Georgia Power

Environmental & Natural Resources
241 Ralph McGill Boulevard NE
Atlanta, GA 30308-3374

January 13, 2019

Mr. William Cook
Georgia Environmental Protection Division
Solid Waste Program
4244 International Parkway, Suite 104
Atlanta, Georgia 30354

Re: Georgia Power Company – Plant Branch
Proposed CCR Landfill – Site Acceptability Review Comments
APL 1579

Dear Mr. Cook:

Enclosed please find Georgia Power Company's (GPC) response to comments on the Site Acceptability Report (SAR) submitted for the proposed Plant Branch CCR Landfill. The comments were received in a letter dated October 23, 2019, which were generated by EPD's review of the Site Acceptability Report prepared by Geosyntec. Following are each of the comments from the EPD and a written response.

For clarity we have written out each EPD comment followed by a written response. The responses have been prepared with assistance from our engineering consultant, Geosyntec. Supporting information as requested by the EPD comments, is included as attachments to this letter.

Comment No. 1: *A legal description of the proposed permit boundary needs to be included in the report.*

Response: The legal description of the proposed permit boundary is provided in the Property Boundary Survey drawing included as Attachment A.

Comment No. 2: *EPD has identified several deficiencies and requests the following additions and/or corrections to the report figures:*

- *Cross-sections B and C show BH-12 encountering Gneiss bedrock. This is not consistent with the drilling log for BH-12 included in Appendix D.*
- *According to the drilling log, BH-19 encountered ash to total depth.*
- *Cross-section B should be revised to show Ash Pond D.*
- *Cross-section B shows a deep well completion at PB-1D that is not consistent with the drilling log included in Appendix D.*

- *Add the outline of Ash Pond C and D to Figure 2-7 and Figure 3-1 and the key map of Figure 3-1.*

Response: The items noted above (bullets 1 to 5) have been addressed and the requested revisions to existing cross-section B, as well as Figures 2-7 and 3-1 have been made. The revised cross-sections and figures are included in Attachment B.

Comment No. 3: *An additional geologic cross-section should be constructed that transects Ash Pond D. EPD suggests that this cross-section include BRGWC-47, BH-19, and BRGWC-30I and show the original topography beneath the ash pond.*

Response: The additional cross-section (cross-section D) has been prepared and is included in Attachment B.

Comment No. 4: *A location map and logs for the cone penetrometer (CPT) borings should be included in the report.*

Response: The location map showing the CPT locations was included as Figure 2-2 in the Site Acceptability Report. However, as requested, the CPT logs from these borings identified in Figure 2-2 are provided as Attachment C.

Comment No. 5: *The Golder report [Golder, 2018a] referenced in Section 2.3.3 should be included in the site acceptability report as an appendix, if possible or submitted separately if that is more practical.*

Response: The referenced report by Golder (Geologic and Hydrogeologic Summary Report) is included in Attachment D.

Comment No. 6: *Groundwater potentiometric surface maps should be signed and sealed by the Georgia PG that authored the report.*

Response: The two potentiometric surface maps included in the Site Acceptability Report have been reproduced, signed and sealed by the Georgia P.G. that authored the report, and included in Attachment B.

Comment No. 7: *All data and supporting analysis for slug test results shown in Table 3-2 that were conducted in the PZ, BH, and BRGWC series of piezometers and monitoring wells should be included in Appendix F.*

Response: Slug test data plots produced by Geosyntec, SCS, and Golder for the piezometers and wells shown in Table 3-2 are included in Attachment E.

Comment No. 8: *The groundwater elevation values used to generate the estimated seasonal high potentiometric surface (Figure 3-1) should be tabulated and posted on the figure.*

Response: The potentiometric surface presented in Figure 3-1 is an estimated or projected surface based on multiple lines of evidence, including historical water level data, seasonal groundwater fluctuations, "pre-ash" topography and surface water drainage at Ash Pond D, and projected conditions following closure of Ash Pond D, as described in more detail under the response to Comment No. 9. Groundwater elevation values could be estimated at each individual

well based on the projected surface, but these would be estimates only, interpolated between the 5-foot contours of the projected post-closure groundwater surface, and therefore, we do not recommend including these values in tabular format.

Comment No. 9: *The original topography beneath Ash Pond D should be overlain on Figure on 3-1 to help evaluate the estimated seasonal high potentiometric surface after removal of Ash Pond D. The report should indicate what specific data was used to forecast the future groundwater elevations in the area of Ash Pond D following breaching of the pond dike and de-watering and removal of the ash.*

Response: The original "pre-ash" topography beneath Ash Pond D has been added to Figure 3-1, and the revised figure included in Attachment B. The estimated seasonal high potentiometric surface after removal of CCR presented in this figure is based on several factors, namely (i) observed groundwater elevations, (ii) seasonal variations from historical measurements, (iii) "pre-ash" topography and surface water drainage at Ash Pond D, and (iv) conditions likely to result from the construction of the proposed CCR landfill.

Observed Conditions

Potentiometric surfaces generated from water level measurements collected by Golder (February and June 2018) and Geosyntec (January 2019) were used as a basis for developing this estimated surface. Portions of the proposed landfill boundary situated on the topographic ridge and areas west of Ash Pond D (and less likely to be influenced by current Ash Pond D water levels) are consistent with current observed groundwater conditions at the Site.

Seasonal Variation

There are five well/piezometer locations in the vicinity of the Site that have been gauged for groundwater elevations routinely since 2016, and one additional location (PZ-46) that has been gauged since early 2018. Historical ranges of groundwater levels were considered for these wells, and the ranges summarized in Table 3-1 of the Site Acceptability Report. The difference between the maximum observed water level at each well and the levels measured in January 2019 is approximately 5 feet. This maximum increase was used as an estimate of the expected seasonal high groundwater level for the Site. Additionally, monthly groundwater level measurements at the Site through 2019 indicate that the observed water levels remain within this range.

Pre-Ash Topography and Surface Drainage

A topographic surface representing the bottom of Ash Pond D was used to approximate the pre-ash conditions at the pond, which will be re-encountered following excavation of the CCR material. This surface (included in the revised Figure 3-1) was used to project the expected future flow of groundwater, based on the regional conceptual model in the Piedmont of the water table surface being a subdued reflection of topography. Following removal of CCR, and removal of the standing water within Ash Pond D, the surface water drainage within and in the near vicinity of Ash Pond D is expected to return to conditions present prior to pond construction. These conditions would allow for natural baseflow of groundwater into the local drainage channels, thereby lowering the water table surface in the vicinity of Ash Pond D. In addition, the surface water elevation of Lake Sinclair remains fairly constant at approximately 340 ft MSL and is a major boundary condition influencing the potentiometric contours.

Post-Closure Conditions

The post-closure conditions at the Site will be affected by dewatering and removal of CCR from Ash Ponds B, C, D, and E, the diversion of surface water drainage in these areas, and by the

installation of a liner and cover system at the proposed CCR landfill. These factors are expected to contribute to an overall reduction in groundwater levels by eliminating the elevated heads at the ponds, allowing for drainage, and eliminating recharge over a large portion of the Site area. The conditions shown in Figure 3-1 are conservative in that they do not assume that the elimination of recharge has a significant impact on the groundwater levels beneath the proposed CCR landfill, due to the difficulty in quantifying that effect. It is likely that the post-closure groundwater levels will be even lower than those shown in Figure 3-1 due to this reduction in recharge.

In summary, the estimated seasonal high potentiometric surface after removal of CCR is a composite surface, based on observed groundwater elevations from January 2019, historical seasonal variations in groundwater elevations, and projected conditions that are based on commonly accepted hydrogeologic principles. It is an approximation of the conditions that we would likely expect during the later stages of pond closure activities, but should not be confused with measured, observed groundwater levels under current conditions.

Comment No. 10: *Groundwater elevation contouring should consider that the highest groundwater elevations determined in a site suitability study conducted in 2008 and 2009 for a proposed coal combustion by-product disposal facility were 403.90 feet (BH-16) and 403.91 (BH-19).*

Response: The temporary piezometer BH-16 was installed at the edge of the waste limit of Ash Pond D, and the temporary piezometer BH-19 was installed and screened within the CCR material in the footprint of Ash Pond D. At the time of the water level measurements in 2008-2009, the pond was still in operation, accepting sluice water from Plant activities. Water levels measured in these two piezometers (abandoned in 2009) were directly related to the free water contained in the pond during operational conditions. These water level measurements did not represent actual groundwater conditions in the near vicinity and do not represent current conditions, as water within Ash Pond D has been substantially reduced since the decommissioning of the Plant. Furthermore, the pond will be dewatered during the closure-by-removal activities. Therefore, the historical water level measurements at BH-16 and BH-19 should not factor in to the estimated post-closure seasonal high groundwater elevations.

Comment No. 11: *Soil laboratory test results, such as CEC values, for BH-1 through BH-19 should be included in the report.*

Response: The laboratory results from soil samples collected to estimate geotechnical properties and the cation exchange capacity of site soils were previously reported in the Plant Branch Proposed Coal Combustion By-Product Disposal Facility Site Acceptability Report (2009), and are included here as Attachment F.

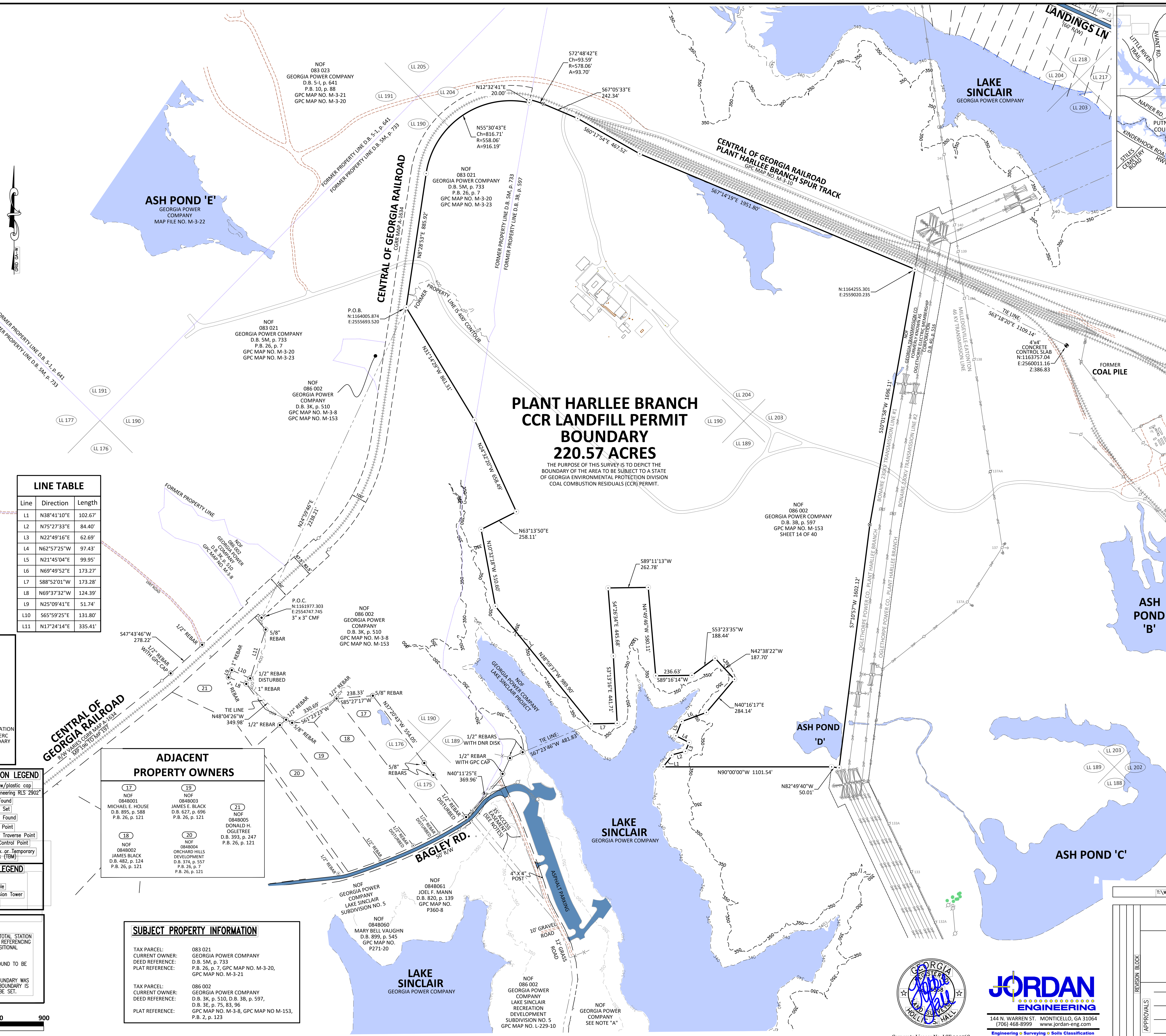
Should you have any questions regarding this submittal, please contact David Gibbons 404-506-6234.

