 59.3' Type: #1 Sand Quantity: 3.5 bags FILTER PACK SEAL Interval: 44' - 47' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: 3' - 44' Type: AquaGuard Bentonite Grout Quantity: 4 bags, 60 gallons water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
55	400					5	ROTO 10.00 SONIC 10.00			
60	395	Boring completed at 59.30 ft								
65	390									
70	385									
75	380									
80	375									
85	370									
90	365									
95	360									
100	355									

BOREHOLE RECORD_SCHERER_CELL_3 BORING LOGS_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: William Ballow
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-40

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 44.80 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 12/18/19
 DATE COMPLETED: 12/18/19

NORTHING: 1,117,365.24
 EASTING: 2,408,730.04
 GS ELEVATION: 461.2
 TOC ELEVATION: 463.84 ft

SHEET 1 of 1

DEPTH W.L.: 31.49'
 ELEVATION W.L.: 432.13'
 DATE W.L.: 1/28/2020
 TIME W.L.: :820

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	460	0.00 - 0.50 CLAY, some sand, orange-brown, some red, cohesive, w>PL, soft to very soft, high plasticity	CL	[Hatched Pattern]	0.50				<p>WELL CASING Interval: 0' - 34' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 34' - 44' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 32' - 44.8' Type: #2 Sand Quantity: 3.75 bags</p> <p>FILTER PACK SEAL Interval: 29' - 32' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: 3' - 29' Type: AquaGuard Bentonite Grout Quantity: 2 bags, 50 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5	455	0.50 - 9.00 Sandy SILT and GRAVEL. gravel up to 1" diameter, orange, orange-brown and white, non-cohesive, dry, fine to coarse sands, poorly sorted	MLS	[Vertical Lines]					
10	450	9.00 - 10.00 CLAY, some silt, trace gravel, med to high plasticity, brown and orange, brown, some tan, firm to stiff, w-PL	CL	[Hatched Pattern]	9.00 451.2 10.00				
15	445	10.00 - 17.00 Clayey SILT, some fine sand, trace coarse sand and gravel, cohesive, red, orange-brown, orange, tan and some white, trace black staining, firm, w<PL	ML	[Vertical Lines]		1	ROTO-10.00 SONIC 10.00		
20	440	17.00 - 19.00 Sandy SILT, well foliated Saprolite, trace gravel, non-cohesive, fine to coarse sand, poorly sorted, red, white, orange-brown with black staining, dry	MLS	[Vertical Lines]	17.00 444.2 442.2				
25	435	19.00 - 24.00 Silty CLAY, cohesive, tan mottled white, orange-tan, some black, firm, low plasticity, w<PL	CL-ML	[Diagonal Lines]	19.00 437.2 24.00		2	ROTO-10.00 SONIC 10.00	
30	430	24.00 - 26.00 SAND, some clay, some gravel, mostly coarse angular quartz sand, red and white with some orange-brown clay, moist	SC	[Hatched Pattern]	24.00 435.2 26.00				
35	425	26.00 - 29.00 Silty CLAY, cohesive, tan mottled white, orange-tan, some black, firm, low plasticity, w<PL	CL-ML	[Diagonal Lines]	26.00 432.2 29.00				
40	420	29.00 - 34.00 Sandy Silty CLAY, trace gravel, cohesive, low plasticity, higher plasticity from approximately 30'-32', w<PL, (w>PL approximately 30'-32'), orange-brown, orange, some dark brown, some white, increased sand and silt approximately 32'-34'.	CL	[Hatched Pattern]	29.00 427.2 34.00		3	ROTO-10.00 SONIC 10.00	
45	415	34.00 - 37.00 Sandy SILT, some clay, cohesive, light grey and white, moderately foliated biotite and gneiss Saprolite, fine sand, some coarse, moist to wet, soft, w-PL, low to no plasticity	MLS	[Vertical Lines]	34.00 424.2 37.00				
50	410	37.00 - 44.80 Sandy CLAY to Clayey SAND, cohesive, orange-brown and brown mottled white, orange and black, sand content increases approximately 40'-44', fine to coarse sand, poorly sorted, trace gravel, med to high plasticity, w>PL approximately 37'-40', very soft to firm	SC-SM	[Diagonal Lines]	37.00 416.4		4	ROTO-10.00 SONIC 5.00	
		Boring completed at 44.80 ft							

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS. SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: William Ballow
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-41







SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 44.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/26/20
 DATE COMPLETED: 1/26/20

NORTHING: 1,118,096.97
 EASTING: 2,408,412.15
 GS ELEVATION: 431.4
 TOC ELEVATION: 434.12 ft

DEPTH W.L.: 10.20'
 ELEVATION W.L.: 423.65'
 DATE W.L.: 1/28/2020
 TIME W.L.: 1025

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	430	0.00 - 9.00 Silty CLAY, some micaceous silt, cohesive, red, medium plasticity, w<PL, very stiff	CL-ML		422.4 9.00	1	ROTO-10.00 SONIC 10.00	Cement - Riser - AquaGuard Bentonite Grout -	WELL CASING Interval: 0' - 27.7' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 27.7' - 37.7' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 25.6' - 37.7' Type: #1 Sand Quantity: 4 bags FILTER PACK SEAL Interval: 22.6' - 25.6' Type: 3/8" Bentonite Pellets Quantity: 1-50lb bag ANNULUS SEAL Interval: 3' - 22.6' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
5	425	9.00 - 16.00 Silty CLAY, cohesive, tan mottled grey and orange, medium plasticity, stiff, w<PL							
10	420	16.00 - 21.00 Silty SAND, some partially weathered rock, non-cohesive, fine sand, highly weathered, tan mottled white brown to grey at 18', loose, moist	SM		415.4 16.00				
15	415	21.00 - 23.00 SAND some silt and gravel, non-cohesive, fine sand, gravel 1"-2" in diameter, grey, loose, dry	SP		410.4 21.00	2	ROTO-10.00 SONIC 10.00	3/8" Bentonite Pellets -	
20	410	23.00 - 29.00 SAND, non-cohesive, fine sand, grey black, moist to wet, loose to compact			408.4 23.00				
25	405	29.00 - 31.00 SAND, some silt and transitionally weathered rock, non-cohesive, fine sand, highly weathered, 1" diameter gravel, grey, loose, dry to moist	SP		402.4 29.00	3	ROTO-10.00 SONIC 10.00	#1 Sand -	
30	400	31.00 - 35.00 SAND, some silt and transitionally weathered rock, non-cohesive, fine sand, cobble sized rock, highly weathered, loose to compact, dry			400.4 31.00				
35	395	35.00 - 39.00 SAND, some silt, non-cohesive, fine sand, grey mottled brown, loose, wet			396.4 35.00				
40	390	39.00 - 43.00 Bedrock, transitionally weathered rock, gneiss and quartz, highly weathered, grey, competent rock 43'-44'	TWR		392.4 39.00	4	ROTO-5.00 SONIC 5.00	0.010" Slotted PVC Double Wall U-Pack Screen -	
45	385	43.00 - 44.00 Bedrock, gneiss and quartz, highly weathered	BR		388.4 43.00 387.4				
		Boring completed at 44.00 ft							

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-42

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/27/20
 DATE COMPLETED: 1/27/20

NORTHING: 1,118,500.68
 EASTING: 2,408,233.53
 GS ELEVATION: 402.2
 TOC ELEVATION: 405.19 ft

DEPTH W.L.: 3.60'
 ELEVATION W.L.: 401.49'
 DATE W.L.: 1/28/2020
 TIME W.L.: 1020

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES		MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 2.00 Clayey SILT, some organics, cohesive, orange, med plasticity, firm, w~PL	ML	| | | |	400.2			<p style="font-size: small;">Cement 3/8" Bentonite Pellets Riser #1 Sand 0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen</p>	<p>WELL CASING Interval: 0' - 8.8' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 8.8' - 18.8' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 6.1' - 18.8' Type: #1 Sand Quantity: 4 bags</p> <p>FILTER PACK SEAL Interval: 2 - 6.1' Type: 3/8" Bentonite Pellets Quantity: 1 - 50 lb bag</p> <p>ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
400		2.00 - 5.00 Clayey SILT, cohesive, grey tan, mottled orange, high plasticity, stiff, w>PL		| | | |	2.00				
5		5.00 - 6.00 Silty CLAY, cohesive, orange, low plasticity, w>PL, soft	CL-ML	| | | |	397.2				
395		6.00 - 8.00 Clayey SILT, some sand, fine sand, non-cohesive, tan, wet, loose	ML	| | | |	396.2				
10		8.00 - 9.00 Silty SAND, medium to fine sand, some clay, non-cohesive, grey, wet, loose	SM	| | | |	394.2				
390		9.00 - 11.00 Silty SAND, medium to fine sand, some clay, non-cohesive, grey, wet, compact to dense		| | | |	393.2				
15		11.00 - 14.00 SAND and transitionally weathered rock, fine sand, highly weathered, some gravel up to 2" in diameter, orange grey with white and black mottling, loose, moist to dry	TWR	| | | |	391.2				
385		14.00 - 19.00 No recovery past 14', Likely dense TWR that required a lot of water to cut though but breaks it up too much to recover in barrel.		| | | |	388.2	1	ROTO 5.00 SONIC 10.00		
20		Boring completed at 19.00 ft		| | | |	14.00				

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-43

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/26/20
 DATE COMPLETED: 1/26/20

NORTHING: 1,118,861.38
 EASTING: 2,408,484.42
 GS ELEVATION: 398.1
 TOC ELEVATION: 400.94 ft

DEPTH W.L.: 2.80'
 ELEVATION W.L.: 397.89'
 DATE W.L.: 1/28/2020
 TIME W.L.: 1015

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 Silty CLAY, some organics, cohesive, brown, medium plasticity, w~PL, firm	CL-ML	[Hatched Pattern]	393.1				Cement	<p>WELL CASING Interval: 0' - 9' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 9' - 19' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 6.9' - 19' Type: #1 Sand Quantity: 4 bags</p> <p>FILTER PACK SEAL Interval: 2.75' - 6.9' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket</p> <p>ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
5		5.00 - 7.00 Silty CLAY, some organics, cohesive, grey, high plasticity, w>PL, firm		[Hatched Pattern]	5.00				Riser	
10		7.00 - 11.00 Silty SAND, some clay, non-cohesive, medium to fine sand, grey, dense wet	SM	[Dotted Pattern]	7.00				3/8" Bentonite Pellets	
15		11.00 - 16.00 SAND, some silt, non-cohesive, some transitionally weathered rock, fine sand, grey, mottled white and red to grey and white, moist, compact to dense, SAPROLITE	TWR	[Triangle Pattern]	11.00				#1 Sand	
20		16.00 - 19.00 SAND, some silt, non-cohesive, coarse sand, brown and grey, loose, moist	SP	[Dotted Pattern]	16.00				0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
20		Boring completed at 19.00 ft				379.1				
25										
30										
35										
40										
45										
50										

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-44

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 19.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 1/27/20
 DATE COMPLETED: 1/27/20

NORTHING: 1,119,303.20
 EASTING: 2,408,629.39
 GS ELEVATION: 396.58
 TOC ELEVATION: 399.33 ft

DEPTH W.L.: 1.40'
 ELEVATION W.L.: 397.93'
 DATE W.L.: 1/28/2020
 TIME W.L.: 1010

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	395	0.00 - 2.00 Silty CLAY, cohesive, some micaceous silt and organics, brown, high plasticity, w-PL, firm	CL-ML		394.58					<p>WELL CASING Interval: 0' - 8.2' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 8.2' - 18.2' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 6.2' - 18.2' Type: #1 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 2.5' - 6.2' Type: 3/8" Bentonite Pellets Quantity: 1-5 gal bucket</p> <p>ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A</p>
2.00	390	2.00 - 7.00 Clayey SILT, cohesive, some organics, low plasticity, brown, soft, w>PL	ML		389.58					
7.00	390	7.00 - 9.00 Clayey Sandy SILT, cohesive, fine sand, medium plasticity, grey mottled orange and brown, stiff to very stiff, w>PL	MLS		387.58					
9.00	385	9.00 - 10.00 Silty SAND, fine sand, non-cohesive, grey mottled black and brown, dense to very dense, moist to wet	SM		386.58					
10.00	385	10.00 - 19.00 Bedrock, gneiss with some quartz and feldspar, well foliated, coarse grained, partially weathered, some fractures, black and grey with white spots	BR		10.00					
	380					1	ROTO 7.00 SONIC 10.00			
	375	Boring completed at 19.00 ft			377.58					

BOREHOLE RECORD, SCHERER CELL 3 BORING LOGS, SURVEY UPDATED.GPJ, PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: Darren Cox
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-44A

SHEET 1 of 1

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 20.80 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550
 DATE STARTED: 5/20/20
 DATE COMPLETED: 5/21/20

NORTHING: 1,119,296.99
 EASTING: 2,408,569.76
 GS ELEVATION: 396.5
 TOC ELEVATION: 399.62 ft

DEPTH W.L.: 4.1'
 ELEVATION W.L.: 392.4
 DATE W.L.: 5/21/2020
 TIME W.L.: 0800

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES				MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop			N-VALUE	REC
0	395	0.00 - 3.50 CLAY, high plasticity, red-brown, cohesive, w>pl, very stiff, residuum	CH		393	1	SPT	3-3-3	6	<u>0.66</u> 1.50	<p>WELL CASING Interval: 0' - 9.5' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 9.9' - 19.9' Material: Schedule 40 PVC Diameter: 3"x2" Slot Size: 0.010" End Cap: 4"</p> <p>FILTER PACK Interval: 6.9' - 19.9' Type: #1 Sand Quantity: 6 bags</p> <p>FILTER PACK SEAL Interval: 2.5' - 6.9' Type: 3/8" Bentonite Pellets Quantity: 2-5 gal bucket</p> <p>ANNULUS SEAL Interval: 0' - 2.5' Type: Portland Cement/Bentonite Powder/Water Quantity: 0.25 bag (46.2 lb) Portland / 0.25 bag (50 lb) Bentonite / 7.5 gallons Water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Hollow Stem Auger Rock Drill: N/A</p>
						2	SPT	5-5-6	11	<u>0.66</u> 1.50	
		3.50 - 7.50 Sandy CLAY, fine sand, mottled grey-brown, high plasticity, cohesive, w>pl, very stiff, residuum	CL		3.50	3	SPT	WH-5-4	9	<u>1.50</u> 1.50	
						4	SPT	3-4-6	10	<u>1.50</u> 1.50	
						5	SPT	5-6-6	12	<u>1.50</u> 1.50	
		7.50 - 9.00 Sandy CLAY, fine sand, mottled grey-brown, increasing sand with depth, high plasticity, cohesive, w>pl, very stiff, residuum	ML		7.50	6	SPT	5-6-7	13	<u>1.50</u> 1.50	
						7	SPT	5-6-50/4	56/10	<u>1.30</u> 1.50	
		9.00 - 10.50 Clayey SAND, grey-white, fine grained sand, high plasticity fines, trace coarse gravel, non-cohesive, moist, very dense	SC		9.00	8	SPT	50/4	50/4	<u>0.33</u> 1.50	
						9	SPT	50/1	50/1	<u>0.08</u> 1.50	
		10.50 - 20.80 SAND, fine to medium, grey-white, non-cohesive, moist to wet, oxidation from 14.5-16 feet, very dense	SP		10.50	10	SPT	50/3	50/3	<u>0.83</u> 1.50	
						13	SPT	31-50/4	81/10	<u>0.25</u> 1.50	
		Boring completed at 20.80 ft			375.7						

BOREHOLE RECORD - SCHERER CELL 3 BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 9/17/20

LOG SCALE: 1 in = 6.5 ft
 DRILLING COMPANY: SCS Drilling Services
 DRILLER: Jim Castelberry

GA INSPECTOR: Heather Brissey
 CHECKED BY: Timothy Richards, PG
 DATE: 6/4/20



RECORD OF BOREHOLE GWA-54

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 59.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 12/21/19
 DATE COMPLETED: 12/21/19

NORTHING: 1,117,751.40
 EASTING: 2,408,588.52
 GS ELEVATION: 448.6
 TOC ELEVATION: 451.49 ft

SHEET 1 of 2

DEPTH W.L.: 25.65'
 ELEVATION W.L.: 425.76'
 DATE W.L.: 1/28/2020
 TIME W.L.: 8:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 CLAY, some micaceous silt, brownish orange, fat clay, cohesive, med to high plasticity, stiff to very stiff, w>PL	CH	[Hatched]	443.6					<p>WELL CASING Interval: 0' - 38.75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 38.75' - 48.75' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 36.10' - 59' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 33 - 36.10' Type: 3/8" Bentonite Pellets Quantity: 1-5 gal bucket</p> <p>ANNULUS SEAL Interval: 3' - 33' Type: AquaGuard Bentonite Grout Quantity: 3 bags, 35 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
445		5.00 - 7.00 Clayey SILT, micaceous silt with clay, some fine sand, dark orange-brown, cohesive, low plasticity, firm, w>PL	ML	[Vertical Lines]	441.6					
5		7.00 - 9.00 Silty SAND, fine sand with silt, some medium sand, trace clay, dark orange brown and tan, non-cohesive, dry	SM	[Vertical Lines]	439.6					
440		9.00 - 10.00 CLAY, some silt, red-brown some dark red-brown, fat clay, cohesive, high plasticity, soft w>PL	CH	[Hatched]	9.00 438.6					
10		10.00 - 19.00 Sandy SILT, silt with some clay and fine sand, some medium sand, moderate foliation 10'-11' and 17'-18', light grey brown, mottled tan and white, some black, micaceous silt, dark grey and grey & white, 17'-18' mottled tan, orange, white, 10'-11' moist, loose, dry	MLS	[Vertical Lines]	10.00	1	ROTO-10.00 SONIC 10.00			
435		19.00 - 22.00 Silty SAND, micaceous silt, fine to coarse feldspar & quartz sand, poorly sorted, grey and grey-brown mottled tan, white, dark grey, trace gravel, moderately foliated, gneissic SAPROLITE, dry, loose to compact, non-cohesive	SM	[Vertical Lines]	429.6					
430		22.00 - 29.00 Clayey SILT and fine sand, some medium sand, moderately foliated biotite gneiss SAPROLITE, brown and grey mottled white, tan, black some dark brown staining, mostly cohesive, low to no plasticity, w<PL, sands moist to dry	ML	[Vertical Lines]	426.6	2	ROTO-10.00 SONIC 10.00			
425		29.00 - 32.00 SAND gravelly SAND, fine to medium, some coarse, with gneiss gravel, some cobble sized pieces, transitionally weathered rock, grey, dry	TWR	[Vertical Lines]	419.6					
420		32.00 - 39.00 GNEISS, biotite, feldspar, quartz, moderately well foliated, heavy to slightly weathered, separated by partially weathered rock above, PWR still dry, 38-39 wet and fractured with some staining, black white, tan, with some orange and brown	TWR	[Vertical Lines]	416.6	3	ROTO-10.00 SONIC 10.00	3/8" Bentonite Pellets		
415		39.00 - 59.00 Bedrock, GNEISS, biotite, mica, feldspar, quartz, well foliated, black to white with some tan, fractured with some orange staining along fractures, slightly weathered	BR	[Vertical Lines]	409.6	4	ROTO-10.00 SONIC 10.00	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen		
410				[Vertical Lines]	39.00	5	ROTO			

Log continued on next page

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS: SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: William Ballow
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



RECORD OF BOREHOLE GWA-54

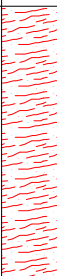

SHEET 2 of 2

PROJECT: Plant Scherer Cell 3
 PROJECT NUMBER: 19127819
 DRILLED DEPTH: 59.00 ft
 LOCATION: Juliette, GA

DRILL RIG: Terrasonic 150C
 DATE STARTED: 12/21/19
 DATE COMPLETED: 12/21/19

NORTHING: 1,117,751.40
 EASTING: 2,408,588.52
 GS ELEVATION: 448.6
 TOC ELEVATION: 451.49 ft

DEPTH W.L.: 25.65'
 ELEVATION W.L.: 425.76'
 DATE W.L.: 1/28/2020
 TIME W.L.: 8:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC			
50		39.00 - 59.00 Bedrock, GNEISS, biotite, mica, feldspar, quartz, well foliated, black to white with some tan, fractured with some orange staining along fractures, slightly weathered (Continued)	BR		389.6	5	SONIC	10.00	#1 Sand - 	<p>WELL CASING Interval: 0' - 38.75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>WELL SCREEN Interval: 38.75' - 48.75' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 36.10' - 59' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 33 - 36.10' Type: 3/8" Bentonite Pellets Quantity: 1-5 gal bucket</p> <p>ANNULUS SEAL Interval: 3' - 33' Type: AquaGuard Bentonite Grout Quantity: 3 bags, 35 gallons water</p> <p>WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>	
395	55					390	60	65			70	75	80	85	90	95	100
		Boring completed at 59.00 ft									

BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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

GA INSPECTOR: William Ballow
 CHECKED BY: Timothy Richards, PG
 DATE: 3/6/20



APPENDIX B-5

**AP-1 Piezometers Piezometer Logs and
Construction Diagrams**



BORING LOG

BORING PZ-021

Page 1 of 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 1/22/2015 **COMPLETED** 1/27/2015 **GROUND ELEVATION** 514.8 ft **COORDINATES** N 1115544.85 E 2402990.76

CONTRACTOR Civil Field Services **METHOD** Hollow Stem Auger; HQ Rock Core **EQUIPMENT** CME550

DRILLED BY T. Milam **LOGGED BY** S. Baxter **CHECKED BY** L. Millet **BORING DEPTH** 84.3 ft.

GROUND WATER DEPTH: DURING 23.51 ft. **COMP.** 25.61 ft. **DELAYED** 25.41 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Silty Clay (CL) - mottled dusky red / dark reddish brown (10R 3/4), very pale brown (10YR 7/3) and yellowish brown / moderate yellowish brown (10YR 5/4) fill moist, very stiff - mottled dusky red / dark reddish brown (10R 3/4), very pale brown (10YR 7/3) and yellow / pale yellowish orange (10YR 8/6) fill moist, very stiff, trace sand - mottled dusky red / dark reddish brown (10R 3/4) and very pale brown (10YR 7/3) fill moist, stiff			SPT N=20bpf(@3.5ft.) SPT N=29bpf(@8.5ft.) SPT N=10bpf(@13.5ft.)
20		Sandy Silt (ML) - mottled yellow / pale yellowish orange (10YR 8/6), yellow / pale yellowish orange (10YR 8/6) and yellow / pale yellowish orange (10YR 8/6) saprolite moist, stiff, micaceous, with black spots			SPT N=9bpf(@18.5ft.)
25		Silty Sand (SM) - mottled yellow / pale yellowish orange (10YR 8/6), yellow / pale yellowish orange (10YR 8/6) and yellow (10YR 7/8) saprolite wet, medium dense, very fine to fine grained, with black spots, trace rock fragments - mottled yellow / pale yellowish orange (10YR 8/6), yellow / pale yellowish orange (10YR 8/6) and yellow (10YR 7/8) saprolite wet, medium dense, very fine to fine grained, with black and gray streaks, trace mica and weathered rock fragments			SPT N=15bpf(@23.5ft.)(PL=NP; FC = 36.9%; Gravel = 2.2%) (MC = 20.7%; UW(d) = 106.7pcf; PERM. = 8.60E-9cm/sec) SPT N=12bpf(@28.5ft.)

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\IAPARKER\DESKTOP\GFC\SC\SCHEHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION	COMMENTS
		Silty Sand (SM)(Con't)						
35		- mottled brown (10YR 4/3), reddish gray (10R 6/1) and white (2.5Y 8/1) saprolite wet, medium dense, very fine to fine grained, with black spots, trace mica and weathered rock fragments						SPT N=13bpf(@33.5ft.)
40		- mottled light gray (10R 7/1), white (10R 8/1) and white (10YR 8/1) saprolite wet, medium dense, very fine to fine grained, with black spots, trace mica and weathered rock fragments						SPT N=20bpf(@38.5ft.)(PL=NP; FC = 40.2%; Gravel = 0%) (MC = 23.2%; UW(d) = 100.2pcf; PERM. = 6.71E-5cm/sec)
45		- mottled white (10YR 8/1), pinkish white / grayish orange pink (10R 8/2) and yellow / pale yellowish orange (10YR 8/6) saprolite wet, very dense, very fine to fine grained, with black spots, trace weathered rock fragments						SPT N=70bpf(@43.5ft.)
50		- variegated gray (2.5Y 5/1) and white (10R 8/1) saprolite wet, very dense, very fine to fine grained, with rounded white medium grained quartz fragments, trace weathered rock fragments						SPT N=86bpf(@48.5ft.)
55		- mottled gray (10YR 5/1) and white (10R 8/1) saprolite wet, very dense, very fine to fine grained, white streaking with black spots, partially weathered rock fragments						SPT N=77bpf(@53.5ft.)
60		- mottled gray (10YR 5/1) and white (10R 8/1) saprolite wet, very dense, very fine to fine grained, white banding with black spots, partially weathered rock fragments						SPT N=50bpf(@58.5ft.)
65		- Attempted to start coring, no recovery						

(Continued Next Page)



BORING LOG

BORING PZ-021

Page 3 of 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
70		Partially Weathered Rock (PWR) (Con't) - mottled gray (10YR 5/1) and white (10R 8/1) saprolite wet, very dense, very fine to coarse grained, banded white with black spots			SPT N=50bpf(@68.5ft.)
		BIOTITE GNEISS - dark gray (N3) and grayish black (N2) fine to medium grain, soft to medium hard, moderately to highly weathered, inclined, banded, 3 moderate-angle fractures (30 - 45d), oxidized fractures at 69.3' and 70.6'			
75		- dark gray (N3) and grayish black (N2) medium to coarse grain, medium hard, slightly to moderately weathered, inclined, banded, 1 low-angle fracture (10 - 25d), 14 moderate-angle fractures (30 - 45d), 1 high-angle fracture (70 - 90d)			
80		- dark gray (N3) and grayish black (N2) medium to coarse grain, medium hard, slightly to moderately weathered, inclined, banded, 4 low-angle fractures (10 - 25d), 8 moderate-angle fractures (30 - 45d)			
85		Bottom of borehole at 84.3 feet.			
90					
95					
100					
105					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-021
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ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 1/22/2015 COMPLETED 1/27/2015 GROUND ELEVATION 514.8 ft COORDINATES N 1115544.85 E 2402990.76

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 84.3 ft.

GROUND WATER DEPTH: DURING 23.51 ft. COMP. 25.61 ft. DELAYED 25.41 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.56</p> <p style="text-align: center;">← Surface Seal: concrete</p>	<p style="text-align: center;">ELEV. (DEPTH)</p> <p style="text-align: center;">512.8 (2.0)</p>

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:56 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.56	ELEV. (DEPTH)
446.8	65	Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	450.3 (64.5)
	35	Annular Fill: Cement-Bentonite Grout - 9 bags Type I/II Portland Cement, 94 lbs/each	
	40		
	45		
	50		
	55		
	60		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:56 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.56	ELEV. (DEPTH)
445.8	70	← Filter: Unimin FilterSil - 5 Bags #1A, 50 lbs/each	445.8 (69.0)
75	180	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	440.9 (73.9)
430.5	Sump: 0.40 ft.		430.9

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:56 - \\VALTRCFP01\APARKER\Desktop\GPC\SCHEHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 1/28/2015 COMPLETED 1/29/2015 GROUND ELEVATION 514.4 ft COORDINATES N 1116085.04 E 2402533.8

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 50 ft.

GROUND WATER DEPTH: DURING 48.5 ft. COMP. 28.31 ft. DELAYED 30.11 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		<p>Sandy Silt (ML)</p> <p>- mottled red / moderate reddish brown (10R 4/6) and light yellowish brown (2.5Y 6/4) fill moist, stiff, clayey, trace mica</p>			SPT N=15bpf(@3.5ft.)
10		<p>- mottled red / moderate reddish brown (10R 4/6) saprolite moist, very stiff, with black spots, trace mica</p>			SPT N=18bpf(@8.5ft.)
15		<p>- mottled white (10YR 8/1) and light yellowish brown (2.5Y 6/4) saprolite moist, stiff, trace mica, weathered rock, residual quartz</p>			SPT N=9bpf(@13.5ft.)
20		<p>- mottled dusky red / dark reddish brown (10R 3/4) and yellow (10YR 7/8) saprolite moist, medium stiff, with black streaks, trace weathered rock fragments</p>			SPT N=8bpf(@18.5ft.)
25		<p>- mottled brown (10YR 5/3), black (10YR 2/1) and white (10YR 8/1) saprolite moist, medium stiff, trace quartz and partially weathered rock fragments</p>			SPT N=5bpf(@23.5ft.)

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BORING LOG

BORING PZ-03S

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
		Sandy Silt (ML)(Con't)			
30		- mottled very pale brown / very pale orange (10YR 8/2) saprolite moist, stiff, white streaking, trace residual quartz and partially weathered rock fragments			SPT N=11bpf(@28.5ft.)
35		- mottled very pale brown / very pale orange (10YR 8/2) and yellow (10YR 7/8) saprolite moist, stiff, white streaking, with partially weathered rock fragments			SPT N=9bpf(@33.5ft.)
40		- mottled very pale brown / very pale orange (10YR 8/2) saprolite moist, very stiff, white and orange streaking with black spots, with partially weathered rock fragments			SPT N=19bpf(@38.5ft.)
45		- mottled light brownish gray / pale yellowish brown (10YR 6/2) and yellowish brown (10YR 5/8) saprolite moist, hard, white and orange streaking, with partially weathered rock fragments			SPT N=34bpf(@43.5ft.)
50		- mottled gray (10YR 5/1) saprolite wet, very hard, white streaking, with partially weathered rock fragments			SPT N=50bpf(@48.5ft.)
		Bottom of borehole at 50.0 feet.			
55					



RECORD OF WELL CONSTRUCTION

WELL: PZ-03S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 1/28/2015 COMPLETED 1/29/2015 GROUND ELEVATION 514.4 ft COORDINATES N 1116085.04 E 2402533.8

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 50 ft.

GROUND WATER DEPTH: DURING 48.5 ft. COMP. 28.31 ft. DELAYED 30.11 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p> <p style="text-align: center;">DEPTH (ft)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.29</p> <p style="text-align: center;">← Surface Seal: concrete</p> <p style="text-align: center;">← Annular Fill: Cement-Bentonite Grout - 7 bags Typel I/II Portland Cement, 94 lbs/each</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">512.4 (2.0)</p>

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-03S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.29	
464.4	50	Sump: 0.40 ft.	464.8
	45	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
	40	Filter: Unimin FilterSil - 5 Bags #1A, 50 lbs/each	474.8 (39.6)
	35	Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	477.6 (36.8)
	30		480.2 (34.2)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LA PARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ



BORING LOG

BORING PZ-05I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/3/2015 COMPLETED 2/4/2015 GROUND ELEVATION 520.6 ft COORDINATES N 1117484.15 E 2401816.71

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 47.2 ft.

GROUND WATER DEPTH: DURING 35.1 ft. COMP. 41.5 ft. DELAYED 36.8 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		<p>Silt (ML)</p> <p>- mottled red (10R 4/8) and light red / moderate reddish orange (10R 6/6) fill moist, stiff, trace mica, clay, and rock fragments</p>			SPT N=9bpf(@3.5ft.)
10		<p>- mottled white (10YR 8/1) and yellowish brown (10YR 5/8) saprolite moist, stiff, trace sand and rock fragments</p>			SPT N=11bpf(@8.5ft.)
15		<p>- mottled white (10YR 8/1) and yellowish brown (10YR 5/6) saprolite moist, stiff, trace sand and rock fragments</p>			SPT N=10bpf(@13.5ft.)
20		<p>- mottled gray (10YR 6/1) and white (10R 8/1) saprolite moist, stiff, with black streaking, micaceous, trace sand and rock fragments</p>			SPT N=9bpf(@18.5ft.)
25		<p>- mottled white (10YR 8/1) and very dark grayish brown (10YR 3/2) saprolite moist, very stiff, with black streaking, trace mica, sand, and rock fragments</p>			SPT N=25bpf(@23.5ft.)

(Continued Next Page)



BORING LOG

BORING PZ-05I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
30		<p>Silt (ML)(Con't)</p> <p>- mottled very pale brown / very pale orange (10YR 8/2) and dark gray (10YR 4/1) saprolite moist, stiff, with black streaking, micaceous, trace rock fragments</p>			SPT N=12bpf(@28.5ft.)
35		<p>- mottled white (10YR 8/1) saprolite moist, very hard, with black streaking, micaceous, trace sand, weathered rock fragments, and residual quartz</p>			SPT N=86bpf(@33.5ft.)
		<p>PARTIALLY WEATHERED ROCK</p> <p>- light gray (N7) fine to coarse grain, soft, highly weathered</p>			
40		<p>GNEISS</p> <p>- variegated with medium gray (N5) medium to coarse grain, hard to very hard, not weathered, inclined, blastoporphyratic, banded, 1 low angle fracture (10 - 20d), with amphibole, quartz, biotite</p>			
45		<p>- variegated with medium gray (N5) medium to coarse grain, hard to very hard, not weathered, inclined, blastoporphyratic, banded, 1 low-angle fracture (10 - 30d), 6 moderate-angle fractures (30 - 45d), with amphibole, quartz, biotite</p>			Lost circulation
		<p>- variegated with medium gray (N5) medium to coarse grain, medium hard to hard, slightly to moderately weathered, inclined, pitted, slightly fractured, 1 low-angle fracture (10 - 30d), with amphibole, quartz, biotite, iron oxide staining</p>			
Bottom of borehole at 47.2 feet.					
50					
55					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-051
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

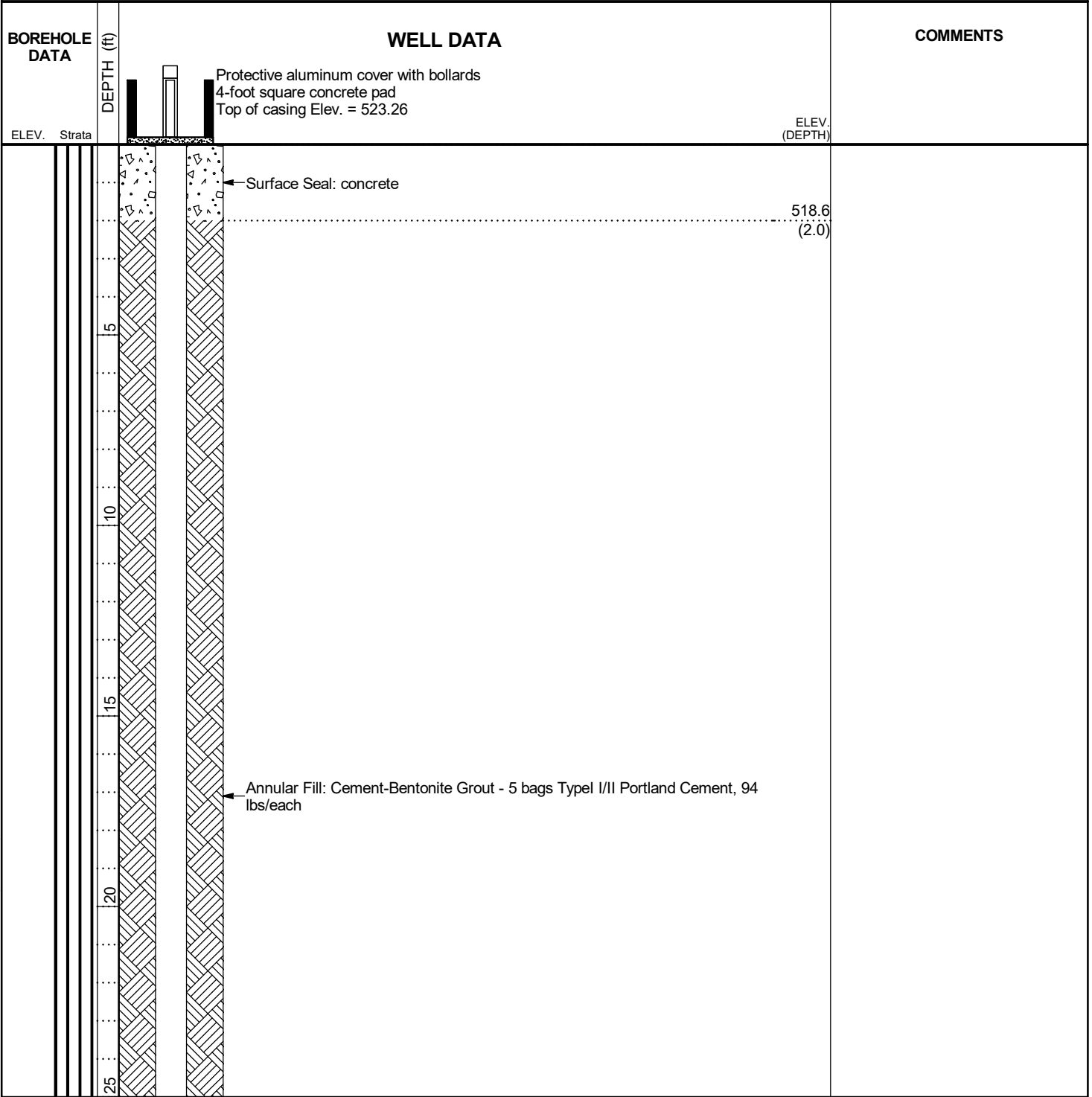
DATE STARTED 2/3/2015 COMPLETED 2/4/2015 GROUND ELEVATION 520.6 ft COORDINATES N 1117484.15 E 2401816.71

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 47.2 ft.

GROUND WATER DEPTH: DURING 35.1 ft. COMP. 41.5 ft. DELAYED 36.8 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LAPARKER\DESKTOP\GPCISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-05I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 523.26	
485.6	30		ELEV. (DEPTH)
484.6	35	← Annular Seal: bentonite pellets - 0.75 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	488.4 (32.2)
484.6	35	← Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each	486.0 (34.6)
484.6	35	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	484.0 (36.6)
473.4	45	← Sump: 0.40 ft.	474.0 (46.6)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/4/2015 COMPLETED 2/4/2015 GROUND ELEVATION 529 ft COORDINATES N 1117912.01 E 2401936.55

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 54.8 ft.

GROUND WATER DEPTH: DURING 43.15 ft. COMP. 43.15 ft. DELAYED 42.11 ft. after 24 hrs.

NOTES

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFCVCSCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - strong brown (7.5YR 5/8) residuum moist, stiff			SPT N=11bpf(@3.5ft.)
10		- yellow (10YR 7/8) residuum moist, stiff			SPT N=14bpf(@8.5ft.)
15		- yellow (10YR 7/8) saprolite moist, very stiff, trace weathered rock fragments			SPT N=16bpf(@13.5ft.)
20		- dark yellowish brown (10YR 4/4) saprolite moist, stiff, trace weathered rock fragments			SPT N=15bpf(@18.5ft.)
25		Silty Sand (SM) - mottled dark grayish brown / dark yellowish brown (10YR 4/2) saprolite moist, medium dense, very fine to fine grained, trace residual quartz, biotite, weathered schist			SPT N=24bpf(@23.5ft.)(LL=41; PI=10; FC = 31.6%; Gravel = 0%) (MC = 28%; UW(d) = 94.1pcf; PERM. = 1.29E-4cm/sec)
30		- mottled dark grayish brown / dark yellowish brown (10YR 4/2) saprolite moist, very dense, very fine to fine grained, trace residual quartz, biotite, weathered schist			SPT N=55bpf(@28.5ft.)

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
 LOCATION Plant Scherer

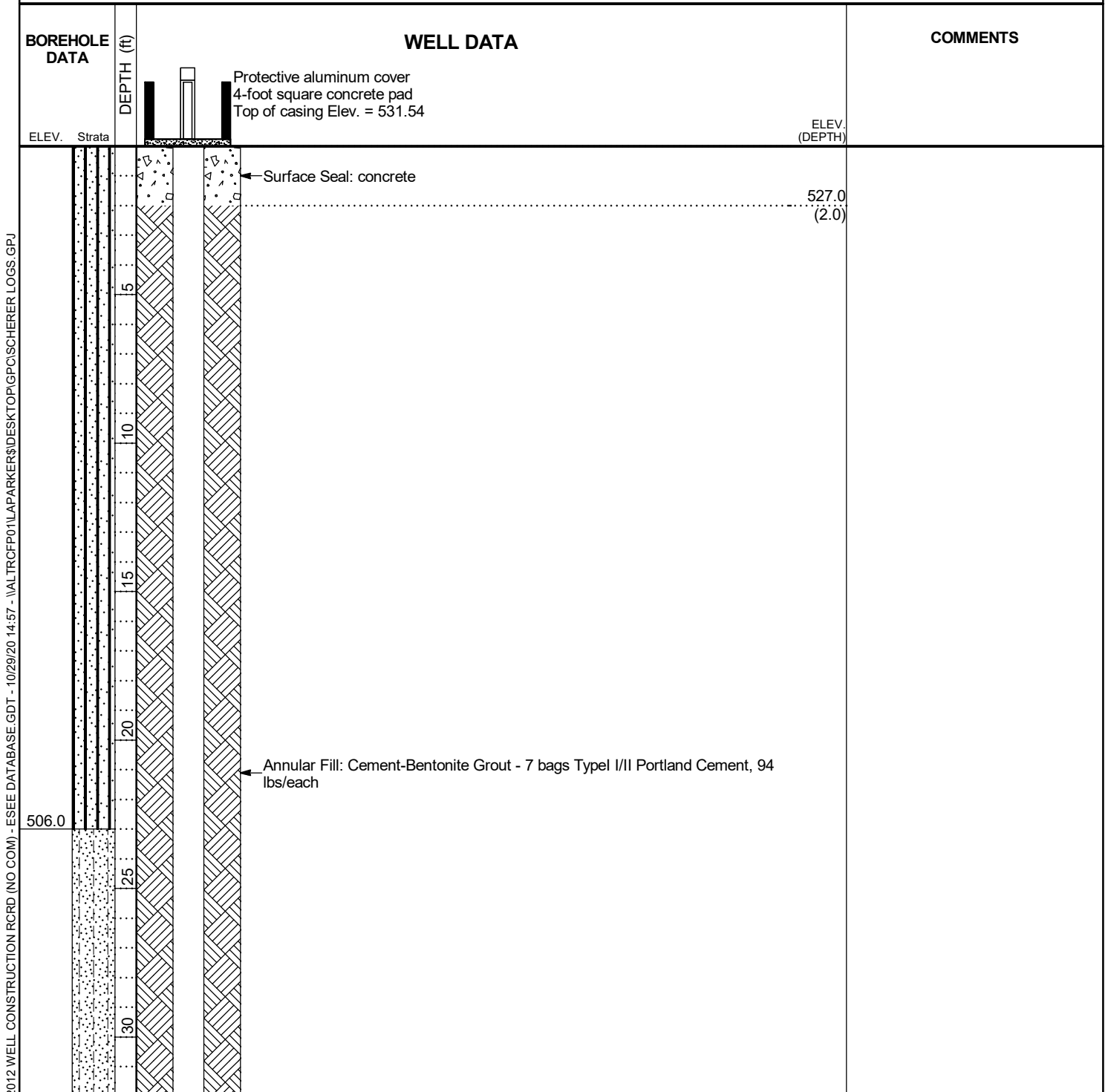
DATE STARTED 2/4/2015 COMPLETED 2/4/2015 GROUND ELEVATION 529 ft COORDINATES N 1117912.01 E 2401936.55

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 54.8 ft.

GROUND WATER DEPTH: DURING 43.15 ft. COMP. 43.15 ft. DELAYED 42.11 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCF001\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ



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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	(CONTINUED)	ELEV. (DEPTH)
		35		
		40		
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	488.8 (40.2)
			Filter: Unimin FilterSil - 8 Bags #1A, 50 lbs/each	486.6 (42.4)
		45		484.6 (44.4)
481.0			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
		50		
474.2			Sump: 0.40 ft.	474.6

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCF001\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

BORING PZ-09I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/18/2015 COMPLETED 2/19/2015 GROUND ELEVATION 523.3 ft COORDINATES N 1120562.72 E 2400862.76

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 80.2 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 24.6 ft. DELAYED 24.41 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		<p>Sandy Silt (ML)</p> <p>- red (10R 4/8) residuum moist, stiff, micaceous, trace clay</p>			SPT N=10bpf(@3.5ft.)
10		<p>- yellowish red (5YR 5/8) residuum dry, medium stiff, micaceous, zone of white/light gray rock fragments</p>			SPT N=7bpf(@8.5ft.)
15		<p>- mottled red (2.5YR 5/8) and reddish yellow (5YR 6/8) saprolite moist, medium stiff</p>			SPT N=7bpf(@13.5ft.)
20		<p>- mottled reddish yellow (7.5YR 6/8) and red (2.5YR 5/8) saprolite moist, stiff, micaceous, with muscovite</p>			SPT N=9bpf(@18.5ft.)
25		<p>- mottled reddish yellow (7.5YR 7/8) and red (2.5YR 5/8) saprolite moist, very stiff, micaceous, trace muscovite and biotite</p>			SPT N=18bpf(@23.5ft.)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION	COMMENTS
30		<p>Sandy Silt (ML)(Con't)</p> <p>▽ - mottled yellowish red (5YR 5/8) and red (2.5YR 5/8) saprolite wet, stiff, micaceous, trace residual quartz, feldspar, muscovite</p>						SPT N=14bpf(@28.5ft.)
35		<p>Silty Sand (SM)</p> <p>- mottled yellowish red (5YR 4/6) and brownish yellow (10YR 6/8) saprolite wet, medium dense, very fine to fine grained, micaceous, trace residual quartz, feldspar, weathered rock fragments</p>						SPT N=16bpf(@33.5ft.)(LL=53; PI=6; FC = 32.8%; Gravel = 1.6%)
40		<p>- mottled brown (7.5YR 4/4) and greenish gray (10BG 5/1) saprolite wet, medium dense, very fine to fine grained, micaceous, trace residual quartz, feldspar, muscovite, chlorite, zone of coarse white rock fragments</p>						SPT N=18bpf(@38.5ft.)
45		<p>- mottled greenish gray (10BG 5/1) and strong brown (7.5YR 5/8) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, chlorite, biotite, muscovite</p>						SPT N=19bpf(@43.5ft.)
50		<p>- mottled white (10R 8/1) and greenish gray (10BG 5/1) saprolite wet, very dense, very fine to fine grained, with red staining, trace residual quartz, feldspar, chlorite, muscovite, biotite, hornblende</p>						SPT N=74bpf(@48.5ft.)
55		<p>- mottled white (10R 8/1) and greenish gray (10BG 5/1) saprolite wet, very dense, very fine to fine grained, with red staining, trace residual quartz, feldspar, chlorite, muscovite, biotite, hornblende</p>						SPT N=60bpf(@53.5ft.)

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SC\HERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
60		<p>Silty Sand (SM)(Con't)</p> <p>- very dark greenish gray (10BG 3/1) saprolite wet, very dense, very fine to fine grained. trace partially weathered rock fragments, residual quartz, feldspar, biotite, muscovite, hornblende, chlorite</p>			SPT N=50bpf(@58.5ft.)
		<p>Partially Weathered Rock (PWR)</p>			
65		<p>AMPHIBOLITE</p> <p>- black (N1) fine to coarse grain, very soft to soft, highly weathered, horizontal, completely fractured at all angles, low-angle fractures (weathering cracks), no visible healing, with quartz, feldspar, muscovite, biotite, hornblende, pyrite, interbedded Biotite Gneiss</p> <p>- black (N1) fine to coarse grain, soft to medium hard, moderately to highly weathered, inclined, banded, 14 low-angle fractures (10 - 20d), 5 moderate-angle fractures (30 - 45d), not to total healing with some fractures filled with gray mud and/or red oxidation, trace completely healed high-angle fractures, rusty red oxidation, trace yellowish-red oxidation, with pyrite, feldspar, biotite</p>			
70		<p>- black (N1) and white (N9) fine to coarse grain, medium hard, moderately weathered, inclined, banded, moderate-angle fractures along foliation, open verticle fracture at 71.6'-72.6' bgs, healed with quartz and feldspar, 4 low-angle fractures (10 - 20d), 8 moderate-angle fractures (30 - 45d), 1 high-angle fracture (65 - 90d), interbedded with Biotite Gneiss, trace mud filled fractures, oxidation, with quartz, feldspar, pyrite, biotite</p>			
75		<p>- black (N1) and white (N9) fine to coarse grain, medium hard, moderately weathered, inclined, banded, moderate-angle fractures along foliation, healed with quartz and feldspar, 4 low-angle fractures (10 - 30d), 3 moderate-angle fractures (30 - 45d), 2 high-angle fractures (65 - 90d), interbedded with Biotite Gneiss, trace mud filled fractures, oxidation, with quartz, feldspar, pyrite, biotite</p>			
80		Bottom of borehole at 80.2 feet.			
85					



RECORD OF WELL CONSTRUCTION

WELL: PZ-09I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/18/2015 COMPLETED 2/19/2015 GROUND ELEVATION 523.3 ft COORDINATES N 1120562.72 E 2400862.76

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY B. Smelser CHECKED BY L. Millet BORING DEPTH 80.2 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 24.6 ft. DELAYED 24.41 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p> <p style="text-align: right;">ELEV. (DEPTH) <u>521.3</u> <u>(2.0)</u></p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.57</p> <p style="text-align: center;">← Surface Seal: concrete</p>	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA

DEPTH (ft)

WELL DATA

COMMENTS

ELEV. Strata

(CONTINUED)

ELEV.
(DEPTH)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 526.57

Annular Fill: Cement-Bentonite Grout - 8 bags Type I/II Portland Cement, 94 lbs/each

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

490.3

30

35

40

45

50

55

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.57	ELEV. (DEPTH)
462.8	60		
459.4	65		
	65	← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	457.5 (65.8)
	65	← Filter: Unimin FilterSil - 6.0 Bags #1A, 50 lbs/each	455.5 (67.8)
	70		453.5 (69.8)
	75	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
443.1	80	← Sump: 0.40 ft.	443.5

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\IAPARKER\DESKTOP\GPCISCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 5/5/2015 COMPLETED 5/5/2015 GROUND ELEVATION 514.4 ft COORDINATES N 1122338.03 E 2401768.92

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 34.9 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 19.3 ft. DELAYED 17.1 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled light reddish brown / light brown (5YR 6/4) residuum moist, stiff, with white speckling, trace medium sand and weathered rock fragments			SPT N=15bpf(@8.5ft.)
15		- mottled light reddish brown / light brown (5YR 6/4) saprolite very moist, stiff, micaceous, trace weathered rock fragments			SPT N=10bpf(@13.5ft.)
20		- pinkish gray / grayish orange pink (5YR 7/2) saprolite wet, stiff, micaceous, trace weathered rock fragments			SPT N=13bpf(@18.5ft.)

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
		Sandy Silt (ML)(Con't)			
		∇ - mottled pinkish gray / grayish orange pink (5YR 7/2) and gray (10YR 5/1) saprolite wet, stiff, micaceous, trace weathered rock fragments			SPT N=10bpf(@23.5ft.)
25					
		- mottled white / pinkish gray (5YR 8/1) and white (10R 8/1) saprolite wet, hard, micaceous, trace weathered rock fragments			SPT N=33bpf(@28.5ft.)
30					
		- mottled white / pinkish gray (5YR 8/1) and pinkish gray / grayish orange pink (5YR 7/2) saprolite wet, very hard, trace mica			SPT N=63bpf(@33.5ft.)
35					
		Bottom of borehole at 34.9 feet.			
40					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 5/5/2015 COMPLETED 5/5/2015 GROUND ELEVATION 514.4 ft COORDINATES N 1122338.03 E 2401768.92

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 34.9 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 19.3 ft. DELAYED 17.1 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: center;">DEPTH (ft)</p> <p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.53</p> <p>Surface Seal: concrete</p> <p>Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94 lbs/each</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">512.4 (2.0)</p> <p style="text-align: right;">494.6</p>

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.53	
		← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	ELEV. (DEPTH) (19.8)
		← Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	492.3 (22.1)
	25	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	489.9 (24.5)
	30	← Sump: 0.40 ft.	479.9 (34.5)
479.5			

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 4/1/2015 COMPLETED 4/6/2015 GROUND ELEVATION 526 ft COORDINATES N 1123169.22 E 2402767.44

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 45.9 ft.

GROUND WATER DEPTH: DURING 37.3 ft. COMP. 34.3 ft. DELAYED 33.2 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled red (10R 5/6) and light yellowish brown (10YR 6/4) saprolite moist, stiff, trace black spots			SPT N=9bpf(@8.5ft.)
15		- mottled red (10R 5/6) saprolite moist, stiff, micaceous, trace orange streaks with black spots			SPT N=9bpf(@13.5ft.)
20		- pinkish white / grayish orange pink (10R 8/2) and very pale brown / very pale orange (10YR 8/2) saprolite moist, stiff, trace mica			SPT N=13bpf(@18.5ft.)
25		- mottled red (10R 5/6) and brown (10YR 5/3) saprolite moist, stiff, micaceous, trace weathered rock fragments			SPT N=13bpf(@23.5ft.)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
		Sandy Silt (ML)(Con't)			
30		- mottled reddish brown (5YR 5/4) and dark yellowish brown (10YR 4/6) saprolite moist, very stiff, micaceous, trace weathered rock fragments			SPT N=26bpf(@28.5ft.)
35		▽ - mottled dark gray / brownish gray (5YR 4/1) and brown (7.5YR 4/2) saprolite moist, very hard, micaceous			SPT N=58bpf(@33.5ft.)
40		▽ - mottled dark gray / brownish gray (5YR 4/1) and brown (7.5YR 4/2) saprolite moist, very hard, micaceous			SPT N=56bpf(@38.5ft.)
45		- mottled dark gray / brownish gray (5YR 4/1) and brown (7.5YR 4/2) saprolite wet, very hard, micaceous			SPT N=50bpf(@43.5ft.)
Bottom of borehole at 45.9 feet.					
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: PZ-11S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 4/1/2015 COMPLETED 4/6/2015 GROUND ELEVATION 526 ft COORDINATES N 1123169.22 E 2402767.44

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 45.9 ft.

GROUND WATER DEPTH: DURING 37.3 ft. COMP. 34.3 ft. DELAYED 33.2 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p> <p style="text-align: center;">DEPTH (ft)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 529.31</p> <p style="text-align: center;">← Surface Seal: concrete</p> <p style="text-align: center;">← Annular Fill: Cement-Bentonite Grout - 8 bags Type I/II Portland Cement, 94 lbs/each</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">524.0 (2.0)</p>

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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WELL: PZ-11S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 529.31	
	30		ELEV. (DEPTH)
		← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	495.1 (30.9)
	35	← Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	493.0 (33.0)
			490.0 (36.0)
	40	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
	45		480.5
480.1		← Sump: 0.40 ft.	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPCISCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/31/2015 COMPLETED 4/1/2015 GROUND ELEVATION 514.5 ft COORDINATES N 1122684.9 E 2403618.46

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 44.4 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 26.2 ft. DELAYED 25.1 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\IAPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		Silt (ML) - Hand auger 5' for utilities clearance				
10		- mottled red (10R 4/8) and brown (7.5YR 5/2) saprolite moist, stiff, micaceous				SPT N=12bpf(@8.5ft.)
15		- mottled red (10R 4/8) and brown (7.5YR 5/2) saprolite moist, stiff, micaceous, with black streaking, trace weathered rock fragments				SPT N=9bpf(@13.5ft.)
20		- mottled light gray (10R 7/1) and pale brown (10YR 6/3) saprolite moist, stiff, micaceous				SPT N=15bpf(@18.5ft.)
25		- mottled light gray (10R 7/1) and pale brown (10YR 6/3) saprolite moist, medium stiff, micaceous, trace weathered rock fragments				SPT N=8bpf(@23.5ft.)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS	
				Weak	Moderate		Strong
		<p>▼</p> <p>Silt (ML)(Con't)</p> <p>▼</p>					
30		<p>Silty Sand (SM) - mottled white (10R 8/1) and white (10R 8/1) saprolite moist, medium dense, very fine to coarse grained, trace muscovite and residual quartz</p>				SPT N=18bpf(@28.5ft.)	
35		<p>▽</p> <p>- mottled red (10R 4/8) and red / moderate reddish brown (10R 4/6) saprolite wet, medium dense, very fine to coarse grained, trace iron oxides, feldspar, residual quartz, muscovite</p>				SPT N=22bpf(@33.5ft.)	
40		<p>- mottled red (10R 4/8) and red / moderate reddish brown (10R 4/6) saprolite wet, very dense, very fine to medium grained, trace iron oxides, feldspar, muscovite</p>				SPT N=81bpf(@38.5ft.)	
45		<p>- mottled white (10R 8/1) and red / moderate reddish brown (10R 4/6) saprolite wet, very dense, very fine to medium, trace iron oxides, feldspar, residual quartz, muscovite</p>				SPT N=50bpf(@43.5ft.)	
		Bottom of borehole at 44.4 feet.					
50							
55							

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 3/31/2015 COMPLETED 4/1/2015 GROUND ELEVATION 514.5 ft COORDINATES N 1122684.9 E 2403618.46

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 44.4 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 26.2 ft. DELAYED 25.1 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.69</p> <p>← Surface Seal: concrete</p> <p style="text-align: right;">ELEV. (DEPTH) 512.5 (2.0)</p> <p>← Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94 lbs/each</p>	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.69	ELEV. (DEPTH)
486.5	30	← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs each	485.0 (29.5)
	35	← Filter: Unimin FilterSil - 5.5 Bags #1A, 50 lbs/each	482.6 (31.9)
	40	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	480.5 (34.0)
470.1		Sump: 0.40 ft.	470.5

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/31/2015 COMPLETED 4/1/2015 GROUND ELEVATION 517.5 ft COORDINATES N 1121957.03 E 2404227.47

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 45.3 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 28.6 ft. DELAYED 26.5 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\IAPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled red (10R 4/8) and light red / moderate reddish orange (10R 6/6) fill moist, stiff, trace clay			SPT N=9bpf(@8.5ft.)
15		- mottled red (10R 5/6) and yellow (10YR 7/6) saprolite moist, stiff, with black streaking, trace muscovite			SPT N=10bpf(@13.5ft.)
20		- mottled red (10R 5/6) and yellow (10YR 7/6) saprolite moist, medium stiff, with black streaking, trace residual quartz and muscovite			SPT N=6bpf(@18.5ft.)
25		- mottled reddish yellow (5YR 7/8) and light red / moderate reddish orange (10R 6/6) saprolite moist, stiff, trace black streaking and residual quartz			SPT N=10bpf(@23.5ft.)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
		Sandy Silt (ML)(Con't)			
		▼			
30		- mottled reddish yellow (5YR 7/8) and light red / moderate reddish orange (10R 6/6) saprolite moist, stiff, trace black streaking, residual quartz, weathered rock fragments			SPT N=11bpf(@28.5ft.)
35		▼			
		- mottled reddish yellow (7.5YR 7/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium stiff, with black streaking, trace weathered rock fragments			SPT N=7bpf(@33.5ft.)
40					
		- mottled reddish yellow (7.5YR 7/8) and yellow (10YR 7/6) saprolite wet, stiff, with trace black spots and residual quartz			SPT N=11bpf(@38.5ft.)
45					
		- mottled reddish yellow (7.5YR 7/8) and yellow (10YR 7/6) saprolite wet, stiff, trace sand and weathered rock fragments			SPT N=11bpf(@43.5ft.)
Bottom of borehole at 45.3 feet.					
50					
55					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



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WELL: PZ-13S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/31/2015 COMPLETED 4/1/2015 GROUND ELEVATION 517.5 ft COORDINATES N 1121957.03 E 2404227.47

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 45.3 ft.

GROUND WATER DEPTH: DURING 33.5 ft. COMP. 28.6 ft. DELAYED 26.5 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">515.5 (2.0)</p>	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-13S
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ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 520.51	
	30	← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	487.9 (29.6)
	35	← Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	485.5 (32.0)
	40	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	482.6 (34.9)
472.2	45	← Sump: 0.40 ft.	472.6

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/24/2015 COMPLETED 3/25/2015 GROUND ELEVATION 509.7 ft COORDINATES N 1121866.36 E 2404822.43

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 95.2 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 18.5 ft. DELAYED 28.3 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled yellowish red (5YR 5/8) and light red / moderate reddish orange (10R 6/6) saprolite dry, very stiff			SPT N=20bpf(@8.5ft.)
15		- mottled yellowish red (5YR 5/8) and red (10R 4/8) saprolite moist, medium stiff, trace mica			SPT N=7bpf(@13.5ft.)
20		▼ - mottled reddish brown (5YR 5/4) saprolite moist, medium stiff, trace black spots, muscovite, biotite			SPT N=5bpf(@18.5ft.)
25		Silty Sand (SM) - mottled reddish brown (5YR 5/4) and red (10R 4/8) saprolite moist, medium dense, very fine to fine grained, trace black streaking, muscovite, biotite, weathered rock fragments			SPT N=20bpf(@23.5ft.)(LL=48; PI=9; FC = 48.8%; Gravel = 2.5%) (MC = 35.6%; UW(d) = 83.2pcf; PERM. = 8.29E-8cm/sec)
30		▼ - mottled yellowish red (5YR 5/8) and yellow (10YR 7/6) saprolite wet, medium dense, very fine to fine grained, with black streaking, trace muscovite, biotite, weathered rock fragments			SPT N=26bpf(@28.5ft.)
35		- mottled yellowish red (5YR 5/8) and yellow (10YR 7/6) saprolite wet, dense, very fine to fine grained, near-vertical 3.0mm thick moderately weathered quartz vein throughout sample, trace muscovite and biotite			SPT N=31bpf(@33.5ft.)

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCF001\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	Weak	Moderate	Strong	HCL REACTION	COMMENTS
40		Silty Sand (SM)(Con't) - mottled yellow (10YR 7/8) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, dense, very fine to fine grained, with black spots, trace residual quartz						SPT N=39bpf(@38.5ft.)
45		- mottled yellow (10YR 7/8) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, dense, very fine to fine grained, with black spots, trace residual quartz and weathered rock fragments						SPT N=33bpf(@43.5ft.)
50		- mottled light brownish gray / pale yellowish brown (10YR 6/2), grayish blue green (5BG 5/2) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, very dense, very fine to fine grained, trace chlorite, residual quartz, biotite, muscovite, feldspar						SPT N=77bpf(@48.5ft.)
55		- mottled light brownish gray / pale yellowish brown (10YR 6/2), grayish blue green (5BG 5/2) and greenish gray (10BG 5/1) saprolite wet, very dense, very fine to fine grained, trace chlorite, feldspar, biotite						SPT N=52bpf(@53.5ft.)
60		- mottled dark greenish gray (5GY 4/1) saprolite wet, dense, very fine to fine grained, white streaking, with weathered rock fragments						SPT N=45bpf(@58.5ft.)
65		- mottled dark greenish gray (5GY 4/1) saprolite wet, dense, very fine to fine grained, white streaking with black spots, abundant weathered rock fragments						SPT N=48bpf(@63.5ft.)
70		Partially Weathered Rock (PWR) - very fine to medium grained, white streaking with black spots						
75		BIOTITE GNEISS - mottled with dark gray (N3) medium to coarse grain, very soft to soft, moderately to highly weathered, massive, banded, fracture angles unable to be determined due to poor condition of sample recovered, interbedded with Amphibolite Gneiss, with biotite, quartz, muscovite, hornblende						
80		- becomes more frequently interbedded with Amphibolite Gneiss						

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RECORD OF WELL CONSTRUCTION

WELL: PZ-14I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/24/2015 COMPLETED 3/25/2015 GROUND ELEVATION 509.7 ft COORDINATES N 1121866.36 E 2404822.43

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 95.2 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 18.5 ft. DELAYED 28.3 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 512.89</p> <p style="text-align: center;">← Surface Seal: concrete</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">507.7 (2.0)</p>
<p>486.7</p>		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA

WELL DATA

COMMENTS

ELEV. Strata

DEPTH (ft)

(CONTINUED)

ELEV. (DEPTH)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 512.89

Annular Fill: Cement-Bentonite Grout - 8 bags Type I/II Portland Cement, 94 lbs/each

Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs each

444.7

435.5

433.5
(76.2)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\1APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 512.89	
414.5	95		ELEV. (DEPTH)
	85	← Filter: Unimin FilterSil - 1.5 Bags #1A, 50 lbs/each	426.9 (82.8)
	90	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	424.9 (84.8)
	95	Sump: 0.40 ft.	414.9

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/25/2015 COMPLETED 3/26/2015 GROUND ELEVATION 508.7 ft COORDINATES N 1121852.8 E 2404820.56


CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 44.9 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 28.8 ft. DELAYED 18.8 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled reddish yellow (5YR 6/8) and yellow (10YR 7/6) saprolite moist, very stiff, trace weathered rock fragments			SPT N=21bpf(@8.5ft.)
15		- mottled reddish yellow (5YR 7/8) and yellow (10YR 7/8) saprolite moist, medium stiff, slight pink hue, trace weathered rock fragments			SPT N=8bpf(@13.5ft.)
20		 - mottled reddish yellow (5YR 7/8) and yellow (10YR 7/8) saprolite moist, medium stiff, micaceous, trace biotite and residual quartz			SPT N=7bpf(@18.5ft.)
25		Silty Sand (SM) - mottled pink / moderate orange pink (5YR 8/4) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite moist, loose, very fine to fine grained, black and white streaking, micaceous			SPT N=7bpf(@23.5ft.)

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RECORD OF WELL CONSTRUCTION

WELL: PZ-14S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

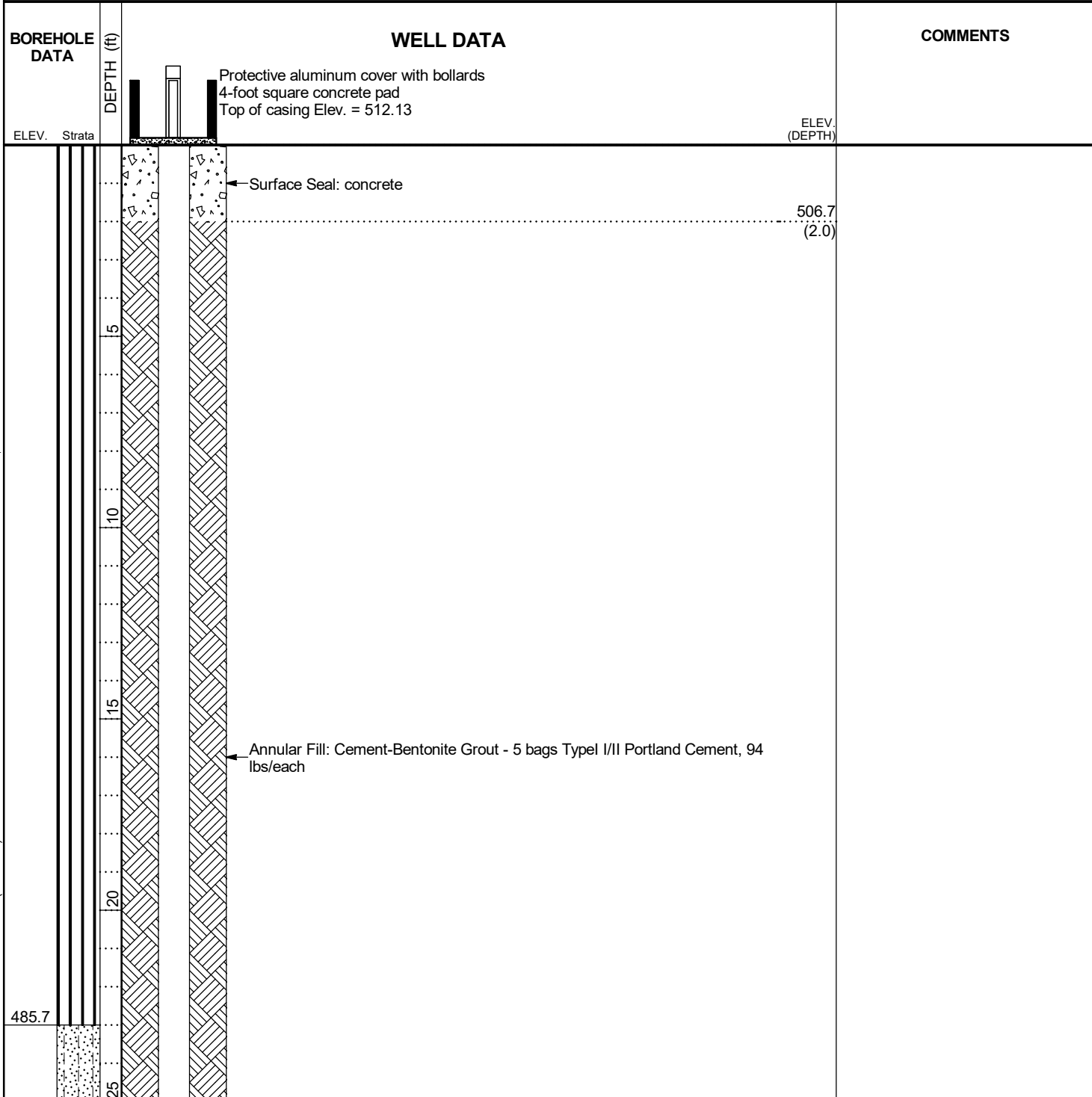
DATE STARTED 3/25/2015 COMPLETED 3/26/2015 GROUND ELEVATION 508.7 ft COORDINATES N 1121852.8 E 2404820.56

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 44.9 ft.

GROUND WATER DEPTH: DURING 28.5 ft. COMP. 28.8 ft. DELAYED 18.8 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

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WELL: PZ-14S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 512.13	
	30		ELEV. (DEPTH)
		← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs each	478.7 (30.0)
		← Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	476.4 (32.3)
	35		474.2 (34.5)
	40	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
463.8		← Sump: 0.40 ft.	464.2

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 4/28/2015 COMPLETED 4/28/2015 GROUND ELEVATION 497.4 ft COORDINATES N 1121486.96 E 2405558.59

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 40.1 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 19.6 ft. DELAYED 19.6 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance			
10		- mottled red (10R 5/8) fill moist, stiff, trace clay			SPT N=12bpf(@8.5ft.)
15		- mottled dark reddish gray (10R 4/1) saprolite moist, soft, trace weathered rock fragments, mica			SPT N=4bpf(@13.5ft.)
20		- mottled reddish yellow (7.5YR 7/6) saprolite wet, medium stiff, trace mica			SPT N=6bpf(@18.5ft.)
25		- mottled reddish yellow (7.5YR 7/8) saprolite wet, medium stiff, trace mica			SPT N=6bpf(@23.5ft.)

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RECORD OF WELL CONSTRUCTION

WELL: PZ-15S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 4/28/2015 COMPLETED 4/28/2015 GROUND ELEVATION 497.4 ft COORDINATES N 1121486.96 E 2405558.59

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 40.1 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 19.6 ft. DELAYED 19.6 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p> <p style="text-align: center;">DEPTH (ft)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 500.60</p> <p>← Surface Seal: concrete</p> <p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">495.4 (2.0)</p> <p>← Annular Fill: Cement-Bentonite Grout - 6 bags Type I/II Portland Cement, 94 lbs/each</p> <p style="text-align: right;">472.5</p>	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 500.60	
		← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	ELEV. (DEPTH) (24.9)
		← Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	470.1 (27.3)
	30	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	467.7 (29.7)
	35		
	40	← Sump: 0.40 ft.	457.7
457.3			

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFPO1\LA PARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 2/26/2015 COMPLETED 2/27/2015 GROUND ELEVATION 479.9 ft COORDINATES N 1120190.27 E 2407107.37

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 97.3 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 28.51 ft. DELAYED 24.75 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		Sandy Silt (ML) - mottled yellowish red (5YR 5/8) and yellow (10YR 7/8) residuum moist, very stiff, trace clay				SPT N=18bpf(@3.5ft.)
10		- mottled yellowish red (5YR 5/8) and yellow (10YR 8/8) residuum moist, stiff, trace clay				SPT N=9bpf(@8.5ft.)
15		- mottled red (2.5YR 4/8) and red (10R 4/8) saprolite moist, medium stiff, trace residual quartz				SPT N=7bpf(@13.5ft.)
20		- mottled red (2.5YR 4/8) and yellow (10YR 7/6) saprolite moist, medium stiff, with black streaking, trace weathered rock fragments				SPT N=8bpf(@18.5ft.)
25		▽ - mottled yellowish red (5YR 5/8) and red (10R 4/8) saprolite wet, soft, with black banding, trace residual quartz				SPT N=4bpf(@23.5ft.)
30		▽ - mottled strong brown (7.5YR 5/8) and very pale brown / very pale orange (10YR 8/2) saprolite wet, very soft, with black spots				SPT N=2bpf(@28.5ft.)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
		Sandy Silt (ML) (Con't)			
35		Elastic Silt (MH) - mottled strong brown (7.5YR 5/8) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, medium stiff, with black and white banding, trace residual quartz, muscovite, biotite			SPT N=5bpf(@33.5ft.)
40		Silt (ML) - mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/8) saprolite wet, stiff, with black spots, trace weathered rock fragments			SPT N=9bpf(@38.5ft.)
45		- mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/8) saprolite wet, stiff, trace weathered rock fragments, residual quartz, biotite, muscovite, amphibole			SPT N=12bpf(@43.5ft.)
50		- mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/8) saprolite wet, very stiff, trace weathered rock fragments, amphibole, residual quartz, muscovite			SPT N=27bpf(@48.5ft.)
55		- mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/8) saprolite wet, very stiff, trace weathered rock fragments, residual quartz, muscovite, amphibole			SPT N=20bpf(@53.5ft.)
60		- mottled gray (10YR 6/1) and white (10YR 8/1) saprolite wet, very stiff, trace residual quartz, feldspar, biotite, muscovite			SPT N=27bpf(@58.5ft.)
65		- mottled light gray (10YR 7/1) and white (10YR 8/1) saprolite wet, very hard, trace weathered rock fragments, residual quartz, feldspar, biotite			SPT N=84bpf(@63.5ft.) Switched to casing, advancing into upper weathered rock (Biotite Gneiss/Amphibolite)

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BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Silt (ML)(Con't)			
70		Silty Sand (SM) - mottled dark greenish gray (10GY 4/1) saprolite wet, very hard, fine to coarse grained, with residual quartz, biotite, feldspar, amphibole			SPT N=63bpf(@68.5ft.)
75		- mottled dark greenish gray (10GY 4/1) saprolite wet, very hard, fine to coarse grained, with residual quartz, biotite, feldspar, amphibole			SPT N=50bpf(@73.5ft.) Top of rock at 74.1 ft bgs, advanced casing to 81.1 ft bgs and began coring.
80		Partially Weathered Rock (PWR) - mottled dark greenish gray (10GY 4/1) saprolite wet, very hard, fine to coarse grained, with residual quartz, biotite, feldspar, amphibole			
85		AMPHIBOLITE - dark gray (N3) fine to medium grain, soft, slightly to moderately weathered, 12 moderate-angle fractures (30 - 45d), becomes interbedded with Biotite Gneiss			
90		BIOTITE GNEISS - mottled with dark gray (N3) medium grain, soft to medium hard, slightly weathered, inclined, banded, 10 moderate-angle fractures (30 - 45d), oxidized throughout, thin to medium foliation, mechanically fractured along schistosity (35 - 65d), 0.1 to 10 mm thick quartz/feldspar-filled healed fractures			
95		- 4 low-angle fractures (10 - 30d), 2 moderate-angle fractures (30 - 45d), becomes more competent with depth			
		Bottom of borehole at 97.3 feet.			
100					



RECORD OF WELL CONSTRUCTION

WELL: PZ-171
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 2/26/2015 COMPLETED 2/27/2015 GROUND ELEVATION 479.9 ft COORDINATES N 1120190.27 E 2407107.37

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 97.3 ft.

GROUND WATER DEPTH: DURING 23.5 ft. COMP. 28.51 ft. DELAYED 24.75 ft. after 24 hrs.

NOTES _____

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. <u>Strata</u></p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 483.03</p> <p style="text-align: center;">← Surface Seal: concrete</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">477.9 (2.0)</p>

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCF001\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 483.03	ELEV. (DEPTH)
446.9	35	← Annular Fill: Cement-Bentonite Grout - 10 bags Type I/II Portland Cement, 94 lbs/each	
441.9	40		
	45		
	50		
	55		
	60		
	65		

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-171
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ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata 411.9 404.9 398.5 391.2 382.6	(CONTINUED) 70 75 80 85 90 95	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 483.03 Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each Filter: Unimin FilterSil - 2.5 Bags #1A, 50 lbs/each Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack Sump: 0.60 ft.	ELEV. (DEPTH) 397.2 (82.7) 395.2 (84.7) 393.2 (86.7) 383.2 (96.7)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/3/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118588.47 E 2407251.56

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 71.9 ft.

GROUND WATER DEPTH: DURING 1.5 ft. COMP. 0 ft. DELAYED 0.5 ft. after 24 hrs.

NOTES

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		<p>Lean Clay (CL) - Hand auger 5' for utilities clearance</p> <p>- mottled red (2.5YR 5/8) and light red / moderate reddish orange (10R 6/6) residuum wet, soft, trace organics</p>			<p>SPT N=4bpf(@8.5ft.)</p> <p>(MC = 34.7%; UW(d) = 86pcf; PERM. = 1.14E-5cm/sec)</p>
15		<p>Silty Sand (SM) - mottled reddish yellow (7.5YR 7/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, loose, very fine to fine grained, with black streaking, trace residual quartz</p>			<p>SPT N=7bpf(@13.5ft.)(PL=NP; FC = 39.3%; Gravel = 0%)</p>
20		<p>- mottled gray (7.5YR 5/1) and white (10R 8/1) saprolite wet, medium dense, very fine to fine grained, trace biotite, muscovite, residual quartz, amphibole</p>			<p>SPT N=12bpf(@18.5ft.)(LL=34; PI=6; FC = 36.7%; Gravel = 0%)</p> <p>(MC = 35.4%; UW(d) = 85.5pcf; PERM. = 9.46E-7cm/sec)</p>
25		<p>- mottled gray (7.5YR 5/1) and white (10R 8/1) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, biotite, muscovite, feldspar</p>			<p>SPT N=16bpf(@23.5ft.)</p>
30		<p>- mottled strong brown (7.5YR 5/6) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, biotite, oxides</p>			<p>SPT N=15bpf(@28.5ft.)</p>

(Continued Next Page)

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\IAPARKER\DESKTOP\GFC\SC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
35		Silty Sand (SM)(Con't) - mottled gray (7.5YR 5/1) saprolite wet, very dense, very fine to fine grained, with white and black and orange streaking, trace oxides, residual quartz, amphibole, biotite			SPT N=59bpf(@33.5ft.)
40		- mottled dusky yellow green (5GY 5/2) saprolite wet, very dense, very fine to fine grained, with white and black and orange streaking, trace iron oxide staining, residual quartz, feldspar, biotite, muscovite, amphibole			SPT N=56bpf(@38.5ft.)
45		- mottled dark gray (N3) saprolite wet, dense, very fine to fine grained, with white streaking, trace iron oxide staining, residual quartz, feldspar, biotite			SPT N=40bpf(@43.5ft.)
50		- mottled dark gray (N3) saprolite wet, very dense, very fine to fine grained, with white speckling, trace biotite, residual quartz, iron oxide staining			SPT N=87bpf(@48.5ft.)
55		Partially Weathered Rock (PWR) - mottled dark gray (N3) saprolite wet, very dense, very fine to coarse grained, weathered Amphibolite			SPT N=50bpf(@53.5ft.)
60		BIOTITE GNEISS - mottled with dark gray (N3) medium to fine grain, soft to medium hard, slightly to moderately weathered, inclined, banded, 4 moderate-angle fractures (30 - 45d), medium to thin foliation, slight to moderate mechanical fracturing along schistosity (36 - 65d), oxidation, quartz, feldspar, biotite, amphibole - 10 moderate-angle fractures (30 - 45d), becomes thin to laminated banding, interbedded with dark gray to black Amphibolite Gneiss			Lack of recovery likely due to weakness of formation. Core water returns contain medium grained amphibolite and quartz which has been observed at other locations where Amphibolite Gneiss has been collected.
65		- No recovery 60.9' - 71.9' bgs			
70					
Bottom of borehole at 71.9 feet.					



RECORD OF WELL CONSTRUCTION

WELL: PZ-19I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

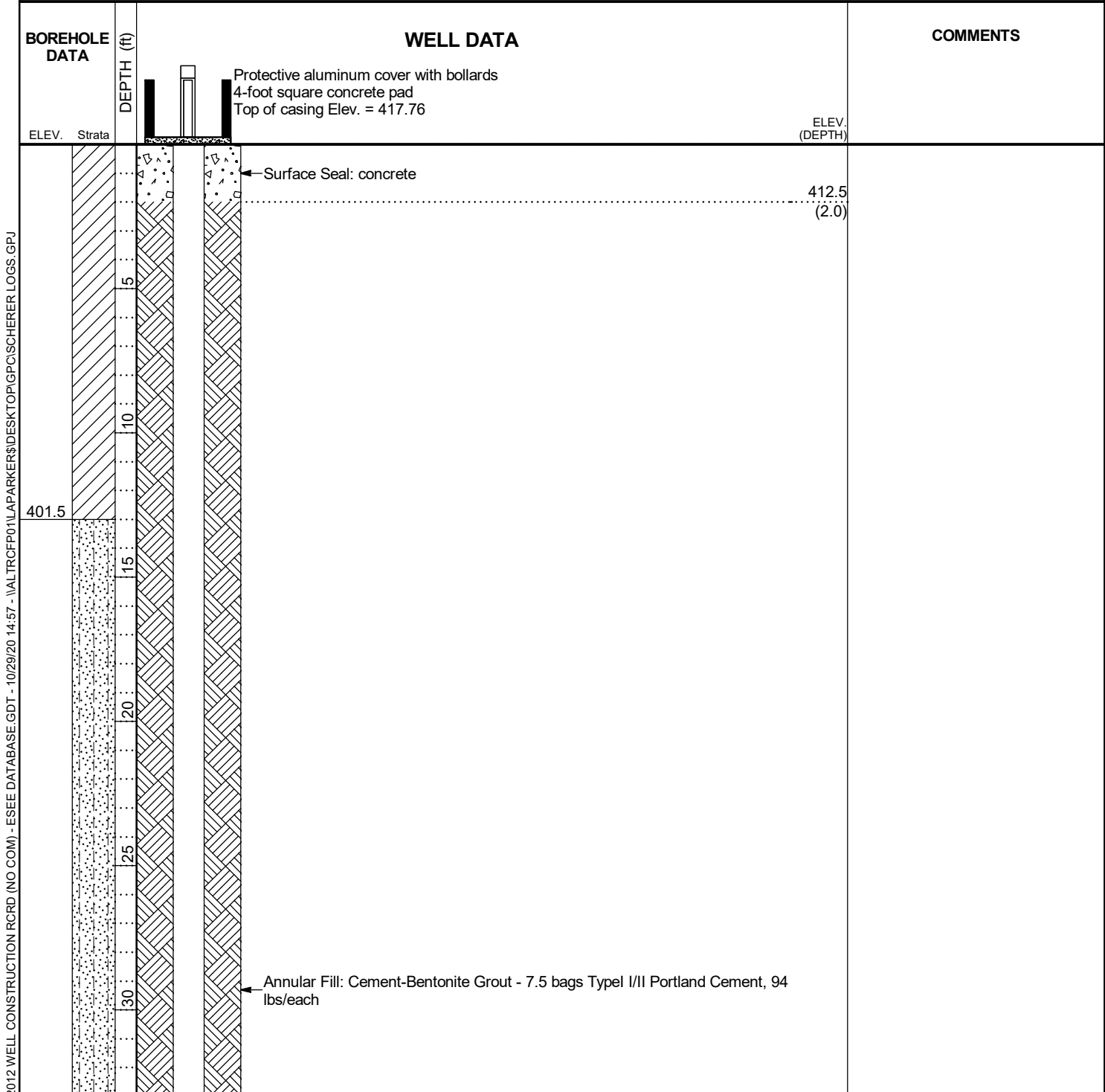
DATE STARTED 3/3/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118588.47 E 2407251.56

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 71.9 ft.

