

HYDROGEOLOGIC ASSESSMENT REPORT

PLANT SCHERER - ASH POND 1 (AP-1) MONROE COUNTY, GEORGIA

FOR



Revision 5 - September 2024

WSP USA Inc.
5170 Peachtree Road
Building 100, Suite 300
Atlanta, GA 30341
(770) 496-1893



Table of Contents

1.0	INTRODUCTION	1
2.0	BACKGROUND INFORMATION.....	1
2.1	Site Description and Physiography	1
2.2	Regional Geologic and Hydrogeologic Setting	2
2.2.1	Regional Geology	2
2.2.2	Regional Hydrogeology.....	3
3.0	SITE GEOLOGIC CONDITIONS	4
3.1	Geologic Mapping Methodology	4
3.2	Residual Soil and Saprolite	4
3.3	Lithologic Units	5
3.4	Geologic Structure	5
3.4.1	Foliation and Faults.....	5
3.4.2	Joints.....	6
3.4.3	Discussion.....	6
3.5	Lineament Analysis	7
3.5.1	Methodology.....	7
3.5.2	Discussion of Lineaments	8
3.5.3	Discontinuity Mapping and Lineament analysis Correlation	8
4.0	CONCEPTUAL SITE HYDROGEOLOGIC MODEL	8
4.1	Uppermost Aquifer	8
4.2	Hydraulic Conductivity.....	9
4.3	Aquifer Characteristics	9
4.4	Regolith - Bedrock Aquifer System	10
4.5	Conceptual Site Hydrogeologic Model Summary	11
4.6	Groundwater Monitoring Well Network	13
4.6.1	Upgradient Monitoring Wells	14

4.6.2	Downgradient Monitoring Wells	14
5.0	THREE-DIMENSIONAL NUMERICAL GROUNDWATER MODEL.....	14
6.0	GROUNDWATER QUALITY	16
6.1	Detection Monitoring Program	16
6.2	Assessment Monitoring Program	16
7.0	REFERENCES	17

Figures

Figure 1	Site Location Map
Figure 2	Site Plan and Profile Orientation Map
Figure 3	Geologic Map
Figure 4	Estimated Top of Rock Map
Figure 5A	Geologic and Hydrogeologic Cross Sections Schematic A-A'
Figure 5B	Geologic and Hydrogeologic Cross Sections Schematic B-B'
Figure 5C	Geologic and Hydrogeologic Cross Sections Schematic C-C'
Figure 5D	Geologic and Hydrogeologic Cross Sections Schematic D-D'
Figure 5E	Geologic and Hydrogeologic Cross Sections Schematic E-E'
Figure 5F	Geologic and Hydrogeologic Cross Sections Schematic F-F'
Figure 6	Discontinuity Data from Geologic Mapping
Figure 7	Remote Sensing Lineament Map
Figure 8	Comparison of Measured Discontinuities and Lineaments
Figure 9	Potentiometric Surface Map – Ash Pond 1 February 19, 2024
Figure 10	Site Plan and Compliance Monitoring Network

Tables

Table 1	Summary of Monitoring Well, Assessment Well and Piezometer Construction Data
Table 2	Summary of Groundwater Elevations 2023-2024
Table 3	Horizontal Groundwater Velocity Calculations – February 2024
Table 4	Vertical Groundwater Gradient Calculations – February 2024

Appendices

Appendix A: AECOM Groundwater Model Summary Report Pre- and Post-Closure Conditions Plant

Scherer - Ash Pond 1 (AP-1)

Appendix B: Boring Logs and Well Construction Diagrams

B-1: Ash Pond 1 Detection Monitoring Wells Monitoring Well Logs and Construction Diagrams

B-2: Ash Pond 1 Assessment Monitoring Wells Monitoring Well Logs and Construction Diagrams

B-3: Piezometers Piezometer Logs and Construction Diagrams

B-4: Gypsum Cell 1 Monitoring Wells Monitoring Well Logs and Construction Diagrams

B-5: PAC Ash Cell Monitoring Wells Monitoring Well Logs and Construction Diagrams

B-6: Cell 3 Monitoring Wells Monitoring Well Logs and Construction Diagrams

B-7: SPT Logs

B-8: C-Series Logs


B-9: SGYPT Logs

Certification

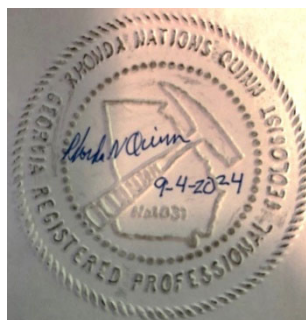
This *Hydrogeologic Assessment Report*, Georgia Power Company, Plant Scherer Ash Pond 1 (AP-1) has been prepared in compliance with applicable Georgia Solid Waste Management Rules by a qualified groundwater scientist or engineer with WSP USA Inc., with the exception of Appendix A, which is the groundwater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

In accordance with 391-3-4-.01, of the Georgia Rules and Regulations for Solid Waste Management, "I certify that I am a qualified groundwater scientist 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 me to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action." I further certify that this *Hydrogeologic Assessment Report* was prepared by myself or by a subordinate working under my direction. 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).

WSP USA, Inc.



Dawn L. Prell, CPG
Technical Principal, Hydrogeologist



Rhonda N. Quinn, PG
Georgia Registered Professional Geologist No. 1031



Mark T. Prytula, PhD, PE
Georgia Professional Engineer No. 026729

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 the existing surface impoundment 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 WSP USA, Inc. (formerly 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 (feet relative to the North American Vertical Datum of 1988 (NAVD88)) occurring along the topographic ridge west of AP-1, and a topographic low of less than 380 feet NAVD88 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.

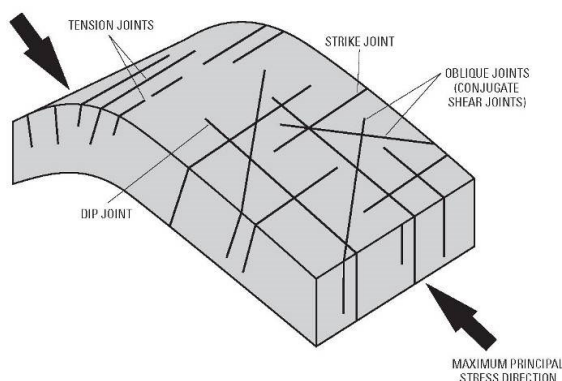
The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are deeply weathered due to the humid climate and bedrock is typically overlain 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 six geologic cross sections, presented as Figures 5A through 5F. 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-5F. 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/northwest 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 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

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

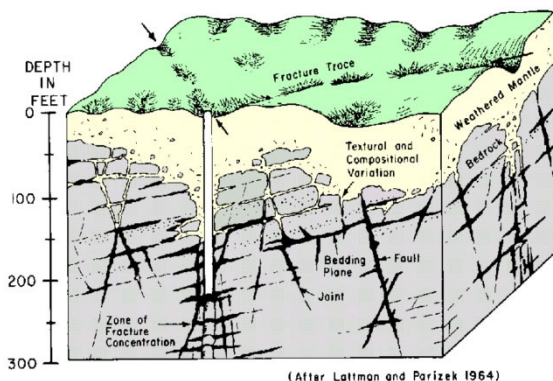
strike in the western portion of the property to the more regional NE-trending strike elsewhere on the property. The biotite gneiss on the west side of the site is characterized by an increase in granite and interlayered schist, whereas numerous mafic bodies have intruded the biotite gneiss on central 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 for Block Diagram). 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 the 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-5F), 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 at 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 (K) data for the groundwater aquifer were tabulated from several previous reports, AQTESOLV files, and data provided by Georgia Power and SCS. *Hydraulic conductivity value of 2.27 feet/day (8.02×10^{-4} cm/sec) with a median value of 1.29 feet/day (4.55×10^{-4} cm/sec) has been established for AP-1. 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 - Ash Pond 1 (AP-1)* (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 an average horizontal hydraulic conductivity of 2.27 feet/day (8.02×10^{-4} cm/sec) with a median value of 1.29 feet/day (4.55×10^{-4} cm/sec), which are used in the flow calculations. Table 2 presents a summary of groundwater elevations from 2023 through February 2024 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 (US EPA, 1996).

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

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

Where:

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

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

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

n_e = 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 0.07 feet/day to 0.37 feet/day (approximately 27 to 134 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 shares 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 2023 to February 2024 the maximum groundwater elevations for the AP-1 area are in the range of 516 feet NAVD88 (observed at upgradient well SGWA-3) while minimum groundwater elevations observed at AP-1 are in the range of 359 feet NAVD88 (observed at PZ-49S). Conversely, maximum groundwater elevations observed in the eastern portion of the site where the landfills are situated is 436 feet NAVD88 (observed at GWA-45) with a minimum elevation of 364 feet NAVD88 (observed at GWC-1).

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/sec), (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 flows to tributaries onsite. Vertical hydraulic gradients between the regolith and bedrock aquifers were calculated using the February 2024 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 (WSP'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

WSP 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 feet 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 in the overburden.

Additional site piezometers are in place both upgradient and downgradient of AP-1 and are used for recording groundwater elevations only. The piezometers 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.

The model was constructed to reflect 2016, pre-closure conditions and was calibrated to a comprehensive 2016 water level monitoring dataset. While additional data has been collected since the creation of the model, the model construction elements are reasonable for simulating pre-closure and post-closure conditions. Justifications for each data element have been incorporated into the HAR and are described below.

Boundary Conditions - The following boundary conditions were used in the Flow Model to represent water features, like creeks, ponds, or man-made water features such as lakes and seepage collection sumps, where water is either added or removed from the water system within the flow model domain:

- Constant Head cells to maintain the specified groundwater elevation at the cell location, used to represent Lake Juliette, to the south, since the surface water level remains relatively constant;
- Drain cells to remove groundwater down to a specified elevation, used to represent creeks throughout the model domain, wetlands in the northeast portion of the model domain, and four seepage collection sumps around the outside of the berms surrounding AP-1; and
- River cells to add or remove water at the cell location which maintain the specified groundwater elevation, based on the conductivity specified at the cell location.

Groundwater elevations used in model calibration - 2016 Groundwater elevation dataset was the most complete (comprehensive) dataset for calibration targets. In addition, the 2016 pre-closure conditions were used to select and structure boundary conditions, making them the most appropriate for calibration. The model is well calibrated, and model projections for the pre-closure conditions are consistent with recent field measurements. For these reasons, this steady state model is well suited for this evaluation.

Hydraulic conductivities used in model calibration - The hydraulic conductivity values in the “K-zones” throughout the flow model domain were based on existing slug test and pumping test results used as guidelines for the flow model K-values. The flow model calibration process resulted in adjustments to some of the K-zone values to achieve calibration. Throughout the calibration process, the K-values were maintained within the range of measured values.

Non-use/incorporation of fractured competent bedrock layer flow into the groundwater model - There are four layers in the flow model, each having unique hydraulic conductivity values: Layer 1 is the CCR and pond embankments, Layer 2 is the saprolite, Layer 3 is the fractured (weathered) bedrock, and Layer 4 is the fractured competent bedrock. Most of the layers represent lithologic units where groundwater flow is predominantly through primary porosity and therefore the use of a single hydraulic conductivity value for each layer in the MODFLOW is appropriate. Similarly, groundwater flow in the fractured bedrock is simulated as an equivalent porous media, where both primary and secondary porosity features of the rock matrix are simulated with a single hydraulic conductivity value, as opposed to attempting to simulate groundwater flow through discrete fractures. While groundwater in the bedrock aquifer is generally located within secondary porosity features, the bedrock lithology at the site is relatively uniform. Under these circumstances, the equivalent porous media approach provides a commonly applied, practical approach in MODFLOW for simulating lithologic units which may contain fractures and/or heterogeneities. The bottom of the model is reflective of drilling depths that extend into competent bedrock. Consistent with the CSM as presented in the HAR, fracture density and connectivity decrease with depth.

Use of a recharge value of 10.15% to 14.58% of the annual precipitation – A background (basin wide average) recharge value ranging from 10.15% to 14.58% of the annual precipitation was used in the pre-closure model. These recharge values are based on an average annual precipitation of 45.68 inches per year observed at Macon, Georgia. This percentage is similar to the predicted rates from groundwater basin studies conducted in the southeastern Piedmont (Daniel and Sharpless, 1983). These methods are consistent with those documented in Anderson and Woessner, 2015, which states that “modelers have traditionally assumed a spatially uniform

recharge rate across the water table equal to some percentage of annual precipitation.” The range of recharge values is the result of the flow calibration process. Through this process, Recharge Zone 10 recharge was refined to exhibit lower recharge than Recharge Zone 9 to better reflect the pre-closure site conditions. Through the calibration process, the recharge and evapotranspiration (ET) on the CCR was refined independent of the remainder of the model domain. The capped CCR (and Knob) would not have any recharge.

In the post-closure condition, with AP-1 capped (including the Knob area), the potentiometric surface (Figure 33) indicates lateral flow into AP-1 is greatly reduced when compared to the pre-closure condition as shown in Figure 34 of the model report (Appendix A).

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 semi-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 semi-annual 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 on May 15, 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, 2022a, 2022b, 2023a, 2023b, and 2024a) published to Georgia Power’s website. Following identification of the SSLs of cobalt in AP-1 detection monitoring wells (SGWC-10, SGWC-11, SGWC-15, SGWC-18, and SGWC-20), 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. Following review of the ASD report, GA EPD issued a notice of non-concurrence, dated August 2021, which acknowledged that cobalt is naturally occurring in groundwater but required additional lines of evidence for approval. Following receipt of GA EPD’s notice, Georgia Power initiated an assessment of corrective measures (ACM) on November 18, 2021.

7.0 REFERENCES

Publicly Available Information either used directly or indirectly in the preparation of this report:

AECOM, 2020. *Groundwater Model Summary Report – AP-1 Pre- and Post-Closure Conditions Plant Scherer - Ash Pond 1 (AP-1)*, AECOM – Design and Consulting Services, September 2024, Rev 1.

Anderson, M.P., W.W. Woessner, and R.J. Hunt, 2015. *Applied Groundwater Modeling Simulation of Flow and Advective Transport (2nd Ed.)*; Elsevier (Academic Press), London, UK.

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.

Daniels C., Harned D., 1998. *Ground-Water Recharge to and Storage in the Regolith-Fractured Crystalline Rock Aquifer System*, Guilford County, North Carolina, US Geological Survey Water-Resources Investigations Report 97-4140.

Davis, G.H., S.J. Reynolds, and C. Kluth, 2012. *Structural Geology of Rocks and Regions* (3rd Ed.); John Wiley and Sons, Inc., New York, New York. 864 pp.

Fetter, C. W., 1998. *Applied Hydrogeology*. Merrill Publishing Company, Columbus, Ohio. 592 pp.

Golder, 2019a. *2018 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company - Plant Scherer Ash Pond 1*, Golder Associates Inc., January 31, 2019.

Golder, 2019b. *2019 First Semi-Annual Groundwater Monitoring & Corrective Action Report, Georgia Power Company – Plant Scherer Ash Pond 1*, Golder Associates Inc., July 31, 2019.

Golder, 2019c. *Alternate Source Demonstration, Georgia Power Company Plant Scherer AP-1*, Golder Associates Inc., January 14, 2019.

Golder, 2020a. *2019 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, Golder Associates Inc., January 28, 2020.

Golder, 2020b. *2020 Semi-Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, Golder Associates Inc., August 31, 2020.

Golder, 2021a. *2020 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, Golder Associates Inc., January 31, 2021.

Golder, 2021b. *2021 Semi-Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, Golder Associates Inc., August 31, 2021.

Golder, 2022a. *2021 Annual Groundwater Monitoring & Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, Golder Associates Inc., January 31, 2022.

Golder, 2022b. *2022 Semi-Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, WSP Golder Associates USA Inc., August 31, 2022.

Golder, 2022c. *Assessment of Corrective Measures, Georgia Power Company Plant Scherer Ash Pond 1 (AP-1)*, WSP Golder Associates USA Inc., April 15, 2022.

Golder, 2023a. *2022 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, WSP USA Inc., January 31, 2023.

Golder, 2023b. *2023 Semi-Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, WSP USA Inc., August 31, 2023.

Golder, 2024a. *2023 Annual Groundwater Monitoring and Corrective Action Report, Georgia Power Company Plant Scherer Ash Pond 1*, WSP USA Inc., January 31, 2024.

Johnson, A. A., 1967. *Specific Yield – Compilation of Specific Yields for Various Materials*, Geologic Survey Water Supply Paper 1662-D – 1967.

Lattmon, L.H. and R.R. Parizek. 1964. *Relationship Between Fracture Traces and the Occurrence of Groundwater in Carbonate Rocks*. Journal of Hydrology 2:73-91.

Lawton, David E. 1976, Reprinted 1977. *Geologic Map of Georgia*. Georgia Department of Natural Resources.

Markewich, H. W., Pavich, M., Buell, G. R., 1990. *Contrasting Soils and Landscapes of the Piedmont and Coastal Plain, Eastern United States*, Geomorphology, 3, 417-447 – 1990.

Robinson, J. L., Journey, C. A., Atkins 1996. J B, *Ground-Water Resources of the Coosa River Basin in Georgia and Alabama - Subarea 6 of the Apalachicola-Chattahoochee-Flint and Alabama-Coosa-Tallapoosa River Basins*, USGS Report 96-177 – 1996.

Legrand, Sr., H. E., 2004. *Master Conceptual Model for Hydrogeological Site Characterization in the Piedmont and Mountain Region of North Carolina: a Guidance Manual* – 2004.

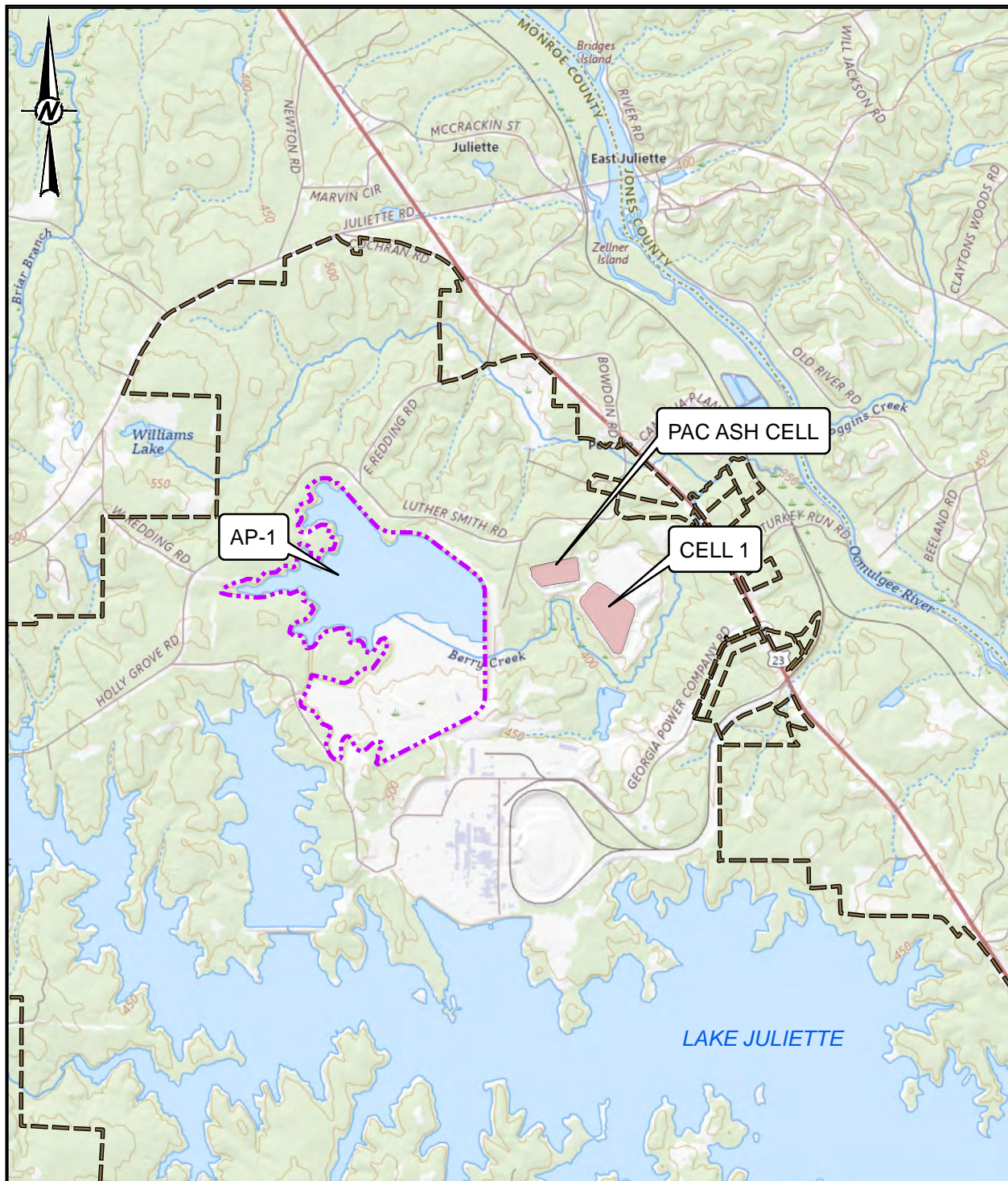
Chapman, M., M. Schlegel, B. A. Huffman, K. B. McSwain 2007. *Hydraulic Gradients in Recharge and Discharge Areas and Apparent Ground-Water Age Dates from the Characterization of Multiple Regolith-Fractured Bedrock Ground-Water Research Stations in North Carolina* – 2007.

LiDAR data for Heard and Coweta Counties

U.S. Geological Survey, 1973. *East Juliette 7.5-Minute Quadrangle*.

US EPA, 1996, *Soil Guidance Manual*

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
MONROE COUNTY, GEORGIA



PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
SITE LOCATION MAP

CONSULTANT



YYYY-MM-DD 2024-05-24

PREPARED RHG

DESIGN RHG

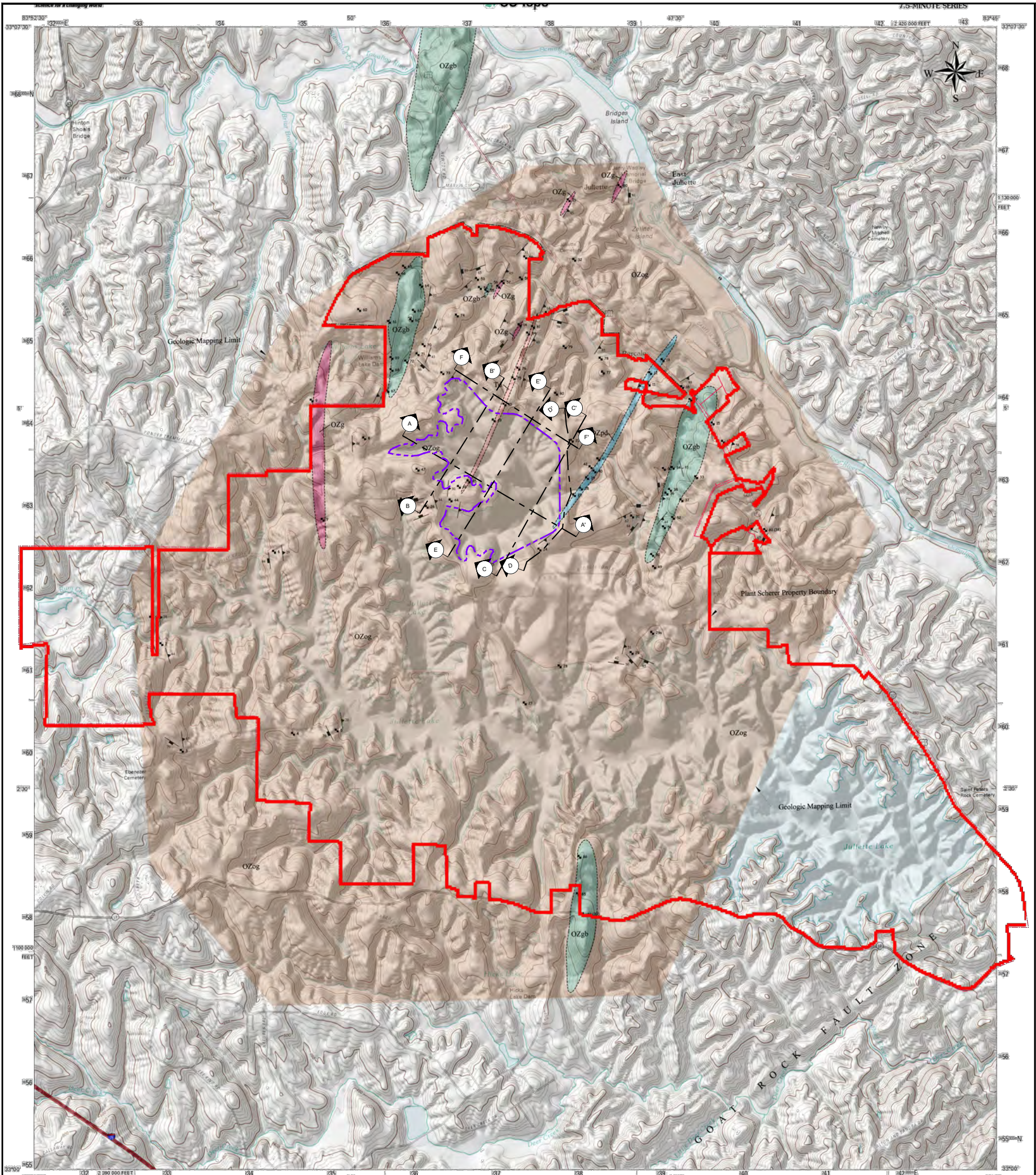
REVIEW RNQ

APPROVED RNQ

PROJECT No.
31406440.018

FIGURE
1

FIGURE
1



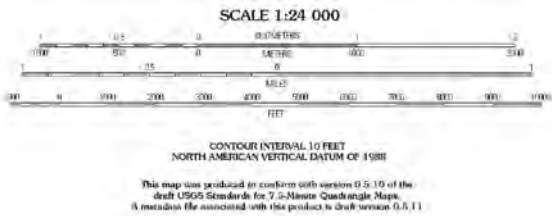
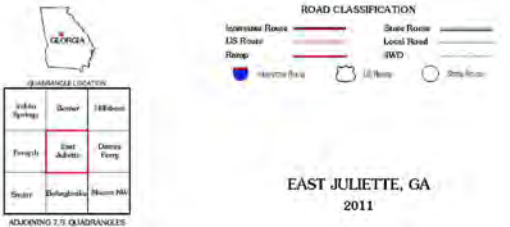
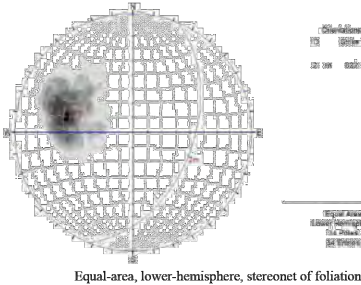
DESCRIPTION OF MAP UNITS

- Td** **Diabase (Triassic)-pyrite (minor)**-plagioclase-pyroxene diabase, fine- to medium-grained, equigranular, unfoliated, slightly weathered to fresh, characterized by an ochreous 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-runded 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
- 65 Strike and Dip of Foliation
- 23 Strike and Dip of Joint Sets
- 56 Map station location with associated number

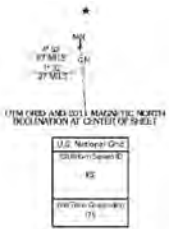


- LEGEND**
- PROPERTY BOUNDARY
- LIMITS OF AP-1
- CROSS-SECTION LINES

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 1985
(west zone)

Imagery: NAD83 September 2009
Base: 2009-2010 T46-A04
Datum: GNS, 2009
Hydrography: National Hydrography Dataset, 2008
Contours: National Elevation Dataset, 2008
Coordinate System: UTM27-17
File: georgia.mxd (last updated: 2/20/2010, drg, map sheet 24.1)



CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

CONSULTANT

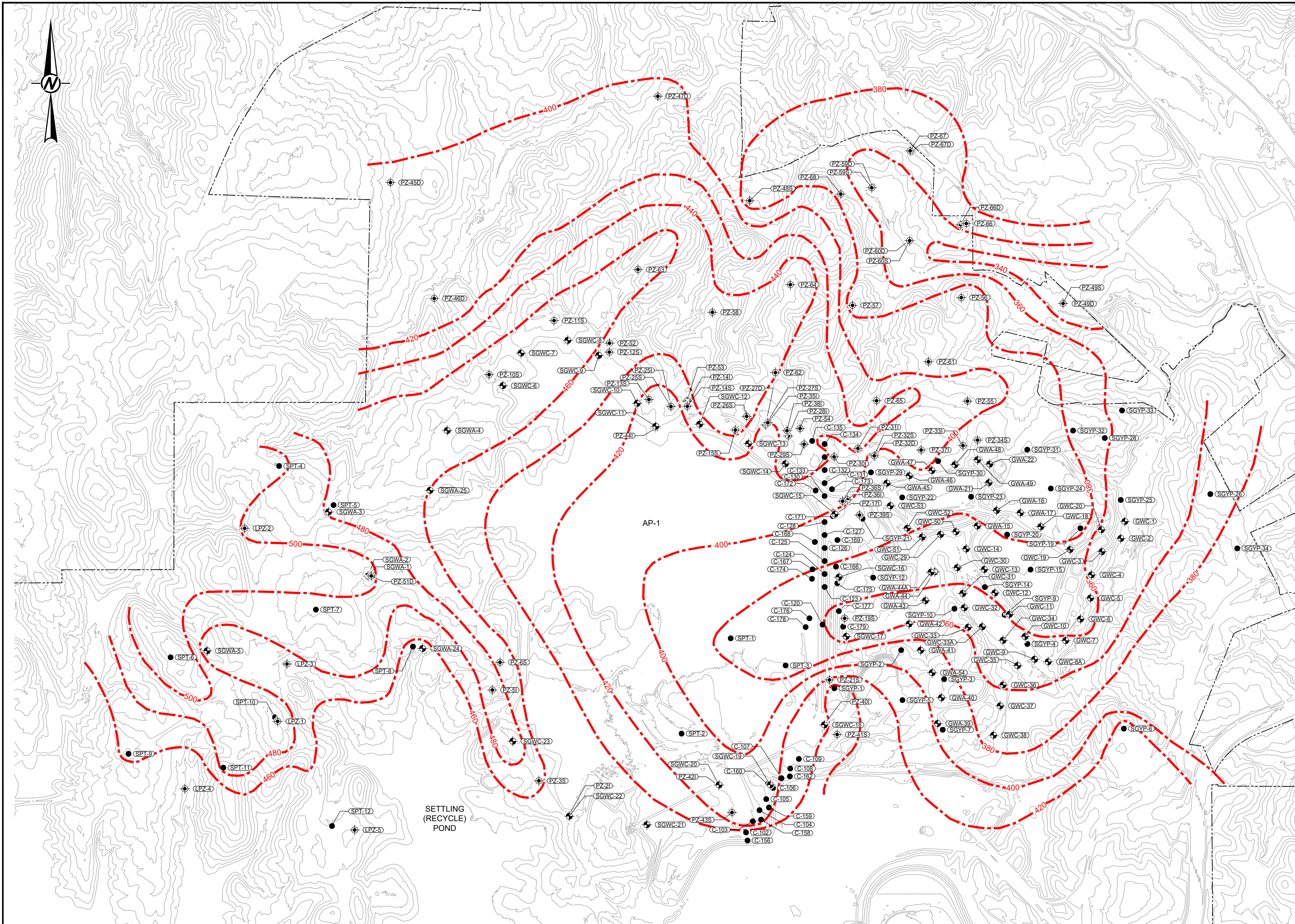


YYYY-MM-DD 2024-06-28
DESIGNED RQ
PREPARED DJC
CHECKED
REVIEWED/APPROVED

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

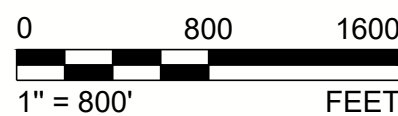
TITLE
GEOLOGIC MAP

PROJECT NO. 31404977.017 CONTROL 1662350M002.dwg REV. 0 FIGURE 3



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	<460	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-10S	<479	GWC-11	<368	SGYP-1	444.00
PZ-11S	<480	GWC-12	<375	SGYP-2	<397
PZ-12S	<470	GWC-13	<376	SGYP-3	<396
PZ-13S	<472	GWC-14	<376	SGYP-4	<351
PZ-141	435.93	GWA-15	<385	SGYP-5	<421
PZ-14S	<464	GWA-16	<386	SGYP-6	431.00
PZ-15S	<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-19S	~359	GWC-20	353.16	SGYP-12	<393
PZ-201	350.21	GWA-21	<402	SGYP-14	<357
PZ-21S	<466	GWA-22	<402	SGYP-15	<372
PZ-251	<399.7	GWC-29	<372	SGYP-19	389.00
PZ-25S	<469.5	GWC-30	373.0	SGYP-20	<386
PZ-26S	442.90	GWC-31	<370.0	SGYP-21	<410
PZ-27D	416.41	GWC-32	<367.9	SGYP-22	<401
PZ-27S	<427	GWC-33*	<336.8	SGYP-23	<388
PZ-281	<411.3	GWC-33A	<366.9	SGYP-24	<386
PZ-29S	<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-32D	393.36	GWC-37	<378.2	SGYP-29	<414
PZ-32S	<395.3	GWC-38	367.0	SGYP-30	<404
PZ-331	389.95	GWA-39	394.9	SGYP-31	<398
PZ-34S	<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-36S	<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-39S	<391.8	GWA-45	<415	SPT-4	505.00
PZ-401	440.13	GWA-46	<414	SPT-5*	430.00
PZ-41S	<443	GWA-47	<411	SPT-6	507.00
PZ-421	415.47	GWA-48	<397	SPT-7*	431.00
PZ-43S	<446	GWA-49	<392	SPT-8*	384.00
PZ-441	410.87	GWC-50	<370	SPT-9	461.00
PZ-45D	406.2	GWC-51	<383	SPT-10	491.00
PZ-46D	414.1	GWC-52	<384	SPT-11	482.00
PZ-47D	406.8	GWC-53	<403	SPT-12	456.00
PZ-48S	<380.3	GWA-54	389.6		
PZ-49D	329.88	C-102	452.00		
PZ-49S	<340.2	C-103	410.00		
PZ-50D	407.91	C-104*	369.00		
PZ-51D*	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 NAVD88)
⊕ 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
MONROE COUNTY, GEORGIA

CONSULTANT



YYYY-MM-DD 2024-06-28

DESIGNED RQ

PREPARED DJC

REVIEWED

APPROVED

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

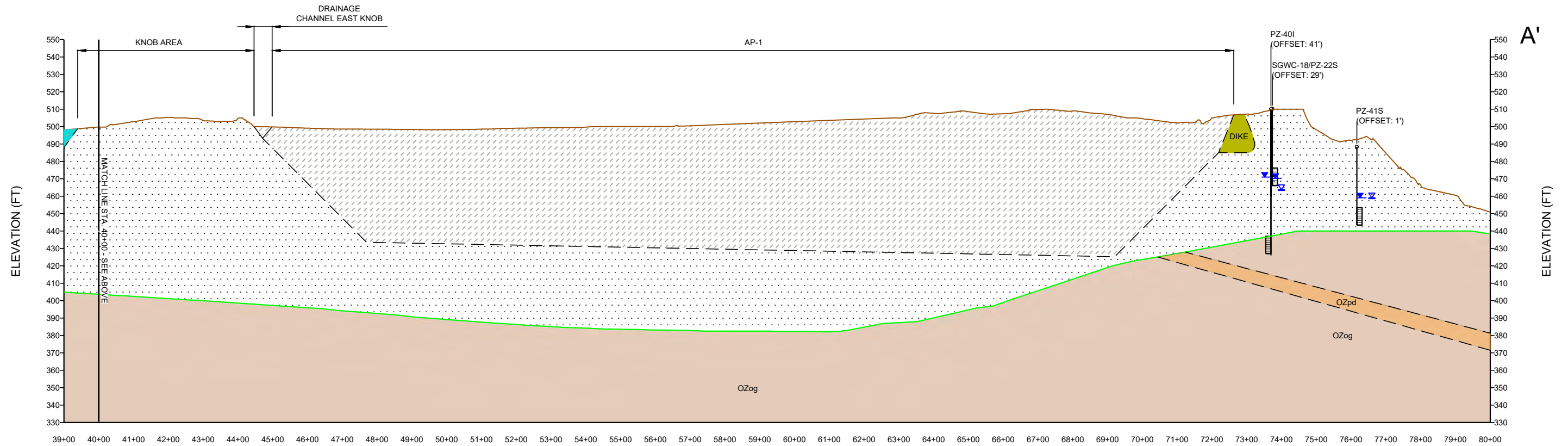
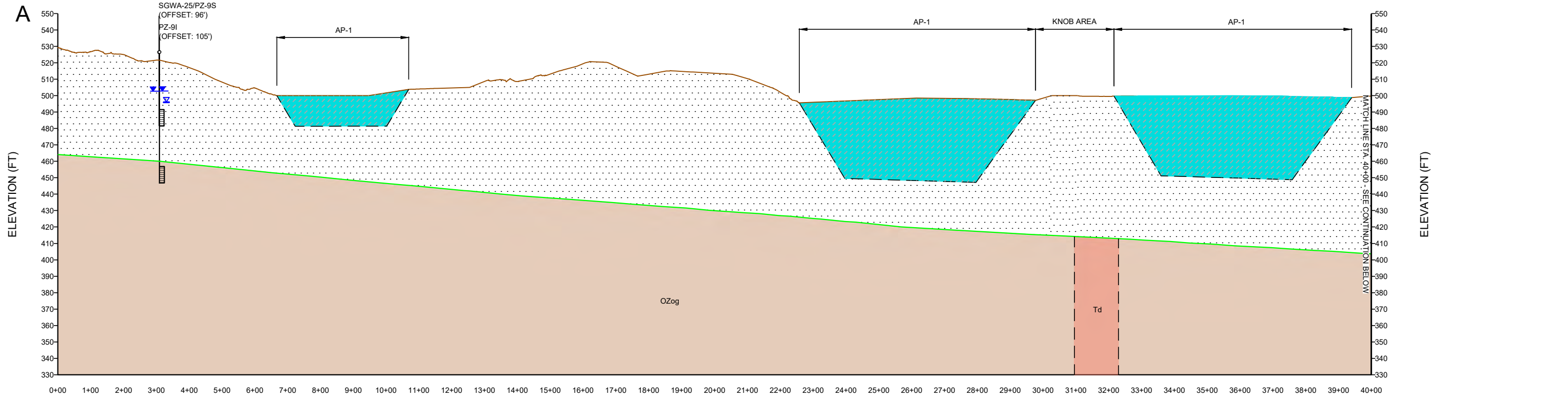
TITLE
ESTIMATED TOP OF ROCK MAP

PROJECT NO.
31404977.017

CONTROL
1662350M001.dwg

REV.
0

FIGURE
4



LEGEND

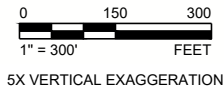
- EXISTING GRADE
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- OZog - BIOTITE GNEISS
- OZpd - PORPHYRITIC DIORITE (ESTIMATED)
- Td - DIABASE
- ESTIMATED CCR
- WATER
- GROUNDWATER ELEVATION (MEASURED FEBRUARY 19, 2024)
- PREDICTED POST-CLOSURE WATER LEVEL
- INDICATES GROUND SURFACE ELEVATION IS PROJECTED FOR THE WELL

NOTE

- MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 110 FEET.
- NO STRUCTURAL FEATURES WERE MAPPABLE FOR THE PORPHYRITIC DIORITE SILL (OZpd) 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
MONROE COUNTY, GEORGIA

CONSULTANT
wsp

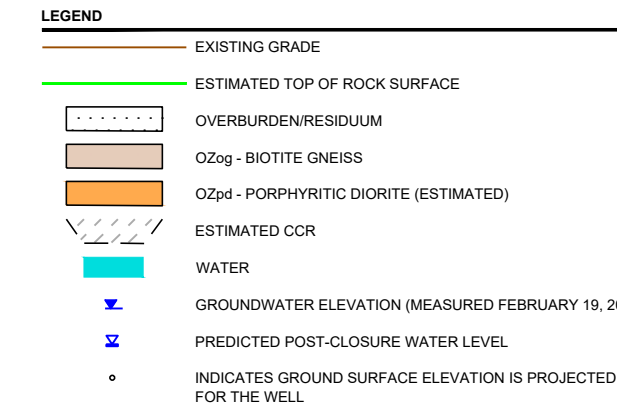
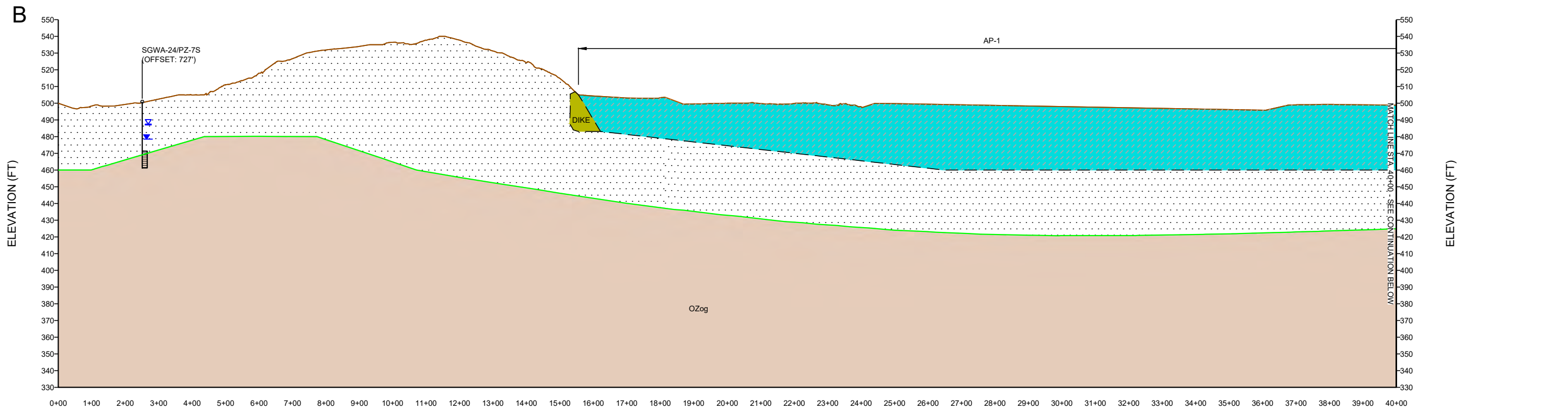
Georgia Power

YYYY-MM-DD	2024-05-16
DESIGNED	DLP
PREPARED	DJC
CHECKED	RNQ
REVIEWED/APPROVED	

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
GEOLOGIC AND HYDROGEOLOGIC CROSS SECTIONS SCHEMATIC A-A'

PROJECT NO.	CONTROL	REV.	FIGURE
31406440.018	1662350L002.dwg	5	5A

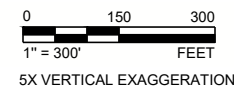
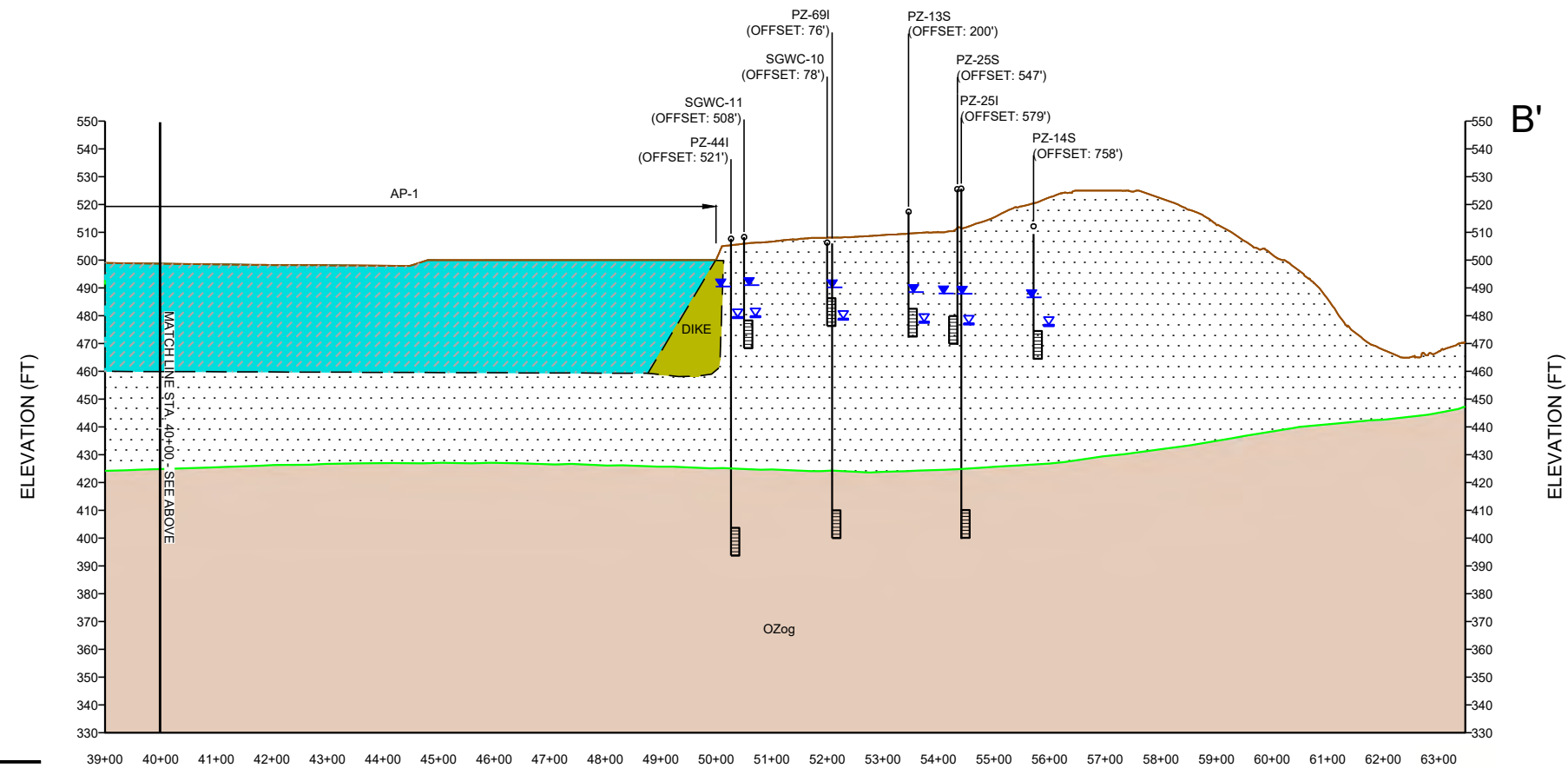


NOTE

MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 760 FEET.

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
MONROE COUNTY, GEORGIA

CONSULTANT



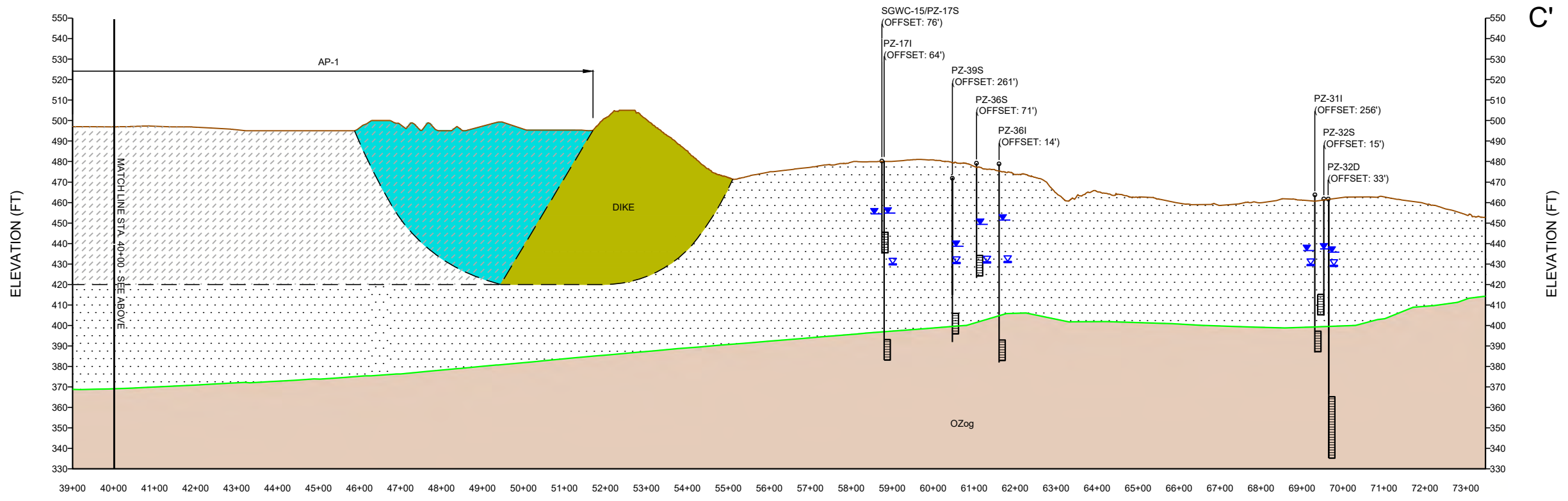
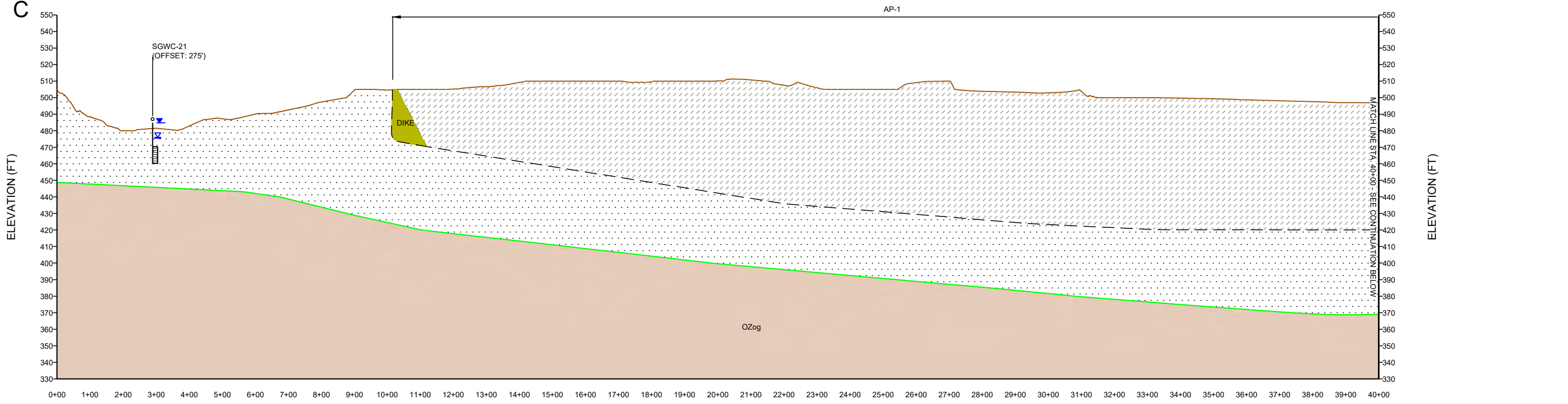
YYYY-MM-DD	2024-05-16
DESIGNED	DLP
PREPARED	DJC
CHECKED	RNQ
REVIEWED/APPROVED	

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

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

PROJECT NO. 31406440.018	CONTROL 1662350L002.dwg	REV. 5	FIGURE 5B
-----------------------------	----------------------------	-----------	---------------------

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



LEGEND

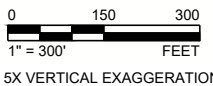
- EXISTING GRADE
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- OZog - BIOTITE GNEISS
- OZpd - PORPHYRITIC DIORITE (ESTIMATED)
- ESTIMATED CCR
- WATER
- GROUNDWATER ELEVATION (MEASURED FEBRUARY 19, 2024)
- PREDICTED POST-CLOSURE WATER LEVEL
- INDICATES GROUND SURFACE ELEVATION IS PROJECTED FOR THE WELL

NOTES

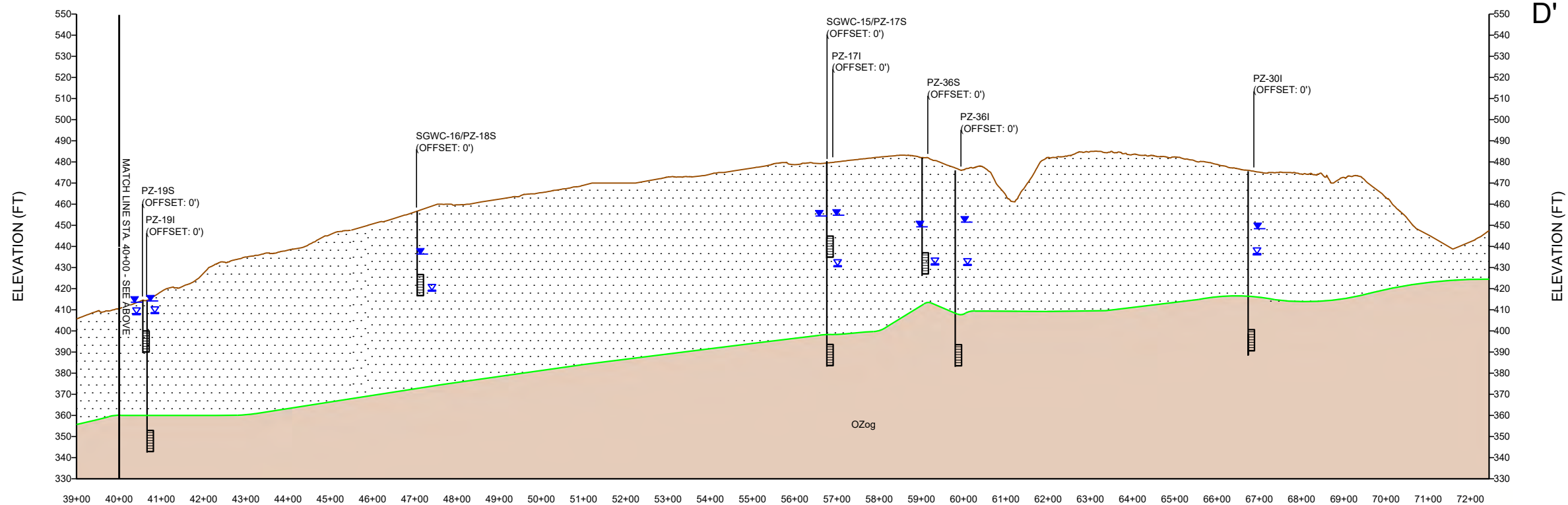
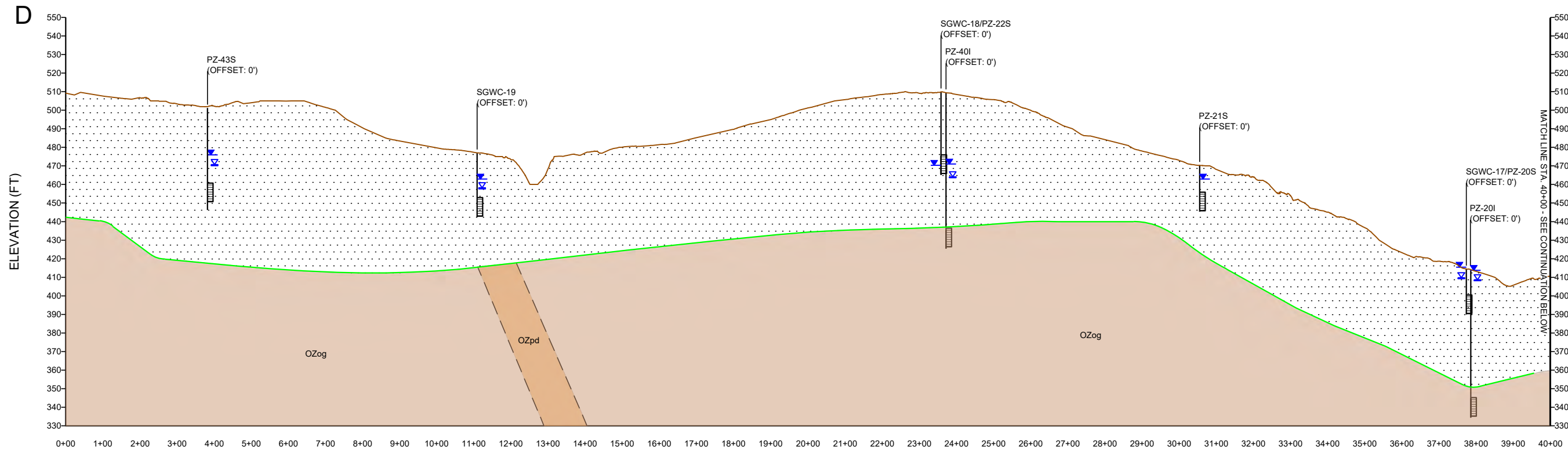
- THE WATER LEVEL FOR SGWC-21 APPEARS AS ABOVE GROUND SURFACE IS AN ARTIFACT OF PROJECTING THIS POINT ONTO THE LINE OF SECTION.
- MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 280 FEET.

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).

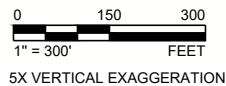


CLIENT	GEORGIA POWER COMPANY PLANT SCHERER MONROE COUNTY, GEORGIA	CONSULTANT	WSP
DESIGNED	DLP	CHECKED	RNQ
PREPARED	DJC	REVIEWED/APPROVED	
PROJECT	HYDROGEOLOGIC ASSESSMENT REPORT PLANT SCHERER - ASH POND 1 (AP-1)	TITLE	GEOLOGIC AND HYDROGEOLOGIC CROSS SECTIONS SCHEMATIC C-C'
PROJECT NO.	31406440.018	CONTROL	1662350L002.dwg
REV.	5	FIGURE	5C



- LEGEND**
- EXISTING GRADE
 - ESTIMATED TOP OF ROCK SURFACE
 - OVERBURDEN/RESIDUUM
 - OZpd - PORPHYRITIC DIORITE (ESTIMATED)
 - OZog - BIOTITE GNEISS
 - GROUNDWATER ELEVATION (MEASURED FEBRUARY 19, 2024)
 - PREDICTED POST-CLOSURE WATER LEVEL
 - INDICATES GROUND SURFACE ELEVATION IS PROJECTED FOR THE WELL

- NOTE**
1. NO STRUCTURAL FEATURES WERE MAPPABLE FOR THE PORPHYRITIC DIORITE SILL (OZpd) 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
MONROE COUNTY, GEORGIA



CONSULTANT



YYYY-MM-DD 2024-05-17
DESIGNED DLP
PREPARED DJC
CHECKED RNQ
REVIEWED/APPROVED

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

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

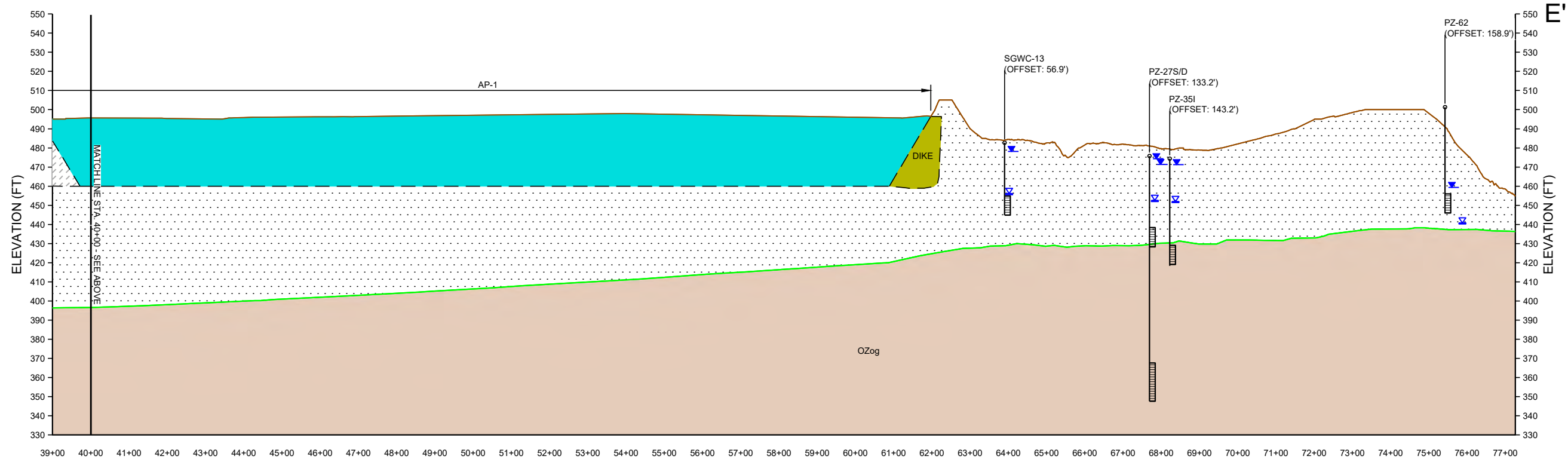
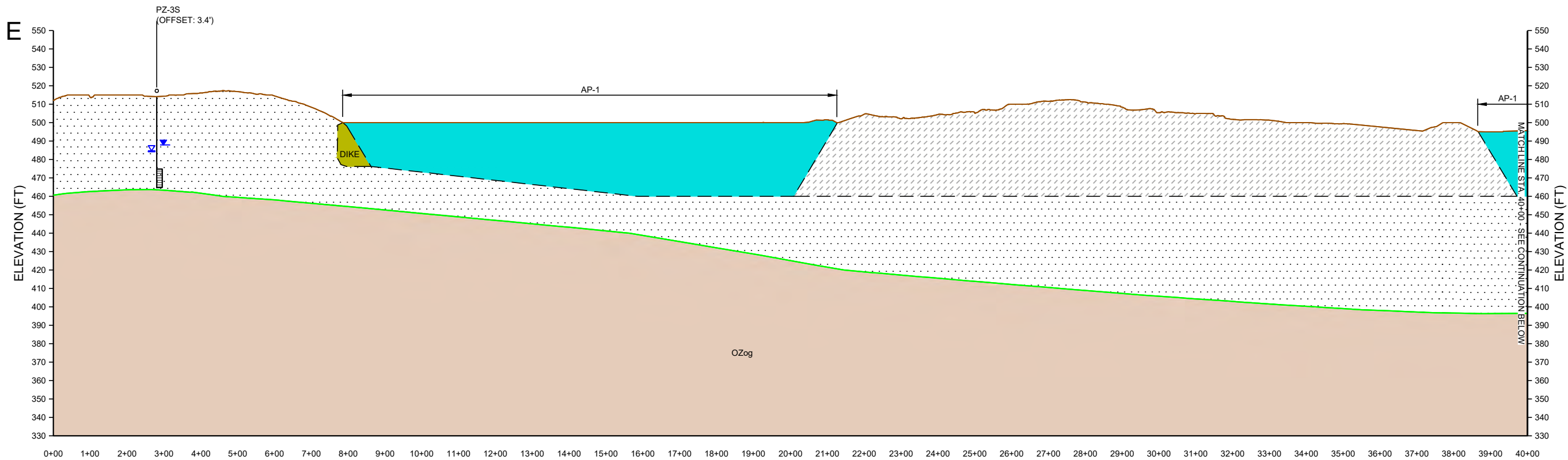
PROJECT NO.
31406440.018

CONTROL
1662350L002.dwg

REV.
5

FIGURE
5D

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



LEGEND

- EXISTING GRADE
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- OZog - BIOTITE GNEISS
- ESTIMATED CCR
- WATER
- GROUNDWATER ELEVATION (MEASURED FEBRUARY 19, 2024)
- PREDICTED POST-CLOSURE WATER LEVEL
- INDICATES GROUND SURFACE ELEVATION IS PROJECTED FOR THE WELL

NOTE

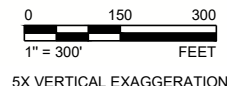
1. MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 160 FEET.

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
PLANT SCHERER
MONROE COUNTY, GEORGIA

CONSULTANT



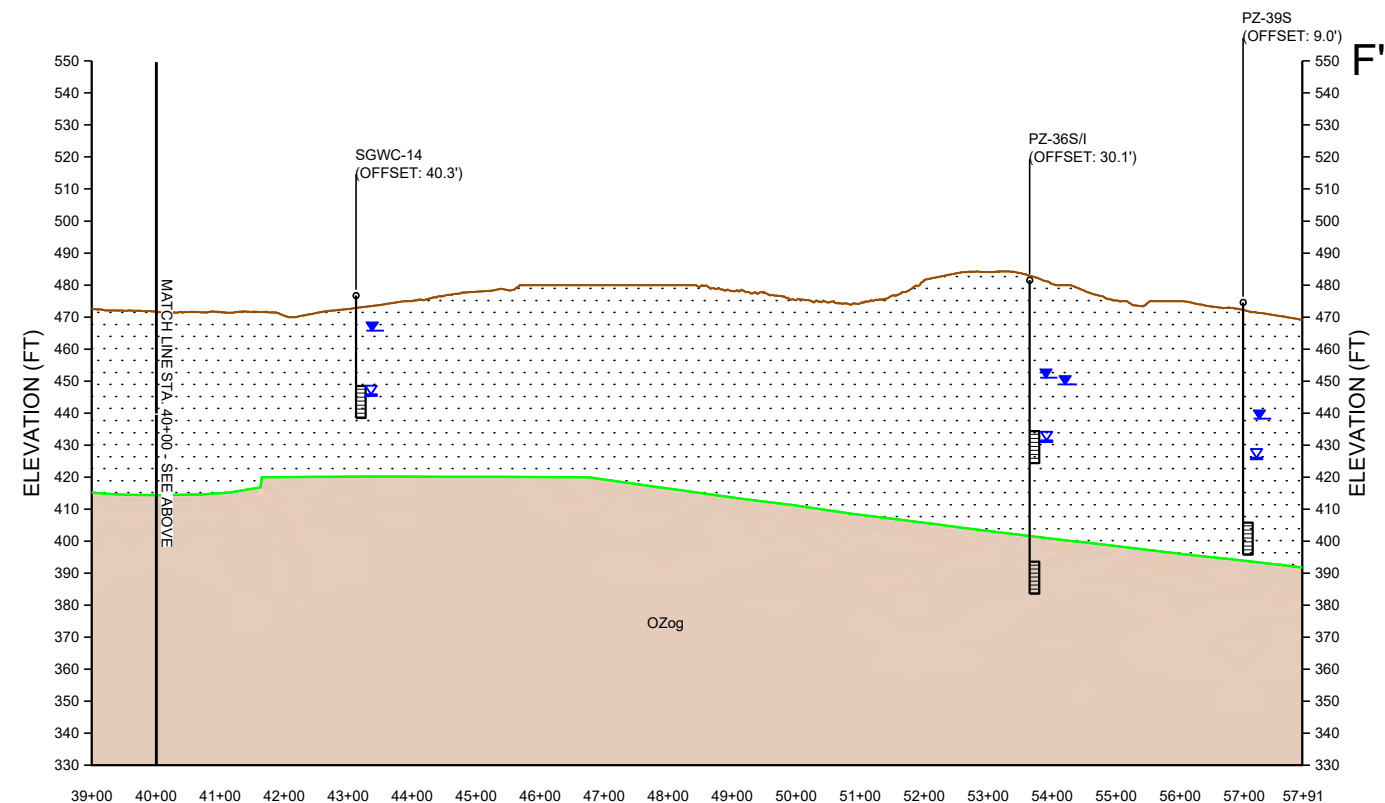
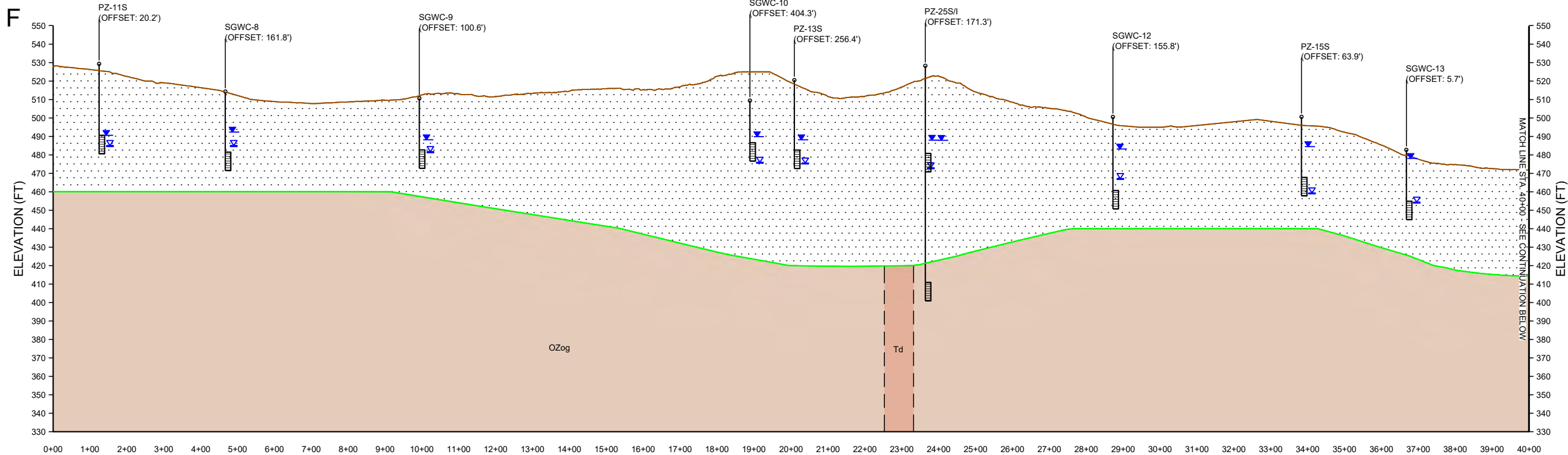
YYYY-MM-DD	2024-05-16
DESIGNED	DLP
PREPARED	DJC
CHECKED	RNQ
REVIEWED/APPROVED	

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
GEOLOGIC AND HYDROGEOLOGIC CROSS SECTIONS SCHEMATIC E-E'

PROJECT NO. 31406440.018	CONTROL 1662350L001.dwg	REV. 5	FIGURE 5E
-----------------------------	----------------------------	-----------	--------------

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



- LEGEND**
- EXISTING GRADE
 - ESTIMATED TOP OF ROCK SURFACE
 - POST CLOSURE CONTOURS
 - OVERBURDEN/RESIDUUM
 - OZog - BIOTITE GNEISS
 - Td - DIABASE (TRIASSIC)
 - ESTIMATED CCR
 - WATER
 - GROUNDWATER ELEVATION (MEASURED FEBRUARY 19, 2024)
 - PREDICTED POST-CLOSURE WATER LEVEL
 - INDICATES GROUND SURFACE ELEVATION IS PROJECTED FOR THE WELL

NOTE

1. MONITORING WELLS AND PIEZOMETERS ARE PROJECTED ONTO THE SECTION LINES AT A DISTANCE OF UP TO 405 FEET.

- 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).

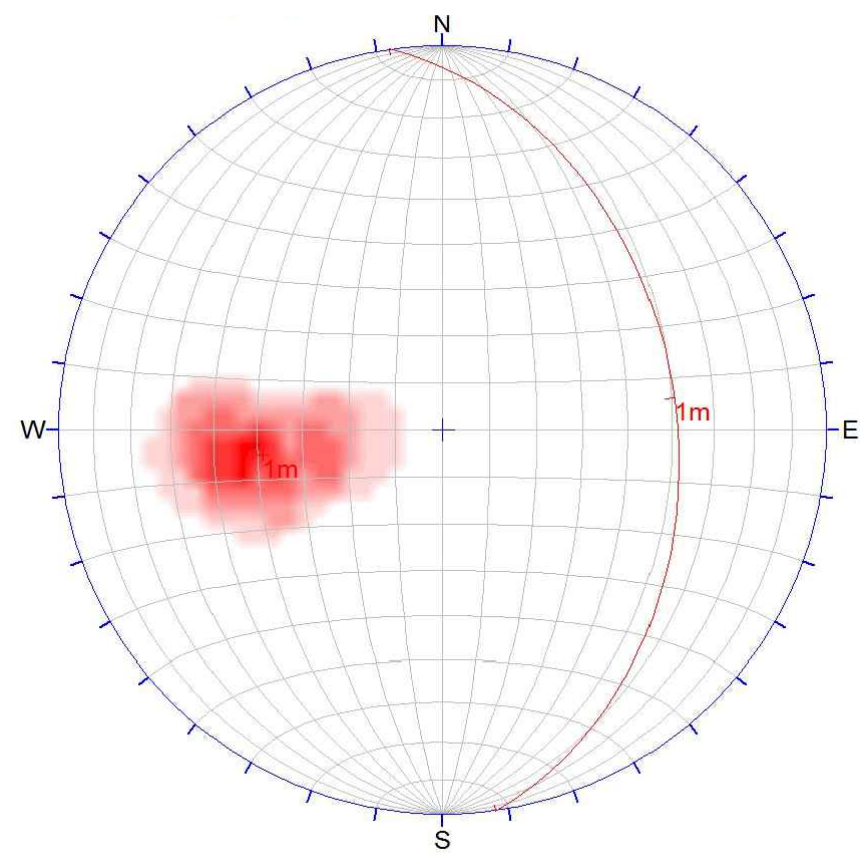


CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA
CONSULTANT
wsp

YYYY-MM-DD	2024-05-16
DESIGNED	DLP
PREPARED	DJC
CHECKED	RNQ
REVIEWED/APPROVED	



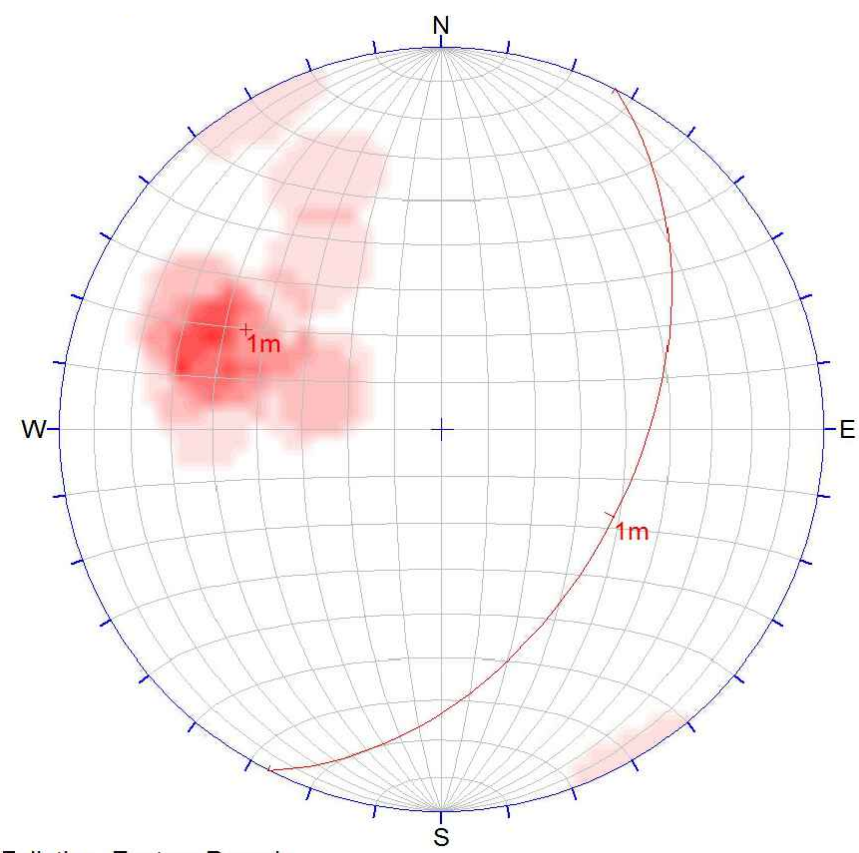
PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)
TITLE
GEOLOGIC AND HYDROGEOLOGIC CROSS SECTIONS SCHEMATIC F-F'
PROJECT NO. 31406440.018
CONTROL 1662350L001.dwg
REV. 5
FIGURE 5F



Foliation- Western Domain

Orientations		
ID		Strike / Dip Right
1	m	352 / 39

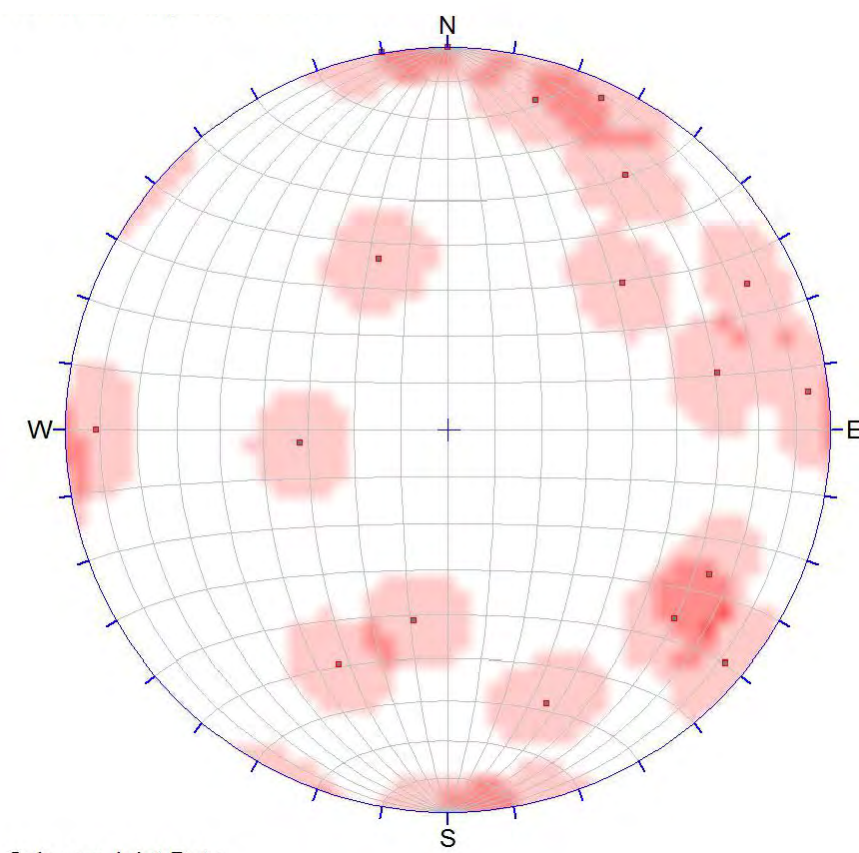
Equal Area
Lower Hemisphere
7 Poles
7 Entries



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

CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

CONSULTANT



YYYY-MM-DD	2024-06-28
DESIGNED	RQ
PREPARED	DJC
REVIEWED	
APPROVED	



PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
DISCONTINUITY DATA FROM GEOLOGIC MAPPING

PROJECT NO.
31404977.017

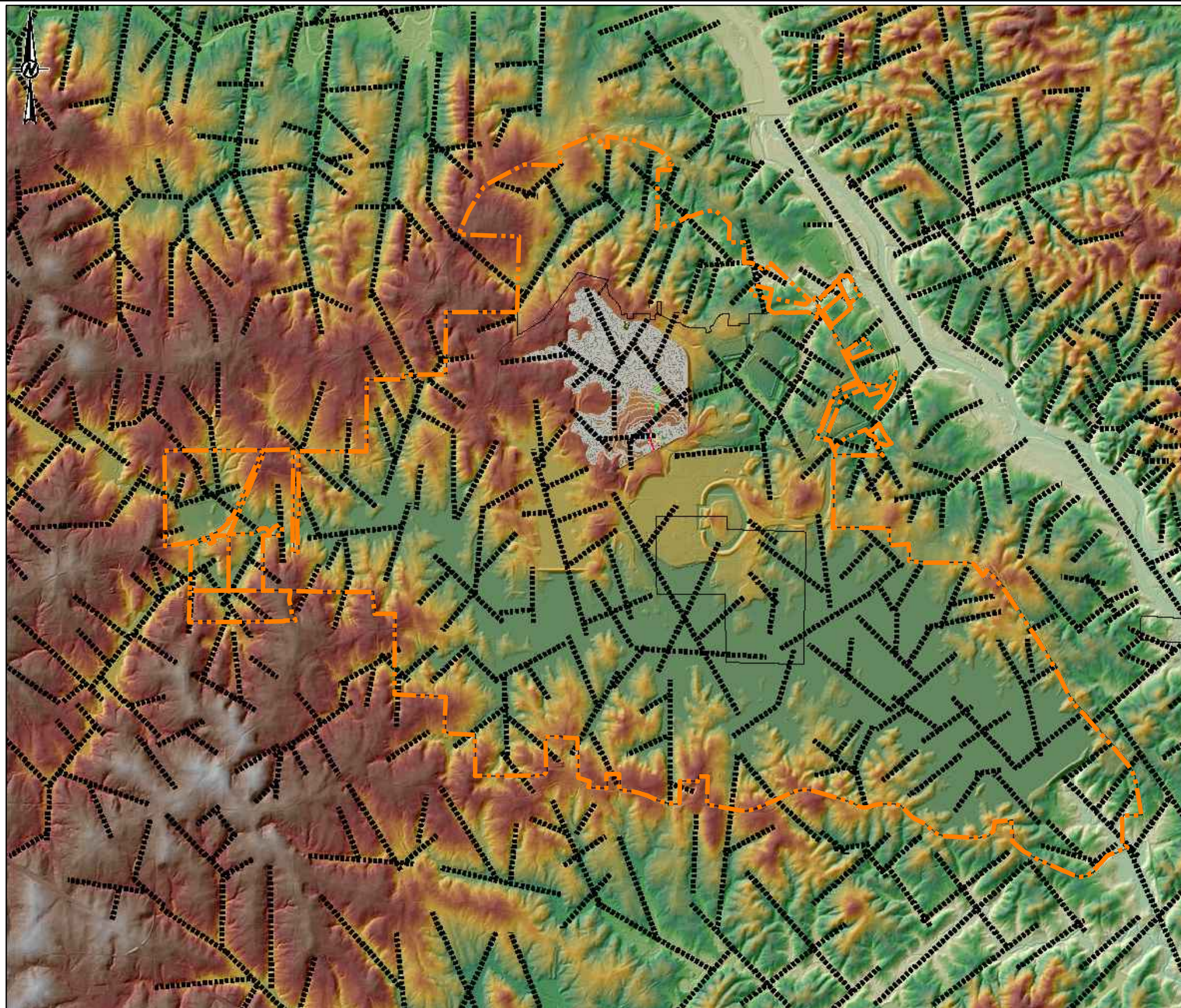
CONTROL
1662350M003.dwg

REV.
0

FIGURE
6

NOT TO SCALE

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



NOT TO SCALE

CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA



CONSULTANT



YYYY-MM-DD 2024-06-28

DESIGNED RQ

PREPARED DJC

REVIEWED

APPROVED

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
REMOTE SENSING LINEAMENT MAP

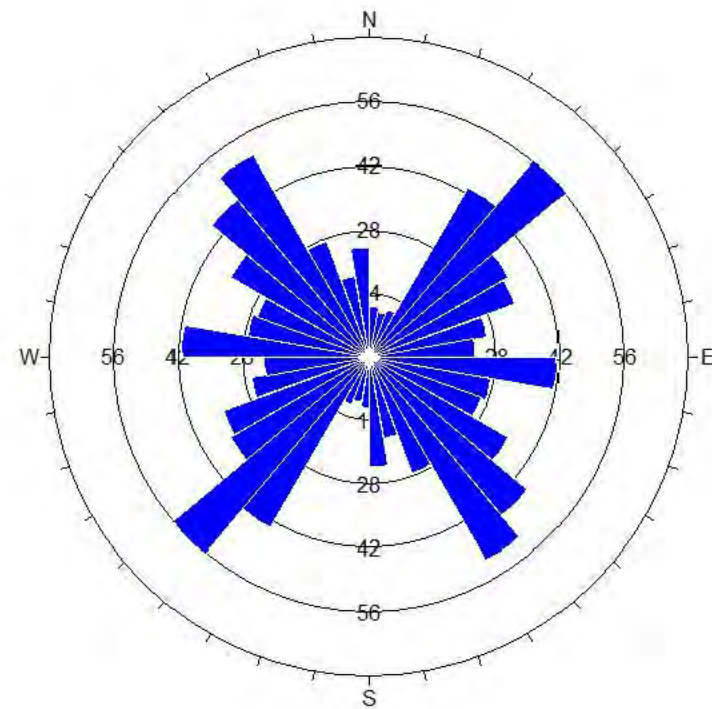
PROJECT NO.
31404977.017

CONTROL
1662350M004.dwg

REV.
0

FIGURE
7

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



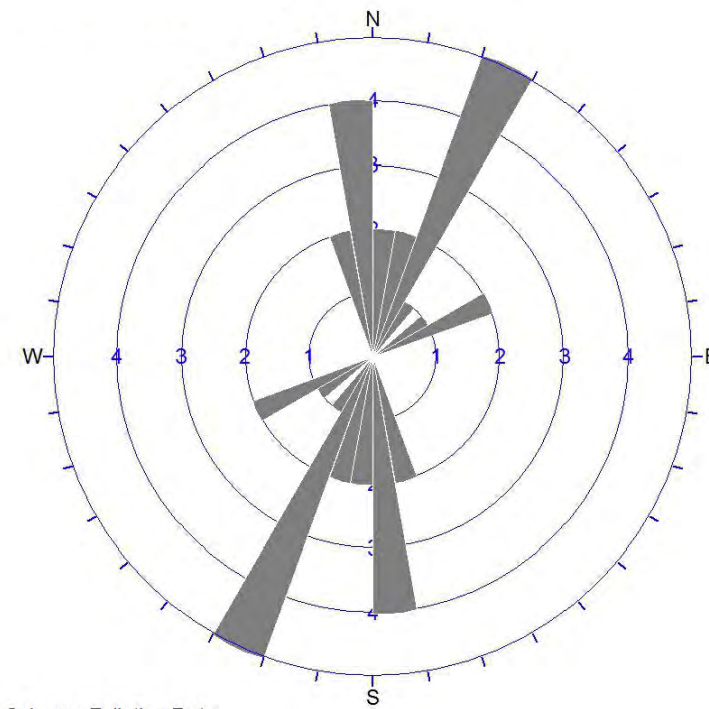
Rose Diagram of measured Lineaments.

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

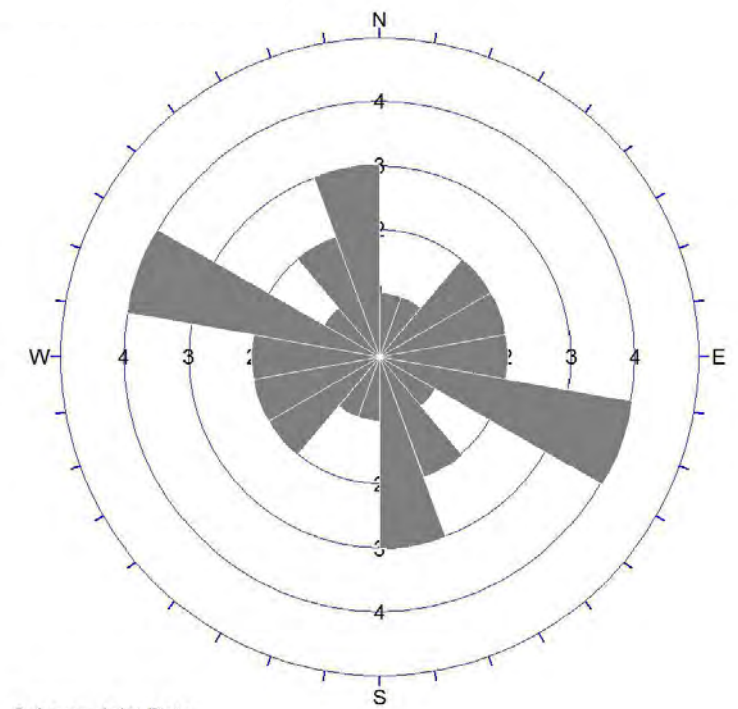
Rose Diagram of measured Foliation.

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
MONROE COUNTY, GEORGIA



CONSULTANT



YYYY-MM-DD 2024-06-28

DESIGNED RQ

PREPARED DJC

REVIEWED

APPROVED

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

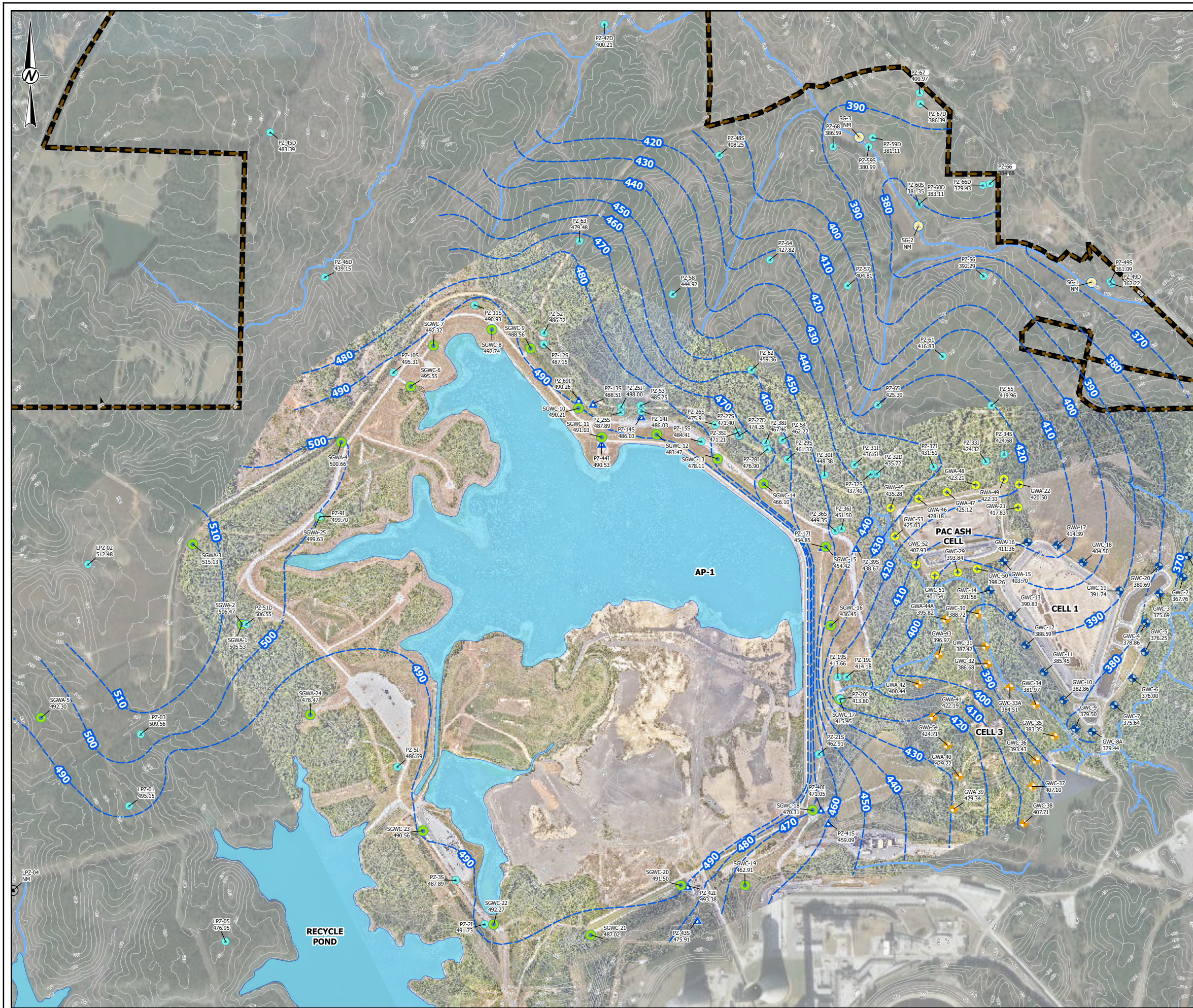
TITLE
**COMPARISON OF MEASURED
DISCONTINUITIES AND LINEAMENTS**

PROJECT NO.
31404977.017

CONTROL
1662350M005.dwg

REV.
0

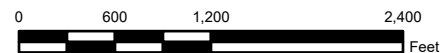
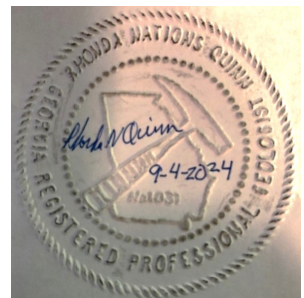
FIGURE
8



- LEGEND**
- PROPERTY BOUNDARY
 - STREAM
 - PONDS
 - EXISTING TOPOGRAPHY
 - INFERRED POTENTIOMETRIC SURFACE CONTOUR (FT-NAVD 88)
 - SCHERER ASH POND-CCR MONITORING WELL
 - CELL 1 LANDFILL MONITORING WELL
 - PAC ASH LANDFILL MONITORING WELL
 - CELL 3 MONITORING WELL
 - PIEZOMETER
 - STREAM GAUGE LOCATION
 - ASSESSMENT MONITORING WELL
 - PIEZOMETER (DESTROYED)
 - NM ELEVATION NOT MEASURED

- NOTE(S)**
- GROUNDWATER ELEVATIONS MEASUREMENTS OBTAINED FEBRUARY 19, 2024 BY WSP STAFF.
 - GROUNDWATER ELEVATIONS DISPLAYED IN FEET-NORTH AMERICAN VERTICAL DATUM (FT-NAVD 88).
 - DEEP AND INTERMEDIATE WELL GROUNDWATER ELEVATIONS WERE NOT USED TO GENERATE POTENTIOMETRIC SURFACE CONTOURS.
 - PZ-50D IS NOT SHOWN; ITS LOCATION IS BEYOND THE MAPPED LIMITS.

- REFERENCE(S)**
- COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST FIPS 1002 FEET.
 - MONITORING WELL/PIEZOMETER LOCATIONS PROVIDED BY JORDAN ENGINEERING.
 - SITE IMAGERY: IMAGERY PROVIDED BY CLIENT 07/2024.
 - BACKGROUND IMAGERY: GOOGLE IMAGERY SERVICE. COPYRIGHT GOOGLE 2023. IMAGERY CAPTURED 12/17/2022.



CLIENT
GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

PROJECT
HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE
**POTENTIOMETRIC SURFACE MAP
FEBRUARY 19, 2024**

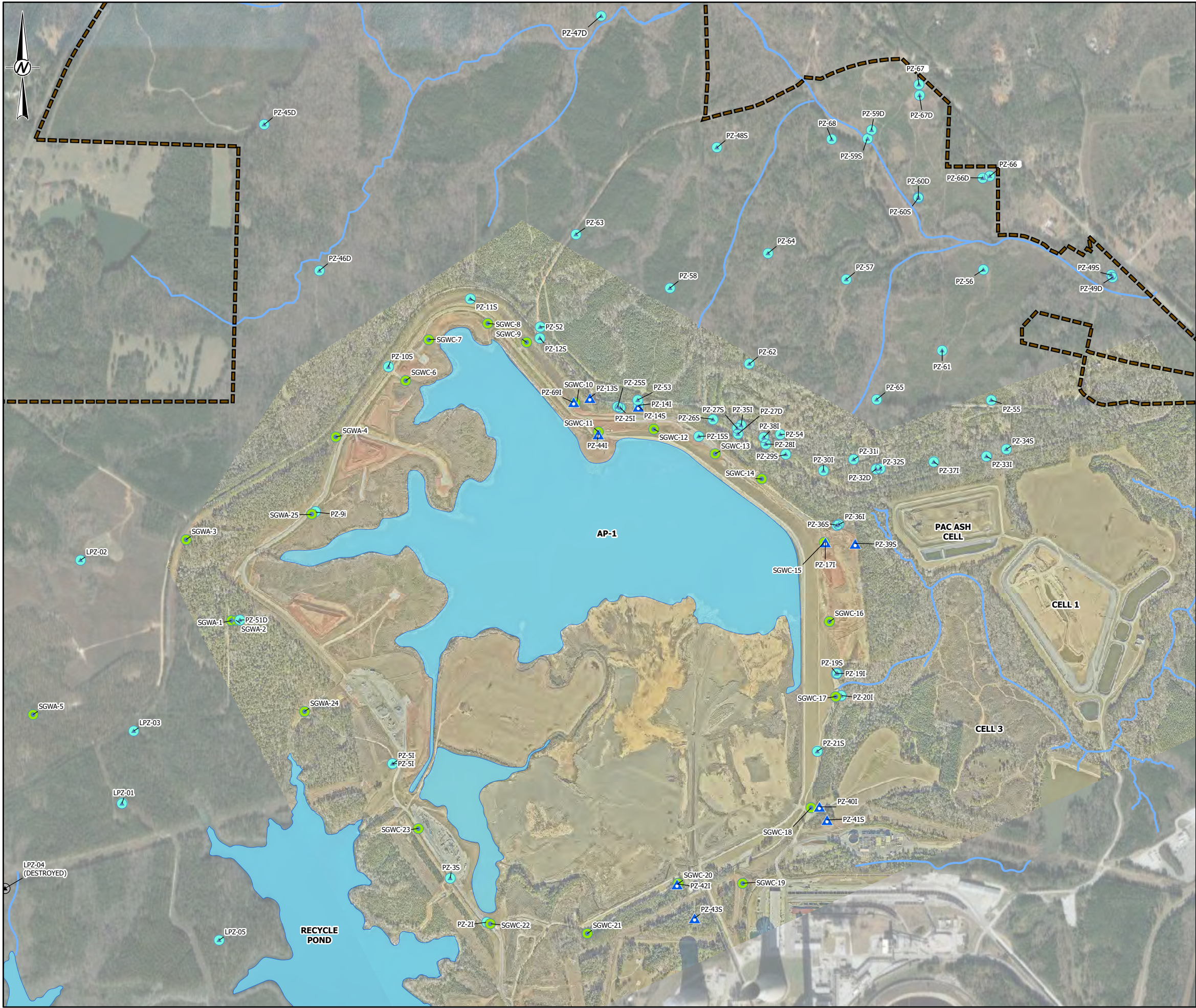
CONSULTANT
WSP

PROJECT NO.
31406440.018

FIGURE
9

Georgia Power

YYYY-MM-DD	2024-08-07
DESIGNED	RHG
PREPARED	RHG
REVIEWED	RNQ
APPROVED	RNQ



LEGEND

WELL TYPE

- DETECTION MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- PIEZOMETER LOCATION (DESTROYED)
- ASSESSMENT MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- STREAM
- PONDS

NOTE(S)

1. MONITORING WELL LOCATIONS PROVIDED BY JORDAN ENGINEERING.

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATE PLANE GEORGIA WEST FIPS 1002 FEET.
2. BACKGROUND IMAGERY: GOOGLE IMAGERY SERVICE. COPYRIGHT GOOGLE 2023. IMAGERY CAPTURED 12/17/2022.

0 600 1,200 2,400 Feet

CLIENT

GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

PROJECT

HYDROGEOLOGIC ASSESSMENT REPORT
PLANT SCHERER - ASH POND 1 (AP-1)

TITLE

SITE PLAN AND COMPLIANCE MONITORING NETWORK

CONSULTANT

YYYY-MM-DD	2024-05-24
DESIGNED	RHG
PREPARED	RHG
REVIEWED	RNQ
APPROVED	RNQ

PROJECT NO.

31406440.018

REV

5

FIGURE

10

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

Tables

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
AP-1 MONITORING WELL NETWORK															
SGWA-1	Upgradient	Overburden	1119233.10	2399899.81	546.83	544.27	544.07	50.9	503.57	493.57	10	2/11/2015	--	5.57E-05	505.53
SGWA-2	Upgradient	Bedrock	1119237.67	2399908.19	546.94	544.20	543.95	95.8	458.55	448.55	10	2/17/2015	1.25E-04 *	--	506.47
SGWA-3	Upgradient	Overburden	1120224.15	2399296.64	545.83	543.03	542.88	50.0	502.88	492.88	10	11/18/2015	1.74E-05 *	--	515.13
SGWA-4	Upgradient	Overburden	1121477.05	2401124.64	547.66	544.96	544.81	60.5	494.31	484.31	10	11/17/2015	3.06E-05 *	--	500.66
SGWA-5	Upgradient	Overburden	1118088.42	2397426.26	508.48	505.93	505.73	30.2	485.53	475.53	10	11/18/2015	1.33E-04 *	--	492.30
SGWC-6	Downgradient	Overburden	1122167.18	2401979.98	510.49	507.87	507.67	25.0	492.67	482.67	10	11/12/2015	3.43E-05 *	--	495.55
SGWC-7	Downgradient	Bedrock	1122668.61	2402259.75	506.40	503.65	503.45	35.0	478.45	468.45	10	11/11/2015	4.55E-04 *	--	492.32
SGWC-8	Downgradient	Overburden/Bedrock	1122865.98	2402979.50	514.28	511.68	511.48	40.0	481.48	471.48	10	11/10/2015	7.84E-04 *	--	492.74
SGWC-9	Downgradient	Overburden	1122634.64	2403455.19	510.62	507.88	507.63	35.0	482.63	472.63	10	11/6/2015	1.48E-04 *	--	488.56
SGWC-10	Downgradient	Overburden	1121895.85	2404046.92	509.41	506.80	506.60	30.0	486.60	476.60	10	11/5/2015	3.73E-05 *	--	490.21
SGWC-11	Downgradient	Overburden	1121542.11	2404332.12	511.47	508.77	508.62	40.0	478.62	468.62	10	10/29/2015	5.78E-05 *	--	491.03
SGWC-12	Downgradient	Overburden	1121576.75	2405009.92	500.53	497.80	497.70	47.6	460.70	450.70	10	10/30/2015	4.77E-05 *	--	483.47
SGWC-13	Downgradient	Overburden	1121274.85	2405761.20	482.71	480.17	479.92	35.0	454.92	444.92	10	11/4/2015	1.32E-04 *	--	478.11
SGWC-14	Downgradient	Overburden	1120966.13	2406329.89	476.72	473.52	473.32	35.3	448.52	438.52	10	2/24/2015	2.97E-03 *	1.30E-05	466.10
SGWC-15	Downgradient	Overburden	1120191.20	2407093.92	482.75	479.76	479.66	45.2	444.86	434.86	10	2/26/2015	2.01E-03 *	4.10E-04	454.42
SGWC-16	Downgradient	Overburden	1119221.42	2407155.89	460.31	457.18	457.03	39.2	428.23	418.23	10	3/3/2015	9.29E-04 *	--	436.45
SGWC-17	Downgradient	Overburden	1118308.77	2407267.44	418.00	415.13	414.93	24.5	400.83	390.83	10	3/11/2015	1.30E-03 *	--	415.45
SGWC-18	Downgradient	Overburden	1116947.75	2406931.32	513.29	510.41	510.31	44.5	476.21	466.21	10	3/17/2015	1.64E-03 *	--	470.31
SGWC-19	Downgradient	Overburden	1116024.59	2406097.05	478.94	476.13	475.83	34.6	451.63	441.63	10	3/18/2015	7.22E-04 *	5.30E-05	462.91
SGWC-20	Downgradient	Overburden	1116020.73	2405307.67	504.60	501.69	501.49	25.0	486.49	476.49	10	11/19/2015	7.94E-05 *	--	491.50
SGWC-21	Downgradient	Overburden	1115409.88	2404197.33	487.67	484.92	484.67	24.9	470.17	460.17	10	5/6/2015	2.16E-03 *	--	487.02
SGWC-22	Downgradient	Overburden	1115540.08	2403001.81	518.02	515.51	515.41	50.1	478.91	468.91	10	1/22/2015	5.10E-04 *	--	492.27
SGWC-23	Downgradient	Bedrock	1116693.80	2402131.07	523.10	520.17	520.02	49.7	480.72	470.72	10	2/3/2015	3.45E-03 *	1.65E-04	490.56
SGWA-24	Upgradient	Overburden	1118121.96	2400743.52	492.38	489.47	489.32	38.1	461.62	451.62	10	2/10/2015	--	2.49E-05	478.47
SGWA-25	Upgradient	Overburen	1120555.28	2400857.08	526.49	523.45	523.20	45.0	488.60	478.60	10	2/18/2015	7.39E-04 *	8.55E-05	499.63

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
AP-1 ASSESSMENT MONITORING WELL NETWORK															
PZ-13S	Downgradient	Overburden	1121957.03	2404227.47	520.51	517.68	517.48	45.3	482.58	472.58	10	4/1/2015	1.71E-03 *	--	488.51
PZ-14S	Downgradient	Overburden	1121852.80	2404820.56	512.13	509.03	508.68	44.9	474.18	464.18	10	3/26/2015	5.97E-03 *	--	486.03
PZ-17I	Downgradient	Bedrock	1120190.27	2407107.37	483.03	480.20	479.90	97.3	393.20	383.20	10	2/27/2015	1.52E-04 *	--	454.85
PZ-39S	Downgradient	Overburden	1120178.43	2407470.49	474.58	471.99	471.79	76.4	405.79	395.79	10	8/21/2018	--	--	438.67
PZ-40I	Downgradient	Bedrock	1116960.39	2406934.72	512.55	510.19	510.09	83.4	437.09	427.09	10	8/15/2018	--	--	471.05
PZ-41S	Downgradient	Overburden	1116799.18	2407124.98	491.50	488.66	488.56	45.0	453.56	443.56	5	8/16/2018	--	--	459.09
PZ-42I	Downgradient	Bedrock	1116013.79	2405294.12	503.18	500.65	500.45	96.0	414.45	404.45	10	8/21/2018	--	--	493.38
PZ-43S	Downgradient	Overburden	1115598.12	2405507.16	504.03	501.34	501.19	50.5	460.69	450.69	10	8/17/2018	--	--	475.91
PZ-44I	Downgradient	Bedrock	1121515.40	2404330.23	510.36	507.91	507.86	114.0	403.86	393.86	10	9/5/2018	--	--	490.53
PZ-69I	Downgradient	Bedrock	1121906.36	2404051.35	508.85	506.44	506.00	106.0	410.00	400.00	10	1/12/2022	--	--	490.26
PIEZOMETERS															
PZ-2I	Downgradient	Bedrock	1115544.85	2402990.76	517.56	515.06	514.81	84.3	440.91	430.91	10	1/27/2015	1.89E-04 *	3.36E-05	491.73
PZ-3S	Downgradient	Overburden	1116085.04	2402533.80	517.29	514.57	514.37	50.0	474.77	464.77	10	1/29/2015	--	--	487.89
PZ-5I	Downgradient	Bedrock	1117484.15	2401816.71	523.26	520.73	520.63	47.0	484.03	474.03	10	2/4/2015	6.33E-04 *	--	486.69
PZ-9I	Upgradient	Bedrock	1120562.72	2400862.76	526.57	523.61	523.31	80.2	453.51	443.51	10	2/19/2015	4.70E-04 *	--	499.70
PZ-10S	Downgradient	Overburden	1122338.03	2401768.92	517.53	514.78	514.38	34.9	489.88	479.88	10	5/5/2015	--	--	495.31
PZ-11S	Downgradient	Overburden	1123169.22	2402767.44	529.31	526.19	526.04	46.0	490.04	480.04	10	4/6/2015	1.67E-03 *	--	490.93
PZ-12S	Downgradient	Overburden	1122684.90	2403618.46	517.69	514.64	514.54	44.4	480.54	470.54	10	4/1/2015	3.30E-03 *	--	487.15
PZ-14I	Downgradient	Bedrock	1121866.36	2404822.43	512.89	510.03	509.73	95.2	424.93	414.93	10	3/25/2015	9.22E-04 *	8.29E-08	486.03
PZ-15S	Downgradient	Overburden	1121486.96	2405558.59	500.60	497.59	497.44	40.1	467.74	457.74	10	4/28/2015	--	--	484.41
PZ-19I	Downgradient	Bedrock	1118588.47	2407251.56	417.76	414.74	414.54	71.9	353.04	343.04	10	3/4/2015	2.48E-03 *	--	414.18
PZ-19S	Downgradient	Overburden	1118587.24	2407241.54	417.80	414.79	414.54	25.0	399.94	389.94	10	3/4/2015	6.42E-04 *	--	413.66
PZ-20I	Downgradient	Bedrock	1118318.15	2407273.36	417.41	414.46	414.31	79.6	345.11	335.11	10	3/10/2015	3.95E-04 *	--	413.80
PZ-21S	Downgradient	Overburden	1117639.19	2407006.52	473.74	470.85	470.60	23.4	457.60	447.60	10	3/12/2015	5.77E-04 *	--	462.91
PZ-25I	Downgradient	Overburden	1121837.80	2404573.04	528.39	526.02	525.77	125.0	410.97	400.97	10	5/24/2016	2.29E-04 *	--	488.00
PZ-25S	Downgradient	Overburden	1121848.11	2404567.52	528.24	525.78	525.48	55.0	480.78	470.68	10	5/25/2016	1.62E-04 *	--	487.89

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
PIEZOMETERS - continued															
PZ-26S	Downgradient	Overburden	1121696.65	2405733.23	491.65	489.17	489.07	45.0	454.27	444.27	10	6/1/2016	--	--	475.91
PZ-27D	Downgradient	Bedrock	1121558.94	2406023.17	475.43	472.659	472.41	125.0	367.61	347.61	20	6/17/2016	--	--	474.35
PZ-27S	Downgradient	Overburden	1121565.33	2406028.25	475.80	473.175	473.13	45.0	438.33	428.33	10	5/26/2016	5.34E-04 *	--	471.40
PZ-28I	Downgradient	Bedrock	1121394.06	2406373.94	484.18	481.587	481.44	68.8	422.84	412.84	10	6/3/2016	4.53E-04 *	--	476.90
PZ-29S	Downgradient	Overburden	1121269.19	2406618.29	491.31	488.704	488.50	45.0	453.70	443.70	10	5/26/2016	--	--	461.37
PZ-30I	Downgradient	Bedrock	1121073.53	2407078.99	478.31	475.712	475.56	85.3	400.46	390.46	10	6/2/2016	--	--	448.38
PZ-31I	Downgradient	Bedrock	1121204.03	2407445.73	466.89	464.163	463.96	75.1	399.06	389.06	10	6/2/2016	--	--	436.61
PZ-32D	Downgradient	Bedrock	1121089.64	2407719.37	465.42	462.561	462.36	126.0	366.56	336.56	30	6/1/2016	8.48E-06 *	--	435.72
PZ-32S	Downgradient	Overburden	1121089.22	2407698.44	465.06	462.52	462.27	55.0	417.47	407.47	10	6/1/2016	--	--	437.40
PZ-33I	Downgradient	Overburden	1121245.25	2409064.05	469.38	466.547	466.45	76.0	400.65	390.65	10	6/8/2016	--	--	424.32
PZ-34S	Downgradient	Overburden	1121331.59	2409288.37	443.67	441.08	440.83	45.5	405.53	395.53	10	6/4/2016	--	--	424.68
PZ-35I	Downgradient	Overburden	1121598.57	2406058.33	474.40	474.72	474.57	55.5	429.27	419.27	10	6/22/2016	--	--	471.21
PZ-36I	Downgradient	Bedrock	1120410.99	2407256.25	481.52	478.96	478.86	95.5	393.56	383.56	10	6/5/2016	--	--	451.50
PZ-36S	Downgradient	Overburden	1120401.04	2407248.04	482.35	479.50	479.40	55.4	434.40	424.40	10	8/22/2018	--	--	449.35
PZ-37I	Downgradient	Overburden/Bedrock	1121178.48	2408419.19	482.18	479.68	479.48	71.2	418.48	408.48	10	6/2/2016	--	--	431.51
PZ-38I	Downgradient	Overburden	1121475.86	2406352.98	482.24	482.38	482.23	74.0	418.43	408.43	10	6/23/2016	3.04E-04 *	--	467.46
PZ-45D	Downgradient	Bedrock	1125296.24	2400250.55	512.33	509.94	509.74	165.0	399.74	344.74	55	3/9/2020	--	--	483.39
PZ-46D	Downgradient	Overburden/Bedrock	1123512.22	2400923.25	450.28	447.37	447.07	53.5	423.57	393.57	30	3/17/2020	--	--	439.15
PZ-47D	Downgradient	Bedrock	1126623.42	2404366.80	410.01	406.91	406.76	25.1	396.66	381.66	15	3/11/2020	--	--	400.21
PZ-48S	Downgradient	Overburden	1125014.71	2405779.92	444.33	441.45	441.30	61.0	390.55	380.55	10	3/4/2020	--	--	408.25
PZ-49D	Downgradient	Bedrock	1123429.73	2410615.29	367.41	365.13	364.88	106.0	288.88	258.88	30	3/6/2020	--	--	362.22
PZ-49S	Downgradient	Overburden	1123434.46	2410605.99	367.89	365.29	365.19	25.3	350.19	340.19	10	3/7/2020	--	--	361.09
PZ-50D	Upgradient	Bedrock	1103125.91	2408306.87	473.78	470.99	470.66	100.0	380.66	370.66	10	3/18/2020	--	--	NM
PZ-51D	Upgradient	Bedrock	1119239.99	2399955.07	546.04	543.47	543.17	126.0	427.17	417.17	10	3/8/2020	--	--	506.55
PZ-52	Downgradient	Overburden	1122822.91	2403622.69	521.84	519.68	519.43	77.0	452.43	442.43	10	3/17/2020	--	--	486.32
PZ-53	Downgradient	Overburden	1121932.34	2404813.43	516.64	513.81	513.61	45.0	478.61	468.61	10	3/19/2020	--	--	485.75

TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
PIEZOMETERS - continued															
PZ-54	Downgradient	Overburden	1121509.71	2406555.15	492.96	490.27	490.17	45.0	455.17	445.17	10	3/19/2020	--	--	462.22
PZ-55	Downgradient	Overburden	1121931.60	2409132.43	447.21	444.25	444.15	36.0	418.15	408.15	10	3/20/2020	--	--	419.96
PZ-56	Downgradient	Bedrock	1123524.68	2409037.21	433.68	431.10	430.85	46.0	395.10	385.10	10	3/19/2020	--	--	392.29
PZ-57	Downgradient	Overburden/Bedrock	1123405.64	2407361.88	439.51	436.55	436.45	59.0	387.45	377.45	10	3/19/2020	--	--	404.81
PZ-58	Downgradient	Overburden	1123299.43	2405207.09	492.21	489.35	489.25	46.0	453.25	443.25	10	3/16/2020	--	--	444.92
PZ-59S	Downgradient	Overburden	1125213.65	2407658.45	385.93	383.13	382.83	24.0	368.83	358.83	10	3/20/2020	--	--	380.99
PZ-59D	Downgradient	Bedrock	1125229.89	2407668.93	385.86	383.16	382.86	69.0	328.86	313.86	15	3/27/2020	--	--	381.11
PZ-60D	Downgradient	Bedrock	1124410.72	2408242.87	389.34	386.53	386.43	99.7	317.03	286.73	30	3/29/2020	--	--	383.11
PZ-60S	Downgradient	Overburden	1124400.44	2408243.59	389.88	386.66	386.36	20.0	376.36	366.36	10	3/31/2020	--	--	381.35
PZ-61	Downgradient	Overburden/Bedrock	1122537.21	2408531.43	439.27	436.84	436.79	49.5	397.34	387.34	10	4/11/2020	--	--	416.83
PZ-62	Downgradient	Overburden	1122370.34	2406175.11	501.32	498.45	498.25	52.3	456.00	446.00	10	4/9/2020	--	--	459.36
PZ-63	Downgradient	Bedrock	1123955.38	2404060.61	501.54	499.12	498.87	40.0	468.87	458.87	10	4/12/2020	--	--	479.48
PZ-64	Downgradient	Bedrock	1123724.36	2406404.18	479.52	476.09	475.99	70.0	416.99	406.99	10	4/8/2020	--	--	427.82
PZ-65	Downgradient	Overburden	1121937.16	2407733.04	432.42	429.77	429.57	30.3	409.57	399.57	10	4/11/2020	--	--	425.39
PZ-66D	Downgradient	Bedrock	1124644.48	2409028.45	427.60	424.64	424.39	266.0	355.39 ^[7]	-	open borehole	5/6/2020	--	--	379.43
PZ-66	Downgradient	Bedrock	1124664.10	2409115.98	421.24	418.68	418.38	60.0	373.38	358.38	15	4/2/2020	--	--	384.68
PZ-67D	Downgradient	Bedrock	1125764.81	2408259.40	428.48	424.86	424.71	301.0	341.71 ^[7]	-	open borehole	4/25/2020	--	--	386.39
PZ-67	Downgradient	Overburden	1125782.26	2408248.89	425.94	423.37	423.22	39.8	393.47	383.47	10	4/1/2020	--	--	400.97
PZ-68	Downgradient	Overburden	1125116.59	2407181.92	395.55	392.34	392.14	20.0	382.14	372.14	10	4/15/2020	--	--	386.59
LPZ-01	Upgradient	Overburden/Bedrock	1117001.58	2398513.19	553.29	550.47	549.97	65.8	495.97	485.97	10	11/10/2015	--	--	495.15
LPZ-02	Upgradient	Overburden	1119972.34	2398004.93	514.52	511.42	511.07	20.0	501.07	491.07	10	11/20/2015	--	--	512.48
LPZ-03	Upgradient	Overburden	1117883.86	2398657.00	515.45	512.55	512.15	35.0	487.15	477.15	10	11/18/2015	--	3.92E-06	509.56
LPZ-04	Upgradient	Overburden	1115962.59	2397083.47	461.24	458.31	458.11	40.0	440.11	430.11	10	11/19/2015	--	4.51E-08	Destroyed
LPZ-05	Upgradient	Overburden	1115328.95	2399698.53	524.51	521.81	521.51	57.5	479.41	469.41	10	11/5/2015	--	--	476.95



TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
GYPSUM CELL 1															
GWC-1	Downgradient	Overburden	1120077.85	2411555.32	374.95	371.77	371.60	34.9	346.91	336.91	10	10/28/2009	--	--	366.68
GWC-2	Downgradient	Overburden	1119816.59	2411493.53	380.22	377.02	376.90	54.9	332.12	322.12	10	10/8/2009	1.10E-04 *	--	367.76
GWC-3	Downgradient	Overburden	1119613.94	2411202.40	412.66	409.97	409.60	46.4	373.20	363.20	10	10/29/2009	--	--	375.69
GWC-4	Downgradient	Overburden	1119255.96	2411041.82	411.75	408.50	408.40	39.9	378.70	368.70	10	11/21/2009	--	--	378.86
GWC-5	Downgradient	Overburden	1118897.72	2411025.88	396.69	393.37	393.27	30.7	372.84	362.84	10	10/22/2009	--	--	376.25
GWC-6	Downgradient	Bedrock	1118575.69	2410872.56	415.80	412.48	412.38	45.1	377.52	367.52	10	10/21/2009	8.21E-04 *	--	376.00
GWC-7	Downgradient	Overburden	1118243.67	2410645.91	418.27	414.51	414.41	54.8	369.84	359.84	10	10/20/2009	--	--	375.64
GWC-8A	Downgradient	Overburden	1117917.32	2410375.16	401.62	398.65	398.60	45.0	364.30	354.30	10	3/29/2017	--	--	379.44
GWC-9	Downgradient	Overburden	1117955.40	2410167.75	386.18	383.21	382.81	16.9	376.02	366.02	10	11/4/2009	2.56E-04 *	--	379.50
GWC-10	Downgradient	Overburden	1118306.77	2410018.28	392.87	389.49	388.89	31.7	367.50	357.50	10	11/3/2009	--	--	382.86
GWC-11	Downgradient	Overburden	1118648.98	2409778.84	402.33	399.21	398.81	31.1	377.81	367.81	10	11/3/2009	--	--	385.45
GWC-12	Downgradient	Overburden	1118977.87	2409554.57	412.89	409.66	409.16	34.4	384.94	374.94	10	11/3/2009	--	--	388.59
GWC-13	Downgradient	Overburden	1119338.68	2409390.95	419.77	416.71	416.51	40.1	386.52	376.52	10	11/2/2009	--	--	390.83
GWC-14	Downgradient	Overburden	1119655.05	2409111.75	403.60	400.41	400.16	24.1	386.09	376.09	10	11/4/2009	--	--	391.58
GWA-15	Upgradient	Overburden	1120009.40	2409282.43	415.01	412.00	411.70	26.2	395.51	385.51	10	11/4/2009	8.01E-04 *	--	403.70
GWA-16	Upgradient	Overburden	1120248.68	2409579.75	444.24	441.01	440.91	54.5	396.71	386.71	10	10/13/2009	--	--	411.36
GWA-17	Upgradient	Overburden	1120210.57	2409946.73	445.84	442.92	442.82	43.7	409.27	399.27	10	9/28/2009	--	--	414.39
GWC-18	Downgradient	Overburden	1119998.73	2410261.85	439.66	436.40	436.30	57.0	389.49	379.49	10	9/29/2009	2.23E-04 *	--	404.50
GWC-19	Downgradient	Overburden	1119645.70	2410713.20	430.20	426.34	426.29	54.1	382.45	372.45	10	10/2/2009	--	--	391.74
GWC-20	Downgradient	Overburden	1119950.51	2411195.38	426.30	423.03	422.98	69.4	363.85	353.85	10	10/6/2009	--	--	380.69



TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
PAC ASH CELL															
GWA-21	Upgradient	Overburden	1120675.73	2409462.70	422.58	419.81	419.70	17.8	412.04	402.04	10	6/29/2010	--	--	417.83
GWA-22	Upgradient	Overburden/Bedrock	1120962.12	2409473.22	444.50	442.01	442.01	40.0	412.29	402.29	10	6/30/2010	--	--	420.50
GWC-29	Downgradient	Overburden	1119875.58	2408717.95	399.64	396.98	396.88	24.4	382.78	372.78	10	6/28/2010	9.04E-04 *	--	393.84
GWA-45	Upgradient	Overburden	1120669.03	2407889.56	451.08	448.33	448.28	32.7	425.99	415.99	10	6/23/2010	2.33E-04 *	--	435.28
GWA-46	Upgradient	Overburden	1120783.23	2408235.69	461.13	458.37	458.32	44.2	424.38	414.38	10	6/23/2010	--	--	428.18
GWA-47	Upgradient	Overburden	1120862.63	2408585.01	465.77	463.03	462.90	51.3	421.74	411.74	10	6/22/2010	--	--	425.12
GWA-48	Upgradient	Overburden	1120953.42	2408939.48	461.73	459.00	458.85	61.2	407.74	397.74	10	6/22/2010	--	--	423.21
GWA-49	Upgradient	Overburden	1121030.08	2409288.38	432.88	430.16	429.86	38.1	401.81	391.81	10	6/21/2010	2.52E-04 *	--	422.33
GWC-50	Downgradient	Overburden	1119917.51	2408956.10	407.16	404.44	404.34	33.6	380.88	370.88	10	6/28/2010	--	--	398.26
GWC-51	Downgradient	Overburden	1119835.51	2408436.95	410.15	407.37	407.27	24.0	393.78	383.78	10	7/27/2010	--	--	401.54
GWC-52	Downgradient	Overburden	1119972.34	2408203.99	417.13	414.43	414.38	30.2	394.53	384.53	10	6/24/2010	7.26E-04 *	--	407.93
GWC-53	Downgradient	Overburden	1120319.65	2407943.05	435.83	433.10	432.90	30.1	412.84	402.84	10	6/23/2010	--	--	425.03



TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

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) ^[2]	Ground Surface Elevation (feet NAVD88) ^[2]	Well Depth (feet bgs) ^[3]	Top of Screen Elevation (feet NAVD88) ^[2]	Bottom of Screen Elevation (feet NAVD88) ^[2]	Screen Length (feet)	Date of Installation	Average Horizontal Hydraulic Conductivity (cm/sec)	Average Vertical Hydraulic Conductivity (cm/sec)	Groundwater Elevation February 19, 2024 (feet NAVD88) ^[2]
CELL 3															
GWC-30	Downgradient	Overburden/Bedrock	1119366.69	2408976.35	394.49	392.19	392.0	18.0	384.04	374.04	10	1/24/2020	--	--	388.72
GWC-31	Downgradient	Overburden	1118970.00	2409062.02	392.78	390.13	390.0	19.3	380.68	370.68	10	1/23/2020	--	--	387.42
GWC-32	Downgradient	Overburden	1118749.53	2409084.83	410.03	407.25	406.9	36.0	381.95	371.95	10	1/21/2020	--	--	386.68
GWC-33A	Downgradient	Overburden	1118458.68	2409359.58	393.96	391.32	390.9	24.0	376.87	366.87	10	5/27/2020	--	--	384.51
GWC-34	Downgradient	Overburden	1118248.26	2409680.41	389.29	386.48	386.2	19.0	377.23	367.23	10	1/13/2020	--	--	381.97
GWC-35	Downgradient	Overburden	1117860.46	2409906.21	387.90	385.35	385.1	21.0	375.10	365.10	10	1/12/2020	--	--	383.35
GWC-36	Downgradient	Overburden	1117561.29	2409681.44	425.12	422.52	422.0	45.4	386.62	376.62	10	1/10/2020	--	--	393.43
GWC-37	Downgradient	Overburden	1117239.70	2409636.56	429.80	427.38	427.2	43.0	395.23	385.23	10	1/8/2020	--	--	407.10
GWC-38	Downgradient	Overburden	1116786.45	2409533.11	418.68	416.23	416.0	39.0	386.98	376.98	10	1/7/2020	--	--	407.71
GWA-39	Upgradient	Bedrock	1116967.57	2408671.68	457.62	454.59	454.2	59.0	405.24	395.24	10	12/20/2019	--	--	429.34
GWA-40	Upgradient	Overburden	1117365.24	2408730.04	463.84	461.25	461.2	44.8	427.15	417.15	10	12/18/2020	--	--	429.22
GWA-41	Upgradient	Overburden	1118096.97	2408412.15	434.12	431.70	431.4	38.7	403.75	393.75	10	1/26/2020	--	--	422.19
GWA-42	Upgradient	Overburden	1118500.68	2408233.53	405.19	402.57	402.2	18.8	393.37	383.37	10	1/27/2020	--	--	400.44
GWA-43	Upgradient	Overburden	1118861.38	2408484.42	400.94	398.42	398.1	19.0	389.12	379.12	10	1/26/2020	--	--	396.97
GWA-44A	Upgradient	Overburden	1119296.99	2408569.76	399.62	396.83	396.5	19.9	386.58	376.58	10	5/21/2020	--	--	395.82
GWA-54	Upgradient	Bedrock	1117751.40	2408588.52	451.49	448.78	448.6	50.0	409.83	399.83	10	12/21/2019	--	--	424.71



TABLE 1
SUMMARY OF MONITORING WELL, ASSESSMENT WELL AND PIEZOMETER CONSTRUCTION DATA
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

Notes:

ft = feet; feet bgs = feet below ground surface; NA = Not Available; NM = Not Measured

[1] Coordinates are in feet relative to North American Datum (NAD) 1983, State Plane, Georgia-West.