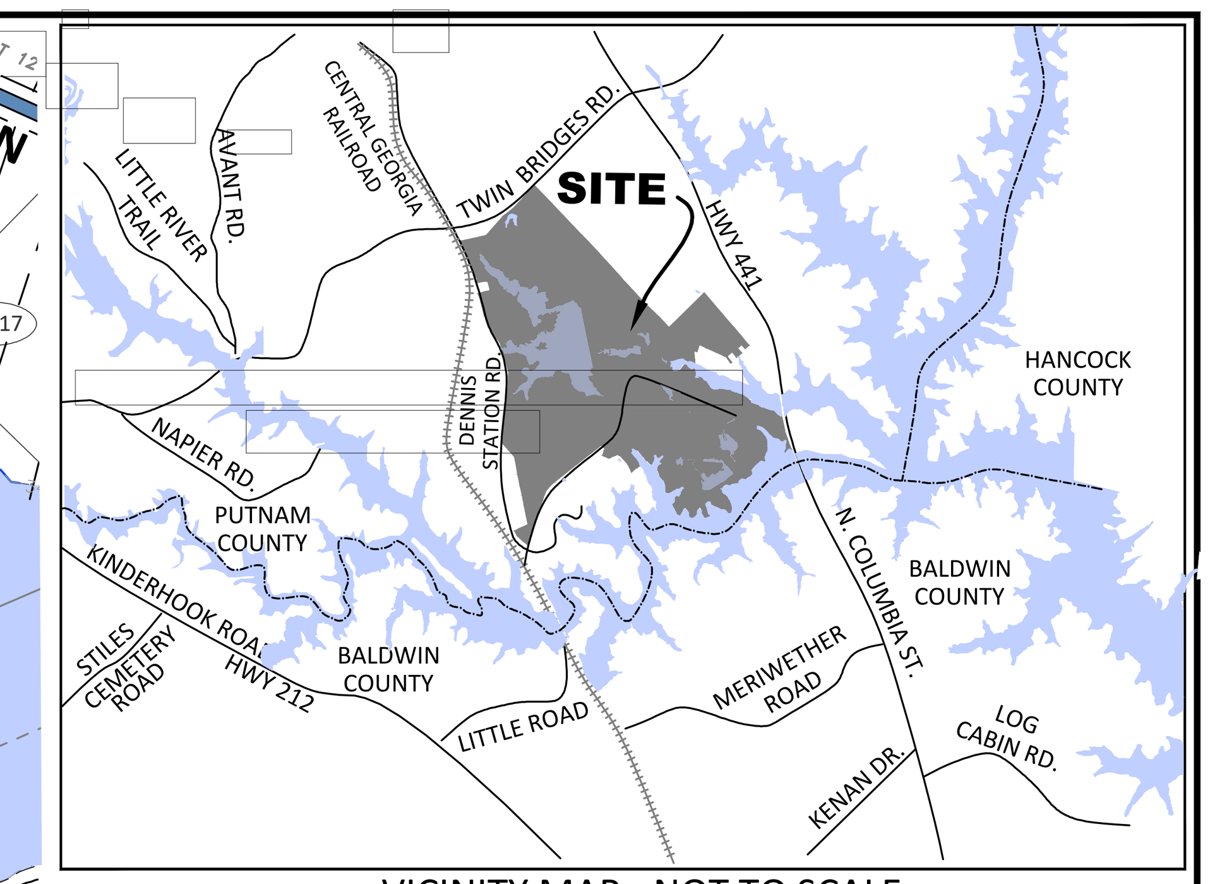
Sincerely,

Aaron D. Mitchell
General Manager, Environmental Affairs
Georgia Power Company
Attachments

Attachment A

Permit Boundary Legal Description





VICINITY MAP - NOT TO SCALE

FOR CLERK'S OFFICE USE

SURVEYOR'S CERTIFICATION

This plat is a retracement of an existing parcel or parcels of land and does not subdivide or create a new parcel or make any changes to any real property boundaries. The recording information of the documents, maps, plats, or other instruments which created the parcel or parcels are stated hereon. RECORDATION OF THIS PLAT DOES NOT IMPLY APPROVAL OF ANY LOCAL JURISDICTION, AVAILABILITY OF PERMITS, COMPLIANCE WITH LOCAL REGULATIONS OR REQUIREMENTS, OR SUITABILITY FOR ANY USE OR PURPOSE OF THE LAND. Furthermore, the undersigned land surveyor certifies that this plat complies with the minimum technical standards for property surveys in Georgia as set forth in the rules and regulations of the Georgia Board of Registration for Professional Engineers and Land Surveyors and as set forth in O.C.G.A. Section 15-6-67

Hollie S. Hall, GA RLS 3368

CONTROL	STATE PLANE
CP 1 EL.: 436.38	N 1169521.62 E 2553558.67
CP 2 EL.: 453.95	N 1169747.21 E 2548645.78

COORDINATE SYSTEM INFORMATION TABLE

COORDINATE SYSTEM BASED ON STATE PLANE WEST

AVERAGE ELEVATION: 445.16'
STATE PLANE AVE. SCALE FACTOR: 1.00594949
COMPUTED ELEVATION FACTOR: 0.99997871
CONVERGENCE 03°36'30"
GA WEST NAD83(2011) ZONE, NAVD (88) CONTROL INFORMATION ESTABLISHED WITH JAVAD TRIUMPH-LS DUAL-FREQUENCY GPS RECEIVER REFERENCING eGPS VIRTUAL BASE STATION DATA.

B/3 DENOTES PAINTED TREES OR FENCE NEAR PROPERTY LINE. LETTER IS CODE BELOW, NUMBER IS FEET FROM LINE, AND ARROW IS DIRECTION FROM LINE THAT EVIDENCE WAS FOUND.

TP: STEEL TEE POST — W: WHITE PAINT
B: BLUE PAINT — CL: CHAIN LINK
Y: YELLOW PAINT — BW: BARBED WIRE
R: RED PAINT — HW: HOG WIRE

LINE TABLE

Line	Direction	Length
L1	N38°41'10"E	102.67'
L2	N75°27'33"E	84.40'
L3	N22°49'16"E	62.69'
L4	N62°57'25"W	97.43'
L5	N21°45'04"E	99.95'
L6	N69°49'52"E	173.27'
L7	S88°52'01"W	173.28'
L8	N69°37'32"W	124.39'
L9	N25°09'41"E	51.74'
L10	S65°59'25"E	131.80'
L11	N17°24'14"E	335.41'

LINE LEGEND

PROPERTY BOUNDARY
COUNTY LINE
OVERHEAD POWER
EASEMENT
ADJOINING PROPERTY LINE
ASPHALT PAVEMENT
EDGE OF DIRT/GRAVEL
STRUCTURE (AERIAL LOC)
WIRE FENCE
CHAIN LINK FENCE
DRAINAGE PIPE
340' CONTOUR-FULL POOL ELEVATION
350' CONTOUR-LAKE SINCLAIR FERC PROJECT BOUNDARY
400' CONTOUR
WATER

PLAT ABBREVIATIONS

IPF	Iron Pin Found
IPS	Iron Pin Set w/plastic cap stamped "Jordan Engineering RLS 2902"
CTP	Crimp-Top Pipe
OTP	Open Top Pipe
CM	Concrete Monument
AI	Angle Iron
LL	Land Lot
D.B.	Deed Book
P.B.	Plat Book
P.C.	Plat Cabinet
SL	Slide
P.O.B.	Point of Beginning
P.O.R.	Point of Reference
FEMA	Federal Emergency Management Agency
OHP	Overhead Power
N.T.S.	Not to Scale
GPC	Georgia Power Company
NOF	Now or Formerly

MONUMENTATION LEGEND

Iron Pin Set w/plastic cap stamped "Jordan Engineering RLS 2902"
Iron Pin Found
Monument Set
Monument Found
Computed Point
Control or Traverse Point
Geodetic Control Point
Benchmark or Temporary Benchmark (TBM)

UTILITY LEGEND

Well
Power Pole
Transmission Tower
Guy Wire

SURVEY CLOSURE STATEMENT

FIELD DATA WAS COLLECTED USING A LEICA TS12 ROBOTIC TOTAL STATION AND A JAVAD TRIUMPH-LS DUAL FREQUENCY GPS RECEIVER REFERENCING THE eGPS STATEWIDE NETWORK AND HAVING A RELATIVE POSITIONAL ACCURACY OF 0.04 FEET.

THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN 1 FOOT IN 1,513,367 FEET.

ORIGINAL FIELD WORK FOR THE OVERALL PLANT BRANCH BOUNDARY WAS COMPLETED IN JANUARY, 2018. ONCE THE CCR LANDFILL BOUNDARY IS APPROVED, ALL PINS ASSOCIATED WITH THE LANDFILL WILL BE SET.

SCALE: 1" =300'

ADJACENT PROPERTY OWNERS

17 — NOF 084B001 MICHAEL E. HOUSE D.B. 895, p. 588 P.B. 26, p. 121
19 — NOF 084B003 JAMES E. BLACK D.B. 627, p. 696 P.B. 26, p. 121
21 — NOF 084B005 DONALD H. OGLETREE D.B. 393, p. 247 P.B. 26, p. 121
18 — NOF 084B002 JAMES BLACK D.B. 482, p. 124 P.B. 26, p. 121
20 — NOF 084B004 ORCHARD HILLS DEVELOPMENT D.B. 374, p. 557 P.B. 26, p. 7 P.B. 26, p. 121

SUBJECT PROPERTY INFORMATION

TAX PARCEL: 083 021
CURRENT OWNER: GEORGIA POWER COMPANY
DEED REFERENCE: D.B. 5M, p. 733
PLAT REFERENCE: P.B. 26, p. 7, GPC MAP NO. M-3-20, GPC MAP NO. M-3-21

TAX PARCEL: 086 002
CURRENT OWNER: GEORGIA POWER COMPANY
DEED REFERENCE: D.B. 3K, p. 510, D.B. 3B, p. 597, D.B. 3E, p. 75, 83, 96
PLAT REFERENCE: GPC MAP NO. M-3-8, GPC MAP NO M-153, P.B. 2, p. 123

LEGAL DESCRIPTION – PLANT HARLLEE BRANCH CCR LANDFILL PERMIT BOUNDARY 220.57 ACRES

All that parcel lying and being in Land Lots 189, 190, 203 and 204, District 2, Georgia Militia District 312, Putnam County, Georgia, containing 220.57 acres, as shown on a plat prepared by Hollie S. Hall, Georgia RLS 3368, dated May 15, 2019, and being more particularly described as follows:

From the POINT OF COMMENCEMENT, which is a 3" by 3" concrete monument located on the southeasterly right of way of the Central of Georgia Railroad, having Georgia State Plane, West Zone, NAD83(2011) coordinates in US survey feet of north 1161977.303 and east 2554747.745, travel N24°59'46"E a distance of 2238.21 feet to a ½"rebar set on the easterly right-of-way of the Central of Georgia Railroad, having Georgia State Plane, West Zone, NAD83(2011) coordinates in US survey feet of north 1164005.874 and east 2555693.520, which is the POINT OF BEGINNING.

From the POINT OF BEGINNING, travel N8°28'53"E a distance of 885.92 feet along said easterly right of way to a ½"rebar set; thence along a northeastward-curving arc having a chord N55°30'43"E a chord length of 816.71 feet, a radius of 558.06 feet, and an arc length of 916.19 feet to a ½" rebar set on the southerly right-of-way of the Central of Georgia Railroad; thence N12°32'41"E a distance of 20.00 feet to a ½"rebar set on the southwesterly right-of-way of the Central of Georgia Railroad; thence along a southeastward-curving arc having a chord S72°48'42"E a chord length of 93.59 feet, a radius of 578.06 feet, and an arc length of 93.70 feet to a point on said southwesterly right-of-way; thence S67°05'33"E a distance of 242.34 feet to a ½"rebar set; thence S67°05'33"E a distance of 242.34 feet to a ½"rebar set; thence S60°17'54"E a distance of 467.52 feet to a ½"rebar set; thence S67°14'19"E a distance of 1951.80 feet to a ½"rebar set on the northwesterly line of the Georgia Transmission Company (formerly known as Oglethorpe Power Company) Plant Harllee Branch-Bonaire 230KV Transmission Line #1, having Georgia State Plane, West Zone, NAD83(2011) coordinates in US survey feet of north 1164255.301 and east 2559020.235; thence along said northwesterly line of the Georgia Transmission Company (formerly known as Oglethorpe Power Company) Plant Harllee Branch-Bonaire 230KV Transmission Line #1 travel S10°01'58"W a distance of 1696.11 feet to a point on the northwesterly line of the Georgia Transmission Company (formerly known as Oglethorpe Power Company) Plant Harllee Branch-Bonaire 230KV Transmission Line #1; thence continuing along said northwesterly line of the Georgia Transmission Company (formerly known as Oglethorpe Power Company) Plant Harllee Branch-Bonaire 230KV Transmission Line #1 travel S7°10'57"W a distance of 1612.02 feet to a ½" rebar set on the northerly line of the Georgia Transmission Company (formerly known as Oglethorpe Power Company) Plant Harllee Branch-Bonaire 230KV Transmission Line #1; thence continuing along said northerly line travel N82°49'40"W a distance of 50.01 feet to a ½" rebar set; thence leaving said northerly line travel N90°00'00"W a distance of 1101.54 feet to a ½" rebar set; thence N38°41'10"E a distance of 102.67 feet to a ½" rebar set; thence N75°27'33"E a distance of 84.40 feet to a ½" rebar set; thence N22°49'16"E a distance of 62.69 feet to a ½" rebar set; thence N62°57'25"W a distance of 97.43 feet to a ½" rebar set; thence N21°45'04"E a distance of 99.95 feet to a ½" rebar set; thence N69°49'52"E a distance of 173.27 feet to a ½" rebar set; thence N40°16'17"E a distance of 284.14 feet to a ½" rebar set; thence N42°38'22"W a distance of 187.70 feet to a ½" rebar set; thence S53°23'35"W a distance of 188.44 feet to a ½" rebar set; thence S89°16'14"W a distance of 236.63 feet to a ½" rebar set; thence N4°49'46"W a distance of 580.11 feet to a ½" rebar set; thence S89°11'13"W a distance of 262.78 feet to a ½" rebar set; thence S4°26'34"E a distance of 445.68 feet to a ½" rebar set; thence S3°13'16"E a distance of 441.71 feet to a ½" rebar set; thence S88°52'01"W a distance of 173.28 feet to a ½"rebar set; thence N38°59'37"W a distance of 989.90 feet to a ½" rebar set; thence N10°32'18"W a distance of 510.60 feet to a ½" rebar set; thence N63°13'50"E a distance of 258.11 feet to a ½" rebar set; thence N24°32'20"W a distance of 658.49 feet to a ½" rebar set; thence N31°14'29"W a distance of 861.31 feet to the POINT OF BEGINNING.