GROUND WATER DEPTH: DURING 1.5 ft. COMP. 0 ft. DELAYED 0.5 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LA\PARKER\DESKTOP\GPC\SCHEHER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-19I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	(CONTINUED)	ELEV. (DEPTH)
361.5		35		
359.0		40		
		45		
		50		
		55		
		60		357.9 (56.6)
			Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
			Filter: Unimin FilterSil - 1.25 Bags #1A, 50 lbs/each	355.7 (58.8)
				353.0 (61.5)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
342.6		70		
			Sump: 0.40 ft.	343.0

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\IAPARKER\DESKTOP\GPCISCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/4/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118587.24 E 2407241.54

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 25 ft.

GROUND WATER DEPTH: DURING 0.5 ft. COMP. 1.5 ft. DELAYED 0.5 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		▼ Silty Sand (ML) - Hand auger 5' for utilities clearance ▼			
10		- mottled reddish yellow (7.5YR 6/8), light red / moderate reddish orange (10R 6/6) and light red / moderate reddish orange (10R 6/6) saprolite wet, very loose, very fine to fine grained, trace biotite, residual quartz, feldspar			SPT N=3bpf(@8.5ft.)
15		- mottled strong brown (7.5YR 5/6), light red / moderate reddish orange (10R 6/6) and light red / moderate reddish orange (10R 6/6) saprolite wet, loose, very fine to fine grained, trace residual quartz, biotite			SPT N=9bpf(@13.5ft.)
20		- mottled reddish yellow (7.5YR 6/8), light red / moderate reddish orange (10R 6/6) and light red / moderate reddish orange (10R 6/6) saprolite wet, loose, very fine to fine grained, with black streaking, trace weathered rock fragments			SPT N=5bpf(@18.5ft.)
25		- mottled reddish yellow (7.5YR 6/8), very dark greenish gray (10BG 3/1) and light red / moderate reddish orange (10R 6/6) saprolite wet, medium dense, very fine to fine grained, trace residual quartz and weathered rock fragments			SPT N=12bpf(@23.5ft.)
Bottom of borehole at 25.0 feet.					



RECORD OF WELL CONSTRUCTION

WELL: PZ-19S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/4/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118587.24 E 2407241.54

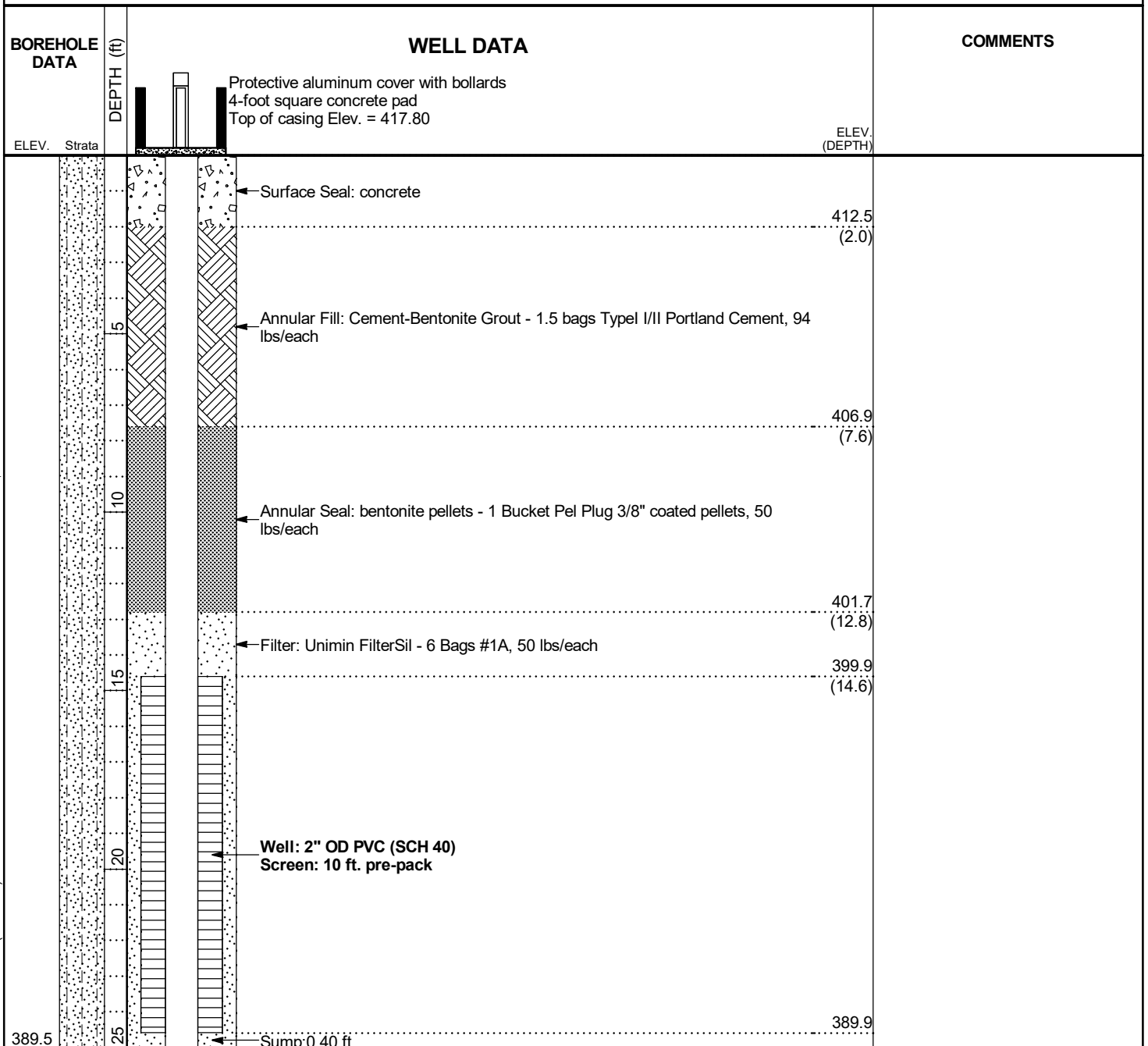
CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 25 ft.

GROUND WATER DEPTH: DURING 0.5 ft. COMP. 1.5 ft. DELAYED 0.5 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPCISCHERER LOGS.GPJ





BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/10/2015 COMPLETED 3/10/2015 GROUND ELEVATION 414.3 ft COORDINATES N 1118318.15 E 2407273.36

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 79.6 ft.

GROUND WATER DEPTH: DURING 5 ft. COMP. 3.2 ft. DELAYED 3.2 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFCVSCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
5		Sandy Fat Clay (CH) - Hand auger 5' for utilities clearance			(MC = 30%; UW(d) = 96.9pcf; PERM. = 1.07E-6cm/sec)
10		- mottled light gray (7.5YR 7/1) residuum wet, stiff, moderate plasticity, with sand, trace organics			SPT N=11bpf(@8.5ft.)(LL=53; PI=31; FC = 72.3%; Gravel = 0%)
15		Silty Sand (SM) - mottled black (7.5YR 2.5/1) and white (10R 8/1) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, biotite			SPT N=20bpf(@13.5ft.)
20		- mottled pinkish white (7.5YR 8/2) and pinkish white / grayish orange pink (10R 8/2) saprolite wet, medium dense, very fine to fine grained, with black streaking, trace biotite, residual quartz, amphibole			SPT N=14bpf(@18.5ft.) (MC = 27.6%; UW(d) = 99.8pcf; PERM. = 2.97E-9cm/sec)
25		- mottled pinkish gray (7.5YR 7/2) saprolite wet, medium dense, very fine to fine grained, with white banding, trace weathered rock fragments and mica			SPT N=13bpf(@23.5ft.)(PL=NP; FC = 42.7%; Gravel = 0%)
30		- mottled pinkish gray (7.5YR 7/2) saprolite wet, medium dense, very fine to fine grained, with white banding, trace residual quartz, feldspar, biotite, muscovite			SPT N=28bpf(@28.5ft.)
35		- mottled pinkish gray (7.5YR 7/2) saprolite wet, medium dense, very fine to fine grained, with white banding, trace residual quartz, biotite, muscovite, oxides, weathered rock fragments			SPT N=12bpf(@33.5ft.)

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SC\HERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
40		Silty Sand (SM)(Con't) - mottled gray (7.5YR 6/1) saprolite wet, very dense, very fine to fine grained, with black and white banding, trace residual quartz, mica, weathered rock fragments			SPT N=52bpf(@38.5ft.)
45		- mottled gray (7.5YR 6/1) saprolite wet, dense, very fine to fine grained, with black and white banding, with trace mica, residual quartz, hornblende			SPT N=40bpf(@43.5ft.)
50		- mottled very dark gray (7.5YR 3/1) saprolite wet, very dense, very fine to fine grained, with white speckling, trace oxide staining, mica, residual quartz, amphibole			SPT N=50bpf(@48.5ft.)
55		- mottled very dark gray (7.5YR 3/1) saprolite wet, very dense, very fine to fine grained, with white banding, trace oxide staining, mica, residual quartz, amphibole			SPT N=50bpf(@53.5ft.)
60		- mottled very dark gray (7.5YR 3/1) saprolite wet, very dense, very fine to fine grained, with white and black banding, trace oxide staining, mica, residual quartz, feldspar, amphibole Partially Weathered Rock (PWR) - very fine to medium grained, with white and black banding, trace oxide staining, mica, residual quartz, feldspar, amphibole			SPT N=50bpf(@58.5ft.)
65		AMPHIBOLITE GNEISS - mottled with dark gray (N3) medium to fine grain, soft to medium hard, moderately to highly weathered, inclined, banded, 5 low-angle fractures (10 - 30d), 4 moderate-angle fractures (30 - 45d), thin to laminate banding, slight mechanical fracturing along schistosity (30-50d)			
70		- mottled with dark gray (N3) medium to fine grain, soft to medium hard, moderately to highly weathered, inclined, banded, 2 low-angle fractures (10 - 30d), 8 moderate-angle fractures (30 - 45d), 5 high-angle fractures (65 - 90d), becomes more laminated and competent with depth			
75		- mottled with dark gray (N3) medium to fine grain, soft to medium hard, moderately to highly weathered, inclined, banded, 8 low-angle fractures (10 - 30d), 5 moderate-angle fractures (30 - 45d), 3 high-angle fractures (65 - 90d), becomes slightly less competent			
80		Bottom of borehole at 79.6 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-201
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

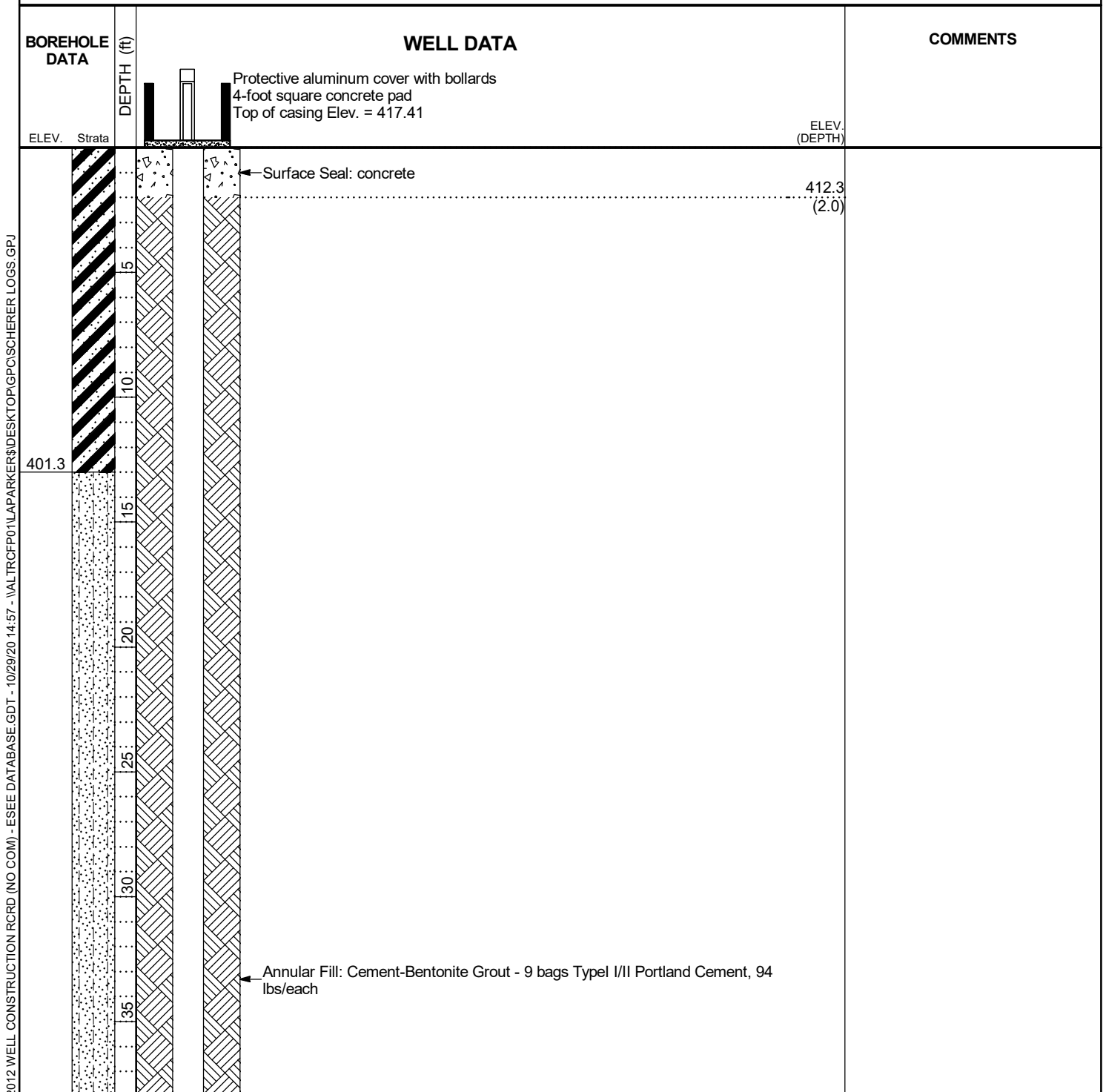
DATE STARTED 3/10/2015 COMPLETED 3/10/2015 GROUND ELEVATION 414.3 ft COORDINATES N 1118318.15 E 2407273.36

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 79.6 ft.

GROUND WATER DEPTH: DURING 5 ft. COMP. 3.2 ft. DELAYED 3.2 ft. after 24 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER LOGS.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-201
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 417.41	ELEV. (DEPTH)
354.3 350.3	40 45 50 55 60 65 70 75	← Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each ← Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each ← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack ← Sump: 0.40 ft.	349.7 (64.6) 347.6 (66.7) 345.1 (69.2) 335.1

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\VALTRCFP01\LA PARKER\DESKTOP\GPC\SCHERER LOGS.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DATE STARTED 3/11/2015 COMPLETED 3/12/2015 GROUND ELEVATION 470.6 ft COORDINATES N 1117639.19 E 2407006.52

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 25 ft.

GROUND WATER DEPTH: DURING 1.5 ft. COMP. 3.2 ft. DELAYED 3.2 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:41 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
5		Sandy Silt (ML) - Hand auger 5' for utilities clearance				
10		- mottled reddish yellow (7.5YR 6/8) and light red / moderate reddish orange (10R 6/6) residuum wet, soft, trace mica				SPT N=4bpf(@8.5ft.)
15		- mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/6) saprolite wet, medium stiff, with black streaking				SPT N=5bpf(@13.5ft.)
20		- mottled light gray (7.5YR 7/1) saprolite wet, very stiff, with white and black spots, trace residual quartz, feldspar, biotite, muscovite, weathered rock fragments				SPT N=17bpf(@18.5ft.)
25		- mottled white (7.5YR 8/1) and light red / moderate reddish orange (10R 6/6) saprolite wet, very stiff, micaceous, with black banding, trace weathered rock fragments				SPT N=22bpf(@23.5ft.)
Bottom of borehole at 25.0 feet.						



RECORD OF WELL CONSTRUCTION

WELL: PZ-21S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DATE STARTED 3/11/2015 COMPLETED 3/12/2015 GROUND ELEVATION 470.6 ft COORDINATES N 1117639.19 E 2407006.52

CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet BORING DEPTH 25 ft.

GROUND WATER DEPTH: DURING 1.5 ft. COMP. 3.2 ft. DELAYED 3.2 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:57 - \\ALTRCFP01\LPARKER\DESKTOP\GPCISCHERER LOGS.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p> <p style="text-align: center;">DEPTH (ft)</p> <p style="text-align: right;">ELEV. (DEPTH)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 473.74</p> <p>← Surface Seal: concrete</p> <p>← Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94 lbs/each</p> <p>← Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each</p> <p>← Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each</p> <p>← Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack</p> <p>← Sump: 0.40 ft.</p>	<p>468.6 (2.0)</p> <p>461.6 (9.0)</p> <p>458.6 (12.0)</p> <p>457.6 (13.0)</p> <p>447.6 (23.0)</p> <p>445.6</p>



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/22/2016 **COMPLETED** 5/24/2016 **GROUND ELEVATION** 525.8 ft **COORDINATES** N 1121837.8 E 2404573.04

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY M. Pope **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 126 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 32.5 ft. **DELAYED** 30.6 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Well-graded Sand with Clay (SW-SC) - mottled red (2.5YR 4/6) dry, fine to medium-grained, with magnetite and illmenite			
10		- yellowish red (5YR 4/6) dry, with silt			
15		- reddish yellow (7.5YR 6/8) with black and white mottling, weathered feldspar			
20		- mottled strong brown (7.5YR 5/8), light gray (2.5Y 7/2) and pale red (10R 6/3) dry, fine to coarse-grained, trace fine quartz gravel - with magnetite and illmenite			
25		- strong brown (7.5YR 5/8), black (7.5YR 2.5/1) and very pale brown / grayish orange (10YR 7/4) with mica			
30		Sandy Silt (ML) - mottled dark reddish brown (2.5YR 3/4) and dark reddish gray (2.5YR 3/1) moist, with sandy clay (CL) bedding			
35		- mottled strong brown (7.5YR 5/8) and black (7.5YR 2.5/1) - dark red (2.5YR 3/6), red (2.5YR 4/6) and reddish gray (2.5YR 5/1) wet, flow-banded fabric			
40		Elastic Silt (MH) - mottled weak red (10R 5/3) and reddish black (10R 2.5/1) wet, medium, with sandy clay (CH) bedding			
45		- mottled strong brown (7.5YR 5/8), light brownish gray (2.5Y 6/2) and black (2.5Y 2.5/1)			
50		- reddish brown (2.5YR 4/4), reddish yellow (7.5YR 6/6) and black (7.5YR 2.5/1) wet, with sandy clay (CH) bedding			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
55		Elastic Silt (MH)(Con't) - yellowish red / light brown (5YR 5/6)				
60		Well-graded Sand with Clay (SW-SC) - yellowish red / light brown (5YR 5/6) saprolite wet, medium dense, fine to coarse-grained, cohesive				
65		- dark grayish brown / dark yellowish brown (10YR 4/2) with gravel (residual diabase)				
70		- dark gray / olive gray (5Y 4/1) and strong brown (7.5YR 5/6) moist				
75		- mottled very dark gray (5Y 3/1) and white (N9)				
80		- dark brown (10YR 3/3) with interlayered clay bedding				
85		- gray (10YR 5/1) moist				
90		- very dark gray (2.5Y 3/1) regolith moist, dense				
95		- very dark gray (5Y 3/1)				
100		- with interlayered clay bedding				
105		- dark yellowish brown (10YR 4/6) and olive (5Y 5/4)				
110		- mottled black (2.5Y 2.5/1), dark gray (2.5Y 4/1) and white (N9)				

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER ADDITIONAL PZS.GPJ

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
..... 115 120 125		Well-graded Sand with Clay (SW-SC)(Cont) - grayish brown (2.5Y 5/2) - dark yellowish brown (10YR 3/6) - very dark gray (2.5Y 3/1)		Weak Moderate Strong	
..... 130 135 140 145 150 155 160 165 170		Bottom of borehole at 126.0 feet.			

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/22/2016 **COMPLETED** 5/24/2016 **GROUND ELEVATION** 525.8 ft **COORDINATES** N 1121837.8 E 2404573.04

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY M. Pope **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 126 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 32.5 ft. **DELAYED** 30.6 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER ADDITIONAL PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p>	<p style="text-align: center;">WELL DATA</p> <p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.39</p> <p>← Surface Seal: concrete</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: right;">522.8 (3.0)</p>

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.39	ELEV. (DEPTH)
469.8	55 60 65 70 75 80 85 90 95 100 105 110	Annular Fill: Cement-Bentonite Grout (8 - 94# bags PC, 1 - 55# bag gel, 210 gal. water)	
		Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)	418.8 (107.0) 415.8

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHEHER ADDITIONAL PZS_UPDATED.GPJ

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RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.39	ELEV. (DEPTH)
399.8	115	← Filter: 20/40 silica filter sand (6 - 0.5 cubic ft. bags)	(110.0)
	120	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	411.0 (114.8)
	125	Sump: 0.20 ft.	401.0 (124.8)
			400.8 (125.0)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/24/2016 COMPLETED 5/25/2016 GROUND ELEVATION 525.5 ft COORDINATES N 1121848.11 E 2404567.52

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 56 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 32.6 ft. after 48 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Well-graded Sand with Clay (SW-SC) - mottled red (2.5YR 4/6) dry, fine to medium-grained, with magnetite and illmenite - yellowish red (5YR 4/6) dry, with silt			
10		- reddish yellow (7.5YR 6/8) with black and white mottling, weathered feldspar			
15		- mottled strong brown (7.5YR 5/8), light gray (2.5Y 7/2) and pale red (10R 6/3) dry, fine to coarse-grained, trace fine quartz gravel - with magnetite and illmenite			
20		- strong brown (7.5YR 5/8), black (7.5YR 2.5/1) and very pale brown / grayish orange (10YR 7/4) with mica			
25					
30		Sandy Silt (ML) - mottled dark reddish brown (2.5YR 3/4) and dark reddish gray (2.5YR 3/1) moist, with sandy clay (CL) bedding			
35		▼ - mottled strong brown (7.5YR 5/8) and black (7.5YR 2.5/1) - dark red (2.5YR 3/6), red (2.5YR 4/6) and reddish gray (2.5YR 5/1) wet, flow-banded fabric			
40		Elastic Silt (MH) - mottled weak red (10R 5/3) and reddish black (10R 2.5/1) wet, medium, with sandy clay (CH) bedding			
45		- mottled strong brown (7.5YR 5/8), light brownish gray (2.5Y 6/2) and black (2.5Y 2.5/1)			
50		- reddish brown (2.5YR 4/4), reddish yellow (7.5YR 6/6) and black (7.5YR 2.5/1) wet, with sandy clay (CH) bedding			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
..... 55	||||	Elastic Silt (MH)(Con't) - yellowish red / light brown (5YR 5/6)		Weak Moderate Strong	
..... 60					
..... 65					
..... 70					
..... 75					
..... 80					
..... 85					
..... 90					
..... 95					
..... 100					
..... 105					
..... 110					

Bottom of borehole at 56.0 feet.

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/24/2016 COMPLETED 5/25/2016 GROUND ELEVATION 525.5 ft COORDINATES N 1121848.11 E 2404567.52

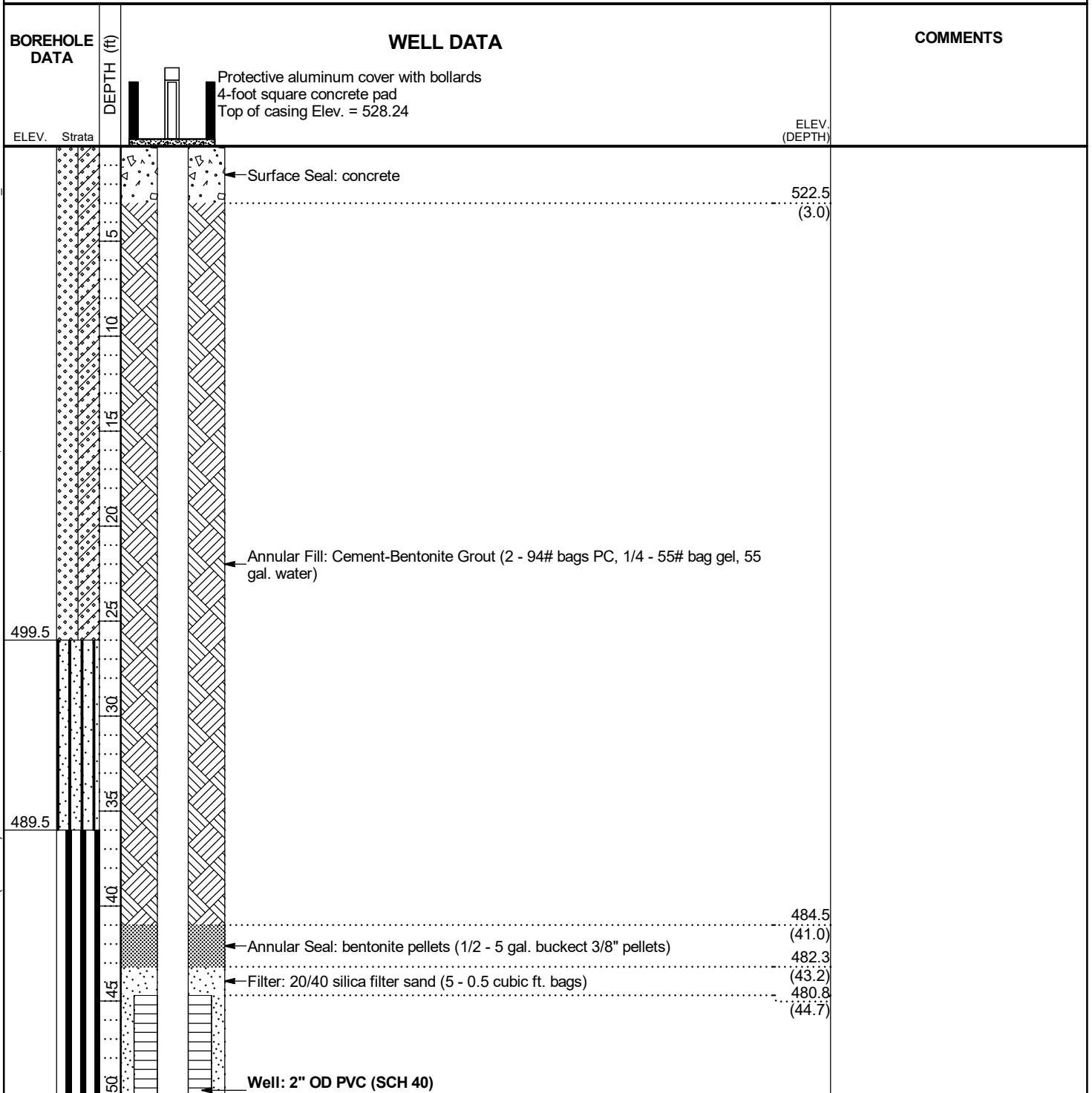
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 56 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 32.6 ft. after 48 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\ALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL PZS_UPDATED.GPJ



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RECORD OF WELL CONSTRUCTION

WELL: PZ-25 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.24 Screen: 10 ft. 0.010" Slot Prepack	
469.5	55	Sump: 0.20 ft.	ELEV. (DEPTH) 470.7 (54.8) 470.5 (55.0)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL_PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/1/2016 COMPLETED 6/1/2016 GROUND ELEVATION 489.1 ft COORDINATES N 1121696.65 E 2405733.23

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 46 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 12.5 ft. after 72 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER\ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Lean Clay (CL) - dark red (2.5YR 3/6) dry, with silt - red (2.5YR 4/6) - red (2.5YR 4/8)			
10		Sandy Silt (ML) - red (2.5YR 4/6) and reddish black (2.5YR 2.5/1) dry, with mica - yellowish red (5YR 4/6) damp, with mica - red (2.5YR 4/6) wet			
20		Poorly-graded Sand with Silt (SP-SM) - mottled yellowish red (5YR 5/8) and black (5YR 2.5/1) fine-grained, with mica - mottled strong brown (7.5YR 4/6) and black (7.5YR 2.5/1)			
35		Elastic Silt (MH) - olive brown (2.5Y 4/4) wet, with fine sand, micaceous			
40		Silty Sand (SM) - light olive brown (2.5Y 5/6) fine-grained, micaceous			
45		Poorly-graded Sand (SP) - gray / light olive gray (5Y 6/1) and white / yellowish gray (5Y 8/1) fine to coarse-grained			
50		Silty Sand (SM) - light olive brown (2.5Y 5/6) fine-grained, micaceous Bottom of borehole at 46.0 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-26 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/1/2016 **COMPLETED** 6/1/2016 **GROUND ELEVATION** 489.1 ft **COORDINATES** N 1121696.65 E 2405733.23

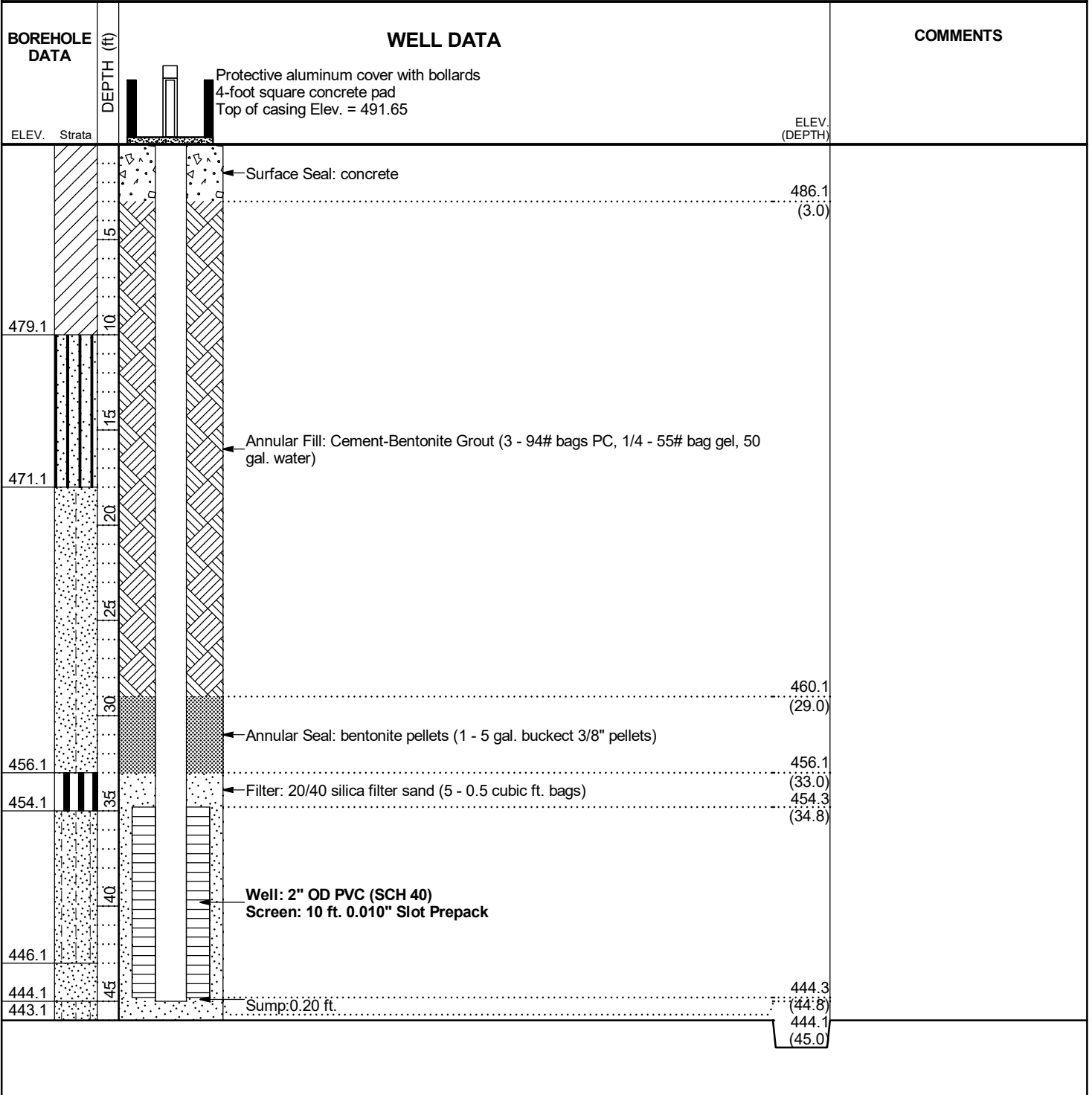
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY J. Asua **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 46 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 12.5 ft. after 72 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ





BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/14/2016 COMPLETED 6/17/2016 GROUND ELEVATION 472.4 ft COORDINATES N 1121558.94 E 2406023.17

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 126 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 10 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Clayey Sand (SC) - dark brown (7.5YR 3/3) damp, fine to medium-grained			
		Lean Clay (CL) - mottled yellowish red (5YR 4/6) and yellowish brown (10YR 5/6) damp, medium, with mica			
		- dark brown (10YR 3/3) with fine quartz gravel			
10		Well-graded Sand with Silt (SW-SM) - yellowish red / light brown (5YR 5/6) and yellowish brown (10YR 5/6) moist, fine to coarse-grained, with mica			
15		- very dark gray (10YR 3/1) black (10YR 3/1) oxidation mottling			
20		- dark brown (7.5YR 3/4) wet			
25		- brown (7.5YR 4/3) and strong brown (7.5YR 4/6) fine to coarse-grained			
		- dark yellowish brown (10YR 4/4) wet			
30		Clayey Sand (SC) - grayish brown (2.5Y 5/2) wet, with mica			
35		Well-graded Sand with Silt (SW-SM) - grayish brown (2.5Y 5/2) and white / yellowish gray (5Y 8/1) partially weathered rock biotite gneiss, fine to coarse-grained, - olive gray (5Y 4/2) wet, fine to coarse-grained			
40		- mottled olive gray (5Y 4/2) and white / yellowish gray (5Y 8/1)			
45		- UD tube attempted, crushed due to dense soils - dark grayish brown (2.5Y 4/2) and yellow (2.5Y 7/6) saprolite wet, fine to coarse-grained, with mica			
50		Well-graded Sand (SW)			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
55		Well-graded Sand (SW)(Con't) - very dark gray (2.5Y 3/1) and dark grayish brown (2.5Y 4/2) wet, fine to coarse-grained, with mica - very dark greenish gray (10Y 3/1) and greenish black (10Y 2.5/1) with gravel and clay (pulverized rock), biotite gneiss, fresh to highly weathered			
60		Biotite Gneiss - dark gray / olive gray (5Y 4/1) and light gray (5Y 7/1) coarse grain, medium hard to hard, not to slightly weathered, banded, moderately fractured, sub-horizontal fractures - medium hard to hard, inclined, white feldspar and quartz banding, thin to medium bedded - increased granitic composition 61 to 63 ft., light gray with black banding			
65		- very dark gray (5Y 3/1) and black (5Y 2.5/2) coarse grain, medium hard to very hard, not weathered, inclined, intensely to moderately fractured, white banding, thin bedded - increased granitic composition 71 to 73 ft., light gray with black banding			
70		- gray (2.5Y 5/1) coarse grain, medium hard to very hard, folded, moderately fractured, black and white banding			
75		- gray (2.5Y 5/1) coarse grain, soft to hard, not weathered, moderately fractured, black and white banding, thin to medium bedded			
80		- very dark gray (2.5Y 3/1) completely weathered, 93 to 95 ft.			
85		- light gray (2.5Y 7/1) hard, inclined and folded bedding, moderately fractured, white and dark gray banding, thin to medium bedded, sub-vertical fractures - intensely fractured, 100 to 101 ft.			
90		- very dark gray (2.5Y 3/1) completely weathered, 93 to 95 ft.			
95		- light gray (2.5Y 7/1) hard, inclined and folded bedding, moderately fractured, white and dark gray banding, thin to medium bedded, sub-vertical fractures - intensely fractured, 100 to 101 ft.			
100		- very dark gray (2.5Y 3/1) completely weathered, 93 to 95 ft.			
105		- light gray (2.5Y 7/1) hard, inclined and folded bedding, moderately fractured, white and dark gray banding, thin to medium bedded, sub-vertical fractures - intensely fractured, 100 to 101 ft.			
110		- gray (2.5Y 5/1) and very dark gray (2.5Y 3/1) coarse grain, hard, not weathered, inclined and folded bedding, moderately fractured, white banding - near vertical bedding 109 to 111 ft.			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
115		Biotite Gneiss (Con't)				
120		- gray (2.5Y 6/1) coarse grain, hard, not weathered, inclined, intensely fractured, white and dark gray banding, near horizontal fractures				
125		- soft				
Bottom of borehole at 126.0 feet.						
130						
135						
140						
145						
150						
155						
160						
165						
170						

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LAPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/14/2016 **COMPLETED** 6/17/2016 **GROUND ELEVATION** 472.4 ft **COORDINATES** N 1121558.94 E 2406023.17

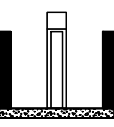


CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY M. Pope **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 126 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 10 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata		Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 475.43	ELEV. (DEPTH)
470.4	5	 ← Surface Seal: concrete	467.4 (5.0)
463.4	10		
445.4	25		
440.4	30	 ← Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 75 gal. water)	
423.4	50		

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RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 475.43	ELEV. (DEPTH)
416.4	55		418.4 (54.0)
	60		
	65		
	70		
	75		
	80	← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets (98-102.5 ft.), 6 - 50# bags 3/8" chips (54-98 ft.)	
	85		
	90		
	95		
	100		
	105	← Filter: 20/40 silica filter sand (10 - 0.5 cubic ft. bags)	369.9 (102.5)
	110		367.6 (104.8)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL - PZS_UPDATED.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 475.43 Well: 2" OD PVC (SCH 40) Screen: 20 ft. 0.010" Slots Sump: 0.20 ft.	ELEV. (DEPTH)
346.4	125		347.6 (124.8) 347.4 (125.0)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/25/2016 COMPLETED 5/26/2016 GROUND ELEVATION 473.1 ft COORDINATES N 1121565.33 E 2406028.25

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 46 ft.

GROUND WATER DEPTH: DURING _____ COMP. 3.5 ft. DELAYED 5.8 ft. after 200 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
.....		Clayey Sand (SC) - dark brown (7.5YR 3/3) damp, fine to medium-grained	.....	.....
5		Lean Clay (CL) - mottled yellowish red (5YR 4/6) and yellowish brown (10YR 5/6) damp, medium, with mica	.....	.....
.....		- dark brown (10YR 3/3) with fine quartz gravel	.....	.....
10		Well-graded Sand with Silt (SW-SM) - yellowish red / light brown (5YR 5/6) and yellowish brown (10YR 5/6) moist, fine to coarse-grained, with mica	.....	.....
15		- very dark gray (10YR 3/1) black (10YR 3/1) oxidation mottling	.....	.....
20		- dark brown (7.5YR 3/4) wet	.....	.....
25		- brown (7.5YR 4/3) and strong brown (7.5YR 4/6) fine to coarse-grained - dark yellowish brown (10YR 4/4) wet	.....	.....
30		Clayey Sand (SC) - grayish brown (2.5Y 5/2) wet, with mica	.....	.....
35		Well-graded Sand with Silt (SW-SM) - grayish brown (2.5Y 5/2) and white / yellowish gray (5Y 8/1) partially weathered rock biotite gneiss, fine to coarse-grained, - olive gray (5Y 4/2) wet, fine to coarse-grained	.....	.....
40			
45		- mottled olive gray (5Y 4/2) and white / yellowish gray (5Y 8/1)	.....	.....
.....		Bottom of borehole at 46.0 feet.	
50			



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/25/2016 **COMPLETED** 5/26/2016 **GROUND ELEVATION** 473.1 ft **COORDINATES** N 1121565.33 E 2406028.25

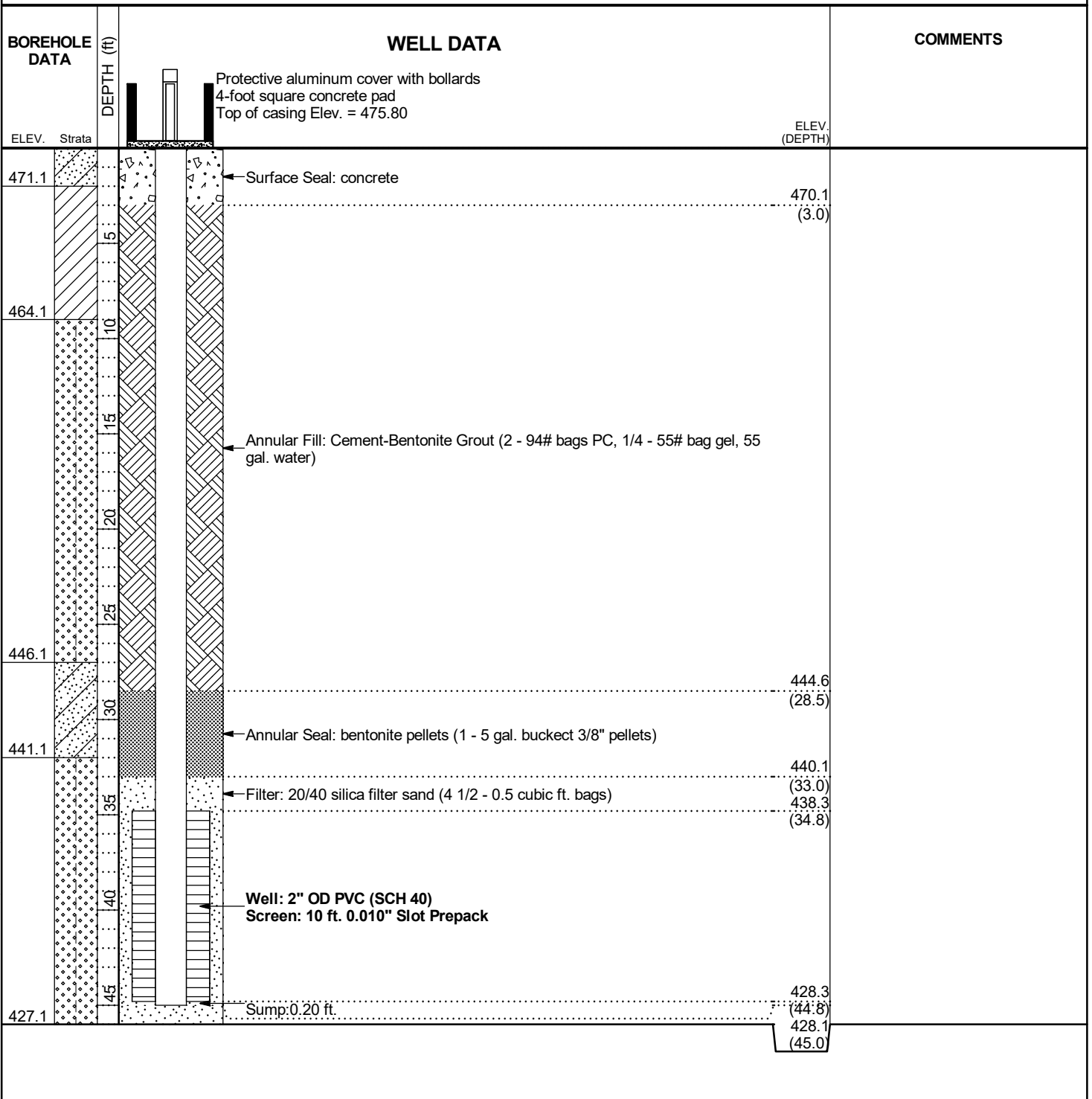
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY M. Pope **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 46 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 3.5 ft. **DELAYED** 5.8 ft. after 200 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ





BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/3/2016 COMPLETED 6/3/2016 GROUND ELEVATION 481.4 ft COORDINATES N 1121394.06 E 2406373.94

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY T. Ardito LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 70 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 15.5 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Silt (ML) - red (2.5YR 5/8) residuum dry, medium stiff, no, micaceous			
10					
15		Poorly-graded Sand with Silt (SP-SM) - yellowish red (5YR 5/8) saprolite moist, loose, fine-grained, with mica, oxidation			
20					
25		Silt (ML) - mottled red (2.5YR 5/6), reddish gray (10R 6/1) and reddish yellow (5YR 6/6) saprolite moist, medium stiff, no, fine-grained, some mica, oxidation			
30		Poorly-graded Sand with Silt (SP-SM) - mottled light gray (2.5Y 7/2), olive brown (2.5Y 4/3) and dusky yellow green (5GY 5/2) saprolite moist, loose			
35					
40					
45		- greenish gray (10Y 5/1) moist			
50		Well-graded Sand (SW) - greenish gray (10Y 5/1), black (N1) and white (N9) moist, loose, biotite and feldspar, some mica			

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-28 I
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ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/3/2016 **COMPLETED** 6/3/2016 **GROUND ELEVATION** 481.4 ft **COORDINATES** N 1121394.06 E 2406373.94

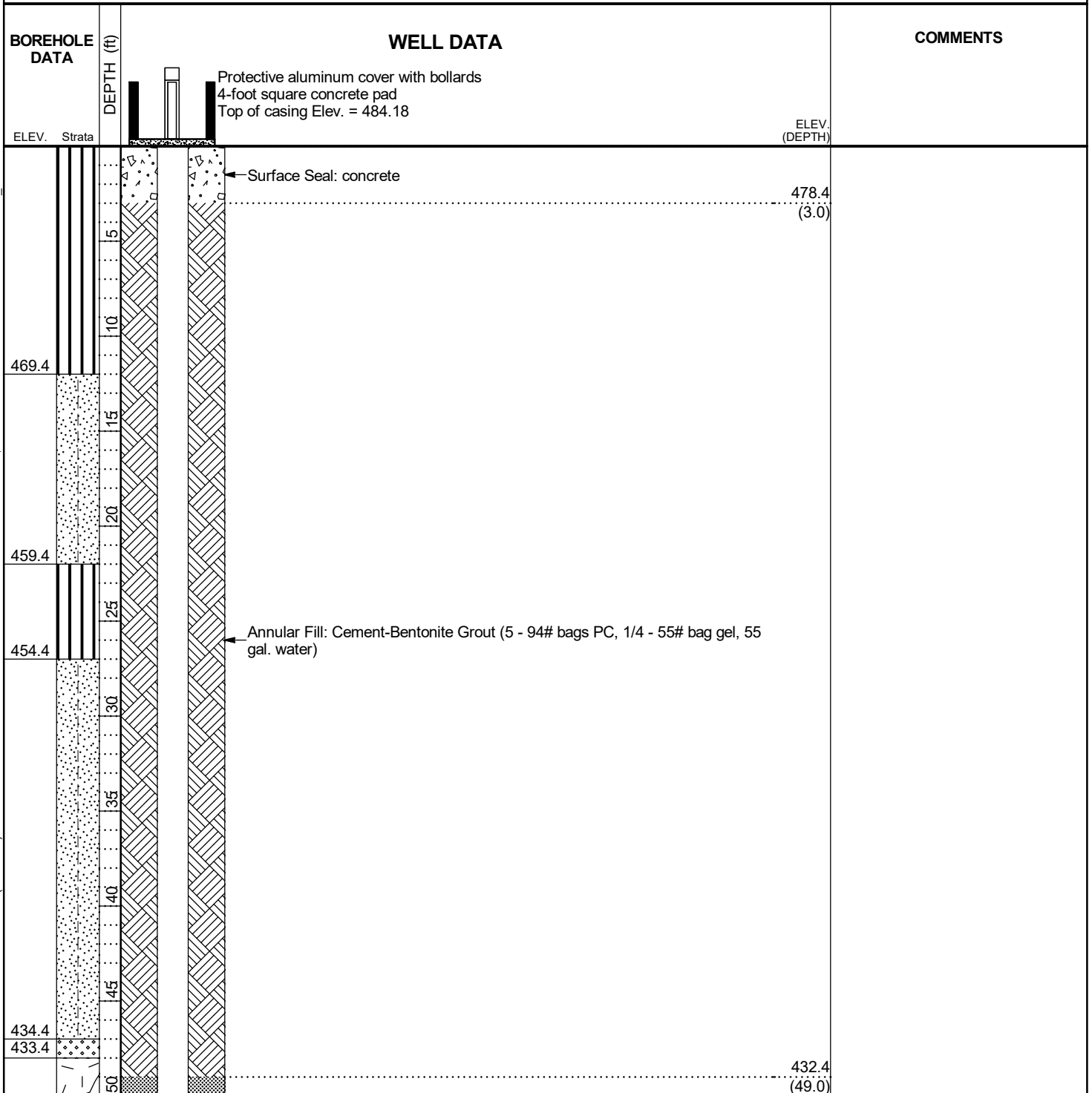
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY T. Ardito **LOGGED BY** P. Alexander **CHECKED BY** B. Smelser **BORING DEPTH** 70 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 15.5 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ



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RECORD OF WELL CONSTRUCTION

WELL: PZ-28 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 484.18	
411.4	55	← Annular Seal: bentonite pellets (3/4 - 5 gal. bucket 3/8" pellets)	ELEV. (DEPTH) 427.4 (54.0)
	60	← Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)	422.8 (58.6)
	65	Well: 2" OD PVC (SCH 40) Screen: 9.999999999999999 ft. 0.010" Slot Prepack	
	70	Sump: 0.20 ft	412.8 (68.6) 412.6 (68.8)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\APARKER\DESKTOP\GPC\SCHERER ADDITIONAL PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/26/2016 COMPLETED 5/26/2016 GROUND ELEVATION 488.5 ft COORDINATES N 1121269.19 E 2406618.29

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 46 ft.

GROUND WATER DEPTH: DURING _____ COMP. 22 ft. DELAYED 26.9 ft. after 100 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
		Sandy Lean Clay (CL) - red (2.5YR 4/8) dry, with mica			
5		Sandy Silt (ML) - red (2.5YR 4/8) with mica			
10		- mottled strong brown (7.5YR 5/6) and black (7.5YR 2.5/1) dry			
15					
20					
25		Well-graded Sand with Silt (SW-SM) - dark yellowish brown (10YR 4/4) damp, fine to medium-grained			
		▼ - olive brown (2.5Y 4/4)			
30		- light olive brown (2.5Y 5/6)			
		- mottled olive (5Y 4/3) and pale yellow (5Y 7/4)			
35					
		- olive brown (2.5Y 4/3)			
40					
		- mottled olive gray / light olive gray (5Y 5/2) and dark greenish gray (10Y 4/1) weathered biotite gneiss			
45					
		Bottom of borehole at 46.0 feet.			
50					



RECORD OF WELL CONSTRUCTION

WELL: PZ-29 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/26/2016 **COMPLETED** 5/26/2016 **GROUND ELEVATION** 488.5 ft **COORDINATES** N 1121269.19 E 2406618.29

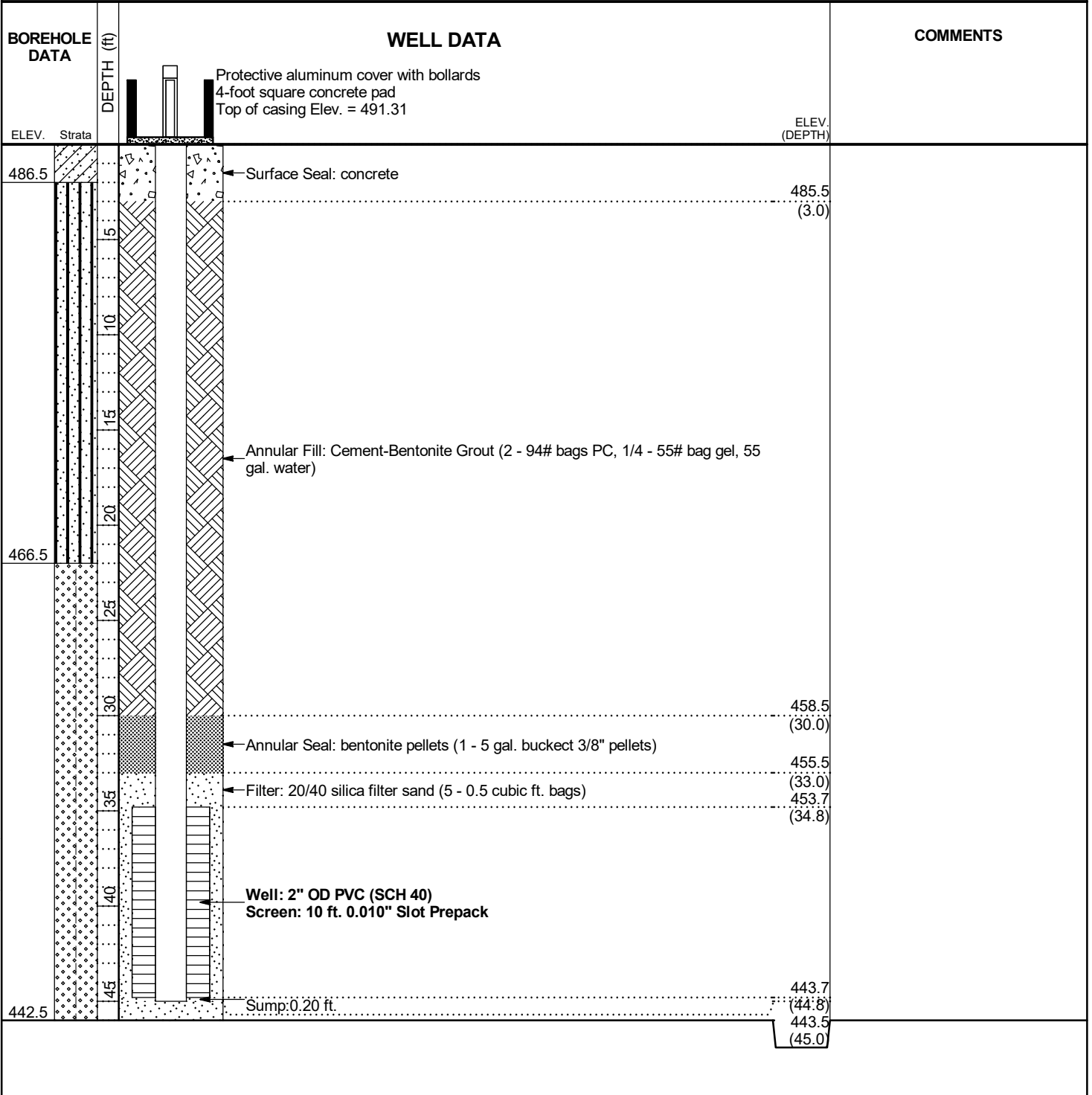
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY M. Pope **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 46 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 22 ft. **DELAYED** 26.9 ft. after 100 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ





BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/2/2016 COMPLETED 6/2/2016 GROUND ELEVATION 475.6 ft COORDINATES N 1121073.53 E 2407078.99

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY T. Ardito LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 87 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 18.9 ft. after 24 hrs.

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Sandy Silt (ML) - red (2.5YR 5/6) residuum dry, stiff, no, fine-grained, trace mica - damp			
10					
15		Silt (ML) - mottled yellowish red / light brown (5YR 5/6) and strong brown (7.5YR 5/6) residuum dry, soft, low, fine-grained, trace mica, oxidation			
20		Poorly-graded Sand with Silt (SP-SM) - brown (7.5YR 5/4) residuum moist, loose, fine-grained, with mica			
25					
30					
35		Sandy Silt (ML) - mottled brown (7.5YR 5/4) and reddish yellow (7.5YR 8/6) saprolite moist, no, with mica, oxidation			
40		Poorly-graded Sand with Silt (SP-SM) - light brownish gray (2.5Y 6/2) moist, loose, fine-grained - sub-vertical fractures - mottled light red / moderate reddish orange (10R 6/6) and very pale brown / very pale orange (10YR 8/2) saprolite folded fabric			
45					
50		- white (N9), very pale brown (10YR 7/3) and reddish brown (2.5YR 4/4) - very dark grayish brown (2.5Y 3/2) moist, fine-grained, some mica			

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-30 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/2/2016 **COMPLETED** 6/2/2016 **GROUND ELEVATION** 475.6 ft **COORDINATES** N 1121073.53 E 2407078.99

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY T. Ardito **LOGGED BY** P. Alexander **CHECKED BY** B. Smelser **BORING DEPTH** 87 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 18.9 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER\ADDITIONAL_PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p style="text-align: center;">DEPTH (ft)</p> <p style="text-align: center;">ELEV. Strata</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 478.31</p> <p style="text-align: center;">← Surface Seal: concrete</p> <p style="text-align: center;">← Annular Fill: Cement-Bentonite Grout (6 - 94# bags PC, 1/2 - 55# bag gel, 70 gal. water)</p>	<p style="text-align: center;">ELEV. (DEPTH)</p> <p style="text-align: center;">472.6 (3.0)</p>

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-30 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 478.31	ELEV. (DEPTH)
419.6	55		
	60		
	65		
	70	← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)	410.5 (65.1)
	75	← Filter: 20/40 silica filter sand (6 - 0.5 cubic ft. bags)	405.6 (70.0)
	80	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	400.5 (75.1)
	85	Sump: 0.20 ft.	390.5 (85.1)
388.6			390.3 (85.3)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL - PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/1/2016 COMPLETED 6/2/2016 GROUND ELEVATION 464.0 ft COORDINATES N 1121204.03 E 2407445.73

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY T. Ardito LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 77 ft.

GROUND WATER DEPTH: DURING _____ COMP. 24 ft. DELAYED 28.1 ft. after 200 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Silt (ML) - red (10R 5/6) residuum dry, stiff, no, trace mica			
10		- red (2.5YR 5/8) residuum dry, some mica			
15		- oxidation			
20		Poorly-graded Sand with Silt (SP-SM) - mottled reddish yellow (7.5YR 6/6) and pink / moderate orange pink (5YR 8/4) residuum damp, loose, fine-grained			
25		Silt (ML) - strong brown (7.5YR 4/6) and white (N9) residuum moist, soft, fine-grained, feldspar and biotite			
30		Poorly-graded Sand with Silt (SP-SM) - greenish gray (5G 5/1) and very light gray (N8) saprolite moist, fine-grained, some mica			
35					
40		Biotite Gneiss - yellowish brown / moderate yellowish brown (10YR 5/4), light greenish gray (10Y 7/1) and white (N9) highly weathered, feldspar banding			
45		- greenish gray (5GY 5/1) and greenish black (5GY 2.5/1) soft, highly weathered, feldspar banding			
50					

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHEHER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
..... 55 60 65 70 75		<p>Biotite Gneiss (Con't)</p> <p>- dark gray (N3) and very light gray (N8) soft to medium hard, moderately weathered, felspar banding</p> <p>- bluish black (10B 2.5/1) and white (N9) very hard, slightly weathered, horizontal and sub-vertical fractures, felspar banding</p>		Weak Moderate Strong	
..... 80 85 90 95 100 105 110		<p>Bottom of borehole at 77.0 feet.</p>			



RECORD OF WELL CONSTRUCTION

WELL: PZ-31 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/1/2016 **COMPLETED** 6/2/2016 **GROUND ELEVATION** 464 ft **COORDINATES** N 1121204.03 E 2407445.73

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY T. Ardito **LOGGED BY** P. Alexander **CHECKED BY** B. Smelser **BORING DEPTH** 77 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 24 ft. **DELAYED** 28.1 ft. after 200 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\APARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p> <p style="text-align: right;">ELEV. (DEPTH)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 466.89</p> <p>← Surface Seal: concrete</p> <p>← Annular Fill: Cement-Bentonite Grout (6 - 94# bags PC, 1/2 - 55# bag gel, 70 gal. water)</p>	<p style="text-align: right;">461.0 (3.0)</p>

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-31 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 466.89	ELEV. (DEPTH)
387.0	55		408.0 (56.0)
	60	← Annular Seal: bentonite pellets (3/4 - 5 gal. bucket 3/8" pellets)	403.0 (61.0)
	65	← Filter: 20/40 silica filter sand (7 1/2 - 0.5 cubic ft. bags)	399.1 (64.9)
	70	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	389.1 (74.9)
	75	Sump: 0.20 ft.	388.9 (75.1)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/31/2016 COMPLETED 6/1/2016 GROUND ELEVATION 462.4 ft COORDINATES N 1121089.64 E 2407719.37

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 126.5 ft.

GROUND WATER DEPTH: DURING _____ COMP. 23.5 ft. DELAYED 24.5 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Silt (ML) - red (2.5YR 4/6) residuum dry, stiff, no			
10		Clayey Sand (SC) - red (10R 5/6) dry, loose, fine-grained, some oxidation			
15		Sandy Silt (ML) - reddish yellow (5YR 6/6) dry			
20		Silty Sand (SM) - mottled reddish brown (5YR 5/4) and very dark gray (7.5YR 3/1) dry, loose, fine-grained, trace mica - strong brown (7.5YR 5/8) moist			
25		- light brown (7.5YR 6/4) - mottled light yellowish brown (10YR 6/4) and light olive brown (2.5Y 5/4)			
30		Sandy Silt (ML) - bluish gray (10B 5/1) and white (N9) moist, medium stiff, some clay, varying amounts of sand			
35					
40		Poorly-graded Sand with Clay (SP-SC) - white (7.5YR 8/1), very dark bluish gray (10B 3/1) and very dark gray (10YR 3/1) moist, loose, fine-grained - 2" sand (SW) seam at 41 ft.			
45					
50		Well-graded Sand (SW) - greenish black (10GY 2.5/1) saprolite medium to coarse-grained, weathered biotite gneiss, some silt, pulverized rock (sand with gravel)			

(Continued Next Page)



BORING LOG

BORING PZ-32 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER\ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
55		Well-graded Sand (SW)(Con't) - SW: - greenish black (10GY 2.5/1) medium to coarse-grained, weathered biotite gneiss, some silt - very dark greenish gray (5GY 3/1)			
60		Well-graded Sand with Silt (SW-SM) - very dark gray (7.5YR 3/1) medium to coarse-grained, some gravel (slightly decomposed biotite gneiss) - mottled very dark greenish gray (10GY 3/1) and white (7.5YR 8/1) weathered biotite gneiss			
65		Biotite Gneiss - dark gray (7.5YR 4/1) medium to coarse grain, medium hard to hard, slightly to highly weathered, thin to medium bedding, vuggy, moderately fractured, white feldspar and quartz banding - yellowish red (5YR 5/8) water staining - dark gray / brownish gray (5YR 4/1) and black (5YR 2.5/1) medium to coarse grain, not to slightly weathered, inclined, white banding - slightly fractured			
70		- not to moderately weathered			
75		- slightly fractured, feldspar rich 84-86 ft.			
80		Granitic Gneiss - white (10YR 8/1) and gray (10YR 6/1) medium to coarse grain, hard, not to slightly weathered, inclined, banded, slightly fractured			
85					
90					
95					
100		Biotite Gneiss - dark gray (10YR 4/1) and black (10YR 2/1) medium to coarse grain, not to slightly weathered, medium bedded, white banding			
105		Granitic Gneiss - gray (10YR 6/1) and pink (5YR 7/3) medium to coarse grain, not weathered			
110		Biotite Gneiss - dark gray (10YR 4/1), black (10YR 2/1) and white (10YR 8/1) not weathered, medium bedded, slightly to moderately fractured, sub-horizontal			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
115		fractures Biotite Gneiss (Con't) - quartz healed fractures (sub-vertical) - medium to coarse sand in fractures		Weak Moderate Strong	
120		- coarse grain, not to highly weathered, medium bedded, moderately fractured, alternating competent rock and sand filled fractures			
125					
Bottom of borehole at 126.5 feet.					
130					
135					
140					
145					
150					
155					
160					
165					
170					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/31/2016 **COMPLETED** 6/1/2016 **GROUND ELEVATION** 462.4 ft **COORDINATES** N 1121089.64 E 2407719.37

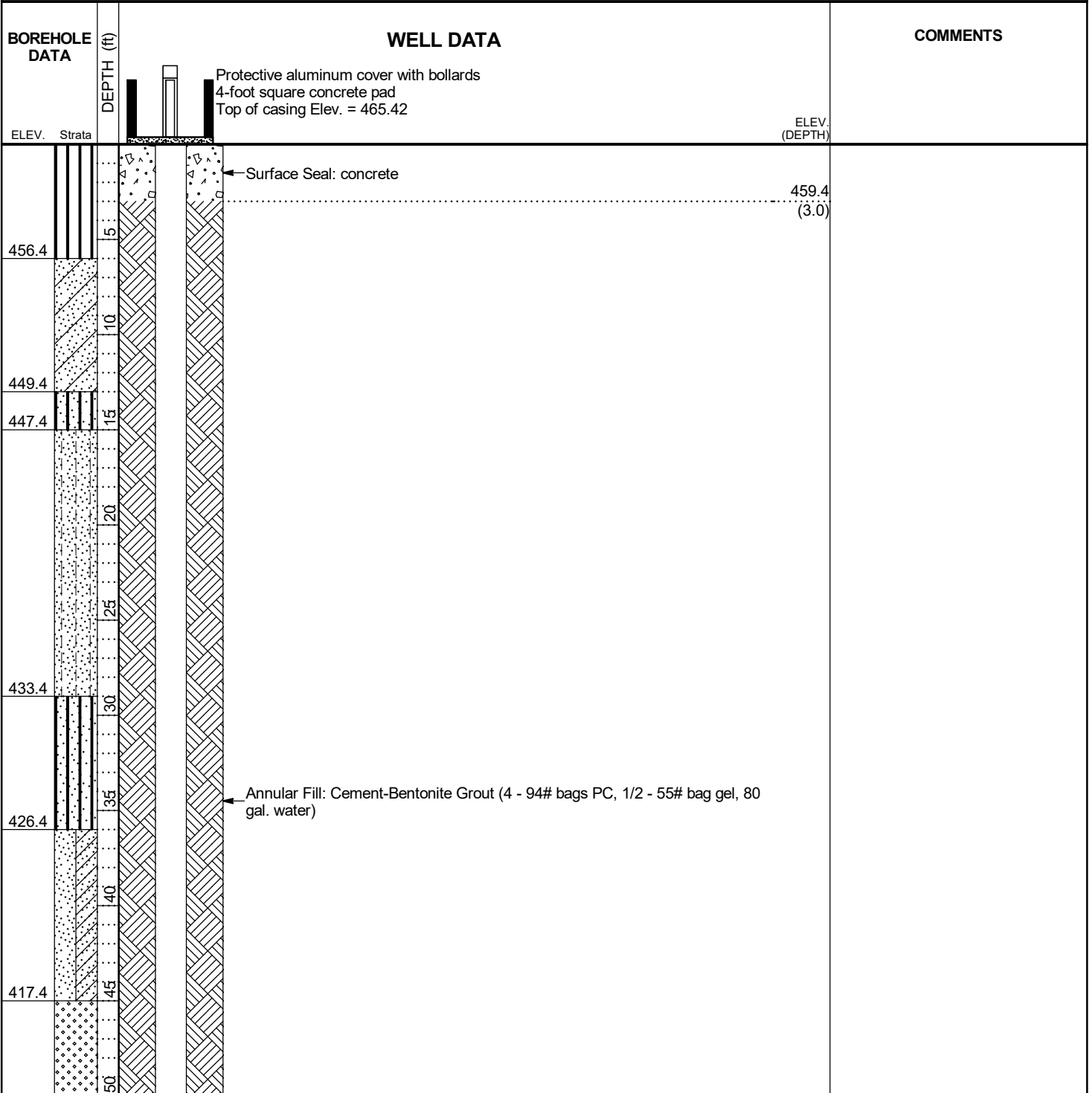
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY J. Asua **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 126.5 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 23.5 ft. **DELAYED** 24.5 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ



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RECORD OF WELL CONSTRUCTION

WELL: PZ-32 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 465.42	ELEV. (DEPTH)
2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER\ADDITIONAL_PZS_UPDATED.GPJ	55 60 65 70 75 80 85 90 95 100 105 110	<p>Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets (89-93 ft.), 6 - 50# bags 3/8" chips (66-89 ft.))</p> <p>Filter: 20/40 silica filter sand (15 1/2 - 0.5 cubic ft. bags)</p>	399.4 396.4 (66.0) 372.4 369.4 (93.0) 366.6 (95.8) 362.4 358.4 356.4

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 D
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 465.42 Well: 2" OD PVC (SCH 40) Screen: 30 ft. 0.010" Slots	ELEV. (DEPTH)
335.9	125		336.6 336.4

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPOCISCHERER ADDITIONAL_PZS_UPDATED.GPJ



BORING LOG

BORING PZ-32 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 5/31/2016 COMPLETED 6/1/2016 GROUND ELEVATION 462.3 ft COORDINATES N 1121089.22 E 2407698.44

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 57 ft.

GROUND WATER DEPTH: DURING 26 ft. COMP. 21.3 ft. DELAYED 23.8 ft. after 200 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
5		Silt (ML) - red (2.5YR 4/6) residuum dry, stiff, no			
10		Clayey Sand (SC) - red (10R 5/6) dry, loose, fine-grained, some oxidation			
15		Sandy Silt (ML) - reddish yellow (5YR 6/6) dry			
20		Silty Sand (SM) - mottled reddish brown (5YR 5/4) and very dark gray (7.5YR 3/1) dry, loose, fine-grained, trace mica - strong brown (7.5YR 5/8) moist			
25		- light brown (7.5YR 6/4)			
25		- mottled light yellowish brown (10YR 6/4) and light olive brown (2.5Y 5/4)			
30		Sandy Silt (ML) - bluish gray (10B 5/1) and white (N9) moist, medium stiff, some clay, varying amounts of sand			
35		Poorly-graded Sand with Clay (SP-SC) - white (7.5YR 8/1), very dark bluish gray (10B 3/1) and very dark gray (10YR 3/1) moist, loose, fine-grained - 2" sand (SW) seam at 41 ft.			
40		Well-graded Sand (SW) - greenish black (10GY 2.5/1) saprolite medium to coarse-grained, weathered biotite gneiss, some silt, pulverized rock (sand with gravel)			
45					
50					

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
..... 55		Well-graded Sand (SW)(Con't)		Weak Moderate Strong	
..... 60		Bottom of borehole at 57.0 feet.			
..... 65					
..... 70					
..... 75					
..... 80					
..... 85					
..... 90					
..... 95					
..... 100					
..... 105					
..... 110					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

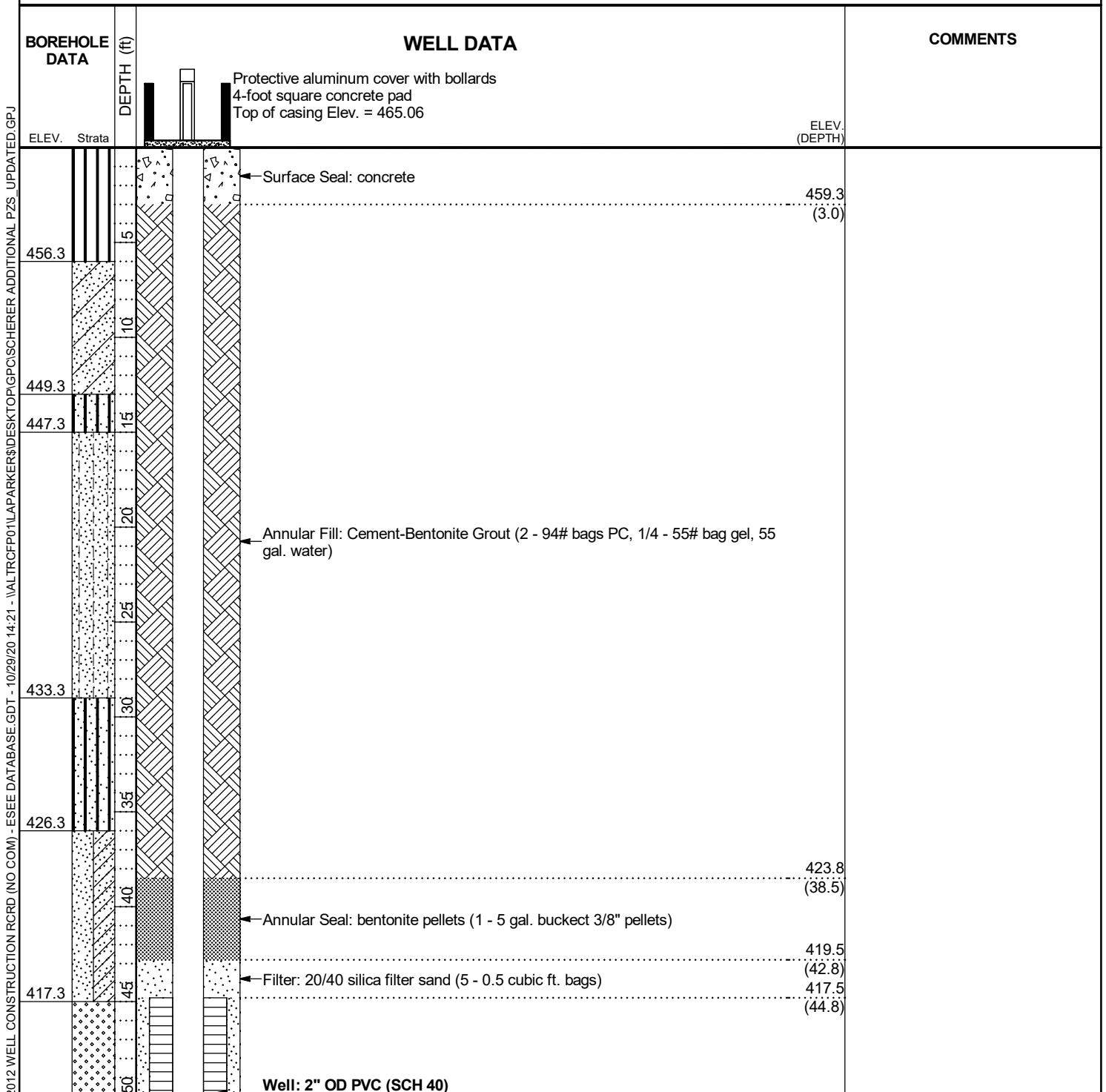
DATE STARTED 5/31/2016 COMPLETED 6/1/2016 GROUND ELEVATION 462.3 ft COORDINATES N 1121089.22 E 2407698.44

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 57 ft.

GROUND WATER DEPTH: DURING 26 ft. COMP. 21.3 ft. DELAYED 23.8 ft. after 200 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHEMER ADDITIONAL PZS_UPDATED.GPJ

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 465.06	
405.3	55	Screen: 10 ft. 0.010" Slot Prepack 	ELEV. (DEPTH) 407.5 (54.8) 407.3 (55.0)
		Sump: 0.20 ft.	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL_PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/7/2016 COMPLETED 6/8/2016 GROUND ELEVATION 466.4 ft COORDINATES N 1121245.25 E 2409064.05

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 76.5 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 39 ft. after 100 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\ISCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Sandy Lean Clay (CL) - red (2.5YR 4/6) dry, no			
10		Sandy Silt (ML) - red (2.5YR 4/6) dry, no - yellowish red / light brown (5YR 5/6)			
15		Well-graded Sand with Silt (SW-SM) - mottled yellowish red / light brown (5YR 5/6) and black (5YR 2.5/1) dry, fine to coarse-grained			
20					
25					
30		Clayey Sand (SC) - mottled strong brown (7.5YR 5/8), yellowish brown (10YR 5/8) and white (10YR 8/1) dry, fine to medium-grained			
35					
40					
45		Well-graded Sand with Silt (SW-SM) - mottled light olive brown (2.5Y 5/3), white (2.5Y 8/1) and black (2.5Y 2.5/1) damp, fine to coarse-grained, with mica			
50		Well-graded Sand (SW) - olive gray / light olive gray (5Y 5/2), greenish gray (5GY 5/1) and white (2.5Y 8/1) saprolite wet, fine to coarse-grained, weathered gneiss			

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-33 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

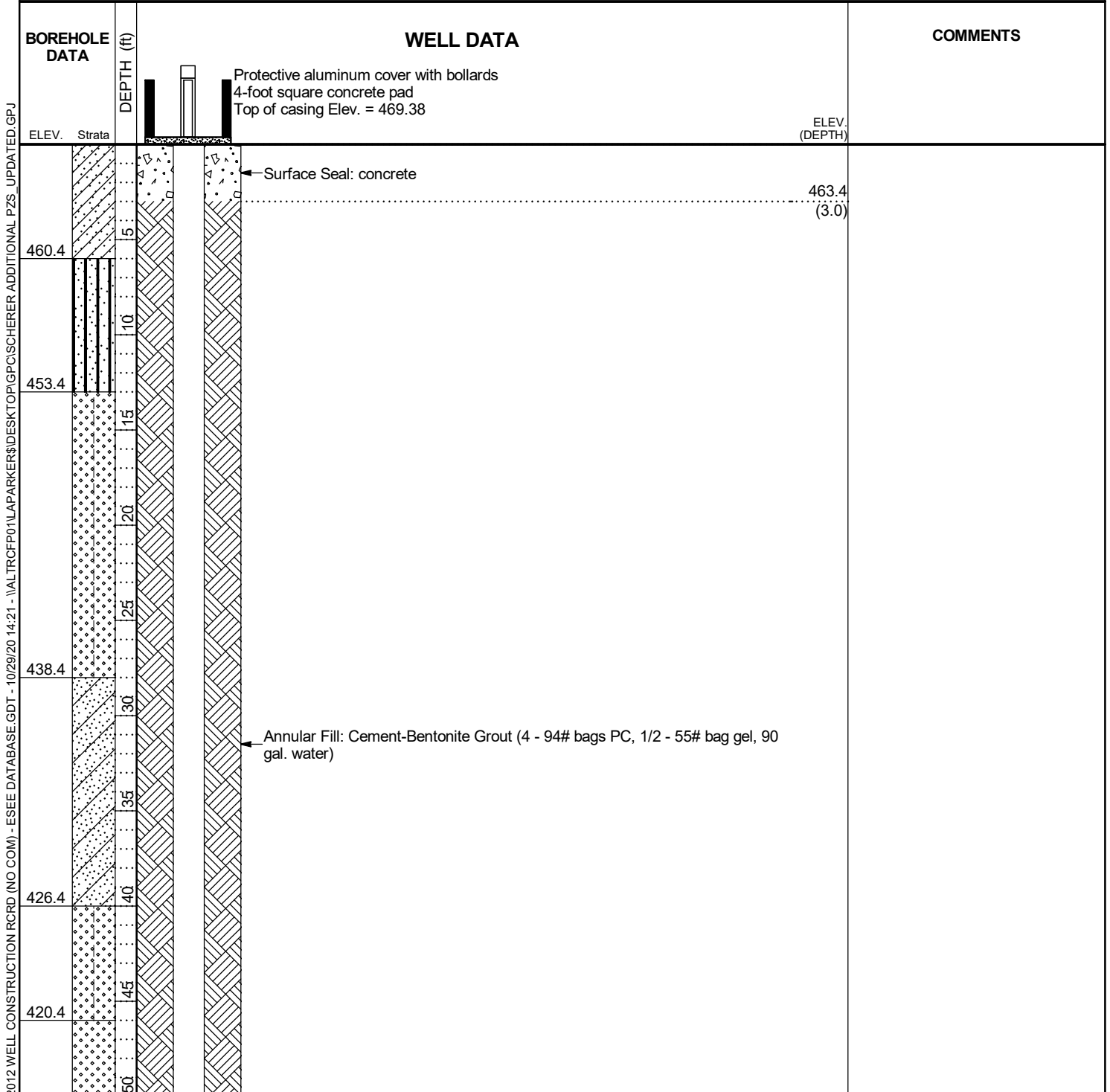
DATE STARTED 6/7/2016 **COMPLETED** 6/8/2016 **GROUND ELEVATION** 466.4 ft **COORDINATES** N 1121245.25 E 2409064.05

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY J. Asua **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 76.5 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 39 ft. after 100 hrs.

NOTES _____



2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHEHER ADDITIONAL PZS_UPDATED.GPJ

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RECORD OF WELL CONSTRUCTION

WELL: PZ-33 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 469.38	
410.4	55		ELEV. (DEPTH)
	60	← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)	406.4 (60.0)
	65	← Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)	402.4 (64.0)
	70	← Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	400.6 (65.8)
394.4	75		390.6
389.9		Sump: 0.20 ft.	390.4

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/3/2016 COMPLETED 6/4/2016 GROUND ELEVATION 440.8 ft COORDINATES N 1121331.59 E 2409288.37

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 46 ft.