[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] cm/sec = centimeters per second

[5] Survey data provided and certified by Jordan Engineering, Inc., on 6/29/2020, 7/17/2020, 7/29/2020, and 2/21/2022.

[6] - = well was not slug tested

[7] Elevation of the bottom of the outer well casing and elevation of top of open corehole.

* indicates horizontal hydraulic conductivity value was used to calculate site hydraulic conductivity median value of 1.29 ft/day (4.55×10^{-4} cm/sec) and average value of 2.27 ft/day (8.02×10^{-4} cm/sec).

The following hydraulic conductivity values from the SGYP wells and previously abandoned wells were also included in the data set used to calculate site median and average hydraulic conductivity values along with the hydraulic conductivity values from the monitoring wells and piezometers indicated above:

SGYP-1	4.64E-04	cm/sec
SGYP-3	2.97E-04	cm/sec
SGYP-9	5.88E-04	cm/sec
SGYP-14	2.05E-04	cm/sec
SGYP-20	1.10E-03	cm/sec
SGYP-29	1.90E-03	cm/sec
SGYP-32	2.81E-04	cm/sec
GWC-8	9.71E-05	cm/sec
PZ-6S	8.37E-05	cm/sec
PZ-33	2.08E-04	cm/sec

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024
Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
ASH POND 1				
SGWA-1	546.83	506.63	507.60	505.53
SGWA-2	546.94	507.52	507.91	506.47
SGWA-3	545.83	515.08	516.01	515.13
SGWA-4	547.66	501.34	502.60	500.66
SGWA-5	508.48	492.88	494.26	492.30
SGWC-6	510.49	496.61	496.23	495.55
SGWC-7	506.40	492.97	493.14	492.32
SGWC-8	514.28	493.30	493.16	492.74
SGWC-9	510.62	488.84	489.13	488.56
SGWC-10	509.41	486.24	490.66	490.21
SGWC-11	511.47	477.69	491.43	491.03
SGWC-12	500.53	483.96	483.91	483.47
SGWC-13	482.71	478.28	477.76	478.11
SGWC-14	476.72	466.17	465.67	466.10
SGWC-15	482.75	454.71	454.04	454.42
SGWC-16	460.31	436.35	434.80	436.45
SGWC-17	418.00	415.69	415.42	415.45
SGWC-18	513.29	470.77	473.66	470.31
SGWC-19	478.94	463.91	462.83	462.91
SGWC-20	504.60	491.98	490.35	491.50
SGWC-21	487.67	487.14	486.60	487.02
SGWC-22	518.02	492.78	491.88	492.27
SGWC-23	523.10	491.40	491.45	490.56
SGWA-24	492.38	478.63	477.68	478.47
SGWA-25	526.49	500.14	499.70	499.63
PIEZOMETERS				
PZ-2I	517.56	492.16	490.13	491.73
PZ-3S	517.29	488.77	488.80	487.89
PZ-5I	523.26	488.28	489.25	486.69

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)

Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
PIEZOMETERS - continued				
PZ-9I	526.57	500.16	500.23	499.70
PZ-10S	517.53	496.59	495.61	495.31
PZ-11S	529.31	491.28	492.12	490.93
PZ-12S	517.69	487.48	487.77	487.15
PZ-13S	520.51	488.75	489.10	488.51
PZ-14S	512.13	486.31	486.22	486.03
PZ-14I	512.89	486.30	486.24	486.03
PZ-15S	500.60	484.88	484.66	484.41
PZ-17I	483.03	455.14	454.41	454.85
PZ-19I	417.76	414.40	413.17	414.18
PZ-19S	417.80	413.78	412.73	413.66
PZ-20I	417.41	410.05	413.53	413.80
PZ-21S	473.74	463.41	463.20	462.91
PZ-25S	528.24	488.12	488.58	487.89
PZ-25I	528.39	488.28	488.37	488.00
PZ-26S	491.65	476.37	474.79	475.91
PZ-27S	475.80	471.61	469.59	471.40
PZ-27D	475.43	474.60	473.13	474.35
PZ-28I	484.18	467.02	465.27	476.90
PZ-29S	491.31	461.48	460.79	461.37
PZ-30I	478.31	448.68	448.98	448.38
PZ-31I	466.89	437.00	437.16	436.61
PZ-32S	465.06	438.32	438.93	437.40
PZ-32D	465.42	436.76	436.82	435.72
PZ-33I	469.38	425.47	426.32	424.32
PZ-34S	443.67	425.66	424.08	424.68
PZ-35I	474.40	471.38	469.31	471.21
PZ-36S	482.35	448.56	447.58	449.35
PZ-36I	481.52	450.80	449.76	451.50

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)

Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
PIEZOMETERS - continued				
PZ-37I	482.18	432.38	433.21	431.51
PZ-38I	482.24	466.98	465.88	467.46
PZ-39S	474.58	435.08	438.66	438.67
PZ-40I	512.55	471.62	474.51	471.05
PZ-41S	491.50	459.54	460.74	459.09
PZ-42I	503.18	493.91	492.26	493.38
PZ-43S	504.03	474.10	480.50	475.91
PZ-44I	510.36	490.67	490.84	490.53
PZ-45D	512.33	484.32	482.70	483.39
PZ-46D	450.28	439.52	439.23	439.15
PZ-47D	410.01	400.28	399.35	400.21
PZ-48S	444.33	409.24	409.67	408.25
PZ-49S	367.89	361.23	359.71	361.09
PZ-49D	367.41	362.48	361.18	362.22
PZ-50D	478.01	451.57	NM	NM
PZ-51D	546.04	507.15	508.02	506.55
PZ-52	521.84	486.82	487.10	486.32
PZ-53	516.64	486.12	485.99	485.75
PZ-54	492.96	462.51	461.70	462.22
PZ-55	447.21	421.40	422.28	419.96
PZ-56	433.68	393.18	393.38	392.29
PZ-57	439.51	405.33	404.44	404.81
PZ-58	492.21	446.59	446.29	444.92
PZ-59S	385.93	381.93	379.92	380.99
PZ-59D	385.86	381.70	379.82	381.11
PZ-60S	389.88	382.10	380.82	381.35
PZ-60D	389.34	384.64	383.30	383.11
PZ-61	439.27	418.99	418.72	416.83
PZ-62	501.32	470.06	460.80	459.36

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)

Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
PIEZOMETERS - continued				
PZ-63	501.54	480.63	480.77	479.48
PZ-64	479.52	429.62	429.45	427.82
PZ-65	432.42	416.11	415.39	425.39
PZ-66	421.24	385.84	386.76	384.68
PZ-66D	427.60	380.18	379.57	379.43
PZ-67	425.94	401.70	402.48	400.97
PZ-67D	428.48	381.48	382.99	386.39
PZ-68	395.55	387.42	386.01	386.59
PZ-69I	508.85	490.73	490.68	490.26
LPZ-01	553.29	495.34	496.48	495.15
LPZ-02	514.52	512.42	512.55	512.48
LPZ-03	515.45	509.41	508.61	509.56
LPZ-04	461.24	448.17	447.48	Destroyed
LPZ-05	524.51	477.24	477.52	476.95
GYPSUM CELL 1				
GWC-1	374.95	NM	364.71	366.68
GWC-2	380.22	368.38	365.74	367.76
GWC-3	412.66	376.98	377.93	375.69
GWC-4	411.75	379.50	379.32	378.86
GWC-5	396.69	377.59	376.88	376.25
GWC-6	415.80	377.35	378.29	376.00
GWC-7	418.27	375.84	375.99	375.64
GWC-8A	401.62	379.60	378.36	379.44
GWC-9	386.18	379.60	378.52	379.50
GWC-10	392.87	383.14	381.47	382.86
GWC-11	402.33	385.84	383.57	385.45
GWC-12	412.89	389.84	387.72	388.59
GWC-13	419.77	391.29	389.29	390.83

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
GYPSUM CELL 1 - continued				
GWC-14	403.60	391.89	389.98	391.58
GWA-15	415.01	404.50	402.47	403.70
GWA-16	444.24	412.75	411.80	411.36
GWA-17	445.84	415.32	416.49	414.39
GWC-18	439.66	405.44	406.24	404.50
GWC-19	430.20	392.20	392.42	391.74
GWC-20	426.30	381.74	382.24	380.69
PAC ASH CELL				
GWA-21	422.58	419.14	417.01	417.83
GWA-22	444.50	421.78	419.99	420.50
GWC-29	399.64	394.18	393.50	393.84
GWA-45	451.08	436.39	434.28	435.28
GWA-46	461.13	429.90	429.64	428.18
GWA-47	465.77	426.18	427.21	425.12
GWA-48	461.73	424.41	425.22	423.21
GWA-49	432.88	423.47	421.10	422.33
GWC-50	407.16	398.91	397.77	398.26
GWC-51	410.15	401.79	400.81	401.54
GWC-52	417.13	408.06	407.67	407.93
GWC-53	435.83	425.80	424.69	425.03
CELL 3				
GWA-39	457.62	431.32	431.48	429.34
GWA-40	463.84	431.13	429.82	429.22
GWA-41	434.12	423.49	423.13	422.19
GWA-42	405.19	400.71	399.18	400.44
GWA-43	400.94	397.13	395.52	396.97
GWA-44A	399.62	395.98	394.02	395.82
GWA-54	451.49	425.80	424.05	424.71

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS 2023-2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

Well ID	Top of Casing Elevation (feet, NAVD88) ⁽¹⁾	Groundwater Elevation (feet, NAVD88) ⁽¹⁾		
		2/21/2023	7/31/2023	2/19/2024
CELL 3 - continued				
GWC-30	394.49	388.99	387.19	388.72
GWC-31	392.78	387.63	386.59	387.42
GWC-32	410.03	387.03	386.08	386.68
GWC-33A	393.96	384.61	383.99	384.51
GWC-34	389.29	382.13	381.02	381.97
GWC-35	387.90	383.37	382.35	383.35
GWC-36	425.12	393.76	394.29	393.43
GWC-37	429.80	406.89	405.31	407.10
GWC-38	418.68	407.82	406.26	407.71

Notes:

(1) Vertical elevations are in feet relative to the North American Vertical Datum (NAVD) 1988.

(2) NM = Not Measured

(3) Top of casing elevations certified by surveyor on 6/29/2020, 7/17/2020, 7/29/2020, and 2/21/2022.

TABLE 3
HORIZONTAL GROUNDWATER VELOCITY CALCULATIONS - FEBRUARY 2024

Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
Monroe County, Georgia

Flow Paths	Groundwater Elevation (feet NAVD88) ¹	Δ H (feet) ²	Δ L (feet) ³	Hydraulic Gradient (Δ h/ Δ l) ⁴	Range of Hydraulic Conductivity, K (feet/day) ⁶	Estimated Effective Porosity (n _e) ⁷	Horizontal Groundwater Velocity	
							(feet per day) ⁵	(feet per year) ⁵
AP-1 February 2024								
SGWC-14/PZ-29S	466.10	4.73	419.95	0.011	1.29 to 2.27	0.2	0.07 to 0.13	27 to 47
	461.37							
SGWC-13/PZ-35I	478.11	6.90	439.65	0.016	1.29 to 2.27	0.2	0.10 to 0.18	37 to 65
	471.21							
SGWC-20/PZ-43S	491.50	15.59	483.73	0.032	1.29 to 2.27	0.2	0.21 to 0.37	76 to 134
	475.91							

Notes:

1. Elevation in feet relative to North American Vertical Datum of 1988 (NAVD88)
2. ΔH = Change in groundwater elevation
3. ΔL = Distance along flow path
4. $I = \Delta H / \Delta L$ = Horizontal hydraulic gradient
5. Velocity = $(I * K)/n_e$
6. Hydraulic conductivity values are based on historic aquifer performance tests (revised 5/2024).
The range of hydraulic conductivity used for calculating the horizontal groundwater velocity is median hydraulic conductivity of 1.29 feet/day and the average hydraulic conductivity of 2.27 feet/day.
7. 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 - FEBRUARY 2024
 Georgia Power - Plant Scherer - Ash Pond 1 (AP-1)
 Monroe County, Georgia

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) (February 2024)	Difference of Potentiometric Surface Elevations (ft)	Vertical Gradient (ft/ft)	Vertical Groundwater Flow Direction
PZ-49S	365.19	340.2 - 350.2	345.2	71.3	361.09	-1.12	-0.016	Upward
PZ-49D	364.88	258.9 - 288.9	273.9		362.22			
SGWA-1	544.07	493.6 - 503.6	498.6	76.4	505.53	-1.02	-0.013	Upward
PZ-51D	543.17	417.2 - 427.2	422.2		506.55			
SGWC-17	414.93	390.8 - 400.8	395.8	55.7	415.45	1.65	0.030	Downward
PZ-20I	414.31	335.1 - 345.1	340.1		413.80			
PZ-59S	382.83	358.8 - 368.8	363.8	42.5	380.99	-0.12	-0.003	Upward
PZ-59D	382.86	313.9 - 328.9	321.4		381.11			
PZ-60S	386.36	366.4 - 376.4	371.4	69.5	381.35	-1.75	-0.025	Upward
PZ-60D	386.43	286.7 - 317.0	301.9		383.11			
PZ-66	418.38	358.4 - 373.4	365.9	109.0	384.68	5.25	0.048	Downward
PZ-66D	424.39	158.4 - 355.4	256.9		379.43			
PZ-67	423.22	383.5 - 393.5	388.5	155.8	400.97	14.58	0.094	Downward
PZ-67D	424.71	123.7 - 341.7	232.7		386.39			
PZ-25S	525.48	470.7 - 480.8	475.7	69.8	487.89	-0.11	-0.002	Upward
PZ-25I	525.77	401.0 - 411.0	406.0		488.00			
PZ-19S	414.54	389.9 - 399.9	394.9	46.9	413.66	-0.52	-0.011	Upward
PZ-19I	414.54	343.0 - 353.0	348.0		414.18			

Notes:

ft = feet; ft/ft = feet/feet

ft NAVD88 = elevation feet relative to 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
Pre- and Post-Closure Conditions
Plant Scherer - Ash Pond 1 (AP-1)**

GROUNDWATER MODEL SUMMARY REPORT

PRE- AND POST-CLOSURE CONDITIONS
PLANT SCHERER - ASH POND 1 (AP-1)
MONROE COUNTY, GEORGIA

FOR



Georgia
Power

Revision 1 – September 2024

TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	Project Description.....	1
1.2	Site History	1
1.3	Site Geologic and Hydrologic Setting	2
2	DATA REVIEW	4
2.1	Review of Existing Site Data.....	4
2.2	Additional Data Collected for Modeling Effort.....	5
2.3	Conceptual Site Model.....	6
3	GROUNDWATER FLOW MODELING	7
3.1	Model Overview	7
3.2	Model Domain and Grid.....	7
3.3	Model Layering	7
3.4	Model Boundary Conditions	9
3.4.1	Model Recharge.....	9
3.4.2	Model Evapotranspiration	9
3.4.3	Recovery Sumps.....	10
3.5	Hydraulic Conductivity	10
3.6	Model Calibration.....	10
3.6.1	PEST Analysis	12
3.6.2	Auto Sensitivity Analysis	13
4	SIMULATED POST-CLOSURE MODELING	14
4.1	Anticipated AP-1 Closure Design.....	14
5	MODEL ASSUMPTIONS/UNCERTAINTIESMODEL ASSUMPTIONS.....	16
5.1	Model Assumptions.....	16
5.2	Model Uncertainties.....	16
6	SUMMARY	17
7	REFERENCES.....	18

LIST OF TABLES

Table A	Lithologic Layer Comparison
Table B	Hydraulic Conductivity Summary for Site Geologic Layers
Table 1	Monitoring Well and Piezometer Construction Details
Table 2	Monitoring Well and Piezometer Lithology
Table 3	Borehole Lithology
Table 4	Hydraulic Conductivity Data
Table 5	Potentiometric Surface Elevation Summary
Table 6	Model Layer Elevation Summary
Table 7	Slug Testing Data & Results
Table 8	Model Input Parameters
Table 9	Model Hydraulic Conductivity Zones
Table 10	Model Calibration Statistics
Table 11	Model Sensitivity Analysis Results

LIST OF FIGURES

Figure 1	Site Location and Topography
Figure 2	AP-1 Anticipated Closure
Figure 3	Site Map with Model Boundary
Figure 4	Pre-Development Topography
Figure 5	Boring and Well/Piezometer Locations
Figure 6	Pre-Closure Topography within AP-1 with Ash Pond Bathymetry
Figure 7	Model Grid
Figure 8	Model Grid Close Up
Figure 9	Data Used to Define Top of PWR/Model Layer 3
Figure 10	Color Flood of Top of PWR/Model Layer 3
Figure 11	Data Used to Define Top of FBR/Model Layer 4
Figure 12	Color Flood of Top of FBR/Model Layer 4
Figure 13	Cross Section Locations
Figure 14	Model Layer Cross Sections
Figure 15	Pre-Closure Model Boundary Conditions
Figure 16	Pre-Closure Model Boundary Conditions Close Up
Figure 17	Pre-Closure Model Recharge Values
Figure 18	Pre-Closure Model Evapotranspiration Values
Figure 19	Recovery Sump Locations
Figure 20	Simulated Pre-Closure CCR and Dikes/Layer 1 Potentiometric Surface
Figure 21	Pre-Closure Saprolite/Layer 2 Simulated and Observed Potentiometric Surface
Figure 22	Pre-Closure PWR/Layer 3 Simulated and Observed Potentiometric Surface
Figure 23	Pre-Closure FBR/Layer 4 Simulated and Observed Potentiometric Surface
Figure 24	Plots of Observed Verses Simulated Heads and Residuals
Figure 25	Pre-Closure Model Layer 1 Hydraulic Conductivity Values
Figure 26	Pre-Closure Model Layer 2 Hydraulic Conductivity Values
Figure 27	Pre-Closure Model Layer 3 Hydraulic Conductivity Values
Figure 28	Pre-Closure Model Layer 4 Hydraulic Conductivity Values
Figure 29	Post-Closure Conceptual Model Layers
Figure 30	Post-Closure Model Boundary Conditions
Figure 31	Post Closure Model Recharge Values
Figure 32	Post-Closure Model Evapotranspiration Values
Figure 33	Post-Closure Saprolite/Layer 2 Simulated Potentiometric Surface
Figure 34	Pre- and Post-Closure Saprolite/Layer 2 Simulated Potentiometric Surfaces

This Groundwater Model Summary Report, Georgia Power Company - Plant Scherer Ash Pond AP-1 has been prepared to meet the requirements of the Georgia Solid Waste Management Rule by a qualified groundwater scientist with AECOM. References to the appropriate 391-3-4 Rules are incorporated throughout this document.

I certify that I am a qualified groundwater scientist as defined in 391-3-4-.01, who 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. I further certify that this Groundwater Monitoring Plan was prepared by myself or by a subordinate working under my direction. The design of the groundwater monitoring system was developed in compliance with the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management, Chapter 391-3-4.10(6).



The seal is circular with a dashed outer border. Inside, the text "FELIX N. NCHAKO" is at the top, "GEORGIA REGISTERED PROFESSIONAL GEOLOGIST" is around the middle, and "No. 0873" is at the bottom. In the center is a map of Georgia with a geological hammer overlaid.

Felix N. Nchako - P.G.



1 INTRODUCTION

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 subsurface 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 became operational in 1982. AP-1 is located on a topographic high area of the plant that encompasses 550 acres. AP-1 typically operated 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 accepted 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 flows 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 contrast 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, 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 discrete layers and lenses of chlorite-actinolite schist and feldspathic hornblende gneiss/amphibolite. 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.

2 DATA REVIEW

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 is 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), Rev05 (WSP 2024) 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 by the geologic unit screened by the wells/piezometers located across the site. ~~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 where wells were sparse. ~~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.

3 GROUNDWATER FLOW MODELING

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 pre-closure 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 being 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 the 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 in **Figure 11**, while the resulting FBR top surface in the model is shown in **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. The flow channels around the perimeter of AP-1 have River Cell settings representing local conditions, not that of the CCR. River cells in AP-1 are set to a riverbed 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**. An initial background (basin wide average) recharge value was the initial recharge setting at the start of the calibration process. The resulting recharge values between 10.15% to 14.58 % of the annual precipitation are the recharge settings in the pre-closure model. This includes 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

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 in **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.

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 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 SIMULATED POST-CLOSURE MODELING

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 CCR removal area. The CCR 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;
1. River cells used to simulate water flow in channels across and around the CCR were removed;
 - The capped closure-in-place footprint and knob area were set to no recharge and no ET;
 - The CCR 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 regraded, and the active cells were set to no recharge and no ET to reflect the capped condition. Hydraulic conductivity associated with the knob was not changed;
 - 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 MODEL ASSUMPTIONS/UNCERTAINTIESMODEL ASSUMPTIONS

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 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.

6 SUMMARY

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 and 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.

7 REFERENCES

New Georgia Encyclopedia (<http://www.georgiaencyclopedia.org/articles/science-medicine/piedmont-geologic-province>)

United States Geological Survey (USGS) (<https://mrdata.usgs.gov/sgmc/ga.html>)

WSP, 2024. Hydrogeologic Assessment Report, Plant Scherer Ash Pond 1 (AP-1). Rev05. September 2024.

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.

Environmental Simulations, Inc., 2014. Guide to Using Groundwater Vistas Version 7. Environmental Simulations, Inc., Reinholds, PA, 17569, 2011.

Duffield, G.M., 2007. *AQTESOLV for Windows Version 4.5 User's Guide*, HydroSOLVE, Inc., Reston, VA.

McDonald, M.G., and Harbaugh, A.W., 1988. A modular three-dimensional finite-difference ground-water flow model: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 6, Chap. A1, 586 p.

University of Georgia., 2020. Evapotranspiration and evaporation data for Georgia. Climate and Agriculture in the Southeast. <https://site.extension.uga.edu/climate/2016/07/evapotranspiration-and-evaporation-data-for-georgia/> Accessed on April 20, 2020.

USGS, 2005. Modflow-2005, the U.S. Geological Survey Modular Ground-Water Model – User Guide to Modularization Concepts and the Ground-Water Flow Process. USGS Open-File Report 00-92, 2000.

<https://www.usgs.gov/software/modflow-nwt-a-newton-formulation-modflow-2005>

Watermark Numerical Computing., 2016. PEST Model-Independent Parameter Estimation User Manual. 6th Edition.

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

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
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

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
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

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
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

Note: Since groundwater elevations and other elevation-based measurements were made using pre-2020 survey data, it makes sense to persist with the pre-2020 datum to avoid confusion throughout the report documents.

CCR - Coal Cumbustion 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

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)
SGWA-1	APA-1/PZ-8S	2399899.287	1119232.658	543.97	Residuum - 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-1I/PZ-8I	2399907.288	1119237.111	587.79	Residuum - 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		

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)
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	Residuum - 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	Residuum - 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	Residuum - 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	Residuum - 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		

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)
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		

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-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		

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-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	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	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		

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-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	Residuum - 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	Residuum	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	Residuum	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	Residuum	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
PZ-33I		1121243.790	2409073.690	466.25		Bottom of borehole		126.5	335.82		
					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		Dike Material	Layer 1	0		18	
					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	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	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	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	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	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	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	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	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	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	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	PWR	Layer 3	47	431.8		
		Bottom of Boring		64.7	414.1		

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-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		

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-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		

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)
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		

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)
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		

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)
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		

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)
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
	Residuum - 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		

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)
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		

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)
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		

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)
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		

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-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
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
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
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
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)	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)
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
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)
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
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)
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									
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

Table 11
Auto Sensitivity Summary
Groundwater Model Summary Report - AP-1
Plant Scherer
Monroe County, Georgia

Recharge Zones, Base RSS: 482.12 ft²				
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 ft²		
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 ft²)					
12	Kz	Min	Max	RSS ft²	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	Current RSS	Difference
Max	2489.919	482.12
Min	440.7384	-41.38
Range	2049.181	--
Average	520.0448	

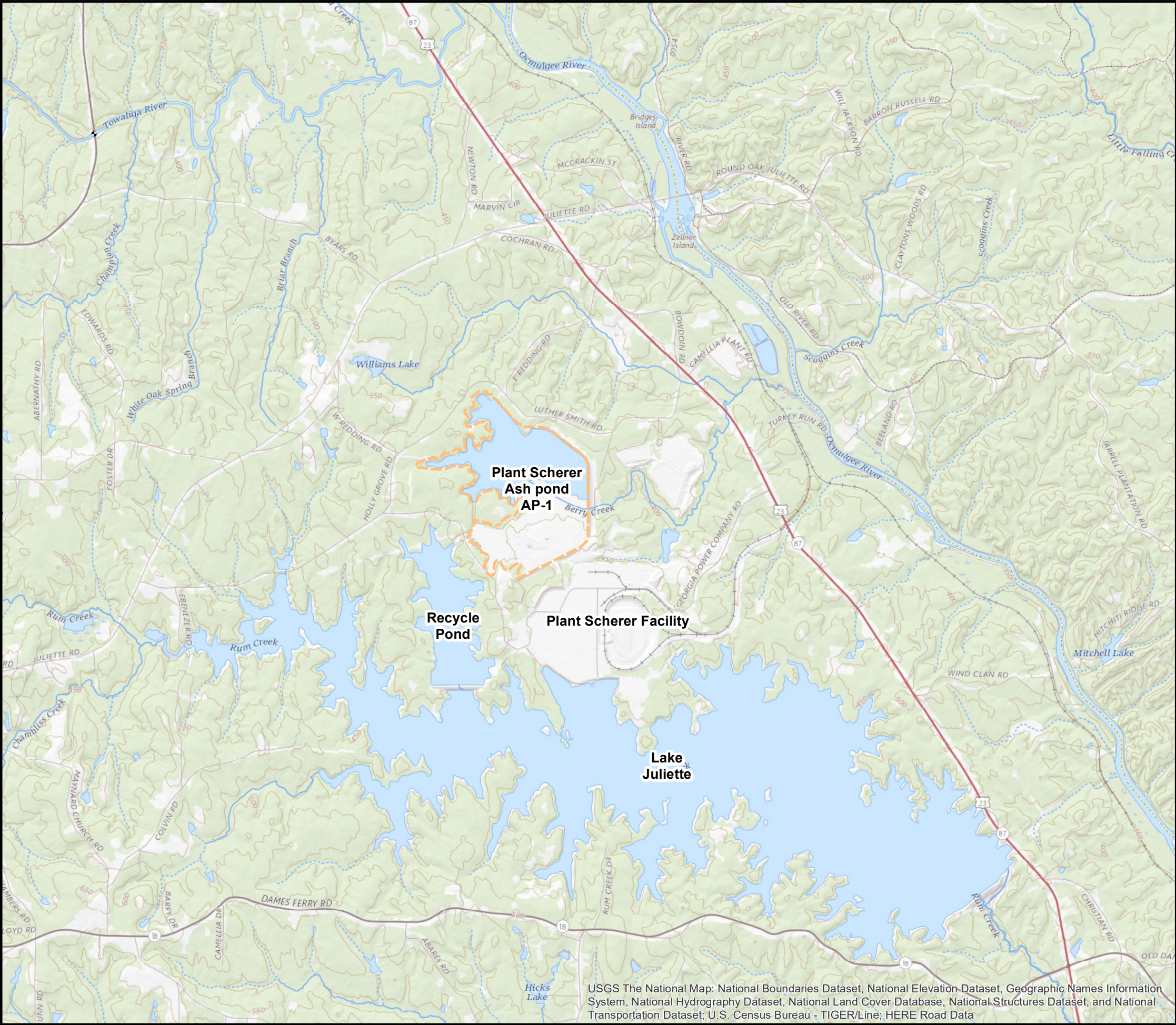
Vertical Conductivity Zones - all		
RSS	Current RSS	Difference
Max	563.8593	484.05
Min	0	-484.05
Range	563.8593	--
Average	396.7062	

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 _h 16 zone identification for K, Rec, ET
Base RSS: 482.12 ft²	
Max:	505.83
Min:	474.38
Range:	31.46
+ Delta	1.02
% Delta	0.21%

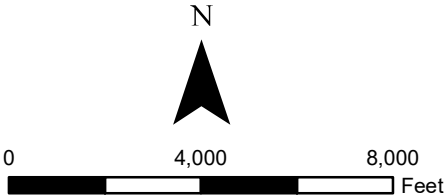
Percent of current K value RSS the lowest RSS value represents

FIGURES



Legend

----- AP-1 Boundary

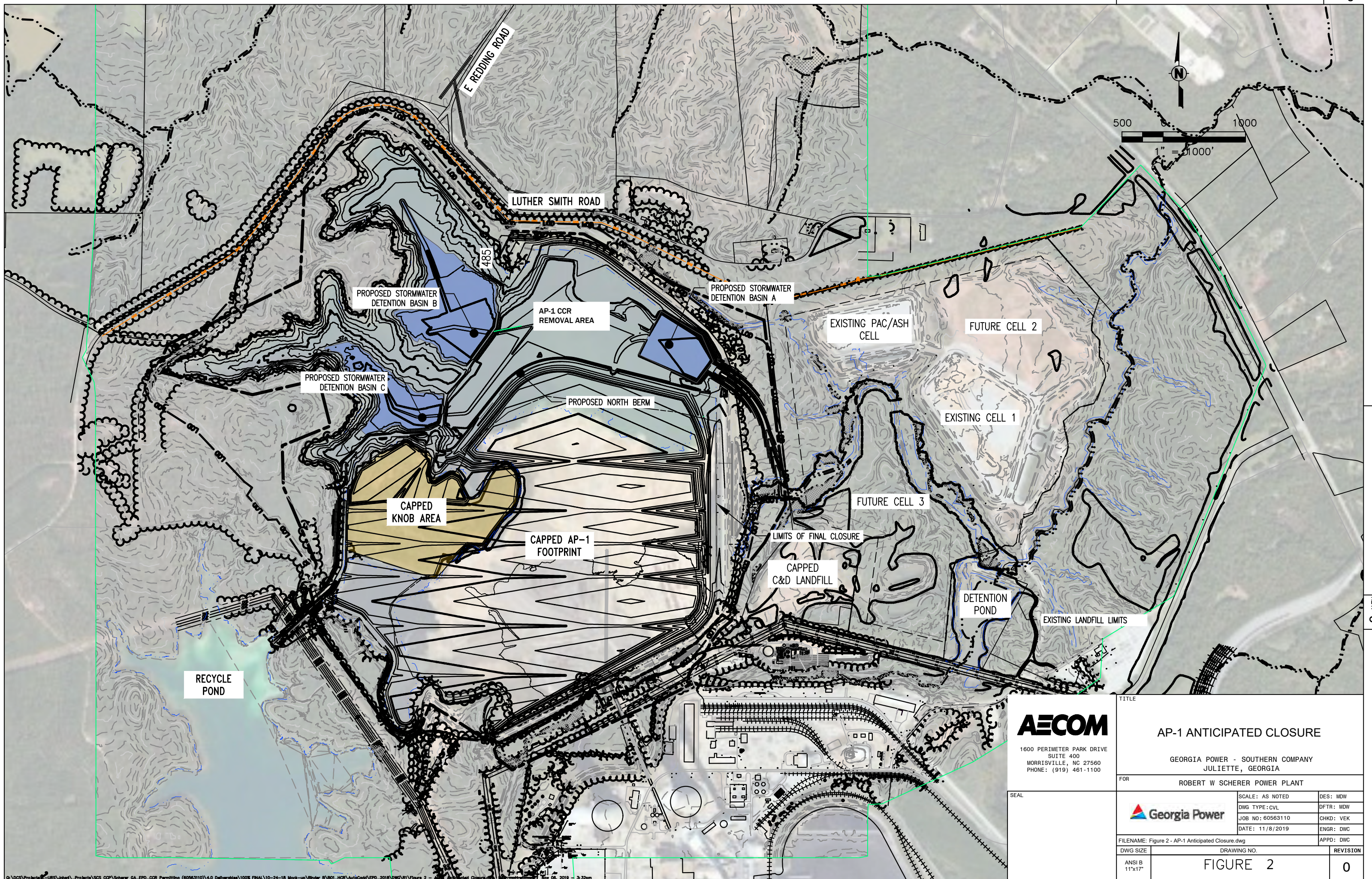


AECOM

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

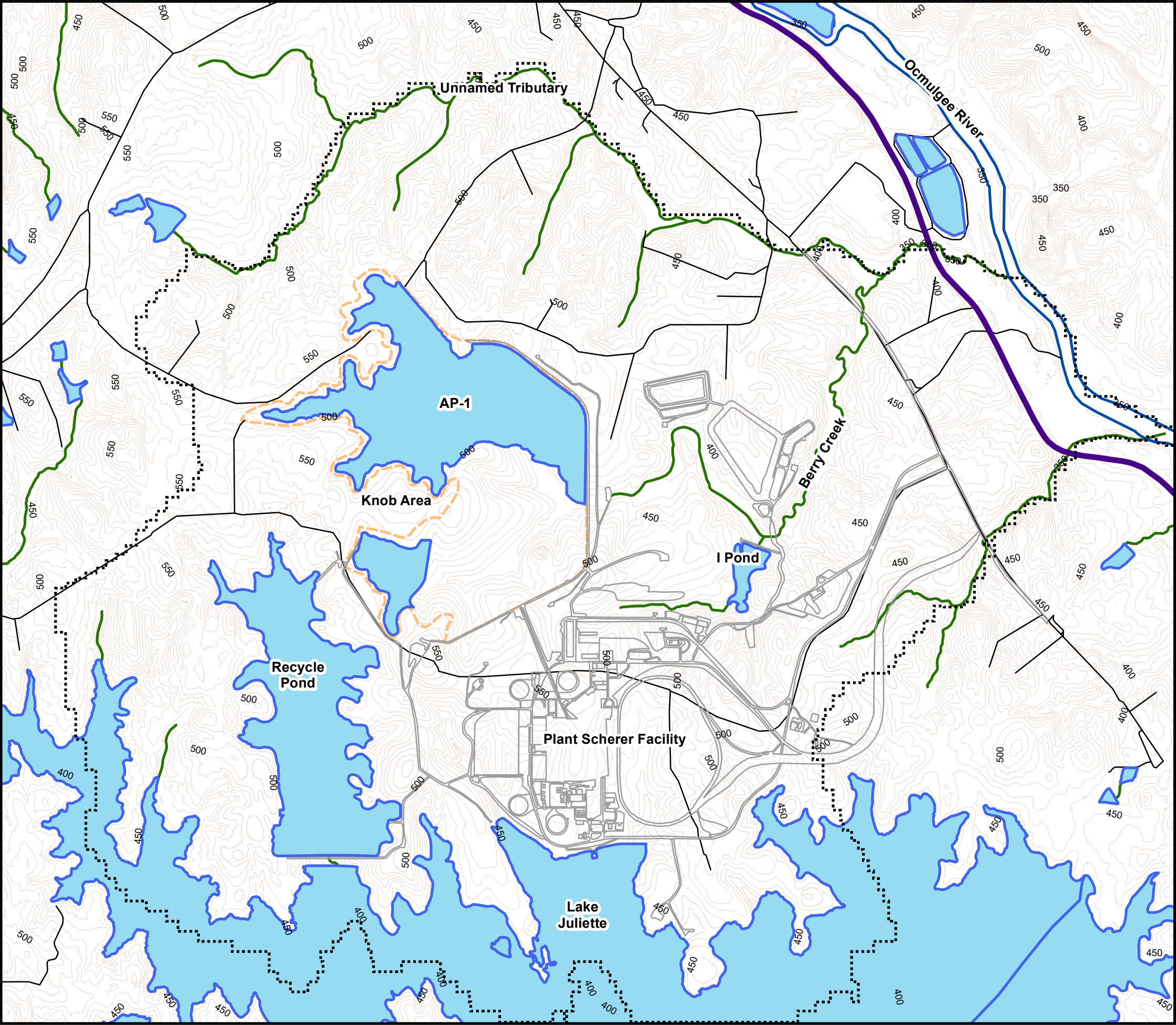
**GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1**

SITE LOCATION AND TOPOGRAPHY				
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	1



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

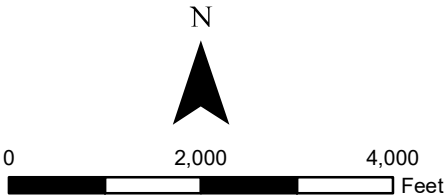
TITLE		
AP-1 ANTICIPATED CLOSURE		
GEORGIA POWER - SOUTHERN COMPANY JULIETTE, GEORGIA		
FOR ROBERT W SCHERER POWER PLANT		
	SCALE: AS NOTED	DES: MDW
	DWG TYPE: CVL	DFTR: MDW
	JOB NO: 60563110	CHKD: VEK
	DATE: 11/8/2019	ENGR: DWC
FILENAME: Figure 2 - AP-1 Anticipated Closure.dwg		APPD: DWC
DWG SIZE	DRAWING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



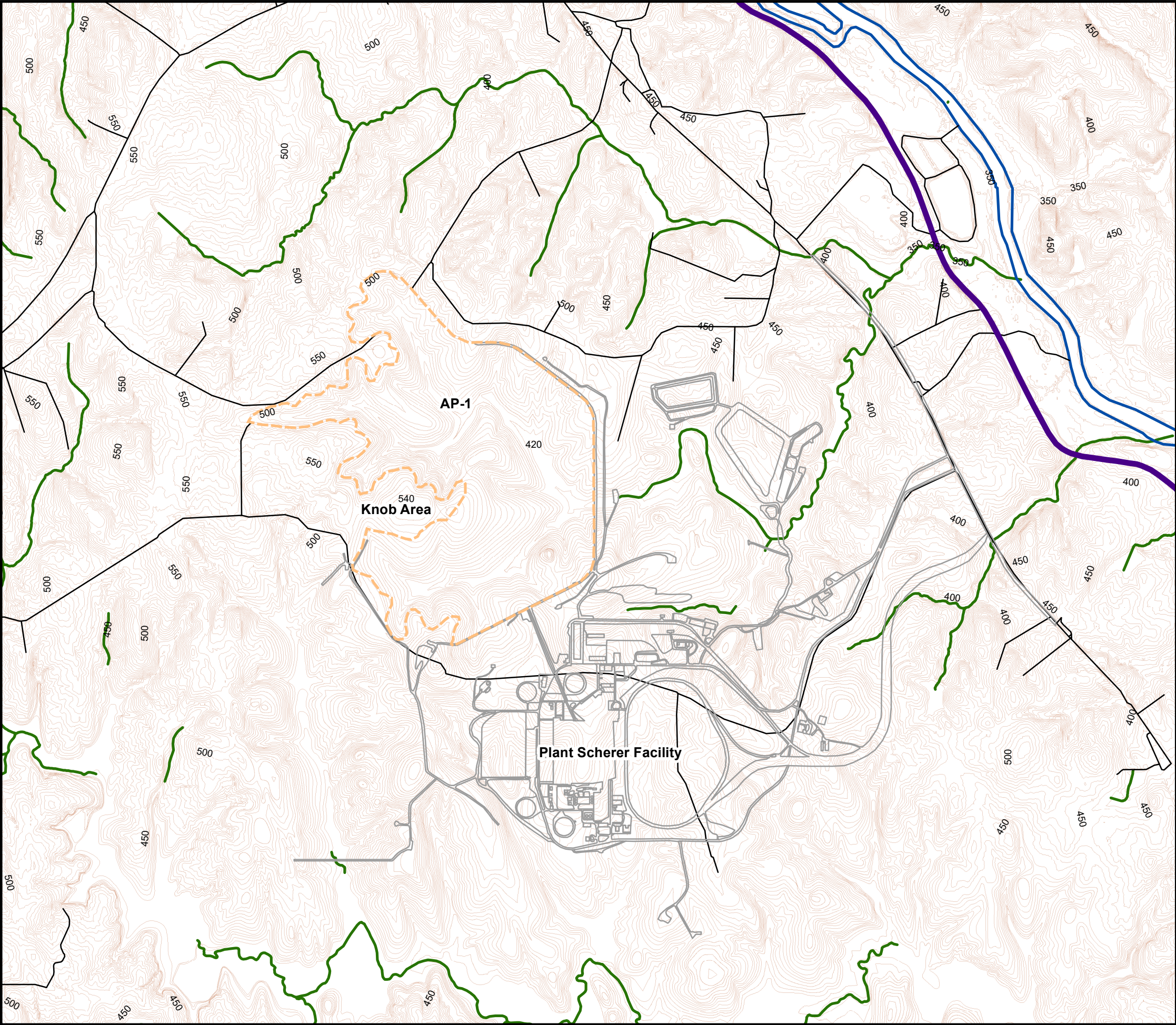
AECOM

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

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

FILENAME: **SITE MAP WITH MODEL BOUNDARY**

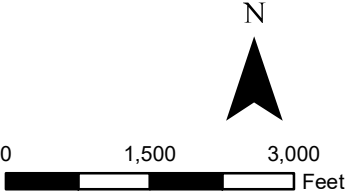
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/24/2020	3



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)



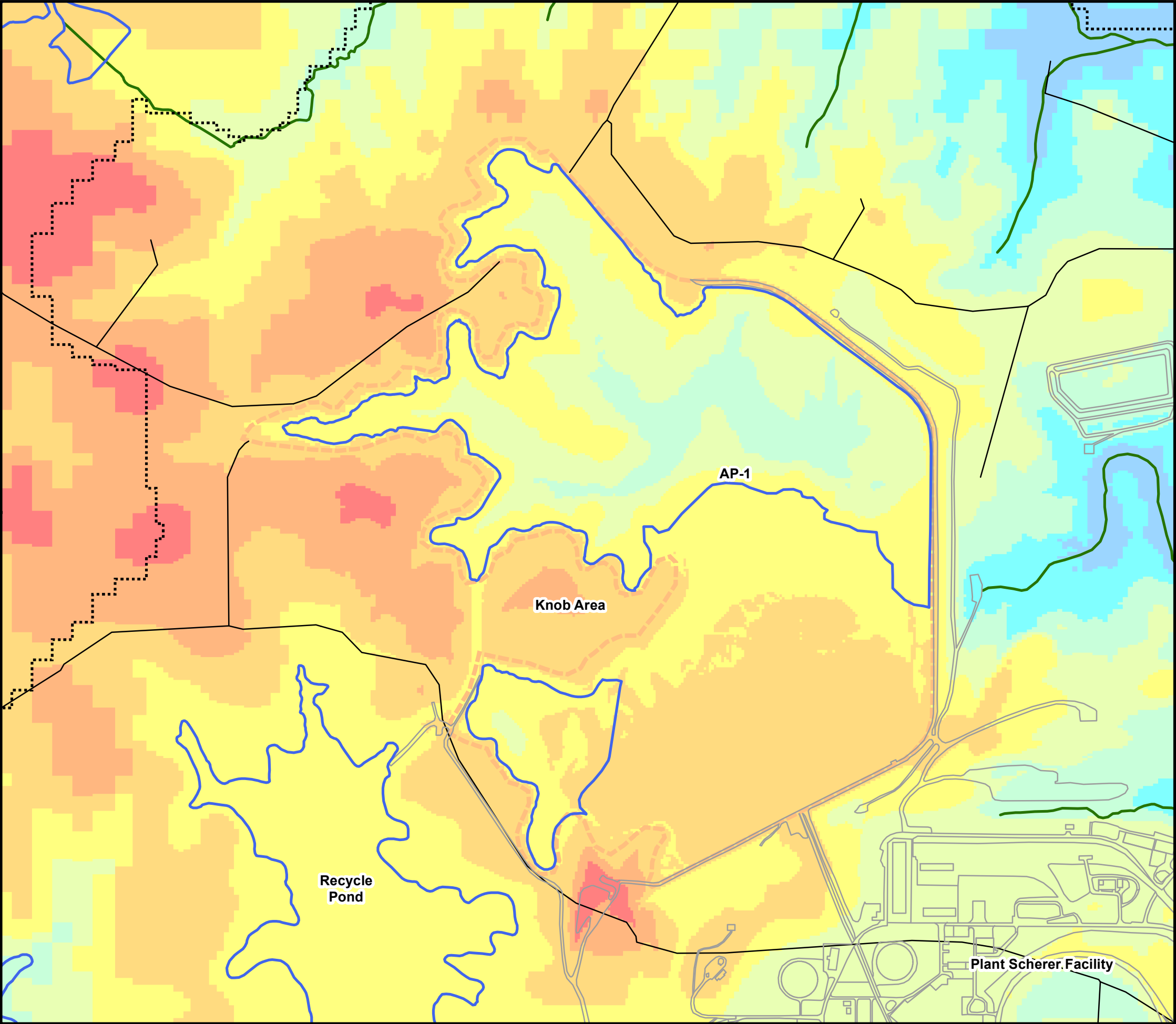
AECOM

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

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

FILENAME: **PRE-DEVELOPMENT TOPOGRAPHY**

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



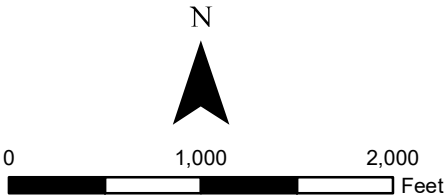
Legend

- 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.



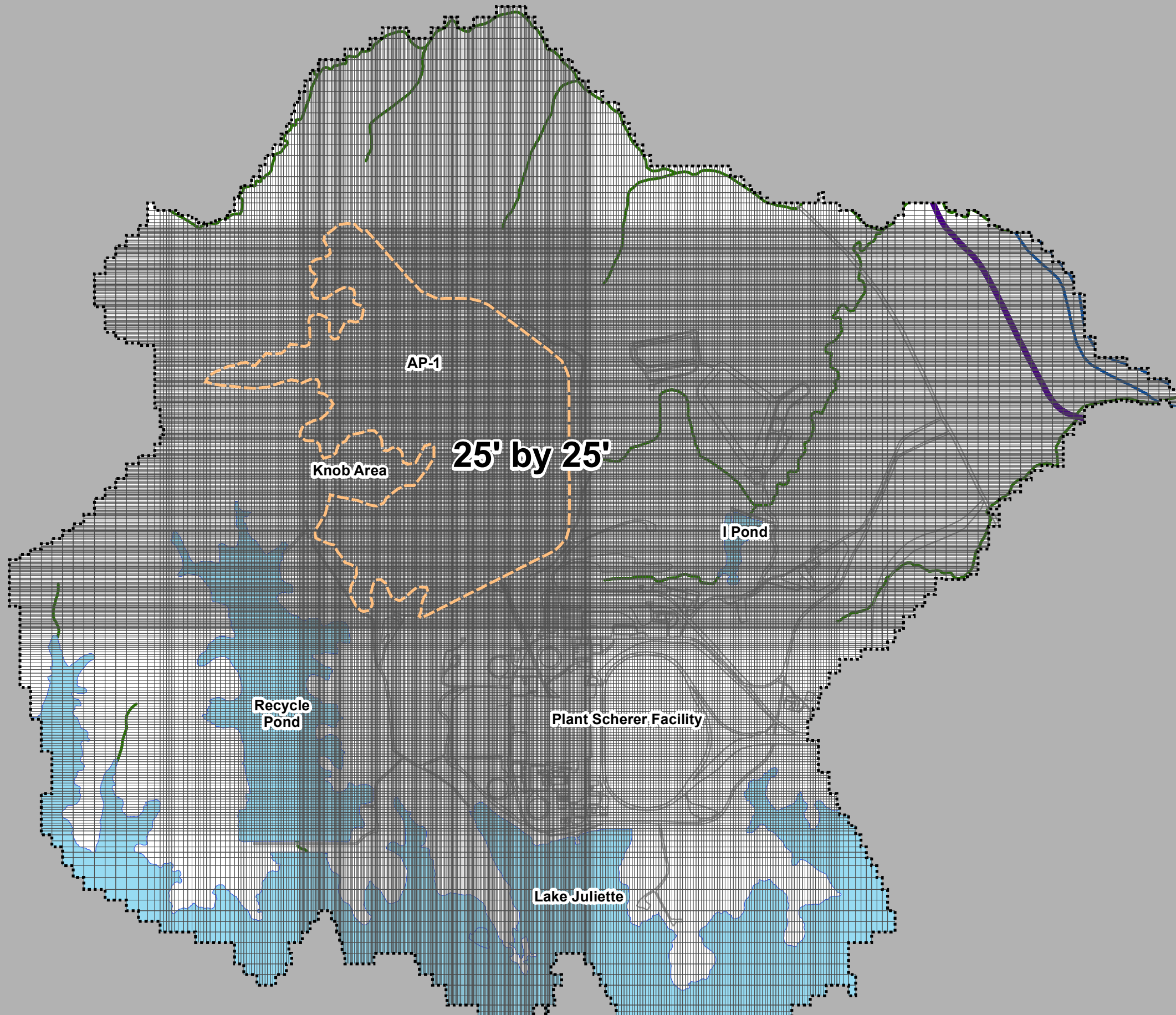
AECOM

**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**

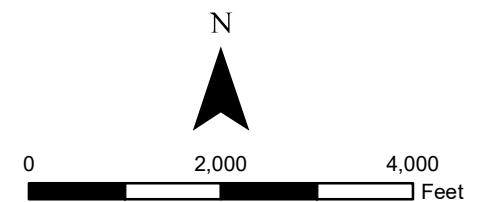
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	6



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

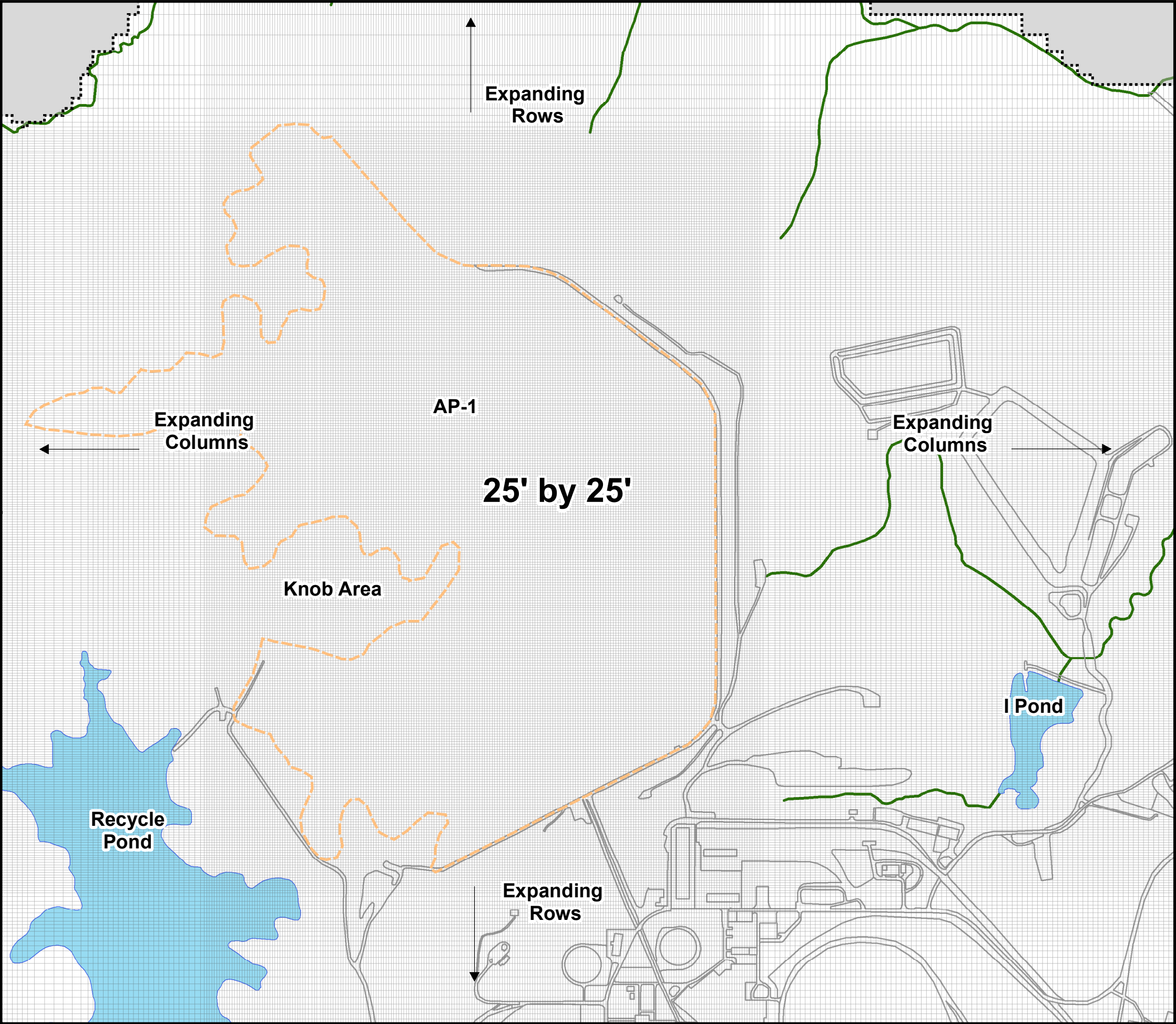
**GEORGIA POWER COMPANY
PLANT SCHERER**
MONROE COUNTY, GEORGIA

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

FILENAME:

MODEL GRID

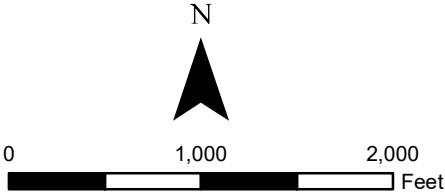
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/20/2020	7



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.

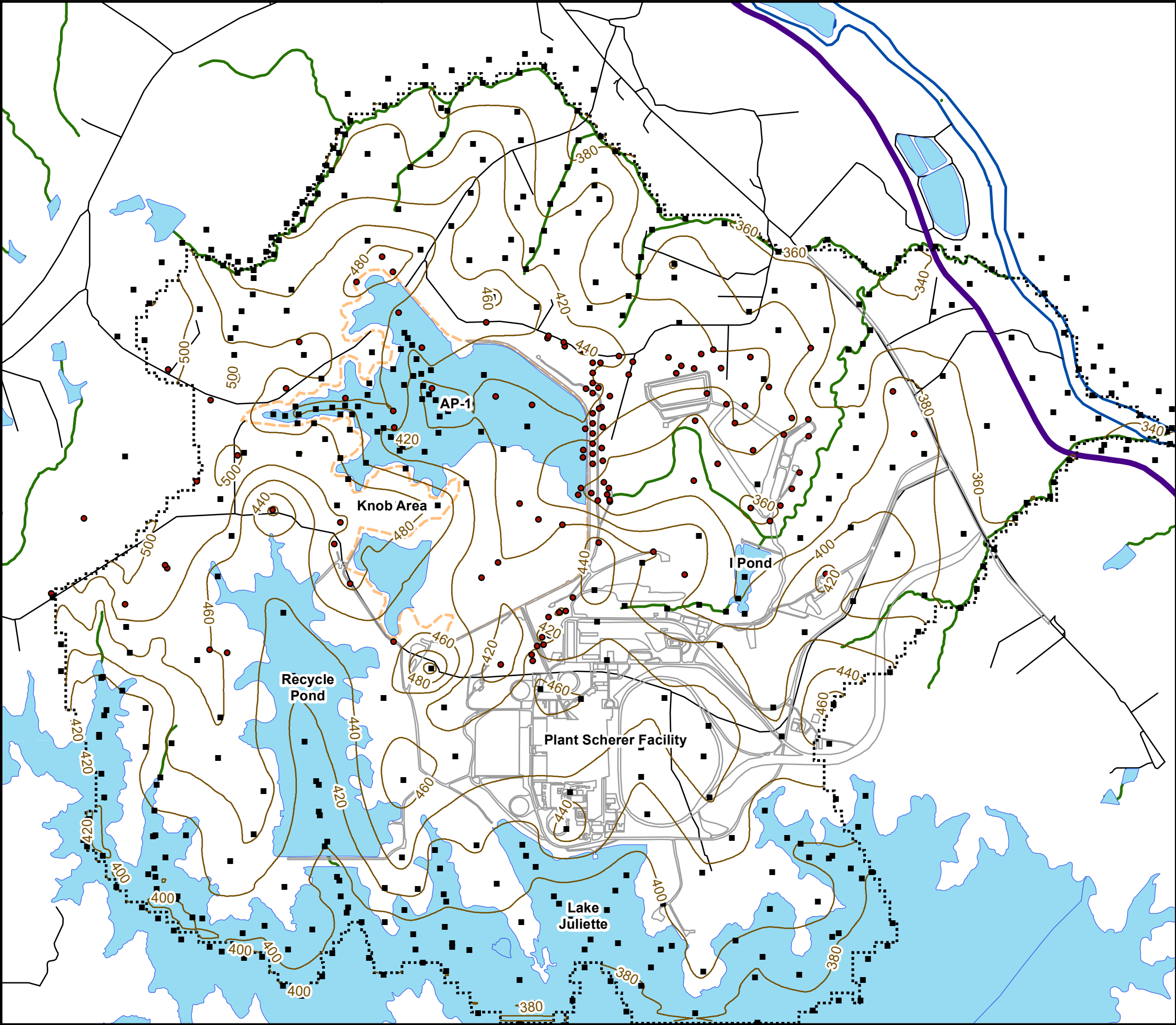


AECOM

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

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

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

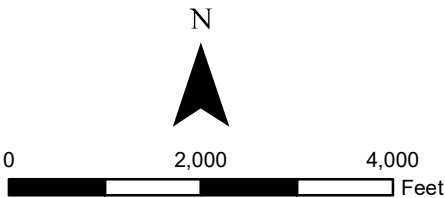


Legend

- 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.



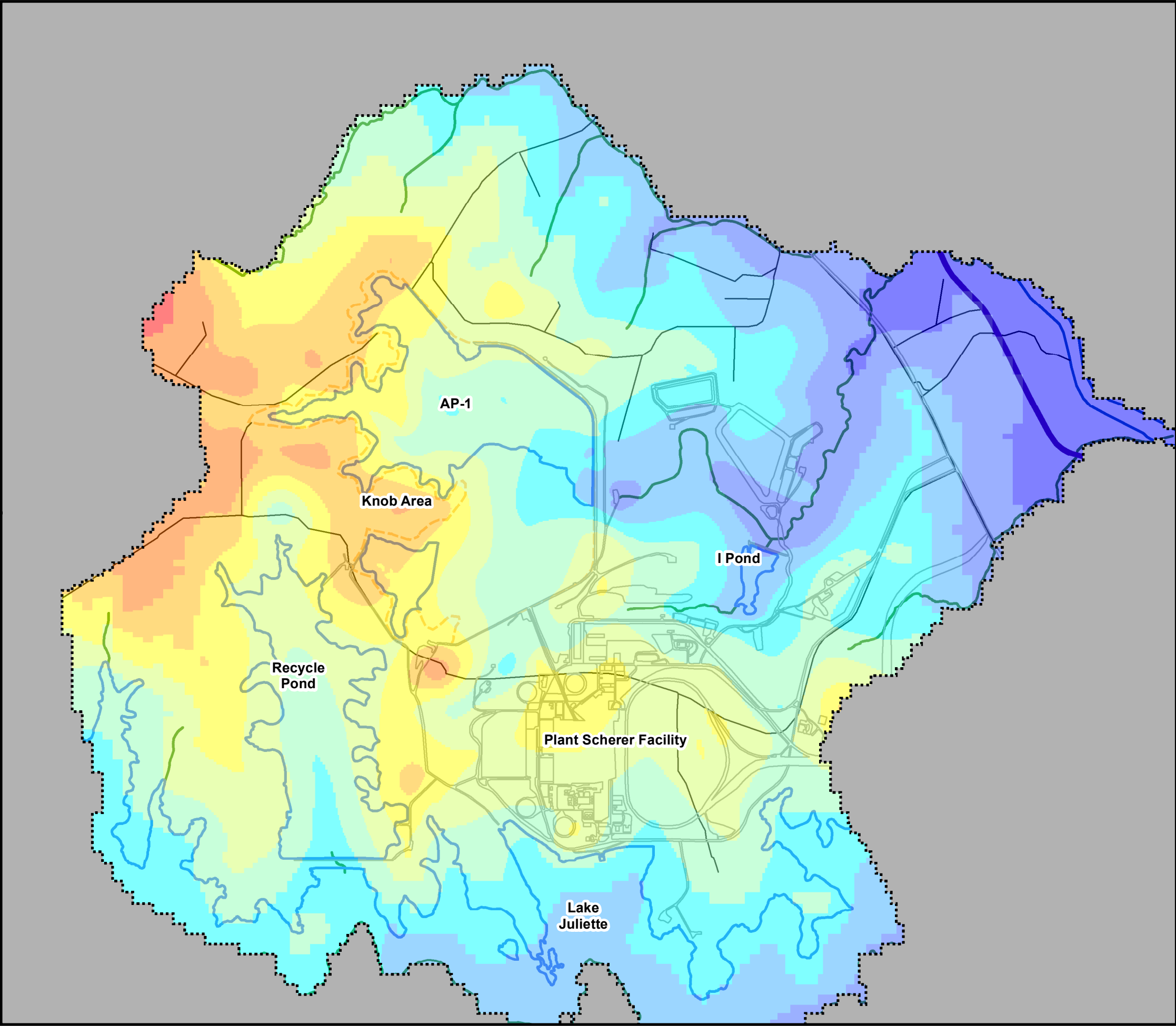
AECOM

**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

0 2,000 4,000 Feet



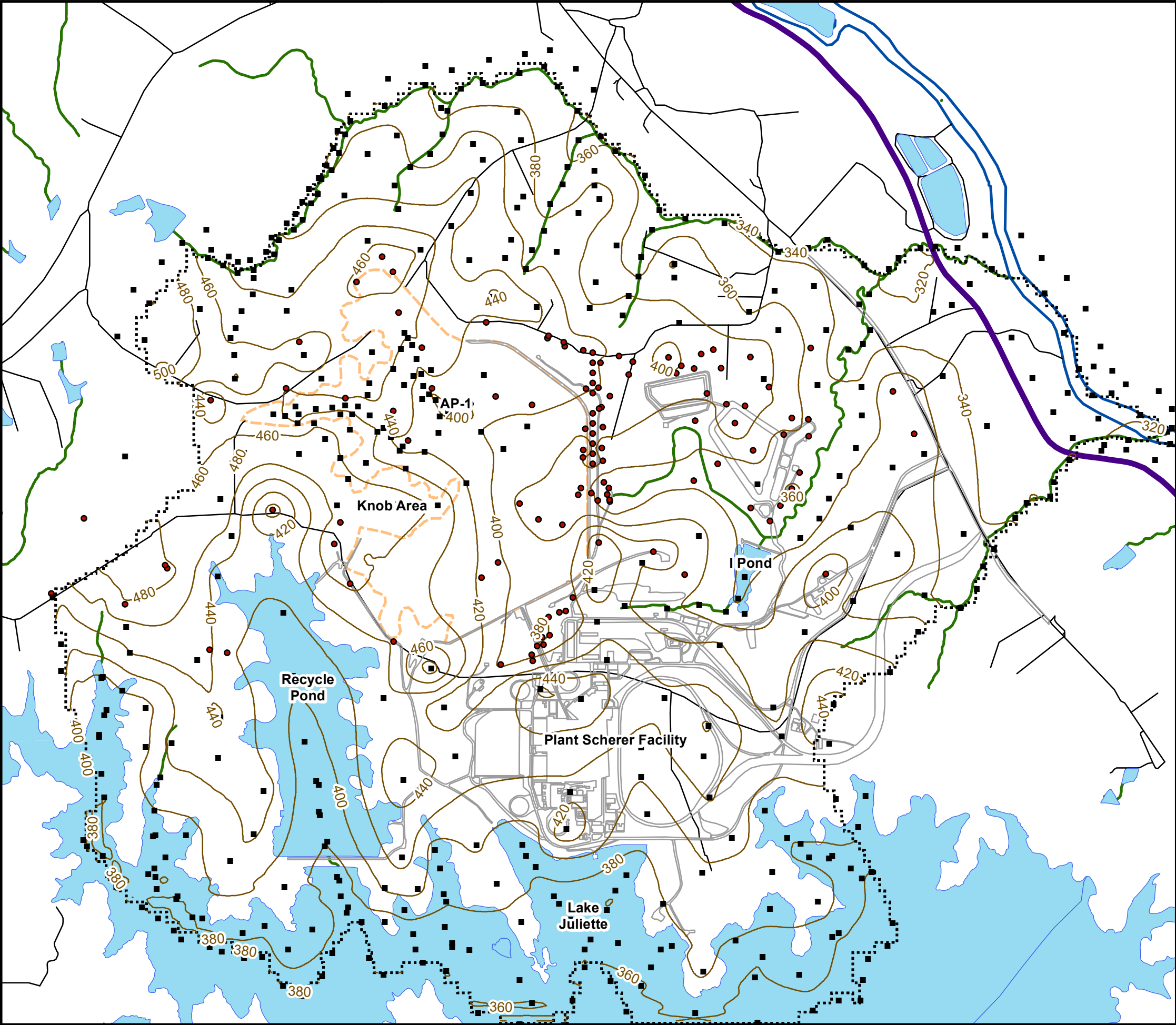
AECOM

**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

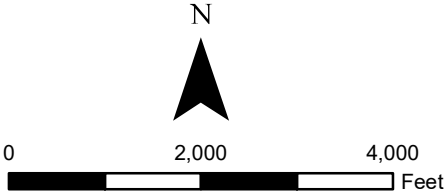


Legend

- 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.



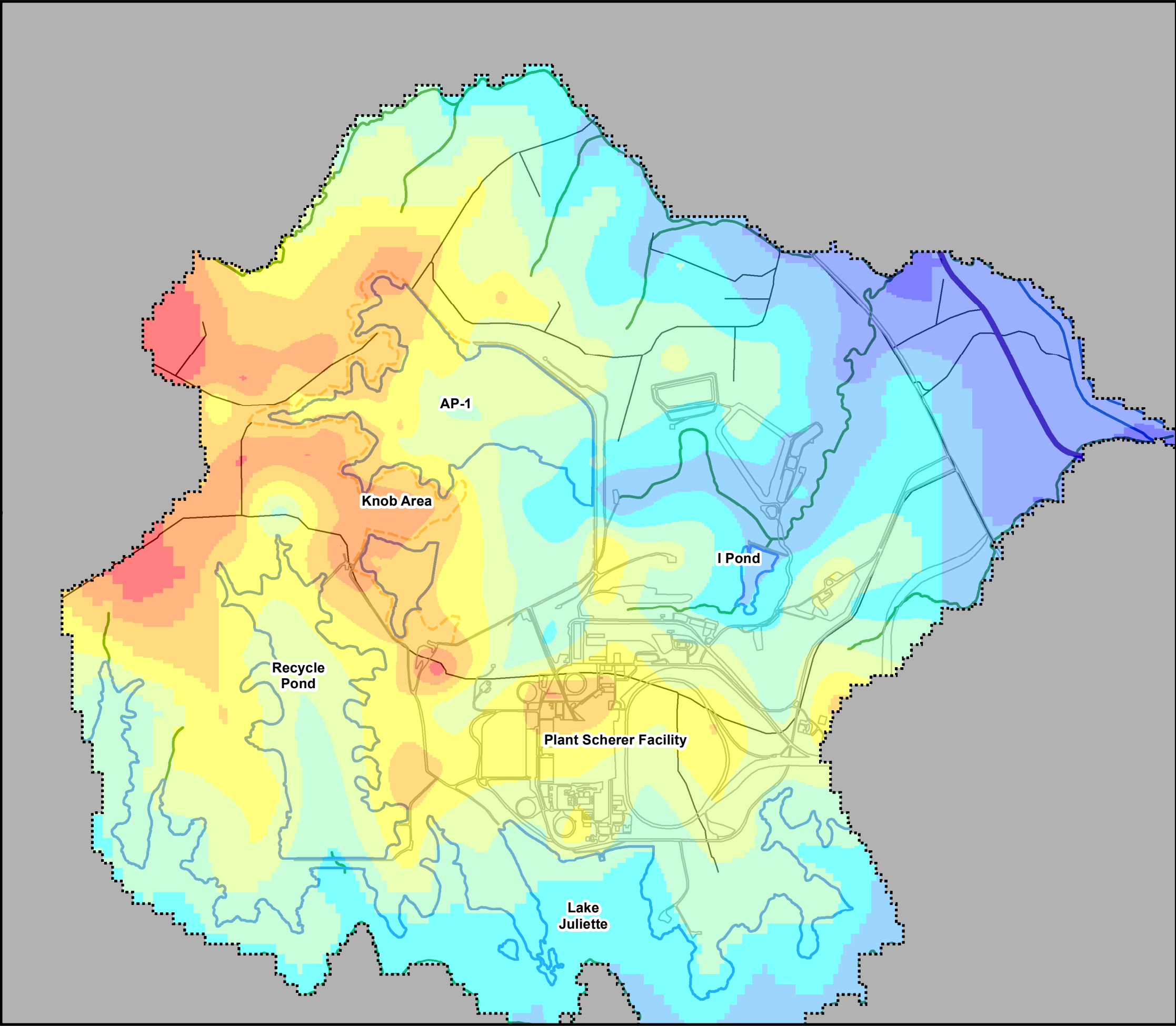
AECOM

**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

0 2,000 4,000 Feet



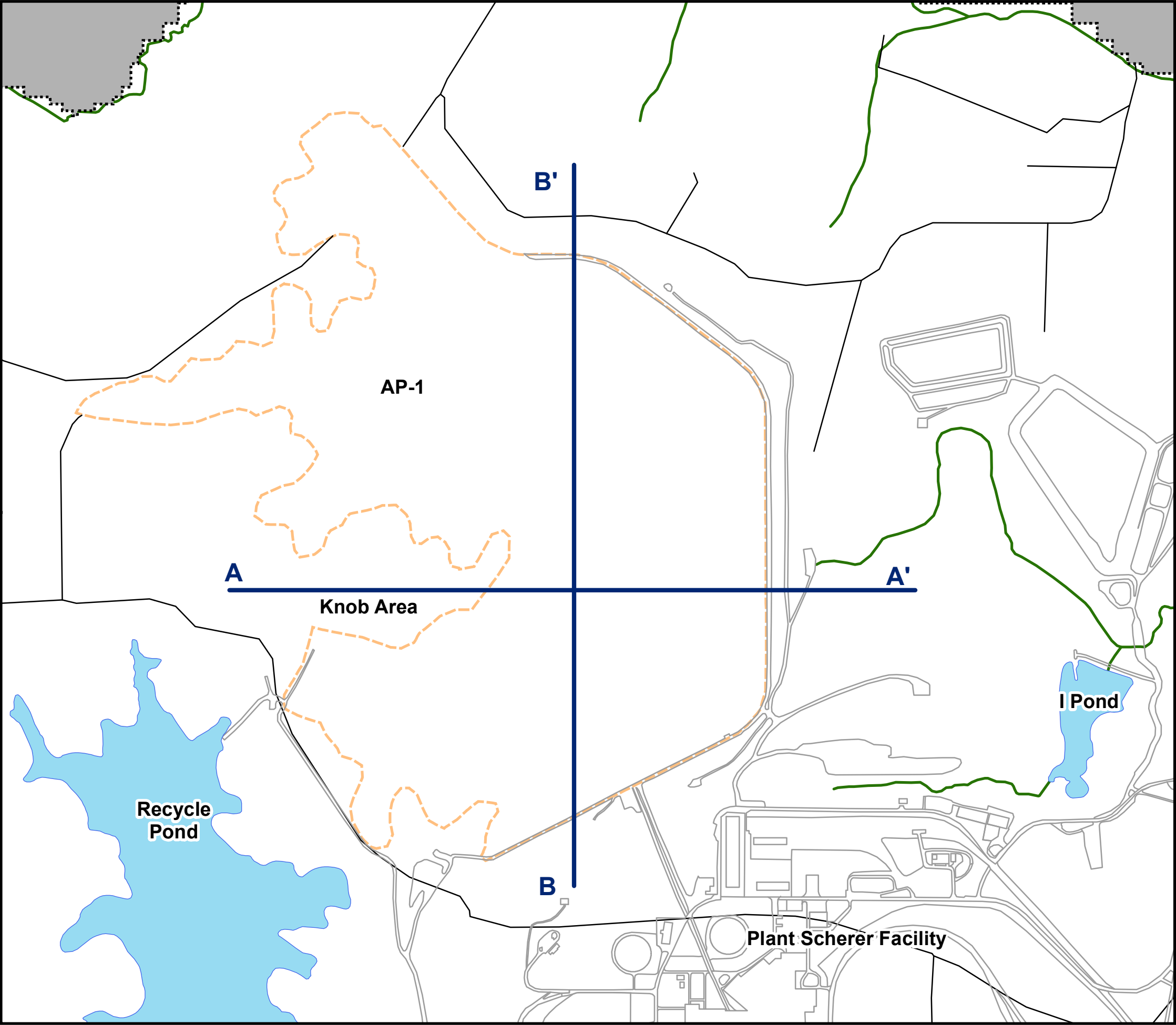
AECOM

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










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

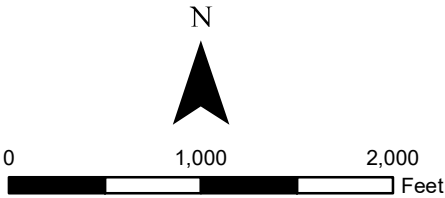
FILENAME: **COLOR FLOOD OF TOP OF FBR / MODEL LAYER 4**

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

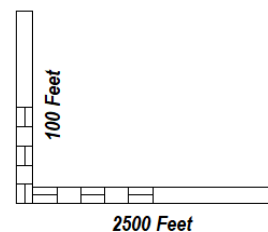
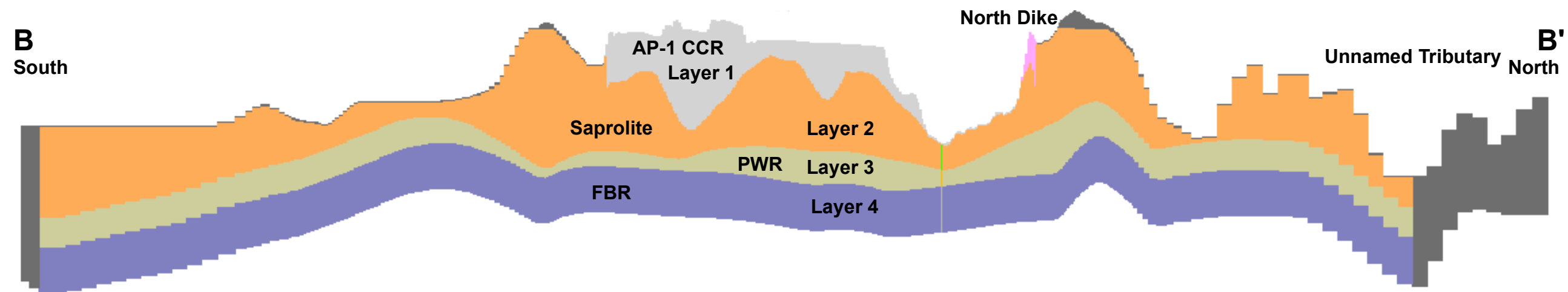
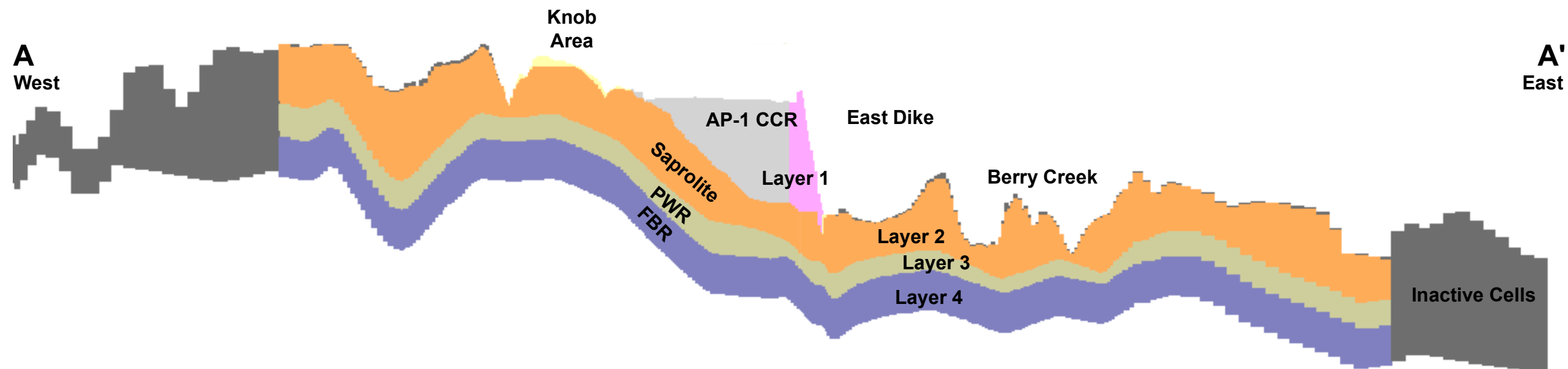


AECOM

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

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

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

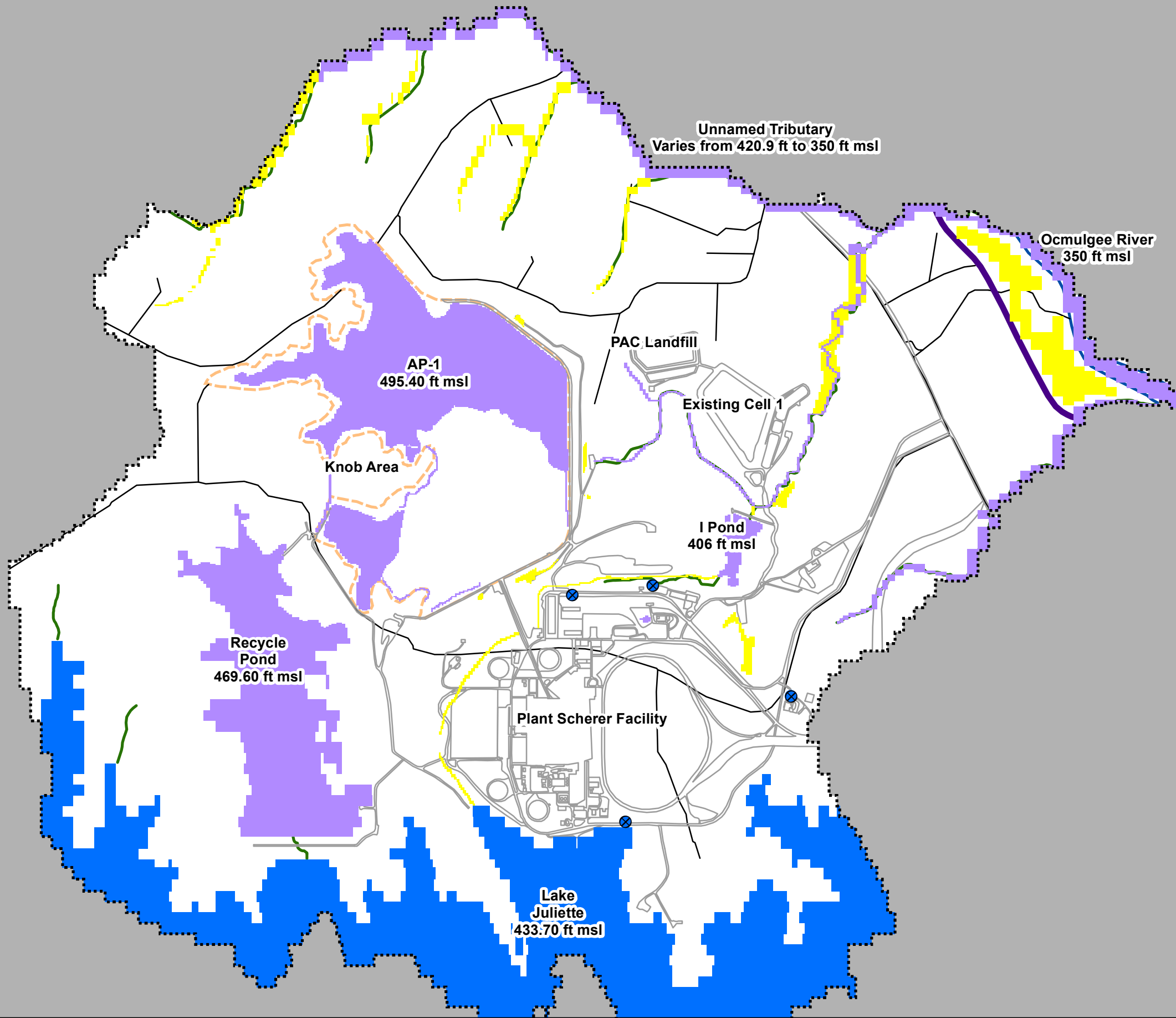
DRAWN BY:
 DAE

CHECKED BY:
 MMS

PROJECT NO.
 60563110

DATE:
 4/20/2020

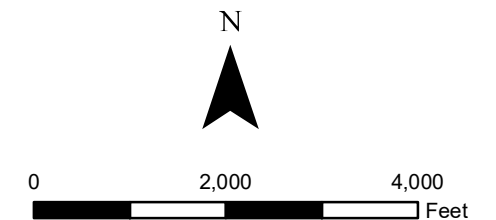
FIGURE NO.
14



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.



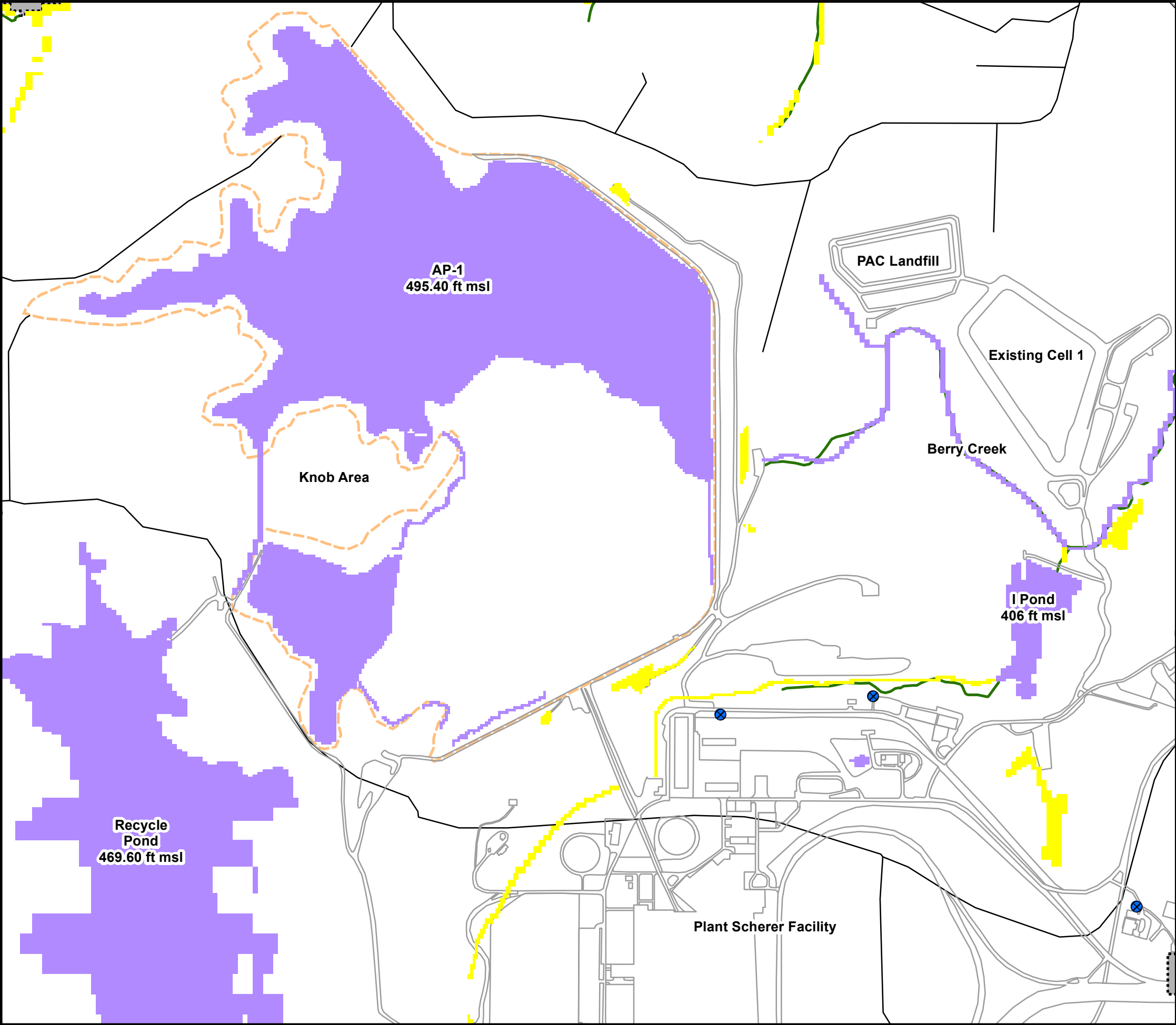
AECOM

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

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

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

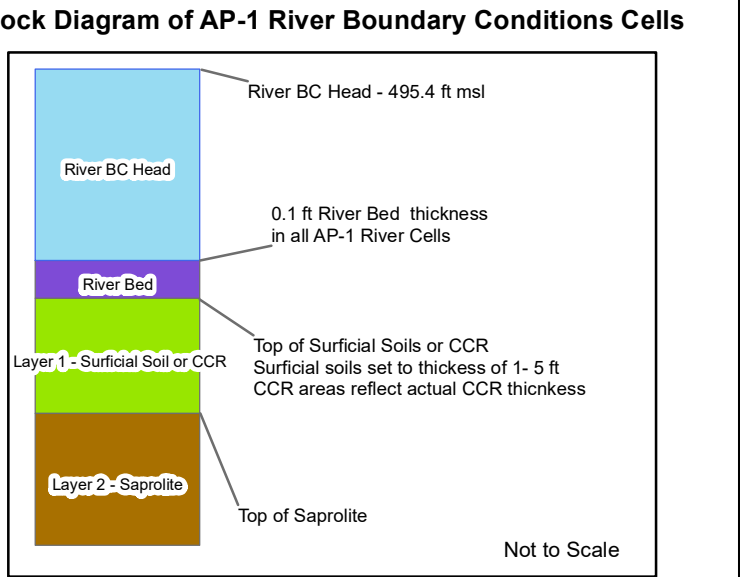
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/24/2020	15

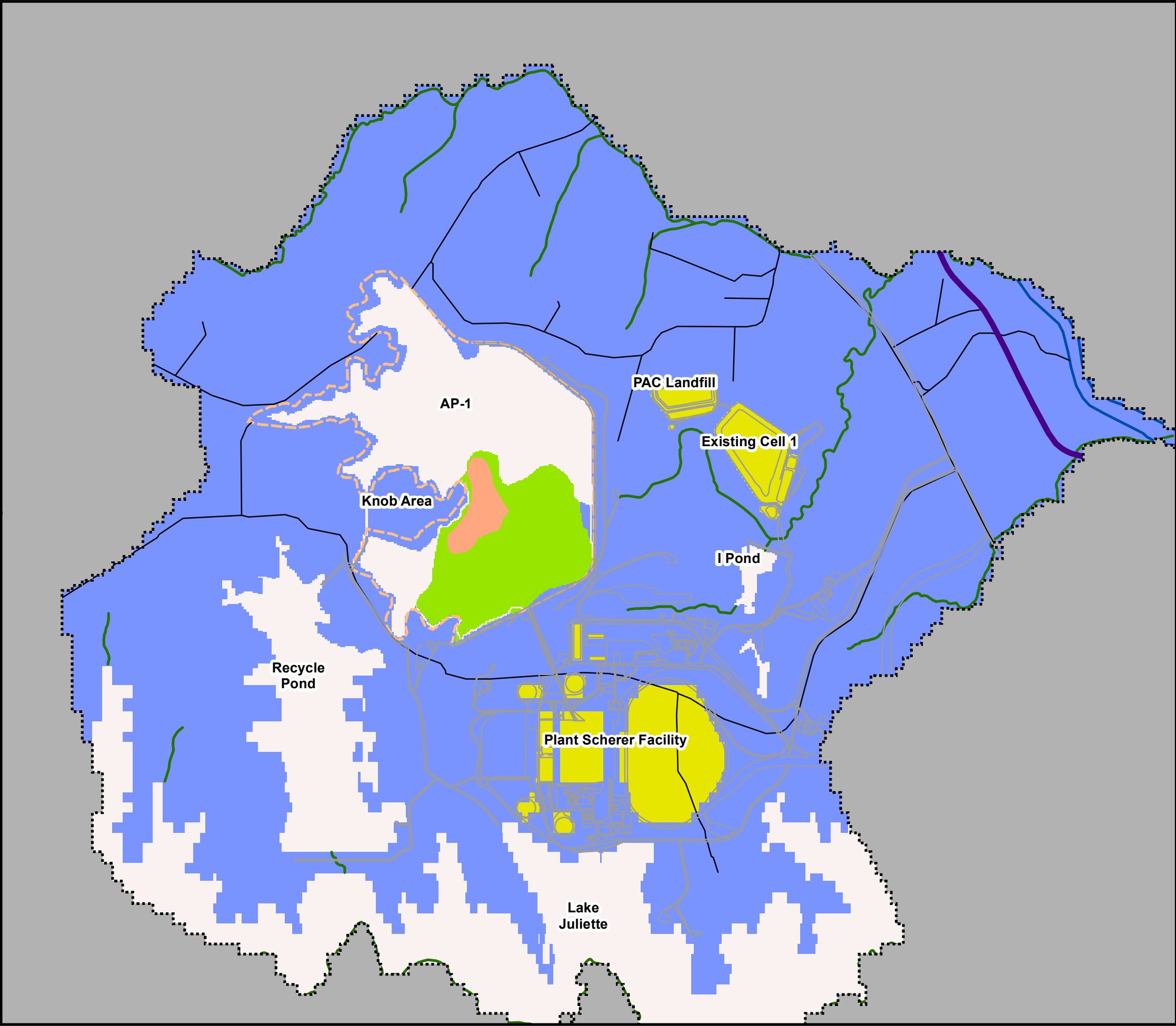


Legend

- 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.





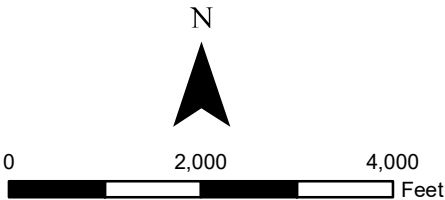
Legend

- 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.



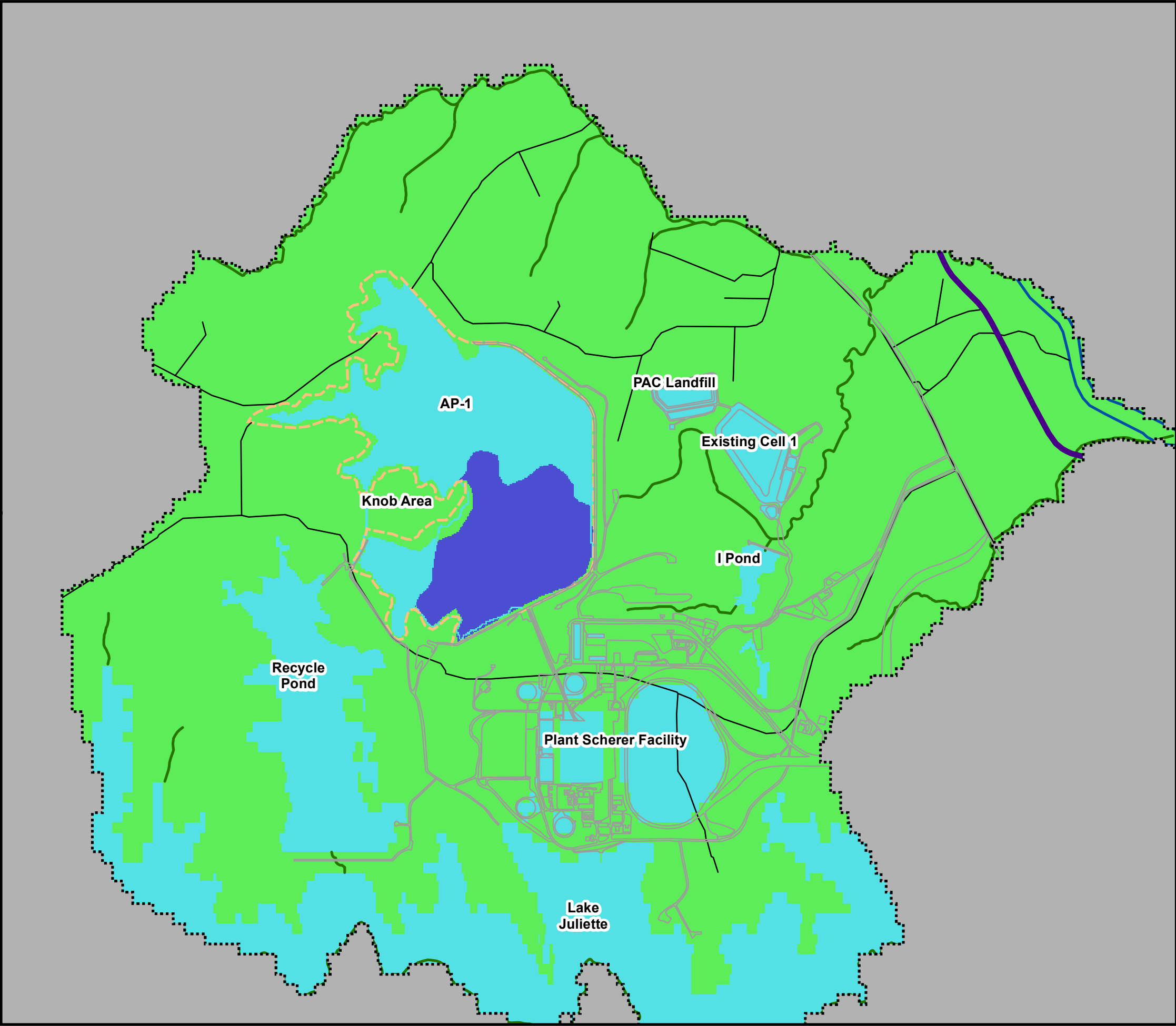
AECOM

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



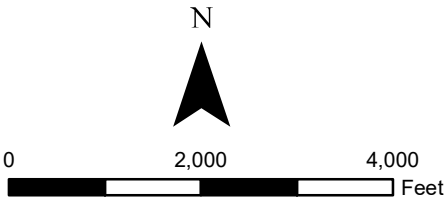
Legend

- 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.