T:\Working2\Plants\Branch\2019040178 Plant Branch – CCR Landfill Boundary Survey

JORDAN ENGINEERING
144 N. WARREN ST. MONTICELLO, GA 31064
(706) 468-8999 www.jordan-eng.com
Engineering ○ Surveying ○ Soils Classification
Corporate License No. LSF 000768

Georgia Power Company

PROPERTY BOUNDARY SURVEY
PLANT HARLLEE BRANCH
CCR LANDFILL PERMIT BOUNDARY
LAND LOTS 189, 190, 203 & 204 2nd DISTRICT, 312 G.M.D.
PUTNAM COUNTY, GEORGIA

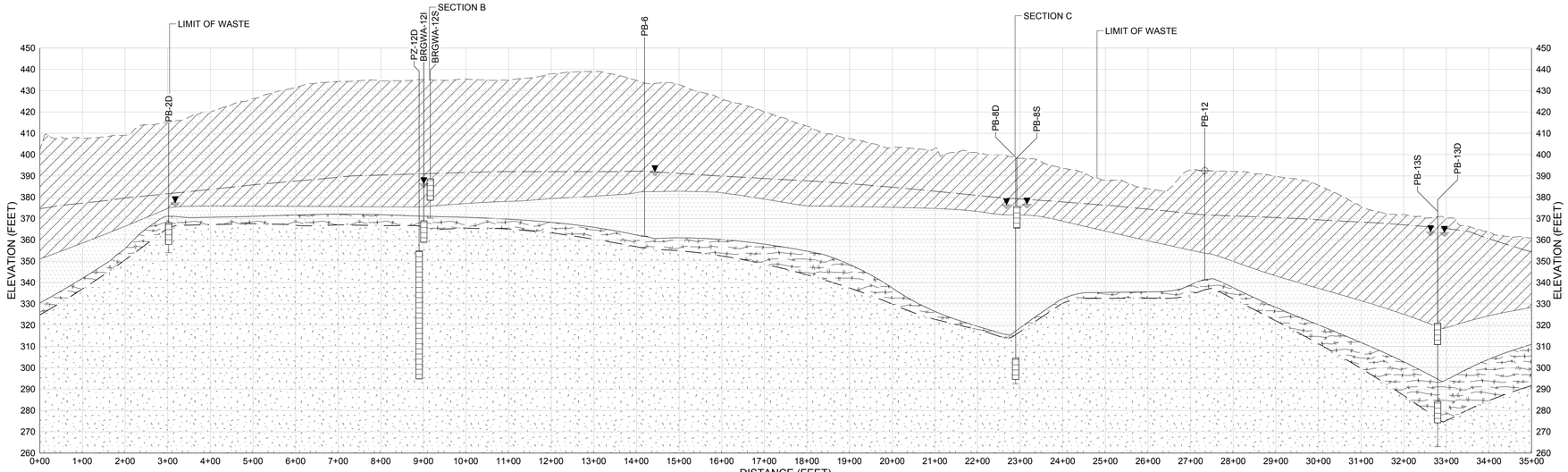
DR. HSH	TR.	Checked ROJ/HSH
SCALE 1" = 300'		DATE 06.27.2019
DRAWING NUMBER P478-12		SHEET NUMBER SHEET 1 OF 1

REVISION BLOCK
APPROVALS

S:\SURVEY\GPC – PLANT BRANCH CCR LANDFILL\DRAWING\GPC-PLANT BRANCH CCR LANDFILL R10.DWG July 8, 2019

Attachment B

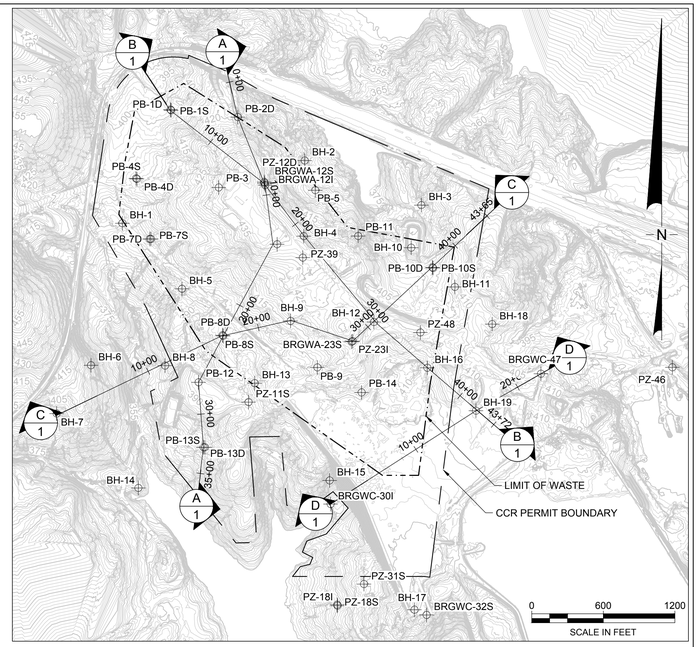
Revised Cross Section and Figures



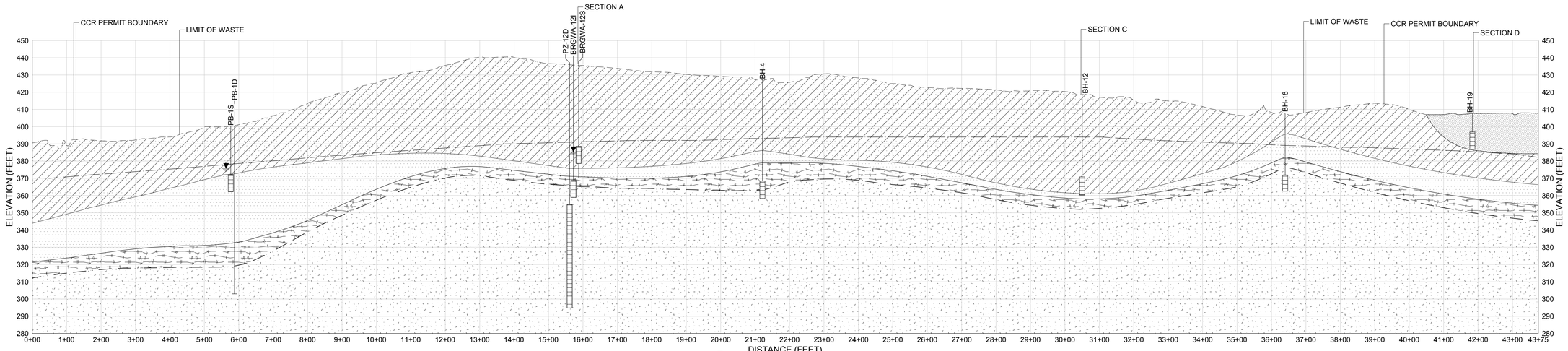
A
1

SECTION
NORTH - SOUTH

SCALE: 1" = 150' (HORIZONTAL); 1" = 30' (VERTICAL)



KEY MAP



B
1

SECTION
NORTHWEST - SOUTHEAST

SCALE: 1" = 150' (HORIZONTAL); 1" = 30' (VERTICAL)

LEGEND

BH-SERIES*	BORINGS AND TEMPORARY PIEZOMETERS INSTALLED BY SCS (2007 - 2009).
BRGW-SERIES	MONITORING WELLS INSTALLED BY SCS (2014).
PZ-SERIES	PIEZOMETERS INSTALLED BY GOLDER (2016).
PB-SERIES	BORINGS AND PIEZOMETERS INSTALLED BY GEOSYNTEC (2018 - 2019).

NOTES:
1. * BH-SERIES TEMPORARY PIEZOMETERS WERE ABANDONED IN 2009.
2. THE GEOLOGIC LAYERS WERE DEVELOPED USING A 3-DIMENSIONAL EVS MODEL THAT KRIGGED LITHOLOGIC CONTACT DATA FROM BORINGS WITHIN AND IN THE NEAR VICINITY OF THE SITE.

GROUNDWATER LEVEL MEASUREMENTS (31 JANUARY 2019)

ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION AFTER REMOVAL OF CCR (BASED ON CURRENT AND HISTORICAL GROUNDWATER ELEVATION RANGES, SITE TOPOGRAPHY, AND SURFACE WATER ELEVATIONS)

EXISTING CCR

REGOLITH - RESIDUAL SOILS AND SAPROLITE CONSISTING OF A THIN SURFICIAL LAYER OF CLAYEY SILT TO SILTY CLAY UNDERLAIN BY SANDY CLAY AND SILTY OR CLAYEY SAND. SAPROLITE IS STIFF AND MICACEOUS, WITH RELICT ROCK STRUCTURES.

PARTIALLY WEATHERED ROCK (PWR) - HIGHLY WEATHERED TO DECOMPOSED BEDROCK WITH SIMILAR CHARACTERISTICS TO THE SAPROLITE; SPT BLOW COUNTS EXCEEDING 50 BLOWS PER 6 INCHES.

FRACTURED GNEISS BEDROCK - WELL BANDED FOLIATED FELDSPATHIC BIOTITE GNEISS WITH LOW-ANGLE FRACTURES AND SOME WEATHERING.

GNEISS BEDROCK - WELL BANDED AND FOLIATED FELDSPATHIC BIOTITE GNEISS WITH VERY FEW TO NO JOINTS OR FRACTURES.

0 150 300
SCALE IN FEET (HORIZONTAL)

0 30 60
SCALE IN FEET (VERTICAL)

JOSEPH M. TAMOSAITIS — 039148 — REGISTERED PROFESSIONAL ENGINEER

1-15-20

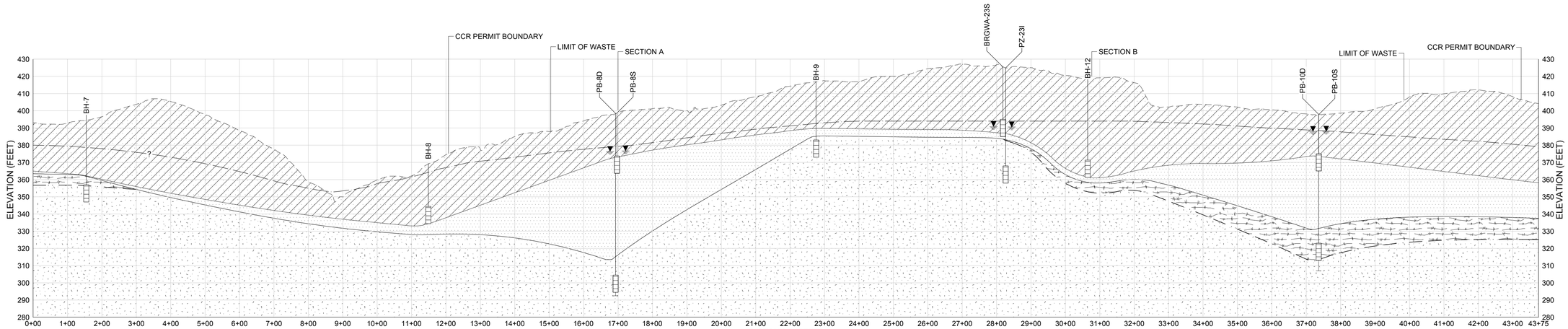
PLANT BRANCH LANDFILL
GEOLOGIC CROSS-SECTIONS

Geosyntec consultants

PROJECT NO: GW6364 | JUNE 2019

FIGURE 2-4a

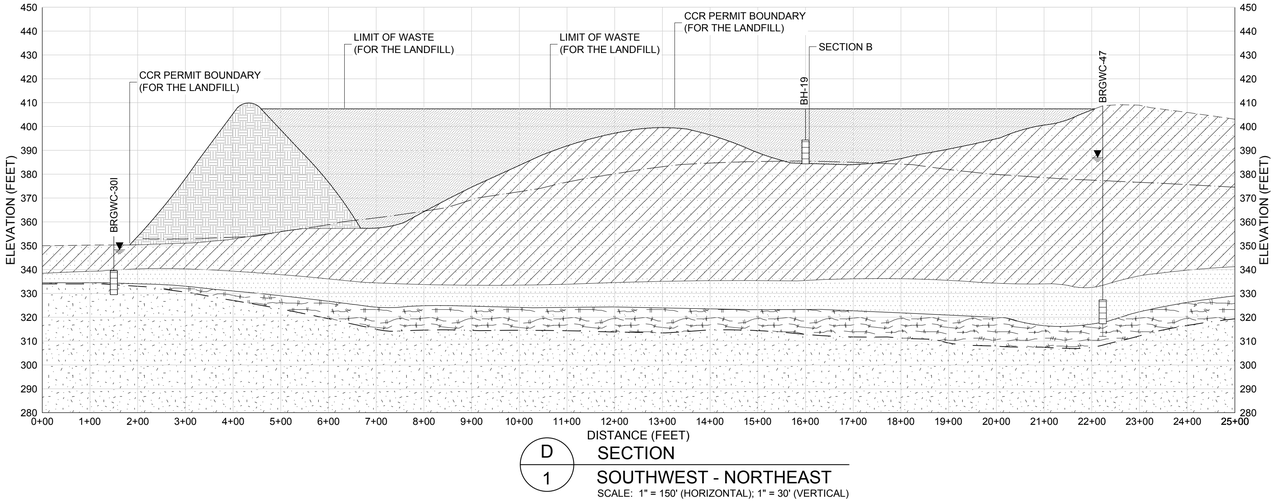
L:\CAD\GA\GEORGIA POWER\PLANT BRANCH GW6364.01\LANDFILL\FIGURES\GW6364-F001.R1



C / 1 SECTION

WEST - EAST

SCALE: 1" = 150' (HORIZONTAL); 1" = 30' (VERTICAL)



D / 1 SECTION

SOUTHWEST - NORTHEAST

SCALE: 1" = 150' (HORIZONTAL); 1" = 30' (VERTICAL)

KEY MAP

LEGEND

BH-SERIES*	BORINGS AND TEMPORARY PIEZOMETERS INSTALLED BY SCS (2007 - 2009).
BRGW-SERIES	MONITORING WELLS INSTALLED BY SCS (2014).
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PB-SERIES	BORINGS AND PIEZOMETERS INSTALLED BY GEOSYNTEC (2018 - 2019).