GROUND WATER DEPTH: DURING _____ COMP. 13 ft. DELAYED _____

NOTES _____

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHEHER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
5		Lean Clay (CL) - red (2.5YR 4/6) dry, no			
10		Sandy Silt (ML) - reddish brown (2.5YR 4/4) Elastic Silt (MH) - mottled strong brown (7.5YR 5/6) and black (7.5YR 2.5/1) damp, medium			
15		Well-graded Sand with Silt (SW-SM) - mottled yellowish brown (10YR 5/6), black (10YR 2/1) and white (10YR 8/1) damp, fine to medium-grained			
20		- mottled light olive brown (2.5Y 5/4), black (10YR 2/1) and white (10YR 8/1) saprolite			
25		- light olive brown (2.5Y 5/3) moist - mottled olive (5Y 5/3) and strong brown (7.5YR 5/6) wet			
30		- olive gray / light olive gray (5Y 5/2)			
35		- mottled olive gray / light olive gray (5Y 5/2), strong brown (7.5YR 5/6) and white (7.5YR 8/1) weathered feldspar			
40					
45		- mottled dark gray (2.5Y 4/1) and white (7.5YR 8/1) weathered biotite gneiss			
Bottom of borehole at 46.0 feet.					
50					



RECORD OF WELL CONSTRUCTION

WELL: PZ-34 S
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/3/2016 **COMPLETED** 6/4/2016 **GROUND ELEVATION** 440.8 ft **COORDINATES** N 1121331.59 E 2409288.37

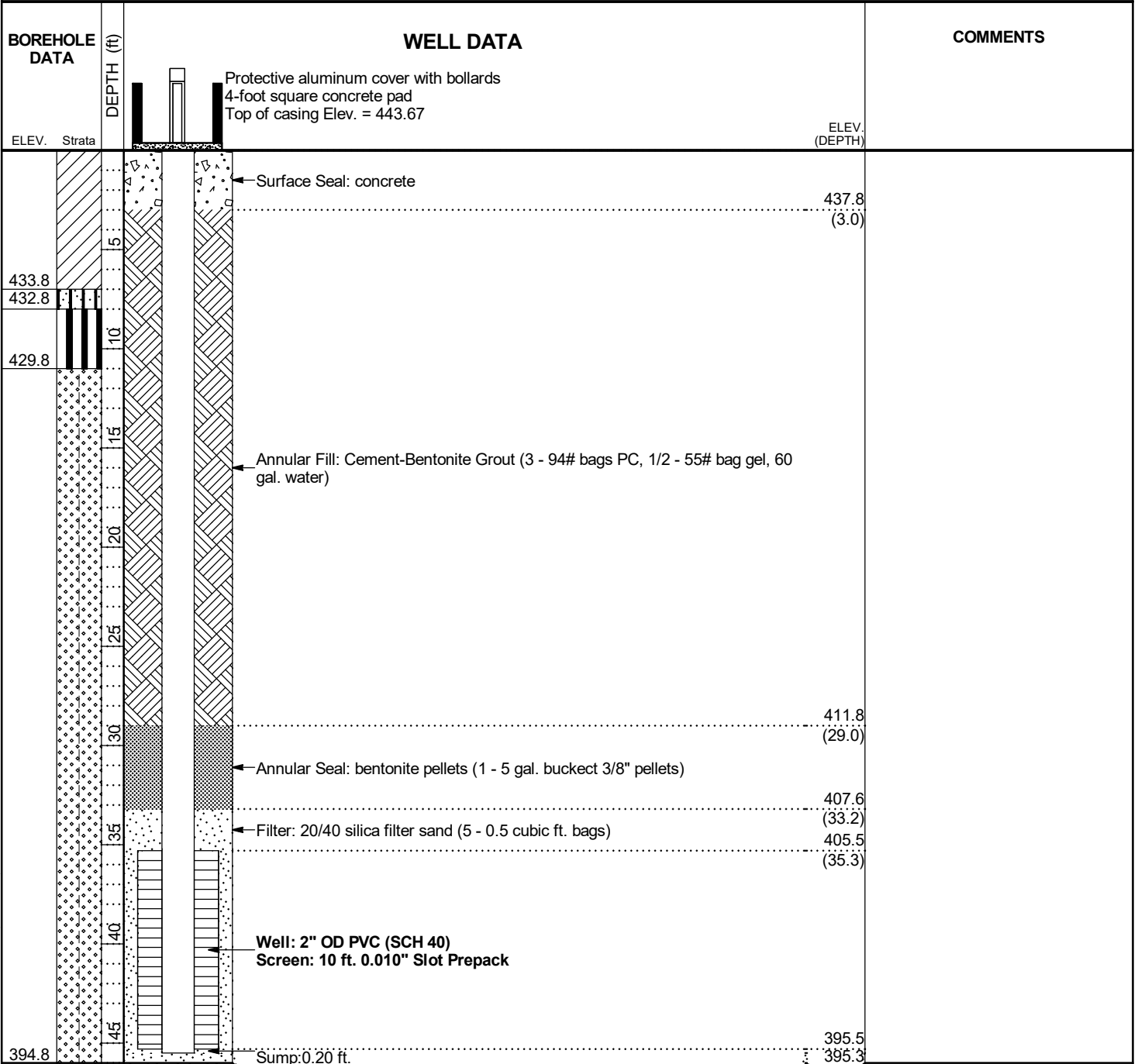
CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY J. Asua **LOGGED BY** W. Shaughnessy **CHECKED BY** B. Smelser **BORING DEPTH** 46 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** 13 ft. **DELAYED** _____

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ





BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/22/2016 COMPLETED 6/22/2016 GROUND ELEVATION 474.6 ft COORDINATES N 1121598.57 E 2406058.33

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 56 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 5.3 ft. after 100 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFCISCHERER\ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION			COMMENTS
				Weak	Moderate	Strong	
5		Sandy Silt (ML) - dark red (2.5YR 3/6) dry					
		Poorly-graded Sand with Silt (SP-SM) - dark red (10R 3/6) dry					
		Clayey Sand (SC) - dark reddish brown (2.5YR 3/4) dry, cohesive - yellowish red / light brown (5YR 5/6)					
10		Poorly-graded Sand with Silt (SP-SM) - mottled red (2.5YR 4/6) and brown (7.5YR 4/4) moist, fine-grained, micaceous					
15		- mottled light yellowish brown (10YR 6/4), red (2.5YR 4/6) and black (N1) micaceous (biotite and muscovite), oxidation - mottled brown (7.5YR 4/4), yellowish red / light brown (5YR 5/6) and black (N1) saprolite wet, micaceous					
20		- mottled light yellowish brown (10YR 6/4) and strong brown (7.5YR 5/8)					
25		Well-graded Sand with Silt (SW-SM) - mottled strong brown (7.5YR 4/6) and black (N1) wet, fine to coarse-grained, micaceous					
30		- mottled brown (10YR 5/3) and white (N9) weathered feldspar					
35		Poorly-graded Sand (SP) - mottled dark gray (2.5Y 4/1) and light olive brown (2.5Y 5/6) fine-grained					
40		Well-graded Sand with Silt (SW-SM) - damp - olive brown (2.5Y 4/3) fine to coarse-grained - SW: - olive brown (2.5Y 4/3), white (N9) and light gray (10YR 7/1) with gravel (residual/pulverized rock)					
45							
50		Well-graded Sand with Clay (SW-SC) - dark greenish gray (10Y 4/1) with gravel (residual/pulverized rock)					

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION		COMMENTS
				Weak	Moderate Strong	
55		Biotite Gneiss - dark gray (10YR 4/1) and light gray (10YR 7/1) medium to coarse grain, medium hard to hard, slightly to highly weathered, inclined, moderate to intensely fractured, white banding				
		Bottom of borehole at 56.0 feet.				
60						
65						
70						
75						
80						
85						
90						
95						
100						
105						
110						

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\IAPARKER\DESKTOP\GFCVSCHEHER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-35 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

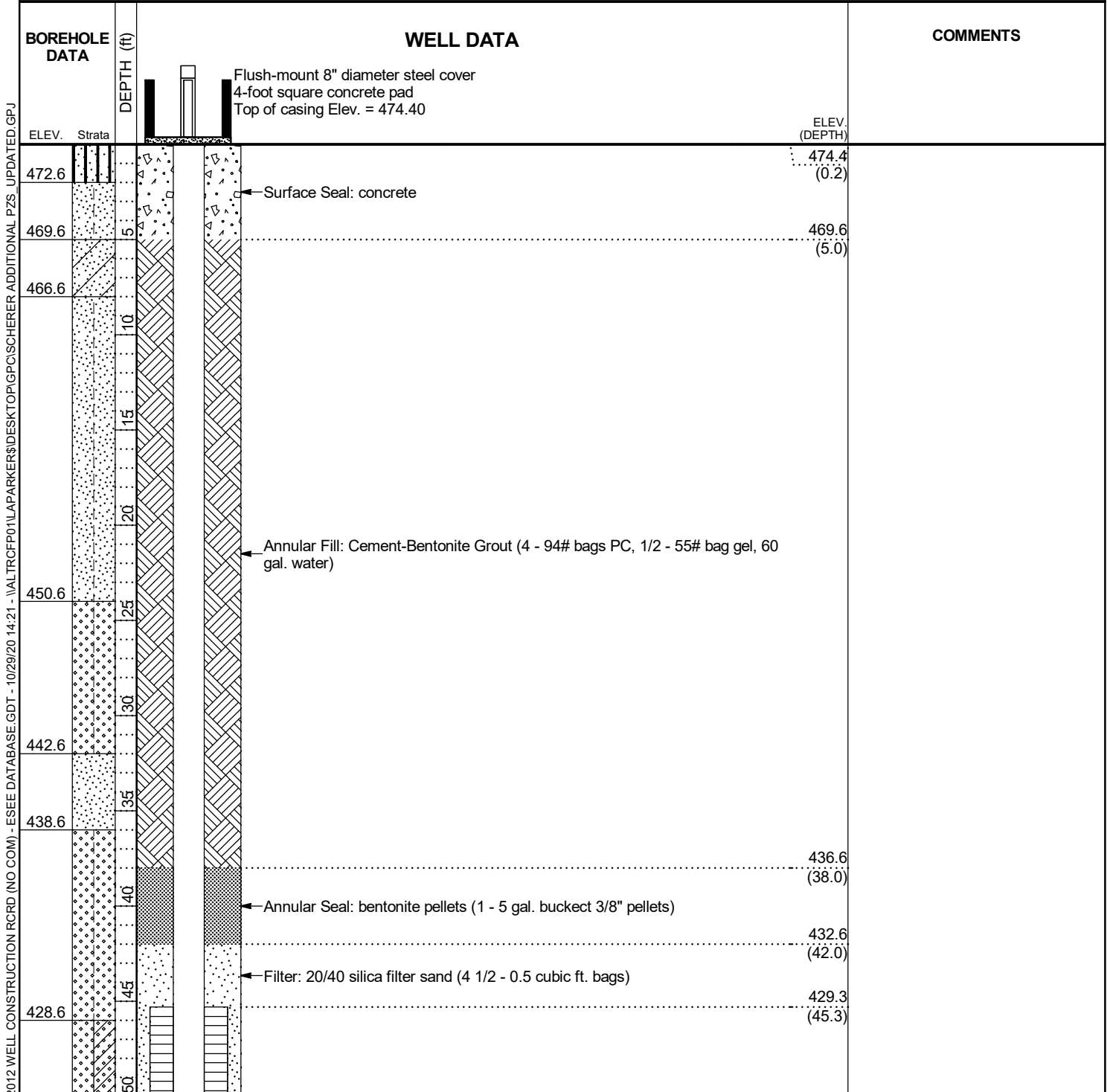
DATE STARTED 6/22/2016 COMPLETED 6/22/2016 GROUND ELEVATION 474.6 ft COORDINATES N 1121598.57 E 2406058.33

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 56 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 5.3 ft. after 100 hrs.

NOTES _____



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RECORD OF WELL CONSTRUCTION

WELL: PZ-35 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata		Flush-mount 8" diameter steel cover 4-foot square concrete pad Top of casing Elev. = 474.40	
423.6	(CONTINUED)	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	ELEV. (DEPTH)
418.6	55	Sump: 0.20 ft.	419.3 419.1

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LAPARKER\DESKTOP\GPCISCHERER ADDITIONAL_PZS_UPDATED.GPJ



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/4/2016 COMPLETED 6/5/2016 GROUND ELEVATION 478.9 ft COORDINATES N 1120410.99 E 2407256.25

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY T. Ardito LOGGED BY P. Alexander CHECKED BY B. Smelser BORING DEPTH 97 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 49.8 ft. after 24 hrs.

NOTES

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
5		Silt (ML) - red (2.5YR 4/6) dry, stiff, no			
10					
15		- red (2.5YR 5/6) dry, stiff, some mica			
20		- saprolite			
25		Poorly-graded Sand with Silt (SP-SM) - mottled reddish brown (5YR 5/4) and white (N9) damp, loose - mottled strong brown (7.5YR 5/6), pink (5YR 7/3) and light red (2.5YR 6/6) - slight oxidation			
30		Well-graded Sand with Silt (SW-SM) - red (2.5YR 5/6), pink (2.5YR 8/4) and strong brown (7.5YR 5/6) saprolite moist, loose, banded, some mica - mottled brown (7.5YR 5/3), reddish brown (2.5YR 5/4) and light gray (2.5Y 7/2) moist, horizontal and sub-vertical banding - relict fractures 38 to 43 ft.			
35					
40					
45		Poorly-graded Sand with Silt (SP-SM) - mottled reddish yellow (7.5YR 6/6), yellow (10YR 7/6) and light yellowish brown (2.5Y 6/3) saprolite wet, very loose, some mica - relict fractures 46 to 48 ft. (horizontal and sub-vertical)			
50		Poorly-graded Sand with Clay (SP-SC) - mottled light gray (10YR 7/2), light reddish brown (2.5YR 6/3) and light			

(Continued Next Page)



BORING LOG

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
55		reddish brown (2.5YR 7/4) saprolite moist, loose, some mica, some oxidation 47 to 56 ft., foliation 55 to 57 ft. Poorly-graded Sand with Clay (SP-SC)(Con't)			
60		- mottled gray (2.5Y 6/1), olive gray / light olive gray (5Y 5/2) and very dark gray (5Y 3/1) saprolite moist, loose, some mica			
65		Biotite Gneiss - greenish gray (10Y 6/1), white (7.5YR 8/1) and dark greenish gray (10GY 4/1) very soft to soft, highly weathered, banded - bluish gray (10B 5/1) and light bluish gray (5PB 8/1) soft, highly weathered, banded, water staining, moderately disintegrated			
70		- white (10YR 8/1) and greenish gray (5BG 5/1) very soft to soft, moderately weathered, banded, water staining, moderately disintegrated			
75		- white (10YR 8/1) and greenish gray (5BG 5/1) very soft to soft, moderately weathered, banded, water staining, moderately disintegrated			
80		- medium light gray (N6), white (N9) and dark bluish gray (10B 4/1) hard, slightly weathered, banded, horizontal and sub-vertical fractures, water staining, slightly disintegrated			
85		- dark bluish gray (10B 4/1) hard, slightly weathered, banded, slightly disintegrated			
90		- white (N9) and bluish gray (10B 5/1) hard, slightly weathered, banded, sub-vertical fractures, water staining, slightly disintegrated			
95		- intensely fractured - hard, not to slightly weathered, massive, horizontal and sub-vertical fractures, slightly disintegrated			
		Bottom of borehole at 97.0 feet.			
100					
105					
110					



RECORD OF WELL CONSTRUCTION

WELL: PZ-36 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/4/2016 **COMPLETED** 6/5/2016 **GROUND ELEVATION** 478.9 ft **COORDINATES** N 1120410.99 E 2407256.25

CONTRACTOR Cascade **METHOD** Rotosonic **EQUIPMENT** Tracked

DRILLED BY T. Ardito **LOGGED BY** P. Alexander **CHECKED BY** B. Smelser **BORING DEPTH** 97 ft.

GROUND WATER DEPTH: DURING _____ **COMP.** _____ **DELAYED** 49.8 ft. after 24 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER ADDITIONAL PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p> <p style="text-align: right;">ELEV. (DEPTH)</p>	<p style="text-align: center;">Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 481.52</p> <p>← Surface Seal: concrete</p> <p style="text-align: right;">475.9 (3.0)</p> <p>← Annular Fill: Cement-Bentonite Grout (6 - 94# bags PC, 1/2 - 55# bag gel, 70 gal. water)</p>	
<p>455.9</p> <p>449.9</p> <p>436.9</p> <p>430.9</p>		

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-36 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA	DEPTH (ft)	WELL DATA	COMMENTS
ELEV. Strata	(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 481.52	ELEV. (DEPTH)
413.9	55 60 65 70 75 80 85 90 95	← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets) ← Filter: 20/40 silica filter sand (6 - 0.5 cubic ft. bags) Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack Sump: 0.20 ft.	402.9 (76.0) 397.9 (81.0) 393.6 (85.3) 383.6 (95.3) 383.4 (95.5)
381.9			383.4 (95.5)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER ADDITIONAL - PZS_UPDATED.GPJ

RECORD OF BOREHOLE PZ-36S

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 56.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/22/18
 DATE COMPLETED: 8/22/18

NORTHING: 1,120,401.04
 EASTING: 2,407,248.04
 GS ELEVATION: 479.4
 TOC ELEVATION: 482.35 ft

DEPTH W.L.: 35.5'
 ELEVATION W.L.: 446.69'
 DATE W.L.: 8/24/18
 TIME W.L.: 09:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 4.00 Clayey SILT with trace sand and organic matter; sand: fine; red to dark reddish brown; non-cohesive; moist to wet; compact; RESIDUUM	ML	| | | |	475.4 4.00	S-1	ROTO SONIC	7.50 10.00		<p>WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 45-55' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 43-55' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 38.8-43' Type: 3/8" Pel-Plug</p> <p>ANNULUS SEAL Interval: 0-38.8' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
475		4.00 - 10.00 Silty CLAY with trace organics; red to reddish brown; cohesive; w~PL to w>PL; firm to very stiff; RESIDUUM	CL	| | | | | | | | | |	469.4 10.00	S-2	ROTO SONIC	2.00 10.00		
470		10.00 - 20.00 Silty CLAY with some sand; sand: fine to coarse; red; cohesive; w<PL to w~PL; firm to stiff; RESIDUUM	CL	| | | | | | | | | |	459.4 20.00	S-3	ROTO SONIC	8.50 10.00		
465		20.00 - 25.00 Clayey SAND; sand: fine to coarse; reddish-pink to red; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC	| | | | | | | | | |	454.4 25.00	S-4	ROTO SONIC	10.00 10.00		
460		25.00 - 30.00 Clayey SAND; sand: fine to coarse; reddish brown; micaceous; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC	| | | | | | | | | |	449.4 30.00					
455		30.00 - 40.00 Clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; red to light grey; micaceous; non-cohesive; moist; compact to dense; SAPROLITE	SC	| | | | | | | | | |	439.4					
450										
445										
440										
435										
430										
425										
420										
415										
410										
405										
400										

Log continued on next page

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-36S

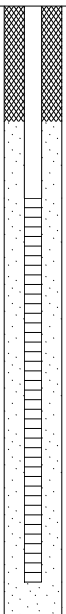
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 56.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/22/18
 DATE COMPLETED: 8/22/18

NORTHING: 1,120,401.04
 EASTING: 2,407,248.04
 GS ELEVATION: 479.4
 TOC ELEVATION: 482.35 ft

DEPTH W.L.: 35.5'
 ELEVATION W.L.: 446.69'
 DATE W.L.: 8/24/18
 TIME W.L.: 09:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		40.00 - 50.00 Clayey-Silty SAND; orange to light tan; micaceous; non-cohesive; wet; compact to dense; SAPROLITE			40.00					<p>WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 45-55' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 43-55' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 38.8-43' Type: 3/8" Pel-Plug</p> <p>ANNULUS SEAL Interval: 0-38.8' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
45	435		SC-SM			S-5	ROTO SONIC	10.00 10.00		
50	430	50.00 - 56.00 Clayey-Silty SAND; orange to light tan; micaceous; non-cohesive; wet; compact to dense; SAPROLITE			429.4 50.00					
55	425		SC-SM			S-6	ROTO SONIC	5.00 10.00		
		Boring completed at 56.00 ft			423.4					
60	420									
65	415									
70	410									
75	405									
80	400									

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19





LOG OF TEST BORING

BORING PZ-37 I
PAGE 1 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

DATE STARTED 6/2/2016 COMPLETED 6/2/2016 SURF. ELEV. 479.5 COORDINATES: N:1121178.48 E 2408419.19

CONTRACTOR Cascade EQUIPMENT Tracked METHOD Rotosonic

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser ANGLE _____ BEARING _____

BORING DEPTH 72.5 ft. GROUND WATER DEPTH DURING _____ COMP. _____ DELAYED 43 ft. after 48 hrs.

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	GROUNDWATER OBSERVATIONS	WELL DATA
						Completion: protective aluminum cover with bollards; 4-foot square concrete pad Top of casing Elev. = 482.18
5		Sandy Silt (ML) - dark red (2.5YR 3/6) dry				Surface Seal: concrete
10		- red (2.5YR 4/6) - yellowish red (5YR 4/6)				
15		Silty Sand (SM) - red (10R 5/6) dry, fine-grained, with mica				Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)
20		- weak red (10R 5/3)				
25		- mottled reddish brown (2.5YR 4/4) and reddish black (2.5YR 2.5/1) dry, weathered schist - weak red (2.5YR 5/2)				
30		- mottled reddish brown (2.5YR 4/4) and strong brown (7.5YR 5/6)				
30		Elastic Silt (MH) - reddish brown (2.5YR 4/4) wet				
35		Silty Sand (SM) - reddish brown (2.5YR 5/4) fine to coarse-grained. with mica				
40		- yellowish red (5YR 4/6) and reddish brown (2.5YR 4/4) with coarse gravel (residual quartz+feldspar viens) - mottled grayish brown (10YR 5/2) and white (10YR 8/1)				
40		Silt (ML) - mottled strong brown (7.5YR 5/8) and black (7.5YR 2.5/1)				
45		Silty Sand (SM) - light brown (7.5YR 6/4) fine to coarse-grained. with mica				
45		Silt (ML) - strong brown (7.5YR 4/6) and black (7.5YR 2.5/1) - dark yellowish brown (10YR 4/4)				
50						

(Continued Next Page)

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 9/7/16 11:23 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\IGA-SCHERER\BORING LOGS\BORING LOGS



LOG OF TEST BORING

BORING PZ-37 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 9/7/16 11:23 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\IGA-SCHERER\BORING LOG (2016)\BORING LOG

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	GROUNDWATER OBSERVATIONS	WELL DATA
						Completion: protective aluminum cover with bollards; 4-foot square concrete pad Top of casing Elev. = 482.18
		Silt (ML) (Con't)				<p>(CONTINUED)</p> <p>Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)</p> <p>Annular Seal: ← bentonite pellets (1 - 5 gal. bucket 3/8" pellets)</p> <p>Filter: ← 20/40 silica filter sand (5 - 0.5 cubic ft. bags)</p> <p>Standpipe: 2" OD PVC (SCH 40)</p> <p>Screen: 10 ft; 0.010" Slot Prepack</p> <p>Sump: 0.2000000000000003 ft.</p> <p>Cave-in to 72.5 ft.</p>
55		Silty Sand (SM) - olive brown (2.5Y 4/4) and olive gray / light olive gray (5Y 5/2) saprolite fine to coarse-grained, with mica				
60						
65		Well-graded Sandy Gravel (GW) - dark gray (10YR 4/1) and white (10YR 8/1) transition zone pulverized rock, biotite gneiss, feldspar and quartz				
70		Biotite Gneiss - black (5Y 2.5/1) and white / yellowish gray (5Y 8/1) coarse grain, hard, not to slightly weathered, banded, moderately fractured, sub-horizontal fractures - yellowish red (5YR 5/8) water staining				
		Bottom of borehole at 72.5 feet.				
75						
80						
85						
90						
95						
100						
105						
110						



RECORD OF WELL CONSTRUCTION

WELL: PZ-37 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/2/2016 COMPLETED 6/2/2016 GROUND ELEVATION 479.5 ft COORDINATES N 1121178.48 E 2408419.19

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 72.5 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 43 ft. after 48 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p>	<p>DEPTH (ft)</p> <p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 482.18</p> <p>Surface Seal: concrete</p> <p>Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)</p>	<p>ELEV. (DEPTH)</p>
<p>467.5</p>	<p>476.5 (3.0)</p>	

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-37 I
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SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	ELEV. (DEPTH)	
426.5				
		55	425.0 (54.5)	
				← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)
		60	421.5 (58.0)	
				← Filter: 20/40 silica filter sand (5 - 0.5 cubic ft. bags)
416.5		65	418.5 (61.0)	
412.5				Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack
		70	408.5 (71.0)	
407.0			408.3 (71.2)	Sump: 0.20 ft.

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\APARKER\DESKTOP\GPC\SCHERER\ADDITIONAL_PZS_UPDATED.GPJ



LOG OF TEST BORING

BORING PZ-38 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/22/2016 COMPLETED 6/23/2016 SURF. ELEV. 482.2 COORDINATES: N 1121475.86 E 2406352.98

CONTRACTOR Cascade EQUIPMENT Tracked METHOD Rotosonic

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser ANGLE _____ BEARING _____

BORING DEPTH 76 ft. GROUND WATER DEPTH DURING _____ COMP. _____ DELAYED 16.3 ft. after 100 hrs.

NOTES _____

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	GROUNDWATER OBSERVATIONS	WELL DATA	
						Completion: flush-mount 8" diameter steel cover; 4-foot square concrete pad	
5		Sandy Silt (ML) - dark red (2.5YR 3/6) dry - with mica					Surface Seal: concrete
10		Poorly-graded Sand with Silt (SP-SM) - yellowish red / light brown (5YR 5/6) dry, fine-grained					
15		Elastic Silt (MH) - yellowish red / light brown (5YR 5/6) and brown (7.5YR 5/4) micaceous - brown (7.5YR 5/3) damp					
20		Poorly-graded Sand with Silt (SP-SM) - grayish brown (10YR 5/2) fine-grained, micaceous					
25		Well-graded Sand (SW) - black (N1) and very light gray (N8) coarse-grained, weathered feldspar seam Poorly-graded Sand with Silt (SP-SM) - grayish brown (10YR 5/2) and strong brown (7.5YR 4/6) saprolite wet, fine-grained, white banding, interbedded by weathered feldspar and quartz seams					
30		Well-graded Sand with Silt (SW-SM) - mottled olive gray / light olive gray (5Y 5/2) and pale yellow (5Y 8/2) saprolite wet, fine to coarse-grained					
35		- mottled grayish olive (10Y 4/2) and pale yellow (2.5Y 7/4)					
40		- mottled grayish brown (2.5Y 5/2) and pale yellow (2.5Y 7/4) with mica					
45							
50							Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)

(Continued Next Page)

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 9/7/16 11:23 - S:\WORKGROUP\SPAC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\IGA-SCHERER\BORING LOGS\BORING LOGS



LOG OF TEST BORING

BORING PZ-38 I
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ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 9/7/16 11:23 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\GA-SCHERER\SCHERER ADDITIONAL HYDROGEOLOGIC INVESTIGATION (2016)\BORING LOG

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	GROUNDWATER OBSERVATIONS	WELL DATA
						Completion: flush-mount 8" diameter steel cover; 4-foot square concrete pad
55		Well-graded Sand with Silt (SW-SM)(Cont) - mottled olive gray / light olive gray (5Y 5/2), brown (7.5YR 4/4) and white (N9) weathered biotite gneiss - mottled dark grayish brown (2.5Y 4/2) and white (N9)				(CONTINUED) Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water) Annular Seal: ← bentonite pellets (1 - 5 gal. bucket 3/8" pellets) Filter: ← 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags) Standpipe: 2" OD PVC (SCH 40) Screen: 10 ft; 0.010" Slot Prepack Sump: 0.200000000000003 ft. Cave-in to 76 ft.
60		Poorly-graded Sand (SP) - yellowish brown (10YR 5/6) and dark grayish brown (2.5Y 4/2) fine-grained				
65		Biotite Gneiss - grayish brown (2.5Y 5/2) fine to coarse grain, gravelly sand (pulverized weathered rock)				
70						
75						
Bottom of borehole at 76.0 feet.						
80						
85						
90						
95						
100						
105						
110						



RECORD OF WELL CONSTRUCTION

WELL: PZ-38 I
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)
LOCATION Plant Scherer

DATE STARTED 6/22/2016 COMPLETED 6/23/2016 GROUND ELEVATION 482.2 ft COORDINATES N 1121475.86 E 2406352.98

CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

DRILLED BY J. Asua LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 76 ft.

GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 16.3 ft. after 100 hrs.

NOTES _____

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ

BOREHOLE DATA	WELL DATA	COMMENTS
<p>ELEV. Strata</p>	<p>DEPTH (ft)</p> <p>Flush-mount 8" diameter steel cover 4-foot square concrete pad Top of casing Elev. = 482.24</p> <p>Surface Seal: concrete</p> <p>Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)</p>	<p>ELEV. (DEPTH)</p> <p>477.2 (5.0)</p>
474.2		
471.2		
466.2		
463.2 462.2		
446.2		

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-38 I
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 ECS38467

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	ELEV. (DEPTH)	
	(CONTINUED)			
423.2		55	424.7 (57.5)	
		60		← Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)
419.2		65	420.7 (61.5)	← Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)
		70	418.4 (63.8)	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack
		75	408.4 (73.8)	← Sump: 0.20 ft.
406.2			408.2 (74.0)	

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPCISCHERER\ADDITIONAL_PZS_UPDATED.GPJ

RECORD OF BOREHOLE PZ-39S

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 80.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/21/18
 DATE COMPLETED: 8/21/18

NORTHING: 1,120,178.43
 EASTING: 2,407,470.49
 GS ELEVATION: 471.8
 TOC ELEVATION: 474.58 ft

DEPTH W.L.: 35.9'
 ELEVATION W.L.: 438.59'
 DATE W.L.: 8/24/18
 TIME W.L.: 09:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	470	0.00 - 6.50 clayey SILT with some organic matter; dark reddish brown; non-cohesive; moist; compact; RESIDUUM	ML	| | | | |					WELL CASING Interval: 0-76' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 66-76' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/ 2" Inner Slot Size: 0.010 End Cap: 0.4 FILTER PACK Interval: 64-79' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 62.5-64' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-62.5' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic	
5	465	6.50 - 10.00 silty CLAY; grey to brown; cohesive; w~PL; soft to firm; RESIDUUM	CL	| | | | |	465.3 6.50	S-1	ROTO SONIC			10.00 10.00
10	460	10.00 - 20.00 silty CLAY; high plasticity; red to reddish brown; cohesive; w>PL; stiff to very stiff; RESIDUUM	CL	| | | | |	461.8 10.00	S-2	ROTO SONIC			7.50 10.00
15	455	20.00 - 30.00 silty-sandy CLAY and clayey SAND mix; sand: fine; red; cohesive; w<PL to w~PL; soft to firm; RESIDUUM	CL-SC	| | | | |	451.8 20.00	S-3	ROTO SONIC			7.50 10.00
20	450	30.00 - 35.00 clayey SAND with silt; sand: fine to coarse; red to orange; non-cohesive; wet; loose to compact; RESIDUUM	SC	| | | | |	441.8 30.00	S-4	ROTO SONIC			10.00 10.00
25	445	35.00 - 40.00 clayey SAND with silt and gravel; sand: fine to coarse; gravel: fine to coarse; orange; non-cohesive; wet; loose to compact; RESIDUUM	SC	| | | | |	436.8 35.00	S-4	ROTO SONIC	10.00 10.00		
30	440				431.8					
35	435									
40	430									

Log continued on next page

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-39S

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 80.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/21/18
 DATE COMPLETED: 8/21/18

NORTHING: 1,120,178.43
 EASTING: 2,407,470.49
 GS ELEVATION: 471.8
 TOC ELEVATION: 474.58 ft

DEPTH W.L.: 35.9'
 ELEVATION W.L.: 438.59'
 DATE W.L.: 8/24/18
 TIME W.L.: 09:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40	430	40.00 - 50.00 clayey SAND with silt; sand: fine to coarse; red to orange; non-cohesive; wet; loose to compact; RESIDUUM	SC		40.00	S-5	ROTO SONIC		WELL CASING Interval: 0-76' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 66-76' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/ 2" Inner Slot Size: 0.010 End Cap: 0.4 FILTER PACK Interval: 64-79' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 62.5-64' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-62.5' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
45	425				421.8				
50	420	50.00 - 57.00 clayey SAND with silt; sand: fine to coarse; red to orange; non-cohesive; wet; loose to compact; RESIDUUM	SC		50.00	S-6	ROTO SONIC		
55	415				414.8				
60	410	57.00 - 60.00 silty SAND with trace clay; micaceous; tan to grey; non-cohesive; moist to wet; compact to dense; SAPROLITE	SM		57.00				
65	405	60.00 - 68.00 silty SAND with trace clay and some fine gravel; sand: fine to coarse; tan to grey; micaceous; non-cohesive; moist to wet; compact to dense; SAPROLITE	SM		411.8 60.00	S-7	ROTO SONIC		
70	400	68.00 - 70.00 silty SAND with trace clay and some fine gravel; sand: fine to coarse; dark grey; micaceous; non-cohesive; moist; dense; SAPROLITE	SM		403.8 68.00				
75	395	70.00 - 77.00 silty SAND with trace clay and some fine gravel; sand: fine to coarse; dark grey; micaceous; non-cohesive; moist; dense; SAPROLITE	SM		401.8 70.00	S-8	ROTO SONIC		
80	395	77.00 - 80.00 silty SAND with trace clay and some gravel; sand: fine to coarse; gravel: fine to coarse; dark grey; micaceous; non-cohesive; moist; dense to very dense; TWR Note: Drill chatter at 77'	TWR		394.8 77.00				
		Boring completed at 80.00 ft							

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-40I

SHEET 1 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 84.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/15/18
 DATE COMPLETED: 8/15/18

NORTHING: 1,116,960.39
 EASTING: 2,406,934.72
 GS ELEVATION: 510.1
 TOC ELEVATION: 512.55 ft

DEPTH W.L.: 31.8'
 ELEVATION W.L.: 480.42'
 DATE W.L.: 8/17/18
 TIME W.L.: 13:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	510	0.00 - 10.00 Hydrovac from 0-10'							WELL CASING Interval: 0-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 73-83' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4 FILTER PACK Interval: 70-84' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 70-65.5' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-65.5' Type: Portland Cement and Quick Gel Bentonite Gel Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
5	505								
10	500	10.00 - 20.00 Sandy, Clayey SILT; low to medium plasticity; sand: fine to coarse; red to reddish brown; non-cohesive; moist to wet; compact; trending towards clay downhole; RESIDUUM	MH		500.1 10.00	S-1	ROTO SONIC	7.00 10.00	
15	495								
20	490	20.00 - 22.80 silty CLAY with some sand; sand: fine to coarse; reddish brown; cohesive; w<PL; compact; soft to firm; RESIDUUM	CL		490.1 20.00				
25	485	22.80 - 27.60 sandy SILT with some clay; sand: fine to coarse; reddish brown with black; micaceous; non-cohesive; moist; loose; RESIDUUM	SM		487.3 22.80	S-2	ROTO SONIC	8.00 10.00	
30	480	27.60 - 30.00 silty CLAY with some sand and nodules of organic matter; sand: fine to coarse; reddish brown; cohesive; w<PL; soft to firm; RESIDUUM	CL		482.5 27.60				
35	475	30.00 - 36.80 silty CLAY; red; cohesive; w>PL; very soft; RESIDUUM	CL		480.1 30.00				
40	470	36.80 - 40.00 clayey SAND; sand: fine; reddish-pink; micaceous; non-cohesive; wet; compact; SAPROLITE	SC		473.3 36.80	S-3	ROTO SONIC	9.50 10.00	
		Log continued on next page			470.1				

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-401

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 84.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/15/18
 DATE COMPLETED: 8/15/18

NORTHING: 1,116,960.39
 EASTING: 2,406,934.72
 GS ELEVATION: 510.1
 TOC ELEVATION: 512.55 ft

DEPTH W.L.: 31.8'
 ELEVATION W.L.: 480.42'
 DATE W.L.: 8/17/18
 TIME W.L.: 13:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	470	40.00 - 50.00 clayey SAND; sand: fine; reddish pink; micaceous; cohesive; w<PL; very soft to soft; SAPROLITE			40.00					WELL CASING Interval: 0-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 73-83' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4 FILTER PACK Interval: 70-84' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 70-65.5' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-65.5' Type: Portland Cement and Quick Gel Bentonite Gel Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
45	465		SC		460.1	S-4	ROTO SONIC	5.00 10.00		
50	460	50.00 - 55.00 sandy CLAY; sand: fine to coarse; light tan; micaceous; cohesive; w>PL; soft to firm; SAPROLITE	CH		50.00					
55	455	55.00 - 57.50 clayey SAND; sand: fine to coarse; brown; micaceous; non-cohesive to cohesive; moist to wet; compact; SAPROLITE	SC		455.1	S-5	ROTO SONIC	10.00 10.00		
60	450	57.50 - 65.00 clayey SAND; sand: fine to coarse; dark grey; micaceous; highly weathered rock; non-cohesive; moist; compact to dense; SAPROLITE	SC		452.6					
65	445	65.00 - 68.50 clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; light grey to grey; micaceous; some weathered quartz; orange mottling; non-cohesive; moist to wet; dense; TWR	TWR		445.1	S-6	ROTO SONIC	8.00 10.00		
70	440	68.50 - 70.00 silty GRAVEL; gravel: fine to coarse; dark grey; micaceous; highly weathered rock; non-cohesive; wet; dense to very dense; BEDROCK	BR		441.6					
75	435	70.00 - 80.00 BIOTITE GNEISS; fresh; banded coarse and fine; gneissic banding; crystals fine to coarse; strong	BR		440.1					
80					430.1	S-7	ROTO SONIC	8.50 10.00		

Log continued on next page

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-40I



SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 84.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/15/18
 DATE COMPLETED: 8/15/18

NORTHING: 1,116,960.39
 EASTING: 2,406,934.72
 GS ELEVATION: 510.1
 TOC ELEVATION: 512.55 ft

DEPTH W.L.: 31.8'
 ELEVATION W.L.: 480.42'
 DATE W.L.: 8/17/18
 TIME W.L.: 13:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
80	430	80.00 - 84.00 BIOTITE GNEISS; fresh; banded coarse and fine; gneissic banding; crystals fine to coarse; strong	BR		80.00	S-8	ROTO SONIC	4.00 4.00		<p>WELL CASING Interval: 0-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 73-83' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4</p> <p>FILTER PACK Interval: 70-84' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 70-65.5' Type: 3/8" PEL-PLUG</p> <p>ANNULUS SEAL Interval: 0-65.5' Type: Portland Cement and Quick Gel Bentonite Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
		Boring completed at 84.00 ft			426.1					

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-41S

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 45.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/16/18
 DATE COMPLETED: 8/16/18

NORTHING: 1,116,799.18
 EASTING: 2,407,124.98
 GS ELEVATION: 488.6
 TOC ELEVATION: 491.50 ft

DEPTH W.L.: 25.8'
 ELEVATION W.L.: 465.55'
 DATE W.L.: 8/17/18
 TIME W.L.: 14:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 12.00 Hydrovac 0-12'								WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 35-45' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4 FILTER PACK Interval: 32-45' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 27-32' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-27' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
485										
5										
480										
10										
475		12.00 - 20.00 silty SAND with trace organics and clay; sand: fine to coarse; reddish brown with black and orange mottling; micaceous; non-cohesive; moist; loose to compact; RESIDUUM	SM	476.6 12.00	S-1	ROTO SONIC	5.50 8.00			
15										
470										
20		20.00 - 30.00 silty, clayey SAND; sand: fine to coarse; reddish brown; micaceous; non-cohesive; moist to wet; compact; RESIDUUM	SC-SM	468.6 20.00	S-2	ROTO SONIC	9.00 10.00			
25										
465										
30		30.00 - 35.00 clayey SAND; sand: fine to coarse; light grey to tan; micaceous; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC	458.6 30.00						
35										
455										
40		35.00 - 40.00 silty-sandy CLAY with trace fine gravel; sand: fine to coarse; light grey and tan; micaceous; cohesive; w<PL to w-PL; very soft to firm; SAPROLITE	CL	453.6 35.00	S-3	ROTO SONIC	10.00 10.00			
450										
448.6										

Log continued on next page

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-41S

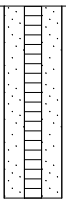
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 45.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/16/18
 DATE COMPLETED: 8/16/18

NORTHING: 1,116,799.18
 EASTING: 2,407,124.98
 GS ELEVATION: 488.6
 TOC ELEVATION: 491.50 ft

DEPTH W.L.: 25.8'
 ELEVATION W.L.: 465.55'
 DATE W.L.: 8/17/18
 TIME W.L.: 14:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		40.00 - 41.00 silty-sandy CLAY with trace gravel; sand: fine to coarse; gravel: fine to coarse; grey; micaceous; cohesive; w-PL; firm; SAPROLITE	CL	[Hatched Pattern]	40.00 447.6					<p>WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 35-45' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 32-45' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 27-32' Type: 3/8" PEL-PLUG</p> <p>ANNULUS SEAL Interval: 0-27' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
		41.00 - 43.00 silty SAND with trace gravel; sand: fine to coarse; gravel: fine; light grey to grey; micaceous; non-cohesive; dry; dense to very dense; TWR	TWR	[Dotted Pattern]	41.00	S-4	ROTO SONIC	3.00 5.00		
		43.00 - 45.00 clayey- silty SAND with some silt and gravel; sand: fine to coarse; gravel: fine to coarse; grey; micaceous; non-cohesive; moist to wet; dense; TWR	TWR	[Dotted Pattern]	43.00					
44.5				445.6						
45		Boring completed at 45.00 ft		443.6						
440										
50										
435										
55										
430										
60										
425										
65										
420										
70										
415										
75										
410										
80										

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-42I

SHEET 1 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 105.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/20/18
 DATE COMPLETED: 8/21/18

NORTHING: 1,116,013.79
 EASTING: 2,405,294.12
 GS ELEVATION: 500.5
 TOC ELEVATION: 503.18 ft

DEPTH W.L.: 9.5'
 ELEVATION W.L.: 493.47'
 DATE W.L.: 8/22/18
 TIME W.L.: 15:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	500	0.00 - 10.00 Hydrovac 0-10'								WELL CASING Interval: 0-96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 86-96' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4 FILTER PACK Interval: 83-96' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 77-83' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-77' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
5	495									
10	490	10.00 - 20.00 Clayey SILT with some sand; sand: fine to coarse; red; micaceous; non-cohesive; wet; loose to compact; RESIDUUM			490.5 10.00					
15	485		ML	| | | |	S-1	ROTO SONIC	10.00 10.00			
20	480	20.00 - 30.00 silty CLAY with some sand; sand: fine to coarse; red to reddish brown; micaceous; cohesive; w~PL to w>PL; loose to compact; RESIDUUM		| | | |						
25	475		CL	| | | |	S-2	ROTO SONIC	10.00 10.00			
30	470	30.00 - 37.00 silty CLAY with some sand; sand: fine to coarse; red to reddish brown; micaceous; cohesive; w~PL to w>PL; loose to compact; RESIDUUM		| | | |						
35	465		CL	| | | |	S-3	ROTO SONIC	9.50 10.00			
40		37.00 - 40.00 clayey SAND with silt; sand: fine to coarse; brown to grey; micaceous; non-cohesive; wet; compact; SAPROLITE	SC	| | | |						
		Log continued on next page								

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-421

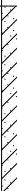
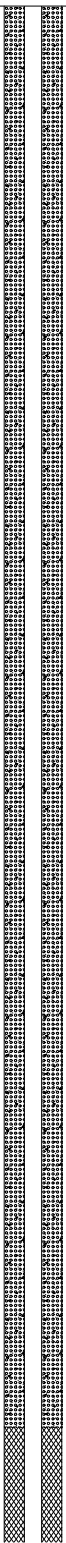
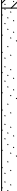




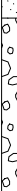
SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 105.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/20/18
 DATE COMPLETED: 8/21/18

NORTHING: 1,116,013.79
 EASTING: 2,405,294.12
 GS ELEVATION: 500.5
 TOC ELEVATION: 503.18 ft

DEPTH W.L.: 9.5'
 ELEVATION W.L.: 493.47'
 DATE W.L.: 8/22/18
 TIME W.L.: 15:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40	460	40.00 - 45.00 clayey SAND with silt; sand: fine to coarse; brown to grey; micaceous; non-cohesive; wet; compact; SAPROLITE	SC		40.00				WELL CASING Interval: 0-96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread WELL SCREEN Interval: 86-96' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4 FILTER PACK Interval: 83-96' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 77-83' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-77' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
45	455	45.00 - 50.00 silty SAND with some clay and gravel; sand: fine to coarse; gravel: fine; grey; micaceous; non-cohesive; moist; compact to dense; SAPROLITE	SM		455.5 45.00	S-4	10.00 10.00		
50	450	50.00 - 60.00 silty SAND with some clay and gravel; sand: fine to coarse; gravel: fine; grey; micaceous; non-cohesive; moist to wet; dense to very dense; SAPROLITE	SM		450.5 50.00				
55	445		SM			S-5	8.50 10.00		
60	440	60.00 - 70.00 No Recovery Note: Assumed SAPROLITE based on surrounding samples			440.5 60.00				
65	435		SM			S-6	0.00 10.00		
70	430	70.00 - 77.00 silty SAND to silty GRAVEL; sand: fine to coarse; gravel: fine to coarse; black to dark grey; micaceous; non-cohesive; wet; dense to very dense; SAPROLITE	SM-GM		430.5 70.00				
75	425					S-7	6.00 10.00		
80		77.00 - 80.00 silty SAND/GRAVEL ; sand: fine to coarse; gravel: fine to coarse; grey to dark grey; micaceous; non-cohesive; dry to moist; dense to very dense; TWR	TWR		423.5 77.00				
		Log continued on next page							

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-421

SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 105.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/20/18
 DATE COMPLETED: 8/21/18

NORTHING: 1,116,013.79
 EASTING: 2,405,294.12
 GS ELEVATION: 500.5
 TOC ELEVATION: 503.18 ft

DEPTH W.L.: 9.5'
 ELEVATION W.L.: 493.47'
 DATE W.L.: 8/22/18
 TIME W.L.: 15:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
80	420	80.00 - 84.50 silty SAND to silty GRAVEL; sand: fine to coarse; gravel: fine to coarse; dark grey, micaceous; non-cohesive; wet; dense to very dense; TWR	TWR		80.00				<p>WELL CASING Interval: 0-96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 86-96' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 83-96' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 77-83' Type: 3/8" PEL-PLUG</p> <p>ANNULUS SEAL Interval: 0-77' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
85	415	84.50 - 85.00 BIOTITE GNEISS; moderately weathered; crystals: medium to coarse; gneissic banding; black/white; strong 85.00 - 90.00 No Recovery Note: Assumed BEDROCK do to gravel found in previous interval and drill chatter/hard drilling	BR		416 415.5 85.00	S-8	5.00 10.00		
90	410	90.00 - 95.00 BIOTITE GNEISS; moderately weathered; crystals: medium to coarse; gneissic banding; black/white; strong	BR		410.5 90.00				
95	405	95.00 - 100.00 No Recovery; possible high fracture zone Note: Assumed BEDROCK do to gravel found in previous interval and drill chatter/hard drilling	BR		405.5 95.00	S-9	5.00 10.00		
100	400	100.00 - 105.00 No recovery; rock dropped out of sample Note: Assumed BEDROCK do to gravel found in previous intervals and drill chatter/hard drilling	BR		400.5 100.00		0.00 5.00		
105	395	Boring completed at 105.00 ft			395.5				
110	390								
115	385								
120									

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-43S

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 55.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/17/18
 DATE COMPLETED: 8/17/18

NORTHING: 1,115,598.12
 EASTING: 2,405,507.16
 GS ELEVATION: 501.2
 TOC ELEVATION: 504.03 ft

DEPTH W.L.: 19.00
 ELEVATION W.L.: 485.00'
 DATE W.L.: 8/17/18
 TIME W.L.: 15:00:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	500	0.00 - 10.00 Hydrovac 0-10'							<p>WELL CASING Interval: 0-50.5' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 40.5-50.5' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 37.5-52' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 32-37.5' Type: 3/8" PEL-PLUG</p> <p>ANNULUS SEAL Interval: 0-32' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
5	495								
10	490	10.00 - 15.00 clayey SILT with some sand; sand: fine to coarse; red; non-cohesive; wet; loose to very loose; RESIDUUM	ML	| | | |	491.2 10.00				
15	485	15.00 - 20.00 clayey SILT with some sand; sand: fine to coarse; light reddish tan; micaceous; non-cohesive; wet; loose to compact; RESIDUUM	ML	| | | |	486.2 15.00	S-1	ROTO SONIC	6.50 10.00	
20	480	20.00 - 30.00 clayey SILT with sand; sand: fine to coarse; reddish brown to brown; micaceous; non-cohesive; moist to wet; compact to dense; RESIDUUM	ML	| | | |	481.2 20.00				
25	475		ML	| | | |	471.2 30.00	S-2	ROTO SONIC	10.00 10.00	
30	470	30.00 - 40.00 silty-clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; brown; micaceous; non-cohesive; moist to wet; dense; SAPROLITE	SC-SM	| | | |	461.2	S-3	ROTO SONIC	10.00 10.00	
35	465								
40		Log continued on next page							

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



RECORD OF BOREHOLE PZ-43S

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 55.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/17/18
 DATE COMPLETED: 8/17/18

NORTHING: 1,115,598.12
 EASTING: 2,405,507.16
 GS ELEVATION: 501.2
 TOC ELEVATION: 504.03 ft

DEPTH W.L.: 19.00
 ELEVATION W.L.: 485.00'
 DATE W.L.: 8/17/18
 TIME W.L.: 15:00:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	460	40.00 - 45.00 silty-clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; brown; micaceous; non-cohesive; moist to wet; dense; SAPROLITE	SC-SM		40.00					<p>WELL CASING Interval: 0-50.5' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 40.5-50.5' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010 End Cap: 0.4</p> <p>FILTER PACK Interval: 37.5-52' Type: No. 20-40 Sand</p> <p>FILTER PACK SEAL Interval: 32-37.5' Type: 3/8" PEL-PLUG</p> <p>ANNULUS SEAL Interval: 0-32' Type: Portland Cement and Quick Gel Bentonite Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
45	455	45.00 - 50.00 silty-clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; grey; micaceous; non-cohesive; moist to wet; dense to very dense; SAPROLITE	SM-GM		456.2 45.00	S-4	ROTO SONIC	10.00 10.00		
50	450	50.00 - 55.00 silty-clayey SAND with some gravel; sand: fine to coarse; gravel: fine to coarse; grey; micaceous; non-cohesive; moist to wet; dense to very dense; SAPROLITE	SM-GM		451.2 50.00			10.00 10.00		
55		Boring completed at 55.00 ft			446.2	S-5	ROTO SONIC	10.00 10.00		
60	440									
65	435									
70	430									
75	425									
80										

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19



Location resurveyed May - July 2020

RECORD OF BOREHOLE PZ-441

SHEET 1 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 114.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/23/18
 DATE COMPLETED: 9/5/18

NORTHING: 1,121,515.40
 EASTING: 2,404,330.23
 GS ELEVATION: 507.9
 TOC ELEVATION: 510.36 ft

DEPTH W.L.: 19.8'
 ELEVATION W.L.: 490.39'
 DATE W.L.: 9/7/18
 TIME W.L.: 07:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 silty CLAY with some sand; sand: fine; red; cohesive; w<PL; firm to stiff; FILL	CL		502.9					<p>WELL CASING Interval: 0-114' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 104-114' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4</p> <p>FILTER PACK Interval: 103-114' Type: No. 20-40 Sand Quantity: 200 lbs</p> <p>FILTER PACK SEAL Interval: 98-103' Type: 3/8" PEL-PLUG Quantity: 5 gallons</p> <p>ANNULUS SEAL Interval: 0-98' Type: Portland Cement and Quick Gel Bentonite Mix Quantity: Cement: 1128 lbs Quick Gel: 150 lbs Water: 120 gallons</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
5		5.00 - 10.00 silty CLAY-clayey SILT with trace sand; sand: fine; red; non-cohesive; wet; loose to compact; RESIDUUM	CL-ML		5.00	S-1	ROTO 8.00 SONIC 10.00			
10		10.00 - 15.00 clayey SILT with sand; sand: fine to coarse; orange brown; non-cohesive; moist to wet; compact; RESIDUUM	ML		10.00					
15		15.00 - 20.00 sandy SILT-silty SAND; sand: fine to coarse; orange brown; non-cohesive; wet; loose; RESIDUUM	ML-SM		15.00	S-2	ROTO 7.60 SONIC 10.00			
20		20.00 - 30.00 clayey-silty SAND with some gravel; sand: fine to coarse; gravel: fine, orange brown; micaceous; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC-SM		20.00	S-3	ROTO 8.00 SONIC 10.00			
30		30.00 - 35.00 clayey SAND with silt and some gravel; sand: fine to coarse; gravel: fine to coarse; highly weathered rock fragments; orange-brown; micaceous; non-cohesive; moist to wet; dense; RESIDUUM	SC		30.00					
35		35.00 - 40.00 silty GRAVEL and SAND with some clay; sand: fine to coarse; gravel: fine to coarse; orange brown; micaceous; weathered rock and black carbon deposits; non-cohesive; moist to wet; dense to very dense; RESIDUUM	SM-GM		35.00	S-4	ROTO 8.00 SONIC 10.00			
40		Log continued on next page			467.9					

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 11/10/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19 Rev. 11/10/2020



Location resurveyed May - July 2020

RECORD OF BOREHOLE PZ-44I

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 114.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/23/18
 DATE COMPLETED: 9/5/18

NORTHING: 1,121,515.40
 EASTING: 2,404,330.23
 GS ELEVATION: 507.9
 TOC ELEVATION: 510.36 ft

DEPTH W.L.: 19.8'
 ELEVATION W.L.: 490.39'
 DATE W.L.: 9/7/18
 TIME W.L.: 07:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		40.00 - 43.00 silty GRAVEL and SAND with some clay; sand: fine to coarse; gravel: fine to coarse; orange brown; micaceous; weathered rock and black carbon deposits; non-cohesive; moist to wet; dense to very dense; RESIDUUM	SM-GM	|	40.00					<p>WELL CASING Interval: 0-114' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 104-114' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4</p> <p>FILTER PACK Interval: 103-114' Type: No. 20-40 Sand Quantity: 200 lbs</p> <p>FILTER PACK SEAL Interval: 98-103' Type: 3/8" PEL-PLUG Quantity: 5 gallons</p> <p>ANNULUS SEAL Interval: 0-98' Type: Portland Cement and Quick Gel Bentonite Mix Quantity: Cement: 1128 lbs Quick Gel: 150 lbs Water: 120 gallons</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>
465		42.00 - 45.00 silty GRAVEL and SAND with some clay; sand: fine to coarse; gravel: fine to coarse; tan to dark grey; micaceous; weathered rock fragments; non-cohesive; moist to wet; dense; SAPROLITE	SM-GM	|	464.9					
45		45.00 - 50.00 silty SAND with clay and gravel; sand: fine to coarse; gravel: fine to coarse; grey to dark grey; micaceous; weathered rock; non-cohesive; moist to wet; dense; SAPROLITE	SM	|	462.9 45.00	S-5	ROTO 8.00 SONIC 10.00			
460			SM	|	457.9 50.00					
50		50.00 - 60.00 silty SAND with clay and gravel; sand: fine to coarse; gravel: fine to coarse; grey to dark grey; micaceous; weathered rock; non-cohesive; moist to wet; dense; SAPROLITE	SM	|	447.9 60.00					
455			SM	|	447.9 60.00	S-6	ROTO 8.00 SONIC 10.00			
55			SM	|	438.4 437.9 70.00					
60		60.00 - 69.50 silty SAND with clay and gravel; sand: fine to coarse; gravel: fine to coarse; grey to dark grey; micaceous; weathered rock; non-cohesive; moist to wet; dense; SAPROLITE	SM	|	438.4 437.9 70.00	S-7	ROTO 8.70 SONIC 10.00			
445			SM	|	438.4 437.9 70.00					
65			SM	|	438.4 437.9 70.00	S-7	ROTO 8.70 SONIC 10.00			
440			SM	|	438.4 437.9 70.00					
70		69.50 - 70.00 silty GRAVEL with sand; sand: fine to coarse; gravel: fine; dark grey; micaceous; non-cohesive; moist; dense to very dense; SAPROLITE	GM	|	438.4 437.9 70.00					
435		70.00 - 80.00 silty SAND and silty GRAVEL; sand: fine to coarse; gravel: fine; dark grey; micaceous; non-cohesive; moist; dense to very dense; SAPROLITE	SM-GM	|	438.4 437.9 70.00	S-8	ROTO 10.00 SONIC 10.00			
75			SM-GM	|	438.4 437.9 70.00	S-8	ROTO 10.00 SONIC 10.00			
430			SM-GM	|	438.4 437.9 70.00					
80		Log continued on next page			427.9					

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 11/10/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19 Rev. 11/10/2020



Location resurveyed May - July 2020

RECORD OF BOREHOLE PZ-441

SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 166235004
 DRILLED DEPTH: 114.00 ft
 LOCATION:

DRILL RIG: Geoprobe 8140LC
 DATE STARTED: 8/23/18
 DATE COMPLETED: 9/5/18

NORTHING: 1,121,515.40
 EASTING: 2,404,330.23
 GS ELEVATION: 507.9
 TOC ELEVATION: 510.36 ft

DEPTH W.L.: 19.8'
 ELEVATION W.L.: 490.39'
 DATE W.L.: 9/7/18
 TIME W.L.: 07:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC			
80		80.00 - 90.00 silty SAND and silty GRAVEL; sand: fine to coarse; gravel: fine to coarse; dark grey; micaceous; non-cohesive; moist to wet; dense to very dense; SAPROLITE			80.00					<p>WELL CASING Interval: 0-114' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread</p> <p>WELL SCREEN Interval: 104-114' Material: 0.010" Slotted Schedule 40 PVC Diameter: 4" Outer/2" Inner Slot Size: 0.010" End Cap: 0.4</p> <p>FILTER PACK Interval: 103-114' Type: No. 20-40 Sand Quantity: 200 lbs</p> <p>FILTER PACK SEAL Interval: 98-103' Type: 3/8" PEL-PLUG Quantity: 5 gallons</p> <p>ANNULUS SEAL Interval: 0-98' Type: Portland Cement and Quick Gel Bentonite Mix Quantity: Cement: 1128 lbs Quick Gel: 150 lbs Water: 120 gallons</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic</p>	
425											
85		90.00 - 91.00 silty SAND and GRAVEL; sand: fine to coarse; gravel: fine to coarse; dark grey; micaceous; non-cohesive; wet; dense to very dense; SAPROLITE	SM-GM		417.9			S-9			ROTO 9.00 SONIC 10.00
420					90.00						
90		91.00 - 97.00 silty GRAVEL with sand; sand: fine to coarse; gravel: fine to coarse; dark grey; micaceous; non-cohesive; moist to wet; very dense; weathered; TWR	SM-GM		416.9						
415					91.00						
95			TWR					S-10			ROTO 9.50 SONIC 10.00
410		97.00 - 100.00 AMPHIBOLITE; fresh to slightly weathered; crystals fine to coarse; strong rock; BEDROCK	BR		410.9						
100		100.00 - 105.00 No Recovery Note: Assumed BEDROCK based on previous sample and hard drilling	BR		407.9						
405			BR		100.00						
105		105.00 - 110.00 AMPHIBOLITE; fresh to slightly weathered; crystals fine to coarse; strong rock; BEDROCK	BR		402.9			S-11			ROTO 3.00 SONIC 10.00
400			BR		105.00						
110		110.00 - 115.00 AMPHIBOLITE; fresh to slightly weathered; crystals fine to coarse; very strong rock; BEDROCK	BR		397.9			S-12	ROTO 4.00 SONIC 4.00		
395			BR		110.00						
115		Boring completed at 114.00 ft			392.9						
390					115.00						
120											

BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 11/10/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade
 DRILLER: M. Rodrigues

GA INSPECTOR: C. Tidwell
 CHECKED BY: Timothy Richards, PG
 DATE: 10/31/19 Rev. 11/10/2020



RECORD OF BOREHOLE PZ-45D

SHEET 1 of 5

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 165.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/8/20
 DATE COMPLETED: 3/9/20

NORTHING: 1,125,296.24
 EASTING: 2,400,250.55
 GS ELEVATION: 509.7
 TOC ELEVATION: 512.33 ft

DEPTH W.L.: 23.50'
 ELEVATION W.L.: 488.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 Hydro-vac to clear utilities							WELL CASING Interval: 0' - 110' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 110' - 165' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 105' - 165' Type: #1 Sand Quantity: 20.5bags FILTER PACK SEAL Interval: 101.8' - 105' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 101.8' Type: Cement-Bentonite Quantity: 1100lbs Cement, 20lbs Bentonite, 160gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	505								
10	500	10.00 - 14.00 CL, CLAY, low to moderate plasticity, dark red, moist, w~PL, soft, quartz, vermiculite, plagioclase	CL		499.7 10.00	1	ROTO 7.70 SONIC 5.00		
15	495	14.00 - 15.00 CL, CLAY, low to moderate plasticity, orange-red brown, moist, w~PL, soft, quartz, vermiculite, plagioclase	CL		495.7 14.00 494.7				
		15.00 - 25.00 CL, CLAY, low to moderate plasticity, dark red, moist, w~PL, soft, quartz, vermiculite, plagioclase			15.00				
20	490	23.5' - 25', SM, SILTY SAND, fine to medium sand, silvery white to tan, non to low plasticity, w<PL, soft/loose, quartz, biotite, feldspar	CL			2	ROTO 7.00 SONIC 10.00		
25	485	25.00 - 35.00 CL, CLAY, low plasticity, orange red clay, soft, w~PL			484.7 25.00				
30	480	33'-35' SM, SILTY SAND, fine to medium sand, silvery white to tan, non to low plasticity, w<PL, soft/loose, quartz, biotite, feldspar	CL			3	ROTO 6.00 SONIC 10.00		
35	475	35.00 - 53.50 SM, SILTY SAND, fine to medium sand, tannish brown, non to low plasticity, w<PL, soft/loose, quartz, biotite, feldspar, saprolitic	SM		474.7 35.00	4	ROTO 9.50 SONIC 10.00		
40	470	Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olsen

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-45D

SHEET 2 of 5

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 165.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/8/20
 DATE COMPLETED: 3/9/20

NORTHING: 1,125,296.24
 EASTING: 2,400,250.55
 GS ELEVATION: 509.7
 TOC ELEVATION: 512.33 ft

DEPTH W.L.: 23.50'
 ELEVATION W.L.: 488.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		35.00 - 53.50 SM, SILTY SAND, fine to medium sand, tannish brown, non to low plasticity, w<PL, soft/loose, quartz, biolite, feldspar, saprolitic <i>(Continued)</i>							<p>WELL CASING Interval: 0' - 110' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 110' - 165' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 105' - 165' Type: #1 Sand Quantity: 20.5bags</p> <p>FILTER PACK SEAL Interval: 101.8' - 105' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 101.8' Type: Cement-Bentonite Quantity: 1100lbs Cement, 20lbs Bentonite, 160gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	465		SM			4	ROTO <u>9.50</u> SONIC 10.00		
50	460					5	ROTO <u>11.00</u> SONIC 10.00		
55	455	53.50 - 55.00 SC, CLAYEY SAND, fine to coarse sand, dark green and white, loose/compact, soft, non to low plasticity, w<PL	SC		456.2 53.50				
60	450	55.00 - 65.00 SM, SILTY SAND, very fine grain, medium to dark green, low to non plastic, moist to wet, decreases with depth			454.7 55.00				
65	445	65.00 - 75.00 SM, SILTY SAND, fine to coarse, medium to dark green, low to non plastic, moist, decreases with depth			444.7 65.00				
70	440		SM			7	ROTO <u>10.00</u> SONIC 10.00		
75	435	75.00 - 85.00 SM, SILTY SAND, fine to coarse, medium to dark green, low to non plastic, dry to moist, chlorite, "schistose"/"meta-proxenite"			434.7 75.00				
80	430	83'-85' metagabbro Log continued on next page	SM			8	ROTO <u>9.00</u> SONIC 10.00		

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olsen

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-45D

SHEET 3 of 5

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 165.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/8/20
 DATE COMPLETED: 3/9/20

NORTHING: 1,125,296.24
 EASTING: 2,400,250.55
 GS ELEVATION: 509.7
 TOC ELEVATION: 512.33 ft

DEPTH W.L.: 23.50'
 ELEVATION W.L.: 488.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
80			SM			8	ROTO SONIC	9.00 10.00		<p>WELL CASING Interval: 0' - 110' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 110' - 165' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 105' - 165' Type: #1 Sand Quantity: 20.5bags</p> <p>FILTER PACK SEAL Interval: 101.8' - 105' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 101.8' Type: Cement-Bentonite Quantity: 1100lbs Cement, 20lbs Bentonite, 160gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
85	425	85.00 - 103.50 SM, SILTY SAND, Metagabbro/metapyroxenite, interlayered, light to dark green, gabbro- trace gravel, some clay, low plasticity, loose, dry to moist pyroxenite - moist, fine to moderate sand, trace gravel, non plastic, compact			424.7 85.00					
90	420					9	ROTO SONIC	13.50 10.00		
95	415		SM							
100	410					10	ROTO SONIC	12.00 10.00		
105	405	103.50 - 165.00 METAGABBRO, fine grain, pyrite, biotite, hornblende, unfoliated, poorly jointed, slightly to moderately weathered, medium strong			406.2 103.50					
110	400	Rock sample collected 136.5'-137.0'				11	ROTO SONIC	1.20 10.00		
		Rock sample collected 158.8'-159.4'	BR							
115	395					12	ROTO SONIC	2.90 10.00		
120	390	Log continued on next page								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olsen

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-45D

SHEET 4 of 5

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 165.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/8/20
 DATE COMPLETED: 3/9/20

NORTHING: 1,125,296.24
 EASTING: 2,400,250.55
 GS ELEVATION: 509.7
 TOC ELEVATION: 512.33 ft

DEPTH W.L.: 23.50'
 ELEVATION W.L.: 488.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
120		103.50 - 165.00 METAGABBRO, fine grain, pyrite, biotite, hornblende, unfoliated, poorly jointed, slightly to moderately weathered, medium strong				12	ROTO 2.90 SONIC 10.00		Sand -	<p>WELL CASING Interval: 0' - 110' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 110' - 165' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 105' - 165' Type: #1 Sand Quantity: 20.5bags</p> <p>FILTER PACK SEAL Interval: 101.8' - 105' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 101.8' Type: Cement-Bentonite Quantity: 1100lbs Cement, 20lbs Bentonite, 160gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
125	385	Rock sample collected 136.5'-137.0'								
130	380	Rock sample collected 158.8'-159.4' (Continued)				13	ROTO 3.80 SONIC 10.00			
135	375									
140	370		BR			14	ROTO 8.50 SONIC 10.00			
145	365									
150	360					15	ROTO 6.60 SONIC 10.00	0.010" Slotted - Screen		
155	355									
160	350					16	ROTO 8.80 SONIC 10.00			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olsen

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-45D

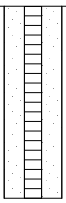
SHEET 5 of 5

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 165.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/8/20
 DATE COMPLETED: 3/9/20

NORTHING: 1,125,296.24
 EASTING: 2,400,250.55
 GS ELEVATION: 509.7
 TOC ELEVATION: 512.33 ft

DEPTH W.L.: 23.50'
 ELEVATION W.L.: 488.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
160			BR			16	ROTO 8.80 SONIC 10.00			<p>WELL CASING Interval: 0' - 110' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 110' - 165' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 105' - 165' Type: #1 Sand Quantity: 20.5bags</p> <p>FILTER PACK SEAL Interval: 101.8' - 105' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 101.8' Type: Cement-Bentonite Quantity: 1100lbs Cement, 20lbs Bentonite, 160gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
165	345	Boring completed at 165.00 ft			344.7					
170	340									
175	335									
180	330									
185	325									
190	320									
195	315									
200	310									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olsen

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-46D

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 53.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/16/20
 DATE COMPLETED: 3/17/20

NORTHING: 1,123,512.22
 EASTING: 2,400,923.25
 GS ELEVATION: 447.1
 TOC ELEVATION: 450.28 ft

DEPTH W.L.: 12.42'
 ELEVATION W.L.: 427.11'
 DATE W.L.: 3/31/20
 TIME W.L.: 12:42

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 5.00 Hand auger							WELL CASING Interval: 0' - 23.5' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 23.5' - 53.5' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 20' - 53.5' Type: #1 Sand Quantity: 9.5 Bags FILTER PACK SEAL Interval: 16' - 20' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 16' Type: Cement-Bentonite Quantity: 300lbs Cement, 10lbs Bentonite, 30gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
445		CL, SILTY CLAY, little to very fine sand, 7.5 YR 3/3 dark brown, vein quartz cobbles throughout, residual soil/colluvium	CL		442.1			Riser -	
5		5.00 - 15.00 Hand auger and core barrel overdrill			5.00				
440		ML, sandy CLAYEY SILT, very fine to medium sand, 5Y 4/2 olive gray, deeply weathered amphibolite with some partially weathered to unweathered amphibolite (river terrace deposits), foliated, quartz-plagioclase-biotite	ML					Grout -	
10									
435									
15		15.00 - 33.00 Transitionally Weathered Rock, amphibolite/hornblende gneiss, gley 2.5/1 blueish black to 5G 2/1 greenish black, fine grained quartz-plagioclase, biotite-hornblende, foliated, trace very fine pyrite (metallic luster, gold color). Driller notes rock interlayered with weathered material			432.1	1	8.00 10.00	Bentonite -	
430					15.00				
20									
425									
25									
420								Sand -	
30									
415									
35		33.00 - 53.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine grained, minor oxidation at 38' and 42.5', quartz-plagioclase-biotite-hornblende, trace pyrite, foliated	BR		414.1	3	10.00 10.00		
410					33.00				
40		Rock sample collected 49.0'-49.5'							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-46D

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 53.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/16/20
 DATE COMPLETED: 3/17/20

NORTHING: 1,123,512.22
 EASTING: 2,400,923.25
 GS ELEVATION: 447.1
 TOC ELEVATION: 450.28 ft

DEPTH W.L.: 12.42'
 ELEVATION W.L.: 427.11'
 DATE W.L.: 3/31/20
 TIME W.L.: 12:42

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		33.00 - 53.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine grained, minor oxidation at 38' and 42.5', quartz-plagioclase-biotite-hornblende, trace pyrite, foliated		[Yellow dotted pattern]			3	10.00	<p style="text-align: center;">0.010" Slotted Screen</p>	<p>WELL CASING Interval: 0' - 23.5' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 23.5' - 53.5' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 20' - 53.5' Type: #1 Sand Quantity: 9.5 Bags</p> <p>FILTER PACK SEAL Interval: 16' - 20' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 16' Type: Cement-Bentonite Quantity: 300lbs Cement, 10lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
405										
45		Rock sample collected 49.0'-49.5' (Continued)	BR							
400					4		8.00 10.00			
50										
55		Boring completed at 53.00 ft								
60										
65										
70										
75										
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-47D

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 26.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/11/20
 DATE COMPLETED: 3/11/20

NORTHING: 1,126,623.42
 EASTING: 2,404,366.80
 GS ELEVATION: 406.8
 TOC ELEVATION: 410.01 ft

DEPTH W.L.: 9.70'
 ELEVATION W.L.: 400.19'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	405	0.00 - 6.00 GRANITE, N4 medium dark grey, hard, quartz, plagioclase, biotite, no fractures.	BR		400.8 6.00	1	ROTO 1.00 SONIC 6.00	Sch 40 PVC Riser Grout Bentonite	WELL CASING Interval: 0' - 10.1' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 10.1' - 25.1' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"
5	400	6.00 - 16.00 GRANITE, strong, medium dark grey, 10R 5/4, pale reddish brown, quartz-rich, biotite, muscovite, plagioclase, thick lens of K-feldspar dominant, no fractures, very hard.	BR		390.8 16.00	2	ROTO 4.70 SONIC 10.00	Bentonite Sand	FILTER PACK Interval: 8' - 25.1' Type: 20/30 Sand Quantity: 5.5 Bags FILTER PACK SEAL Interval: 6' - 8' Type: Pel Plug Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: 0' - 6' Type: Cement-Bentonite Quantity: 95lbs Cement, 5lbs Bentonite, 10gal Water
10	395	16.00 - 26.00 GRANITE, 5B 5/1, N4 medium blue-gray, small fractures at 16.5, 16.9, 17.7, 18.6, 22.1, 23.1, 24, 24.5, and 25 feet. No discoloration from weathering, breaks potential mechanical. Mineralogy consists of quartz, plagioclase, K-spar, biotite	BR		390.8 16.00	3	ROTO 10.00 SONIC 10.00	0.010" Slotted Screen	WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
15	390	Rock sample collected 19.7'-20.3'	BR						
20	385	Boring completed at 26.00 ft			380.8				
25	380								
30	375								
35	370								
40									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: B. Steele, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-48S

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 65.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/4/20
 DATE COMPLETED: 3/4/20

NORTHING: 1,125,014.71
 EASTING: 2,405,779.92
 GS ELEVATION: 441.3
 TOC ELEVATION: 444.33 ft

DEPTH W.L.: 30.50'
 ELEVATION W.L.: 413.56'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:35

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	440	0.00 - 10.00 CL, SILTY CLAY, 2.5 YR 4/6 red, residual soil, very weathered biotite gneiss, no foliation, very fine muscovite throughout, moist, very soft.	CL	[Hatched Pattern]					<p>WELL CASING Interval: 0' - 50.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 50.75' - 60.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 48' - 60.75' Type: #1 Sand Quantity: 4 Bags</p> <p>FILTER PACK SEAL Interval: 44' - 48' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 44' Type: Cement-Bentonite Quantity: 600lb Cement, 30lb Bentonite, 70gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>	
5	435		CL	[Hatched Pattern]						
10	430	10.00 - 14.00 CL, SILTY CLAY, 2.5 YR 4/6 red, residual soil, very weathered biotite gneiss with interlayers of very weathered amphibolite (10 YR 5/6 yellowish brown), relict foliation not observed, very fine muscovite within very weathered biotite, moist, soft.	CL	[Hatched Pattern]	431.3	10.00	1			ROTO 5.00 SONIC 5.00
15	425	14.00 - 23.00 ML, CLAYEY SILT, residual soil, very weathered biotite gneiss, relict foliation, very weathered biotite-muscovite-plagioclase with trace quartz, moist, soft.	ML	[Vertical Lines]	427.3	14.00				
20	420		ML	[Vertical Lines]			2			ROTO -10.00 SONIC 10.00
25	415	23.00 - 30.00 ML, CLAYEY SILT, trace fine to medium sand, 2.5 Y 6/3 light yellowish brown, very weathered biotite gneiss, relict foliation, very weathered biotite-muscovite-plagioclase with trace quartz, moist, soft.	ML	[Vertical Lines]	418.3	23.00				
30	410	30.00 - 36.00 ML, CLAYEY SILT, 10 YR 5/4 yellowish brown, very weathered biotite gneiss, relict foliation, thin 1" lens of slightly weathered biotite gneiss, some minerals highly weathered to a light green color (amphibolite).	ML	[Vertical Lines]	411.3	30.00	3	ROTO -10.00 SONIC 10.00		
35	405	36.00 - 39.00 ML, SILT, with very fine to fine sand, gley 3/1 very dark greenish grey and 10 YR 5/4 yellowish brown, ~6" very weathered amphibolite interlayered within biotite gneiss unit - two 6" layers weathered to highly weathered biotite gneiss, biotite-muscovite-plagioclase with some quartz, amphibolite-hornblende and plagioclase, SAPROLITE	ML	[Vertical Lines]	405.3	36.00	4	ROTO -10.00 SONIC 10.00		
40			ML	[Vertical Lines]	402.3	39.00				

Log continued on next page

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-48S

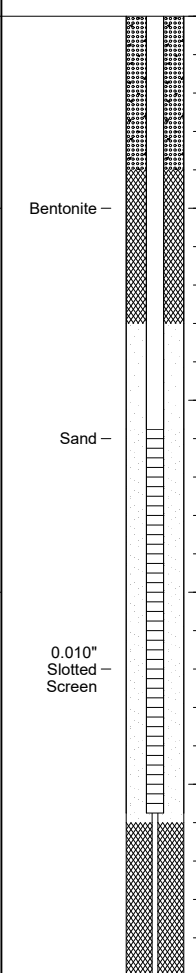
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 65.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/4/20
 DATE COMPLETED: 3/4/20

NORTHING: 1,125,014.71
 EASTING: 2,405,779.92
 GS ELEVATION: 441.3
 TOC ELEVATION: 444.33 ft

DEPTH W.L.: 30.50'
 ELEVATION W.L.: 413.56'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:35

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40 400 45 395 50 390 55 385 60 380 65 375 70 370 75 365 80		39.00 - 61.00 ML, sandy SILT, very fine to fine sand, 2.5 Y 5/2 greyish brown, weathered biotite gneiss, muscovite rich layer, muscovite-biotite-plagioclase with trace quartz, moist, firm SAPROLITE (Continued)	ML		380.3 61.00	4 5 6	ROTO -10.00 SONIC 10.00 ROTO -10.00 SONIC 10.00 ROTO 5.00 SONIC 10.00		 <p style="font-size: small;">Bentonite - Sand - 0.010" Slotted - Screen</p>	<p>WELL CASING Interval: 0' - 50.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 50.75' - 60.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 48' - 60.75' Type: #1 Sand Quantity: 4 Bags</p> <p>FILTER PACK SEAL Interval: 44' - 48' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 44' Type: Cement-Bentonite Quantity: 600lb Cement, 30lb Bentonite, 70gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
		61.00 - 65.00 ML, sandy SILT, Transitionally Weathered Rock, weathered biotite gneiss, driller noted first rock encountered at 61'	TWR		376.3					
		Boring completed at 65.00 ft								

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - Piedmont.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-49D

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 106.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/3/20
 DATE COMPLETED: 3/6/20

NORTHING: 1,123,429.73
 EASTING: 2,410,615.29
 GS ELEVATION: 364.9
 TOC ELEVATION: 367.41 ft

DEPTH W.L.: 4.50'
 ELEVATION W.L.: 362.79'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:35

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		35.00 - 55.00 DIORITE, plagioclase, biotite, hornblende, medium grained, fresh to slightly weathered, poorly foliated, poorly jointed, light grey to dark green/black, dry to wet, last foot multiple fractures <i>(Continued)</i>	BR	[Red X Pattern]				[Well Diagram]	WELL CASING Interval: 0' - 76' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 76' - 106' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 73.5' - 106' Type: #1 Sand Quantity: 9 Bags FILTER PACK SEAL Interval: 69.8' - 73.5' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 69.8' Type: Cement-Bentonite Quantity: 554lbs Cement, 20lbs Bentonite, 60gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
45	320					4	ROTO 6.00 SONIC 10.00		
50	315			5	ROTO 10.00 SONIC 10.00				
55	310	55.00 - 75.00 DIORITE, plagioclase, biotite, hornblende, medium grained, fresh to slightly weathered, poorly foliated, poorly jointed, light grey to dark green/black, dry to wet broken core at 58'-59' and 61'-62' Fractures at 66.2', 74.5'	BR	[Red X Pattern]	309.9	55.00			
60	305					6	ROTO 9.70 SONIC 10.00		
65	300			7	ROTO 7.80 SONIC 10.00		Bentonite -		
75	290			8	ROTO 10.00 SONIC 10.00		Sand -		
80	285	Log continued on next page							

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-49D

SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 106.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/3/20
 DATE COMPLETED: 3/6/20

NORTHING: 1,123,429.73
 EASTING: 2,410,615.29
 GS ELEVATION: 364.9
 TOC ELEVATION: 367.41 ft

DEPTH W.L.: 4.50'
 ELEVATION W.L.: 362.79'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:35

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
80		75.00 - 85.00 DIORITE, plagioclase, biotite, hornblende, medium grained, fresh to slightly weathered, poorly foliated, poorly jointed, light grey to dark green/black, dry to wet, at 77'-78' fine grain amphibolite, salt and pepper, plagioclase, quartz, hornblende, poorly foliated, poorly jointed, freshley weathered	BR	[Red cross-hatch pattern]		8	ROTO 10.00 SONIC 10.00	0.010" Slotted - Screen	<p>WELL CASING Interval: 0' - 76' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 76' - 106' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 73.5' - 106' Type: #1 Sand Quantity: 9 Bags</p> <p>FILTER PACK SEAL Interval: 69.8' - 73.5' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 69.8' Type: Cement-Bentonite Quantity: 554lbs Cement, 20lbs Bentonite, 60gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
85	280	Rock sampled collected at 77.8' - 78.9' 78-85' weakly foliated Fractures at 82.8', 83.1' (Continued)			279.9 85.00				
90	275	85.00 - 95.00 DIORITE, plagioclase, biotite, hornblende, medium grained, fresh to slightly weathered, poorly foliated, poorly jointed, light grey to dark green/black, dry to wet, starts to become more gneissic/foliated	BR	[Red cross-hatch pattern]		9	ROTO 8.50 SONIC 10.00		
95	270	95.00 - 106.00 Intermixed DIORITE and HORNBLENDE GNEISS, weak to well foliated, poorly jointed, fine to large grain, evidence of water at 96.2'			269.9 95.00				
100	265		BR	[Red cross-hatch pattern]		10	ROTO 7.70 SONIC 11.00		
		Boring completed at 106.00 ft			258.9				
110	255								
115	250								
120	245								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-49S

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 25.50 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/7/20
 DATE COMPLETED: 3/7/20

NORTHING: 1,123,434.46
 EASTING: 2,410,605.99
 GS ELEVATION: 365.2
 TOC ELEVATION: 367.89 ft

DEPTH W.L.: 6.70'
 ELEVATION W.L.: 361.01'
 DATE W.L.: 3/31/20
 TIME W.L.: 8:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	365	0.00 - 10.00 Hydro-vac for utility clearance							<p>WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags</p> <p>FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
5	360						Grout - Riser -		
10	355	10.00 - 11.00 GP, SANDY GRAVEL, fine gravels with fine to coarse sand, poorly graded, greenish-brown, wet, W < PL, non-plastic, loose. 11.00 - 20.50 SM, SILTY SAND, wet, non to low plasticity, W < PL, loose to firm. Residuum soil after diorite.	GP		355.2 10.00 354.2 11.00	1	ROTO 7.00 SONIC 5.50	Bentonite -	
15	350		SM						
20	345	20.50 - 25.50 CL, CLAY with some sand, dark to medium green, spotted, low plasticity, W < PL, moist to wet, soft to firm.	CL		344.7 20.50	2	ROTO 10.00 SONIC 10.00	Sand - 0.010" Slotted Screen -	
25	340	Boring completed at 25.50 ft			339.7				
30	335								
35	330								
40									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-50D

SHEET 1 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 100.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/17/20
 DATE COMPLETED: 3/18/20

NORTHING: 1,103,125.91
 EASTING: 2,408,306.87
 GS ELEVATION: 470.66
 TOC ELEVATION: 473.78 ft

DEPTH W.L.: 26.05
 ELEVATION W.L.: 447.73
 DATE W.L.: 3/21/2020
 TIME W.L.: 10:15

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED (1).GPJ PIEDMONT.GDT 8/13/20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	470	0.00 - 10.00 Hand auger for utility clearance.							<p>WELL CASING Interval: 0' - 90' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 90' - 100' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 87' - 100' Type: U-Pack Prepack Quantity: 4 bags</p> <p>FILTER PACK SEAL Interval: 84' - 87' Type: Pel Plug Quantity: 2.5 gal bucket</p> <p>ANNULUS SEAL Interval: 0' - 84' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 7lbs Bentonite, 17gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
5	465								
10	460	10.00 - 20.00 CL, CLAY with little silt and trace fine sand, dark green and white speckled, low PL, W < PL, soft to firm, residuum after metagabbro, plagioclase, moist.	CL		460.66 10.00	1	ROTO 5.00 SONIC 5.00		
15	455								
20	450	20.00 - 29.00 SM, SILTY SAND, non to low PL, dry to moist, dark green with weathering, W < PL, loose to compact, same host rock as above with less plagioclase and more mafic minerals.	SM		450.66 20.00	2	ROTO 10.00 SONIC 10.00		
25	445								
30	440	29.00 - 40.00 CL, CLAY with little silt and trace fine sand, dark green and white speckled, low PL, W < PL, soft to firm, residuum after metagabbro, plagioclase, moist.	CL		441.66 29.00	3	ROTO 10.00 SONIC 10.00		
35	435								
40		Log continued on next page			430.66	4	ROTO 10.00 SONIC 10.00		

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-50D

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 100.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/17/20
 DATE COMPLETED: 3/18/20

NORTHING: 1,103,125.91
 EASTING: 2,408,306.87
 GS ELEVATION: 470.66
 TOC ELEVATION: 473.78 ft

DEPTH W.L.: 26.05
 ELEVATION W.L.: 447.73
 DATE W.L.: 3/21/2020
 TIME W.L.: 10:15

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED (1).GPJ PIEDMONT.GDT 8/13/20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	430	40.00 - 41.50 SC, CLAYEY SAND with trace to little fine gravels, dark green, low to moderate PL, W ~ PL, compact to firm, moist, subround to subangular gravels, vein quartz, fluvial/alluvial.	SC	[Hatched Pattern]	40.00 429.16	4	ROTO SONIC	10.00	[Well Diagram]	WELL CASING Interval: 0' - 90' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 90' - 100' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 87' - 100' Type: U-Pack Prepack Quantity: 4 bags FILTER PACK SEAL Interval: 84' - 87' Type: Pel Plug Quantity: 2.5 gal bucket ANNULUS SEAL Interval: 0' - 84' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 7lbs Bentonite, 17gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
		41.50 - 50.00 SM-GM, SILTY SAND to SILTY GRAVEL, well graded, light to dark green-black, non PL, W < PL, dry to wet (~45'), dense to very dense.	SM-GM	[Dotted Pattern]	41.50			10.00		
45	425									
50	420	50.00 - 55.00 SM, SILTY SAND, dark green, non-PL, W < PL, loose, dry to moist.	SM	[Vertical Lines]	420.66 50.00	5	ROTO SONIC	7.40 10.00		
								10.00		
55	415	55.00 - 70.00 Deeply weathered METAGABBRO, extremely weak to weak, plagioclase-amphibole, weathering rhine where fresher, salt/pepper fine to medium grained. 65-70 assumed same as above, washed out.		[Pink Hatched Pattern]	415.66 55.00	6	ROTO SONIC	8.20 10.00		
			TWR					10.00		
60	410									
65	405									
70	400	70.00 - 75.00 METAGRABBRO, dark green and white, fresh to slightly weathered, medium strong to strong, most of core is broken to fractures - indicative of water movement.	BR	[Pink Hatched Pattern]	400.66 70.00	7	ROTO SONIC	2.90 10.00		
								10.00		
75	395	75.00 - 100.00 METAGABBRO, fine to medium grained, dark green to black and white, amphiboles and plagioclase, unfoliated, fresh to slightly weathered, medium strong to strong. Highly fractured zone 78'-80', water staining, appaers as gravel sized particles. Rock sample collected 94.0'-94.5'	BR	[Pink Hatched Pattern]	395.66 75.00	8	ROTO SONIC	7.75 10.00		
		Log continued on next page						10.00		