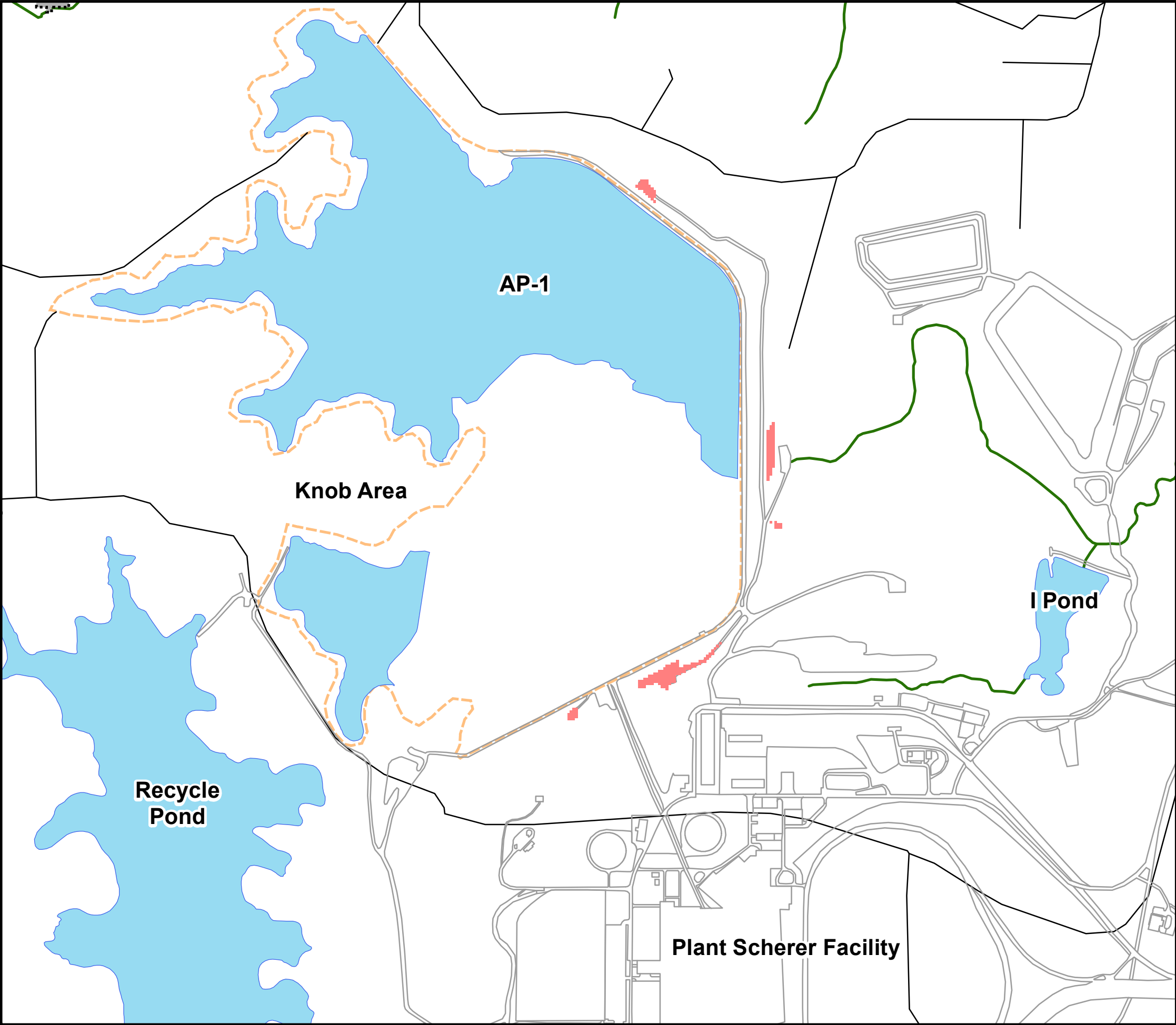
AECOM

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









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

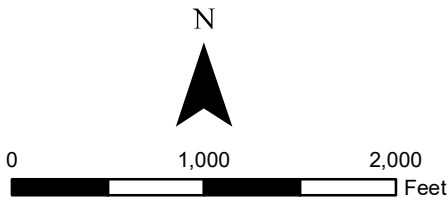
FILENAME:
PRE-CLOSURE MODEL EVAPOTRANSPIRATON VALUES

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

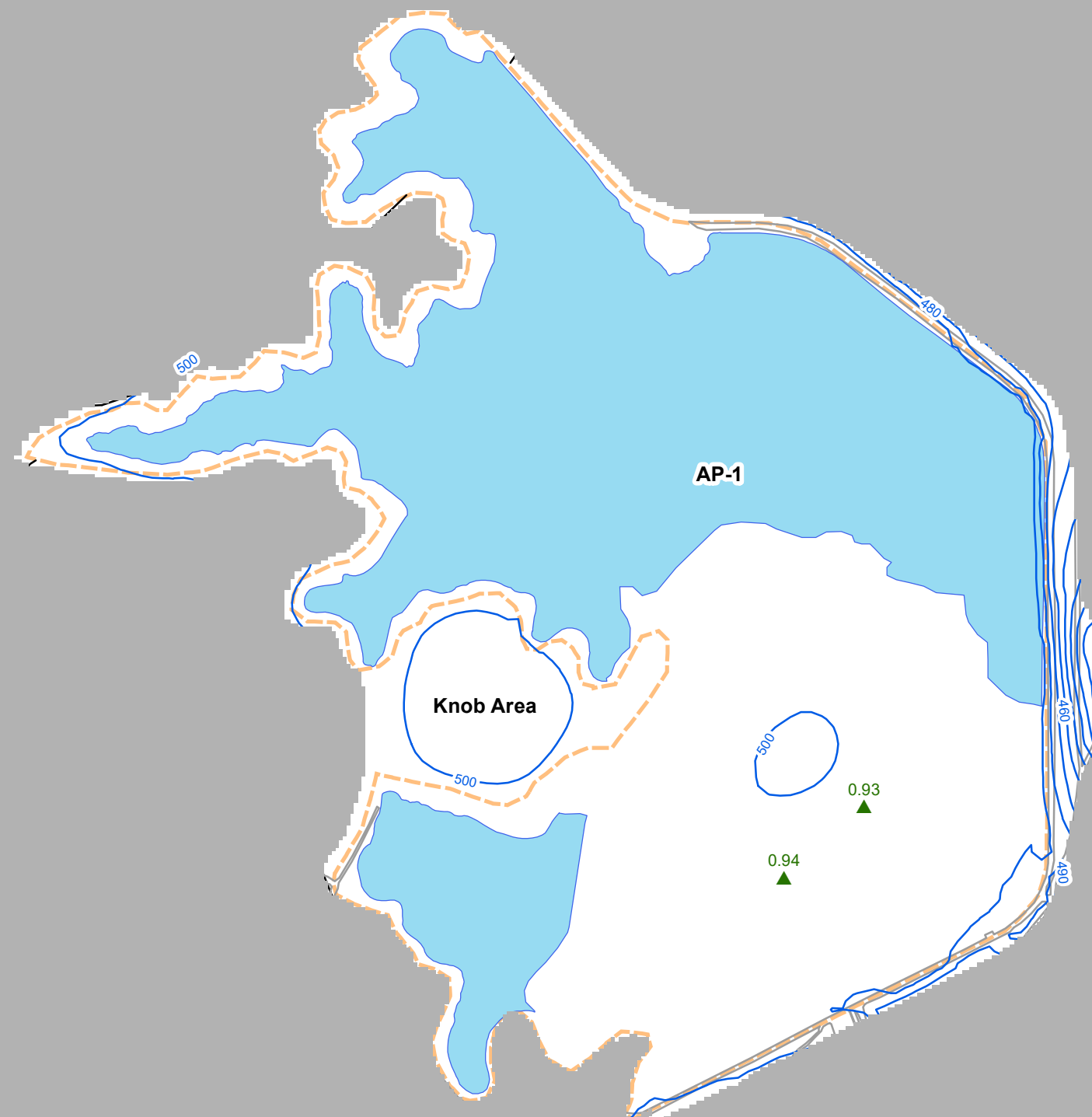


AECOM

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

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

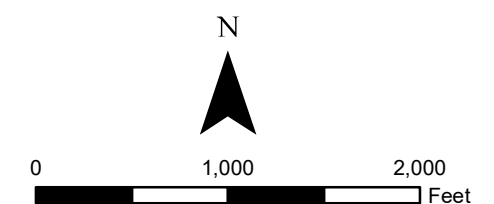
RECOVERY SUMP LOCATIONS				
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/21/2020	19



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)
- Simulated Potentiometric Surface Contour (ft msl)

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



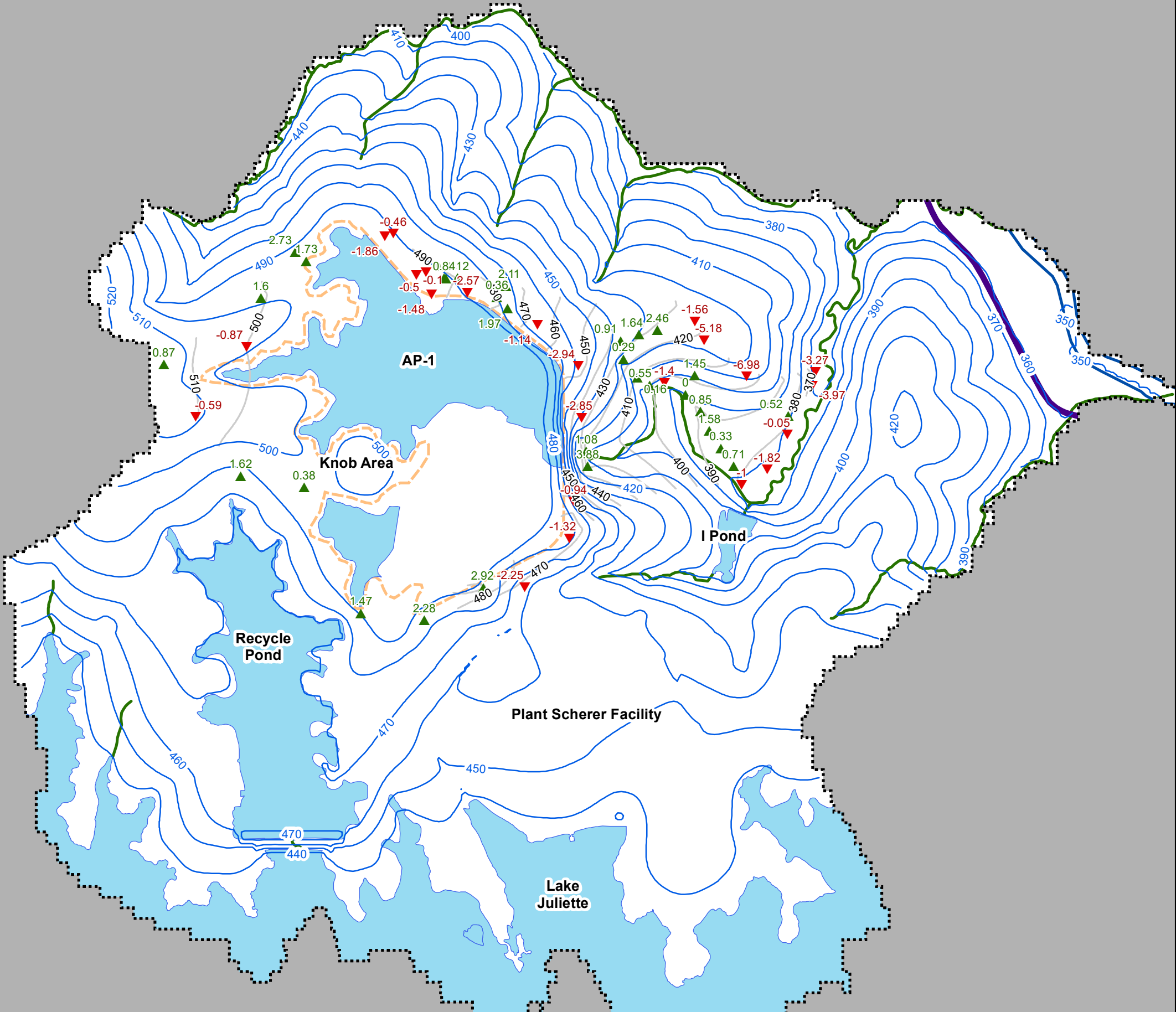
AECOM

**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**

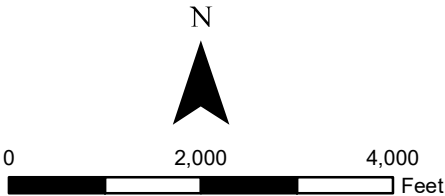
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/27/2020	20



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)
- Simulated Potentiometric Surface Contour (ft msl)
- Observed Potentiometric Surface Contour (ft msl)

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



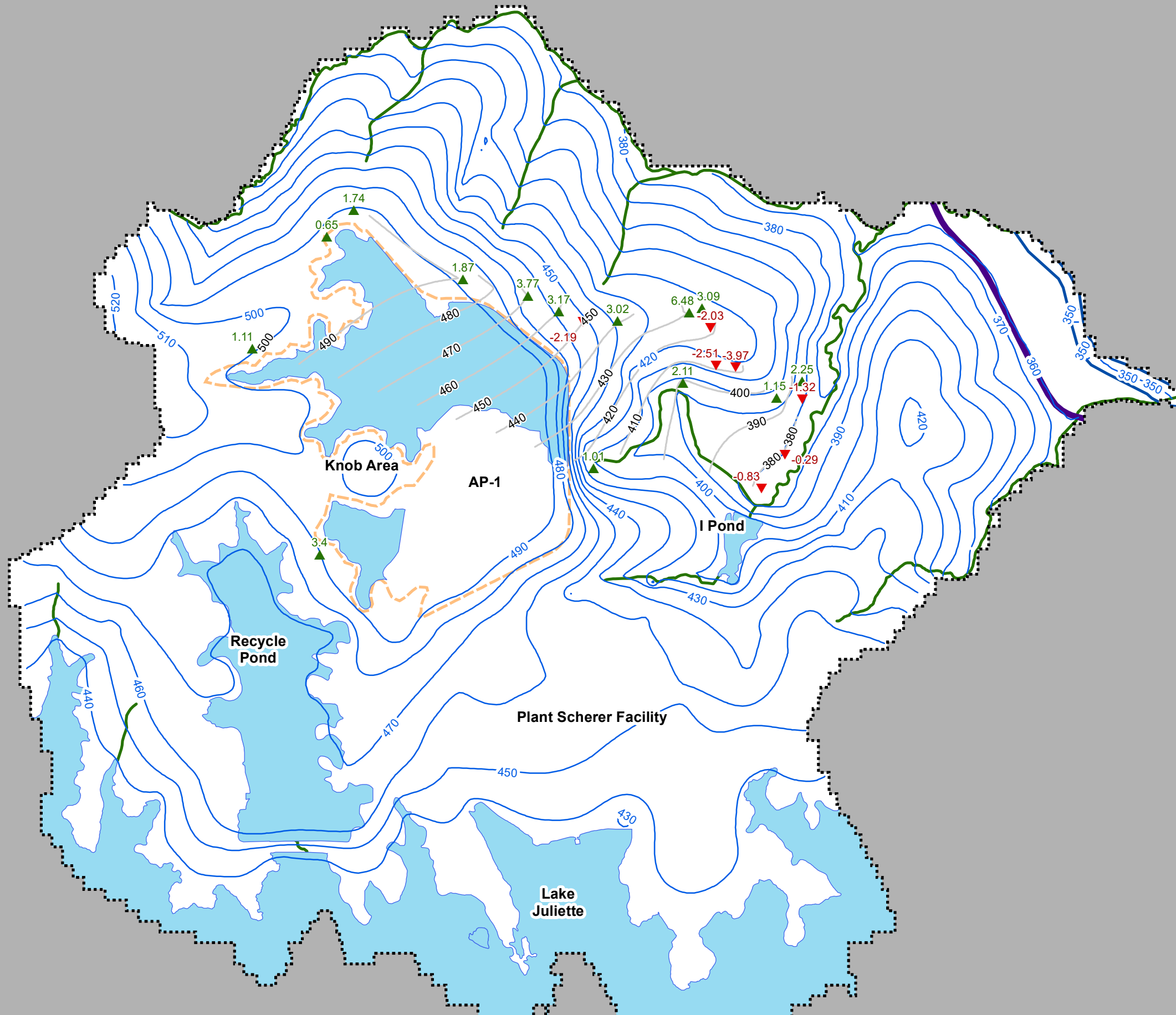
AECOM

**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**

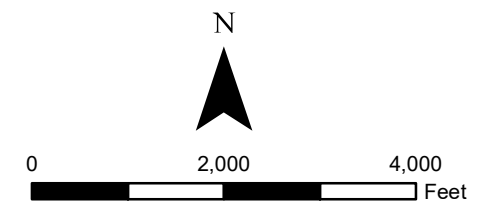
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/27/2020	21



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)
- Observed Potentiometric Surface Contour (ft msl)
- Simulated Potentiometric Surface Contour (ft msl)

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



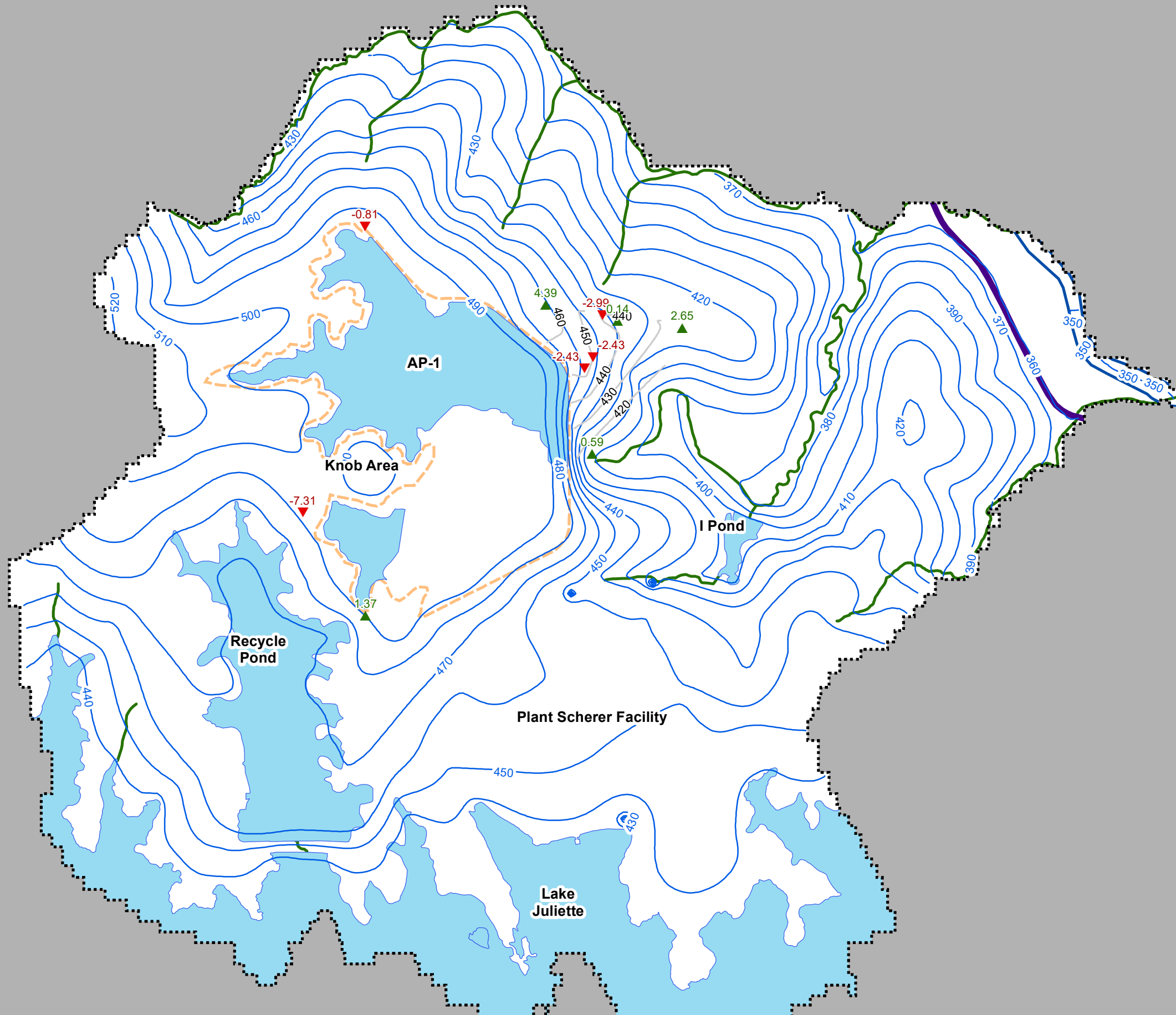
AECOM

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

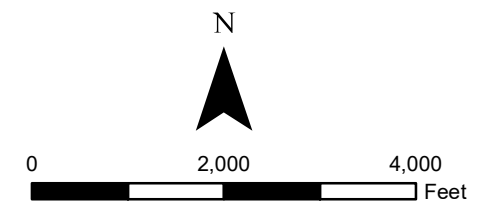
DRAWN BY: DAE	CHECKED BY: MMS	PROJECT NO. 60563110	DATE: 4/27/2020	FIGURE NO. 22
------------------	--------------------	-------------------------	--------------------	------------------



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.



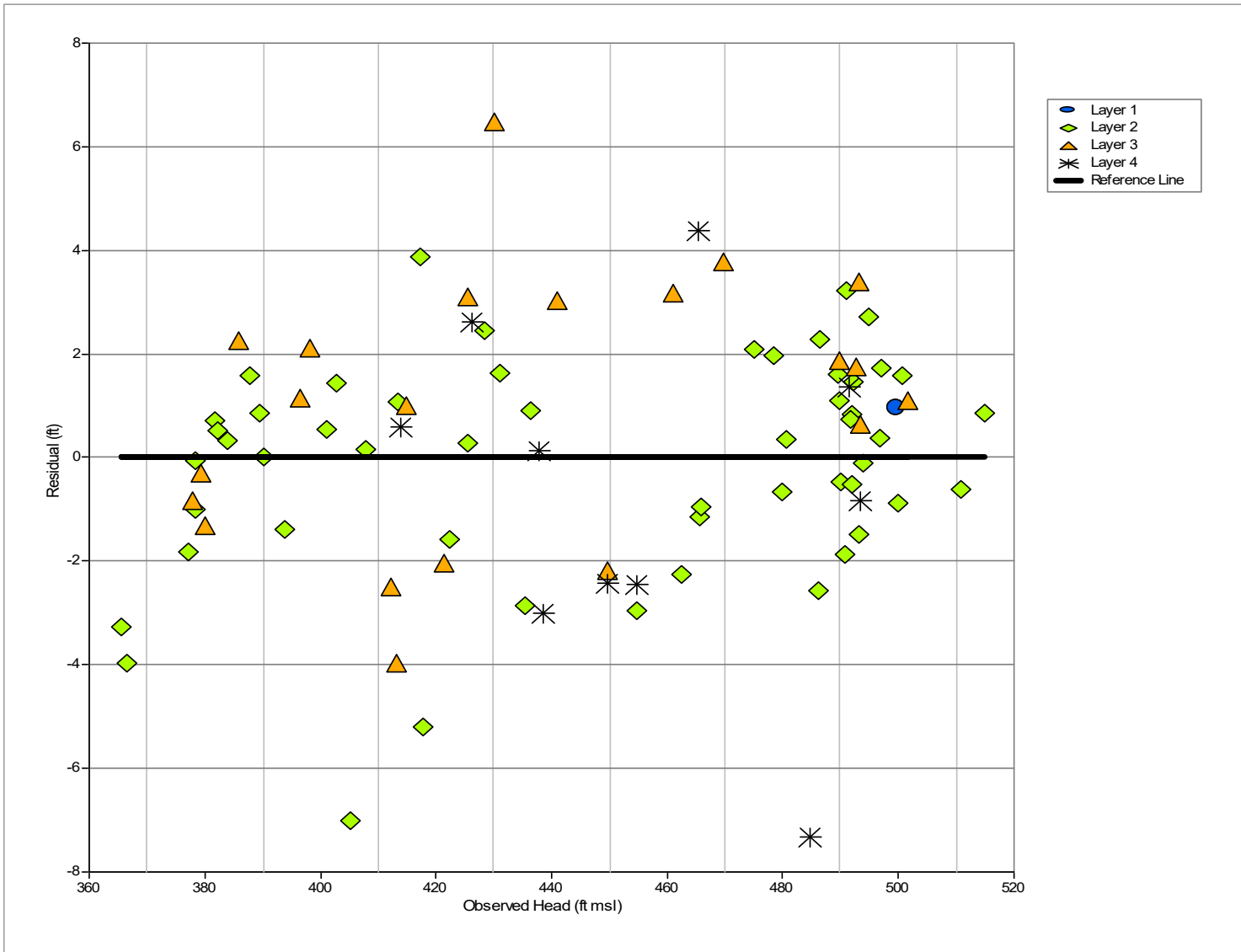
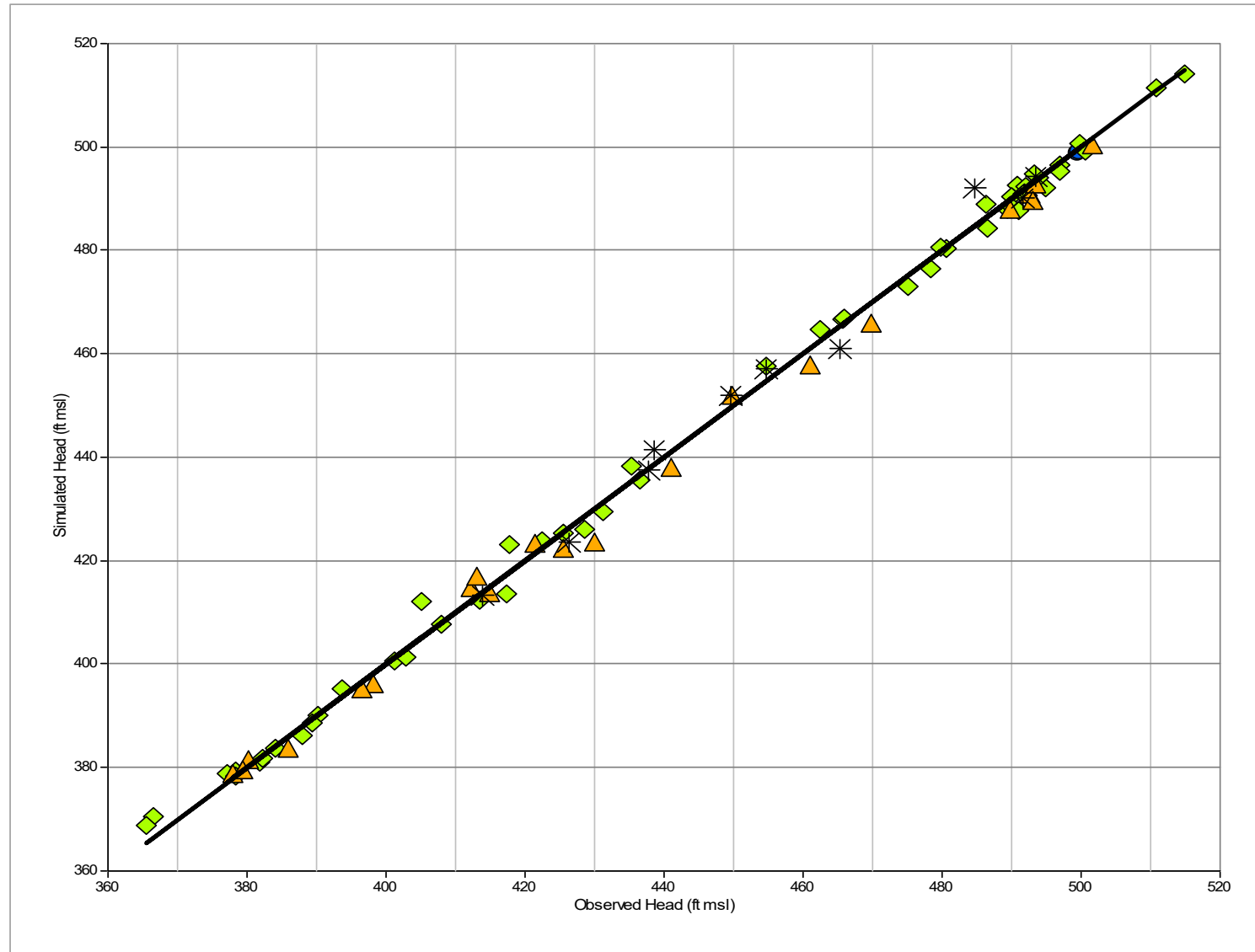
AECOM

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

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

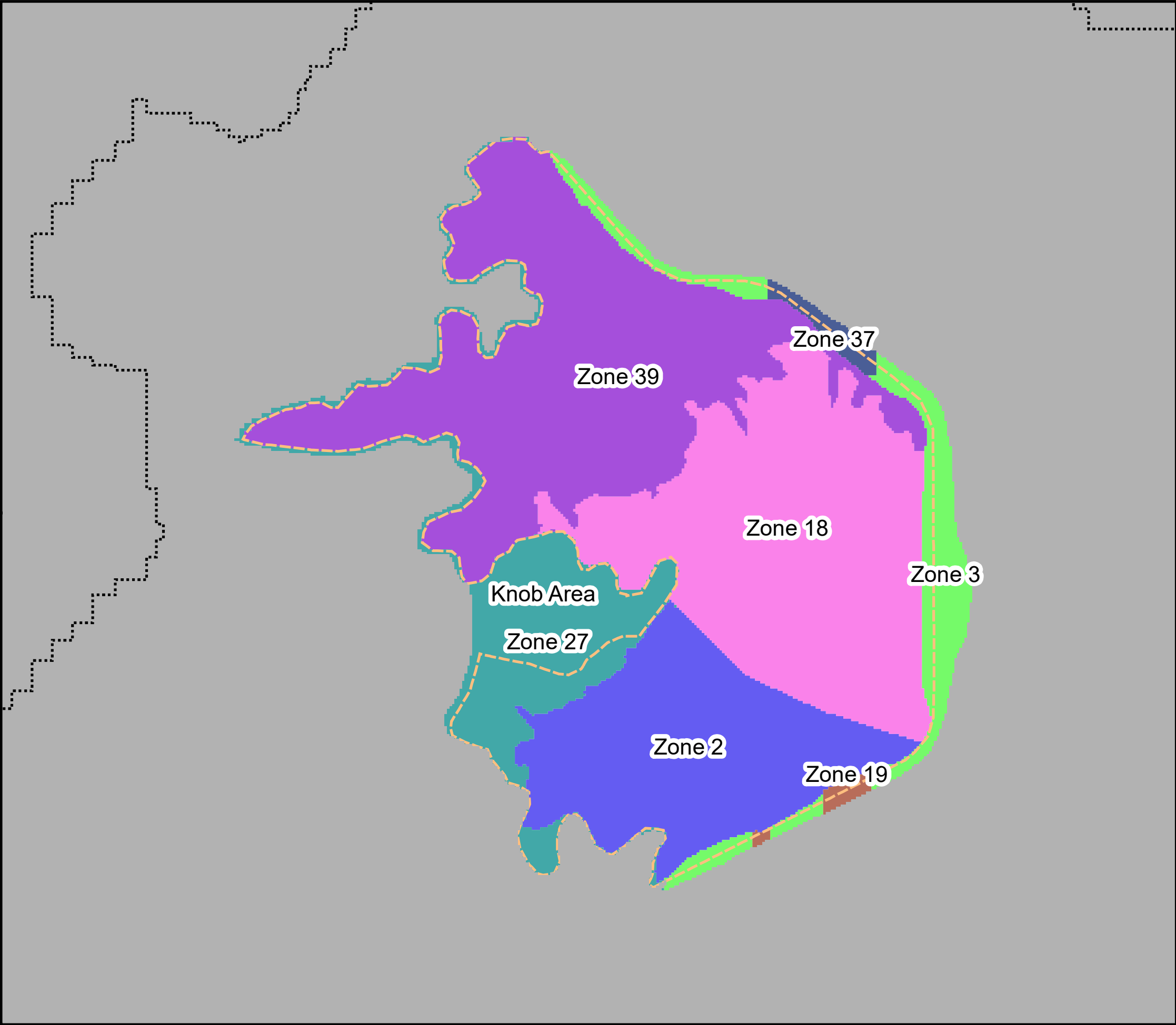
FILENAME: **PRE-CLOSURE FBR/LAYER 4
SIMULATED AND OBSERVED POTENTIOMETRIC SURFACE**

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.

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



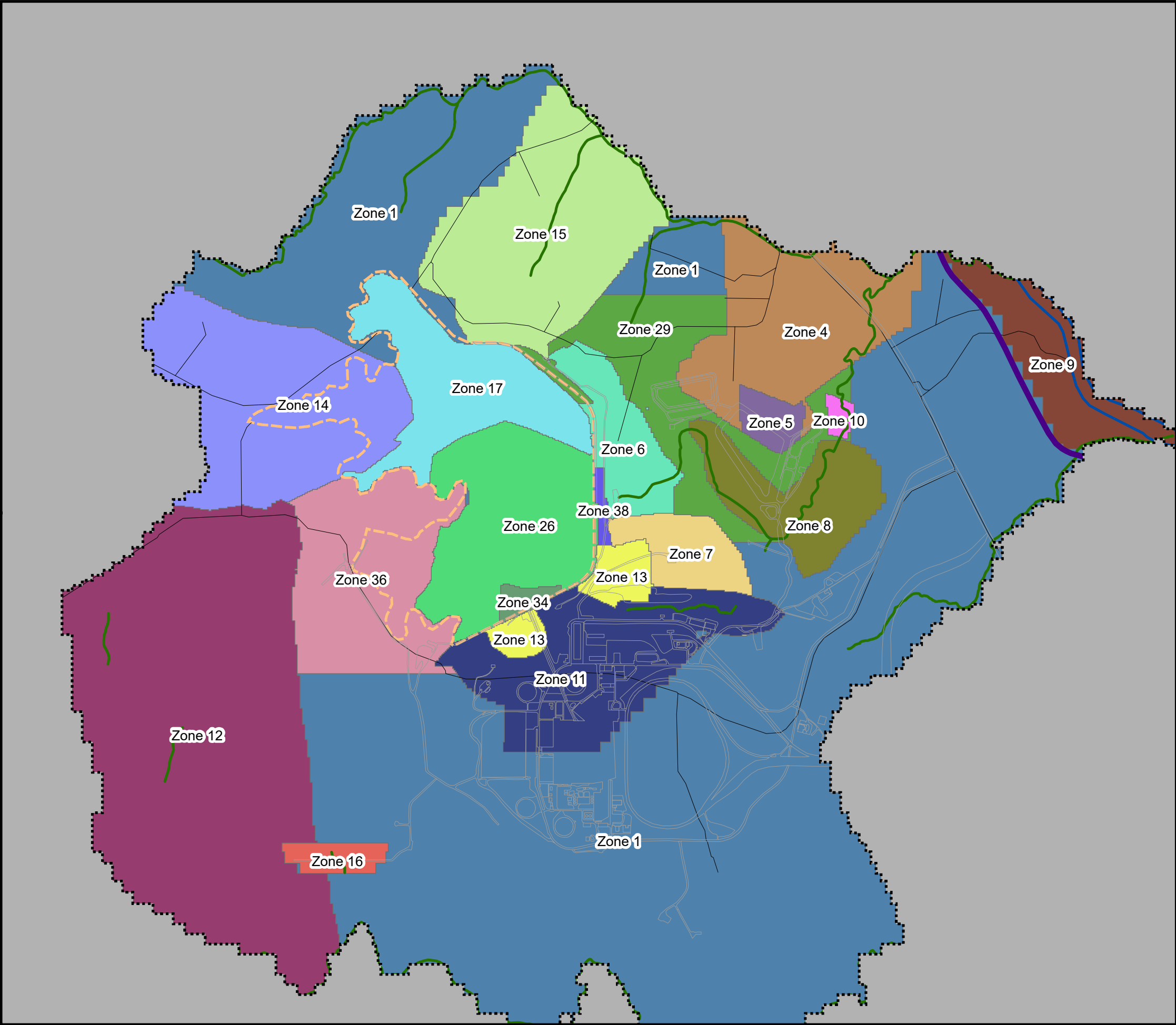
AECOM

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



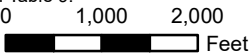
Legend

- 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.

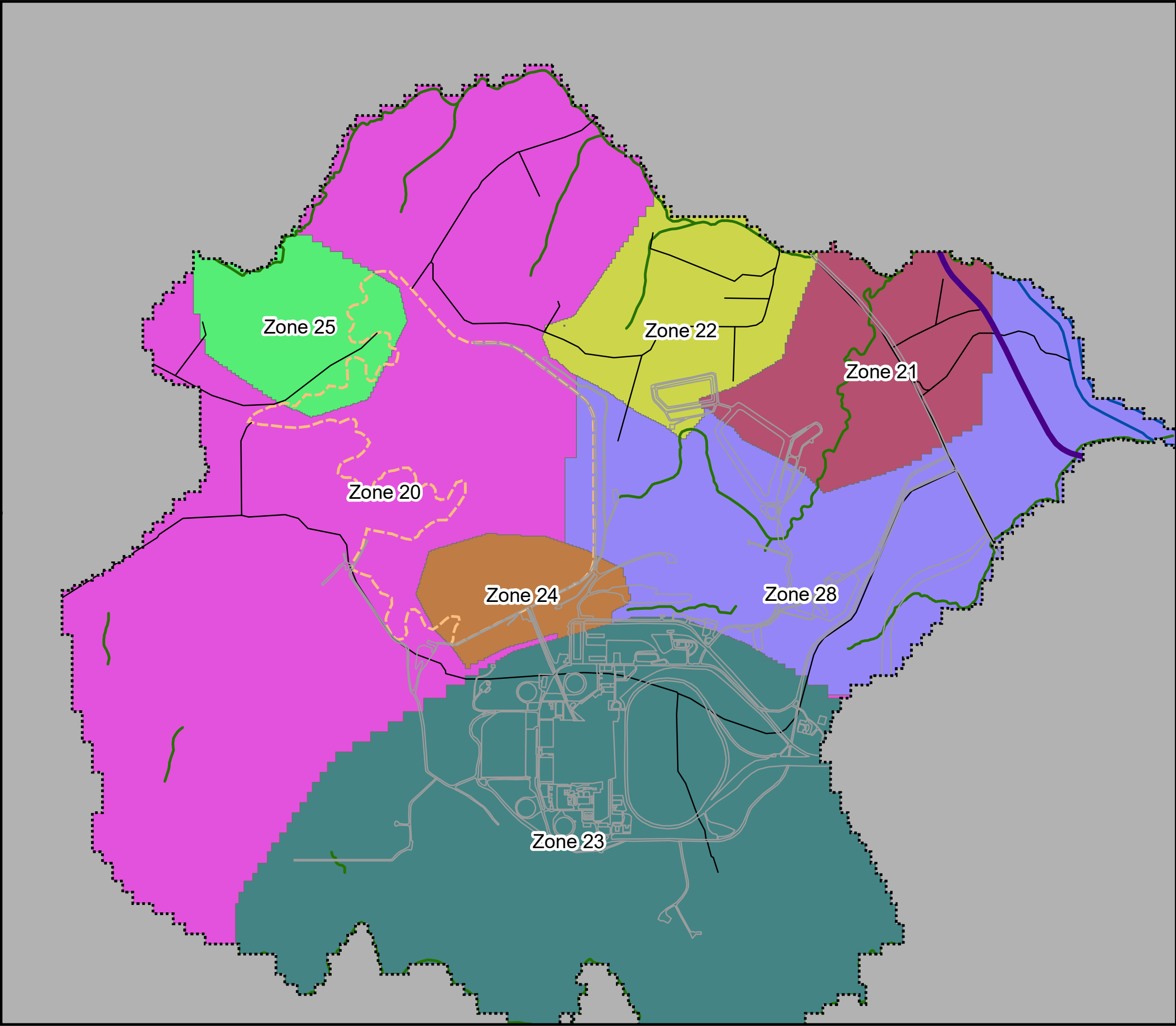


**GEORGIA POWER COMPANY
PLANT SCHERER**
MONROE COUNTY, GEORGIA

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

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

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



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.

0 1,000 2,000
Feet

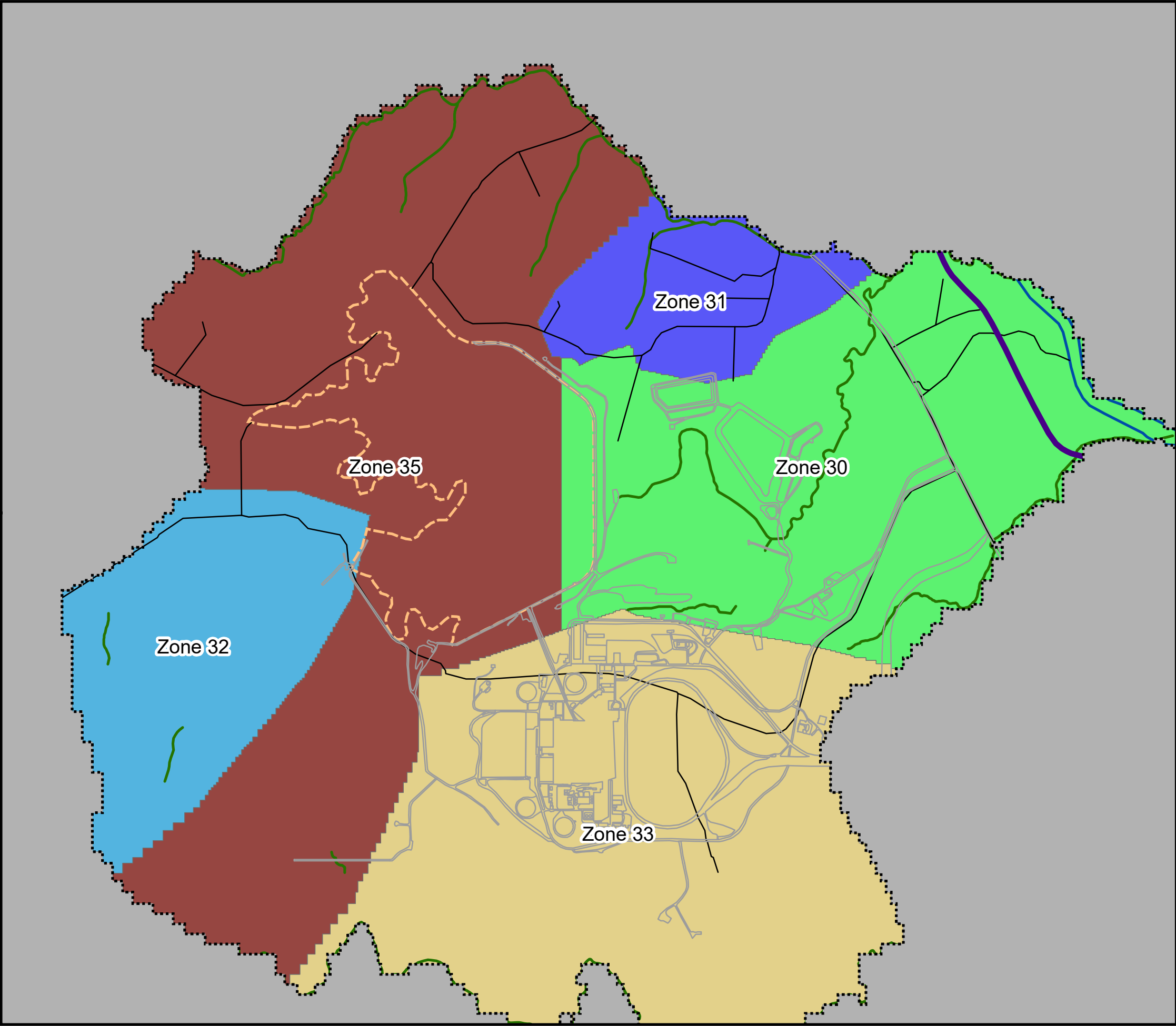


GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1

FILENAME: PRE-CLOSURE MODEL LAYER 3
HYDRAULIC CONDUCTIVITY VALUES

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



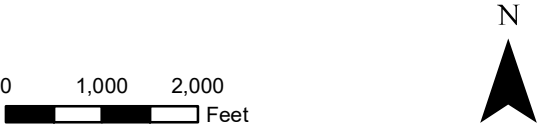
Legend

- 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.



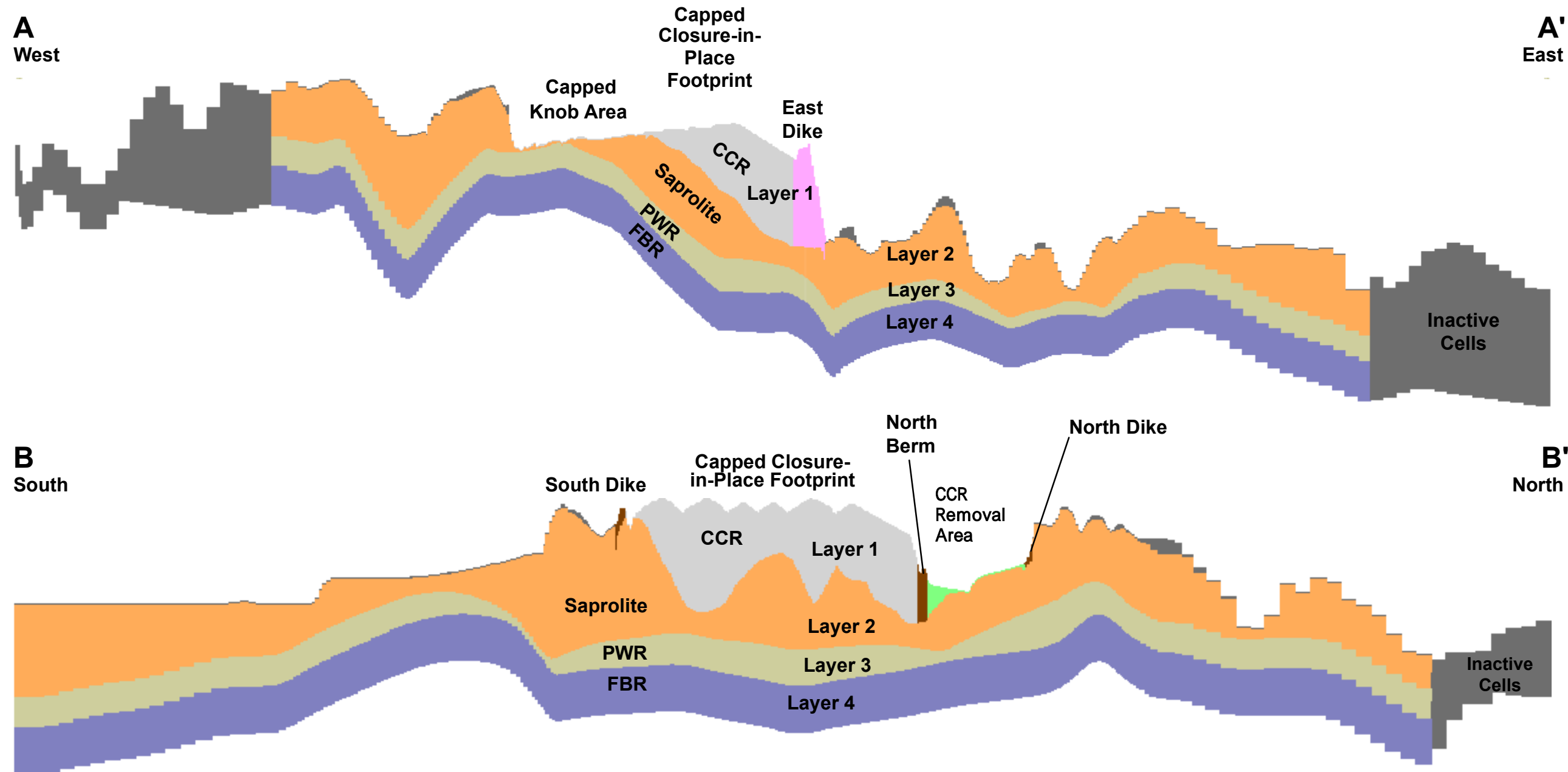
AECOM

**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:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/22/2020	28



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:

POST-CLOSURE CONCEPTUAL MODEL LAYERS

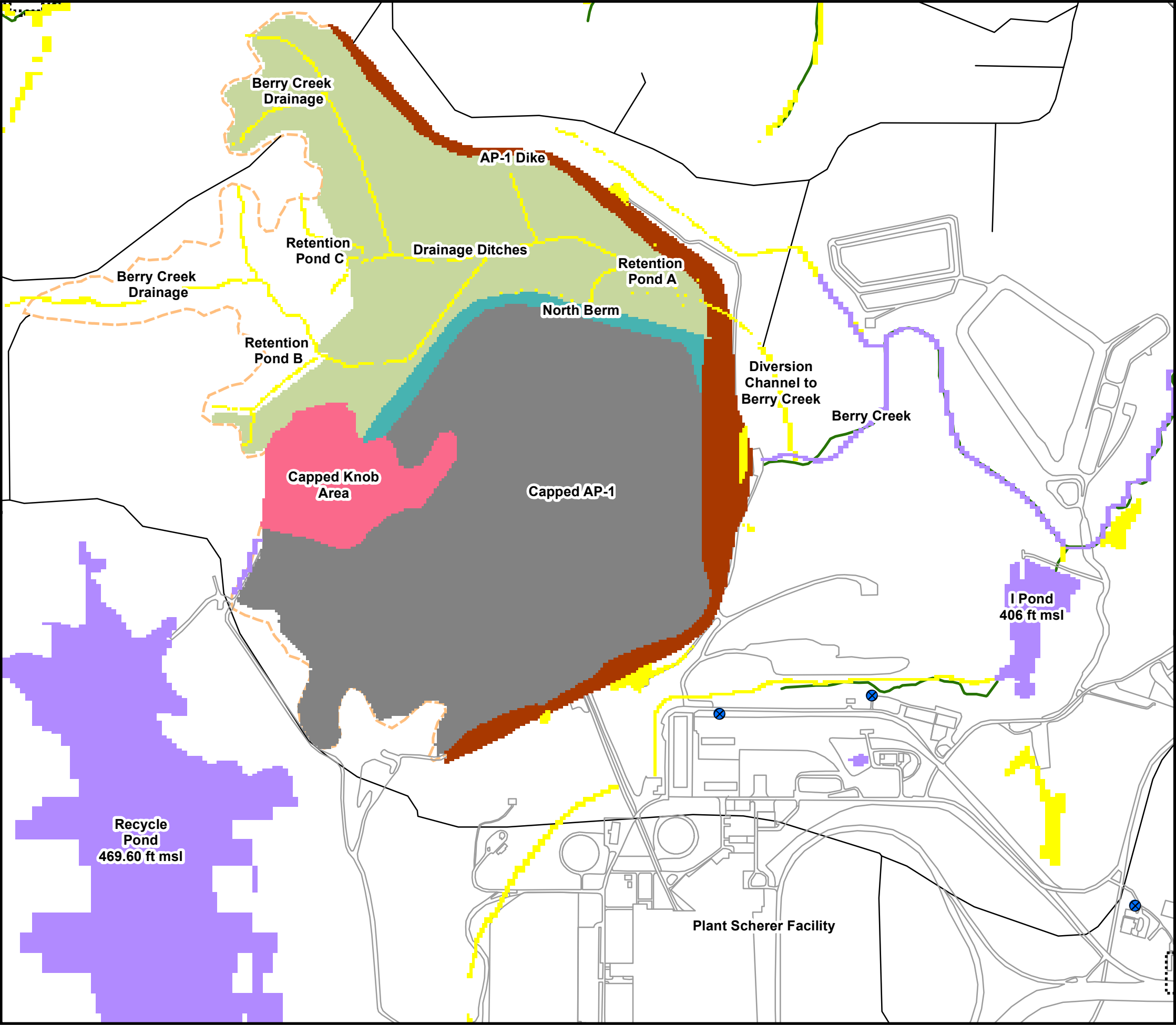
DRAWN BY:
 DAE

CHECKED BY:
 MMS

PROJECT NO.
 60563110

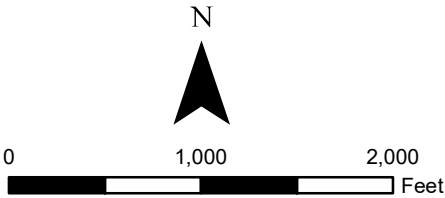
DATE:
 4/22/2020

FIGURE NO.
29



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



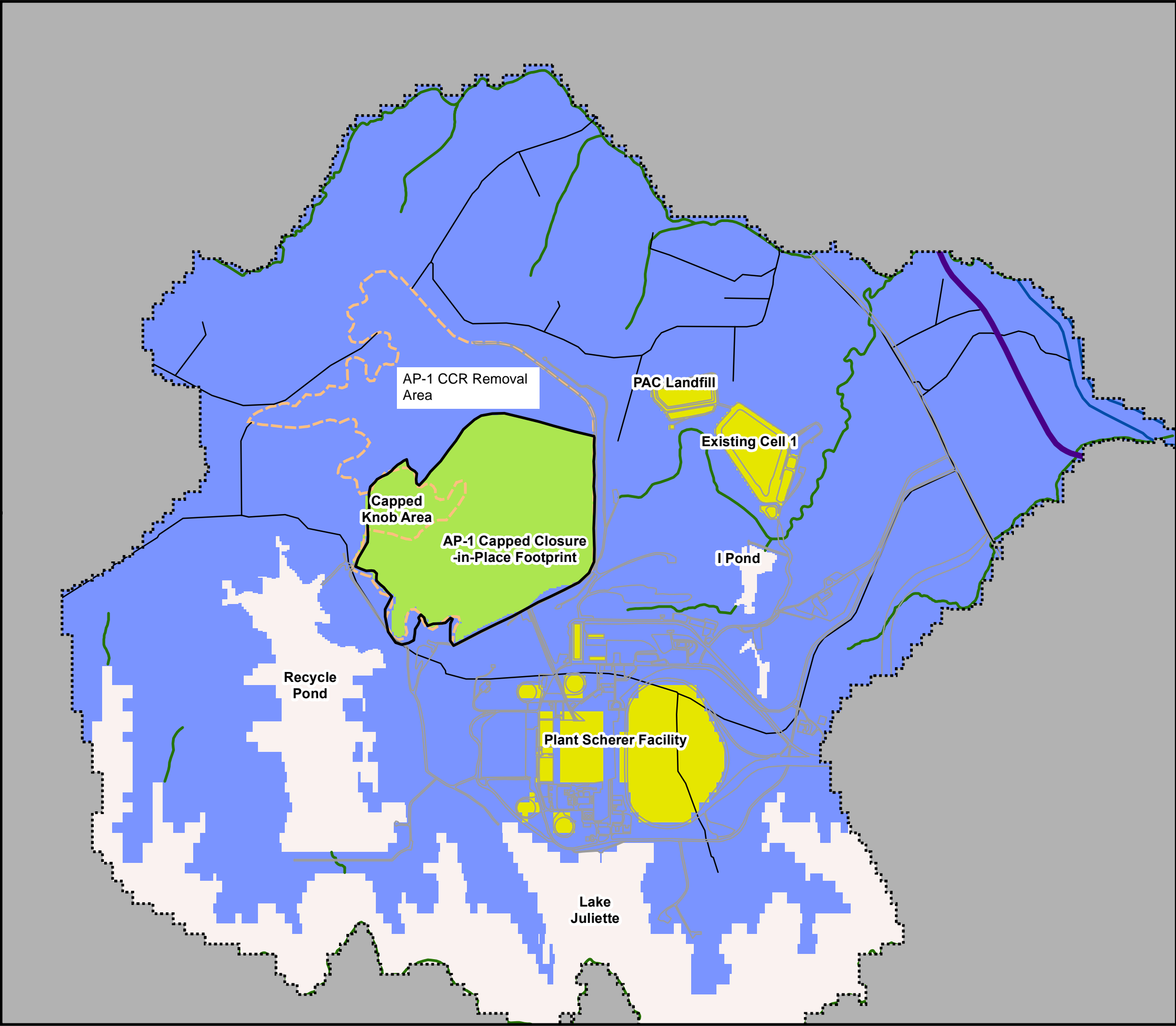
AECOM

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

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

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

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



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.



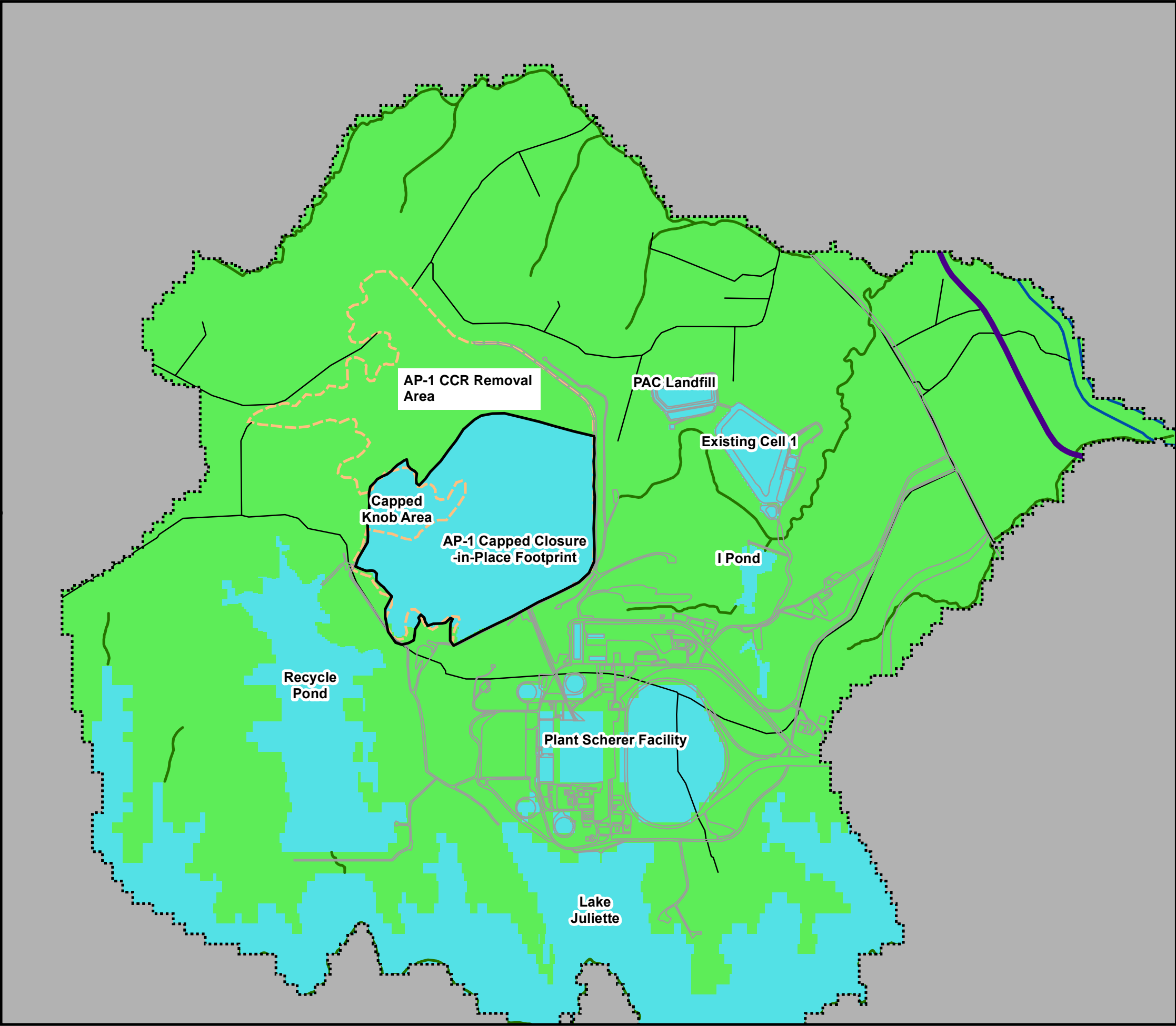
AECOM

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

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

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

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



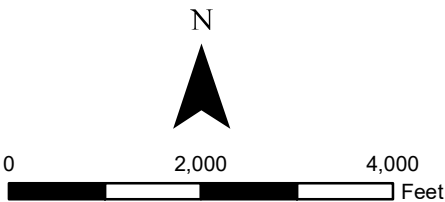
Legend

- 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.



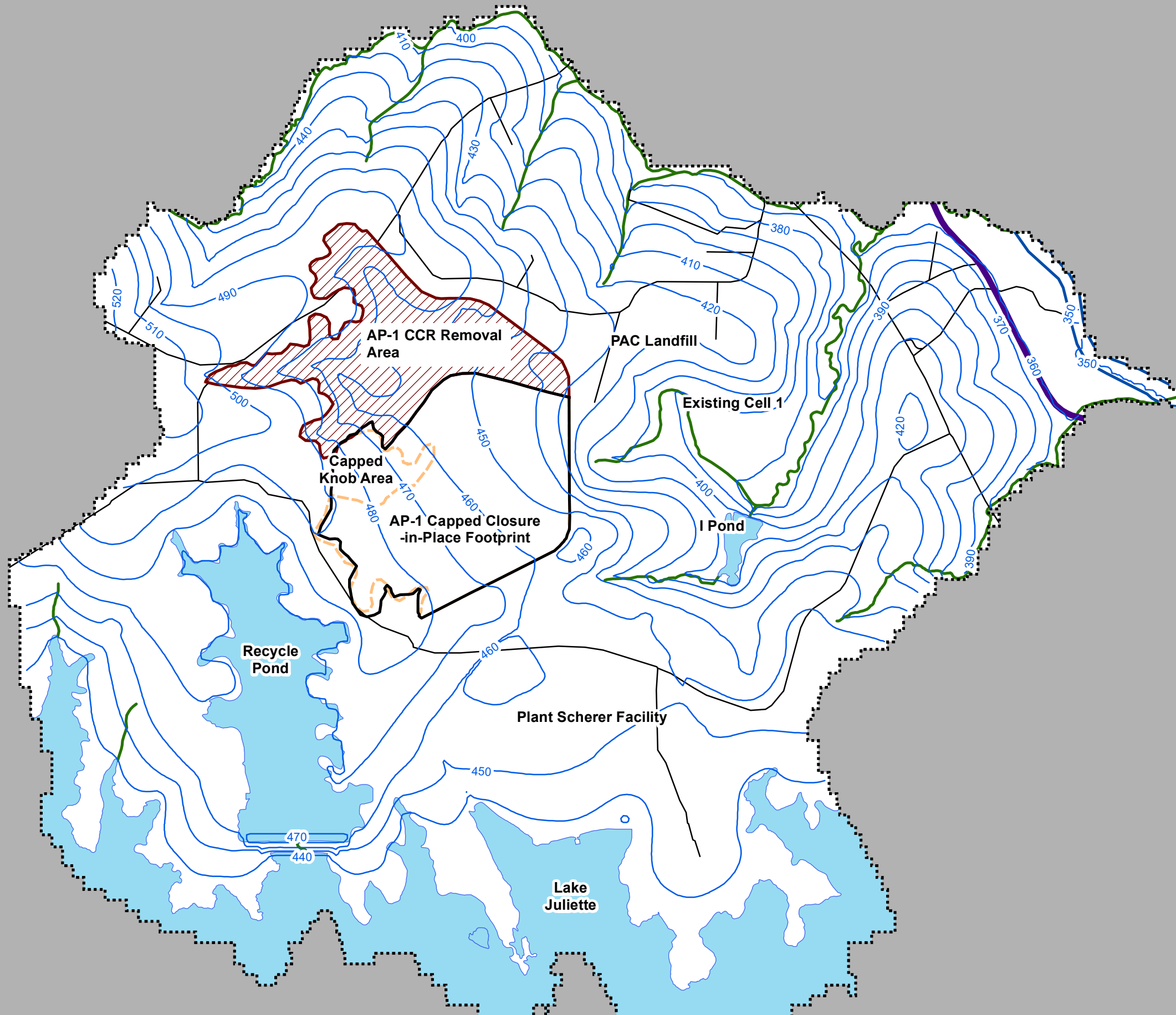
AECOM

GEORGIA POWER COMPANY
PLANT SCHERER
MONROE COUNTY, GEORGIA

GROUNDWATER MODELING
SUMMARY REPORT FOR AP-1

POST-CLOSURE MODEL EVAPOTRANSPIRATON VALUES

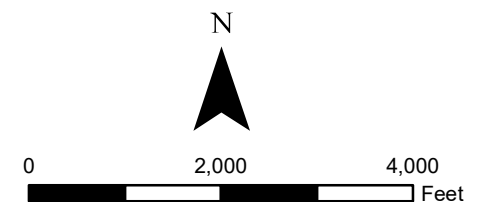
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/22/2020	32



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 CCR Removal Area
- Approximate Closure-in-Place Footprint

Note:
Vertical Datum NAVD88



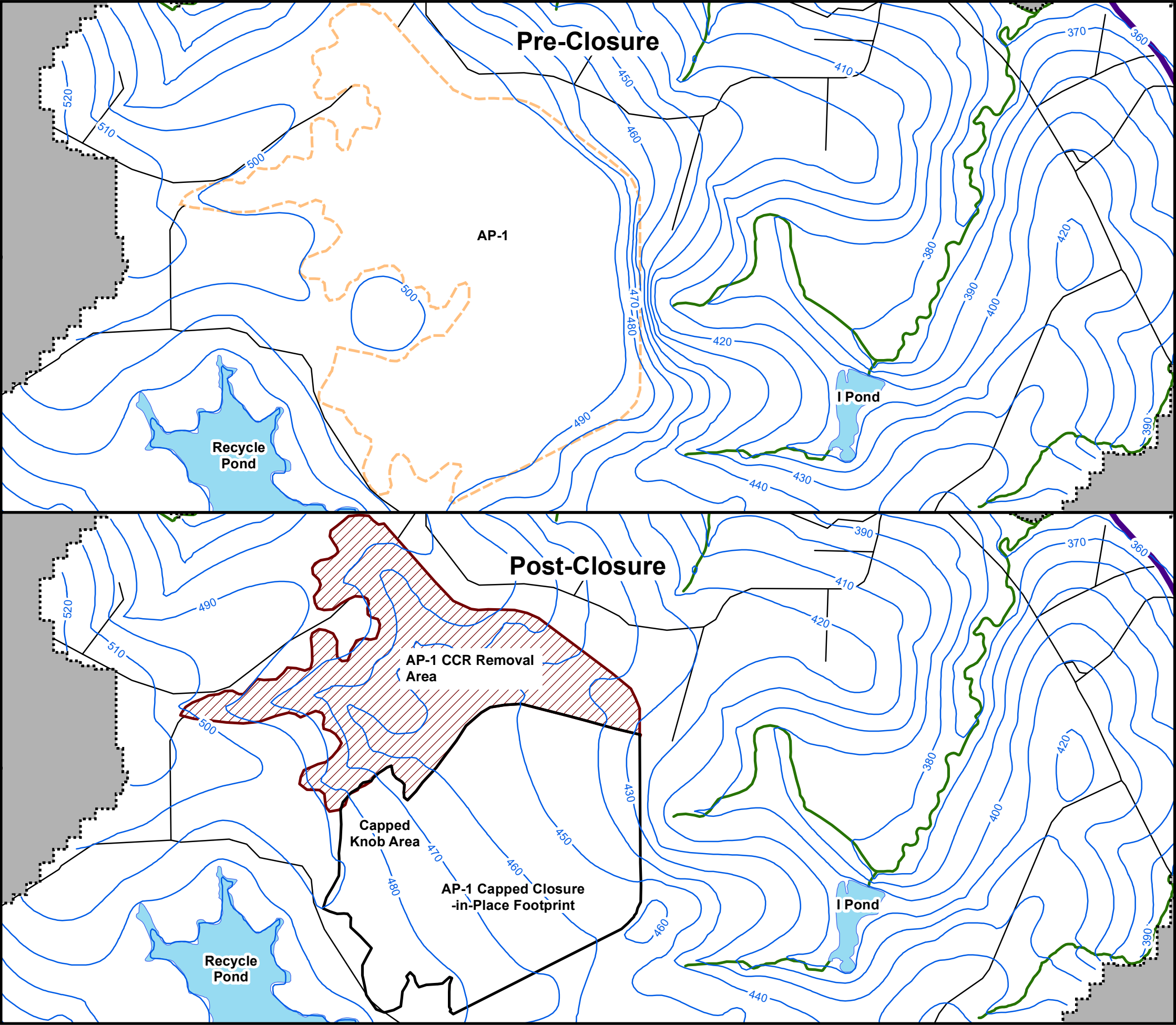
AECOM

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

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

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

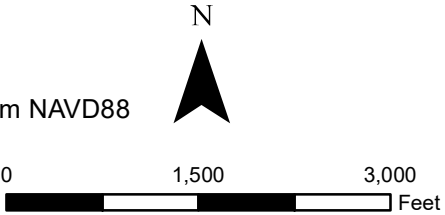
DRAWN BY:	CHECKED BY:	PROJECT NO.	DATE:	FIGURE NO.
DAE	MMS	60563110	4/24/2020	33



Legend

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

Note:
Vertical Datum NAVD88



AECOM

**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

- B-1 Ash Pond 1 Detection Monitoring Wells
Monitoring Well Logs and Construction Diagrams
- B-2 Ash Pond 1 Assessment Monitoring Wells
Monitoring Well Logs and Construction Diagrams
- B-3 Piezometers
Piezometer Logs and Construction Diagrams
- B-4 Gypsum Cell 1 Monitoring Wells
Monitoring Well Logs and Construction Diagrams
- B-5 PAC Ash Cell Monitoring Wells
Monitoring Well Logs and Construction Diagrams
- B-6 Cell 3 Monitoring Wells
Monitoring Well Logs and Construction Diagrams
- B-7 SPT Logs
- B-8 C-Series Logs
- B-9 SGYPT Logs

APPENDIX B-1

**Ash Pond 1 Detection Monitoring Wells
Monitoring Well Logs and Construction Diagrams**

(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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION	COMMENTS
				Weak Moderate Strong	
		Sandy Silt (ML) (Con't)			
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					

S:\WORKGROUP\SPC\GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: 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 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

BOREHOLE DATA

WELL DATA

COMMENTS

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 546.83

ELEV.
(DEPTH)

Surface Seal: concrete

542.1
(2.0)

531.1

Annular Fill: Cement-Bentonite Grout - 6 bags Typel I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWA-1/PZ-08S

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)

ELEV.
(DEPTH)

516.1

30

511.1

35

507.5

(36.6)

Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each

505.5

(38.6)

Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each

503.6

(40.5)

Well: 2" OD PVC (SCH 40)
Screen: 10 ft. pre-pack

45

50

493.6

493.2

Sump: 0.40 ft.

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-2/PZ-081

PAGE 2 OF 3

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:\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
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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					

S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZDRAFT LOGS\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: SGWA-2/PZ-08I
PAGE 1 OF 3
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

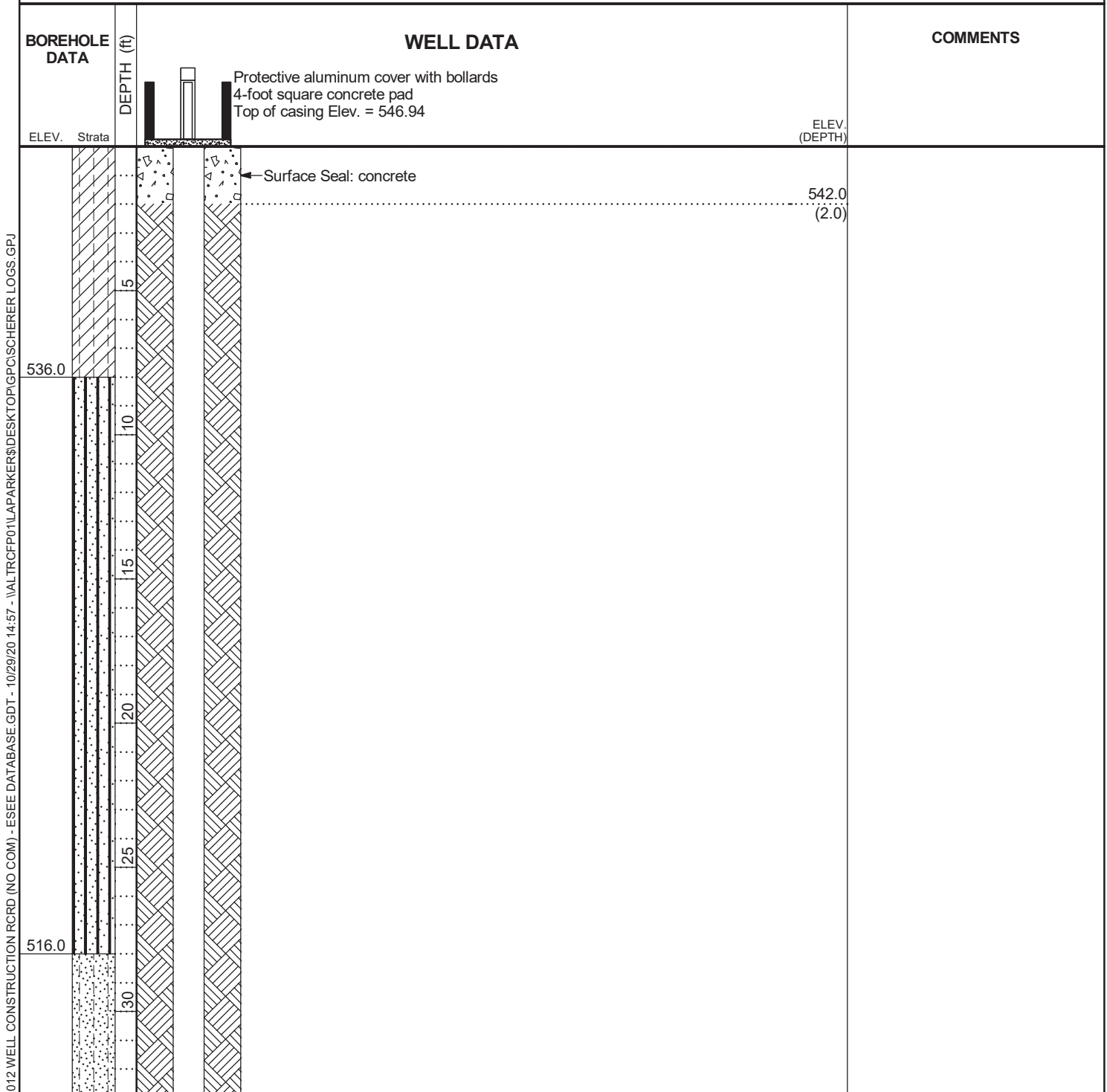
DATE STARTED 2/12/2015 COMPLETED 2/17/2015 GROUND ELEVATION 544 ft COORDINATES N 1119237.67 E 2399908.19

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



(Continued Next Page)



ECS38467

LOCATION Plant Scherer

(Continued Next Page)

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



RECORD OF WELL CONSTRUCTION

WELL: SGWA-2/PZ-08I
PAGE 3 OF 3
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. = 546.94	ELEV. (DEPTH)
471.0	75		
465.0	80		465.9 (78.1)
		Annular Seal: bentonite pellets - 0.75 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
	85		460.8 (83.2)
		Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each	
	90		458.6 (85.4)
		Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
448.2	95		448.6
		Sump: 0.40 ft.	

RECORD OF BOREHOLE SGWA-3/APA-2

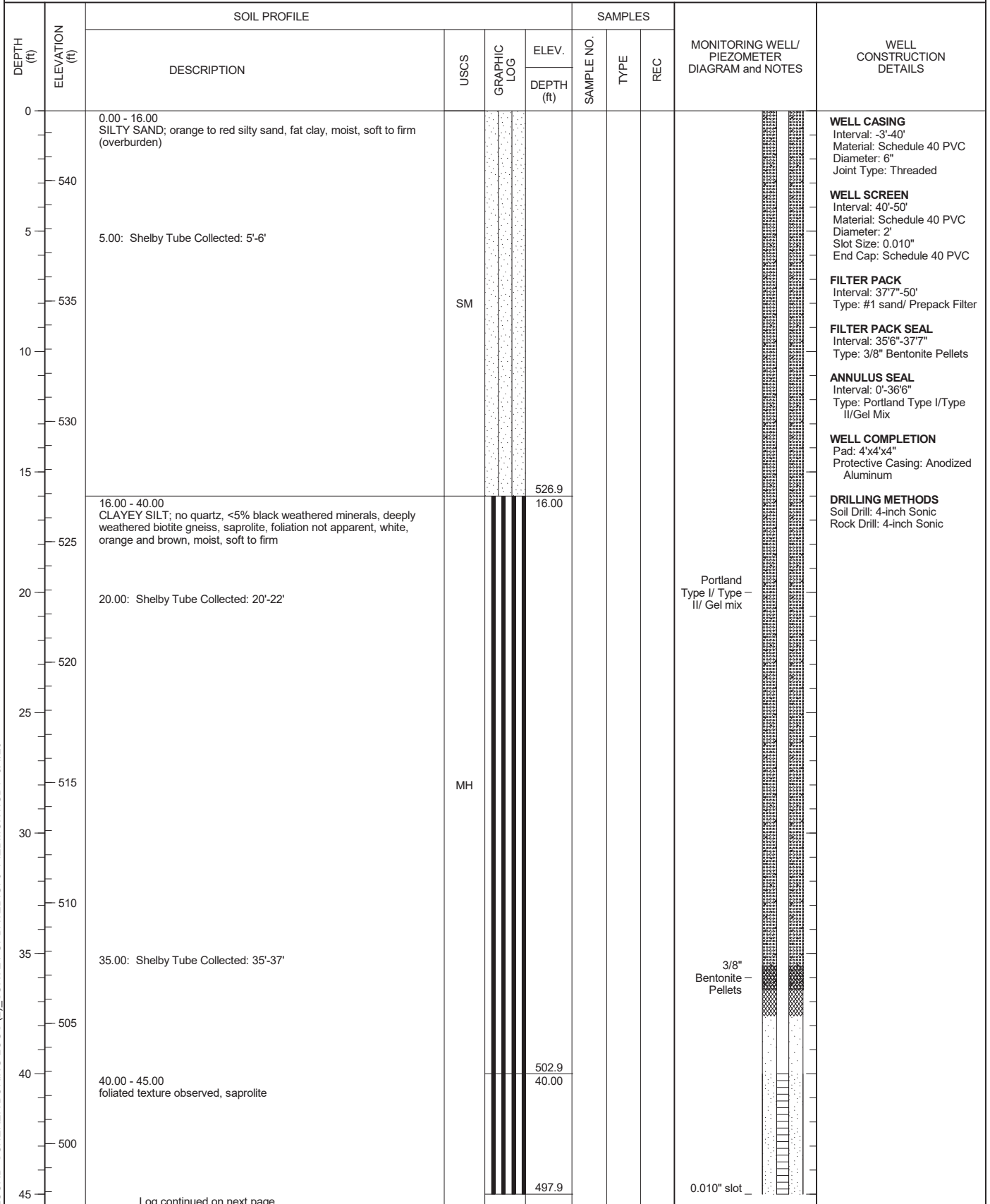
SHEET 1 of 2

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



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'-50'
Type: #1 sand/ Prepack Filter

FILTER PACK SEAL
Interval: 35'-37"
Type: 3/8" Bentonite Pellets

ANNULUS SEAL
Interval: 0'-36"
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

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


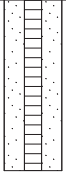
SHEET 2 of 2

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 — 	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
50		Boring completed at 50.00 ft			492.6 50.30					
55										
60										
65										
70										
75										
80										
85										
90										

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



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

RECORD OF BOREHOLE SGWA-4/APA-3


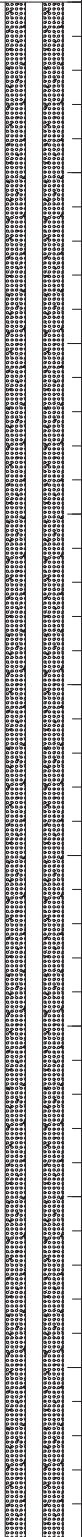







SHEET 1 of 2

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.	TYPE			REC
					DEPTH (ft)				
0		0.00 - 5.00 CLAY (CH); clay, reddish brown, some organic material, trace quartz, trace mica, dry to moist, firm, overburden	CH					WELL CASING Interval: -3'-50.5' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded	
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		539.8 5.00			WELL SCREEN Interval: 50.5'-60.5' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC	
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			FILTER PACK Interval: 49'-61.5' Type: #1 sand/ Prepack Filter Quantity:	
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			FILTER PACK SEAL Interval: 46.7'-49' Type: 3/8" Bentonite Pellets Quantity:	
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			ANNULUS SEAL Interval: 0'-46.7' Type: Portland Type I/Type II/Gel Mix Quantity:	
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			WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum	
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			DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic	
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 11/6/20

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)		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) 45.00 - 50.00 grey/white/orange/brown silty saprolite, medium grain, trace quartz, micaceous, trace iron pyrite							
50	495	50.00 - 55.00 grey/white/brown/orange silty saprolite, medium grain, mica, iron pyrite, trace quartz, trace biotite, moist, firm			494.8 50.00			3/8" Bentonite Pellets #1 sand	
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			0.010" slot screen	
60	485	60.00 - 63.00 SANDY SILT; fine to medium sand, grey, saturated, saprolite	SM		484.8 60.00			#1 sand	
65	480	63.00 - 67.00 grey, saprolite biotite gneiss, trace thin clay lenses, grey, very firm			481.8 63.00			3/8" Bentonite Pellets	
		Boring completed at 60.50 ft			477.8 67.00				
70	475								
75	470								
80	465								
85	460								
90	455								

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

BOREHOLE RECORD: SCHERER BORING LOGS (2)_SURVEY UPDATED.GPJ | PIEDMONT.GDT 11/6/20

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

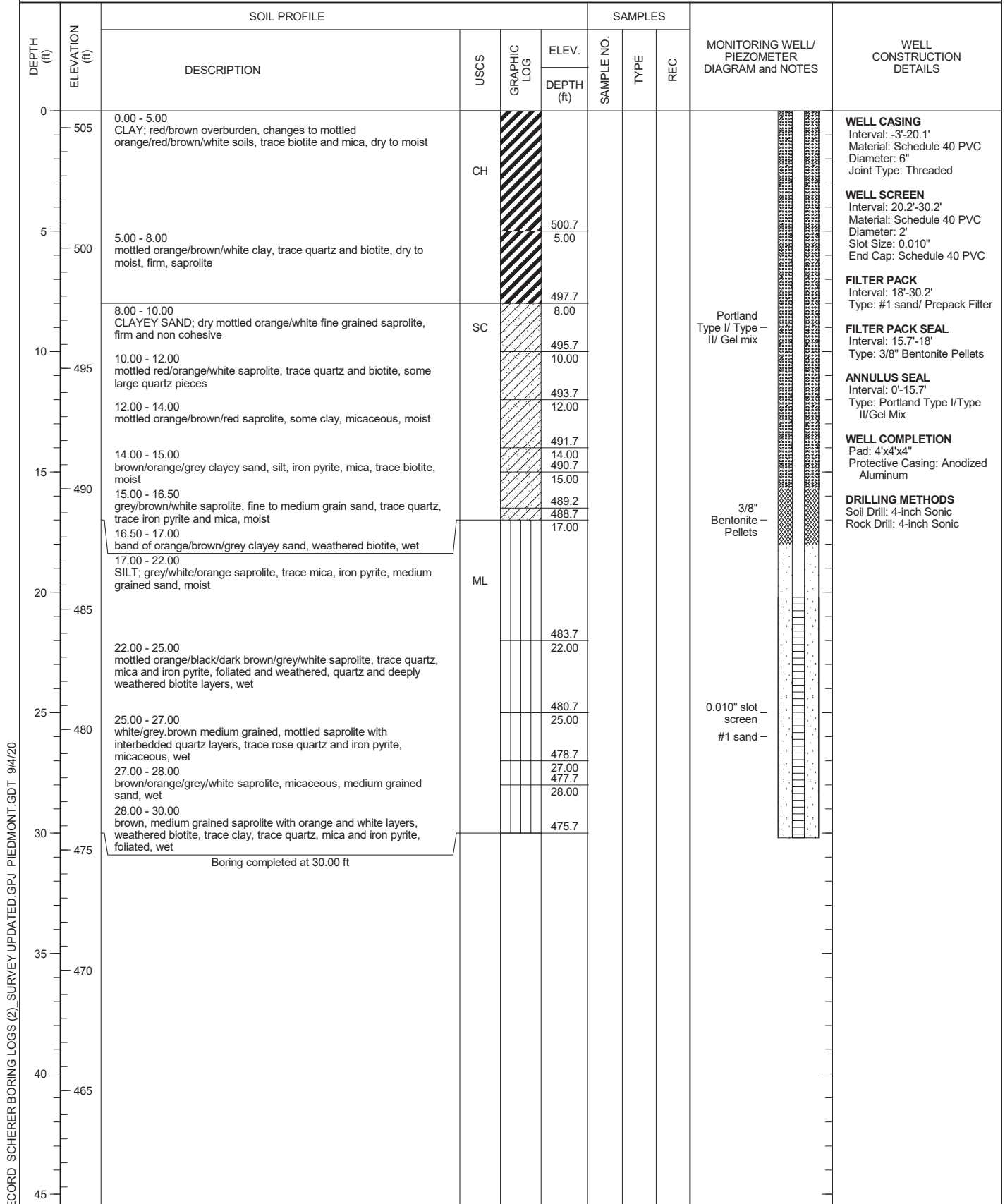
SHEET 1 of 1

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



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 (CLY/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						<p>Portland Type I/ Type II/ Gel mix</p> <p>3/8" Bentonite Pellets</p> <p>#1 sand -</p> <p>0.010" slot screen</p>	<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		502.7 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 10.00					
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		492.7 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 20.00					
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

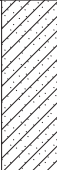







SHEET 1 of 1

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							WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-21' 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
5		5.00 - 10.00 OVERBURDEN/SAND (SW); densely compacted coarse grained sand, some silt, trace clay, micaceous, loose, W<PL	SW		498.5 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 10.00					
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 15.00					
20		20.00 - 25.00 NO RECOVERY; apparent washout			483.5 20.00					
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 25.00					
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 30.00					
35		Boring completed at 35.00 ft			468.5					
45										

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

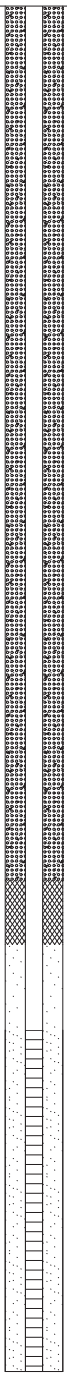
SHEET 1 of 1

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. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0	510	0.00 - 5.00 SANDY SILT; brown silt with clay changing to sandy silt, fine-grained, trace clay, dry, overburden	ML						 <p>Portland Type I/ Type – II/ Gel mix</p> <p>3/8" Bentonite – Pellets</p> <p>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		506.5 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			501.5 10.00					
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 15.00					
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 20.00					
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 25.00					
30	480	30.00 - 35.00 gravel and coarse grained sand, large quartz pieces, mica, iron pyrite, densely compacted brown/grey/orange, moist-wet			481.5 30.00					
35	475	35.00 - 40.00 BEDROCK (BR); biotite gneiss, gravelly coarse sand, large quartz pieces, brown/orange/grey, moist-wet	BR		476.5 35.00					
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


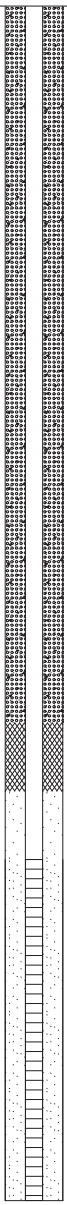






SHEET 1 of 1

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						 <p>Portland Type I/ Type II/ Gel mix</p> <p>3/8" Bentonite -- Pellets</p> <p>0.010" slot screen #1 sand</p>	WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-21' 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
5		5.00 - 10.00 CLAY/SAPROLITE; mottled reddish/brown/orange clay, black streaking, micaceous, dry-moist, firm	CH		502.6 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 10.00					
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 15.00					
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 20.00					
25		25.00 - 30.00 mottled grey/white/brown saprolite, trace quartz and weathered rock, black banding, iron pyrite, moist, firm			482.6 25.00					
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 30.00					
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


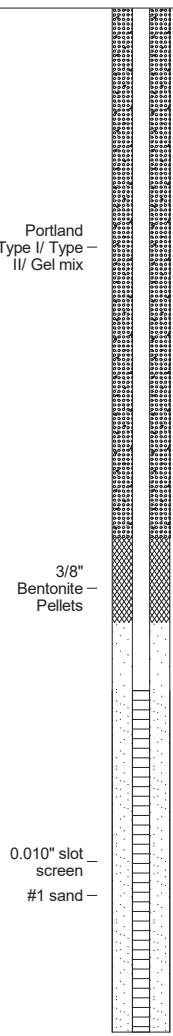

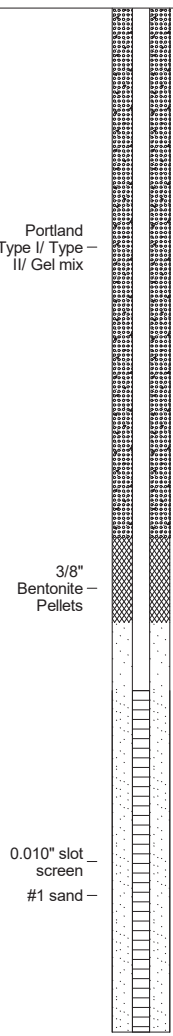

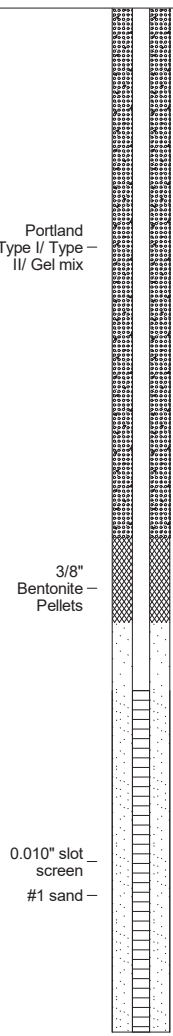
PROJECT: Plant Scherer
PROJECT NUMBER: 1542702
DRILLED DEPTH: 30.00 ft
LOCATION: Juliette, GA

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

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

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		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						WELL CASING Interval: -3'-20' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 20'-30' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 18'-30' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 15.5'-18' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-15.5' 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		
5		5.00 - 10.00 mottled brown/reddish/orange micaceous fill, changing to saprolite soils with black streaking, trace quartz, moist, firm			501.6 5.00						
10		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			496.6 10.00						
15		15.00 - 20.00 mottled orange/brown/yellow/reddish saprolite, some clay, micaceous, black streaking, trace quartz and weathered rock fragments, soft, wet, ~17'	CL		491.6 15.00						
20		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			486.6 20.00						
25		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		Boring completed at 30.00 ft	SM		476.6						
35											
40											
45											

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


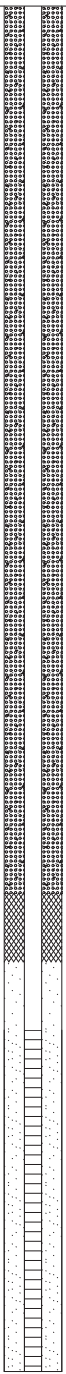








PROJECT: Plant Scherer
PROJECT NUMBER: 1542702
DRILLED DEPTH: 40.00 ft
LOCATION: Juliette, GA

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

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

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	REC		
0		0.00 - 5.00 CLAY (CH)/OVERBURDEN; reddish brown silty overburden, micaceous, dry, firm (fill/topsoil)	CH		503.6					WELL CASING Interval: -3'-30' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded
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		498.6					WELL SCREEN Interval: 30'-40' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC
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		493.6					FILTER PACK Interval: 28'-40' Type: #1 sand
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		488.6					FILTER PACK SEAL Interval: 26'-28' Type: 3/8" Bentonite Pellets
20		20.00 - 22.00 SILTY CLAY/CLAYEY SILT/SAPROLITE (CL-ML); clayey silt lense, trace clay, very soft, wet	CL-ML		486.6					ANNULUS SEAL Interval: 0'-26' Type: Portland Type I/Type II/Gel Mix
25		22.00 - 25.00 mottled orange/reddish/light brown/yellow saprolite, black streaks, residual quartz, moist			483.6					WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum
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		478.6					DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
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			473.6					
40		35.00 - 40.50 mottled brown/orange/grey/light brown saprolite, quartz fragments and weathered rock pieces, trace clay, black streaks, wet			468.1					
45		Boring completed at 40.00 ft			40.50					

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


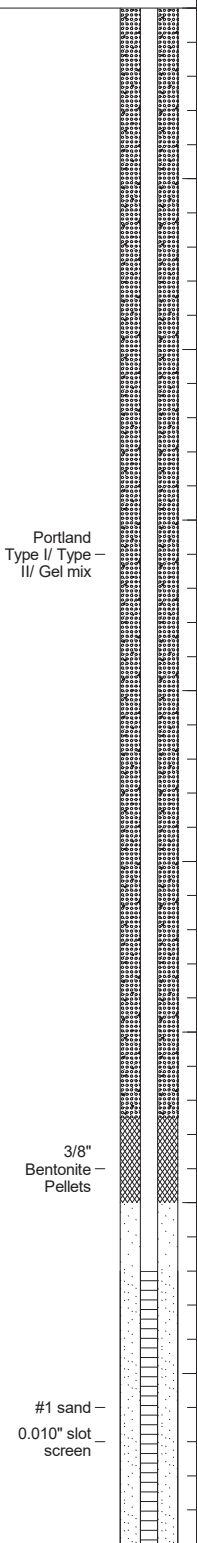









PROJECT: Plant Scherer
PROJECT NUMBER: 1542702
DRILLED DEPTH: 47.60 ft
LOCATION: Juliette, GA

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

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

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		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
495		2.00 - 5.00 reddish brown silt with trace clay, micaceous, dry, firm			2.00					WELL SCREEN Interval: 37'-47' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC
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					FILTER PACK Interval: 35'-47' Type: #1 sand/ Prepack Filter
490					5.00					FILTER PACK SEAL Interval: 32.5'-35' Type: 3/8" Bentonite Pellets
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					ANNULUS SEAL Interval: 0'-32.5' Type: Portland Type I/Type II/Gel Mix
485					10.00					WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum
15		15.00 - 18.00 mottled brown/orange/yellow clayey silt, trace quartz and weathered rock fragments, micaceous, firm-stiff, moist			482.7					DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
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			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			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			457.7					
455					40.00					
45		Log continued on next page			452.7					

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/gy/white/brown fine grained saprolite, tightly compacted, trace biotite and mica, soft, moist-wet			45.00					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
450		Boring completed at 47.60 ft			450.7					
					47.00					

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					WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 23'-35' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 21'-23' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-21' 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
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 quarts 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 <small>Weak Moderate Strong</small>	COMMENTS
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

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
30		Silty Sand (SM) (Cont) - mottled reddish yellow (5YR 6/8), pale green (10G 6/2) and white (10YR 8/1) saprolite wet, stiff, gravelly, trace weathered rock fragments			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)
35		- mottled grayish olive (10Y 4/2) and pale green (10G 6/2) saprolite wet, hard, trace weathered rock fragments, residual quartz, biotite			SPT N=38bpf(@33.5ft.)
		Bottom of borehole at 35.3 feet.			
40					
45					
50					
55					

S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ

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

PAGE 1 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

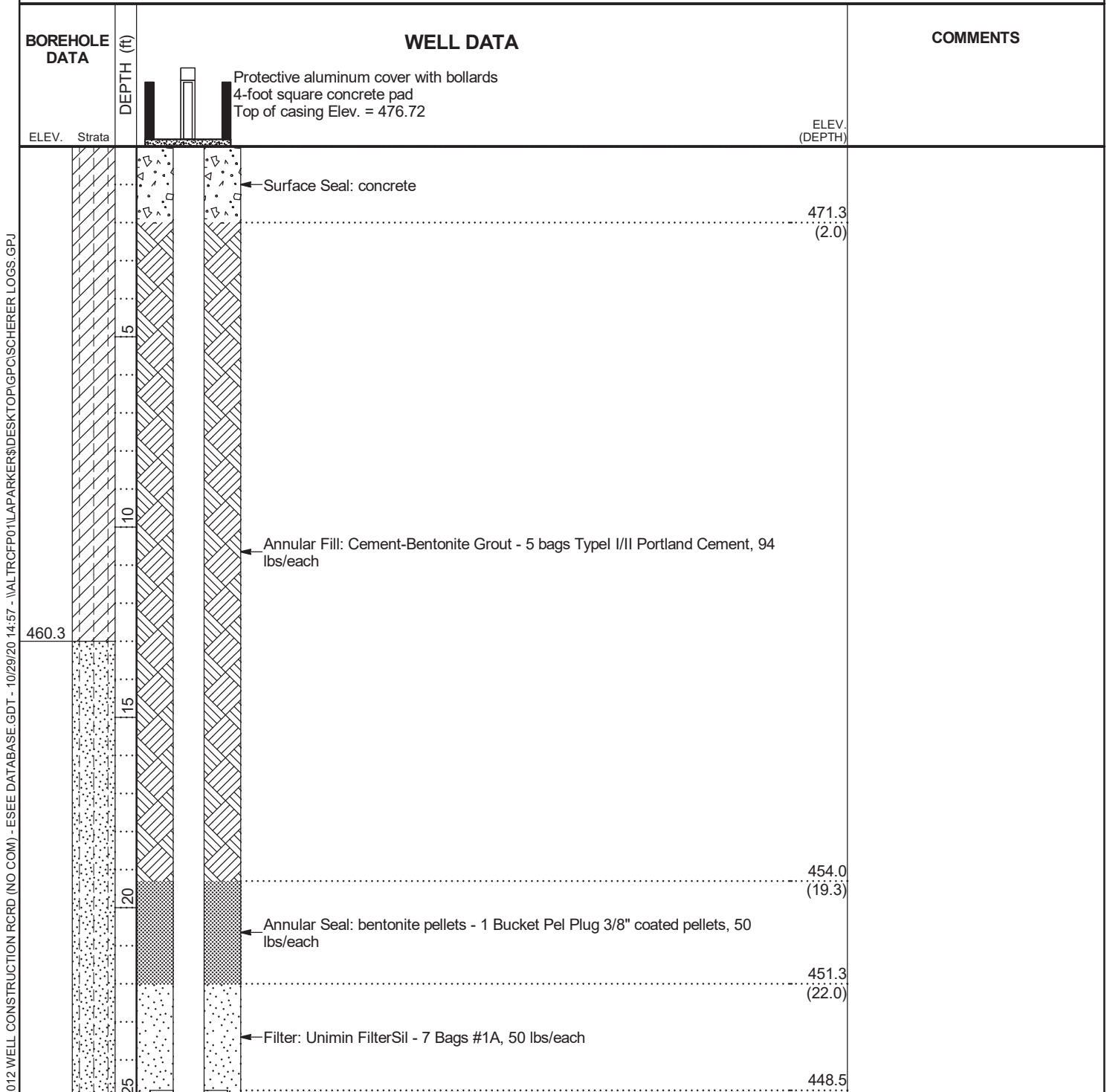
DATE STARTED 2/24/2015 COMPLETED 2/24/2015 GROUND ELEVATION 473.3 ft COORDINATES N 1120966.13 E 2406329.89

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-14/PZ-16S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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



LOG OF TEST BORING

BORING SGWC-15/PZ-17S

PAGE 1 OF 2

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 _____

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 Weak Moderate Strong	COMMENTS
		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

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
30		Silt (ML) (Con't) - 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			SPT N=9bpf(@28.5ft.)
35		Sandy Elastic Silt (MH) - 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			SPT N=5bpf(@33.5ft.)(LL=55; PI=23; FC = 54.7%; Gravel = 0%) (MC = 51.6%; UW(d) = 70.3pcf; PERM. = 4.10E-4cm/sec)
40		Silt (ML) - 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			SPT N=8bpf(@38.5ft.)
45		- 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			SPT N=12bpf(@43.5ft.)
		Bottom of borehole at 45.2 feet.			
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: SGWC-15/PZ-17S

PAGE 1 OF 2

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 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

BOREHOLE DATA

WELL DATA

COMMENTS

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 482.75

ELEV.
(DEPTH)

Surface Seal: concrete

477.7
(2.0)

Annular Fill: Cement-Bentonite Grout - 6 bags Typel I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-16/PZ-18S
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
		Sandy Silt (ML) (Con't)			
30		<div><div></div><div>- mottled reddish yellow (5YR 6/8) and light red / moderate reddish orange (10R 6/6) saprolite wet, soft, trace weathered rock fragments</div></div>			SPT N=3bpf(@28.5ft.)
35		<div><div></div><div>- 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</div></div>			SPT N=4bpf(@33.5ft.)
40		<div><div></div><div>- 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</div></div>			SPT N=4bpf(@38.5ft.)
		Bottom of borehole at 40.2 feet.			
45					
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: SGWC-16/PZ-18S

PAGE 1 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

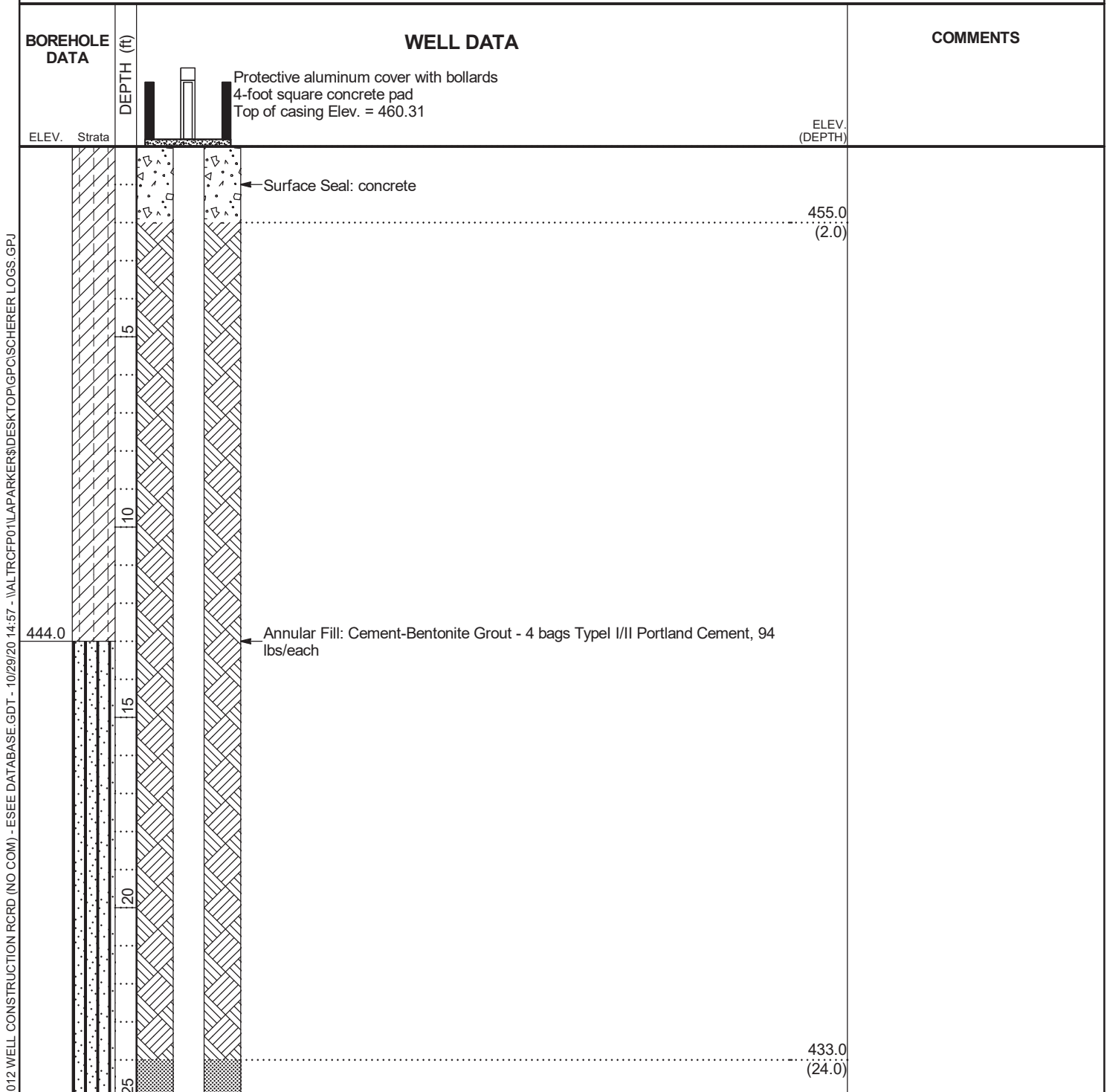
DATE STARTED 3/3/2015 COMPLETED 3/3/2015 GROUND ELEVATION 457 ft COORDINATES N 1119221.42 E 2407155.89

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-16/PZ-18S

PAGE 2 OF 2

ECS38467

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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 460.31	
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
				430.2 (26.8)
			Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	
				428.2 (28.8)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
			Sump: 0.40 ft.	418.2 (38.8)
416.8				



LOG OF TEST BORING

BORING SGWC-17/PZ-20S
PAGE 1 OF 1
ECS38467

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





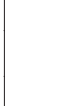
CONTRACTOR Civil Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger

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 _____

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 <small>Weak Moderate Strong</small>	COMMENTS
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			SPT N=18bpf(@23.5ft.)
		Bottom of borehole at 24.5 feet.			



RECORD OF WELL CONSTRUCTION

WELL: SGWC-17/PZ-20S

PAGE 1 OF 1
ECS38467

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

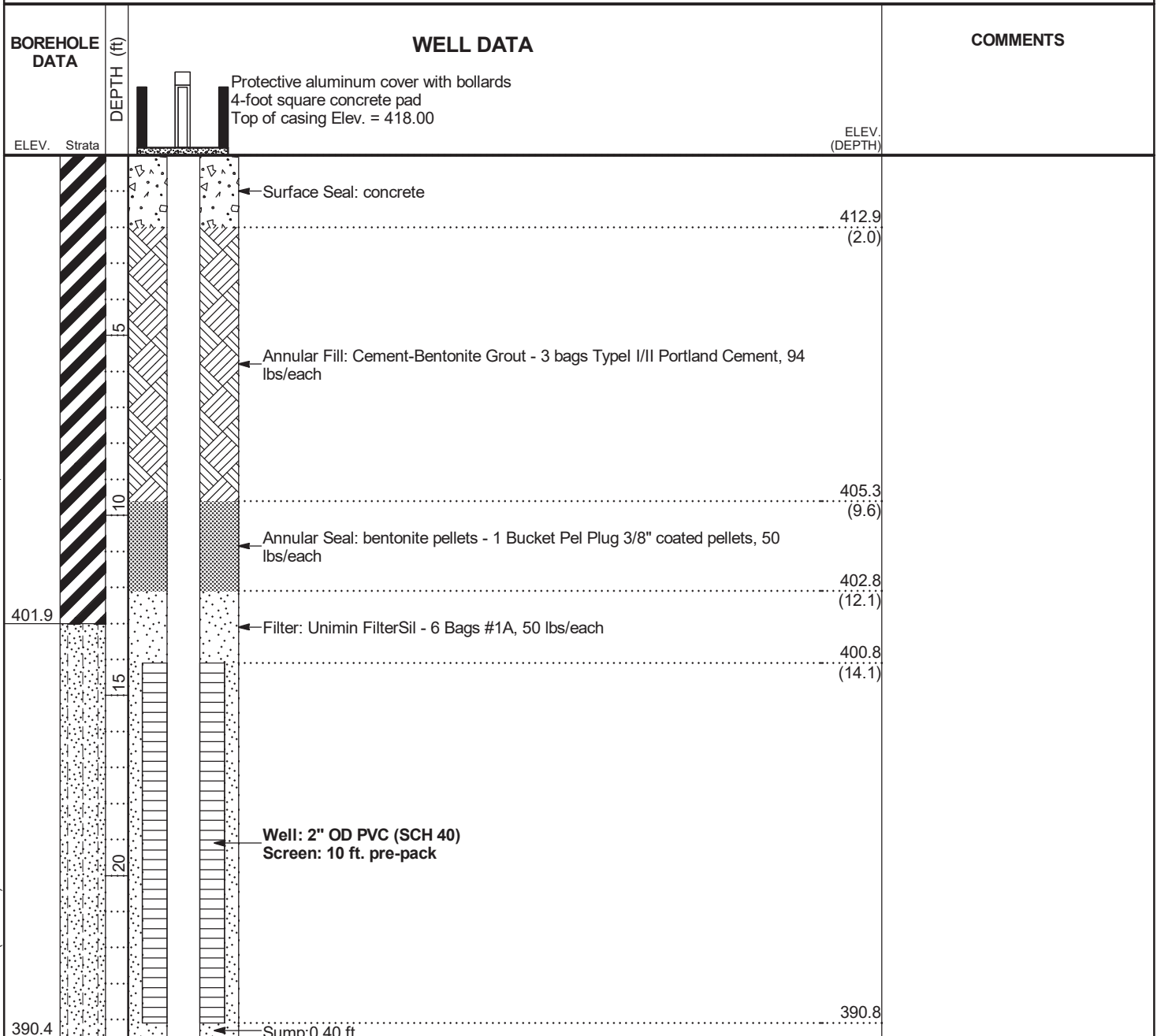
CONTRACTOR Civil Field Services METHOD Hollow Stem Auger EQUIPMENT CME550

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\GPC\ISCHERER LOGS.GPJ



(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-18/PZ-22S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
		Silt (ML) (Con't)			
30		- mottled reddish yellow (7.5YR 7/8) saprolite wet, medium stiff, black/yellow streaking and spots, trace residual quartz, feldspar, biotite, muscovite			SPT N=5bpf(@28.5ft.)
35		- mottled reddish yellow (7.5YR 7/8) saprolite wet, medium stiff, black/yellow streaking and spots, trace residual quartz, feldspar, biotite, muscovite			SPT N=7bpf(@33.5ft.)
40		- mottled reddish yellow (7.5YR 7/8) and pink (10R 8/3) saprolite wet, stiff, with black streaking, trace residual quartz, feldspar, biotite, muscovite			SPT N=9bpf(@38.5ft.)
45		- mottled reddish yellow (7.5YR 7/8) and white (10R 8/1) saprolite wet, stiff, with black streaking, trace residual quartz, feldspar, hornblende, biotite, muscovite			SPT N=10bpf(@43.5ft.)
		Bottom of borehole at 44.5 feet.			
50					
55					

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

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
				508.3 (2.0)
492.3				

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

(Continued Next Page)

(Continued Next Page)



LOG OF TEST BORING

BORING SGWC-19/PZ-23S
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
30		Silty Sand (SM) (Con't) - mottled white (7.5YR 8/1) saprolite wet, medium dense, very fine to fine grained, black streaking, trace weathered rock fragments and mica - mottled white (7.5YR 8/1) saprolite wet, dense, very fine to fine grained, black streaking, trace muscovite, biotite, residual quartz			SPT N=20bpf(@28.5ft.) SPT N=39bpf(@33.5ft.)
35		Bottom of borehole at 34.6 feet.			
40					
45					
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: SGWC-19/PZ-23S

PAGE 1 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

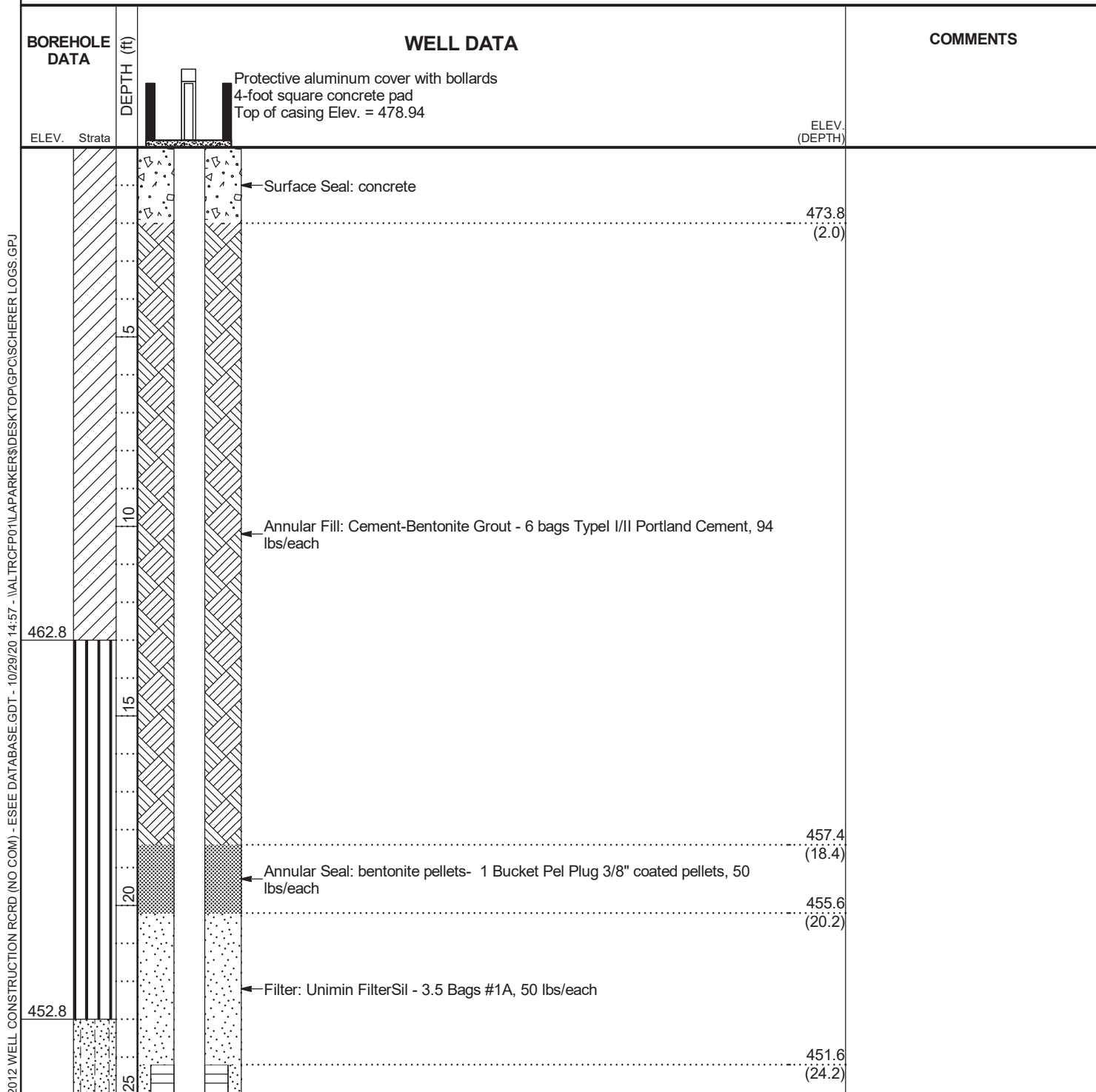
DATE STARTED 3/18/2015 COMPLETED 3/18/2015 GROUND ELEVATION 475.8 ft COORDINATES N 1116024.59 E 2406097.05

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-19/PZ-23S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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

RECORD OF BOREHOLE SGWC-20/APC-15


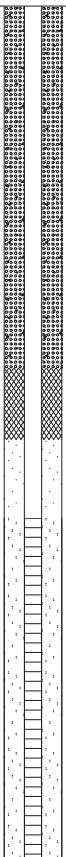



SHEET 1 of 1

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		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						 <p>Portland Type I/ Type II/ Gel mix</p> <p>3/8" Bentonite Pellets</p> <p>#1 sand - 0.010" slot screen</p>	WELL CASING Interval: -3'-15' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 15'-25' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 12.7'-25' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 10.6'-12.7' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-10.6' 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
5		5.00 - 10.00 clayey silt, red/brown, moist			496.5 5.00					
10		10.00 - 13.00 CLAYEY SILT (ML)/SAPROLITE; clayey silts, fat clay, trace biotite streaking and mica, red/orange/brown, moist	ML		491.5 10.00					
15		13.00 - 15.00 FAT CLAY (CH)/SAPROLITE; silt and fine sand with trace quartz, micaceous, trace biotite, red/brown, wet	CH		488.5 13.00					
20		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 15.00					
25		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 20.00					
25		Boring completed at 25.00 ft			476.5					
30										
35										
40										

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



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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		▼			
		Lean Clay (CL) - Hand auger 5' for utilities clearance			
		▼			
5					
		- mottled red (10R 5/8) and pink / moderate orange pink (5YR 8/4) saprolite moist, soft, micaceous			SPT N=4bpf(@8.5ft.)
10					
		- light gray (10R 7/1) saprolite moist, stiff, micaceous, trace silt			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

PAGE 1 OF 1
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

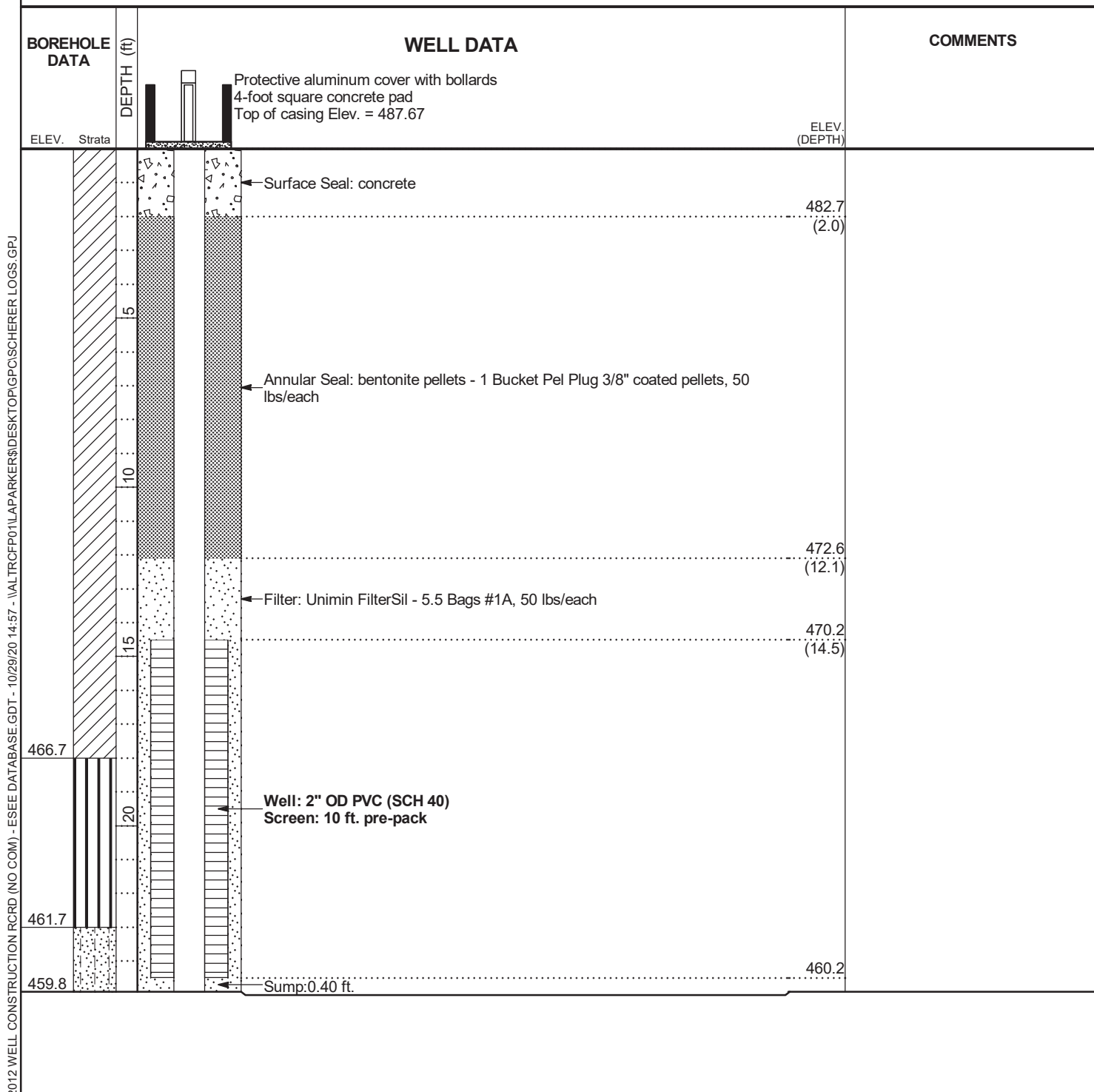
DATE STARTED 5/6/2015 COMPLETED 5/6/2015 GROUND ELEVATION 484.7 ft COORDINATES N 1115409.88 E 2404197.33

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





BORING LOG

BORING SGWC-22/PZ-02S

Page 1 of 2

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 Weak Moderate Strong	COMMENTS
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.)