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DIKE MATERIAL

CCR

REGOLITH - RESIDUAL SOILS AND SAPROLITE CONSISTING OF A THIN SURFICIAL LAYER OF CLAYEY SILT TO SILTY CLAY UNDERLAIN BY SANDY CLAY AND SILTY OR CLAYEY SAND. SAPROLITE IS STIFF AND MICACEOUS, WITH RELICT ROCK STRUCTURES.

PARTIALLY WEATHERED ROCK (PWR) - HIGHLY WEATHERED TO DECOMPOSED BEDROCK WITH SIMILAR CHARACTERISTICS TO THE SAPROLITE; SPT BLOW COUNTS EXCEEDING 50 BLOWS PER 6 INCHES.

FRACTURED GNEISS BEDROCK - WELL BANDED FOLIATED FELDSPATHIC BIOTITE GNEISS WITH LOW-ANGLE FRACTURES AND SOME WEATHERING.

GNEISS BEDROCK - WELL BANDED AND FOLIATED FELDSPATHIC BIOTITE GNEISS WITH VERY FEW TO NO JOINTS OR FRACTURES.

0 150 300
SCALE IN FEET (HORIZONTAL)

0 30 60
SCALE IN FEET (VERTICAL)

1-15-20

PLANT BRANCH LANDFILL
GEOLOGIC CROSS-SECTIONS

Geosyntec consultants

PROJECT NO: GW6364 | JUNE 2019

FIGURE 2-4b

L:\ACAD\GUGEORGIA POWER\PLANT BRANCH GW6364.01\LANDFILL\FIGURES\GW6364-F001.R1

E 2555000
E 2556000
E 2557000
E 2558000
E 2559000
E 2560000
N 1165000
N 1164000
N 1163000
N 1162000
N 1161000
OHF
LAKE SINCLAIR
RAILROAD
BEAVER POND
PB-1S 375.72
PB-2D 375.36
PB-4D (NOTE 2)
PB-4S 377.72
PZ-12D (NOTE 2)
BRGWA-12I 386.23
BRGWA-12S (NOTE 2)
SKILLS CENTER BUILDINGS
PB-7S 375.35
CCR PERMIT BOUNDARY
LIMIT OF WASTE
GRADIENT = 0.006 FT/FT
PZ-39 385.75
PB-10S 388.13
PB-10D 387.94
OVERHEAD POWER TRANSMISSION LINE (46KV)
OVERHEAD POWER TRANSMISSION LINES (230KV)
POWER TRANSMISSION LINE EASEMENT (TYP)
PZ-48 392.00
PZ-23I 390.63
BRGWA-23S 390.83
PB-8D 376.36
PB-8S 376.65
GRADIENT = 0.015 FT/FT
PZ-46 376.03
BRGWC-47 386.95
PZ-11S 376.96
GRADIENT = 0.035 FT/FT
PB-13S 363.69
PB-13D 363.39
ASH POND D
ASH POND B
ASH POND C
BRGWC-30I 348.33
GRADIENT = 0.122 FT/FT
PZ-31S 352.25
PZ-18I 347.14
PZ-18S 347.51
BRGWC-32S 369.89
LAKE SINCLAIR
N

LEGEND

- MONITORING WELL (NOTE 1)
- GEOSYNTEC BORING/TEMPORARY PIEZOMETER (NOTE 1)
- PIEZOMETER (NOTE 1)
- CCR PERMIT BOUNDARY
- OVERHEAD POWER TRANSMISSION LINES
- POWER TRANSMISSION LINE EASEMENT
- PROPERTY BOUNDARY
- LIMIT OF WASTE
- ASH POND BOUNDARY
- GROUNDWATER ELEVATION ISO-CONTOUR (DASHED WHERE INFERRED)
- ACCESS ROAD
- EXISTING GROUND ELEVATION (FEET)
- POWER POLE
- TRAILER OR BUILDING
- REPRESENTATIVE HYDRAULIC GRADIENTS

NOTES:

1. WATER LEVEL MEASUREMENTS RECORDED ON JANUARY 31, 2019. ELEVATION PROVIDED IN FEET ABOVE MEAN SEA LEVEL (FT MSL).
2. PZ-12D AND PB-4D NOT USED TO DEVELOP THE POTENTIOMETRIC SURFACE MAP AS WATER LEVEL READINGS APPEARED TO BE ANOMALOUS. BRGWA-12S WAS DRY AT TIME OF GAUGING.

0 250 500
SCALE IN FEET

POTENTIOMETRIC SURFACE MAP - 31 JANUARY 2019

PLANT BRANCH CCR LANDFILL
PUTNAM COUNTY, GEORGIA

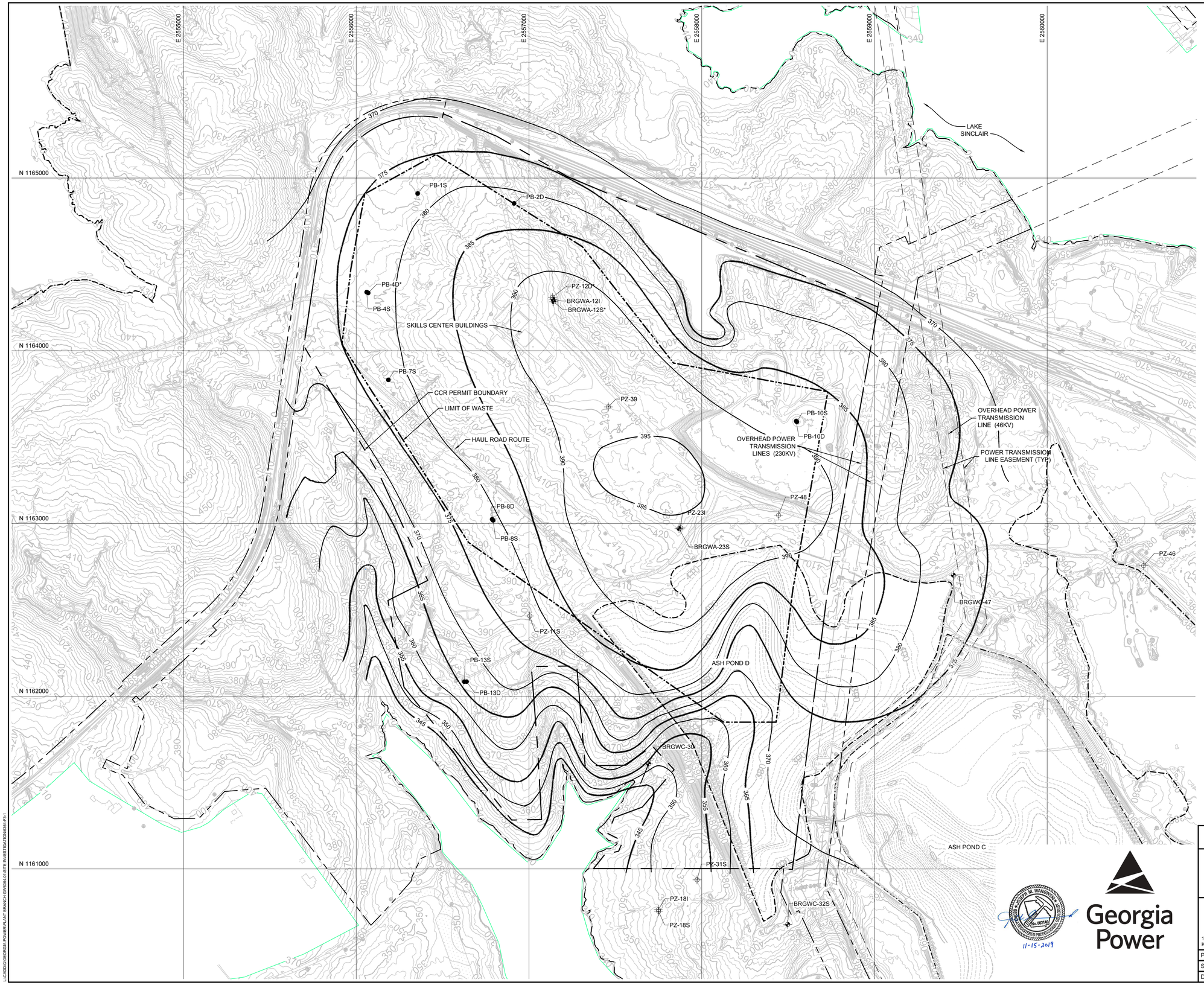
Georgia Power

Geosyntec consultants
1255 ROBERTS BOULEVARD NW, SUITE 200
KENNESAW, GEORGIA 30144-3694
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GW6364	DWG. 6364-F2-7	EDIT 11.15.19
SCALE	1" = 250'	FIGURE 2 - 7	
DATE	NOVEMBER 2019		

11-15-2019

L:\CAD\GW\GEORGIA POWER\PLANT BRANCH GW6364.01\SITE INVESTIGATION\6364-F2-7



N

LEGEND

- MONITORING WELL
- GEOSYNTEC BORING/TEMPORARY PIEZOMETER
- PIEZOMETER
- CCR PERMIT BOUNDARY
- OVERHEAD POWER TRANSMISSION LINES
- POWER TRANSMISSION LINE EASEMENT
- PROPERTY BOUNDARY
- LIMIT OF WASTE
- ASH POND BOUNDARY
- 394 GROUNDWATER ELEVATION ISO-CONTOUR (DASHED WHERE INFERRED)

NOTES:

1. GROUNDWATER ELEVATION ISO-CONTOURS REFLECT HYDROGEOLOGIC CONDITIONS THAT ARE EXPECTED TO BE PRESENT AT THE SITE DURING THE CONSTRUCTION OF THE PROPOSED NEW CCR LANDFILL. IT IS ANTICIPATED THAT GROUNDWATER ELEVATIONS WILL BE REDUCED SIGNIFICANTLY IN THE VICINITY OF ASH POND D (AS WELL AS THE OTHER ASH PONDS) AS A RESULT OF REMOVAL OF FREE WATER AND CCR DURING CLOSURE, AND THE BREACHING OF THE ASH POND D DIKE. THE ESTIMATED POST-CLOSURE GROUNDWATER ELEVATIONS ARE BASED ON CURRENT AND HISTORICAL GROUNDWATER LEVEL RANGES, INTERPRETATION OF SITE TOPOGRAPHY, AND GROUNDWATER DISCHARGE AREAS (I.E. STREAMS, WETLANDS, PONDS, AND LAKE SINCLAIR). ADDITIONAL DATA AND INFORMATION COLLECTED DURING DETAILED DESIGN OF THE PROPOSED CCR LANDFILL MAY RESULT IN A REFINED ESTIMATE OF POST-POND CLOSURE GROUNDWATER CONDITIONS.
2. THE TOPOGRAPHY SHOWN WITHIN ASH PONDS D AND C REPRESENTS APPROXIMATE CONDITIONS PRIOR TO ORIGINAL PLACEMENT OF THE CCR WITHIN THE IMPOUNDMENTS. THESE ARE SHOWN TO REPRESENT THE APPROXIMATE CONDITIONS EXPECTED AFTER REMOVAL OF THE CCR MATERIAL.

0 250 500
SCALE IN FEET

ESTIMATED SEASONAL HIGH POTENTIOMETRIC SURFACE AFTER REMOVAL OF CCR

PLANT BRANCH CCR LANDFILL

PUTNAM COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD NW, SUITE 200
KENNESAW, GEORGIA 30144-3694
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GW6364	DWG. 6364-F3-1	EDIT 11.15.19
SCALE	1" = 250'	FIGURE 3 - 1	
DATE	NOVEMBER 2019		

JOSEPH M. IVANOVICH 001140 REGISTERED PROFESSIONAL ENGINEER
11-15-2019

Georgia Power

L:\CADD\GEORGIA POWER\PLANT IBRANCH GW\364.01\SITE INVESTIGATION\364-F3-1

Attachment C

CPT Logs

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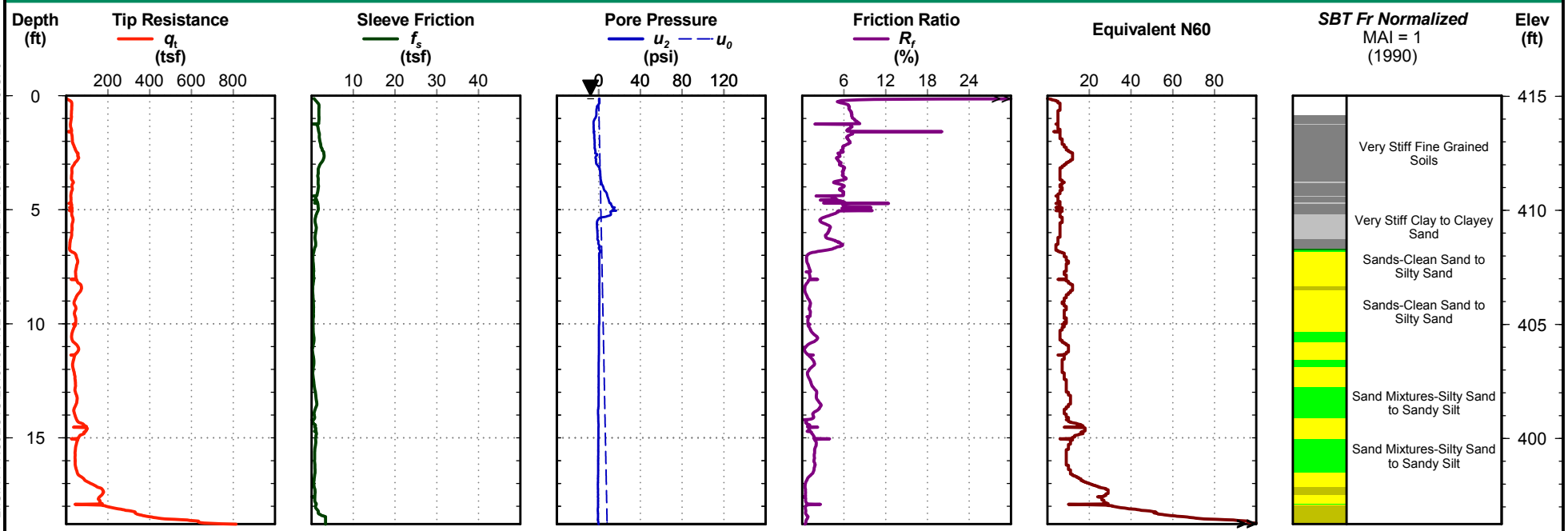
Plant Branch