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-50D

SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 100.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/17/20
 DATE COMPLETED: 3/18/20

NORTHING: 1,103,125.91
 EASTING: 2,408,306.87
 GS ELEVATION: 470.66
 TOC ELEVATION: 473.78 ft

DEPTH W.L.: 26.05
 ELEVATION W.L.: 447.73
 DATE W.L.: 3/21/2020
 TIME W.L.: 10:15

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED (1).GPJ | PIEDMONT.GDT 8/13/20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
80	390	75.00 - 100.00 METAGABBRO, fine to medium grained, dark green to black and white, amphiboles and plagioclase, unfoliated, fresh to slightly weathered, medium strong to strong. Highly fractured zone 78'-80', water staining, appaars as gravel sized particles. Rock sample collected 94.0'-94.5' (Continued)	BR		370.66	8	ROTO 7.75 SONIC 10.00		WELL CASING Interval: 0' - 90' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 90' - 100' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 87' - 100' Type: U-Pack Prepack Quantity: 4 bags FILTER PACK SEAL Interval: 84' - 87' Type: Pel Plug Quantity: 2.5 gal bucket ANNULUS SEAL Interval: 0' - 84' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 7lbs Bentonite, 17gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic	
85	385				9	ROTO 7.20 SONIC 10.00				
90	380				10	ROTO 4.60 SONIC 5.00				
100	370	Boring completed at 100.00 ft								

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-51D

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 126.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/6/20
 DATE COMPLETED: 3/8/20

NORTHING: 1,119,239.99
 EASTING: 2,399,955.07
 GS ELEVATION: 543.2
 TOC ELEVATION: 546.04 ft

SHEET 1 of 4

DEPTH W.L.: 38.4'
 ELEVATION W.L.: 507.58'
 DATE W.L.: 3/17/2020
 TIME W.L.: 13:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 CL, SILTY CLAY, trace very fine to fine sand, 2.5 YR 4/6 red, deeply weathered biotite gneiss, little to no relict foliation, very weathered biotite-muscovite-plagioclase, trace quartz, moist, very soft to soft, residual soil	CL		533.2			Riser — Grout —	WELL CASING Interval: 0' - 116' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 116' - 126' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 113' - 126' Type: 20/30 Sand Quantity: 6 Bags FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket ANNULUS SEAL Interval: 0' - 109.8' Type: Cement-Bentonite Quantity: 250lbs Cement, 15lbs Bentonite, 30gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
540									
5									
535									
10		10.00 - 16.00 CL, SILTY CLAY, trace very fine to fine sand, 2.5 YR 4/6 Red, deeply weathered to very weathered biotite gneiss, little to no relict foliation, very weathered biotite-muscovite-plagioclase, trace quartz, moist, very soft to soft, residual soil	CL		527.2	1	5.00 6.00		
530									
15									
525		16.00 - 20.00 CL, SILTY CLAY, trace very fine to fine sand, 2.5 YR 4/6 red, deeply weathered to very weathered biotite gneiss, little to no relict structure/foliation, very weathered biotite-muscovite-plagioclase, trace quartz, moist, very soft to sft, 6' lens of 5 YR	CL		523.2				
20		20.00 - 21.00 ML, sandy CLAYET SILT, very fine to fine sand, 2.5 YR 5/4 reddish brown, very weathered biotite gneiss, very weathered biotite-muscovite-plagioclase, little quartz, moist, soft	ML		522.2	2	5.00 10.00		
520		21.00 - 26.00 No Recovery			21.00				
25									
515		26.00 - 32.50 ML, CLAYEY SILT, some fine sand, 5 YR 5/6 yellowish red, very weathered biotite gneiss, very weathered biotite-muscovite quartz, moist, soft, SAA from 27.5-28.75, < 1mm pyroclucite	ML		517.2	3	6.50 10.00		
30									
510		32.50 - 36.00 Wash out			510.7				
35									
505		36.00 - 39.00 ML, CLAYEY SILT, some fine to medium sand, 5 YR 5/8 yellowish red, very weathered biotite gneiss, muscovite, biotite, some quartz, moist, very soft	ML		507.2	4	10.00 10.00		
40					504.2				
					39.00				

Log continued on next page

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: C. Hall

GA INSPECTOR: B. Steele, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-51D

SHEET 2 of 4

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 126.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/6/20
 DATE COMPLETED: 3/8/20

NORTHING: 1,119,239.99
 EASTING: 2,399,955.07
 GS ELEVATION: 543.2
 TOC ELEVATION: 546.04 ft

DEPTH W.L.: 38.4'
 ELEVATION W.L.: 507.58'
 DATE W.L.: 3/17/2020
 TIME W.L.: 13:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		39.00 - 50.00 ML, CLAYEY SILT, little fine sand, 5 YR 5/6 yellowish red, very weathered biotite gneiss, muscovite rich, little quartz, moist, soft to firm (Continued)	ML		493.2	4		10.00		<p>WELL CASING Interval: 0' - 116' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 116' - 126' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 113' - 126' Type: 20/30 Sand Quantity: 6 Bags</p> <p>FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket</p> <p>ANNULUS SEAL Interval: 0' - 109.8' Type: Cement-Bentonite Quantity: 250lbs Cement, 15lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
50		50.00 - 52.50 ML, sandy SILT, little clay, 5YR 5/3 olive, very weathered biotite gneiss, rich in biotite-muscovite-quartz, moist, soft			50.00			5			9.00
45		52.50 - 56.00 Transitionally Weathered Rock, weathered BIOTITE GNEISS, 5Y 5/3 olive, rich in muscovite, biotite, plagioclase, quartz, amphibolite bands, dry, compact	TWR		490.7					
495		56.00 - 59.50 MLS, sandy SILT, fine sand, 7.5 YR 5/3 brown, very weathered biotite gneiss, amphibolite, rich in muscovite-biotite, some quartz, moist, soft	ML		487.2					
50		59.50 - 66.00 Transitionally Weathered Rock, BIOTITE GNEISS with some amphibolite, grey 1 5/1 greenish grey, rich in hornblende, biotite, muscovite, plagioclase, compact	TWR		483.7	6	10.00			
55		66.00 - 68.00 MLS, sandy SILT, compact to loose sand, rich in muscovite-biotite, quartz, amphibolite, grey 1 5/1 greenish grey, wet, loose	ML		477.2					
485		68.00 - 76.00 Wash out			475.2					
60		76.00 - 80.90 BIOTITE GNEISS, 5Y 4/1 olive grey, biotite, plagioclase, quartz, weathered from fractures, hard	BR		467.2	8	4.90			
480					68.00		10.00			
65						7	2.00			
70							10.00			
470										
75										
465										
80										

Log continued on next page

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: C. Hall

GA INSPECTOR: B. Steele, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-51D


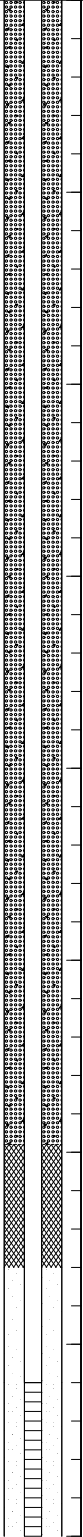









SHEET 3 of 4

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 126.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/6/20
 DATE COMPLETED: 3/8/20

NORTHING: 1,119,239.99
 EASTING: 2,399,955.07
 GS ELEVATION: 543.2
 TOC ELEVATION: 546.04 ft

DEPTH W.L.: 38.4'
 ELEVATION W.L.: 507.58'
 DATE W.L.: 3/17/2020
 TIME W.L.: 13:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
80		80.90 - 86.00 No Recovery	BR		462.3 80.90	8		4.90 10.00		<p>WELL CASING Interval: 0' - 116' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 116' - 126' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 116' - 126' Type: 20/30 Sand Quantity: 6 Bags</p> <p>FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket</p> <p>ANNULUS SEAL Interval: 113' - 126' Type: Cement-Bentonite Quantity: 250lbs Cement, 15lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
460		86.00 - 91.00 BIOTITE GNEISS, 5Y 4/1 olive grey to N4 medium dark grey, predominantly quartz, biotite, plagioclase, amphibolite, hard. Fractures at 86.6, 88.2, 89, 90, 91.	BR		457.2 86.00					
85		91.00 - 92.00 BIOTITE GNEISS, 5Y 4/1 olive grey, biotite, plagioclase, quartz, weathered from fractures, hard	BR		452.2 91.00	9		6.00 10.00		
90		92.00 - 96.00 No Recovery	BR		451.2 92.00					
95		96.00 - 100.20 BIOTITE GNEISS, 5Y 4/1 olive grey to N4 medium dark grey, fractures at 97, 97.4, 98, 99, 100, rich in biotite-plagioclase-quartz, very little amphibolite, compact	BR		447.2 96.00					
100		100.20 - 101.40 Transitionally Weathered Rock, silty SAND, rich in amphibolite-plagioclase-muscovite, some quartz, loose, highly weathered	BR		443 100.20	10		5.20 10.00		
440		101.40 - 106.00 No Recovery	BR		441.8 101.40					
105		106.00 - 116.00 BIOTITE GNEISS, thin lens of Transitionally Weathered Rock (same as 100.2-101.4), weathered fractures throughout, rich in biotite-plagioclase-muscovite. N4 medium dark grey, compact, some broken	BR		437.2 106.00	11		3.80 10.00		
430		116.00 - 126.00 BIOTITE GNEISS, N4 medium dark grey, biotite-plagioclase-muscovite-quartz, heavily fractured. Quartz vein at 117', compact	BR		427.2 116.00	12		5.50 10.00		
115		Rock sample collected 118.0'-118.5'	BR							
425		Log continued on next page							0.010" Slotted - Screen	

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: C. Hall

GA INSPECTOR: B. Steele, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-51D

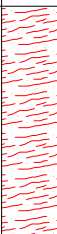
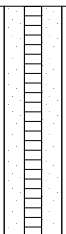
SHEET 4 of 4

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 126.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/6/20
 DATE COMPLETED: 3/8/20

NORTHING: 1,119,239.99
 EASTING: 2,399,955.07
 GS ELEVATION: 543.2
 TOC ELEVATION: 546.04 ft

DEPTH W.L.: 38.4'
 ELEVATION W.L.: 507.58'
 DATE W.L.: 3/17/2020
 TIME W.L.: 13:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
120		116.00 - 126.00 BIOTITE GNEISS, N4 medium dark grey, biotite-plagioclase-muscovite-quartz, heavily fractured. Quartz vein at 117', compact						Sand - 	<p>WELL CASING Interval: 0' - 116' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 116' - 126' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 113' - 126' Type: 20/30 Sand Quantity: 6 Bags</p> <p>FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket</p> <p>ANNULUS SEAL Interval: 0' - 109.8' Type: Cement-Bentonite Quantity: 250lbs Cement, 15lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
420		Rock sample collected 118.0'-118.5' (Continued)	BR		12	5.50 10.00			
125		Boring completed at 126.00 ft							
415									
130									
410									
135									
405									
140									
400									
145									
395									
150									
390									
155									
385									
160									

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: C. Hall

GA INSPECTOR: B. Steele, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-52

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 77.00 ft
 LOCATION: Juliette, GA

DRILL RIG: GSI CC Crawler
 DATE STARTED: 3/17/20
 DATE COMPLETED: 3/17/20

NORTHING: 1,122,822.91
 EASTING: 2,403,622.69
 GS ELEVATION: 519.4
 TOC ELEVATION: 521.84 ft

DEPTH W.L.: 32.50'
 ELEVATION W.L.: 489.12'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 9.50 Hydro-vac for utility clearance								<p>WELL CASING Interval: 0' - 67' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 67' - 77' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 65' - 77' Type: #6 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 61.5' - 65' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 61.5' Type: Cement-Bentonite Quantity: 554.4lbs Cement, 20lbs Bentonite, 70gal water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
5	515									
10	510	9.50 - 13.70 ML, sandy SILT, low plasticity, fine sand, reddish brown, plagioclase-biotite, biotite gneiss parent, non-cohesive, moist, loose. Residual soil	ML		509.9 9.50					
15	505	13.70 - 30.00 ML, sandy SILT, low plasticity, fine sand, bronze to light yellowish brown, plagioclase, increasing weathering of biotite, relict foliation, biotite gneiss parent, non-cohesive, moist to dry, loose. SAPROLITE			505.7 13.70	1	ROTO 7.80 SONIC 9.50			
20	500		ML							
25	495					2	ROTO 10.00 SONIC 10.00			
30	490	30.00 - 33.00 SP, SAND, fine to medium grained, light yellowish-brown, plagioclase-quartz, non-cohesive, moist, loose.	SP		489.4 30.00					
35	485	33.00 - 34.00 SP, SAND, medium grained, white, quartz-plagioclase-pegmatite, non-cohesive, moist, dense to loose. SAPROLITE	SP		486.4 33.00	3	ROTO 9.60 SONIC 10.00			
35	485	34.00 - 37.00 ML, sandy SILT, low plasticity, fine sand, grey to yellowish brown, plagioclase-quartz-illite-biotite, relict foliation biotite gneiss parent, non-cohesive, moist, compact. SAPROLITE	ML		485.4 34.00					
40	480	37.00 - 39.00 SP, SAND, medium grained with some coarse gravel, white, quartz-plagioclase-pegmatite, non-cohesive, moist, dense to loose. SAPROLITE	SP		482.4 37.00					
40	480	Log continued on next page	SM		480.4 39.00	4	ROTO SONIC			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jimmy Hall

GA INSPECTOR: H. Brissey
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-52

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 77.00 ft
 LOCATION: Juliette, GA

DRILL RIG: GSI CC Crawler
 DATE STARTED: 3/17/20
 DATE COMPLETED: 3/17/20

NORTHING: 1,122,822.91
 EASTING: 2,403,622.69
 GS ELEVATION: 519.4
 TOC ELEVATION: 521.84 ft

DEPTH W.L.: 32.50'
 ELEVATION W.L.: 489.12'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		39.00 - 49.00 SM, SILTY SAND, fine sand, low plasticity, light olive grey to light olive brown, quartz-illite-plagioclase, relict foliation biotite gneiss parent, non-cohesive, moist, dense to loose. SAPROLITE <i>(Continued)</i>	SM	| | | | |					<p>WELL CASING Interval: 0' - 67' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 67' - 77' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 65' - 77' Type: #6 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 61.5' - 65' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 61.5' Type: Cement-Bentonite Quantity: 554.4lbs Cement, 20lbs Bentonite, 70gal water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	475				4	ROTO SONIC	10.00 10.00		
50	470	49.00 - 54.00 SC, CLAYEY SAND, medium to high plasticity, fine grained sand, grey with trace dark yellowish orange, plagioclase-illite, no structure observed, cohesive, W > PL, firm.	SC	| | | | |			470.4 49.00		
55	465	54.00 - 77.00 SM, SILTY SAND, fine sand, low plasticity, blueish grey to greenish black, quartz-illite-biotite-hornblende/biotite interlayered. Biotite amphibolite gneiss with hornblende gneiss at 74' and 76', some relict foliation, non-cohesive, moist, dense to loose. SAPROLITE			5	ROTO SONIC	7.50 10.00		
60	460								
65	455		SM		6	ROTO SONIC	10.00 10.00		
70	450				7	ROTO SONIC	10.50 8.00		
75	445								
80	440	Boring completed at 77.00 ft					442.4		

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jimmy Hall

GA INSPECTOR: H. Brissey
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-53

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 45.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/18/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,121,932.34
 EASTING: 2,404,813.43
 GS ELEVATION: 513.6
 TOC ELEVATION: 516.64 ft

DEPTH W.L.: 26.20'
 ELEVATION W.L.: 490.29'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 8.00 Hydro-vac for utility clearance Soil type based on visual inspection of hole and surface soil - CL, silty CLAY, residual soil.								<p>WELL CASING Interval: 0' - 35' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 35' - 45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 32' - 35' Type: #1 Sand Quantity: 3 Bags</p> <p>FILTER PACK SEAL Interval: 27' - 32' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 27' Type: Cement-Bentonite Quantity: 450lbs Cement, 17lbs Bentonite, 45gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
510			CL					Grout -		
505		8.00 - 13.00 CL, SILTY CLAY, 7.5 YR 5/8 strong brown, no relict foliation, deeply weathered biotite-hornblende gneiss. Residual soil.	CL		505.6 8.00			Riser -		
500		13.00 - 17.00 ML, CLAYEY SILT, strong brown, minor relict foliation, deeply weathered biotite-hornblende gneiss. Residual soil.	ML		500.6 13.00	1	ROTO 7.00 SONIC 7.00			
495		17.00 - 20.00 ML, CLAYEY SILT, 7.5 YR 5/8 strong brown, very weathered hornblende gneiss, relict foliation.	ML		496.6 17.00					
20		20.00 - 25.00 ML, CLAYEY SILT, trace fine sand, 7.5 YR 5/4 weak red to pink to 10 YR 5/4 yellowish brown, deeply weathered biotite gneiss, weak relict foliation, cohesive, soft to firm, moist, deeply weathered quartz-muscovite-plagioclase-biotite, fine to medium grained minerals weathered to clay and silty. SAPROLITE.	ML		493.6 20.00	2	ROTO 10.00 SONIC 10.00			
25		25.00 - 32.00 ML, CLAYEY SILT, trace fine sand, 7.5 YR 5/4 weak red to pink 10 YR 5/4 yellowish brown, deeply weathered biotite gneiss, foliation present, deeply weathered quartz-muscovite-plagioclase-hornblende-biotite, cohesive, soft to firm, moist to wet, W > PL. SAPROLITE.	ML		488.6 25.00			Bentonite -		
480		32.00 - 35.00 No recovery			481.6 32.00					
35		35.00 - 45.00 ML, CLAYEY SILT, some fine to very fine sand, strong brown 7.5 YR 5/8 to orange brown, lenses of light olive green, very weathered biotite-hornblende gneiss, foliation present, cohesive, firm to stiff, moist, moist to wet at 36', contact between biotite gneiss and biotite hornblende gneiss.	ML		478.6 35.00	4	ROTO 6.00 SONIC 10.00	Sand -		
40		Log continued on next page								

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-53

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 45.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/18/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,121,932.34
 EASTING: 2,404,813.43
 GS ELEVATION: 513.6
 TOC ELEVATION: 516.64 ft

DEPTH W.L.: 26.20'
 ELEVATION W.L.: 490.29'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		35.00 - 45.00 ML, CLAYEY SILT, some fine to very fine sand, strong brown 7.5 YR 5/8 to orange brown, lenses of light olive green, very weathered biotite-hornblende gneiss, foliation present, cohesive, firm to stiff, moist, moist to wet at 36', contact between biotite gneiss and biotite hornblende gneiss. <i>(Continued)</i>	ML	| | | | |		4	ROTO 6.00 SONIC 10.00			<p>WELL CASING Interval: 0' - 35' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 35' - 45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 32' - 35' Type: #1 Sand Quantity: 3 Bags</p> <p>FILTER PACK SEAL Interval: 27' - 32' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 27' Type: Cement-Bentonite Quantity: 450lbs Cement, 17lbs Bentonite, 45gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45		Boring completed at 45.00 ft			468.6					
45										
465										
50										
55										
60										
65										
70										
75										
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-54

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 45.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/19/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,121,509.71
 EASTING: 2,406,555.15
 GS ELEVATION: 490.2
 TOC ELEVATION: 492.96 ft

DEPTH W.L.: 29.00'
 ELEVATION W.L.: 463.62'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	490	0.00 - 10.00 Hydro-vac for utility clearance.						Grout -	WELL CASING Interval: 0' - 35' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 35' - 45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 33' - 45' Type: #1 Sand Quantity: 4 Bags FILTER PACK SEAL Interval: 29' - 33' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 29' Type: Cement-Bentonite Quantity: 500lbs Cement, 17lbs Bentonite, 45gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	485								
10	480	10.00 - 20.80 CL, CLAY, red brown, soft to moist, low plasticity, minor muscovite and vermiculite, W < PL.	CL		480.2 10.00	1	ROTO 1.90 SONIC 5.00	Riser -	
15	475								
20	470	20.80 - 23.00 CL, CLAY with trace to some fine sand, low plasticity, W < PL, wet outside of core, moist inside of core, firm.	CL		469.4 20.80	2	ROTO 4.20 SONIC 10.00		
25	465	23.00 - 24.00 CL, CLAY, red brown, soft to moist, low plasticity, minor muscovite and vermiculite, W < PL. 24.00 - 31.00 CL, CLAY with trace to some silt, ocherish brown, moderate plasticity, W ~ PL, moist, soft to firm.	CL		467.2 23.00 466.2 24.00				
30	460	31.00 - 45.00 ML, SILT with trace to some fine to medium sand, brown to bronze, non-plastic, dry to wet, W < PL, quartz-plagioclase-biotite.	ML		459.2 31.00	3	ROTO 10.00 SONIC 10.00	Bentonite -	
35	455					4	ROTO 8.20 SONIC 10.00	Sand -	
40		Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-54

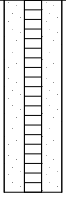
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 45.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/19/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,121,509.71
 EASTING: 2,406,555.15
 GS ELEVATION: 490.2
 TOC ELEVATION: 492.96 ft

DEPTH W.L.: 29.00'
 ELEVATION W.L.: 463.62'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:45

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	450	31.00 - 45.00 ML, SILT with trace to some fine to medium sand, brown to bronze, non-plastic, dry to wet, W < PL, quartz-plagioclase-biotite. <i>(Continued)</i>	ML			4	ROTO 8.20 SONIC 10.00			<p>WELL CASING Interval: 0' - 35' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 35' - 45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 33' - 45' Type: #1 Sand Quantity: 4 Bags</p> <p>FILTER PACK SEAL Interval: 29' - 33' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 29' Type: Cement-Bentonite Quantity: 500lbs Cement, 17lbs Bentonite, 45gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	445	Boring completed at 45.00 ft						445.2		
50	440									
55	435									
60	430									
65	425									
70	420									
75	415									
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Vern Olson

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-55

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 35.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/20/20
 DATE COMPLETED: 3/20/20

NORTHING: 1,121,931.60
 EASTING: 2,409,132.43
 GS ELEVATION: 444.2
 TOC ELEVATION: 447.21 ft

DEPTH W.L.: 20.00'
 ELEVATION W.L.: 426.98'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 Hydro-vac for utility clearance. Logged by visual inspection and surface soil. CL, SILTY CLAY, 5 YR 5/8 yellowish red, no relict foliation, deeply weathered hornblende-biotite gneiss.	CL						<p>WELL CASING Interval: 0' - 26' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 26' - 36' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 24' - 36' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 18.5' - 24' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 18.5' Type: Cement-Bentonite Quantity: 300lbs Cement, 15lbs Bentonite, 35gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
440									
5									
435									
10		10.00 - 23.50 CL, SILTY CLAY, 5 YR 5/8 yellowish red, little to no relict foliation, deeply weathered hornblende-biotite gneiss. Residual soil.	CL		434.2 10.00	1	ROTO 3.00 SONIC 5.00		
430									
15									
425									
20									
420		23.50 - 25.00 ML, SILT, weathery amphibolite, hornblende rich, gley 2 4/1 dark greenish grey. Saprolite. 25' driller noted top of transitionally weathered rock, hard rock encountered interlayered with weathered saprolite. 25.00 - 36.00 Transitionally weathered rock, interlayered unweathered rock and saprolite, poor recovery (saprolite washed out).	ML		420.7 23.50 419.2 25.00				
25									
415									
30									
410									
35			TWR						
405									
40		Boring completed at 35.00 ft			408.2 36.00				

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-56

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 46.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/19/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,123,524.68
 EASTING: 2,409,037.21
 GS ELEVATION: 430.8
 TOC ELEVATION: 433.68 ft

DEPTH W.L.: 36.60'
 ELEVATION W.L.: 396.96'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0	430	0.00 - 10.00 Hydro-vac for utility clearance						<p>Grout -</p> <p>Riser -</p>	<p>WELL CASING Interval: 0' - 35.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 35.75' - 45.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 33' - 46' Type: #1 Sand Quantity: 4 bags</p> <p>FILTER PACK SEAL Interval: 30' - 33' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 30' Type: Cement Quantity: 600lbs Cement, 70gal water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
5	425								
10	420	10.00 - 18.80 SP, SAND, medium to some coarse and some fine, well sorted, primarily quartz, Na-plagioclase, biotite throughout, increased biotite content 12.5'-13.5', deeply weathered biotite gneiss, relict foliation present in some 1" pieces, dry to moist. Saprolite.	SP		420.8 10.00	1	ROTO 6.00 SONIC 6.00		
15	415								
20	410	18.80 - 20.60 ML, CLAYEY SILT, very fine sand, weathered hornblende gneiss, some relict foliation, gley 1 4/1 dark greenish grey, dry to moist.	ML		412 18.80	2	ROTO 5.00 SONIC 5.00		
		19.5-20.6 pulverized predominantly Na-plagioclase layer, 2.5 Y 7/3 pale brown.			410.2				
		20.60 - 21.00 TWR, weathered BIOTITE GNEISS, very dark grey to black, medium grained.	TWR						
		21.00 - 34.00 TWR, weathered BIOTITE GNEISS, slight to moderate oxidation throughout. oxidation staining at 28', fracture 30'-30.5'	TWR			3	ROTO 4.00 SONIC 5.00		
25	405								
30	400					4	ROTO 8.00 SONIC 10.00		
		34.00 - 36.00 Core barrel drop in soft zone, no recovery.			396.8 34.00				
35	395	36.00 - 46.00 BIOTITE GNEISS, fine to medium grained, hornblende-quartz-plagioclase-biotite.	BR		394.8 36.00	5	ROTO 8.50 SONIC 10.00		
40									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-56

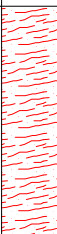
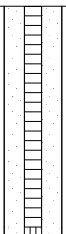
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 46.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/19/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,123,524.68
 EASTING: 2,409,037.21
 GS ELEVATION: 430.8
 TOC ELEVATION: 433.68 ft

DEPTH W.L.: 36.60'
 ELEVATION W.L.: 396.96'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40	390	36.00 - 46.00 BIOTITE GNEISS, fine to medium grained, hornblende-quartz-plagioclase-biotite. <i>(Continued)</i>	BR			5	ROTO 8.50 SONIC 10.00	 <p style="font-size: small;">0.010" Slotted Screen</p>	<p>WELL CASING Interval: 0' - 35.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 35.75' - 45.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 33' - 46' Type: #1 Sand Quantity: 4 bags</p> <p>FILTER PACK SEAL Interval: 30' - 33' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 30' Type: Cement Quantity: 600lbs Cement, 70gal water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	385	Boring completed at 46.00 ft			384.8				
50	380								
55	375								
60	370								
65	365								
70	360								
75	355								
80									

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-57

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 59.00 ft
 LOCATION: Juliette, GA

DRILL RIG: GSI CC Crawler
 DATE STARTED: 3/18/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,123,405.64
 EASTING: 2,407,361.88
 GS ELEVATION: 436.4
 TOC ELEVATION: 439.51 ft

DEPTH W.L.: 33.60'
 ELEVATION W.L.: 405.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	435	0.00 - 5.00 Hand auger for utility clearance.							Grout -	WELL CASING Interval: 0' - 49' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 49' - 59' Material: U-Pack Prepack Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 46' - 59' Type: #6 Sand Quantity: 3 bags FILTER PACK SEAL Interval: 43' - 46' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 43' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 10lbs Bentonite, 35gal water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	430	5.00 - 13.00 ML, sandy SILT, low PL, fine sand, dry - 2/5 Y 6/3 light yellowish brown, wet - gley G1 greenish grey, plagioclase-quartz-biotite weathered to illite, relict foliation, non-cohesive, dry to moist, dense. SAPROLITE.	ML		431.4 5.00	1	ROTO 7.00 SONIC 4.00			
10	425	13.00 - 15.00 ML, sandy SILT, low PL, fine sand, dry - 2.5 Y 5/2 greyish brown, wet - gleu 1 4/1 very dark greenish grey, quartz-plagioclase-biotite, hornblende gneiss parent rock, non-cohesive, dry to moist, dense. SAPROLITE.	ML		423.4 13.00	2	ROTO 10.00 SONIC 10.00			
15	420	15.00 - 18.00 ML, sandy SILT, low PL, fine sand, dry - 2/5 Y 6/3 light yellowish brown, wet - gley G1 greenish grey, plagioclase-quartz-biotite weathered to illite, relict foliation, non-cohesive, dry to moist, dense. SAPROLITE.	ML		421.4 15.00					
20	415	18.00 - 19.00 ML, sandy SILT, low PL, fine sand, dry - 2.5 Y 5/2 greyish brown, wet - gleu 1 4/1 very dark greenish grey, quartz-plagioclase-biotite, hornblende gneiss parent rock, non-cohesive, dry to moist, dense. SAPROLITE.	ML		418.4 18.00 417.4 19.00					
25	410	19.00 - 23.00 Transitionally weathered rock, highly weathered fracture zone, weakly foliated, very dark greenish grey, plagioclase-illite-hornblende amphibolite GNEISS.	TWR		413.4 23.00	3	ROTO 4.50 SONIC 10.00			
30	405	23.00 - 30.10 Transitionally weathered rock, moderately weathered oxidation throughout, well foliated, grey and white medium to coarse grained, strong, quartz-plagioclase-biotite/illite BIOTITE GNEISS.	TWR		406.3 30.10					
35	400	30.10 - 33.00 Transitionally weathered rock, highly weathered weakly foliated, porous, dark blue grey, fine to medium grained, weak, fracture zone 32'-33', plagioclase-illite hornblende/amphibolite GNEISS.	TWR		403.4					
40		33.10 - 40.00 Transitionally weathered rock, slightly to moderately weathered, foliated, grey and white, fine to medium grained, very strong, quartz-plagioclase BIOTITE GNEISS.	TWR			4	ROTO 8.20 SONIC 10.00			
40		Log continued on next page			396.4	5	ROTO 9.00 SONIC 10.00			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jimmy Hall

GA INSPECTOR: H. Brissey
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-57

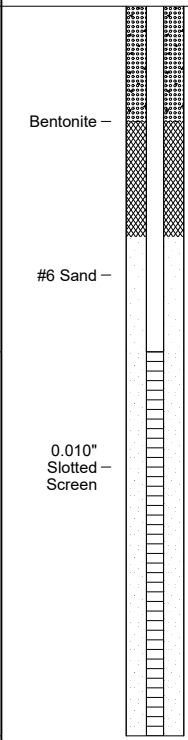
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 59.00 ft
 LOCATION: Juliette, GA

DRILL RIG: GSI CC Crawler
 DATE STARTED: 3/18/20
 DATE COMPLETED: 3/19/20

NORTHING: 1,123,405.64
 EASTING: 2,407,361.88
 GS ELEVATION: 436.4
 TOC ELEVATION: 439.51 ft

DEPTH W.L.: 33.60'
 ELEVATION W.L.: 405.66'
 DATE W.L.: 3/31/20
 TIME W.L.: 9:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	395	40.00 - 41.20 Transitionally weathered rock, moderately weathered, weakly foliated, dark blue grey, fine grained, weak to medium strength, plagioclase-illite/biotite hornblende GNEISS.	TWR	[Red wavy lines]	40.00 395.2 41.20	5	ROTO 9.00 SONIC 10.00	6	ROTO 8.70 SONIC 10.00	 <p>WELL CASING Interval: 0' - 49' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 49' - 59' Material: U-Pack Prepack Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 46' - 59' Type: #6 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 43' - 46' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 43' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 10lbs Bentonite, 35gal water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	390	41.20 - 59.00 Transitionally weathered rock, moderately weathered to fresh (50'-59'), well foliated, grey and white, medium to coarse grained, very strong, fracture zone 43.5'-45.5', quartz-plagioclase BIOTITE GNEISS.	TWR	[Red wavy lines]	377.4					
50	385	Boring completed at 59.00 ft								
55	380									
60	375									
65	370									
70	365									
75	360									
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jimmy Hall

GA INSPECTOR: H. Brissey
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-58

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 46.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/16/20
 DATE COMPLETED: 3/16/20

NORTHING: 1,123,299.43
 EASTING: 2,405,207.09
 GS ELEVATION: 489.3
 TOC ELEVATION: 492.21 ft

DEPTH W.L.: 39.60'
 ELEVATION W.L.: 452.09'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 11.50 (0'-10') Hydro-vac for utility clearance. (10'-11.5') Core loss.								<p>WELL CASING Interval: 0' - 36' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 36' - 46' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 33.5' - 46' Type: #1 Sand Quantity: 5 Bags</p> <p>FILTER PACK SEAL Interval: 30.5' - 33.5' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 30.5' Type: Cement-Bentonite Quantity: 277lbs Cement, 10lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
485								Grout -		
5										
10								Riser -		
11.50		11.50 - 13.50 CL, CLAY with trace fine sand, red brown, low to medium PL, W < PL, moist, soft to firm, vermiculite after biotite.	CL	[Hatched Pattern]	477.8 11.50	1	ROTO 4.50 SONIC 6.00			
15		13.50 - 20.00 SM, SILTY SAND with trace clay and gravels, yellow brown, non PL, W < PL, dry to moist, loose.	SM	[Vertical Lines]	475.8 13.50					
20		20.00 - 21.00 ML, SILT with trace sand and clay, soft, moist, non PL, W < PL, increased mica content, red-brown.	ML	[Horizontal Lines]	469.3 20.00	2	ROTO 10.00 SONIC 10.00			
25		21.00 - 26.00 SM, SILTY SAND with trace gravels, light to dark green with brownish weathered rhine, dry to moist, W < PL, loose, ultramafic.	SM	[Vertical Lines]	468.3 21.00					
30		26.00 - 34.00 SP, SAND, fine grain with trace to some silt, uniform graded, light to dark green to tan, compact.	SP	[Dotted Pattern]	463.3 26.00	3	ROTO 9.20 SONIC 10.00	Bentonite -		
35		34.00 - 36.00 ML, sandy SILT to some sand, light green with brown, dry to moist, non to low PL, W < PL, loose.	ML	[Vertical Lines]	455.3 34.00			Sand -		
40		36.00 - 46.00 SP-SM, SAND to SILTY SAND, fine to medium with some silt, trannish brown with light green hue, non to low PL, wet, W < PL, loose to compact.	SP-SM	[Vertical Lines]	453.3 36.00	4	ROTO 10.00 SONIC 10.00			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-58

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 46.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 3/16/20
 DATE COMPLETED: 3/16/20

NORTHING: 1,123,299.43
 EASTING: 2,405,207.09
 GS ELEVATION: 489.3
 TOC ELEVATION: 492.21 ft

DEPTH W.L.: 39.60'
 ELEVATION W.L.: 452.09'
 DATE W.L.: 3/31/20
 TIME W.L.: 10:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		36.00 - 46.00 SP-SM, SAND to SILTY SAND, fine to medium with some silt, trannish brown with light green hue, non to low PL, wet, W < PL, loose to compact. <i>(Continued)</i>	SP-SM	| | | | |		4	ROTO SONIC	-10.00 10.00		<p>WELL CASING Interval: 0' - 36' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 36' - 46' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 33.5' - 46' Type: #1 Sand Quantity: 5 Bags</p> <p>FILTER PACK SEAL Interval: 30.5' - 33.5' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 30.5' Type: Cement-Bentonite Quantity: 277lbs Cement, 10lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
445								443.3		
45		Boring completed at 46.00 ft								
44										
50										
440										
55										
435										
55										
430										
60										
425										
65										
420										
70										
415										
75										
410										
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-59D

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 69.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 3/26/20
 DATE COMPLETED: 3/27/20

NORTHING: 1,125,229.89
 EASTING: 2,407,668.93
 GS ELEVATION: 382.9
 TOC ELEVATION: 385.86 ft

DEPTH W.L.: 7.50'
 ELEVATION W.L.: 378.13"
 DATE W.L.: 4/7/2020
 TIME W.L.: 14:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 Hydro-vac for utility clearance Description from visual observation of hole and surface soil: CL SILTY CLAY, 7.5 YR 3/2 dark brown, cohesive, moist to wet, very soft, W -PL.							<p>WELL CASING Interval: 0' - 54' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 54' - 69' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 52' - 64' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 49.7' - 52' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 49.7' Type: Cement-Bentonite Quantity: 900lbs Cement, 60lbs Bentonite, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
380									
5									
375									
10				372.9					
		10.00 - 11.78 SP, SAND poorly graded, fine to coarse with some silt, gley 1 2.5/1 greenish black, primarily quartz-hornblende, some cobbles up to 2" diameter, weathered amphibolite. Residual soil/alluvium.	SP						
370		11.78 - 27.00 ML, sandy CLAYEY SILT, very weathered amphibolite interlayered with biotite gneiss with varying amounts of biotite-plagioclase-quartz, 10 YR 4/3 brown to 5Y 4/3 olive, some relict foliation, moist, non-cohesive, very loose to dense. Saprolite		371.12					
15				11.78	1	ROTO 9.00 SONIC 9.00			
365			ML						
20									
360					2	ROTO 8.00 SONIC 8.00			
25									
355		27.00: Driller noted top of rock at 27" 27.01 - 30.00 AMPHIBOLITE/HORNBLLENDE GNEISS, quartz-plagioclase-biotite-hornblende with trace pyrite < 1mm diameter unweathered, fine to medium grained, well foliated	BR						
30				355.9	3	ROTO 3.00 SONIC 3.00			
350		30.00 - 39.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fracture/oxidized zone at ~38', moderate to strong, foliation, fine to medium grained, unweathered, competent, greenish black with white.		352.9					
35			BR	30.00	4	ROTO 7.00 SONIC 9.00			
345		38.00: Fracture/oxidized zone		343.9					
40			BR	39.00	5	ROTO 9.00 SONIC 10.00			

Log continued on next page

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-59D


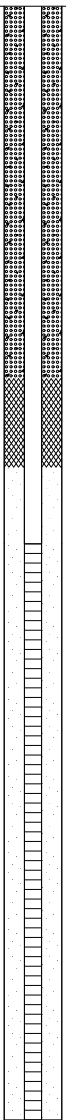

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 69.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 3/26/20
 DATE COMPLETED: 3/27/20

NORTHING: 1,125,229.89
 EASTING: 2,407,668.93
 GS ELEVATION: 382.9
 TOC ELEVATION: 385.86 ft

DEPTH W.L.: 7.50'
 ELEVATION W.L.: 378.13"
 DATE W.L.: 4/7/2020
 TIME W.L.: 14:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		39.00 - 59.00 AMPHIBOLITE/HORNBLLENDE GNEISS, moderate to strong foliation, pyrite-quartz-plagioclase-biotite-hornblende, greenish black with white, competent to slightly weathered. <i>(Continued)</i> 41.00: 41-42' Fracture/oxidized zones	BR						<p>WELL CASING Interval: 0' - 54' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 54' - 69' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 52' - 64' Type: #1 Sand Quantity: 5 bags</p> <p>FILTER PACK SEAL Interval: 49.7' - 52' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 49.7' Type: Cement-Bentonite Quantity: 900lbs Cement, 60lbs Bentonite, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>	
340		44.00: 44-45" Fracture/oxidized zones				5	ROTO SONIC			9.00 10.00
45		46.60: fracture/oxidized zones								
335		48.00: 48-50' Fracture/oxidized zones								
50										
330		53.00: fracture/oxidized zones			6	ROTO SONIC	10.00 10.00			
55										
325										
60		59.00: fracture/oxidized zones 59.01 - 69.00 BIOTITE GNEISS, moderate to well foliation, noticeably more competent than 49'-59' run, plagioclase-hornblende-quartz-biotite, perdominately fine-grained. 61.50: minor oxidation staining at 61.5'	BR							
320										
65		66.00: 66-67' interlayers of hornblende-rich rock				7	ROTO SONIC	9.00 10.00		
315		68.00: "soft or fractured" at 68' (not recovered for verification)								
70		Boring completed at 69.00 ft								
310										
75										
305										
80										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-59S

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 24.00 ft
 LOCATION: Juliette, GA

DRILL RIG: GSI CC Crawler
 DATE STARTED: 3/19/20
 DATE COMPLETED: 3/20/20

NORTHING: 1,125,213.65
 EASTING: 2,407,658.45
 GS ELEVATION: 382.8
 TOC ELEVATION: 385.93 ft

DEPTH W.L.: 3.23'
 ELEVATION W.L.: 383.48'
 DATE W.L.: 3/24/2020
 TIME W.L.: 14:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 7.00 Hand auger for utility clearance.								<p>WELL CASING Interval: 0' - 14' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 14' - 24' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 11.5' - 24' Type: #6 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 7' - 11.5' Type: Pel-Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 46.2lbs Cement, 2lbs Bentonite, 10gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
380								Grout -		
5								Riser -		
375		7.00 - 8.75 SC, CLAYEY SAND, high PL, fine to medium sand increasing with depth, red brown to greenish grey, quartz - biotite gneiss, cohesive, W>PL to W~PL, firm. Residual soil.	SC	[Hatched Pattern]	375.8 7.00	1	ROTO 6.00 SONIC 2.00	Bentonite -		
10		8.75 - 11.75 SP, SAND, fine to medium grained, greenish grey, illite-hornblende/amphibolite-quartz, non-cohesive, wet, loose.	SP	[Dotted Pattern]	374.05 8.75					
370		11.75 - 19.00 ML, sandy SILT, low PL, fine sand, light yellowish brown, relict foliation, quartz-plagioclase-biotite weathered to illite/biotite gneiss, non-cohesive, moist, loose. SAPROLITE.	ML	[Vertical Lines Pattern]	371.05 11.75	2	ROTO 6.00 SONIC 10.00	#6 Sand -		
15								0.010" Slotted Screen		
365										
20		19.00 - 20.50 SP, SAND, medium to coarse grained, trace coarse gravel, greenish grey, hornblende-plagioclase-quartz, non-cohesive, wet to moist, loose.	SP	[Dotted Pattern]	363.8 19.00					
360		20.50 - 21.00 ML, sandy SILT, low PL, fine sand, light yellowish brown, relict foliation, quartz-plagioclase-biotite weathered to illite/biotite gneiss, non-cohesive, moist, loose. SAPROLITE.	ML	[Vertical Lines Pattern]	362.3 21.00	3	ROTO 6.50 SONIC 5.00			
25		21.00 - 22.00 SP, SAND, fine to medium grained, greenish grey, illite-hornblende/amphibolite-quartz, non-cohesive, wet, loose.	SP	[Dotted Pattern]	361.8 21.00					
355		22.00 - 24.00 ML, sandy SILT, low PL, fine sand, light yellowish brown, relict foliation, quartz-plagioclase-biotite weathered to illite/biotite gneiss, non-cohesive, moist, loose. SAPROLITE.	ML	[Vertical Lines Pattern]	360.8 22.00					
350		Boring completed at 24.00 ft			358.8					
345										
40										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Jimmy Hall

GA INSPECTOR: H. Brissey
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-60D

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 100.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 3/28/20
 DATE COMPLETED: 3/29/20

NORTHING: 1,124,410.72
 EASTING: 2,408,242.87
 GS ELEVATION: 386.4
 TOC ELEVATION: 389.34 ft

DEPTH W.L.: 1.3'
 ELEVATION W.L.: 387.78'
 DATE W.L.: 3/30/2020
 TIME W.L.: 8:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	345	40.00 - 45.50 Transitionally weathered rock, weathered to slightly weathered biotite gneiss at 40'-44'	TWR	[Blue triangles]	40.00	4	ROTO 6.00 SONIC 8.00		Bentonite	[Well Construction Details]
		brown quartz-plagioclase-hornblende-biotite, slightly weathered hornblende gneiss 44'-45.5', dry to moist, foliation in cobbled size								
45	340	45.50 - 52.00 BIOTITE GNEISS interlayered with HORNBLLENDE GNEISS, fine grained, well foliated, primarily biotite gneiss	BR	[Red wavy lines]	340.9	5	ROTO 6.00 SONIC 6.00		Bentonite	[Well Construction Details]
		Biotite slight oxidation zone at 46', trace <1mm-2mm red garnets throughout slight oxidation zone at 50.5' Migmatitic texture at 51'-52'			45.50					
50	335	52.00 - 60.50 BIOTITE GNEISS, well foliated, greenish black and white layers, fine grained plagioclase-quartz-hornblende-biotite	BR	[Red wavy lines]	334.4	6	ROTO 7.00 SONIC 8.00		Bentonite	[Well Construction Details]
					52.00					
55	330	60.50 - 70.00 HORNBLLENDE GNEISS, less quartz than above, fine grained, med grained biotite gneiss, greenish black and white, no fracture/oxidation observed, trace pyrite, plagioclase-quartz-hornblende-biotite	BR	[Red wavy lines]	325.9	7	ROTO 11.00 SONIC 10.00		Bentonite	[Well Construction Details]
					60.50					
60	325	70.00 - 80.00 BIOTITE GNEISS, fine to medium grained, greenish black to black and white, well foliated, migmatitic texture in some intervals with ptygmatic folds, plagioclase-quartz-hornblende-biotite, no oxidation zones observed	BR	[Red wavy lines]	316.4	8	ROTO 10.00 SONIC 10.00		Sand	[Well Construction Details]
					70.00					
65	320				306.4				0.010" Slotted Screen	
70	315									
75	310									
80	305									

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-60D



SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 100.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 3/28/20
 DATE COMPLETED: 3/29/20

NORTHING: 1,124,410.72
 EASTING: 2,408,242.87
 GS ELEVATION: 386.4
 TOC ELEVATION: 389.34 ft

DEPTH W.L.: 1.3'
 ELEVATION W.L.: 387.78'
 DATE W.L.: 3/30/2020
 TIME W.L.: 8:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
80	305	80.00 - 90.00 BIOTITE GNEISS, fine to medium grained, coarse grained migmatitic texture at 84'-85'	BR		80.00	9	ROTO 8.00 SONIC 10.00			
		Possible fracture at 87'-87.5' very slight oxidation staining on break at a 60 degree to vertical trace pyrite-plagioclase-quartz-hornblende-biotite, well foliated								
85	300		BR		296.4	10	ROTO 10.00 SONIC 10.00			
90	295	90.00 - 100.00 BIOTITE GNEISS, well foliated			90.00					
95	290				286.4					
100	285	Boring completed at 100.00 ft								
105	280									
110	275									
115	270									
120										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-60S

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 20.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 3/31/20
 DATE COMPLETED: 3/31/20

NORTHING: 1,124,400.44
 EASTING: 2,408,243.59
 GS ELEVATION: 386.4
 TOC ELEVATION: 389.88 ft

DEPTH W.L.: 6.8'
 ELEVATION W.L.: 382.86'
 DATE W.L.: 4/8/2020
 TIME W.L.: 10:25

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	385	0.00 - 2.00 CL, SILTY CLAY, 2.5 YR 3/4 dark reddish brown, deeply weathered biotite gneiss, no structure observed, some mica flakes, very fine, cohesive, moist, plastic, w<PL, RESIDUUM	CL		384.4	1	ROTO SONIC	-10.00 10.00	Grout Riser Bentonite	<p>WELL CASING Interval: 0' - 10' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 10' - 20' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 8' - 20' Type: #1 Sand Quantity: 3 Bags</p> <p>FILTER PACK SEAL Interval: 5' - 8' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 5' Type: Cement-Bentonite Quantity: 200lbs Cement, 14lbs Bentonite, 30gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
		2.00 - 4.00 CL, SILTY CLAY, 2.5 YR 4/6 red, deeply weathered biotite gneiss, no structure observed, some mica flakes, very fine, cohesive, moist, plastic, w<PL, RESIDUUM	CL		382.4					
5		4.00 - 5.50 CL, SILTY CLAY, 5 YR 4/6 yellowish red, deeply weathered biotite gneiss, slightly mottled, moist, plastic, w<PL, RESIDUUM	CL		4.00					
	380	5.50 - 10.00 ML, CLAYEY SILT, cobble/gravel layer at 5.5' diameter up to 1.5", 5 YR 4/6 yellowish red, mottled, moist 5'-9', to wet 9'-10', non-cohesive, loose, w<PL, RESIDUUM	ML		5.50				Sand	
10		10.00 - 12.50 ML, CLAYEY SILT, cobble/gravel layer at 5.5' diameter up to 1.5", 5 YR 4/6 yellowish red, mottled, very wet, non-cohesive, very loose, RESIDUUM	ML		376.4					
	375	12.50 - 20.00 ML, SILT, some clay, sandy silt at 14' - 16', mottled with relict foliations, varigated yellowish red to dark brown to brown, very weathered biotite gneiss, non-cohesive, loose to compact, non-plastic, moist to wet	ML		373.9	2	ROTO SONIC	-10.00 10.00		
15					12.50					
20	370	Boring completed at 20.00 ft				366.4			0.010" Slotted Screen	
	365									
	360									
	355									
	350									
	345									
	340									
	335									
	330									
	325									
	320									
	315									
	310									
	305									
	300									
	295									
	290									
	285									
	280									
	275									
	270									
	265									
	260									
	255									
	250									
	245									
	240									
	235									
	230									
	225									
	220									
	215									
	210									
	205									
	200									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-61

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 50.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/10/20
 DATE COMPLETED: 4/11/20

NORTHING: 1,122,537.21
 EASTING: 2,408,531.43
 GS ELEVATION: 436.8
 TOC ELEVATION: 439.27 ft

DEPTH W.L.: 12.80'
 ELEVATION W.L.: 426.37'
 DATE W.L.: 4/13/2020
 TIME W.L.: 14:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 10.00 Hydro-vac for utility clearance.								<p>WELL CASING Interval: 0' - 39.45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 39.45' - 49.45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 37.25' - 49.45' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 33.8' - 37.25' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 33.8' Type: Cement-Bentonite Quantity: 900lbs Cement, 45lbs Bentonite, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
435										
5										
430										
10										
425		10.00 - 11.50 CL, SILTY CLAY, yellowish red, deeply weathered biotite gneiss, slightly plastic, no structure, cohesive, moist, very soft, w<PL, RESIDUUM	CL		426.8 10.00 425.3					
		11.50 - 19.50 ML, CLAYEY SILT and SILT, yellowish brown, deeply weathered biotite gneiss, faint to no structure, plagioclase and biotite rich, cohesive, soft, non-plastic, moist, w<PL, RESIDUUM	ML			1	ROTO-10.00 SONIC 10.00			
15										
420										
20		19.50 - 20.00 SM, SILTY SAND, yellowish brown, fine to coarse sand, slightly to moderately weathered biotite gneiss, quartz rich, non-cohesive, non-plastic, wet, w<PL, compact	SM		417.3 416.8					
		20.00 - 21.00 SM, SILTY SAND, fine to medium sand, yellowish brown, very weathered biotite gneiss, cohesive, moist, loose to compact, non-plastic, SAPROLITE	SM		20.00 415.8					
415		21.00 - 24.00 ML, sandy SILT, very fine to fine sand, very pale brown, dry, non-cohesive, metagranitic, slight foliation, SAPROLITE	ML		412.8 24.00	2	ROTO-10.00 SONIC 10.00			
25		24.00 - 26.00 ML, SILT, weathered biotite gneiss, some relict foliation with clay lined slickenlines, moist, loose to compact, non-plastic, w<PL	ML		410.8 26.00					
410		26.00 - 32.00 ML, SILT, weathered amphibolite, olive grey, fine grained, slight to some relict foliation, moist, very stiff to hard, w<PL	ML							
30										
405		32.00 - 35.00 ML, SILT, Transitionally weathered rock, very pale brown, metagranitic, slightly foliated, medium grained, slightly weathered, dry	TWR		404.8 32.00					
35		35.00 - 38.00 ML, sandy CLAYEY SILT, very weathered biotite gneiss, greyish brown, well foliated, fine to medium grained, moist	ML		401.8 35.00	3	ROTO-10.00 SONIC 10.00			
400										
40		38.00 - 40.00 SP/SM, SAND to SILTY SAND, Transitionally weathered rock, weathered biotite gneiss, bottom is unweathered to slightly weathered	TWR		398.8 38.00 396.8					

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-61

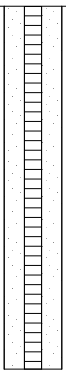
SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 50.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/10/20
 DATE COMPLETED: 4/11/20

NORTHING: 1,122,537.21
 EASTING: 2,408,531.43
 GS ELEVATION: 436.8
 TOC ELEVATION: 439.27 ft

DEPTH W.L.: 12.80'
 ELEVATION W.L.: 426.37'
 DATE W.L.: 4/13/2020
 TIME W.L.: 14:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		40.00 - 42.00 ML, CLAYEY SILT, Transitionally weathered rock, interlayered unweathered and weathered metagranite, moderately to well foliated, grey clay throughout	TWR	| | | |	40.00				 <p style="font-size: small;">0.010" Slotted - Screen</p>	<p>WELL CASING Interval: 0' - 39.45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 39.45' - 49.45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 37.25' - 49.45' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 33.8' - 37.25' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 33.8' Type: Cement-Bentonite Quantity: 900lbs Cement, 45lbs Bentonite, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
395		42.00 - 46.00 ML, CLAYEY SILT, grey clay, no structure, non-cohesive, compact, SAPROLITE	ML	| | | |	394.8 42.00	4	ROTO 6.00 SONIC 6.00			
45		46.00 - 50.00 METAGRANITE, medium grained, moderately foliated at 46', 47-50' BIOTITE GNEISS, fine grained, well foliated, fractured with oxidation staining throughout	BR	|||||	390.8 46.00	5	ROTO 4.00 SONIC 4.00			
390		Boring completed at 50.00 ft								
50		Boring completed at 50.00 ft								
385		Boring completed at 50.00 ft								
55		Boring completed at 50.00 ft								
380		Boring completed at 50.00 ft								
60		Boring completed at 50.00 ft								
375		Boring completed at 50.00 ft								
65		Boring completed at 50.00 ft								
370		Boring completed at 50.00 ft								
70		Boring completed at 50.00 ft								
365		Boring completed at 50.00 ft								
75		Boring completed at 50.00 ft								
360		Boring completed at 50.00 ft								
80		Boring completed at 50.00 ft								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-62

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 52.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/9/20
 DATE COMPLETED: 4/9/20

NORTHING: 1,122,370.34
 EASTING: 2,406,175.11
 GS ELEVATION: 498.3
 TOC ELEVATION: 501.32 ft

DEPTH W.L.: 41.00'
 ELEVATION W.L.: 460.23'
 DATE W.L.: 4/16/2020
 TIME W.L.: 14:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 CL, SILTY CLAY, red, no structure, deeply weathered biotite gneiss, cohesive, soft, moist, w<PL, RESIDUUM	CL	[Hatched Pattern]	488.3				<p>WELL CASING Interval: 0' - 42.25' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 42.25' - 52.25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 40' - 52.25' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 36.5' - 40' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 36.5' Type: Cement-Bentonite Quantity: 450lbs Cement, 30lbs Bentonite, 60gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
495									
5									
490									
10		10.00 - 15.00 ML, SILT, very weathered biotite gneiss, yellowish brown, mica flakes, SAPROLITE	ML	[Vertical Lines]	483.3	1	ROTO 8.00 SONIC 10.00		
485									
15		15.00 - 20.00 ML, SILT to CLAYEY SILT, brown to yellowish brown, very weathered, biotite gneiss, dry to moist, loose, w<PL, trace relict foliation	ML	[Vertical Lines]	483.3				
480									
20		20.00 - 30.00 ML, CLAYEY SILT, primarily biotite and plagioclase, very weathered with some amphibolite and trace quartz, brown, cohesive, moist, soft to firm, w<PL, SAPROLITE	ML	[Vertical Lines]	478.3				
475									
25									
470									
30		30.00 - 35.00 ML, SILT, very weathered to weathered amphibolite, brownish green to greenish brown, fine to medium grained, weakly foliated, oxidated at 34', SAPROLITE	ML	[Vertical Lines]	468.3				
465									
35		35.00 - 40.00 ML, SILT and clayey SILT, weathered biotite gneiss, mica flakes, brown to greyish brown, mottled, some foliation present, SAPROLITE	ML	[Vertical Lines]	463.3	3	ROTO 10.00 SONIC 10.00		
460									
40		Log continued on next page			458.3				

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-62

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 52.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/9/20
 DATE COMPLETED: 4/9/20

NORTHING: 1,122,370.34
 EASTING: 2,406,175.11
 GS ELEVATION: 498.3
 TOC ELEVATION: 501.32 ft

DEPTH W.L.: 41.00'
 ELEVATION W.L.: 460.23'
 DATE W.L.: 4/16/2020
 TIME W.L.: 14:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		40.00 - 46.00 ML, SILT and clayey SILT, brown to greyish brown, weathered to very weathered biotite gneiss, no to faint relict foliation, mica flakes, moist to wet, soft to stiff, SAPROLITE	ML	| | | | |	40.00	4	ROTO 7.00 SONIC 6.00		<p style="font-size: small;">Sand - 0.010" Slotted - Screen</p>	<p>WELL CASING Interval: 0' - 42.25' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 42.25' - 52.25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 40' - 52.25' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 36.5' - 40' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 36.5' Type: Cement-Bentonite Quantity: 450lbs Cement, 30lbs Bentonite, 60gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45		46.00 - 50.00 Wash out		452.3 46.00	5	ROTO 0.00 SONIC 4.00				
45		50.00 - 52.00 ML, sandy SILT, very fine to fine sand, brownish grey to greyish brown, relict foliation, weathered biotite gneiss, very stiff, SAPROLITE	ML	| | | | |	448.3 50.00	6	ROTO 2.50 SONIC 2.00			
45		Boring completed at 52.00 ft								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-63

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 40.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/12/20
 DATE COMPLETED: 4/12/20

NORTHING: 1,123,955.38
 EASTING: 2,404,060.61
 GS ELEVATION: 498.9
 TOC ELEVATION: 501.54 ft

DEPTH W.L.: 20.0'
 ELEVATION W.L.: 481.29'
 DATE W.L.: 4/22/2020
 TIME W.L.: 15:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 10.00 Hydro-vac for utility clearance.								WELL CASING Interval: 0' - 30' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 30' - 40' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 28' - 40' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 24.2' - 28' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 24.2' Type: Cement-Bentonite Quantity: 750lbs Cement, 35lbs Bentonite, 87gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
495										
5										
10										
10		10.00 - 11.50 SM, SILTY SAND, fine to medium sand, brown, weathered biotite gneiss, no structure, quartz-biotite-plagioclase, loose, moist, w<PL, SAPROLITE	SM		488.9 10.00					
11.50		11.50 - 14.50 ML, sandy CLAYEY SILT, fine sand, yellowish brown, very weathered biotite gneiss, no structure, moist, non-cohesive, loose, w<PL	ML		487.4 11.50					
15		14.50 - 18.50 CL, CLAY, white to very pale brown, non-plastic, dry, soft	CL		484.4 14.50	1	ROTO 10.00 SONIC 10.00			
20		18.50 - 20.00 SM, SILTY SAND, weathered biotite gneiss, greyish brown, trace relict foliation, fine grained, quartz-biotite-plagioclase, dry to moist, compact to dense, SAPROLITE	SM		480.4 18.50					
20		20.00 - 22.00 ML, sandy CLAYEY SILT, brown, relict foliation, with clay lenses, weathered biotite gneiss, compac, moist, w<PL, SAPROLITE	ML		478.9 20.00					
25		22.00 - 23.00 CL, SILTY CLAY, no structure, olive brown, cohesive, soft to firm, moist	CL		476.9 22.00	2	ROTO 6.00 SONIC 6.00			
25		23.00 - 26.00 ML, sandy CLAYEY SILT, brown, relict foliation with clay lenses, weathered biotite gneiss, compact, moist, w<PL	ML		475.9 23.00					
30		26.00 - 28.00 BIOTITE GNEISS unweathered, well foliated, medium to fine grained, quartz-hornblende-blagioclase, dry	BR		472.9 26.00	3	ROTO 4.00 SONIC 4.00			
30		28.00 - 30.00 Transitionally Weathered Rock interlayered saprolite and unweathered BIOTITIE GNEISS, well foliated, fine to medium grained, moist, clay lenses throughout, moist to wet	BR		470.9 28.00					
35		30.00 - 40.00 BIOTITE GNEISS, medium grained, moderately to well foliatd, fractured throughout, puck shaped discs primarily 2" thick or less, oxidation staining throughout, quartz-hornblendend-plagioclase	BR		468.9 30.00	4	ROTO 10.00 SONIC 10.00			
40		Boring completed at 40.00 ft				458.9				

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-64

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 70.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/8/20
 DATE COMPLETED: 4/8/20

NORTHING: 1,123,724.36
 EASTING: 2,406,404.18
 GS ELEVATION: 476.0
 TOC ELEVATION: 479.52 ft

DEPTH W.L.: 53.62'
 ELEVATION W.L.: 425.74'
 DATE W.L.: 4/15/2020
 TIME W.L.: 17:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	475	0.00 - 1.50 CL, SILTY CLAY, red, deeply weathered, no structure, deeply weathered biotite gneiss, cohesive, dry to moist, very soft to soft	CL		474.5				Grout - Riser -	<p>WELL CASING Interval: 0' - 59' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 59' - 69' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 57' - 69' Type: #1 Sand Quantity: 4.5 Bags</p> <p>FILTER PACK SEAL Interval: 53.3' - 57' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 53.3' Type: Cement-Bentonite Quantity: 600lbs Cement, 50lbs Bentonite, 80gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
		1.50 - 10.00 ML, CLAYEY SILT, light reddish brown to brown, deeply weathered biotite, w<PL, gneiss, some relict foliation, cohesive, dry to moist, soft to firm, non-plastic	ML		1.50	1	ROTO 6.00 SONIC 10.00			
5	470									
		10.00 - 14.00 ML, SILT, brown, weathered biotite gneiss	ML		466					
10	465				10.00					
		14.00 - 15.00 SP/SM, SAND and SILTY SAND, fine to medium sand, granitic, dry to moist, plagioclase rich	SP-SM		462					
15	460				14.00	2	ROTO 10.00 SONIC 10.00			
		15.00 - 17.00 ML, SILT, cobble sized granitic pieces, tan, slightly foliated, plagioclase rich, soft, dry, w<PL, non-plastic	ML		461					
		17.00 - 20.00 ML/CL, interlayered SILT and CLAY lenses, brown, weathered biotite gneiss, dry to moist, cohesive, hard, w<PL, SAPROLITE	ML		459					
20	455				17.00					
		20.00 - 26.00 SM, SILTY SAND, biotite gneiss, pale brown to bro, dry to wet, SAPROLITE	SM		456					
25	450				20.00	3	ROTO 6.00 SONIC 6.00			
		26.00 - 30.00 SM, SILTY SAND, Transitionally weathered rock, foliated, biotite rich, oxidation zones within transitionally weathered rock, medium grained, brown, wet, SAPROLITE	TWR		450					
30	445				26.00	4	ROTO 4.00 SONIC 4.00			
		30.00 - 40.00 BIOTITE GNEISS, biotite is medium grained, oxidation, amphibolite gneiss is foliated and fine grained	BR		446					
35	440				30.00	5	ROTO 5.50 SONIC 10.00			
40					436					

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-64

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 70.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/8/20
 DATE COMPLETED: 4/8/20

NORTHING: 1,123,724.36
 EASTING: 2,406,404.18
 GS ELEVATION: 476.0
 TOC ELEVATION: 479.52 ft

DEPTH W.L.: 53.62'
 ELEVATION W.L.: 425.74'
 DATE W.L.: 4/15/2020
 TIME W.L.: 17:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40	435	40.00 - 50.00 BIOTITE GNEISS, poor recovery, weathered and highly fractured	BR	[Red wavy lines]	40.00	6	ROTO 1.50 SONIC 10.00		<p style="font-size: small;">Well casing: Interval: 0' - 59', Material: Sch 40 PVC, Diameter: 2", Joint Type: Threaded Well Screen: Interval: 59' - 69', Material: U-Pack Screen, Diameter: 2", Slot Size: 0.010", End Cap: 3" Filter Pack: Interval: 57' - 69', Type: #1 Sand, Quantity: 4.5 Bags Filter Pack Seal: Interval: 53.3' - 57', Type: Pel Plug, Quantity: 5gal Bucket Annulus Seal: Interval: 0' - 53.3', Type: Cement-Bentonite, Quantity: 600lbs Cement, 50lbs Bentonite, 80gal Water Well Completion: Pad: 4' x 4', Protective Casing: Aluminum Drilling Methods: Soil Drill: Roto Sonic, Rock Drill: Roto Sonic</p>	
45	430		BR	[Red wavy lines]	426					
50	425	50.00 - 56.00 BIOTITE GNEISS, black with oxidation, quartz and biotite rich, weathered biotite, fine grained, foliated	BR	[Red wavy lines]	50.00	7	ROTO 6.00 SONIC 6.00			
55	420	56.00 - 60.00 BIOTITE GNEISS, slightly weathered to unweathered, well foliated, fine grained	BR	[Red wavy lines]	420	8	ROTO 2.50 SONIC 4.00			
60	415	60.00 - 70.00 BIOTITE GNEISS, foliated, medium grained, white and black	BR	[Red wavy lines]	416	9	ROTO 8.50 SONIC 10.00			
70	405	Boring completed at 70.00 ft			406					
75	400									
80										

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-65

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 30.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/11/20
 DATE COMPLETED: 4/11/20

NORTHING: 1,121,937.16
 EASTING: 2,407,733.04
 GS ELEVATION: 429.6
 TOC ELEVATION: 432.42 ft

DEPTH W.L.: 15.46'
 ELEVATION W.L.: 416.89'
 DATE W.L.: 4/16/2020
 TIME W.L.: 1515

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 2.00 CL, SILTY CLAY, 2.5 YR 4/6 red, no structure, deeply weathered, cohesive, firm to stiff, dry to moist, trace very fine mica, RESIDUUM	CL		427.6					<p>WELL CASING Interval: 0' - 20' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 20' - 30' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 17.5" - 30' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 14' - 17.5' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 14' Type: Cement-Bentonite Quantity: 400lbs Cement, 24lbs Bentonite, 60gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
2.00 - 13.00		ML, CLAYEY SILT, 10 YR 5/3 brown, deeply weathered, little to no structure, mica flakes, dry to moist, cohesive, soft to firm, some mottling at 12', RESIDUUM	ML		2.00	1	ROTO 7.00 SONIC 10.00			
13.00 - 20.00		ML, SILT, some clay, trace fine sand, 10 YR 5/3 brown to olive brown, deeply weathered, interlayered biotite gneiss-amphibolite, trace to faint relict foliation, cohesive, firm to stiff, moist, biotite-hornblende-plagioclase, SAPROLITE	ML		416.6 13.00	2	ROTO 9.50 SONIC 10.00			
20.00 - 23.50		SM, SILTY SAND, fine sand, weathered biotite gneiss with higher quartz content, faint relict foliation, mottling, moist to wet, stiff to very stiff, cohesive, SAPROLITE	SM		409.6 20.00					
23.50 - 26.50		ML, CLAYEY SILT, trace very fine sand, brown to live brown to yellowish brown, deeply weathered biotite gneiss and amphibolite interlayered, trace quartz, mottled, faint relict foliation, moist, firm to very stiff, cohesive, SAPROLITE	ML		406.1 23.50	3	ROTO 12.00 SONIC 10.00			
26.50 - 28.50		SM, clayey SILTY SAND, yellowish brown to brown, deeply weathered, interlayered biotite gneiss and amphibolite, mottled, moist to wet, trace relict foliation, soft to firm, SAPROLITE	SM		403.1 26.50					
28.50 - 30.00		SM-ML, SILT and SILTY SAND, very fine to fine sand, brown to olive brown, weathered interlayered biotite amphibolite, relict foliation, SAPROLITE	SM-ML		401.1 28.50 399.6					
		Boring completed at 30.00 ft								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 60.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/1/20
 DATE COMPLETED: 4/2/20

NORTHING: 1,124,664.10
 EASTING: 2,409,115.98
 GS ELEVATION: 418.4
 TOC ELEVATION: 421.24 ft

DEPTH W.L.: 31.83'
 ELEVATION W.L.: 389.30'
 DATE W.L.: 4/7/2020
 TIME W.L.: 15:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 5.00 CL, SILTY CLAY, red, deeply weathered biotite gneiss, no structure, trace mica, cohesive, firm to stiff, dry to moist, w<PL	CL		413.4	1	ROTO 8.50 SONIC 10.00		Cement - Riser - Bentonite -	WELL CASING Interval: 0' - 45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 45' - 60' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 41.8' - 60' Type: #1 Sand Quantity: 5.5 Bags FILTER PACK SEAL Interval: 38' - 41.8' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 38' Type: Cement-Bentonite Quantity: 600lbs Cement, 46lbs Bentonite, 70gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
415										
5		5.00 - 10.00 ML, CLAYEY SILT, red, deeply weathered biotite gneiss, no structure, trace mica, cohesive, soft, dry to moist, w<PL	ML		408.4					
410										
10		10.00 - 30.00 ML, CLAYEY SILT, yellowish brown to strong brown to brown, deeply weathered biotite gneiss, some relict foliation, cohesive, sft, moist, w<PL	ML		388.4	2	ROTO 6.50 SONIC 10.00			
405										
15										
400										
20										
395										
25										
390										
30		30.00 - 39.00 ML, SILT, brown, very weathered biotite gneiss, cohesive, moist, soft w<PL	ML		379.4	3	ROTO 9.50 SONIC 10.00			
385										
35										
380										
40										
		Log continued on next page	SM		39.00	4	ROTO 10.00 SONIC 10.00			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 60.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/1/20
 DATE COMPLETED: 4/2/20

NORTHING: 1,124,664.10
 EASTING: 2,409,115.98
 GS ELEVATION: 418.4
 TOC ELEVATION: 421.24 ft

DEPTH W.L.: 31.83'
 ELEVATION W.L.: 389.30'
 DATE W.L.: 4/7/2020
 TIME W.L.: 15:55

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		39.00 - 44.00 SM, SILTY SAND, gley, very dark greenish grey, very weathered hornblende gneiss, non ohesive, loose to compact, moist, to wet, SAPROLITE (Continued)	SM	| | |		5	ROTO 4.00 SONIC 4.00	<p style="font-size: small;">0.010" Slotted - Screen</p>	<p>WELL CASING Interval: 0' - 45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 45' - 60' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 41.8' - 60' Type: #1 Sand Quantity: 5.5 Bags</p> <p>FILTER PACK SEAL Interval: 38' - 41.8' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 38' Type: Cement-Bentonite Quantity: 600lbs Cement, 46lbs Bentonite, 70gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
37.5		44.00 - 60.00 BIOTITE GNEISS, oxidation staining, well foliated, fine grained, greenish black to black with white foliations 44.50: Oxidation staining		| | |	374.4 44.00	6	ROTO 6.00 SONIC 6.00		
45		50.00: Oxidation staining		| | |					
370		54.80: Oxidation staining 55.50: Oxidation staining		| | |		7	ROTO 10.00 SONIC 10.00		
50		58.00: Oxidation staining	BR	| | |					
365		60.00: Oxidation staining Boring completed at 60.00 ft		| | |	358.4				
55				| | |					
360				| | |					
60				| | |					
65				| | |					
70				| | |					
350				| | |					
75				| | |					
345				| | |					
80				| | |					

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 1 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 6.00 Hand auger for utility clearance.						Grout -	WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A FILTER PACK Interval: N/A Type: N/A Quantity: N/A FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	420	6.00 - 16.00 SM, SILTY SAND, brown dark brown and grey, some clay, loose, rich in muscovite and weathered biotite, soft dry			418.4 6.00				
10	415		SM		1	ROTO 5.00 SONIC 10.00			
15	410				16.00				
20	405	16.00 - 33.00 SM, SILTY SAND, tan, brown and grey, with clay, loose, weathered biotite, soft, dry, some weathered amphibolite			408.4 16.00				
25	400		SM			2	ROTO 4.50 SONIC 10.00		
30	395					3	ROTO 10.00 SONIC 10.00		
35	390	33.00 - 36.00 SM, SILTY SAND, grey dark brown, weathered biotite gneiss, rich in biotite-plagioclase-quartz, SAPROLITE	SM		391.4 33.00				
40	385	36.00 - 46.00 SM, SILTY SAND, greenish grey, transitionally weathered rock biotite gneiss, rich in biotite-plagioclase-quartz-hornblende, soft, loose, moist	TWR		388.4 36.00		4	ROTO 10.00 SONIC 10.00	6" Casing -

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 2 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
40		36.00 - 46.00 SM, SILTY SAND, greenish grey, transitionally weathered rock biotite gneiss, rich in biotite-plagioclase-quartz-hornblende, soft, loose, moist (<i>Continued</i>)	TWR	|	378.4	4	ROTO 10.00 SONIC 10.00	Open Boring -	<p>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
45	380	46.00 - 56.00 BIOTITE GNEISS, fine grained, well foliated, black, white and grey, rich in quartz-hornblende-plagioclase-biotite, very hard, stiff, no obvious fractures	BR	|	368.4	5	ROTO 9.00 SONIC 10.00		
50	375	56.00 - 69.00 BIOTITE GNEISS, black white grey, fine grained, well foliated, small fractures, weathering discoloration observed at 58'-59', rich in hornblende-plagioclase-biotite-quartz, hard, very dense	BR	|	56.00	6	ROTO 10.00 SONIC 10.00		
55	370	69.00 - 76.00 BIOTITE GNEISS, black white grey, fine grained, some fractures at 69'-70', moderately foliated, quartz-hornblende-plagioclase-biotite, hard, very dense	BR	|	355.4	7	ROTO 3.00 SONIC 3.00		
60	365	76.00 - 86.00 BIOTITE GNEISS, black white grey, fine grained, well foliated, rich in plagioclase-quartz-biotite, some fractures at 79' and 82', hard, very dense Some amphibolite from 79'-81' and 83'-84'	BR	|	348.4	8	ROTO 7.00 SONIC 7.00		
65	360					9	ROTO 10.00 SONIC 10.00		
70	355								
75	350								
80	345								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 3 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
80		76.00 - 86.00 BIOTITE GNEISS, black white grey, fine grained, well foliated, rich in plagioclase-quartz-biotite, some fractures at 79' and 82', hard, very dense Some amphibolite from 79'-81' and 83'-84' (Continued)	BR	[Red wavy lines]	338.4 86.00	9	ROTO SONIC	10.00 10.00	<p>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
85	340	86.00 - 96.00 BIOTITE GNEISS, black white grey, moderately foliated, rich in plagioclase-biotite, some hornblende, very hard, little fractures	BR	[Red wavy lines]	328.4 96.00	10	ROTO SONIC	9.50 10.00	
90	335	96.00 - 106.00 BIOTITE GNEISS and AMPHIBOLITE, black white grey, amphibolite from 99'-101.6' and 105.5'-106', biotite gneiss has hornblende-plagioclase-biotite, amphibolite with pyrite-hornblende-amphibole, fractures throughout, hard, dense	BR	[Red wavy lines]	318.4 106.00	11	ROTO SONIC	10.00 10.00	
95	330	106.00 - 116.00 BIOTITE GNEISS, feldspar, quartz, fine to medium grained, weakly to strongly foliated, poorly jointed, fresh to slightly weathered Fractures at 109.5'	BR	[Red wavy lines]	308.4 116.00	12	ROTO SONIC	10.00 10.00	
100	325	116.00 - 126.00 AMPHIBOLITE/HORNBLLENDE GNEISS, salt and pepper to dark green, fine to moderately grained, poorly jointed, moderately foliated, quartz-biotite-hornblende, fresh to moderately weathered, deeply weathered almost saprolitic Fractures 122.1', 124.75'	BR	[Red wavy lines]		13	ROTO SONIC	9.60 10.00	
105	320							Open Boring _ 6" Diameter	
110	315								
115	310								
120	305								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 4 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
120		116.00 - 126.00 AMPHIBOLITE/HORNBLLENDE GNEISS, salt and pepper to dark green, fine to moderately grained, poorly jointed, moderately foliated, quartz-biotite-hornblende, fresh to moderately weathered, deeply weathered almost saprolitic Fractures 122.1', 124.75' (Continued)	BR		298.4	13	ROTO 9.60 SONIC 10.00	Open Boring - 6" Diameter	<p>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
125	300	126.00 - 136.00 AMPHIBOLITE/HORNBLLENDE GNEISS, salt and pepper to dark green, fine to moderately grained, poorly jointed, moderately foliated, quartz-biotite-hornblende, fresh to moderately weathered, deeply weathered Fractures 127.9', 133', 133.6'	BR		288.4	14	ROTO 8.50 SONIC 10.00		
130	295	136.00 - 146.00 HORNBLLENDE/BIOTITE GNEISS, quartz, well foliated, slightly jointed, fresh to moderately weathered, rock moving more towards biotite gneiss Fractures 136.6', 138.1-138.5'	BR		278.4	15	ROTO 9.50 SONIC 10.00		
135	290	146.00 - 156.00 HORNBLLENDE/BIOTITE GNEISS, quartz, well foliated, slightly jointed, fresh to moderately weathered, rock becoming more felsic than mafic Fractures 146.6', 147.5', 148.5' 152'	BR		268.4	16	ROTO 10.00 SONIC 10.00		
140	285	156.00 - 166.00 HORNBLLENDE/BIOTITE GNEISS, quartz, well foliated, slightly jointed, fresh to moderately weathered 164' Amphibolite, salt and pepper, fresh weathered Fracture 157.75', 160.4', 161.4', 161.4', 162.4', 164'	BR		268.4	17	ROTO 9.75 SONIC 10.00		
145	280	Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

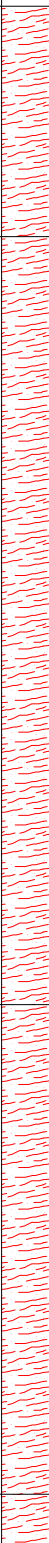
SHEET 5 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
160		156.00 - 166.00 HORNBLLENDE/BIOTITE GNEISS, quartz, well foliated, slightly jointed, fresh to moderately weathered 164' Amphibolite, salt and pepper, fresh weathered Fracture 157.75', 160.4', 161.4', 161.4', 162.4', 164' (Continued)	BR		258.4 166.00	17	ROTO SONIC	9.75 10.00	<p>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
165		166.00 - 186.00 BIOTITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, well foliated, poorly jointed	BR		250	18	ROTO SONIC	10.00 10.00	
170			BR		245	19	ROTO SONIC	10.00 10.00	
175			BR		240	20	ROTO SONIC	10.00 10.00	
180			BR		238.4 186.00	21	ROTO SONIC	9.00 10.00	
185		186.00 - 198.75 BIOTITE GNEISS, feldspar, quartz, biotite, black to light grey, fresh to moderately weathered, fine to medium grained, feldspar has weathered out, Fractures 194', 197.45'	BR		235				
190			BR		225.65 198.75				
195			BR						
200		Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 6 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
200		198.75 - 206.00 AMPHIBOLITE/ BIOTITE GNEISS, fine grained, weakly foliated, poorly jointed (<i>Continued</i>)	BR		218.4	21	ROTO SONIC	9.00 10.00	Open Boring _ 6" Diameter	<p>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
205		206.00 - 216.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed, water staining 212.5'-214' Fractures, 207', 207.5', 208.2', 209.5', 209.6', 209.9', 212.25'	BR		206.00	22	ROTO SONIC	10.00 10.00		
210		216.00 - 236.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed,	BR		208.4	23	ROTO SONIC	8.75 10.00		
215		216.00 - 236.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed,	BR		216.00	24	ROTO SONIC	10.00 10.00		
220		236.00 - 246.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed, gneiss becoming more migmatite, locally contains pygmatic folds starting at 241'	BR		188.4	25	ROTO SONIC	9.00 10.00		
225		Log continued on next page								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

SHEET 7 of 7

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 266.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/26/20
 DATE COMPLETED: 5/6/20

NORTHING: 1,124,644.48
 EASTING: 2,409,028.45
 GS ELEVATION: 424.4
 TOC ELEVATION: 427.60 ft

DEPTH W.L.: 39.70
 ELEVATION W.L.: 387.90
 DATE W.L.: 5/8/2020
 TIME W.L.: 12:15

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
240		236.00 - 246.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed, gneiss becoming more migmatite, locally contains pygmatic folds starting at 241' (Continued)	BR	[Red scribbled log]		25	ROTO SONIC	9.00 10.00	Open Boring - 6" Diameter	WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A FILTER PACK Interval: N/A Type: N/A Quantity: N/A FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A ANNULUS SEAL Interval: 0'-69' Type: Cement Quantity: 1504lbs Cement, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
245	180	246.00 - 256.00 MIGMATIT, plagioclase quartz biotite with hornblende, fresh to moderately weathered, poorly foliated, poorly jointed, entire run has water staining, fractures every 1/4'	BR	[Red scribbled log]	178.4 246.00					
250	175	256.00 - 266.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed Fracture 257'	BR	[Red scribbled log]	168.4 256.00					
255	170									
260	165		BR	[Red scribbled log]		27	ROTO SONIC	7.00 10.00		
265	160				158.4					
		Boring completed at 266.00 ft								
270	155									
275	150									
280	145									

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 40.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/1/20
 DATE COMPLETED: 4/1/20