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:40 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING SGWC-22/PZ-02S

Page 2 of 2

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 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	HCL REACTION Weak Moderate Strong	COMMENTS
		▼ Silty Sand (SM)(Con't)		
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				

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

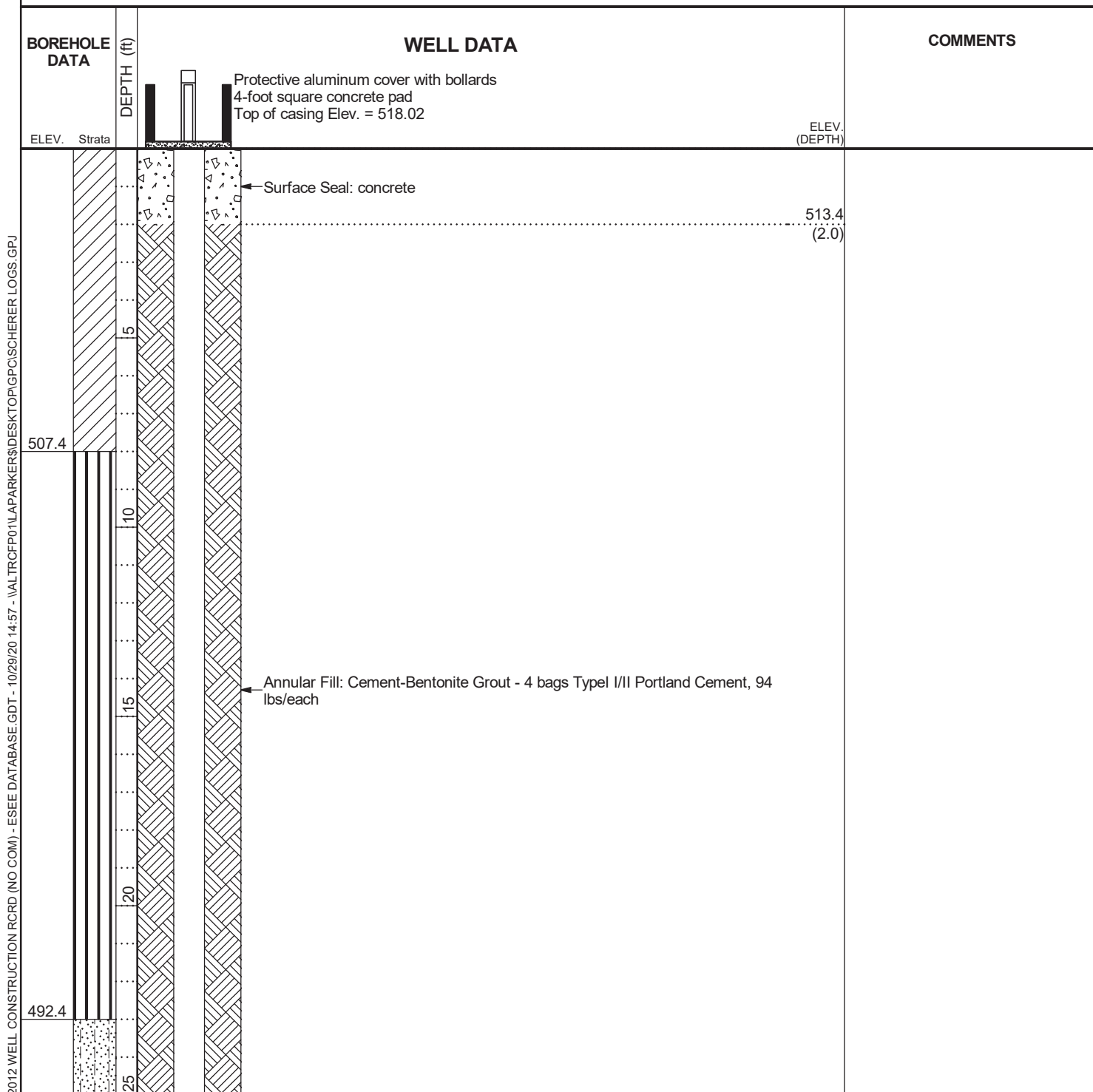
DATE STARTED	1/21/2015	COMPLETED	1/22/2015	GROUND ELEVATION	515.4 ft	COORDINATES	N 1115540.08 E 2403001.81
---------------------	-----------	------------------	-----------	-------------------------	----------	--------------------	---------------------------

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





RECORD OF WELL CONSTRUCTION

WELL: SGWC-22/PZ-02S

PAGE 2 OF 2

ECS38467

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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 518.02	
				488.8 (26.6)
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
		30		486.2 (29.2)
			Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	
		35		
				478.9 (36.5)
		40		
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
		45		
			Sump: 0.40 ft	468.9 (46.5)
			Backfill:	468.5 (46.9)
465.3		50		

(Continued Next Page)




LOG OF TEST BORING

BORING SGWC-23/PZ-041
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation
LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Sandy Silt (ML) (Con't)			
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		 - mottled greenish gray (10BG 5/1) and light red / moderate reddish orange (10R 6/6) saprolite moist, dense, very fine to fine grained, black streaking, with weathered rock fragments, trace mica			SPT N=36bpf(@33.5ft.)
		PARTIALLY WEATHERED ROCK - variegated with greenish gray (10BG 5/1) fine to coarse grain, very soft, highly weathered			
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 - 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			
45		- variegated with dark gray (N3) coarse to medium grain, very soft to soft, moderately to highly weathered, inclined, banded, moderately fractured, 16 moderate-angle fractures (30 - 45d), 2 high-angle fractures (60 - 90d), with iron oxide staining, quartz, amphibole			
50		Bottom of borehole at 49.7 feet.			
55					

S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER ASH POND PIEZIDRAFT LOGS\SCHERER LOGS.GPJ
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

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

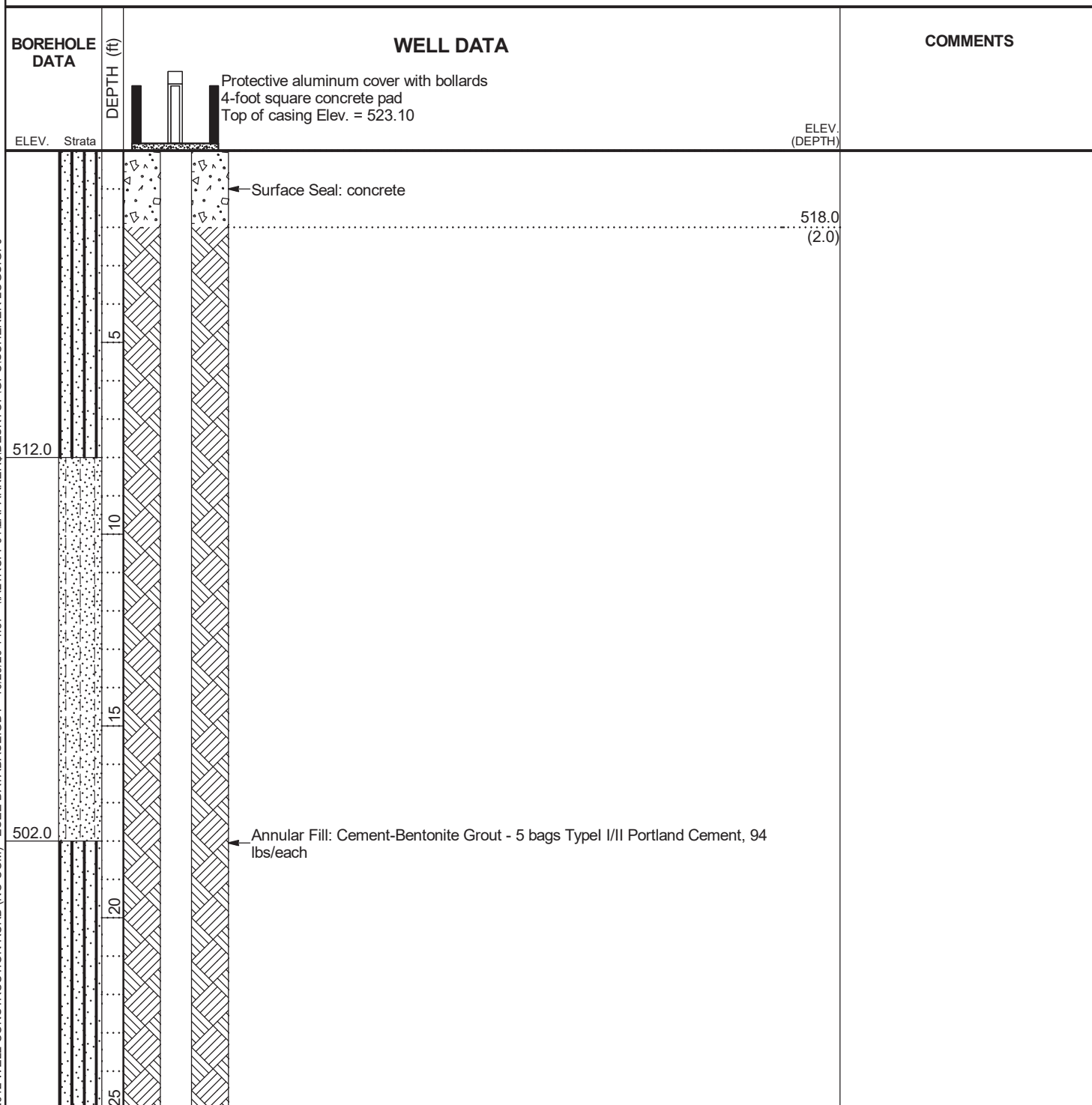
DATE STARTED 1/29/2015 **COMPLETED** 2/3/2015 **GROUND ELEVATION** 520 ft **COORDINATES** N 1116693.8 E 2402131.07

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWC-23/PZ-04I

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)

ELEV.
(DEPTH)

492.0

30

35

485.0

483.5

40

45

470.3

485.9
(34.1)

483.5
(36.5)

480.7
(39.3)

470.7

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 523.10

Annular Seal: bentonite pellets - 1 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.

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

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-24/PZ-07S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
30		Silty Sand (SM) (Con't) - 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			(MC = 13.1%; UW(d) = 119.8pcf; PERM. = 2.49E-5cm/sec) SPT N=18bpf(@28.5ft.)
35		▽ - 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			SPT N=36bpf(@33.5ft.)
40		- 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			SPT N=50bpf(@38.5ft.)
45		Bottom of borehole at 40.0 feet.			
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: SGWA-24/PZ-07S

PAGE 1 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

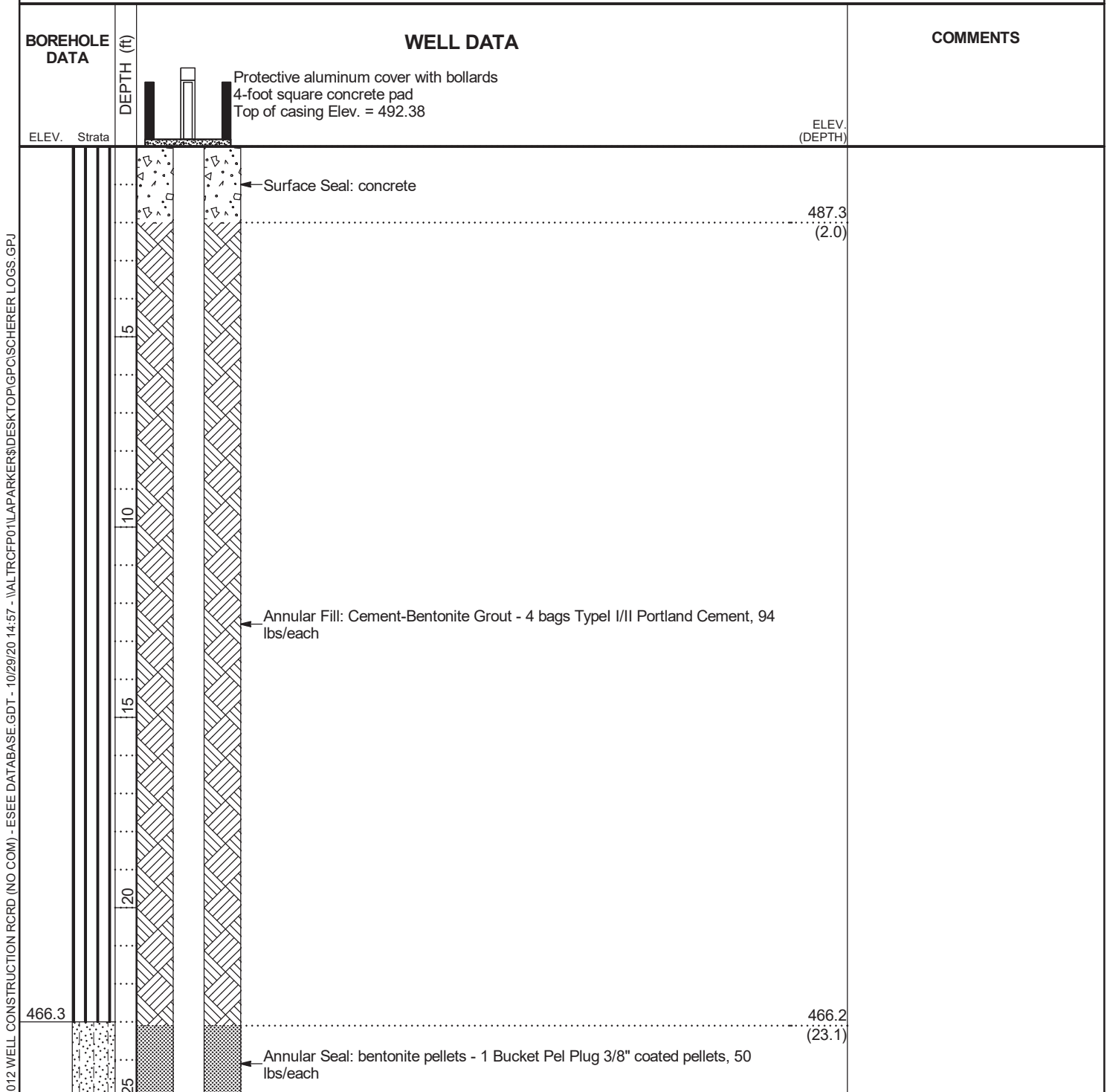
DATE STARTED 2/10/2015 COMPLETED 2/10/2015 GROUND ELEVATION 489.3 ft COORDINATES N 1118121.96 E 2400743.52

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: SGWA-24/PZ-07S

PAGE 2 OF 2

ECS38467

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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 492.38	
				ELEV. (DEPTH)
				464.2 (25.1)
			Filter: Unimin FilterSil - 7 Bags #1A, 50 lbs/each	
				461.6 (27.7)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
				451.6 (37.7)
			Sump: 0.40 ft.	
			Backfill:	451.2 (38.1)
449.3		40		

(Continued Next Page)



LOG OF TEST BORING

BORING SGWA-25/PZ-09S

PAGE 2 OF 2

ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

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 Weak Moderate Strong	COMMENTS
30		<p>▼ Sandy Silt (ML) (Con't)</p> <p>- mottled brown (7.5YR 5/4) and very pale brown / very pale orange (10YR 8/2) saprolite moist, very stiff, micaceous</p>			SPT N=18bpf(@28.5ft.)
35		<p>▽ - mottled dark yellowish brown (10YR 3/6) and yellow (10YR 7/8) saprolite wet, stiff, micaceous, trace muscovite, biotite, chlorite, hornblende, feldspar, residual quartz</p>			SPT N=15bpf(@33.5ft.) (MC = 53.6%; UW(d) = 66.1pcf; PERM. = 8.55E-5cm/sec)
40		<p>- 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</p>			SPT N=22bpf(@38.5ft.)
45		<p>- 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</p>			SPT N=29bpf(@43.5ft.)
50		Bottom of borehole at 45.0 feet.			
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. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 526.49

ELEV.
(DEPTH)

Surface Seal: concrete

521.2
(2.0)

Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)



PAGE 2 OF 2
ECS38467

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.49	
		(CONTINUED)		
				493.1 (30.1)
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs each	
				490.5 (32.7)
			Filter: Unimin FilterSil - 6.5 Bags #1A, 50 lbs/each	
				488.6 (34.6)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
				478.6
478.2			Sump: 0.40 ft.	

APPENDIX B-2

**Ash Pond 1 Assessment Monitoring Wells
Monitoring Well Logs and Construction Diagrams**



BORING LOG

BORING PZ-13S

Page 1 of 2

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\LA\PARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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.)

(Continued Next Page)



BORING LOG

BORING PZ-13S

Page 2 of 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Sandy Silt (ML)(Con't)			
		▼			
		▼			SPT N=11bpf(@28.5ft.)
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			
		▼			
		- 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.)
35					
		- 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.)
40					
		- 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.)
45					
		Bottom of borehole at 45.3 feet.			
50					
55					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-13S
PAGE 1 OF 2
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 520.51

ELEV.
(DEPTH)

Surface Seal: concrete

515.5
(2.0)

Annular Fill: Cement-Bentonite Grout - 4 bags Type I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)

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



BORING LOG

BORING PZ-14S

Page 1 of 2

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

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.)

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:40 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-14S

Page 2 of 2

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 - \\ALTRCP01\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Silty Sand (SM)(Con't)			
30		- mottled pink / moderate orange pink (5YR 8/4) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, medium dense, very fine to fine grained, black and white streaking, trace weathered rock fragments			SPT N=11bpf(@28.5ft.)
35		- mottled reddish yellow (5YR 6/8) and brownish yellow / dark yellowish orange (10YR 6/6) saprolite wet, dense, very fine to fine grained, trace angular weathered rock fragments			SPT N=37bpf(@33.5ft.)
40		- mottled reddish yellow (5YR 6/8), brownish yellow / dark yellowish orange (10YR 6/6) and gray (10YR 5/1) saprolite wet, dense, very fine to fine grained, has yellow concretions at 40', trace weathered rock fragments			SPT N=38bpf(@38.5ft.)
45		- mottled reddish yellow (5YR 6/8), brownish yellow / dark yellowish orange (10YR 6/6) and brown (10YR 4/3) saprolite wet, dense, very fine to fine grained, with black streaking, trace weathered rock fragments, biotite, muscovite, residual quartz			SPT N=33bpf(@43.5ft.)
		Bottom of borehole at 44.9 feet.			
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: PZ-14S
PAGE 1 OF 2
ECS38467

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

BOREHOLE DATA

WELL DATA

COMMENTS

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 512.13

ELEV.
(DEPTH)

Surface Seal: concrete

506.7
(2.0)

Annular Fill: Cement-Bentonite Grout - 5 bags Typel I/II Portland Cement, 94
lbs/each

485.7

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-14S
PAGE 2 OF 2
ECS38467

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)				
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 512.13	
		30		478.7 (30.0)
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs each	
				476.4 (32.3)
			Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	
		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



BORING LOG

BORING PZ-171

Page 1 of 3

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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
		Sandy Silt (ML)			
5		- 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.)

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GPGC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-171

Page 2 of 3

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 Weak Moderate Strong	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)

(Continued Next Page)



BORING LOG

BORING PZ-171

Page 3 of 3

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\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	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					

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer



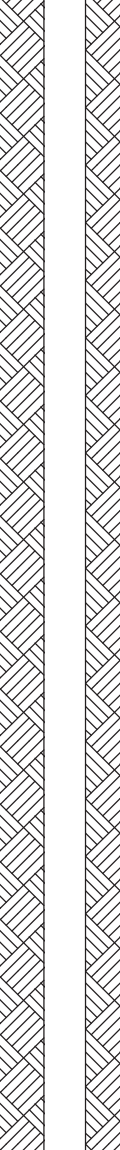
DATE STARTED	2/26/2015	COMPLETED	2/27/2015	GROUND ELEVATION	479.9 ft	COORDINATES	N 1120190.27 E 2407107.37
---------------------	-----------	------------------	-----------	-------------------------	----------	--------------------	---------------------------

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
ELEV.	Strata	DEPTH (ft)		
		 <p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 483.03</p>		
		 <p>← Surface Seal: concrete</p>	477.9 (2.0)	
				

(Continued Next Page)





RECORD OF WELL CONSTRUCTION

WELL: PZ-171
PAGE 3 OF 3
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)

ELEV.
(DEPTH)

411.9

404.9

398.5

391.2

382.6

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.

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 - \\ALTRCF001\LPARKER\DESKTOP\GPC\SCHERER LOGS.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		0.00 - 6.50 clayey SILT with some organic matter; dark reddish brown; non-cohesive; moist; compact; RESIDUUM	ML							
470										
5						S-1	ROTO SONIC	10.00 10.00		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
465		6.50 - 10.00 silty CLAY; grey to brown; cohesive; w~PL; soft to firm; RESIDUUM	CL		465.3 6.50					
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					
15						S-2	ROTO SONIC	7.50 10.00		
455										
20										
450		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					
25						S-3	ROTO SONIC	7.50 10.00		
445										
30										
440		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					
35										
435		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		
40					431.8					

Log continued on next page

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-39S


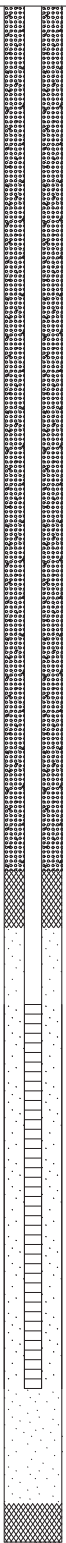
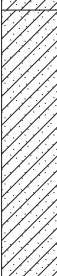




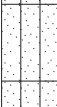
SHEET 2 of 2

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		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
430										
45										
425										
50		50.00 - 57.00 clayey SAND with silt; sand: fine to coarse; red to orange; non-cohesive; wet; loose to compact; RESIDUUM	SC		421.8	S-6	ROTO SONIC			
420					50.00					
55										
415		57.00 - 60.00 silty SAND with trace clay; micaceous; tan to grey; non-cohesive; moist to wet; compact to dense; SAPROLITE	SM		414.8	S-7	ROTO SONIC			
60					57.00					
65										
410		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	S-7	ROTO SONIC			
60					60.00					
65										
405			SM			S-7	ROTO SONIC			
70		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			403.8					
70					68.00					
400		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	S-8	ROTO SONIC			
70					70.00					
75										
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	TWR		394.8					
80		Note: Drill chatter at 77'			77.00					
		Boring completed at 80.00 ft			391.8					

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



BOREHOLE RECORD PLANT SCHERER 2018_10_12 SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-401

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
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		
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		
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		S-3	ROTO SONIC		
40		36.80 - 40.00 clayey SAND; sand: fine; reddish-pink; micaceous; non-cohesive; wet; compact; SAPROLITE	SC		473.3 36.80					
		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

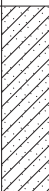
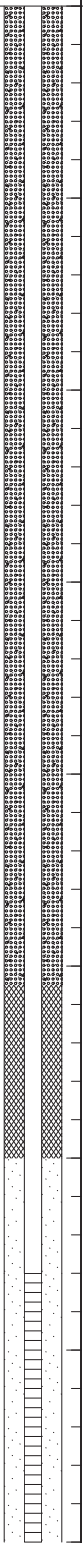

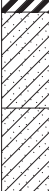
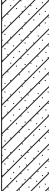
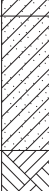


SHEET 2 of 3

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	SC		40.00	S-4	ROTO SONIC			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							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		460.1 50.00	S-5	ROTO SONIC			
55	455							10.00 10.00		
		55.00 - 57.50 clayey SAND; sand: fine to coarse; brown; micaceous; non-cohesive to cohesive; moist to wet; compact; SAPROLITE	SC		455.1 55.00	S-6	ROTO SONIC			
								8.00 10.00		
		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 57.50	S-7	ROTO SONIC			
60	450							8.50 10.00		
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 65.00	S-8	ROTO SONIC			
								8.00 10.00		
		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 68.50	S-9	ROTO SONIC			
70	440	70.00 - 80.00 BIOTITE GNEISS; fresh; banded coarse and fine; gneissic banding; crystals fine to coarse; strong	BR		440.1 70.00					
75	435		BR			S-10	ROTO SONIC			
								8.50 10.00		
80		Log continued on next page			430.1					

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



BOREHOLE RECORD PLANT SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-40I


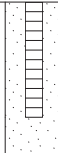
SHEET 3 of 3

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
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		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
		Boring completed at 84.00 ft			426.1					
85	425									
90	420									
95	415									
100	410									
105	405									
110	400									
115	395									
120										

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 9/4/20

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										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
15		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		
475										
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		
465										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
25										
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	S-3	ROTO SONIC	10.00 10.00		
460										
35		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					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
455										
450										
40		Log continued on next page			448.6					

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-41S


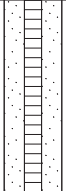


SHEET 2 of 2

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		40.00 447.6					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
		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		41.00					
44.5		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		445.6 43.00	S-4	ROTO SONIC	3.00 5.00		
45		Boring completed at 45.00 ft			443.6					

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 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			480.5 20.00					
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			470.5 30.00					
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		463.5 37.00					
		Log continued on next page			460.5					

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



BOREHOLE RECORD PLANT SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-421

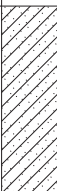








SHEET 2 of 3

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	ROTO SONIC	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	ROTO SONIC	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	ROTO SONIC	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	ROTO SONIC	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			420.5					

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



BOREHOLE RECORD PLANT SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-421


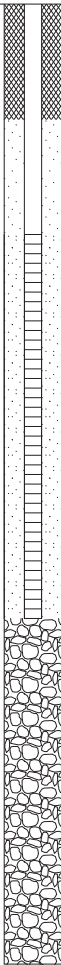




SHEET 3 of 3

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
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	S-8	ROTO SONIC	5.00 10.00		WELL CASING Interval: 0-96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread
85	415	84.50 - 85.00 BIOTITE GNEISS; moderately weathered; crystals: medium to coarse; gneissic banding; black/white; strongBEDROCK 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							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
90	410	90.00 - 95.00 BIOTITE GNEISS; moderately weathered; crystals: medium to coarse; gneissic banding; black/white; strong	BR		410.5 90.00			FILTER PACK Interval: 83-96' Type: No. 20-40 Sand		
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	ROTO SONIC	5.00 10.00		FILTER PACK SEAL Interval: 77-83' Type: 3/8" PEL-PLUG
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	S-10	ROTO SONIC	0.00 5.00		ANNULUS SEAL Interval: 0-77' Type: Portland Cement and Quick Gel Bentonite Mix
105	395	Boring completed at 105.00 ft			395.5					WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum
110	390									DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
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		0.00 - 10.00 Hydrovac 0-10'								WELL CASING Interval: 0-50.5' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread 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 FILTER PACK Interval: 37.5-52' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 32-37.5' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-32' 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										
10		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		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		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			ML			S-2	ROTO SONIC	10.00 10.00		
30		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		471.2 30.00					
35						S-3	ROTO SONIC	10.00 10.00		
40					461.2					

Log continued on next page

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

RECORD OF BOREHOLE PZ-43S


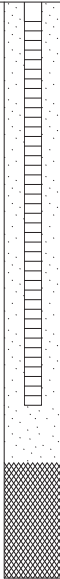


SHEET 2 of 2

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.	SAMPLE NO.	TYPE			REC		
					DEPTH (ft)							
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	S-4	ROTO SONIC	10.00 10.00		WELL CASING Interval: 0-50.5' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread 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 FILTER PACK Interval: 37.5-52' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 32-37.5' Type: 3/8" PEL-PLUG ANNULUS SEAL Interval: 0-32' 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-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							
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	S-5	ROTO SONIC	10.00 10.00				
55		Boring completed at 55.00 ft			446.2							
445												
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



RECORD OF BOREHOLE PZ-44I

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						WELL CASING Interval: 0-114' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread
5		5.00 - 10.00 silty CLAY-clayey SILT with trace sand; sand: fine; red; non-cohesive; wet; loose to compact; RESIDUUM	CL-ML		502.9 5.00	S-1	ROTO 8.00 SONIC 10.00		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
10		10.00 - 15.00 clayey SILT with sand; sand: fine to coarse; orange brown; non-cohesive; moist to wet; compact; RESIDUUM	ML		497.9 10.00				FILTER PACK Interval: 103-114' Type: No. 20-40 Sand Quantity: 200 lbs
15		15.00 - 20.00 sandy SILT-silty SAND; sand: fine to coarse; orange brown; non-cohesive; wet; loose; RESIDUUM	ML-SM		492.9 15.00	S-2	ROTO 7.60 SONIC 10.00		FILTER PACK SEAL Interval: 98-103' Type: 3/8" PEL-PLUG Quantity: 5 gallons
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		487.9 20.00				ANNULUS SEAL Interval: 0-98' Type: Portland Cement and Quick Gel Bentonite Mix Quantity: Cement: 1128 lbs Quick Gel: 150 lbs Water: 120 gallons
25						S-3	ROTO 8.00 SONIC 10.00		WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum
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		477.9 30.00				DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
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		472.9 35.00	S-4	ROTO 8.00 SONIC 10.00		
40		Log continued on next page			467.9				

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



BOREHOLE RECORD PLANT SCHERER_2018_10_12 SURVEY UPDATED.GPJ PIEDMONT.GDT 11/10/2020

Location resurveyed May - July 2020

RECORD OF BOREHOLE PZ-44I

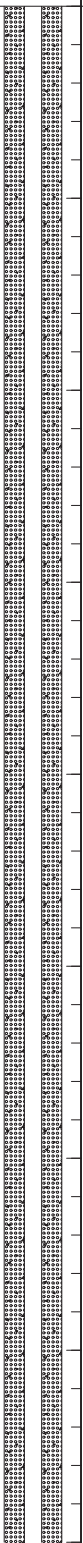

SHEET 2 of 3

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					WELL CASING Interval: 0-114' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread 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 FILTER PACK Interval: 103-114' Type: No. 20-40 Sand Quantity: 200 lbs FILTER PACK SEAL Interval: 98-103' Type: 3/8" PEL-PLUG Quantity: 5 gallons ANNULUS SEAL Interval: 0-98' Type: Portland Cement and Quick Gel Bentonite Mix Quantity: Cement: 1128 lbs Quick Gel: 150 lbs Water: 120 gallons WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
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										
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		457.9 50.00					
455										
55			SM			S-6	ROTO 8.00 SONIC 10.00			
450										
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		447.9 60.00					
445										
65			SM			S-7	ROTO 8.70 SONIC 10.00			
440										
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			S-8	ROTO 10.00 SONIC 10.00			
75										
430										
80					427.9					
		Log continued on next page								

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



BOREHOLE RECORD PLANT SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 11/10/2020

RECORD OF BOREHOLE PZ-44I

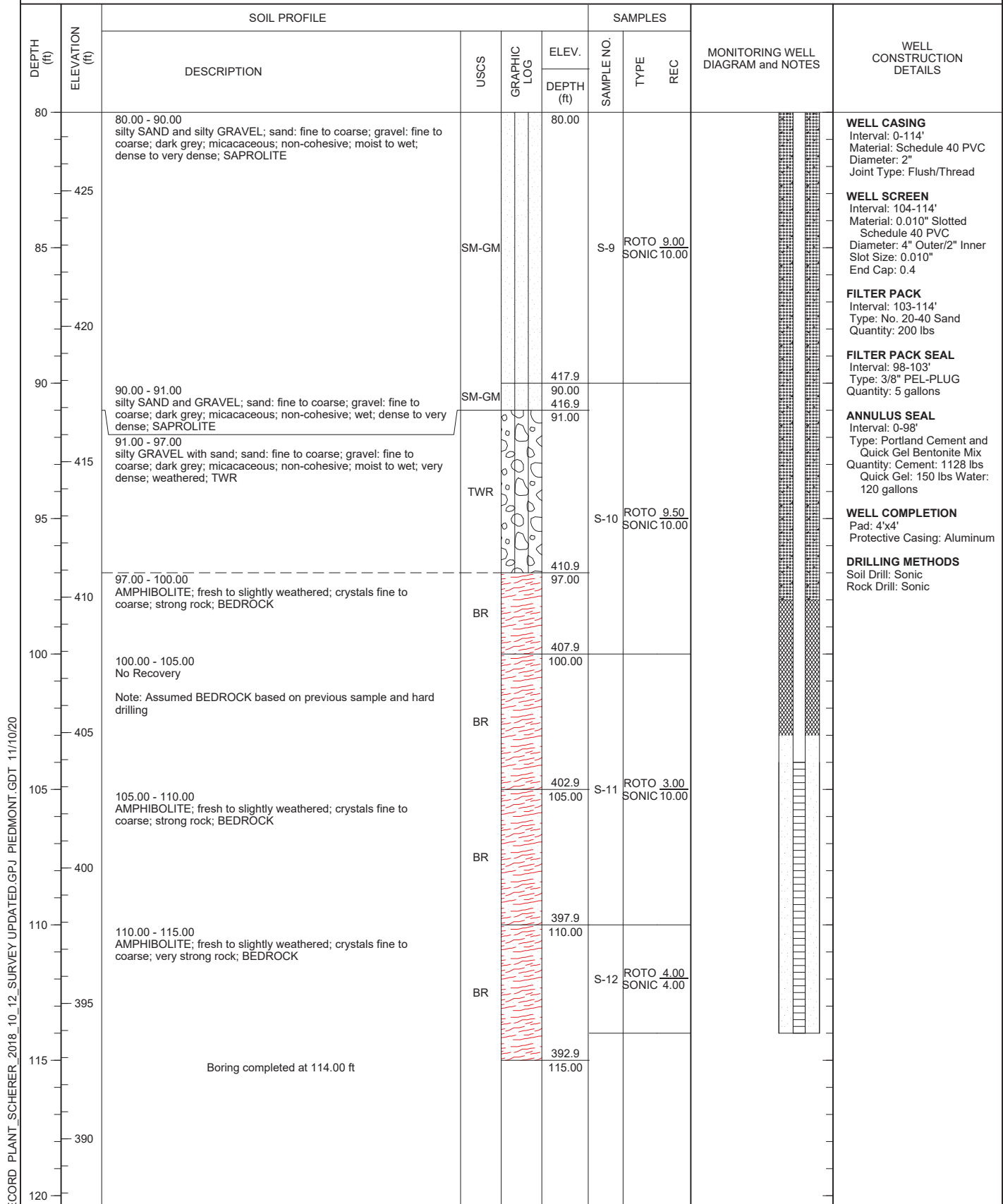
SHEET 3 of 3

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY_UPDATED.GPJ PIEDMONT.GDT 11/10/2020

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-69I



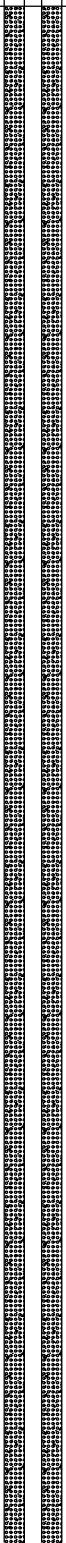














SHEET 1 of 3

PROJECT: Plant Scherer
PROJECT NUMBER: 20139484
DRILLED DEPTH: 106.00 ft
LOCATION: Juliette, GA

DRILL RIG: TSI 150
DATE STARTED: 1/11/22
DATE COMPLETED: 1/12/22

NORTHING: 1,121,906.36
EASTING: 2,404,051.35
GS ELEVATION: 506.0
TOC ELEVATION: 508.85 ft

DEPTH W.L.: 17.02
ELEVATION W.L.: 491.83
DATE W.L.: 1/13/22
TIME W.L.: 12:58

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			PZ-69I MONITORING WELL DIAGRAM AND NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	PHOTO	REC		
0	505	0.00 - 6.00 CH, red silty CLAY, dry, soft, W>PL	CH			1		4.50 6.00		WELL CASING Interval: 0' - 96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 96' - 106' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 94' - 106' Type: GP-1 Quantity: 3.5 x 14L bags FILTER PACK SEAL Interval: 90' - 94' Type: 3/8" PEL Plug bentonite pellets Quantity: 0.5 x 5 gal bucket ANNULUS SEAL Interval: 0' - 90' Type: Aquaguard bentonite grout Quantity: 6x50 lb bag + 120 gal H2O WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic Sample Type: Roto Sonic
5	500	6.00 - 19.00 ML, sandy SILT with trace organics, dry, red-orange with trace black, very soft to soft, micaceous	ML		500 6.00	2		5.00 10.00		
10	495									
15	490									
20	485	19.00 - 24.00 SM, silty SAND, moist, pinkish-tan, soft, micaceous	SM		487 19.00	3		8.00 10.00		
25	480	24.00 - 26.00 SM, silty SAND, orange-tan-black, moist, soft, micaceous	SM		482 24.00					
		26.00 - 30.00 SM, silty SAND, moist, orange-gray-black, soft, loose, micaceous	SM		480 26.00					
30	475	30.00 - 36.00 SM, silty SAND, moist, brown-gray-black-white, soft, loose, micaceous	SM		476 30.00	4		10.00 10.00		
35	470	36.00 - 39.00 SM, silty SAND, moist, tan-brown, soft, loose, micaceous	SM		470 36.00	5		10.00 10.00		
40		39.00 - 46.00 SM, silty SAND, moist, gray-blue-green, soft, loose, micaceous Log continued on next page	SM		467 39.00					

BOREHOLE RECORD PLANT SCHERER PZ GPJ PIEDMONT.GDT 2/24/22

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Donald Myles

GA INSPECTOR: Karim Minkara, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 2/24/22

 WSP GOLDER

RECORD OF BOREHOLE PZ-69I

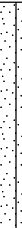

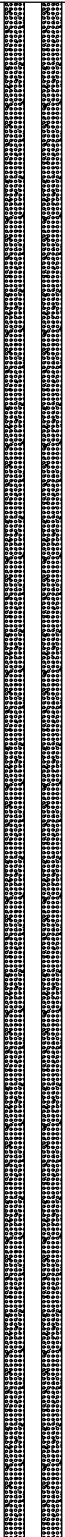

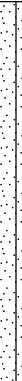

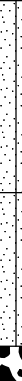





SHEET 2 of 3

PROJECT: Plant Scherer
PROJECT NUMBER: 20139484
DRILLED DEPTH: 106.00 ft
LOCATION: Juliette, GA

DRILL RIG: TSI 150
DATE STARTED: 1/11/22
DATE COMPLETED: 1/12/22

NORTHING: 1,121,906.36
EASTING: 2,404,051.35
GS ELEVATION: 506.0
TOC ELEVATION: 508.85 ft

DEPTH W.L.: 17.02
ELEVATION W.L.: 491.83
DATE W.L.: 1/13/22
TIME W.L.: 12:58

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			PZ-69I MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS	
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	PHOTO	REC			
					DEPTH (ft)						
40	465	39.00 - 46.00 SM, silty SAND, moist, gray-blue-green, soft, loose, micaceous (Continued)	SM			5		10.00		WELL CASING Interval: 0' - 96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded	
										10.00		WELL SCREEN Interval: 96' - 106' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"
45	460	46.00 - 56.00 SP, fine SAND with some silt, dry, gray, soft, loose, saprolitic	SP		460	6		9.00		FILTER PACK Interval: 94' - 106' Type: GP-1 Quantity: 3.5 x 14L bags	
								46.00			10.00	FILTER PACK SEAL Interval: 90' - 94' Type: 3/8" PEL Plug bentonite pellets Quantity: 0.5 x 5 gal bucket
50	455										ANNULUS SEAL Interval: 0' - 90' Type: Aquaguard bentonite grout Quantity: 6x50 lb bag + 120 gal H2O
55	450	56.00 - 66.00 SM, silty SAND, dark gray with green hue, dry, highly weathered saprolite, compact to dense, contains biotite	SM		450	7		10.00		WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum	
								56.00			10.00	DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic Sample Type: Roto Sonic
60	445										
65	440	66.00 - 71.00 SM, fine silty SAND with some gravel, dry, gray-greenish blue, loose to compact, saprolitic	SM		440	8		10.00			
								66.00			10.00
70	435	71.00 - 75.00 SM, silty SAND with some gravel, biotite gneiss saprolite, micaceous	SM		435	9		10.00			
								71.00		10.00	
75	430	75.00 - 76.00 Transitionally weathered rock (TWR), poorly sorted biotite gneiss GRAVEL with some sand, heavily weathered	TWR		431	9		6.00			
		76.00 - 82.00 TWR, fine-medium SAND with some biotite gneiss gravel, moist to wet, gray with peppered black-white	TWR		75.00 430 76.00			10.00			
80		Log continued on next page									

BOREHOLE RECORD PLANT SCHERER PZ.GPJ PIEDMONT.GDT 2/24/22

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Donald Myles

GA INSPECTOR: Karim Minkara, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 2/24/22

wsp GOLDER

RECORD OF BOREHOLE PZ-69I

SHEET 3 of 3

PROJECT: Plant Scherer
PROJECT NUMBER: 20139484
DRILLED DEPTH: 106.00 ft
LOCATION: Juliette, GA

DRILL RIG: TSI 150
DATE STARTED: 1/11/22
DATE COMPLETED: 1/12/22

NORTHING: 1,121,906.36
EASTING: 2,404,051.35
GS ELEVATION: 506.0
TOC ELEVATION: 508.85 ft

DEPTH W.L.: 17.02
ELEVATION W.L.: 491.83
DATE W.L.: 1/13/22
TIME W.L.: 12:58

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			PZ-69I MONITORING WELL DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	PHOTO	REC		
80	425	76.00 - 82.00 TWR, fine-medium SAND with some biotite gneiss gravel, moist to wet, gray with peppered black-white (<i>Continued</i>)	TWR		424	9		6.00 10.00		WELL CASING Interval: 0' - 96' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 96' - 106' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 94' - 106' Type: GP-1 Quantity: 3.5 x 14L bags FILTER PACK SEAL Interval: 90' - 94' Type: 3/8" PEL Plug bentonite pellets Quantity: 0.5 x 5 gal bucket ANNULUS SEAL Interval: 0' - 90' Type: Aquaguard bentonite grout Quantity: 6x50 lb bag + 120 gal H2O WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic Sample Type: Roto Sonic
		82.00 - 86.00 TWR, Biotite Gneiss, moderately weathered, crystals fine-coarse, strong	TWR		82.00					
85	420	86.00 - 96.00 (BEDROCK) Biotite Gneiss, highly weathered	BR		86.00	10		5.00 10.00	3/8" Pel-Plug bentonite pellets	
90	415		BR							
95	410	96.00 - 106.00 (BEDROCK), Biotite Gneiss, slightly to moderately weathered, fine to medium grained	BR		96.00	11		6.00 10.00	GP-1 filter sand	Sch 40 PVC U-Pack 0.010" slotted screen
100	405		BR							
105	400	Boring completed at 106.00 ft			400				Sump	
110	395									
115	390									
120										

BOREHOLE RECORD PLANT SCHERER PZ.GPJ PIEDMONT.GDT 2/24/22

LOG SCALE: 1 in = 5 ft
DRILLING COMPANY: Cascade Drilling
DRILLER: Donald Myles

GA INSPECTOR: Karim Minkara, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 2/24/22



APPENDIX B-3

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\SCS\CHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
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			SPT N=20bpf(@3.5ft.)
10		- 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			SPT N=29bpf(@8.5ft.)
15		- mottled dusky red / dark reddish brown (10R 3/4) and very pale brown (10YR 7/3) fill moist, stiff			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			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)
30		- 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=12bpf(@28.5ft.)

(Continued Next Page)



BORING LOG

BORING PZ-02I

Page 2 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 Weak Moderate Strong	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			

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCS\CHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-02I

Page 3 of 3

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\1APARKER\DESKTOP\GFC\SCSCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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 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' - 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) - 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)			SPT N=50bpf (@68.5ft.)
85		Bottom of borehole at 84.3 feet.			
90					
95					
100					
105					



RECORD OF WELL CONSTRUCTION

WELL: PZ-02I
PAGE 1 OF 3
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

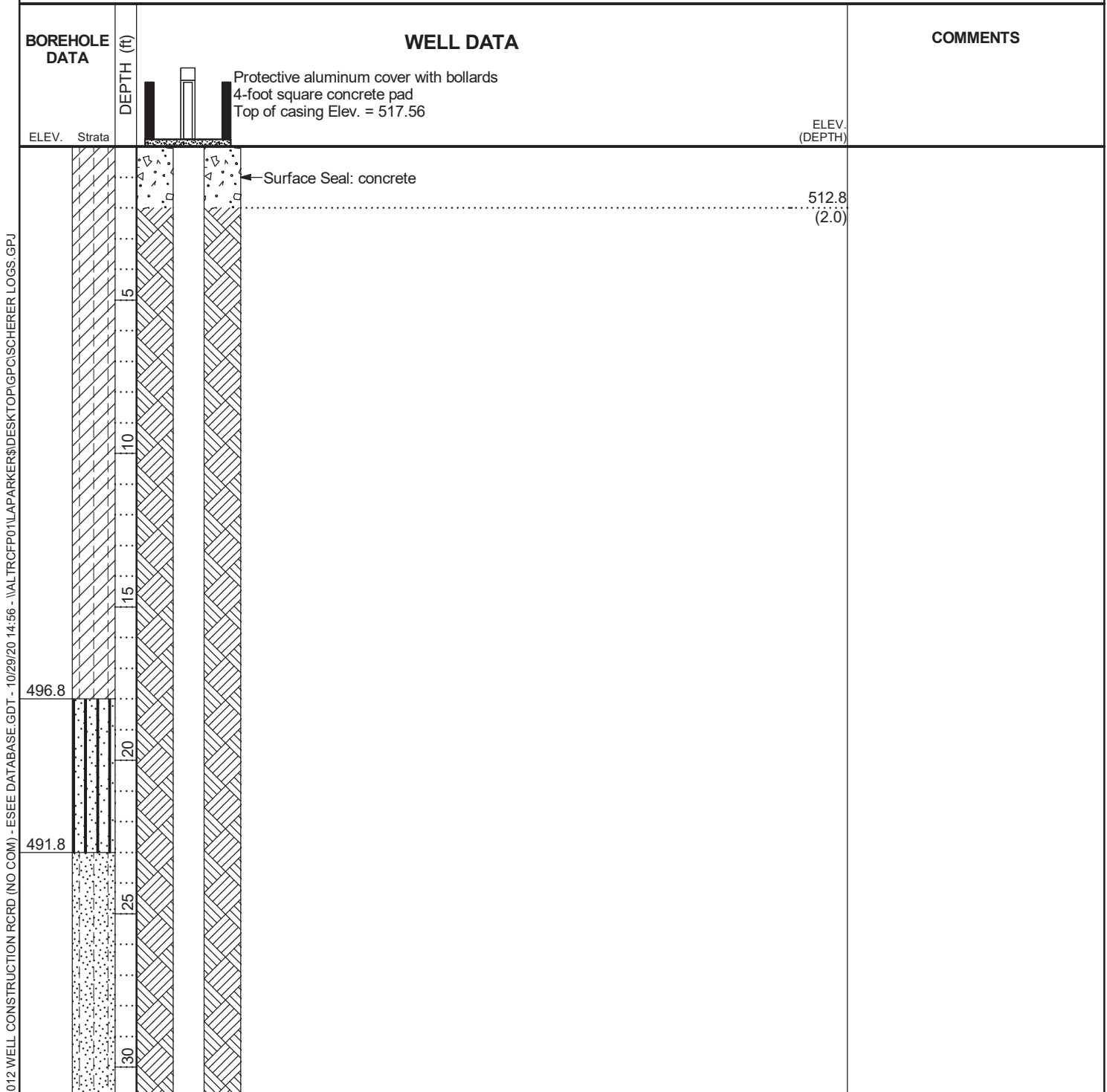
DATE STARTED 1/22/2015 COMPLETED 1/27/2015 GROUND ELEVATION 514.8 ft COORDINATES N 1115544.85 E 2402990.76

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-02I
PAGE 2 OF 3
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)

ELEV.
(DEPTH)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 517.56

Annular Fill: Cement-Bentonite Grout - 9 bags Typel I/II Portland Cement, 94
lbs/each

Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50
lbs/each

450.3
(64.5)

446.8

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:56 - \\VALTRCF001\APARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-02I
PAGE 3 OF 3
ECS38467

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)
445.8		70	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.56	445.8 (69.0)
		75	Filter: Unimin FilterSil - 5 Bags #1A, 50 lbs/each	440.9 (73.9)
		180	Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
430.5			Sump: 0.40 ft.	430.9



BORING LOG

BORING PZ-03S

Page 1 of 2

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 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Sandy Silt (ML)			
5		- mottled red / moderate reddish brown (10R 4/6) and light yellowish brown (2.5Y 6/4) fill moist, stiff, clayey, trace mica			SPT N=15bpf(@3.5ft.)
10		- mottled red / moderate reddish brown (10R 4/6) saprolite moist, very stiff, with black spots, trace mica			SPT N=18bpf(@8.5ft.)
15		- mottled white (10YR 8/1) and light yellowish brown (2.5Y 6/4) saprolite moist, stiff, trace mica, weathered rock, residual quartz			SPT N=9bpf(@13.5ft.)
20		- 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			SPT N=8bpf(@18.5ft.)
25		- 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			SPT N=5bpf(@23.5ft.)

(Continued Next Page)



BORING LOG

BORING PZ-03S

Page 2 of 2

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 - \\ALTRCP01\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	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
PAGE 1 OF 2
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 517.29

ELEV.
(DEPTH)

Surface Seal: concrete

512.4
(2.0)

Annular Fill: Cement-Bentonite Grout - 7 bags Type I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)

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



BORING LOG

BORING PZ-05I

Page 1 of 2

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

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
		Silt (ML)			
5		- mottled red (10R 4/8) and light red / moderate reddish orange (10R 6/6) fill moist, stiff, trace mica, clay, and rock fragments			SPT N=9bpf(@3.5ft.)
10		- mottled white (10YR 8/1) and yellowish brown (10YR 5/8) saprolite moist, stiff, trace sand and rock fragments			SPT N=11bpf(@8.5ft.)
15		- mottled white (10YR 8/1) and yellowish brown (10YR 5/6) saprolite moist, stiff, trace sand and rock fragments			SPT N=10bpf(@13.5ft.)
20		- mottled gray (10YR 6/1) and white (10R 8/1) saprolite moist, stiff, with black streaking, micaceous, trace sand and rock fragments			SPT N=9bpf(@18.5ft.)
25		- 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			SPT N=25bpf(@23.5ft.)

(Continued Next Page)



BORING LOG

BORING PZ-05I

Page 2 of 2

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\LA\PARKER\DESKTOP\GFC\SCS\CHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
30		Silt (ML)(Con't) - 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			SPT N=12bpf(@28.5ft.)
35		- mottled white (10YR 8/1) saprolite moist, very hard, with black streaking, micaceous, trace sand, weathered rock fragments, and residual quartz			SPT N=86bpf(@33.5ft.)
		PARTIALLY WEATHERED ROCK - light gray (N7) fine to coarse grain, soft, highly weathered			
40		GNEISS - 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			
45		- 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			Lost circulation
		- 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			
		Bottom of borehole at 47.2 feet.			
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: PZ-05I
PAGE 1 OF 2
ECS38467

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

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 523.26	
			Surface Seal: concrete	
				ELEV. (DEPTH) 518.6 (2.0)
		5		
		10		
		15		
		20		
		25		
			Annular Fill: Cement-Bentonite Grout - 5 bags Typel I/II Portland Cement, 94 lbs/each	

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

(Continued Next Page)



WELL: PZ-05I
PAGE 2 OF 2
ECS38467

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 523.26	
		(CONTINUED)		
				488.4 (32.2)
			Annular Seal: bentonite pellets - 0.75 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
485.6				486.0 (34.6)
484.6			Filter: Unimin FilterSil - 1 Bag #1A, 50 lbs/each	
				484.0 (36.6)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
				474.0 (46.6)
473.4			Sump: 0.40 ft.	

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



BORING LOG

BORING PZ-09I

Page 1 of 3

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\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		Sandy Silt (ML)			
		- red (10R 4/8) residuum moist, stiff, micaceous, trace clay			SPT N=10bpf(@3.5ft.)
5					
		- yellowish red (5YR 5/8) residuum dry, medium stiff, micaceous, zone of white/light gray rock fragments			SPT N=7bpf(@8.5ft.)
10					
		- mottled red (2.5YR 5/8) and reddish yellow (5YR 6/8) saprolite moist, medium stiff			SPT N=7bpf(@13.5ft.)
15					
		- mottled reddish yellow (7.5YR 6/8) and red (2.5YR 5/8) saprolite moist, stiff, micaceous, with muscovite			SPT N=9bpf(@18.5ft.)
20					
		- mottled reddish yellow (7.5YR 7/8) and red (2.5YR 5/8) saprolite moist, very stiff, micaceous, trace muscovite and biotite			SPT N=18bpf(@23.5ft.)
25					

(Continued Next Page)



BORING LOG

BORING PZ-09I

Page 2 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 Weak Moderate Strong	COMMENTS
30		Sandy Silt (ML)(Con't) ▽ - mottled yellowish red (5YR 5/8) and red (2.5YR 5/8) saprolite wet, stiff, micaceous, trace residual quartz, feldspar, muscovite			SPT N=14bpf(@28.5ft.)
35		Silty Sand (SM) - 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			SPT N=16bpf(@33.5ft.)(LL=53; PI=6; FC = 32.8%; Gravel = 1.6%)
40		- 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			SPT N=18bpf(@38.5ft.)
45		- 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			SPT N=19bpf(@43.5ft.)
50		- 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			SPT N=74bpf(@48.5ft.)
55		- 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			SPT N=60bpf(@53.5ft.)

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCP01\IAPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-09I

Page 3 of 3

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\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
60		Silty Sand (SM)(Con't) - 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			SPT N=50bpf(@58.5ft.)
		Partially Weathered Rock (PWR)			
65		AMPHIBOLITE - 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 - 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			
70		- 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			
75		- 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			
80					
		Bottom of borehole at 80.2 feet.			
85					

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
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
	<p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 526.57</p>			
	<p>← Surface Seal: concrete</p>		521.3 (2.0)	

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-09I
PAGE 2 OF 3
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)

ELEV.
(DEPTH)

490.3

30

35

40

45

50

55

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-09I
PAGE 3 OF 3
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)

ELEV.
(DEPTH)

462.8

459.4

60

65

70

75

80

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 526.57

Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each

Filter: Unimin FilterSil - 6.0 Bags #1A, 50 lbs/each

Well: 2" OD PVC (SCH 40)
Screen: 10 ft. pre-pack

Sump: 0.40 ft.

457.5
(65.8)

455.5
(67.8)

453.5
(69.8)

443.5



BORING LOG

BORING PZ-10S

Page 1 of 2

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\GPC\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 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)

[illegible]



RECORD OF WELL CONSTRUCTION

WELL: PZ-10S
PAGE 1 OF 2
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 517.53

ELEV.
(DEPTH)

Surface Seal: concrete

512.4
(2.0)

Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94
lbs/each

494.6

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-10S
PAGE 2 OF 2
ECS38467

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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 517.53	
				ELEV. (DEPTH)
				(19.8)
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	
				492.3 (22.1)
			Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	
				489.9 (24.5)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
				479.9 (34.5)
479.5			Sump: 0.40 ft.	



BORING LOG

BORING PZ-11S

Page 1 of 2

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\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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.)

(Continued Next Page)



BORING LOG

BORING PZ-11S

Page 2 of 2

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 - \\ALTRCP01\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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
PAGE 1 OF 2
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 529.31

ELEV.
(DEPTH)

← Surface Seal: concrete

524.0
(2.0)

← 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\LPARKER\DESKTOP\GPC\SCHERER LOGS.GPJ

(Continued Next Page)





BORING LOG

BORING PZ-12S

Page 1 of 2

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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
..... 5 10 15 20 25		<p>Silt (ML) - Hand auger 5' for utilities clearance</p> <p>- mottled red (10R 4/8) and brown (7.5YR 5/2) saprolite moist, stiff, micaceous</p> <p>- mottled red (10R 4/8) and brown (7.5YR 5/2) saprolite moist, stiff, micaceous, with black streaking, trace weathered rock fragments</p> <p>- mottled light gray (10R 7/1) and pale brown (10YR 6/3) saprolite moist, stiff, micaceous</p> <p>- mottled light gray (10R 7/1) and pale brown (10YR 6/3) saprolite moist, medium stiff, micaceous, trace weathered rock fragments</p>			<p>SPT N=12bpf(@8.5ft.)</p> <p>SPT N=9bpf(@13.5ft.)</p> <p>SPT N=15bpf(@18.5ft.)</p> <p>SPT N=8bpf(@23.5ft.)</p>

SIMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:40 - \\ALTRCP01\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-12S








Page 2 of 2

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 - \\ALTRCP01\1\APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		 Silt (ML)(Con't) 			
30		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			SPT N=18bpf(@28.5ft.)
35		 - 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			SPT N=22bpf(@33.5ft.)
40		- 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			SPT N=81bpf(@38.5ft.)
45		- 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			SPT N=50bpf(@43.5ft.)
		Bottom of borehole at 44.4 feet.			
50					
55					



RECORD OF WELL CONSTRUCTION

WELL: PZ-12S
PAGE 1 OF 2
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 517.69

ELEV.
(DEPTH)

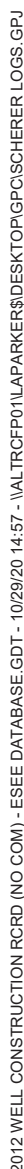
Surface Seal: concrete

512.5
(2.0)

Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94
lbs/each

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

(Continued Next Page)





BORING LOG

BORING PZ-14I

Page 1 of 3

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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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.)

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-14I

Page 2 of 3

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
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			

(Continued Next Page)



BORING LOG

BORING PZ-14I

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 Weak Moderate Strong	COMMENTS
85		BIOTITE GNEISS(Con't)			
90		- becomes slightly more competent, with pyrite, recovered sample in poor condition			
95					
		Bottom of borehole at 95.2 feet.			
100					
105					
110					
115					
120					
125					

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\Desktop\GPGC\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-14I
PAGE 1 OF 3
ECS38467

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

ELEV. Strata

DEPTH (ft)

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 512.89

ELEV.
(DEPTH)

← Surface Seal: concrete

507.7
(2.0)

486.7

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-14I
PAGE 2 OF 3
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)

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

444.7

435.5

433.5
(76.2)

Annular Seal: bentonite pellets - 0.5 Bucket Pel Plug 3/8" coated pellets, 50 lbs each

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

(Continued Next Page)





BORING LOG

BORING PZ-15S

Page 1 of 2

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\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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.)

(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 <small>Weak Moderate Strong</small>	COMMENTS
		Sandy Silt (ML)(Con't)			
30		- mottled reddish yellow (7.5YR 6/8) saprolite wet, medium stiff, micaceous, with black streaking			SPT N=7bpf(@28.5ft.)
35		- mottled reddish yellow (7.5YR 6/8) saprolite wet, stiff, micaceous, with black streaking			SPT N=10bpf(@33.5ft.)
40		- mottled gray (7.5YR 6/1) saprolite wet, stiff, trace mica			SPT N=14bpf(@38.5ft.)
		Bottom of borehole at 40.1 feet.			
45					
50					
55					

SIMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:40 - \\ALTRCFP01\LA\PARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-15S
PAGE 1 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

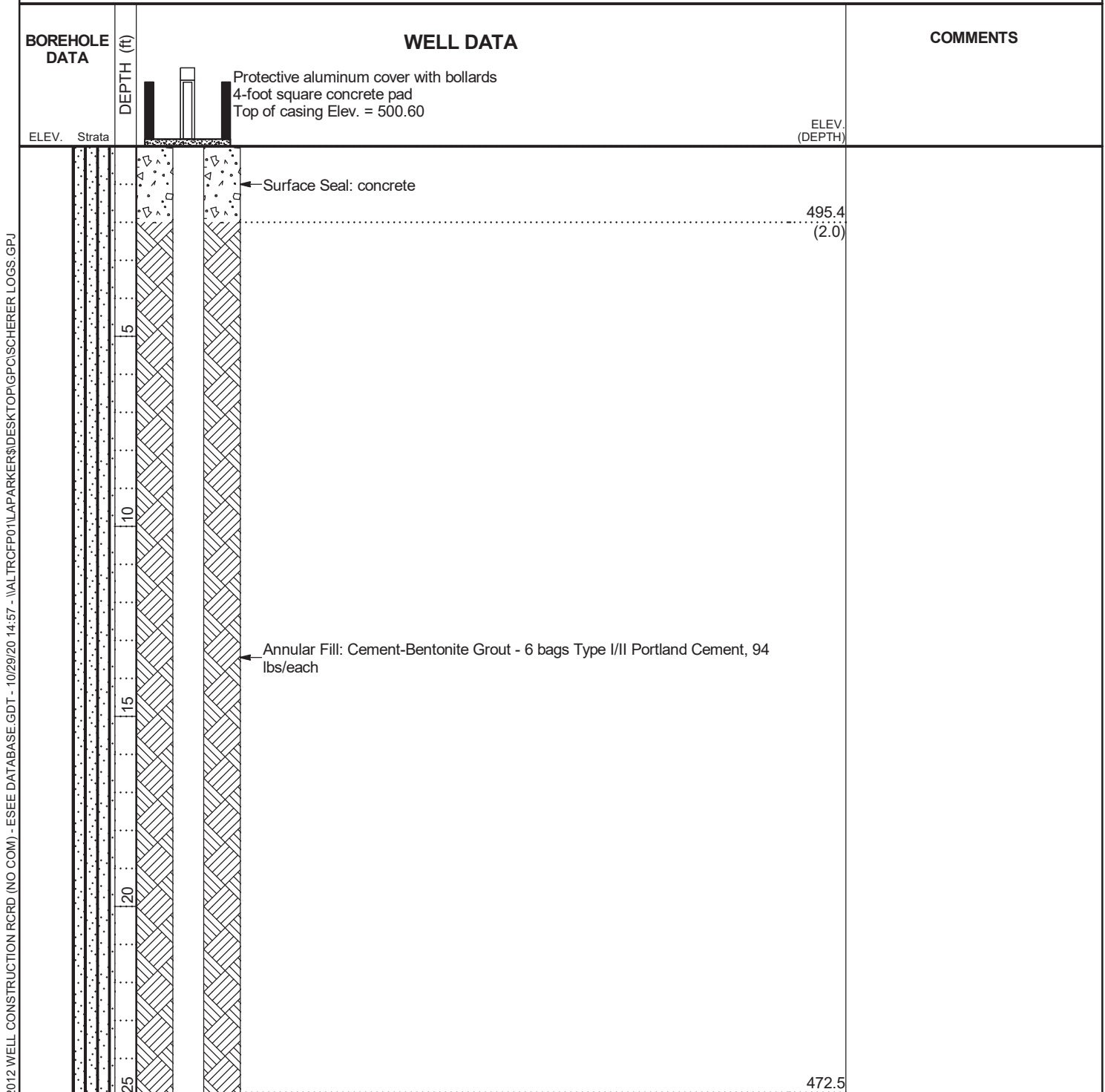
DATE STARTED 4/28/2015 COMPLETED 4/28/2015 GROUND ELEVATION 497.4 ft COORDINATES N 1121486.96 E 2405558.59

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-15S
PAGE 2 OF 2
ECS38467

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)		
			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	(24.9)
			Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	470.1 (27.3)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	467.7 (29.7)
457.3			Sump: 0.40 ft.	457.7



BORING LOG

BORING PZ-191

Page 1 of 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer InstallationLOCATION Plant SchererDATE STARTED 3/3/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118588.47 E 2407251.56CONTRACTOR Civil Field Services METHOD Hollow Stem Auger; HQ Rock Core EQUIPMENT CME550DRILLED 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 <small>Weak Moderate Strong</small>	COMMENTS
5		Lean Clay (CL) - Hand auger 5' for utilities clearance - mottled red (2.5YR 5/8) and light red / moderate reddish orange (10R 6/6) residuum wet, soft, trace organics			SPT N=4bpf(@8.5ft.) (MC = 34.7%; UW(d) = 86pcf; PERM. = 1.14E-5cm/sec)
15		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 - 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 - 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 - mottled strong brown (7.5YR 5/6) saprolite wet, medium dense, very fine to fine grained, trace residual quartz, feldspar, biotite, oxides			SPT N=7bpf(@13.5ft.)(PL=NP; FC = 39.3%; Gravel = 0%) SPT N=12bpf(@18.5ft.)(LL=34; PI=6; FC = 36.7%; Gravel = 0%) (MC = 35.4%; UW(d) = 85.5pcf; PERM. = 9.46E-7cm/sec) SPT N=16bpf(@23.5ft.) SPT N=15bpf(@28.5ft.)

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-191

Page 2 of 2

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\1APARKER\DESKTOP\GFC\SCS\HERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
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.					

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer


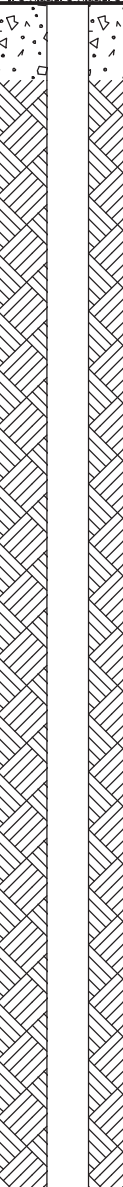
DATE STARTED	3/3/2015	COMPLETED	3/4/2015	GROUND ELEVATION	414.5 ft	COORDINATES	N 1118588.47 E 2407251.56
---------------------	----------	------------------	----------	-------------------------	----------	--------------------	---------------------------

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

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
		 <p>Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 417.76</p>		
		 <p>← Surface Seal: concrete</p> <p>← Annular Fill: Cement-Bentonite Grout - 7.5 bags Type I/II Portland Cement, 94 lbs/each</p>	<p>412.5 (2.0)</p>	
401.5				

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

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-19I
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA

DEPTH (ft)

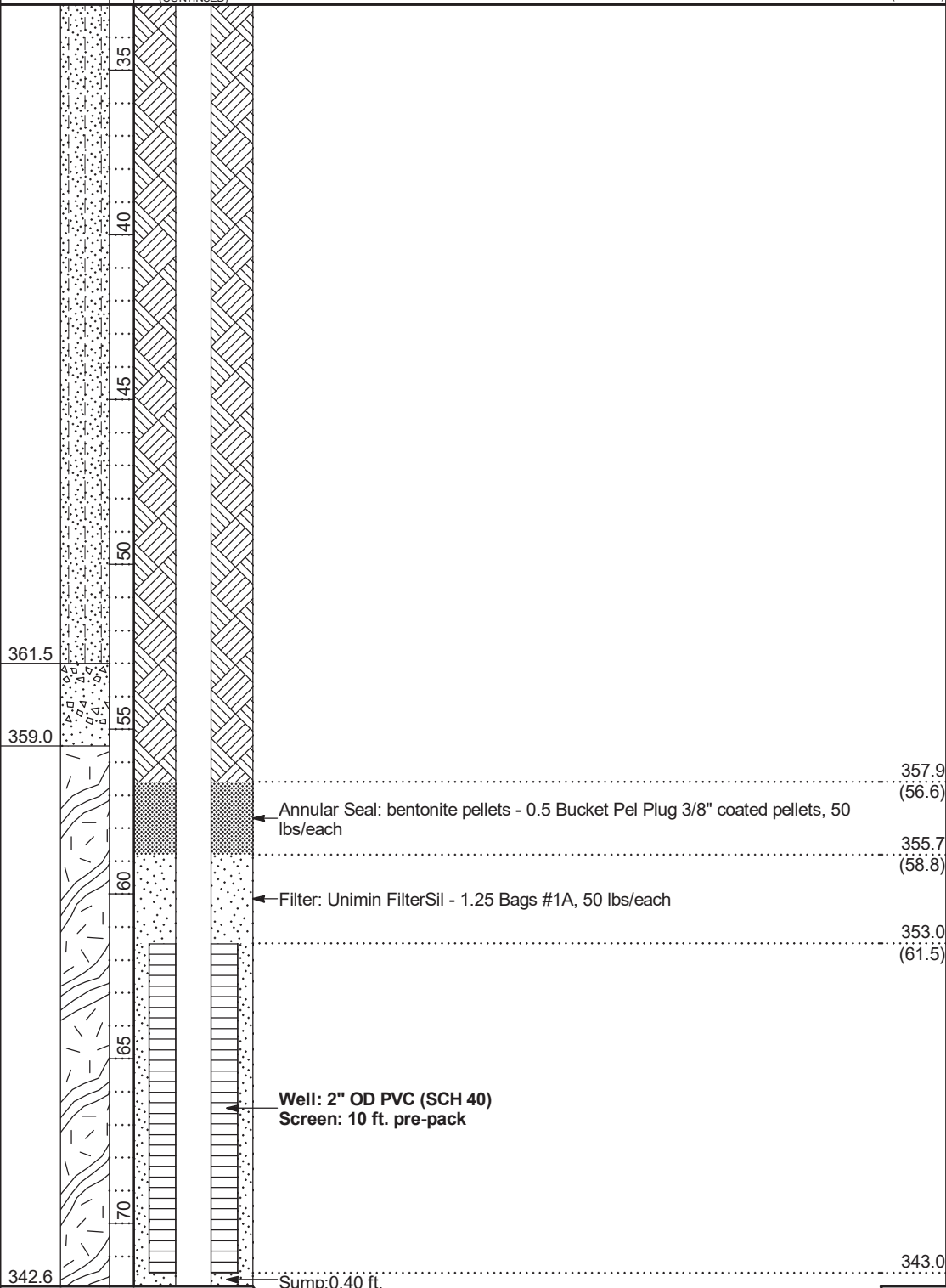
WELL DATA

COMMENTS

ELEV. Strata

(CONTINUED)

ELEV.
(DEPTH)





BORING LOG

BORING PZ-19S

Page 1 of 1

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\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
		▼ Silty Sand (ML) - Hand auger 5' for utilities clearance ▼			
5					
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
PAGE 1 OF 1
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

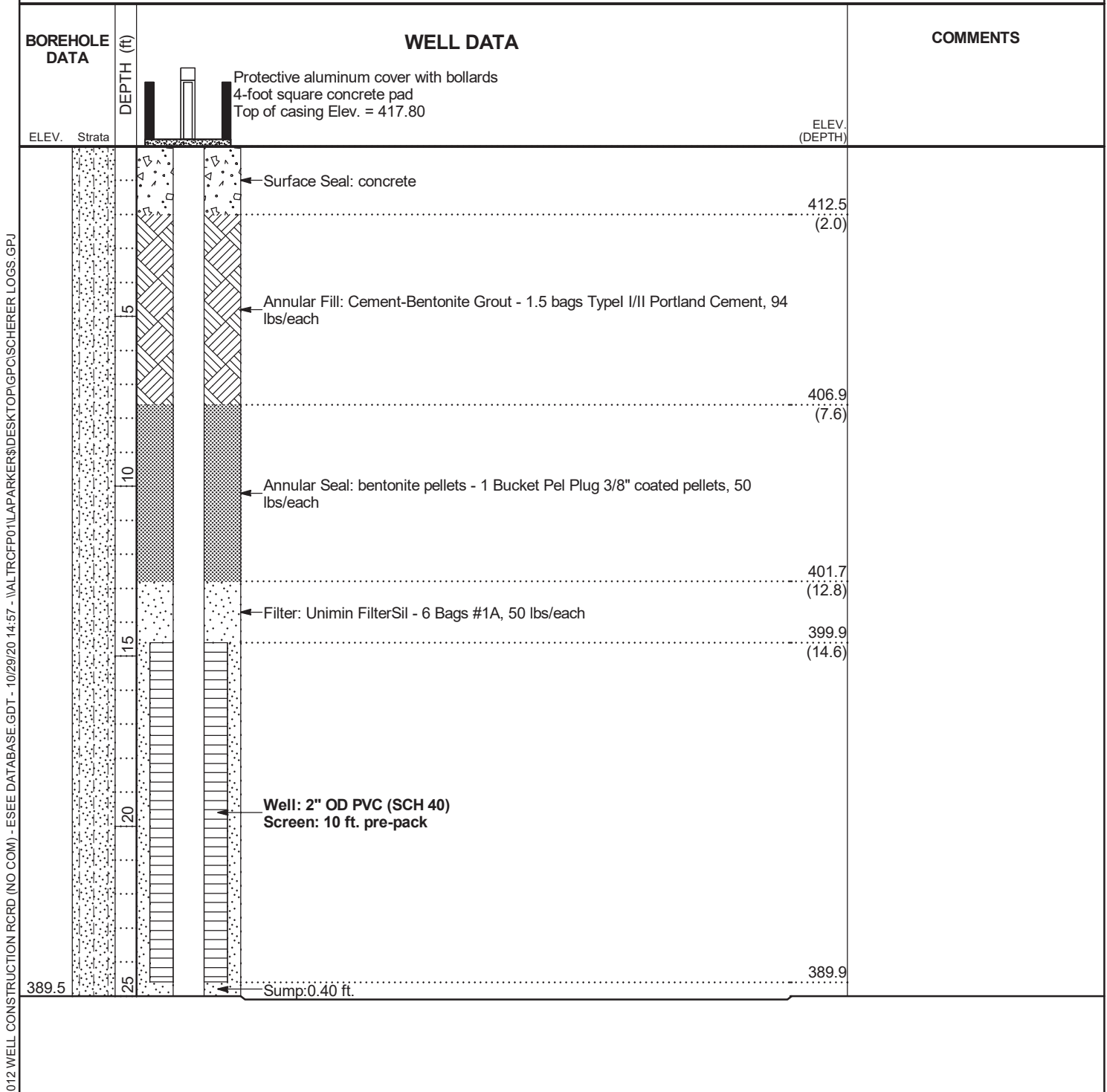
DATE STARTED 3/4/2015 COMPLETED 3/4/2015 GROUND ELEVATION 414.5 ft COORDINATES N 1118587.24 E 2407241.54

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





BORING LOG

BORING PZ-20I

Page 1 of 2

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

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)

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:40 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCHERER LOGS.GPJ



BORING LOG

BORING PZ-20I

Page 2 of 2

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 - \\ALTRCP01\LA PARKER\DESKTOP\GFC\SCHERER LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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-20I
PAGE 1 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

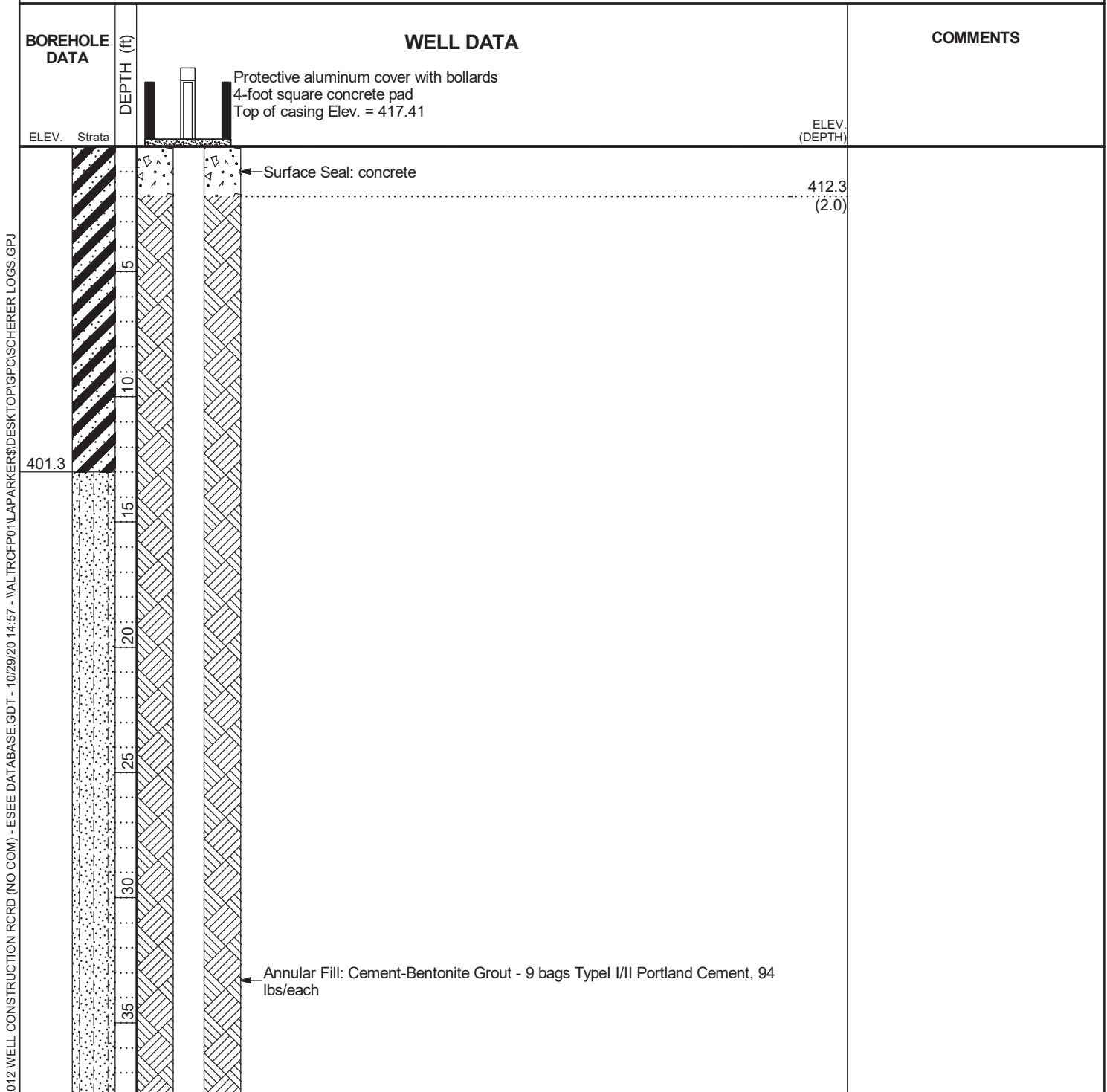
DATE STARTED 3/10/2015 COMPLETED 3/10/2015 GROUND ELEVATION 414.3 ft COORDINATES N 1118318.15 E 2407273.36

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 _____



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-201
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Piezometer Installation

LOCATION Plant Scherer

BOREHOLE DATA

DEPTH (ft)

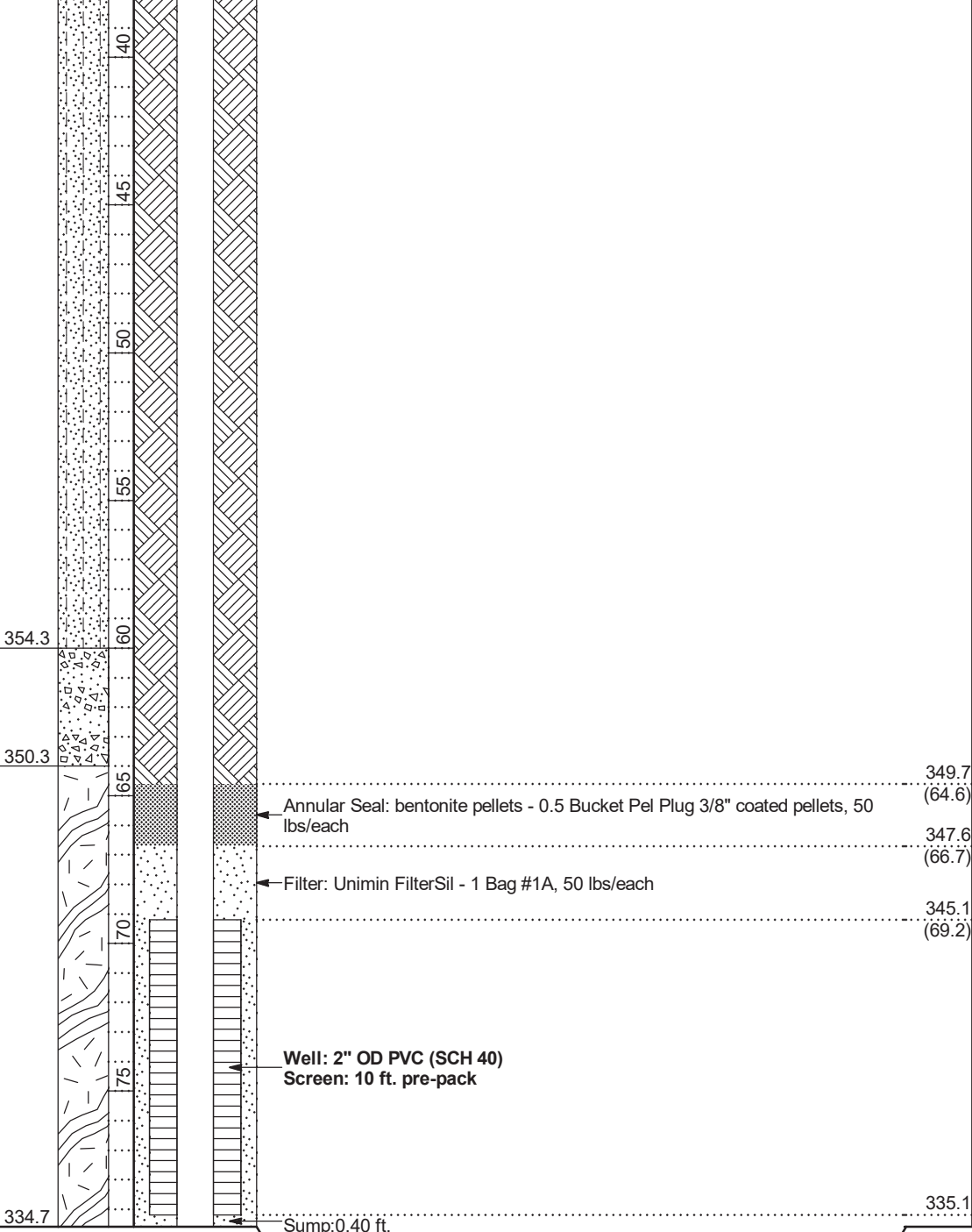
WELL DATA

COMMENTS

ELEV. Strata

(CONTINUED)

ELEV.
(DEPTH)





BORING LOG

BORING PZ-21S

Page 1 of 1

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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION <small>Weak Moderate Strong</small>	COMMENTS
..... 5 10 15 20 25		<p>Sandy Silt (ML) - Hand auger 5' for utilities clearance</p> <p>- mottled reddish yellow (7.5YR 6/8) and light red / moderate reddish orange (10R 6/6) residuum wet, soft, trace mica</p> <p>- mottled reddish yellow (7.5YR 6/8) and yellow (10YR 7/6) saprolite wet, medium stiff, with black streaking</p> <p>- 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</p> <p>- 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</p>			<p>SPT N=4bpf(@8.5ft.)</p> <p>SPT N=5bpf(@13.5ft.)</p> <p>SPT N=17bpf(@18.5ft.)</p> <p>SPT N=22bpf(@23.5ft.)</p>
		Bottom of borehole at 25.0 feet.			

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:41 - \\ALTRCFP01\LPARKER\DESKTOP\GFC\SCS\CHERER LOGS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-21S
PAGE 1 OF 1
ECS38467

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

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)		ELEV. (DEPTH)
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 473.74	
			Surface Seal: concrete	468.6 (2.0)
			Annular Fill: Cement-Bentonite Grout - 4 bags Typel I/II Portland Cement, 94 lbs/each	461.6 (9.0)
			Annular Seal: bentonite pellets - 1 Bucket Pel Plug 3/8" coated pellets, 50 lbs/each	458.6 (12.0)
			Filter: Unimin FilterSil - 6 Bags #1A, 50 lbs/each	457.6 (13.0)
			Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
			Sump: 0.40 ft	447.6 (23.0)
445.6		25		



BORING LOG

BORING PZ-25 I

Page 1 of 3

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 Weak Moderate Strong	COMMENTS
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)			
40		- dark red (2.5YR 3/6), red (2.5YR 4/6) and reddish gray (2.5YR 5/1) wet, flow-banded fabric			
45		Elastic Silt (MH) - mottled weak red (10R 5/3) and reddish black (10R 2.5/1) wet, medium, with sandy clay (CH) bedding			
50		- mottled strong brown (7.5YR 5/8), light brownish gray (2.5Y 6/2) and black (2.5Y 2.5/1)			
		- 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

BORING PZ-25 I
Page 2 of 3

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\GPGCISCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
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 - dark grayish brown / dark yellowish brown (10YR 4/2) with gravel (residual diabase) - dark gray / olive gray (5Y 4/1) and strong brown (7.5YR 5/6) moist - mottled very dark gray (5Y 3/1) and white (N9) - dark brown (10YR 3/3) with interlayered clay bedding - gray (10YR 5/1) moist - very dark gray (2.5Y 3/1) regolith moist, dense - very dark gray (5Y 3/1) - with interlayered clay bedding - dark yellowish brown (10YR 4/6) and olive (5Y 5/4) - mottled black (2.5Y 2.5/1), dark gray (2.5Y 4/1) and white (N9)			
65					
70					
75					
80					
85					
90					
95					
100					
105					
110					

(Continued Next Page)



BORING LOG

BORING PZ-25 I
Page 3 of 3

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 Weak Moderate Strong	COMMENTS
115		Well-graded Sand with Clay (SW-SC)(Con't) - grayish brown (2.5Y 5/2) - dark yellowish brown (10YR 3/6)			
120					
125		- very dark gray (2.5Y 3/1)			
		Bottom of borehole at 126.0 feet.			
130					
135					
140					
145					
150					
155					
160					
165					
170					

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GPGC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 I
PAGE 1 OF 3
ECS38467

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

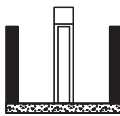
DRILLED BY M. Pope LOGGED BY W. Shaughnessy CHECKED BY B. Smelser BORING DEPTH 126 ft.

GROUND WATER DEPTH: DURING COMP. 32.5 ft. DELAYED 30.6 ft. after 24 hrs.

NOTES

BOREHOLE DATA

DEPTH (ft)



Protective aluminum cover with
bollards 4-foot square concrete pad
Top of casing Elev. = 528.39

WELL DATA

COMMENTS

ELEV. Strata

ELEV.
(DEPTH)

← Surface Seal: concrete

522.8
(3.0)

499.8

489.8

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 I
PAGE 2 OF 3
ECS38467

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)

ELEV.
(DEPTH)

469.8

Annular Fill: Cement-Bentonite Grout (8 - 94# bags PC, 1 - 55# bag gel, 210 gal. water)

418.8

(107.0)

Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)

415.8

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\APARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 I
PAGE 3 OF 3
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)
399.8		(CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.39	(110.0)
		115	Filter: 20/40 silica filter sand (6 - 0.5 cubic ft. bags)	411.0 (114.8)
		120	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	
		125	Sump: 0.20 ft.	401.0 (124.8)
				400.8 (125.0)



BORING LOG

BORING PZ-25 S

Page 1 of 2

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 - \\ALTRCP001\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
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

BORING PZ-25 S
Page 2 of 2

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 Weak Moderate Strong	COMMENTS
..... 55	||||	Elastic Silt (MH)(Con't) - yellowish red / light brown (5YR 5/6)	..... ..... ..... .....	..... ..... ..... .....
..... 60		Bottom of borehole at 56.0 feet.			
..... 65					
..... 70					
..... 75					
..... 80					
..... 85					
..... 90					
..... 95					
..... 100					
..... 105					
..... 110					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GPGCISCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 S
PAGE 1 OF 2
ECS38467

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

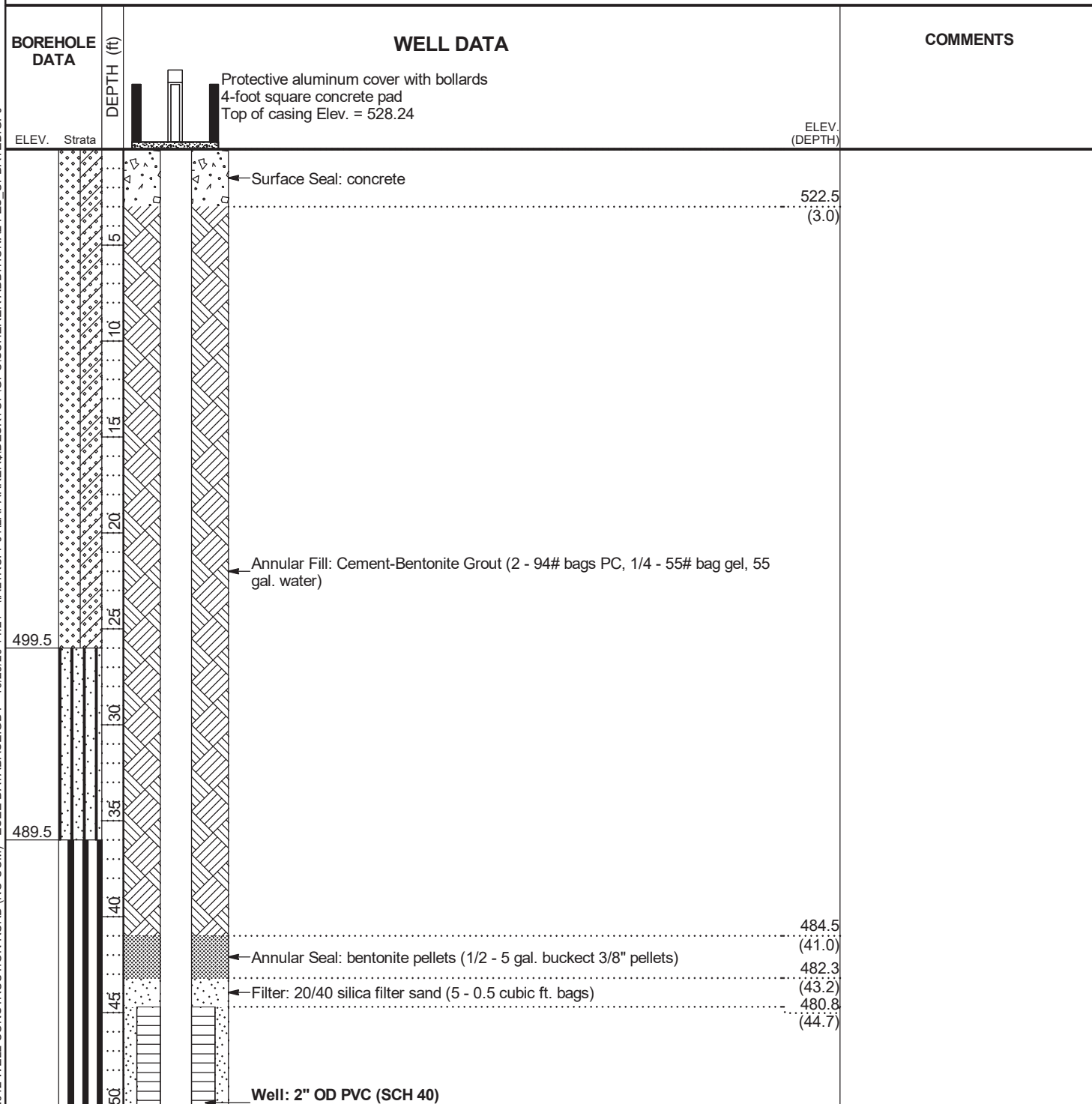
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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 - \\ALTRCF001\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-25 S
PAGE 2 OF 2
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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 528.24	
		(CONTINUED)		
			Screen: 10 ft. 0.010" Slot Prepack	
469.5		54	Sump: 0.20 ft.	470.7 (54.8) 470.5 (55.0)



BORING LOG

BORING PZ-26 S

Page 1 of 1

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\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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			
15					
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)			
25					
30					
35		Elastic Silt (MH) - olive brown (2.5Y 4/4) wet, with fine sand, micaceous Silty Sand (SM) - light olive brown (2.5Y 5/6) fine-grained, micaceous			
40					
45		Poorly-graded Sand (SP) - gray / light olive gray (5Y 6/1) and white / yellowish gray (5Y 8/1) fine to coarse-grained Silty Sand (SM) - light olive brown (2.5Y 5/6) fine-grained, micaceous			
50		Bottom of borehole at 46.0 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-26 S
PAGE 1 OF 1
ECS38467

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

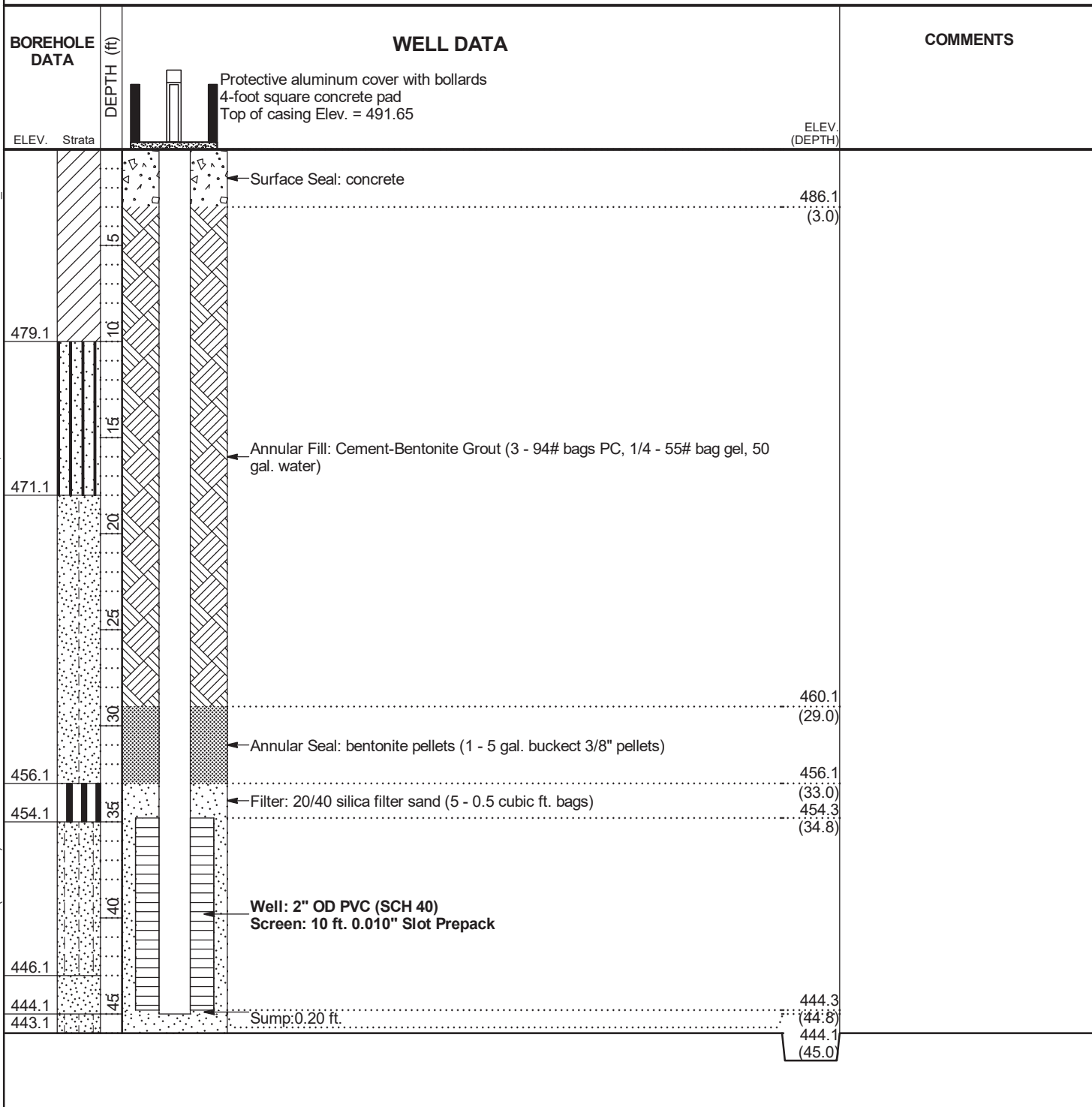
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ





BORING LOG

BORING PZ-27 D
Page 1 of 3

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 - \\ALTRCP01\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	- 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

BORING PZ-27 D

Page 2 of 3

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 - \\ALTRCP001\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					
70		- 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			
75					
80		- gray (2.5Y 5/1) coarse grain, medium hard to very hard, folded, moderately fractured, black and white banding			
85					
90					
95		- very dark gray (2.5Y 3/1) completely weathered, 93 to 95 ft.			
100		- 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.			
105					
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

BORING PZ-27 D
Page 3 of 3

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 Weak Moderate Strong	COMMENTS
115		Biotite Gneiss (<i>Con't</i>)			
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					

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GPGC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
PAGE 1 OF 3
ECS38467

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

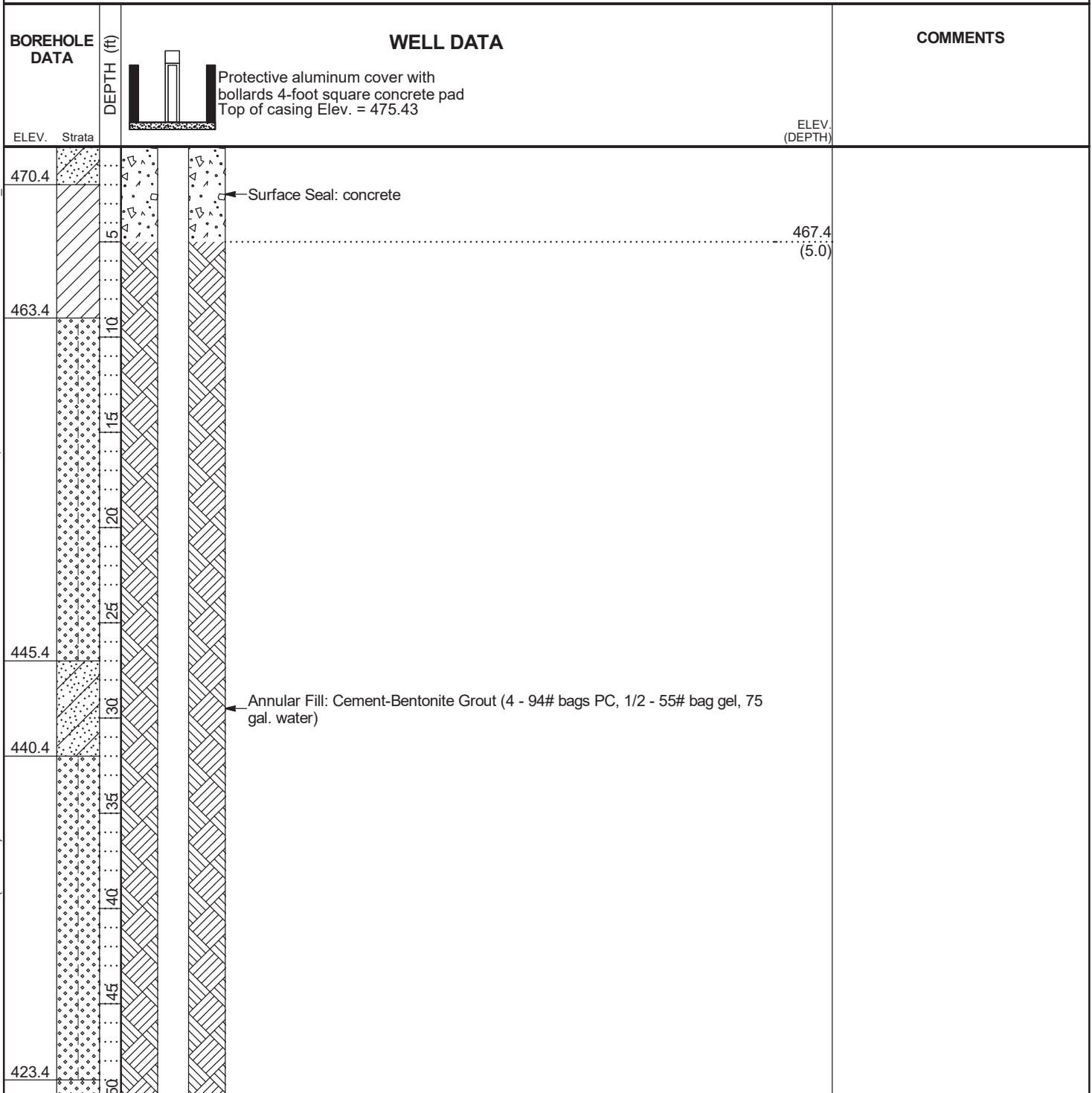
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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 - \\VALTRCF001\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
PAGE 2 OF 3
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)	(CONTINUED)	ELEV. (DEPTH)
416.4		55		418.4 (54.0)
		60		
		65		
		70		
		75		
		80		
		85		
		90		
		95		
		100		
		105		369.9 (102.5)
		110		367.6 (104.8)

Protective aluminum cover with bollards 4-foot square concrete pad
Top of casing Elev. = 475.43

Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets (98-102.5 ft.), 6 - 50# bags 3/8" chips (54-98 ft.)

Filter: 20/40 silica filter sand (10 - 0.5 cubic ft. bags)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\LPARKER\DESKTOP\GP\CSCHERER ADDITIONAL PZS_UPDATED.GPJ

(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 D
PAGE 3 OF 3
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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 475.43	
		(CONTINUED)		
346.4		115 120 125	Well: 2" OD PVC (SCH 40) Screen: 20 ft. 0.010" Slots Sump: 0.20 ft.	
				ELEV. (DEPTH) 347.6 (124.8) 347.4 (125.0)



BORING LOG

BORING PZ-27 S

Page 1 of 1

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 Rotasonic 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

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:45 - \\ALTRCF001\LPARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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			
10		- dark brown (10YR 3/3) with fine quartz gravel			
15		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			
20		- very dark gray (10YR 3/1) black (10YR 3/1) oxidation mottling			
25		- dark brown (7.5YR 3/4) wet			
		- 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,			
40		- olive gray (5Y 4/2) wet, fine to coarse-grained			
45		- mottled olive gray (5Y 4/2) and white / yellowish gray (5Y 8/1)			
50		Bottom of borehole at 46.0 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-27 S
PAGE 1 OF 1
ECS38467

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

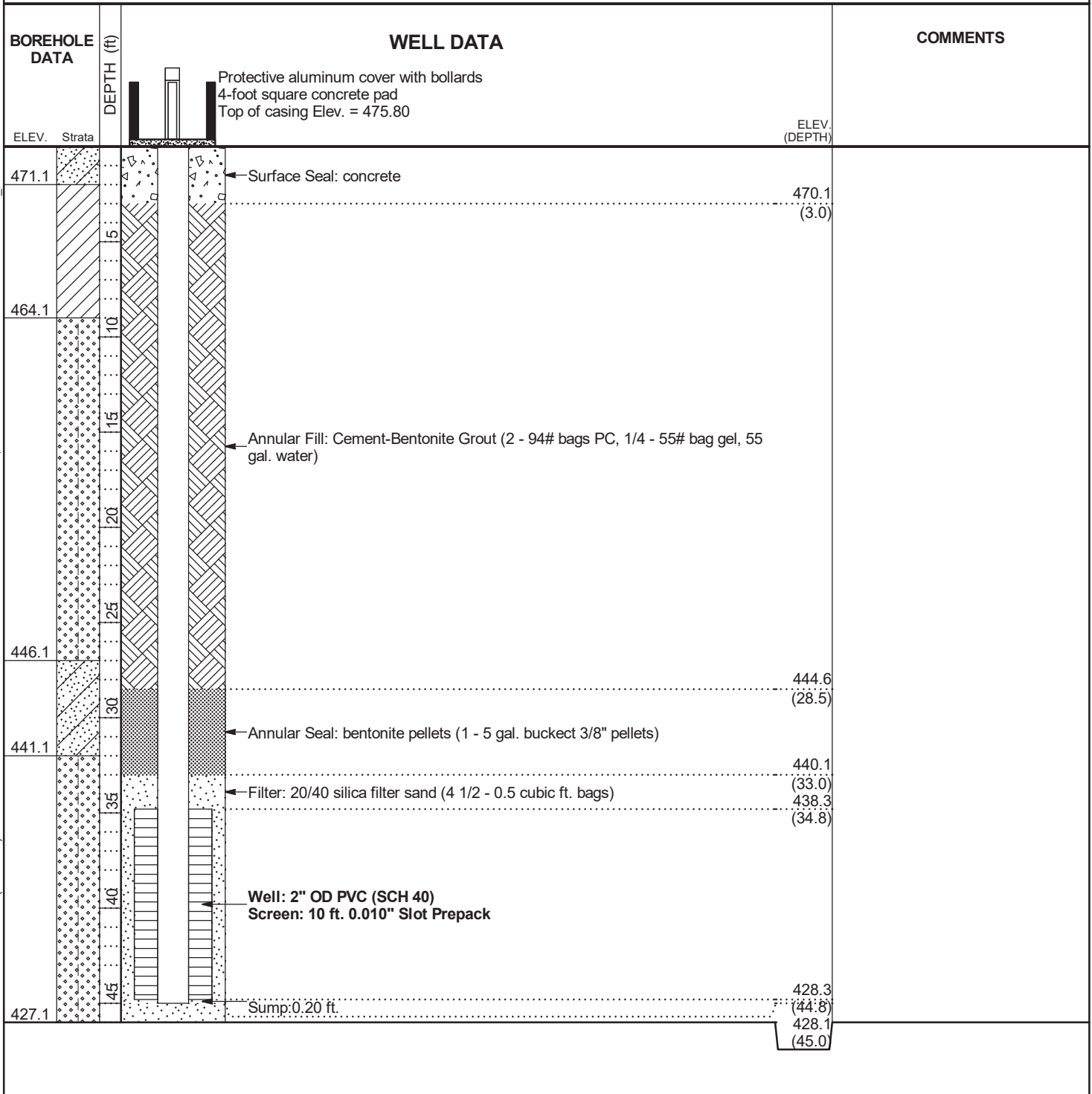
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS UPDATED.GPJ





BORING LOG

BORING PZ-28 I

Page 1 of 2

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 - \\ALTRCP001\APARKER\DESKTOP\GFC\SCS\CHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
..... 5 10		Silt (ML) - red (2.5YR 5/8) residuum dry, medium stiff, no, micaceous	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....
..... 15 20		Poorly-graded Sand with Silt (SP-SM) - yellowish red (5YR 5/8) saprolite moist, loose, fine-grained, with mica, oxidation	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....
..... 25 30		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	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....
..... 35 40 45 50		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 - greenish gray (10Y 5/1) moist	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....
		Well-graded Sand (SW) - greenish gray (10Y 5/1), black (N1) and white (N9) moist, loose, biotite and feldspar, some mica	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....