Cone Penetration Test — SCPT 1

Project #: 18-1101-0072
Date: Dec. 17, 2018
Latitude: 33.1979
Longitude: -83.3174
Elevation: 415.0262
Filename: 18-1102-0072ccpt 1A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

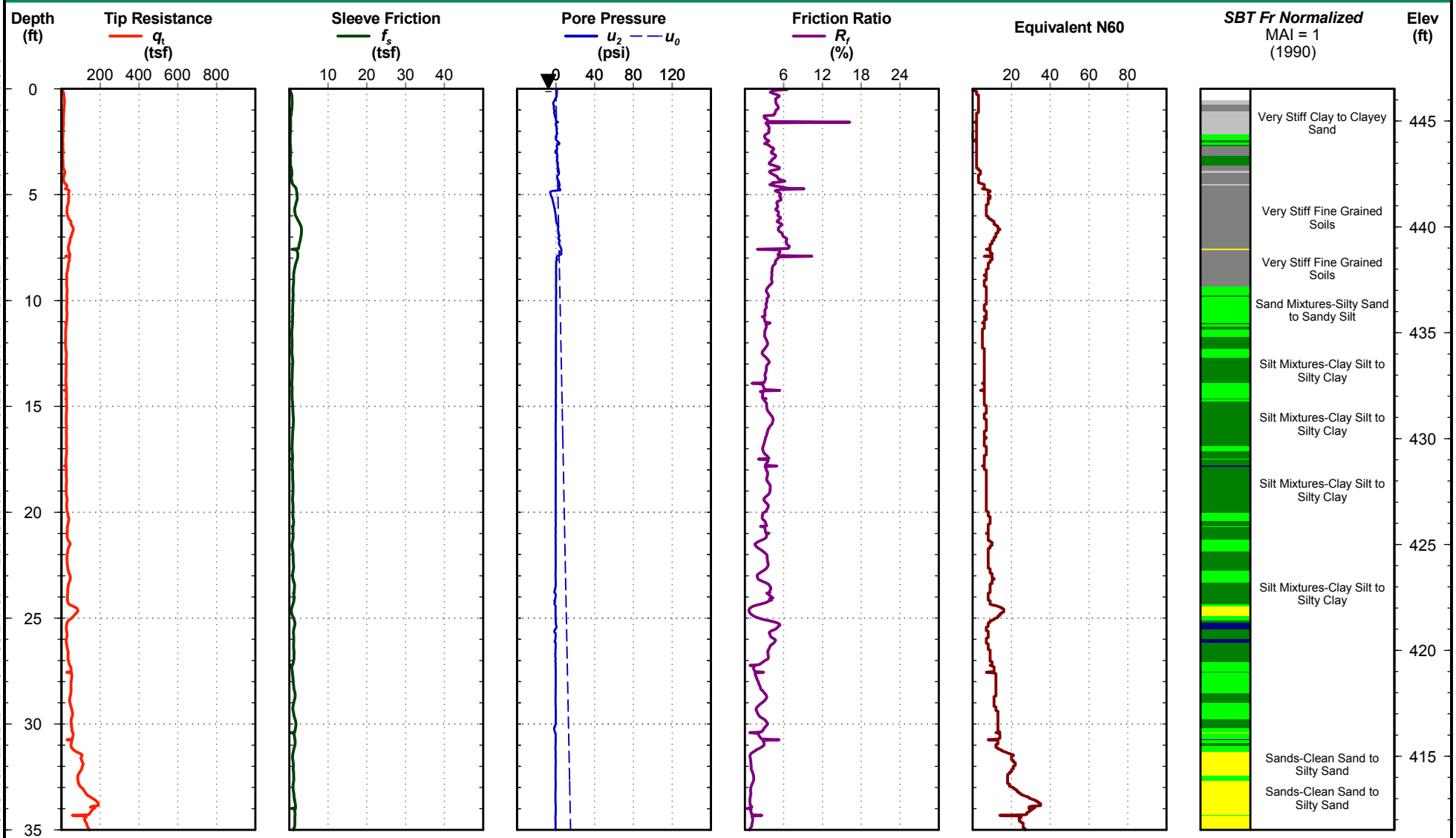
Plant Branch

Cone Penetration Test SCPT 2(1)

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1994
Longitude: -83.3156

Elevation: 446.5223
Filename: 18-1102-0072acpt 2(1)A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

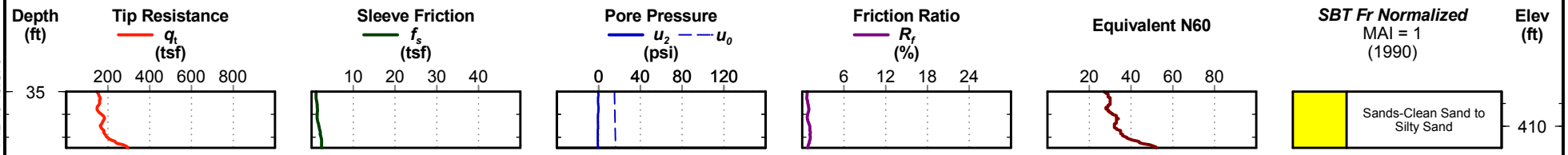
Plant Branch

Cone Penetration Test SCPT 2(1)

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1994
Longitude: -83.3156

Elevation: 446.5223
Filename: 18-1102-0072acpt 2(1)A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

Plant Branch

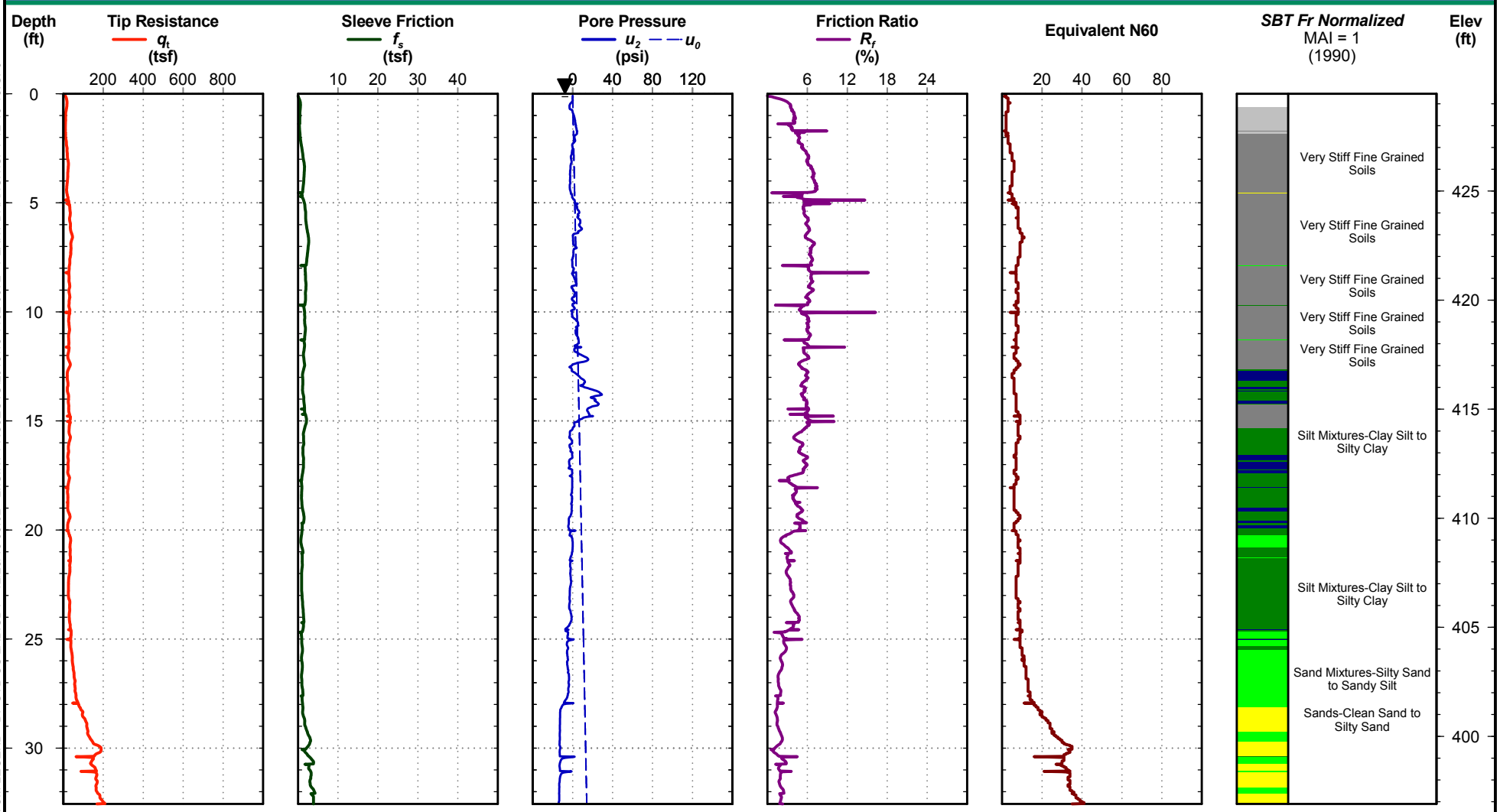
Cone Penetration Test

cpt 3

Project #: 18-1101-0072
Date: Dec. 14, 2018

Latitude: 33.1953
Longitude: -83.3162

Elevation: 429.4619
Filename: 18-1102-0072bcpt 3A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

cpt 3

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Plant Branch

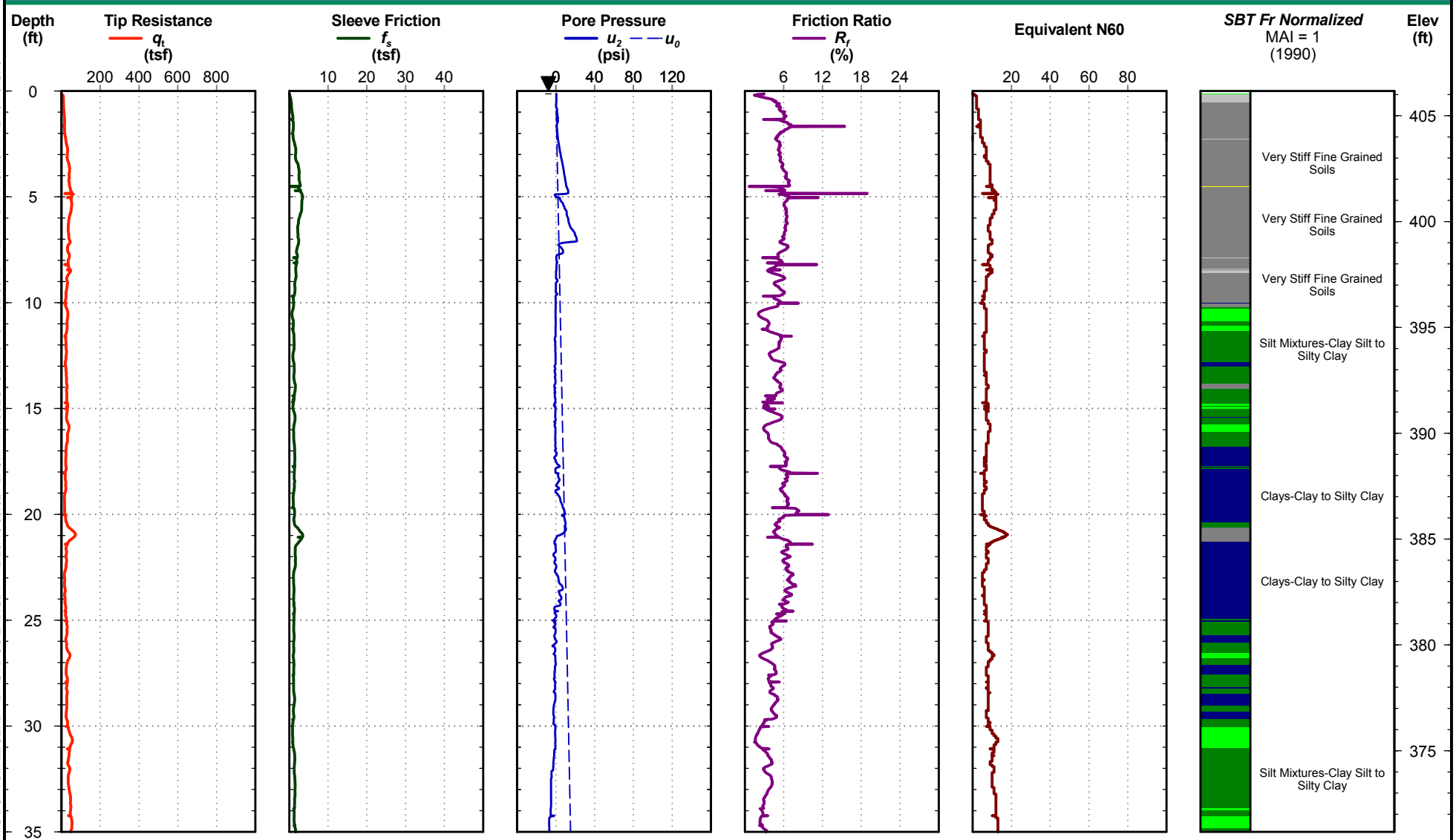
Cone Penetration Test

SCPT 4

Project #: 18-1101-0072
Date: Dec. 17, 2018

Latitude: 33.1958
Longitude: -83.3158

Elevation: 406.1679
Filename: 18-1102-0072ccpt 4A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