NORTHING: 1,125,782.26
 EASTING: 2,408,248.89
 GS ELEVATION: 423.2
 TOC ELEVATION: 425.94 ft

DEPTH W.L.: 25.5'
 ELEVATION W.L.: 400.36'
 DATE W.L.: 4/14/2020
 TIME W.L.: 11:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
0		0.00 - 10.00 CL, SILTY CLAY, 2.5 YR 3/4 reddish brown, no structure, deeply weathered biotite gneiss, trace mica, cohesive, plastic, moist, w<PL, RESIDUUM	CL	[Hatched Pattern]	413.2				<p>WELL CASING Interval: 0' - 29.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 29.75' - 39.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 27.75' - 39.75' Type: #1 Sand Quantity: 3.25 Bags</p> <p>FILTER PACK SEAL Interval: 24.5' - 27.5' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 24.5' Type: Cement - Bentonite Quantity: 600lbs Cement, 40lbs Bentonite, 80gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
420									
5									
415									
10		10.00 - 13.00 ML, CLAYEY SILT, 2.5YR 4/6 red, deeply weathered biotite gneiss, no structure, trace mica, cohesive, non-plastic, w<PI, soft to firm, moist, RESIDUUM	ML	[Dotted Pattern]	410.2				
410		13.00 - 15.00 ML, CLAYEY SILT, 5 YR 5/8 yellowish red, deeply weathered biotite gneiss, no structure, some mica, cohesive, soft to firm, w<PL, moist, RESIDUUM	ML	[Dotted Pattern]	408.2				
15		15.00 - 24.00 ML, CLAYEY SILT, trace relict foliation, very weathered biotite gneiss, non-cohesive, loose, moist, w<PL, most to wet 20-24' RESIDUUM	ML	[Dotted Pattern]	399.2	1	ROTO 7.00 SONIC 10.00		
405									
20									
400									
25		24.00 - 30.00 ML, CLAYEY SILT, 10 YR 5/6 yellowish brown, weathered biotite gneiss, foliated, quartz-hornblende-plagioclase-biotite, cohesive, stiff, w<PL, moist, SAPROLITE	ML	[Dotted Pattern]	393.2	2	ROTO 10.00 SONIC 10.00		
395									
30		30.00 - 38.00 ML, SILT 10 YR 5/6 yellowish brown, slightly foliated, mottled, very weathered biotite gneiss, wet 30-32', moist to wet 32-38', some sand, very fine to fine sand, SAPROLITE	ML	[Dotted Pattern]	385.2	3	ROTO 10.00 SONIC 10.00		
390									
35									
385		38.00 - 40.00 Transitionally weathered rock, saprolitic rock, BIOTITE GNEISS, interlayered with saprolite very weathered, slightly foliated	TWR	[Triangle Pattern]	383.2				
40		Boring completed at 40.00 ft							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 1 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 6.00 SM, SILTY SAND with trace clay, low to non plastic, non-cohesive, w<PL, loose/soft, high mica content	SM	| | | | |	418.7 6.00	1	ROTO 2.20 SONIC 6.00		Grout -	WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A FILTER PACK Interval: N/A Type: N/A Quantity: N/A FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	420	6.00 - 16.00 ML, SILT, with trace sand and clay, red brown to bronze, non to low plasticity, dry to moist, loose, w<PL, high mica content, RESIDUUM	ML	| | | | |	408.7 16.00	2	ROTO 5.25 SONIC 10.00			
10	415	16.00 - 26.00 ML, SILT, with trace sand and clay, red brown, non to low plasticity, dry to moist, loose, w<PL, high mica content, RESIDUUM	ML	| | | | |	398.7 26.00	3	ROTO 5.00 SONIC 10.00			
15	410	26.00 - 29.50 ML, SILT, with trace sand and clay, red brown to bronze, non to low plasticity, dry to moist, loose, w<PL, high mica content, RESIDUUM	ML	| | | | |	395.2 29.50	4	ROTO 9.50 SONIC 10.00			
20	405	29.50 - 36.00 GW, sandy GRAVEL, Transitionally weathered rock, well graded, fine to coarse, non-plastic, loose, dry, w<PL, amphibolite, fine-medium grained, moderately weathered, quartz, plagioclase, hornblende	TWR	| | | | |	388.7 36.00	5	ROTO 9.20 SONIC 10.00			
25	400	36.00 - 42.00 CL, CLAY, some very fine sand, low plasticity, dark green, wet to moist, very soft, w<PL	CL	| | | | |						

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 2 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
40		36.00 - 42.00 CL, CLAY, some very fine sand, low plasticity, dark green, wet to moist, very soft, w<PL (Continued)	CL		382.7				6 1/4" Casing	<p>WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
		42.00 - 44.00 SM, SILTY SAND, with trace gravel, medium green to brown green non-plastic, w<PL, compact to dense	SM		42.00	5	ROTO 9.20 SONIC 10.00			
45	380	44.00 - 46.00 SM, SILTY SAND, trace gravel, tan to brown, fine to coarse sand, gravel quartz and feldspar, dry to moist, w<PL, non to low plasticity, loose-compact, biotite gneiss	SM		44.00					
		46.00 - 49.00 CL, CLAY, with sand and trace gravel, medium green to dark green, moist to dry, w<PL, non-cohesive, compact, RESIDUUM	CL		46.00					
		49.00 - 53.50 ML, SILT, with trace fine gravel, light green, low plasticity, loose, dry, w<PL,	ML		49.00	6	ROTO 9.50 SONIC 10.00			
50	375	53.50 - 56.00 SM, SILTY SAND, trace clay, fine to medium sand, low plasticity, dry to moist, w<PL, compact, RESIDUUM	SM		53.50					
		56.00 - 66.00 AMPHIBOLITE, black and white with dark green/black and white quartz, biotite, plagioclase, hornblende, fresh to moderately weathered, poorly jointed, weakly to slightly foliated			56.00					
		59.50: Fracture 59.80 - 61.10 large vein quartz zone	BR		363.6	7	ROTO 9.60 SONIC 10.00			
		61.40: Fracture								
65	360	66.00 - 76.00 AMPHIBOLITE, white to green, medium grained, fresh to slightly weathered			66.00					
		68.60: Fracture								
70	355	75.00: Fracture	BR			8	ROTO 10.00 SONIC 10.00			
		76.00 - 86.00 AMPHIBOLITE, fresh rock, medium grained, white to green	BR		76.00	9	ROTO 7.00 SONIC 7.00			
80	345	Log continued on next page								

BOREHOLE RECORD: PLANT SCHERER CR6 INVESTIGATION BORING LOGS - SURVEY UPDATED.GPJ - PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 3 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS		
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC	
80		76.00 - 86.00 AMPHIBOLITE, fresh rock, medium grained, white to green <i>(Continued)</i>	BR		338.7	9	ROTO 7.00 SONIC 7.00	Open Boring --	<p>WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>		
	340	81.90: Fracture					328.7			10	ROTO 3.00 SONIC 3.00
85		84.70: Fracture			328.7						
	335	86.00 - 96.00 AMPHIBOLITE, fresh rock, medium grained, white to green, pyrite throughout	BR		328.7	11	ROTO 7.00 SONIC 10.00				
	330	92.00: Rock becomes more gneissic 92.01: Fracture 92.85: Fracture					328.7				
90		94.20: Fracture					328.7				
	325	95.50: Fracture 96.00 - 106.00 AMPHIBOLITE, fresh rock, medium grained, white to green, pyrite throughout			BR		318.7			12	ROTO 10.00 SONIC 10.00
	320	98.20: Fracture					318.7				
100		106.00 - 166.00 AMPHIBOLITE, black to white to dark green, fine to medium grained, poorly jointed, weakly foliated, fresh to slightly weathered	BR				318.7			13	ROTO 10.00 SONIC 10.00
	315	106.80: Fracture					318.7				
110							318.7			14	ROTO 9.40 SONIC 10.00
120											

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

Log continued on next page

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 4 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
120		106.00 - 166.00 AMPHIBOLITE, black to white to dark green, fine to medium grained, poorly jointed, weakly foliated, fresh to slightly weathered <i>(Continued)</i>							<p>WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
125	300				14	ROTO 9.40 SONIC 10.00			
130	295				15	ROTO 8.50 SONIC 10.00			
135	290						Open Boring _ 6" Diameter		
140	285		BR		16	ROTO 8.80 SONIC 10.00			
145	280				17	ROTO 10.00 SONIC 10.00			
150	275				18	ROTO 10.00 SONIC 10.00			
155	270	157.00: Fracture							
160	265	Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 5 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
160		106.00 - 166.00 AMPHIBOLITE, black to white to dark green, fine to medium grained, poorly jointed, weakly foliated, fresh to slightly weathered <i>(Continued)</i> 160.15: Fracture	BR	[Dotted Pattern]		18	ROTO <u>10.00</u> SONIC 10.00		WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A FILTER PACK Interval: N/A Type: N/A Quantity: N/A FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
165	260	164.50: Fracture 165.20: Fracture 165.60: Fracture 166.00 - 176.00 AMPHIBOLITE, quartz, plagioclase, biotite, fine to moderately grained, weakly foliated, poorly jointed, fresh to slightly weathered, locally contains pyrite and vein quartz 168.40: Fracture			258.7 166.00				
170	255	171.20: Fracture 172.20: Fracture	BR			19	ROTO <u>10.00</u> SONIC 10.00		
175	250	176.00 - 186.00 AMPHIBOLITE, quartz, plagioclase, biotite, fine to moderately grained, moderately foliated, poorly jointed, fresh to slightly weathered, locally contains pyrite and vein quartz 176.80: Fracture			248.7 176.00				
180	245	180.10: Fracture	BR			20	ROTO <u>8.50</u> SONIC 10.00	Open Boring - 6" Diameter	
185	240	186.00 - 196.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine to moderately grained, moderately to well foliated, poorly jointed, fresh to slightly weathered, locally contains pyrite and vein quartz. 187.00: Fracture			238.7 186.00				
190	235	189.25: Fracture 189.50: Fracture 191.10: Fracture	BR			21	ROTO <u>8.80</u> SONIC 10.00		
195	230	194.00: Fracture			228.7 196.00				
200	225	196.00 - 226.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, moderately foliated	BR			22	ROTO <u>9.50</u> SONIC 10.00		
		Log continued on next page							

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 6 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
200		196.00 - 226.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, moderately foliated <i>(Continued)</i>	BR	[Graphic Log: Yellow Dotted Pattern]				Open Boring _ 6" Diameter	WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A FILTER PACK Interval: N/A Type: N/A Quantity: N/A FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic	
205	220									
210	215									
215	210	215.85: Fracture								
220	205									
225	200									
230	195	226.00 - 236.00 BIOTITE GNEISS feldspar, garnet, biotite, weak to well foliated, fine to medium grained, black to gray, locally contains quartz veins	BR	[Graphic Log: Red Dotted Pattern]	198.7	226.00				
235	190									
240	185	236.00 - 246.00 BIOTITE GNEISS, interlayered with amphibolite, black and white to dark grey, fine to medium grained, fair to weakly foliated, poorly jointed, fresh, gneiss locally contains garnets, locally contain quartz veins 236.60: Fracture 238.30: Fracture	BR	[Graphic Log: Red Dotted Pattern]	188.7	236.00				

Log continued on next page

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 7 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
240		236.00 - 246.00 BIOTITE GNEISS, interlayered with amphibolite, black and white to dark grey, fine to medium grained, fair to weakly foliated, poorly jointed, fresh, gneiss locally contains garnets, locally contain quartz veins (<i>Continued</i>)	BR	[Red wavy lines]		26	ROTO 9.70 SONIC 10.00		Open Boring _ 6" Diameter	<p>WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
245	180	244.40: Fracture								
		246.00 - 276.00 AMPHIBOLITE/HORNBLende GNEISS, quartz and plagioclase, locally contains small pyrite, fresh, medium grained, weak to moderately foliated, poorly jointed Amphibolite and hornblende have dark green hue starting 266' Fractures 246.8', 252.7', 256', 258.1', 265.8' 267.3', 273.9' 246.80: Fracture		[Yellow dots]	178.7 246.00					
250	175	252.70: Fracture				27	ROTO 9.60 SONIC 10.00			
255	170	256.00: Fracture								
260	165	258.10: Fracture	BR			28	ROTO 10.00 SONIC 10.00			
265	160	265.80: Fracture								
270	155	267.30: Fracture								
275	150	273.90: Fracture				29	ROTO 10.00 SONIC 10.00			
280	145	Log continued on next page	BR		148.7 276.00	30	ROTO 10.00 SONIC 10.00			

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-67D

SHEET 8 of 8

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 301.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TS 150
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/25/20

NORTHING: 1,125,764.81
 EASTING: 2,408,259.40
 GS ELEVATION: 424.7
 TOC ELEVATION: 428.48 ft

DEPTH W.L.: 40.32
 ELEVATION W.L.: 388.16
 DATE W.L.: 5/6/2020
 TIME W.L.: 10:24

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE			REC
280		276.00 - 286.00 AMPHIBOLITE, black/white/dark green, hornblende gneiss, fine to medium grained, weakly to slightly foliated, poorly jointed, fresh Approximately 282' amphibolite becomes coarse grained, minor quartz biotite amphiboles and plagioclase appears to be more dioritic (Continued)	BR	[Dotted Pattern]	138.7	30	ROTO 10.00 SONIC 10.00	Open Boring _ 6" Diameter	<p>WELL CASING Interval: 0' - 83' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</p> <p>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</p> <p>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</p> <p>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</p> <p>ANNULUS SEAL Interval: 0' - 83' Type: Cement-Bentonite Quantity: 1200lbs Cement, 45lbs Bentonite, 90gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
285	140	286.00 - 301.00 AMPHIBOLITE/HORNBLLENDE GNEISS, quartz and plagioclase, locally contains small pyrite, fresh, medium grained, weak to moderately foliated, poorly jointed	BR	[Dotted Pattern]	286.00	31	ROTO 9.60 SONIC 10.00		
290	135	289.50: Fracture	BR	[Dotted Pattern]		32	ROTO 5.00 SONIC 5.00		
295	130	Boring completed at 301.00 ft			123.7				
300	125								
305	120								
310	115								
315	110								
320	105								

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Logan Hall

GA INSPECTOR: M. Boatman, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE PZ-68

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 20139484
 DRILLED DEPTH: 20.00 ft
 LOCATION: Juliette, GA

DRILL RIG: TSI CC Crawler
 DATE STARTED: 4/15/20
 DATE COMPLETED: 4/15/20

NORTHING: 1,125,116.59
 EASTING: 2,407,181.92
 GS ELEVATION: 392.1
 TOC ELEVATION: 395.55 ft

DEPTH W.L.: 14.0'
 ELEVATION W.L.: 381.40'
 DATE W.L.: 4/17/2020
 TIME W.L.: 16:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 1.00 CL, sandy SILTY CLAY, 2.5 YR 4/6 red, cohesive, plastic, soft to firm, moist to wet, w~PL, no structure, deeply weathered biotite gneiss, RESIDUUM	CL		391.1 1.00					<p>WELL CASING Interval: 0' - 10' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 10' - 20' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"</p> <p>FILTER PACK Interval: 7.2' - 20' Type: #1 Sand Quantity: 3.5 Bags</p> <p>FILTER PACK SEAL Interval: 4' - 7.2' Type: Pel Plug Quantity: 5gal Bucket</p> <p>ANNULUS SEAL Interval: 0' - 4' Type: Cement - Bentonite Quantity: 50lbs Cement, 3lbs Bentonite, 6gal Water</p> <p>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</p> <p>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</p>
390		1.00 - 5.00 CL, SILTY CLAY, 2.5 YR 4/6 red, cohesive, plastic, firm to stiff, w~PL, no structure, deeply weathered biotite gneiss, RESIDUUM	CL		387.1 5.00	1	ROTO 9.00 SONIC 10.00	Grout - Bentonite - Riser -		
5		5.00 - 9.50 ML, CLAYEY SILT, 7.5 YR 4/4 brown, deeply weathered biotite gneiss, mica flakes, no structure, stiff, moist, slightly plastic, w<PL, RESIDUUM	ML		382.6 9.50					
10		9.50 - 11.00 SP-SM, SAND and SILTY SAND, fine sand, 7.5 YR 4/4 brown, deeply weathered biotite gneiss, moist to wet, mica flakes, non-plastic, non-cohesive, loose	SP-SM		381.1 11.00					
380		11.00 - 13.00 SM, clayey SILTY SAND, very weathered biotite, gneiss with clay 10 YR 6/3 pale brown, fine to medium grained, some foliation, mottled, moist, loose, non-plastic, SAPROLITE	SM		379.1 13.00	2	ROTO 5.00 SONIC 5.00	Sand -		
15		13.00 - 14.00 ML, CLAYEY SILT, some very fine sand, 10 YR 5/4 yellowish brown, very weathered biotite gneiss, some foliation, firm, w<PL, moist	ML		378.1 14.00					
375		14.00 - 15.00 SM, SILTY SAND, with clay, some foliation, 10 YR 6/3 pale brown, weathered biotite gneiss, dry	SM		377.1 15.00			0.010" Slotted - Screen		
20		15.00 - 20.00 Transitionally weathered rock to unweathered BIOTITE GNEISS, slightly foliated, fine to medium grained, quartz plagioclase, biotite	TWR		372.1	3	ROTO 2.00 SONIC 5.00			
370		Boring completed at 20.00 ft								
375										
380										
385										
390										

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

LOG SCALE: 1 in = 5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Chris Turner

GA INSPECTOR: S. George, PG
 CHECKED BY: Rachel P. Kirkman, PG
 DATE: 5/29/20



RECORD OF BOREHOLE LPZ-01

SHEET 1 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 65.80 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track Mounted Rig
 DATE STARTED: 11/6/15
 DATE COMPLETED: 11/10/15

NORTHING: 1,117,001.58
 EASTING: 2,398,513.19
 GS ELEVATION: 550.0
 TOC ELEVATION: 553.29 ft

DEPTH W.L.: 53.78'
 ELEVATION W.L.: 550.00'
 DATE W.L.: 11/11/15
 TIME W.L.: 11:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS		
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC	
0	550	0.00 - 2.50 CLAYEY SILT; red/brown clay, trace to little sand, firm to stiff, dry, W<PL	MH		547.5						Portland Type I/ Type - II/ Gel mix		WELL CASING Interval: -3'-54' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 54'-64' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 47.7'-65.8' Type: #1 sand FILTER PACK SEAL Interval: 45.1'-47.7' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-45.1' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary
		2.50 - 5.00 reddish brown/beige mottled clay with trace fine sand, some mica, stiff to very stiff, dry to moist, W<PL			545	1	DO	4-5-7	12	$\frac{1.20}{1.50}$			
5	545	5.00 - 8.50 more clay noted, reddish brown clay with trace fine sand and mica			541.5	2	DO	6-12-17	29	$\frac{1.50}{1.50}$			
		8.50 - 13.50 not mottled			536.5	3	DO	4-10-13	23	$\frac{1.50}{1.50}$			
			535.5	4	DO	5-10-13	23	$\frac{1.50}{1.50}$					
15	535	13.50 - 14.50 reddish brown clay with trace fine sand and mica	SM		533	5	DO	2-7-5	12	$\frac{1.00}{1.50}$			
		14.50 - 17.00 SILTY SAND; deeply weathered granitic gneiss, some quartz, partially weathered rock, white sand and silt, compact, dry, W<PL			530	6	DO	3-3-4	7	$\frac{1.20}{1.50}$			
20	530	17.00 - 20.00 SILT; light brown silt with trace fine sand, some mica, non-plastic, soft, dry to moist, W<PL	ML		525	7	DO	3-4-4	8	$\frac{1.10}{1.50}$			
		20.00 - 25.00 light beige/white silver silt, lots of mica, non-plastic, trace fine sand, soft, dry, W<PL			520	8	DO	4-8-7	15	$\frac{1.30}{1.50}$			
25	525	25.00 - 30.00 light beige/white silt with mica and trace fine sand to deeply weathered granitic gneiss with quartz, partially weathered rock, white sand and silt, compact, dry, W<PL			517	9	DO	3-6-8	14	$\frac{1.40}{1.50}$			
30	520	30.00 - 33.00 light to medium brown silt, trace to little sand, non-plastic, silt appears to be made of biotite gneiss interlayered with quartz veins, soft, dry to moist, W<PL	SM		510	10	DO	6-27-42	69	$\frac{1.50}{1.50}$			
35	515	33.00 - 40.00 SILTY SAND; light to medium brown silt with trace fine sand, greenish weathering, non-plastic, soft, moist, W<PL			510								
40	510	40.00 - 53.00 brown/white/green fine to coarse sand, non to low plasticity, dry to moist, soft, W<PL											
45	505	Log continued on next page											

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ - Piedmont.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-01

SHEET 2 of 2

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 65.80 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track
 Mounted Rig
 DATE STARTED: 11/6/15
 DATE COMPLETED: 11/10/15

NORTHING: 1,117,001.58
 EASTING: 2,398,513.19
 GS ELEVATION: 550.0
 TOC ELEVATION: 553.29 ft

DEPTH W.L.: 53.78'
 ELEVATION W.L.:
 DATE W.L.: 11/11/15
 TIME W.L.: 11:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES				MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS		
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop			N-VALUE	REC
45	505	40.00 - 53.00 brown/white/green fine to coarse sand, non to low plasticity, dry to moist, soft, W<PL <i>(Continued)</i>			497	11	DO	12-20-17	37	<u>1.30</u> 1.50	3/8" Bentonite chips	WELL CASING Interval: -3'-54' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 54'-64' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 47.7'-65.8' Type: #1 sand FILTER PACK SEAL Interval: 45.1'-47.7' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-45.1' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary
50	500				492	12	DO	14-21-29	50	<u>1.40</u> 1.50		
55	495	53.00 - 58.00 PARTIALLY WEATHERED ROCK; biotite gneiss with quartz and hornblende	PWR		492	13	DO	50/3	50	<u>0.20</u> 0.30	#1 sand	
60	490				492	14	CORE			<u>1.00</u> 1.50		
65	485	58.00 - 65.80 ROCK: biotite gneiss, no recovery in spoon *No auger refusal noted due to drilling conditions Core Run (58.3'-59.8'): RQD=0%; REC=67% Core Run (59.8'-64.8'): RQD=44%; REC=98% Core Run (64.8'-65.8'): RQD=82%; REC=90%	BR		484.2	15	CORE			<u>4.90</u> 5.00	0.010" slot screen	
70	480				484.2	16	CORE			<u>0.90</u> 1.00		
75	475				Boring completed at 65.80 ft							

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-02


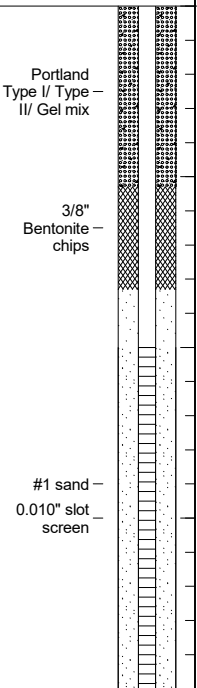
SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 20.00 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track Mounted Rig
 DATE STARTED: 11/20/15
 DATE COMPLETED: 11/20/15

NORTHING: 1,119,972.34
 EASTING: 2,398,004.93
 GS ELEVATION: 511.1
 TOC ELEVATION: 514.52 ft

DEPTH W.L.: 2.05'
 ELEVATION W.L.:
 DATE W.L.: 11/21/15
 TIME W.L.: 08:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS				
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC			
0	510	0.00 - 2.50 CLAYEY SAND; red/brown clayey sand, fine to medium grain, non-plastic, some organic material, soft, moist to wet, W<PL	SC		508.6	1	DO	4-4-3	7	0.80 1.50		<p>WELL CASING Interval: -3'-10' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 10'-20' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 8.3'-20' Type: #1 sand</p> <p>FILTER PACK SEAL Interval: 5.3'-8.3' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-5.3' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel</p> <p>DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary</p>			
2.50 - 6.00 red/brown clayey sand to orange/yellow clay with trace fine sand, low plasticity, soft, moist, W<PL	505.1	2			DO								3-3-3	6	1.30 1.50
6.00 - 7.50 blue grey sandy clay, trace organic material, low plasticity, firm to stiff, moist, W<PL	503.6	3			DO								3-4-8	12	1.50 1.50
7.50 - 13.00 sand and clay, soft, loose, low to non-plastic, moist to wet	498.1	4			DO								2-3-3	6	1.50 1.50
13.00 - 15.00 SILTY SAND; brownish white sand, trace to some silt, some mica, soft, loose, non-plastic, looks like weathered quartz vein or pegmatite, W<PL	496.1	5	DO	13-12-10	22								1.40 1.50		
15.00 - 20.00 brown/bronze and white sand with trace to some silt, non-plastic, loose, moist, W<PL	491.1														
20	490	Boring completed at 20.00 ft			6	DO	10-50/4	50	0.50 0.80						

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-03

SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 35.00 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track Mounted Rig
 DATE STARTED: 11/17/15
 DATE COMPLETED: 11/18/15

NORTHING: 1,117,883.86
 EASTING: 2,398,657.00
 GS ELEVATION: 512.2
 TOC ELEVATION: 515.45 ft

DEPTH W.L.: 6.48
 ELEVATION W.L.: 488
 DATE W.L.: 1/14/16
 TIME W.L.: 11:13

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
0	510	0.00 - 2.50 CLAY; with some silt, orange/yellow/beige mottled clay with trace fine sand, low plasticity, very stiff to hard, dry to moist, W<PL	CH		509.7						<p style="text-align: center;">Portland Type I/ Type II/ Gel mix</p> <p style="text-align: center;">3/8" Bentonite chips</p> <p style="text-align: center;">#1 sand</p> <p style="text-align: center;">0.010" slot screen</p>	<p>WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 20'-35' Type: #1 sand *Heaving sands during well construction</p> <p>FILTER PACK SEAL Interval: 17.7'-20' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-17.7' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4' Protective Casing: Steel</p> <p>DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary</p>
		2.50 - 4.00 red brown mottled clay with trace fine sand, dry to moist, W<PL			2.50	1	DO	4-6-10	16	<u>1.40</u> 1.50		
		4.00 - 13.00 Shelby Tube Collected: 4'-6" CLAYEY SILT; light green and brown mottled clay, trace fine sand, stiff to very stiff, low plasticity, moist W<PL	MH		4.00	2	DO	5-10-12	22	<u>1.50</u> 1.50		
						3	DO	5-7-9	16	<u>1.50</u> 1.50		
						4	DO	3-5-8	13	<u>1.50</u> 1.50		
					499.2							
		13.00 - 18.00 CLAYEY SAND; light green to beige sand, fine to coarse, trace clay and gravel, non to low plasticity, compact, soft, very moist, W<PL	SC		13.00	5	DO	2-1-2	3	<u>1.50</u> 1.50		
					494.2							
		18.00 - 20.00 CLAYEY SILT; beige to brown spotted clay, moderate to high plasticity, soft to firm, moist, W=PL	MH		18.00							
		20.00 - 25.00 beige to brown spotted clay, moderate to high plasticity, soft to firm, moist, W=PL			492.2	6	DO	1-2-1	3	<u>1.50</u> 1.50		
					487.2							
		25.00 - 30.30 yellow brown clay, trace to some fine to medium sand, low to moderate plasticity, soft to very soft, wet, W>PL			25.00	7	DO	1-2-2	4	<u>1.50</u> 1.50		
					481.9							
		30.30 - 35.00 SAPROLITE; white/black/brown sand and clay, low to non-plastic, deeply weathered granitic biotite gneiss, soft, wet	SC		30.30	8	DO	1-2-2	4	<u>0.90</u> 1.50		
					477.2							
		Boring completed at 35.00 ft				9	DO	1-2-3	5	<u>1.50</u> 1.50		

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-04











SHEET 1 of 1

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 40.00 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track Mounted Rig
 DATE STARTED: 11/18/15
 DATE COMPLETED: 11/19/15

NORTHING: 1,115,962.59
 EASTING: 2,397,083.47
 GS ELEVATION: 458.1
 TOC ELEVATION: 461.24 ft

DEPTH W.L.: 15.09'
 ELEVATION W.L.:
 DATE W.L.: 11/19/15
 TIME W.L.: 14:20

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
0		0.00 - 2.50 SILTY CLAY; reddish brown clay, firm to stiff, low plasticity, moist, W<PL	CL		455.6						Portland Type I/ Type II/ Gel mix 3/8" Bentonite chips 0.010" slot screen #1 sand 3/8" Bentonite chips	WELL CASING Interval: -3'-18' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 18'-28' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 16.5'-31.9' Type: #1 sand FILTER PACK SEAL Interval: 12.5'-16.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-12.5' Type: Portland Type I/Type II/Gel Mix WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary
455	2.50 - 6.00 reddish brown clay, firm to stiff, low plasticity, moist, W<PL				2.50	1	DO	4-5-8	13	1.50 1.50		
5												
		6.00 - 7.50 CLAY; yellowish orange clay with fine to medium sand, low plasticity, stiff, moist, W<PL	CH		452.1							
450	7.50 - 10.00 grayish white clay with trace to some fine to medium sand, low plasticity, very stiff to hard, dry to moist, W<PL				6.00	2	DO	2-5-7	12	1.30 1.50		
		10.00 - 13.00 CLAYEY SAND; yellowish orange fine to medium sand, some clay, firm to stiff, non to low plasticity, dry to moist, W<PL Shelby Tube Collected: 10'-12'	SC		450.6							
445	13.00 - 18.00 red/brown/black/silver silt with some clay and trace coarse sand, non-plastic, mica, extremely moist, saturated but not wet, possible water around 17'				7.50	3	DO	5-7-8	15	1.20 1.50		
		18.00 - 25.00 SILTY SAND; red/brown/black/silver silt with some clay and trace coarse sand, non to low plasticity, soft, moist to wet, W>PL	SM		448.1							
440					10.00	4	DO	7-9-10	19	1.50 1.50		
		25.00 - 30.00 SAPROLITE; top 4 inches fine grain granitic texture, sand, trace silt, non-plastic, loose, soft, W>PL; bottom 10 inches saprolite, fine to medium grain biotite gneiss, sand, silt, fine to coarse, soft, compact, W>PL	SM		445.1							
435					13.00	5	DO	4-9-9	18	1.50 1.50		
		30.00 - 35.00 interlayered fine grain granitic sand with trace silt and fine to medium grain biotite gneiss saprolite with fine to coarse sand and silt	SM		440.1							
430					18.00	6	DO	2-2-2	4	1.50 1.50		
		35.00 - 40.00 interlayered sequence: fine grain granitic sand with trace silt and fine to medium grain biotite gneiss saprolite with fine to coarse sand and silt, moist to wet, W>PL	SM		433.1							
425					25.00	7	DO	2-3-4	7	1.50 1.50		
		Boring completed at 40.00 ft	SM		428.1							
420					30.00	8	DO	1-4-3	7	1.20 1.50		
			SM		423.1							
415					35.00	9	DO	3-5-11	15	1.20 1.50		
410			SM		418.1							
405					40.00	10	DO	11-17-20	37	0.90 1.50		

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-05

SHEET 2 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 103.40 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track Mounted Rig
 DATE STARTED: 10/28/15
 DATE COMPLETED: 11/5/15

NORTHING: 1,115,328.95
 EASTING: 2,399,698.53
 GS ELEVATION: 521.5
 TOC ELEVATION: 524.51 ft

DEPTH W.L.: 45.10'
 ELEVATION W.L.:
 DATE W.L.: 11/5/15
 TIME W.L.: 10:40

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS			
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC		
45		45.00 - 50.00 green salt and pepper texture, sand, some silt, fine to coarse, some mica, iron staining evident, thin vein of quartz, compact, non-plastic, moist to wet			45.00	11	DO	6-7-11	18	<u>1.30</u> 1.50	<p>#1 sand 0.010" slot screen 3/8" Bentonite chips</p>	<p>WELL CASING Interval: -3.5'-43.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 42.1'-52.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 37.5'-53.1' Type: #1 sand</p> <p>FILTER PACK SEAL Interval: 34.9'-37.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-34.9' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel</p> <p>DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary</p>		
475														
50		50.00 - 53.90 green salt and pepper texture, fine to coarse sand and silt, some mica, iron staining evident, compact, wet			471.5 50.00	12	DO	5-8-10	18	<u>1.50</u> 1.50				
470														
55		53.90 - 63.00 SAPROLITE; biotite/gneiss/quartz/feldspar saprolite, silt with some fine to coarse sand, brown and white, non-plastic, compact to dense, wet,	ML		467.6 53.90	13	DO	3-15-15	30	<u>1.50</u> 1.50				
465														
60														
65		63.00 - 68.00 SILTY SAND; white/black/green silty sand, fine to coarse, trace silt, non-plastic, compact, moist, W<PL <i>Auger Refusal at 68 feet</i> Core Run (67.3'-73.5'); RQD=56%; REC=78%	SM		458.5 63.00	15	DO	10-17-25	42	<u>1.50</u> 1.50				
455														
70		68.00 - 103.00 BEDROCK; deeply weathered gneiss			453.5 68.00	16	CORE			<u>4.80</u> 6.20				
450														
75														
80														
85														
445		76.60: Core Run (76.6'-81.2'); no recovery	BR			17	CORE			<u>0.00</u> 4.60				
440		81.20: Core Run (81.2'-85.7'); no recovery						18	CORE					<u>0.00</u> 4.50
85		85.70: Core Run (85.7'-93'); no recovery						19	CORE					<u>0.00</u> 7.30
90														

Log continued on next page

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



RECORD OF BOREHOLE LPZ-05

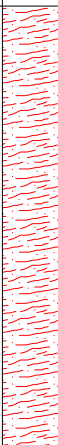
SHEET 3 of 3

PROJECT: Plant Scherer
 PROJECT NUMBER: 1542702
 DRILLED DEPTH: 103.40 ft
 LOCATION: Juliette, GA

DRILL RIG: CME 550X (98977) Track
 Mounted Rig
 DATE STARTED: 10/28/15
 DATE COMPLETED: 11/5/15

NORTHING: 1,115,328.95
 EASTING: 2,399,698.53
 GS ELEVATION: 521.5
 TOC ELEVATION: 524.51 ft

DEPTH W.L.: 45.10'
 ELEVATION W.L.:
 DATE W.L.: 11/5/15
 TIME W.L.: 10:40

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES					MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
90	430	68.00 - 103.00 BEDROCK; deeply weathered gneiss <i>(Continued)</i>	BR		19	CORE			0.00 7.30	<p>WELL CASING Interval: -3.5'-43.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 42.1'-52.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 37.5'-53.1' Type: #1 sand</p> <p>FILTER PACK SEAL Interval: 34.9'-37.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-34.9' Type: Portland Type I/Type II/Gel Mix</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Steel</p> <p>DRILLING METHODS Soil Drill: 3.25" HSA/HQ Rotary Rock Drill: 3.25" HSA/HQ Rotary</p>	
95	425	93.00: Core Run (93'-98'): RQD=0%; REC=20%			20	CORE			1.00 5.00		
100	420	98.00: Core Run (98'-103.4'): RQD=62%; REC=90%			21	CORE			4.90 5.40		
		Boring completed at 103.40 ft		418.5 103.00							

BOREHOLE RECORD - SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ_PIEDMONT.GDT 9/4/20

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Southern Company Services
 DRILLER: DJ Wideman

GA INSPECTOR: Michael Boatman
 CHECKED BY: Rachel P. Kirkman, P.G.
 DATE: 2/1/16



APPENDIX B-6
SPT Logs



LOG OF TEST BORING

BORING SPT-01
PAGE 1 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 4/15/2015 COMPLETED 4/16/2015 SURF. ELEV. 505.3 COORDINATES: N:33.073895 E:83.811142

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Mud Rotary; Casing Advance; NQ Diamond Core

DRILLED BY T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 140 ft. GROUND WATER DEPTH: DURING 5 ft. COMP. 2 ft. DELAYED 8.5 ft. after 24 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Coal Combustion Byproduct (ASH)				
5	- black, wet, loose, coarse grain, sand size material	SS -1	3.5-5.0	6-3-4 (7)	
10	- pale gray-yellow, wet, stiff, clayey silt size material	SS -2	8.5-10.0	7-4-3 (7)	
15	- light gray, wet, stiff, clayey silt size material	SS -3	13.5-15.0	3-5-5 (10)	
20	- pale brown, wet, stiff, clayey silt size material	SS -4	18.5-20.0	3-6-6 (12)	
25	- dark gray-brown, wet, medium stiff, clayey silt size material	SS -5	23.5-25.0	3-3-3 (6)	
30	- pale brown, wet, very soft, clayey silt size material	SS -6	28.5-30.0	2-1-1 (2)	
35	- light gray, wet, medium stiff, clayey silt size material	SS -7	33.5-35.0	2-2-5 (7)	
40	- gray, wet, very soft, silt with some sand size material	SS -8	38.5-40.0	WH-1-1 (2)	

(Continued Next Page)



LOG OF TEST BORING

BORING SPT-01
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ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS	
				PERCENT RECOVERY (RQD)		
45	Coal Combustion Byproduct (ASH)(Con't)				Rod drop due to very soft material, no sample collected.	
50					Rod drop due to very soft material, no sample collected.	
55		- dark gray and gray, wet, medium stiff, silty clay size material	SS -9	53.5-55.0	2-2-3 (5)	
60		- dark gray and gray, wet, very soft, silty clay size material	SS -10	58.5-60.0	WH-1-1 (2)	
65					Rod drop due to very soft material, no sample collected.	
70					Rod drop due to very soft material, no sample collected.	
75	Elastic Silt (MH) - red-yellow with black mottles, wet, stiff, medium plasticity, <i>saprolite</i> , with clay	SS -11	73.5-75.0	3-5-7 (12)		
80	- yellow-brown with black mottles, wet, stiff, medium plasticity, <i>saprolite</i> , with clay	SS -12	78.5-80.0	3-4-7 (11)		
85	- dark olive-brown with black mottles, wet, very stiff, medium plasticity, <i>saprolite</i> , with clay	SS -13	83.5-85.0	4-6-10 (16)		
90	Sandy Silt (ML) - light olive-brown with black mottles, damp, very stiff, <i>saprolite</i> , with mica	SS -14	88.5-90.0	11-12-18 (30)		

(Continued Next Page)



LOG OF TEST BORING

BORING SPT-01
PAGE 3 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
95	Sandy Silt (ML)(Cont) - light gray with black mottles, damp, very hard, <i>saprolite</i>	SS -15	93.5- 94.8	15-30-50/4" (100+)	Advance casing to 104'.
100					
105	Gneiss - black and white banding, coarse grain, soft, highly weathered, with biotite, feldspar, and quartz	RC -16	104.0- 110.0	8 (0)	
110	- dark brown-gray with white banding, fine to coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with biotite, feldspar, and quartz	RC -17	110.0- 115.0	64 (8)	
115	- gray and white banding, fine to coarse grain, hard, not to slightly weathered, moderately to intensely fractured, with biotite, feldspar, and quartz	RC -18	115.0- 120.0	54 (26)	
120	- dark gray and white banding, fine to coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with biotite, feldspar, and quartz	RC -19	120.0- 125.0	34 (0)	
125	- gray and white banding, fine to coarse grain, medium hard, moderately weathered, intensely fractured, with biotite, feldspar, and quartz	RC -20	125.0- 130.0	46 (16)	
130	- gray and white banding, fine to coarse grain, hard, not to slightly weathered, intensely fractured with near-vertical fractures, with biotite, feldspar, and quartz	RC -21	130.0- 135.0	100 (46)	
135	- gray and white banding, fine to coarse grain, hard, not to slightly weathered, intensely fractured with near-vertical fractures, with biotite, massive feldspar, quartz, and amphibolite	RC -22	135.0- 140.0	98 (68)	
140					

Bottom of borehole at 140.0 feet.



LOG OF TEST BORING

BORING SPT-02
PAGE 1 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 4/8/2015 COMPLETED 4/14/2015 SURF. ELEV. 509.5 COORDINATES: N:33.069872 E:83.813629

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Mud Rotary; Casing Advance; NQ Diamond Core

DRILLED BY T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 114.8 ft. GROUND WATER DEPTH: DURING 3 ft. COMP. 3 ft. DELAYED 4 ft. after 48 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Coal Combustion Byproduct (ASH) ELEV. 506.5				
5	▼ Coal Combustion Byproduct (Gypsum) (GYPSUM) - dark brown-black, wet, loose, coarse grain, gravelly sand size material	SS -1	3.5-5.0	3-3-3 (6)	
10	- dark brown and yellow-brown laminations, wet, medium dense, fine to coarse grain, clayey sand size material	SS -2	8.5-10.0	6-7-7 (14)	
15	- dark gray and yellow laminations, wet, very soft, silty clay size material	SS -3	13.5-15.0	WH-1-1 (2)	
20					Rod drop due to very soft material, no sample collected.
25	- pale brown, wet, medium stiff, sandy clay size material	SS -4	23.5-25.0	1-2-3 (5)	
30	481.5 Coal Combustion Byproduct (ASH) - gray and dark gray laminations, wet, medium stiff, silt size material	SS -5	28.5-30.0	2-4-3 (7)	
35	- gray, wet, medium stiff, clayey silt size material	SS -6	33.5-35.0	2-2-3 (5)	

(Continued Next Page)



LOG OF TEST BORING

BORING SPT-02
PAGE 2 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
40	Coal Combustion Byproduct (ASH)(Cont) - gray and light gray laminations, wet, very soft, silty clay size material	SS -7	38.5-40.0	1-1-1 (2)	
45					Rod drop due to very soft material, no sample collected.
50	- no recovery	SS -8	48.5-50.0	WH-WH-WH (0)	
55	- no recovery	SS -9	53.5-55.0	WH-WH-WH (0)	
60					Rod drop due to very soft material, no sample collected.
65	- gray, wet, very soft, silty clay size material, some sand size material	SS -10	63.5-65.0	1-1-1 (2)	
70					Rod drop due to very soft material, no sample collected.
75	Sandy Elastic Silt (MH) - brown, wet, medium stiff, <i>alluvium</i> Clayey Sand (SC) - gray, wet, medium stiff, fine to medium grain, <i>alluvium</i> , with woody debris	SS -11	73.5-75.0	2-3-2 (5)	
80	Sandy Silt (ML) - black, white, and pale brown, damp, very hard, <i>saprolite</i>	SS -12	78.5-79.3	31-50/3" (100+)	

(Continued Next Page)



LOG OF TEST BORING

BORING SPT-02
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER\GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
85	Sandy Silt (ML)(Cont)				Advance casing to 93'.
90	Gneiss - dark gray-brown and white, fine to coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with biotite, feldspar, quartz Partially Weathered Rock	RC -13	88.4-89.7	108 (0)	
95	Gneiss - dark gray and white banding, fine to coarse grain, hard, not to slightly weathered, thin foliation, moderately fractured, with biotite, feldspar, quartz	RC -14	92.6-99.8	89 (51)	
100	Gneiss - dark gray and white banding, fine to coarse grain, hard, not to slightly weathered, thin foliation, moderately fractured, with biotite, feldspar, and quartz	RC -15	99.8-104.8	88 (38)	
105	Gneiss - gray and white banding, fine to medium grain, hard to very hard, not to slightly weathered, thin to medium foliation, slightly to moderately fractured, with biotite, feldspar, quartz	RC -16	104.8-114.8	101 (78)	
110					
	394.7				

Bottom of borehole at 114.8 feet.



LOG OF TEST BORING

BORING SPT-03
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ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 4/7/2015 COMPLETED 4/8/2015 SURF. ELEV. 499.9 COORDINATES: N:33.072740 E:83.808385

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Mud Rotary; Casing Advance; NQ Diamond Core

DRILLED BY T. Milam LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 146.5 ft. GROUND WATER DEPTH: DURING 5 ft. COMP. 2 ft. DELAYED 2 ft. after 100 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Coal Combustion Byproduct (Gypsum) (GYPSUM)				
5	- gray and yellow-brown, wet, very loose, fine to coarse grain, silty gravel size material	SS -1	3.5-5.0	2-1-1 (2)	
10	- gray and yellow-brown, wet, very loose, fine to medium grain, sandy gravel size material	SS -2	8.5-10.0	1-1-1 (2)	
15	- gray and yellow-brown, wet, very loose, fine to medium grain, sandy gravel size material	SS -3	13.5-15.0	0-1-1 (2)	
	482.9				
20	Coal Combustion Byproduct (ASH)				
	- very dark gray, wet, very soft, silt size material	SS -4	18.5-20.0	WH-WH-WH (0)	
25	- dark gray, wet, very soft, clay and silt size material	SS -5	23.5-25.0	WR-WR-WR (0)	
30					Rod drop due to very soft material, no sample collected.
35					

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
40	Coal Combustion Byproduct (ASH)(Con't)				Rod drop due to very soft material, no sample collected.
45	- dark gray, wet, very soft, clay size material	SS -6	43.5-45.0	WR-WR-WR (0)	Rod drop due to very soft material, no sample collected.
50	- light green-gray, gray, and dark gray, wet, very soft, clay and silt size material	SS -7	48.5-50.0	WR-WR-WR (0)	
55					Rod drop due to very soft material, no sample collected.
60					Rod drop due to very soft material, no sample collected.
65	- dark gray, wet, very soft, clay size material	SS -8	63.5-65.0	2-1-1 (2)	
70	Silty Sand (SM) - dark green-gray with olive mottles, damp, very dense, fine to coarse grain, <i>saprolite</i>	SS -9	68.5-69.3	28-50/4" (100+)	
75	Gneiss - dark gray and white, fine to coarse grain, medium hard,	RC -10	72.9-79.5		

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	moderately to completely weathered, amphibolite Gneiss(Con't) 420.4	RC -10	72.9-79.5	17	
	Partially Weathered Rock - no recovery	RC -11	79.5-84.5	0	
	- no recovery	RC -12	84.5-94.5	0	
	- no recovery	RC -13	94.5-104.5	0	
	- black, medium to coarse grain, completely weathered, disintegrated to sand 390.4	RC -14	104.5-109.5	62 (0)	
	Gneiss - dark gray with white banding, medium grain, hard, slightly to highly weathered, moderately to intensely fractured, with amphibolite, feldspar, quartz	RC -15	109.5-114.5	30 (8)	
	- gray with light gray banding, fine to coarse grain, hard,	RC -16	114.5-119.5	80	

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LOG OF TEST BORING

BORING SPT-03
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
120	not to slightly weathered, moderately to slightly fractured, with amphibolite, feldspar, massive quartz Gneiss(Cont)		RC -16	114.5-119.5	(50)	
125	- gray, light gray, and white, medium grain, hard, moderately to highly weathered, intensely fractured, with amphibolite, massive quartz, feldspar		RC -17	119.5-124.5	26 (0)	
130	- very dark gray to black with light gray banding, medium to coarse grain, hard, moderately to highly weathered, intensely fractured, with amphibolite, biotite, quartz, feldspar		RC -18	124.5-129.5	70 (8)	
135	- black with white banding, medium grain, medium hard to hard, moderately weathered, intensely fractured, with amphibolite, feldspar, quartz		RC -19	129.5-134.5	62 (14)	
140	- gray with white banding, fine to medium grain, hard, not to moderately weathered, slightly fractured, with biotite, feldspar, quartz		RC -20	134.5-139.5	96 (74)	
145	- gray with white banding, fine to medium grain, hard, not to moderately weathered, slightly fractured, with biotite, feldspar, quartz		RC -21	139.5-144.5	98 (94)	
	- gray with white banding, fine to medium grain, hard, not to moderately weathered, slightly fractured, with biotite, feldspar, quartz	353.4	RC -22	144.5-146.5	105 (85)	

Bottom of borehole at 146.5 feet.



LOG OF TEST BORING

BORING SPT-04
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 3/26/2015 COMPLETED 3/31/2015 SURF. ELEV. 540.7 COORDINATES: N:33.081249 E:83.833810

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Casing Advance; NQ Diamond Core

DRILLED BY D. Wideman LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 53.9 ft. GROUND WATER DEPTH: DURING 30 ft. COMP. 26 ft. DELAYED 27 ft. after 48 hrs.

NOTES _____

2015 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCS\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
			ELEV.		
5	Lean Clay (CL) - red with black mottles, damp, stiff, with sand	SS -1	1.0-2.5	2-4-5 (9)	
	- red, damp, medium stiff, with mica	SS -2	3.5-5.0	3-3-3 (6)	
	- red and yellow with black mottles, damp, stiff, with mica	SS -3	6.0-7.5	3-4-6 (10)	
	532.7				
10	Sandy Silt (ML) - red, white and yellow-brown with black mottles, damp, stiff, with mica	SS -4	8.5-10.0	3-4-5 (9)	
	- red, white and yellow-brown with black mottles, damp, stiff, with mica	SS -5	13.5-15.0	4-4-6 (10)	
	522.7				
20	Well-graded Sand with Silt (SW-SM) - olive-brown, gray, and red-brown layers, very damp, medium dense, fine to medium grain, <i>saprolite</i> , with mica	SS -6	18.5-20.0	4-9-11 (20)	
	- black and white with brown layers, very damp, medium dense, fine to medium grain, <i>saprolite</i> , with mica	SS -7	23.5-25.0	5-5-7 (12)	
	- white and gray-brown with dark gray layers, wet, very dense, fine to coarse grain, <i>saprolite</i> , with mica	SS -8	28.5-30.0	9-24-39 (63)	
	- gray-brown and black with white layers, wet, very dense, fine to coarse grain, <i>saprolite</i> , with mica	SS -9	33.5-34.8	4-28-50/4" (100+)	

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Well-graded Sand with Silt (SW-SM) (Cont)				
	ELEV. 504.8				
	Gneiss - gray with light gray banding, medium to coarse grain, medium hard to hard, not to slightly weathered, inclined, slightly to moderately fractured, with biotite, quartz, feldspar	RC -10	35.9-38.9	100 (83)	
	- interlayered gray/light gray banding, medium to coarse grain, hard, not to slightly weathered, inclined, unfractured to slightly fractured, with biotite, quartz and feldspar, massive quartz-feldspar seam (40-42')	RC -11	38.9-48.9	91 (87)	
	- gray with light gray banding, medium to coarse grain, hard, not to slightly weathered, inclined, unfractured to slightly fractured, with biotite, quartz, feldspar	RC -12	48.9-53.9	100 (100)	
	ELEV. 486.8				

Bottom of borehole at 53.9 feet.



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BORING SPT-05
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
45	Elastic Silt (MH) - pale brown with black and white mottles, very moist, stiff, medium plasticity, with sand	SS -11	43.5-45.0	3-4-7 (11)	
50	Sandy Silt (ML) - black and white with pale brown mottles, very moist, very stiff	SS -12	48.5-50.0	5-7-10 (17)	
55	- gray and pale brown with white mottles, very moist, very stiff	SS -13	53.5-55.0	10-12-15 (27)	
60	- gray and pale yellow with white mottles, damp, very stiff	SS -14	58.5-60.0	8-9-11 (20)	
65	- no recovery	RC -15	62.9-72.9	0	
75	- black and white, coarse grain, medium hard, highly weathered, with amphibolite and quartz	RC -16	72.9-82.9	2 (0)	
85	- no recovery	RC -17	82.9-92.9	0	
90					

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LOG OF TEST BORING

BORING SPT-05
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
95	(Con't) - black and white, coarse grain, medium hard, highly weathered, with amphibolite and feldspar	RC -18	92.9-102.9	2 (0)	
100					
105	- white and dark gray with white banding, coarse grain, soft to medium hard, moderately weathered, thin to thick foliation, intensely fractured, with massive feldspar, quartz, amphibolite, biotite	RC -19	102.9-112.9	32 (4)	
110					
115	- brown-black and gray with light gray banding, medium to coarse grain, medium hard to hard, slightly to highly weathered, moderately fractured, medium foliation, with biotite, quartz, feldspar, pyrite	RC -20	112.9-122.9	67 (35)	
120					
125	- gray with light gray banding, fine to medium grain, hard, not to slightly weathered, slightly to moderately fractured, with biotite, quartz, feldspar	RC -21	122.9-132.9	95 (71)	
130					
	410.5				

Bottom of borehole at 132.9 feet.



LOG OF TEST BORING

BORING SPT-06
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 4/14/2015 COMPLETED 4/15/2015 SURF. ELEV. 540.0 COORDINATES: N:33.073170 E:83.839295
 CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Hollow Stem Auger; Casing Advance; NQ Diamond Core
 DRILLED BY D. Wideman LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 43.3 ft. GROUND WATER DEPTH: DURING _____ COMP. 23 ft. DELAYED 18.5 ft. after 48 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCSHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
	Silty Clay (CL-ML) - red with yellow-brown mottles, dry, very stiff	537.0	SS -1	1.0-2.5	7-7-12 (19)	
	Sandy Silt (ML) - brown and yellow-brown with yellow-red mottles, dry, very hard, with sand	534.5	SS -2	3.5-5.0	14-20-32 (52)	
	Silty Sand (SM) - gray-brown with dark brown mottles, dry, very dense, fine to coarse grain		SS -3	6.0-7.5	18-20-30 (50)	
	- gray-brown with dark brown mottles, dry, very dense, fine to coarse grain, with medium grained residual amphibolite rock		SS -4	8.5-9.3	32-50/4" (100+)	
	- brown, dry, very dense, fine grain, coarse grained mica Granitic Gneiss	526.0	SS -5	13.5-13.8	50/4" (100+)	
	- white and light gray with dark gray banding, medium to coarse grain, medium hard, slightly to highly weathered, intensely fractured, some near-vertical fractures, with quartz, feldspar, biotite, amphibolite		RC -6	14.0-23.3	68 (13)	
	- light gray-brown with light gray banding, medium to coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with quartz, feldspar, biotite		RC -7	23.3-33.3	50 (9)	
	- light gray and dark gray banding, fine to coarse grain, medium hard to hard, not to slightly weathered, moderately fractured, with quartz, feldspar, biotite	496.7	RC -8	33.3-43.3	99 (55)	

Bottom of borehole at 43.3 feet.



LOG OF TEST BORING

BORING SPT-07
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 3/18/2015 COMPLETED 3/25/2015 SURF. ELEV. 554.5 COORDINATES: N:33.075167 E:83.831985

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Casing Advance; NQ Diamond Core

DRILLED BY D. Wideman LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 170.1 ft. GROUND WATER DEPTH: DURING 33 ft. COMP. _____ DELAYED _____

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Sandy Lean Clay (CL) - red, dry, very stiff	SS -1	1.0-2.5	7-8-10 (18)	
5	- red, dry, stiff	SS -2	3.5-5.0	2-3-8 (11)	
	- red, damp, very stiff	SS -3	6.0-7.5	5-10-15 (25)	
10	- red, damp, stiff, with silt	SS -4	8.5-10.0	4-5-7 (12)	
	- red with red-yellow mottles, damp, stiff, with silt	SS -5	13.5-15.0	7-7-8 (15)	
15					
20	- red-brown with black mottles, damp, stiff, with silt, clayey sand lense @ 19.5', pink with white mottles, damp	SS -6	18.5-20.0	4-5-7 (12)	
	- strong brown with black mottles, damp, stiff	SS -7	23.5-25.0	5-6-7 (13)	
25					
30	Clayey Sand (SC) - pink with red-yellow mottles, damp, loose	SS -8	28.5-30.0	4-4-6 (10)	
35	Elastic Silt (MH) - light brown and strong brown with black and white mottles, wet, stiff, medium plasticity, with clay	SS -9	33.5-35.0	4-4-6 (10)	
40	- brown and light brown with white mottles, wet, stiff, medium plasticity, with clay	SS -10	38.5-40.0	4-7-7 (14)	

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LOG OF TEST BORING

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
45	Elastic Silt (MH) - brown and light brown with white mottles, wet, stiff, medium plasticity, with clay		SS -11	43.5-45.0	3-5-10 (15)	
50	- light olive-brown and dark gray-green with white mottles, wet, stiff, medium plasticity, with clay, some sand		SS -12	48.5-50.0	3-4-8 (12)	
55	- olive with black mottles, wet, very stiff, medium plasticity, with clay, some sand		SS -13	53.5-55.0	6-7-10 (17)	
60	Sandy Elastic Silt (MH) - light brown and olive brown with white mottles, wet, hard, medium plasticity	496.5	SS -14	58.5-60.0	12-14-33 (47)	
65	- light brown and olive brown with white mottles, wet, very hard, medium plasticity	489.0	SS -15	63.5-64.3	15-50/4" (100+)	
70	Gneiss - pink, white and yellow-brown, medium to coarse grain, soft to hard, not to highly weathered, banded, thin to medium foliation, intensely fractured, with coarse feldspar, quartz	484.5	RC -16	65.5-69.2	54 (0)	
75	Fat Clay (CH) - brown, wet, high plasticity, with sand	480.3	RC -17	69.2-74.2	4 (0)	
80	Granitic Gneiss - light red to brown-yellow, fine to coarse grain, moderately to highly weathered, with quartz, feldspar, biotite		RC -18	74.2-84.2	4 (0)	
85	- gray-brown with white mottles, damp, very dense, medium grain, silty sand		SS -19	84.2-84.3	50/1" (100+)	
90	- light pink, white, and gray-brown, fine to coarse grain, soft to hard, moderately to highly weathered, inclined, banded, intensely fractured, with coarse feldspar, quartz, mica		RC -20	84.3-94.2	24 (8)	

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LOG OF TEST BORING

BORING SPT-07
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS	
					PERCENT RECOVERY (RQD)		
95	<p>Granitic Gneiss</p> <p>- white, gray and light pink, fine to coarse grain, medium hard to hard, moderately weathered, inclined, banded, moderately to intensely fractured, with coarse feldspar, quartz, mica</p> <p>- gray, white, pink, and black, medium to coarse grain, soft to hard, moderately weathered, inclined, banded, thin to medium foliation, moderately to intensely fractured, with feldspar, quartz, mica</p> <p>- gray, white and pink, fine to coarse grain, hard, slightly to moderately weathered, inclined, banded, thin to medium foliation, intensely fractured, with coarse feldspar, biotite, quartz</p> <p>- light red and red-gray, fine to coarse grain, hard, slightly to moderately weathered, inclined, banded, intensely fractured, some near-vertical fractures</p> <p>- white, dark gray, black, light gray, pink, and gray-brown, fine to coarse grain, not to moderately weathered, inclined, banded, thin to medium foliation, moderately fractured, some near-vertical fractures, interlayered biotite seams</p>						
100			RC -21	94.2-104.2	63 (11)		
105							
110				RC -22	104.2-114.2	37 (13)	
115							
120			RC -23	114.2-124.2	22 (0)		
125							
130			RC -24	124.2-134.2	59 (13)		
135							
140			RC -25	134.2-144.2	92 (52)		

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS	
					PERCENT RECOVERY (RQD)		
145	<p>Granitic Gneiss</p> <p>- brown-gray, white, pink, light gray and gray, fine to coarse grain, medium hard to hard, not to moderately weathered, inclined, banded, thin to massive foliation, moderately fractured, with feldspar, quartz, biotite</p> <p>- light gray, light red, and white, fine to medium grain, medium hard to hard, not to highly weathered, inclined, banded, thin to medium foliation, slightly to moderately fractured, few near-vertical fractures healed with feldspar, completely weathered at 163', with coarse feldspar</p> <p>- gray, white and light pink, fine to medium grain, hard, not weathered, inclined, banded, medium foliation, moderately fractured, with distinct biotite, quartz and feldspar seams</p> <p>- gray, white and light pink, fine to medium grain, hard, not weathered, inclined, banded, medium foliation, moderately fractured, with distinct biotite, quartz and feldspar seams</p>						
150			RC -26	144.2-154.2	100 (68)		
155				RC -27	154.2-164.2	98 (56)	
160				RC -28	164.2-169.2	100 (80)	
165			RC -29	169.2-170.1	100 (100)		
170		384.4					

Bottom of borehole at 170.1 feet.



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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 3/10/2015 COMPLETED 3/12/2015 SURF. ELEV. 493.1 COORDINATES: N:33.073591 E:83.827110

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Mud Rotary; Casing Advance; NQ Diamond Core

DRILLED BY S. Denty LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 144.2 ft. GROUND WATER DEPTH: DURING 25 ft. COMP. 22.5 ft. DELAYED 8.5 ft. after 75 hrs.

NOTES _____

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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Fat Clay (CH) - yellow-red, wet, stiff, high plasticity, with silt 490.1	SS -1	1.0-2.5	4-4-7 (11)	
	Lean Clay (CL) - yellow-red with gray and red mottling, damp, stiff - yellow-red with gray and red mottling, damp, very stiff 480.1	SS -2	3.5-5.0	4-6-9 (15)	
	- pale yellow with red and brown laminations, dry, very stiff 480.1	SS -3	6.0-7.5	6-8-13 (21)	
	Silt (ML) - gray with light gray laminations, dry, very stiff 475.1	SS -4	8.5-10.0	12-9-9 (18)	
	475.1	SS -5	13.5-15.0	3-4-5 (9)	
	Silty Sand (SM) - light brown-gray with dark gray mottling, damp, medium dense, fine to medium grain 470.1	SS -6	18.5-20.0	7-7-10 (17)	
	Sandy Lean Clay (CL) - dark gray-brown with white mottling, very damp, very stiff - dark gray-brown with white mottling, wet, very stiff 460.1	SS -7	23.5-25.0	9-9-16 (25)	
	460.1	SS -8	28.5-30.0	5-7-9 (16)	
	Silt (ML) - dark green-gray and red-yellow, damp, very stiff	SS -9	33.5-35.0	9-9-16 (25)	

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

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DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
		Silt (ML)(Cont)	455.1				
40		Clayey Sand (SC) - gray-brown with dark red mottling, very damp, very dense, fine grain		SS -10	38.5- 40.0	12-24-45 (69)	
45		Sandy Silt (ML) - dark gray with white mottling, wet, very hard, <i>saprolite</i>	450.1	SS -11	43.5- 43.8	6-7-10/-8" (100+)	
50		- dark gray to black and yellow-brown with white mottling, wet, very hard		SS -12	48.5- 48.6	4-5-7/-10" (100+)	
55		Silty Sand (SM) - dark green-gray with yellow-brown mottling, wet, very dense, fine grain	440.1	SS -13	53.5- 53.8	6-4-6/-9" (100+)	
60		- gray and yellow-brown with white mottling, very moist, dense, fine grain		SS -14	58.5- 60.0	11-16-30 (46)	
65		- yellow-brown with white mottling, wet, dense, fine to coarse grain		SS -15	63.5- 65.0	7-13-24 (37)	
70		- yellow-brown and dark gray with white mottling, wet, dense, fine to coarse grain, <i>saprolite</i>		SS -16	68.5- 70.0	7-13-24 (37)	
75		Sandy Silt (ML) - dark gray with yellow-brown and white mottling, damp, very hard, <i>saprolite</i>	420.1	SS -17	73.5- 75.0	21-24-36 (60)	
80		Sandy Elastic Silt (MH) - dark green-gray with white mottling, wet, very stiff, high plasticity	415.1	SS -18	78.5- 80.0	12-14-16 (30)	

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SOUTHERN COMPANY SERVICES, INC.
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2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Sandy Elastic Silt (MH) (Cont')				
	410.1				
	Partially Weathered Rock (PWR) - dark green-gray with white mottling, wet, very hard, high plasticity	SS -19	83.5-83.8	50/4" (100+)	casing advance to 90.8'.
	- no core recovery				
	398.9				
	Gneiss - black and white, coarse grain	RC -20	90.8-94.2	0 (0)	
		RC -21	94.2-99.2	4 (0)	
	- black and white, coarse grain, banded, with amphibolite, quartz, and feldspar	RC -22	99.2-104.2	28 (0)	
	- gray-brown, black and white, fine to coarse grain, medium hard, moderately weathered, inclined, banded, intensely fractured, with amphibolite, feldspar, and quartz	RC -23	104.2-109.2	62 (0)	
	- gray with white banding, fine to medium grain, medium hard, slightly to moderately weathered, inclined, intensely fractured, near-vertical fractures, iron stained fractures, thinly foliated, with amphibolite, quartz, feldspar	RC -24	109.2-114.2	62 (8)	
	- dark gray, gray and black, fine to coarse grain, medium hard to hard, not to slightly weathered, inclined, banded, intensely fractured, near-vertical iron stained fractures, with amphibolite, quartz, feldspar	RC -25	114.2-119.2	100 (20)	
	- dark gray and light gray, coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with amphibolite, quartz, feldspar,	RC -26	119.2-124.2	14 (0)	

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EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
125	Gneiss(Cont)					
	- dark gray, gray and white, fine to coarse grain, not to slightly weathered, medium to thick foliation, moderately fractured, 2-inch quartz seam at 119.5'		RC -27	124.2-129.2	80 (34)	
130	- black and white, coarse grain, medium hard, moderately weathered, intensely fractured, with amphibolite, quartz, feldspar		RC -28	129.2-134.2	54 (10)	
135	- gray and dark gray with white banding, fine to coarse grain, medium hard to hard, not to slightly weathered, inclined, interlayered with dark green biotite schist (3" seam at 136'), moderately to slightly fractured, quartz filled vertical fractures, pyrite on foliation planes, with amphibolite, quartz, feldspar		RC -29	134.2-139.2	100 (80)	
140	- gray and dark gray with light gray banding, fine to medium grain, hard, not weathered, inclined, thin to thick foliation, slightly fractured, with amphibolite, quartz, feldspar		RC -30	139.2-144.2	100 (90)	
		348.9				

Bottom of borehole at 144.2 feet.



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SOUTHERN COMPANY SERVICES, INC.
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LOCATION Plant Scherer

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
40	Gneiss				
45	- gray with light gray banding, medium to coarse grain, medium hard to hard, not to highly weathered, with biotite, quartz, feldspar	RC -10	38.1-43.9	14 (9)	
50	- gray with light gray banding, fine to coarse grain, soft to hard, not to highly weathered, inclined, banded, highly weathered at 44.5' and 48.5', slightly to moderately fractured, with biotite, quartz, feldspar	RC -11	43.9-53.9	95 (81)	
55	- dark gray with light gray banding, fine to coarse grain, hard, not to slightly weathered, inclined, banded, medium foliation, moderately fractured, with biotite, quartz, feldspar	RC -5	53.9-58.9	116 (116)	
	446.2				

Bottom of borehole at 58.9 feet.



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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 3/12/2015 COMPLETED 3/17/2015 SURF. ELEV. 547.3 COORDINATES: N:33.070617 E:83.834056

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Casing Advance; NQ Diamond Core

DRILLED BY S. Denty LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 74.7 ft. GROUND WATER DEPTH: DURING 50 ft. COMP. 28.5 ft. DELAYED 51 ft. after 48 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
5	Lean Clay (CL) - red, damp, medium stiff, <i>residuum</i>	SS -1	1.0-2.5	2-3-5 (8)	
	- red, damp, very stiff, <i>residuum</i>	SS -2	3.5-5.0	7-12-18 (30)	
	541.8				
10	Silty Clay (CL-ML) - red, dry, very stiff, <i>residuum</i>	SS -3	6.0-7.5	5-6-11 (17)	
	- red, dry, stiff, <i>residuum</i>	SS -4	8.5-10.0	3-5-8 (13)	
15	- yellow-red, dry, medium stiff	SS -5	13.5-15.0	1-3-3 (6)	
	529.3				
20	Silt (ML) - yellow-red with yellow-brown laminations, dry, medium stiff, with clay and sand	SS -6	18.5-20.0	2-3-3 (6)	
	524.3				
25	Elastic Silt (MH) - yellow-brown and yellow-red with black mottles, wet, medium stiff, medium plasticity	SS -7	23.5-25.0	1-3-5 (8)	
	520.3				
30	Silt (ML) - brown with black and white mottling, damp, stiff, with clay and mica	SS -8	28.5-30.0	4-5-7 (12)	
	- brown with black and white mottling, dry, very stiff, with sand	SS -9	33.5-35.0	7-8-8 (16)	
35	- brown and light gray-brown with black and white mottling, damp, very stiff, with sand	SS -10	38.5-40.0	7-11-13 (24)	
40					

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
45	Silt (ML)(Cont) - gray-brown with black mottling, very damp, very hard, with sand and mica 499.3	SS -11	43.5-43.8	50/4" (100+)	
50	Silty Sand (SM) - dark gray-brown with black mottling, wet, very dense, fine grain, with mica - dark gray-brown with black mottling, wet, very dense, fine grain, with mica 491.2	SS -12 SS -13	48.5-48.6 53.5-53.8	50/1" (100+) 50/3" (100+)	
60	Gneiss - dark gray-brown to 62.5 ft. then gray with light gray banding, fine to coarse grain, soft to hard, not to highly weathered, inclined, slightly to intensely fractured, with biotite, quartz, feldspar - gray with light gray banding, fine to coarse grain, hard, not to slightly weathered, inclined, slightly fractured, slightly weathered fractures at 64.5' and 74.5', quartz seams, with biotite, quartz, feldspar 472.6	RC -14 RC -15	56.1-64.7 64.7-74.7	57 (10) 100 (81)	

Bottom of borehole at 74.7 feet.



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BORING SPT-11
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DATE STARTED 3/18/2015 COMPLETED 3/18/2015 SURF. ELEV. 526.7 COORDINATES: N:33.068491 E:83.836664

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Casing Advance; NQ Diamond Core

DRILLED BY S. Denty LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 54.6 ft. GROUND WATER DEPTH: DURING 17 ft. COMP. 25.5 ft. DELAYED 25.5 ft. after 48 hrs.

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCS\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
	Clayey Sand (SC) - yellow with red-yellow mottles, damp, loose, fine grain	SS -1	1.0-2.5	3-4-3 (7)	
	Well-graded Sand with Silt (SW-SM) - light brown with red-yellow mottles, wet, very dense, fine to coarse grain, with clay, some residual rock fragments	SS -2	3.5-4.6	15-32-50/1" (100+)	
	- light brown with red-yellow mottles, wet, very dense, fine to coarse grain, with clay, some residual rock fragments	SS -3	6.0-6.5	50 (100+)	
	- pink, wet, very dense, fine to coarse grain, some rock fragments	SS -4	8.5-9.3	16-50/4" (100+)	
	- very pale brown with pink mottles, damp, very dense, fine to coarse grain, some fine rock fragments	SS -5	13.5-13.6	50/1" (100+)	
	- very pale brown and brown, wet, very dense, fine to coarse grain, with silt and rock fragments	SS -6	18.5-19.1	12-50/1" (100+)	
	- black and white, then green-black, wet, very dense, fine to coarse grain, with silt	SS -7	23.5-23.8	50/3" (100+)	
	Partially Weathered Rock (PWR) - no recovery	SS -8	28.5-28.5	50/0" (100+)	
	Granitic Gneiss - dark brown-gray and light gray banding, pink, very soft to soft, moderately to highly weathered, intensely fractured, near-vertical fractures, interlayered with biotite gneiss	SS -9	33.5-33.5	50/0" (100+)	
		RC -10	33.2-39.6	66 (16)	

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
	Granitic Gneiss (Cont) - white and gray banding, fine to coarse grain, soft to medium hard, moderately to highly weathered, medium to thin foliation, interlayered with biotite gneiss					
	- gray, light gray and white banding, fine to coarse grain, hard, not to slightly weathered, inclined, top of fresh rock at 43 ft., thick to medium foliation, slightly to moderately fractured, pyrite on foliation planes, interlayered with biotite gneiss, coarse feldspar		RC -11	39.6-49.6	94 (43)	
	- gray, light gray and white banding, fine to coarse grain, hard, not weathered, inclined, slightly fractured, thin to medium foliation, interlayered with biotite gneiss	472.1	RC -12	49.6-54.6	100 (94)	

Bottom of borehole at 54.6 feet.



LOG OF TEST BORING

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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation
LOCATION Plant Scherer

DATE STARTED 3/17/2015 COMPLETED 3/17/2015 SURF. ELEV. 511.5 COORDINATES: N:33.066010 E:83.831212

CONTRACTOR SCS Field Services EQUIPMENT CME 550 METHOD Casing Advance; NQ Diamond Core

DRILLED BY S. Denty LOGGED BY W. Shaughnessy CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 69.3 ft. GROUND WATER DEPTH: DURING 25 ft. COMP. 19 ft. DELAYED _____

NOTES _____

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
5	Lean Clay (CL) - red with black mottles, dry, stiff	SS -1	1.0-2.5	4-4-5 (9)	
	- red with red-yellow mottles, damp, stiff	SS -2	3.5-5.0	4-6-8 (14)	
	- red, very damp, stiff, with mica	SS -3	6.0-7.5	3-5-6 (11)	
	- red, very damp, stiff, with mica	SS -4	8.5-10.0	4-5-6 (11)	
10	498.5				
15	Sandy Silt (ML) - yellow-brown and pale yellow with red mottling, wet, soft, with clay	SS -5	13.5-15.0	1-1-3 (4)	
	▽ - light brown and brown layered, damp, medium stiff, with mica	SS -6	18.5-20.0	3-3-4 (7)	
20	488.5				
25	Sandy Elastic Silt (MH) - light gray-brown and yellow-red, with dark brown and white mottling, wet, medium stiff, with clay	SS -7	23.5-25.0	3-3-4 (7)	
	▽				
30	483.5				
35	Sandy Silt (ML) - pale brown with pale yellow mottling, damp, very stiff	SS -8	28.5-30.0	8-10-9 (19)	
	- no recovery	SS -9	33.5-35.0	3-4-5 (9)	
	473.5				

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SOUTHERN COMPANY SERVICES, INC.
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DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
40	Sandy Elastic Silt (MH) - gray-brown with white and yellow-brown mottling, wet, very stiff, medium plasticity, <i>saprolite</i> 468.5	SS -10	38.5-40.0	4-7-10 (17)	
45	Silty Sand (SM) - gray and pale yellow-brown with white mottles, wet, dense, fine to coarse grain, some fine gravel (residual quartz) - gray with black mottles then pale brown with mottles, wet, very dense, fine to coarse grain 459.5	SS -11 SS -12	43.5-45.0 48.5-50.0	3-10-30 (40) 10-20-31 (51)	
55	Partially Weathered Rock (PWR) - fine to medium grain, residual quartz 455.3	SS -13	53.5-53.6	50/1" (100+)	
60	Gneiss - light brown and white to 58 ft. then gray with white banding, fine to coarse grain, soft to hard, slightly to highly weathered, inclined, intensely fractured, with biotite, quartz seams, feldspar - gray, white and pink, fine to coarse grain, hard, not weathered, inclined, banded, slightly to moderately fractured, with biotite, quartz seams, feldspar 442.2	RC -14 RC -15	56.2-64.3 64.3-69.3	93 (93) 100 (50)	

Bottom of borehole at 69.3 feet.