(Continued Next Page)



BORING LOG

BORING PZ-28 I

Page 2 of 2

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 Weak Moderate Strong	COMMENTS
55		- yellowish brown / moderate yellowish brown (10YR 5/4) and white (2.5Y 8/1) very soft, highly weathered, banded Biotite Gneiss (Cont) - yellowish brown / moderate yellowish brown (10YR 5/4), white (2.5Y 8/1) and dark greenish gray (10Y 4/1) very soft to soft, banded, horizontal to sub-vertical fractures			
60		- dark bluish gray (5PB 4/1) and very light gray (N8) hard to very hard, slightly weathered, banded, horizontal to sub-vertical fractures, intensely fractured			
65					
70		- greenish black (5GY 2.5/1) and medium light gray (N6) slightly to moderately weathered, banded, horizontal to sub-vertical fractures, intensely fractured			
Bottom of borehole at 70.0 feet.					
75					
80					
85					
90					
95					
100					
105					
110					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GPGC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-28 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 6/3/2016 COMPLETED 6/3/2016 GROUND ELEVATION 481.4 ft COORDINATES N 1121394.06 E 2406373.94

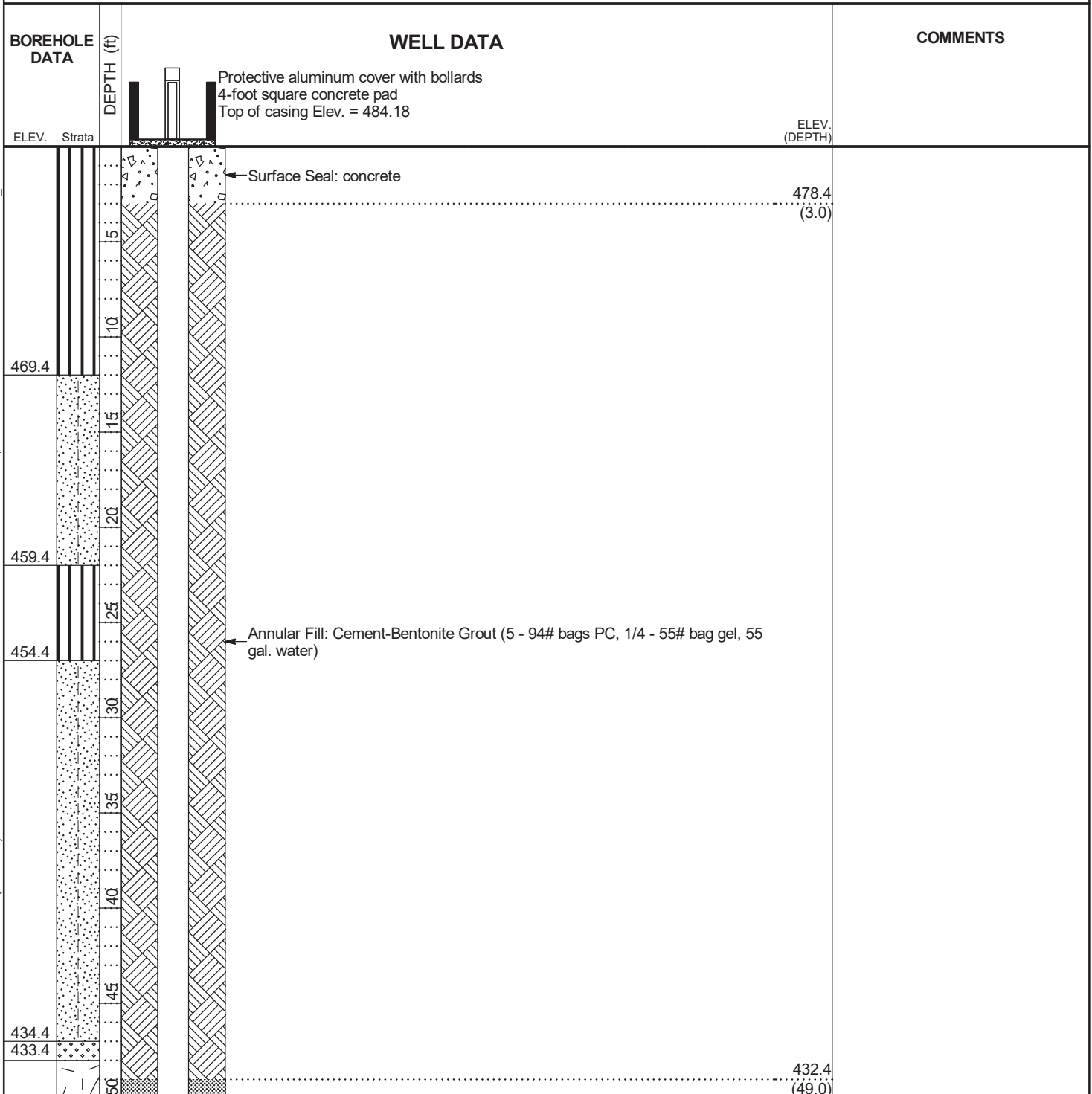
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-28 I
PAGE 2 OF 2
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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 484.18	
		(CONTINUED)		
			Annular Seal: bentonite pellets (3/4 - 5 gal. bucket 3/8" pellets)	
		55		427.4 (54.0)
			Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)	
		60		422.8 (58.6)
		65	Well: 2" OD PVC (SCH 40) Screen: 9.999999999999999 ft. 0.010" Slot Prepack	
411.4		70	Sump: 0.20 ft.	412.8 (68.6) 412.6 (68.8)



BORING LOG

BORING PZ-29 S

Page 1 of 1

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

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:45 - \\ALTRCFP01\LPARKER\DESKTOP\GPC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
5		Sandy Lean Clay (CL) - red (2.5YR 4/8) dry, with mica			
10		Sandy Silt (ML) - red (2.5YR 4/8) with mica			
15		- mottled strong brown (7.5YR 5/6) and black (7.5YR 2.5/1) dry			
20					
25		Well-graded Sand with Silt (SW-SM) - dark yellowish brown (10YR 4/4) damp, fine to medium-grained			
30		- olive brown (2.5Y 4/4)			
35		- light olive brown (2.5Y 5/6)			
40		- mottled olive (5Y 4/3) and pale yellow (5Y 7/4)			
45		- olive brown (2.5Y 4/3)			
50		- mottled olive gray / light olive gray (5Y 5/2) and dark greenish gray (10Y 4/1) weathered biotite gneiss			
		Bottom of borehole at 46.0 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-29 S
PAGE 1 OF 1
ECS38467

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

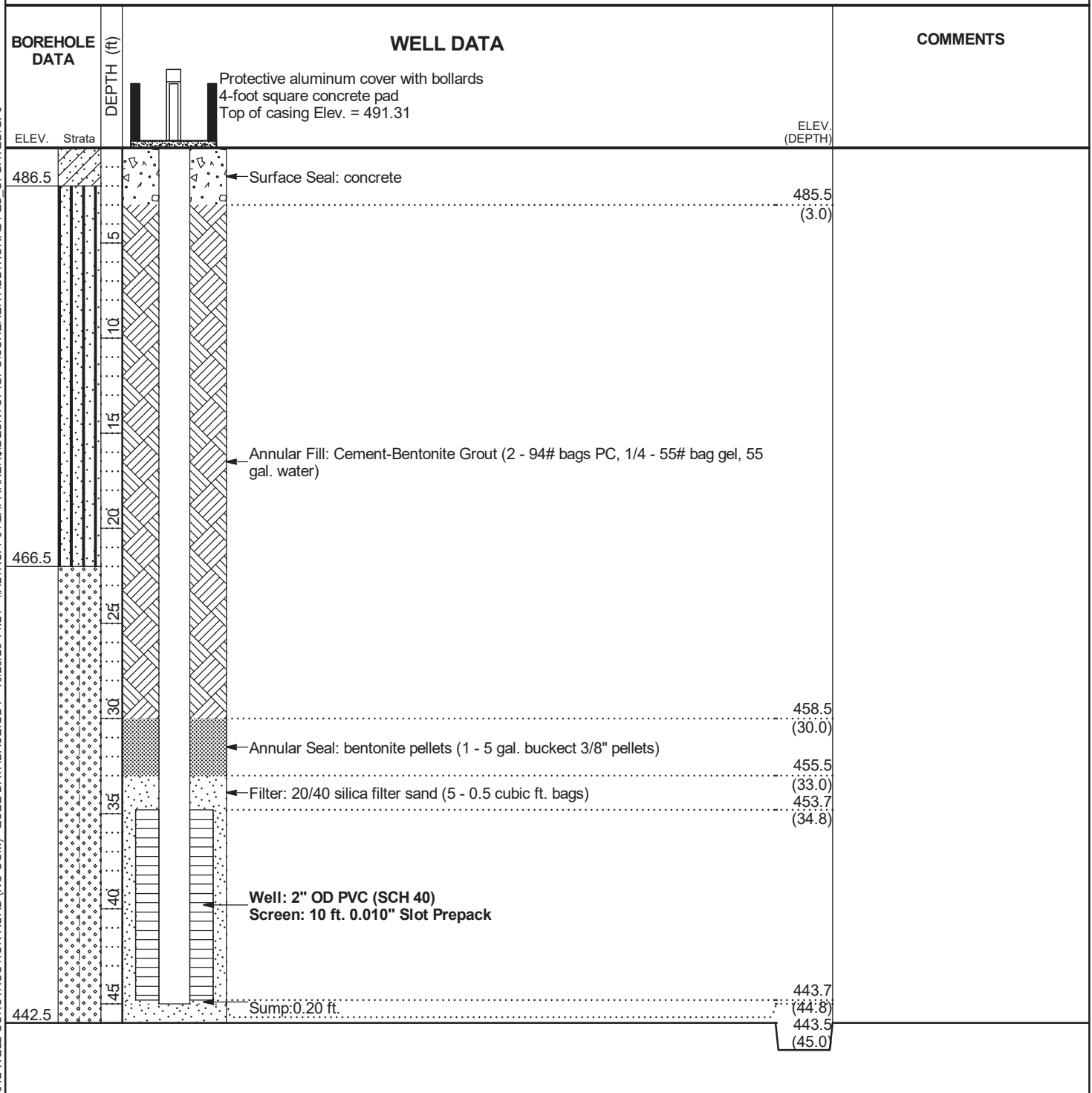
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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

BORING PZ-30 I

Page 1 of 2

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 Rotasonic 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\1APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
5		Sandy Silt (ML) - red (2.5YR 5/6) residuum dry, stiff, no, fine-grained, trace mica			
10		- damp			
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)



BORING LOG

BORING PZ-30 I
Page 2 of 2

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 - \\ALTRCP001\APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
55		Poorly-graded Sand with Silt (SP-SM)(Con't)			
60		Biotite Gneiss - olive gray / light olive gray (5Y 5/2) and pale yellow (2.5Y 8/4) very soft, highly weathered, banded			
65		- dark gray (N3) and very light gray (N8) soft, highly weathered, banded			
70		- black (5Y 2.5/1) and light olive brown (2.5Y 5/4) moderately to highly weathered			
75					
80		- very dark greenish gray (10Y 3/1) and very light gray (N8) soft, moderately weathered, foliated			
85					
90		Bottom of borehole at 87.0 feet.			
95					
100					
105					
110					



RECORD OF WELL CONSTRUCTION

WELL: PZ-30 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 GROUND ELEVATION 475.6 ft COORDINATES N 1121073.53 E 2407078.99

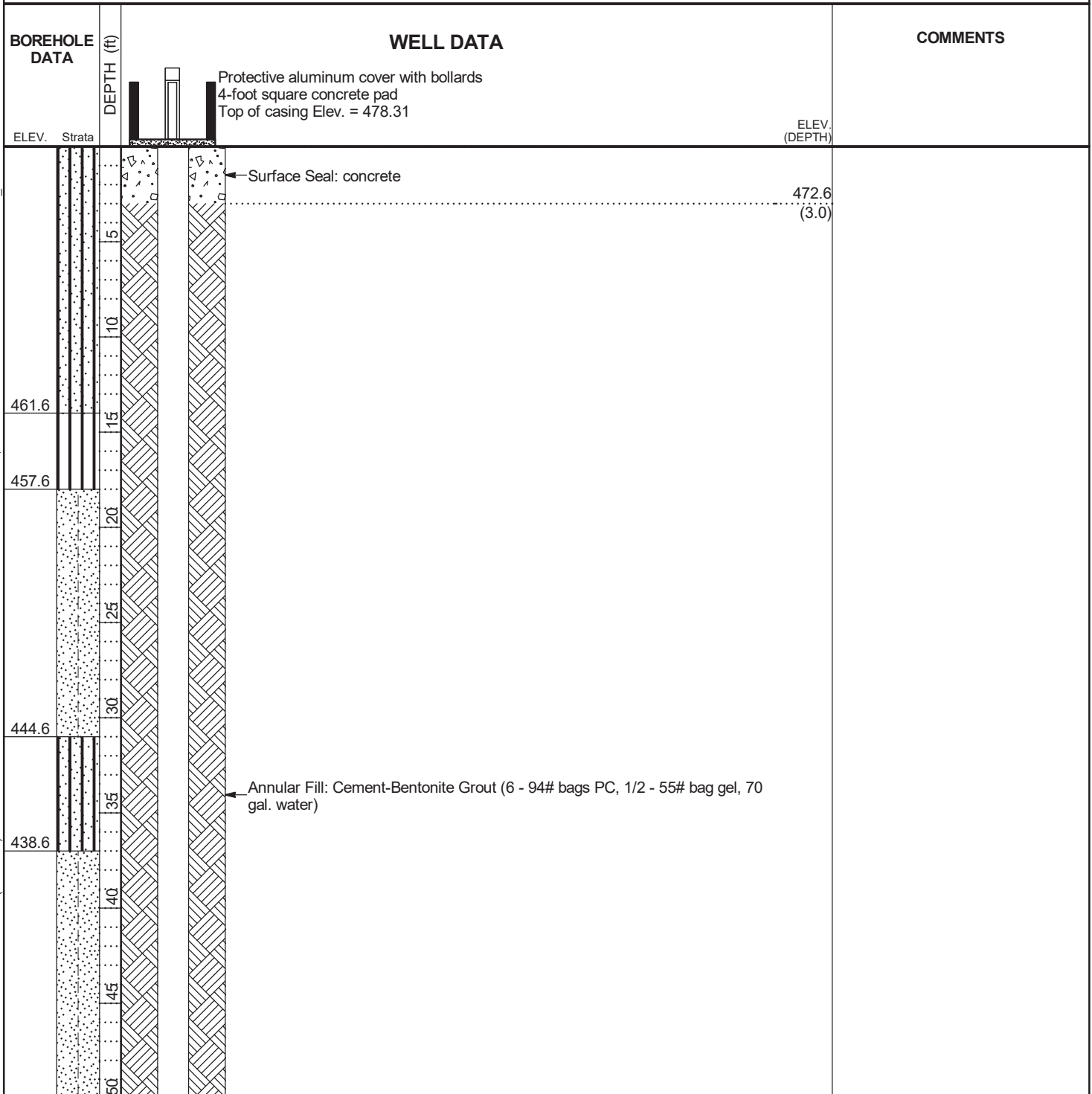
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-30 I
PAGE 2 OF 2
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)
419.6		55	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 478.31	
		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)



BORING LOG

BORING PZ-31 I

Page 1 of 2

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 Weak Moderate Strong	COMMENTS
5		Silt (ML) - red (10R 5/6) residuum dry, stiff, no, trace mica			
10					
15		- red (2.5YR 5/8) residuum dry, some mica - 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

BORING PZ-31 I
Page 2 of 2

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\SCS\HERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
55		Biotite Gneiss(Con't)			
60		- dark gray (N3) and very light gray (N8) soft to medium hard, moderately weathered, felspar banding			
65					
70		- bluish black (10B 2.5/1) and white (N9) very hard, slightly weathered, horizontal and sub-vertical fractures, felspar banding			
75					
80		Bottom of borehole at 77.0 feet.			
85					
90					
95					
100					
105					
110					



RECORD OF WELL CONSTRUCTION

WELL: PZ-31 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 6/1/2016 COMPLETED 6/2/2016 GROUND ELEVATION 464 ft COORDINATES N 1121204.03 E 2407445.73

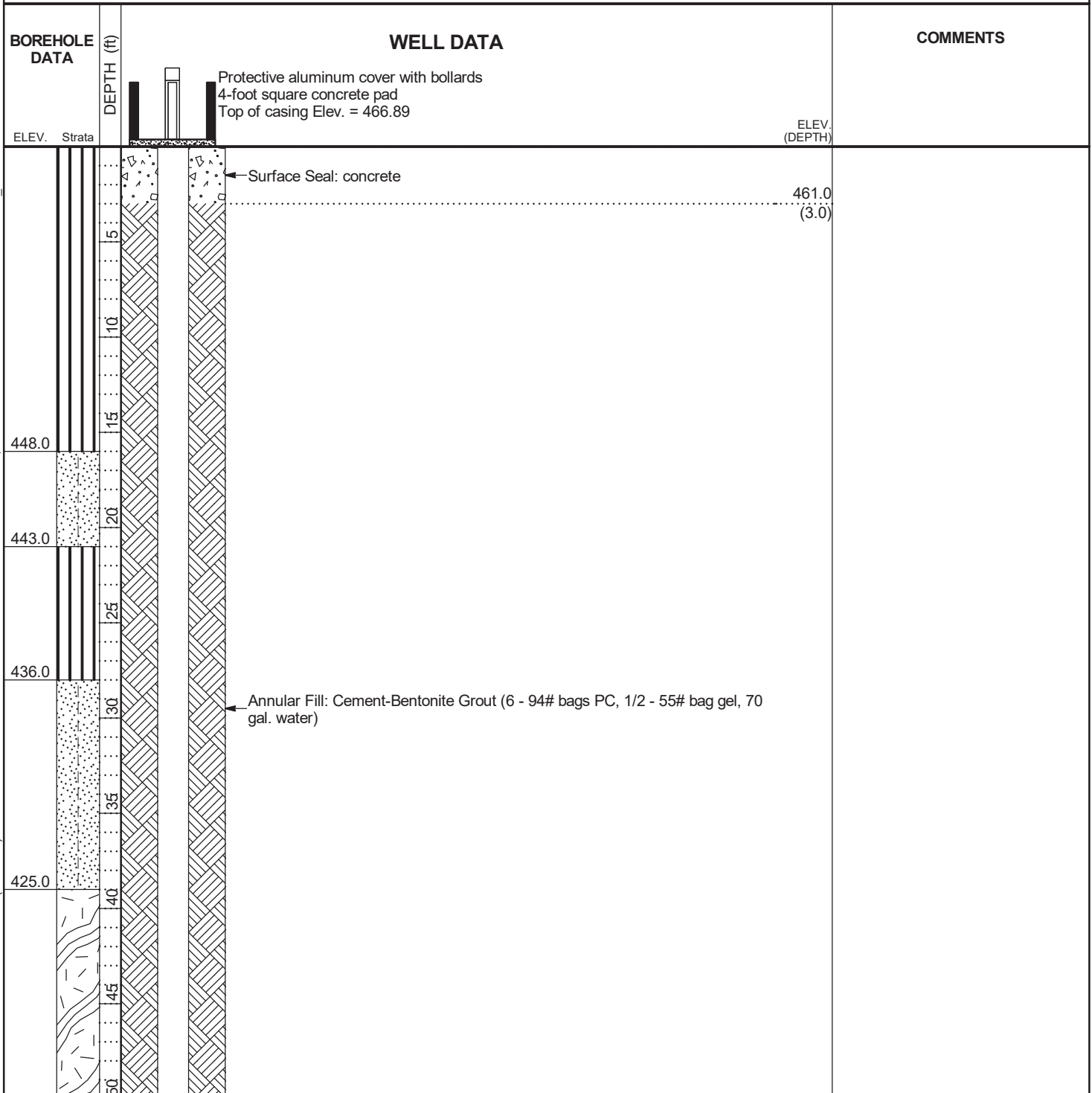
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-31 I
PAGE 2 OF 2
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)		
		55	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 466.89	
		60	Annular Seal: bentonite pellets (3/4 - 5 gal. bucket 3/8" pellets)	408.0 (56.0)
		65	Filter: 20/40 silica filter sand (7 1/2 - 0.5 cubic ft. bags)	403.0 (61.0)
		70	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	399.1 (64.9)
		75	Sump: 0.20 ft.	389.1 (74.9)
387.0				388.9 (75.1)



BORING LOG

BORING PZ-32 D

Page 1 of 3

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 - \VALTRCFP01\APARKER\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		Silty Sand (SM) - 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

Page 2 of 3

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 Weak Moderate Strong	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					
65		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			
70		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 - not to moderately weathered - slightly fractured, feldspar rich 84-86 ft.			
75					
80					
85					
90		Granitic Gneiss - white (10YR 8/1) and gray (10YR 6/1) medium to coarse grain, hard, not to slightly weathered, inclined, banded, slightly fractured			
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			

SIMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCHERER ADDITIONAL PZS.GPJ

(Continued Next Page)



BORING LOG

BORING PZ-32 D

Page 3 of 3

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 Weak Moderate Strong	COMMENTS
115		fractures Biotite Gneiss (Con't) - quartz healed fractures (sub-vertical) - medium to coarse sand in fractures			
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					

SAMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\VALTRCFP01\1APARKER\DESKTOP\GPGC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 D
PAGE 1 OF 3
ECS38467

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

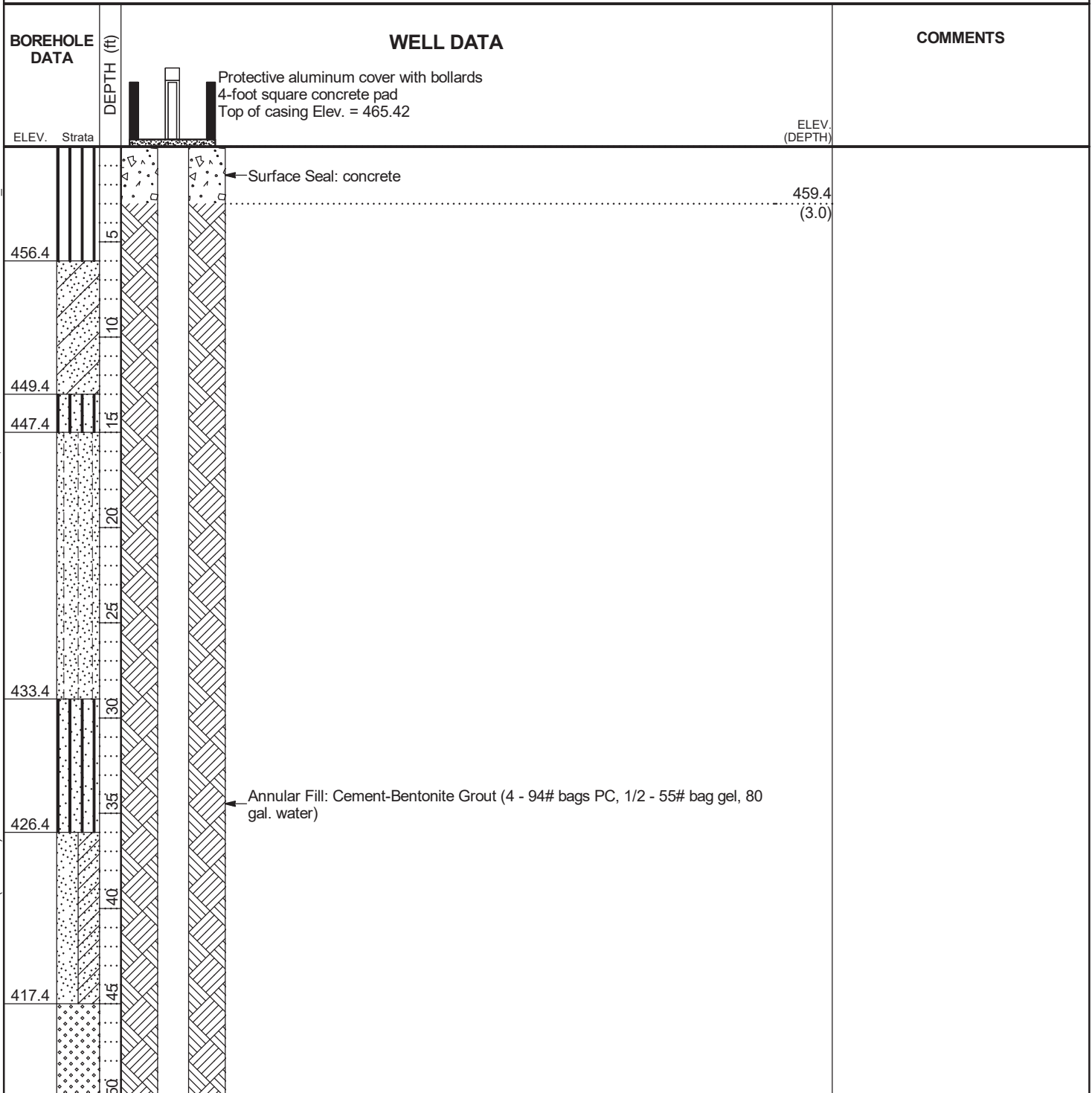
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPOCISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 D
PAGE 2 OF 3
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ

BOREHOLE DATA		WELL DATA		COMMENTS
ELEV.	Strata	DEPTH (ft)	(CONTINUED)	ELEV. (DEPTH)
399.4		55		
		60		
393.4		65		396.4 (66.0)
		70		
		75		
		80		
		85		
372.4		90		369.4 (93.0)
		95		366.6 (95.8)
362.4		100		
358.4		105		
356.4		110		

Protective aluminum cover with bollards
4-foot square concrete pad
Top of casing Elev. = 465.42

Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets (89-93 ft.), 6 - 50# bags 3/8" chips (66-89 ft.))

Filter: 20/40 silica filter sand (15 1/2 - 0.5 cubic ft. bags)

(Continued Next Page)

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\ALTRCFP01\LAPARKER\$\DESKTOP\GP\SCHERER\ADDITIONAL PZS UPDATED.GPJ



BORING LOG

BORING PZ-32 S

Page 1 of 2

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 Rotasonic 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 - \VALTRCFP01\APARKER\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) 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 S
Page 2 of 2

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 Weak Moderate Strong	COMMENTS
..... 55		Well-graded Sand (SW)(Con't)	..... ..... ..... .....	..... ..... ..... .....
..... 60 65 70 75 80 85 90 95 100 105 110		Bottom of borehole at 57.0 feet.			



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 S
PAGE 1 OF 2
ECS38467

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

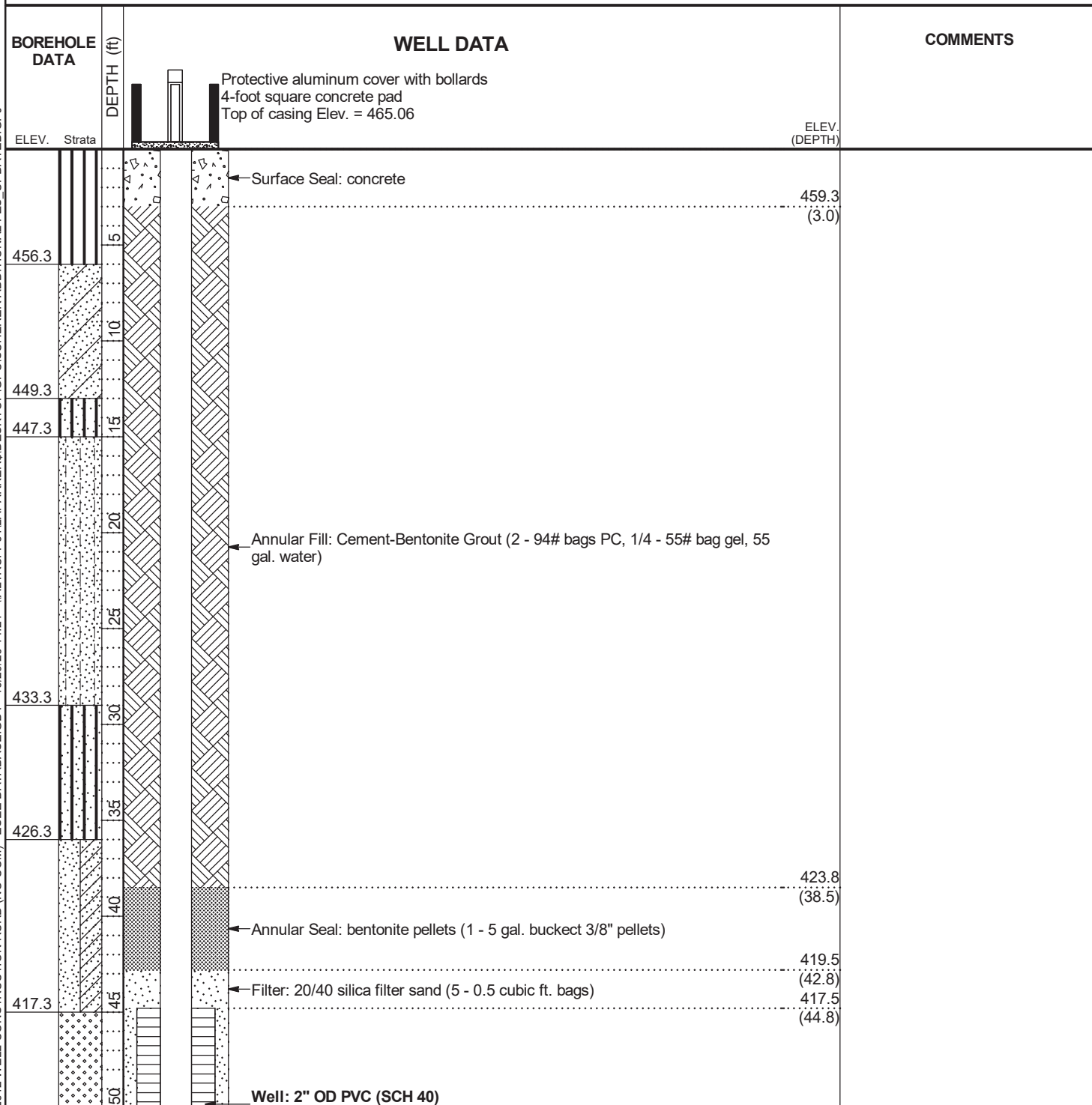
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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 - \\VALTRCF001\LPARKER\DESKTOP\GPOCISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-32 S
PAGE 2 OF 2
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)		
			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 465.06	
		(CONTINUED)		
			Screen: 10 ft. 0.010" Slot Prepack	
			Sump: 0.20 ft.	
405.3				407.5 (54.8) 407.3 (55.0)



BORING LOG

BORING PZ-33 I

Page 1 of 2

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 Rotasonic 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\SCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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		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			
45					
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)



BORING LOG

BORING PZ-33 I
Page 2 of 2

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 Weak Moderate Strong	COMMENTS
55		Well-graded Sand (SW)(Con't) - mottled dark gray (7.5YR 4/1) and white (N9)			
60		Well-graded Sand with Silt (SW-SM) - very dark greenish gray (10Y 3/1) wet, fine to coarse-grained, with gravel (pulverized rock/biotite gneiss)			
65					
70					
75		Biotite Gneiss - dark greenish gray (10G 4/1) coarse grain, medium hard to soft, moderately to highly weathered, vuggy, black and white banding, quartz and feldspar - Driller indicated competent rock at 76.5 ft.			
80		Bottom of borehole at 76.5 feet.			
85					
90					
95					
100					
105					
110					

SIMPLE GEOLOGY LOG - ESEE DATABASE.GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCS\CHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-33 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 6/7/2016 COMPLETED 6/8/2016 GROUND ELEVATION 466.4 ft COORDINATES N 1121245.25 E 2409064.05

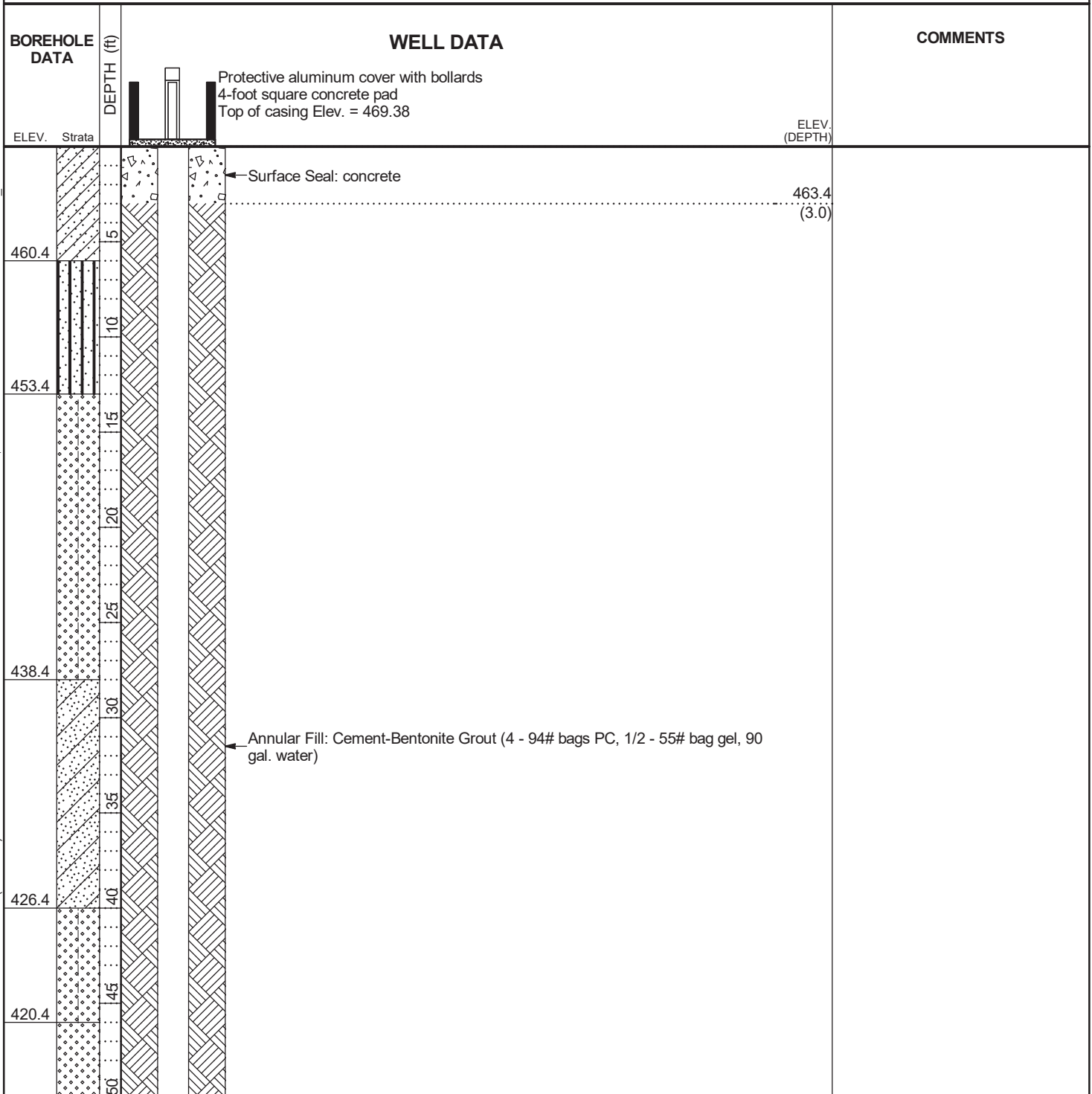
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)





BORING LOG

BORING PZ-34 S

Page 1 of 1

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 Rotasonic 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

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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 - mottled light olive brown (2.5Y 5/4), black (10YR 2/1) and white (10YR 8/1) saprolite			
20					
25		- light olive brown (2.5Y 5/3) moist			
30		- mottled olive (5Y 5/3) and strong brown (7.5YR 5/6) wet			
35		- olive gray / light olive gray (5Y 5/2)			
40		- mottled olive gray / light olive gray (5Y 5/2), strong brown (7.5YR 5/6) and white (7.5YR 8/1) weathered feldspar			
45		- mottled dark gray (2.5Y 4/1) and white (7.5YR 8/1) weathered biotite gneiss			
50		Bottom of borehole at 46.0 feet.			

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GPC\SCHERER ADDITIONAL PZS.GPJ



RECORD OF WELL CONSTRUCTION

WELL: PZ-34 S
PAGE 1 OF 1
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

DATE STARTED 6/3/2016 COMPLETED 6/4/2016 GROUND ELEVATION 440.8 ft COORDINATES N 1121331.59 E 2409288.37

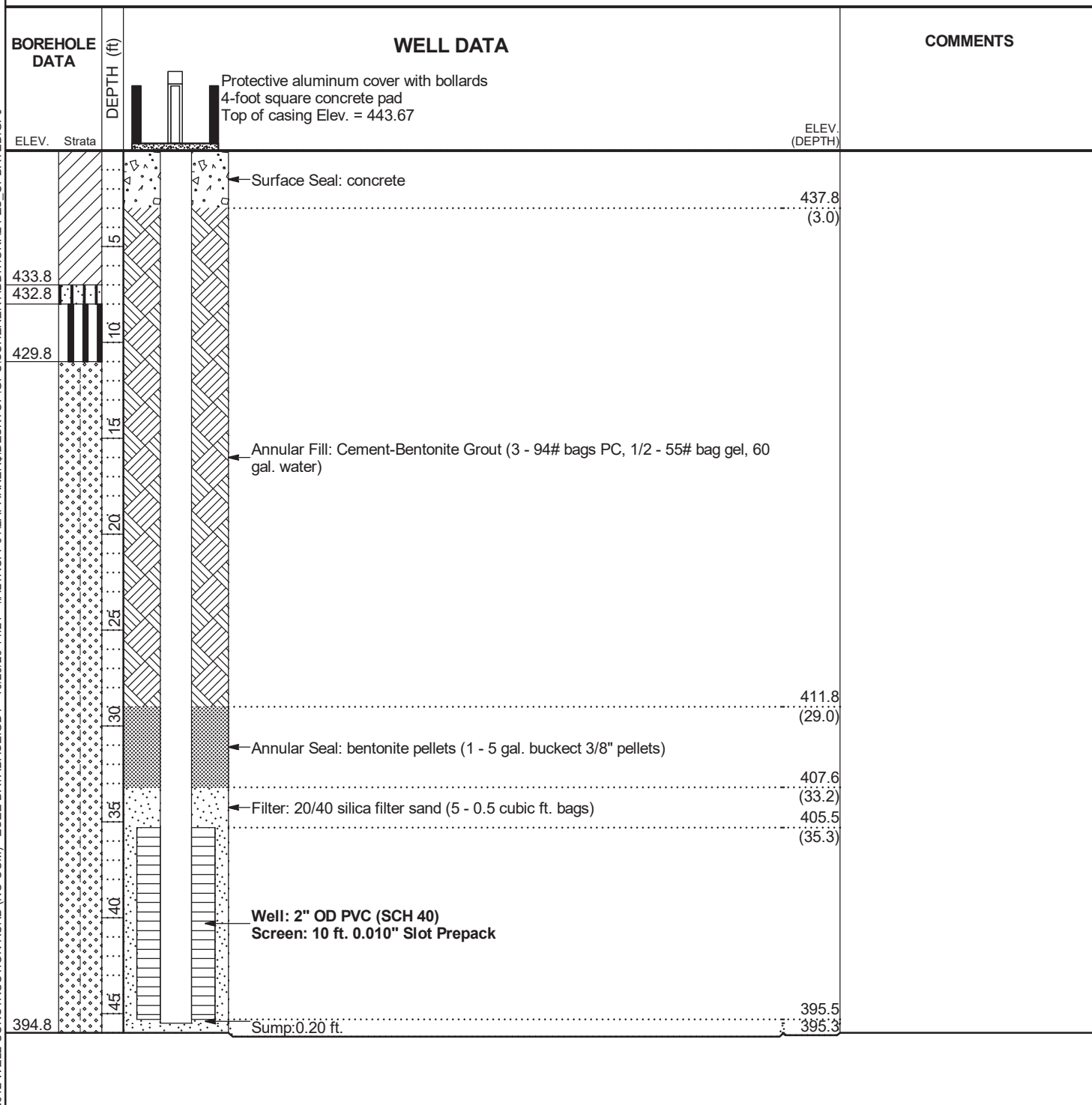
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\LPARKER\DESKTOP\GPOCISCHER ADDITIONAL PZS_UPDATED.GPJ





BORING LOG

BORING PZ-35 I

Page 1 of 2

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 - \VALTRCFP01\LPARKER\$DESKTOP\GFCISCHERER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	COMMENTS
5		Sandy Silt (ML) - dark red (2.5YR 3/6) dry			
		Poorly-graded Sand with Silt (SP-SM) - dark red (10R 3/6) dry			
10		Clayey Sand (SC) - dark reddish brown (2.5YR 3/4) dry, cohesive - yellowish red / light brown (5YR 5/6)			
15		Poorly-graded Sand with Silt (SP-SM) - mottled red (2.5YR 4/6) and brown (7.5YR 4/4) moist, fine-grained, micaceous			
20		- 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			
25		- mottled light yellowish brown (10YR 6/4) and strong brown (7.5YR 5/8)			
30		Well-graded Sand with Silt (SW-SM) - mottled strong brown (7.5YR 4/6) and black (N1) wet, fine to coarse-grained, micaceous			
35		- mottled brown (10YR 5/3) and white (N9) weathered feldspar			
40		Poorly-graded Sand (SP) - mottled dark gray (2.5Y 4/1) and light olive brown (2.5Y 5/6) fine-grained			
45		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)			
50		Well-graded Sand with Clay (SW-SC) - dark greenish gray (10Y 4/1) with gravel (residual/pulverized rock)			

(Continued Next Page)



BORING LOG

BORING PZ-35 I
Page 2 of 2

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 Weak Moderate Strong	COMMENTS
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					



RECORD OF WELL CONSTRUCTION

WELL: PZ-35 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 6/22/2016 COMPLETED 6/22/2016 GROUND ELEVATION 474.6 ft COORDINATES N 1121598.57 E 2406058.33

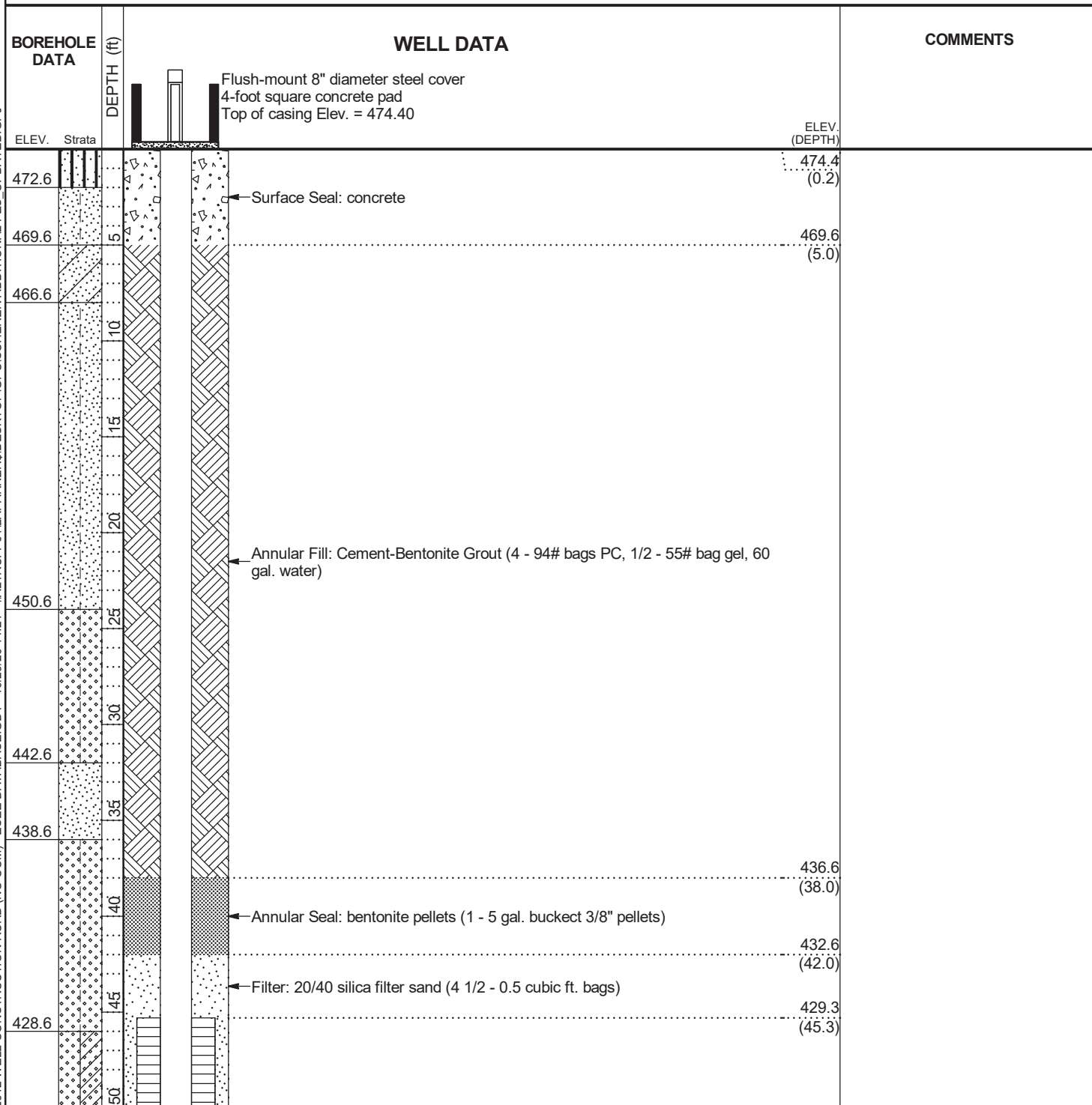
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCF001\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-35 I
PAGE 2 OF 2
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)		
423.6	(CONTINUED)		Flush-mount 8" diameter steel cover 4-foot square concrete pad Top of casing Elev. = 474.40	ELEV. (DEPTH)
418.6			Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	
			Sump: 0.20 ft.	419.3 419.1



BORING LOG

BORING PZ-36 I

Page 1 of 2

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 Rotasonic 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 Weak Moderate Strong	COMMENTS
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			
35		- 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			
40		- relict fractures 38 to 43 ft.			
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

BORING PZ-36 I

Page 2 of 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

SAMPLE GEOLOGY LOG - ESEE DATABASE:GDT - 8/27/20 08:45 - \\ALTRCFP01\1APARKER\DESKTOP\GFC\SCS\CHER ADDITIONAL PZS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	HCL REACTION Weak Moderate Strong	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					
70		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			
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			
100		Bottom of borehole at 97.0 feet.			
105					
110					



RECORD OF WELL CONSTRUCTION

WELL: PZ-36 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 6/4/2016 COMPLETED 6/5/2016 GROUND ELEVATION 478.9 ft COORDINATES N 1120410.99 E 2407256.25

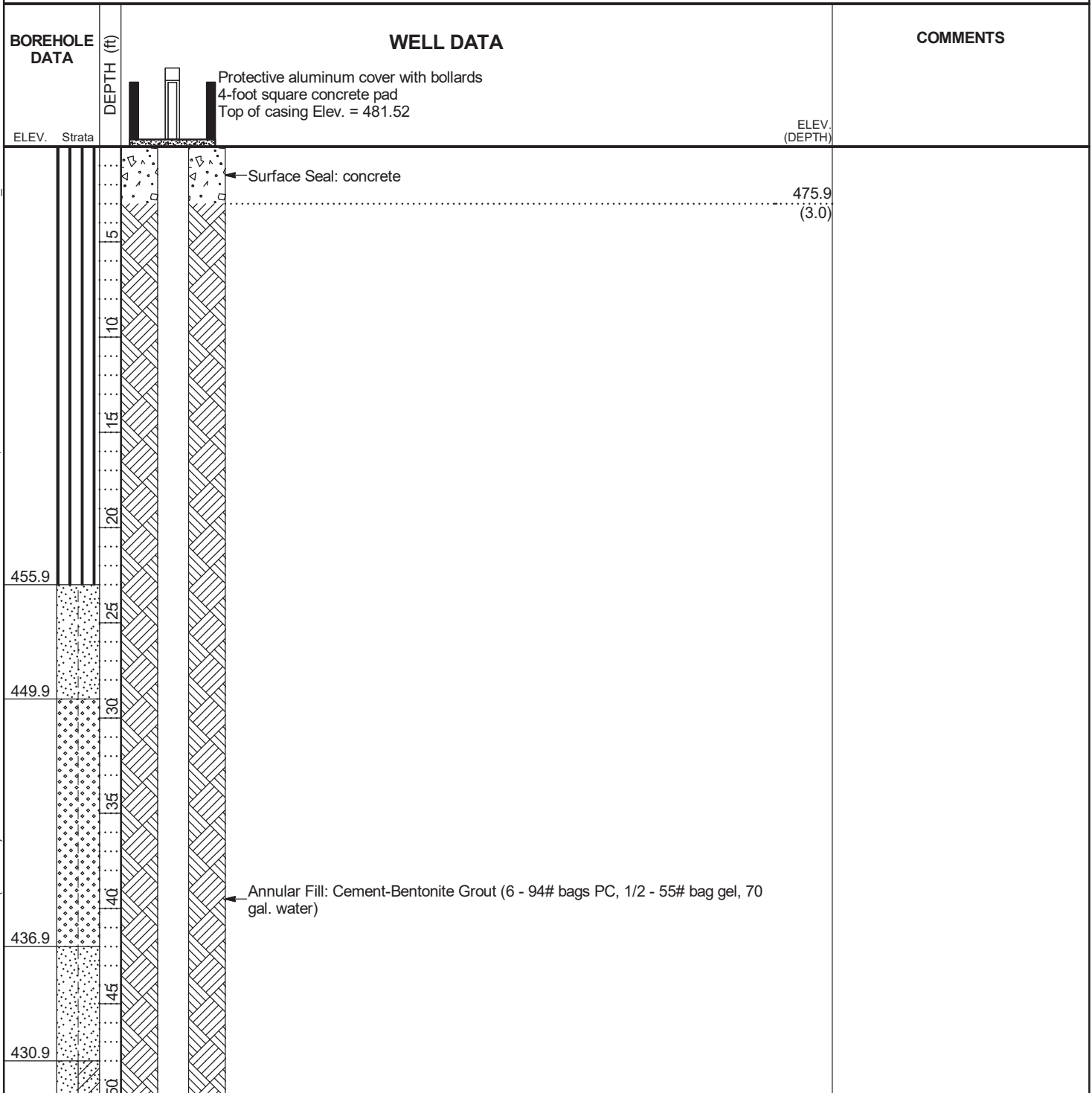
CONTRACTOR Cascade METHOD Rotosonic EQUIPMENT Tracked

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\GPOCISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-36 I
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

BOREHOLE DATA

DEPTH (ft)

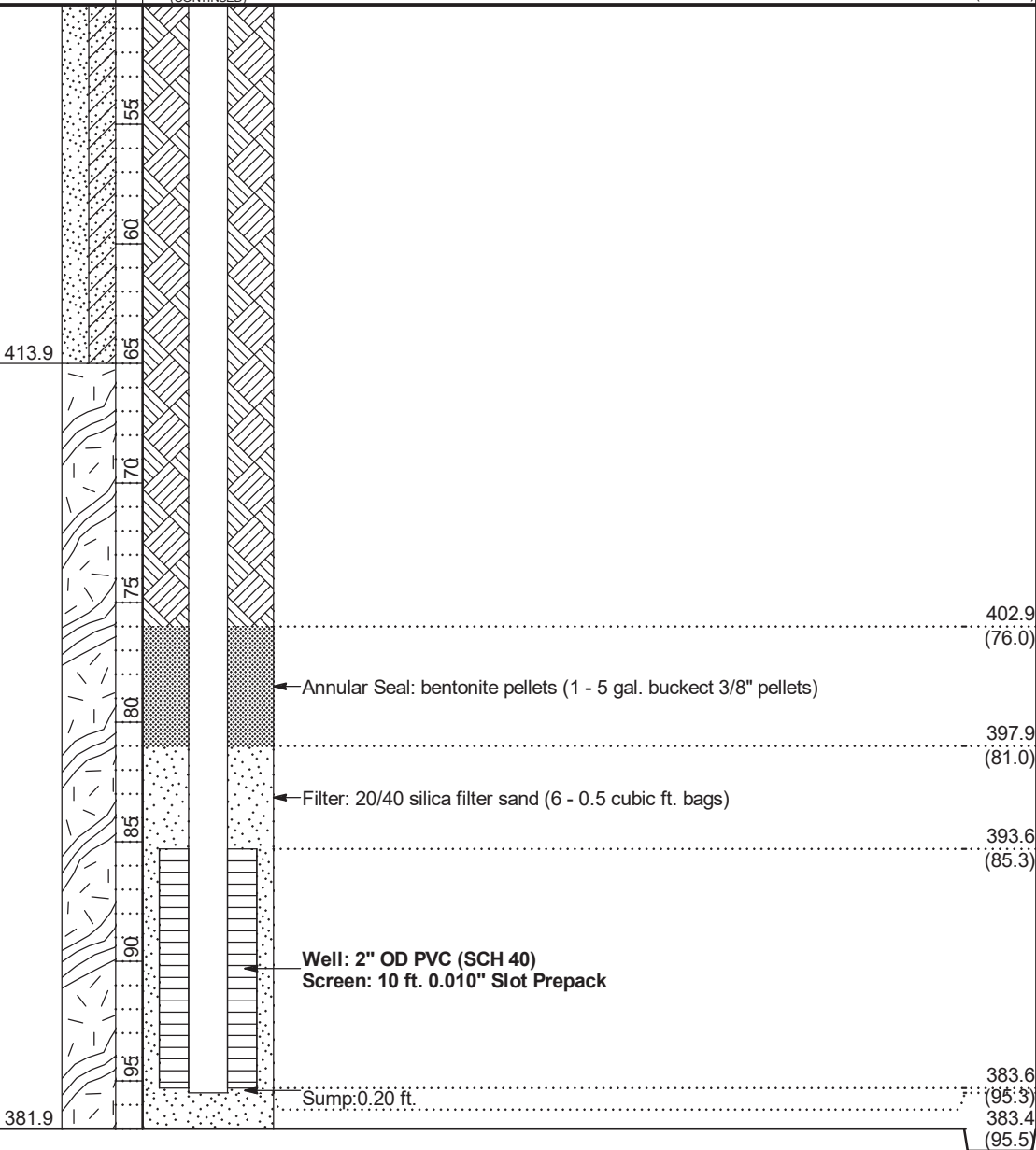
WELL DATA

COMMENTS

ELEV. Strata

(CONTINUED)

ELEV.
(DEPTH)



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							WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread 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 FILTER PACK Interval: 43-55' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 38.8-43' Type: 3/8" Pel-Plug ANNULUS SEAL Interval: 0-38.8' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
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		475.4 4.00	S-1	ROTO SONIC	7.50 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		469.4 10.00					
465			CL			S-2	ROTO SONIC	2.00 10.00		
460		20.00 - 25.00 Clayey SAND; sand: fine to coarse; reddish-pink to red; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC		459.4 20.00					
455		25.00 - 30.00 Clayey SAND; sand: fine to coarse; reddish brown; micaceous; non-cohesive; moist to wet; compact to dense; RESIDUUM	SC		454.4 25.00	S-3	ROTO SONIC	8.50 10.00		
450										
445		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		449.4 30.00					
440						S-4	ROTO SONIC	10.00 10.00		
		Log continued on next page			439.4					

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
40		40.00 - 50.00 Clayey-Silty SAND; orange to light tan; micaceous; non-cohesive; wet; compact to dense; SAPROLITE	SC-SM		40.00	S-5	ROTO SONIC			WELL CASING Interval: 0-45' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Thread 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 FILTER PACK Interval: 43-55' Type: No. 20-40 Sand FILTER PACK SEAL Interval: 38.8-43' Type: 3/8" Pel-Plug ANNULUS SEAL Interval: 0-38.8' Type: Portland Cement and Quick Gel Bentonite Mix WELL COMPLETION Pad: 4'x4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
435								10.00 10.00		
45										
430										
50		50.00 - 56.00 Clayey-Silty SAND; orange to light tan; micaceous; non-cohesive; wet; compact to dense; SAPROLITE	SC-SM		429.4 50.00	S-6	ROTO SONIC			
55								5.00 10.00		
425										
60		Boring completed at 56.00 ft			423.4					
420										
65										
415										
70										
410										
75										
405										
80										

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



BOREHOLE RECORD PLANT_SCHERER_2018_10_12_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/4/20

SIMPLE GEOLOGY WITH WELL - ESEE DATABASE.GDT - 9/7/16 11:23 - S:\WORKGROUP\SIAPC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\GA-SCHERER\SCHERER ADDITIONAL HYDROGEOLOGIC INVESTIGATION (2016)\BORING LOG



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
		- red (2.5YR 4/6)				
10		- 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)
		- weak red (10R 5/3)				
20		- mottled reddish brown (2.5YR 4/4) and reddish black (2.5YR 2.5/1) dry, weathered schist				
		- weak red (2.5YR 5/2)				
25		- 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				
		Silty Sand (SM) - reddish brown (2.5YR 5/4) fine to coarse-grained. with mica				
35		- 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)				
		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)

S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\GA-SCHERER\SCHERER ADDITIONAL HYDROGEOLOGIC INVESTIGATION (2016)\BORING LOG



LOG OF TEST BORING

BORING PZ-37 I
PAGE 2 OF 2
ECS38467

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 <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)				(CONTINUED)
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				Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)
60						Annular Seal: ← bentonite pellets (1 - 5 gal. bucket 3/8" pellets)
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				Filter: ← 20/40 silica filter sand (5 - 0.5 cubic ft. bags)
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				Standpipe: 2" OD PVC (SCH 40) Screen: 10 ft; 0.010" Slot Prepack
		Bottom of borehole at 72.5 feet.				Sump: 0.2000000000000003 ft. Cave-in to 72.5 ft.
75						
80						
85						
90						
95						
100						
105						
110						

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

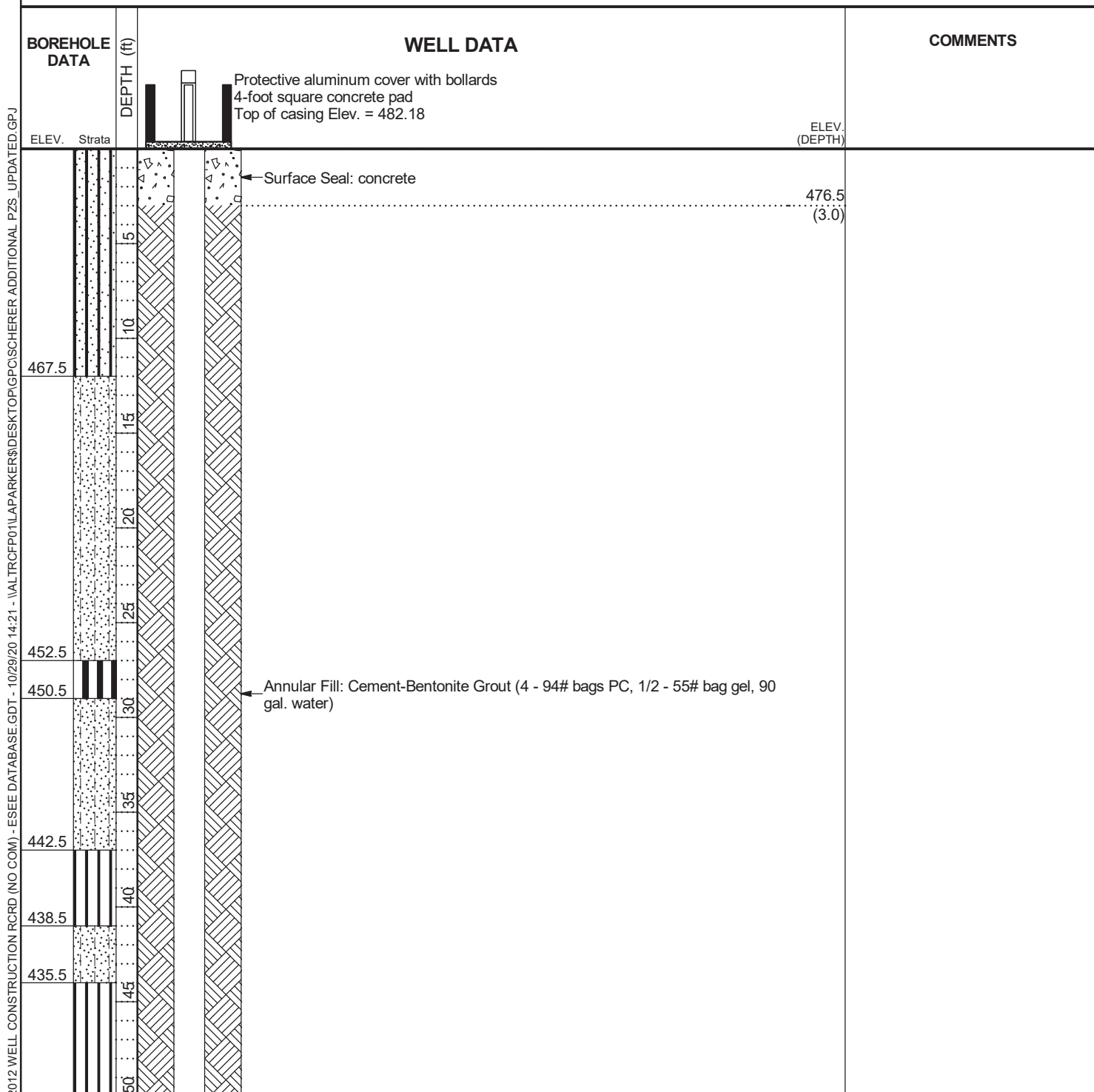
DATE STARTED	6/2/2016	COMPLETED	6/2/2016	GROUND ELEVATION	479.5 ft	COORDINATES	N 1121178.48 E 2408419.19
---------------------	----------	------------------	----------	-------------------------	----------	--------------------	---------------------------

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



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-37 I
PAGE 2 OF 2
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)	(CONTINUED)	ELEV. (DEPTH)
426.5			Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 482.18	
		55	Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)	425.0 (54.5)
		60	Filter: 20/40 silica filter sand (5 - 0.5 cubic ft. bags)	421.5 (58.0)
416.5		65	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	418.5 (61.0)
412.5		70	Sump: 0.20 ft.	408.5 (71.0)
407.0				408.3 (71.2)

S:\WORKGROUP\SPAC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\GA-SCHERER\SCHERER ADDITIONAL HYDROGEOLOGIC INVESTIGATION (2016)\BORING LOG



LOG OF TEST BORING

BORING PZ-38 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 6/22/2016 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
5		Sandy Silt (ML) - dark red (2.5YR 3/6) dry - with mica				Completion: flush-mount 8" diameter steel cover; 4-foot square concrete pad
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						
35						
40		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 - mottled grayish olive (10Y 4/2) and pale yellow (2.5Y 7/4) - mottled grayish brown (2.5Y 5/2) and pale yellow (2.5Y 7/4) with mica				
45						
50						

Surface Seal:
concrete

Annular Fill:
Cement-Bentonite Grout (4 - 94#
bags PC, 1/2 - 55# bag gel, 90
gal. water)

(Continued Next Page)

S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\GA-SCHERER\SCHERER ADDITIONAL HYDROGEOLOGIC INVESTIGATION (2016)\BORING LOG



LOG OF TEST BORING

BORING PZ-38 I
PAGE 2 OF 2
ECS38467

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 <small>Weak Moderate Strong</small>	GROUNDWATER OBSERVATIONS	WELL DATA
						Completion: flush-mount 8" diameter steel cover; 4-foot square concrete pad
		(CONTINUED)				
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) - mottled black (N1) and white (N9)				Annular Fill: Cement-Bentonite Grout (4 - 94# bags PC, 1/2 - 55# bag gel, 90 gal. water)
60		Poorly-graded Sand (SP) - yellowish brown (10YR 5/6) and dark grayish brown (2.5Y 4/2) fine-grained				Annular Seal: bentonite pellets (1 - 5 gal. bucket 3/8" pellets)
65		Biotite Gneiss - grayish brown (2.5Y 5/2) fine to coarse grain, gravelly sand (pulverized weathered rock)				Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)
70						Standpipe: 2" OD PVC (SCH 40)
75						Screen: 10 ft; 0.010" Slot Prepack
						Sump:0.200000000000003 ft.
		Bottom of borehole at 76.0 feet.				Cave-in to 76 ft.
80						
85						
90						
95						
100						
105						
110						



RECORD OF WELL CONSTRUCTION

WELL: PZ-38 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 6/22/2016 COMPLETED 6/23/2016 GROUND ELEVATION 482.2 ft COORDINATES N 1121475.86 E 2406352.98

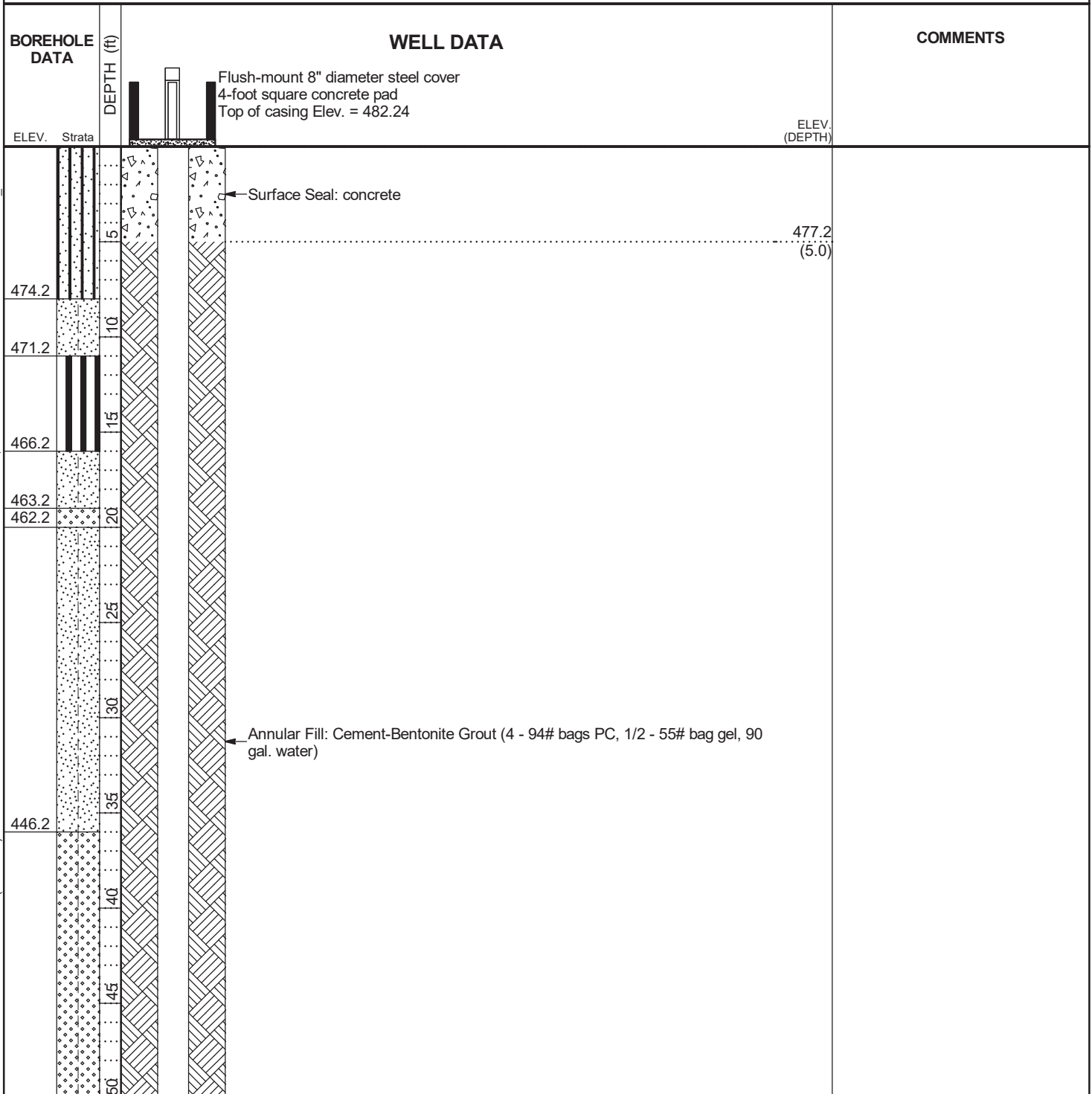
CONTRACTOR Cascade METHOD Rotasonic EQUIPMENT Tracked

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 - \\VALTRCFP01\LPARKER\DESKTOP\GPC\ISCHERER ADDITIONAL PZS_UPDATED.GPJ



(Continued Next Page)



RECORD OF WELL CONSTRUCTION

WELL: PZ-38 I
PAGE 2 OF 2
ECS38467

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Additional Hydrogeological Investigation (2016)

LOCATION Plant Scherer

2012 WELL CONSTRUCTION RCRD (NO COM) - ESEE DATABASE.GDT - 10/29/20 14:21 - \\VALTRCFP01\LPARKER\DESKTOP\GPOISCHERER ADDITIONAL PZS_UPDATED.GPJ

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)	420.7 (61.5)
419.2		65	Filter: 20/40 silica filter sand (4 1/2 - 0.5 cubic ft. bags)	418.4 (63.8)
		70	Well: 2" OD PVC (SCH 40) Screen: 10 ft. 0.010" Slot Prepack	
		75	Sump: 0.20 ft.	408.4 (73.8)
406.2				408.2 (74.0)

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
0		0.00 - 10.00 Hydro-vac to clear utilities								
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

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

SHEET 2 of 5

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, biotite, feldspar, saprolitic (Continued)				4	ROTO 9.50 SONIC 10.00			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
45	465		SM							
50	460					5	ROTO 11.00 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 53.50 454.7					
		55.00 - 65.00 SM, SILTY SAND, very fine grain, medium to dark green, low to non plastic, moist to wet, decreases with depth			55.00					
60	450		SM			6	ROTO 10.00 SONIC 10.00			
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 10.00 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					massive water staining from 78'-80' 83'-85' metagabbro Log continued on next page
80	430		SM			8	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: 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 9.00 SONIC 10.00			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
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 13.50 SONIC 10.00			
95	415		SM							
100	410					10	ROTO 12.00 SONIC 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 1.20 SONIC 10.00			
115	395	Rock sample collected 158.8'-159.4'	BR							
120	390					12	ROTO 2.90 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: 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			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
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	CL						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							
5		5.00 - 15.00 Hand auger and core barrel overdrill	ML		442.1 5.00			Riser --	
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							
10			ML					Grout --	
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).	TWR		432.1 15.00			Bentonite --	
430		Driller notes rock interlayered with weathered material				1	8.00 10.00		
20			TWR					Sand --	
425									
25			TWR						
420						2	8.00 10.00		
30			TWR						
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 33.00				
410						3	10.00 10.00		
40		Rock sample collected 49.0'-49.5'							
		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-46D


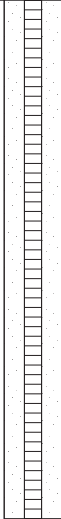
SHEET 2 of 2

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	BR			3		10.00		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
405								10.00		
45		Rock sample collected 49.0'-49.5' (Continued)				4		8.00 10.00		
45										
400										
50										
50										
395										
395		Boring completed at 53.00 ft			394.1					
55										
55										
390										
390										
60										
60										
385										
385										
65										
65										
380										
380										
70										
70										
375										
375										
75										
75										
370										
370										
80										
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			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		400.8 6.00	2	ROTO 4.70 SONIC 10.00			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									
15	390	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		Sand 0.010" Slotted Screen	WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
20	385	Rock sample collected 19.7'-20.3'	BR							
25	380	Boring completed at 26.00 ft			380.8					
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						Grout — Riser —	WELL CASING Interval: 0' - 50.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 50.75' - 60.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 48' - 60.75' Type: #1 Sand Quantity: 4 Bags FILTER PACK SEAL Interval: 44' - 48' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 44' Type: Cement-Bentonite Quantity: 600lb Cement, 30lb Bentonite, 70gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	435				431.3					
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		10.00	1	ROTO	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		427.3					
20	420				14.00	2	ROTO	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		418.3					
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		411.3	3	ROTO	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		405.3	4	ROTO	10.00		
40			ML		402.3					
					39.00					

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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	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			4	ROTO 10.00 SONIC 10.00		Bentonite --	WELL CASING Interval: 0' - 50.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 50.75' - 60.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 48' - 60.75' Type: #1 Sand Quantity: 4 Bags FILTER PACK SEAL Interval: 44' - 48' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 44' Type: Cement-Bentonite Quantity: 600lb Cement, 30lb Bentonite, 70gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
45	395									
50	390					5	ROTO 10.00 SONIC 10.00			
55	385		TWR						Sand --	0.010" Slotted -- Screen
60	380	61.00 - 65.00 ML, sandy SILT, Transitionally Weathered Rock, weathered biotite gneiss, driller noted first rock encountered at 61'			380.3 61.00	6	ROTO 5.00 SONIC 10.00			
65		Boring completed at 65.00 ft			376.3					
70	375									
75	370									
80	365									

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 1 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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
0		0.00 - 2.00 SM, SILTY SAND, fine sand, brown, wet, w<PL, non-plastic, loose/soft, biotite and quartz	SM						Grout —	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
		2.00 - 4.00 SP, SAND, fine sand, non-plastic, w<PL, moist, compact, Salt and pepper with green hue, uniform graded	SP		362.9 2.00					
		4.00 - 8.00 SP, SAND, coarse sand, non-plastic, w<PL, moist, compact, Salt and pepper with green hue, uniform graded	SP		360.9 4.00					
5	360				356.9 8.00					
		8.00 - 15.00 SM, SAND and SILT, moist, dark green,w<PL, non-plastic, loose, firm, large white grain, plagioclase	SM						Riser —	
10	355					1	ROTO 11.00 SONIC 5.00			
		15.00 - 35.00 SM, Sand and Silt, moist, medium green,w<PL, non-plastic, loose, firm, large white grain, plagioclase, RESIDUUM/SAPROLITE			349.9 15.00					
15	350					2	ROTO 10.00 SONIC 10.00			
20	345									
25	340		SM							
30	335									
35	330	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	BR		329.9 35.00	4	ROTO 6.00 SONIC 10.00			
40	325									

Log continued on next page

Log continued on next page

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
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			4	ROTO 6.00 SONIC 10.00		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									
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'				309.9 55.00				
60	305		BR			6	ROTO 9.70 SONIC 10.00			
65	300									
70	295					7	ROTO 7.80 SONIC 10.00			
75	290				289.9 75.00					
80	285	Log continued on next page	BR			8	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: 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 Rock sampled collected at 77.8' - 78.9'	BR		279.9	8	ROTO 10.00 SONIC 10.00	0.010" Slotted - Screen	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
85	280	78-85' weakly foliated Fractures at 82.8', 83.1' (Continued) 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			85.00				
90	275		BR		269.9	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'			95.00				
100	265		BR		258.9	10	ROTO 7.70 SONIC 11.00		
105	260	Boring completed at 106.00 ft							
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								WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	360									
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.	GP		355.2 10.00 354.2 11.00	1	ROTO 7.00 SONIC 5.50			WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
15	350	11.00 - 20.50 SM, SILTY SAND, wet, non to low plasticity, W < PL, loose to firm. Residuum soil after diorite.	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			WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
25	340	Boring completed at 25.50 ft			339.7					
30	335									WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
35	330									
40										WELL CASING Interval: 0' - 15' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 15' - 25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 13' - 25' Type: #1 Sand Quantity: 4.5 Bags FILTER PACK SEAL Interval: 7' - 13' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 7' Type: Cement-Bentonite Quantity: 200lbs Cement, 10lb Bentonite, 20gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: 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: 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.								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
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 SONIC	5.00 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 SONIC	10.00 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 SONIC	10.00 10.00		
35	435									
40		Log continued on next page			430.66	4	ROTO SONIC	10.00 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

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

SHEET 2 of 3

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		40.00 429.16	4	ROTO 10.00 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
45	425	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		41.50					
50	420	50.00 - 55.00 SM, SILTY SAND, dark green, non-PL, W < PL, loose, dry to moist.	SM		420.66 50.00	5	ROTO 7.40 SONIC 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.	TWR		415.66 55.00	6	ROTO 8.20 SONIC 10.00			
60	410									
65	405									
70	400	70.00 - 75.00 METAGABBRO, dark green and white, fresh to slightly weathered, medium strong to strong, most of core is broken to fractures - indicative of water movement.	BR		400.66 70.00	7	ROTO 2.90 SONIC 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		395.66 75.00	8	ROTO 7.75 SONIC 10.00			
80		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-50D

SHEET 3 of 3


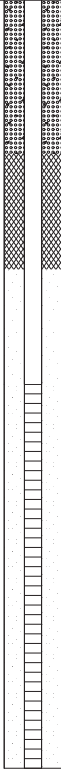
PROJECT: Plant Scherer
PROJECT NUMBER: 20139484
DRILLED DEPTH: 100.00 ft
LOCATION: Juliette, GA

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			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									
90	380					9	ROTO 7.20 SONIC 10.00			
95	375					10	ROTO 4.60 SONIC 5.00			
100	370	Boring completed at 100.00 ft			370.66					
105	365									
110	360									
115	355									
120										

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


SHEET 1 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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
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						Riser — 	

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.	SAMPLE NO.	TYPE	REC				
					DEPTH (ft)							
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 <i>(Continued)</i>	ML			4		<u>10.00</u>		WELL CASING Interval: 0' - 116' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded		
500											10.00	WELL SCREEN Interval: 116' - 126' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"
45												FILTER PACK Interval: 113' - 126' Type: 20/30 Sand Quantity: 6 Bags
495												FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket
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	ML		493.2 50.00	5		<u>9.00</u> 10.00		ANNULUS SEAL Interval: 0' - 109.8' Type: Cement-Bentonite Quantity: 250lbs Cement, 15lbs Bentonite, 30gal Water		
490		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 52.50					WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum		
55					487.2 56.00					DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic		
485		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		483.7 59.50	6		<u>10.00</u> 10.00				
60		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									
480					477.2 66.00							
65		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		475.2 68.00							
475		68.00 - 76.00 Wash out				7		<u>2.00</u> 10.00				
70												
470					467.2 76.00							
75		76.00 - 80.90 BIOTITE GNEISS, 5Y 4/1 olive grey, biotite, plagioclase, quartz, weathered from fractures, hard	BR			8		<u>4.90</u> 10.00				
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


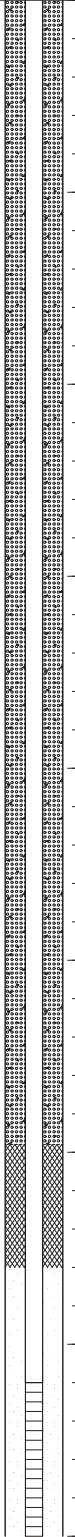

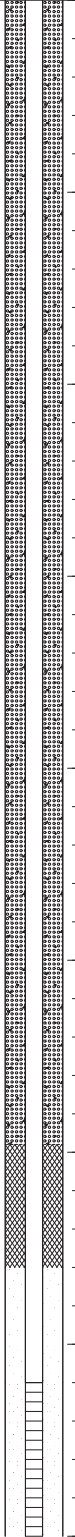

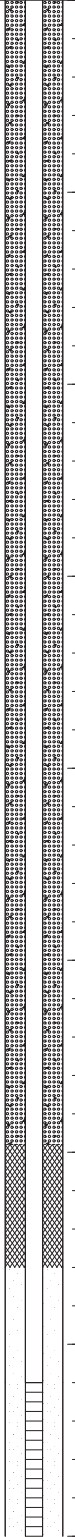


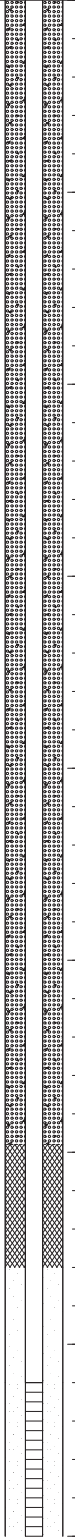

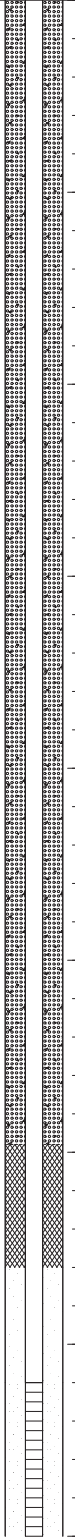

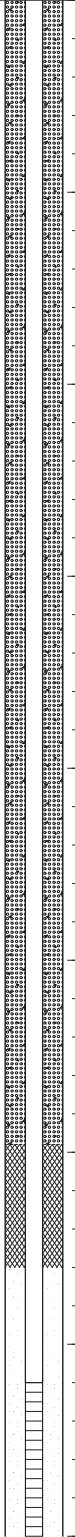
SHEET 3 of 4

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				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: 116' - 126' Type: 20/30 Sand Quantity: 6 Bags FILTER PACK SEAL Interval: 109.8' - 113' Type: Pel Plug Quantity: 5gal bucket ANNULUS SEAL Interval: 113' - 126' 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
460								4.90 10.00		
85		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	9				
455										
90		91.00 - 92.00 BIOTITE GNEISS, 5Y 4/1 olive grey, biotite, plagioclase, quartz, weathered from fractures, hard	BR		452.2 91.00			6.00 10.00		
450		92.00 - 96.00 No Recovery			451.2 92.00					
95										
445		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	10				
100		100.20 - 101.40 Transitionally Weathered Rock, silty SAND, rich in amphibolite-plagioclase-muscovite, some quartz, loose, highly weathered	BR		443 100.20			5.20 10.00		
440		101.40 - 106.00 No Recovery			441.8 101.40					
105										
435		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				
110								3.80 10.00		
430										
115		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		
425		Rock sample collected 118.0'-118.5'								
120		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

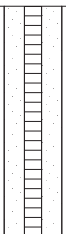
SHEET 4 of 4

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								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
420		Rock sample collected 118.0'-118.5' (Continued)	BR			12		5.50 10.00		
125		Boring completed at 126.00 ft			417.2					
125										
415										
130										
410										
135										
405										
140										
400										
145										
395										
150										
390										
155										
385										
160										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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								WELL CASING Interval: 0' - 67' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 67' - 77' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 65' - 77' Type: #6 Sand Quantity: 3 bags FILTER PACK SEAL Interval: 61.5' - 65' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 61.5' Type: Cement-Bentonite Quantity: 554.4lbs Cement, 20lbs Bentonite, 70gal water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
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			
		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					
			SM		480.4 39.00	4	ROTO SONIC			
		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: Jimmy Hall

GA INSPECTOR: H. Brissey
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-52

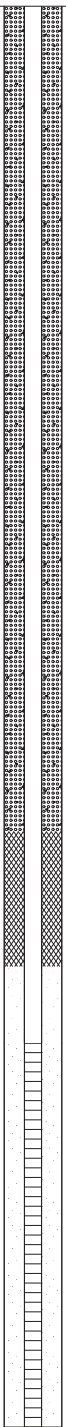
SHEET 2 of 2

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 (Continued)	SM							WELL CASING Interval: 0' - 67' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 67' - 77' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 65' - 77' Type: #6 Sand Quantity: 3 bags FILTER PACK SEAL Interval: 61.5' - 65' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 61.5' Type: Cement-Bentonite Quantity: 554.4lbs Cement, 20lbs Bentonite, 70gal water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
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			465.4 54.00	5	ROTO SONIC	7.50 10.00		
60	460									
65	455		SM			6	ROTO SONIC	10.00 10.00		
70	450									
75	445					7	ROTO SONIC	10.50 8.00		
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

RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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		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.							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: 32' - 35' Type: #1 Sand Quantity: 3 Bags FILTER PACK SEAL Interval: 27' - 32' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 27' Type: Cement-Bentonite Quantity: 450lbs Cement, 17lbs Bentonite, 45gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
510			CL							
5					505.6				Riser —	
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		8.00	1	ROTO 7.00 SONIC 7.00			
10					500.6					
500		13.00 - 17.00 ML, CLAYEY SILT, strong brown, minor relict foliation, deeply weathered biotite-hornblende gneiss. Residual soil.	ML		13.00					
15					496.6					
495		17.00 - 20.00 ML, CLAYEY SILT, 7.5 YR 5/8 strong brown, very weathered hornblende gneiss, relict foliation.	ML		17.00					
20					493.6	2	ROTO 10.00 SONIC 10.00			
490		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		20.00					
25					488.6				Bentonite —	
485		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		25.00					
30					481.6	3	ROTO 7.00 SONIC 10.00			
480		32.00 - 35.00 No recovery			32.00					
35					478.6				Sand —	
475		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		35.00	4	ROTO 6.00 SONIC 10.00			
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

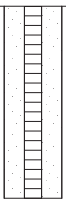
SHEET 2 of 2

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. (Continued)	ML			4	ROTO 6.00 SONIC 10.00		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: 32' - 35' Type: #1 Sand Quantity: 3 Bags FILTER PACK SEAL Interval: 27' - 32' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 27' Type: Cement-Bentonite Quantity: 450lbs Cement, 17lbs Bentonite, 45gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
45		Boring completed at 45.00 ft			468.6				
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
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



DEPTH W.L.:29.00'
ELEVATION W.L.: 463.62'
DATE W.L.:3/31/20
TIME W.L.:9:45

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

GOLDER

RECORD OF BOREHOLE PZ-54

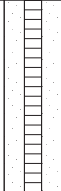
SHEET 2 of 2

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. (Continued)	ML			4	ROTO 8.20 SONIC 10.00		0.010" Slotted - Screen 	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
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


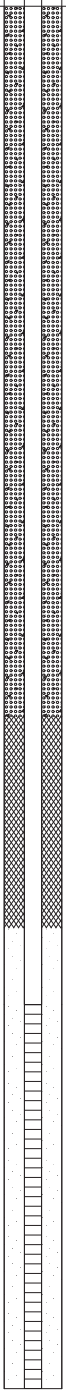



SHEET 1 of 1

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)	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						WELL CASING Interval: 0' - 26' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 26' - 36' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 24' - 36' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 18.5' - 24' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 18.5' Type: Cement-Bentonite Quantity: 300lbs Cement, 15lbs Bentonite, 35gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
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, weathered 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			TWR						
30									
410									
35									
405									
40		Boring completed at 35.00 ft			408.2 36.00				

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
0	430	0.00 - 10.00 Hydro-vac for utility clearance								
5	425							Grout —	WELL CASING Interval: 0' - 35.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 35.75' - 45.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 33' - 46' Type: #1 Sand Quantity: 4 bags FILTER PACK SEAL Interval: 30' - 33' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 30' Type: Cement Quantity: 600lbs Cement, 70gal water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic	
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	Riser —		
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.	TWR		410.2					
		20.60 - 21.00 TWR, weathered BIOTITE GNEISS, very dark grey to black, medium grained.			21.00	3	ROTO 4.00 SONIC 5.00			
		21.00 - 34.00 TWR, weathered BIOTITE GNEISS, slight to moderate oxidation throughout. oxidation staining at 28', fracture 30'-30.5'								
25	405		TWR							
30	400					4	ROTO 8.00 SONIC 10.00	Benonite —		
35	395	34.00 - 36.00 Core barrel drop in soft zone, no recovery.			396.8 34.00					
		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	#1 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: Tom Ardito

GA INSPECTOR: S. George, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-56

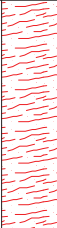

SHEET 2 of 2

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>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



SHEET 1 of 2

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
0		0.00 - 5.00 Hand auger for utility clearance.							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	
435										
5		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 <u>7.00</u> SONIC 4.00	Grout —		
430										
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 <u>10.00</u> SONIC 10.00	Riser —		
15		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					
420		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					
20		19.00 - 23.00 Transitionally weathered rock, highly weathered fracture zone, weakly foliated, very dark greenish grey, plagioclase-illite-hornblende amphibolite GNEISS.	TWR							
415		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		413.4 23.00	3	ROTO <u>4.50</u> SONIC 10.00			
410										
30		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		406.3 30.10					
405										
35		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		403.4	4	ROTO <u>8.20</u> SONIC 10.00			
400										
40					396.4	5	ROTO <u>9.00</u> SONIC 10.00			
Log continued on next page										

GA INSPECTOR: H. Brissey
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

RECORD OF BOREHOLE PZ-57


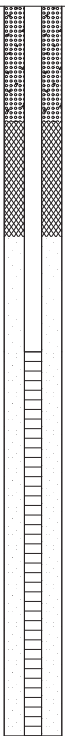
SHEET 2 of 2

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.	TYPE	REC		
					DEPTH (ft)				
40		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		40.00				WELL CASING Interval: 0' - 49' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded
395		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.			395.2				WELL SCREEN Interval: 49' - 59' Material: U-Pack Prepack Diameter: 2" Slot Size: 0.010" End Cap: 3"
					41.20	5	ROTO 9.00 SONIC 10.00		FILTER PACK Interval: 46' - 59' Type: #6 Sand Quantity: 3 bags
45									FILTER PACK SEAL Interval: 43' - 46' Type: Pel Plug Quantity: 5gal Bucket
390									ANNULUS SEAL Interval: 0' - 43' Type: Cement-Bentonite Quantity: 277.2lbs Cement, 10lbs Bentonite, 35gal water
			TWR			6	ROTO 8.70 SONIC 10.00		WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum
50									DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
385									
55									
380									
		Boring completed at 59.00 ft			377.4				
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>Grout —</p> <p>Riser —</p> <p>Bentonite —</p> <p>Sand —</p>	<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										
5										
10										
480										
15										
475		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		477.8 11.50	1	ROTO	4.50		
		13.50 - 20.00 SM, SILTY SAND with trace clay and gravels, yellow brown, non PL, W < PL, dry to moist, loose.	SM		475.8 13.50		SONIC	6.00		
20										
470										
25										
465		20.00 - 21.00 ML, SILT with trace sand and clay, soft, moist, non PL, W < PL, increased mica content, red-brown.	ML		469.3 20.00	2	ROTO	10.00		
		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		468.3 21.00		SONIC	10.00		
30										
460										
35										
455		26.00 - 34.00 SP, SAND, fine grain with trace to some silt, uniform graded, light to dark green to tan, compact.	SP		463.3 26.00	3	ROTO	9.20		
							SONIC	10.00		
450										
40										
		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		455.3 34.00					
		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		453.3 36.00	4	ROTO	10.00		
							SONIC	10.00		

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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	0.010" Slotted - Screen	WELL CASING Interval: 0' - 36' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 36' - 46' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 33.5' - 46' Type: #1 Sand Quantity: 5 Bags FILTER PACK SEAL Interval: 30.5' - 33.5' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 30.5' Type: Cement-Bentonite Quantity: 277lbs 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					443.3					
45		Boring completed at 46.00 ft								
440										
50										
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-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>Grout –</p> <p>Riser –</p> <p>Bentonite –</p> <p>#6 Sand –</p> <p>0.010" Slotted – Screen</p>	<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										
5										
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		375.8 7.00	1	ROTO 6.00 SONIC 2.00			
10		8.75 - 11.75 SP, SAND, fine to medium grained, greenish grey, illite-hornblende/amphibolite-quartz, non-cohesive, wet, loose.	SP		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		371.05 11.75	2	ROTO 6.00 SONIC 10.00			
15										
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		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		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		361.8 21.00					
35		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		360.8 22.00					
345										
40		Boring completed at 24.00 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: Jimmy Hall

GA INSPECTOR: H. Brissey
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.								WELL CASING Interval: 0' - 54' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 54' - 69' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 52' - 64' Type: #1 Sand Quantity: 5 bags FILTER PACK SEAL Interval: 49.7' - 52' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 49.7' Type: Cement-Bentonite Quantity: 900lbs Cement, 60lbs Bentonite, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
380					372.9					
5					10.00					
375					371.12					
10		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		11.78					
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				1	ROTO 9.00 SONIC 9.00			
15										
365										
20			ML			2	ROTO 8.00 SONIC 8.00			
360										
25					355.9					
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			3	ROTO 3.00 SONIC 3.00			
30		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					
350					30.00					
35			BR			4	ROTO 7.00 SONIC 9.00			
345		38.00: Fracture/oxidized zone			343.9					
40		Log continued on next page	BR		39.00	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: 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. (Continued) 41.00: 41-42' Fracture/oxidized zones	BR							WELL CASING Interval: 0' - 54' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 54' - 69' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 52' - 64' Type: #1 Sand Quantity: 5 bags FILTER PACK SEAL Interval: 49.7' - 52' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 49.7' Type: Cement-Bentonite Quantity: 900lbs Cement, 60lbs Bentonite, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
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		323.9					
320						7	ROTO SONIC	9.00 10.00		
65		66.00: 66-67' interlayers of hornblende-rich rock								
315		68.00: "soft or fractured" at 68' (not recovered for verification)								
70		Boring completed at 69.00 ft			313.9					
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-60D








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

SHEET 1 of 3

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		
0	385	0.00 - 5.00 CL, SILTY CLAY, 25 YR 4/6 Red, deeply weathered biotite gneiss, cohesive, w>PL, moist, very soft, very fine mica flakes, residual soil	CL		381.4				Grout —	WELL CASING Interval: 0' - 69.4' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 69.4' - 99.7' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 66.6' - 99.7' Type: #1 Sand Quantity: 8.5 Bags FILTER PACK SEAL Interval: 62.3' - 66.6' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 66.6' Type: Cement-Bentonite Quantity: 1,050lbs Cement, 42lbs Bentonite, 140gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
5	380	5.00 - 10.00 ML, CLAYEY SILT, 7.5 YR 6/8 reddish yellow, mottled, deeply weathered, biotite gneiss, cohesive, some very fine sand, coarse gravel, plagioclase, w~PL	ML		5.00					
10	375	10.00 - 13.00 CL, SILTY CLAY, trace very fine to fine sand, 5YR 5/8 yellowish red, deeply weathered biotite gneiss, mottled, very fine mica flakes, cohesive, moist, w~PL, very soft to soft, med plasticity, residual soil	CL		376.4				Riser —	
15	370	13.00 - 20.00 ML, CLAYEY SILT, some sand, vf to fine sand, faint relict foliation, yellowish red to red to light brown layer of hornblende gneiss, moist, cohesive, W<PL, slightly plastic, soft to firm	ML		373.4	1	ROTO	10.00		
20	365	20.00 - 30.00 ML, SILT, some clay and sand, very fine to fine sand, 10 YR 5/3 brown, very weathered biotite gneiss, very weathered muscovite-biotite-plagioclase, moist, non-cohesive, loose, residual soil, SAPROLITE, some foliation visible throughout, very weathered hornblende gneiss near bottom of run	ML		366.4	2	ROTO	8.50		
25	360	30.00 - 37.00 ML, sandy CLAYEY SILT, some relict foliation present interlayered biotite hornblende gneiss. SAPROLITE	ML		356.4	3	ROTO	10.00		
30	355	37.00 - 40.00 Transitionally weathered rock, slightly weathered to weathered biotite gneiss	TWR		349.4					
40		Log continued on next page			346.4					

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: Chris Turner

GA INSPECTOR: S. George, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-60D

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

SHEET 2 of 3

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
40		40.00 - 45.50 Transitionally weathered rock, weathered to slightly weathered biotite gneiss at 40'-44'	TWR		40.00	4	ROTO <u>6.00</u> SONIC 6.00			WELL CASING Interval: 0' - 69.4' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 69.4' - 99.7' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 66.6' - 99.7' Type: #1 Sand Quantity: 8.5 Bags FILTER PACK SEAL Interval: 62.3' - 66.6' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 66.6' Type: Cement-Bentonite Quantity: 1,050lbs Cement, 42lbs Bentonite, 140gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
345		brown quartz-plagioclase-hornblende-biotite, slightly weathered hornblende gneiss 44'-45.5', dry to moist, foliation in cobbled size								
45		45.50 - 52.00 BIOTITE GNEISS interlayered with HORNBLLENDE GNEISS, fine grained, well foliated, primarily biotite gneiss Biotite slight oxidation zone at 46', trace <1mm-2mm red garnets throughout slight oxidation zone at 50.5' Migmatitic texture at 51'-52'	BR		340.9 45.50	5	ROTO <u>6.00</u> SONIC 6.00			
340										
50		52.00 - 60.50 BIOTITE GNEISS, well foliated, greenish black and white layers, fine grained plagioclase-quartz-hornblende-biotite	BR		334.4 52.00	6	ROTO <u>7.00</u> SONIC 8.00			
335										
55		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		325.9 60.50	7	ROTO <u>11.00</u> SONIC 10.00			Bentonite —
325										
60										
65										
70		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		316.4 70.00	8	ROTO <u>10.00</u> SONIC 10.00			Sand —
315										
75										
80					306.4					0.010" Slotted — Screen
Log continued on next page										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

RECORD OF BOREHOLE PZ-60D


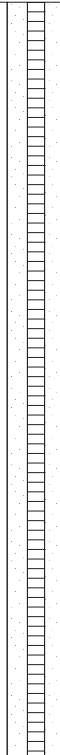
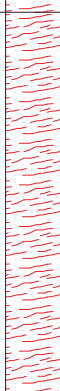
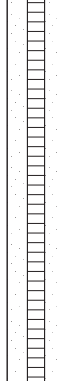
SHEET 3 of 3

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
80		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		WELL CASING Interval: 0' - 69.4' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 69.4' - 99.7' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 66.6' - 99.7' Type: #1 Sand Quantity: 8.5 Bags FILTER PACK SEAL Interval: 62.3' - 66.6' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 66.6' Type: Cement-Bentonite Quantity: 1,050lbs Cement, 42lbs Bentonite, 140gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic	
305		Possible fracture at 87'-87.5'								
		very slight oxidation staining on break at a 60 degree to vertical								
85		trace pyrite-plagioclase-quartz-hornblende-biotite, well foliated								
300										
90		90.00 - 100.00 BIOTITE GNEISS, well foliated	BR		296.4 90.00	10	ROTO 10.00 SONIC 10.00			
295										
95										
290										
100		Boring completed at 100.00 ft			286.4					
285										
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		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					WELL CASING Interval: 0' - 10' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 10' - 20' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 8' - 20' Type: #1 Sand Quantity: 3 Bags FILTER PACK SEAL Interval: 5' - 8' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 5' Type: Cement-Bentonite Quantity: 200lbs Cement, 14lbs Bentonite, 30gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
385		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		380.9	1	ROTO SONIC	10.00		
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		376.4					
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		373.9					
375		12.50 - 20.00 ML, SILT, some clay, sandy silt at 14' - 16', mottled with relict foliations, variegated yellowish red to dark brown to brown, very weathered biotite gneiss, non-cohesive, loose to compact, non-plastic, moist to wet	ML		366.4	2	ROTO SONIC	10.00		
15										
370										
20		Boring completed at 20.00 ft								
365										
25										
360										
30										
355										
35										
350										
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: Chris Turner

GA INSPECTOR: S. George, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-61

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

SHEET 1 of 2

DEPTH W.L.: 12.80'
ELEVATION W.L.: 426.37'
DATE W.L.: 4/13/2020
TIME W.L.: 14:10

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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		0.00 - 10.00 Hydro-vac for utility clearance.								WELL CASING Interval: 0' - 39.45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 39.45' - 49.45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 37.25' - 49.45' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 33.8' - 37.25' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 33.8' Type: Cement-Bentonite Quantity: 900lbs Cement, 45lbs Bentonite, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
435										
5										
430										
10		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		11.50 - 19.50 ML, CLAYEY SILT and SILT, yellowish brown, deeply weathere biotite gneiss, faint to no structure, plagioclase ad biotite rich, cohesive, soft, non-plastic, moist, w<PL, RESIDUUM	ML		425.3 11.50					
15						1	ROTO	10.00		
420							SONIC	10.00		
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					
415		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					
		21.00 - 24.00 ML, sandy SILT, very fine to fine sand, very plae brown, dry, non-cohesive, metagranitic, slight foliation, SAPROLITE	ML		21.00 412.8					
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		412.8 24.00					
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		410.8 26.00					
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					
400										
		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					
40					396.8					
		Log continued on next page								

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

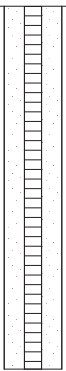
SHEET 2 of 2

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					WELL CASING Interval: 0' - 39.45' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 39.45' - 49.45' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 37.25' - 49.45' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 37.25' - 37.25' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 33.8' Type: Cement-Bentonite Quantity: 900lbs Cement, 45lbs Bentonite, 120gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
395		42.00 - 46.00 ML, CLAYEY SILT, grey clay, no structure, non-cohesive, compact, SAPROLITE	ML		394.8	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	5	ROTO 4.00 SONIC 4.00			
390					46.00					
50		Boring completed at 50.00 ft			386.8					
385										
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: 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						Grout -- Riser --	WELL CASING Interval: 0' - 42.25' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 42.25' - 52.25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 40' - 52.25' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 36.5' - 40' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 36.5' Type: Cement-Bentonite Quantity: 450lbs Cement, 30lbs Bentonite, 60gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
4.95										
5										
4.90										
10		10.00 - 15.00 ML, SILT, very weathered biotite gneiss, yellowish brown, mica flakes, SAPROLITE	ML		488.3 10.00					
4.85										
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		483.3 15.00	1	ROTO 8.00 SONIC 10.00			
4.80										
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		478.3 20.00					
4.75										
25			ML			2	ROTO 8.00 SONIC 10.00			
4.70										
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		468.3 30.00					
4.65										
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		463.3 35.00	3	ROTO 10.00 SONIC 10.00			
4.60									Bentonite --	
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


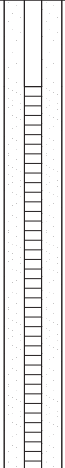

SHEET 2 of 2

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
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 <u>7.00</u> SONIC 6.00		WELL CASING Interval: 0' - 42.25' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 42.25' - 52.25' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 40' - 52.25' Type: #1 Sand Quantity: 3.5 Bags FILTER PACK SEAL Interval: 36.5' - 40' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 36.5' Type: Cement-Bentonite Quantity: 450lbs Cement, 30lbs Bentonite, 60gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic	
455					452.3					
45		46.00 - 50.00 Wash out			46.00	5	ROTO <u>0.00</u> SONIC 4.00			
450										
50		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 <u>2.50</u> SONIC 2.00			
445		Boring completed at 52.00 ft						446.3		
445										
55										
440										
60										
435										
65										
430										
70										
425										
75										
420										
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-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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
0		0.00 - 10.00 Hydro-vac for utility clearance.								
495										
5								Grout		
490										
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 - 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					
485										
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			
480		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					
		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			
475		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					
25								Bentonite		
		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			
470		28.00 - 30.00 Transitionally Weathered Rock interlayered saprolite and unweathered BIOTITE GNEISS, well foliated, fine to medium grained, moist, clay lenses throughgout, moist to wet	BR		470.9 28.00					
30		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-hornblended-plagioclase			468.9 30.00					
465			BR			4	ROTO 10.00 SONIC 10.00			
35										
460								0.010" Slotted Screen		
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





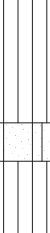



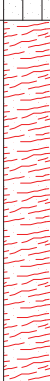
SHEET 1 of 2

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
0		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	1	ROTO 6.00 SONIC 10.00	Grout —	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	
475		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					
5										
470										
10		10.00 - 14.00 ML, SILT, brown, weathered biotite gneiss	ML		466 10.00	2	ROTO 10.00 SONIC 10.00	Riser —		
465		14.00 - 15.00 SP/SM, SAND and SILTY SAND, fine to medium sand, granitic, dry to moist, plagioclase rich	SP-SM		462 14.00 461					
15		15.00 - 17.00 ML, SILT, cobble sized granitic pieces, tan, slightly foliated, plagioclase rich, soft, dry, w<PL, non-plastic	ML		15.00					
460		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 17.00					
20		20.00 - 26.00 SM, SILTY SAND, biotite gneiss, pale brown to bro, dry to wet, SAPROLITE	SM		456 20.00	3	ROTO 6.00 SONIC 6.00			
25										
450		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 26.00	4	ROTO 4.00 SONIC 4.00			
30		30.00 - 40.00 BIOTITE GNEISS, biotite is medium grained, oxidation, amphibolite gneiss is foliated and fine grained	BR		446 30.00	5	ROTO 5.50 SONIC 10.00			
445										
35										
440										
40		Log continued on next page			436					

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

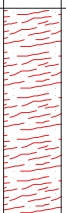

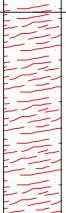
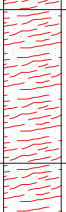

SHEET 2 of 2

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
40	435	40.00 - 50.00 BIOTITE GNEISS, poor recovery, weathered and highly fractured	BR		40.00	6	ROTO 1.50 SONIC 10.00		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	
45	430									
50	425	50.00 - 56.00 BIOTITE GNEISS, black with oxidation, quartz and biotite rich, weathered biotite, fine grained, foliated								426 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		420 56.00		8	ROTO 2.50 SONIC 4.00		
60	415	60.00 - 70.00 BIOTITE GNEISS, foliated, medium grained, white and black	BR		416 60.00	9	ROTO 8.50 SONIC 10.00			
65	410									
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


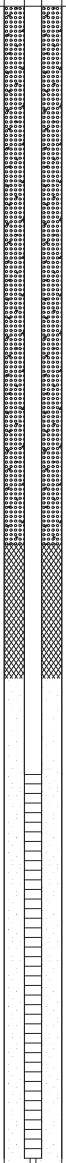






SHEET 1 of 1

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>Grout --</p> <p>Riser --</p> <p>Bentonite --</p> <p>Sand --</p> <p>0.010" Slotted -- Screen</p>	<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			
425										
420										
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	2	ROTO 9.50 SONIC 10.00			
415										
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					
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	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					
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					
30		Boring completed at 30.00 ft			399.6					
35										
395										
390										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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.	SAMPLE NO.	TYPE			REC
					DEPTH (ft)					
0		0.00 - 6.00 Hand auger for utility clearance.							<div>WELL CASING Interval: 0'-69' Material: SDR-21 PVC Diameter: 6.25" Joint Type: Threaded</div> <div>WELL SCREEN Interval: N/A Material: N/A Diameter: N/A Slot Size: N/A End Cap: N/A</div> <div>FILTER PACK Interval: N/A Type: N/A Quantity: N/A</div> <div>FILTER PACK SEAL Interval: N/A Type: N/A Quantity: N/A</div> <div>ANNULUS SEAL Interval: 0'- 69' Type: Cement Quantity: 1504lbs Cement, 120gal Water</div> <div>WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum</div> <div>DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic</div>	
420					418.4					
5		6.00 - 16.00 SM, SILTY SAND, brown dark brown and grey, some clay, loose, rich in muscovite and weathered biotite, soft dry			6.00					
415			SM			1	ROTO 5.00 SONIC 10.00	Grout —		
10										
410					408.4					
15		16.00 - 33.00 SM, SILTY SAND, tan, brown and grey, with clay, loose, weathered biotite, soft, dry, some weathered amphibolite			16.00					
405						2	ROTO 4.50 SONIC 10.00			
20										
400			SM							
25										
30						3	ROTO 10.00 SONIC 10.00			
395										
35		33.00 - 36.00 SM, SILTY SAND, grey dark brown, weathered biotite gneiss, rich in biotite-plagioclase-quartz, SAPROLITE	SM		391.4 33.00					
390										
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 —		
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: Logan Hall

GA INSPECTOR: M. Boatman, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-66D

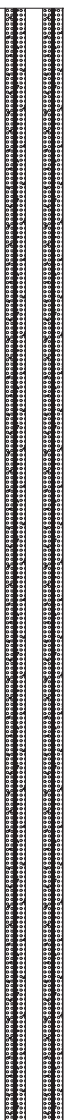
SHEET 2 of 7

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
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				4	ROTO 10.00 SONIC 10.00		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
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			378.4 46.00		5	ROTO 9.00 SONIC 10.00		
45										
50		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		368.4 56.00		6	ROTO 10.00 SONIC 10.00		
55										
60							7	ROTO 3.00 SONIC 3.00		
65									Open Boring –	
70		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 69.00		8	ROTO 7.00 SONIC 7.00		
75										
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'	BR		348.4 76.00		9	ROTO 10.00 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: 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			9	ROTO 10.00 SONIC 10.00			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
340		86.00 - 96.00 BIOTITE GNEISS, black white grey, moderately foliated, rich in plagioclase-biotite, some hornblende, very hard, little fractures	BR		338.4 86.00					
85										
90										
335										
95		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		328.4 96.00	10	ROTO 9.50 SONIC 10.00			Open Boring _ 6" Diameter
330										
95										
325										
100										
320		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		318.4 106.00	11	ROTO 10.00 SONIC 10.00			
105										
315										
110										
310										
115		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		308.4 116.00	12	ROTO 9.60 SONIC 10.00			
305										
120										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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

RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS_SURVEY UPDATED.GPJ_PIEDMONT.GDT 8/18/20

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)					
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			13	ROTO 9.60 SONIC 10.00			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
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		298.4 126.00	14	ROTO 8.50 SONIC 10.00			
125										
130										
295										
135										
290										
140										
285		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		288.4 136.00	15	ROTO 9.50 SONIC 10.00			Open Boring – 6" Diameter
145										
280										
145										
275		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		278.4 146.00	16	ROTO 10.00 SONIC 10.00			
150										
270										
155										
265		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		268.4 156.00	17	ROTO 9.75 SONIC 10.00			
160		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			17	ROTO SONIC	9.75 10.00		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
260					258.4 166.00					
165		166.00 - 186.00 BIOTITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, well foliated, poorly jointed				18	ROTO SONIC	10.00 10.00		
170			BR							
255						19	ROTO SONIC	10.00 10.00		
175										Open Boring _ 6" Diameter
250										
180										
245										
185										
240										
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		238.4 186.00					
235						20	ROTO SONIC	10.00 10.00		
190										
230										
195						21	ROTO SONIC	9.00 10.00		
225			BR		225.65 198.75					
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			21	ROTO SONIC	9.00 10.00		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
220					218.4					
205		206.00 - 216.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed, water staining 212.5'-214'	BR		206.00	22	ROTO SONIC	10.00 10.00		
215		Fractures, 207', 207.5', 208.2', 209.5', 209.6', 209.9', 212.25'								
210										
215		216.00 - 236.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed,	BR		208.4					Open Boring _ 6" Diameter
220					216.00	23	ROTO SONIC	8.75 10.00		
225										
230						24	ROTO SONIC	10.00 10.00		
235										
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'	BR		188.4	25	ROTO SONIC	9.00 10.00		
		Log continued on next page			236.00					

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-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			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				178.4					
250	175	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		246.00	26	ROTO SONIC	10.00 10.00		
255	170				168.4					
260	165	256.00 - 266.00 HORNBLLENDE/BIOTITE GNEISS, fresh to slightly weathered, locally contained quartz, well foliated well jointed Fracture 257'	BR		256.00	27	ROTO SONIC	7.00 10.00		
265	160				158.4					
270	155	Boring completed at 266.00 ft								
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-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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
0		0.00 - 5.00 CL, SILTY CLAY, red, deeply weatherd biotite gneiss, no structure, trace mica, cohesive, firm to stiff, dry to moist, w<PL	CL						Cement —	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					413.4	1	ROTO 8.50 SONIC 10.00			
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		5.00				Riser —	
410					408.4					
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			10.00					
405						2	ROTO 6.50 SONIC 10.00			
15										
400			ML							
20										
395						3	ROTO 9.50 SONIC 10.00			
25										
390										
30		30.00 - 39.00 ML, SILT, brown, very weathered biotite gneiss, cohesive, moist, soft w<PL			388.4					
385					30.00					
35			ML			4	ROTO 10.00 SONIC 10.00		Bentonite —	
380										
40			SM		379.4 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: Chris Turner

GA INSPECTOR: S. George, PG
CHECKED BY: Rachel P. Kirkman, PG
DATE: 5/29/20



RECORD OF BOREHOLE PZ-66

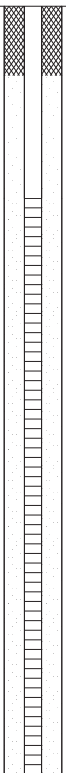
SHEET 2 of 2

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 cohesive, loose to compact, moist, to wet, SAPROLITE (Continued)	SM			5	ROTO 4.00 SONIC 4.00			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
375		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	BR							
370		54.80: Oxidation staining 55.50: Oxidation staining				7	ROTO 10.00 SONIC 10.00			
50		58.00: Oxidation staining							0.010" Slotted - Screen	
365		60.00: Oxidation staining Boring completed at 60.00 ft			358.4					
55										
360										
60										
355										
65										
350										
70										
345										
75										
340										
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-67D

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

SHEET 1 of 8

DEPTH W.L.: 40.32
ELEVATION W.L.: 388.16
DATE W.L.: 5/6/2020
TIME W.L.: 10:24

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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 - 6.00 SM, SILTY SAND with trace clay, low to non plastic, non-cohesive, w<PL, loose/soft, high mica content	SM			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				418.7 6.00					
10	415	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			2	ROTO 5.25 SONIC 10.00			
15	410				408.7 16.00					
20	405	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			3	ROTO 5.00 SONIC 10.00			
25	400				398.7 26.00					
30	395	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							
35	390	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		395.2 29.50	4	ROTO 9.50 SONIC 10.00			
40	385	36.00 - 42.00 CL, CLAY, some very fine sand, low plasticity, dark green, wet to moist, very soft, w<PL	CL		388.7 36.00	5	ROTO 9.20 SONIC 10.00			

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


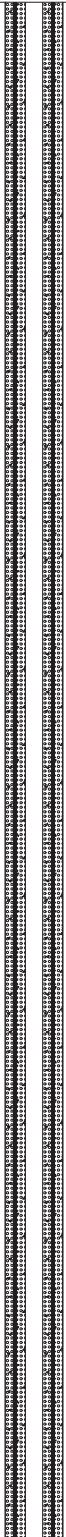













PROJECT: Plant Scherer
PROJECT NUMBER: 20139484
DRILLED DEPTH: 301.00 ft
LOCATION: Juliette, GA

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

BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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)					
40		36.00 - 42.00 CL, CLAY, some very fine sand, low plasticity, dark green, wet to moist, very soft, w<PL (<i>Continued</i>)	CL		382.7	5	ROTO 9.20 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
		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					
		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					
45	380	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		378.7	6	ROTO 9.50 SONIC 10.00			
		49.00 - 53.50 ML, SILT, with trace fine gravel, light green, low plasticity, loose, dry, w<PL,	ML		49.00					
		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			371.2					
		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			358.7	8	ROTO 10.00 SONIC 10.00			
		68.60: Fracture	BR		66.00					
		75.00: Fracture								
75	350	76.00 - 86.00 AMPHIBOLITE, fresh rock, medium grained, white to green	BR		348.7	9	ROTO 7.00 SONIC 7.00			
					76.00					
80	345	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


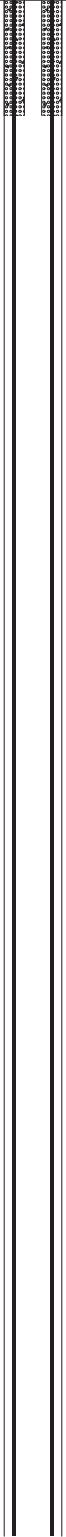




SHEET 3 of 8

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 (Continued)	BR			9	ROTO 7.00 SONIC 7.00			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
		81.90: Fracture								
85	340	84.70: Fracture				10	ROTO 3.00 SONIC 3.00			
		86.00 - 96.00 AMPHIBOLITE, fresh rock, medium grained, white to green, pyrite throughout	BR		338.7 86.00					
90	335					11	ROTO 7.00 SONIC 10.00			
		92.00: Rock becomes more gneissic 92.01: Fracture 92.85: Fracture								
95	330	94.20: Fracture								
		95.50: Fracture								
		96.00 - 106.00 AMPHIBOLITE, fresh rock, medium grained, white to green, pyrite throughout	BR		328.7 96.00					
		98.20: Fracture								
100	325					12	ROTO 10.00 SONIC 10.00			
		106.00 - 166.00 AMPHIBOLITE, black to white to dark green, fine to medium grained, poorly jointed, weakly foliated, fresh to slightly weathered	BR		318.7 106.00					
		106.80: Fracture								
110	315					13	ROTO 10.00 SONIC 10.00			
			BR							
115	310					14	ROTO 9.40 SONIC 10.00			
120	305									

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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 (Continued)				14	ROTO 9.40 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
125	300									
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									
150	275					17	ROTO 10.00 SONIC 10.00			
155	270									
160	265	157.00: Fracture				18	ROTO 10.00 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: 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 (Continued) 160.15: Fracture	BR			18	ROTO SONIC	10.00 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 SONIC	10.00 10.00		
175	250				248.7 176.00					
180	245	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 180.10: Fracture	BR			20	ROTO SONIC	8.50 10.00	Open Boring _ 6" Diameter	
185	240				238.7 186.00					
190	235	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 189.25: Fracture 189.50: Fracture 191.10: Fracture	BR			21	ROTO SONIC	8.80 10.00		
195	230	194.00: Fracture								
200	225	196.00 - 226.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, moderately foliated	BR		228.7 196.00	22	ROTO SONIC	9.50 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

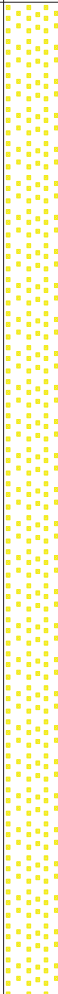

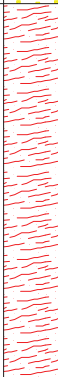
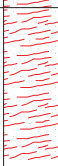
SHEET 6 of 8

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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
200		196.00 - 226.00 AMPHIBOLITE/HORNBLLENDE GNEISS, fine to medium grained, fresh to slightly weathered, moderately foliated <i>(Continued)</i>	BR			22	ROTO SONIC	9.50 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
205	220									
210	215					23	ROTO SONIC	10.00 10.00		
215	210	215.85: Fracture								
220	205				24	ROTO SONIC	10.00 10.00	Open Boring – 6" Diameter		
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		198.7 226.00	25	ROTO SONIC	10.00 10.00		
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		188.7 236.00	26	ROTO SONIC	9.70 10.00		
Log continued on next page										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

RECORD OF BOREHOLE PZ-67D

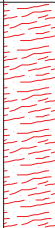



SHEET 7 of 8

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.	SAMPLE NO.	TYPE	REC			
					DEPTH (ft)						
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			26	ROTO <u>9.70</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		
245	180	244.40: Fracture									
		246.00 - 276.00 AMPHIBOLITE/HORNBLLENDE 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	BR		178.7 246.00						
250	175	252.70: Fracture				27	ROTO <u>9.60</u> SONIC 10.00				
255	170	256.00: Fracture									
		258.10: Fracture									
260	165					28	ROTO <u>10.00</u> SONIC 10.00				
		265.80: Fracture									
265	160	267.30: Fracture	BR								
						29	ROTO <u>10.00</u> SONIC 10.00				
270	155	273.90: Fracture									
275	150		BR		148.7 276.00	30	ROTO <u>10.00</u> SONIC 10.00				
280	145	Log continued on next page									