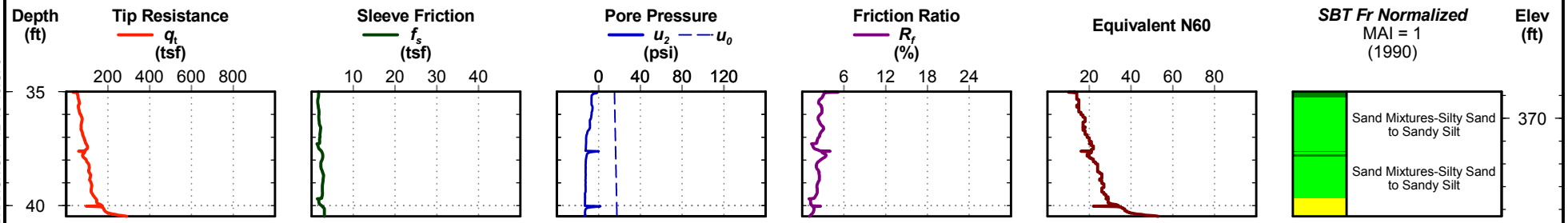
Cone Penetration Test

SCPT 4

Project #: 18-1101-0072
Date: Dec. 17, 2018

Latitude: 33.1958
Longitude: -83.3158

Elevation: 406.1679
Filename: 18-1102-0072ccpt 4A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

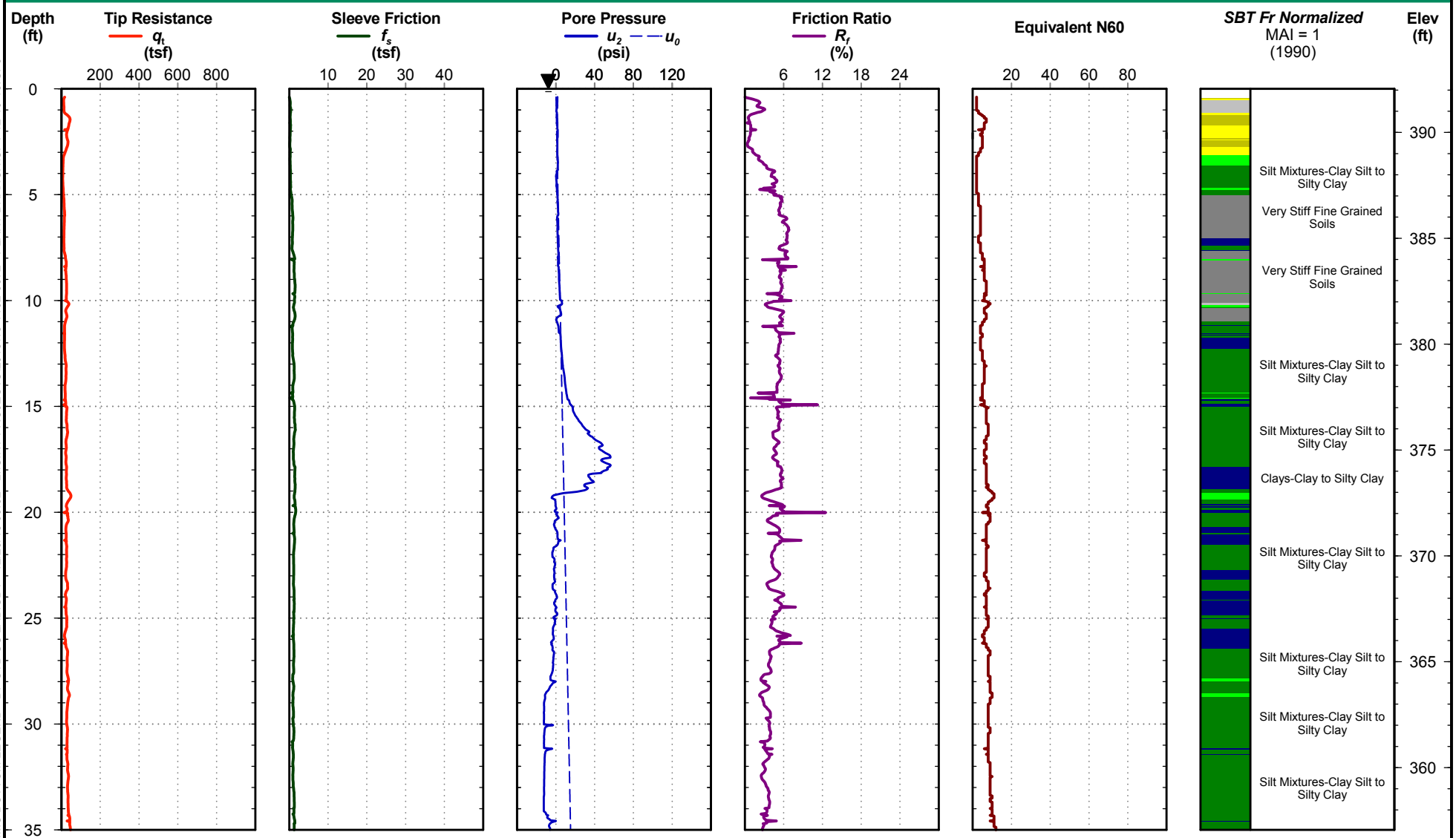
Cone Penetration Test

SCPT 5

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1943
Longitude: -83.3118

Elevation: 392.0603
Filename: 18-1102-0072acpt 5A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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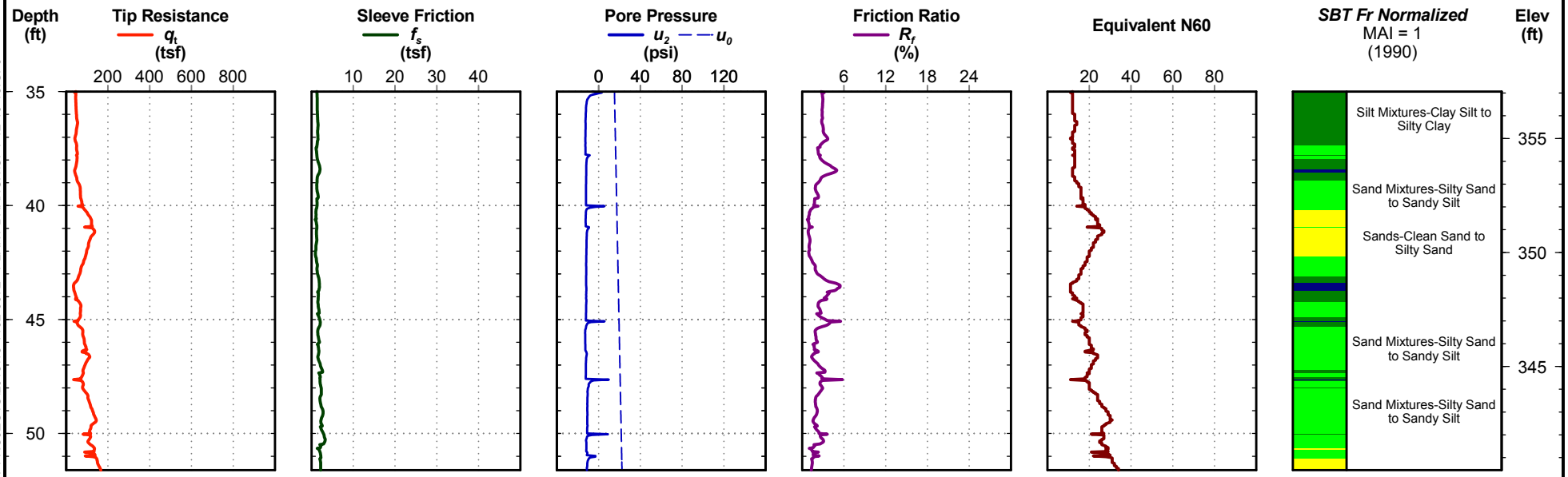
Plant Branch

Cone Penetration Test SCPT 5

Project #: 18-1101-0072
Date: Dec. 13, 2018
Latitude: 33.1943
Longitude: -83.3118
Elevation: 392.0603
Filename: 18-1102-0072acpt 5A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

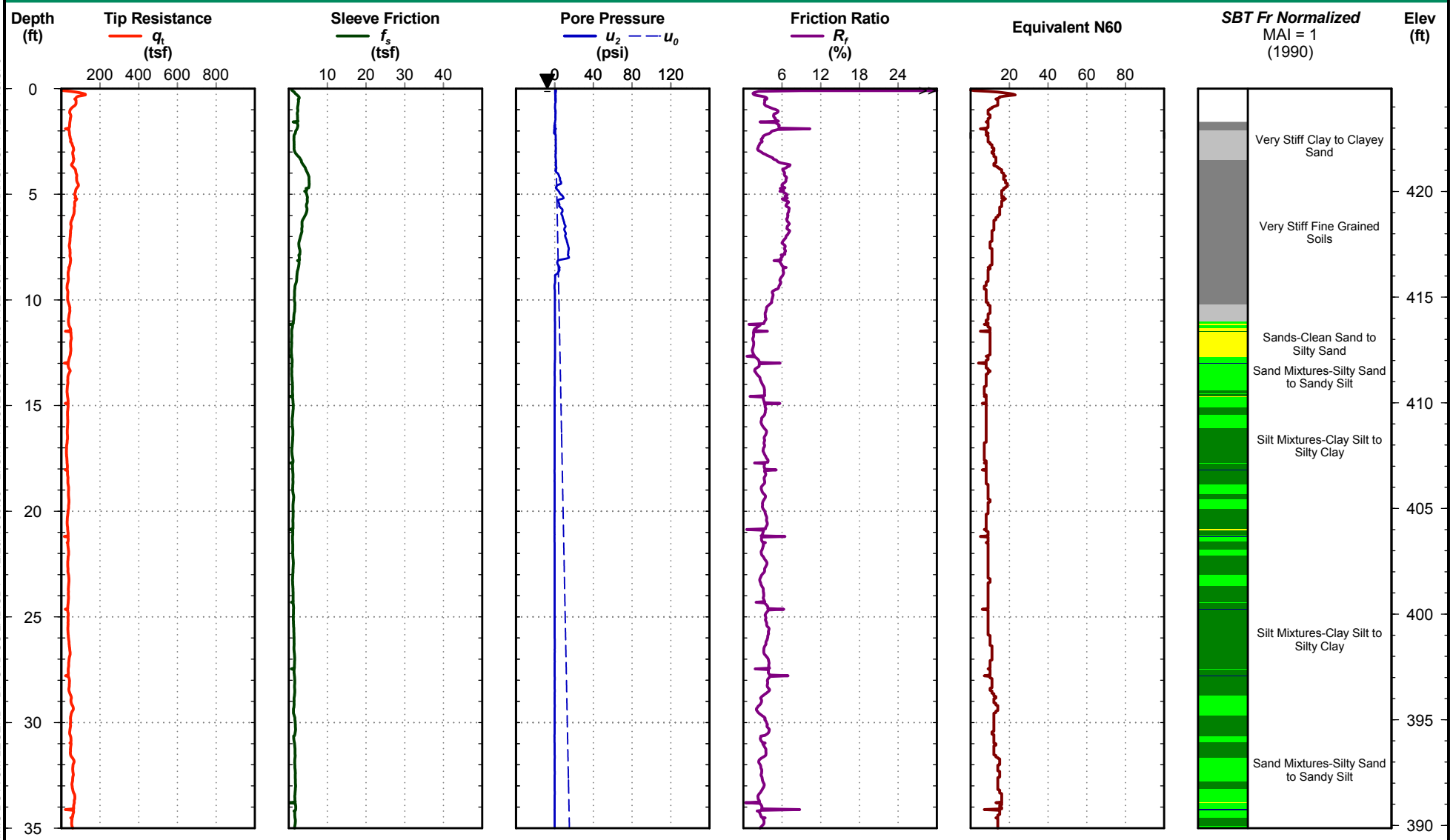
Cone Penetration Test

SCPT 6a

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1966
Longitude: -83.3145

Elevation: 424.8687
Filename: 18-1102-0072acpt 6A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

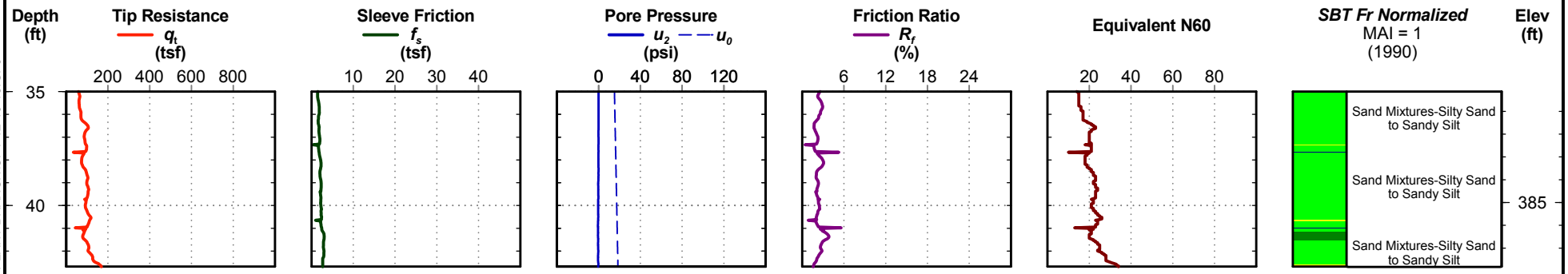
Plant Branch

Cone Penetration Test SCPT 6a

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1966
Longitude: -83.3145

Elevation: 424.8687
Filename: 18-1102-0072acpt 6A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