APPENDIX B-7

C-Series Logs

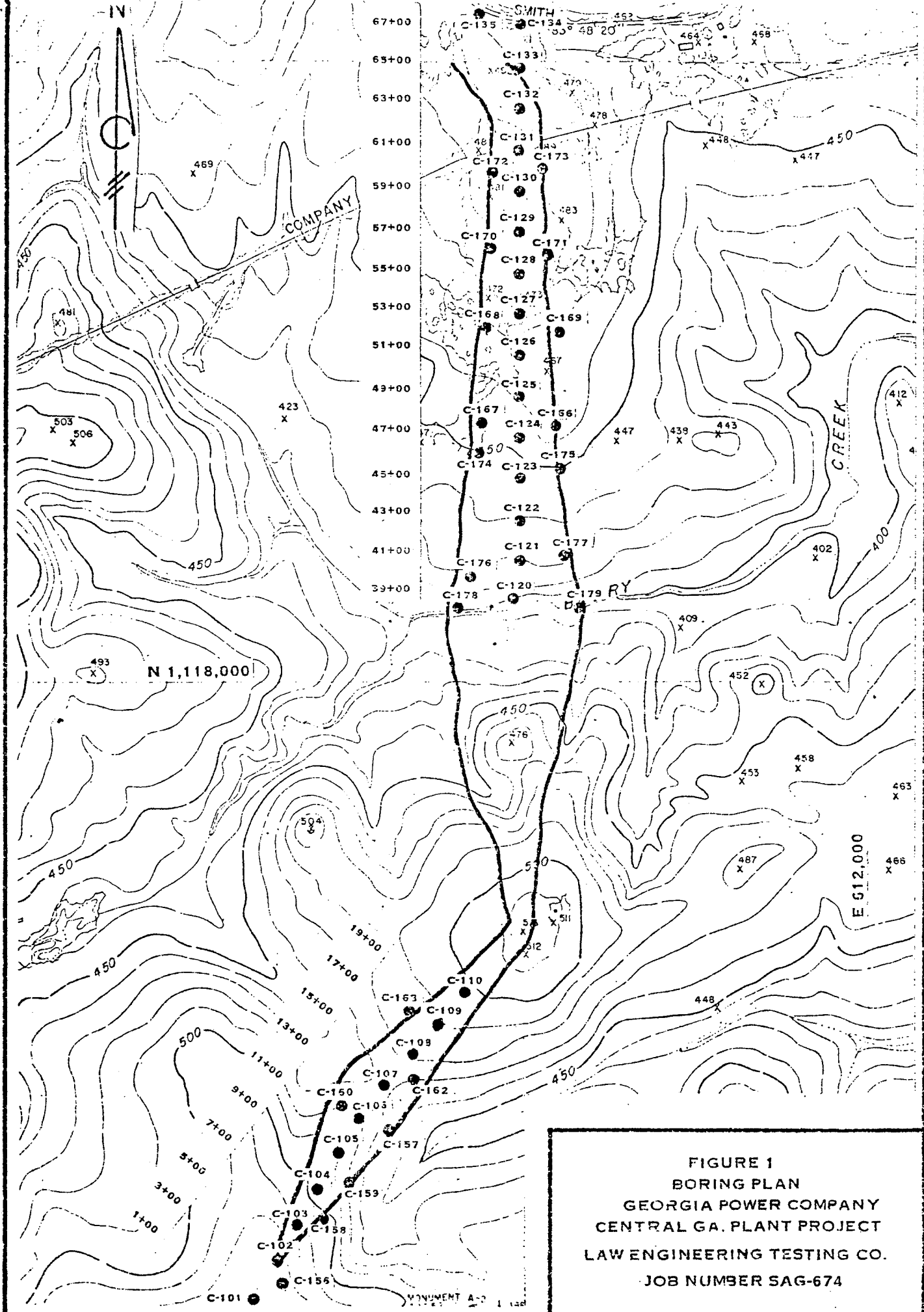


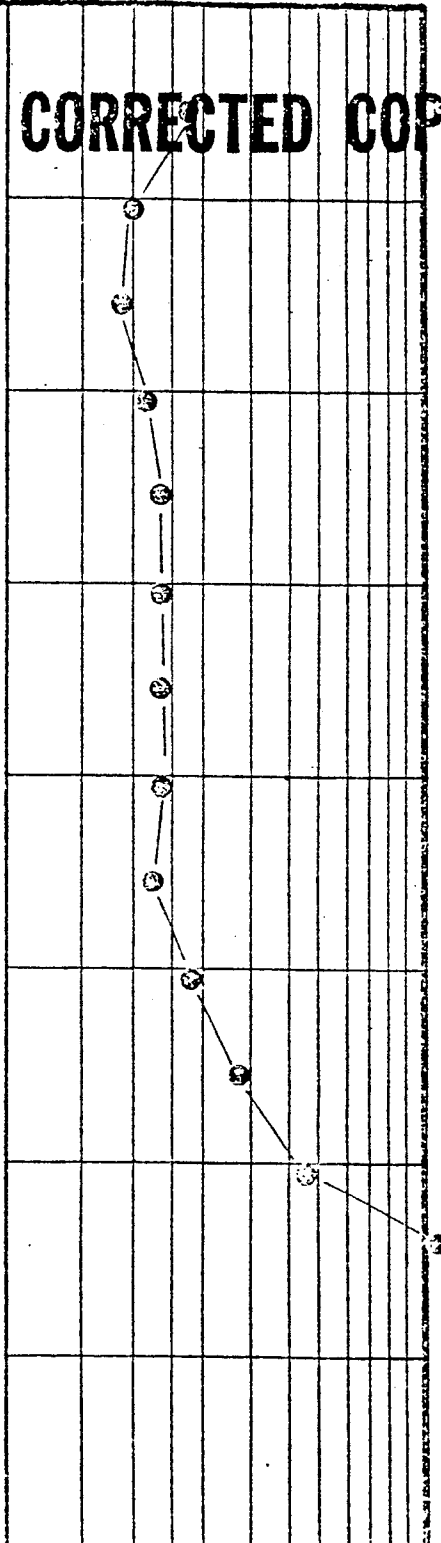
FIGURE 1
BORING PLAN
GEORGIA POWER COMPANY
CENTRAL GA. PLANT PROJECT
LAW ENGINEERING TESTING CO.
JOB NUMBER SAG-674

SCALE: 1" = APPROX. 610'

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	SNC	GS	PENETRATION-BLOWS PER FOOT
516.3		VERY STIFF RED BROWN MEDIUM TO FINE SANDY VERY SILTY CLAY			
	7.5		29.7	GS	
506.3					
			32.5	GS	
			40.6		
496.3		STIFF RED BROWN MICACEOUS SLIGHTLY CLAYEY FINE SANDY SILT TO STIFF YELLOW BROWN SANDY MICACEOUS			
		MEDIUM TO FINE SANDY SILT WITH LENSES OF WHITE COARSE TO FINE VERY SANDY SILT	26.1		
			25.8		
486.3				GS	
			32.5	C, T	
			41.0		
476.3					
			31.9		
			27.7		
466.3	47.0	VERY STIFF YELLOW BROWN GRAY TO GRAY AND WHITE VERY MICACEOUS MEDIUM TO FINE SANDY SILT			
			40.4		
			26.6		
456.3	57.0	HARD BROWN AND GREEN VERY MICACEOUS FINE VERY SANDY SILT			
			25.0		
	64.6				
446.3		REFUSAL AT 64.6' SEE CORE BORING RECORD			

CORRECTED COPY



REMARKS:

LOCATION: N 1115206
E 609113

DRILLED BY RS
LOGGED BY CB
CHECKED BY EBB

BORING NUMBER C-102 ✓
DATE STARTED 4-19-74
DATE COMPLETED 4-20-74
JOB NUMBER SAG-674

DEPTH
FT.
64.6

DESCRIPTION

CORE RQD ELEV.
%

REMARKS

74.1

DEPTH (FT.)	DESCRIPTION	CORE RQD (%)	ELEVATION	REMARKS
	MODERATELY HARD AND HARD GRAY AND TAN BIOTITE GNEISS	NX 58	452.3	
			447.3	
		.20		
	MODERATELY HARD AND HARD DARK GREEN HORNBLLENDE GNEISS	NX 78	442.3	
			437.3	77.2-JOINT, 80° SE, STAINED
			.46	
			432.3	84.7-JOINT, 70° E, STAINED
			427.3	86.7-JOINT, 70° NE, STAINED 87.3-JOINT, 70° NE, STAINED
			.64	
			422.3	
			417.3	99.0-JOINT, 60° NW, STAINED 100.0-JOINT, 90°, STAINED
			.30	
			412.3	103.2-JOINT, 60° NW, STAINED

DRILLED BY RS
 LOGGED BY DM
 CHECKED BY DM

CORE BORING RECORD

BORING NO. C-102
 JOB NO. SAG-674

DEPTH
FT.
104.0

DESCRIPTION

CORE RQD ELEV.
%

PAGE 2 OF 2
REMARKS

DEPTH FT.	DESCRIPTION	CORE RQD %	ELEV.	REMARKS
114.0	SOFT GRAY GREEN AND TAN HORN- BLENDE GNEISS	NX 05	412.3 407.3	
		.00	402.3	
128.6	VERY HARD DARK GREEN AND GRAY HORNBLENDE GNEISS	NX 100	397.3	
		.68	392.3	120.9-JOINT, 45° NW, STAINED 121.4-JOINT, 90°, STAINED 123.7-JOINT, 70° S, STAINED
130.2	VERY HARD DARK GREEN AMPHIBOLITE	NX 100	387.3	128.3-JOINT, 50° S, STAINED
		.73	382.3	
139.0	VERY HARD DARK GREEN AND GRAY HORNBLENDE GNEISS	NX 98	377.3	
		.91	372.3	DIP OF FOLIATION APPROXIMATELY 45° (ASSUMED SE)
	CORING TERMINATED			

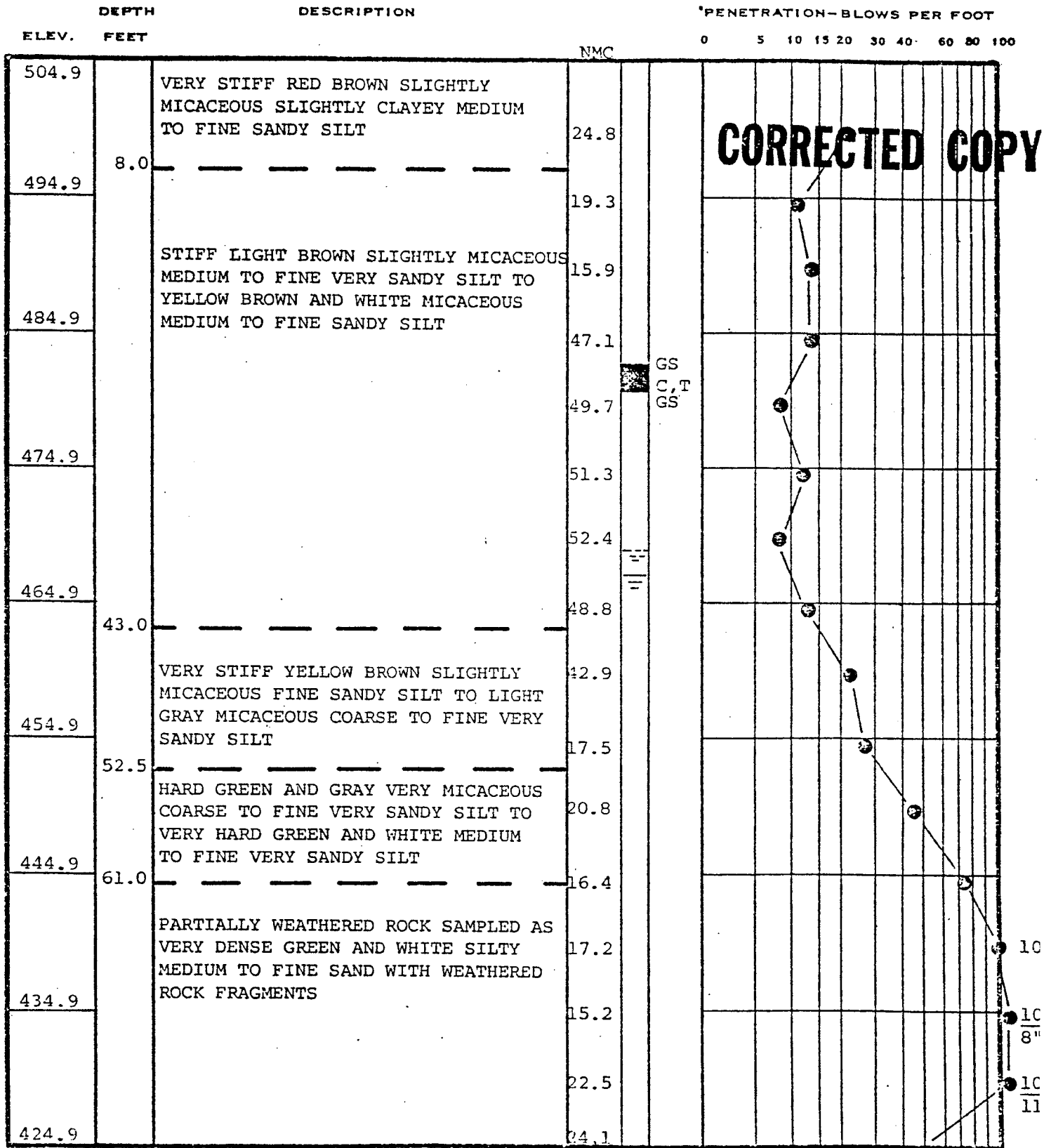
DRILLED BY RS
 LOGGED BY DM
 CHECKED BY DM

CORE BORING RECORD

BORING NO. C-102
 JOB NO. SAG-674

LAW ENGINEERING TESTING COMPANY

TEST BORING RECORD



REMARKS:

LOCATION: N 1115377
E 609217

DRILLED BY GP
LOGGED BY CB
CHECKED BY EBB

BORING NUMBER C-103
DATE STARTED 4-21-74
DATE COMPLETED 4-23-74
JOB NUMBER SAG-674
PAGE 1 of 2

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT	
				0 5 10 15 20 30 40 60 80 100	
424.9	80.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY HARD GREENISH GRAY AND WHITE VERY MICACEOUS FINE SANDY SILT TO GREENISH GRAY COARSE TO FINE VERY SANDY SILT WITH WEATHERED ROCK FRAGMENTS	15.9	CORRECTED COPY	
414.9			15.5		
	94.6		10.9		
404.9		REFUSAL AT 94.6' SEE CORE BORING RECORD			

10
6"
10
12
10
14

REMARKS:

DRILLED BY GP
 LOGGED BY CB
 CHECKED BY EBE

BORING NUMBER C-103
 DATE STARTED 4-22-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674
 PAGE 2 of 2

DEPTH
FT.
94.6

DESCRIPTION

CORE QD ELEV.
%

PAGE 1 OF 2
REMARKS

DEPTH FT.	DESCRIPTION	CORE QD %	ELEV.	REMARKS	
94.6	SOFT AND MODERATELY HARD DARK GRAY AND TAN HORNBLLENDE GNEISS WITH SOME NARROW (1"-2") BANDS OF AMPHIBOLITE	NX 31	410.3	98.2-JOINT, 75°NW, ZEOLITE COATED	
			405.3		
		NX 80	.12	400.3	94.6-119.4-HIGHLY FRACTURED
				395.3	
		NX 37	.00	390.3	
				385.3	
119.4		HARD GRAY HORNBLLENDE GNEISS	NX 79	380.3	126.5-JOINT, 60°SE, ZEOLITE COATED
				375.3	
			NX 100	.37	370.3
134.6					

DRILLED BY GP
 LOGGED BY DM
 CHECKED BY _____

CORE BORING RECORD

BORING NO. C-103
 JOB NO. SAG-674

DEPTH
 FT.
 134.6
 135.5

DESCRIPTION

CORE RQD ELEV.
 %

PAGE 2 OF 2
 REMARKS

			370.3	
			365.3	
VERY HARD LIGHT GRAY HORNBLLENDE GNEISS	NX 100.11		360.3	
			355.3	
	NX 100.09		350.3	
			345.3	
	NX 100.69		340.3	
			335.3	
			330.3	

168.5

CORING TERMINATED

DIP OF FOLIATION
 AVERAGES 40°
 (ASSUMED SE)

DRILLED BY GP
 LOGGED BY DM
 CHECKED BY _____

CORE BORING RECORD

BORING NO. C-103
 JOB NO. SAG-674

LAW ENGINEERING TESTING COMPANY

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	PENETRATION-BLOWS PER FOOT																			
			0	5	10	15	20	30	40	60	80	100										
412.8		VERY HARD WHITE AND GREEN COARSE TO FINE VERY SANDY SILT TO GREEN FINE VERY SANDY SILT																				
402.8	89.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY HARD GREEN FINE VERY SANDY SILT																				
	94.7	REFUSAL AT 94.7' SEE CORE BORING RECORD																				
392.8																						

CORRECTED COPY

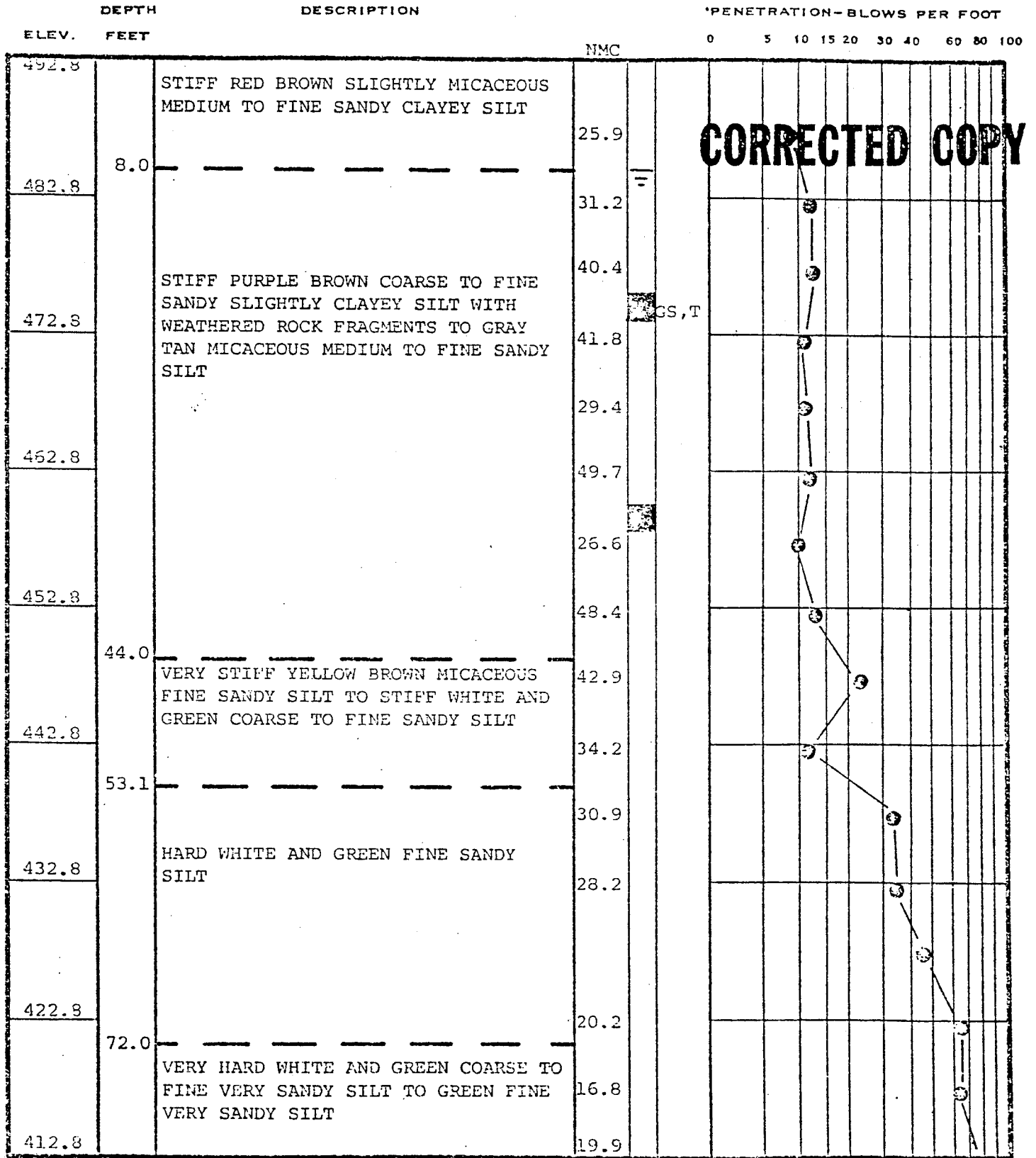
10
4"
10
2"

REMARKS:

DRILLED BY RS
 LOGGED BY CB
 CHECKED BY PRE

BORING NUMBER C-104 ✓
 DATE STARTED 4-21-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1115548
E 609320

HOLE CAVED AT 8.0' AFTER 24 HOURS

DRILLED BY RS
LOGGED BY CB
CHECKED BY CB

BORING NUMBER C-104 ✓
DATE STARTED 4-21-74
DATE COMPLETED 4-23-74
JOB NUMBER SAG-674
PAGE 1 OF 2

DEPTH
FT.
94.7

DESCRIPTION

CORE RQD ELEV.
%

PAGE 1 OF 2
REMARKS

DEPTH FT.	DESCRIPTION	CORE RQD %	ELEV.	REMARKS
		NX 31	398.1	
		.08		
			393.1	
	SOFT AND MODERATELY HARD DARK GREEN AND TAN BIOTITE GNEISS	NX 65	388.1	
		.44		
			393.1	
		NX 17	378.1	
		.13		
			373.1	
		NX 33	368.1	
		.28		
125.9				107.2-JOINT, 65°NW, STAINED
	VERY HARD DARK GREEN AND WHITE HORNBLLENDE GNEISS	NX 92	363.1	
		.81		
			358.1	
134.7				129.9-JOINT, 80°NW, STAINED

DRILLED BY RS
 LOGGED BY DM
 CHECKED BY DM

CORE BORING RECORD

BORING NO. C-104
 JOB NO. SAG-674

DEPTH
FT.
134.7

DESCRIPTION

CORE ROD ELEV.
%

REMARKS

149.0

DEPTH FT.	DESCRIPTION	CORE ROD %	ELEV.	REMARKS
			358.1	
			353.1	139.1-JOINT, 50° NE
				140.2-2 JOINTS, 80° NE, STAINED
		NX 99 .73	348.1	
149.0	CORING TERMINATED		343.1	
				DIP OF FOLIATION AVERAGES 35° (ASSUMED SE)

DRILLED BY RS
 LOGGED BY DM
 CHECKED BY DM

CORE BORING RECORD

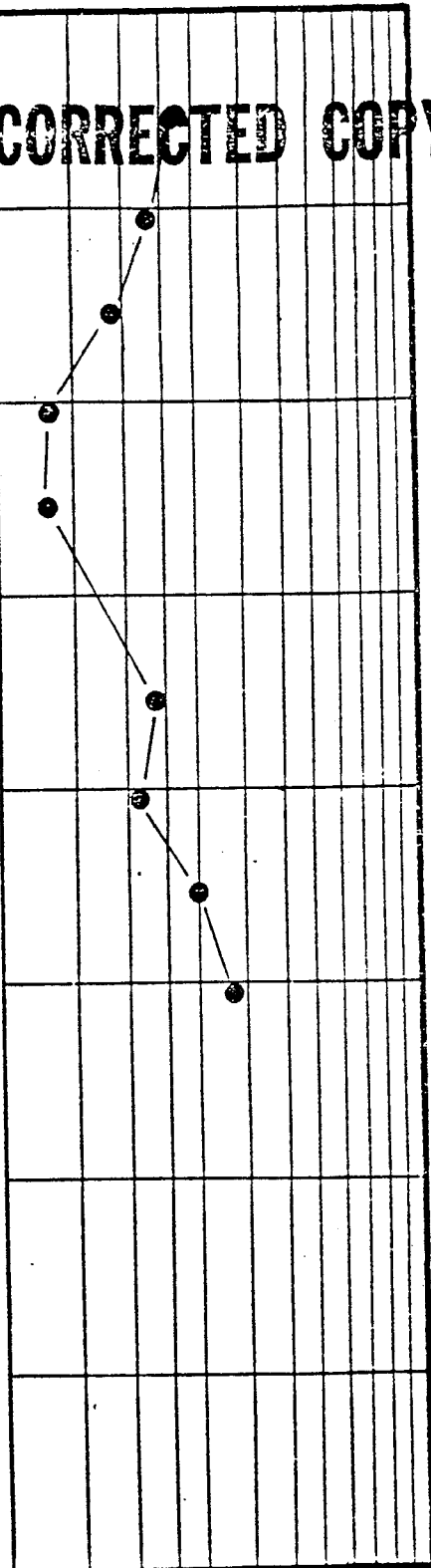
BORING NO. C-104
 JOB NO. SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT	
482.7		VERY STIFF TO STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	33.5		
472.7	12.0	-----	40.4		
		FIRM RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	47.1		
462.7	17.4	-----	61.3		
		SOFT RED BROWN TO YELLOW BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	65.3		
452.7	28.2	-----	41.6		
		STIFF GRAY TAN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT WITH WEATHERED ROCK FRAGMENTS TO VERY STIFF MOTTLED GREEN TAN AND WHITE SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	45.6		
442.7			43.7		
	42.0	-----	30.7		
		VERY FIRM MOTTLED RED AND GREEN SLIGHTLY MICACEOUS VERY SILTY COARSE TO FINE SAND TO MOTTLED BLuish GRAY AND WHITE MICACEOUS VERY SILTY MEDIUM TO FINE SAND	29.7		
432.7	51.0				
		BORING TERMINATED AT 51.0'			
422.7					

CORRECTED COPY

GS
C, T



REMARKS:

LOCATION: N 1115719
E 609424

DRILLED BY RS
LOGGED BY MB
CHECKED BY MB

BORING NUMBER C-105
DATE STARTED 4-24-74
DATE COMPLETED 4-29-74
JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
478.6		VERY STIFF TO STIFF RED BROWN FINE SANDY VERY SILTY CLAY		<div style="position: relative; height: 100%; border: 1px solid black;"> <div style="position: absolute; top: 10%; left: 10%; font-size: 2em; font-weight: bold; opacity: 0.5;">CORRECTED COPY</div> </div>
468.6	12.0			
458.6		VERY SOFT YELLOW BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT		
448.6				
438.6	32.0			
438.6	37.0	SOFT YELLOW BLUE SLIGHTLY MICACEOUS FINE SANDY SILT TO YELLOW BROWN AND WHITE MICACEOUS COARSE TO FINE SANDY SILT		
438.6		LOOSE YELLOW BROWN AND WHITE MICACEOUS VERY SILTY COARSE TO FINE SAND TO FIRM GREEN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND		
428.5	46.0			
428.5	50.0	DENSE GREEN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND		
418.6		BORING TERMINATED AT 50.0'		

REMARKS:

LOCATION: N 1115890
E 609528

DRILLED BY GFC (RK)
 LOGGED BY CB
 CHECKED BY [Signature]

BORING NUMBER C-106 ✓
 DATE STARTED 4-24-74
 DATE COMPLETED 4-24-74
 JOB NUMBER SAG-674

TEST BORING RECORD

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT										
ELEV.	FEET			0	5	10	15	20	30	40	60	80	100	
474.7	6.0	LOOSE RED BROWN AND YELLOW SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND	16.0	<div style="font-size: 2em; font-weight: bold; text-align: center;">CORRECTED COPY</div>										
464.7		VERY FIRM GREEN SLIGHTLY SILTY MEDIUM TO FINE SAND	12.6											
454.7	12.0	VERY DENSE YELLOW BROWN TO GRAY BROWN SILTY MEDIUM TO FINE SAND	19.9											
454.7			14.4											
444.7	23.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY BROWN SILTY MEDIUM TO FINE SAND	15.3											
444.7			12.7											
434.7	34.1	REFUSAL AT 34.1' BORING TERMINATED												

REMARKS:

LOCATION: N 1116041
E 609659

DRILLED BY GPC(RK)
 LOGGED BY MB
 CHECKED BY GBE

BORING NUMBER C-107 ✓
 DATE STARTED 4-26-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
477.9		STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SLIGHTLY CLAYEY SILT	28.2	<div style="text-align: center; font-size: 2em; font-weight: bold; margin-bottom: 10px;">CORRECTED COPY</div>
467.9	12.0	SOFT TAN VERY MICACEOUS MEDIUM TO FINE SANDY SILT	31.9	
457.9	23.0	LOOSE TO FIRM TAN VERY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	34.0	
447.9			62.3	
			34.6	
437.9	37.0	VERY FIRM TAN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND TO DENSE GREEN AND TAN SILTY MEDIUM TO FINE SAND	22.0	
			23.2	
427.9	50.0	BORING TERMINATED AT 50.0'	27.9	
			26.1	
417.9				

REMARKS:

LOCATION: N 1116189
E 609793

DRILLED BY GPC(RK)
LOGGED BY CB
CHECKED BY [Signature]

BORING NUMBER C-108
DATE STARTED 4-24-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT	
484.3		FIRM RED BROWN MEDIUM TO FINE SANDY SILT			<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">CORRECTED COPY</div>
474.3	7.0		17.1		
		LOOSE PINK RED SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	21.4		
			24.4		
464.3	18.0				
		LOOSE GRAY BROWN AND WHITE SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND	33.7	GS C, T	
454.3	31.0		52.0		
		FIRM MOTTLED GREEN TAN AND WHITE SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	31.8		
444.4	42.0		20.8	GS, T	
		DENSE MOTTLED GREEN AND TAN SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND TO VERY DENSE GRAY BROWN SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	17.0		
434.3	52.0		14.2		
		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY BROWN SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	13.8		
424.3	58.8		14.7		
		BORING TERMINATED AT 58.8'			

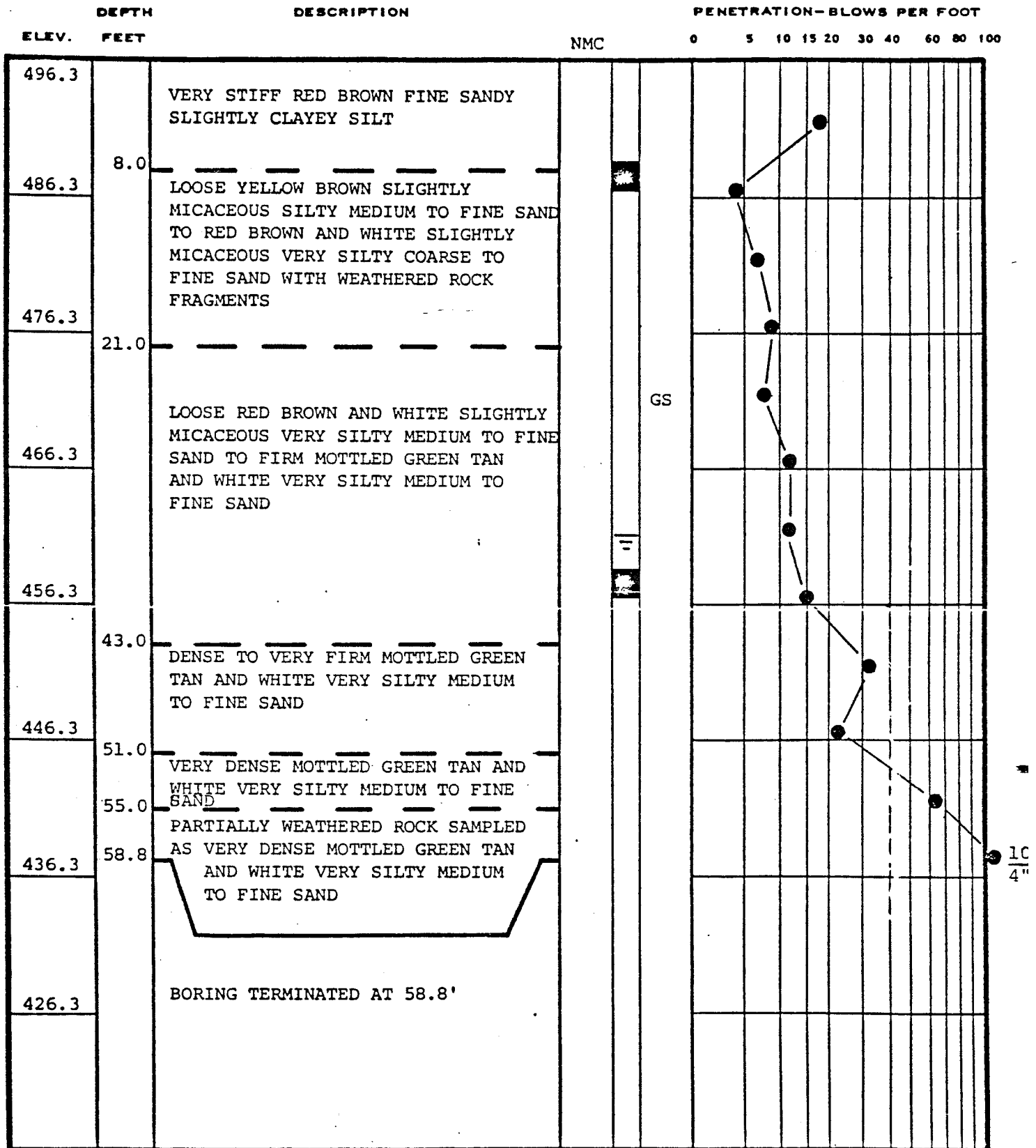
REMARKS:

LOCATION: N 1116337
E 609927

DRILLED BY GPC (RK)
 LOGGED BY NB
 CHECKED BY Jils.

BORING NUMBER C-109
 DATE STARTED 4-25-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION:

DRILLED BY GPC(RK)
 LOGGED BY MB
 CHECKED BY _____

BORING NUMBER C-110
 DATE STARTED 4-25-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV. FEET	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
411.0		FIRM MOTTLED GREEN AND TAN MEDIUM TO FINE SAND		<div style="text-align: center; font-size: 2em; font-weight: bold; margin-bottom: 10px;">CORRECTED COPY</div>
401.0	6.8	VERY LOOSE GRAY BROWN SLIGHTLY MICACEOUS VERY SILTY COARSE TO FINE SAND TO LOOSE MOTTLED BLUE GREEN AND WHITE VERY SILTY MEDIUM TO FINE SAND	☒	
391.0			☒	
	22.5			
381.0		FIRM TO VERY FIRM MOTTLED BLUE GREEN AND WHITE VERY SILTY MEDIUM TO FINE SAND	☒	
371.0				
	43.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE BLACK TAN AND WHITE SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS		
361.0	49.1			
		REFUSAL AT 49.1' BORING TERMINATED		

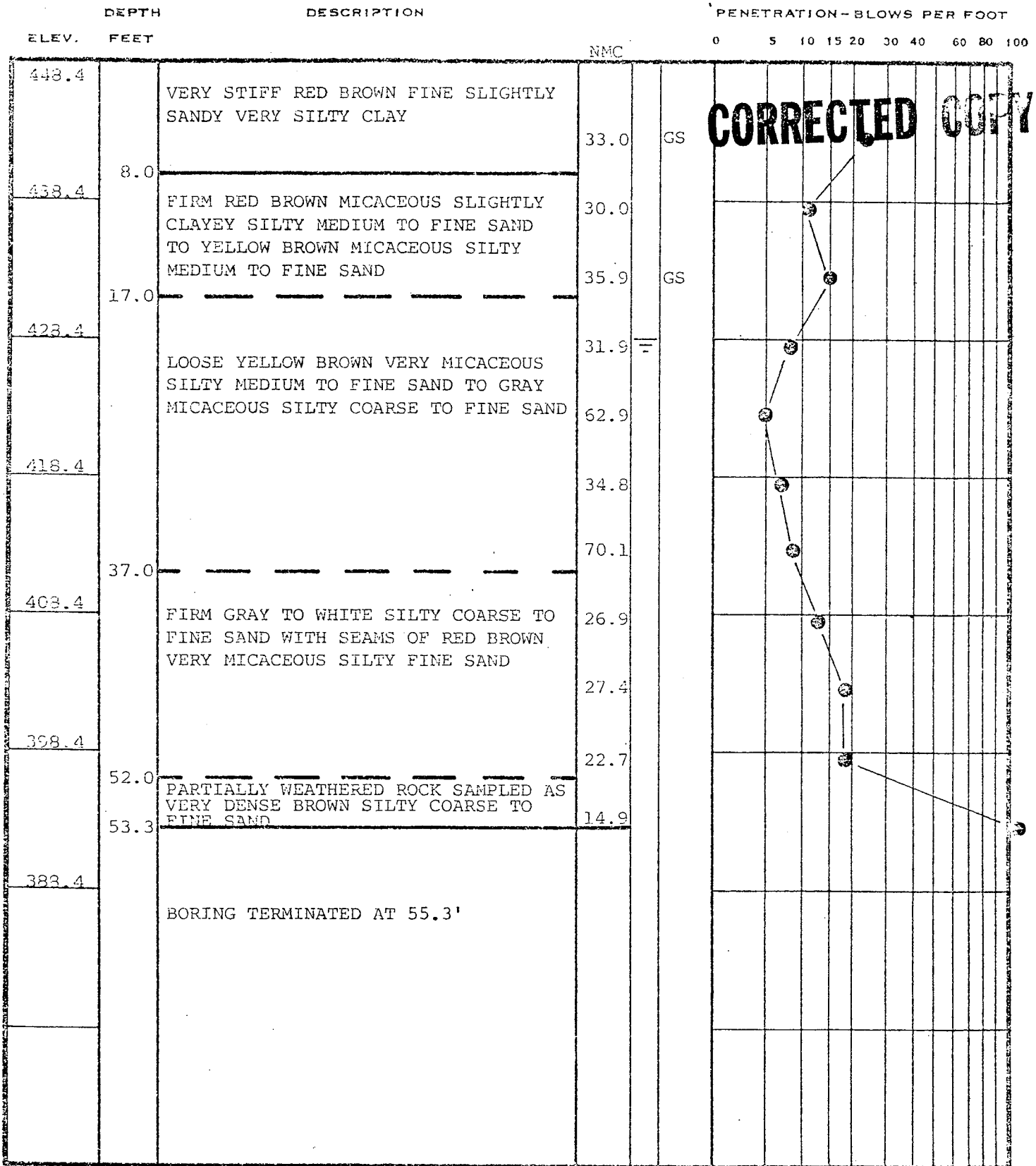
REMARKS:

LOCATION: N 1118405
E 610291

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY TA Y 73

BORING NUMBER C-120
 DATE STARTED 6-3-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECOF



REMARKS:

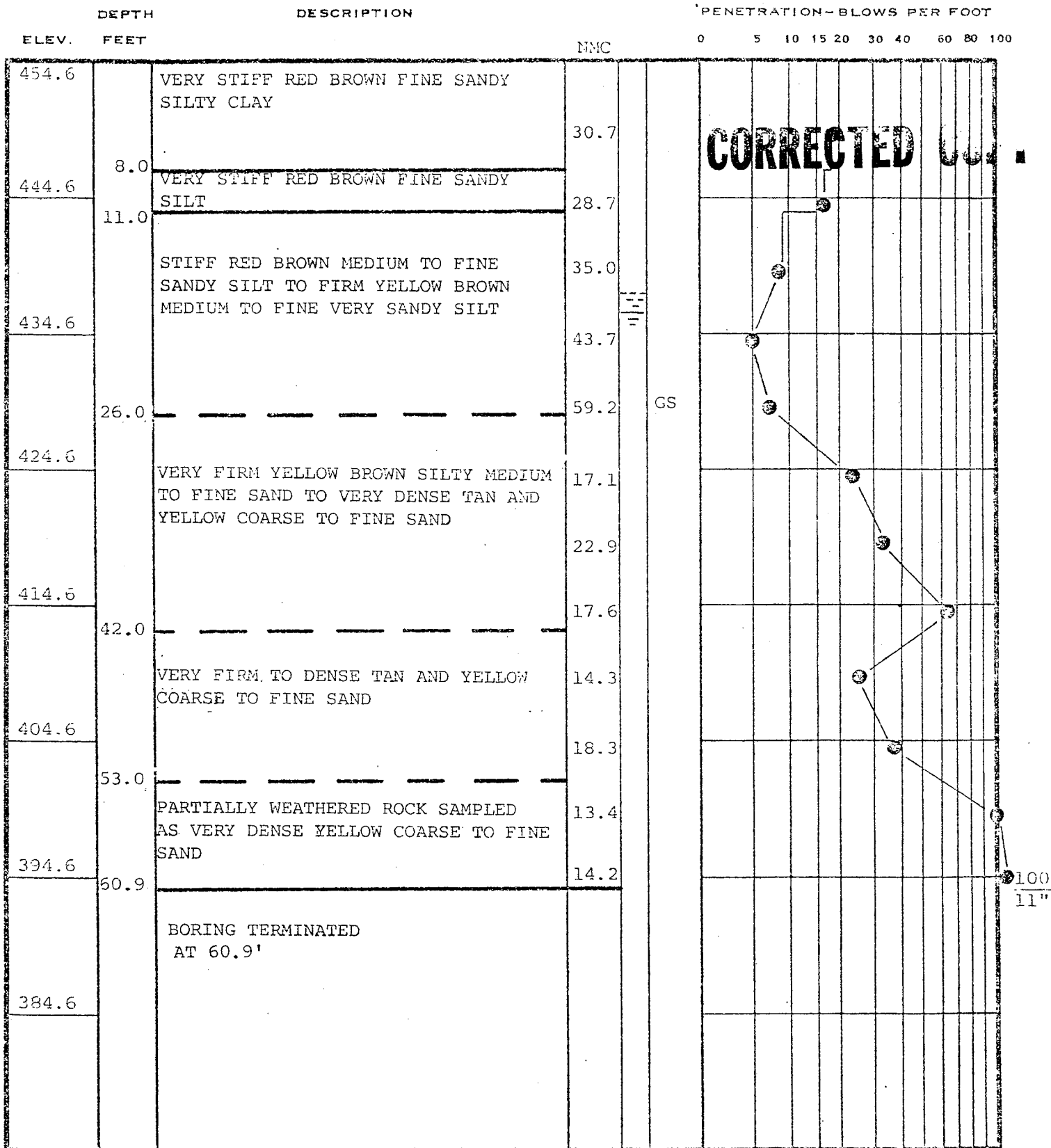
LOCATION: N 1118984
 E 610323
 HOLE CAVED AT 20.0'
 AFTER 24 HOURS

DRILLED BY RS
 LOGGED BY CB
 CHECKED BY SEE

BORING NUMBER C-123
 DATE STARTED 4-30-74
 DATE COMPLETED 4-30-74
 JOB NUMBER SAG-674

10
9"

TEST BORING RECOF



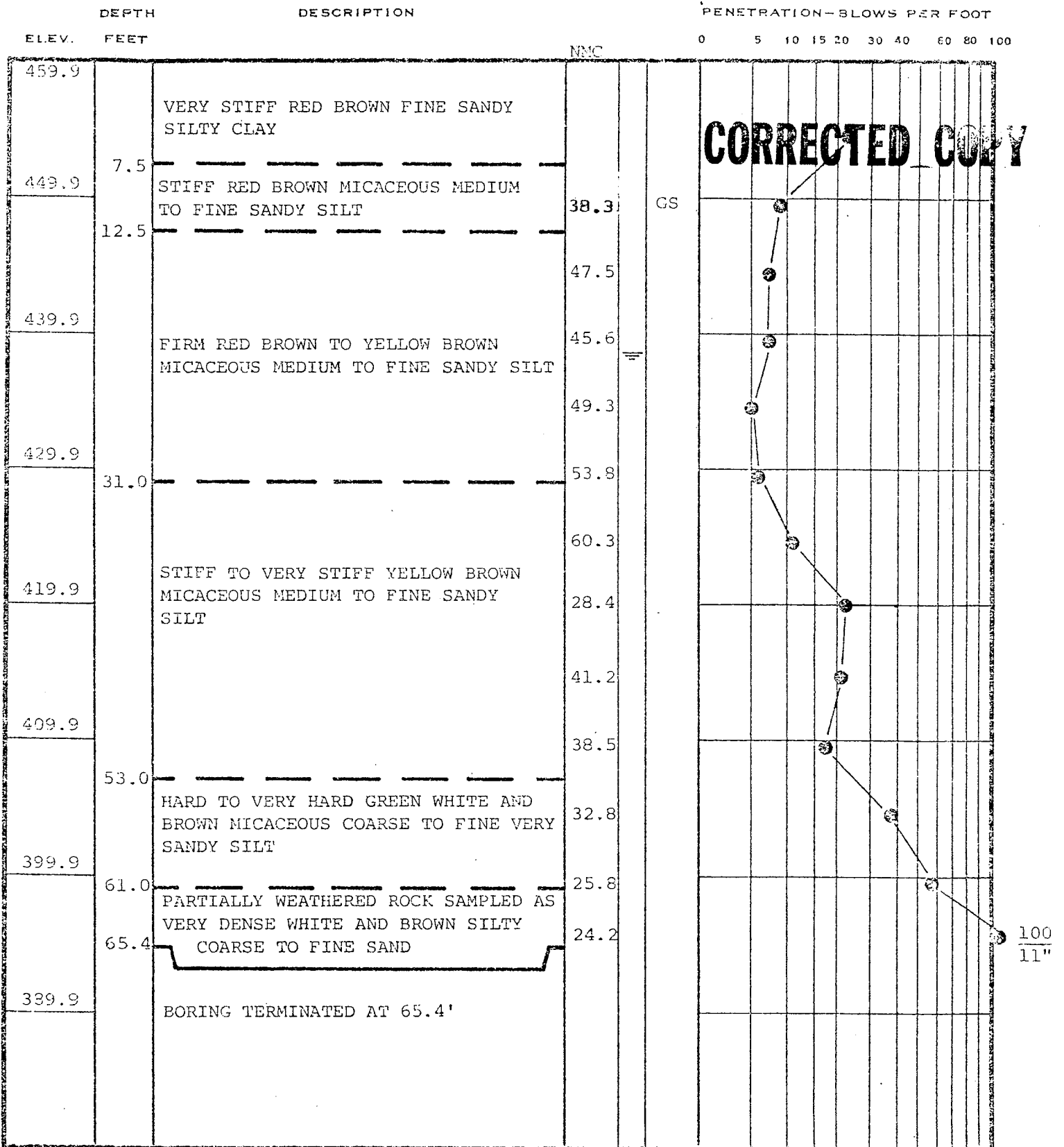
REMARKS:

LOCATION: N 1119184
E 610323

DRILLED BY GP
LOGGED BY JMS
CHECKED BY JMS

BORING NUMBER C-124
DATE STARTED 5-1-74
DATE COMPLETED 5-1-74
JOB NUMBER SAG-674

TEST BORING RECORD



CORRECTED COPY

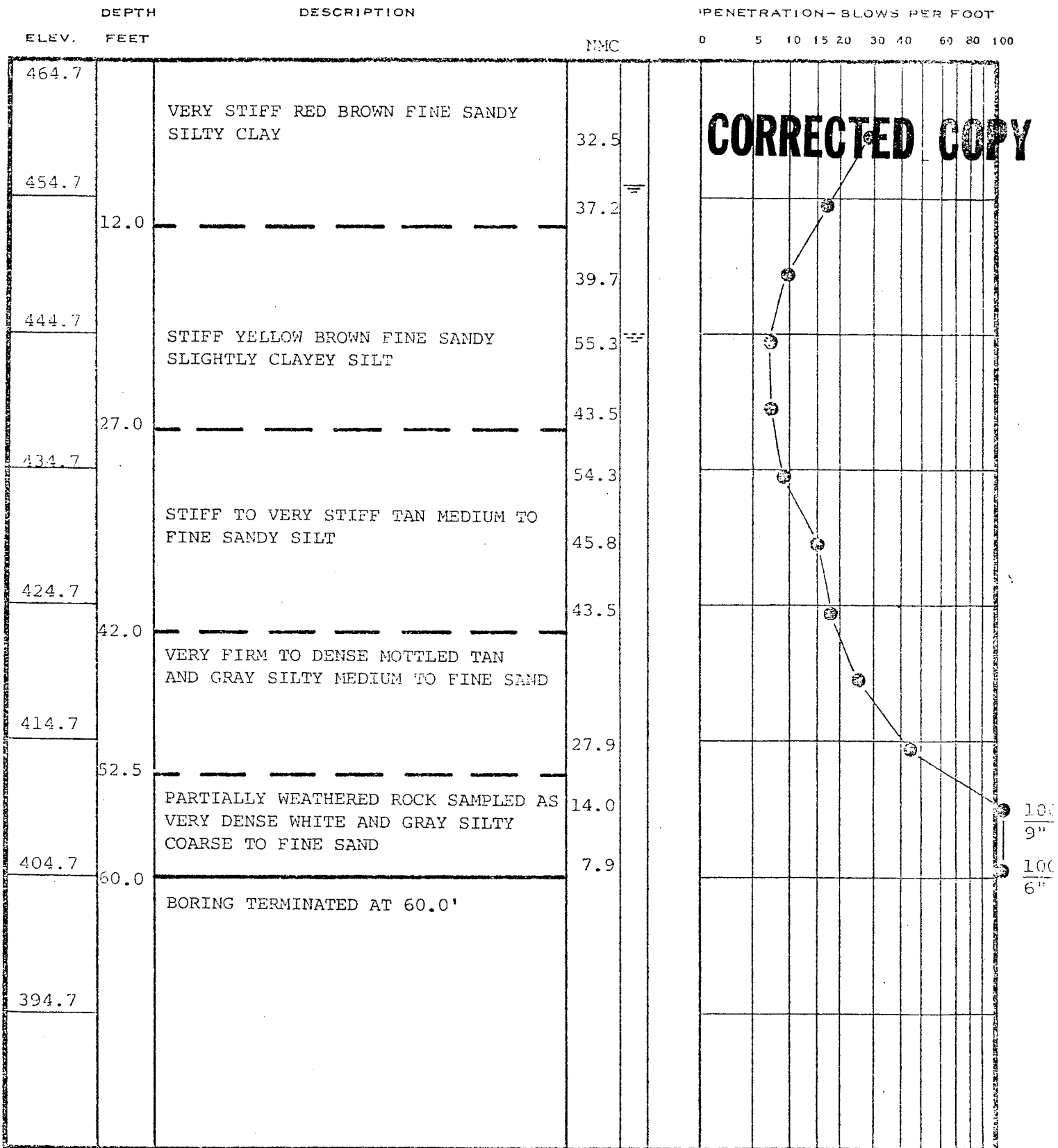
REMARKS:

LOCATION : N 1119384
E 610323

DRILLED BY PS
 LOGGED BY MB
 CHECKED BY CBG

BORING NUMBER C-125
 DATE STARTED 5-1-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD



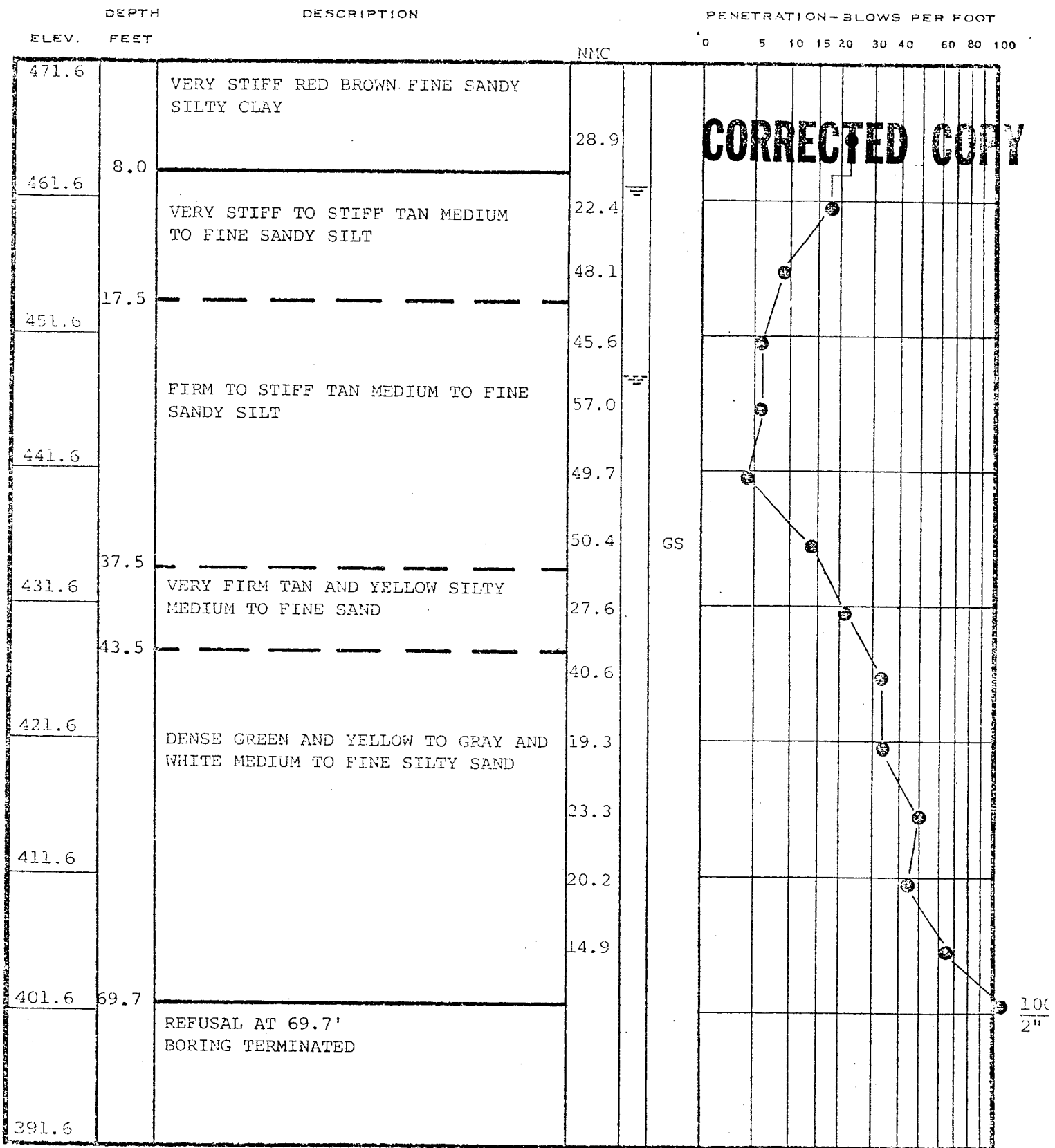
REMARKS:

LOCATION: N 1119584
 E 610323
 HOLE CAVED AT 9.0'
 AFTER 24 HOURS

DRILLED BY GP
 LOGGED BY JMS
 CHECKED BY MBE

BORING NUMBER C-126
 DATE STARTED 4-30-74
 DATE COMPLETED 4-30-74
 JOB NUMBER SAC-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1119784
 E 610323
 HOLE CAVED AT 9.0'
 AFTER 24 HOURS

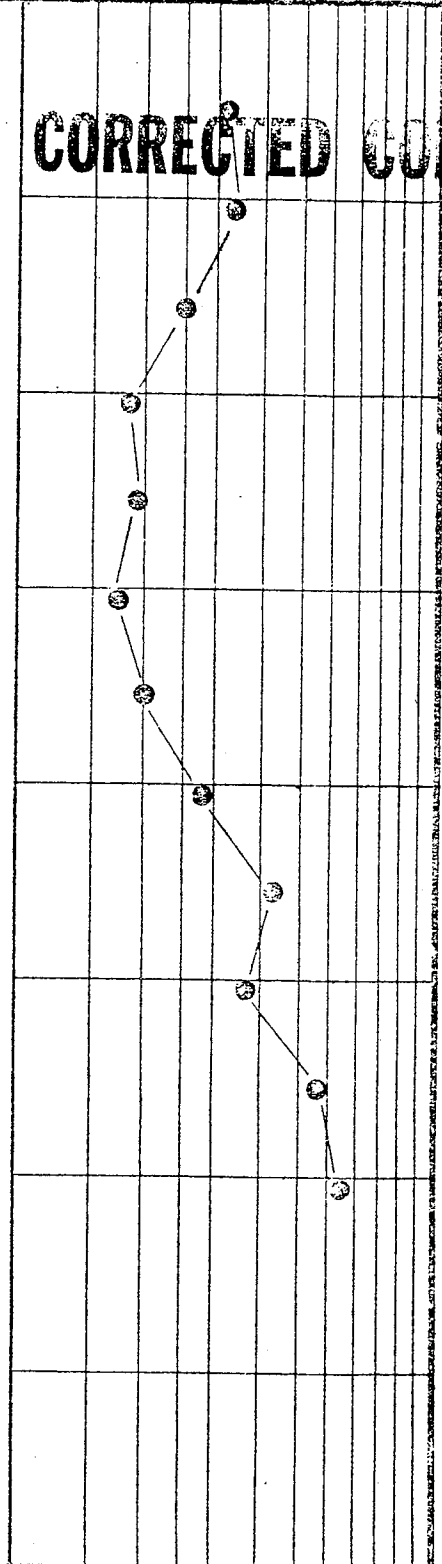
DRILLED BY GP
 LOGGED BY JMS
 CHECKED BY AGE

BORING NUMBER C-127
 DATE STARTED 4-30-74
 DATE COMPLETED 4-30-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV. FEET	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
477.4		VERY STIFF RED BROWN MEDIUM TO FINE SANDY SILTY CLAY	25.8	
467.4	8.0			
		VERY STIFF TO STIFF RED BROWN MEDIUM TO FINE SANDY CLAYEY SILT	24.1	
457.4	17.5		25.0	
		STIFF TAN MEDIUM TO FINE SANDY SILT TO FIRM TAN AND BLACK COARSE TO FINE SANDY SILT	34.6	
447.4			33.2	
	32.0		32.8	
437.4		STIFF TO VERY STIFF TAN AND BLACK MEDIUM TO FINE SANDY SILT	25.6	
	43.0		36.4	
427.4		DENSE TO VERY FIRM MOTTLED GREEN AND TAN SILTY MEDIUM TO FINE SAND	26.7	
	54.0		25.3	
417.4		DENSE TO VERY DENSE MOTTLED GREEN AND TAN SLIGHTLY SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS	29.7	
	61.0		19.8	
407.4		REFUSAL AT 61.0' BORING TERMINATED		

CORRECTED COPY



REMARKS:

LOCATION: N 1119984
E 610323

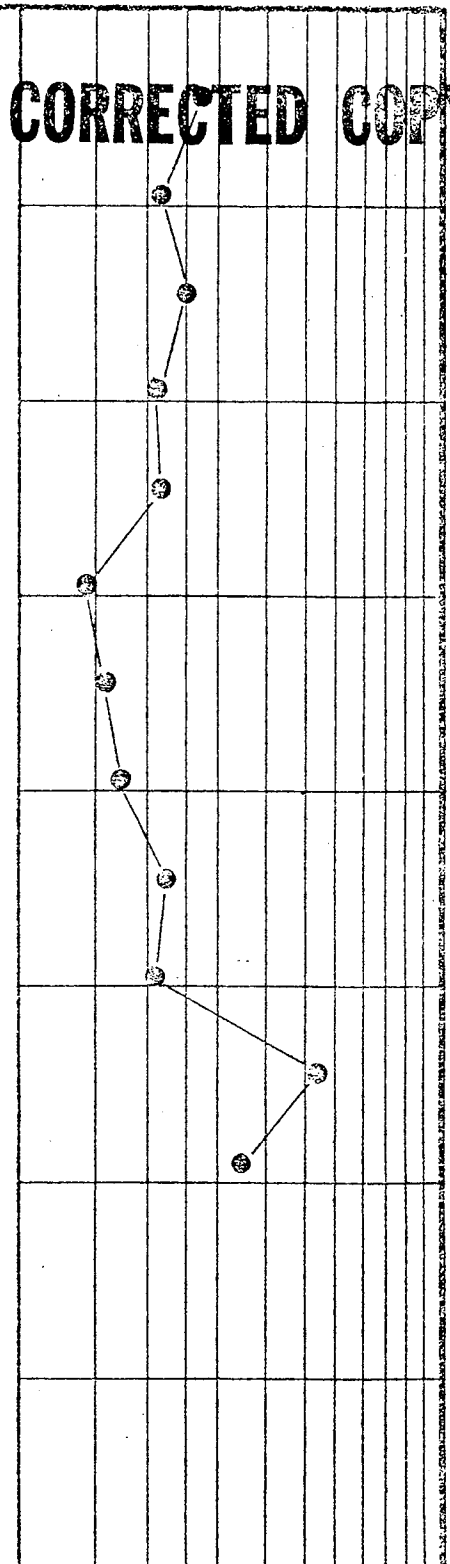
DRILLED BY CP
LOGGED BY MB
CHECKED BY AMS.

BORING NUMBER C-128
DATE STARTED 4-29-74
DATE COMPLETED 4-29-74
JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
477.0		VERY STIFF RED BROWN SLIGHTLY MICACEOUS FINE SANDY CLAYEY SILT	14.3	
467.0	8.0	STIFF RED BROWN MICACEOUS MEDIUM TO FINE SANDY SILT TO PINK SLIGHTLY MICACEOUS MEDIUM TO FINE VERY SANDY SILT	25.0	
	17.0		20.8	
457.0		FIRM PINK SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND TO LOOSE TAN AND BLUE SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND	25.3	
			26.3	
447.0			41.8	
	33.5	FIRM YELLOW BROWN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SAND	58.7	
437.0			57.2	
	42.0	STIFF TAN AND WHITE MEDIUM TO FINE SANDY SILT TO HARD YELLOW BROWN AND WHITE MICACEOUS MEDIUM TO FINE SANDY SILT	44.1	
427.0			16.7	
	57.0		44.3	
417.0	60.0	VERY FIRM MOTTLED GREEN AND TAN SILTY MEDIUM TO FINE SAND	35.5	
		BORING TERMINATED AT 60.0'		
407.0				

CORRECTED COPY



REMARKS:

LOCATION: N 1120184
E 610323

DRILLED BY GPC(RK)
LOGGED BY MB
CHECKED BY EBE

BORING NUMBER C-129
DATE STARTED 4-29-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD

DEPTH ELEV. FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
			0 5 10 15 20 30 40 60 80 100
481.7	STIFF RED BROWN MICACEOUS FINE VERY SANDY SLIGHTLY CLAYEY SILT	19.9	<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">CORRECTED COPY</div>
471.7	8.0	18.6	
461.7		37.3	
451.7	STIFF RED BROWN TO YELLOW BROWN MICACEOUS MEDIUM TO FINE SANDY SILT	23.6	
441.7		24.5	
431.7	41.0	27.4	
431.7	47.0	17.6	
53.0		18.8	
421.7	58.0		
	REFUSAL AT 58.0' BORING TERMINATED		

REMARKS:

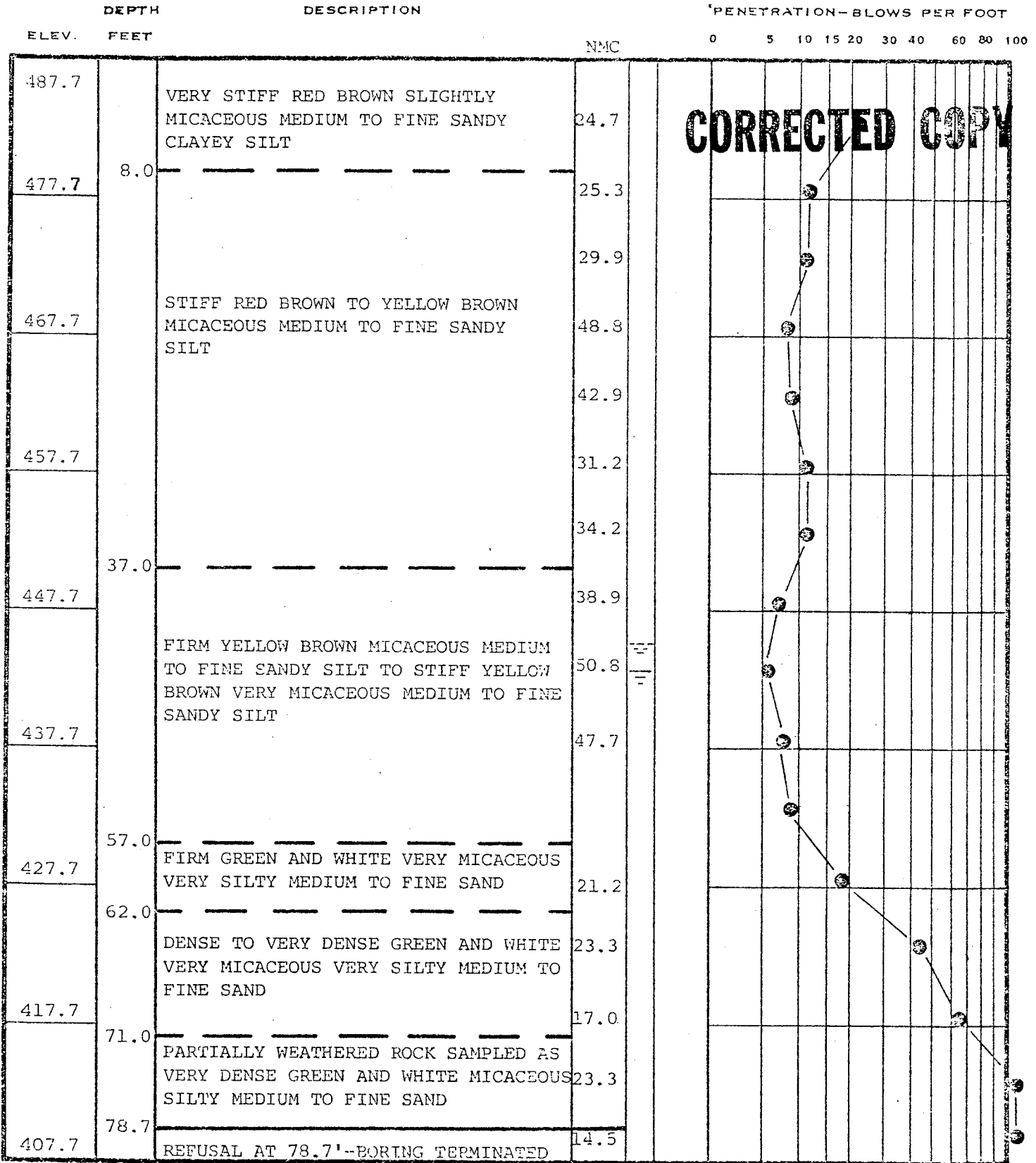
LOCATION: N 1120384
E 610323

DRILLED BY GPC(RK)
 LOGGED BY CB
 CHECKED BY JMS.

BORING NUMBER C-130
 DATE STARTED 4-30-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

50
5"

TEST BORING RECOF



REMARKS:

LOCATION: N 1120584
 E 610323
 HOLE CAVED AT 44.5'
 AFTER 24 HRS.

DRILLED BY GPC(RK)
 LOGGED BY CB
 CHECKED BY EBB

BORING NUMBER C-131
 DATE STARTED 4-30-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

100
10'
100
4"

TEST BORING RECOR

DEPTH ELEV. FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT																														
489.3 8.0	VERY STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SLIGHTLY SANDY CLAYEY SILT	26.4	<div style="font-size: 2em; font-weight: bold; text-align: center;">CORRECTED COPY</div> <table border="1" style="display: none;"> <caption>Penetration Data Points</caption> <thead> <tr> <th>Depth (Feet)</th> <th>Penetration (Blows per Foot)</th> </tr> </thead> <tbody> <tr><td>489.3</td><td>26.4</td></tr> <tr><td>479.3</td><td>18.5</td></tr> <tr><td>459.3</td><td>32.5</td></tr> <tr><td>459.3</td><td>37.9</td></tr> <tr><td>459.3</td><td>32.5</td></tr> <tr><td>459.3</td><td>42.9</td></tr> <tr><td>449.3</td><td>43.5</td></tr> <tr><td>449.3</td><td>40.0</td></tr> <tr><td>449.3</td><td>53.1</td></tr> <tr><td>439.3</td><td>47.0</td></tr> <tr><td>439.3</td><td>35.1</td></tr> <tr><td>429.3</td><td>27.6</td></tr> <tr><td>429.3</td><td>28.0</td></tr> <tr><td>419.3</td><td>17.2</td></tr> </tbody> </table>	Depth (Feet)	Penetration (Blows per Foot)	489.3	26.4	479.3	18.5	459.3	32.5	459.3	37.9	459.3	32.5	459.3	42.9	449.3	43.5	449.3	40.0	449.3	53.1	439.3	47.0	439.3	35.1	429.3	27.6	429.3	28.0	419.3	17.2
Depth (Feet)	Penetration (Blows per Foot)																																
489.3	26.4																																
479.3	18.5																																
459.3	32.5																																
459.3	37.9																																
459.3	32.5																																
459.3	42.9																																
449.3	43.5																																
449.3	40.0																																
449.3	53.1																																
439.3	47.0																																
439.3	35.1																																
429.3	27.6																																
429.3	28.0																																
419.3	17.2																																
479.3	-----	18.5																															
459.3	STIFF PURPLE BROWN SLIGHTLY MICACEOUS FINE SANDY SILT TO PINK AND BROWN COARSE TO FINE VERY SANDY SILT	32.5 37.9																															
459.3	-----	32.5																															
459.3	-----	42.9																															
459.3 31.0	VERY STIFF PURPLE BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	43.5																															
449.3	-----	37.0																															
449.3	FIRM PURPLE BROWN TO YELLOW BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	40.0																															
449.3	-----	53.1																															
449.3 46.0	-----	47.0																															
439.3	STIFF TO VERY STIFF YELLOW BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	35.1																															
439.3	-----	57.0																															
429.3	VERY HARD GREENISH GRAY VERY MICACEOUS FINE SANDY SILT TO GREEN AND YELLOW MEDIUM TO FINE VERY SANDY SILT	27.6																															
429.3	-----	28.0																															
429.3 66.0	VERY DENSE GREEN AND YELLOW SILTY MEDIUM TO FINE SAND	17.2																															
419.3	-----	72.8																															
409.3	REFUSAL AT 72.8' BORING TERMINATED																																

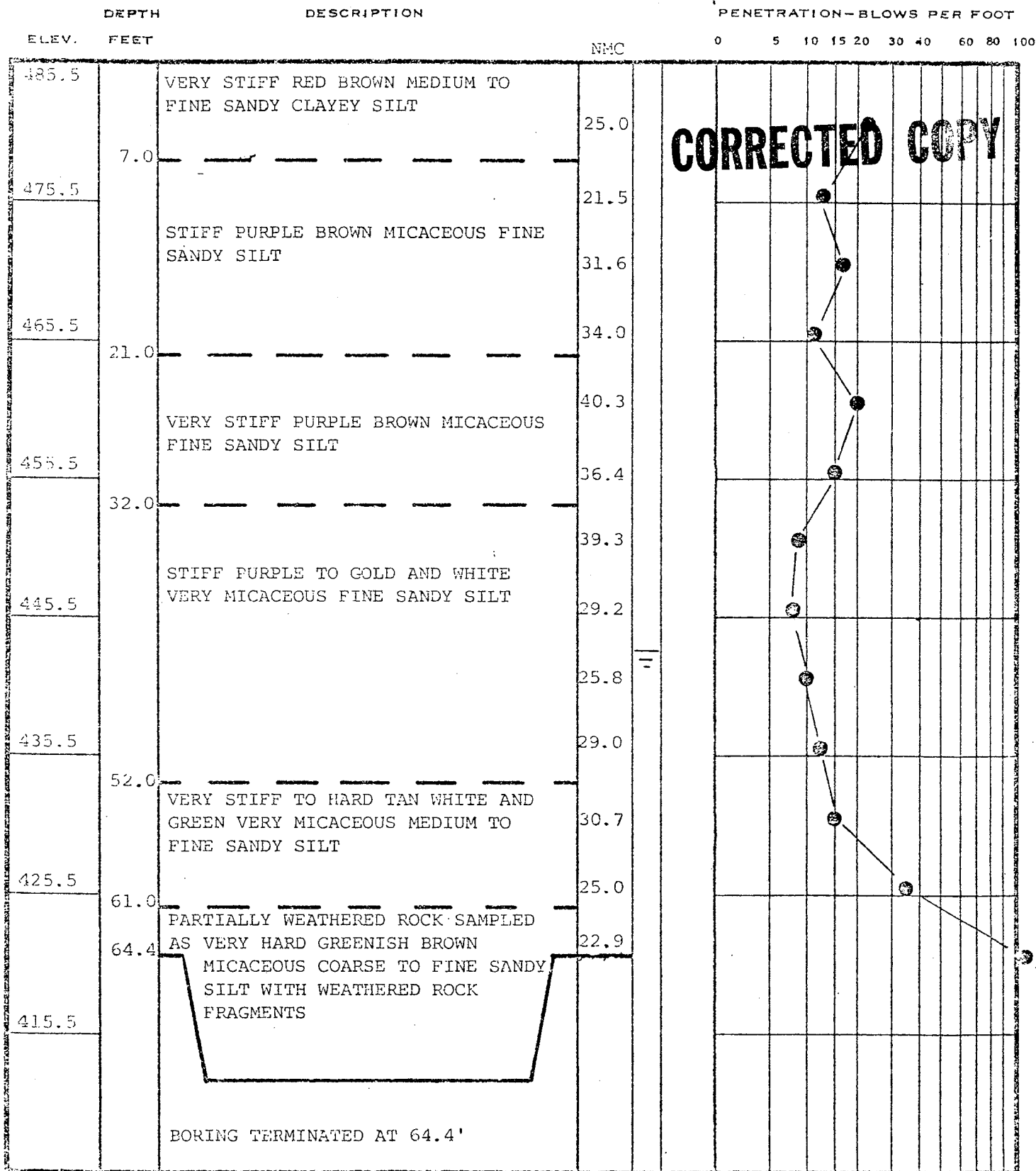
REMARKS:

LOCATION: N 1120784
E 610323
HOLE CAVED AT 46.5'
AFTER 24 HRS.

DRILLED BY GPC (RK)
LOGGED BY CB
CHECKED BY JMS

BORING NUMBER C-132
DATE STARTED 5-1-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECOF



REMARKS:

LOCATION: N 1120984
 E 610323
 HOLE CAVED AT 42.5'
 AFTER 24 HOURS

DRILLED BY GPC(RK)
 LOGGED BY CB
 CHECKED BY CBE

BORING NUMBER C-133
 DATE STARTED 5-1-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV. FEET	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
483.9		VERY STIFF RED BROWN MICACEOUS CLAYEY SILT		<div style="font-size: 2em; font-weight: bold; text-align: center;">CORRECTED COPY</div>
473.9	7.0	FIRM RED BROWN MICACEOUS MEDIUM TO FINE SANDY SLIGHTLY CLAYEY SILT		
	13.0			
463.9		LOOSE TAN SILTY MEDIUM TO FINE SAND		
	23.0			
453.9		VERY STIFF TAN FINE VERY SANDY SILT TO STIFF GREENISH TAN FINE SANDY SILT		
	33.0			
443.9		VERY FIRM GREENISH TAN SLIGHTLY SILTY MEDIUM TO FINE SAND TO DENSE GRAY AND WHITE MEDIUM TO FINE SAND		
	42.5			
433.9	48.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY AND WHITE MEDIUM TO FINE SAND		
	50.0			
423.9		BORING TERMINATED AT 50.0'		$\frac{100}{11"}$

REMARKS:

LOCATION: N 1121184
 E 610323
 HOLE CAVED AT 29.5'
 AFTER 24 HRS.

DRILLED BY GP
 LOGGED BY JMS
 CHECKED BY TUM

BORING NUMBER C-134
 DATE STARTED 5-1-74
 DATE COMPLETED 5-2-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
485.3		VERY STIFF RED BROWN COARSE TO FINE SANDY SILTY CLAY WITH SMALL WEATHERED ROCK FRAGMENTS		
476.3	8.5			
466.3		VERY STIFF YELLOW BROWN MEDIUM TO FINE SANDY SLIGHTLY CLAYEY SILT TO STIFF YELLOW BROWN MICACEOUS MEDIUM TO FINE SANDY SILT		
456.3				
446.3	37.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GREEN AND TAN MICACEOUS SILTY MEDIUM TO FINE SAND		
436.3	47.0	REFUSAL AT 47.0' BORING TERMINATED		

CORRECTED COPY

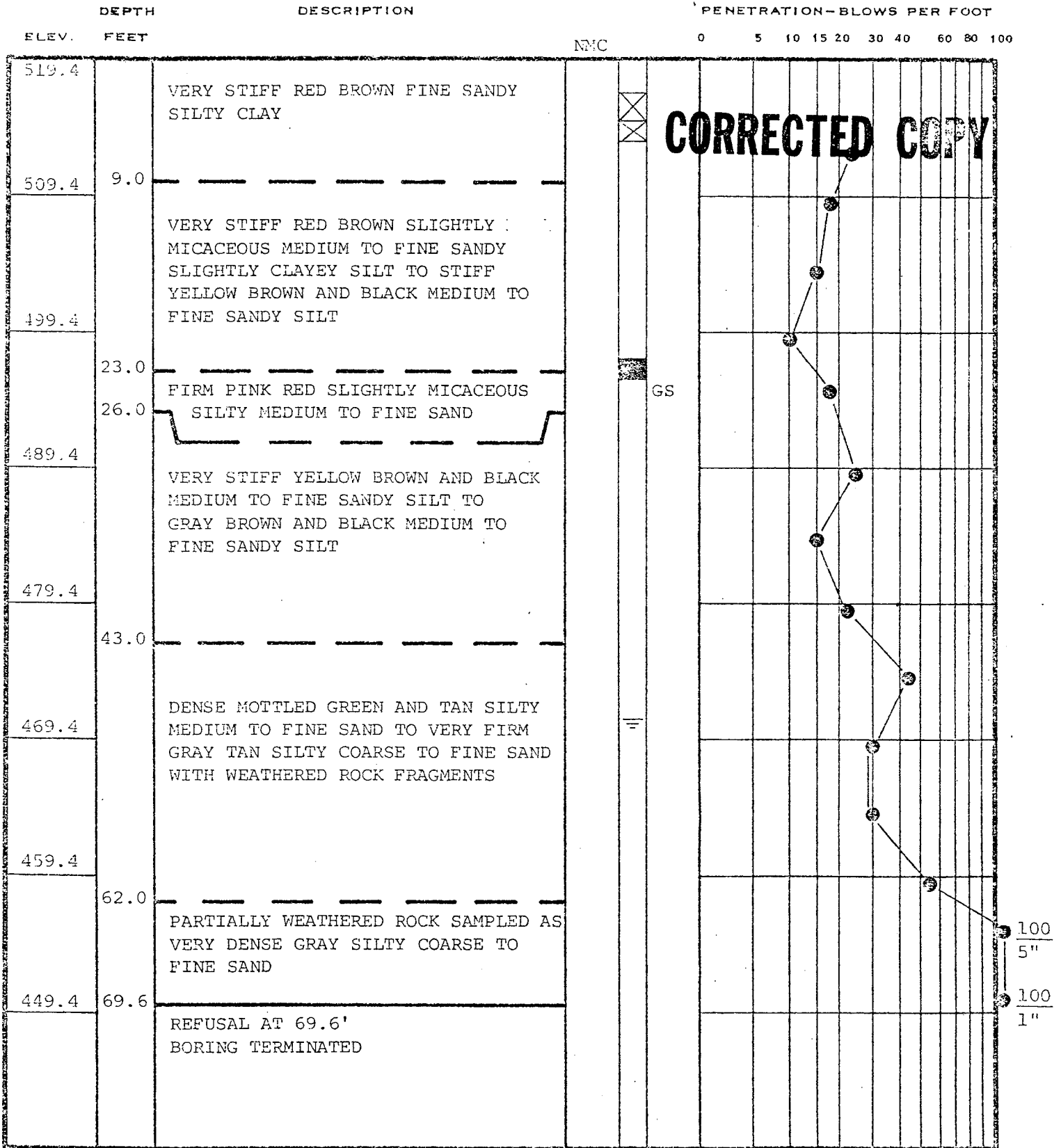
REMARKS:

LOCATION: N 1121232
 E 610131
 HOLE CAVED AT 20.0'
 AFTER 24 HOURS

DRILLED BY RS
 LOGGED BY CB
 CHECKED BY FBE

BORING NUMBER C-135
 DATE STARTED 5-2-74
 DATE COMPLETED 5-2-74
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

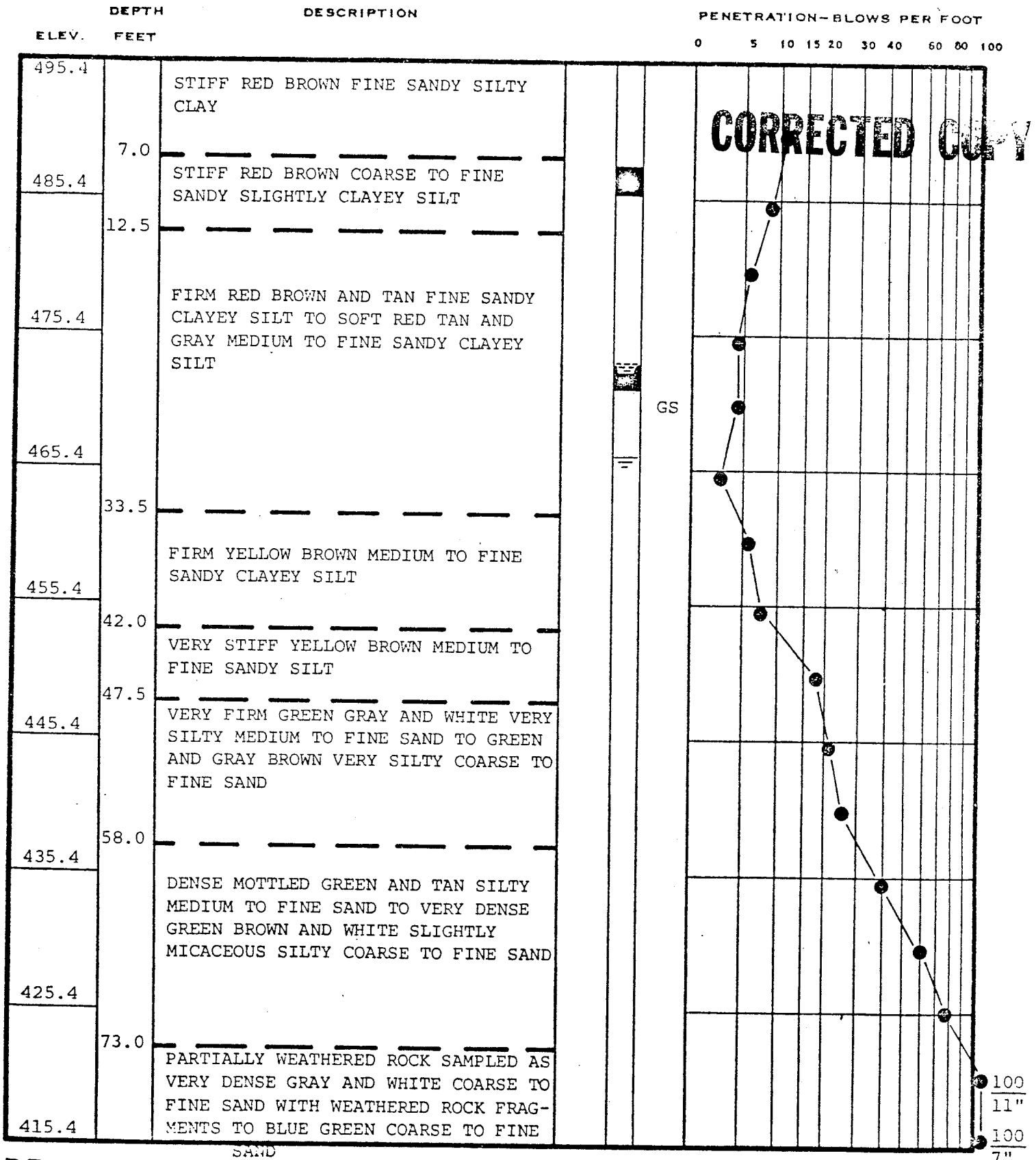
LOCATION: N 1115032
 609136
 HOLE CAVED AT 48.5' AFTER
 24 HOURS

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY JMB

BORING NUMBER C-156
 DATE STARTED 5-14-74
 DATE COMPLETED 5-15-74
 JOB NUMBER SAG-674

TEST BORING RECORD

PAGE 1 OF 2



REMARKS:

LOCATION: N 1115403
 E 609345
 HOLE CAVED AT 29.0' AFTER
 24 HOURS

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY EBB

BORING NUMBER C-158
 DATE STARTED 5-15-74
 DATE COMPLETED 5-17-74
 JOB NUMBER SAG-674

TEST BORING RECORD

PAGE 2 OF 2

PENETRATION-BLOWS PER FOOT

0 5 10 15 20 30 40 60 80 100

ELEV.	DEPTH FEET	DESCRIPTION	NMC																	
415.4																				
405.4		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY AND WHITE COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS TO BLUE GREEN COARSE TO FINE SAND																		
395.4																				
385.4	109.7																			
		REFUSAL AT 109.7' BORING TERMINATED																		

CORRECTED COPY

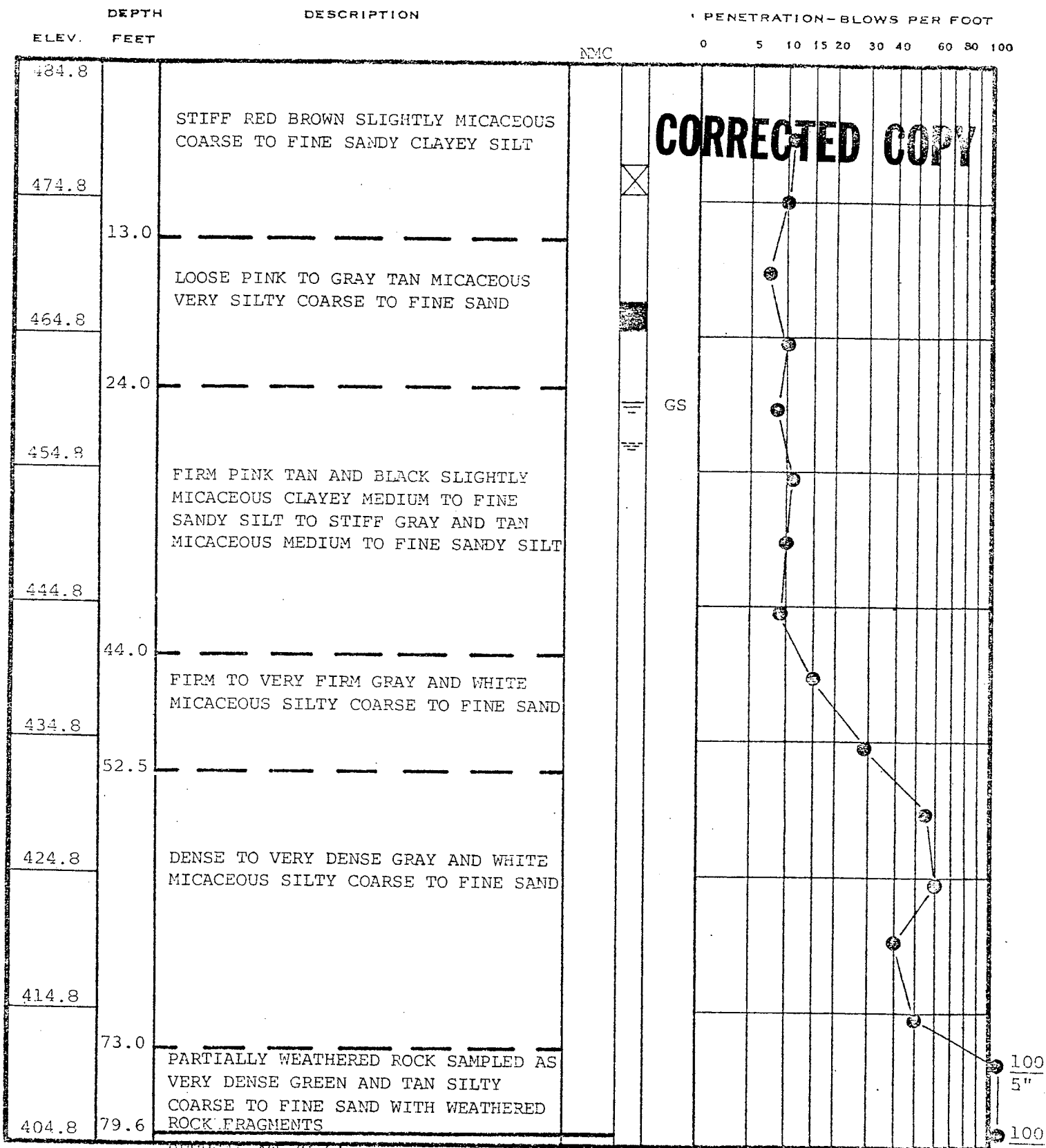
100
8"
100
3"
100
6"
100
4"
100
6"
100
2"

REMARKS:

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY UBE

BORING NUMBER C-158
 DATE STARTED 5-15-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD

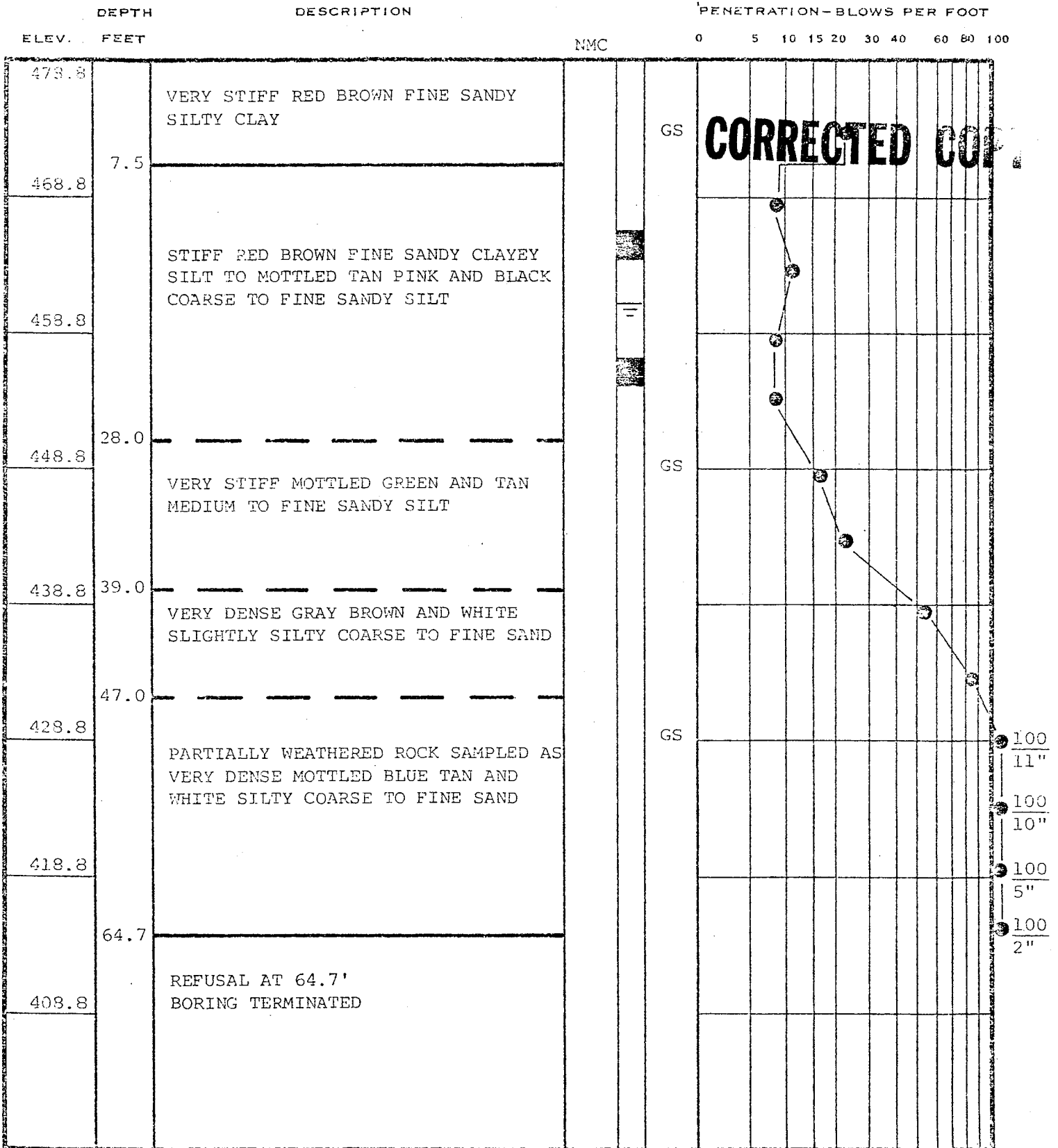


REMARKS:
 LOCATION: N 1115589
 E 609466

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY JMS

BORING NUMBER C-159
 DATE STARTED 5-17-74
 DATE COMPLETED 5-18-74
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1115949
 E 609447
 HOLE CAVED AT 18.0' AFTER
 24 HOURS

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY JMS

BORING NUMBER C-160
 DATE STARTED 5-17-74
 DATE COMPLETED 5-18-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
471.1				0 5 10 15 20 30 40 60 80 100
461.1		FIRM TO VERY FIRM MICACEOUS VERY SILTY COARSE TO FINE SAND		<div style="text-align: center; font-size: 2em; font-weight: bold;">CORRECTED COR</div>
	13.0	HARD GREEN AND TAN FINE VERY SANDY VERY MICACEOUS SILT		
451.1	18.0			
441.1		VERY DENSE BROWN GRAY AND WHITE SILTY COARSE TO FINE SAND		
	33.0			
431.1		PARTIALLY WEATHERED ROCK SAMPLED AS TAN BROWN SILTY COARSE TO FINE SAND		100 10"
421.1	49.7	REFUSAL AT 49.7' BORING TERMINATED		100 4" 100 3" 100 1.5"