Open Boring _
6" Diameter

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			30	ROTO 10.00 SONIC 10.00		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
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			138.7 286.00					
290	135	289.50: Fracture	BR			31	ROTO 9.60 SONIC 10.00			
295	130					32	ROTO 5.00 SONIC 5.00			
300	125	Boring completed at 301.00 ft			123.7					
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-67


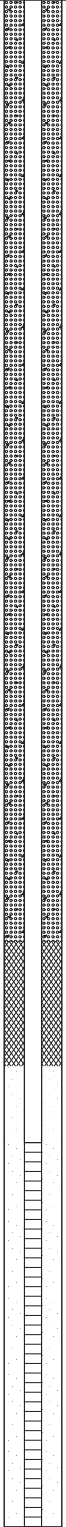

SHEET 1 of 1

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							WELL CASING Interval: 0' - 29.75' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 29.75' - 39.75' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3" FILTER PACK Interval: 27.75' - 39.75' Type: #1 Sand Quantity: 3.25 Bags FILTER PACK SEAL Interval: 24.5' - 27.5' Type: Pel Plug Quantity: 5gal Bucket ANNULUS SEAL Interval: 0' - 24.5' Type: Cement - Bentonite Quantity: 600lbs Cement, 40lbs Bentonite, 80gal Water WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
420										
5										
415									Grout --	
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<PL, soft to firm, moist, RESIDUUM	ML		413.2					
410					10.00					
15		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		410.2				Riser --	
410					13.00					
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			408.2	1	ROTO 7.00	SONIC 10.00		
405					15.00					
20			ML							
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		399.2	2	ROTO 10.00	SONIC 10.00	Bentonite --	
395					24.00					
30										
390		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		393.2				Sand --	
35					30.00					
385										
40		38.00 - 40.00 Transitionally weathered rock, saprolitic rock, BIOTITE GNEISS, interlayered with saprolite very weathered, slightly foliated	TWR		385.2	3	ROTO 10.00	SONIC 10.00	0.010" Slotted Screen	
					38.00					
					383.2					
Boring completed at 40.00 ft										

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



BOREHOLE RECORD PLANT SCHERER CR6 INVESTIGATION BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 8/18/20

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				Grout	WELL CASING Interval: 0' - 10' Material: Sch 40 PVC Diameter: 2" Joint Type: Threaded
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							
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		387.1 5.00	1	ROTO 9.00 SONIC 10.00		Bentonite	WELL SCREEN Interval: 10' - 20' Material: U-Pack Screen Diameter: 2" Slot Size: 0.010" End Cap: 3"
385									Riser	
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		382.6 9.50					FILTER PACK Interval: 7.2' - 20' Type: #1 Sand Quantity: 3.5 Bags
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		381.1 11.00					
		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		379.1 13.00	2	ROTO 5.00 SONIC 5.00			FILTER PACK SEAL Interval: 4' - 7.2' Type: Pel Plug Quantity: 5gal Bucket
15		14.00 - 15.00 SM, SILTY SAND, with clay, some foliation, 10 YR 6/3 pale brown, weathered biotite gneiss, dry	SM		378.1 14.00					
375		15.00 - 20.00 Transitionally weathered rock to unweathered BIOTITE GNEISS, slightly foliated, fine to medium grained, quartz plagioclase, biotite	TWR		377.1 15.00				Sand	ANNULUS SEAL Interval: 0' - 4' Type: Cement - Bentonite Quantity: 50lbs Cement, 3lbs Bentonite, 6gal Water
20		Boring completed at 20.00 ft			372.1	3	ROTO 2.00 SONIC 5.00		0.010" Slotted Screen	
370										WELL COMPLETION Pad: 4' x 4' Protective Casing: Aluminum
25										
365										DRILLING METHODS Soil Drill: Roto Sonic Rock Drill: Roto Sonic
30										
360										
35										
355										
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: 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.:
DATE W.L.: 11/11/15
TIME W.L.: 11:30

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

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES				MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS		
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC	
					DEPTH (ft)								
0	550	0.00 - 2.50 CLAYEY SILT; red/brown clay, trace to little sand, firm to stiff, dry, W<PL	MH		547.5 2.50							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				1	DO	4-5-7	12	1.20 1.50			
5	545	5.00 - 8.50 more clay noted, reddish brown clay with trace fine sand and mica				2	DO	6-12-17	29	1.50 1.50			
		8.50 - 13.50 not mottled				3	DO	4-10-13	23	1.50 1.50			
10	540			4	DO	5-10-13	23	1.50 1.50					
		13.50 - 14.50 reddish brown clay with trace fine sand and mica		536.5 13.50 535.5 14.50									
15	535	14.50 - 17.00 SILTY SAND; deeply weathered granitic gneiss, some quartz, partially weathered rock, white sand and silt, compact, dry, W<PL	SM		533 17.00	5	DO	2-7-5	12	1.00 1.50			
		17.00 - 20.00 SILT; light brown silt with trace fine sand, some mica, non-plastic, soft, dry to moist, W<PL											
20	530	20.00 - 25.00 light beige/white silver silt, lots of mica, non-plastic, trace fine sand, soft, dry, W<PL	ML		530 20.00	6	DO	3-3-4	7	1.20 1.50			
		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											
25	525					525 25.00	7	DO	3-4-4	8			1.10 1.50
		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											
30	520			520 30.00	8	DO	4-8-7	15	1.30 1.50				
		33.00 - 40.00 SILTY SAND; light to medium brown silt with trace fine sand, greenish weathering, non-plastic, soft, moist, W<PL	SM		517 33.00								
35	515					9	DO	3-6-8	14	1.40 1.50			
		40.00 - 53.00 brown/white/green fine to coarse sand, non to low plasticity, dry to moist, soft, W<PL											
40	510					510 40.00	10	DO	6-27-42	69			1.50 1.50
45	505												
Log continued on next page													

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.: 53.8'
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.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
					DEPTH (ft)							
45	505	40.00 - 53.00 brown/white/green fine to coarse sand, non to low plasticity, dry to moist, soft, W<PL (Continued)			497	11	DO	12-20-17	37	1.30 1.50	 3/8" Bentonite — chips #1 sand — 0.010" slot — screen	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				497	12	DO	14-21-29	50	1.40 1.50		
55	495	53.00 - 58.00 PARTIALLY WEATHERED ROCK; biotite gneiss with quartz and hornblende			PWR	53.00	13	DO	50/3	50			0.20 0.30
60	490	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		492	14	CORE			1.00 1.50		
65	485	484.2			15	CORE			4.90 5.00			
		Boring completed at 65.80 ft			16	CORE			0.90 1.00			
70	480											
75	475											
80	470											
85	465											
90	460											

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


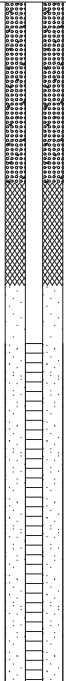

SHEET 1 of 1

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.: 2.05'
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.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE	REC			
					DEPTH (ft)								
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						Portland Type I/ Type II/ Gel mix		WELL CASING Interval: -3'-10' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 10'-20' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 8.3'-20' Type: #1 sand FILTER PACK SEAL Interval: 5.3'-8.3' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-5.3' 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 - 6.00 red/brown clayey sand to orange/yellow clay with trace fine sand, low plasticity, soft, moist, W<PL			2.50	1	DO	4-4-3	7	0.80 1.50			
5	505	6.00 - 7.50 blue grey sandy clay, trace organic material, low plasticity, firm to stiff, moist, W<PL			505.1	2	DO	3-3-3	6	1.30 1.50			
		7.50 - 13.00 sand and clay, soft, loose, low to non-plastic, moist to wet			503.6	3	DO	3-4-8	12	1.50 1.50			
10	500		SM		498.1						#1 sand - 0.010" slot screen		
		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			13.00								
15	495	15.00 - 20.00 brown/bronze and white sand with trace to some silt, non-plastic, loose, moist, W<PL			496.1	5	DO	13-12-10	22	1.40 1.50			
					15.00								
20	490	Boring completed at 20.00 ft			491.1	6	DO	10-50/4	50	0.50 0.80			
25	485												
30	480												
35	475												
40	470												
45													

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





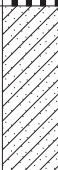


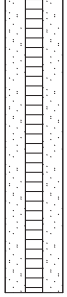
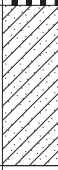

SHEET 1 of 1

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.: 6.48
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		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							WELL CASING Interval: -3'-25' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 25'-35' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 20'-35' Type: #1 sand "Heaving" sands during well construction FILTER PACK SEAL Interval: 17.7'-20' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-17.7' 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
510		2.50 - 4.00 red brown mottled clay with trace fine sand, dry to moist, W<PL			508.2	1	DO	4-6-10	16	1.40 1.50		
5		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	1.50 1.50		
505						3	DO	5-7-9	16	1.50 1.50		
10						4	DO	3-5-8	13	1.50 1.50		
500					499.2							
15		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	1.50 1.50		
495					494.2							
20		18.00 - 20.00 CLAYEY SILT; beige to brown spotted clay, moderate to high plasticity, soft to firm, moist, W=PL 20.00 - 25.00 beige to brown spotted clay, moderate to high plasticity, soft to firm, moist, W=PL	MH		18.00	6	DO	1-2-1	3	1.50 1.50		
490					492.2							
25		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			487.2	7	DO	1-2-2	4	1.50 1.50		#1 sand - 0.010" slot - screen
485					481.9	8	DO	1-2-2	4	0.90 1.50		
30		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							
480					477.2							
35		Boring completed at 35.00 ft				9	DO	1-2-3	5	1.50 1.50		
475												
40												
470												
45												

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

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

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES					MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE	REC		
					DEPTH (ft)							
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	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					452.1	2	DO	2-5-7	12	1.30 1.50		
		6.00 - 7.50 CLAY; yellowish orange clay with fine to medium sand, low plasticity, stiff, moist, W<PL	CH		6.00							
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			7.50	3	DO	5-7-8	15	1.20 1.50		
10		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		448.1	4	DO	7-9-10	19	1.50 1.50		
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'			445.1							
15					440.1	5	DO	4-9-9	18	1.50 1.50		
440		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		18.00							
20								6	DO	2-2-2		
435												
25		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			433.1	7	DO	2-3-4	7	1.50 1.50		
430					428.1	8	DO	1-4-3	7	1.20 1.50		
30		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			423.1	9	DO	3-5-11	15	1.20 1.50		
425					418.1							
35		35.00 - 40.00 intertayered 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										
420												
40		Boring completed at 40.00 ft				10	DO	11-17-20	37	0.90 1.50		
415												
45												

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

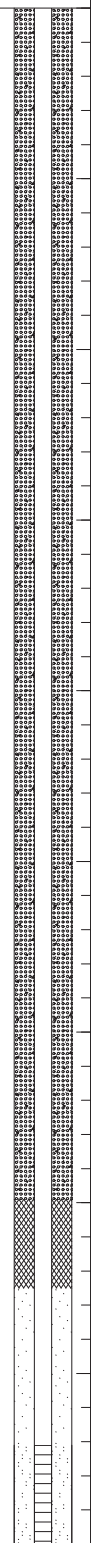
SHEET 1 of 3

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.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE	REC		
					DEPTH (ft)							
0		0.00 - 2.50 SILT; soft sandy top soil followed by red silt and clay with mica, low plasticity, dry, compact, W>PL	ML									WELL CASING Interval: -3.5'-43.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 42.1'-52.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 37.5'-53.1' Type: #1 sand FILTER PACK SEAL Interval: 34.9'-37.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-34.9' 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
520		2.50 - 5.00 red silt and clay, contains mica, low plasticity, compact, dry, W>PL			519 2.50	1	DO	3-5-8	13	<u>1.30</u> 1.50		
5		5.00 - 8.00 red/brown silt, contains mica, non-plastic, 1 inch thick pegmatite lense at 6.7 feet, dry to moist			516.5 5.00	2	DO	4-8-11	19	<u>1.10</u> 1.50		
515		8.00 - 10.00 SILTY CLAY; red/brown clay with some silt, contains mica, low plasticity, loose to firm, dry to moist	CL		513.5 8.00	3	DO	5-5-5	10	<u>1.20</u> 1.50		
10		10.00 - 18.20 red/brown clay with some silt, contains mica, coarse biotite and feldspar crystals, low plasticity, loose to firm, dry to moist			511.5 10.00	4	DO	2-4-5	9	<u>0.90</u> 1.50		
510		18.20 - 23.00 SILTY SAND; tan to white sand, fine to coarse, trace silt, non-plastic, loose; orange-brown silt with trace sand, fine to medium, weathered amphibolite, firm , dry, moist; then to silty sand with biotite/quartz/feldspar pegmatite, non-plastic, soft, dry to moist			503.3 18.20	5	DO	2-3-4	7	<u>0.90</u> 1.50		
505		23.00 - 33.20 SILT; orange/brown silt with trace fine sand, weathered amphibolite, non-plastic, soft to firm, dry to moist	SM		498.5 23.00	6	DO	3-4-3	7	<u>0.90</u> 1.50		
20		33.20 - 35.00 SILTY SAND; white sand, fine to coarse, non-plastic, weathered quartz/biotite/feldspar pegmatite, loose, dry, W<PL			488.3 33.20	7	DO	5-6-6	12	<u>1.50</u> 1.50		
495		35.00 - 40.00 white sand, fine to coarse with trace silt, non-plastic, weathered quartz/biotite/feldspar pegmatite, loose, moist to wet			486.5 35.00	9	DO	19-33-20	>50	<u>1.40</u> 1.50		
485		40.00 - 45.00 green salt and pepper texture, sand, some silt, fine to coarse, some mica, iron staining evident, compact, non-plastic, moist to wet	ML		481.5 40.00	10	DO	32-50/3	>50	<u>0.80</u> 0.80		
480					476.5							
45		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 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</p> <p>0.010" slot screen</p> <p>3/8" Bentonite chips</p>	WELL CASING Interval: -3.5'-43.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 42.1'-52.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 37.5'-53.1' Type: #1 sand FILTER PACK SEAL Interval: 34.9'-37.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-34.9' 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
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						14	DO	7-9-15	24	<u>1.50</u> 1.50		
460												
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												
445		76.60: Core Run (76.6'-81.2'): no recovery	BR			17	CORE			<u>0.00</u> 4.60		
80												
440		81.20: Core Run (81.2'-85.7'): no recovery				18	CORE			<u>0.00</u> 4.50		
85												
435		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		68.00 - 103.00 BEDROCK; deeply weathered gneiss (Continued)				19	CORE			0.00 7.30		WELL CASING Interval: -3.5'-43.1' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 42.1'-52.1' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 37.5'-53.1' Type: #1 sand FILTER PACK SEAL Interval: 34.9'-37.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-34.9' 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
430		93.00: Core Run (93'-98'): RQD=0%; REC=20%				20	CORE			1.00 5.00		
95		98.00: Core Run (98'-103.4'): RQD=62%; REC=90%	BR			21	CORE			4.90 5.40		
425		Boring completed at 103.40 ft			418.5 103.00							
100												
420												
105												
415												
110												
410												
115												
405												
120												
400												
125												
395												
130												
390												
135												

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



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

APPENDIX B-4

Gypsum Cell 1 Monitoring Wells 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; gneissic saprolite		SS -1	19.5- 21.0	3-5-16 (21)		

(Continued Next Page)

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ



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

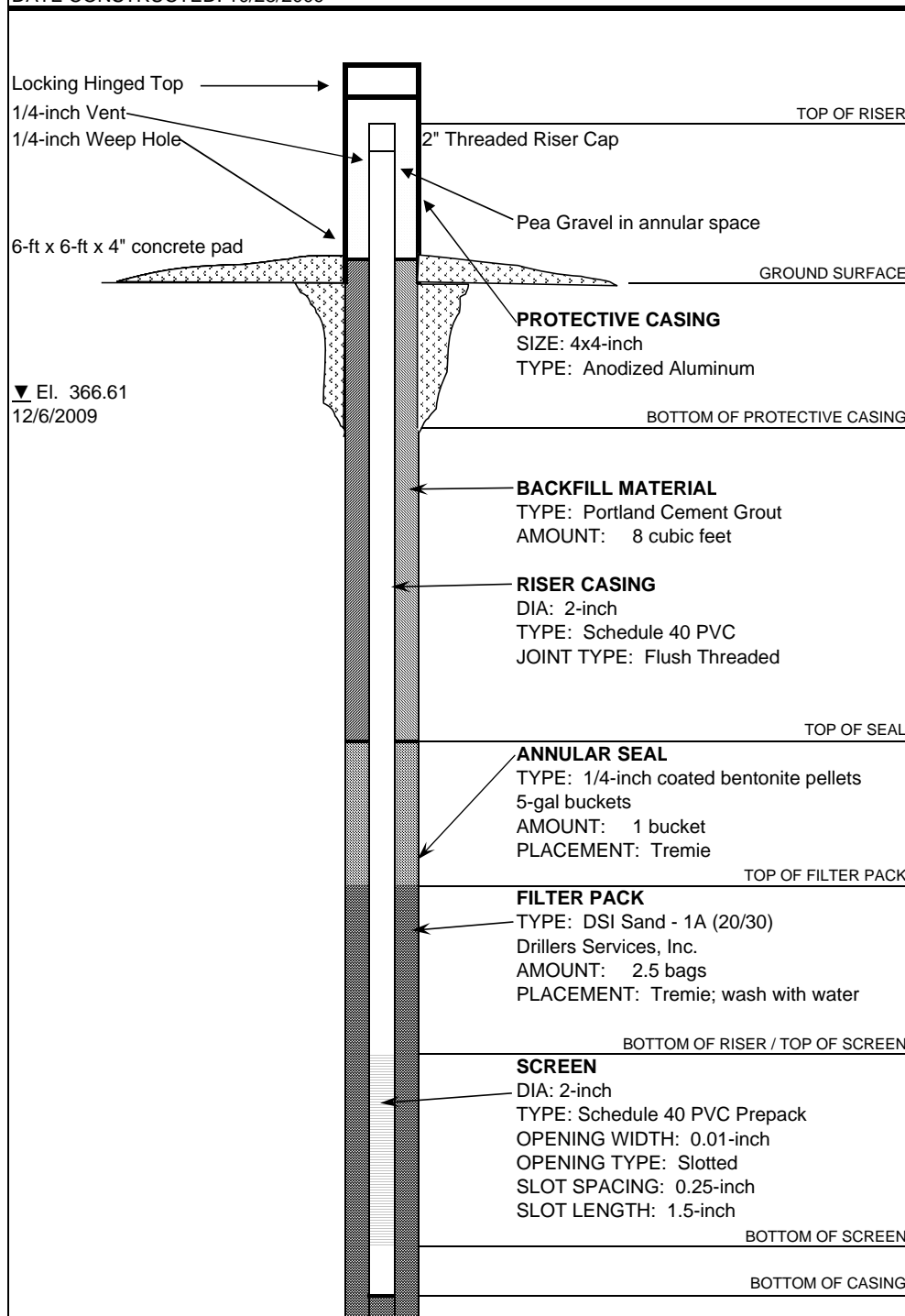
LOCATION Cell 1

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>Con't</i>)		SS -2	24.5- 26.0	11-7-9 (16)		
30		Silty SAND (SM); mottled black and white; fine to medium grained		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
				BOTTOM OF PROTECTIVE CASING		
				TOP OF SEAL	19.50	352.10
				TOP OF FILTER PACK	22.00	349.60
				BOTTOM OF RISER / TOP OF SCREEN	24.69	346.91
				BOTTOM OF SCREEN	34.69	336.91
				BOTTOM OF CASING	34.85	336.75
				HOLE DIA: 9"		



LOG OF TEST BORING

BORING GWC-2
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/7/2009 **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								
20			357.4					
		Wet, silty SAND (SM); green and white with occasional orange mottling; gneissic saprolite		SS -1	19.5- 21.0	2-3-6 (9)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-2
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		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

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-2
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
		gneissic saprolite Wet, silty SAND (SM); green and white with occasional orange mottling; gneissic saprolite (Con't)						
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						
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>4-ft x 4-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <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> <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 3/4 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> <p>HOLE DIA: 9"</p>				DEPTH FEET	ELEVATION FT, MSL	
				TOP OF RISER	-3.32	380.22
				GROUND SURFACE	0.00	376.9
				BOTTOM OF PROTECTIVE CASING		
				TOP OF SEAL	40.98	335.92
				TOP OF FILTER PACK	42.98	333.92
				BOTTOM OF RISER / TOP OF SCREEN	44.78	332.12
				BOTTOM OF SCREEN	54.78	322.12
				BOTTOM OF CASING	54.88	322.02

▼ El. 368.01
12/5/2009



LOG OF TEST BORING

BORING GWC-3
PAGE 1 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

DATE STARTED 10/29/2009 **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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-3
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		Sandy SILT (MLS) and SILT (ML) (Con't) Sandy SILT (MLS), mottled orange, tan and black with tan lean CLAY (CL), micaceous		SS -2	23.5- 25.0	5-5-7 (12)		
			378.7					
30		Silty SAND (SM), mottled orange, tan, white and black, fine grained, micaceous		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+)		
			361.2					
		Bottom of borehole at 46.0 feet.						Auger refusal.
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
PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		GROUND SURFACE	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
HOLE DIA: 9"			

▼ El. 370.68
12/5/2009



LOG OF TEST BORING

BORING GWC-4
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.** 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			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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



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>Con't</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\GINIT 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-4	
LOGGER: W. Clanton		DRILLING METHODS: HSA			
DATE CONSTRUCTED:11/21/2009					
				DEPTH FEET	ELEVATION FT, MSL
				TOP OF RISER	-3.35 411.75
2" Threaded Riser Cap					
Pea Gravel in annular space					
4-ft x 4-ft x 4" concrete pad				GROUND SURFACE	0.00 408.4
PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum					
BOTTOM OF PROTECTIVE CASING					
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 11.5 cubic feet					
RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded					
TOP OF SEAL				26.30	382.10
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1.25 buckets PLACEMENT: Tremie					
TOP OF FILTER PACK				27.95	380.45
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5.5 bags PLACEMENT: Tremie; wash with water					
BOTTOM OF RISER / TOP OF SCREEN				29.70	378.70
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				39.70	368.70
BOTTOM OF CASING				39.91	368.49
HOLE DIA: 9"					

▼ El. 381.02
12/4/2009



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.

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						

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-5
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		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+)		
		GNEISS - black and white, fine to medium grain, hard, not weathered						Auger refusal.
				RC -1	30.0- 34.8		100 (100)	
35			358.4					
		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



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.

DEPTH (ft.)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		CLAY (CL)						
10			402.4					
15		SILT (ML)						
			397.4					
		Silty SAND (SM); tan with orange and black mottling; loose; dry; abundant mica						
20			392.4					
		Silty SAND (SM); tan with orange and black mottling; loose; dry; abundant mica		SS -1	19.5- 21.0	3-5-6 (11)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-6
PAGE 2 OF 2

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

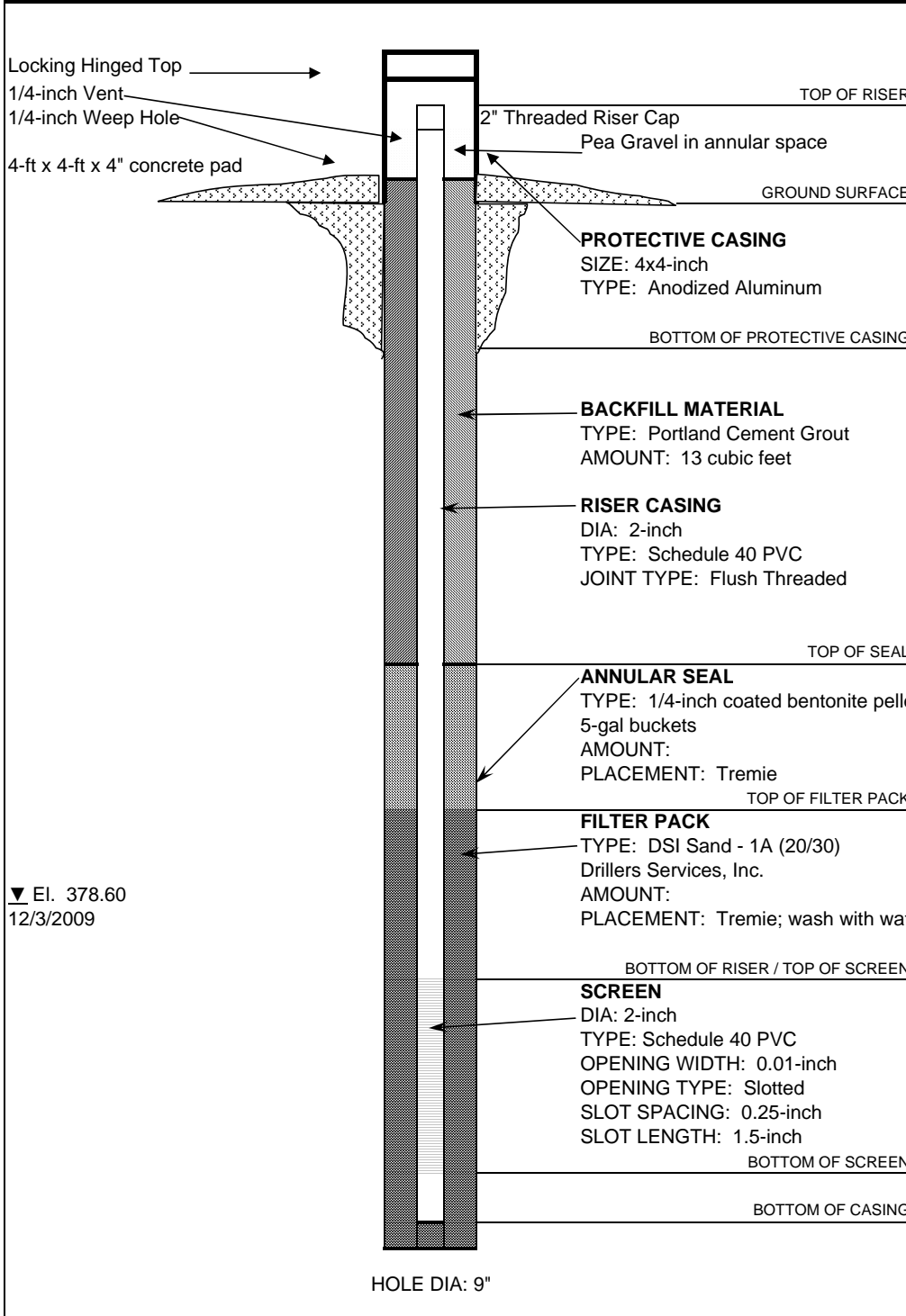
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		Silty SAND (SM); black and tan with occasional black mottling; very fine to fine grained; loose; dry; mica		SS -2	24.0- 25.5	5-6-10 (16)		
30		White cobble		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
	<p>TOP OF RISER -3.40</p> <p>GROUND SURFACE 0.00</p> <p>TOP OF SEAL 29.86</p> <p>TOP OF FILTER PACK 31.86</p> <p>BOTTOM OF RISER / TOP OF SCREEN 34.86</p> <p>BOTTOM OF SCREEN 44.86</p> <p>BOTTOM OF CASING 45.10</p>	<p>415.8</p> <p>412.4</p> <p>382.54</p> <p>380.54</p> <p>377.54</p> <p>367.54</p> <p>367.30</p>
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>4-ft x 4-ft x 4-inch concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 13 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: PLACEMENT: Tremie</p> <p>FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: PLACEMENT: Tremie; wash with water</p> <p>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</p> <p>HOLE DIA: 9"</p> <p>▼ El. 378.60 12/3/2009</p>		



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




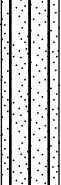
DATE STARTED 10/19/2009 **COMPLETED** 10/20/2009 **SURF. ELEV.** 414.4 **COORDINATES:** N 1118243.67 E 2410645.91

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.

DEPTH (ft.)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		Residuum, CLAY (CL); red; medium dense; damp; low plasticity; trace mica						
10		Residuum, SILT (ML); tan; medium dense; damp; with mica	405.3					
15								
20		Saprolite, silty SAND (SM); tan and black; medium dense; damp; with mica (remnant gneiss texture)	398.3					
				SS -1	19.5- 21.0	5-6-8 (14)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-7
PAGE 2 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility

LOCATION Cell 1

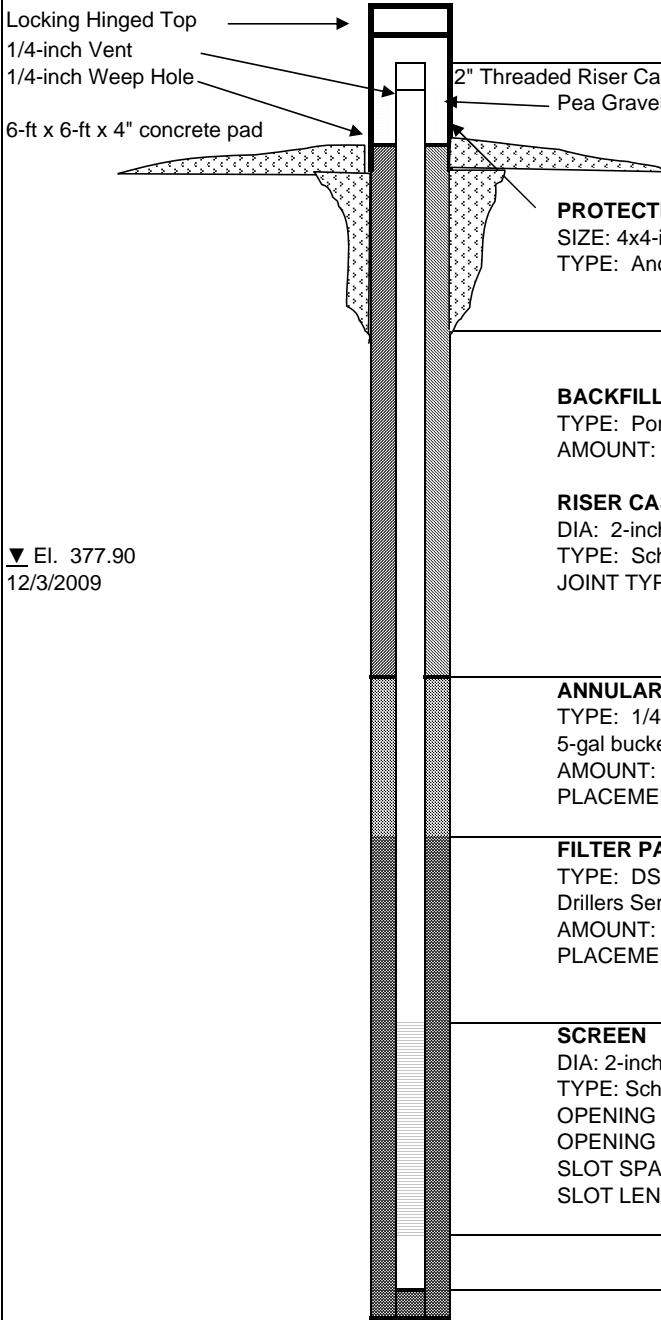
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
25		<i>Saprolite</i> , silty SAND (SM); tan and black; medium dense; damp; with mica (remnant gneiss texture) (Cont)	389.8					
		<i>Saprolite</i> , poorly graded SAND with SILT (SP-SM); tan, white and black; medium dense; damp; with iron oxide stain (remnant gneiss texture)		SS -2	24.5- 26.0	6-8-16 (24)		
30		<i>Saprolite</i> , silty SAND (SM); white and tan; medium dense; moist	384.8	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

(Continued Next Page)

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					
	Locking Hinged Top				
	1/4-inch Vent		TOP OF RISER	-3.87	418.27
	1/4-inch Weep Hole				
	6-ft x 6-ft x 4" concrete pad		GROUND SURFACE	0.00	414.4
			PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum		
			BOTTOM OF PROTECTIVE CASING		
			BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 18 cubic feet		
			RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded		
			TOP OF SEAL	39.90	374.50
			ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie		
		TOP OF FILTER PACK	41.70	372.70	
		FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water			
		BOTTOM OF RISER / TOP OF SCREEN			
			44.57	369.83	
		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	54.57	359.83	
		BOTTOM OF CASING			
			54.78	359.62	

▼ El. 377.90
12/3/2009

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.	SAMPLE NO.	TYPE	BLOWS per 6 in 140 lb hammer 30 inch drop	N-VALUE			REC
					DEPTH (ft)							
0		0.00 - 8.50 SM, SILTY SAND, non-plastic; dark brown; non-cohesive, dry, w<PL, loose.	SM								Protective Alumnum – Casing	WELL CASING Interval: 0' - 44.7' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Screw
395					S1	DO	2-2-2	4	0.00 1.50			
5												WELL SCREEN Interval: 34.3' - 44.3' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010 End Cap: 44.3' - 44.7"
390		8.50 - 18.50 CL, CLAY with trace organics, moderate plasticity; dark brown to red brown; cohesive, moist, w~PL very soft.	CL		389.7 8.50	S2	DO	1-2-1	3	0.16 1.50			FILTER PACK Interval: 27.8' - 45' Type: FilterSil
10												
385												ANNULUS SEAL Interval: 0' - 24.7' Type: CETCO Pure Gold Grout (70:30)
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 18.50 378.7 19.50	S4	DO	3-4-6	10	1.50 1.50		DRILLING METHODS Soil Drill: 4.25 inch HSA Rock Drill: N/A
20		19.50 - 23.50 SP, Poorly-graded SAND, fine to coarse, non plastic; white to black; non-cohesive, moist, w<pl, loose.	SP									
375		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		Pel-Plug – Bentonite
25												
370												FilterSil –
30						S6	DO	10-25-42	67	1.16 1.50		
365												0.010" Slotte Schedule 40 – PVC
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		
360												
40						S8	DO	50/4	50/4	0.16 1.50		
355												
45						S9	DO	50/5	50/5	0.33 1.50		
		Boring completed at 45.00 ft			353.2							

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			368.5	SS -1	14.5- 16.0	8-8-33 (41)		
		Damp, silty SAND (SM); dark greenish gray with white and pale brown mottles; fine grained; micaceous; gneissic saprolite						
		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\GINIT SOFTWARE\SCHERER GYP.GPJ



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.

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					
		Damp, silty SAND (SM); mottled green, orange, reddish brown, black, and light brownish yellow with laminations of pink SAND; fine grained; very micaceous		SS -1	19.5- 21.0	7-8-16 (24)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-10
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, 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	353.8	SS -4	34.5- 36.0	11-20-24 (44)		
40		Bottom of borehole at 35.5 feet.						
45								
50								

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-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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-11
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 white, light brown, orange, and black; fine grained; micaceous (<i>Cont</i>) Moist, silty SAND (SM); light brown with orange, green and black mottles; fine grained; micaceous; some gneissic saprolite		SS -2	23.5- 25.0	5-9-11 (20)		
30		Moist, silty SAND (SM); mottled white, black, and blackish green; fine grained; micaceous; gneissic saprolite	369.1	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\GINIT 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				
<p>▼ El. 387.70 12/14/2009</p> <p>HOLE DIA: 9"</p>	TOP OF RISER		DEPTH FEET	ELEVATION FT, MSL
	-3.53			402.33
	GROUND SURFACE		0.00	398.8
	BOTTOM OF PROTECTIVE CASING			
	TOP OF SEAL		16.50	382.30
	TOP OF FILTER PACK		19.00	379.80
	BOTTOM OF RISER / TOP OF SCREEN		21.00	377.80
	BOTTOM OF SCREEN		31.00	367.80
	BOTTOM OF CASING		30.90	367.90



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\GINIT SOFTWARE\SCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-12
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		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		Wet, clayey SAND (SC); mottled orange, white and tan with sparse black organics; fine grained; micaceous		SS -3	28.5- 30.0	7-11-15 (26)		
			376.0					
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
PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum BOTTOM OF PROTECTIVE CASING		
BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 8.5 cubic feet RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded TOP OF SEAL	20.12	389.08
ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie TOP OF FILTER PACK	22.22	386.98
FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water BOTTOM OF RISER / TOP OF SCREEN	24.22	384.98
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	34.22	374.98
BOTTOM OF CASING	34.04	375.16
HOLE DIA: 9"		

▼ 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								
20			398.0	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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-13
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		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\GINIT SOFTWARE\SCHERER GYP.GPJ



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)		

(Continued Next Page)

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ



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						

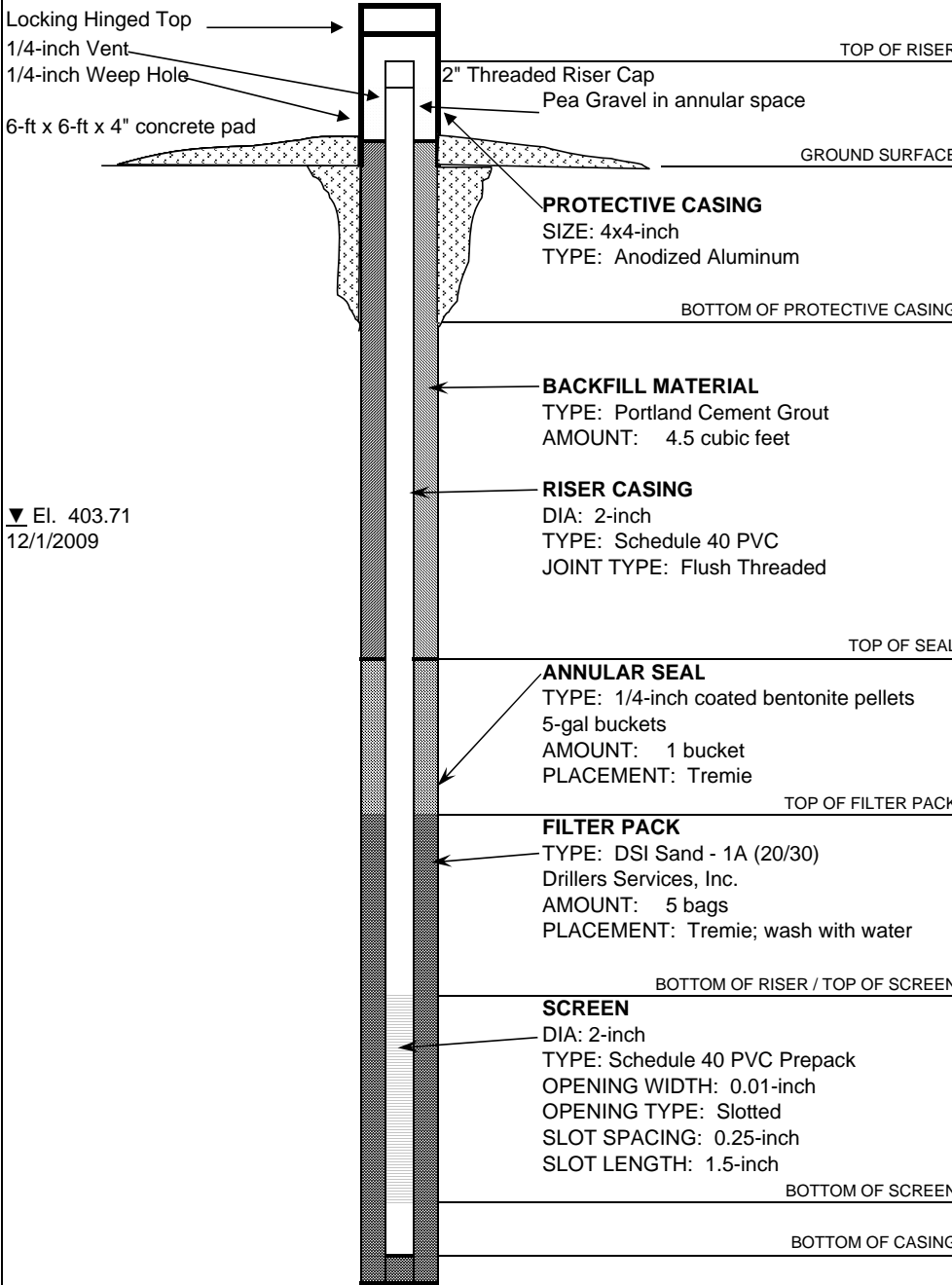
GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)

LOG OF TEST BORING

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	
				BOTTOM OF PROTECTIVE CASING			
				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		11.69	400.01
				ANNULAR SEAL TYPE: 1/4-inch coated bentonite pellets 5-gal buckets AMOUNT: 1 bucket PLACEMENT: Tremie			
				TOP OF FILTER PACK		13.94	397.76
				FILTER PACK TYPE: DSI Sand - 1A (20/30) Drillers Services, Inc. AMOUNT: 5 bags PLACEMENT: Tremie; wash with water			
				BOTTOM OF RISER / TOP OF SCREEN		16.19	395.51
				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		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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWA-16
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); 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)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWA-16
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
55		SAND (SP); mottled black, white and orange; saprolite (<i>Con't</i>)	385.7	SS -8	54.5- 54.8	50/4" (100+)		auger refusal.
Bottom of borehole at 55.0 feet.								
60								
65								
70								
75								

LOG OF TEST BORING



LOG OF TEST BORING

BORING GWA-17
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
		SILT (ML), yellowish red, micaceous, trace of fine sand (<i>Con't</i>)						
25		White to light olive brown, medium dense, SILTY SAND (SM), with relict structure and reddish black stringers	418.2	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					
45		Bottom of borehole at 43.3 feet.						
50								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINIT SOFTWARE\SCHERER GYP.GPJ



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.

DEPTH (ft.)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N VALUE)	RECOVERY % (RQD)	COMMENTS
5		LEAN CLAY (CL), silty, red, trace fine sand						Auger cuttings used for classifications from 0 -19.5 feet.
		Grading silty, moist, yellowish red						
10		Strong brown						
15								
20			408.8	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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(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

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.

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

(Continued Next Page)

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				
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>6-ft x 6-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <p>PROTECTIVE CASING SIZE: 4x4-inch TYPE: Anodized Aluminum</p> <p>BOTTOM OF PROTECTIVE CASING</p> <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> <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: 5 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> <p>El. N/A 1/12/2010</p> <p>HOLE DIA: 9"</p>	TOP OF RISER	DEPTH FEET	ELEVATION FT, MSL	
			-3.36	439.66
			0.00	436.3



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					
		Dry, silty SAND (SM); red with occassional white lenses and black mottles; very fine to fine grained; micaceous; friable		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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-19
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		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			391.6	SS -4	34.5- 36.0	4-5-7 (12)		
40		Dry, clayey SAND (SC); green, black and white with occasional dark orange mottling; very fine to fine grained; micaceous; soft; gneissic saprolite		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)		

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\SCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-19
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
		gneissic saprolite Dry, clayey SAND (SC); mottled green, black and light orangish brown; very fine to fine grained; micaceous; soft; gneissic saprolite (<i>Cont</i>)						
55		Dry, clayey SAND (SC); white and black with dark orange mottling; very fine to medium grained; micaceous		SS -8	54.5- 56.0	21-35-49 (84)		
60				SS -9	59.5- 59.8	50/4" (100+)		
65		Moist, sandy CLAY (CS); black and grey; sparse mica; soft	361.6	SS -10	64.5- 64.6	50/1" (100+)		
70		Clayey SAND (SC); light brown and black with orange mottling; very fine to medium grained; micaceous Bottom of borehole at 70.0 feet.	356.6 356.1	SS -11	69.5- 69.7	50/2" (100+)		
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ



LOG OF TEST BORING

BORING GWC-20
PAGE 1 OF 3

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Plant Scherer CCB Storage Facility
LOCATION Cell 1

DATE STARTED 10/6/2009 **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\GINIT SOFTWARE\ISCHERER GYP.GPJ

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-20
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		Sandy SILT (MLS) and silty SAND (SM) (Cont)						
		Dry, sandy SILT (MLS); orange and light brown with black organics; friable; micaceous		SS -2	24.5- 26.0	4-4-6 (10)		
			393.3					
30		Dry, silty SAND (SM); light orange and tan with occasional black mottles; friable; micaceous		SS -3	29.5- 31.0	4-5-7 (12)		
			388.3					
35		Dry, clayey SAND (SC); black, green and light tan with occasional light orange mottling; very fine to fine grained; micaceous		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)		
			373.3					
50				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

(Continued Next Page)



LOG OF TEST BORING

BORING GWC-20
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
		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	353.3	SS -11	69.5- 69.7	50/2" (100+)		
		Bottom of borehole at 69.6 feet.	353.0					
75								

GEOTECH ENGINEERING LOGS - ESEE DATABASE GDT - 4/27/10 11:56 - T:\ESEE MAJOR PROJECTS\GINT SOFTWARE\ISCHERER GYP.GPJ

APPENDIX B-5

**PAC Ash Cell Monitoring Wells
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	N			
0	419.70	Sandy CLAY							
1	418.70								
2	417.70								
3	416.70								
4	415.70								
5	414.70	Clayey SAND							
6	413.70								
7	412.70								
8	411.70								
9	410.70								
10	409.70	Weathered rock							
11	408.70								
12	407.70								
13	406.70								
14	405.70								
15	404.70								
16	403.70								
17	402.70								
18	401.70	17' - Bottom of boring							
19	400.70								
20	399.70								
21	398.70								
22	397.70								
23	396.70								
24	395.70								



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	N			
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	N			
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								

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 _____

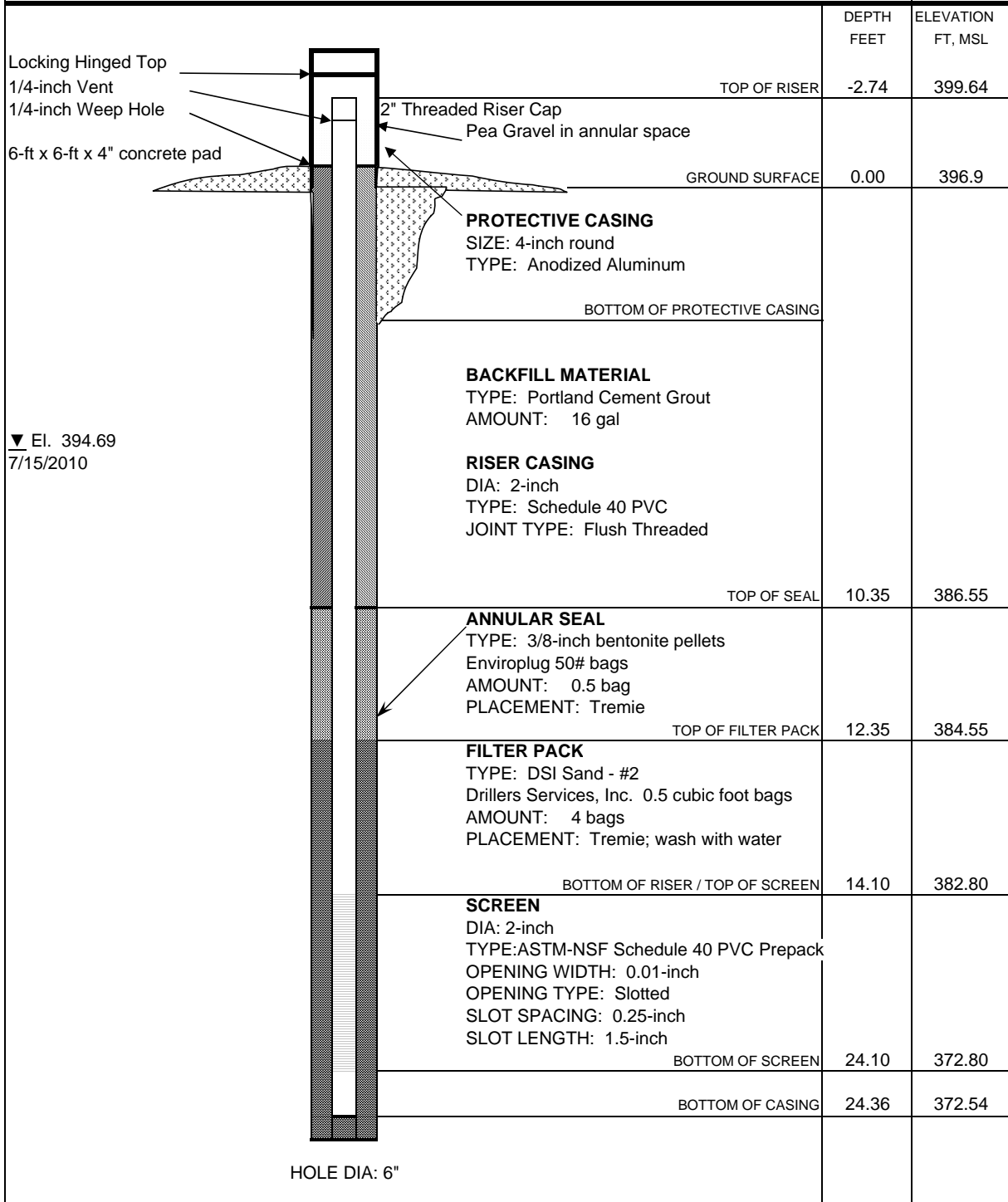
TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE **6/28/2010**

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								
16	380.90								
17	379.90	Gray and white SAPROLITE, gneissic, wet, micaceous							
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							

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		





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	N			
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								
10	438.30	Red, orange, and tan clayey SILT, black and white mottling, mica							
11	437.30								
12	436.30								
13	435.30								
14	434.30								
15	433.30								
16	432.30								
17	431.30								
18	430.30								
19	429.30								
20	428.30	Brown, tan, green, and orange silty SAND, saturated, with white mottling, high mica content							
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	N										
25	423.30	Green and white SAND, wet, orange mottling, mica														
26	422.30															
27	421.30															
28	420.30															
29	419.30															
30	418.30															
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
		DRILLER: S. Gautney		
LOCATION: PAC/Ash Cell		RIG TYPE: BL100C		
LOGGER: L. Millet		DRILLING METHODS: Sonic		GWA-45
DATE CONSTRUCTED: 6/23/2010				
		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	-2.78	451.08

▼ El. 437.03
7/15/2010



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	N			
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								
10	448.30	Orange clayey SILT, wet, with mica							
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								

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	N																																						
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																																											
37	421.30																																											
38	420.30																																											
39	419.30																																											
40	418.30	Green and white SAND, wet, medium to coarse grained, with mica																																										
41	417.30																																											
42	416.30																																											
43	415.30																																											
44	414.30																																											
45	413.30	43.5' - Bottom of boring																																										
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	
		DRILLER: S. Gautney		NAME	
LOCATION: PAC/Ash Cell		RIG TYPE: BL100C			
LOGGER: L. Millet		DRILLING METHODS: Sonic		GWA-46	
DATE CONSTRUCTED: 6/23/2010					
				DEPTH	ELEVATION
				FEET	FT, MSL
<div><div><div>Locking Hinged Top</div><div>1/4-inch Vent</div><div>1/4-inch Weep Hole</div><div>4-ft x 4-ft x 4" concrete pad</div></div><div><div>2" Threaded Riser Cap</div><div>Pea Gravel in annular space</div><div>GROUND SURFACE</div><div>PROTECTIVE CASING</div><div>SIZE: 4-inch round</div><div>TYPE: Anodized Aluminum</div><div>BOTTOM OF PROTECTIVE CASING</div><div>BACKFILL MATERIAL</div><div>TYPE: Portland Cement Grout</div><div>AMOUNT: 36 gal</div><div>RISER CASING</div><div>DIA: 2-inch</div><div>TYPE: Schedule 40 PVC</div><div>JOINT TYPE: Flush Threaded</div><div>TOP OF SEAL</div><div>ANNULAR SEAL</div><div>TYPE: 3/8-inch bentonite pellets</div><div>Enviroplug 50# bags</div><div>AMOUNT: 0.5 bag</div><div>PLACEMENT: Tremie</div><div>TOP OF FILTER PACK</div><div>FILTER PACK</div><div>TYPE: DSI Sand - #2</div><div>Drillers Services, Inc. 0.5 cubic foot bags</div><div>AMOUNT: 4 bags</div><div>PLACEMENT: Tremie; wash with water</div><div>BOTTOM OF RISER / TOP OF SCREEN</div><div>SCREEN</div><div>DIA: 2-inch</div><div>TYPE: ASTM-NSF Schedule 40 PVC Prepack</div><div>OPENING WIDTH: 0.01-inch</div><div>OPENING TYPE: Slotted</div><div>SLOT SPACING: 0.25-inch</div><div>SLOT LENGTH: 1.5-inch</div><div>BOTTOM OF SCREEN</div><div>BOTTOM OF CASING</div></div></div> <div>HOLE DIA: 6"</div>				-2.83	461.13
				0.00	458.3
				29.94	428.36
				31.94	426.36
				33.94	424.36
				43.94	414.36
				44.17	414.13

▼ El. 432.05
7/16/2010



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	N			
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								
9	453.90								
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	N				
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	
		DRILLER: S. Gautney		NAME	
LOCATION: PAC/Ash Cell		RIG TYPE: BL100C			
LOGGER: L. Millet		DRILLING METHODS: Sonic		GWA-47	
DATE CONSTRUCTED: 6/22/10					
				DEPTH	ELEVATION
				FEET	FT, MSL
<div><div><div>Locking Hinged Top</div><div>1/4-inch Vent</div><div>1/4-inch Weep Hole</div><div>4-ft x 4-ft x 4" concrete pad</div></div><div><div>2" Threaded Riser Cap</div><div>Pea Gravel in annular space</div><div>GROUND SURFACE</div><div>PROTECTIVE CASING</div><div>SIZE: 4-inch round</div><div>TYPE: Anodized Aluminum</div><div>BOTTOM OF PROTECTIVE CASING</div><div>BACKFILL MATERIAL</div><div>TYPE: Portland Cement Grout</div><div>AMOUNT: 60 gal</div><div>RISER CASING</div><div>DIA: 2-inch</div><div>TYPE: Schedule 40 PVC</div><div>JOINT TYPE: Flush Threaded</div><div>TOP OF SEAL</div><div>ANNULAR SEAL</div><div>TYPE: 3/8-inch bentonite pellets</div><div>Enviroplug 50# bags</div><div>AMOUNT: 0.5 bag</div><div>PLACEMENT: Tremie</div><div>TOP OF FILTER PACK</div><div>FILTER PACK</div><div>TYPE: DSI Sand - #2</div><div>Drillers Services, Inc. 0.5 cubic foot bags</div><div>AMOUNT: 4 bags</div><div>PLACEMENT: Tremie; wash with water</div><div>BOTTOM OF RISER / TOP OF SCREEN</div><div>SCREEN</div><div>DIA: 2-inch</div><div>TYPE: ASTM-NSF Schedule 40 PVC Prepack</div><div>OPENING WIDTH: 0.01-inch</div><div>OPENING TYPE: Slotted</div><div>SLOT SPACING: 0.25-inch</div><div>SLOT LENGTH: 1.5-inch</div><div>BOTTOM OF SCREEN</div><div>BOTTOM OF CASING</div></div></div> <div>HOLE DIA: 6"</div>				-2.87	465.77
				0.00	462.9
				37.16	425.74
				39.16	423.74
				41.16	421.74
				51.16	411.74
				51.33	411.57

▼ El. 430.95
7/13/2010



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"							
19	439.80	Orange sandy CLAY, dry, loose, trace mica							
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	N				
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									
31	427.80	Orange silty CLAY, moist, trace mica with black and tan mottling								
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									
41	417.80	Light green and white relict GNEISS, high clay content, m								
42	416.80									
43	415.80									
44	414.80									-relict GNEISS
45	413.80									
46	412.80									
47	411.80									
48	410.80	Dark green and white weathered GNEISS with orange mottling, dry								
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	N			
57	401.80	Dark gray green clayey SILT, dry, hard, with mica, trace sand							
58	400.80								
59	399.80								
69	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								
67	391.80	Intact black and white GNEISS							
68	390.80								
69	389.80								
70	388.80								
71	387.80								
72	386.80	72' - 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				
LOGGER: L. Millet		DRILLING METHODS: Sonic		GWA-48		
DATE CONSTRUCTED: 6/22/2010						
				DEPTH FEET	ELEVATION FT, MSL	
<div><div><div>Locking Hinged Top</div><div>1/4-inch Vent</div><div>1/4-inch Weep Hole</div><div>4-ft x 4-ft x 4" concrete pad</div><div>2" Threaded Riser Cap</div><div>Pea Gravel in annular space</div><div>GROUND SURFACE</div><div>PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum</div><div>BOTTOM OF PROTECTIVE CASING</div><div>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 64 gal</div><div>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</div><div>TOP OF SEAL</div><div>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie</div><div>TOP OF FILTER PACK</div><div>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water</div><div>BOTTOM OF RISER / TOP OF SCREEN</div><div>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</div><div>BOTTOM OF SCREEN</div><div>BOTTOM OF CASING</div></div></div> <div><div>▼ El. 427.94 7/16/2010</div><div>HOLE DIA: 6"</div></div>				TOP OF RISER	-2.93	461.73
				0.00	458.8	

▼ 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	N			
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								
11	418.90								
12	417.90	Tan and black silty CLAY, high mica content, with dark orange mottling							
13	416.90								
14	415.90								
15	414.90								
16	413.90	-Pink, orange and white as above							
17	412.90								
18	411.90	-As above with black mottling, moist							
19	410.90								
20	409.90	Orange and white sandy CLAY, moist, with pink and black mottling							
21	408.90								
22	407.90	Dark orange and white sandy CLAY, moist, with mica, black mottling							
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	N					
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
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>4-ft x 4-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <p>PROTECTIVE CASING SIZE: 4-inch round TYPE: Anodized Aluminum</p> <p>BACKFILL MATERIAL TYPE: Portland Cement Grout AMOUNT: 10 gal</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p> <p>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.75 bag PLACEMENT: Tremie</p> <p>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 3.5 bags PLACEMENT: Tremie; wash with water</p> <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> <p>HOLE DIA: 6"</p>	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	

▼ El. 423.00
7/13/2010

▼ El. 423.00
7/13/2010

HOLE DIA: 6"



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	N			
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								
10	394.30	Pink, tan, and orange sandy SILT, with clay, dry, micaceous							
11	393.30								
12	392.30								
13	391.30								
14	390.30								
15	389.30								
16	388.30								
17	387.30								
18	386.30								
19	385.30	White, orange, and tan sandy SILT, dry, micaceous							
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	N										
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	
LOGGER: D. Brooks	DRILLING METHODS: Sonic	GWC-50
DATE CONSTRUCTED: 6/28/2010		

	DEPTH FEET	ELEVATION FT, MSL
	TOP OF RISER -2.86	407.16
GROUND SURFACE	0.00	404.3
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	19.71	384.59
ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie TOP OF FILTER PACK	21.71	382.59
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	23.46	380.84
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	33.46	370.84
BOTTOM OF CASING	33.64	370.66
HOLE DIA: 6"		

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								
9	398.30	gary and orangish brown sandy SILT with some coarse to fine quartz	2	8.5-10	5-13-14	27			
10	397.30								
11	396.30								
12	395.30								
13	394.30								
14	393.30	saprolite medium to fine grained sandy SILT	3	13.5-15	4-6-7	13			
15	392.30								
16	391.30								
17	390.30								
18	389.30								
19	388.30	Saprolite slightly clayey SILT	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	5	23.5-25	5-25-50	75			
26	381.30								
27	380.30	27' - Bottom of boring							
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	
LOGGER: L. Garland	DRILLING METHODS: Sonic	GWC-51
DATE CONSTRUCTED: 7/27/2010		

		DEPTH FEET	ELEVATION FT, MSL
<p>▼ El. 400.99 7/29/2010</p> <p>HOLE DIA: 6"</p>	Locking Hinged Top		
	1/4-inch Vent		
	1/4-inch Weep Hole		
	6-ft x 6-ft x 4" concrete pad		
	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		
	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	



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	Orange and brown clayey SILT, wet, with green mottling, mica							
7	407.40								
8	406.40								
9	405.40	Tan and white clayey SILT, wet, mica							
10	404.40								
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	N					
25	389.40	Green and white SAPROLITIC GNEISS, wet, with mica									
26	388.40										
27	387.40										
28	386.40										
29	385.40										
30	384.40										
31	383.40	30' - Bottom of boring									
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	
LOGGER: L. Millet	DRILLING METHODS: Sonic	GWC-52
DATE CONSTRUCTED: 6/24/2010		

	DEPTH FEET	ELEVATION FT, MSL
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>6-ft x 6-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <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: 7 gal</p> <p>RISER CASING DIA: 2-inch TYPE: Schedule 40 PVC JOINT TYPE: Flush Threaded</p> <p>TOP OF SEAL</p> <p>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie</p> <p>TOP OF FILTER PACK</p> <p>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water</p> <p>BOTTOM OF RISER / TOP OF SCREEN</p> <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> <p>BOTTOM OF SCREEN</p> <p>BOTTOM OF CASING</p> <p>HOLE DIA: 6"</p>	-2.73	417.13
	0.00	414.4
	15.85	398.55
	17.85	396.55
	19.85	394.55
	29.85	384.55
	30.17	384.23

▼ 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	N			
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								
16	416.90								
17	415.90	Tan and brown silty CLAY, wet, with mica and dark brown mottling							
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								

**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	N					
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	
LOGGER: L. Millet	DRILLING METHODS: Sonic	GWC-53
DATE CONSTRUCTED: 6/23/2010		

	DEPTH FEET	ELEVATION FT, MSL
<p>Locking Hinged Top</p> <p>1/4-inch Vent</p> <p>1/4-inch Weep Hole</p> <p>6-ft x 6-ft x 4" concrete pad</p> <p>2" Threaded Riser Cap</p> <p>Pea Gravel in annular space</p> <p>GROUND SURFACE</p> <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> <p>TOP OF SEAL</p> <p>ANNULAR SEAL TYPE: 3/8-inch bentonite pellets Enviroplug 50# bags AMOUNT: 0.5 bag PLACEMENT: Tremie</p> <p>TOP OF FILTER PACK</p> <p>FILTER PACK TYPE: DSI Sand - #2 Drillers Services, Inc. 0.5 cubic foot bags AMOUNT: 4 bags PLACEMENT: Tremie; wash with water</p> <p>BOTTOM OF RISER / TOP OF SCREEN</p> <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> <p>BOTTOM OF SCREEN</p> <p>BOTTOM OF CASING</p> <p>HOLE DIA: 6"</p>	-2.93	435.83
	0.00	432.9
	16.06	416.84
	18.06	414.84
	20.06	412.84
	30.06	402.84
	30.07	402.83

▼ El. 426.15
7/14/2010

APPENDIX B-6

**Cell 3 Monitoring Wells
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.: 910

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		0.00 - 3.00 SILT, some sand and clay, fine sand, cohesive, brown, soft, w-PL	ML						Riser —	WELL CASING Interval: 0' - 8' Material: Schedul 40 PVC Diameter: 2" Joint Type: Flush/Threaded
390		medium to fine sand, non-cohesive, brown grey, loose, wet at 2'-3'			389					
		3.00 - 10.00 SAND, some silt, coarse sand, non-cohesive, grey with tan and black mottling, loose, wet	SP		3.00				Cement — 3/8" Bentonite — Pellets	WELL SCREEN Interval: 8' - 18' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
5										
		10.00 - 19.00 Bedrock, gneiss, well foliated, with fractures at 12' and 15', quartz and mica, grey, slightly weathered	BR		382	1	ROTO 10.00 SONIC 10.00		#1 Sand —	FILTER PACK Interval: 6' - 8' Type: #1 Sand Quantity: 2.5 bags
10					10.00					
		Boring completed at 19.00 ft			373				0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	FILTER PACK SEAL Interval: 3' - 6' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket
15										ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A
										WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
20										DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
370										
25										
365										
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: 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.: 910

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				<p>Cement —</p> <p>Riser —</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' - 9.3' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded</p> <p>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"</p> <p>FILTER PACK Interval: 6.95' - 19.3' Type: #1 Sand Quantity: 3 bags</p> <p>FILTER PACK SEAL Interval: 3.60' - 6.95' 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>
		2.00 - 4.00 Clayey SILT, some sand, cohesive, grey mottled brown, low plasticity, w-PL, soft			2.00					
		4.00 - 7.00 Clayey SILT, some sand, cohesive, tan brown, low plasticity, w>PL, soft			386					
5	385				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					
					7.00					
		9.00 - 12.00 SAND, some silt, fine sand, non-cohesive, grey with brown and white mottling, loose, moist	SP		381					
					9.00					
10	380				378					
		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	TWR		12.00					
					376					
15	375	14.00 - 19.00 SAND and Transitionally Weathered Rock, some silt, non-cohesive, grey and white/brown, fine sand, highly weathered, loose, moist	TWR		14.00					
					371					
		Boring completed at 19.00 ft								
20	370									
25	365									
30	360									
35	355									
40	350									
45	345									
50	340									

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



BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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		0.00 - 3.50 Silty CLAY, some micaceous silt, cohesive, orange, medium to low plasticity, firm, w<PL, FILL	CL-ML		403.4			Cement —	WELL CASING Interval: 0' - 25' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
405		3.50 - 6.00 SILT, some sand, cohesive, fine sand, tan, w<PL, soft, FILL	ML		3.50			Riser —	WELL SCREEN Interval: 25' - 35' Material: Schedule 40 PVC Double Wall U-Pack Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
5		6.00 - 9.00 SILT, some sand, clay and micaceous silt, cohesive to non-cohesive, tan brown, loose, dry, FILL			400.9				
400		9.00 - 14.00 Clayey SILT, some micaceous silt, cohesive, orange, mottled white, medium plasticity, firm, w<PL to w-PL			397.9			AquaGuard Bentonite — Grout	FILTER PACK Interval: 23' - 35' Type: #1 Sand Quantity: 3 bags
10		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		FILTER PACK SEAL Interval: 19.6' - 23' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket
395		17.00 - 19.00 SILT, some clay and sand, tan, mottled white, low plasticity, firm, w<PL			389.9				ANNULUS SEAL Interval: 3' - 19.6' Type: Aquaguard Bentonite Grout Quantity: 2 bags 30 gallons water
15		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			3/8" Bentonite — Pellets	WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
20		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	#1 Sand —	DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
25		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				
380					29.00			0.010" Slotted Schedule 40 — PVC Double Wall U-Pack	
30					367.9	3	ROTO 10.00 SONIC 10.00		
375		Boring completed at 39.00 ft							
370									
365									
40									
360									
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 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	Cement --	WELL CASING Interval: 0' - 14' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 14' - 24' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 4" FILTER PACK Interval: 11.5' - 24' Type: #1 Sand Quantity: 7.5 FILTER PACK SEAL Interval: 7.5' - 11.5' Type: 3/8" Bentonite Pellets Quantity: 2-5 gal bucket 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 WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Hollow Stem Auger Rock Drill: N/A
		2.25 - 7.50 CLAY, high plasticity, light grey, spotted orange, some fine sand, cohesive, w-pl, stiff	CH		2.25	2	SPT	2-2-4-5	6 <u>1.92</u> 2.00	Riser --	
						3	SPT	5-8-8-10	16 <u>1.92</u> 2.00		
						4	SPT	3-3-4-6	7 <u>1.92</u> 2.00	3/8" Bentonite -- Pellets	
		7.50 - 8.90 CLAYEY SAND, medium sand, high plasticity, orange, iron-stained, non-cohesive, moist, loose	SC		7.50	5	SPT	3-5-4-6	9 <u>1.75</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		8.90	6	SPT	4-4-6-8	10 <u>1.67</u> 2.00	#1 Sand --	
						7	SPT	4-6-8-12	14 <u>1.50</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		14.00	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	0.010" Slotted Schedule 40 PVC Screen	
		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		18.00	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		
		Boring completed at 24.00 ft			366.9						
25	365										
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




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

SHEET 1 of 1

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.	TYPE	REC			
					DEPTH (ft)					
0	385	0.00 - 3.00 Silty CLAY, some organics, cohesive, brown red, high plasticity, firm, w-PL	CL-ML		383.2			Cement —		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	380	3.00 - 5.00 Silty CLAY, cohesive, brown, med plasticity, soft, w>PL			381.2			5.00		
		5.00 - 11.00 CLAY with silt, some fine sand, layer of SAPROLITE at ~ 8, grey, med plasticity, soft to firm, w>PL								
10	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		375.2	1	ROTO 10.00 SONIC 10.00	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen		
15	370	16.00 - 19.30 SAND with silt and transitionally weathered rock, non-cohesive, fine sands, highly weathered, grey and white, loose, moist			370.2			16.00		
		Boring completed at 19.00 ft			366.9			19.30		
20	365									
25	360									
30	355									
35	350									
40	345									
45	340									
50										

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



BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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					Cement — Riser —	WELL CASING Interval: 0' - 10' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
5	380	5.00 - 7.00 CLAY with silt, cohesive, tan, high plasticity, stiff, w-PL	CL-ML		380.1 5.00			3/8" Bentonite — Pellets	WELL SCREEN Interval: 10' - 20' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
		7.00 - 8.00 Sandy SILT, some clay, fine to coarse sand, non-cohesive, grey, compact, wet	MLS		378.1 7.00 377.1				
		8.00 - 9.00 SAND, some silt, fine sands, non-cohesive, grey, loose, wet	SM		8.00 376.1				
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				FILTER PACK Interval: 8' - 20' Type: #1 Sand Quantity: 3.5 bags
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	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	FILTER PACK SEAL Interval: 4' - 8' Type: 3/8" Bentonite Pellets Quantity: 1/2 50 lb bag
		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				ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A
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	#1 Sand —	WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
25	360	Boring completed at 25.00 ft			360.1				DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
30	355								
35	350								
40	345								
45	340								
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 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						Cement -	WELL CASING Interval: 0' - 35.4' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded 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" FILTER PACK Interval: 32.6' - 45.7' Type: #1 Sand Quantity: 3.5 bags FILTER PACK SEAL Interval: 29' - 32.6' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: 3' - 29' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons of water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
5	415	6.00 - 8.00 Silty CLAY, some micaceous silt, cohesive, red, high plasticity, very stiff, w<PL	CL-ML		416 6.00				Riser -	
10	410	8.00 - 9.00 Clayey SILT, some micaceous silt, red, cohesive, medium to low plasticity, firm w<PL 9.00 - 11.00 Clayey SILT, cohesive, orange red mottled with black, low plasticity, soft, w<PL 11.00 - 16.00 SILT, some clay, cohesive, orange, low plasticity, soft, w<PL	ML		8.00 413 9.00 411 11.00	1	ROTO SONIC	10.00 10.00	AquaGuard Bentonite - Grout	
15	405	16.00 - 19.00 SILT, some sand and micaceous silt, fine sand, trace clay, cohesive to non-cohesive, very soft/loose dry			406 16.00					
20	400	19.00 - 21.00 Silty SAND, some clay at approximately 21', fine sand, non-cohesive, tan to brown, loose to compact, dry 21.00 - 24.00 Silty SAND, tan, some transitionally weathered rock, fine sand, non-cohesive, loose, moist	SM		403 19.00 401 21.00					
25	395	24.00 - 29.00 SAND, some silt and transitionally weathered rock, fine sand, poorly sorted, non-cohesive, tan, mottled white and brown, loose, moist	SP		398 24.00	2	ROTO SONIC	10.00 10.00		
30	390	29.00 - 39.00 SAND, some silt, fine sand, grey mottled with brown, non-cohesive, loose to compact, moist to wet			393 29.00	3	ROTO SONIC	10.00 10.00	3/8 Bentonite Pellets	
35	385								#1 Sand -	
40	380	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		383 39.00	4	ROTO SONIC	6.00 6.00	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
45	375	Boring completed at 45.40 ft			377 45.00					

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-37















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

SHEET 1 of 1

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		0.00 - 5.00 CLAY, some silt, trace organics and micaceous silt, cohesive, red brown, high plasticity, very stiff, w<PL	CH						Cement —	WELL CASING Interval: 0' - 32' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
425										
5		5.00 - 6.00 Silty CLAY, some micaceous silt, cohesive, orange, medium plasticity, very stiff to stiff, w<PL	CL-ML		422.2 5.00 421.2 6.00				Riser —	WELL SCREEN Interval: 32' - 42' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
420		6.00 - 9.00 Clayey SILT, some micaceous silt and sand, cohesive, medium plasticity, orange, firm, w<PL	ML							
10		9.00 - 11.00 Clayey SILT, cohesive, red orange, low to medium plasticity, soft, w<PL			418.2 9.00				AquaGuard Bentonite — Grout	FILTER PACK Interval: 29.7 - 42' Type: #1 Sand Quantity: 5 bags
415		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					
15		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					
410					408.2 19.00					
20		19.00 - 24.00 Sandy SILT, some clay, fine sand, non-cohesive, grey, compact to dense, moist	MLS							
405					403.2 24.00				3/8" Bentonite — Pellets	ANNULUS SEAL Interval: 3' - 27' Type: AquaGuard Bentonite Grout Quantity: 2 bags, 30 gallons water
25		24.00 - 29.00 Silty SAND, some clay, fine sand, non-cohesive, grey, mottled black and tan, compact, moist	SM							
400		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				#1 Sand —	WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
395					393.2 34.00					
35		34.00 - 39.00 SAND with some silt, trace micaceous silt, fine sand, non-cohesive, tan grey, loose to compact, moist	SP						0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
390					388.2 39.00					
40		39.00 - 42.00 SAND, some silt, fine sand, grey mottled with brown, non-cohesive, compact, moist to wet			385.2 42.00					
385		42.00 - 44.00 SAND some silt, fine sand, dark grey, mottled tan brown, compact to dense, moist			383.2 44.00					
45		44.00 - 49.00 SAND, some silt, fine sand, grey with white mottling, poorly sorted, compact to loose, moist								
380					378.2					
50		Boring completed at 49.00 ft								

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



BOREHOLE RECORD: SCHERER CELL 3 BORING LOGS_SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

RECORD OF BOREHOLE GWC-38

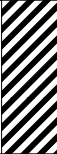








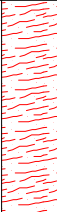
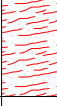
SHEET 1 of 1

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				Cement —	WELL CASING Interval: 0' - 29' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
5	410	5.00 - 8.00 Clayey SILT, some micaceous silt, orange brown, cohesive, low plasticity, firm, w-PL	ML		5.00				Riser —	WELL SCREEN Interval: 29' - 39' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
		8.00 - 9.00 Silty SAND, fine sand, some clay, brown tan, cohesive, w<PL	SM		8.00					
10	405	9.00 - 15.00 Silty CLAY, some micaceous silt, tan, cohesive, medium plasticity, firm to stiff, w-PL	CL-ML		407					FILTER PACK Interval: 27' - 49' Type: #1 Sand Quantity: 3 bags
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		401	1	ROTO	10.00	AquaGuard Bentonite — Grout	FILTER PACK SEAL Interval: 24' - 27' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket
20	395	19.00 - 22.00 Sandy Clayey SILT, biotite/mica gneiss, SAPROLITE, fine sand, grey with brown mottling, compact to dense, dry			397					ANNULUS SEAL Interval: 3' - 24' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons water
		22.00 - 24.00 Silty SAND, fine to coarse, gravelly, poorly sorted, grey and grey brown, loose, dry	SM		394					WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
25	390	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			392	2	ROTO	10.00	3/8" Bentonite — Pellets	DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
30	385	29.00 - 39.00 Gravelly Silty SAND, biotite gneiss to transitionally weathered rock, fine to coarse sand, highly weathered, up to 2" damter cobble, moderate to poorly foliated, grey, dry, SAPROLITE			387				#1 Sand —	
35	380		TWR		377	3	ROTO	10.00	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
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	3.00		
45	370									
50		Boring completed at 49.00 ft			367					

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



BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

RECORD OF BOREHOLE GWA-39

SHEET 1 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.	SAMPLE NO.	TYPE	REC		
					DEPTH (ft)					
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					Cement —		WELL CASING Interval: 0' - 49' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
450										
5		6.00 - 9.00 SAND, non-cohesive, fine sand, some silt, tan and light orange brown, some white, dry	SP		448.2			Riser —		WELL SCREEN Interval: 49' - 59' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
445					6.00					
10		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		445.2					FILTER PACK Interval: 47' - 59.3' Type: #1 Sand Quantity: 3.5 bags
440					9.00					
15		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		442.7	1	ROTO SONIC	10.00 10.00	AquaGuard Bentonite — Grout	FILTER PACK SEAL Interval: 44' - 47' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket
435					11.50					
20		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		435.2	2	ROTO SONIC	10.00 10.00		ANNULUS SEAL Interval: 3' - 44' Type: AquaGuard Bentonite Grout Quantity: 4 bags, 60 gallons water
430					19.00					
25										WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
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		425.2	3	ROTO SONIC	10.00 10.00	3/8" Bentonite — Pellets	
420					29.00					
30										DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
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		415.2	4	ROTO SONIC	10.00 10.00		
410					39.00					
45		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		410.2					
405					44.00					
50		46.00 - 49.00 Bedrock, biotite gneiss, moderate to well foliated, highly weathered and fractured, dark grey and black with some white, som orange-brown staining along fractures	BR		408.2	5	ROTO			
					46.00					
					405.2					
			BR		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

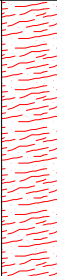
SHEET 2 of 2

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				SONIC		#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
400						5	ROTO 10.00 SONIC 10.00			
55					395.2					
395		Boring completed at 59.30 ft			59.00					
60										
390										
65										
385										
70										
380										
75										
375										
80										
370										
85										
365										
90										
360										
95										
355										
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: 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

BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

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	460	0.00 - 0.50 CLAY, some sand, orange-brown, some red, cohesive, w>PL, soft to very soft, high plasticity	CL		0.50				Cement —	WELL CASING Interval: 0' - 34' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded WELL SCREEN Interval: 34' - 44' Material: Schedule 40 PVC Double Wall U-Pack Screen Diameter: 3"x2" Slot Size: 0.010" End Cap: 3"
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							
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		452.2 9.00 451.2 10.00				Riser —	FILTER PACK Interval: 32' - 44.8' Type: #2 Sand Quantity: 3.75 bags FILTER PACK SEAL Interval: 29' - 32' Type: 3/8" Bentonite Pellets Quantity: 1-5 gallon bucket ANNULUS SEAL Interval: 3' - 29' Type: AquaGuard Bentonite Grout Quantity: 2 bags, 50 gallons water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
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			1	ROTO	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		444.2 17.00 442.2 19.00				AquaGuard Bentonite — Grout	
25	435	19.00 - 24.00 Silty CLAY, cohesive, tan mottled white, orange-tan, some black, firm, low plasticity, w<PL	CL-ML			2	ROTO	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		437.2 24.00 435.2 26.00				3/8" Bentonite — Pellets	
35	425	26.00 - 29.00 Silty CLAY, cohesive, tan mottled white, orange-tan, some black, firm, low plasticity, w<PL	CL-ML			3	ROTO	10.00		
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		427.2 29.00 424.2 37.00				0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
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			4	ROTO	10.00		
50		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						#2 Sand —	
		Boring completed at 44.80 ft			416.4					

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					Cement —	WELL CASING Interval: 0' - 27.7' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
5	425							Riser —	
10	420	9.00 - 16.00 Silty CLAY, cohesive, tan mottled grey and orange, medium plasticity, stiff, w<PL	SM		422.4 9.00			AquaGuard Bentonite — Grout	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"
15	415								
20	410	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	SP		415.4 16.00				FILTER PACK Interval: 25.6' - 37.7' Type: #1 Sand Quantity: 4 bags
25	405								
30	400	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				FILTER PACK SEAL Interval: 22.6' - 25.6' Type: 3/8" Bentonite Pellets Quantity: 1-50lb bag
35	395	23.00 - 29.00 SAND, non-cohesive, fine sand, grey black, moist to wet, loose to compact			408.4 23.00			3/8" Bentonite — Pellets	
40	390	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	TWR		402.4 29.00				#1 Sand —
45	385	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				
50	380	35.00 - 39.00 SAND, some silt, non-cohesive, fine sand, grey mottled brown, loose, wet	BR		396.4 35.00			0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	ANNULUS SEAL Interval: 3' - 22.6' Type: AquaGuard Bentonite Grout Quantity: 2 bags 30 gallons water
		39.00 - 43.00 Bedrock, transitionally weathered rock, gneiss and quartz, highly weathered, grey, competent rock 43-44'			392.4 39.00				
		43.00 - 44.00 Bedrock, gneiss and quartz, highly weathered			388.4 43.00				WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
		Boring completed at 44.00 ft			387.4				
									DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic

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			Cement —	WELL CASING Interval: 0' - 8.8' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
400		2.00 - 5.00 Clayey SILT, cohesive, grey tan, mottled orange, high plasticity, stiff, w>PL			2.00			3/8" Bentonite — Pellets	
5		5.00 - 6.00 Silty CLAY, cohesive, orange, low plasticity, w>PL, soft	CL-ML		397.2			Riser —	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"
395		6.00 - 8.00 Clayey SILT, some sand, fine sand, non-cohesive, tan, wet, loose	ML		396.2				
		8.00 - 9.00 Silty SAND, medium to fine sand, some clay, non-cohesive, grey, wet, loose	SM		394.2				FILTER PACK Interval: 6.1' - 18.8' Type: #1 Sand Quantity: 4 bags
10		9.00 - 11.00 Silty SAND, medium to fine sand, some clay, non-cohesive, grey, wet, compact to dense			393.2			#1 Sand —	
390		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				FILTER PACK SEAL Interval: 2 - 6.1' Type: 3/8" Bentonite Pellets Quantity: 1 - 50 lb bag
		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			0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
15					14.00	1	ROTO 5.00 SONIC 10.00		ANNULUS SEAL Interval: N/A Type: N/A Quantity: N/A
385									WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
20		Boring completed at 19.00 ft							DRILLING METHODS Soil Drill: Sonic Rock Drill: N/A
380									
25									
375									
30									
370									
35									
365									
40									
360									
45									
355									
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-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		393.1			Cement —	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" End Cap: 3" FILTER PACK Interval: 6.9' - 19' Type: #1 Sand Quantity: 4 bags FILTER PACK SEAL Interval: 2.75' - 6.9' 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
5		5.00 - 7.00 Silty CLAY, some organics, cohesive, grey, high plasticity, w>PL, firm			5.00			Riser —	
		7.00 - 11.00 Silty SAND, some clay, non-cohesive, medium to fine sand, grey, dense wet	SM		391.1			3/8" Bentonite — Pellets	
10		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		7.00			#1 Sand —	
		16.00 - 19.00 SAND, some silt, non-cohesive, coarse sand, brown and grey, loose, moist	SP		387.1			0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
15					11.00	1	ROTO 10.00 SONIC 10.00		
385					382.1				
380					16.00				
375					379.1				
20		Boring completed at 19.00 ft							
370									
365									
360									
355									
350									
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-44A


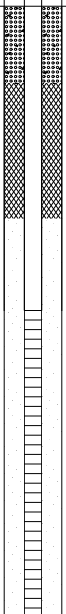




SHEET 1 of 1

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			1	SPT	3-3-3	6 <u>0.66</u> 1.50	 <p>Cement —</p> <p>Riser — 3/8"</p> <p>Bentonite Pellets</p> <p>#1 Sand —</p> <p>0.010" Slotted Schedule 40 PVC Screen</p>	<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>
					393	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		
					389	4	SPT	3-4-6	10 <u>1.50</u> 1.50		
					389	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		
					387.5	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		
					386	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		
					375.7	13	SPT	31-50/4	81/10 <u>0.25</u> 1.50		
		Boring completed at 20.80 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: SCS Drilling Services
DRILLER: Jim Castelberry

GA INSPECTOR: Heather Brissey
CHECKED BY: Timothy Richards, PG
DATE: 6/4/20



RECORD OF BOREHOLE GWA-54











SHEET 1 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.:815

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, some micaceous silt, brownish orange, fat clay, cohesive, med to high plasticity, stiff to very stiff, w>PL	CH						Cement —	WELL CASING Interval: 0' - 38.75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded
445					443.6					
5		5.00 - 7.00 Clayey SILT, micaceous silt with clay, some fine sand, dark orange-brown, cohesive, low plasticity, firm, w>PL	ML		5.00				Riser —	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"
		7.00 - 9.00 Silty SAND, fine sand with silt, some medium sand, trace clay, dark orange brown and tan, non-cohesive, dry	SM		7.00					
440					439.6					
10		9.00 - 10.00 CLAY, some silt, red-brown some dark red-brown, fat clay, cohesive, high plasticity, soft w>PL	CH		9.00					FILTER PACK Interval: 38.10' - 59' Type: #1 Sand Quantity: 5 bags
		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		10.00	1	ROTO	10.00	AquaGuard Bentonite — Grout	FILTER PACK SEAL Interval: 33 - 36.10' Type: 3/8" Bentonite Pellets Quantity: 1-5 gal bucket
435					429.6					
15					426.6					ANNULUS SEAL Interval: 3' - 33' Type: AquaGuard Bentonite Grout Quantity: 3 bags, 35 gallons water
430		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		19.00					WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum
20					426.6					DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
25		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		22.00	2	ROTO	10.00		
425					419.6					
30		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		29.00					
		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			32.00	3	ROTO	10.00	3/8" Bentonite — Pellets	
415					409.6					
35					39.00					
410		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		39.00	4	ROTO	10.00	0.010" Slotted Schedule 40 PVC Double Wall U-Pack Screen	
40										
405										
45										
400										
50						5	ROTO			

Log continued on next page

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



BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

RECORD OF BOREHOLE GWA-54

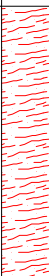

SHEET 2 of 2

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.: 815

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 (<i>Continued</i>)	BR				SONIC			WELL CASING Interval: 0' - 38.75' Material: Schedule 40 PVC Diameter: 2" Joint Type: Flush/Threaded 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" FILTER PACK Interval: 36.10' - 59' Type: #1 Sand Quantity: 5 bags FILTER PACK SEAL Interval: 33' - 36.10' Type: 3/8" Bentonite Pellets Quantity: 1-5 gal bucket ANNULUS SEAL Interval: 3' - 33' Type: AquaGuard Bentonite Grout Quantity: 3 bags, 35 gallons water WELL COMPLETION Pad: 4'x4' Concrete Pad Protective Casing: Aluminum DRILLING METHODS Soil Drill: Sonic Rock Drill: Sonic
395						5	ROTO 10.00 SONIC 10.00			
55										
390		Boring completed at 59.00 ft			389.6					
60										
385										
65										
380										
70										
375										
75										
370										
80										
365										
85										
360										
90										
355										
95										
350										
100										

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



BOREHOLE RECORD SCHERER CELL 3 BORING LOGS SURVEY UPDATED.GPJ PIEDMONT.GDT 9/17/20

APPENDIX B-7

SPT Logs

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECH\GPI



LOG OF TEST BORING

BORING SPT-01
PAGE 2 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

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	432.3	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	417.3	SS -14	88.5-90.0	11-12-18 (30)	

(Continued Next Page)

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



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

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)(Con't)					
		- light gray with black mottles, damp, very hard, <i>saprolite</i>		SS -15	93.5- 94.8	15-30-50/4" (100+)	
100							Advance casing to 104'.
105			401.3				
		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			365.3				

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 _____

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE) PERCENT RECOVERY (RQD)	COMMENTS
		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						
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)	

Rod drop due to very soft material, no sample collected.

(Continued Next Page)

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

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCS\SCHERER GEOTECH.GPJ



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

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) - gray and light gray laminations, wet, very soft, silty clay size material		SS -7	38.5- 40.0	1-1-1 (2)	Rod drop due to very soft material, no sample collected.
45		- no recovery		SS -8	48.5- 50.0	WH-WH-WH (0)	
50		- no recovery		SS -9	53.5- 55.0	WH-WH-WH (0)	
55							Rod drop due to very soft material, no sample collected.
60							
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							
80							
436.5		Sandy Elastic Silt (MH) - brown, wet, medium stiff, <i>alluvium</i>	435.5	SS -11	73.5- 75.0	2-3-2 (5)	
		Clayey Sand (SC) - gray, wet, medium stiff, fine to medium grain, <i>alluvium</i> , with woody debris	431.5				
		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)

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\ISCHERER GEOTECHNICAL INVESTIGATION 2015\ISCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-02
PAGE 3 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

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)(Con't)					Advance casing to 93'.
90			421.1				
		Gneiss - dark gray-brown and white, fine to coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with biotite, feldspar, quartz	419.4	RC -13	88.4-89.7	108 (0)	
		Partially Weathered Rock	416.9				
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		- 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		- 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
PAGE 1 OF 4
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 _____

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
		ELEV.				
5		Coal Combustion Byproduct (Gypsum) (GYPSUM)				
		- 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						

(Continued Next Page)

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

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\ISCHERER GEOTECHNICAL INVESTIGATION 2015\ISCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-03
PAGE 2 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

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>	431.9	SS -9	68.5-69.3	28-50/4" (100+)	
75		Gneiss - dark gray and white, fine to coarse grain, medium hard,	427.0	RC -10	72.9-79.5		

(Continued Next Page)

2012 GEOTECH ENGINEERING LOGS - ESEE2012.DATABASE.GDT - 5/11/15 15:43 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-03
PAGE 3 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
80		moderately to completely weathered, amphibolite Gneiss(Con't)	420.4	RC -10	72.9-79.5	17	
85		Partially Weathered Rock					
		- no recovery		RC -11	79.5-84.5	0	
90		- no recovery		RC -12	84.5-94.5	0	
95		- no recovery					
100		- no recovery		RC -13	94.5-104.5	0	
105		- black, medium to coarse grain, completely weathered, disintegrated to sand		RC -14	104.5-109.5	62 (0)	
110		Gneiss	390.4				
		- 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)	
115		- gray with light gray banding, fine to coarse grain, hard,		RC -16	114.5-119.5	80	

(Continued Next Page)

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



LOG OF TEST BORING

BORING SPT-03
PAGE 4 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

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.

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



LOG OF TEST BORING

BORING SPT-04
PAGE 2 OF 2
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
		Well-graded Sand with Silt (SW-SM)(Con't)	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)	
			486.8				

Bottom of borehole at 53.9 feet.



LOG OF TEST BORING

BORING SPT-05
PAGE 1 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DATE STARTED 4/1/2015 COMPLETED 4/9/2015 SURF. ELEV. 543.4 COORDINATES: N:33.079590 E:83.831082

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 132.9 ft. GROUND WATER DEPTH: DURING 35 ft. COMP. 33 ft. DELAYED _____

NOTES _____

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
				PERCENT RECOVERY (RQD)	
5					
	Silty Clay (CL)				
	- dark red, very damp, medium stiff	SS -1	1.0-2.5	2-4-4 (8)	
	- red, very damp, medium stiff, with sand	SS -2	3.5-5.0	2-3-3 (6)	
	- red, damp, stiff	SS -3	6.0-7.5	4-6-7 (13)	
10	- red, damp, stiff	SS -4	8.5-10.0	2-6-6 (12)	
15	- yellow-red, damp, medium stiff, with mica	SS -5	13.5-15.0	2-3-4 (7)	
20	- yellow-red with red-yellow and black mottles, damp, medium stiff, with mica	SS -6	18.5-20.0	2-2-3 (5)	
25	- red and red-yellow with black and white mottles, damp, medium stiff, with mica	SS -7	23.5-25.0	2-3-3 (6)	
30	- red-yellow and yellow with black mottles, very damp, medium stiff, with mica	SS -8	28.5-30.0	2-3-3 (6)	
35	Lean Clay (CL)				
	- red-yellow and yellow with black mottles, very moist, medium stiff, medium plasticity, with mica	SS -9	33.5-35.0	WH-2-4 (6)	
40	- olive-yellow with black and white mottles, very moist, medium stiff, medium plasticity, with silt and sand	SS -10	38.5-40.0	2-3-5 (8)	

(Continued Next Page)

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

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



LOG OF TEST BORING

BORING SPT-05
PAGE 2 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE) PERCENT RECOVERY (RQD)	COMMENTS
45		Elastic Silt (MH) - pale brown with black and white mottles, very moist, stiff, medium plasticity, with sand	495.4	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	480.5	SS -14	58.5-60.0	8-9-11 (20)	
65		- no recovery		RC -15	62.9-72.9	0	
70		- black and white, coarse grain, medium hard, highly weathered, with amphibolite and quartz		RC -16	72.9-82.9	2 (0)	
75		- no recovery		RC -17	82.9-92.9	0	
80							
85							
90							

(Continued Next Page)

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



LOG OF TEST BORING

BORING SPT-05
PAGE 3 OF 3
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
95		(Con't)					
100		- black and white, coarse grain, medium hard, highly weathered, with amphibolite and feldspar		RC -18	92.9-102.9	2 (0)	
105							
110		- 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)	
115							
120		- 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)	
125							
130		- 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)	
			410.5				

Bottom of borehole at 132.9 feet.



LOG OF TEST BORING

BORING SPT-06
PAGE 1 OF 1
ECS37441

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

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	PERCENT RECOVERY (RQD)	COMMENTS
5		Silty Clay (CL-ML) - red with yellow-brown mottles, dry, very stiff	537.0	SS -1	1.0-2.5	7-7-12 (19)		
5		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)		
10		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)		
10		- 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+)		
15		- brown, dry, very dense, fine grain, coarse grained mica	526.0	SS -5	13.5-13.8	50/4" (100+)		
20		Granitic Gneiss - 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)		
25								
30		- 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)		
35								
40		- 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.

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



LOG OF TEST BORING

BORING SPT-07
PAGE 2 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

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)	
		496.5					
60		Sandy Elastic Silt (MH) - light brown and olive brown with white mottles, wet, hard, medium plasticity		SS -14	58.5-60.0	12-14-33 (47)	
65		- light brown and olive brown with white mottles, wet, very hard, medium plasticity		SS -15	63.5-64.3	15-50/4" (100+)	
		489.0					
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		RC -16	65.5-69.2	54 (0)	
		484.5					
75		Fat Clay (CH) - brown, wet, high plasticity, with sand		RC -17	69.2-74.2	4 (0)	
		480.3					
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)	

(Continued Next Page)

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



LOG OF TEST BORING

BORING SPT-07
PAGE 3 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
95		Granitic Gneiss					
100		- 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		RC -21	94.2- 104.2	63 (11)	
105							
110		- 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		RC -22	104.2- 114.2	37 (13)	
115							
120		- 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		RC -23	114.2- 124.2	22 (0)	
125							
130		- light red and red-gray, fine to coarse grain, hard, slightly to moderately weathered, inclined, banded, intensely fractured, some near-vertical fractures		RC -24	124.2- 134.2	59 (13)	
135							
140		- 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		RC -25	134.2- 144.2	92 (52)	

(Continued Next Page)



LOG OF TEST BORING

BORING SPT-08
PAGE 1 OF 4
ECS37441

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 _____

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
					PERCENT RECOVERY (RQD)	
		ELEV.				
		Fat Clay (CH) - yellow-red, wet, stiff, high plasticity, with silt	SS -1	1.0-2.5	4-4-7 (11)	
5		490.1				
		Lean Clay (CL) - yellow-red with gray and red mottling, damp, stiff	SS -2	3.5-5.0	4-6-9 (15)	
		- yellow-red with gray and red mottling, damp, very stiff	SS -3	6.0-7.5	6-8-13 (21)	
10		▼ - pale yellow with red and brown laminations, dry, very stiff	SS -4	8.5-10.0	12-9-9 (18)	
		480.1				
15		Silt (ML) - gray with light gray laminations, dry, very stiff	SS -5	13.5-15.0	3-4-5 (9)	
		475.1				
20		Silty Sand (SM) - light brown-gray with dark gray mottling, damp, medium dense, fine to medium grain	SS -6	18.5-20.0	7-7-10 (17)	
		470.1				
25		▼ Sandy Lean Clay (CL) - dark gray-brown with white mottling, very damp, very stiff	SS -7	23.5-25.0	9-9-16 (25)	
		- dark gray-brown with white mottling, wet, very stiff	SS -8	28.5-30.0	5-7-9 (16)	
30		460.1				
35		Silt (ML) - dark green-gray and red-yellow, damp, very stiff	SS -9	33.5-35.0	9-9-16 (25)	

(Continued Next Page)

2012 GEOTECH ENGINEERING LOGS - ESEE2012.DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\ISCHERER GEOTECHNICAL INVESTIGATION 2015\ISCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-08
PAGE 2 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
40		Silt (ML) (<i>Con't</i>) 455.1					
		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> 420.1		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> 415.1		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		SS -18	78.5-80.0	12-14-16 (30)	

(Continued Next Page)

2012 GEOTECH ENGINEERING LOGS - ESEE2012.DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\SCHERER GEOTECHNICAL INVESTIGATION 2015\SCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-08
PAGE 3 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
85		Sandy Elastic Silt (MH)(Con't)	410.1				casing advance to 90.8'.
85		Partially Weathered Rock (PWR) - dark green-gray with white mottling, wet, very hard, high plasticity		SS -19	83.5- 83.8	50/4" (100+)	
90		- no core recovery					
95		Gneiss - black and white, coarse grain	398.9	RC -20	90.8- 94.2	0 (0)	
100		- black and white, coarse grain, banded, with amphibolite, quartz, and feldspar		RC -21	94.2- 99.2	4 (0)	
105		- gray-brown, black and white, fine to coarse grain, medium hard, moderately weathered, inclined, banded, intensely fractured, with amphibolite, feldspar, and quartz		RC -22	99.2- 104.2	28 (0)	
110		- 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 -23	104.2- 109.2	62 (0)	
115		- dark gray, gray and black, fine to coarse grain, medium hard, not to slightly weathered, inclined, banded, intensely fractured, near-vertical iron stained fractures, with amphibolite, quartz, feldspar		RC -24	109.2- 114.2	62 (8)	
120		- dark gray and light gray, coarse grain, soft to medium hard, moderately to highly weathered, intensely fractured, with amphibolite, quartz, feldspar,		RC -25	114.2- 119.2	100 (20)	
				RC -26	119.2- 124.2	14 (0)	

(Continued Next Page)

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



LOG OF TEST BORING

BORING SPT-08
PAGE 4 OF 4
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
125		Gneiss(Con't)					
		- 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.

(Continued Next Page)

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



LOG OF TEST BORING

BORING SPT-09
PAGE 2 OF 2
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
40		Gneiss					
		- 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)	
45		- 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)	
50							
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.

Bottom of borehole at 74.7 feet.

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



LOG OF TEST BORING

BORING SPT-11
PAGE 2 OF 2
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

LOCATION Plant Scherer

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV.	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft.)	BLOW COUNTS (N-VALUE)	COMMENTS
						PERCENT RECOVERY (RQD)	
45		Granitic Gneiss (Con't) - white and gray banding, fine to coarse grain, soft to medium hard, moderately to highly weathered, medium to thin foliation, interlayered with biotite gneiss					
50		- 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

BORING SPT-12
PAGE 1 OF 2
ECS37441

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 _____

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)	
	483.5				
30	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)	
35	473.5				

(Continued Next Page)

2012 GEOTECH ENGINEERING LOGS - ESEE2012DATABASE.GDT - 5/11/15 15:44 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\ISCHERER GEOTECHNICAL INVESTIGATION 2015\ISCHERER GEOTECH.GPJ



LOG OF TEST BORING

BORING SPT-12
PAGE 2 OF 2
ECS37441

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Geotechnical Investigation

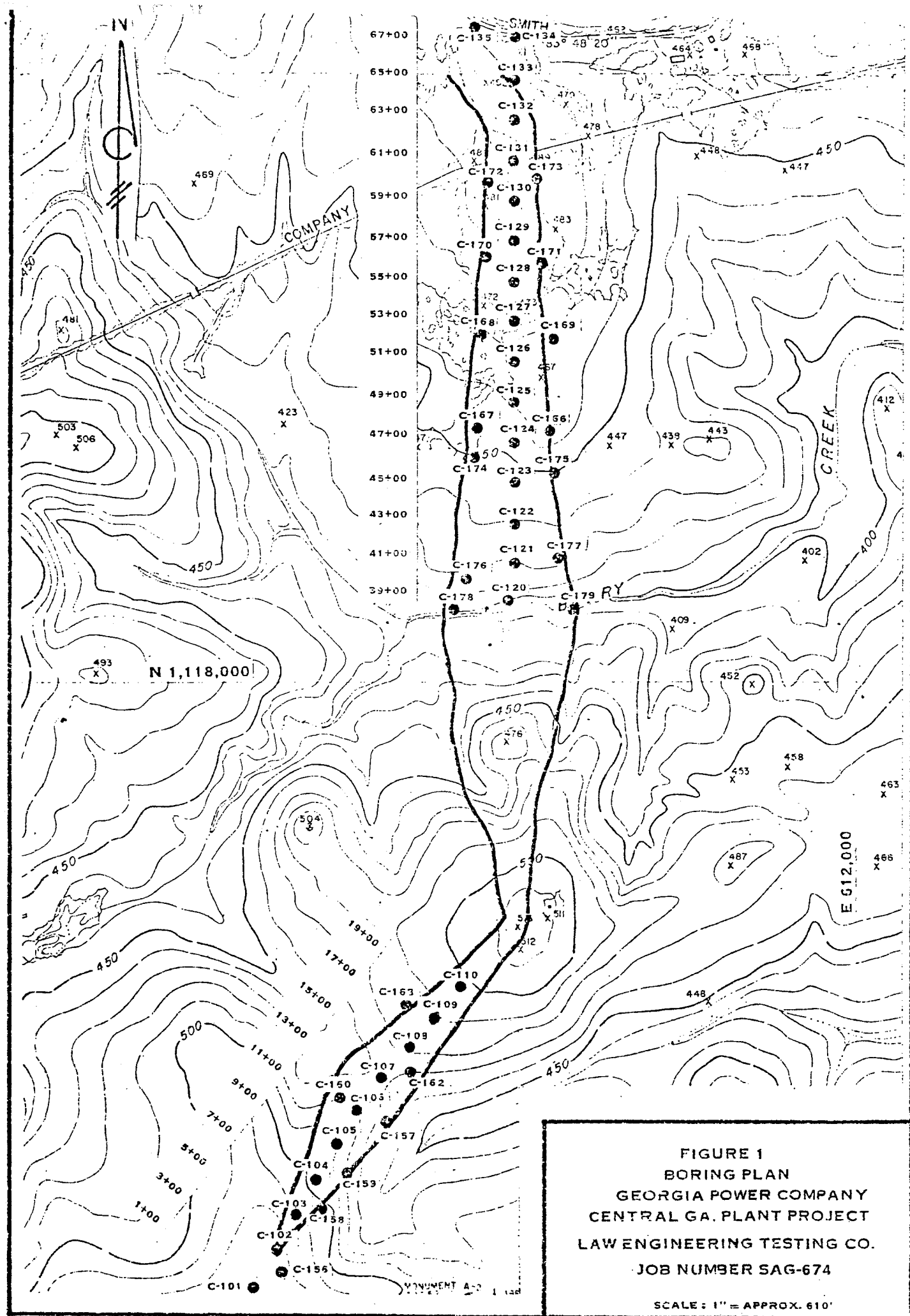
LOCATION Plant Scherer

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) 459.5	SS -11	43.5- 45.0	3-10-30 (40)	
50		- gray with black mottles then pale brown with mottles, wet, very dense, fine to coarse grain 459.5	SS -12	48.5- 50.0	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 442.2	RC -14	56.2- 64.3	93 (93)	
65		- 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 -15	64.3- 69.3	100 (50)	

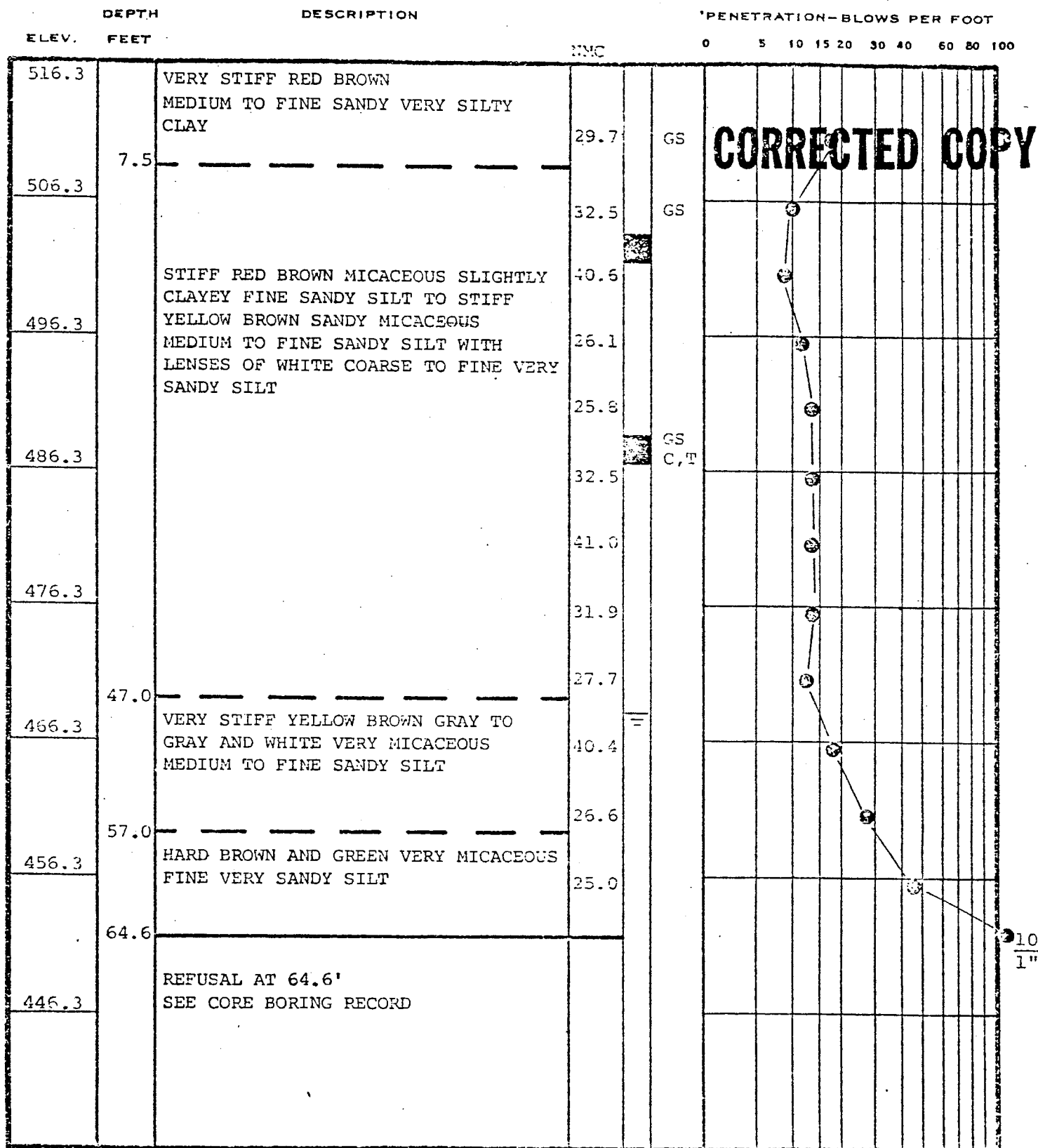
Bottom of borehole at 69.3 feet.

APPENDIX B-8

C-Series Logs



TEST BORING RECORD



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.
%

PAGE 1 OF 2
REMARKS

74.1

MODERATELY HARD AND HARD GRAY AND TAN BIOTITE GNEISS	NX 58	.20	452.3	
			447.3	
MODERATELY HARD AND HARD DARK GREEN HORNBLLENDE GNEISS	NX 78	.46	442.3	
			437.3	77.2-JOINT, 80°SE, STAINED
	NX 85	.64	432.3	84.7-JOINT, 70°E, STAINED
				86.7-JOINT, 70°NE, STAINED
				87.3-JOINT, 70°NE, STAINED
			427.3	
	NX 68	.30	422.3	
				99.0-JOINT, 60°NW, STAINED
			417.3	100.0-JOINT, 90°, STAINED
				103.2-JOINT, 60°NW, STAINED
			412.3	

DRILLED BY RS
LOGGED BY DM
CHECKED BY DM

CORE BORING RECORD

BORING NO. C-102
JOB NO. SAG-674

LAW ENGINEERING TESTING COMPANY

DEPTH
FT.
104.0

DESCRIPTION

CORE RQD ELEV.
%

PAGE 2 OF 2
REMARKS

114.0	SOFT GRAY GREEN AND TAN HORN- BLENDE GNEISS	NX 05	.00	412.3	
				407.3	
128.6 130.2	VERY HARD DARK GREEN AND GRAY HORNBLLENDE GNEISS	NX 100	.68	402.3	120.9-JOINT, 45° NW, STAINED 121.4-JOINT, 90° S, STAINED 123.7-JOINT, 70° S, STAINED 128.3-JOINT, 50° S, STAINED
				397.3	
				392.3	
139.0	VERY HARD DARK GREEN AMPHIBOLITE	NX 100	.73	387.3	
				382.3	
	VERY HARD DARK GREEN AND GRAY HORNBLLENDE GNEISS	NX 98	.91	377.3	DIP OF FOLIATION APPROXIMATELY 45° (ASSUMED SE)
				372.3	
	CORING TERMINATED				

DRILLED BY RS
LOGGED BY DM
CHECKED BY DM

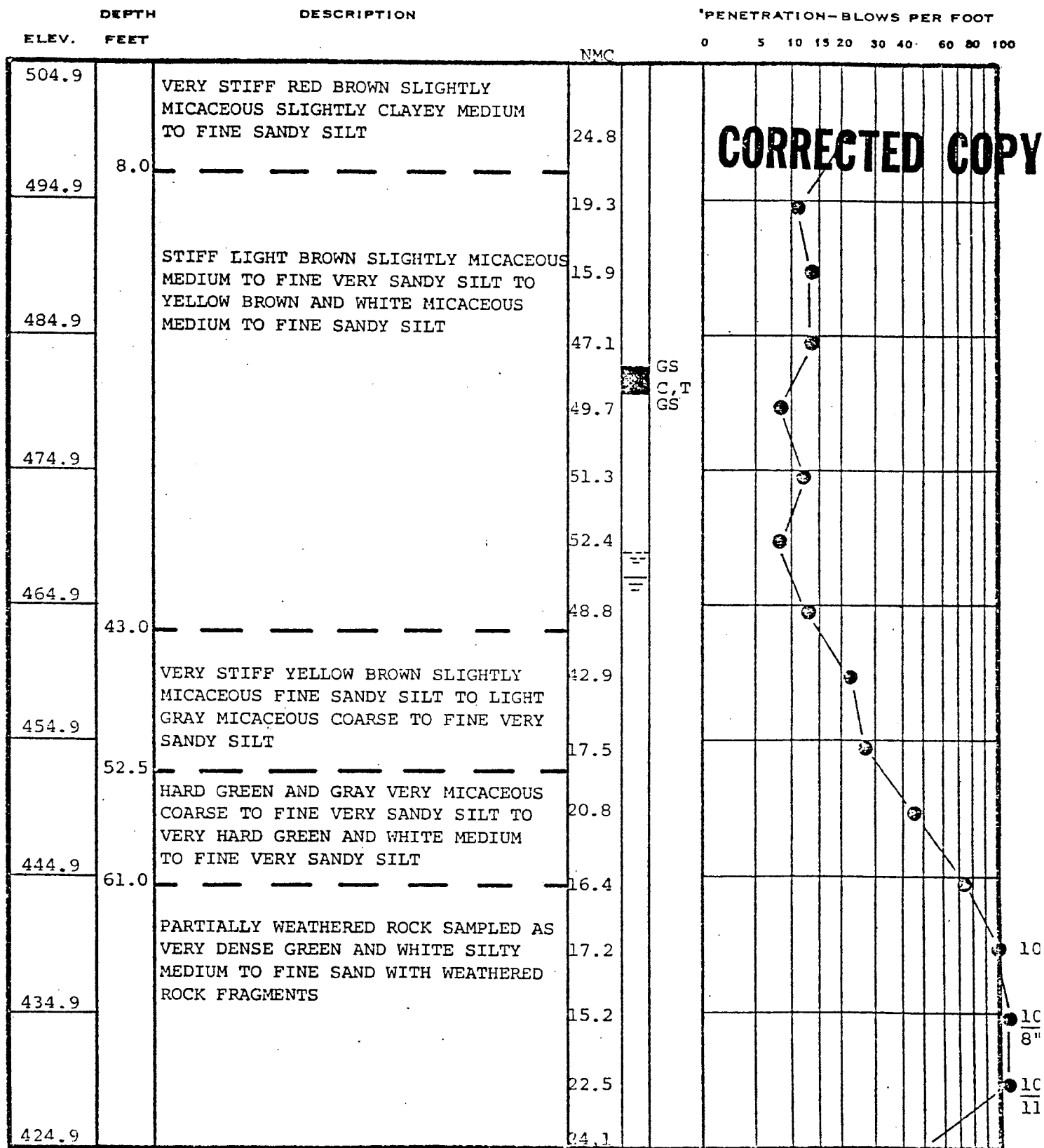
CORE BORING RECORD

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

DEPTH		DESCRIPTION	PENETRATION-BLOWS PER FOOT											
ELEV.	FEET		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	<div style="font-size: 2em; font-weight: bold; transform: rotate(-15deg);">CORRECTED COPY</div>										
414.9			15.5											
			10.9											
	94.6	REFUSAL AT 94.6' SEE CORE BORING RECORD												
404.9														

REMARKS:

DRILLED BY GP
 LOGGED BY CB
 CHECKED BY EBB

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 QCD ELEV.
%

PAGE 1 OF 2
REMARKS

SOFT AND MODERATELY HARD DARK GRAY AND TAN HORNBLENDE GNEISS WITH SOME NARROW (1"-2") BANDS OF AMPHIBOLITE	NX 31	0	410.3	98.2-JOINT, 75° NW, ZEOLITE COATED
			405.3	
	NX 80	.12	400.3	94.6-119.4-HIGHLY FRACTURED
			395.3	
			390.3	
HARD GRAY HORNBLENDE GNEISS	NX 37	.00	385.3	126.5-JOINT, 60° SE, ZEOLITE COATED
			380.3	
	NX 79	.09	375.3	
			370.3	
	NX 100	.37		

DRILLED BY GP
LOGGED BY DM
CHECKED BY _____

CORE BORING RECORD

BORING NO. C-103
JOB NO. SAG-674

LAW ENGINEERING TESTING COMPANY

DEPTH
FT.
134.6
135.5

DESCRIPTION

CORE QCD ELEV.
%

PAGE 2 OF 2
REMARKS

VERY HARD LIGHT GRAY HORNBLLENDE GNEISS			370.3	DIP OF FOLIATION AVERAGES 40° (ASSUMED SE)
			365.3	
	NX 100.11		360.3	
			355.3	
	NX 100.09		350.3	
			345.3	
	NX 100.69		340.3	
168.5	CORING TERMINATED		335.3	
			330.3	

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

[illegible]

REMARKS:

DRILLED BY RS
LOGGED BY CB
CHECKED BY 225

BORING NUMBER C-104
DATE STARTED 4-21-74
DATE COMPLETED _____
JOB NUMBER SAG-674
PAGE 2 OF 2

TEST BORING RECORD

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT																																										
ELEV.	FEET			0	5	10	15	20	30	40	60	80	100																																	
492.8		STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY CLAYEY SILT	25.9	<div>CORRECTED COPY</div> <table><caption>Penetration Test Data</caption><thead><tr><th>Depth (Feet)</th><th>Blows per Foot</th></tr></thead><tbody><tr><td>492.8</td><td>25.9</td></tr><tr><td>482.8</td><td>31.2</td></tr><tr><td>472.8</td><td>40.4</td></tr><tr><td>462.8</td><td>41.8</td></tr><tr><td>452.8</td><td>29.4</td></tr><tr><td>442.8</td><td>49.7</td></tr><tr><td>432.8</td><td>26.6</td></tr><tr><td>422.8</td><td>48.4</td></tr><tr><td>412.8</td><td>42.9</td></tr><tr><td>402.8</td><td>34.2</td></tr><tr><td>392.8</td><td>30.9</td></tr><tr><td>382.8</td><td>28.2</td></tr><tr><td>372.8</td><td>20.2</td></tr><tr><td>362.8</td><td>16.8</td></tr><tr><td>352.8</td><td>19.9</td></tr></tbody></table>											Depth (Feet)	Blows per Foot	492.8	25.9	482.8	31.2	472.8	40.4	462.8	41.8	452.8	29.4	442.8	49.7	432.8	26.6	422.8	48.4	412.8	42.9	402.8	34.2	392.8	30.9	382.8	28.2	372.8	20.2	362.8	16.8	352.8	19.9
Depth (Feet)	Blows per Foot																																													
492.8	25.9																																													
482.8	31.2																																													
472.8	40.4																																													
462.8	41.8																																													
452.8	29.4																																													
442.8	49.7																																													
432.8	26.6																																													
422.8	48.4																																													
412.8	42.9																																													
402.8	34.2																																													
392.8	30.9																																													
382.8	28.2																																													
372.8	20.2																																													
362.8	16.8																																													
352.8	19.9																																													
482.8	8.0		31.2																																											
472.8		STIFF PURPLE BROWN COARSE TO FINE SANDY SLIGHTLY CLAYEY SILT WITH WEATHERED ROCK FRAGMENTS TO GRAY TAN MICACEOUS MEDIUM TO FINE SANDY SILT	40.4																																											
462.8			41.8																																											
452.8			29.4																																											
442.8			49.7																																											
432.8			26.6																																											
422.8			48.4																																											
412.8			42.9																																											
	44.0	VERY STIFF YELLOW BROWN MICACEOUS FINE SANDY SILT TO STIFF WHITE AND GREEN COARSE TO FINE SANDY SILT	34.2																																											
	53.1		30.9																																											
		HARD WHITE AND GREEN FINE SANDY SILT	28.2																																											
			20.2																																											
	72.0	VERY HARD WHITE AND GREEN COARSE TO FINE VERY SANDY SILT TO GREEN FINE VERY SANDY SILT	16.8																																											
			19.9																																											

CORRECTED COPY

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

SOFT AND MODERATELY HARD DARK GREEN AND TAN BIOTITE GNEISS	NX 31	.08	398.1	107.2-JOINT, 65° NW, STAINED
			393.1	
	NX 65	.44	388.1	
			393.1	
	NX 17	.13	378.1	
VERY HARD DARK GREEN AND WHITE HORNBLLENDE GNEISS			373.1	129.9-JOINT, 80° NW, STAINED
	NX 33	.28	368.1	
			363.1	
	NX 92	.81	358.1	

DRILLED BY RS
LOGGED BY DM
CHECKED BY DM

CORE BORING RECORD

BORING NO. C-104
JOB NO. SAG-674

LAW ENGINEERING TESTING COMPANY

CORE RQD ELEV.