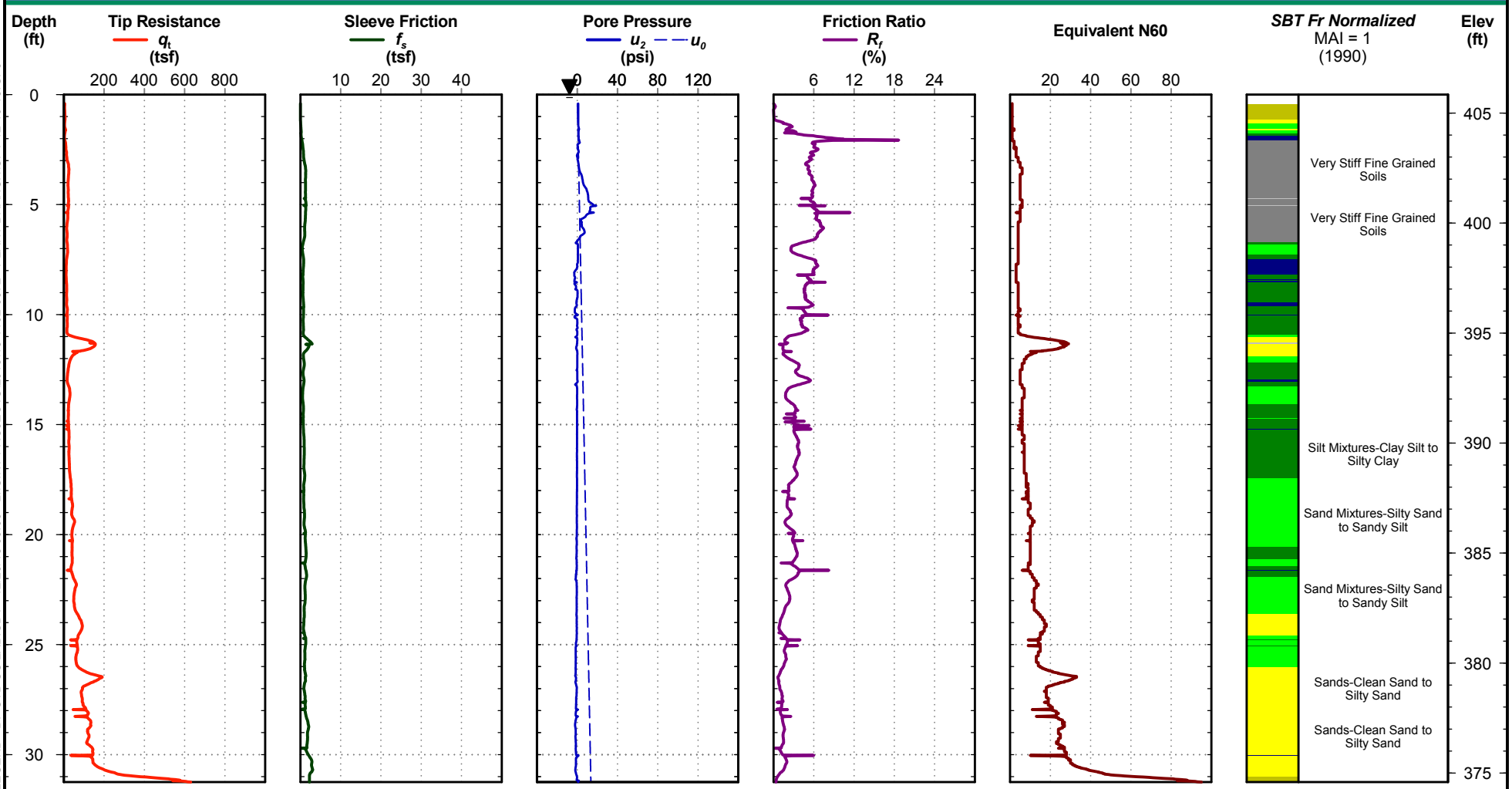
Cone Penetration Test

SCPT 7

Project #: 18-1101-0072
Date: Dec. 17, 2018

Latitude: 33.1967
Longitude: -83.318

Elevation: 405.8398
Filename: 18-1102-0072ccpt 7A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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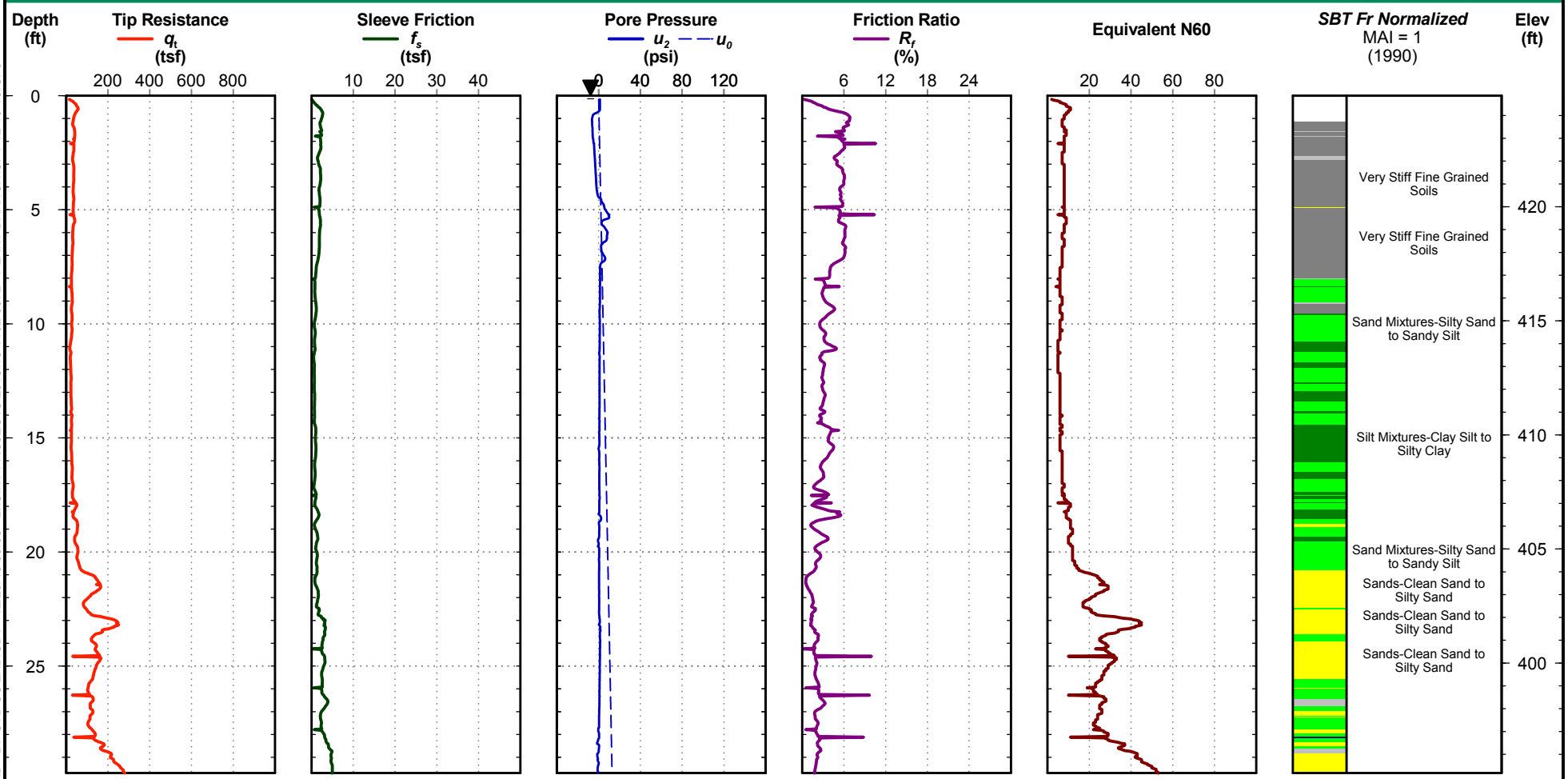
Plant Branch

Cone Penetration Test

SCPT 8

Project #: 18-1101-0072
Date: Dec. 13, 2018
Latitude:
Longitude:
Elevation: 424.8687
Filename: 18-1102-0072acpt 8(1)A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

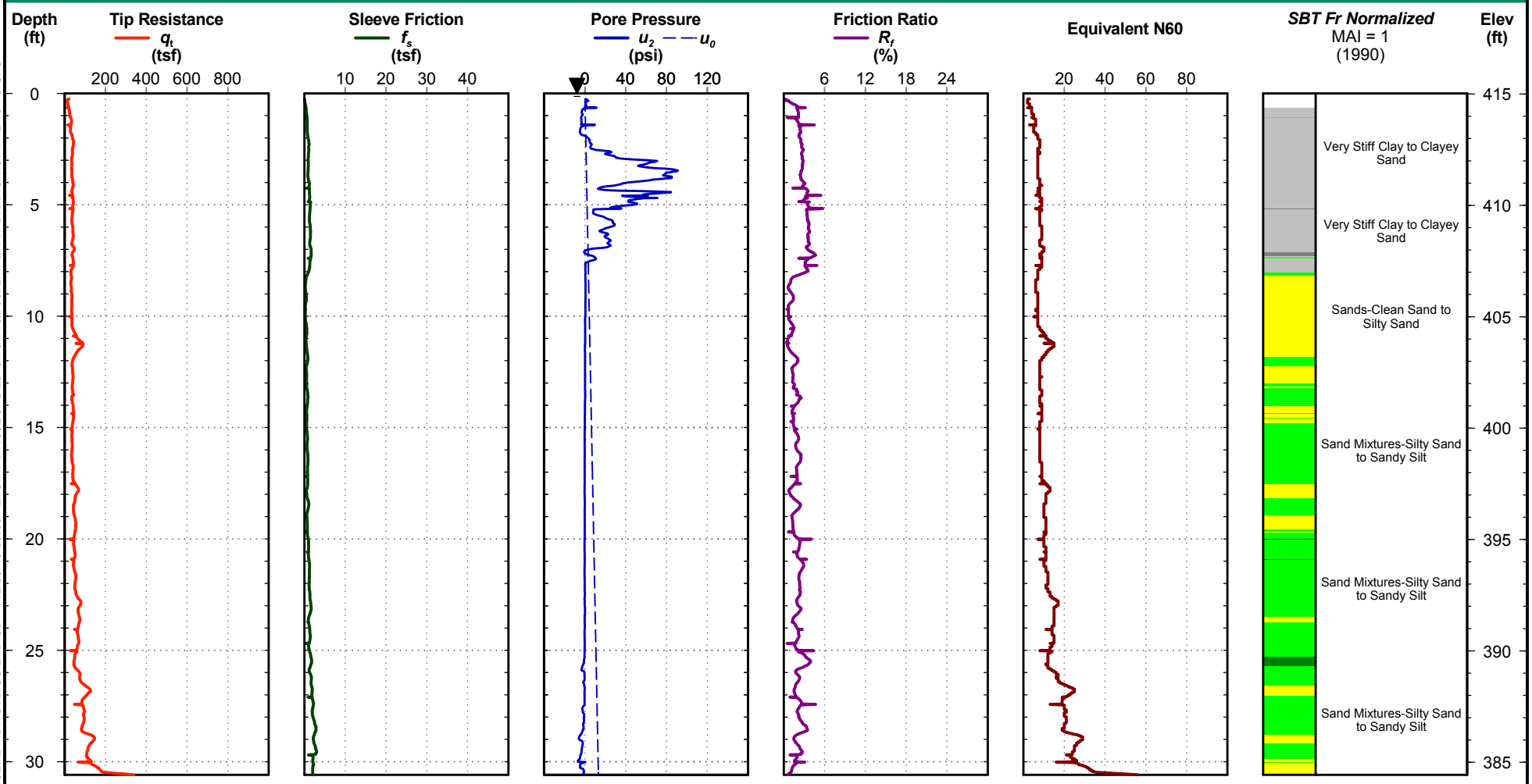
Cone Penetration Test

SCPT 9

Project #: 18-1101-0072
Date: Dec. 14, 2018

Latitude: 33.1937
Longitude: -83.3134

Elevation: 415.0262
Filename: 18-1102-0072bcpt 9A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