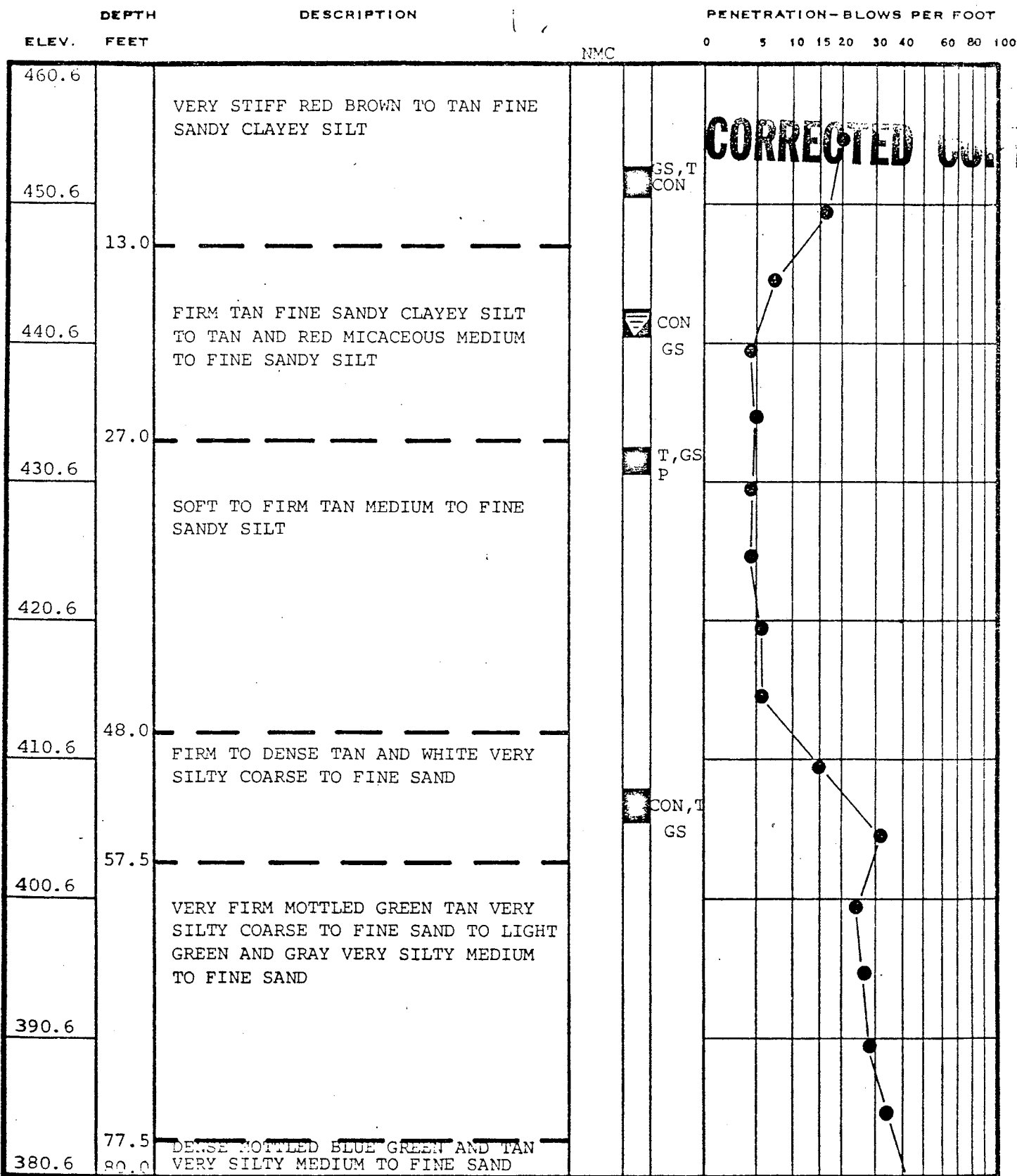
REMARKS:

LOCATION: N 1116069
E 609788

DRILLED BY RS
 LOGGED BY CB
 CHECKED BY JMS

BORING NUMBER C-162
 DATE STARTED 5-15-74
 DATE COMPLETED 5-15-74
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1119298
 E 610498
 HOLE CAVED AT 18.0' AFTER
 24 HOURS

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY LBE

BORING NUMBER C-166
 DATE STARTED 5-20-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674
 PAGE 1 OF 2

TEST BORING RECORD

ELEV.	DEPTH	DESCRIPTION	PENETRATION-BLOWS PER FOOT																			
	FEET		0 5 10 15 20 30 40 60 80 100																			
380.6		VERY DENSE MOTTLED GRAY GREEN AND WHITE SILTY COARSE TO FINE SAND																				
	87.0	-----																				
370.6		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE BLUE GREEN SILTY COARSE TO FINE SAND																				
	94.5																					
360.6		REFUSAL AT 94.5' BORING TERMINATED																				

CORRECTED COPY

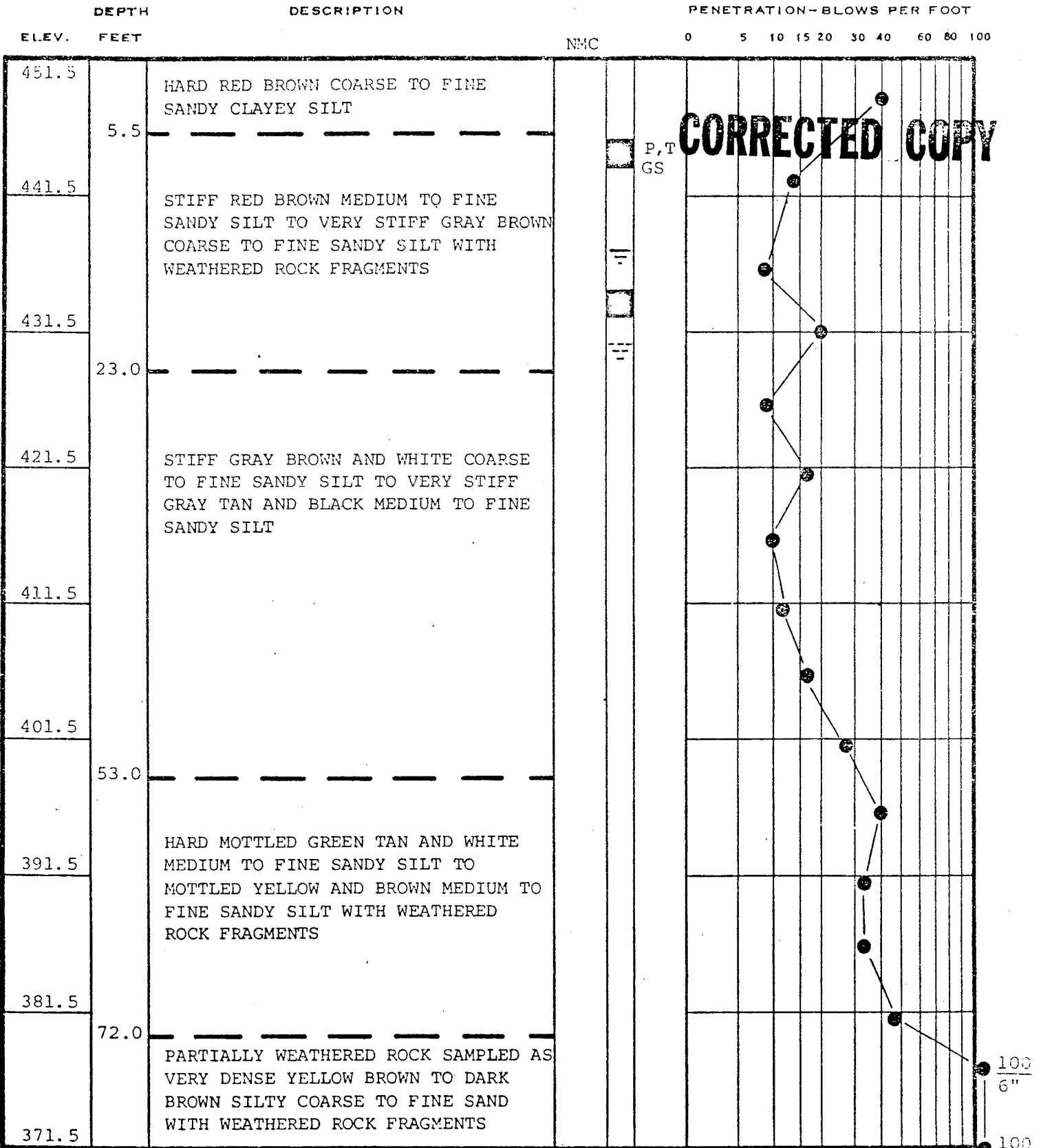
10'
5"
10'
0"

REMARKS:

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY LBC

BORING NUMBER C-166
 DATE STARTED 5-20-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1119257
E 610136

DRILLED BY RS
LOGGED BY MB
CHECKED BY MM

BORING NUMBER C-167
DATE STARTED 6-1-74
DATE COMPLETED 6-1-74
JOB NUMBER SAG-674

TEST BORING RECORD

PAGE 2 OF 2

PENETRATION-BLOWS PER FOOT

0 5 10 15 20 30 40 60 80 100

DEPTH
ELEV. FEET

DESCRIPTION

NMC

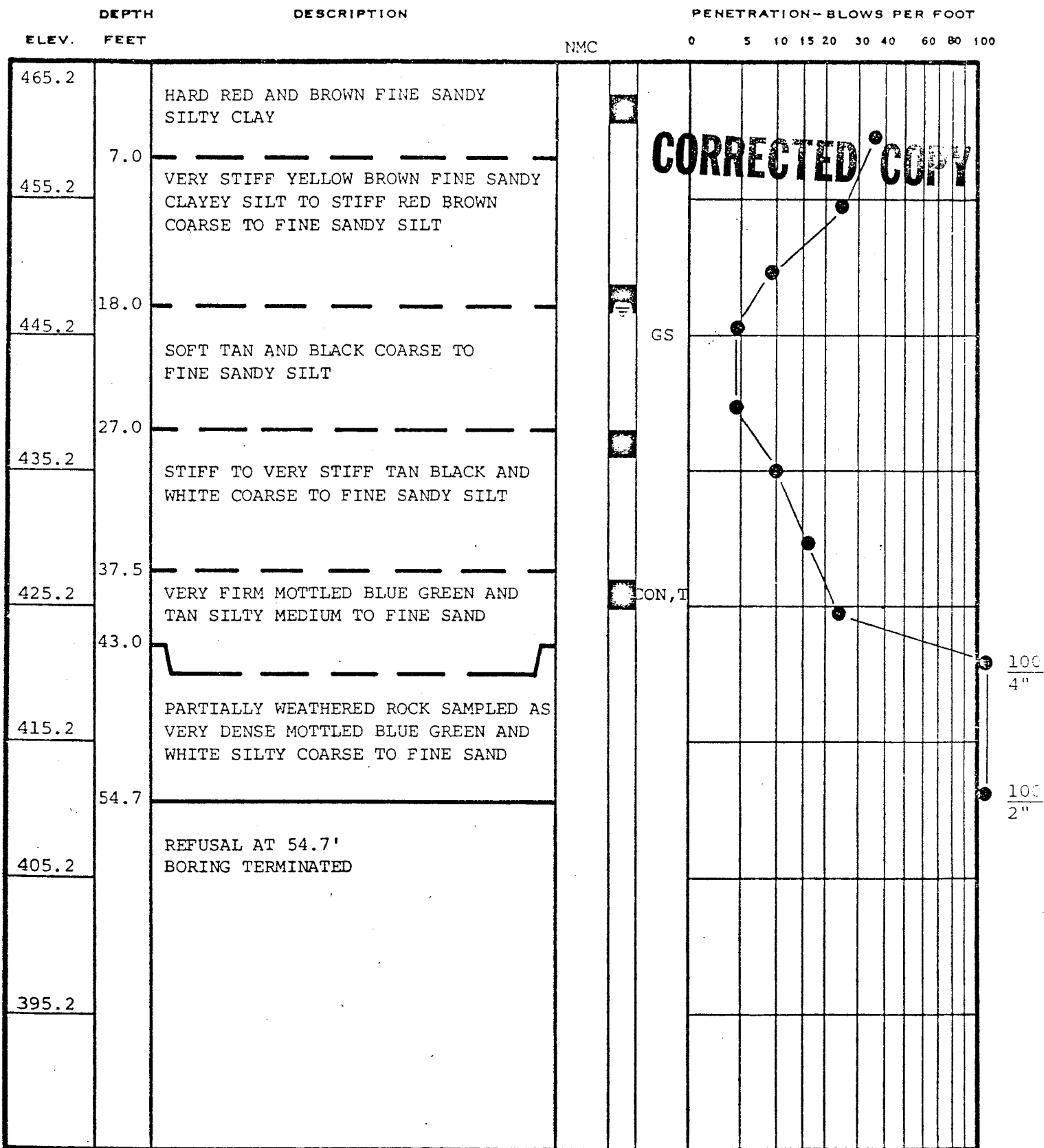
ELEV. FEET	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT																
				0	5	10	15	20	30	40	60	80	100							
371.5		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE YELLOW BROWN TO DARK BROWN SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS		CORRECTED COPY																
361.5	89.7	REFUSAL AT 89.7' BORING TERMINATED																		
351.5																				

REMARKS:

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY JMYM

BORING NUMBER C-167
 DATE STARTED 6-1-74
 DATE COMPLETED 6-1-74
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1119677
 E 610172
 HOLE CAVED AT 18.0' AFTER
 24 HOURS

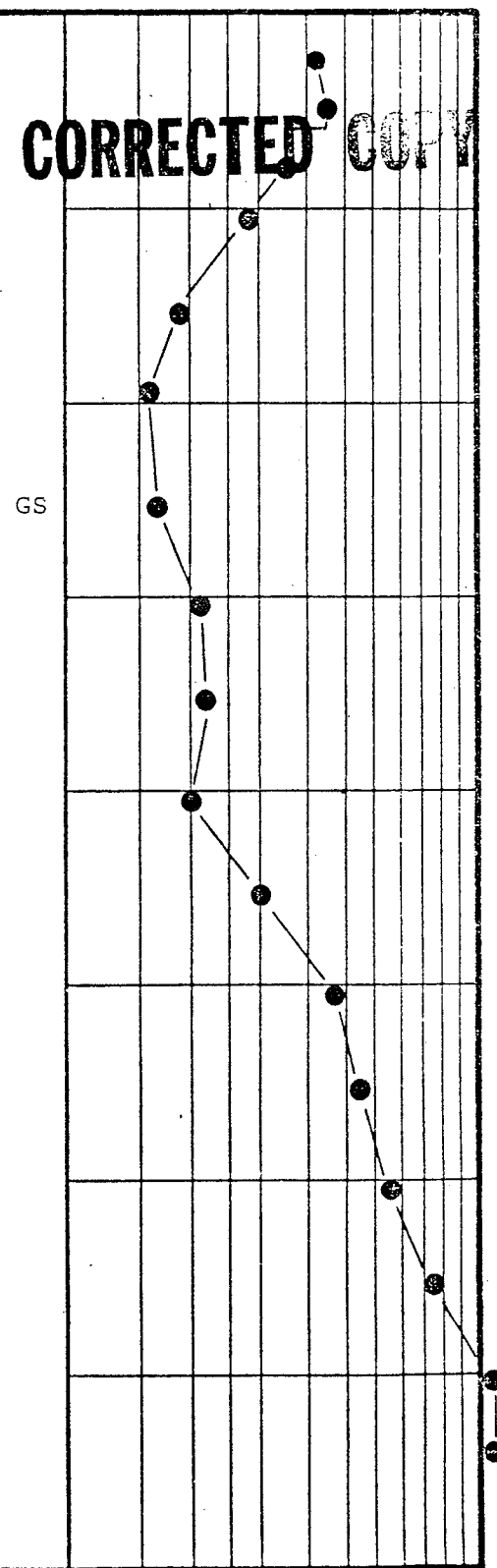
DRILLED BY RS
 LOGGED BY MB
 CHECKED BY JMS

BORING NUMBER C-168
 DATE STARTED 5-20-74
 DATE COMPLETED 5-21-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV. FEET	DEPTH	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
473.3		HARD RED BROWN FINE SANDY SILTY CLAY		
	6.0			
463.3		VERY STIFF RED BROWN FINE SANDY CLAYEY SILT TO STIFF TAN MEDIUM TO FINE SANDY SILT		
	18.0			
453.3				
		FIRM RED BROWN MEDIUM TO FINE SANDY SILT WITH WEATHERED ROCK FRAGMENTS TO STIFF GRAY BROWN MICACEOUS COARSE TO FINE SANDY SILT		
443.3				
	43.0			
433.3				
	43.0	VERY FIRM GRAY BROWN SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND TO DENSE MOTTLED TAN GREEN AND WHITE SILTY COARSE TO FINE SAND		
423.3				
	57.0			
413.3		VERY DENSE MOTTLED TAN GREEN AND WHITE SILTY COARSE TO FINE SAND		
	68.0			
403.3		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED BLUE AND TAN SILTY COARSE TO FINE SAND		
	74.7			
		REFUSAL AT 74.7'		
393.3		BORING TERMINATED		

CORRECTED COPY



REMARKS:

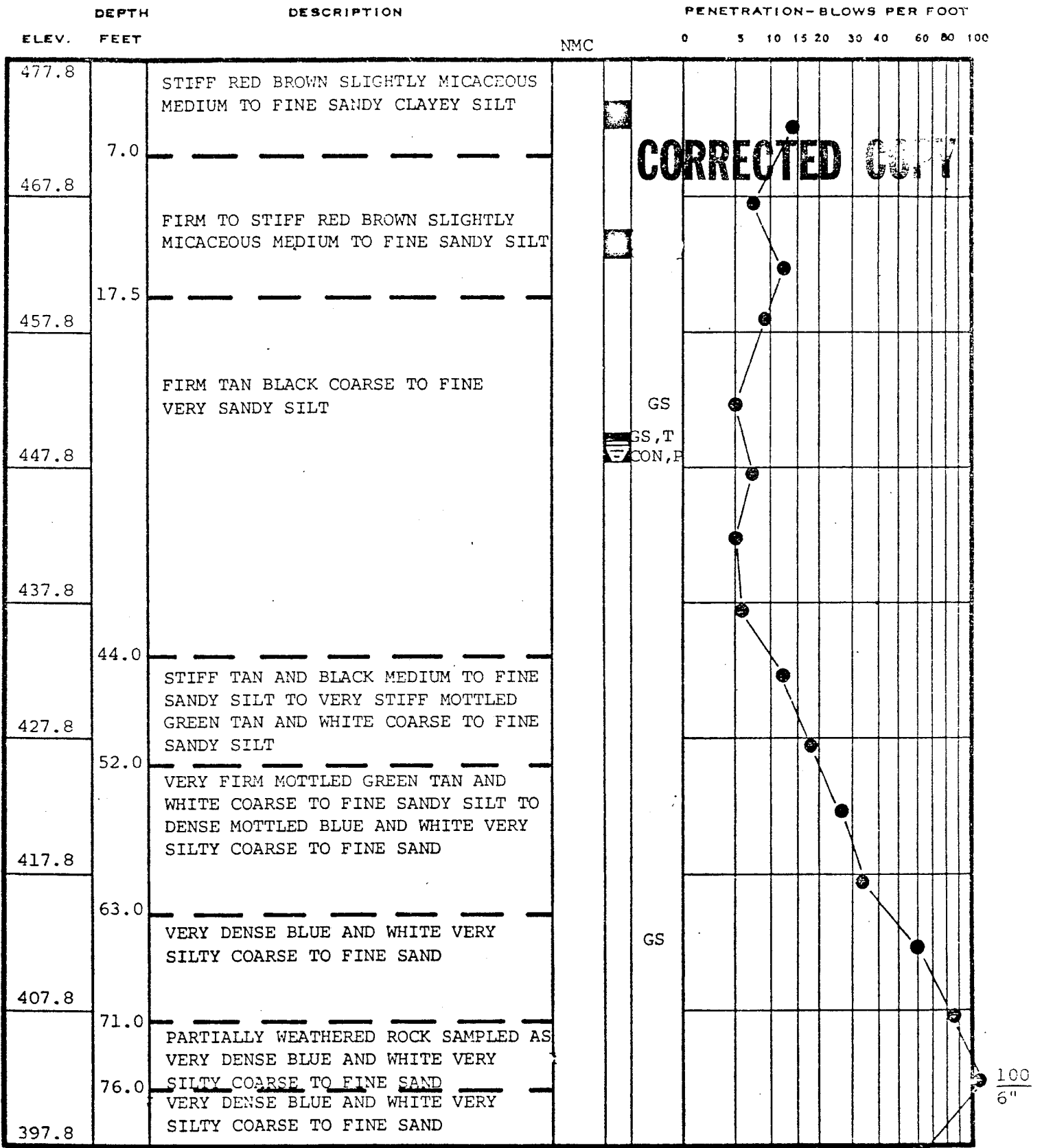
LOCATION: N 1119707
 E 610520
 HOLE CAVED AT 21.0' AFTER
 24 HOURS

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY [Signature]

BORING NUMBER C-169
 DATE STARTED 5-29-74
 DATE COMPLETED 5-30-74
 JOB NUMBER SAG-674

10
10
10
2"

TEST BORING RECORD



REMARKS:

LOCATION: N 1120075
 E 610449
 HOLE CAVED AT 28.5' AFTER
 24 HOURS

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY WBE

BORING NUMBER C-171
 DATE STARTED 5-20-74
 DATE COMPLETED 5-20-74
 JOB NUMBER SAG-674

TEST BORING RECORD

	DEPTH ELEV. FEET	DESCRIPTION	PENETRATION-BLOWS PER FOOT									
			0	5	10	15	20	30	40	60	80	100
397.8	82.0	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="margin: 0;">VERY DENSE BLUE AND WHITE VERY SILTY COARSE TO FINE SAND</p> <p style="margin: 0;">PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE BLUE AND WHITE VERY SILTY COARSE TO FINE SAND</p> </div> <p style="margin: 0;">REFUSAL AT 84.6' BORING TERMINATED</p>	CORRECTED COPY									
387.8	84.6											

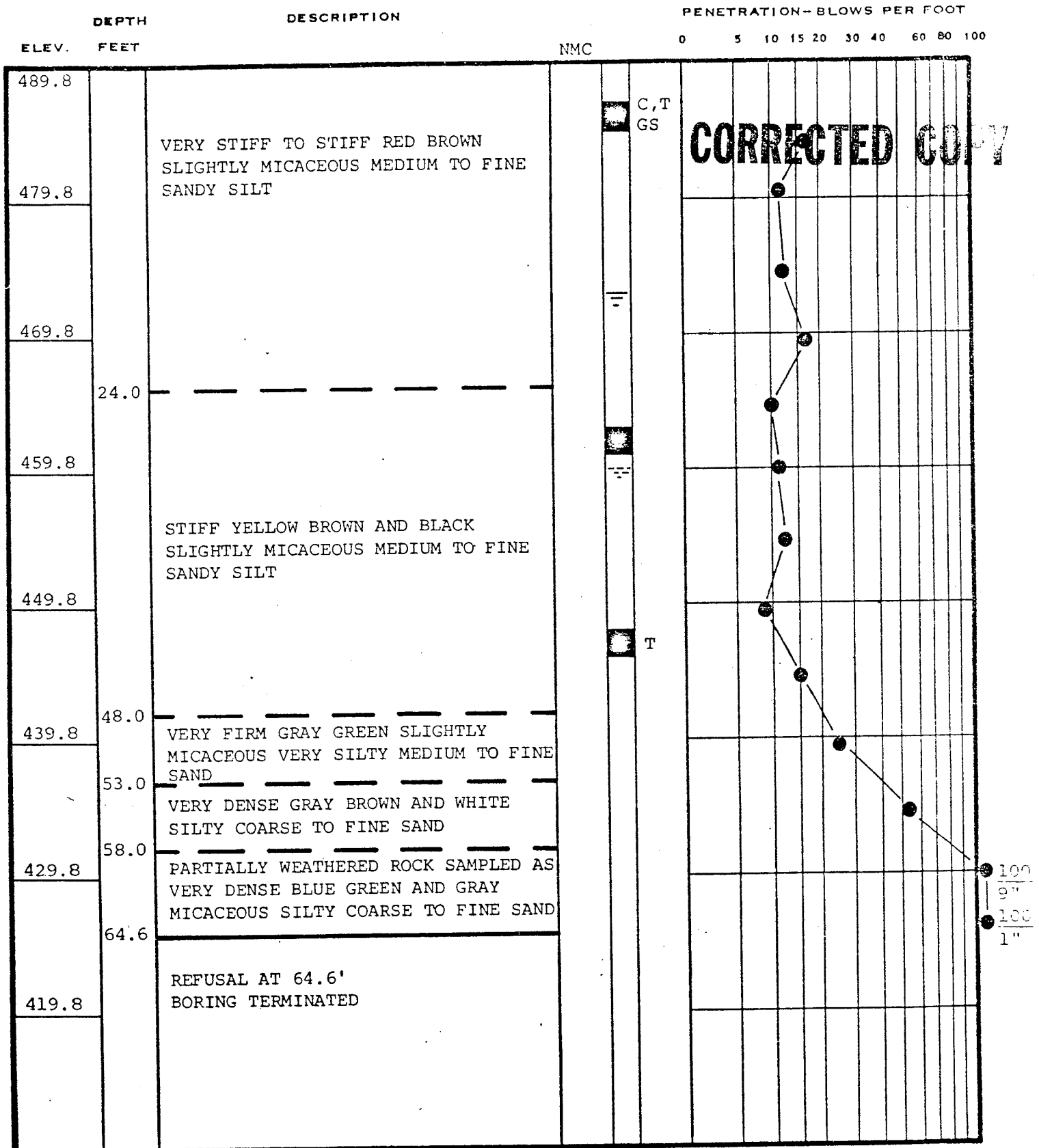
100
1"

REMARKS:

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY EBC

BORING NUMBER C-171
 DATE STARTED 5-20-74
 DATE COMPLETED 5-20-74
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1120469
 E 610184
 HOLE CAVED AT 17.0'
 AFTER 24 HOURS

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY JMS

BORING NUMBER C-172
 DATE STARTED 5-21-74
 DATE COMPLETED 5-29-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV. FEET	DEPTH FEET	DESCRIPTION	NMC	PENETRATION - BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
485.1		STIFF RED BROWN FINE SANDY CLAYEY SILT		
475.1	6.5	VERY STIFF PINK MICACEOUS MEDIUM TO FINE SANDY SILT	CON	
	13.0	FIRM PINK TO TAN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT		
465.1				
	23.0			
455.1		STIFF TAN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT TO MOTTLED GRAY AND TAN VERY MICACEOUS MEDIUM TO FINE SANDY SILT		
445.1				
435.1	47.0	VERY STIFF GRAY BROWN MICACEOUS MEDIUM TO FINE SANDY SILT		
	53.0	VERY FIRM GREEN AND GRAY SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND TO DENSE MOTTLED GREEN AND TAN SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND		
425.1				
415.1	62.5	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED GREEN AND TAN VERY SILTY MEDIUM TO FINE SAND TO GRAY BROWN AND WHITE SILTY COARSE TO FINE SAND		100 10"
	74.6	REFUSAL AT 74.6' BORING TERMINATED		100 3"
405.1				100 2"

REMARKS:

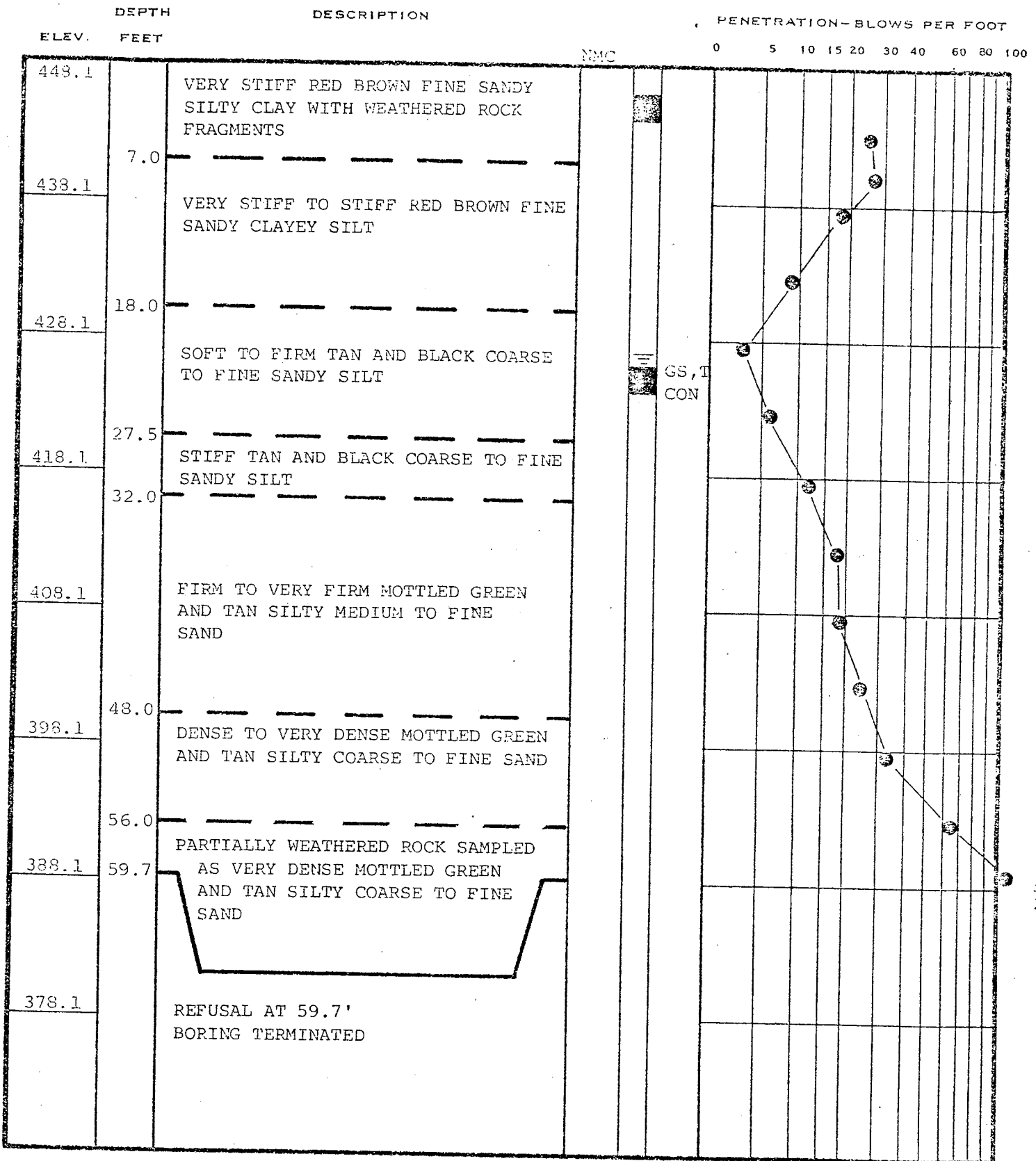
LOCATION: N 1120490
E 610436

DRILLED BY GP
LOGGED BY MB
CHECKED BY MM

BORING NUMBER C-173
DATE STARTED 5-29-74
DATE COMPLETED _____
JOB NUMBER SAG-674

HOLE CAVED AT 13.0' AFTER
24 HOURS

TEST BORING RECORD



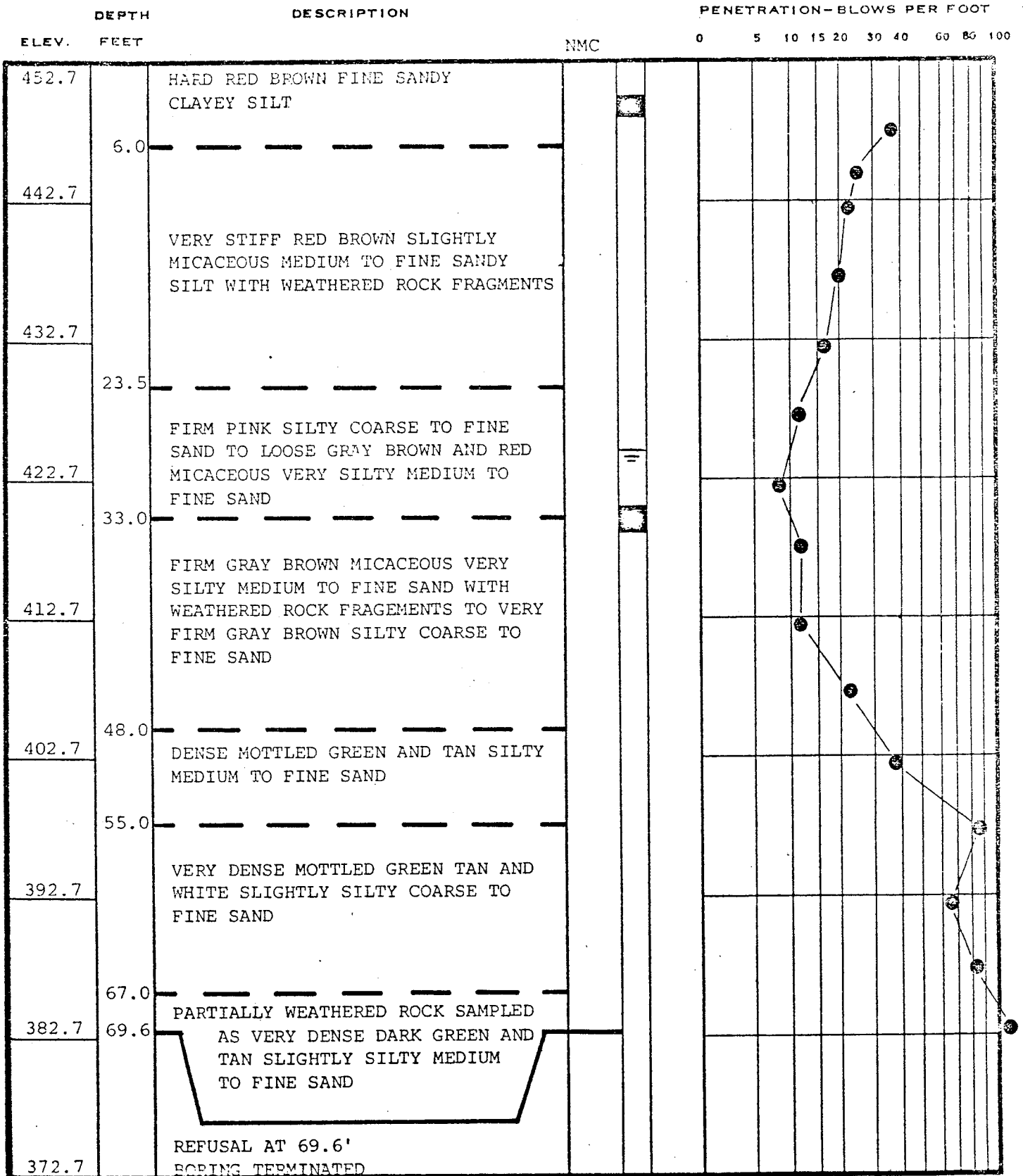
REMARKS:

LOCATION: N 1119110
E 610128

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY [Signature]

BORING NUMBER C-174
 DATE STARTED 6-2-74
 DATE COMPLETED _____
 JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

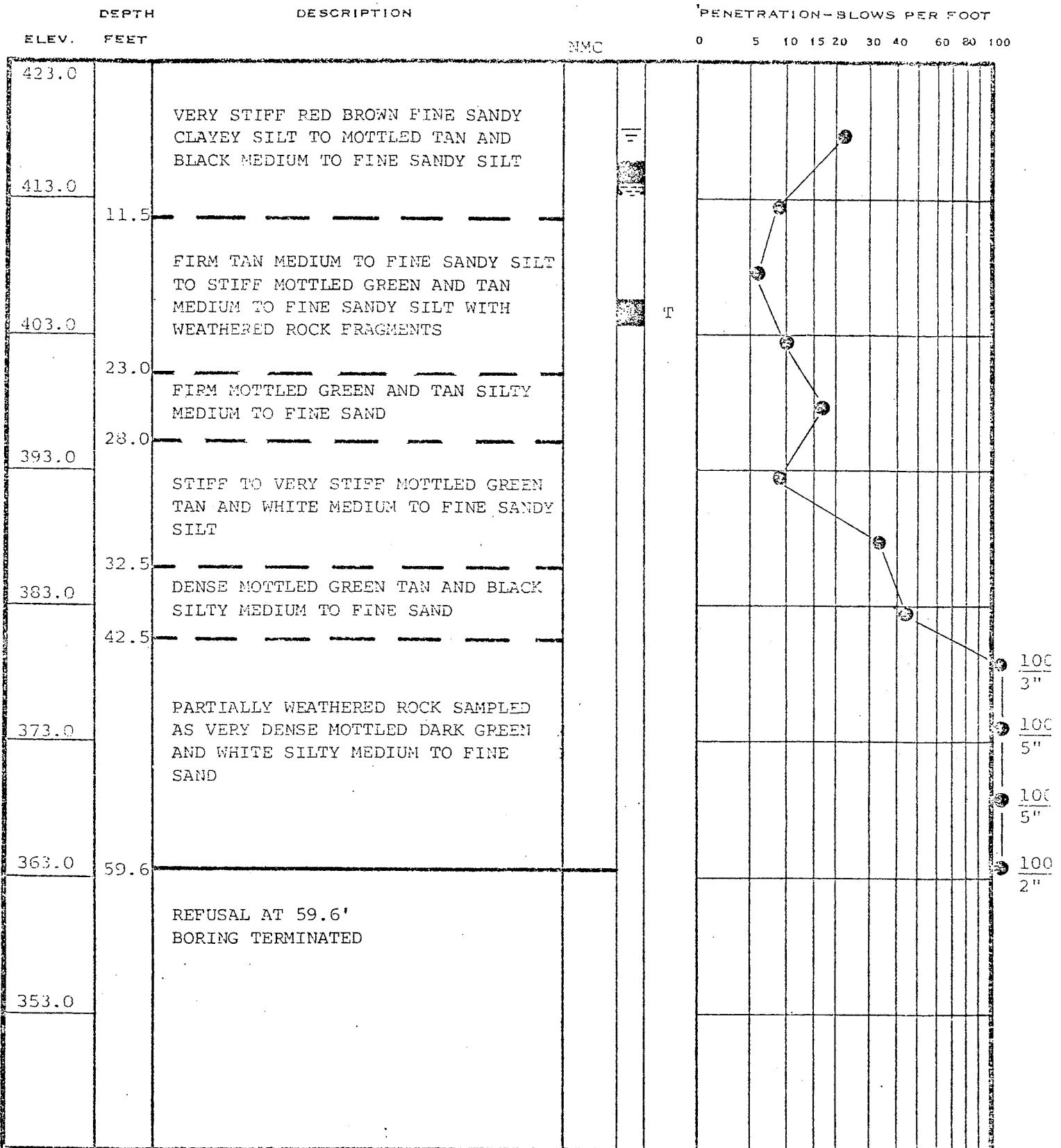
LOCATION: N 1119043
E 610519

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY MM

BORING NUMBER C-175
 DATE STARTED 6-3-74
 DATE COMPLETED 6-4-74
 JOB NUMBER SAG-674

10
1"

TEST BORING RECORD



REMARKS:

LOCATION: N 1118503
E 610089

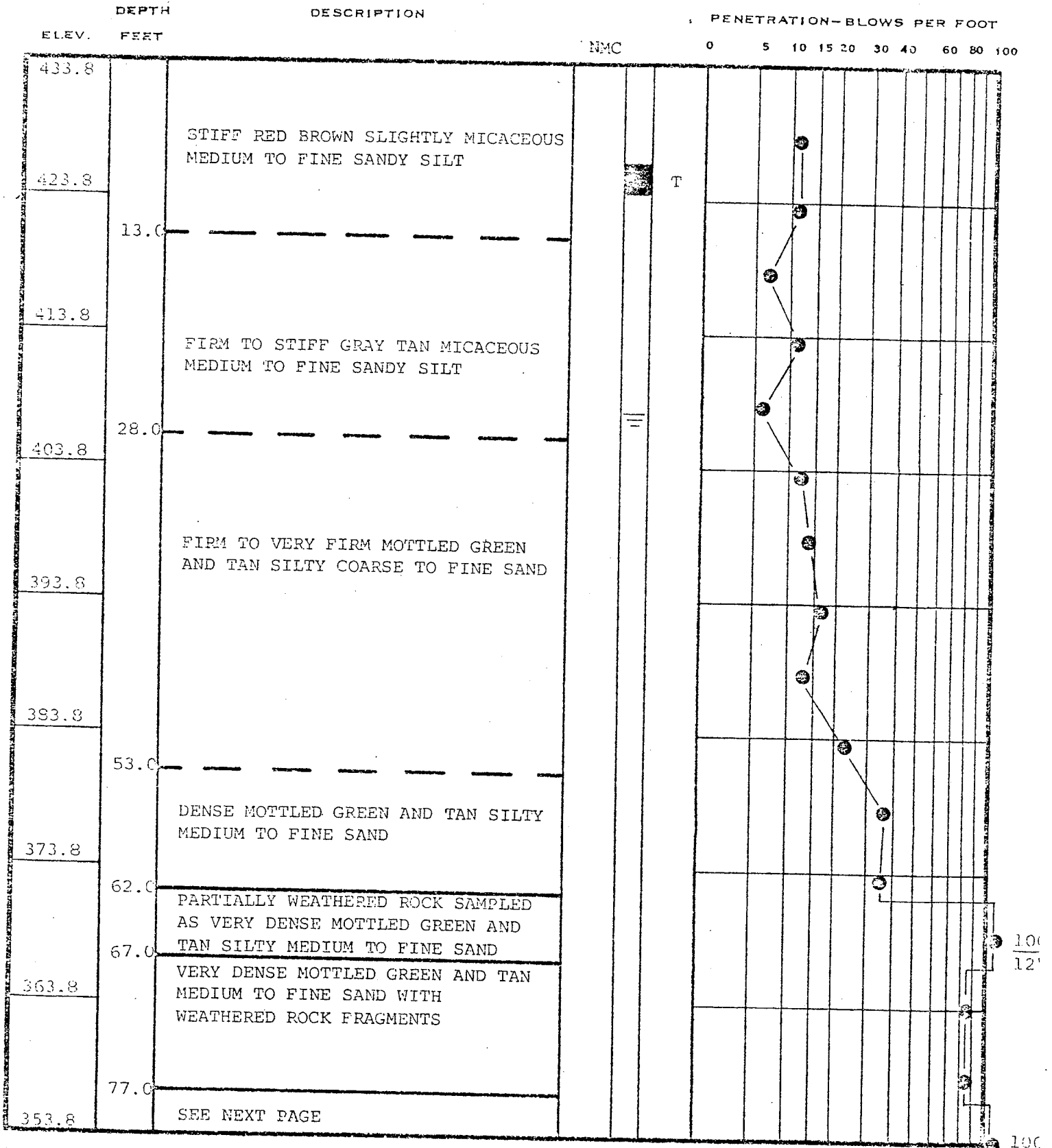
HOLE CAVED AT 5.0' AFTER
24 HOURS

DRILLED BY GP
LOGGED BY MB
CHECKED BY DP/A

BORING NUMBER C-176
DATE STARTED 5-31-74
DATE COMPLETED 5-31-74
JOB NUMBER SAG-674

TEST BORING RECORD

PAGE 1 OF 2



REMARKS:

LOCATION: N 1118613
E 610542

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY JMS

BORING NUMBER C-177
 DATE STARTED 6-1-74
 DATE COMPLETED 6-2-74
 JOB NUMBER SAG-674

100
12'

100
9"

TEST BORING RECOR

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
408.9		ALLUVIUM-VERY SOFT GRAY BLUE SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY CLAYEY SILT		<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">CORRECTED COPY</div>
398.9	9.0	DENSE TO VERY DENSE MOTTLED GREEN TAN AND WHITE SILTY COARSE TO FINE SAND		
388.9	22.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED GREEN AND TAN COARSE TO FINE SAND		
378.9	24.6	REFUSAL AT 24.6' BORING TERMINATED		

REMARKS:

LOCATION: N 1118367
E 610031

DRILLED BY GP
 LOGGED BY MB
 CHECKED BY _____

BORING NUMBER C-178
 DATE STARTED 6-1-74
 DATE COMPLETED 6-1-74
 JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH FEET	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
405.1		ALLUVIUM-STIFF BLUE AND TAN FINE SANDY SILTY CLAY		
395.1	9.0	ALLUVIUM-LOOSE BLUE GRAY COARSE TO FINE SAND WITH GRAVEL		
	12.0	VERY STIFF MOTTLED GREEN AND TAN MEDIUM TO FINE SANDY SILT		
385.1				
	24.0	FIRM MOTTLED BLUE AND WHITE SILTY MEDIUM TO FINE SAND		
375.1	29.0	VERY DENSE MOTTLED GRAY AND WHITE SILTY MEDIUM TO FINE SAND		
	33.5			
365.1		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED GREEN AND WHITE SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS		
355.1	50.0	REFUSAL AT 50.0' BORING TERMINATED		
345.1				

CORRECTED COPY

REMARKS:

LOCATION: N 1118373
E 610608

DRILLED BY CI
 LOGGED BY MB
 CHECKED BY JHM

BORING NUMBER C-179
 DATE STARTED 6-3-74
 DATE COMPLETED 6-3-74
 JOB NUMBER SAG-674

APPENDIX B-8

SGYPT Logs



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-1**
Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 49.4'	SURF. ELEV. 479.43
LOCATION Gypsum Disposal Area		COORDINATES N 1117510.02	E 2407083.28
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA/NQ		NO. SAMPLES 7	NO. U.D. SAMPLES 0
CASING SIZE NW	LENGTH 35'	CORE SIZE NQ	TOTAL % REC. 93
WATER TABLE DEPTH 17.8'		ELEV. 463.4'	TIME AFTER COMP. 24 hrs
TYPE GROUT _____		QUANTITY _____	MIX _____
DRILLER Filipovich		RECORDER Tinsley	APPROVED _____
		DRILLING START DATE 5/8/2007	
		DRILLING COMP. DATE 5/8/2007	

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	479.43	clear cut							
1		Reddish brown SILT (ML)							
2									
3									
4				1	3.5 - 5.0	5-6-6	12		
5									
6									
7									
8		Light reddish brown fine- to medium-grained silty SAND (SM)							
9									
10				2	8.5 - 10	3-3-3	6		
11									
12									
13									
14		Brown to tan silty, medium-grained SAND (SM)							
15				3	13.5 - 15.0	2-2-2	4		
16									
17							Saprolite		
18		Tan to white fine-grained micaceous SAND (SM)					▼ 24 hrs.		
19									
20				4	18.5 - 20.0	1-2-3	5		
21									
22									
23									
24			5	23.5 - 25.0	4-6-9	15	dry Saprolite		

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-1

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **49.4'** SURF.ELE **479.43**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25									
26									
27									
28									
29		Tan, black and white, fine- to coarse-grained micaceous SAND (SM)	6	28.5 - 30.0	14-31-37	68	wet Saprolite		
30									
31									
32									
33									
34			7	33.5 - 35	50/4"	50/4"	damp Saprolite		
35.0	444.53	TOR @ 35'							
36		Gray, hard, biotite GNEISS							
37		very slightly weathered along fractures		35.0 - 39.4			iron staining from water movement	93 87	
38									
39									
40									
41				39.4 - 44.4				92 44	
42									
43									
44							slightly weathered (hornblende?) biotite-rich zone		
45									
46				44.4 - 49.4				92 62	
47									
48									
49									
49.4	427.03	BOH @ 49.4'							
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 5/8/2007

ENDED 5/8/2007

Tinsley

SGYP-1

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.77	481.2
GROUND SURFACE	0	479.43
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	31.0'	448.43
ANNULAR SEAL TYPE Enviroplug pellets		
TOP OF FILTER PACK	33.0'	446.43
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/ TOP OF SCREEN	39.1'	440.33
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	49.1'	430.33
BOTTOM OF CASING	49.4'	430.43
BOTTOM OF HOLE	49.4'	430.03

WATER LEVEL: | 17.8' 24 hr.

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-2**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 53	SURF.ELEV. 449.5
LOCATION Gypsum Disposal Area		COORDINATES N 1118097.45	E 2408112.3
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HAS	NO. SAMPLES 10	NO. U.D. SAMPLES _____	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 33.5'	ELEV. 416'	TIME AFTER COMP. TOB	DATE TAKEN 9/18/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 9/18/2007
DRILLER Filipovich	RECORDER Tinsley	APPROVED _____	DRILLING COMP. DATE 9/18/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	449.50	TOPSOIL						
	1								
	2								
	3								
	4								
	4	Brown, fine- to medium-grained SILTY SAND (SM) with organics	1	3.5-5	19-33-27	60			
	5								
	6								
	7								
	8								
	9	Saa	2	8.5-10	50/1"				
	10								
	11								
	12								
	13								
	14	Light brown, fine- to medium-grained SILTY SAND (SM)	3	13.5-15	45-50/4"				
	15								
	16								
	17								
	18								
	19	light brown fine to coarse grained SILTY SAND (SM)	4	18.5-20.5	50/1"		feldspars, saprolite		
	20								
	21								
	22								
	23								
	24	same	5	23.5-25					

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-2

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **53** SURF.ELE **449.5**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Light brown, fine- to coarse-grained SILTY SAND (SM)							
26									
27									
28									
29				6	28.5-30	50/1"			
30									
31									
32									
33									
34			very weathered, fine-to medium-grained silty Sand (SM)	7	33.5-35	50/1"	Saprolite		
35		saa				▼ TOB			
36									
37									
38									
39				8	38.5-40	50/1"	Saprolite		
40									
41									
42									
43									
44				9	43.5-45	50/1"	Saprolite		
45		saa, coarse feldspar grains							
46									
47									
48									
49									
50				10	48.5-50	50/1"	Saprolite		
51									
52									
53	396.50					refusal			
54			BOH @ 53'						
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 9/18/2007

ENDED 9/18/2007

Tinsley

SGYP-2

	DEPTH	ELEVATION
TOP OF CASING EL.	-2.8	452.3
GROUND SURFACE	0	449.5
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	34	415.5
ANNULAR SEAL TYPE Enviroplug pellets		
TOP OF FILTER PACK	36.0	413.5
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/ TOP OF SCREEN	42.6	406.9
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	52.6	396.9
BOTTOM OF CASING	53.0	396.5
BOTTOM OF HOLE	53.0	396.5

WATER LEVEL: |33.5' TOB

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-3**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 64.8'	SURF. ELEV. 460.4
LOCATION Gypsum Disposal Area		COORDINATES N 1117650.36	E 2408772.54
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HAS	NO. SAMPLES 13	NO. U.D. SAMPLES 0	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. 93
WATER TABLE DEPTH 45.5'	ELEV. 414.9'	TIME AFTER COMP. 24 hrs	DATE TAKEN _____
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/9/2007
DRILLER Filipovich	RECORDER Tinsley	APPROVED _____	DRILLING COMP. DATE 5/9/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	460.40	clear cut							
1		Moderate reddish brown micaceous SILT (ML)	1	3.5 - 5.0	4-6-7	13	stiff, dry		
2									
3									
4									
5									
6		Pale reddish brown sandy micaceous SILT (ML)	2	8.5 - 10	3-5-5	10	faintly saprolitic		
7									
8									
9									
10									
11		Pale reddish brown to yellow orange micaceous SILT	3	13.5 - 15.0	3-4-6	10			
12									
13									
14									
15									
16		saa, slightly damp	4	18.5 - 20.0	3-4-6	10			
17									
18									
19									
20									
21		Yellowish gray micaceous SILT (ML)	5	23.5 - 25.0	3-5-9	14			
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-3

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **64.8'** SURF.ELE **460.4**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Yellowish gray to white, micaceous, very fine grained SANDY SILT (ML)	6	28.5 - 30.0	4-5-6	11	Saprolite		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35		SAA	7	33.5 - 35	4-5-7	12	Saprolite		
36									
37									
38									
39									
40	420.40								
41									
42									
43									
44									
45		SAA	8	38.5 - 40	13-20-19	39	Saprolite		
46									
47									
48									
49									
50									
51									
52									
53									
54									
55		Dark greenish gray, fine- to coarse-grained SILTY SAND (SM)	9	43.5 - 45	29-39-36	75	Sa rolite		
56									
57									
58									
59									
60									
61									
62									
63									
64									
65		Light tan silty SAND (SM)	10	48.5 - 50.0	28-31-29	60	Saprolite		
66									
67									
68									
69									
70									
71									
72									
73									
74									
75		Light tan silty SAND (SM)	11	53.5 - 55.0	50/5.5	50/ 6	Saprolite		
76									
77									
78									
79									
80									
81									
82									
83									
84									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-3

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **64.8'** SURF.ELE **460.4**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Light gray silty SAND (SM)	12	58.5 - 60.0	50/5"	50/ 5	iron staining due to water Saprolite		
58									
59									
60									
61		Dark greenish gray, fine-to medium-grained SAND (SM)	13	63.5 - 65	50/.5'	50/ 0.5'	biotote gneiss Saprolite		
62									
63									
64									
65.0	395.40	Refusal @ 64.8'							
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									
89									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FG

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 5/9/2007

ENDED 5/9/2007

Tinsley

SGYP-3

	TOP OF CASING EL.	DEPTH	ELEVATION
	-5.67		466.07
	GROUND SURFACE	0	460.4
<p>The diagram shows a vertical well casing with various components. From top to bottom: a riser casing, backfill material (Bentonite chips), an annular seal (Enviroplug pellets), a filter pack (DSI #2 filter sand), and a screen (Schedule 40 PVC, 0.01" opening, slotted). The casing ends at a depth of 64.8 feet. The ground surface is at 0 feet depth. The water level is indicated as 45.5 feet at 24 hours.</p>			
	TOP OF SEAL	49.7'	410.7
	ANNULAR SEAL		
	TYPE Enviroplug pellets		
	TOP OF FILTER PACK	51.7'	408.7
	FILTER PACK		
	TYPE: DSI #2 filter sand		
	BOTTOM OF RISER/ TOP OF SCREEN	54.5'	405.9
	SCREEN		
	DIA 2" Schedule 40 PVC		
	OPENING 0.01"		
	OPENING Slotted		
	BOTTOM OF SCREEN	64.5'	395.9
	BOTTOM OF CASING	64.8'	395.6
	BOTTOM OF HOLE	64.8'	395.6
<p>WATER LEVEL: 45.5' 24 hr.</p> <p>HOLE DIA: 8"</p>			



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-4**
Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 34'	SURF. ELEV. 384.5
LOCATION Gypsum Disposal Area		COORDINATES N 1118191.86	E 2410054.7
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 6	NO. U.D. SAMPLES 1	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 8'	ELEV. 376.5	TIME AFTER COMP. TOB	DATE TAKEN 8/23/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/23/2007
DRILLER Filipovich	RECORDER J. JORDAN	APPROVED _____	DRILLING COMP. DATE 8/23/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	384.50								
1		Topsoil					next to wetlands		
2			UD	1-3					
3									
4									
5		Brown and black, medium dense CLAYEY SAND (SC)	1	3.5-5	6-7-10	17			
6									
7									
8									
8.5	376.00								
9		Green, orange and black, moist, loose fine- to medium-grained silty SAND (SM)	2	8.5-10	2-2-3	5	Saprolite		
10									
11									
12									
13									
14									
15		dark green and black, dense, wet	3	13.5-15	12-17-19	36	Saprolite		
16									
17									
18									
19									
20			4	18.5-20	17-24-31	55	Saprolite		
21		very dense							
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-4**

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **34'** SURF.ELE **384.5**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		SAA	5	23.5-25	25-50/5	100+	Saprolite		
26									
27									
28									
29									
30		Gray fine- to coarse-grained silty SAND (SM)	6	28.5-30	50/4	100+	Saprolite		
31									
32									
33									
34.0	350.50	AUGER REFUSAL @ 34 FEET							
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-5
Sheet 1 of 2

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>53.5'</u>	SURF.ELEV. <u>474.9</u>
LOCATION <u>Gypsum Disposal area</u>		COORDINATES N <u>1117328.09</u>	E <u>2408131.34</u>
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME 55</u>
DRILLING METHOD <u>HSA</u>	NO. SAMPLES <u>11</u>	NO. U.D. SAMPLES _____	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>28.5'</u>	ELEV. <u>446.4</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN _____
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>9/20/2007</u>
DRILLER <u>Willis</u>	RECORDER <u>Tinsley</u>	APPROVED _____	DRILLING COMP. DATE <u>9/20/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	474.90								
1		Road base material at surface							
2									
3									
4		Greenish gray fine- to medium-grained silty SAND (SM)	1	3.5-5	3-3-4	7			
5									
6									
7									
8									
9		saa (with roots)	2	8.5-10	1-1-1	2			
10									
11									
12									
13									
14									
15		Reddish brown, fine-to medium-grained stiff sandy SILT (ML)	3	13.5-15	3-3-4	7			
16									
17									
18									
19									
20		Yellowish brown sandy SILT	4	18.5-20	3-3-4	7			
21									
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-5

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **53.5'** SURF.ELEV. **474.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Yellowish brown sandy SILT (ML)	5	23.5-25	3-3-4	7			
26									
27									
28							▼ TOB		
29			Reddish brown sandy SILT (ML)	6	28.5-30	3-3-4	7		
30									
31									
32									
33									
33.5	441.40								
34		Mottled gray and reddish brown, fine-to medium-grained stiff, silty SAND (SM)	7	33.5-35	5-6-7	13	Saprolite		
35									
36									
37									
38									
39			saa	8	38.5-40	2-4-6	10	Saprolite	
40									
41									
42									
43									
44		saa	9	43.5-45	5-7-9	16	Saprolite		
45									
46									
47									
48									
49									
50			10	48.5-50	50/1		Saprolite		
51									
52									
53									
53.5	429.50	Auger refusal @ 53.5'							
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer in road

LOCATION Gypsum Storage Area

DATE STARTED 5/8/2007

ENDED 5/8/2007

Tinsley

SGYP-5

		DEPTH	ELEVATION
GROUND SURFACE		0	474.9
top of casing		0.15	474.75
TOP OF SEAL		38	436.9
<p>ANNULAR SEAL TYPE Enviroplug pellets</p>			
TOP OF FILTER PACK		40	434.9
<p>FILTER PACK TYPE: DSI #2 filter sand</p>			
BOTTOM OF RISER/ TOP OF SCREEN		43.1	431.8
<p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>			
BOTTOM OF SCREEN		53.1	421.8
BOTTOM OF CASING		53.5	421.4
BOTTOM OF HOLE		53.5	421.4
HOLE DIA: 8"			

WATER LEVEL: |17.8' 24 hr.



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-6**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 40.3	SURF.ELEV. 456.4
LOCATION Gypsum Disposal Area		COORDINATES N 1116889.38	E 2411539.97
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA/NQ	NO. SAMPLES 5	NO. U.D. SAMPLES 0	
CASING SIZE NW	LENGTH _____	CORE SIZE NQ	TOTAL % REC. _____
WATER TABLE DEPTH 36.8	ELEV. 419.6'	TIME AFTER COMP. 24 hrs	DATE TAKEN 5/18/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/17/2007
DRILLER Filipovich	RECORDER JLP	APPROVED A. Grissom	DRILLING COMP. DATE 5/17/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	456.40							
	1								
	2								
	3								
	4	Brown to gray to yellowish orange, very dense silty fine-grained SAND (SM)	1	3.5-5.0	36-50/5.5"	REF	Saprolite		
	5								
	6								
	7								
	8								
	9	SAA	2	8.5-10.0	50/4"	REF	Saprolite		
	10								
	11								
	12								
	13								
	14	SAA, with few rock fragments	3	13.5-15.0	50/1"	REF	Saprolite		
	15								
	16								
	17								
	18								
	19	No Sample Recovered	4	18.5-20.0	50/1"	REF			
	20								
	21								
	22								
	23								
	24								



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGP-6

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **40.3** SURF.ELE **456.4**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25	431.20	Gray, fine- to medium-grained silty SAND (SM)	5	23.5-25.0	50/2"	REF	Saprolite		
26		AUGER REFUSAL @ 25.2'							
27		Black and white, slightly weathered GNEISS, fractured		25.7			3.6/4.6	78%	
28				-					
29				30.3					
30									
31									
32		SAA		30.3			4.3/5.0	86%	
33				-					
34				35.3					
35									
36							▼ 24 hrs.		
37				35.3			4.8/5.0	96%	
38		White and black, hard, GNEISS, with stained fractures		-					
39				40.3					
40									
40.3	416.10	BOH @ 40.3'							
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

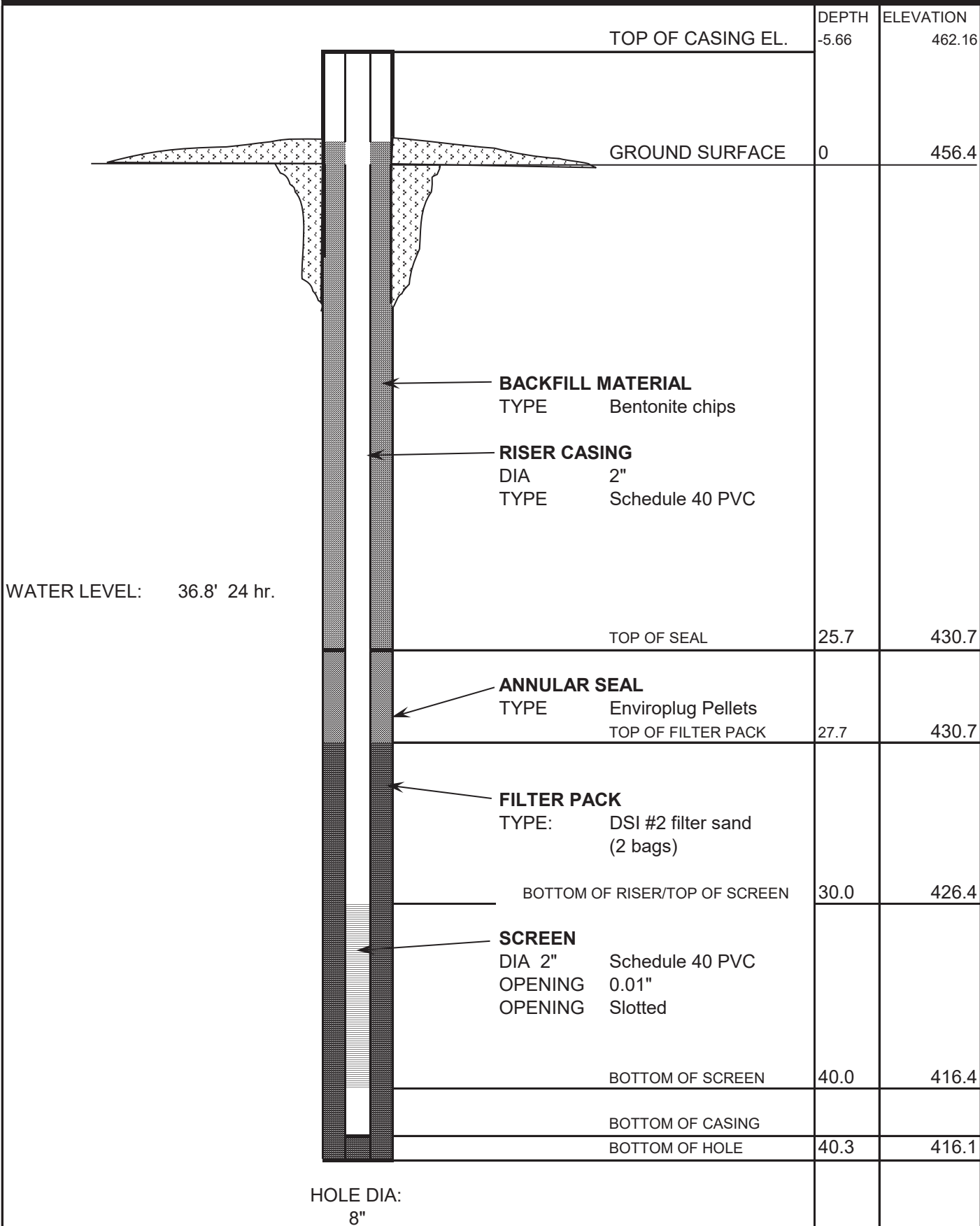
LOCATION Gypsum Storage Area

DATE STARTED 5/18/2007

ENDED 5/18/2007

Grissom

SGYP-6





DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-7**
Sheet 1 of 2

SITE	Plant Scherer			HOLE DEPTH	49	SURF. ELEV.	447.71
LOCATION	Gypsum Disposal Area		COORDINATES N	1116871.7	E	2408751.36	
ANGLE	BEARING	CONTRACTOR	DRILL NO.		CME 55		
DRILLING METHOD	HSA		NO. SAMPLES	NO. U.D. SAMPLES			
CASING SIZE	LENGTH	CORE SIZE	TOTAL % REC.				
WATER TABLE DEPTH	29.6	ELEV.	418.11	TIME AFTER COMP.	24 hr		DATE TAKEN
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE		9/19/2007		
DRILLER	Willis	RECORDER	insley	APPROVED	DRILLING COMP. DATE		
				9/19/2007			

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	447.71								
1		Reddish brown, very stiff sandy SILT (MH)							
2									
3									
4									
5				1	3.5-5	5-7-11	18		
6									
7									
8									
9		Light reddish brown sandy SILT (ML)							
10									
11									
12									
13									
14									
15		Reddish brown sandy SILT w/ organics (ML)	3	13.5-15	3-4-5	0			
16									
17									
18									
19		Yellowish brown sandy SILT (ML)							
20									
21									
22									
23									
24			4	18.5-20	3-4-6	10			



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-7

Sheet 2 of 2

SITE Plant Scherer TOTAL DEPTH 49 SURF.ELE 447.71

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Greenish gray, fine to coarse-grained SAND (feldspars)	5	23.5-25	3-3-4	7	Saprolite		
26									
27									
28									
29									
29.6	418.11	saa	6	28.5-30	5-9-12	21	Saprolite ▼ 24 hr		
30									
31							wet		
32									
33									
34		saa	7	33.5-35	9-25-49	74	Saprolite		
35									
36									
37									
38									
39		Dark greenish gray, fine- to coarse-grained SAND (SC)	8	38.5-40	49-50/1		Saprolite		
40									
41									
42									
43									
44		saa	9	43.5-45	50/1		Saprolite		
45									
46									
47									
48									
49.0	398.71	Auger refusal at 49'	10	48.5-50	50/1		Saprolite		
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 11/9/07

ENDED 9/19/2007

Tinsley

SGYP-7

	DEPTH	ELEVATION
TOP OF CASING EL.	-2.01	449.71
GROUND SURFACE	0	447.7
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 29.6' 24 hr.		
TOP OF SEAL	31.0'	416.7
ANNULAR SEAL TYPE Enviroplug pellets		
TOP OF FILTER PACK	33.0'	414.7
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/ TOP OF SCREEN	38.6	409.1
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	48.6	399.1
BOTTOM OF CASING	49.0	398.7
BOTTOM OF HOLE	49.0	398.7
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-9

Sheet 1 of 2

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>36.5</u>	SURF.ELEV. <u>396.6</u>
LOCATION <u>Gypsum Disposal Area</u>		COORDINATES N <u>1118640.02</u>	E <u>2419704.94</u>
ANGLE _____	BEARING _____	CONTRACTOR _____	DRILL NO. _____
DRILLING METHOD <u>HSA</u>	NO. SAMPLES <u>7</u>	NO. U.D. SAMPLES <u>2</u>	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>18'</u>	ELEV. <u>378.6</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>8/27/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/27/2007</u>
DRILLER <u>Filipovich</u>	RECORDER _____	APPROVED <u>J. JORDAN</u>	DRILLING COMP. DATE <u>8/27/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	396.60								
1		Tan and orange, mottled medium dense SILTY SAND (SM)							
2									
3									
4									
5				1	3.5-5	6-8-13	21		
6		Light reddish brown sandy SILT (ML)							
7									
8									
9		Tan and white, wet, loose fine-to medium-grained silty SAND (SM)							
10			D	8.5-10.5					
11		Saa, light gray and white							
12			2	10.5-12	4-4-5	9	Saprolite		
13									
14		Saa, greenish gray and white, dense							
15			3	13.5-15	3-4-5	9	Saprolite		
16									
17									
18						▼TOB			
19									
20			UD	18.5-20					
21									
22			4	20.5-22	6-12-23	35			
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-9**

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **36.5** SURF.ELE **396.6**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Dark green and orange, fine-to medium-grained SAND (SM)	5	23.5-25	10-10-11	21	Saprolite		
26									
27									
28									
29									
30		Saa, dense	6	28.5-30	9-17-18	35	Saprolite		
31									
32									
33									
34		Saa, very dense	7	33.5-35	10-50/3	100+	Saprolite		
35									
36									
36.5	360.10	AUGER REFUSAL @ 36.5 FEET							
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-10**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 64'	SURF.ELEV. 424.9
LOCATION Gypsum Disposal Area		COORDINATES N 1118734.05	E 2408932.02
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 13	NO. U.D. SAMPLES _____	2
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 39'	ELEV. 385.9	TIME AFTER COMP. TOB	DATE TAKEN 9/5/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 9/5/2007
DRILLER Filipovich	RECORDER BF	APPROVED J.JORDAN	DRILLING COMP. DATE 9/5/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	424.90								
1		Yellowish red, micaceous, stiff SANDY SILT (ML)							
2									
3									
4									
5				1	3.5-5	2-4-6	10		
6									
7									
8									
9									
10				UD	8.5-10.5				
11		Tan, loose, fine, micaceous SILTY SAND (SM)							
12		orange, white, and tan	2	10.5-12	2-3-4	7			
13									
14									
15				3	13.5-15	2-3-4	7		
16									
17									
18									
19									
20				4	18.5-20	2-4-5	9		
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-10**

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **64'** SURF.ELE **424.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Tan to olive, loose, fine, micaceous SILTY SAND (SM)	5	23.5-25	2-4-7	11	Saprolite		
26									
27									
28									
29									
30				UD	28.5-30.5				
31									
32				6	30.5-32	4-8-9	17		
33									
34									
35		moist	7	33.5-35	4-7-9	16			
36									
37									
38									
39			8	38.5-40	4-6-10	16	▼ TOB		
40									
41									
42									
43									
44									
45		wet	9	43.5-45	6-10-14	24			
46									
47									
48									
49									
50		Light brown fine- to medium-grained silty SAND (SM)	10	48.5-50	9-12-15	27			
51									
52									
53									
54									
55		reenish gray and white ery dense fine- to medium-grained SAND	11	53.5-55	14-26-44	70	Saprolite		
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGP-10

Sheet 3 of 3

SITE Plant Scherer TOTAL DEPTH 64' SURF.ELEV. 424.9

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57									
58									
59		Green, gray and tan, fine-to coarse-grained SAND (SM)	12	58.5-60	30-29-50/5	100+	Saprolite		
60									
61									
62									
63									
64.0	360.90		13	63.5-64	50/5	100+			
65		N NA D							
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

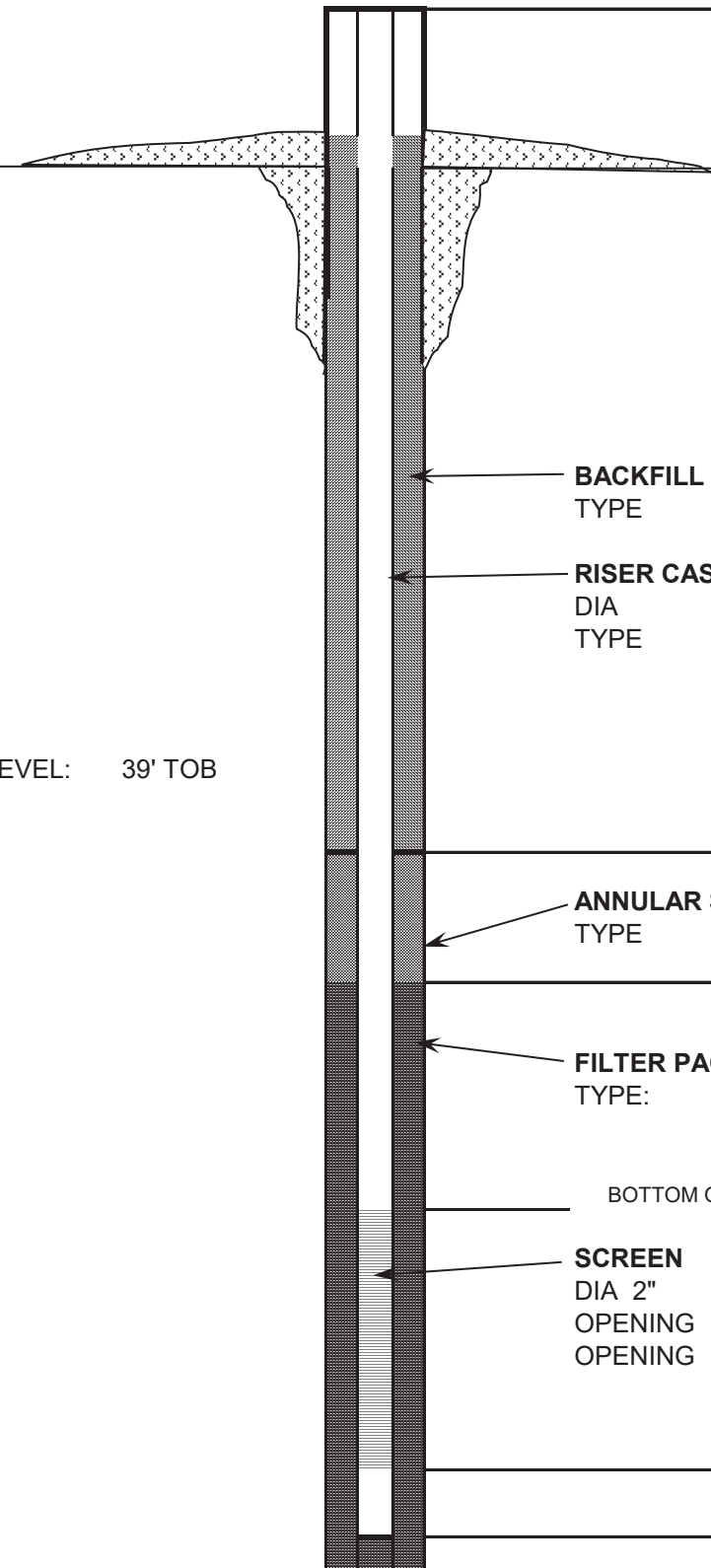
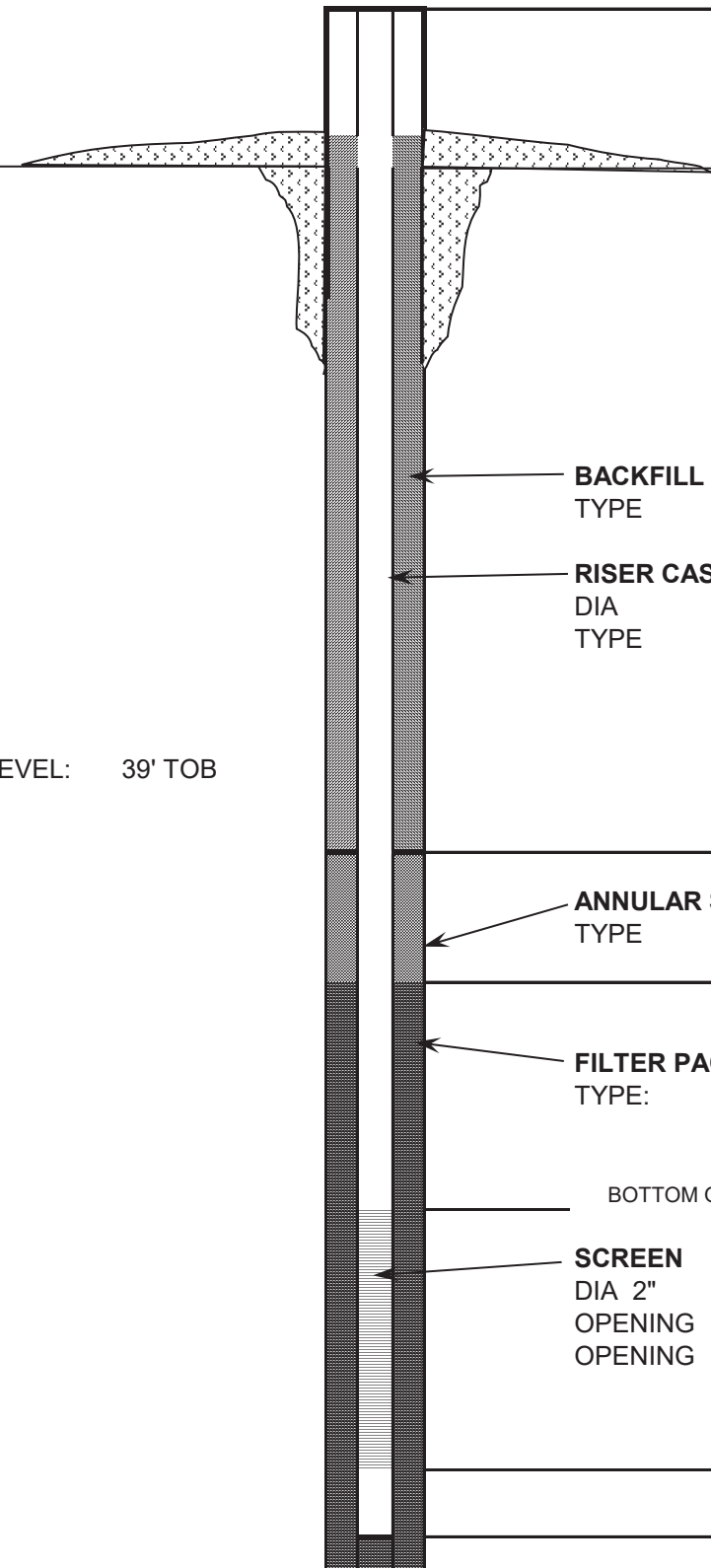
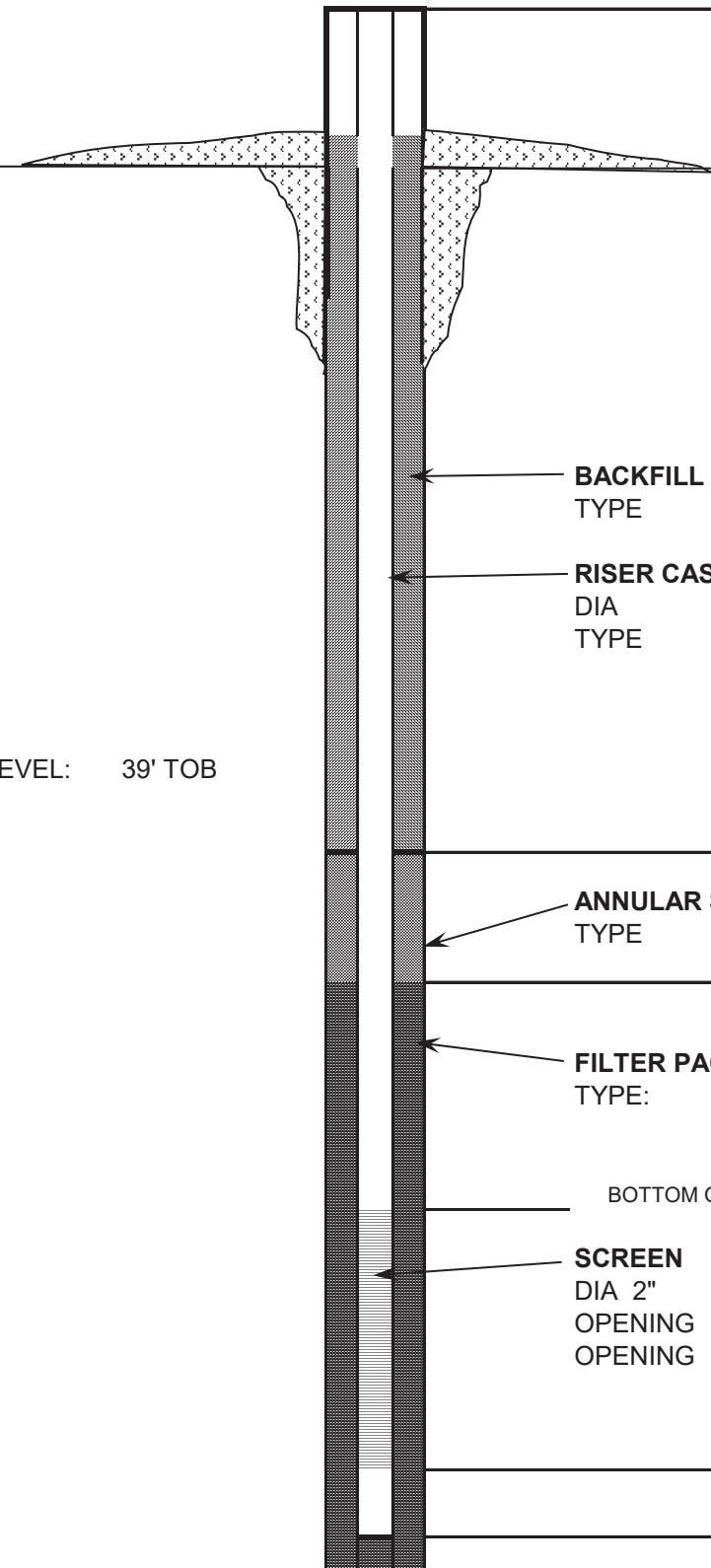
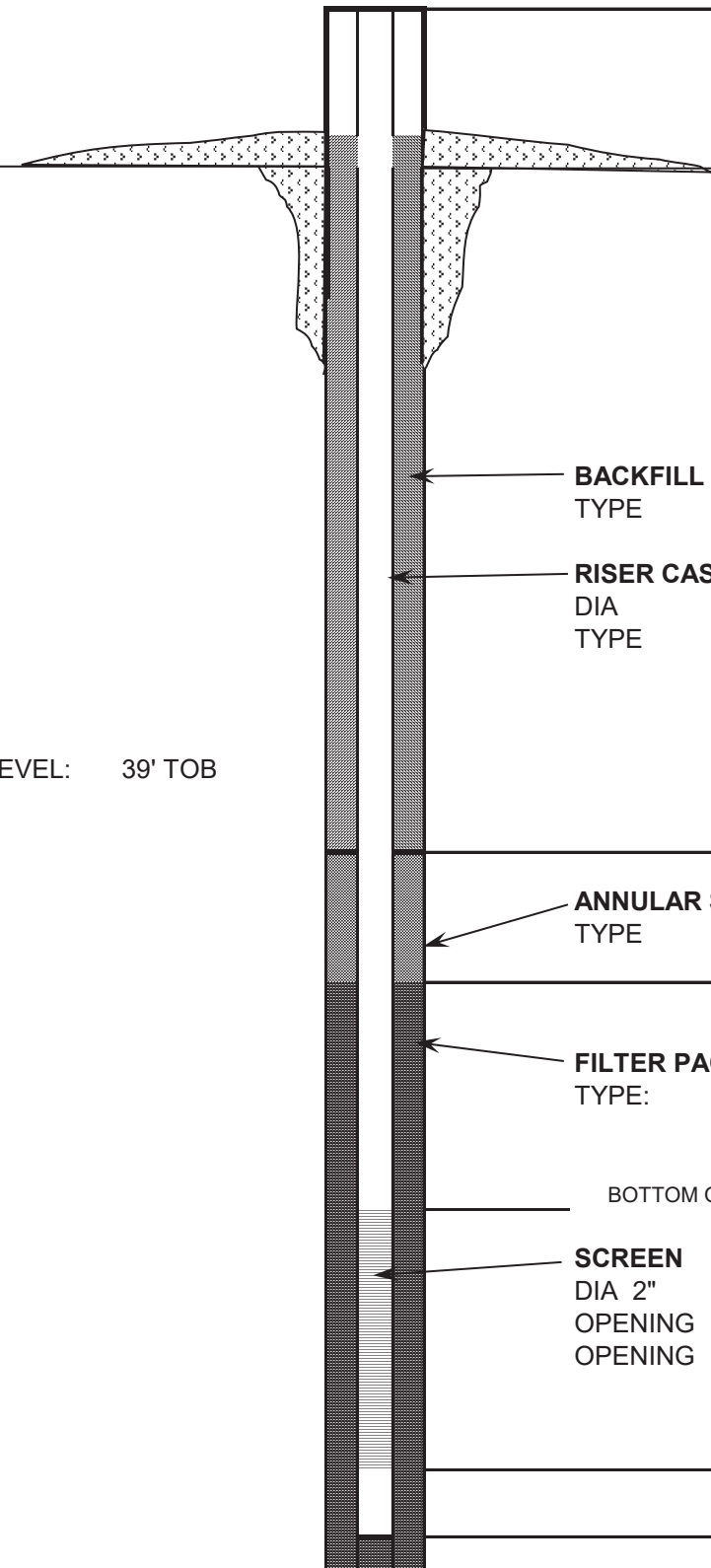
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 9/5/2007