Geological log for core NX 99. The log is divided into three main columns: Lithology, Core Number, and Structural Data. The Lithology column contains a continuous description of the core material. The Core Number column contains the core number 'NX 99'. The Structural Data column contains depth measurements and structural observations.

Lithology	Core Number	Structural Data
		358.1
		353.1
		139.1-JOINT, 50° NE
		140.2-2 JOINTS, 80° NE, STAINED
		348.1
		343.1
149.0 CORING TERMINATED		

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

LAW ENGINEERING TESTING COMPANY

TEST BORING RECORD

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT										
ELEV.	FEET			0 5 10 15 20 30 40 60 80 100										
482.7		VERY STIFF TO STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	33.5											
472.7			40.4											
	12.0	-----												
		FIRM RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	47.1											
	17.4	-----												
462.7			61.3											
		SOFT RED BROWN TO YELLOW BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	65.3											
	28.2	-----												
452.7		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	41.6											
			45.6											
	42.0	-----												
442.7		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	30.7											
	51.0		29.7											
		BORING TERMINATED AT 51.0'												
432.7														
422.7														

CORRECTED COPY

GS
C,T

REMARKS:

LOCATION: N 1115719
E 609424

DRILLED BY RS
LOGGED BY MB
CHECKED BY RS

BORING NUMBER C-105
DATE STARTED 4-24-74
DATE COMPLETED 4-29-74
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			
478.6		VERY STIFF TO STIFF RED BROWN FINE SANDY VERY SILTY CLAY														
468.6	12.0															
458.6		VERY SOFT YELLOW BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT														
448.6		SOFT YELLOW BLUE SLIGHTLY MICACEOUS FINE SANDY SILT TO YELLOW BROWN AND WHITE MICACEOUS COARSE TO FINE SANDY SILT														
	32.0	LOOSE YELLOW BROWN AND WHITE MICACEOUS VERY SILTY COARSE TO FINE SAND TO FIRM GREEN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND														
438.6		DENSE GREEN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND														
	37.0	BORING TERMINATED AT 50.0'														
428.6	50.0															
418.6																

CORRECTED COPY

GS

GS

C, T

GS, T

REMARKS:

LOCATION: N 1115890
E 609528

DRILLED BY GFC (RK)
LOGGED BY CB
CHECKED BY SM

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.	FSEET			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><div>CORRECTED COPY</div><div><div>10</div><div>8"</div><div>10</div><div>10</div></div></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											
444.7	23.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY BROWN SILTY MEDIUM TO FINE SAND	15.3											
434.7	34.1	REFUSAL AT 34.1' BORING TERMINATED	12.7											

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

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
ELEV.	FEET			
477.9		STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SLIGHTLY CLAYEY SILT	28.2	
467.9				
	12.0		35.0	
		SOFT TAN VERY MICACEOUS MEDIUM TO FINE SANDY SILT	31.9	
457.9			34.0	
	23.0		62.3	
		LOOSE TO FIRM TAN VERY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	34.6	
447.9			22.0	
	37.0		23.2	
437.9		VERY FIRM TAN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND TO DENSE GREEN AND TAN SILTY MEDIUM TO FINE SAND	27.9	
427.9			26.1	
	50.0			
		BORING TERMINATED AT 50.0'		
417.9				

CORRECTED COPY

Depth (Feet)	Penetration (Blows per Foot)
12.0	35.0
23.0	62.3
37.0	23.2
50.0	26.1

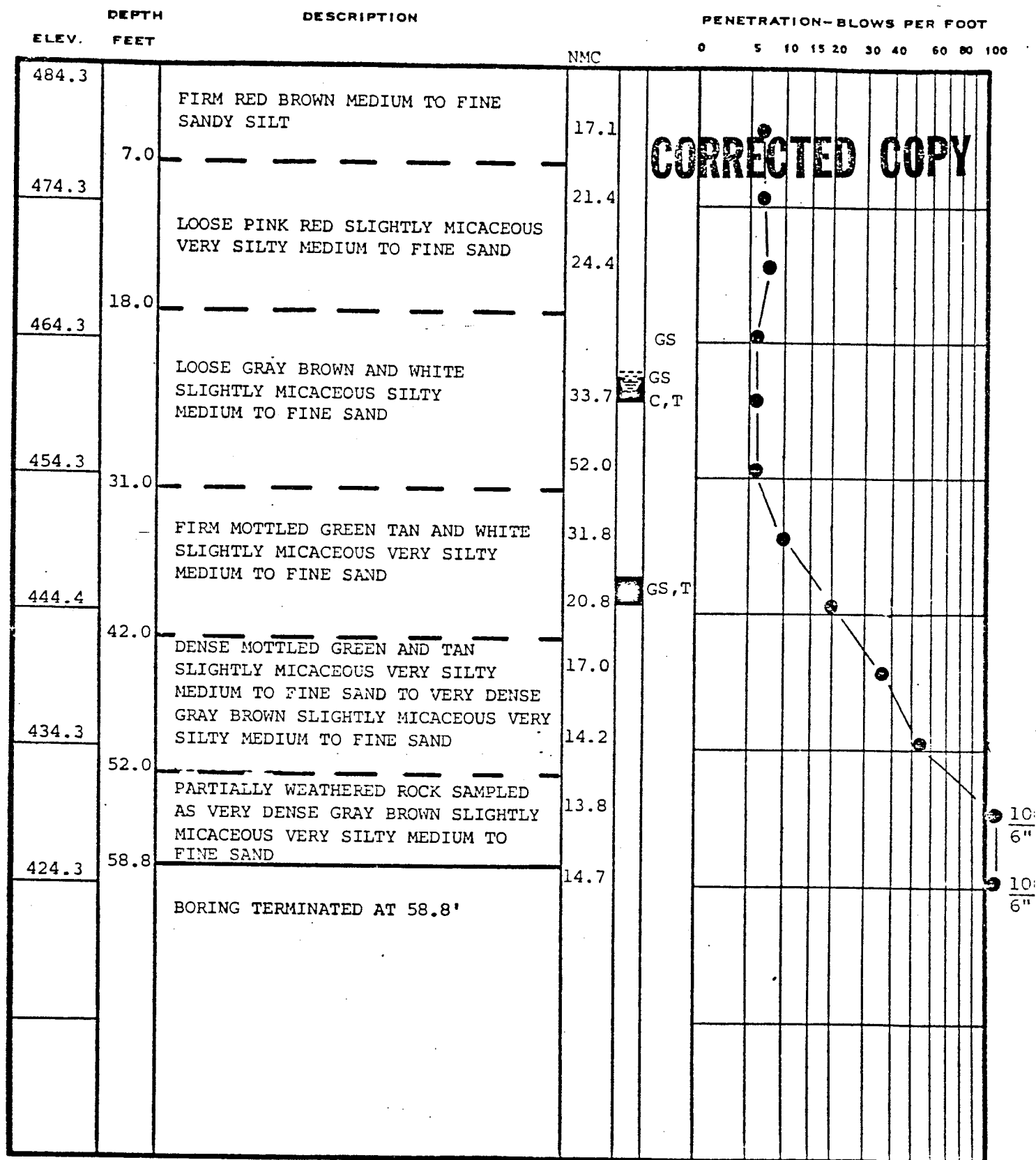
REMARKS:

LOCATION: N 1116189
E 609793

DRILLED BY GPC (RK)
LOGGED BY CB
CHECKED BY CB

BORING NUMBER C-108 ✓
DATE STARTED 4-24-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1116337
E 609927

DRILLED BY GPC (RK)
LOGGED BY MB
CHECKED BY JLS

BORING NUMBER C-109
DATE STARTED 4-25-74
DATE COMPLETED _____
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	
496.3		VERY STIFF RED BROWN FINE SANDY SLIGHTLY CLAYEY SILT												
486.3	8.0	-----												
		LOOSE YELLOW BROWN SLIGHTLY MICACEOUS SILTY MEDIUM TO FINE SAND TO RED BROWN AND WHITE SLIGHTLY MICACEOUS VERY SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS												
476.3	21.0	-----												
		LOOSE RED BROWN AND WHITE SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND TO FIRM MOTTLED GREEN TAN AND WHITE VERY SILTY MEDIUM TO FINE SAND	GS											
466.3														
456.3														
	43.0	-----												
		DENSE TO VERY FIRM MOTTLED GREEN TAN AND WHITE VERY SILTY MEDIUM TO FINE SAND												
446.3	51.0	-----												
		VERY DENSE MOTTLED GREEN TAN AND WHITE VERY SILTY MEDIUM TO FINE SAND												
	55.0	-----												
		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED GREEN TAN AND WHITE VERY SILTY MEDIUM TO FINE SAND												
436.3	58.8	-----												
426.3		BORING TERMINATED AT 58.8'												

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	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
				0 5 10 15 20 30 40 60 80 100
411.0		FIRM MOTTLED GREEN AND TAN MEDIUM TO FINE SAND		<div style="position: absolute; top: 10%; left: 10%; font-size: 2em; font-weight: bold; transform: rotate(-15deg);">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		

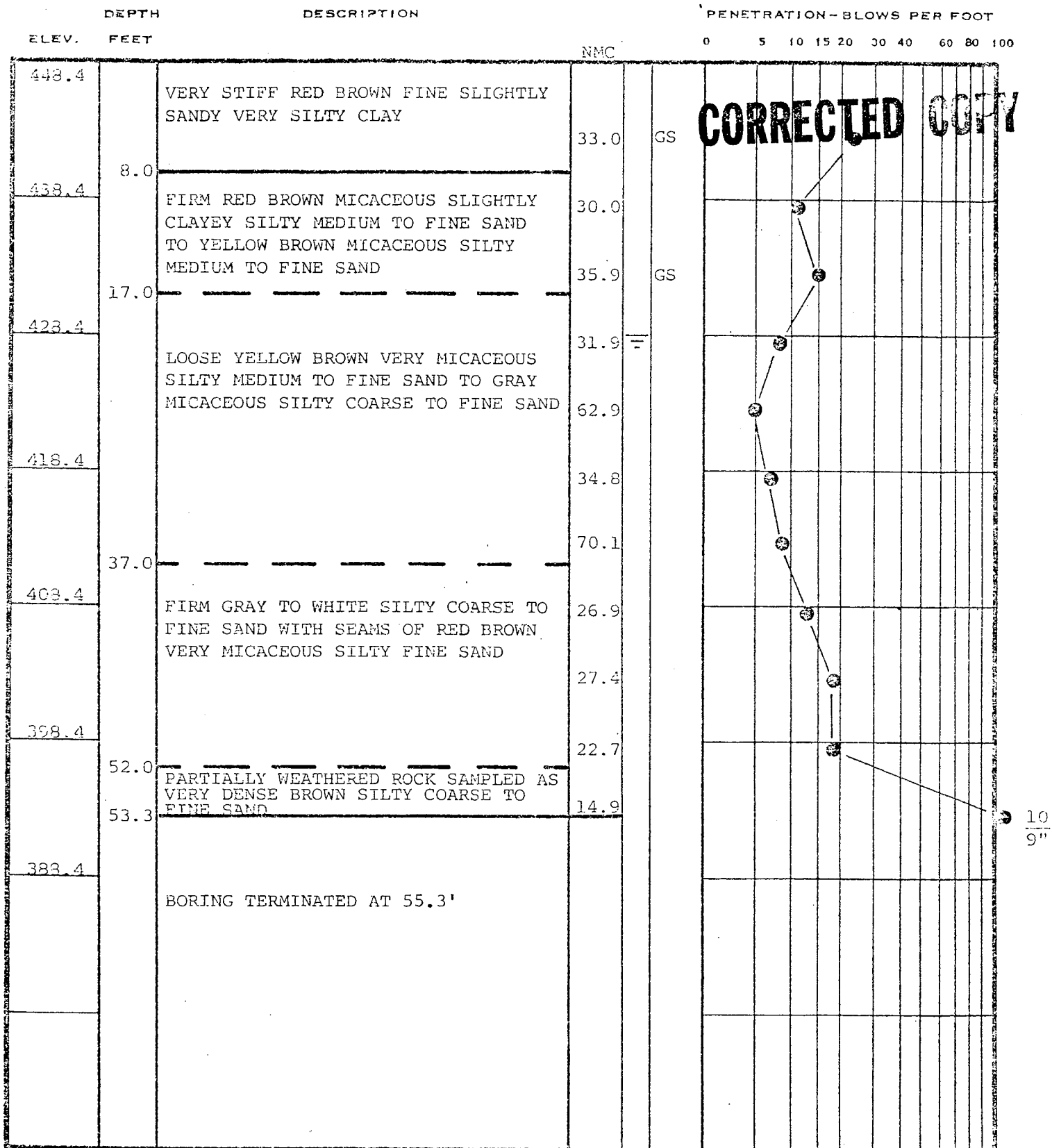
REMARKS:

LOCATION: N 1118405
E 610291

DRILLED BY GP
LOGGED BY MB
CHECKED BY 10/1/74

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

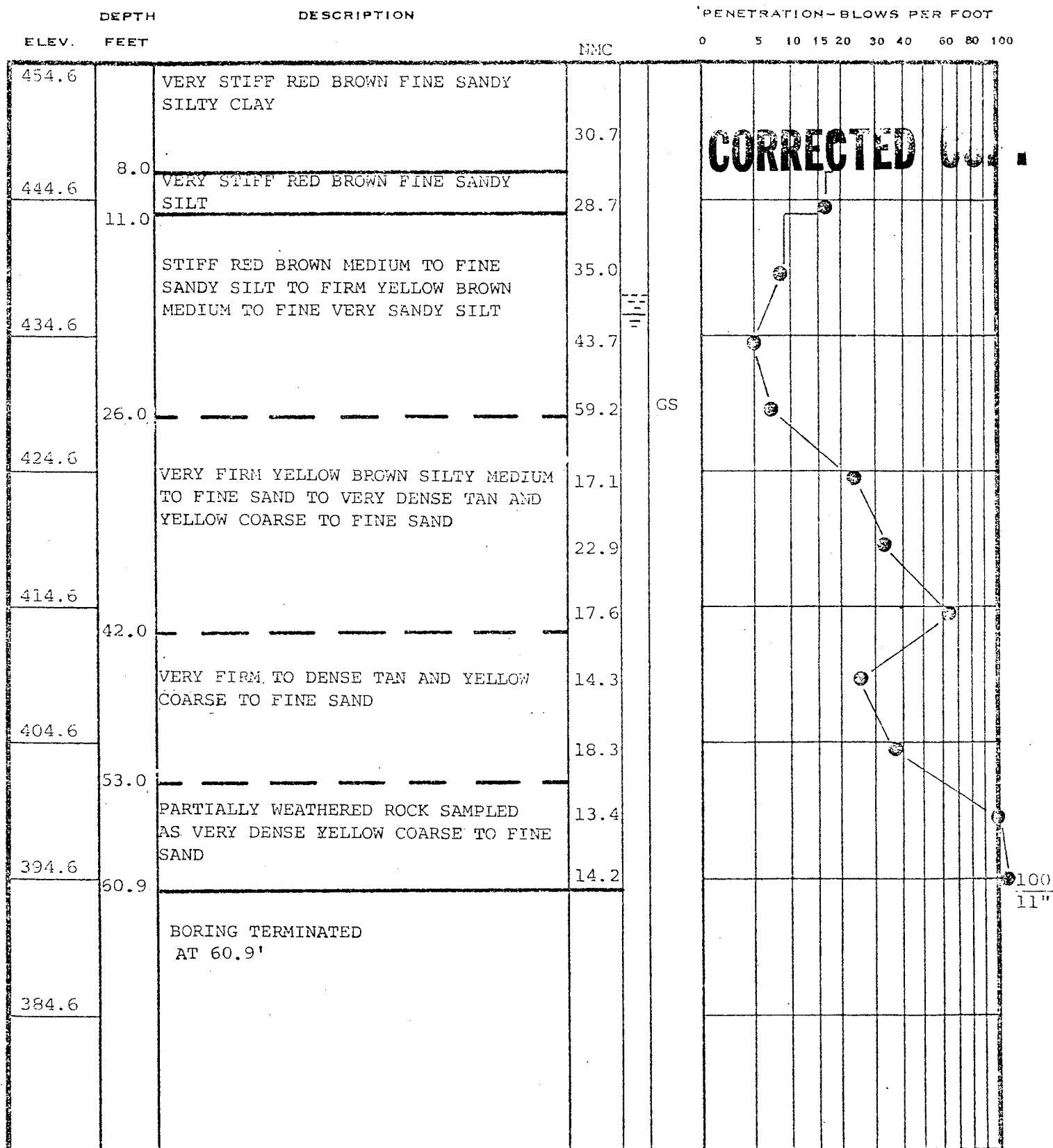
BORING NUMBER C-123

DATE STARTED 4-30-74

DATE COMPLETED 4-30-74

JOB NUMBER SAG-674

TEST BORING RECOF



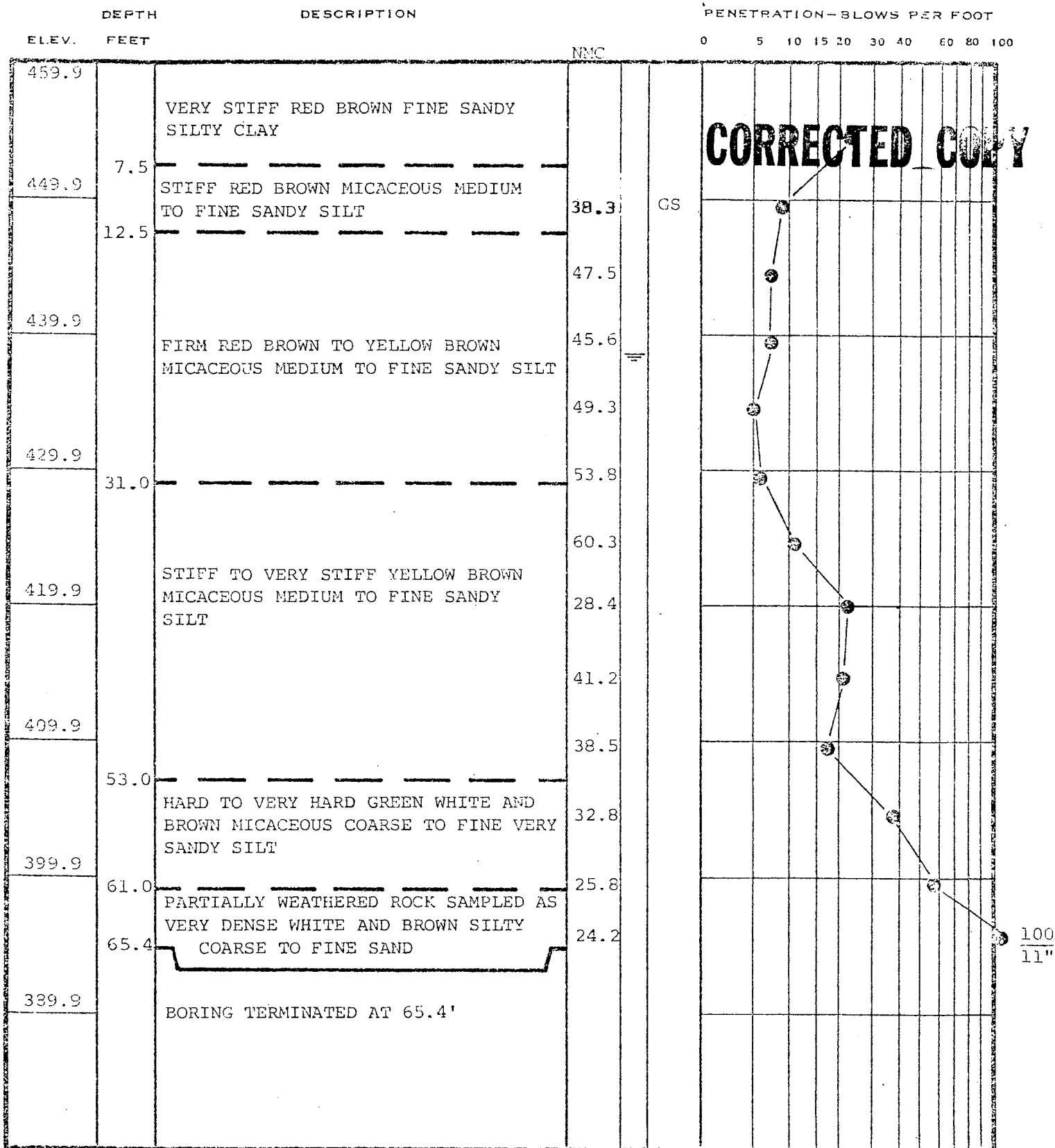
REMARKS:

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



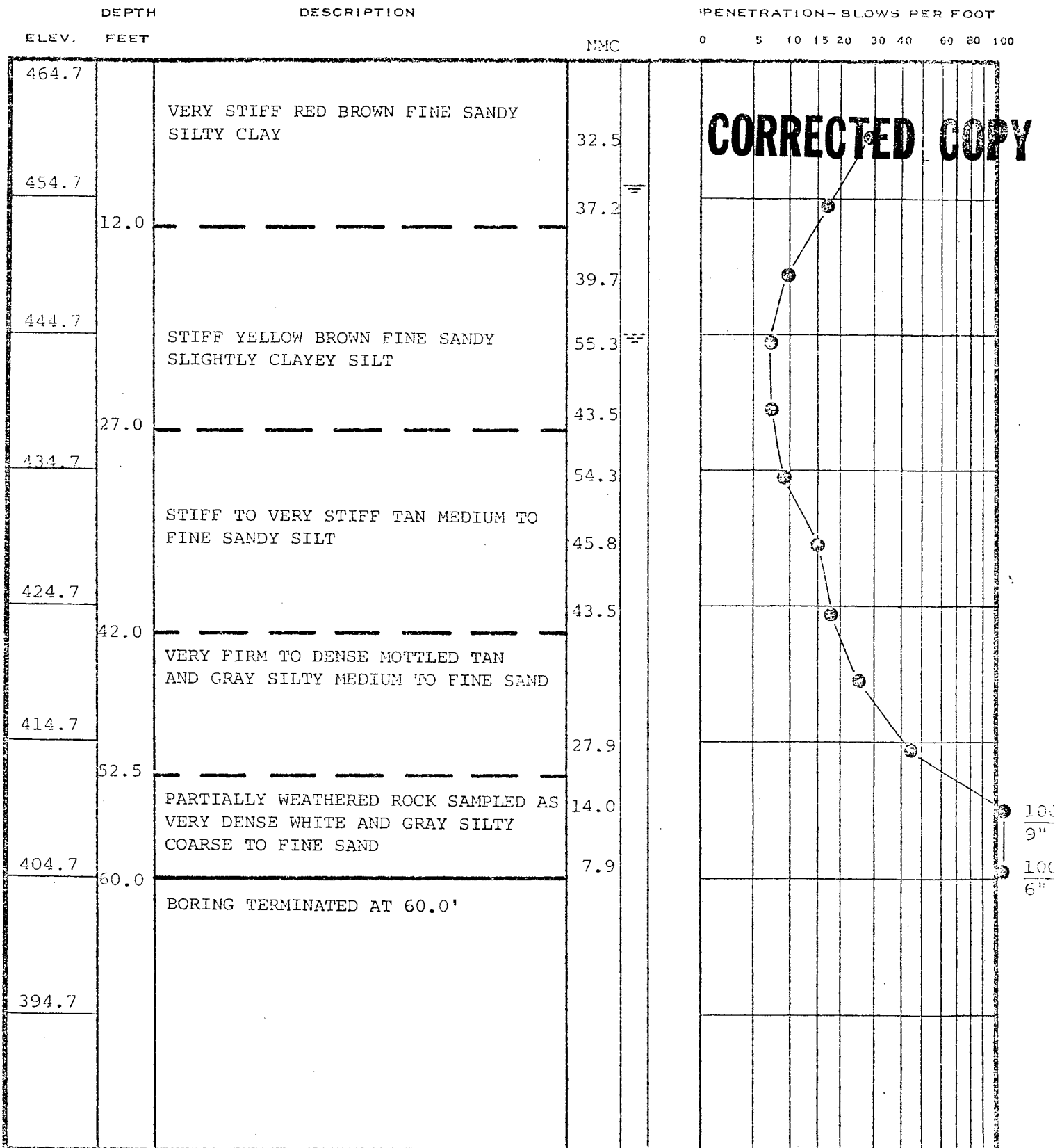
REMARKS:

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



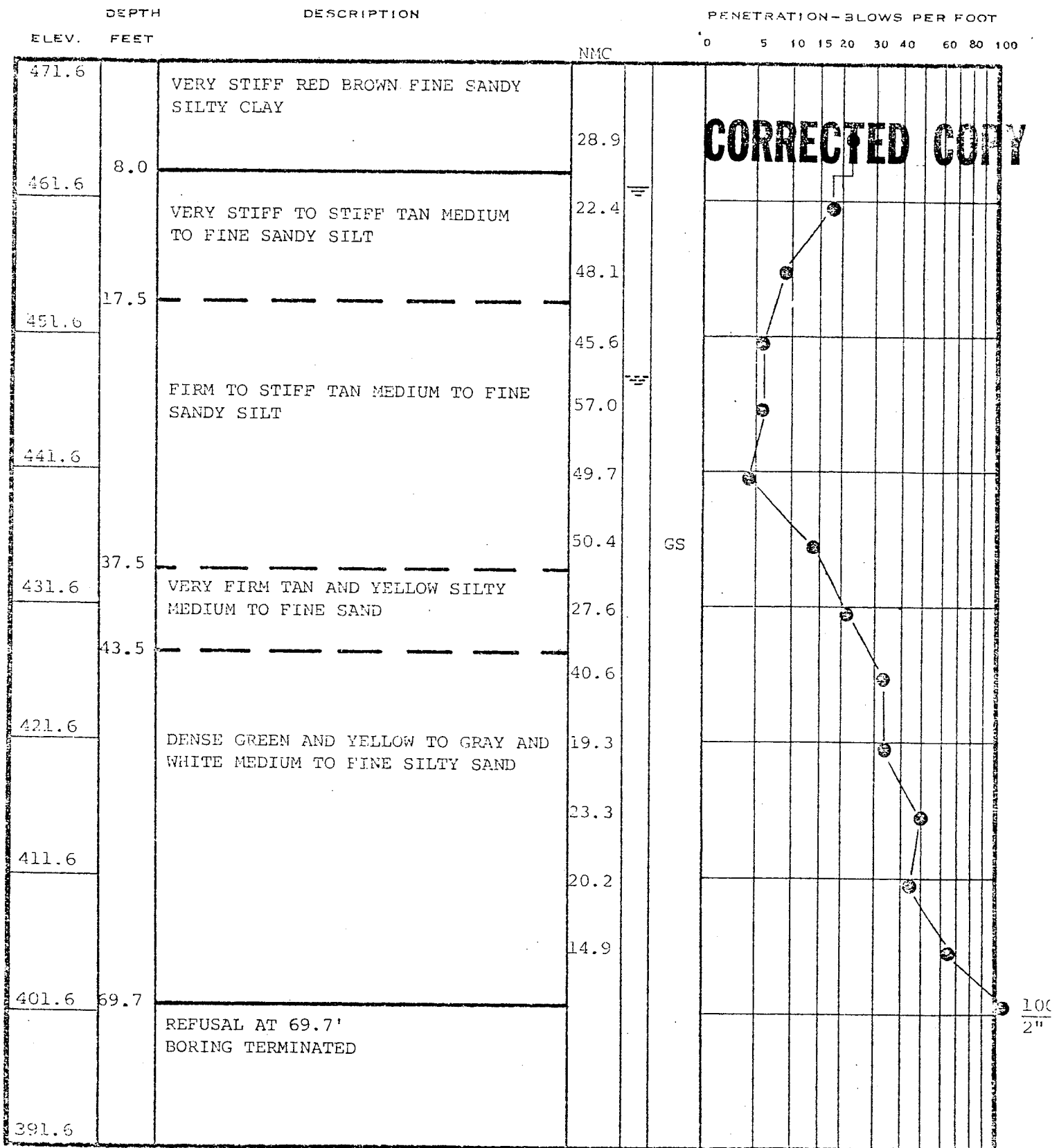
REMARKS:

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



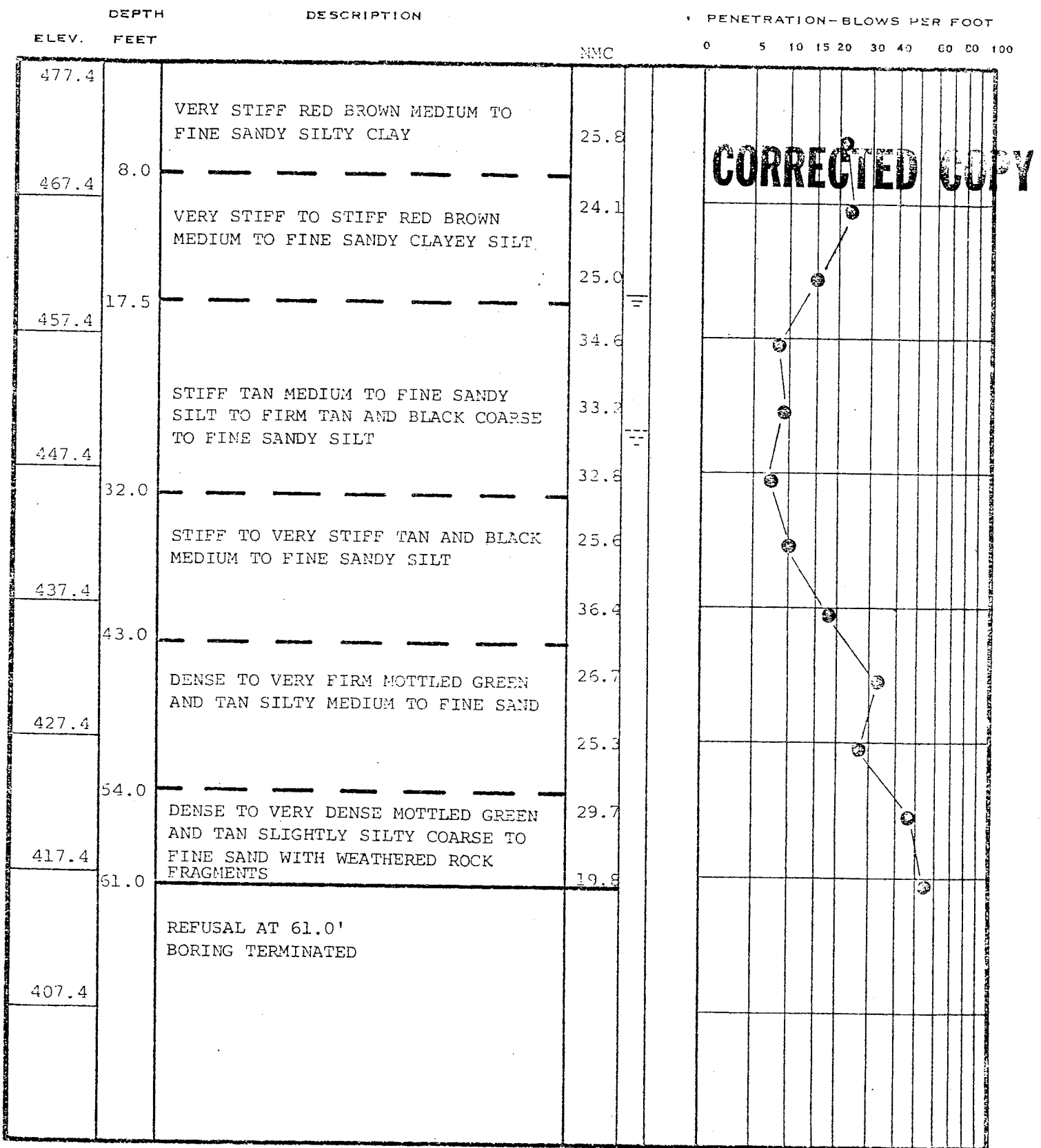
REMARKS:

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



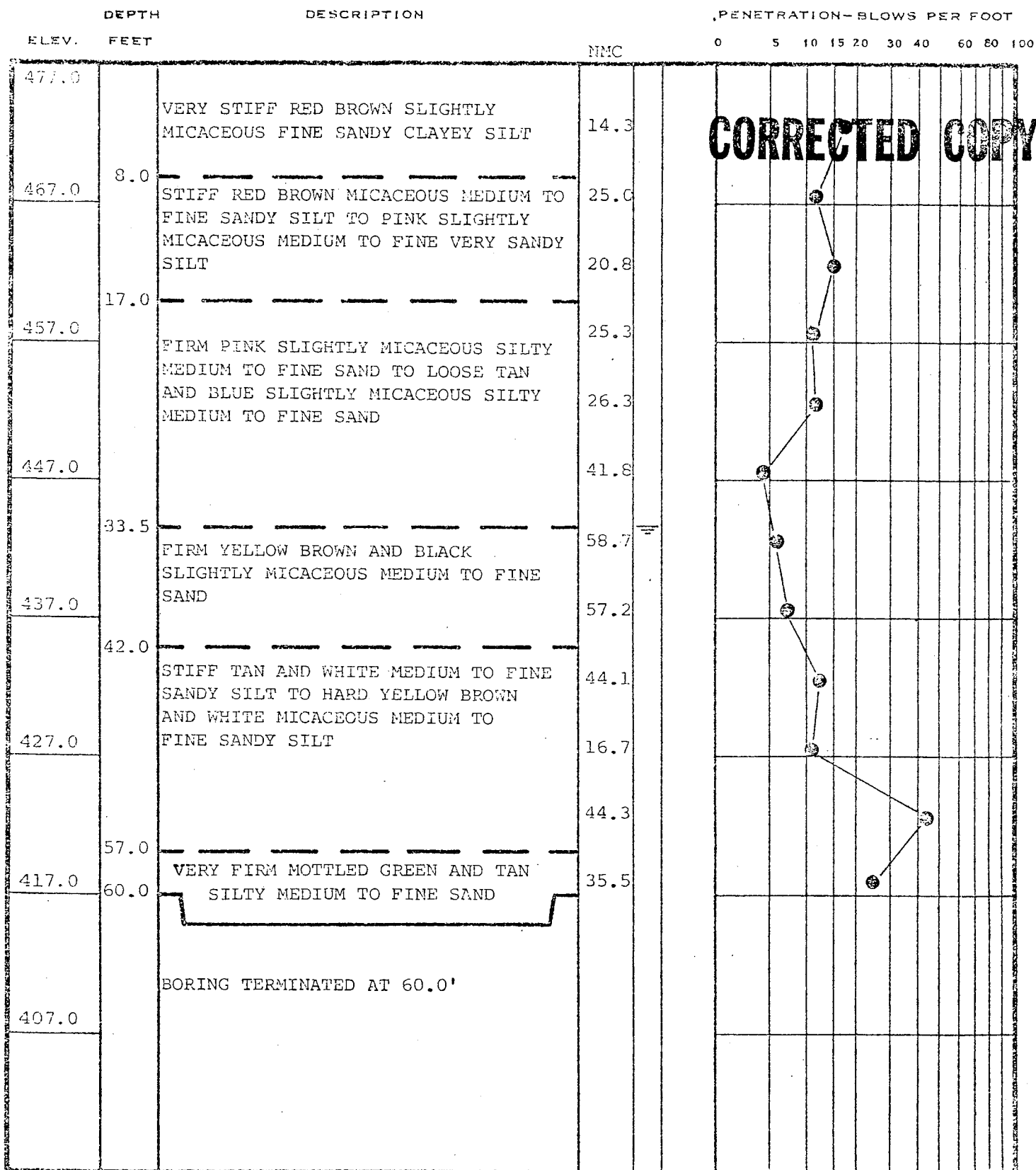
REMARKS:

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



REMARKS:

LOCATION: N 1120184
E 610323

DRILLED BY GPC(RK)
LOGGED BY MB
CHECKED BY BBE

BORING NUMBER C-129
DATE STARTED 4-29-74
DATE COMPLETED _____
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	
481.7		STIFF RED BROWN MICACEOUS FINE VERY SANDY SLIGHTLY CLAYEY SILT	19.9											
471.7	8.0		18.6											
			42.9											
461.7			37.3											
		STIFF RED BROWN TO YELLOW BROWN MICACEOUS MEDIUM TO FINE SANDY SILT	23.6											
451.7			24.5											
			36.6											
441.7			47.7											
	41.0	VERY STIFF GRAY AND WHITE MICACEOUS MEDIUM TO FINE VERY SANDY SILT	27.4											
431.7	47.0	VERY DENSE DARK GREEN VERY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	17.6											
	53.0		18.8											
421.7	58.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GREEN AND TAN MICACEOUS SILTY MEDIUM TO FINE SAND												
		REFUSAL AT 58.0' BORING TERMINATED												

CORRECTED COPY

50
5"

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

TEST BORING RECOF

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
ELEV.	FEET			
487.7		VERY STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY CLAYEY SILT	24.7	
477.7	8.0		25.3	
			29.9	
467.7		STIFF RED BROWN TO YELLOW BROWN MICACEOUS MEDIUM TO FINE SANDY SILT	48.8	
			42.9	
457.7			31.2	
			34.2	
447.7	37.0		38.9	
		FIRM YELLOW BROWN MICACEOUS MEDIUM TO FINE SANDY SILT TO STIFF YELLOW BROWN VERY MICACEOUS MEDIUM TO FINE SANDY SILT	50.8	
437.7			47.7	
427.7	57.0	FIRM GREEN AND WHITE VERY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	21.2	
	62.0			
		DENSE TO VERY DENSE GREEN AND WHITE VERY MICACEOUS VERY SILTY MEDIUM TO FINE SAND	23.3	
417.7			17.0	
	71.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GREEN AND WHITE MICACEOUS SILTY MEDIUM TO FINE SAND	23.3	
407.7	78.7	REFUSAL AT 78.7'-BORING TERMINATED	14.5	

REMARKS:

LOCATION: N 1120584

E 610323

HOLE CAVED AT 44.5'

AFTER 24 HRS.

DRILLED BY GPC (RK)

LOGGED BY CB

CHECKED BY *EE*

BORING NUMBER C-131

DATE STARTED 4-30-74

DATE COMPLETED _____

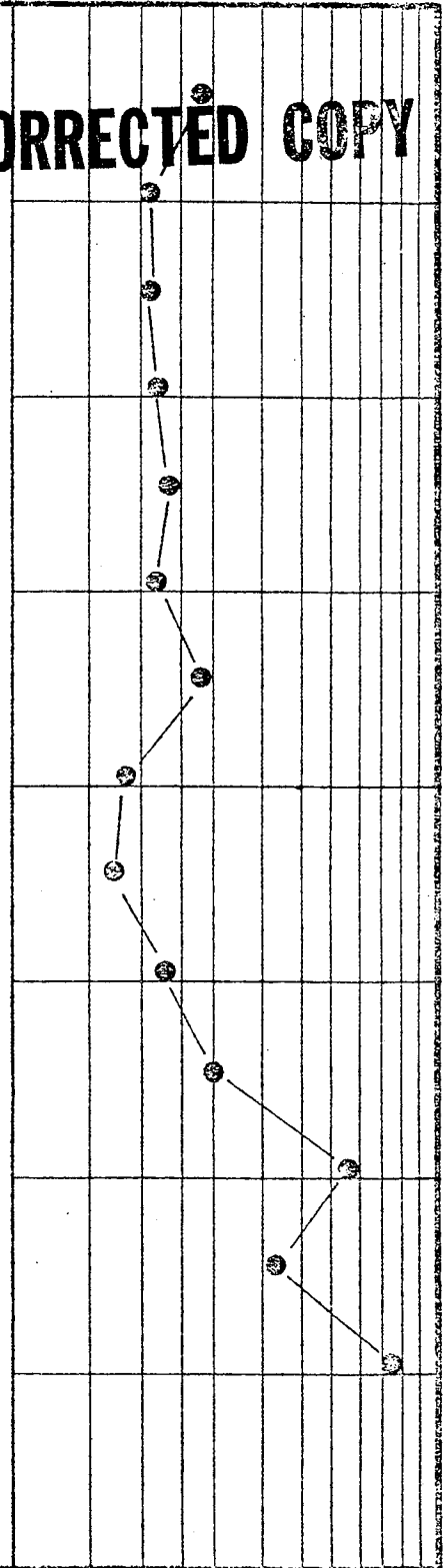
JOB NUMBER SAG-674

TEST BORING RECOR

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT										
ELEV.	FEET			0	5	10	15	20	30	40	60	80	100	
489.3		VERY STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SLIGHTLY SANDY CLAYEY SILT	26.4											
479.3	8.0		18.5											
			32.5											
469.3		STIFF PURPLE BROWN SLIGHTLY MICACEOUS FINE SANDY SILT TO PINK AND BROWN COARSE TO FINE VERY SANDY SILT	37.9											
			32.5											
459.3			42.9											
	31.0	VERY STIFF PURPLE BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	43.5											
	37.0		40.0											
449.3		FIRM PURPLE BROWN TO YELLOW BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	53.1											
	46.0		47.0											
439.3		STIFF TO VERY STIFF YELLOW BROWN MICACEOUS FINE SLIGHTLY SANDY SILT	35.1											
	57.0		27.6											
429.3		VERY HARD GREENISH GRAY VERY MICACEOUS FINE SANDY SILT TO GREEN AND YELLOW MEDIUM TO FINE VERY SANDY SILT	28.0											
	66.0		17.2											
419.3		VERY DENSE GREEN AND YELLOW SILTY MEDIUM TO FINE SAND												
	72.8	REFUSAL AT 72.8' BORING TERMINATED												
409.3														

CORRECTED COPY

CORRECTED COPY



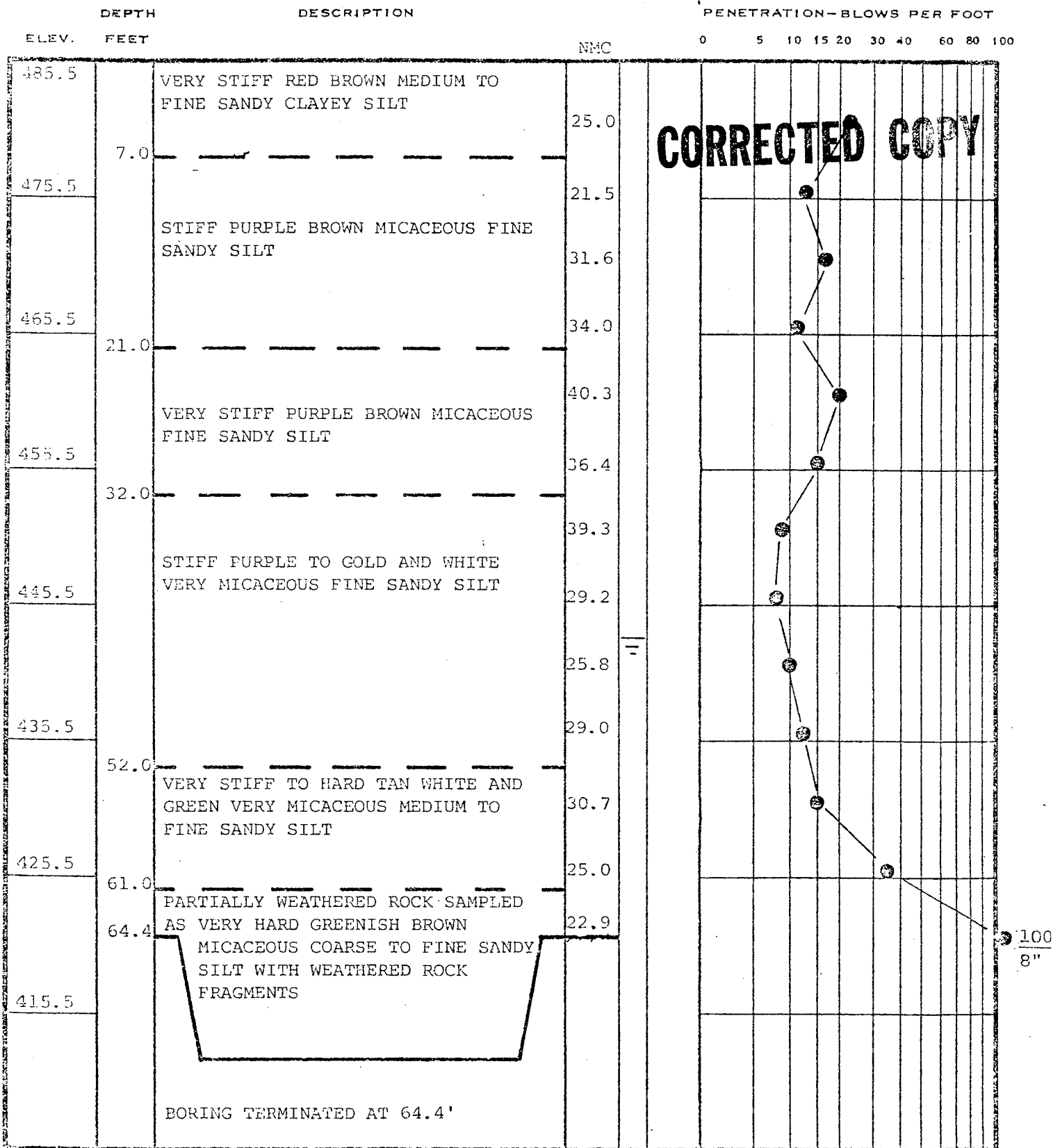
REMARKS:

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 1120964
E 610323
HOLE CAVED AT 42.5'
AFTER 24 HOURS

DRILLED BY GPC(RK)
LOGGED BY CB
CHECKED BY EBE

BORING NUMBER C-133
DATE STARTED 5-1-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD

ELEV.	DEPTH	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
	FEET			0 5 10 15 20 30 40 60 80 100
483.9		VERY STIFF RED BROWN MICACEOUS CLAYEY SILT		
	7.0			
473.9		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			
	48.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE GRAY AND WHITE MEDIUM TO FINE SAND		
433.9	50.0			
		BORING TERMINATED AT 50.0'		
423.9				

CORRECTED CPTV

The graph shows the following approximate data points:

Depth (feet)	Penetration (blows per foot)
7.0	~10
13.0	~15
23.0	~25
33.0	~35
42.5	~45
48.0	~55
50.0	~65

100
11"

REMARKS:

LOCATION: N 1121184
E 610323
HOLE CAVED AT 29.5'
AFTER 24 HRS.

DRILLED BY GP
LOGGED BY JMS
CHECKED BY TYM

BORING NUMBER	C-134
DATE STARTED	5-1-74
DATE COMPLETED	5-2-74
JOB NUMBER	SAG-674

TEST BORING RECORD

DEPTH		DESCRIPTION	PENETRATION-BLOWS PER FOOT	
ELEV.	FEET		NMC	0 5 10 15 20 30 40 60 80 100
486.3		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

100
11"
100
6"
100
0"

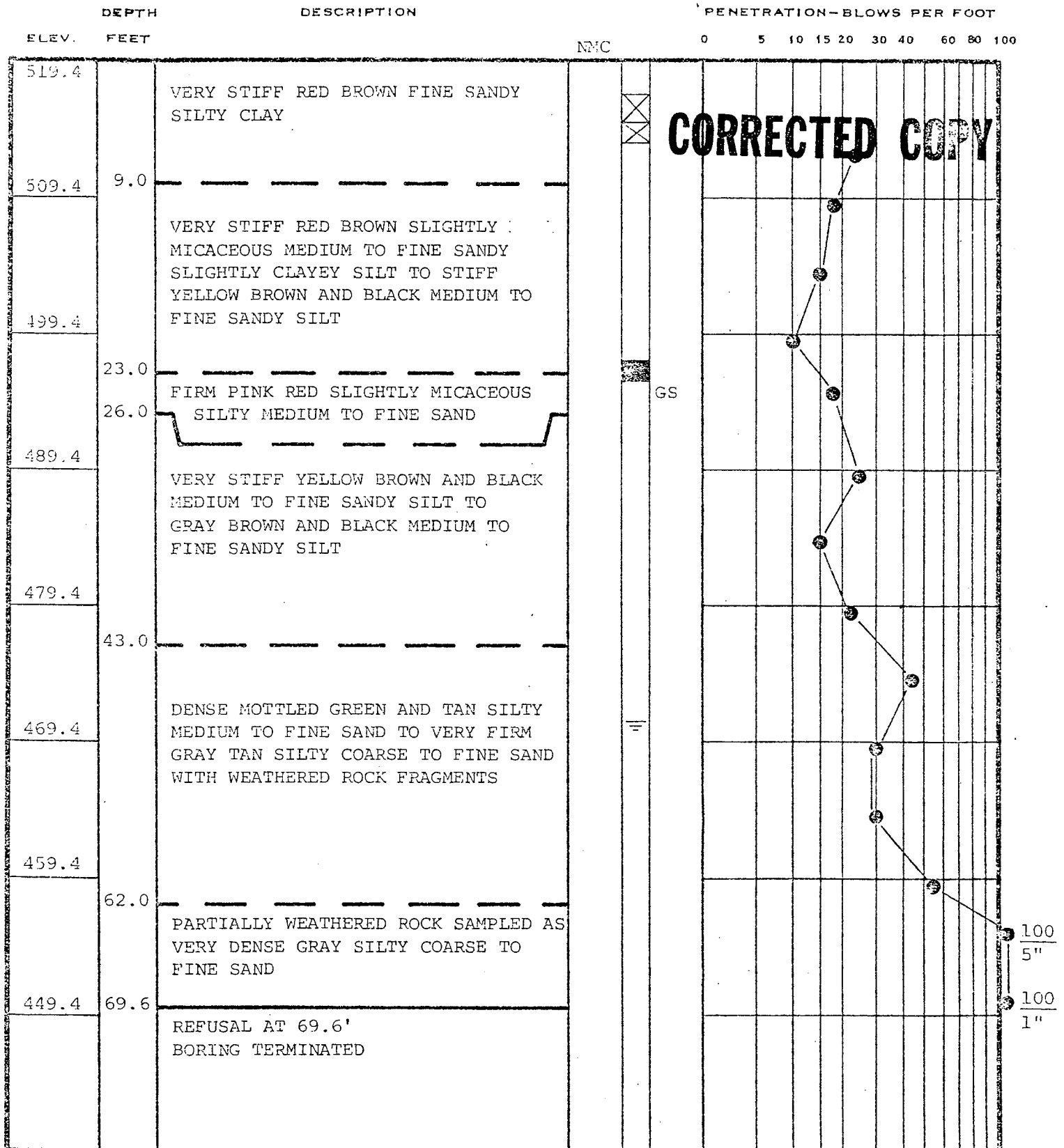
REMARKS:

LOCATION: N 1121232
E 610131
HOLE CAVED AT 20.0'
AFTER 24 HOURS

DRILLED BY RS
LOGGED BY CB
CHECKED BY F.B.F.

BORING NUMBER C-135
DATE STARTED 5-2-74
DATE COMPLETED 5-2-74
JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

LOCATION: N 1115082

609136

HOLE CAVED AT 48.5' AFTER

24 HOURS

DRILLED BY RS

LOGGED BY MB

CHECKED BY JMB

BORING NUMBER C-156

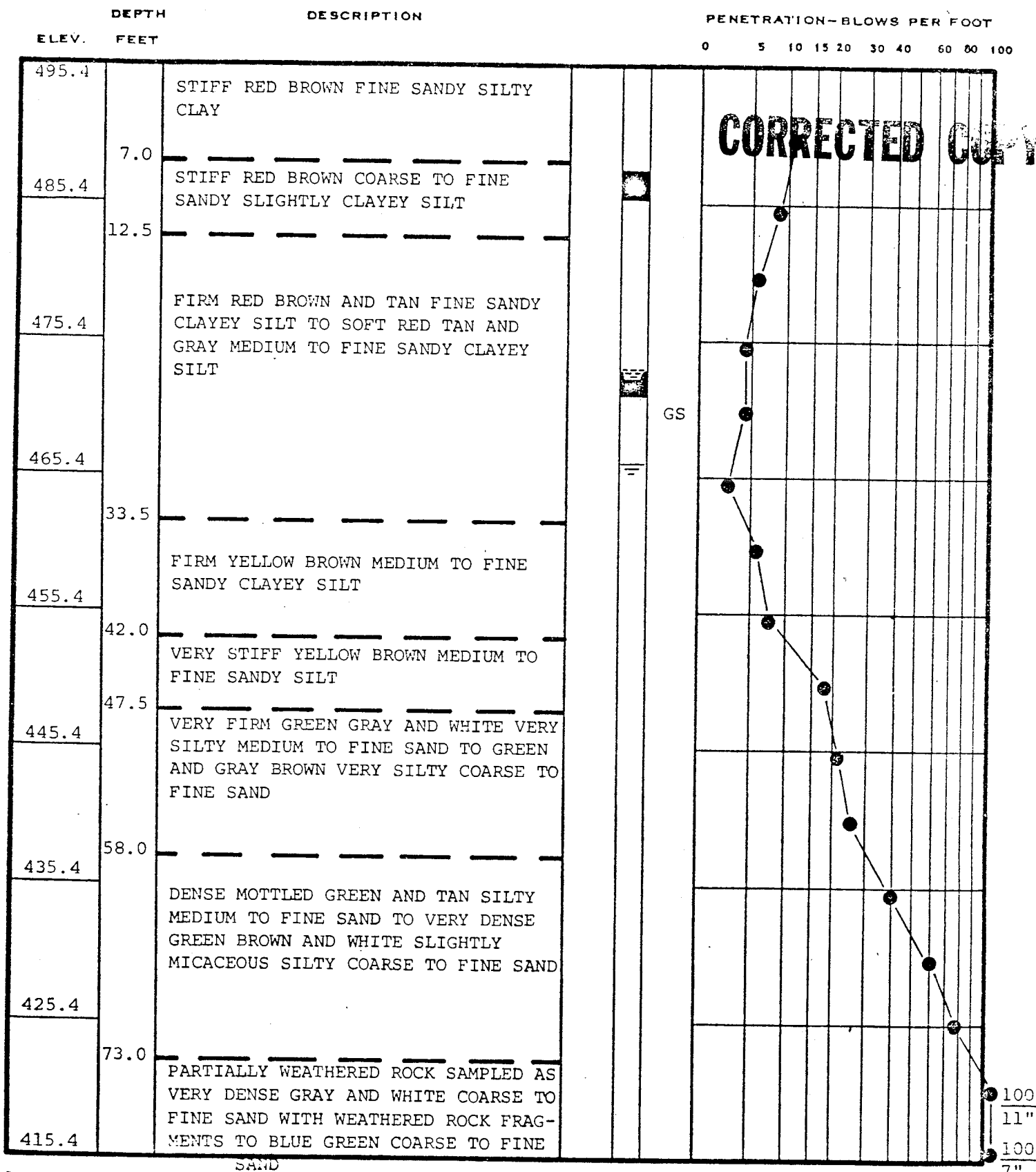
DATE STARTED 5-14-74

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 *EBE*

BORING NUMBER C-158

DATE STARTED 5-15-74

DATE COMPLETED 5-17-74

JOB NUMBER SAG-674

1

PENETRATION-BLOWS PER FOOT

0 5 10 15 20 30 40 60 80 100

NMC

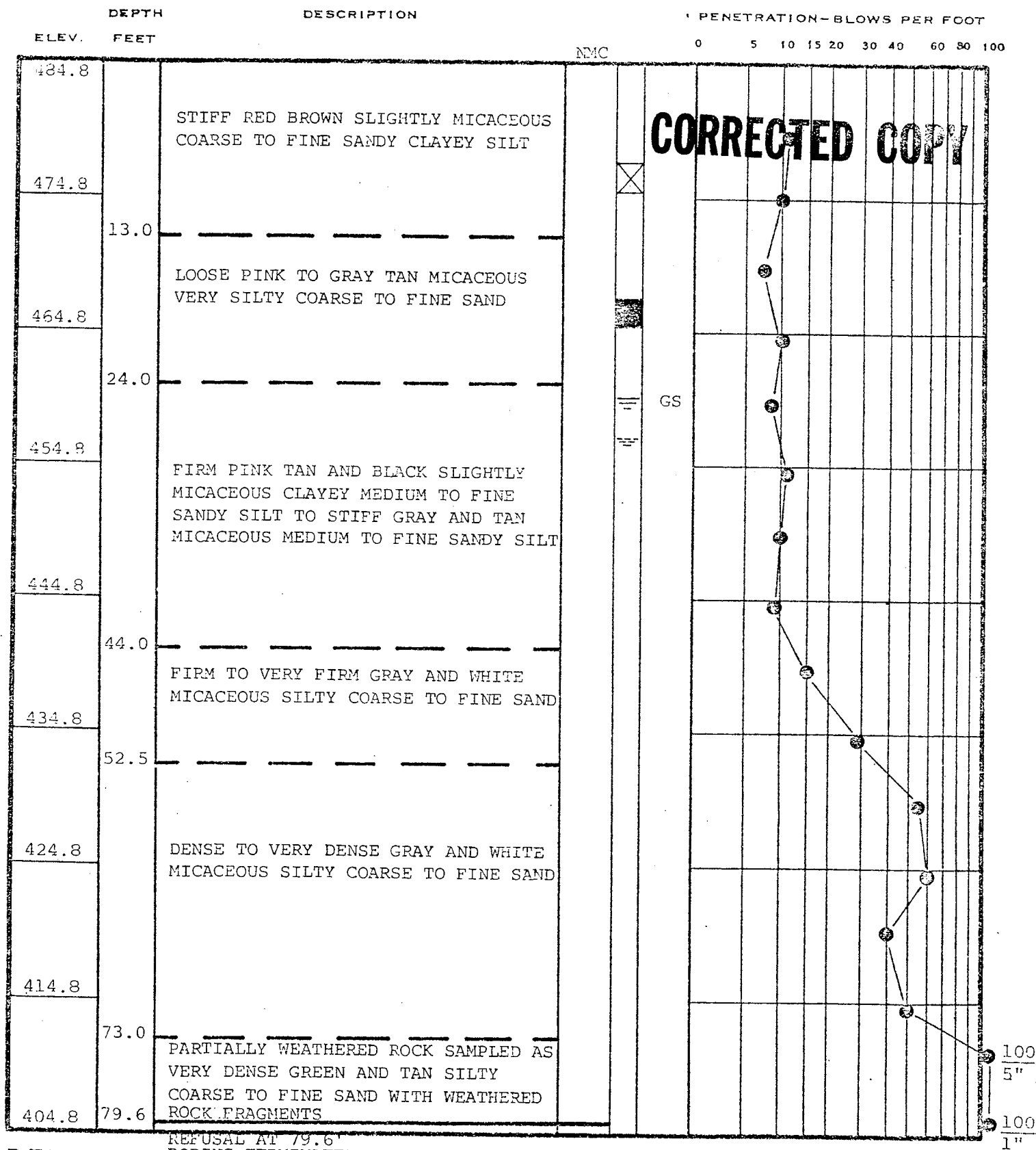
[illegible]

REMARKS:

DRILLED BY GP
LOGGED BY MB
CHECKED BY EBE

BORING NUMBER C-158
DATE STARTED 5-15-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD



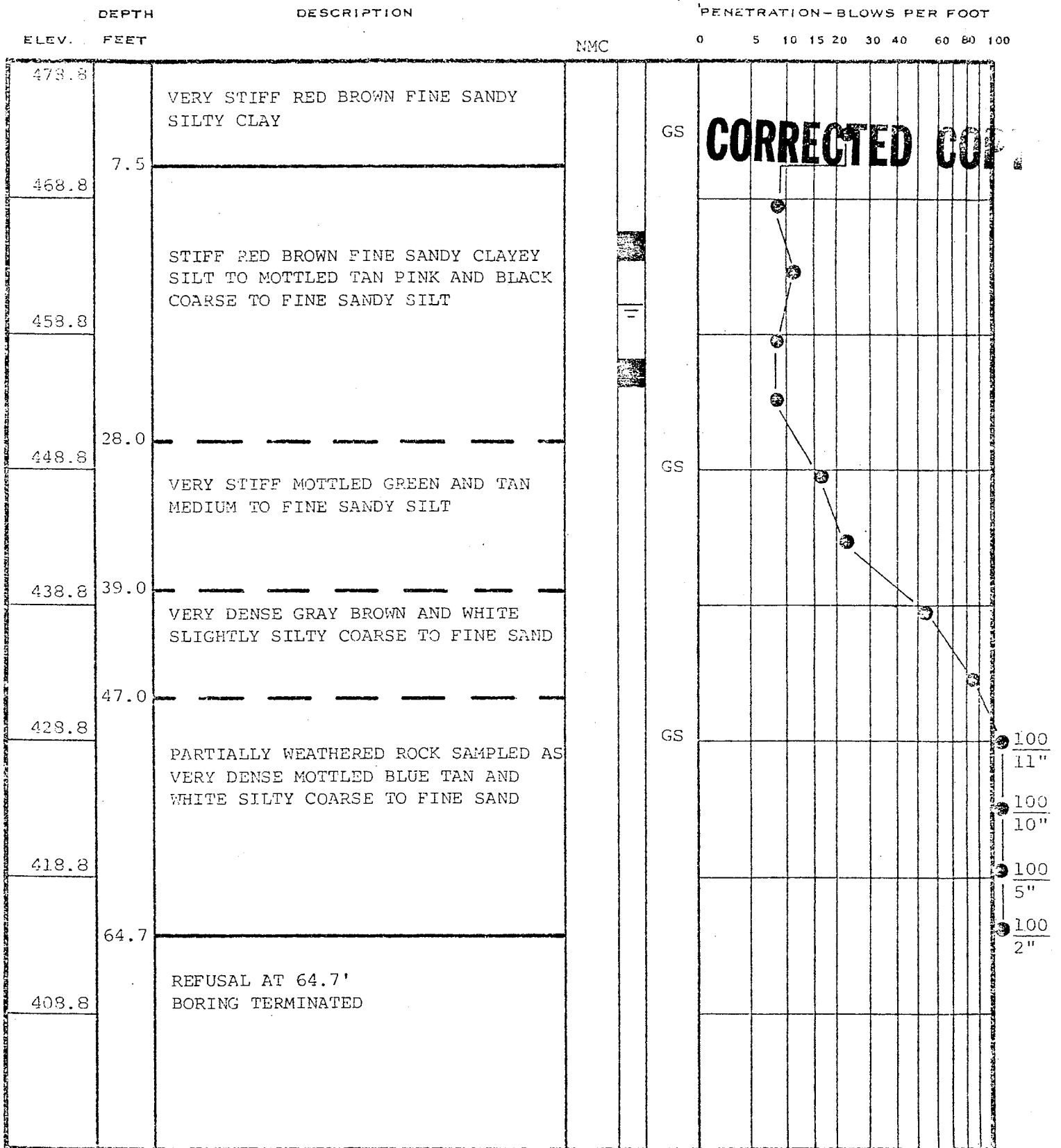
REMARKS: REFUSAL AT 79.6' BORING TERMINATED

LOCATION: N 1115589
E 609466

DRILLED BY GP
LOGGED BY MB
CHECKED BY MS

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	GS	PENETRATION-BLOWS PER FOOT
471.1					<div style="position: relative; height: 100%;"> <div style="position: absolute; top: 0; right: 0; font-weight: bold; font-size: 1.2em;">CORRECTED</div> </div>
461.1		FIRM TO VERY FIRM MICACEOUS VERY SILTY COARSE TO FINE SAND			
	13.0				
		HARD GREEN AND TAN FINE VERY SANDY VERY MICACEOUS SILT			
451.1	18.0				
		VERY DENSE BROWN GRAY AND WHITE SILTY COARSE TO FINE SAND			
441.1					
	33.0				
431.1		PARTIALLY WEATHERED ROCK SAMPLED AS TAN BROWN SILTY COARSE TO FINE SAND			
421.1	49.7	REFUSAL AT 49.7' BORING TERMINATED			<div style="display: flex; flex-direction: column; align-items: flex-end;"> <div>100 10"</div> <div>100 4"</div> <div>100 3"</div> <div>100 1.5"</div> </div>

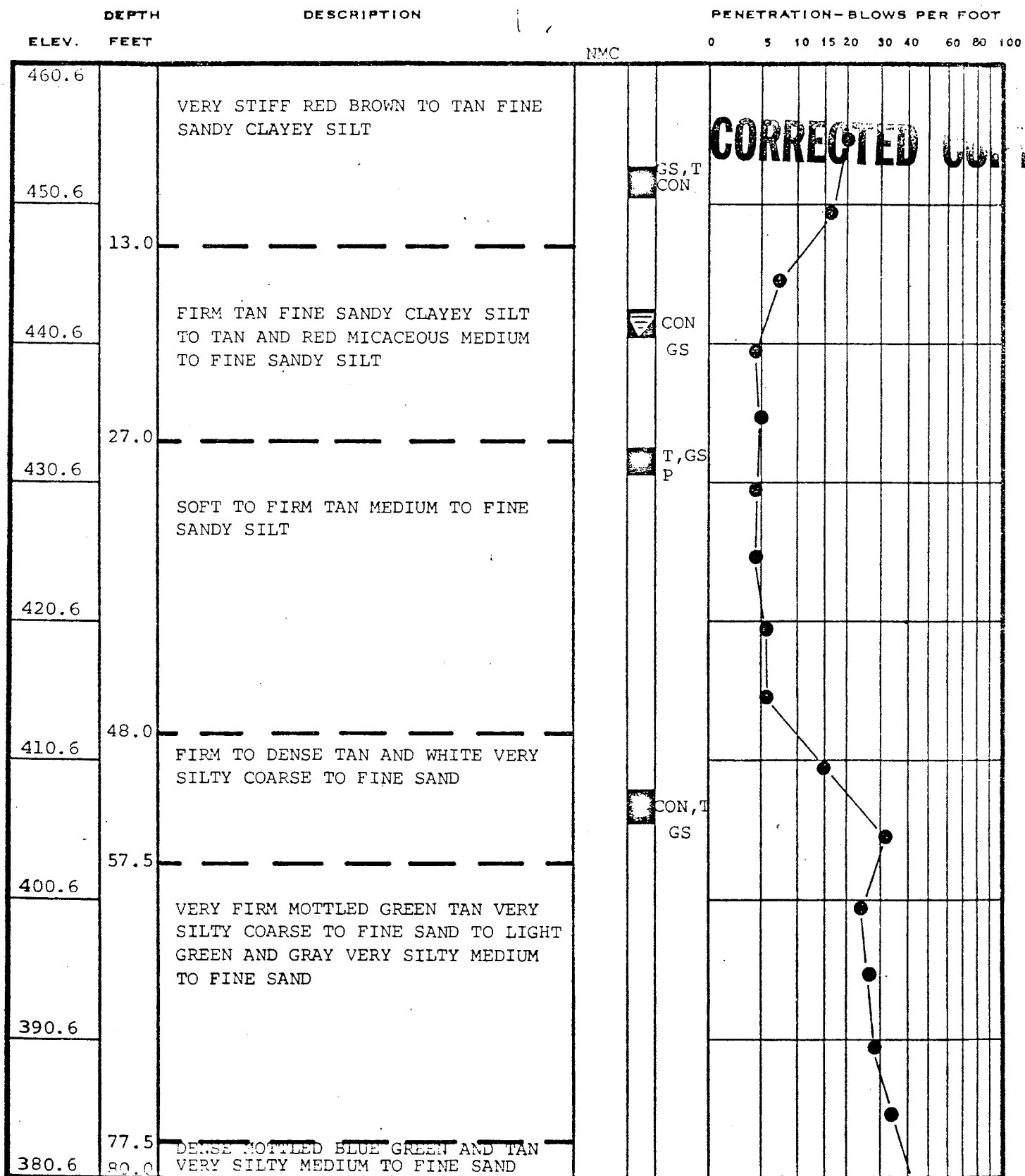
REMARKS:

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 CBE

BORING NUMBER C-166

DATE STARTED 5-20-74

DATE COMPLETED

JOB NUMBER SAG-674

PAGE 1 OF 2

TEST BORING RECORD

[illegible]

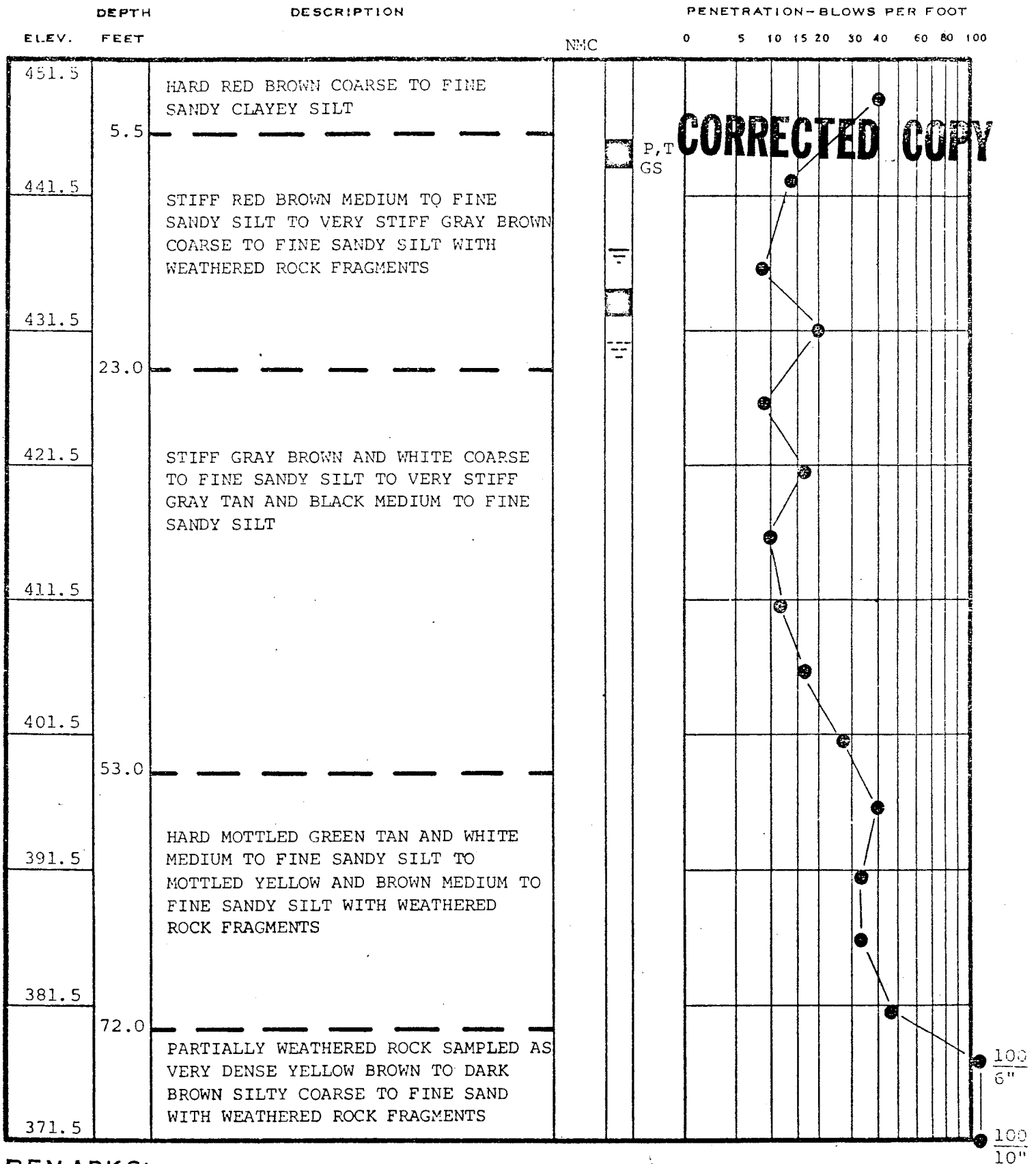
REMARKS:

DRILLED BY GP
LOGGED BY MB
CHECKED BY CBE

BORING NUMBER C-166
DATE STARTED 5-20-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD

PAGE 1 OF 2



REMARKS:

LOCATION: N 1119257
E 610136

DRILLED BY RS
LOGGED BY MB
CHECKED BY THM

BORING NUMBER C-167
DATE STARTED 6-1-74
DATE COMPLETED 6-1-74
JOB NUMBER SAG-674

TEST BORING RECOF

PAGE 2 OF 2

PENETRATION-BLOWS PER FOOT

	DEPTH
ELEV.	FEET

DESCRIPTION

NMC

0 5 10 15 20 30 40 60 80 100

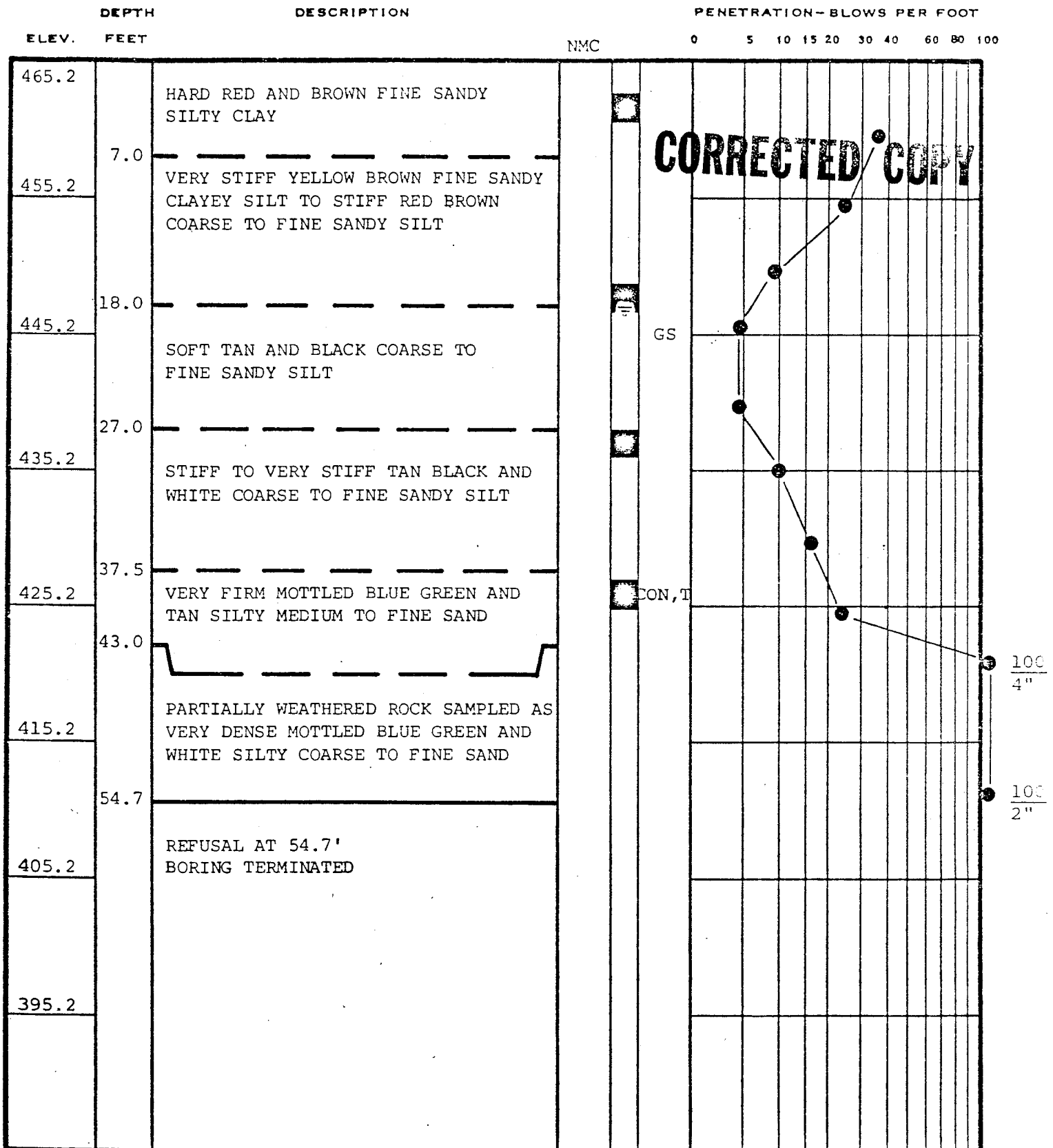
371.5		PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE YELLOW BROWN TO DARK BROWN SILTY COARSE TO FINE SAND WITH WEATHERED ROCK FRAGMENTS	CORRECTED COPY
361.5	89.7		
		REFUSAL AT 89.7' BORING TERMINATED	
351.5			

REMARKS:

DRILLED BY RS
LOGGED BY MB
CHECKED BY MM

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

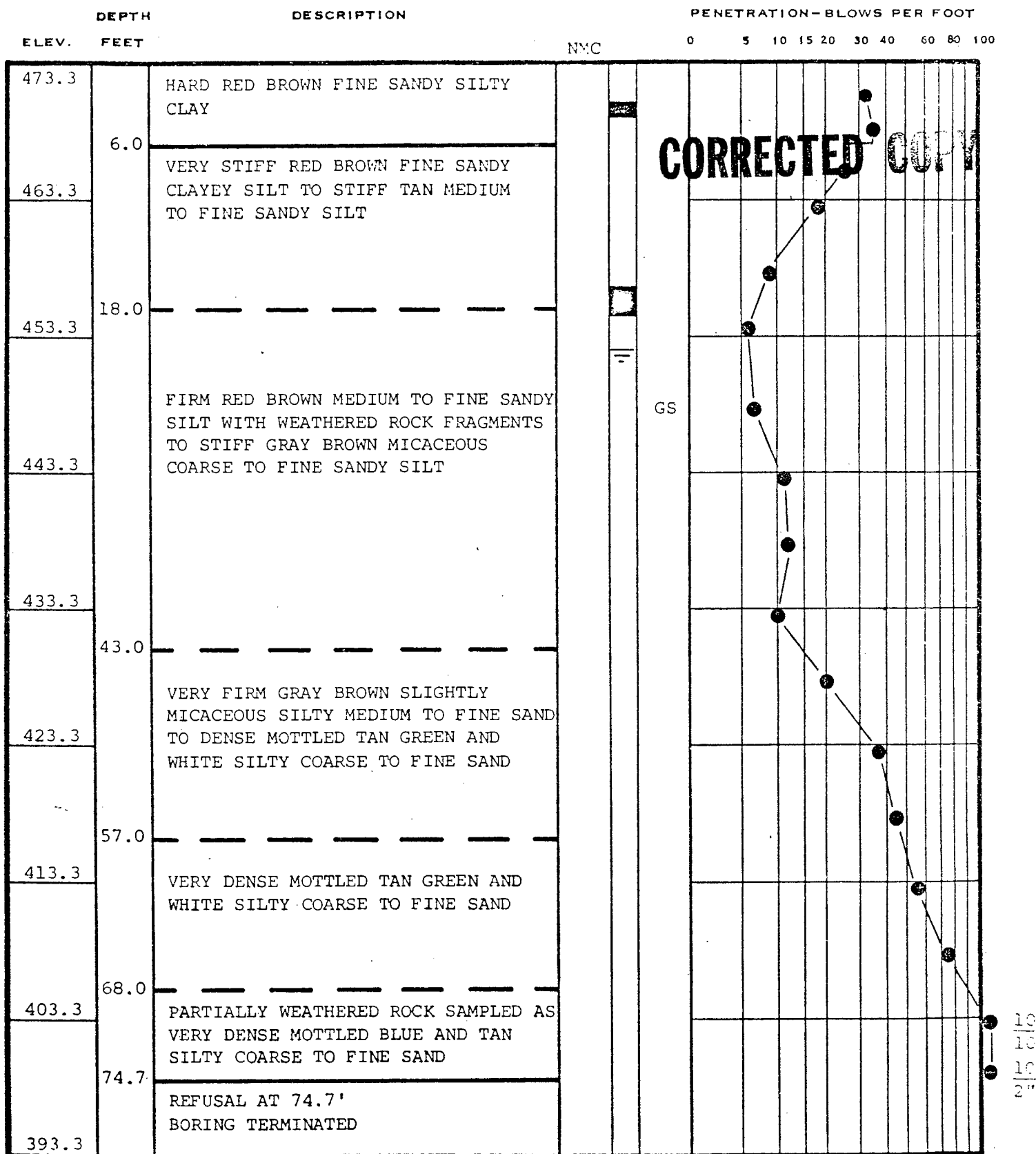
E 610172

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



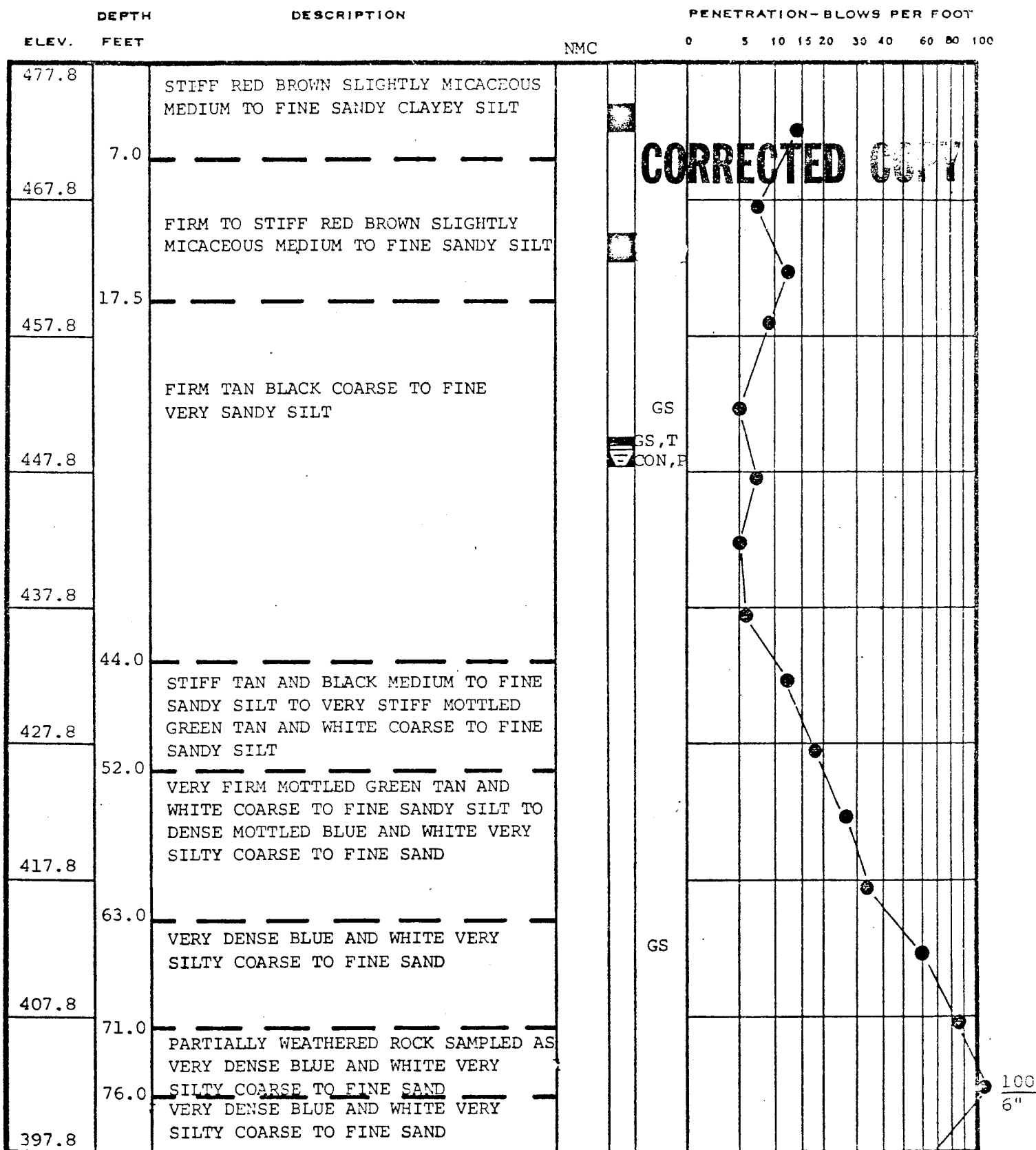
REMARKS:

LOCATION: N 1119707
 E 610520
 HOLE CAVED AT 21.0' AFTER
 24 HOURS

DRILLED BY RS
 LOGGED BY MB
 CHECKED BY WNY

BORING NUMBER C-169
 DATE STARTED 5-29-74
 DATE COMPLETED 5-30-74
 JOB NUMBER SAG-674

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

i

PENETRATION-BLOWS PER FOOT

0 5 10 15 20 30 40 60 80 100

100
1"

PAGE 2 OF 2

TEST BORING RECORD

DEPTH		DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT											
ELEV.	FEET			0	5	10	15	20	30	40	60	80	100		
489.8		VERY STIFF TO STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	C, T GS	<div style="position: relative; height: 600px;"> <div style="position: absolute; top: 0; right: 0; font-weight: bold; font-size: 1.2em;">CORRECTED COPY</div> </div>											
479.8															
469.8															
459.8	24.0	STIFF YELLOW BROWN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	T												
449.8															
439.8	48.0														
429.8	53.0	58.0	VERY FIRM GRAY GREEN SLIGHTLY MICACEOUS VERY SILTY MEDIUM TO FINE SAND VERY DENSE GRAY BROWN AND WHITE SILTY COARSE TO FINE SAND PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE BLUE GREEN AND GRAY MICACEOUS SILTY COARSE TO FINE SAND												100 9" 100 1"
419.8	64.6														
		REFUSAL AT 64.6' BORING TERMINATED													

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

DEPTH ELEV. FEET		DESCRIPTION	PENETRATION-BLOWS PER FOOT	
			NMC	0 5 10 15 20 30 40 60 80 100
485.1		STIFF RED BROWN FINE SANDY CLAYEY SILT		
	6.5			
475.1		VERY STIFF PINK MICACEOUS MEDIUM TO FINE SANDY SILT	CON	
	13.0			
465.1		FIRM PINK TO TAN AND BLACK SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT		
	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		
	47.0			
435.1		VERY STIFF GRAY BROWN MICACEOUS MEDIUM TO FINE SANDY SILT		
	53.0			
425.1		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		
	62.5			
415.1		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		
	74.6			
405.1		REFUSAL AT 74.6' BORING TERMINATED		

REMARKS:

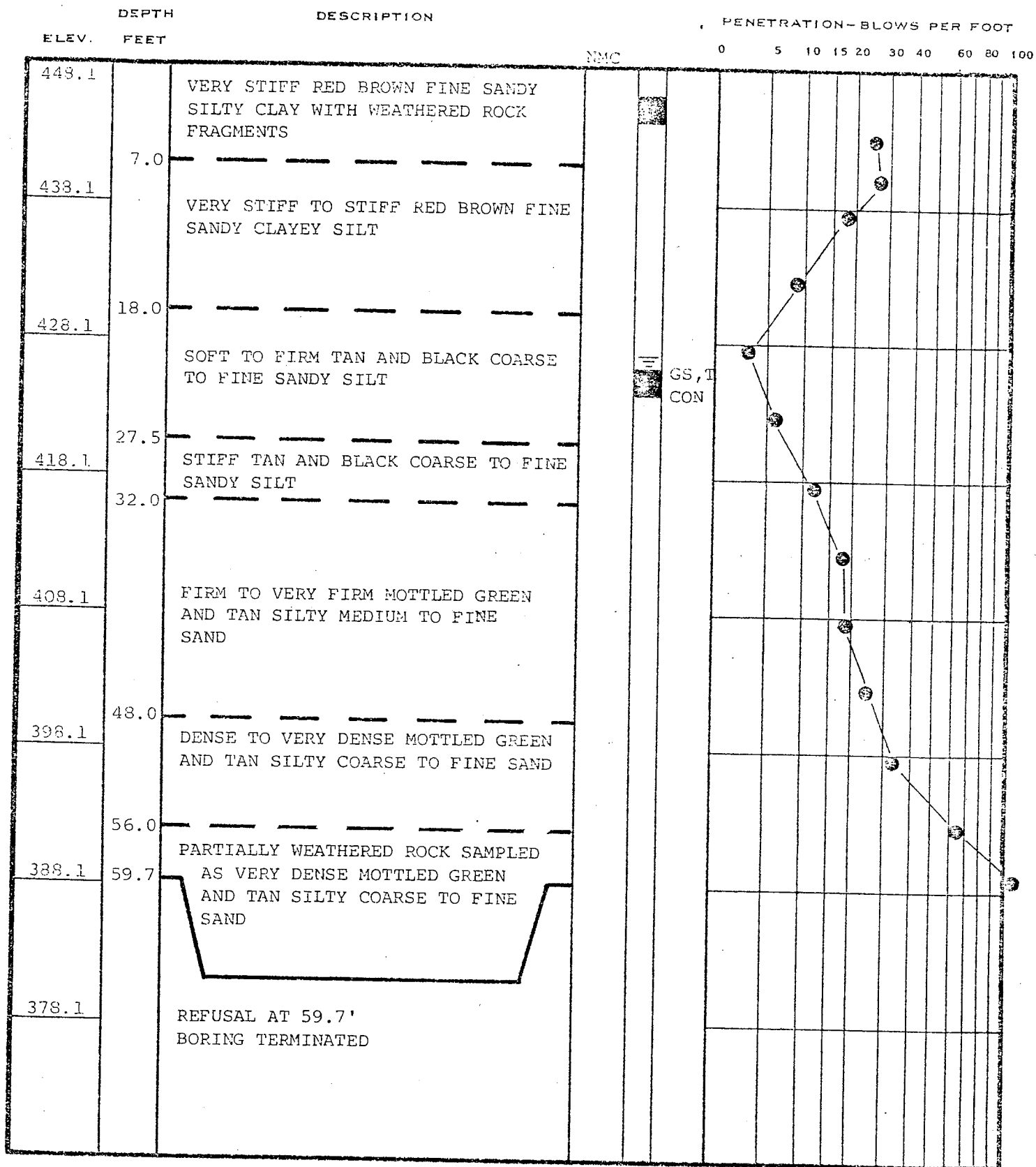
LOCATION: N 1120490
E 610436

DRILLED BY GP
LOGGED BY MB
CHECKED BY MMH

HOLE CAVED AT 13.0' AFTER
24 HOURS

BORING NUMBER C-173
DATE STARTED 5-29-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD



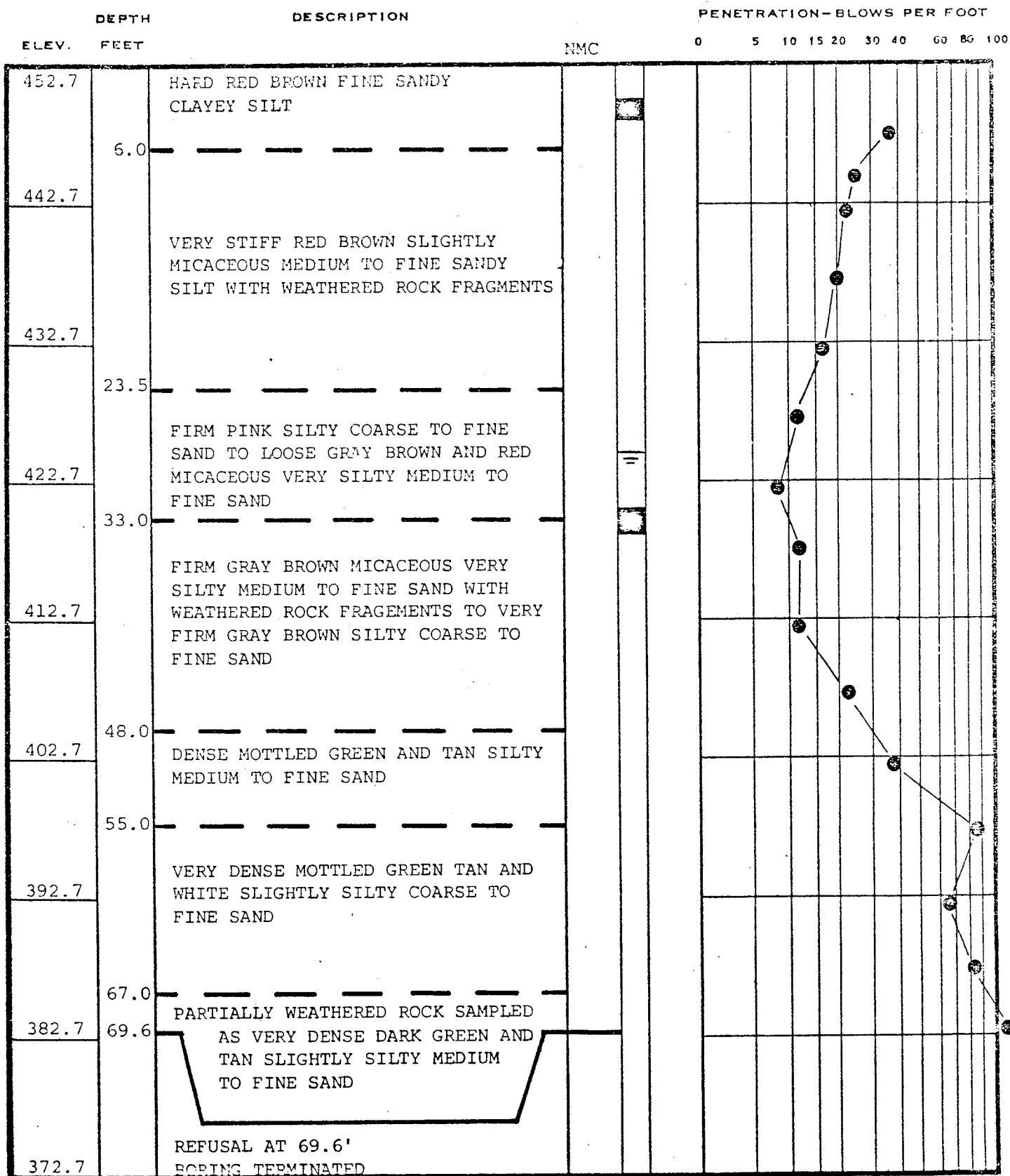
REMARKS:

LOCATION: N 1119110
E 610128

DRILLED BY RS
LOGGED BY MB
CHECKED BY AYY

BORING NUMBER C-174
DATE STARTED 6-2-74
DATE COMPLETED _____
JOB NUMBER SAG-674

TEST BORING RECORD



REMARKS:

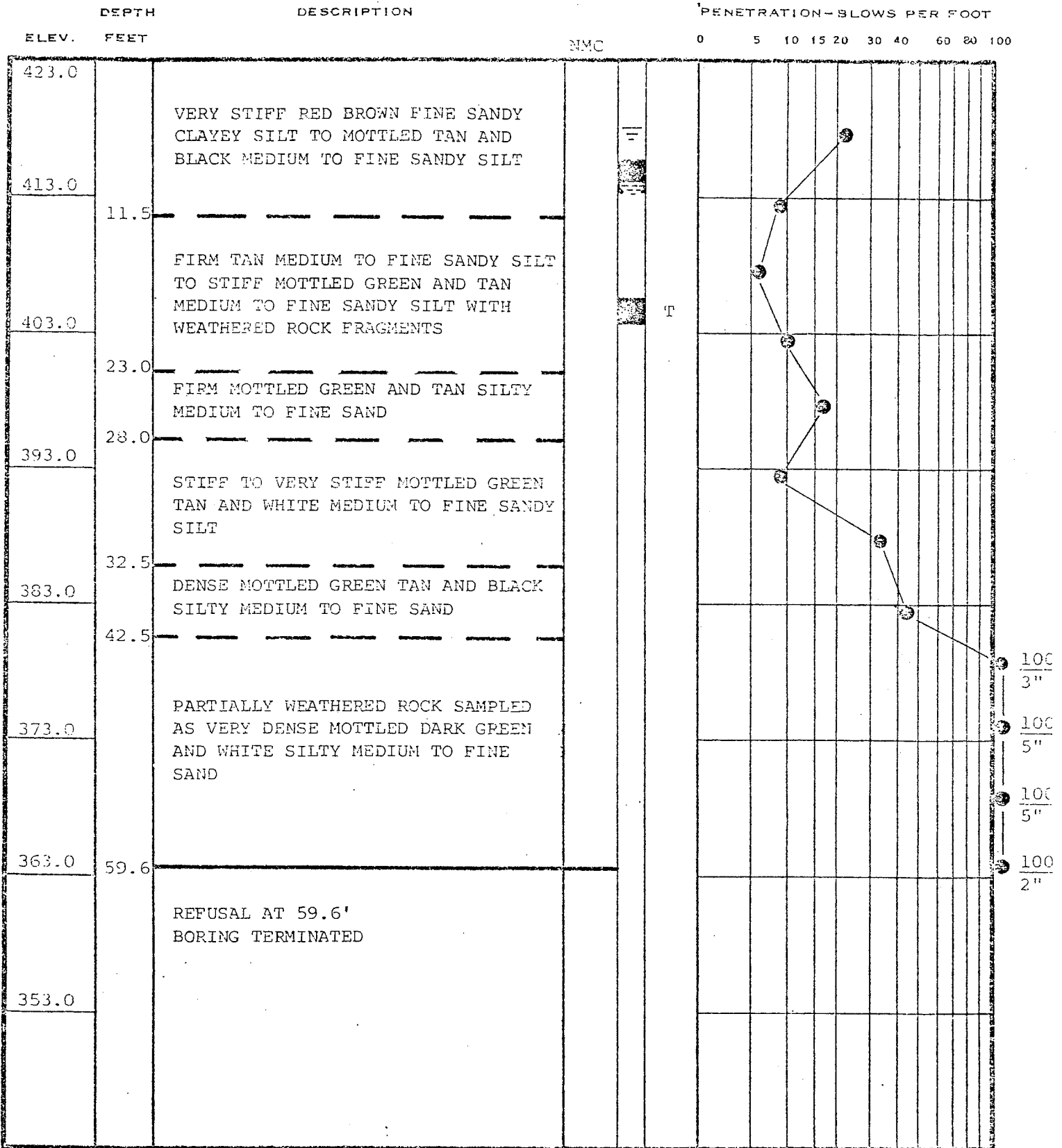
LOCATION: N 1119043
E 610519

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 ADP

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

ELEV. FEET	DEPTH	DESCRIPTION	NMC	PENETRATION-BLOWS PER FOOT
433.8				0 5 10 15 20 30 40 60 80 100
423.8		STIFF RED BROWN SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY SILT	T	
	13.0			
413.8				
	28.0	FIRM TO STIFF GRAY TAN MICACEOUS MEDIUM TO FINE SANDY SILT		
403.8				
		FIRM TO VERY FIRM MOTTLED GREEN AND TAN SILTY COARSE TO FINE SAND		
393.8				
383.8				
	53.0	DENSE MOTTLED GREEN AND TAN SILTY MEDIUM TO FINE SAND		
373.8				
	62.0	PARTIALLY WEATHERED ROCK SAMPLED AS VERY DENSE MOTTLED GREEN AND TAN SILTY MEDIUM TO FINE SAND		
	67.0	VERY DENSE MOTTLED GREEN AND TAN MEDIUM TO FINE SAND WITH WEATHERED ROCK FRAGMENTS		
363.8				
	77.0			
353.8		SEE NEXT PAGE		

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 RECORD

PAGE 2 OF 2

DEPTH

DESCRIPTION

1 PENETRATION--BLOWS PER FOOT

ELEV. FEET

NMC

0 5 10 15 20 30 40 60 80 100

[illegible]

REMARKS:

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

TEST BORING RECORD

DEPTH		DESCRIPTION	PENETRATION-BLOWS PER FOOT										
ELEV.	FEET												
408.9		ALLUVIUM-VERY SOFT GRAY BLUE SLIGHTLY MICACEOUS MEDIUM TO FINE SANDY CLAYEY SILT											
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											
	24.6	AS VERY DENSE MOTTLED GREEN AND TAN COARSE TO FINE SAND											
378.9		REFUSAL AT 24.6' BORING TERMINATED											

CORRECTED COPY

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

DEPTH		DESCRIPTION	PENETRATION-BLOWS PER FOOT	
ELEV.	FEET		NMC	
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

100
6"
100
4"
100
10"

REMARKS:

LOCATION: N 1118373
E 610608

DRILLED BY CI
LOGGED BY MB
CHECKED BY PHM

BORING NUMBER	C-179
DATE STARTED	6-3-74
DATE COMPLETED	6-3-74
JOB NUMBER	SAG-674

APPENDIX B-9 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)	1	3.5 - 5.0	5-6-6	12			
2									
3									
4									
5									
6		Light reddish brown fine- to medium-grained silty SAND (SM)	2	8.5 - 10	3-3-3	6			
7									
8									
9									
10									
11		Brown to tan silty, medium-grained SAND (SM)	3	13.5 - 15.0	2-2-2	4			
12									
13									
14									
15									
16		Tan to white fine-grained micaceous SAND (SM)	4	18.5 - 20.0	1-2-3	5	Saprolite ▼ 24 hrs.		
17									
18									
19									
20									
21			5	23.5 - 25.0	4-6-9	15	dry Saprolite		
22									
23									
24									

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-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									
49.4	427.03	BOH @ 49.4'							
50									
51									
52									
53									
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

WELL NO.

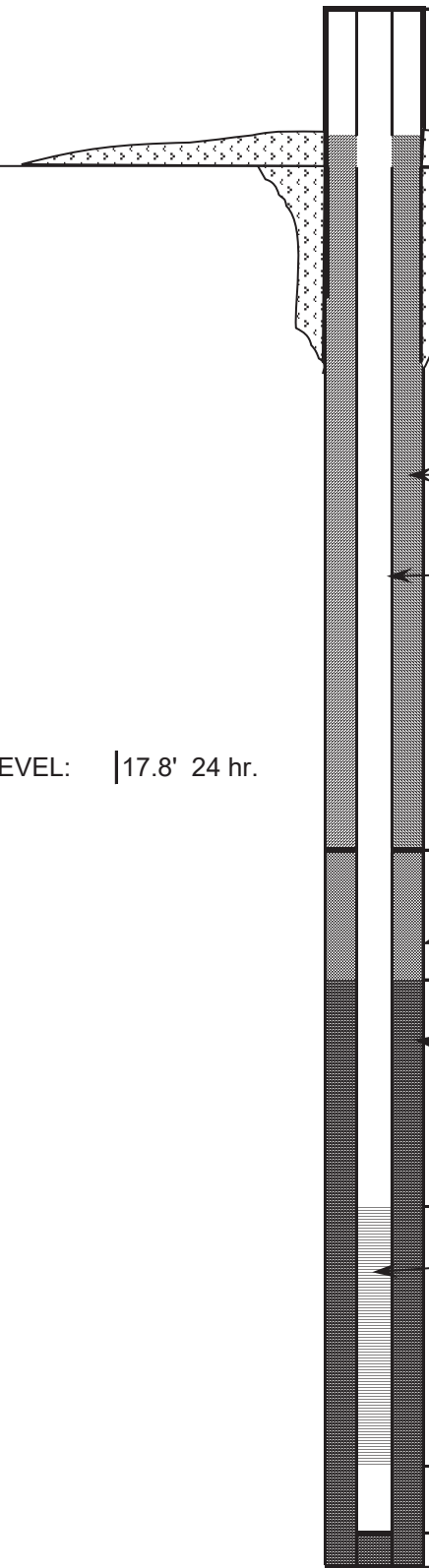
LOCATION Gypsum Storage Area

DATE STARTED 5/8/2007

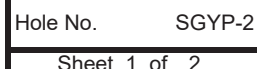
ENDED 5/8/2007

Tinsley

SGYP-1

	DEPTH	ELEVATION
TOP OF CASING EL.	-1.77	481.2
GROUND SURFACE	0	479.43
 <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	31.0'	448.43
TOP OF FILTER PACK	33.0'	446.43
BOTTOM OF RISER/ TOP OF SCREEN	39.1'	440.33
BOTTOM OF SCREEN	49.1'	430.33
BOTTOM OF CASING	49.4'	430.43
BOTTOM OF HOLE	49.4'	430.03
HOLE DIA: 8"		

WATER LEVEL: | 17.8' 24 hr.



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-2

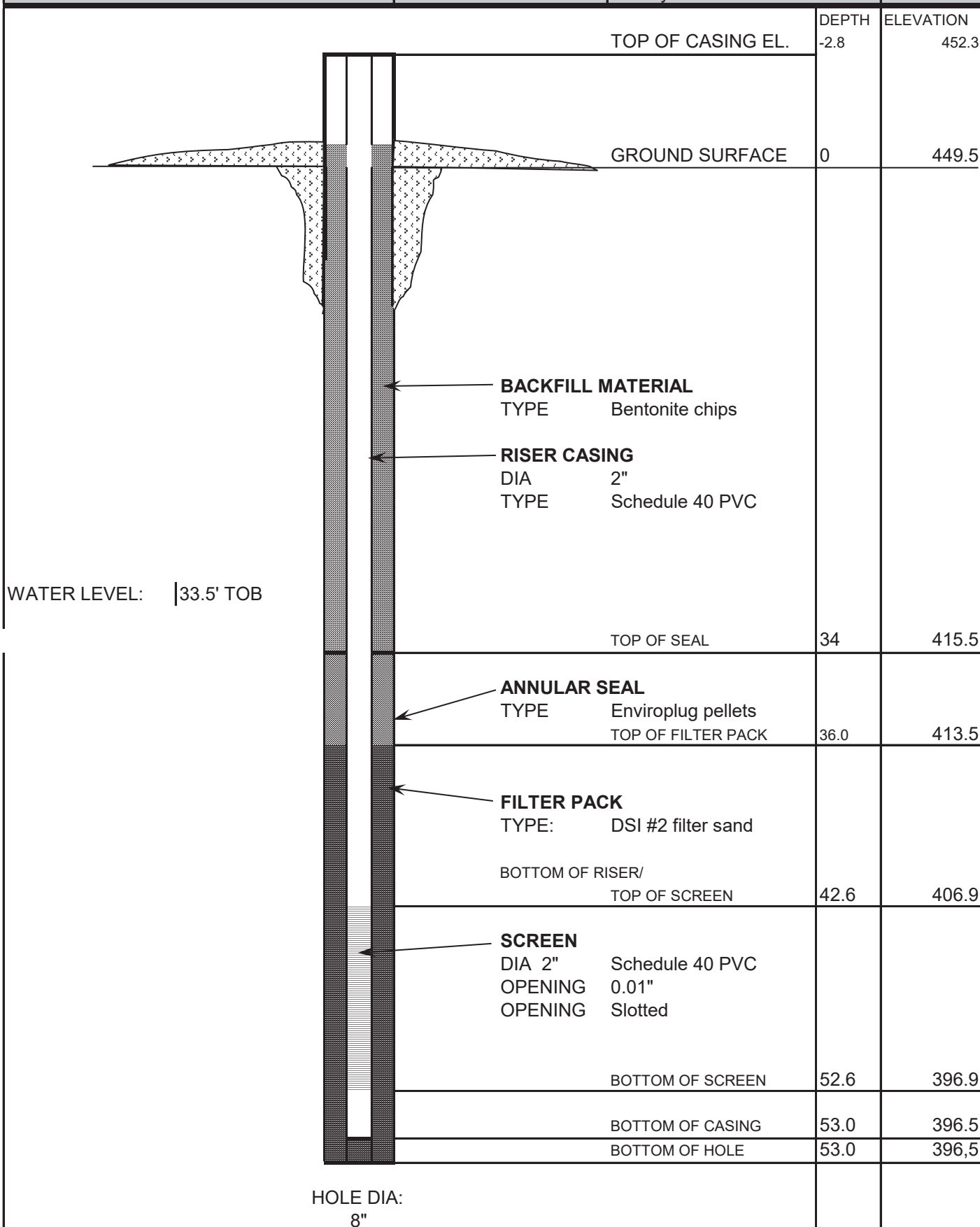
Sheet 2 of 2

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											
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											
40											
41											
42											
43											
44		saa, coarse feldspar grains		9	43.5-45	50/1"		Saprolite			
45											
46											
47											
48											
49											
50											
51											
52											
53	396.50					refusal					
54		BOH @ 53'									
55											
56											

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD		WELL NO.
LOCATION Gypsum Storage Area		
DATE STARTED 9/18/2007	ENDED 9/18/2007	SGYP-2



**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	0	460.40							
	1								
	2								
	3								
	4		1	3.5 - 5.0	4-6-7	13			
	5								
	6								
	7								
	8								
	9		2	8.5 - 10	3-5-5	10			
	10								
	11								
	12								
	13								
	14		3	13.5 - 15.0	3-4-6	10			
	15								
	16								
	17								
	18								
	19		4	18.5 - 20.0	3-4-6	10			
	20								
	21								
	22								
	23								
	24		5	23.5 - 25.0	3-5-9	14			

**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		SAA	7	33.5 - 35	4-5-7	12	Saprolite		
33									
34									
35									
36		SAA	8	38.5 - 40	13-20-19	39	Saprolite		
37									
38									
39									
40.0	420.40	SAA	9	43.5 - 45	29-39-36	75	Sa rolite		
41									
42									
43									
44		Dark greenish gray, fine- to coarse-grained SILTY SAND (SM)	10	48.5 - 50.0	28-31-29	60	Saprolite		
45									
46									
47									
48									
49									
50									
51		Light tan silty SAND (SM)	11	53.5 - 55.0	50/5.5	50/ 6	Saprolite		
52									
53									
54									
55									
56									

**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		Refusal @ 64.8'							
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									
89									

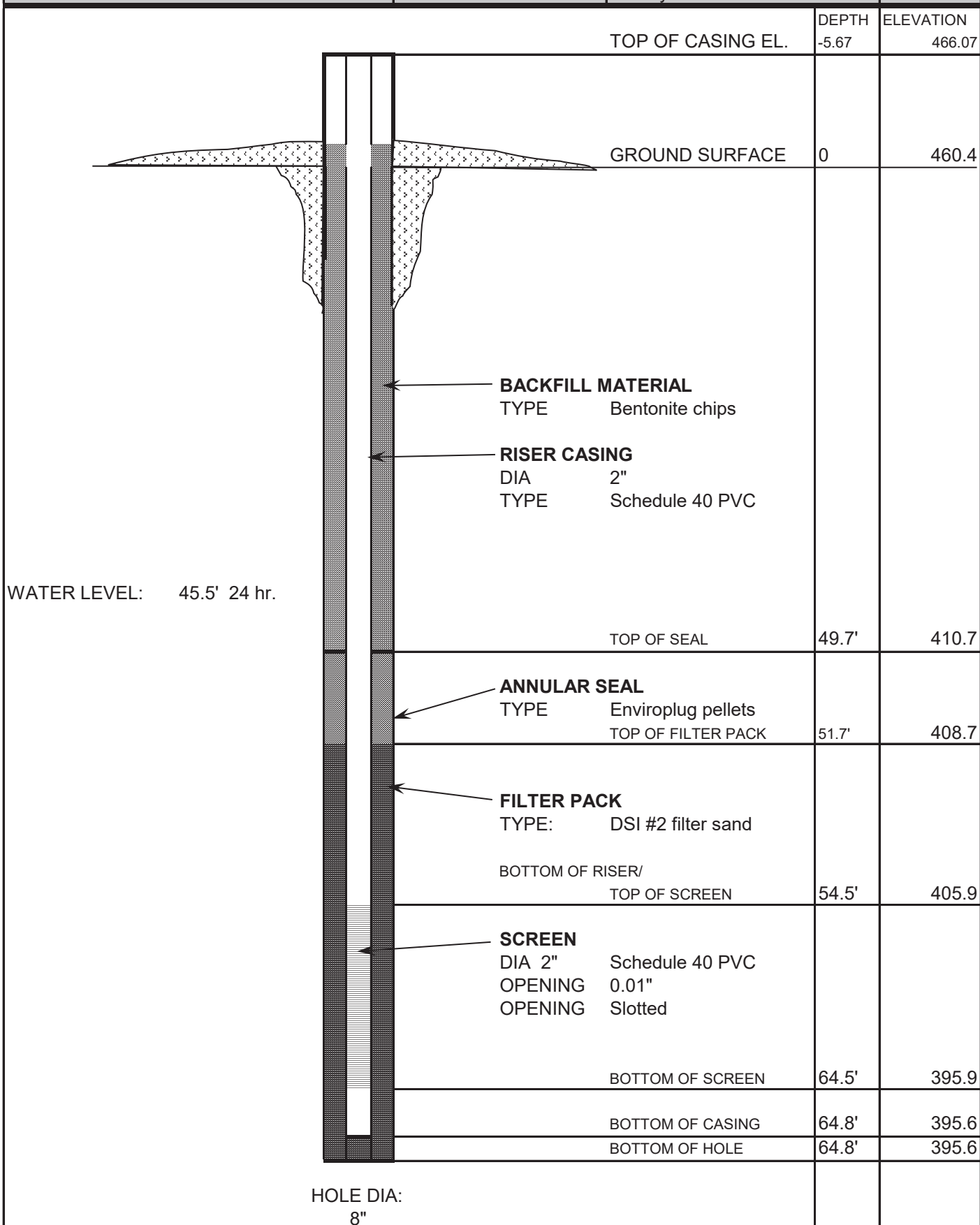
WELL CONSTRUCTION LOG

WELL NO.

LOCATION	Gypsum Storage Area
----------	---------------------

Tinsley

SGYP-3



**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	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	9	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

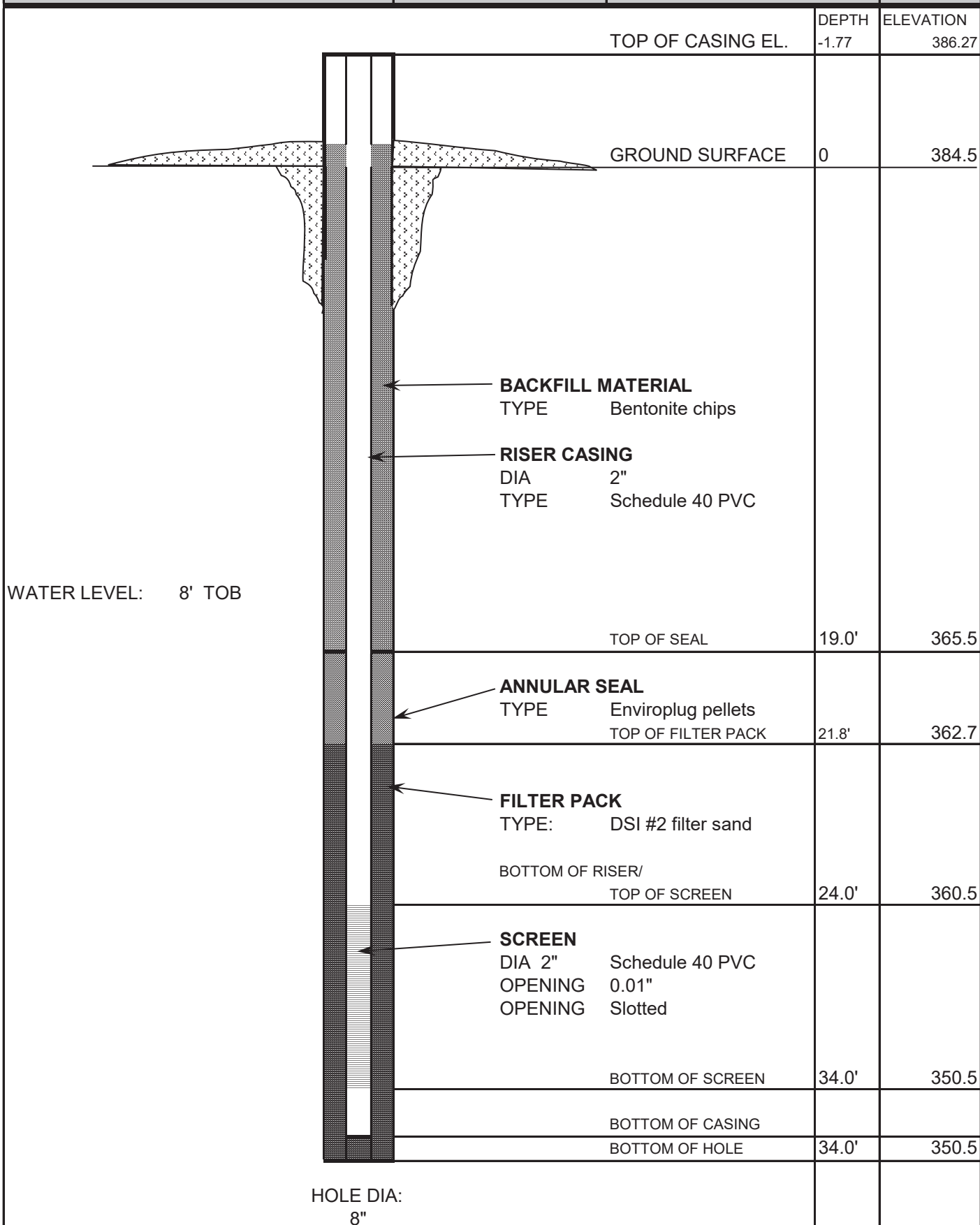
SITE		Plant Scherer				TOTAL DEPTH		34'		SURF.ELE		384.5	
Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD				
				From To	Blows	N							
25		SAA Gray fine- to coarse-grained silty SAND (SM)	5	23.5-25	25-50/5	100+	Saprolite						
26													
27													
28													
29													
30				6	28.5-30	50/4	100+	Saprolite					
31													
32													
33													
34	350.50												
35		AUGER REFUSAL @ 34 FEET											
36													
37													
38													
39													
40													
41													
42													
43													
44													
45													
46													
47													
48													
49													
50													
51													
52													
53													
54													
55													
56													

WELL CONSTRUCTION LOG

WELL NO.

LOCATION	Gypsum Storage Area
----------	---------------------

SGYP-4



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-5

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 53.5'	SURF.ELEV. 474.9
LOCATION Gypsum Disposal area		COORDINATES N 1117328.09	E 2408131.34
ANGLE	BEARING	CONTRACTOR SCS	DRILL NO. CME 55
DRILLING METHOD HSA		NO. SAMPLES 11	NO. U.D. SAMPLES
CASING SIZE	LENGTH	CORE SIZE	TOTAL % REC.
WATER TABLE DEPTH 28.5'	ELEV. 446.4	TIME AFTER COMP. TOB	DATE TAKEN
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE 9/20/2007
DRILLER Willis	RECORDER Tinsley	APPROVED	DRILLING COMP. DATE 9/20/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	474.90							
	1								
	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								
	10	saa (with roots)	2	8.5-10	1-1-1	2			
	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									
30		Reddish brown sandy SILT (ML)	6	28.5-30	3-3-4	7			
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			10	48.5-50	50/1		Saprolite		
50									
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

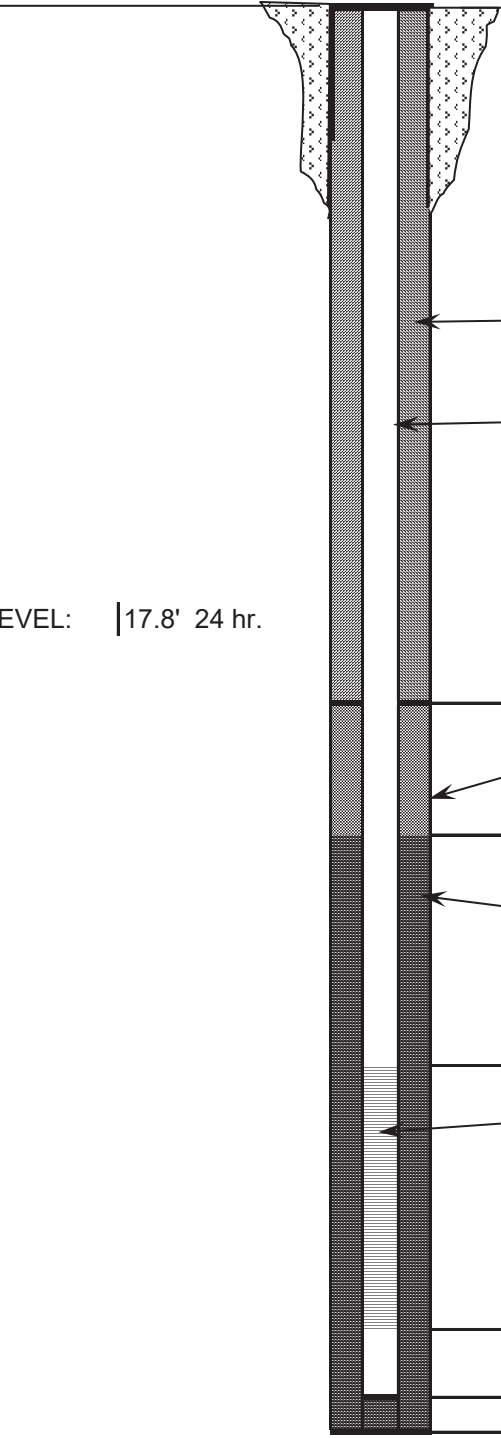
LOCATION Gypsum Storage Area

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
		
BACKFILL MATERIAL TYPE Bentonite chips		
RISER CASING DIA 2" TYPE Schedule 40 PVC		
TOP OF SEAL	38	436.9
ANNULAR SEAL TYPE Enviroplug pellets TOP OF FILTER PACK	40	434.9
FILTER PACK TYPE: DSI #2 filter sand BOTTOM OF RISER/ TOP OF SCREEN	43.1	431.8
SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" Slotted OPENING		
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								
	10	SAA	2	8.5-10.0	50/4"	REF	Saprolite		
	11								
	12								
	13								
	14								
	15	SAA, with few rock fragments	3	13.5-15.0	50/1"	REF	Saprolite		
	16								
	17								
	18								
	19								
	20	No Sample Recovered	4	18.5-20.0	50/1"	REF			
	21								
	22								
	23								
	24								

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-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				
25.2	25		Gray, fine- to medium-grained silty SAND (SM)	5	23.5-25.0	50/2"	REF	Saprolite		
	26	431.20	AUGER REFUSAL @ 25.2'							
	27		N N		25.7 - 30.3			3.6/4.6	78%	
	28									
	29									
	30									
	31									
	32		SAA		30.3 - 35.3			4.3/5.0	86%	
	33									
	34									
	35									
	36									
	37		White and black, hard, GNEISS, with stained fractures		35.3 - 40.3			▼ 24 hrs. 4.8/5.0	96%	
38										
39										
40										
41										
40.3	41	416.10	BOH @ 40.3'							
	42									
	43									
	44									
	45									
	46									
	47									
	48									
	49									
	50									
	51									
	52									
	53									
	54									
	55									
	56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

WELL NO.

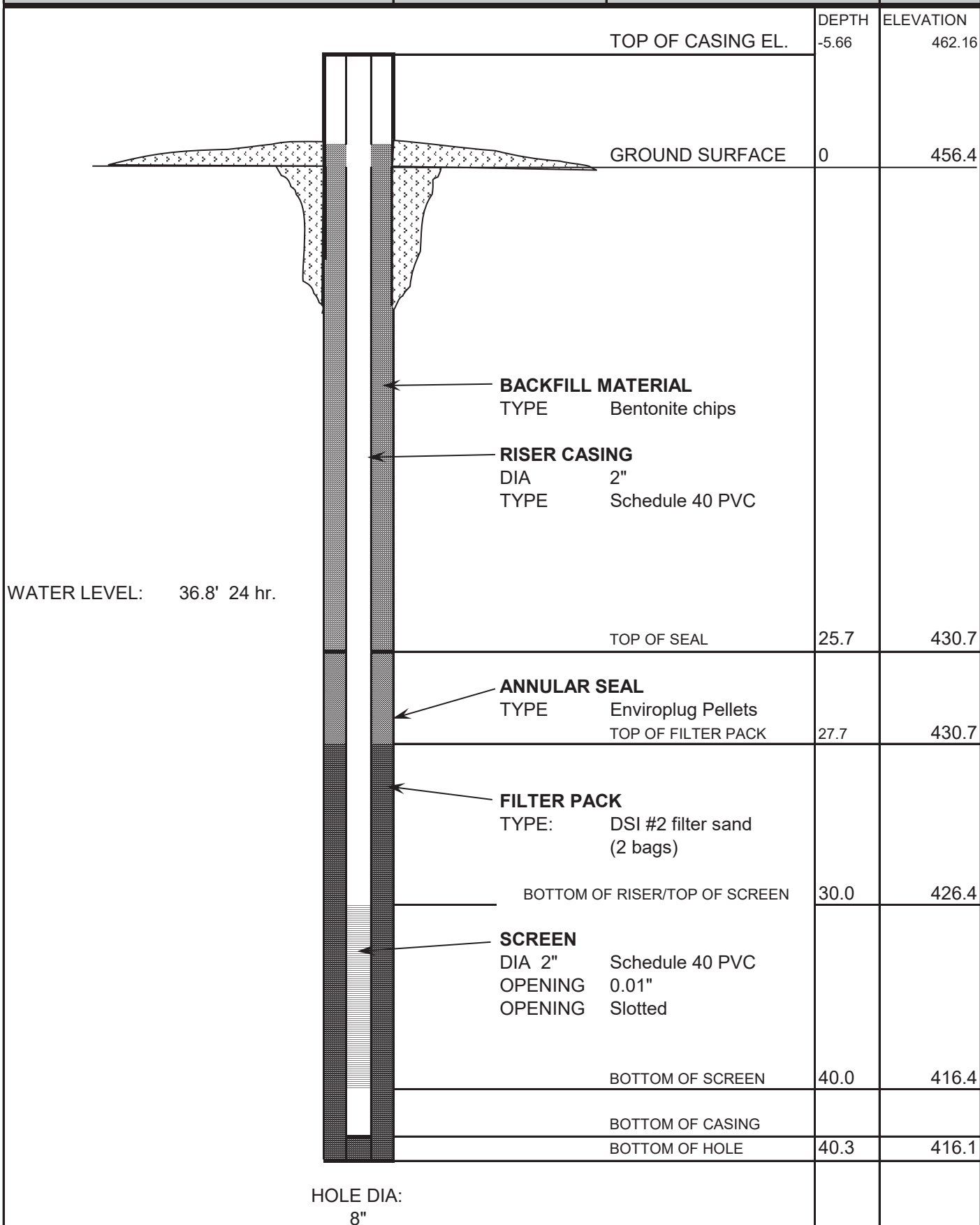
LOCATION Gypsum Storage Area

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	0	447.71							
1		Reddish brown, very stiff sandy SILT (MH)							
2									
3									
4			1	3.5-5	5-7-11	18			
5									
6		Light reddish brown sandy SILT (ML)							
7									
8									
9				8.5-10	4-5-7	12			
10									
11		Reddish brown sandy SILT w/ organics (ML)							
12									
13									
14			3	13.5-15	3-4-5	0			
15									
16		Yellowish brown sandy SILT (ML)							
17									
18									
19			4	18.5-20	3-4-6	10			
20									
21									
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-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											
30	418.11	saa	6	28.5-30	5-9-12	21	Saprolite▼ 24 hr				
31		saa					wet				
32											
33											
34											
35				7	33.5-35	9-25-49	74	Saprolite			
36		Dark greenish gray, fine- to coarse-grained SAND (SC)									
37											
38											
39				8	38.5-40	49-50/1		Saprolite			
40											
41		saa									
42											
43											
44				9	43.5-45	50/1		Saprolite			
45											
46		Auger refusal at 49'									
47											
48											
49	398.71			10	48.5-50	50/1		Saprolite			
50											
51											
52											
53											
54											
55											
56											

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

WELL NO.

LOCATION Gypsum Storage Area

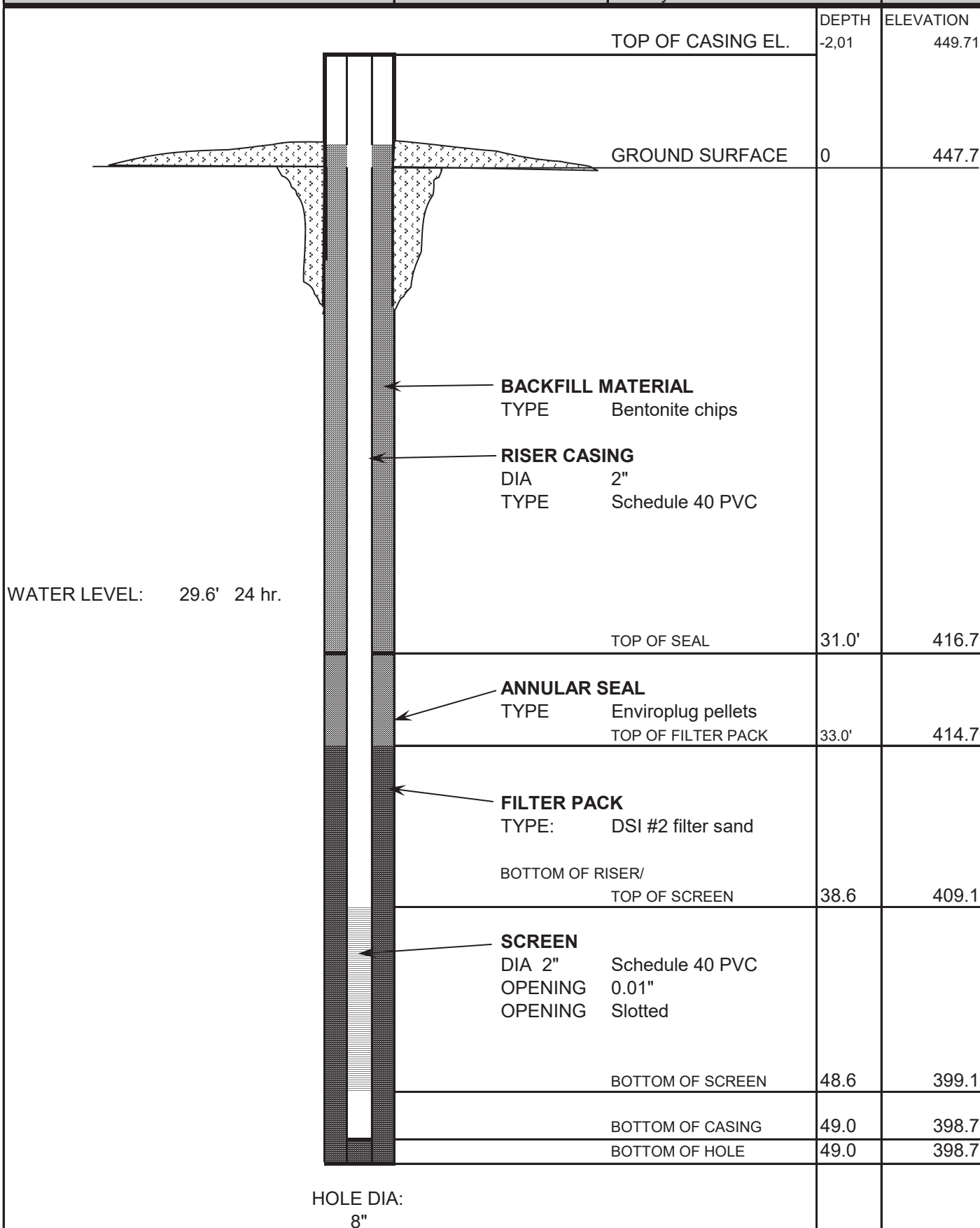
DATE STARTED 11/9/07

ENDED

9/19/2007

Tinsley

SGYP-7



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-9

Sheet 1 of 2

SITE **Plant Scherer** HOLE DEPTH **36.5** SURF.ELEV. **396.6**
 LOCATION **Gypsum Disposal Area** COORDINATES N **1118640.02** E **2419704.94**
 ANGLE _____ BEARING _____ CONTRACTOR _____ DRILL NO. _____
 DRILLING METHOD **HSA** NO. SAMPLES **7** NO. U.D. SAMPLES **2**
 CASING SIZE _____ LENGTH _____ CORE SIZE _____ TOTAL % REC. _____
 WATER TABLE DEPTH **18'** ELEV. **378.6** TIME AFTER COMP. **TOB** DATE TAKEN **8/27/2007**
 TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE **8/27/2007**
 DRILLER **Filipovich** RECORDER _____ 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	0	396.60							
	1								
	2								
	3								
	4	Tan and orange, mottled medium dense SILTY SAND (SM)	1	3.5-5	6-8-13	21			
	5								
	6								
	7								
	8								
	9								
	10	Light reddish brown sandy SILT (ML)	D	8.5-10.5					
	11								
	12	Tan and white, wet, loose fine-to medium-grained silty SAND (SM)	2	10.5-12	4-4-5	9	Saprolite		
	13								
	14								
	15	Saa, light gray and white	3	13.5-15	3-4-5	9	Saprolite		
	16								
	17								
	18						▼TOB		
	19								
	20		UD	18.5-20					
	21								
	22	Saa, greenish gray and white, dense	4	20.5-22	6-12-23	35			
	23								
	24								

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGP-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												
35		Saa, very dense		7	33.5-35	10-50/3	100+	Saprolite				
36												
37	360.10	AUGER REFUSAL @ 36.5 FEET										
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	0	424.90							
	1								
	2								
	3								
	4								
	5	Yellowish red, micaceous, stiff SANDY SILT (ML)	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		2	10.5-12	2-3-4	7			
	13								
	14								
	15	orange, white, and tan	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. SGPY-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				6	30.5-32	4-8-9	17				
32											
33											
34				7	33.5-35	4-7-9	16				
35		moist									
36											
37											
38											
39				8	38.5-40	4-6-10	16	▼ TOB			
40											
41											
42											
43											
44				9	43.5-45	6-10-14	24				
45		wet									
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		Green, gray and tan, fine-to coarse-grained SAND (SM)							
58									
59			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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

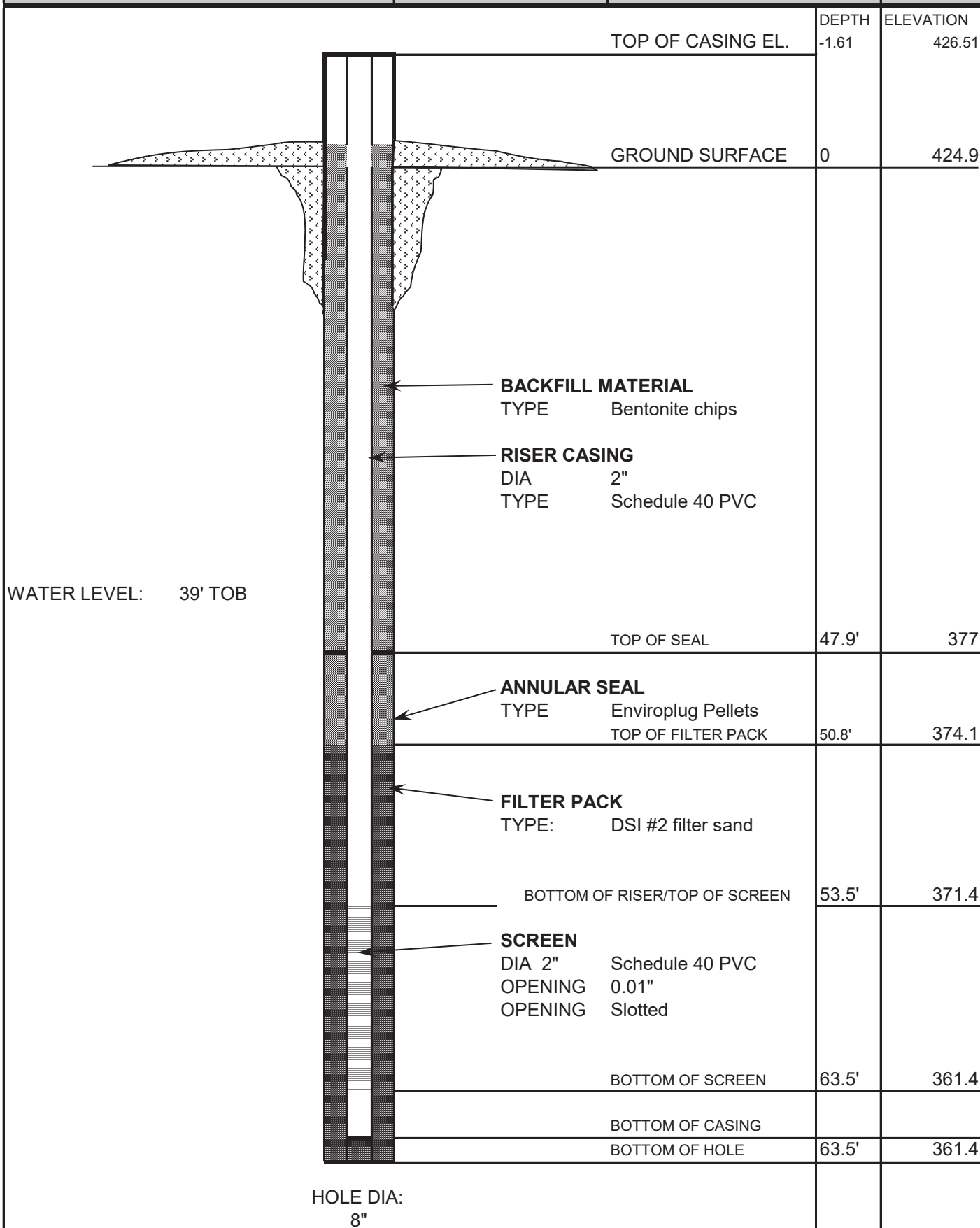
WELL NO.

LOCATION Gypsum Storage Area

DATE STARTED 9/5/2007

ENDED 9/5/2007 J. Jordan

SGYP-10



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGY-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	0	437.70							
	1								
	2								
	3								
	4	Reddish brown, moist, very stiff SANDY LEAN CLAY (CL)	1	3.5-5	8-7-10	17			
	5								
	6								
	7								
	8								
	9	yellowish red, stiff		8.5-10.5	2-4-7	11			
	10								
	11	tan and white, wet, loose							
	12								
	13								
	14								
	15		UD	13.5-15.5					
	16	Red and yellow, wet, soft SILT (MH)	3	15.5-17	1-1-2	3			
	17								
	18								
	19		4	18.5-20	WHO-2-2	4			
	20	red, tan and black							
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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									
30		stiff	6	28.5-30	3-3-6	9			
31									
32									
33									
34									
35		brown, orange, white and black, firm	7	33.5-35	2-3-4	7	Saprolite		
36									
37									
38									
39	38.5								
40		Greenish gray, white and orange, saturated, medium dense SILTY SAND (SM)	8	38.5-40	3-4-8	12	Saprolite		
41									
42									
43									
44									
45	45.0	BORING TERMINATED @ 45'	9	43.5-45	5-10-12	22	Saprolite		
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

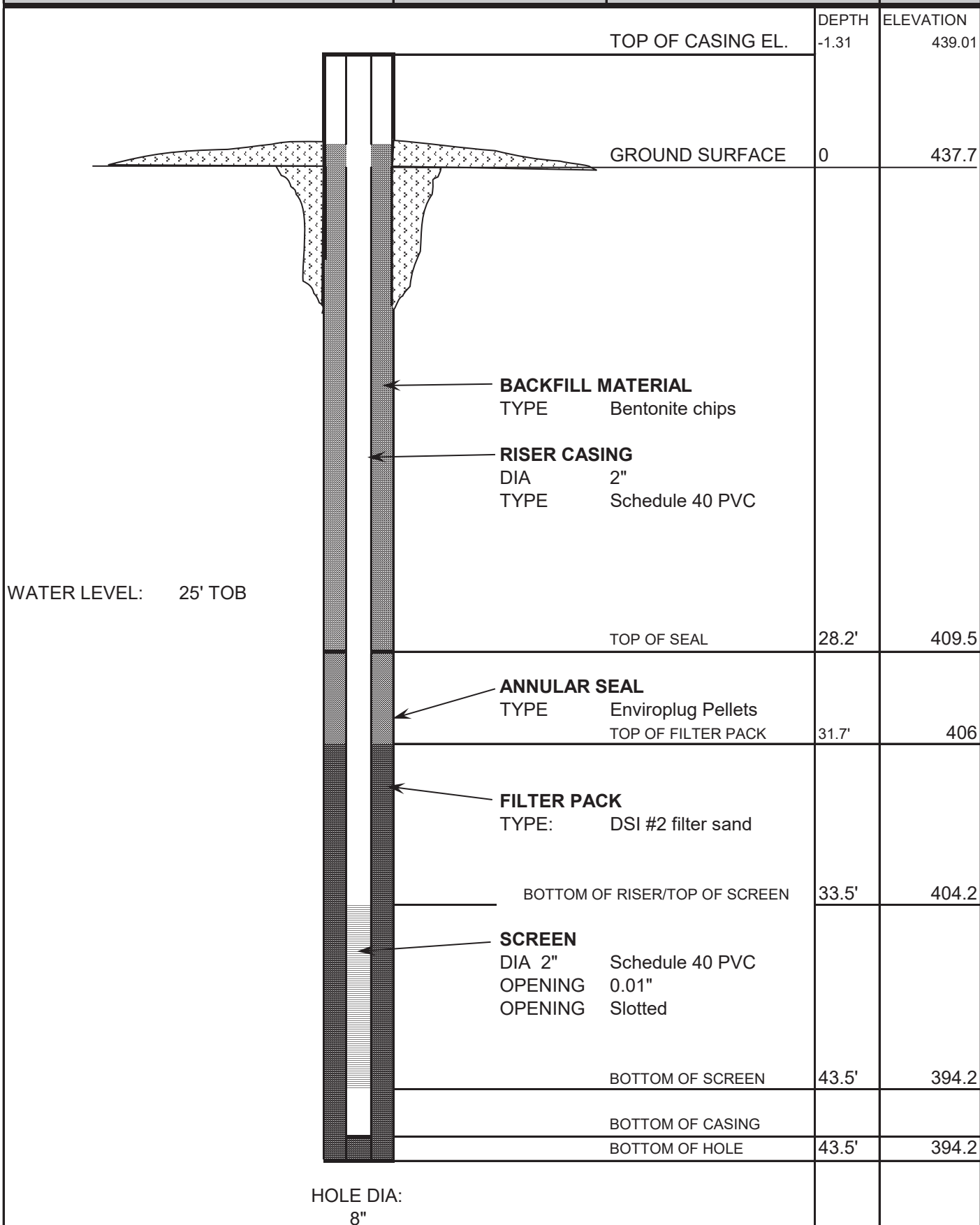
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/28/2007

ENDED 8/28/2007 J. Jordan

SGYP-12



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-14

Sheet 1 of 2

SITE Plant Scherer		HOLE DEPTH 45'	SURF.ELEV. 396.6
LOCATION Gypsum Disposal Area		COORDINATES N 1119068.07	E 2409400.21
ANGLE	BEARING	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 8	NO. U.D. SAMPLES 1	
CASING SIZE	LENGTH	CORE SIZE	TOTAL % REC.
WATER TABLE DEPTH 18	ELEV. 378.3'	TIME AFTER COMP. TOB	DATE TAKEN 9/4/2007
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE 9/4/2007
DRILLER Filipovich	RECORDER	APPROVED J. JORDAN	DRILLING COMP. DATE 9/4/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	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		Light green and orange, moist, micaceous loose silty SAND (SM)	1	3.5-5	3-5-7	12			
6									
7									
8									
9		brownish gray and black, saturated		8.5-10.5	2-2-3	5			
10									
11									
12									
13		SAA	3	13.5-15	1-2-2	4			
14									
15							▼ TOB		
16									
17			4	18.5-20	1-2-3	5			
18									
19									
20									
21									
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-14

Sheet 2 of 2

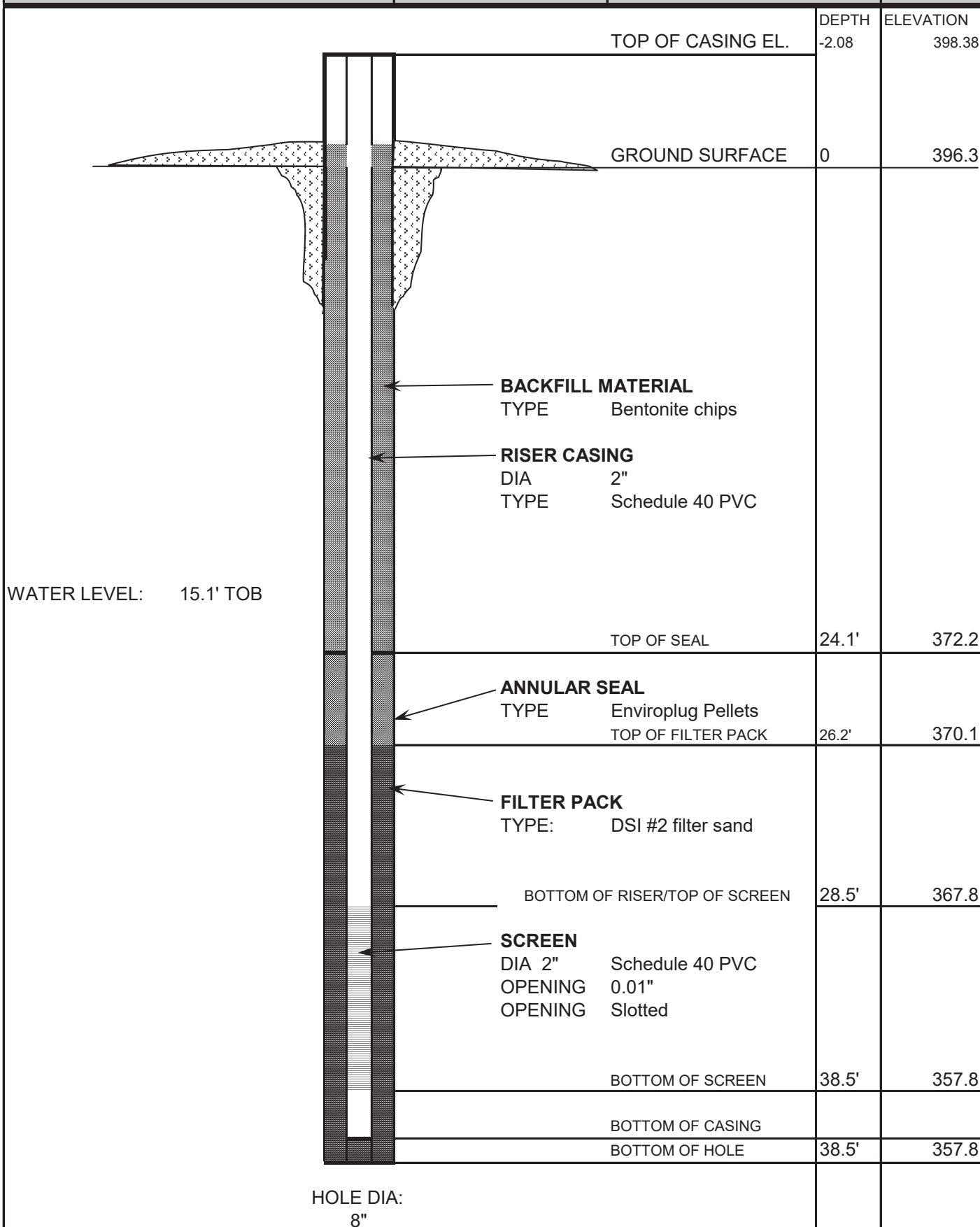
SITE **Plant Scherer** TOTAL DEPTH **45'** SURF.ELE' **396.6**

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		hite and brownish gray wet ery dense silty fine-medium-grained SAND (SM)	6	28.5-30	16-48-27	75	Saprolite		
31									
32									
33									
34									
35		Saa	7	33.5-35	37-50/5	100+	Sa rolite		
36									
37									
38									
39									
40	356.60	Saa	8	38.5-40	50/3	100+	Saprolite		
41		BORING TERMINATED @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD		WELL NO.
LOCATION Gypsum Storage Area		
SITE Scherer	DATE STARTED 9/4/2007	ENDED 9/4/2007
J. Jordan		SGYP-14



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	0	430.30							
	1								
	2								
	3								
	4	Yellowish red, very stiff silty sandy sandy SILT (ML)							
	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				
		Tan and white, micaceous loose silty SAND (SM)	5	23.5-25.0	3-3-4	7				
25										
26										
27										
28										
29										
30				6	28.5-30.0	3-4-5	9			
31										
32										
33										
34		Saa, green, orange and white, medium dense								
35			7	33.5-35.0	4-5-8	13				
36										
37										
38										
39										
40				UD	38.5-40.5			▼ TOB		
41										
42			Saa, tan and white	8	40.5-42.0	8-12-14	26			
43										
44		Tan and white, micaceous moist, very stiff SANDY SILT (ML)								
45			9	43.5-45.0	3-6-13	19				
46										
47										
48										
49		Light brown fine- to medium-grained silty SAND (SM)								
50			10	48.5-50.0	15-31-50/4	100+	Saprolite			
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'							
60			12	58.5-60.0	31-50/5	100+			
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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

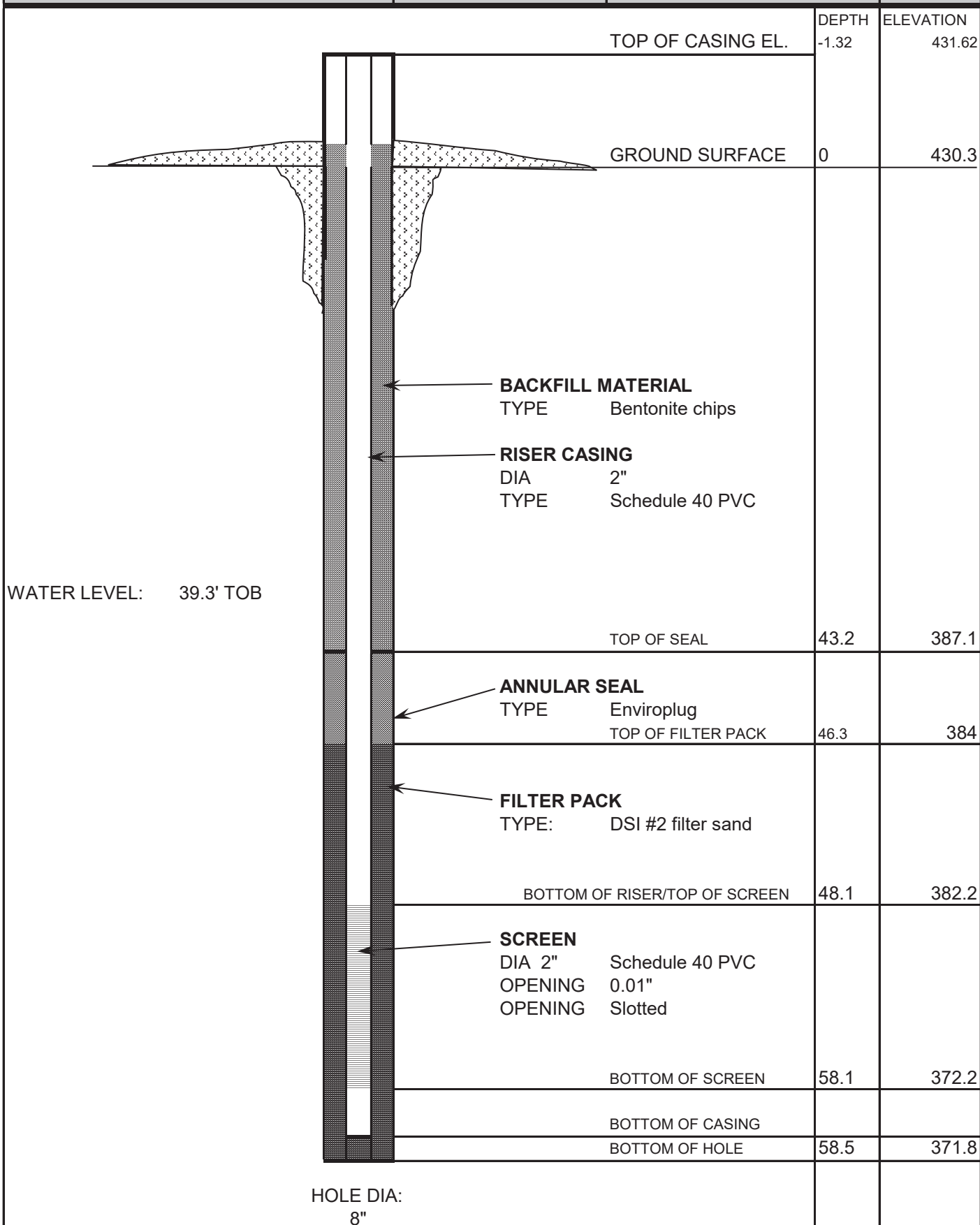
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/21/2007

ENDED 8/21/2007

SGYP-15



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-19

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 70.1	SURF.ELEV. 446.8
LOCATION Gypsum Disposal Area		COORDINATES N 1119971.81	E 2410870.9
ANGLE	BEARING	CONTRACTOR SCS	DRILL NO. CME-350
DRILLING METHOD 4 1/4"HSA		NO. SAMPLES 11	NO. U.D. SAMPLES
CASING SIZE 4 1/4" ID	LENGTH	CORE SIZE NQ	TOTAL % REC.
WATER TABLE DEPTH 56	ELEV. 390.8	TIME AFTER COMP. TOB	DATE TAKEN 8/20/2007
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE 8/14/2007
DRILLER Filipovich	RECORDER J. Jordan	APPROVED	DRILLING COMP. DATE 8/20/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	446.80							
	1								
	2								
	3								
	4	Yellowish red, stiff silty sandy SILT (ML) and CLAY (CL) with trace of micaceous	1	3.5-5.0	6-9-13	22			
	5								
	6								
	7								
	8								
	9	Light reddish brown with black streaks, fin SILT (ML)	2	8.5-10.0	2-3-4	7			
	10								
	11								
	12								
	13								
	14	Saa, micaceous, with very fine-grained sand	3	13.5-15.0	2-2-3	5			
	15								
	16								
	17								
	18								
	19								
	20	Saa	4	18.5-20	2-2-3	5			
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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			% 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								
29		Saa, grayish gold, very micaceous, stiff	6	28.5-30.0	3-4-6	10		
30								
31								
32								
33								
34								
35			7	33.5-35.0	3-5-6	11		
36								
37								
38								
39		Grayish green to white with weathered feldspars approx 1/8" in diameter, stiff, micaceous, sandy SILT (ML)	8	38.5-40.0	11-6-6	12	Saprolite	
40								
41								
42								
43								
44								
45			9	43.5-45.0	6-8-8	16	Saprolite	
46								
47								
48								
49		Saa, gray and white, stiff, moist	10	48.5-50.0	4-6-6	12	Saprolite	
50								
51								
52								
53								
54								
55			11	53.5-55.0	4-6-13	19	Saprolite	
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			
57.5	389.30	Auger Refusal @ 57.5'							
58		Greenish gray and white amphibolite GNEISS, water stains along fractured planes		57.5-60.1				74	0
59									
60									
61									
62		nearly 0% recovery		60.1-65.1				5	0
63									
64									
65									
66		Strong gneissi banding		65.1-70.1				60	30
67									
68									
69									
70		Black and gray hard GNEISS							
70.1	376.70	Boring terminated @ 70.1'							
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

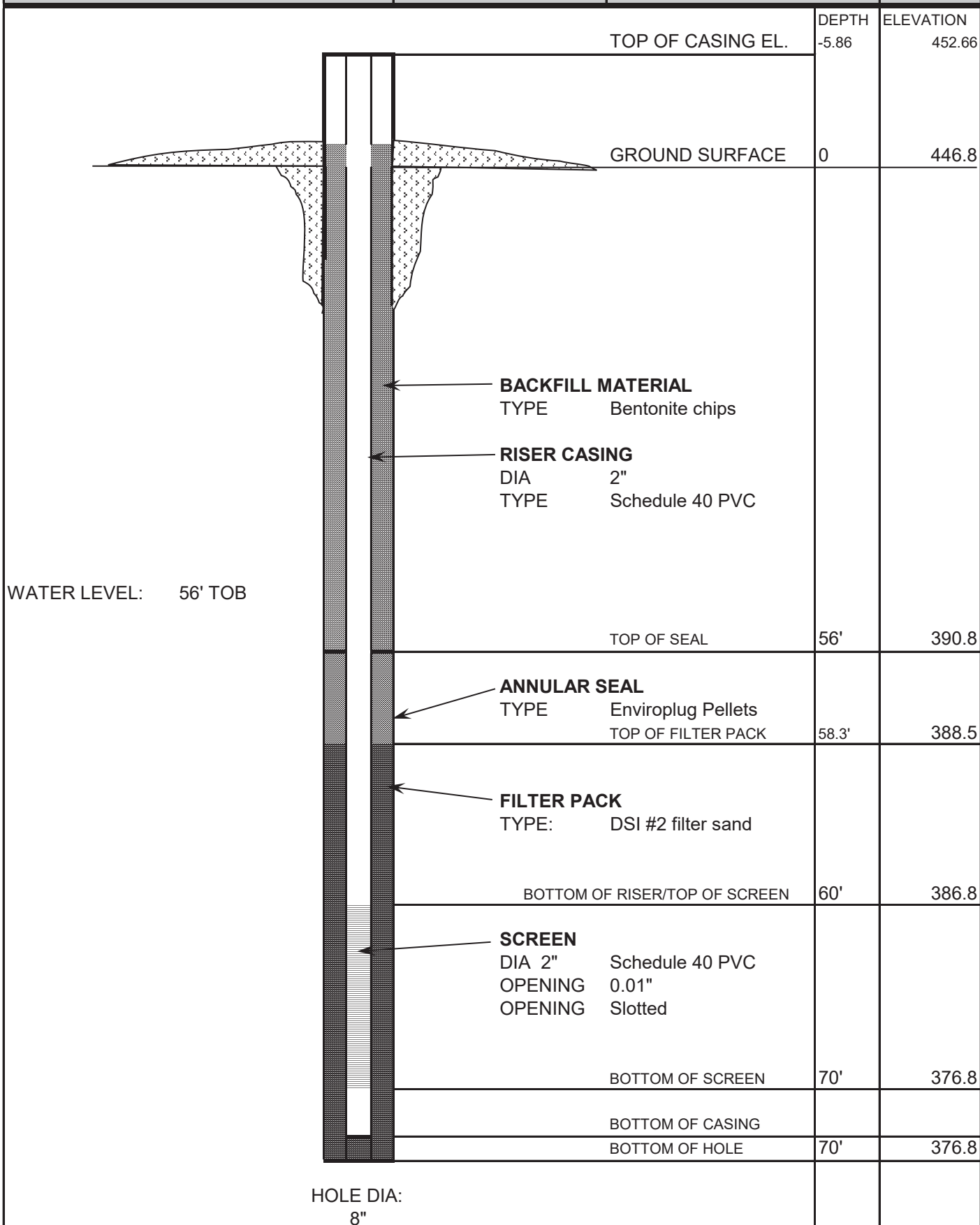
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/14/2007

ENDED 8/20/2007

SGYP-19



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	0	449.80							
	1						offset 45' south		
	2								
	3								
	4								
	5		1	3.5-5	5-10-13	23			
	6								
	7								
	8								
	9								
	10		UD	8.5-10.5					
	11								
	12		2	10.5-12	3-4-5	9			
	13								
	14								
	15		3	13.5-15	1-3-3	6			
	16								
	17								
	18								
	19								
	20		4	18.5-20	2-5-6	11			
	21								
	22								
	23								
	24								

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-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									
29		Saa, greenish gray, white and orange	6	28.5-30	3-4-6	10	Saprolite		
30									
31									
32									
33									
34									
35			UD	33.5-35.5					
36									
37		Saa	7	35.5-37	3-5-6	11			
38									
39									
40		Saa, light gray and white	8	38.5-40	3-5-7	12	Saprolite		
41									
42									
43									
44									
45			9	43.5-45	5-7-11	18	Saprolite		
46									
47									
48							▼ TOB		
49									
50		very sandy, wet	10	48.5-50	9-11-50/3	100+	Saprolite		
51									
52.0	397.80								
53		AUGER REFUSAL @ 52' hard, fresh biotite GNEISS	RC	52-53.5				93	80
54									
55									
56									

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGP-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			RC	58.5-63.5				100	88
60									
61									
62									
63									
64.0	385.80	AMPHIBOLITE							
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

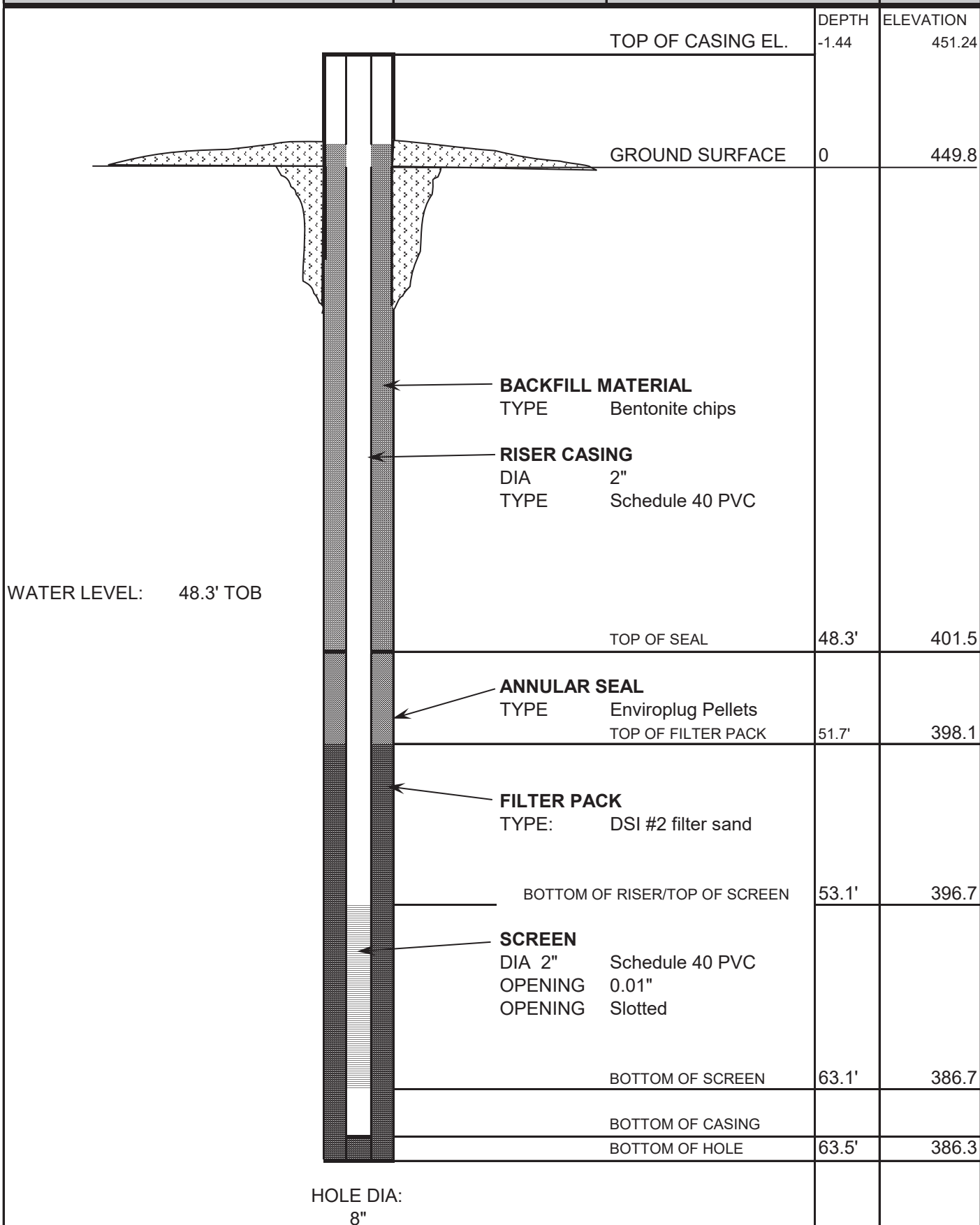
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/21/2007

ENDED 8/21/2007 J. Jordan

SGYP-20



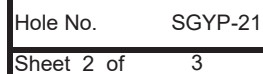
**DRILLING LOG
GEOLOGICAL SERVICES**

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. 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 Plant Scherer		HOLE DEPTH 40'	SURF.ELEV. 440.7
LOCATION Gypsum Disposal Area		COORDINATES N 1120448.2	E 2408127.27
ANGLE	BEARING	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD HSA	NO. SAMPLES 8	NO. U.D. SAMPLES 2	
CASING SIZE	LENGTH	CORE SIZE	TOTAL % REC.
WATER TABLE DEPTH 19'	ELEV. 421.7	TIME AFTER COMP. TOB	DATE TAKEN 8/27/2007
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE 8/27/2007
DRILLER Filipovich	RECORDER	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	0	440.70							
1		Red, moist, very stiff sandy lean CLAY (CL)	UD	1-3					
2									
3									
4			1	3.5-5	6-9-13	22			
5		stiff, micaceous, silty							
6									
7									
8									
9		Reddish brown sandy SILT (ML)		8.5-10.5	2-3-8	8			
10									
11									
12									
13		Orange and black, wet, soft SILT (ML)	UD	13.5-15.5					
14									
15									
16			3	15.5-17	2-2-2	4			
17		Saa, orange and green, sandy							
18							▼ TOB		
19			4	18.5-20	1-2-2	4			
20									
21									
22									
23									
24									

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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									
34			7	33.5-35	6-12-17	29	Sa rolite		
35									
36									
37									
39		Saa, dark gray and white, dense	8	38.5-40	10-15-21	36	"SALT & PEPPER" appearance		
40	400.70								
41		BOH @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

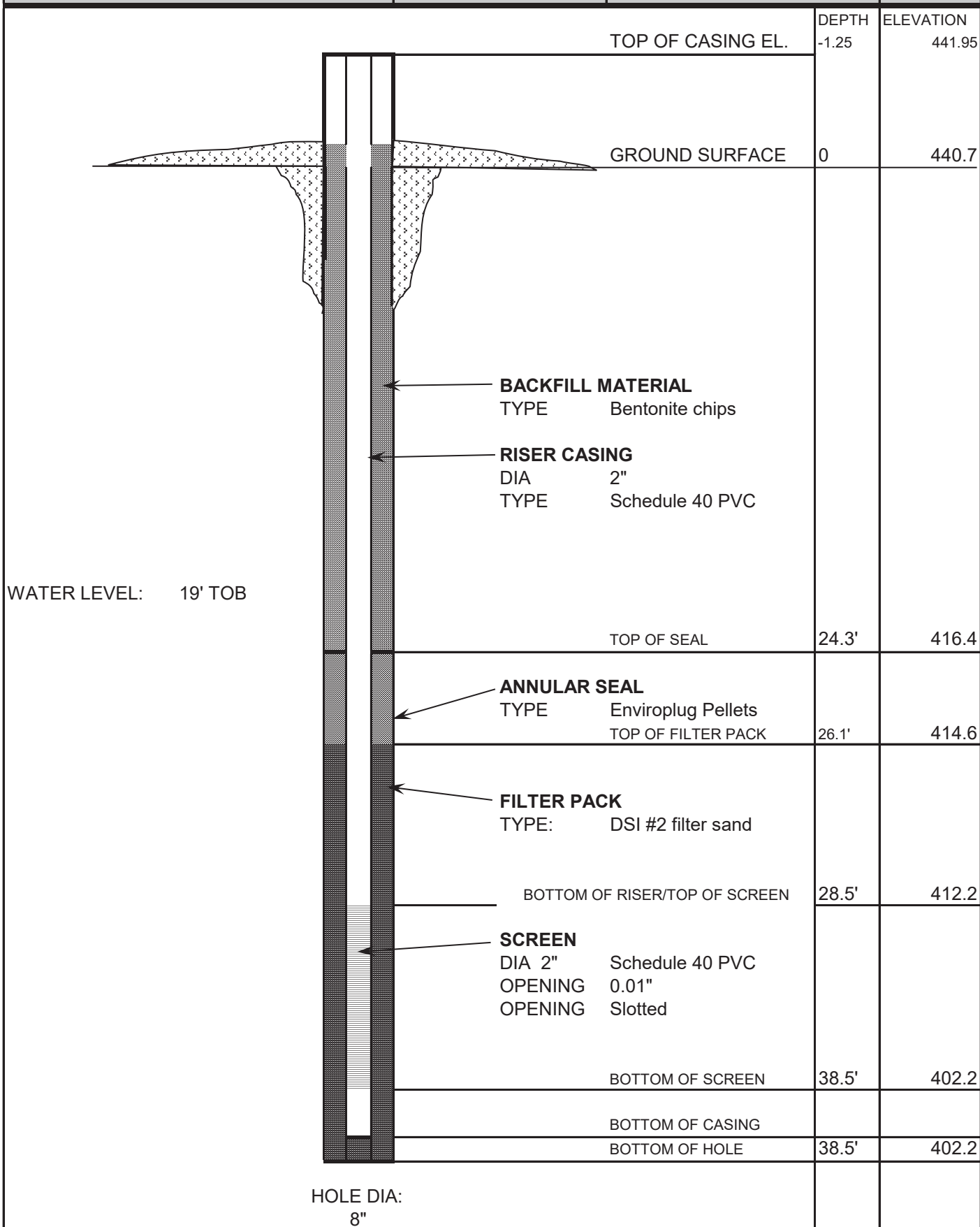
WELL NO.

LOCATION Gypsum Storage Area

DATE STARTED 8/29/2007

ENDED 8/29/2007 J. Jordan

SGYP-22



**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								
	2								
	3								
	4								
	5	Red elastic Sandy SILT (MH)	UD	3.5-5					
	6		1	5.5-7	6-15-22	37			
	7								
	8								
	9								
	10	very stiff		8.5-10.5	7-12-16	28			
	11								
	12								
	13								
	14								
	15	Saa	3	13.5-15.5	11-10-21	31			
	16								
	17								
	18								
	19	Yellow, red, and light gray, mottled, micaceous sandy SILT (ML)	4	18.5-20	3-7-10	17			
	20								
	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		Red, tan and black, micaceous, wet, loose silty SAND (SM)	UD	23.5-25.5							
26			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		Saa, dark bluish gray and white, dense									
34			7	33.5-35	5-11-25	36	Sa rolite				
35											
36											
37		dark green, black, and gray very dark weathered rock									
38											
39			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											
48	387.50		AUGER REFUSAL @ 47.5'								
49											
50											
51											
52											
53											
54											
55											
56											

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

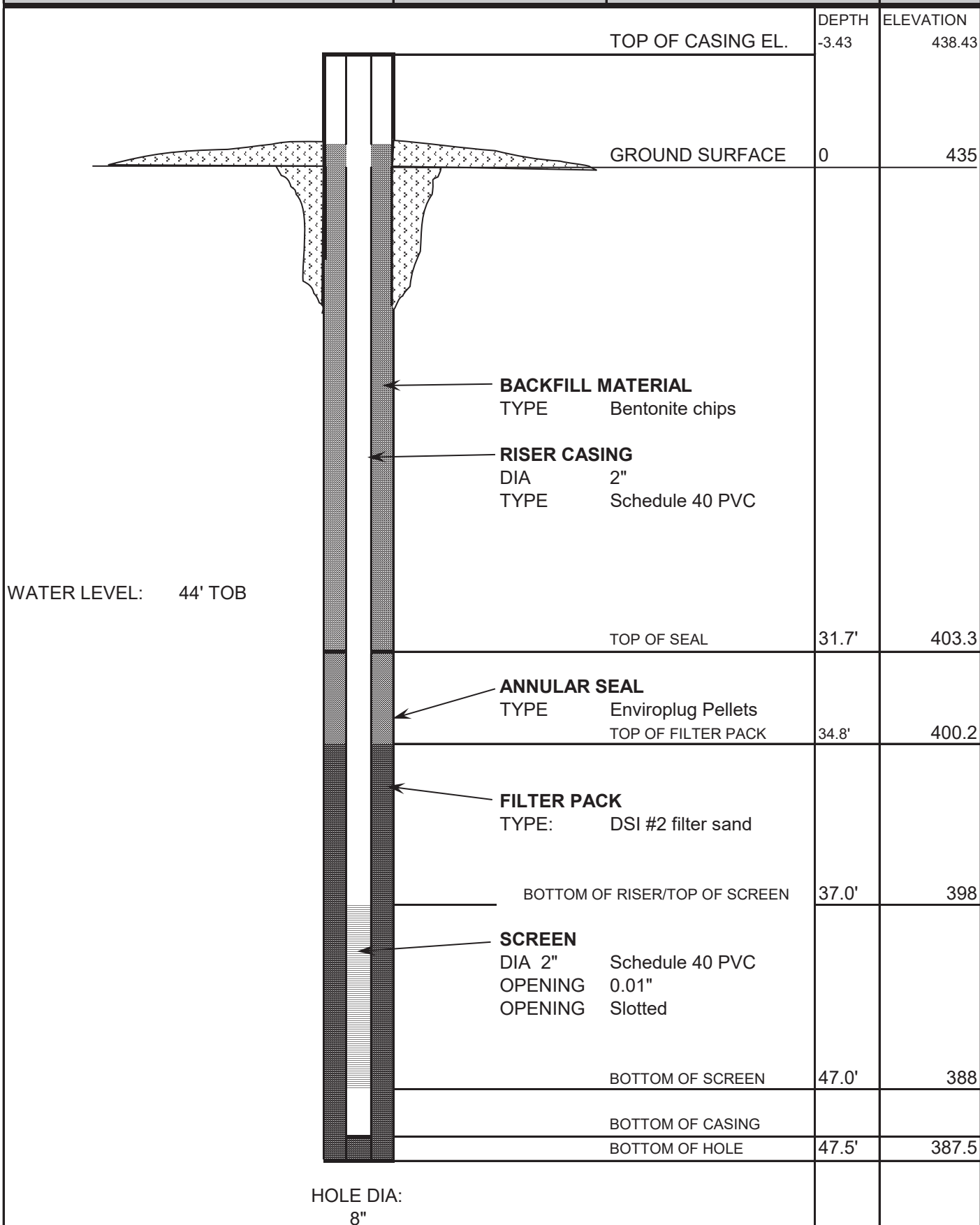
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/31/2007

ENDED 8/31/2007 J. Jordan

SGYP-23



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGYP-24

Sheet 1 of 3

SITE Plant Schere Gypsum Storage HOLE DEPTH 74' SURF.ELEV. 459.7
LOCATION uliette A COORDINATES N 1120585.25 E 2410416.17
ANGLE _____ BEARING _____ CONTRACTOR SCS DRILL NO. CME-550
DRILLING METHOD 4 1/4"HSA NO. SAMPLES _____ NO. U.D. SAMPLES _____
CASING SIZE 4'1/4" LENGTH 73.5' CORE SIZE _____ TOTAL % REC. _____
WATER TABLE DEPTH 56.6' ELEV. 403.1' TIME AFTER COMP. TOB DATE TAKEN 8/13/2007
TYPE GROUT _____ QUANTITY _____ MIX _____ DRILLING START DATE 8/9/2007
DRILLER Brad Filipovich RECORDER Brad F. APPROVED J.Jordan DRILLING COMP. DATE 8/13/2007

Depth	Elev.	Material Description, Classification and Remarks	Sample No.	Standard Penetration Test			Comments	% Rec	RQD
				From To	Blows	N			
0.0	0	459.70							
	1								
	2								
	3								
	4								
	5	Red, very stiff sandy SILT (ML)	1	3.5-5.0	5-10-15	25			
	6								
	7								
	8								
	9	Saa, yellowish red and white, stiff	2	8.5-10.0	4-4-5	9			
	10								
	11								
	12								
	13								
	14	Saa, with mica	3	13.5-15.0	2-4-5	9			
	15								
	16								
	17								
	18								
	19	Red and white, micaceous, fine- to very coarse silty SAND (SM)	4	18.5-20.0	2-4-4	8			
	20								
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGPY-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	
		Red and green, micaceous, stiff sandy SILT (ML)		5	23.5-25.0	4-4-7		11			
25											
26											
27											
28											
29		Saa, white, with weathered quartz		6	28.5-30.0	3-3-5		10			
30											
31											
32											
33											
34		Saa, orange, brown and white		7	33.5-35.0	5-5-9		14			
35											
36											
37											
38											
39		Saa		8	38.5-40.0	4-5-7		12			
40											
41											
42											
43											
44		Saa		9	43.5-45.0	2-8-12		20	very stiff		
45											
46											
47											
48											
49		Saa		10	48.5-50.0	6-6-8		14	stiff		
50											
51											
52											
53											
54		Saa		11	53.5-55.0	3-5-7		12			
55											
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)							
58									
59									
60			12	58.5-60.0	4-4-7	11	Saprolite		
61		Saa ery stiff tan and white							
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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

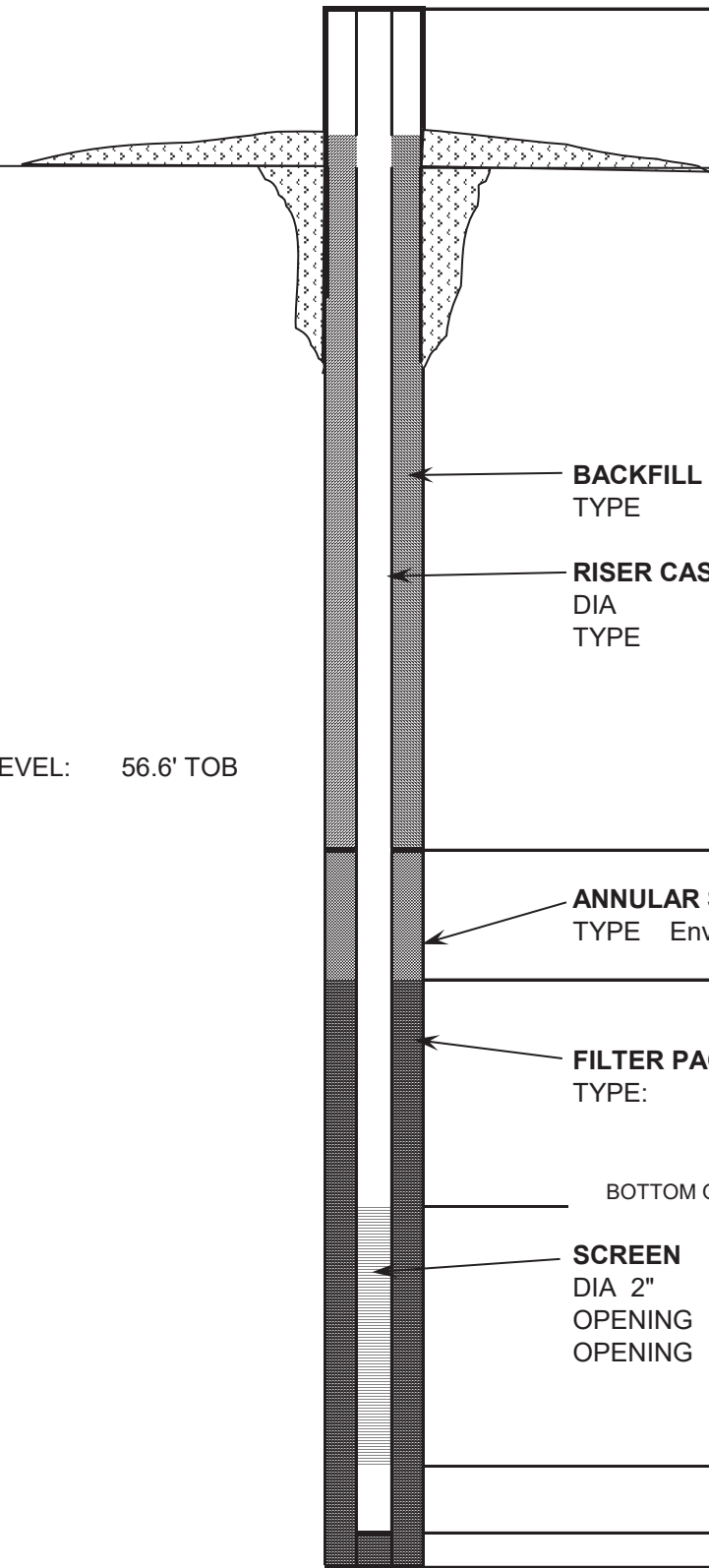
SITE Scherer

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
 <p>WATER LEVEL: 56.6' TOB</p> <p>BACKFILL MATERIAL TYPE BENTONITE PELLETS</p> <p>RISER CASING DIA 2" TYPE Schedule 40 PVC</p> <p>ANNULAR SEAL TYPE Enviroplug Bentonite pellets</p> <p>FILTER PACK TYPE: DSI #2 filter sand</p> <p>SCREEN DIA 2" Schedule 40 PVC OPENING 0.01" OPENING Slotted</p> <p>HOLE DIA: 8"</p>		
TOP OF SEAL	59.2	400.5
TOP OF FILTER PACK	61.5	398.2
BOTTOM OF RISER/TOP OF SCREEN	64	395.7
BOTTOM OF SCREEN	74	385.7
BOTTOM OF CASING		
BOTTOM OF HOLE	75	384.7

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGY-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
TYPE GROUT _____		QUANTITY _____	MIX _____
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		3	13.5-15	3-5-9	14			
	15	Saa, dark brown and gold, medium dense							
	16								
	17								
	18								
19.0	19	352.2'	4	18.5-20	10-12-50/3	100+	Saprolite		
	20	Greenish gray, black and white, very dense, Fine- to medium-grained SAND							
	21								
	22								
	23								
	24								

**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGP-25

Sheet 2 of 2

SITE **Plant Scherer** TOTAL DEPTH **30'** SURF.ELE **371.2'**

30.0

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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

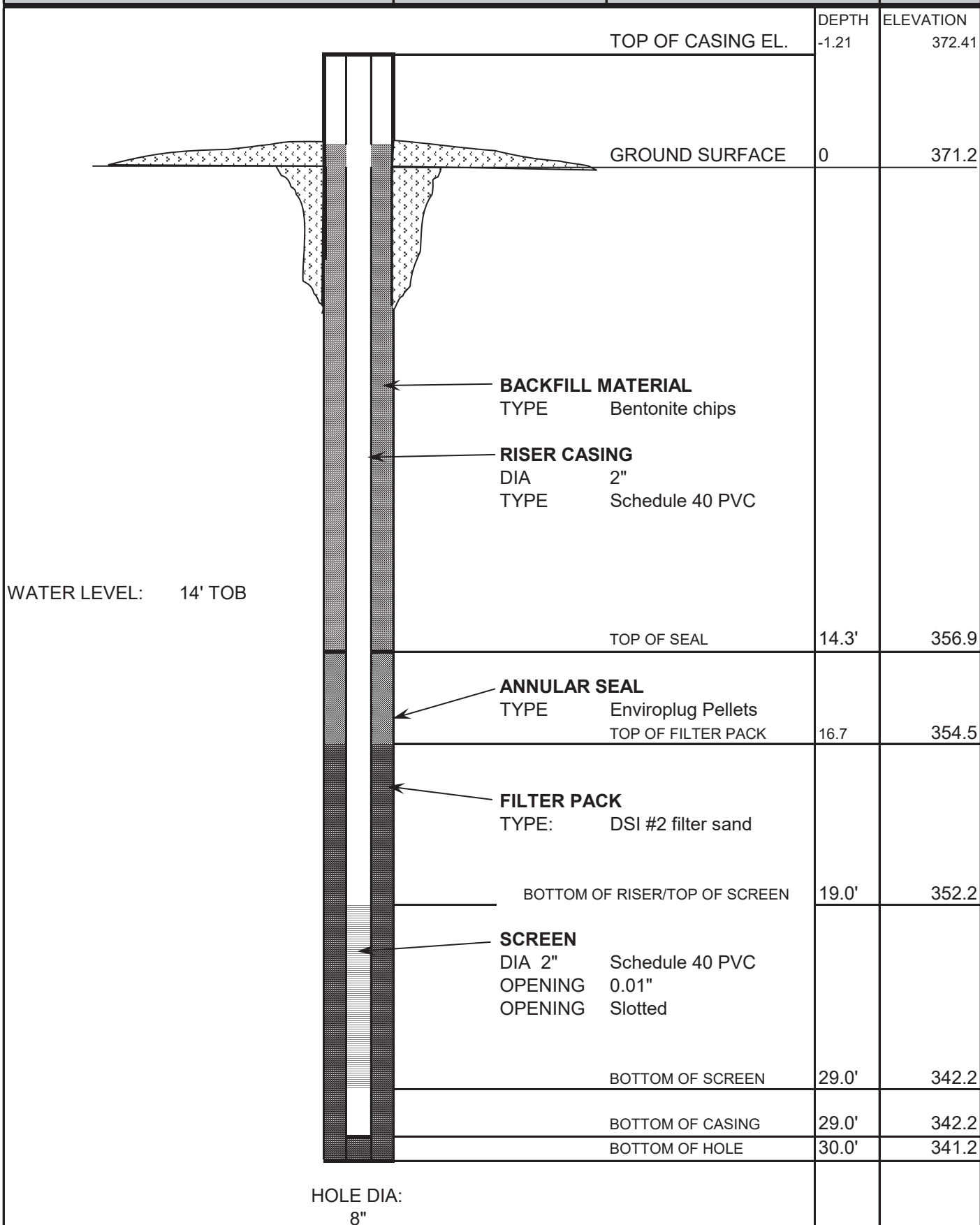
WELL NO.

LOCATION Gypsum Storage Area

DATE STARTED 8/30/2007

ENDED 8/30/2007 J. Jordan

SGYP-25



**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	0	454.70							
	1								
	2								
	3								
	4	Brownish red, fairly dry, clayey SILT, (ML) micaceous	1	3.5-5.0	4-4-5	9			
	5								
	6								
	7								
	8								
	9	Yellow, fairly dry, slightly silty, fine-grained SAND (SM)	2	8.5-10.0	3-2-4	6			
	10								
	11								
	12								
	13								
	14	SAA, firm	3	13.5-15.0	8-6-8	14			
	15								
	16								
	17								
	18								
	19	Light tan, dry, fine-grained SAND with some rock fragments	4	18.5-20	8-8-12	20			
	20								
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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											
33											
34			Brown to dark gray, dry, very sandy SILT (ML)	7	33.5-35.0	12-12-17	29				
35											
36											
37											
38											
39		Black, brown and white, dry, silty SAND and highly weathered rock (SM)	8	38.5-40.0	16-7-8	15	Saprolite				
40											
41											
42											
43											
44		Dark gray and white specked, dry, slightly silty highly weathered rock	9	43.5-45.0	10-14-22	36	Sapriolite				
45											
46											
47											
48											
49		Hard, grains of dark gray and tan, fairly dry, very sandy SILT and highly weathered rock	10	48.5-50.0	10-14-20	34	Saprolite				
50											
51											
52											
53											
54		SAA	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			12	58.5-60.0	18-34-50/4"	REF	Saprolite		
60									
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)	14	68.5-70.0	50/3"	REF	Saprolite		
70									
71									
72	383.40								
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

71.3

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

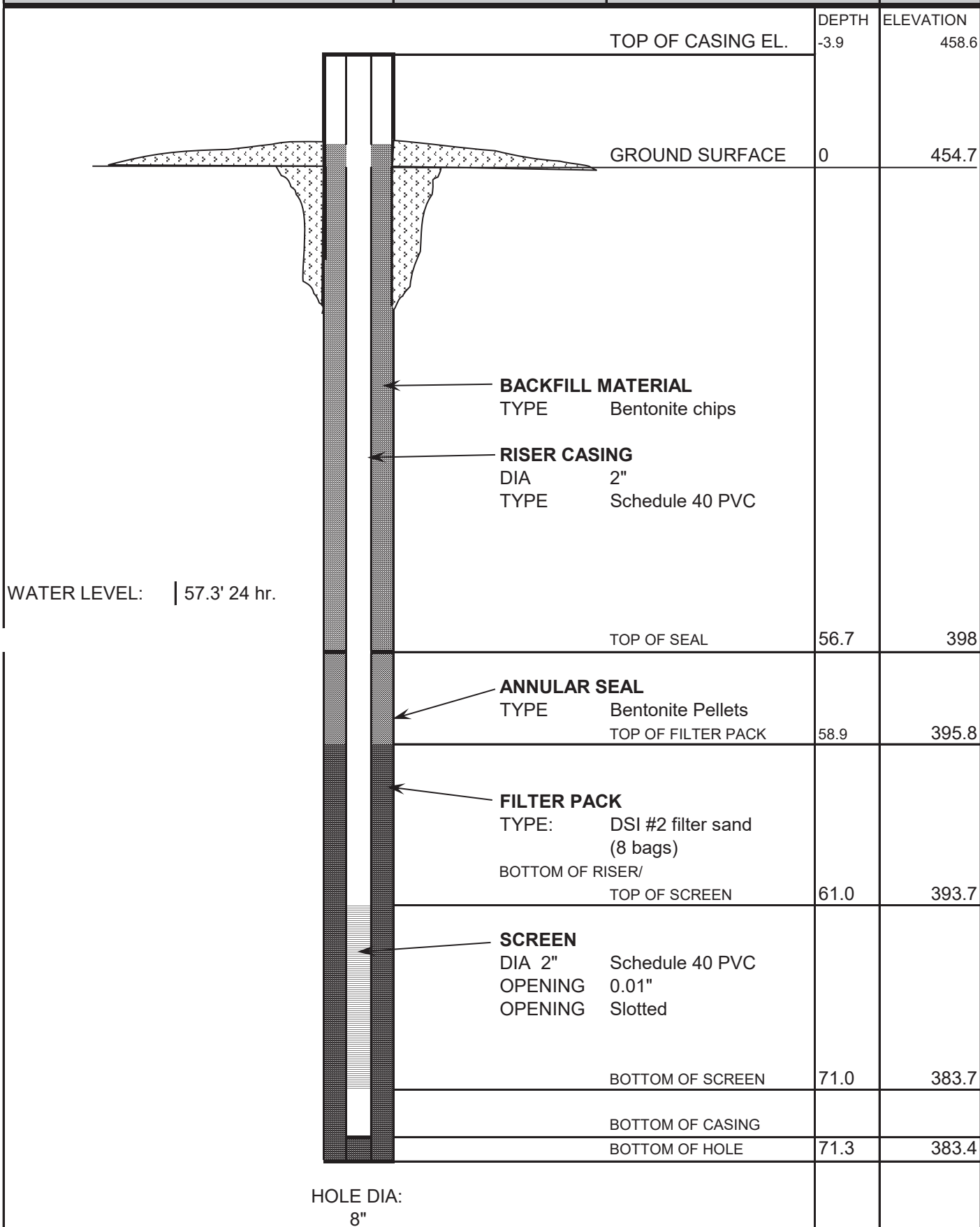
LOCATION Gypsum Storage Area

DATE STARTED 5/21/2007

ENDED 5/22/2007

Grissom

SGYP-26



**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	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. SGP-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		orange to light gray, loose micaceous SILTY SAND		UD	23.5-25.5						
26				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		Saa, ight green and yellow, moist									
32											
33											
34											
35				7	33.5-35	4-7-10	17				
36											
37											
38											
39				8	38.5-40	5-5-12	17	Saprolite			
40											
41		Saa, green, gray and white, very dense									
42											
43											
44				9	43.5-45	20-35-19	54	Saprolite			
45											
46		Saa, dark green, wet, medium dense									
47											
48											
49				10	48.5-50	9-11-50/3	100+				
50											
51		Saa, with orange, dense						▼ TOB			
52											
53											
54				11	53.5-55	6-12-24	36				
55											
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 SAA							
58									
59									
60			12	58.5-60	50/2	100+	Saprolite		
61									
62									
63									
64									
65			13	63.5-65	50/3	100+	Saprolite		
66									
67		AUGER REFUSAL @ 68.5'							
68									
68.5	361.50								
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

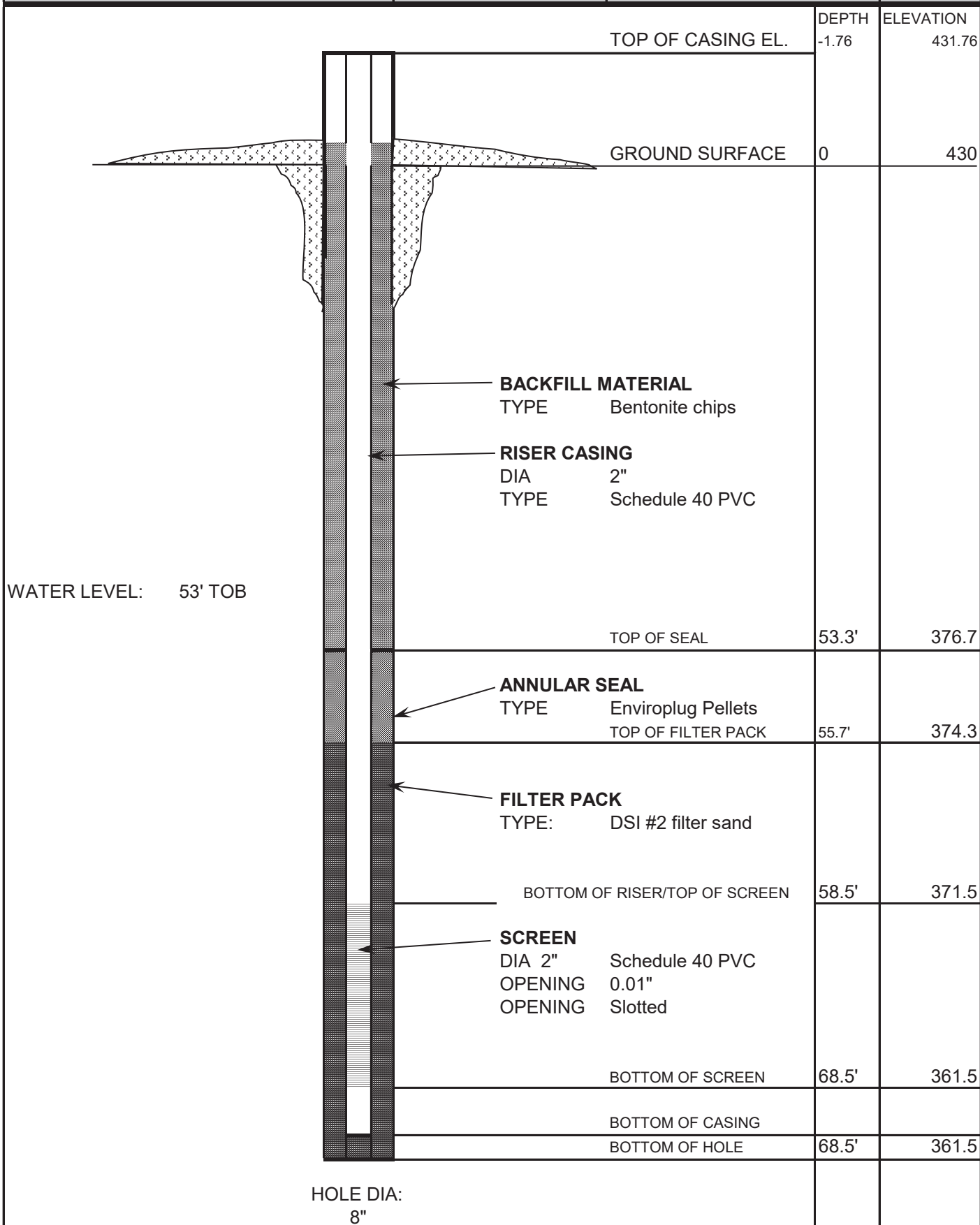
SITE Scherer

LOCATION Gypsum Storage Area

DATE STARTED 8/29/2007

ENDED 8/29/2007 J. Jordan

SGYP-28



**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	0	454.40							
	1								
	2								
	3								
	4	Brownish red, dry, clayey SILT (ML) micaceous	1	3.5-5.0	5-5-9	14			
	5								
	6								
	7								
	8								
	9	SAA, firm	2	8.5-10.0	2-2-3	5			
	10								
	11								
	12								
	13								
	14	Yellow to light brown, slightly moist, very silty CLAY (CH)	3	13.5-15.0	2-2-2	4			
	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)							
34									
35									
36									
37		SAA, very dense							
38									
39									
40	414.40		7	33.5-35.0	8-15-25	40	Saprolite		
41		BOH @ 40'							
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

WELL NO.

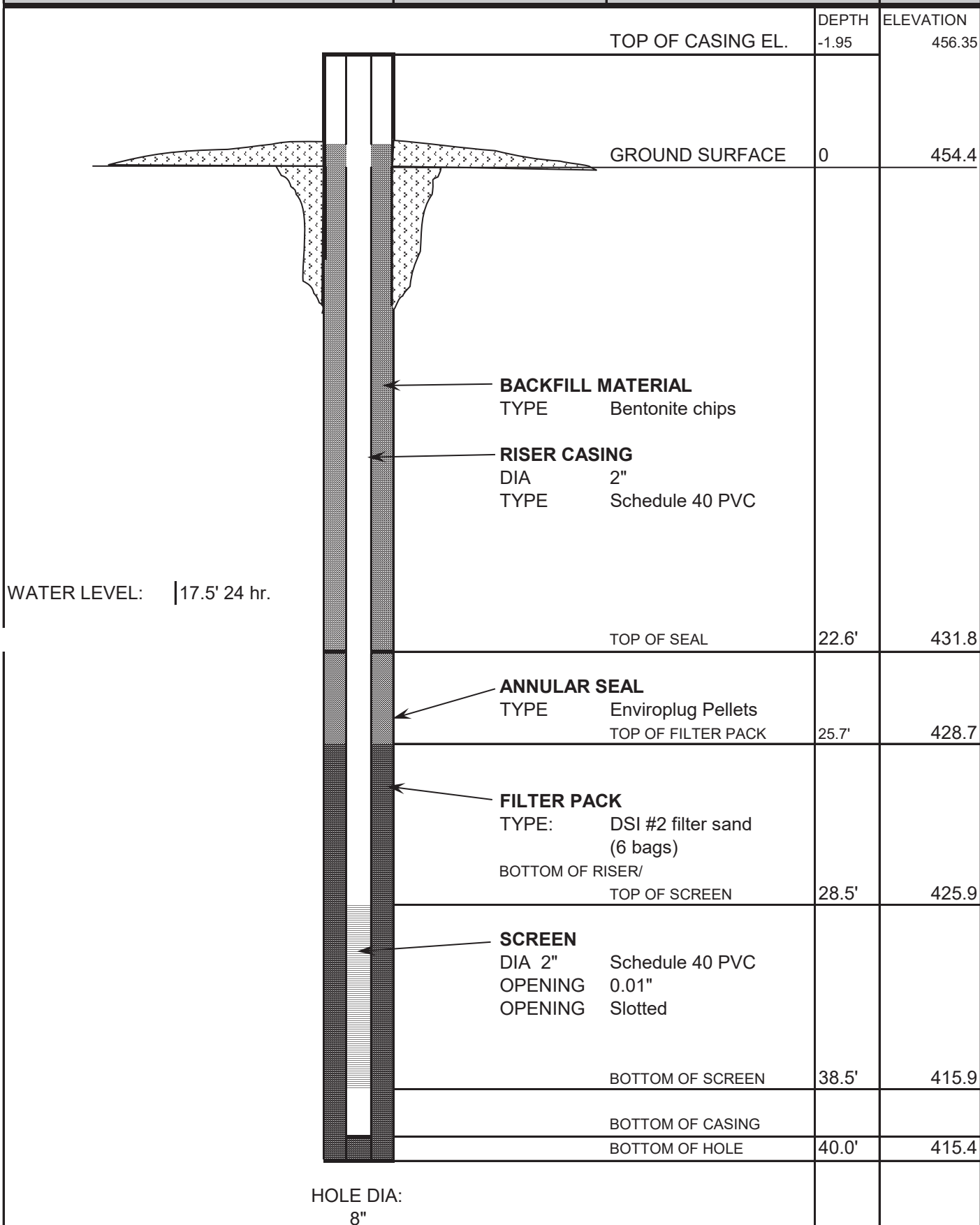
LOCATION Gypsum Storage Area

DATE STARTED 5/21/2007

ENDED 5/21/2007

Grissom

SGYP-29



DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGYP-30

Sheet 1 of 3

SITE Plant Scherer		HOLE DEPTH 65'	SURF.ELEV. 468.8
LOCATION Gypsum Disposal Area		COORDINATES N 1121005.97	E 2408680.51
ANGLE	BEARING	CONTRACTOR SCS	DRILL NO. CME-550
DRILLING METHOD 4.25" HSA		NO. SAMPLES 13	NO. U.D. SAMPLES
CASING SIZE N	LENGTH	CORE SIZE	TOTAL % REC.
WATER TABLE DEPTH 44	ELEV. 424.8	TIME AFTER COMP.	DATE TAKEN 8/6/2007
TYPE GROUT	QUANTITY	MIX	DRILLING START DATE 8/2/2007
DRILLER Filipovich	RECORDER J. Jordan	APPROVED	DRILLING COMP. DATE 8/6/2007

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. SGYP-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		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		
31									
32									
33									
34									
35		Saa, stiff, wet	7	33.5-35.0	3-3-4	7			
36									
37									
38									
39									
40		Saa, stiff, wet	8	38.5-40.0	2-2-3	5			
41									
42									
43									
44									
45		Saa, stiff, wet	9	43.5-45.0	3-4-5	9	▼44'		
46									
47									
48									
49									
50			10	48.5-50.0	2-3-5	8			
51									
52									
53									
53.5	415.30								
54		Dar green and orange fine- to medium-grained silty SAND (S)	11	53.5-55.0	3-5-7	14	Saprolite		
55									
56									

**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 (Silty) 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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

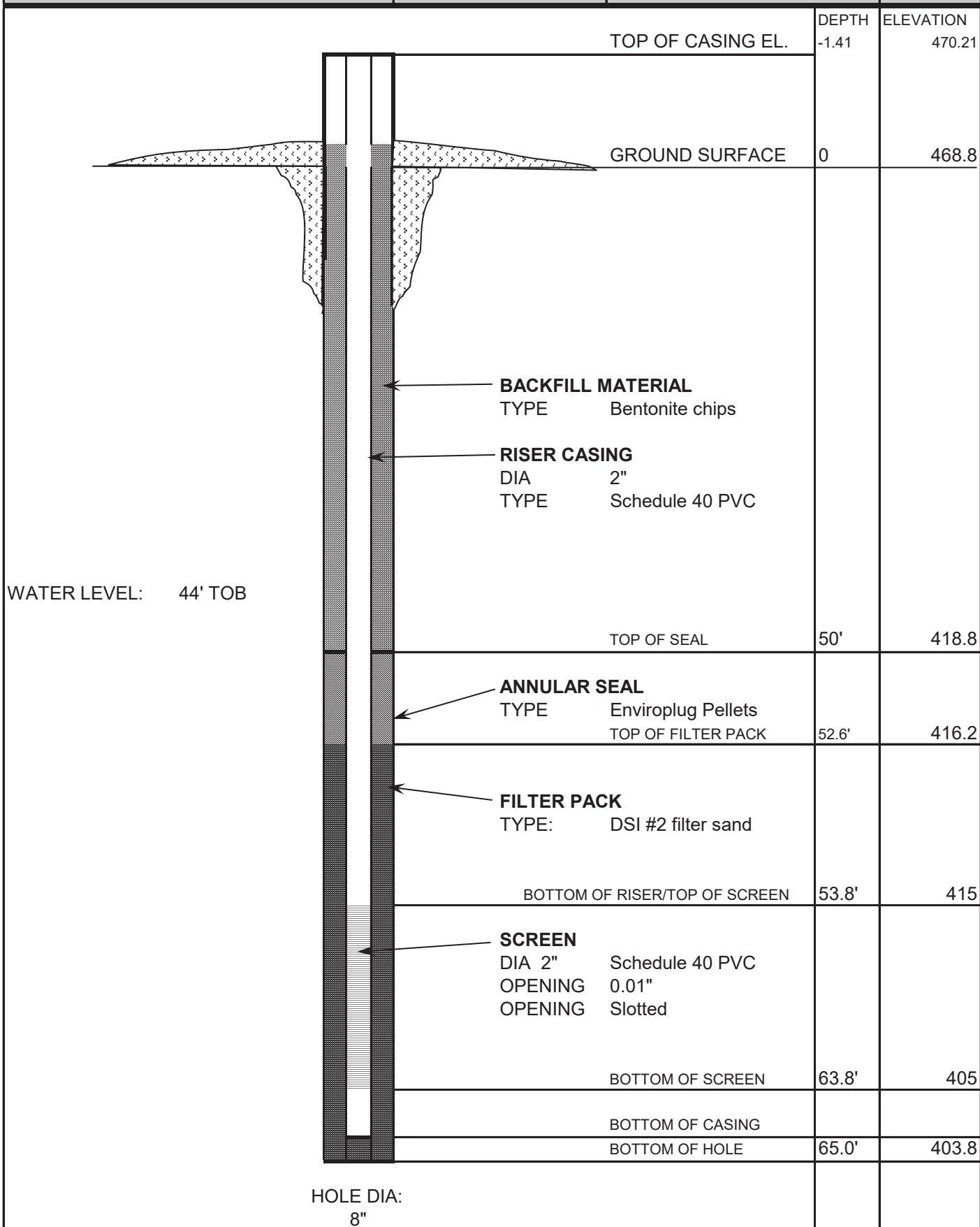
WELL NO.

LOCATION Gypsum Storage Area

DATE STARTED

ENDED

SGYP-30



**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	0	462.90							
	1								
	2								
	3								
	4	Brownish red, dry, clayey SILT, micaceous	1	3.5-5.0	8-9-12	21			
	5								
	6								
	7								
	8								
	9								
	10	Mottled yellow, orange and brown fairly dry, slightly sandy SILT	2	8.5-10.0	4-4-7	11			
	11								
	12								
	13								
	14	Purple to light brown, dry sandy SILT	3	13.5-15.0	4-5-6	11			
	15								
	16								
	17								
	18								
	19	Yellow, fairly dry, clayey SILT	4	18.5-20.0	4-5-8	13			
	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 borwn 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. SGYP-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			12	58.5-60.0	50/5"	REF	Saprolite		
60									
61		SAA, with thick seam of olive gray plastic clay							
62									
63									
64			13	63.5-65.0	50/3"	REF	Saprolite		
65.3	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

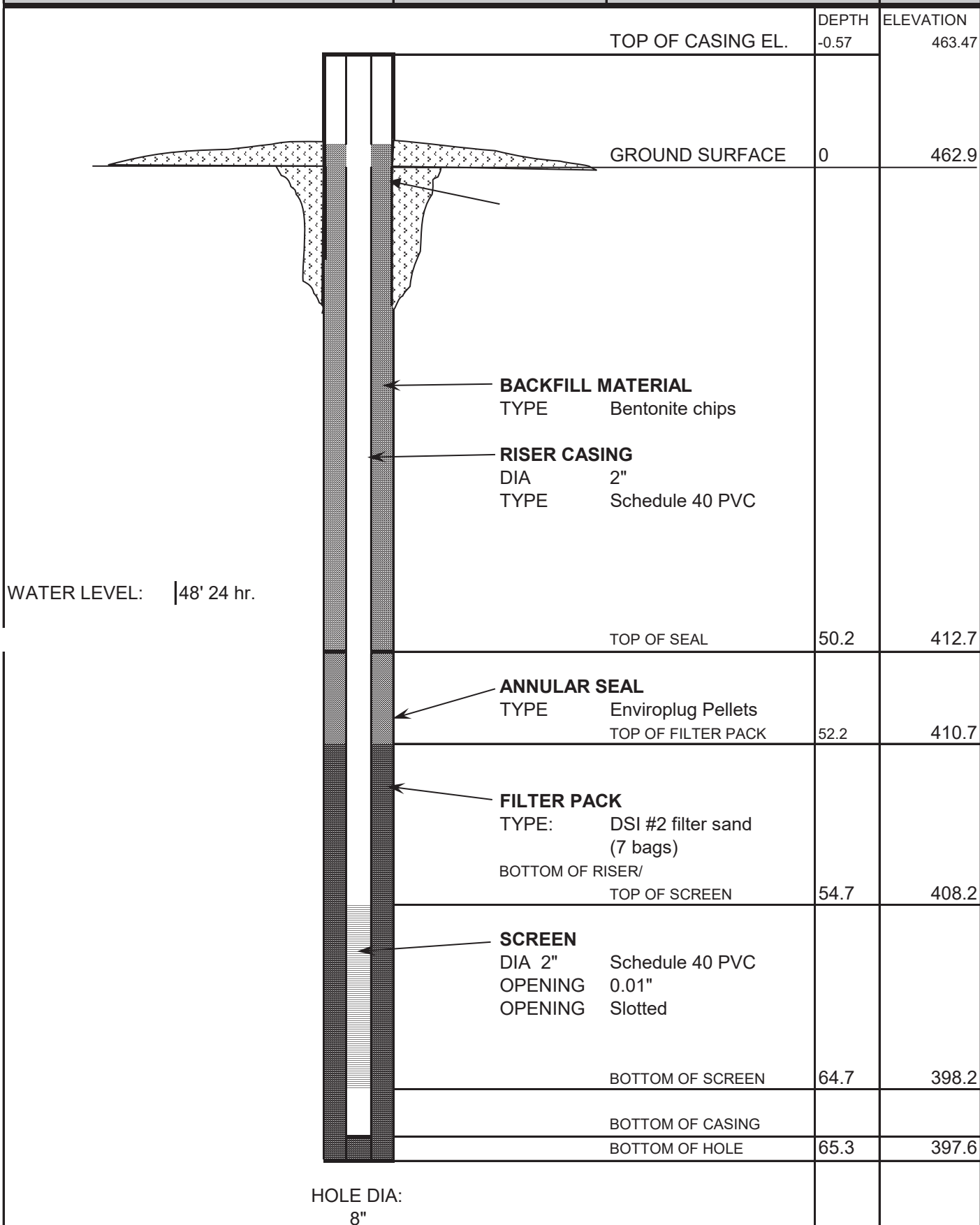
WELL NO.

LOCATION	Gypsum Storage Area
----------	---------------------

ENDED	5/19/2007
-------	-----------

Grissom

SGYP-31



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGY-P-32

Sheet 1 of 3

SITE <u>Plant Schere Gypsum Storage</u>		HOLE DEPTH <u>68'</u>	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	0	444.80							
	1								
	2								
	3								
	4	Yellowish red, very stiff sandy SILT (ML)	1	3.5-5.0	4-8-10	18			
	5								
	6								
	7								
	8								
	9		2	8.5-10.0	3-3-3	6			
	10								
	11								
	12								
	13								
	14	Saa, yellow and tan, stiff	3	13.5-15.0	2-3-8	11			
	15								
	16								
	17								
	18								
	19		4	18.5-20.0	3-2-6	8			
	20	Saa							
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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					
		Yellowish red, very stiff sandy SILT (ML)	5	23.5-25.0	2-3-5	8					
25		Orange and tan with black									
26											
27											
28											
29											
30				6	28.5-30.0	2-3-4	7				
31											
32											
33											
34											
35		Saa	7	33.5-35.0	2-4-4	8					
36		Saa. greenish yellow and orange, micaceous									
37											
38											
39											
40				8	38.5-40.0	2-3-4	7				
41											
42											
43											
44											
45			Saa	9	43.5-45.0	2-4-6	10				
46		-----									
47											
48								▼ 24 hrs.			
49											
50			Green, orange and white silty SAND (SM)	10	48.5-50.0	2-6-8	10	Saprolite			
51			Dark green, black, orange and white micaceous, medium dense SILTY SAND (SM)								
52											
53											
54											
55					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			13	63.5-65.0	33-50/5-X		Saprolite		
65									
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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

PROJECT Scherer FGD

WELL NO.

SITE Scherer

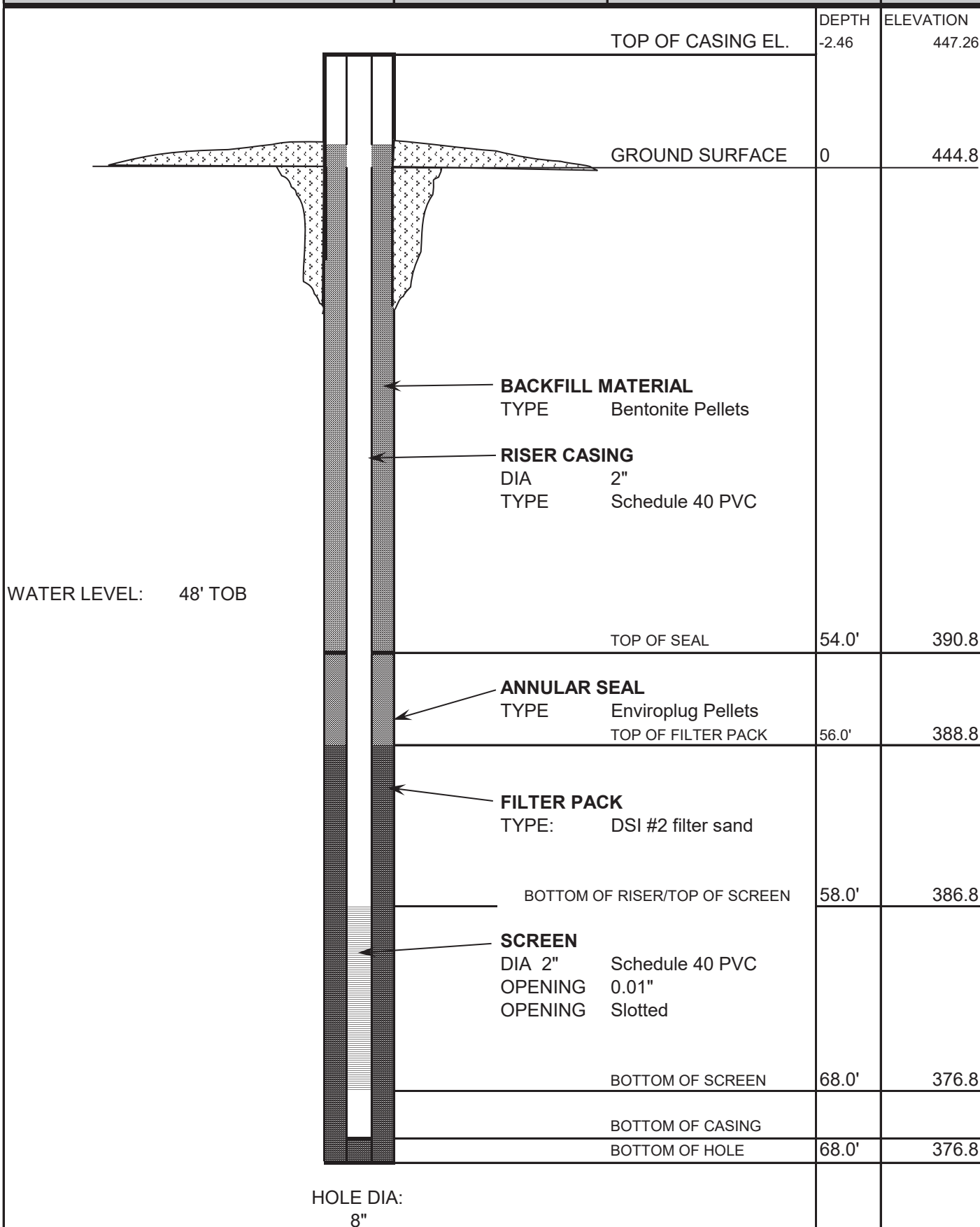
LOCATION Gypsum Storage Area

DATE STARTED 5/19/2007

ENDED 5/19/2007

Grissom

SGYP-32



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGY-33

Sheet 1 of 3

SITE <u>Plant Schere Gypsum Storage</u>		HOLE DEPTH <u>59.2'</u>	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	0	411.90							
	1								
	2								
	3								
	4	Yellowish red, stiff sandy SILT (ML)	1	3.5-5.0	4-7-7	14			
	5								
	6								
	7								
	8								
	9	Saa	2	8.5-10.0	2-3-4	7			
	10								
	11								
	12								
	13								
	14	Saa	3	13.5-15.0	4-6-7	13			
	15								
	16								
	17								
	18								
	19		4	18.5-20.0	4-7-8	15			
	20	Saa, light brown to yellow							
	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		Saa	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. SGP-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									

SOUTHERN COMPANY SERVICES, INC.

WELL CONSTRUCTION LOG

SITE Scherer

PROJECT Scherer FGD

WELL NO.

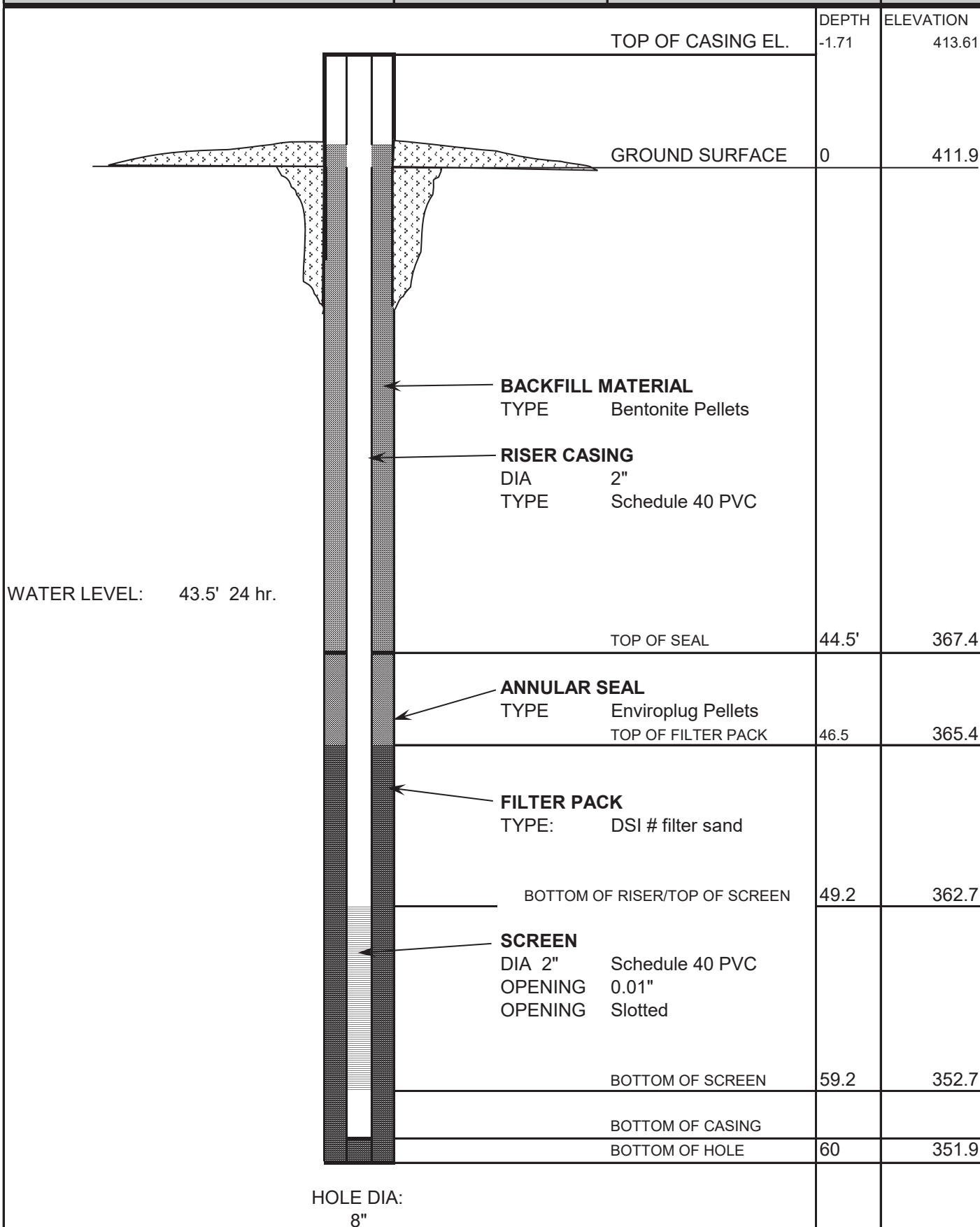
LOCATION Gypsum Storage Area

DATE STARTED 8/8/2007

ENDED 8/8/2007

JJ

SGYP-33



**DRILLING LOG
GEOLOGICAL SERVICES**

Hole No. SGY-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	0	441.80							
	1								
	2								
	3								
	4	Very stiff, brownish red, fairly dry, clayey SILT (ML) micaceous	1	3.5-5.0	6-8-9	17			
	5								
	6								
	7								
	8								
	9	Stiff, yellow and red mottling, fairly dry, slightly clayey SILT (ML)	2	8.5-10.0	4-5-6	11			
	10								
	11								
	12								
	13								
	14	Stiff, reddish brown, fairly dry, slightly clayey SILT, micaceous	3	13.5-15.0	4-4-5	9			
	15								
	16								
	17								
	18								
	19	SAA, firm	4	18.5-20	3-3-4	7			
	20								
	21								
	22								
	23								
	24								

DRILLING LOG
GEOLOGICAL SERVICES

Hole No. SGP-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
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									
29		SAA	6	28.5-30.0	3-5-5	10			
30									
31									
32									
33									
34		SAA, more sandy	7	33.5-35.0	4-4-6	10			
35									
36									
37									
38									
39		Stiff, dark brown with grains of black, orange and gold, moist, very sandy SILT (ML)	8	38.5-40.0	5-6-8	14	Saprolite		
40									
41									
42									
43							▼ 24 hrs.		
44		SAA, hard	9	43.5-45.0	9-15-23	38	Saprolite		
45									
46									
47									
48									
49		Very dense, mixture of black, brown and light gray grains, slightly moist, slightly silty SAND (SM)	10	48.5-50.0	50/5.5"	REF	Saprolite		
50									
51									
52									
53									
54		ery hard brown slightly moist sandy S L mi a eous	11	53.5-55.0	23-36-50	86	Saprolite		
55									
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		Very dense, white to tan, moist, sandy weathered fine to medium-grained SAND and ro BOH @ 63.5'							
62									
63									
64									
65			13	63.5-65.0	50/5"	REF	Saprolite		
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

WELL NO.

LOCATION	Gypsum Storage Area
----------	---------------------

ENDED	5/18/2007
-------	-----------

SGYP-34