ENDED 9/5/2007 J. Jordan

SGYP-10

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.61	426.51
GROUND SURFACE	0	424.9
 <p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p>		
TOP OF SEAL	47.9'	377
 <p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>TOP OF FILTER PACK</p>	50.8'	374.1
 <p>FILTER PACK TYPE: DSI #2 filter sand</p>		
BOTTOM OF RISER/TOP OF SCREEN	53.5'	371.4
 <p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>		
BOTTOM OF SCREEN	63.5'	361.4
BOTTOM OF CASING		
BOTTOM OF HOLE	63.5'	361.4
HOLE DIA: 8"		

WATER LEVEL: 39' TOB



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-12**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 45'	SURF.ELEV. 437.7
LOCATION Gypsum Disposal Area		COORDINATES N 1119213.22	E 2407680.44
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 9	NO. U.D. SAMPLES _____	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 25	ELEV. 412.7	TIME AFTER COMP. TOB	DATE TAKEN 8/28/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/28/2007
DRILLER Filipovich	RECORDER _____	APPROVED J. JORDAN	DRILLING COMP. DATE 8/28/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	437.70								
1		Reddish brown, moist, very stiff SANDY LEAN CLAY (CL)							
2									
3									
4									
5				1	3.5-5	8-7-10	17		
6									
7									
8									
9									
10			yellowish red, stiff		8.5-10.5	2-4-7	11		
11		tan and white, wet, loose							
12									
13									
14									
15			UD	13.5-15.5					
16		Red and yellow, wet, soft SILT (MH)							
17			3	15.5-17	1-1-2	3			
18									
19									
20		red, tan and black	4	18.5-20	WHO-2-2	4			
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. SGY-12

Sheet 2 of 2

SITE Plant Scherer TOTAL DEPTH 45' SURF.ELE 437.7

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Red and yellow, sandy SILT (ML)	5	23.5-25	2-2-4	6	▼ TOB		
26									
27									
28									
29		stiff	6	28.5-30	3-3-6	9			
30									
31									
32									
33									
34									
35		brown, orange, white and black, firm	7	33.5-35	2-3-4	7	Saprolite		
36									
37									
38									
38.5	399.20								
39		Greenish gray, white and orange, saturated, medium dense SILTY SAND (SM)	8	38.5-40	3-4-8	12	Saprolite		
40									
41									
42									
43									
44									
45	392.70		9	43.5-45	5-10-12	22	Saprolite		
45.0		BORING TERMINATED @ 45'							
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

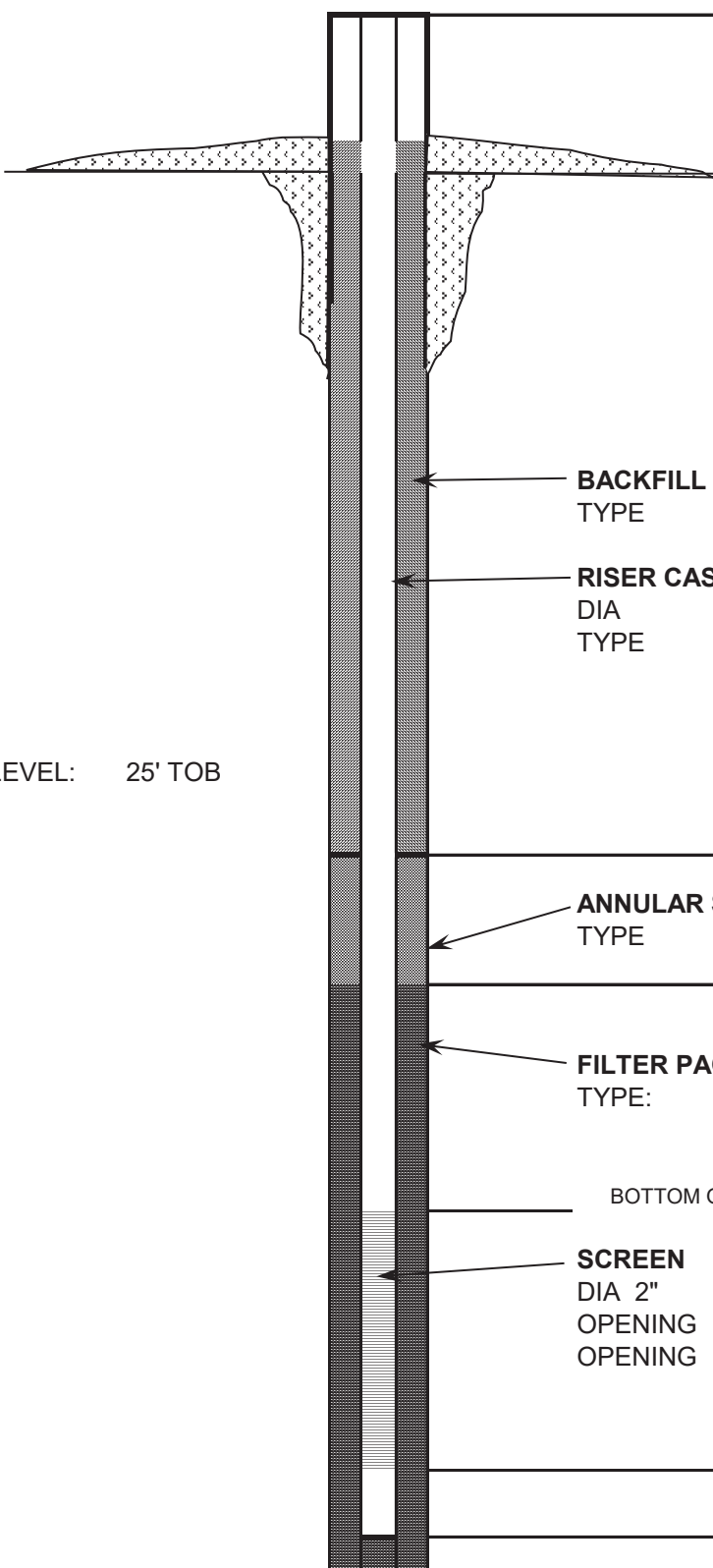
DATE STARTED 8/28/2007

ENDED 8/28/2007 J. Jordan

SGYP-12

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.31	439.01
GROUND SURFACE	0	437.7
<p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p>		
TOP OF SEAL	28.2'	409.5
<p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>TOP OF FILTER PACK</p>	31.7'	406
<p>FILTER PACK TYPE: DSI #2 filter sand</p> <p>BOTTOM OF RISER/TOP OF SCREEN</p>	33.5'	404.2
<p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p> <p>BOTTOM OF SCREEN</p>	43.5'	394.2
BOTTOM OF CASING		
BOTTOM OF HOLE	43.5'	394.2
HOLE DIA: 8"		

WATER LEVEL: 25' TOB





DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-14
Sheet 1 of 2

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>45'</u>	SURF. ELEV. <u>396.6</u>
LOCATION <u>Gypsum Disposal Area</u>		COORDINATES N <u>1119068.07</u>	E <u>2409400.21</u>
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-550</u>
DRILLING METHOD <u>HSA</u>	NO. SAMPLES <u>8</u>	NO. U.D. SAMPLES _____	<u>1</u>
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>18</u>	ELEV. <u>378.3'</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>9/4/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>9/4/2007</u>
DRILLER <u>Filipovich</u>	RECORDER _____	APPROVED <u>J. JORDAN</u>	DRILLING COMP. DATE <u>9/4/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	396.60								
1		Reddish to light brown, moist, very stiff sandy SILT (MH)				offset 100' due to wetlands			
2			UD	1.5-3.5					
3									
4									
5				1	3.5-5		3-5-7	12	
6									
7									
8									
9		Light green and orange, moist, micaceous loose silty SAND (SM)		8.5-10.5	2-2-3	5			
10									
11									
12									
13									
14									
15		brownish gray and black, saturated	3	13.5-15	1-2-2	4			
16									
17									
18						▼ TOB			
19									
20		SAA	4	18.5-20	1-2-3	5			
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. SGY-14

Sheet 2 of 2

SITE Plant Scherer TOTAL DEPTH 45' SURF.ELE 396.6

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Brownish gray and black, saturated silty SAND	5	23.5-25	3-4-6	10			
26									
27									
28									
29									
30		White and brownish gray wet very dense silty fine-medium-grained SAND (SM)	6	28.5-30	16-48-27	75	Saprolite		
31		Saa							
32									
33									
34									
35				7	33.5-35	37-50/5	100+	Sa rolite	
36		Saa							
37									
38									
39									
40	356.60			8	38.5-40	50/3	100+	Saprolite	
40.0		BORING TERMINATED @ 40'							
41		BORING TERMINATED @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

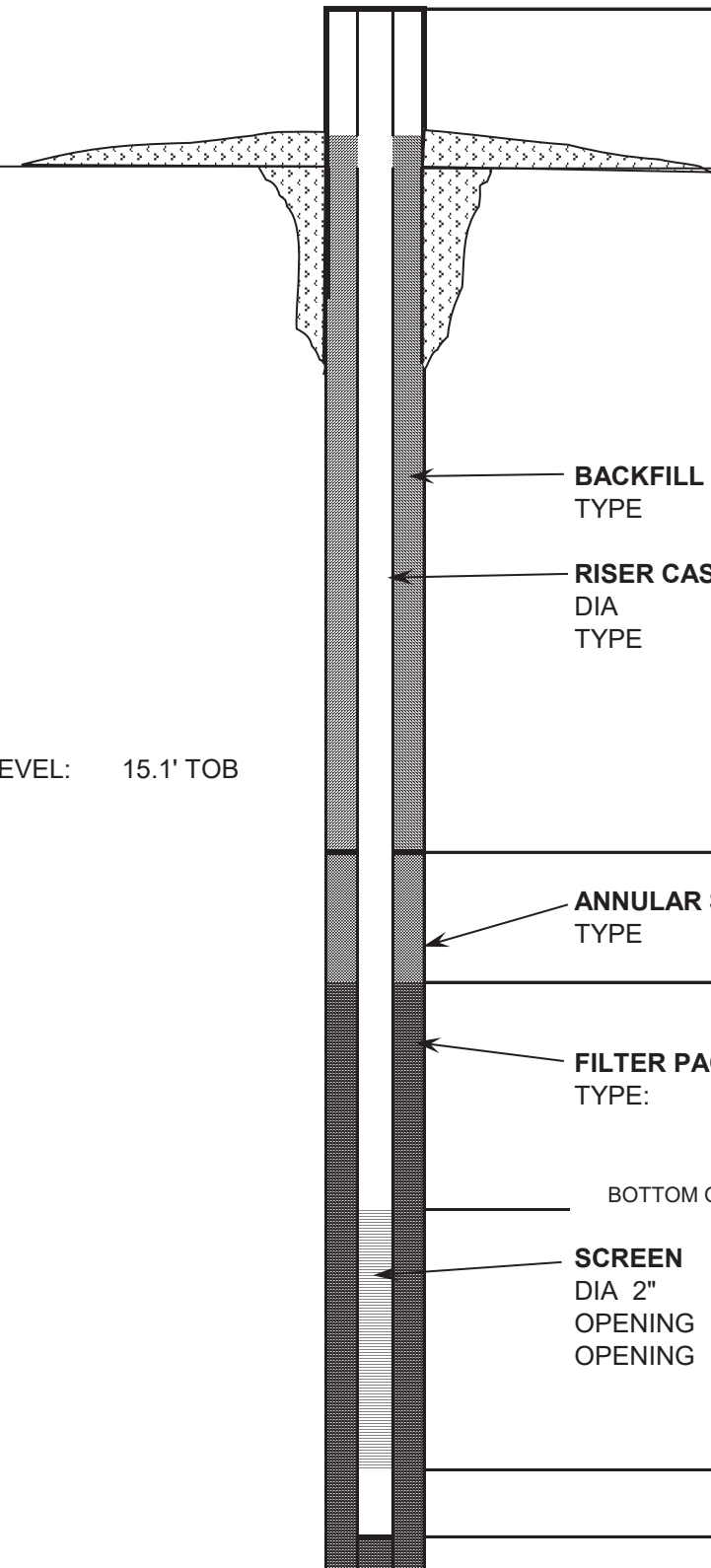
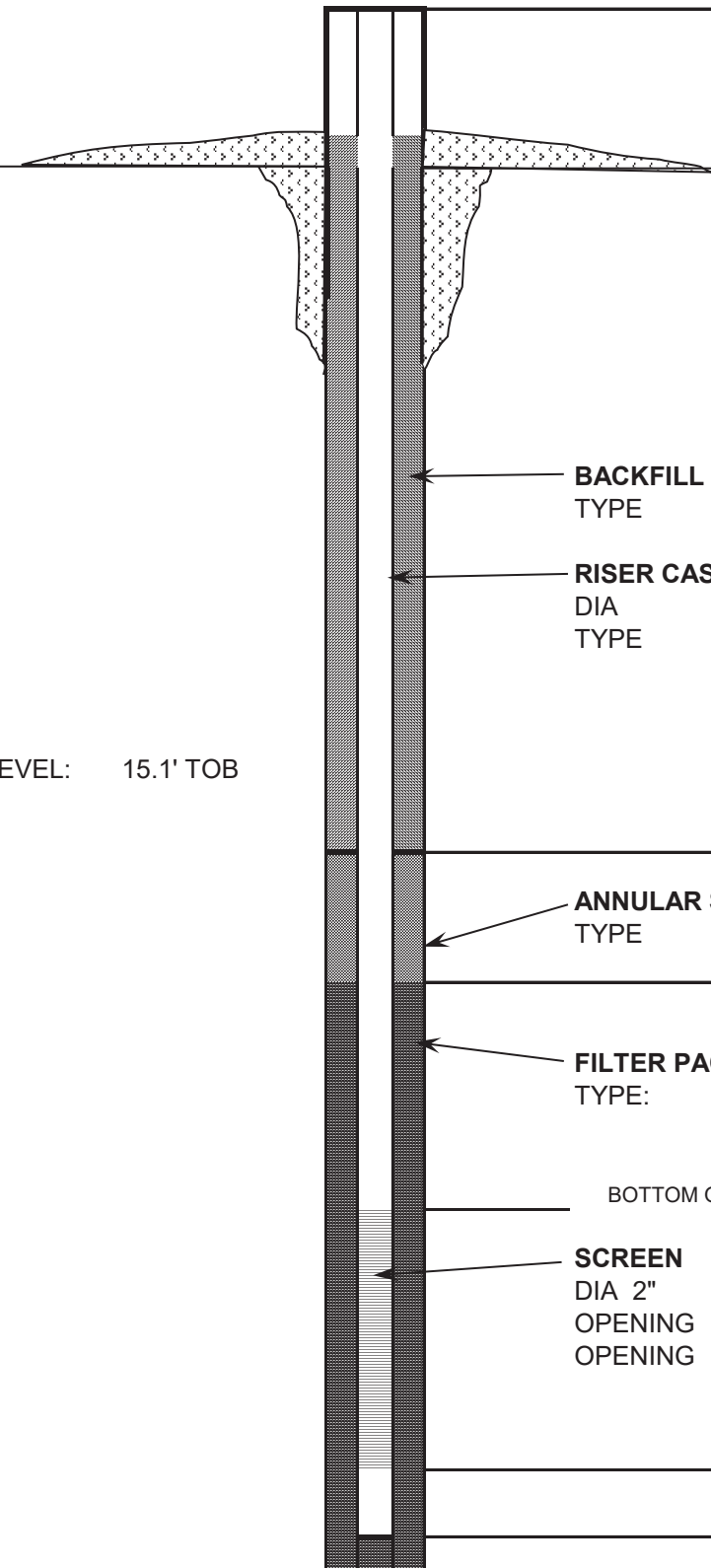
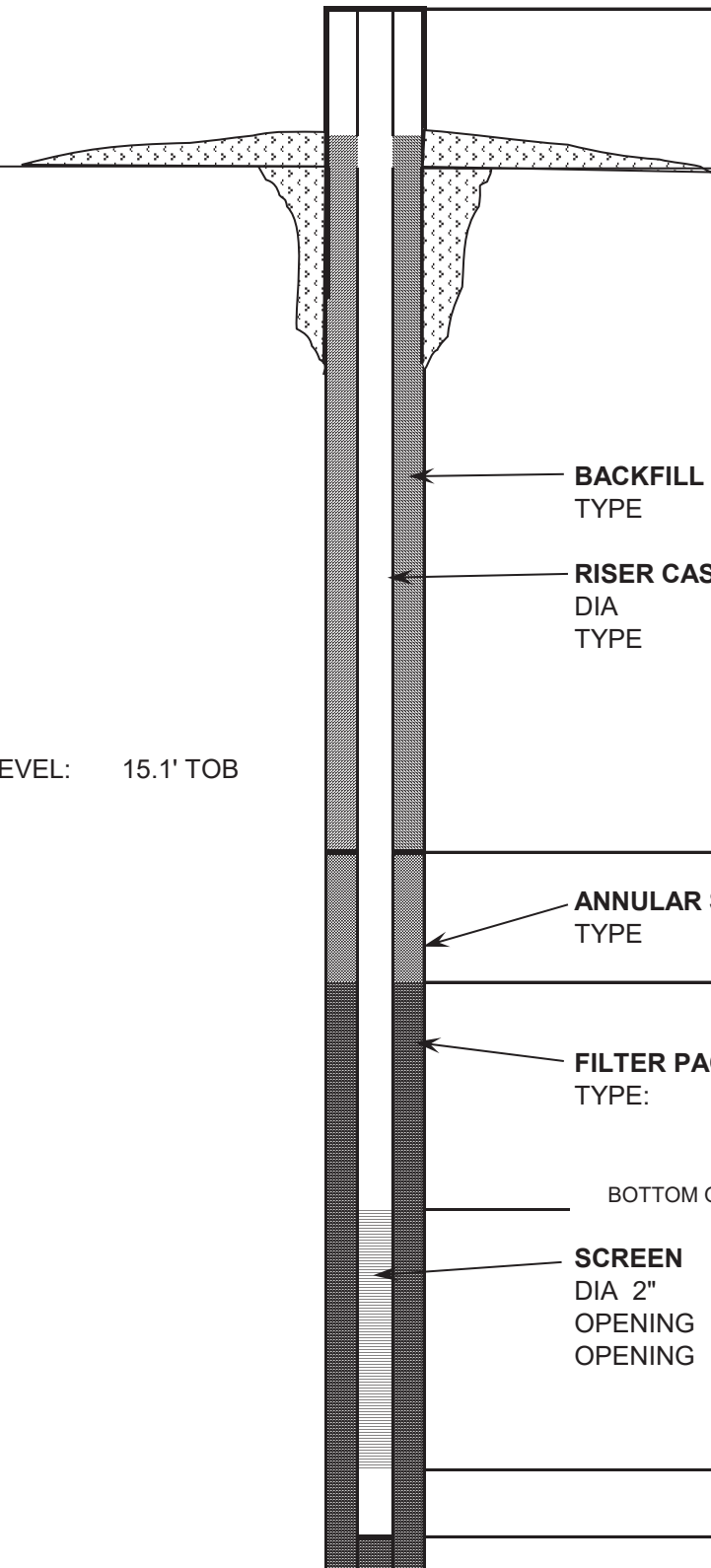
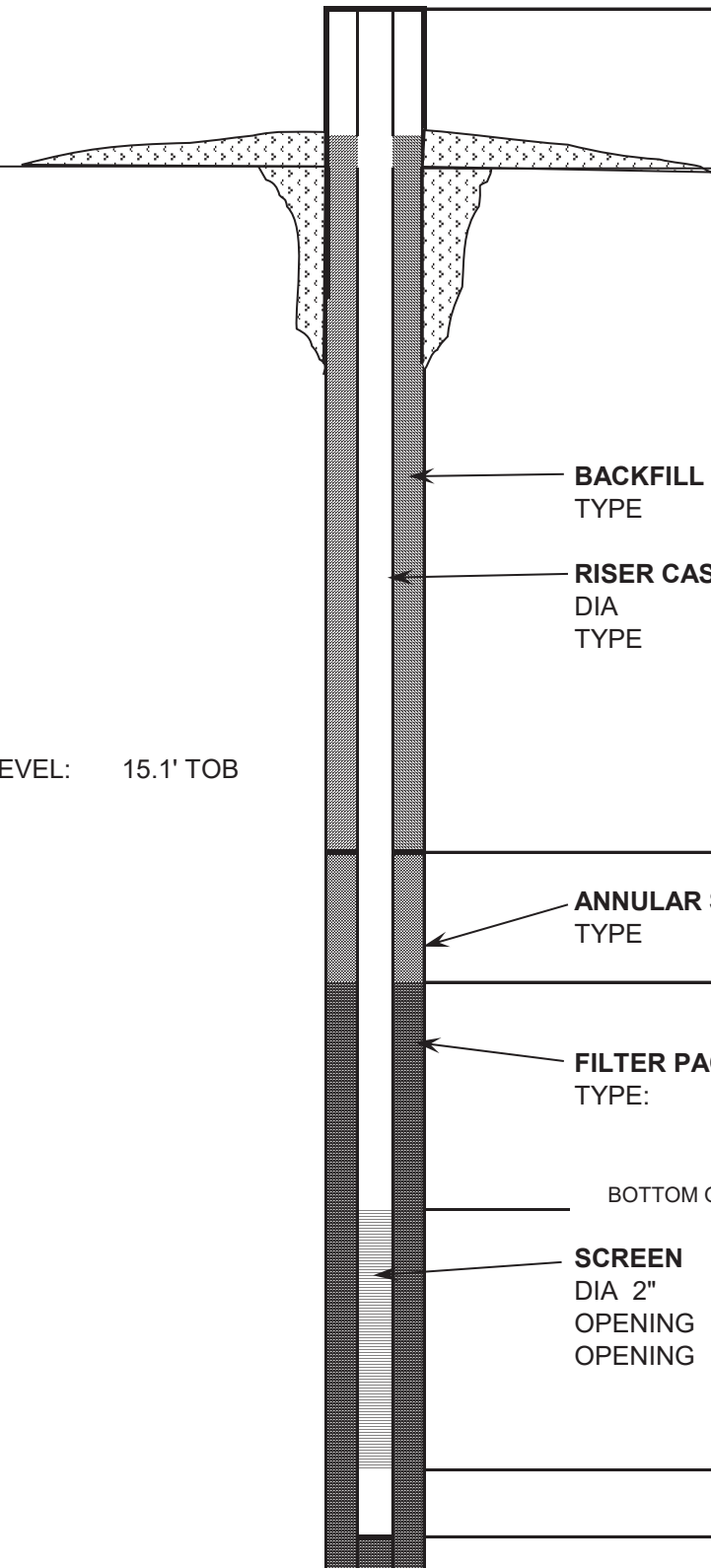
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 9/4/2007

ENDED 9/4/2007 J. Jordan

SGYP-14

	DEPTH	ELEVATION
TOP OF CASING EL.	-2.08	398.38
GROUND SURFACE	0	396.3
 <p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p>		
TOP OF SEAL	24.1'	372.2
 <p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>TOP OF FILTER PACK</p>	26.2'	370.1
 <p>FILTER PACK TYPE: DSI #2 filter sand</p>		
BOTTOM OF RISER/TOP OF SCREEN	28.5'	367.8
 <p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>		
BOTTOM OF SCREEN	38.5'	357.8
BOTTOM OF CASING		
BOTTOM OF HOLE	38.5'	357.8
HOLE DIA: 8"		

WATER LEVEL: 15.1' TOB



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-15**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 58.5'	SURF. ELEV. 430.3
LOCATION Gypsum Storage		COORDINATES N 1119337.26	E 2410103.16
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 12	NO. U.D. SAMPLES 3	
CASING SIZE _____	LENGTH _____	CORE SIZE NQ	TOTAL % REC. _____
WATER TABLE DEPTH 39.3	ELEV. 391	TIME AFTER COMP. TOB	DATE TAKEN 8/21/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/20/2007
DRILLER Filipovich	RECORDER J. Jordan	APPROVED _____	DRILLING COMP. DATE 8/21/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	430.30								
1		Yellowish red, very stiff silty sandy sandy SILT (ML)							
2									
3									
4									
5			UD	3.5-5.0			UD:3.5-5.5 100%		
6									
7			1	5.5-7.0	5-9-13	22			
8									
9		Saa							
10			2	8.5-10.0	3-4-5	9			
11									
12									
13									
14									
15		Saa, tan to gray micaceous	3	13.5-15.0	2-4-4	8			
16									
17									
18									
19									
20									
21									
22		Saa, firm	4	20.5/22.0	2-3-4	7			
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-15

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **60'** SURF.ELE **430.3**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Tan and white, micaceous loose silty SAND (SM)	5	23.5-25.0	3-3-4	7			
26									
27									
28									
29									
30		Saa, green, orange and white, medium dense	6	28.5-30.0	3-4-5	9			
31									
32									
33									
34									
35									
36									
37									
38									
39									
40		Saa, tan and white	UD	38.5-40.5			▼ TOB		
41									
42				8	40.5-42.0	8-12-14	26		
43									
44			Tan and white, micaceous moist, very stiff SANDY SILT (ML)	9	43.5-45.0	3-6-13	19		
45									
46									
47									
48									
49		Light brown fine- to medium-grained silty SAND (SM)	10	48.5-50.0	15-31-50/4	100+	Saprolite		
50									
51									
52									
53									
54									
55				11	53.5-55.0	41-50/2	100+	Saprolite	
56									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-15

Sheet 3 of 3

SITE Plant Scherer TOTAL DEPTH 58.5' SURF.ELEV. 430.3

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Tan and white, micaceous moist, very stiff sandy SILT (ML)					Saprolite		
58									
59	371.80	Boring Terminated @ 58.5'	12	58.5-60.0	31-50/5	100+			
60									
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/21/2007

ENDED 8/21/2007

SGYP-15

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.32	431.62
GROUND SURFACE	0	430.3
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	43.2	387.1
ANNULAR SEAL TYPE Enviroplug		
TOP OF FILTER PACK	46.3	384
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	48.1	382.2
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	58.1	372.2
BOTTOM OF CASING		
BOTTOM OF HOLE	58.5	371.8

WATER LEVEL: 39.3' TOB

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-19
Sheet 1 of 3

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>70.1</u>	SURF. ELEV. <u>446.8</u>
LOCATION <u>Gypsum Disposal Area</u>		COORDINATES N <u>1119971.81</u>	E <u>2410870.9</u>
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-350</u>
DRILLING METHOD <u>4 1/4" HSA</u>	NO. SAMPLES <u>11</u>	NO. U.D. SAMPLES _____	
CASING SIZE <u>4 1/4" ID</u>	LENGTH _____	CORE SIZE <u>NQ</u>	TOTAL % REC. _____
WATER TABLE DEPTH <u>56</u>	ELEV. <u>390.8</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>8/20/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/14/2007</u>
DRILLER <u>Filipovich</u>	RECORDER <u>J. Jordan</u>	APPROVED _____	DRILLING COMP. DATE <u>8/20/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	446.80								
1		Yellowish red, stiff silty sandy SILT (ML) and CLAY (CL) with trace of micaceous	1	3.5-5.0	6-9-13	22			
2									
3									
4									
9		Light reddish brown with black streaks, firm SILT (ML)	2	8.5-10.0	2-3-4	7			
10		Saa, micaceous, with very fine-grained sand	3	13.5-15.0	2-2-3	5			
11									
12									
13									
14		Saa	4	18.5-20	2-2-3	5			
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-19**

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **70.1** SURF.ELE **446.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Light reddish to grayish brown with black streaks, firm SILT (ML)	5	23.5-25.0	2-2-3	5			
26									
27									
28									
29			Saa, grayish gold, very micaceous, stiff	6	28.5-30.0	3-4-6	10		
30									
31									
32									
33									
34		Grayish green to white with weathered feldspars approx 1/8" in diameter, stiff, micaceous, sandy SILT (ML)	7	33.5-35.0	3-5-6	11			
35									
36									
37									
38									
39		very stiff	8	38.5-40.0	11-6-6	12	Saprolite		
40									
41									
42									
43									
44		Saa, gray and white, stiff, moist	9	43.5-45.0	6-8-8	16	Saprolite		
45									
46									
47									
48									
49		ery stiff	10	48.5-50.0	4-6-6	12	Saprolite		
50									
51									
52									
53									
54		ery stiff	11	53.5-55.0	4-6-13	19	Saprolite		
55									
56							▼ TOB		



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-19**

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **70.1** SURF.ELEV. **446.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD						
				From To	Blows	N									
57	389.30	Auger Refusal @ 57.5'													
58															
59		Greenish gray and white amphibolite GNEISS, water stains along fractured planes		57.5-60.1			74	0							
60															
61															
62															
63		nearly 0% recovery		60.1-65.1			5	0							
64															
65															
66		Strong gneissi banding		65.1-70.1			60	30							
67															
68															
69		Black and gray hard GNEISS													
70															
71	376.70								Boring terminated @ 70.1'						
72															
73															
74															
75															
76															
77															
78															
79															
80															
81															
82															
83															
84															
85															
86															
87															
88															

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/14/2007

ENDED 8/20/2007

SGYP-19

	DEPTH	ELEVATION
TOP OF CASING EL.	-5.86	452.66
GROUND SURFACE	0	446.8
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 56' TOB		
TOP OF SEAL	56'	390.8
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	58.3'	388.5
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	60'	386.8
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	70'	376.8
BOTTOM OF CASING		
BOTTOM OF HOLE	70'	376.8
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-20**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 63.5	SURF. ELEV. 449.8
LOCATION Gypsum Disposal Area		COORDINATES N 1119875.57	E 2409742.53
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HAS/RC	NO. SAMPLES 10	NO. U.D. SAMPLES 3	
CASING SIZE NW	LENGTH 52.5	CORE SIZE NQ	TOTAL % REC. _____
WATER TABLE DEPTH 48.3	ELEV. 401.5	TIME AFTER COMP. TOB	DATE TAKEN 8/21/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/21/2007
DRILLER Filipovich	RECORDER BF	APPROVED J.JORDAN	DRILLING COMP. DATE 8/21/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec.	RQD
				From To	Blows	N			
0.0	449.80								
1		Red, micaceous, very stiff sandy SILT (MH)					offset 45' south		
2									
3									
4									
5				1	3.5-5	5-10-13	23		
6		Light reddish brown silty SAND (SM)							
7									
8									
9									
10		Stiff	UD	8.5-10.5					
11									
12				2	10.5-12	3-4-5	9		
13		Saa, light brown, firm							
14									
15				3	13.5-15	1-3-3	6		
16									
17		Grayish tan, micaceous, dry, medium dense silty SAND (SM)							
18									
19									
20				4	18.5-20	2-5-6	11		
21									
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGPY-20

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **63.5** SURF.ELE **449.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Reddish brown sandy SILT (ML)	UD	23.5-25.5					
26		Yellow and orange, silty SAND (SM)	5	25.5-27	2-4-4	8			
27									
28		Saa, greenish gray, white and orange	6	28.5-30	3-4-6	10	Saprolite		
29									
30									
31		Saa	7	35.5-37	3-5-6	11			
32									
33									
34									
35		Saa, light gray and white	8	38.5-40	3-5-7	12	Saprolite		
36									
37			9	43.5-45	5-7-11	18	Saprolite		
38									
39									
40		very sandy, wet	10	48.5-50	9-11-50/3	100+	Saprolite		
41									
42		AUGER REFUSAL @ 52'	RC	52-53.5				93	
43									
44		hard, fresh biotite GNEISS						80	
45									
46									
47									
48							▼ TOB		
49									
50									
51									
52.0	397.80								
53									
54									
55									
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-20**

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **63.5** SURF.ELEV. **449.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Biotite-rich zone with pyrite,	RC	53.5-58.5				92	52
58									
59									
60		AMPHIBOLITE	RC	58.5-63.5				100	88
61									
62									
63									
64	385.80								
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

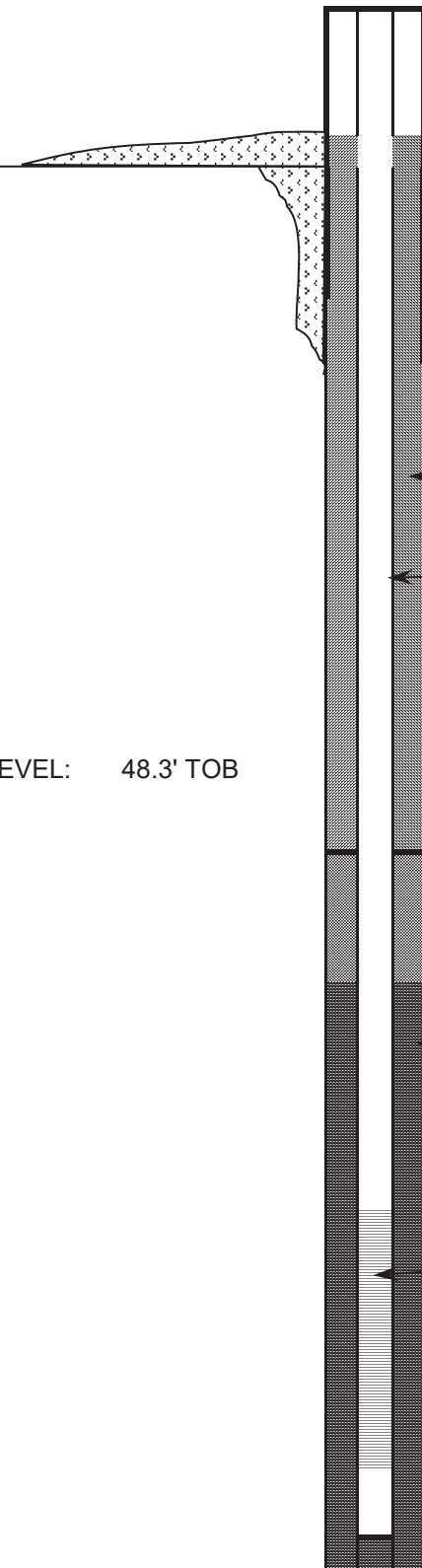
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/21/2007

ENDED 8/21/2007 J. Jordan

SGYP-20

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.44	451.24
GROUND SURFACE	0	449.8
 <p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p> <p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>FILTER PACK TYPE: DSI #2 filter sand</p> <p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>		
TOP OF SEAL	48.3'	401.5
TOP OF FILTER PACK	51.7'	398.1
BOTTOM OF RISER/TOP OF SCREEN	53.1'	396.7
BOTTOM OF SCREEN	63.1'	386.7
BOTTOM OF CASING		
BOTTOM OF HOLE	63.5'	386.3
HOLE DIA: 8"		

WATER LEVEL: 48.3' TOB



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-21
Sheet 1 of 3

SITE Plant Scherer HOLE DEPTH 60' SURF.ELEV. 470.2
 LOCATION Gypsum Disposal Area COORDINATES N 1120120.32 E 2407517.13
 ANGLE _____ BEARING _____ CONTRACTOR SCS DRILL NO. _____
 DRILLING METHOD HSA NO. SAMPLES _____ NO. U.D. SAMPLES _____
 CASING SIZE 4.25" LENGTH _____ CORE SIZE _____ TOTAL % REC. _____
 WATER TABLE DEPTH 38.5' ELEV. 431.7 TIME AFTER COMP. TOB DATE TAKEN _____
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 8/1/2007
 DRILLER Filipovich RECORDER J. Jordan APPROVED _____ DRILLING COMP. DATE _____

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	470.20							
	1								
	2								
	3								
	4	Dark reddish brown, with black sandy silty lean CLAY (CL) stiff	1	3.5-5.0	6-5-7	12			
	5								
	6								
	7								
	8								
	9	Dark bluish gray, moist, fine silty SAND (SM)	2	8.5-10.0	2-2-2	4			
	10								
	11								
	12								
	13								
	14	Reddish brown, moist, stiff sandy lean CLAY (CL)	3	13.5-15.0	4-5-6	11			
	15								
	16								
	17								
	18								
	19	Yellow red, micaceous, silty, very stiff	4	18.5-20	7-9-12	21			
	20								
	21								
	22								
	23								
	24		5	23.5-25	4-6-7	13			

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGPY-21

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **60'** SURF.ELE **470.2**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Orange and yellow, dry micaceous stiff layer SILT (ML)							
26									
27									
28									
29			Pink, tan, and orange, micaceous, sandy stiff SILT (ML)	6	28.5-30.0	4-3-5	8		
30									
31									
32									
33									
34		Red, light brown and silver, micaceous, loose silty fine-grained SAND (SM)	7	33.5-35.0	2-2-3	5	Saprolite		
35									
36									
37									
38									
39		with purple fine- to medium-grained, wet	8	38.5-40.0	2-2-3	5	▼ TOB		
40									
41									
42									
43									
44		Saturated	9	43.5-45.0	2-4-5	9			
45									
46									
47									
48									
49			10	48.5-50.0	2-4-6	10			
50									
51									
52									
53									
54		range with bla strea s	11	53.5-55.0	WOH-2-5	5			
55									
56									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-21

Sheet 3 of 3

SITE Plant Scherer TOTAL DEPTH 60' SURF.ELEV. 470.2

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57									
58									
59									
60		Increased sand BOH at 60.0'	12	58.5-60.0	2-3-4	7			
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-22
Sheet 1 of 2

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>40'</u>	SURF. ELEV. <u>440.7</u>
LOCATION <u>Gypsum Disposal Area</u>		COORDINATES N <u>1120448.2</u>	E <u>2408127.27</u>
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-550</u>
DRILLING METHOD <u>HSA</u>	NO. SAMPLES <u>8</u>	NO. U.D. SAMPLES <u>2</u>	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>19'</u>	ELEV. <u>421.7</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>8/27/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/27/2007</u>
DRILLER <u>Filipovich</u>	RECORDER _____	APPROVED <u>J. JORDAN</u>	DRILLING COMP. DATE <u>8/27/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	440.70							
	1								
	2		UD	1-3					
	3								
	4	Red, moist, very stiff sandy lean CLAY (CL)	1	3.5-5	6-9-13	22			
	5								
	6								
	7								
	8								
	9								
	10	stiff, micaceous, silty		8.5-10.5	2-3-8	8			
	11								
	12								
	13								
	14	Reddish brown sandy SILT (ML)							
	15		UD	13.5-15.5					
	16	Orange and black, wet, soft SILT (ML)							
	17		3	15.5-17	2-2-2	4			
	18								
	19						▼ TOB		
	20	Saa, orange and green, sandy	4	18.5-20	1-2-2	4			
	21								
	22								
	23								
	24								



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGY-22

Sheet 2 of 2

SITE Plant Scherer TOTAL DEPTH 40' SURF.ELE 440.7

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Orange and black, wet, soft SILT (ML)	5	23.5-25	3-4-6	10			
26									
27									
28									
29		Dark green, orange and white, wet micaceous, dense fine- to medium-grained silty SAND (S)	6	28.5-30	2-4-7	11	Saprolite		
30									
31									
32									
33									
34									
35			7	33.5-35	6-12-17	29	Sa rolite		
36									
37									
38									
39									
40	400.70	Saa, dark gray and white, dense	8	38.5-40	10-15-21	36	"SALT & PEPPER" appearance		
41		BOH @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

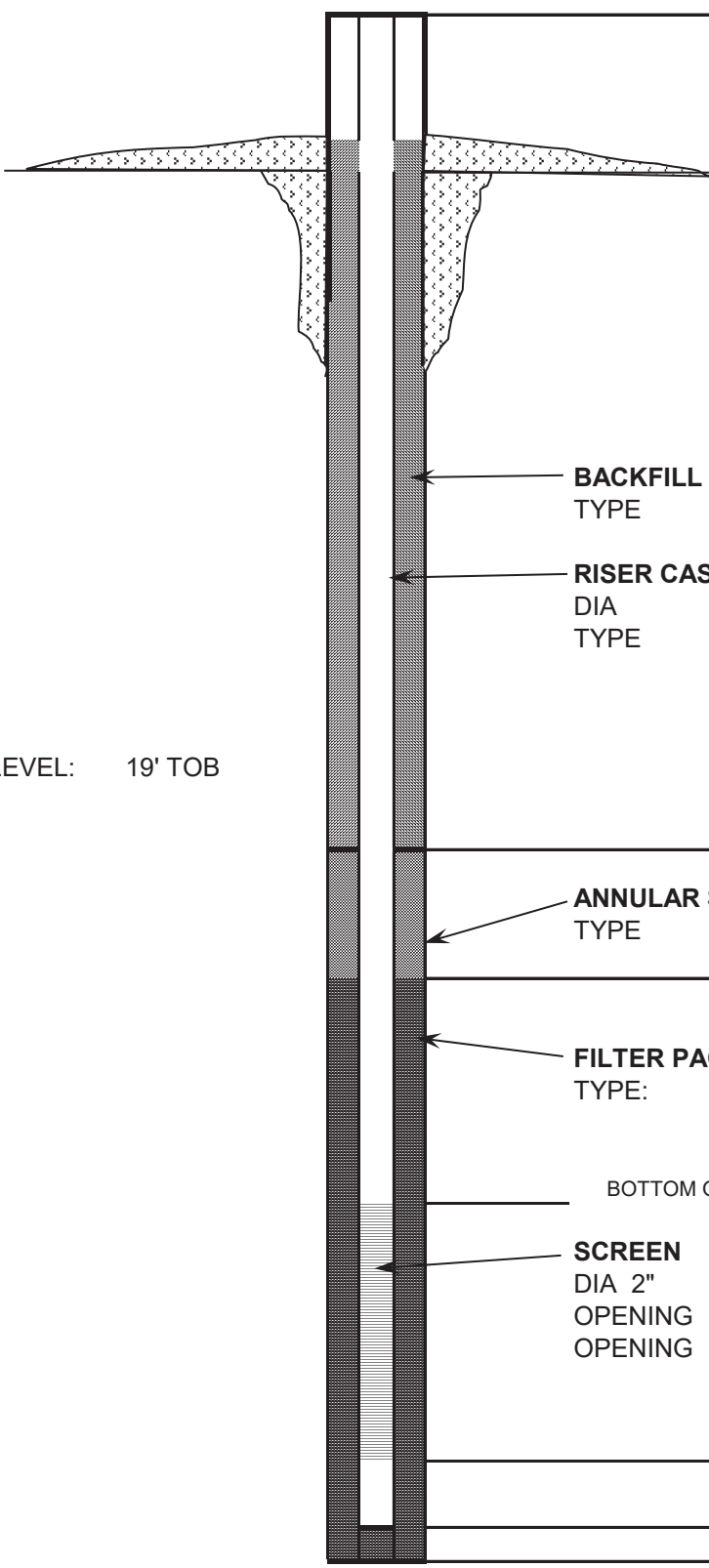
LOCATION Gypsum Storage Area

DATE STARTED 8/29/2007

ENDED 8/29/2007 J. Jordan

SGYP-22

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.25	441.95
GROUND SURFACE	0	440.7
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 19' TOB		
TOP OF SEAL	24.3'	416.4
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	26.1'	414.6
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	28.5'	412.2
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	38.5'	402.2
BOTTOM OF CASING		
BOTTOM OF HOLE	38.5'	402.2
HOLE DIA: 8"		





DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-23**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 47.5'	SURF.ELEV. 435
LOCATION Gypsum Disposal Area		COORDINATES N 1120457.88	E 2409187.98
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 9	NO. U.D. SAMPLES 2	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 44'	ELEV. 391'	TIME AFTER COMP. 24hrs	DATE TAKEN 9/1/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/31/2007
DRILLER Filipovich	RECORDER _____	APPROVED J. JORDAN	DRILLING COMP. DATE 8/31/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	435.00							
1		Red elastic Sandy SILT (MH) very stiff							
2									
3									
4									
5				UD	3.5-5				
6				1	5.5-7	6-15-22	37		
7									
8									
9									
10					8.5-10.5	7-12-16	28		
11									
12									
13									
14		Saa							
15			3	13.5-15.5	11-10-21	31			
16									
17									
18									
19		Yellow, red, and light gray, mottled, micaceous sandy SILT (ML)							
20			4	18.5-20	3-7-10	17			
21									
22									
23									
24			UD						

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-23

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **47.5'** SURF.ELE **435**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25			UD	23.5-25.5					
26		Red, tan and black, micaceous, wet, loose silty SAND (SM)	5	25.5-27	2-4-6	10	Saprolite		
27									
28									
29		Saa brownish gray to white medium dense	6	28.5-30	3-4-7	11	Sa rolite		
30									
31									
32									
33									
34		Saa, dark bluish gray and white, dense	7	33.5-35	5-11-25	36	Sa rolite		
35									
36									
37									
38									
39		dark green, black, and gray very dark weathered rock	8	38.5-40	50/5	100+	Saprolite		
40									
41									
42									
43									
44							▼ 24 hrs.		
45			9	43.5-45	50/2	100+	Saprolite		
46									
47									
47.5	387.50	AUGER REFUSAL @ 47.5'							
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

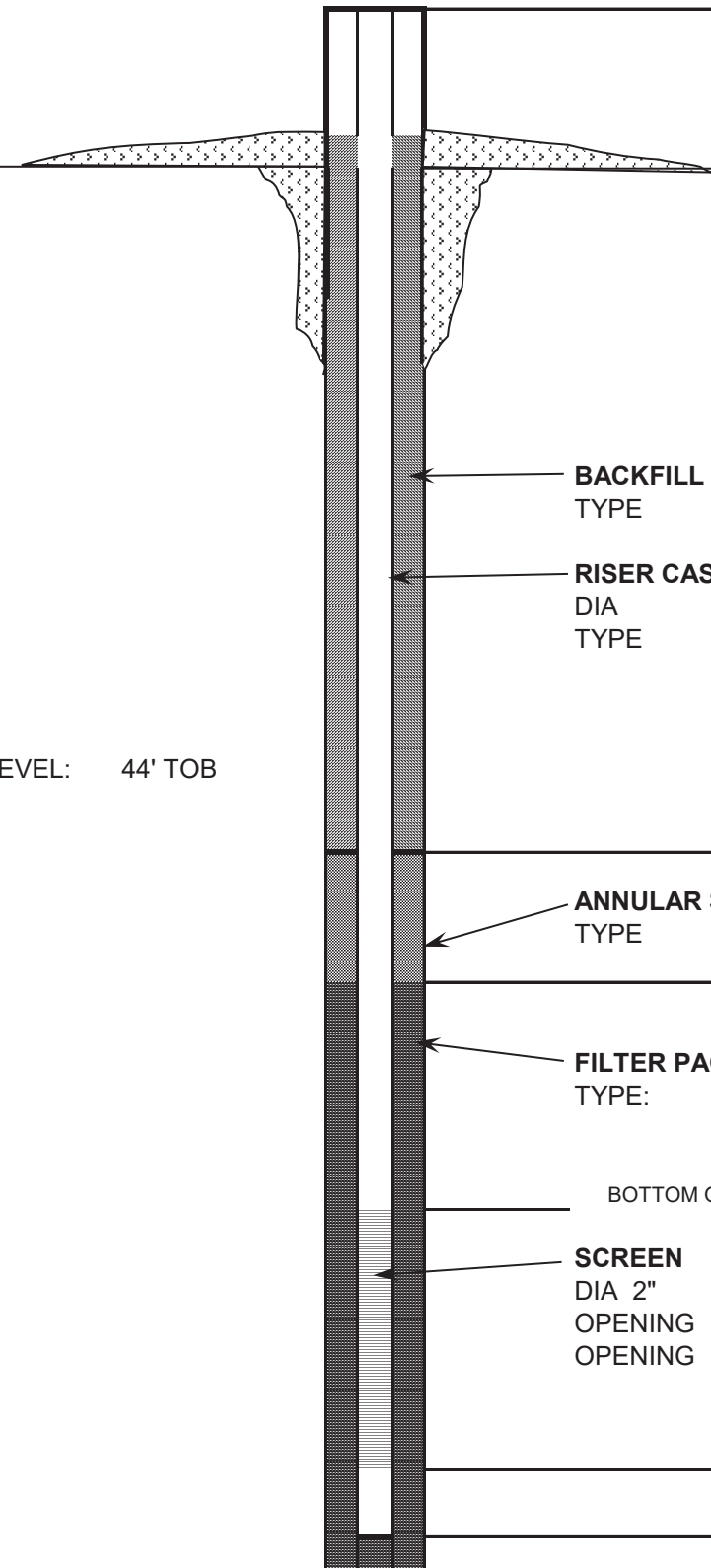
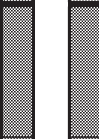
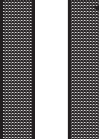
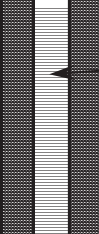
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/31/2007

ENDED 8/31/2007 J. Jordan

SGYP-23

	DEPTH	ELEVATION
TOP OF CASING EL.	-3.43	438.43
GROUND SURFACE	0	435
 <p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p>		
TOP OF SEAL	31.7'	403.3
 <p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>TOP OF FILTER PACK</p>	34.8'	400.2
 <p>FILTER PACK TYPE: DSI #2 filter sand</p>		
BOTTOM OF RISER/TOP OF SCREEN	37.0'	398
 <p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>		
BOTTOM OF SCREEN	47.0'	388
BOTTOM OF CASING		
BOTTOM OF HOLE	47.5'	387.5
HOLE DIA: 8"		

WATER LEVEL: 44' TOB



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-24
Sheet 1 of 3

SITE <u>Plant Schere Gypsum Storage</u>		HOLE DEPTH <u>74'</u>	SURF.ELEV. <u>459.7</u>
LOCATION <u>uliette A</u>	COORDINATES N <u>1120585.25</u>	E <u>2410416.17</u>	
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-550</u>
DRILLING METHOD <u>4 1/4"HSA</u>	NO. SAMPLES _____	NO. U.D. SAMPLES _____	
CASING SIZE <u>4'1/4"</u>	LENGTH <u>73.5'</u>	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>56.6'</u>	ELEV. <u>403.1'</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>8/13/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/9/2007</u>
DRILLER <u>Brad Filipovich</u>	RECORDER <u>Brad F.</u>	APPROVED <u>J.Jordan</u>	DRILLING COMP. DATE <u>8/13/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	459.70								
1		Red, very stiff sandy SILT (ML)							
2									
3									
4									
5		Saa, yellowish red and white, stiff	1	3.5-5.0	5-10-15	25			
6									
7									
8									
9		Saa, with mica	2	8.5-10.0	4-4-5	9			
10									
11									
12									
13		Red and white, micaceous, fine- to very coarse silty SAND (SM)	3	13.5-15.0	2-4-5	9			
14									
15									
16									
17			4	18.5-20.0	2-4-4	8			
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGY-24

Sheet 2 of 3

SITE Plant Schere Gypsum Storage TOTAL DEPTH 74' SURF.ELE 459.7

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
		Red and green, micaceous, stiff sandy SILT (ML)	5	23.5-25.0	4-4-7	11			
25									
26									
27									
28									
29									
30		Saa, white, with weathered quartz	6	28.5-30.0	3-3-5	10			
31									
32									
33									
34		Saa, orange, brown and white	7	33.5-35.0	5-5-9	14			
35									
36									
37									
38									
39									
40		Saa	8	38.5-40.0	4-5-7	12			
41									
42									
43									
44									
45		Saa	9	43.5-45.0	2-8-12	20	very stiff		
46									
47									
48									
49									
50		Saa	10	48.5-50.0	6-6-8	14	stiff		
51									
52									
53									
54									
55		Saa	11	53.5-55.0	3-5-7	12			
56							▼ TOB		

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-24

Sheet 3 of 3

SITE **Plant Schere Gypsum Storage** TOTAL DEPTH **74'** SURF.ELEV. **459.7**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Green, orange and white, fine- to coarse-grained SAND (SM) Saa ery stiff tan and white							
58									
59									
60				12	58.5-60.0	4-4-7	11	Saprolite	
61									
62									
63									
64									
65				13	63.5-65.0	6-10-13	23	Saprolite	
66									
67									
68									
69									
70				14	68.5-70.0	7-12-23	35	Saprolite	
71									
72									
73									
74	385.70		15	73.5-76.0	23-50/5.5-X	100+	Saprolite		
75		BOH @ 74.0'							
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

74.0

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/9/2007

ENDED 8/13/2007

SGYP-24

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.15	460.85
GROUND SURFACE	0	459.7
BACKFILL MATERIAL TYPE BENTONITE PELLETS		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 56.6' TOB		
TOP OF SEAL	59.2	400.5
ANNULAR SEAL TYPE Enviroplug Bentonite pellets		
TOP OF FILTER PACK	61.5	398.2
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	64	395.7
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	74	385.7
BOTTOM OF CASING		
BOTTOM OF HOLE	75	384.7
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-25**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 30'	SURF. ELEV. 371.2'
LOCATION Gypsum Disposal Area		COORDINATES N 1120409.44	E 2411492.29
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA		NO. SAMPLES 6	NO. U.D. SAMPLES _____
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH _____	14'	ELEV. 357.2	TIME AFTER COMP. TOB
DATE TAKEN 8/30/2007	DRILLING START DATE 8/30/2007		
DRILLER Filipovich	RECORDER BF	APPROVED J.JORDAN	DRILLING COMP. DATE 8/30/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	371.2'							
	1								
	2								
	3								
	4		1	3.5-5	5-5-6	11			
	5	Pale green, white and tan, micaceous, medium dense silty SAND (SM) with roots							
	6								
	7								
	8								
	9								
	10	Saa, moist, loose	2	8.5-10	3-4-5	9			
	11								
	12								
	13						▼ TOB		
	14								
	15	Saa, dark brown and gold, medium dense	3	13.5-15	3-5-9	14			
	16								
	17								
	18								
19.0	19	352.2'							
	20	Greenish gray, black and white, very dense, Fine- to medium-grained SAND	4	18.5-20	10-12-50/3	100+	Saprolite		
	21								
	22								
	23								
	24								



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-25**

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **30'** SURF.ELE **371.2'**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Greenish gray, black and white, very dense, Fine- to medium-grained SAND	5	23.5-25	25-50/2-y	100+	Saprolite		
26									
27									
28									
29									
30	341.2'			6	28.5-30	50/5	100+	Saprolite	
31		AUGER REFUSAL @ 30'							
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/30/2007

ENDED 8/30/2007 J. Jordan

SGYP-25

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.21	372.41
GROUND SURFACE	0	371.2
<p>BACKFILL MATERIAL TYPE Bentonite chips</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p>		
TOP OF SEAL	14.3'	356.9
<p>ANNULAR SEAL TYPE Enviroplug Pellets</p> <p>TOP OF FILTER PACK</p>	16.7	354.5
<p>FILTER PACK TYPE: DSI #2 filter sand</p> <p>BOTTOM OF RISER/TOP OF SCREEN</p>	19.0'	352.2
<p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p>		
BOTTOM OF SCREEN	29.0'	342.2
BOTTOM OF CASING	29.0'	342.2
BOTTOM OF HOLE	30.0'	341.2
HOLE DIA: 8"		

WATER LEVEL: 14' TOB



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-26**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 71.3	SURF.ELEV. 454.7
LOCATION Gypsum Disposal Area		COORDINATES N 1120499.04	E 2412871.34
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 14	NO. U.D. SAMPLES 0	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 57.3	ELEV. 397.4	TIME AFTER COMP. 24 hrs	DATE TAKEN 5/22/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/21/2007
DRILLER Filipovich	RECORDER JLP	APPROVED A. Grissom	DRILLING COMP. DATE 5/21/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	454.70								
1		Brownish red, fairly dry, clayey SILT, (ML) micaceous							
2									
3									
4				1	3.5-5.0	4-4-5	9		
5		Yellow, fairly dry, slightly silty, fine-grained SAND (SM)							
6									
7									
8									
9		SAA, firm							
10									
11									
12									
13		Light tan, dry, fine-grained SAND with some rock fragments							
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGY-26

Sheet 2 of 3

SITE Plant Scherer TOTAL DEPTH 71.3 SURF.ELE 454.7

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Light tan, dry, fine-grained SAND	5	23.5-25.0	19-21-34	55			
26									
27									
28									
29			SAA, dense	6	28.5-30.0	12-15-21	36		
30									
31									
32		Brown to dark gray, dry, very sandy SILT (ML)							
33									
34									
35				7	33.5-35.0	12-12-17	29		
36									
37		Black, brown and white, dry, silty SAND and highly weathered rock (SM)							
38									
39				8	38.5-40.0	16-7-8	15	Saprolite	
40									
41									
42		Dark gray and white specked, dry, slightly silty highly weathered rock							
43									
44				9	43.5-45.0	10-14-22	36	Saprolite	
45									
46									
47		Hard, grains of dark gray and tan, fairly dry, very sandy SILT and highly weathered rock							
48									
49				10	48.5-50.0	10-14-20	34	Saprolite	
50									
51									
52		SAA							
53									
54				11	53.5-55.0	8-14-24	38	Saprolite	
55									
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-26**

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **71.3** SURF.ELEV. **454.7**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Black, white, and tan, slightly silty SAND (SM) and highly weathered rock					▼ 24 hrs.		
58									
59									
60				12	58.5-60.0	18-34-50/4"		REF	Saprolite
61		SAA, wet, with a thick seam of gray clayey SILT (ML)							
62									
63									
64				13	63.5-65.0	50/4"	REF	Saprolite	
65		Dark brown and gold, moist, clayey SAND (SM)							
66									
67									
68									
69		BOH @ 71.3' (TOR)							
70									
71									
72	383.40								
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

71.3

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 5/21/2007

ENDED 5/22/2007

Grissom

SGYP-26

	DEPTH	ELEVATION
TOP OF CASING EL.	-3.9	458.6
GROUND SURFACE	0	454.7
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	56.7	398
ANNULAR SEAL TYPE Bentonite Pellets		
TOP OF FILTER PACK	58.9	395.8
FILTER PACK TYPE: DSI #2 filter sand (8 bags)		
BOTTOM OF RISER/ TOP OF SCREEN	61.0	393.7
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	71.0	383.7
BOTTOM OF CASING		
BOTTOM OF HOLE	71.3	383.4

WATER LEVEL: | 57.3' 24 hr.

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-28**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 68.5'	SURF.ELEV. 430
LOCATION Gypsum Disposal Area		COORDINATES N 1121362.47	E 2411246.46
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HAS	NO. SAMPLES 13	NO. U.D. SAMPLES 2	
CASING SIZE NW	LENGTH 52.5	CORE SIZE NQ	TOTAL % REC. _____
WATER TABLE DEPTH 53	ELEV. 377	TIME AFTER COMP. TOB	DATE TAKEN 8/27/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 8/27/2007
DRILLER Filipovich	RECORDER BF	APPROVED J.JORDAN	DRILLING COMP. DATE 8/27/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	430.00								
1							offset east 400'-430'		
2									
3									
4									
5		Red with black streaks, micaceous, stiff SILT (ML)	1	3.5-5	5-5-5	10			
6									
7									
8									
9									
10		White silty SAND (SM)	UD	8.5-10.5					
11									
12		Saa.	2	10.5-12	2-2-3	5			
13									
14									
15		Saa, soft, red with black streaks	3	13.5-15	2-2-2	4			
16									
17									
18									
19		Pale gray and tan, dry, loose micaceous SILTY SAND (SM)	4	18.5-20	2-3-4	7			
20									
21									
22									
23									
24			UD						



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. **SGYP-28**

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **68.5'** SURF.ELE **430**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25			UD	23.5-25.5					
26		orange to light gray, loose micaceous SILTY SAND	5	25.5-27	3-6-8	14			
27									
28									
29									
30		Saa, pale gray to orange	6	28.5-30	3-4-6	10			
31									
32									
33									
34									
35			7	33.5-35	4-7-10	17			
36									
37									
38									
39									
40		Saa, ight green and yellow, moist	8	38.5-40	5-5-12	17	Saprolite		
41									
42									
43									
44		Saa, green, gray and white, very dense	9	43.5-45	20-35-19	54	Saprolite		
45									
46									
47									
48									
49									
50		Saa, dark green, wet, medium dense	10	48.5-50	9-11-50/3	100+			
51									
52									
53							▼ TOB		
54									
55		Saa, with orange, dense	11	53.5-55	6-12-24	36			
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-28**

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **68.5'** SURF.ELEV. **430**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		red, dense, fine- to medium-grained SAND saturated							
58									
59									
60				12	58.5-60	50/2	100+	Saprolite	
61									
62									
63									
64			SAA						
65				13	63.5-65	50/3	100+	Saprolite	
66									
67									
68									
68.5	361.50	AUGER REFUSAL @ 68.5'							
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/29/2007

ENDED 8/29/2007 J. Jordan

SGYP-28

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.76	431.76
GROUND SURFACE	0	430
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 53' TOB		
TOP OF SEAL	53.3'	376.7
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	55.7'	374.3
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	58.5'	371.5
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	68.5'	361.5
BOTTOM OF CASING		
BOTTOM OF HOLE	68.5'	361.5
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-29**

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 40	SURF. ELEV. 454.4
LOCATION Gypsum Disposal Area		COORDINATES N 1120834.38	E 2407646.52
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 8	NO. U.D. SAMPLES 0	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 17.5	ELEV. 436.9	TIME AFTER COMP. 24 hrs	DATE TAKEN 5/22/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/21/2007
DRILLER Filipovich	RECORDER JLP	APPROVED A. Grissom	DRILLING COMP. DATE 5/21/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	454.40								
1		Brownish red, dry, clayey SILT (ML) micaceous	1	3.5-5.0	5-5-9	14			
2									
3									
4									
5		SAA, firm	2	8.5-10.0	2-2-3	5			
6									
7									
8									
9		Yellow to light brown, slightly moist, very silty CLAY (CH)	3	13.5-15.0	2-2-2	4			
10									
11									
12									
13									
14									
15									
16									
17						▼ 24 hours			
18									
19		Reddish brown, moist, slightly sandy SILT, micaceous	4	18.5-20.0	1-2-3	5			
20									
21									
22									
23									
24									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. **SGYP-29**

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **40** SURF.ELE **454.4**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Orange-brown to yellow silty fine- to medium-grained SAND (SM)	5	23.5-25.0	2-3-3	6			
26									
27									
28									
29		Gold, brown, black and white grains, slightly moist, sandy SILT (ML) and highly weathered rock	6	28.5-30.0	3-5-6	11	Saprolite		
30									
31									
32									
33		Black and white, slightly moist, fine- to medium-grained SAND (SM) (highly weathered rock)	7	33.5-35.0	8-15-25	40	Saprolite		
34									
35									
36									
37		SAA, very dense							
38									
39									
40.0	414.40		8	38.5-40.0	11-34-50/5"	REF	Saprolite		
41		BOH @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

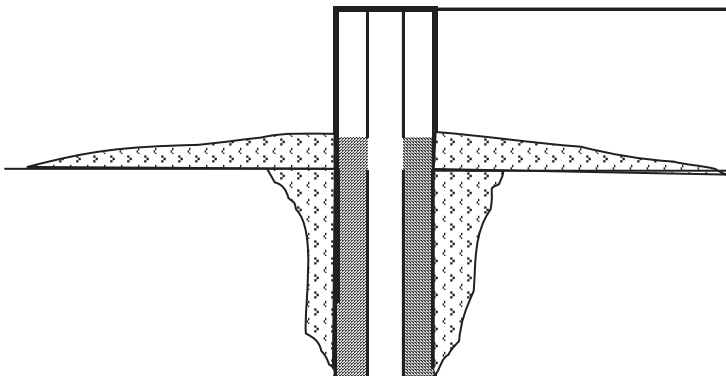
DATE STARTED 5/21/2007

ENDED 5/21/2007

Grissom

SGYP-29

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.95	456.35
GROUND SURFACE	0	454.4
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	22.6'	431.8
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	25.7'	428.7
FILTER PACK TYPE: DSI #2 filter sand (6 bags)		
BOTTOM OF RISER/ TOP OF SCREEN	28.5'	425.9
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	38.5'	415.9
BOTTOM OF CASING		
BOTTOM OF HOLE	40.0'	415.4



WATER LEVEL: | 17.5' 24 hr.

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGYP-30
Sheet 1 of 3

SITE <u>Plant Scherer</u>		HOLE DEPTH <u>65'</u>	SURF.ELEV. <u>468.8</u>
LOCATION <u>Gypsum Disposal Area</u>		COORDINATES N <u>1121005.97</u>	E <u>2408680.51</u>
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-550</u>
DRILLING METHOD <u>4.25" HSA</u>	NO. SAMPLES <u>13</u>	NO. U.D. SAMPLES _____	
CASING SIZE <u>N</u>	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>44</u>	ELEV. <u>424.8</u>	TIME AFTER COMP. _____	DATE TAKEN <u>8/6/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/2/2007</u>
DRILLER <u>Filipovich</u>	RECORDER <u>J. Jordan</u>	APPROVED _____	DRILLING COMP. DATE <u>8/6/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	468.80							
	1								
	2								
	3								
	4								
	5	Red, very stiff, lean CLAY (CL/CH)	1	3.5-5.0	8-11-14	25			
	6								
	7								
	8								
	9								
	10	Orange toned, very stiff sandy lean CLAY (CL)	2	8.5-10.0	6-11-12	23			
	11								
	12								
	13								
	14	Lt. brown to orange, dry, micaceous, firm clayey sandy SILT (ML)	3	13.5-15.0	3-3-2	5			
	15								
	16								
	17								
	18								
	19								
	20	with red and black	4	18.5-20	3-2-3	5			
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGPY-30

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **65'** SURF.ELE **468.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Lt. brown to orange, dry, micaceous, firm clayey sandy silt (ML)	5	23.5-25	2-3-2	5			
26									
27									
28									
29									
30									
31									
32									
33									
34									
35		Saa, stiff, wet	6	28.5-30.0	2-3-3	6	Stopped drilling to go to another site for Allen G. 9:15 8/2/07		
36									
37									
38									
39									
40									
41									
42									
43									
44									
45		Saa, stiff, wet	7	33.5-35.0	3-3-4	7			
46									
47									
48									
49									
50									
51									
52									
53									
54									
54	415.30	Dar green and orange fine- to medium-grained silty SAND (S)	8	38.5-40.0	2-2-3	5			
55									
56									
57									
58									
59									
60									
61									
62									
63									
53.5		Dar green and orange fine- to medium-grained silty SAND (S)	9	43.5-45.0	3-4-5	9	▼44'		
55									
56									
57									
58									
59									
60									
61									
62									
63									
55		Dar green and orange fine- to medium-grained silty SAND (S)	10	48.5-50.0	2-3-5	8			
56									
57									
58									
59									
60									
61									
62									
63									
64									
56		Dar green and orange fine- to medium-grained silty SAND (S)	11	53.5-55.0	3-5-7	14	Saprolite		
57									
58									
59									
60									
61									
62									
63									
64									
65									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGP-30

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **65'** SURF.ELEV. **468.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Dark green and orange micaceous fine SILT SAND (S) med dense (saprolite)					Saprolite		
58									
59									
60			12	58.5-60.0	8-13-2	37			
61									
62									
63									
64									
65	403.80		13	63.5-65	22-50/4-X	100+			
66		BOH@65'							
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED

ENDED

SGYP-30

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.41	470.21
GROUND SURFACE	0	468.8
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 44' TOB		
TOP OF SEAL	50'	418.8
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	52.6'	416.2
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	53.8'	415
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	63.8'	405
BOTTOM OF CASING		
BOTTOM OF HOLE	65.0'	403.8
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-31**
Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 65.3	SURF. ELEV. 462.9
LOCATION Gypsum Disposal Area		COORDINATES N 1121183.7	E 2410052.52
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 13	NO. U.D. SAMPLES 0	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 48	ELEV. 414.9	TIME AFTER COMP. 24 hrs	DATE TAKEN 5/20/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/19/2007
DRILLER Filipovich	RECORDER JLP	APPROVED A. Grissom	DRILLING COMP. DATE 5/19/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	462.90								
1		Brownish red, dry, clayey SILT, micaceous							
2									
3									
4									
5		Mottled yellow, orange and brown fairly dry, slightly sandy SILT	1	3.5-5.0	8-9-12	21			
6									
7									
8									
9		Purple to light brown, dry sandy SILT							
10									
11									
12									
13		Yellow, fairly dry, clayey SILT							
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. SGP-31

Sheet 2 of 3

SITE **Plant Scherer** TOTAL DEPTH **65.3** SURF.ELE **462.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Stiff, gold to light brown and orange, fairly dry, slightly sandy SILT	5	23.5-25.0	4-6-7	13			
26									
27									
28									
29		Firm, orange, fairly dry, slightly sandy SILT	6	28.5-30.0	3-3-5	8			
30									
31									
32									
33									
34		Stiff, brown to orange, fairly dry sandy SILT	7	33.5-35.0	4-4-8	12			
35									
36									
37									
38									
39		Firm, light tan, slightly moist, very silty SAND (	8	38.5-40.0	5-6-7	13		
40									
41									
42									
43									
44		Stiff, gold to light tan, moist, sandy SILT (ML)	9	43.5-45.0	3-5-7	12			
45									
46									
47									
48							▼ 24 hrs.		
49		SAA, very stiff	10	48.5-50.0	4-8-14	22			
50									
51									
52									
53									
54		ard white to bla slightly moist sandy S L and highly weathered ro	11	53.5-55.0	10-16-27	43	Saprolite		
55									
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. SGP-31

Sheet 3 of 3

SITE Plant Scherer TOTAL DEPTH 65.3 SURF.ELEV. 462.9

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Very dense, feldspar grains of white and black , moist, silty SAND (SM)							
58									
59									
60			12	58.5-60.0	50/5"	REF	Saprolite		
61		SAA, with thick seam of olive gray plastic clay							
62									
63									
64			13	63.5-65.0	50/3"	REF	Saprolite		
65	397.60	BOH @ 65.3'							
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

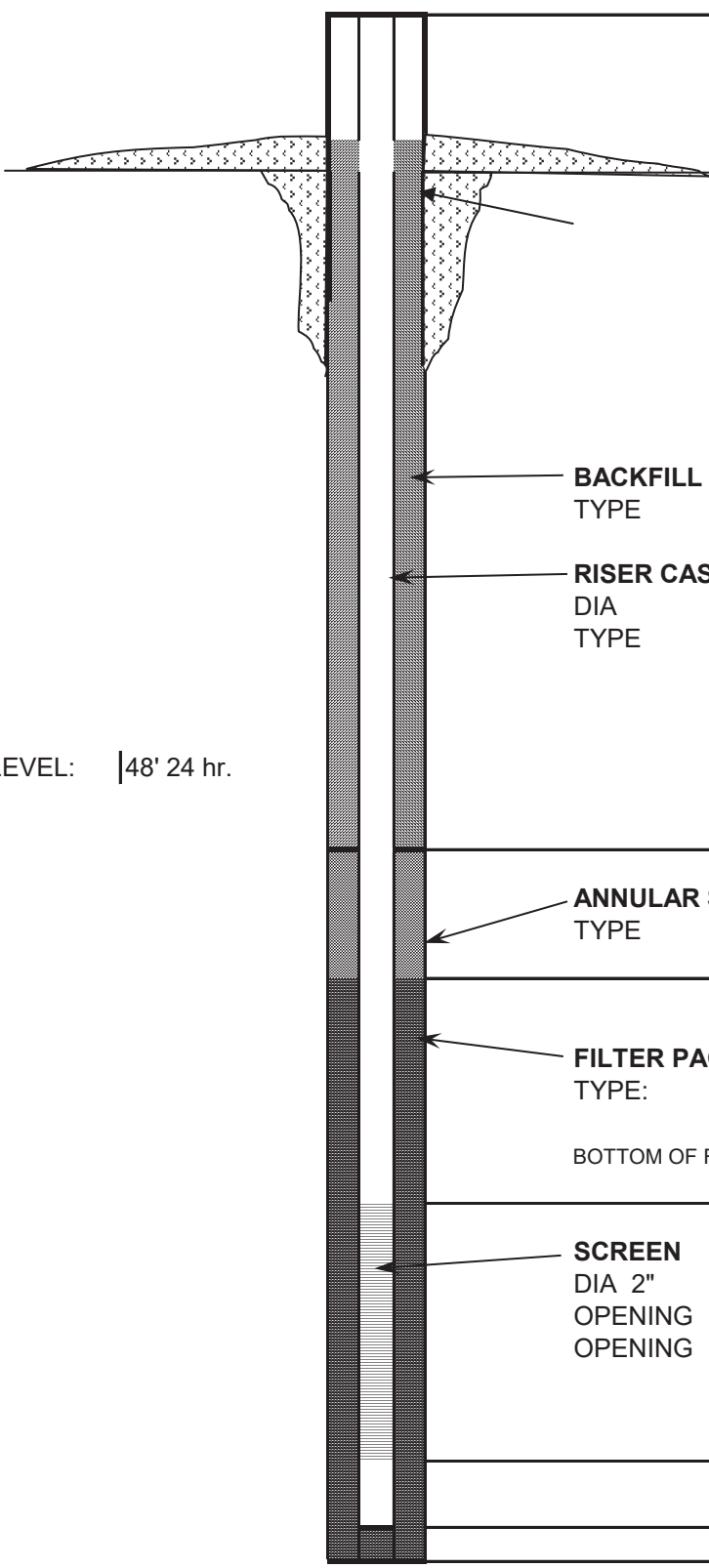
DATE STARTED 5/19/2007

ENDED 5/19/2007

Grissom

SGYP-31

	DEPTH	ELEVATION
TOP OF CASING EL.	-0.57	463.47
GROUND SURFACE	0	462.9
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	50.2	412.7
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	52.2	410.7
FILTER PACK TYPE: DSI #2 filter sand (7 bags)		
BOTTOM OF RISER/ TOP OF SCREEN	54.7	408.2
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	64.7	398.2
BOTTOM OF CASING		
BOTTOM OF HOLE	65.3	397.6



WATER LEVEL: |48' 24 hr.

HOLE DIA:
8"



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-32**
Sheet 1 of 3

SITE <u>Plant Schere Gypsum Storage</u>		HOLE DEPTH 68'	SURF.ELEV. <u>444.8</u>
LOCATION <u>uliette A</u>	COORDINATES N <u>1121476.48</u>	E <u>2410757.99</u>	
ANGLE _____ BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. <u>CME-550</u>	
DRILLING METHOD <u>4 1/4"HSA</u>	NO. SAMPLES <u>13</u>	NO. U.D. SAMPLES _____	
CASING SIZE _____ LENGTH <u>68'</u>	CORE SIZE _____	TOTAL % REC. _____	
WATER TABLE DEPTH <u>48'</u>	ELEV. <u>396.8</u>	TIME AFTER COMP. _____	DATE TAKEN <u>8/7/2007</u>
TYPE GROUT _____ QUANTITY _____	MIX _____	DRILLING START DATE <u>8/7/2007</u>	
DRILLER <u>Brad Filipovich</u>	RECORDER <u>Tinsley</u>	APPROVED <u>J.Jordan</u>	DRILLING COMP. DATE <u>8/7/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	444.80								
1		Yellowish red, very stiff sandy SILT (ML)							
2									
3									
4				1	3.5-5.0	4-8-10	18		
5									
6									
7									
8									
9									
10			2	8.5-10.0	3-3-3	6			
11									
12									
13									
14		Saa, yellow and tan, stiff							
15			3	13.5-15.0	2-3-8	11			
16									
17									
18									
19									
20		Saa	4	18.5-20.0	3-2-6	8			
21									
22									
23									
24									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-32**

Sheet 2 of 3

SITE **Plant Schere Gypsum Storage** TOTAL DEPTH **68'** SURF.ELE **444.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Yellowish red, very stiff sandy SILT (ML)	5	23.5-25.0	2-3-5	8			
26									
27									
28									
29			Orange and tan with black	6	28.5-30.0	2-3-4	7		
30									
31									
32									
33									
34		Saa	7	33.5-35.0	2-4-4	8			
35									
36									
37									
38									
39		Saa. greenish yellow and orange, micaceous	8	38.5-40.0	2-3-4	7			
40									
41									
42									
43									
44		Saa	9	43.5-45.0	2-4-6	10			
45									
46									
47									
48									
49						▼ 24 hrs.			
50		Green, orange and white silty SAND (SM)	10	48.5-50.0	2-6-8	10	Saprolite		
51									
52									
53									
54									
55		Dark green, black, orange and white micaceous, medium dense SILTY SAND (SM)	11	53.5-55.0	8-11-16	27	Saprolite		
56									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. **SGYP-32**

Sheet 3 of 3

SITE **Plant Schere Gypsum Storage** TOTAL DEPTH **68'** SURF.ELEV. **444.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Dark green, black, orange and white micaceous, medium dense silty SAND (SM)							
58									
59				12	58.5-60.0	50/2	47	Saprolite	
60									
61									
62									
63									
64									
65				13	63.5-65.0	33-50/5-X		Saprolite	
66									
67									
68.0	376.80		BOH @ 68'						
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 5/19/2007

ENDED 5/19/2007

Grissom

SGYP-32

	DEPTH	ELEVATION
TOP OF CASING EL.	-2.46	447.26
GROUND SURFACE	0	444.8
BACKFILL MATERIAL TYPE Bentonite Pellets		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 48' TOB		
TOP OF SEAL	54.0'	390.8
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	56.0'	388.8
FILTER PACK TYPE: DSI #2 filter sand		
BOTTOM OF RISER/TOP OF SCREEN	58.0'	386.8
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	68.0'	376.8
BOTTOM OF CASING		
BOTTOM OF HOLE	68.0'	376.8
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-33**

Sheet 1 of 3

SITE <u>Plant Schere Gypsum Storage</u>		HOLE DEPTH 59.2'	SURF.ELEV. <u>411.9</u>
LOCATION <u>uliette A</u>	COORDINATES N <u>1121786.59</u>	E <u>2411511.18</u>	
ANGLE _____	BEARING _____	CONTRACTOR <u>SCS</u>	DRILL NO. _____
DRILLING METHOD <u>4.25"HSA</u>	NO. SAMPLES <u>15</u>	NO. U.D. SAMPLES _____	
CASING SIZE <u>4.25" I.D.</u>	LENGTH <u>59.2</u>	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH <u>45.2</u>	ELEV. <u>366.7</u>	TIME AFTER COMP. <u>TOB</u>	DATE TAKEN <u>8/1/2007</u>
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE <u>8/8/2007</u>
DRILLER <u>Brad Filipovich</u>	RECORDER <u>P.S</u>	APPROVED <u>J.Jordan</u>	DRILLING COMP. DATE <u>8/8/2007</u>

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	411.90								
1		Yellowish red, stiff sandy SILT (ML)	1	3.5-5.0	4-7-7	14			
2									
3									
4									
5		Saa	2	8.5-10.0	2-3-4	7			
6									
7									
8									
9		Saa	3	13.5-15.0	4-6-7	13			
10									
11									
12									
13		Saa, light brown to yellow	4	18.5-20.0	4-7-8	15			
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-33**

Sheet 2 of 3

SITE **Plant Schere Gypsum Storage** TOTAL DEPTH **59.2'** SURF.ELE **411.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		tan to gray sandy SILT (ML)	5	23.5-25.0	3-6-7	13			
26									
27									
28									
29		Greenish gray, orange and white, micaceous, fine loose silty SAND (SM)	6	28.5-30.0	5-7-8	15	Saprolite		
30									
31									
32									
33		Saa	7	33.5-35.0	9-9-9	18	Saprolite		
34									
35									
36									
37		green, black & white	8	38.5-40.0	4-6-10	16	Saprolite		
38									
39									
40									
41			9	43.5-45.0	7-4-13	17	▼45.2		
42									
43									
44									
45		Saa	10	48.5-50.0	9-15-27	42	Saprolite		
46									
47									
48									
49		Saa wet	11	53.5-55.0	3-50/3		Saprolite		
50									
51									
52									
53									
54									
55									
56									



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. **SGYP-33**

Sheet 3 of 3

SITE **Plant Schere Gypsum Storage** TOTAL DEPTH **59.2'** SURF.ELEV. **411.9**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Greenish gray, orange and white, micaceous, fine loose silty SAND (SM)					Saprolite		
58									
59									
59.2	352.70		12	58.5-60.0	50/2		Saprolite		
60		BOH @ 59.2'							
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/8/2007

ENDED 8/8/2007 JJ

SGYP-33

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.71	413.61
GROUND SURFACE	0	411.9
BACKFILL MATERIAL TYPE Bentonite Pellets		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
WATER LEVEL: 43.5' 24 hr.		
TOP OF SEAL	44.5'	367.4
ANNULAR SEAL TYPE Enviroplug Pellets		
TOP OF FILTER PACK	46.5	365.4
FILTER PACK TYPE: DSI # filter sand		
BOTTOM OF RISER/TOP OF SCREEN	49.2	362.7
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted		
BOTTOM OF SCREEN	59.2	352.7
BOTTOM OF CASING		
BOTTOM OF HOLE	60	351.9
HOLE DIA: 8"		



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-34**

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 63.5	SURF.ELEV. 441.8
LOCATION Gypsum Disposal Area		COORDINATES N 1119663.64	E 2413286.6
ANGLE _____	BEARING _____	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 13	NO. U.D. SAMPLES 0	
CASING SIZE _____	LENGTH _____	CORE SIZE _____	TOTAL % REC. _____
WATER TABLE DEPTH 43.3	ELEV. 398.5	TIME AFTER COMP. 24 hrs	DATE TAKEN 5/19/2007
TYPE GROUT _____	QUANTITY _____	MIX _____	DRILLING START DATE 5/18/2007
DRILLER Filipovich	RECORDER JLP	APPROVED A. Grissom	DRILLING COMP. DATE 5/18/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	441.80								
1		Very stiff, brownish red, fairly dry, clayey SILT (ML) micaceous	1	3.5-5.0	6-8-9	17			
2									
3									
4									
5		Stiff, yellow and red mottling, fairly dry, slightly clayey SILT (ML)	2	8.5-10.0	4-5-6	11			
6									
7									
8									
9		Stiff, reddish brown, fairly dry, slightly clayey SILT, micaceous	3	13.5-15.0	4-4-5	9			
10									
11									
12									
13		SAA, firm	4	18.5-20	3-3-4	7			
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



DRILLING LOG

GEOLOGICAL SERVICES

Hole No. SGY-34

Sheet 2 of 3

SITE Plant Scherer TOTAL DEPTH 63.5 SURF.ELE 441.8

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
25		Stiff, yellow and red-brown mottling, fairly dry, slightly sandy SILT (ML), micaceous	5	23.5-25.0	4-5-6	11			
26									
27									
28									
29			SAA						
30			6	28.5-30.0	3-5-5	10			
31									
32									
33									
34		SAA, more sandy							
35			7	33.5-35.0	4-4-6	10			
36									
37									
38									
39		Stiff, dark brown with grains of black, orange and gold, moist, very sandy SILT (ML)							
40			8	38.5-40.0	5-6-8	14	Saprolite		
41									
42									
43							▼ 24 hrs.		
44		SAA, hard							
45			9	43.5-45.0	9-15-23	38	Saprolite		
46									
47									
48									
49		Very dense, mixture of black, brown and light gray grains, slightly moist, slightly silty SAND (SM)							
50			10	48.5-50.0	50/5.5"	REF	Saprolite		
51									
52									
53									
54		ery hard brown slightly moist sandy S L mi a eous							
55			11	53.5-55.0	23-36-50	86	Saprolite		
56									



DRILLING LOG GEOLOGICAL SERVICES

Hole No. **SGYP-34**

Sheet 3 of 3

SITE **Plant Scherer** TOTAL DEPTH **63.5** SURF.ELEV. **441.8**

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
57		Light reddish brown, fine-grained silty SAND (SM)							
58									
59									
60				12	58.5-60.0	45-36-39	75	Saprolite	
61									
62		Very dense, white to tan, moist, sandy weathered fine to medium-grained SAND and ro BOH @ 63.5'							
63									
64			13	63.5-65.0	50/5"	REF	Saprolite		
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
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88									

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