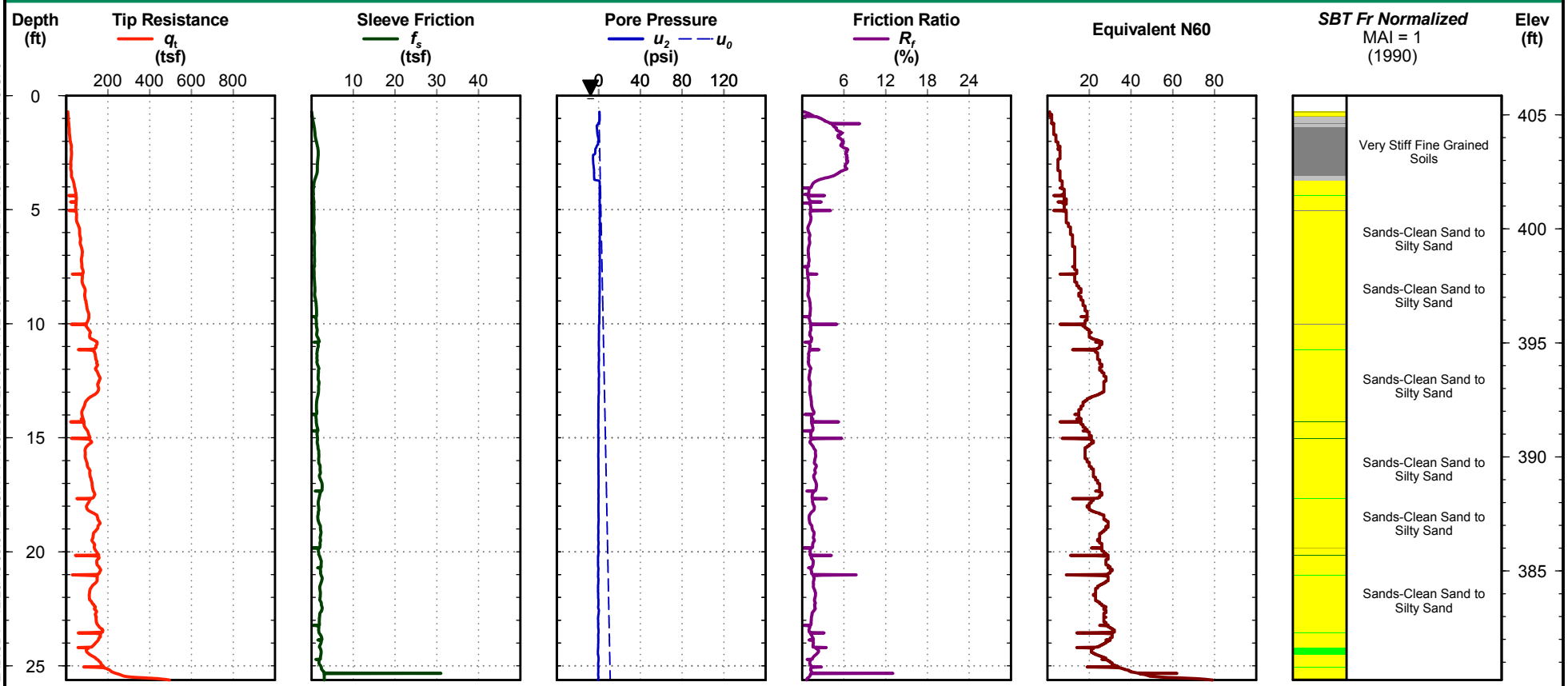
Cone Penetration Test

SCPT 10

Project #: 18-1101-0072
Date: Dec. 17, 2018

Latitude:
Longitude:

Elevation: 405.8398
Filename: 18-1102-0072ccpt 10A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

Plant Branch

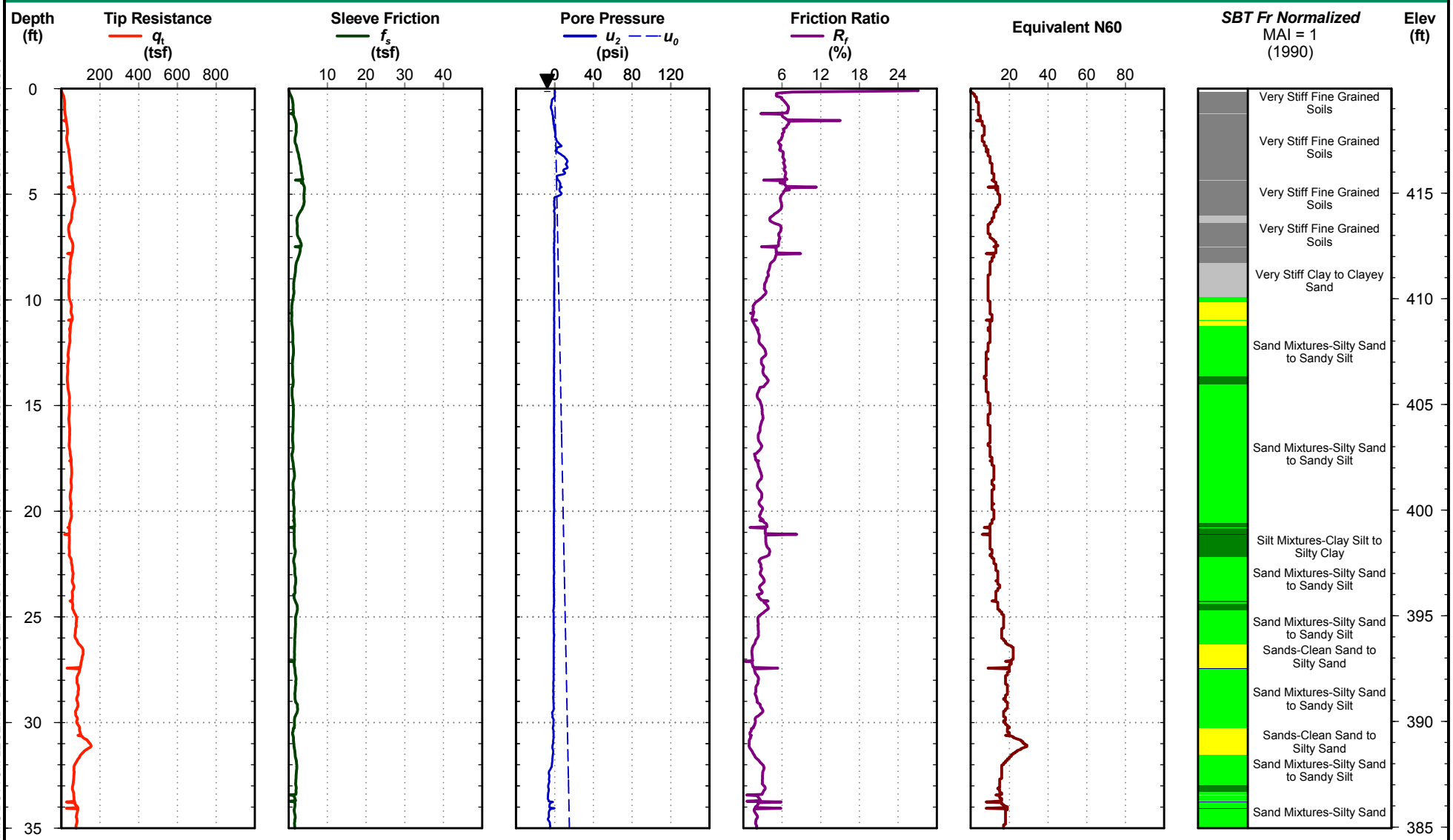
Cone Penetration Test

SCPT-11

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1967
Longitude: -83.3124

Elevation: 419.9475
Filename: 18-1102-0072acpt 11(1)A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

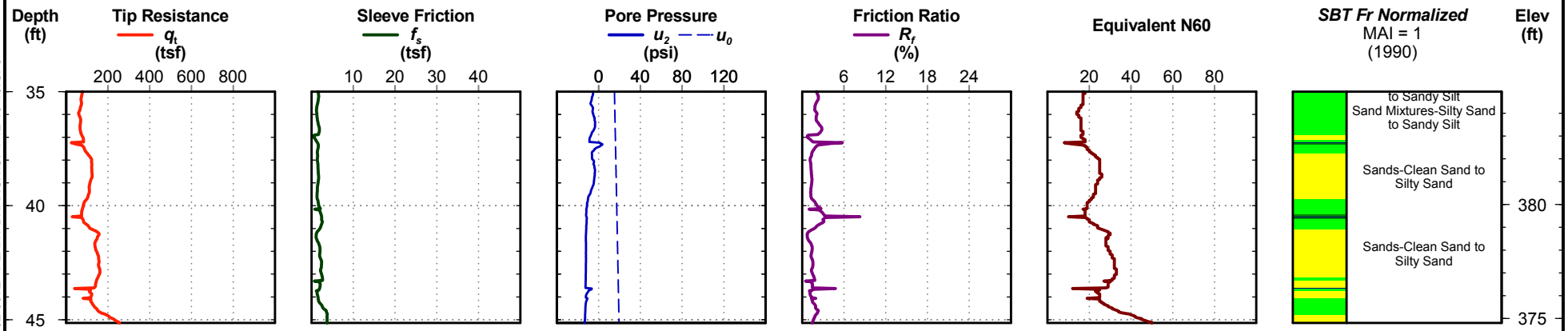
Cone Penetration Test

SCPT 11

Project #: 18-1101-0072
Date: Dec. 13, 2018

Latitude: 33.1967
Longitude: -83.3124

Elevation: 419.9475
Filename: 18-1102-0072acpt 11(1)A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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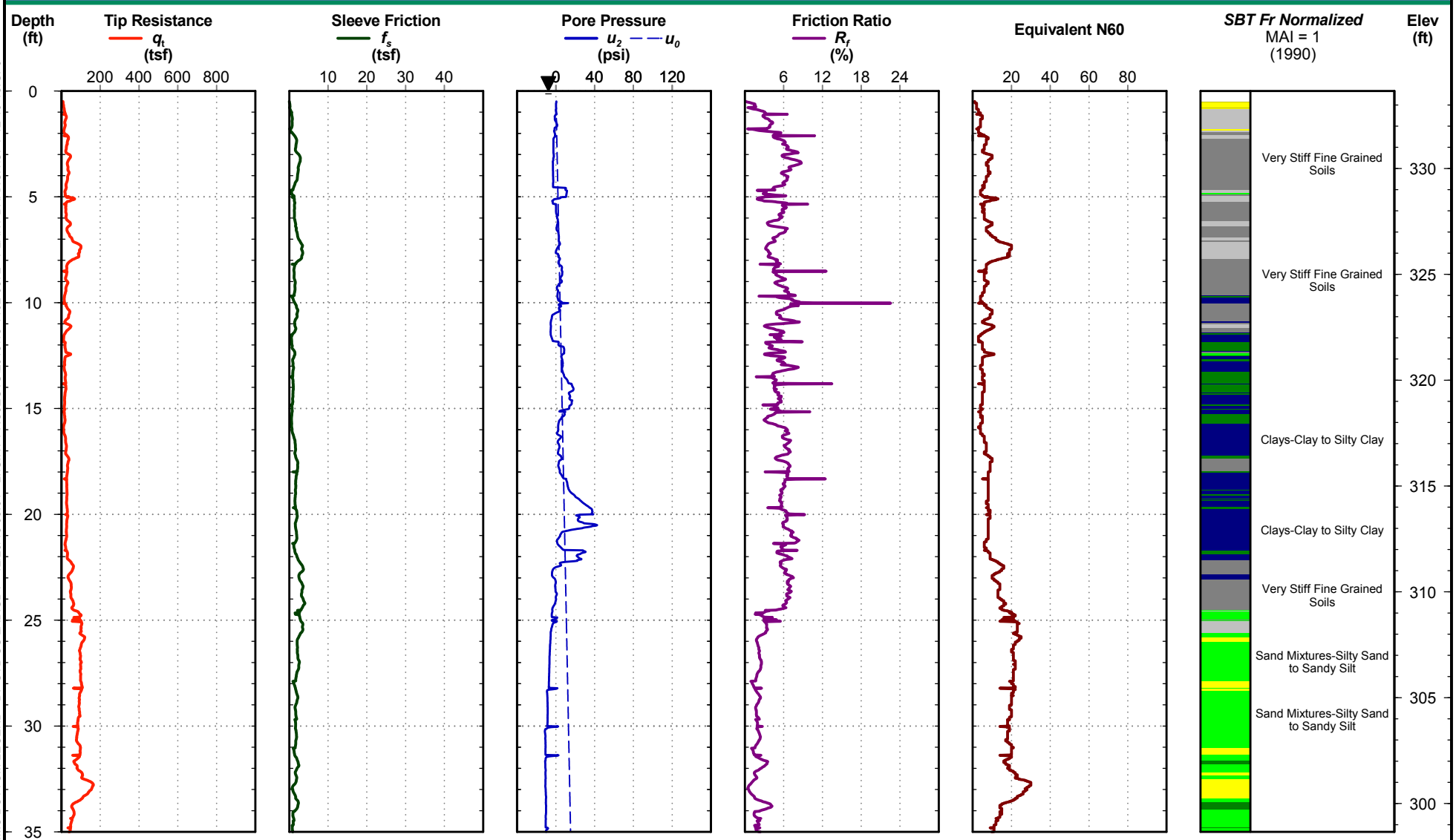
Plant Branch

Cone Penetration Test — SCPT 12

Project #: 18-1101-0072
Date: Dec. 14, 2018
Latitude: 33.1933
Longitude: -83.3167
Elevation: 333.6614
Filename: 18-1102-0072bcpt 12A.cpt



1 - Sensitive, Fine Grained Soils
2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

thompson ENGINEERING

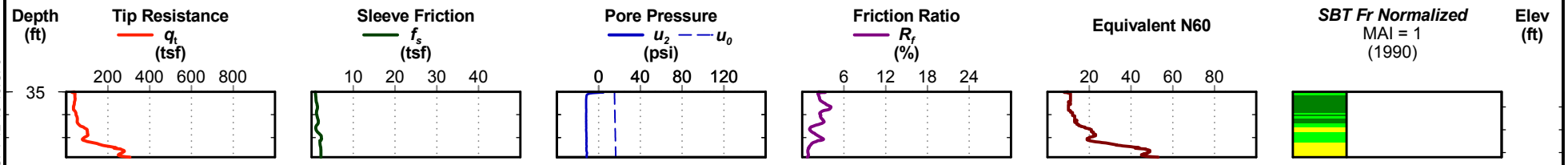
Plant Branch

Cone Penetration Test SCPT 12

Project #: 18-1101-0072
Date: Dec. 14, 2018

Latitude: 33.1933
Longitude: -83.3167

Elevation: 333.6614
Filename: 18-1102-0072bcpt 12A.cpt



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2 - Organic Soils, Peats
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4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Cone Penetration Test

SCPT 13

Project #: 18-1101-0072
Date: Dec. 14, 2018

Latitude: 33.191
Longitude: -83.3158

Elevation: 359.9081
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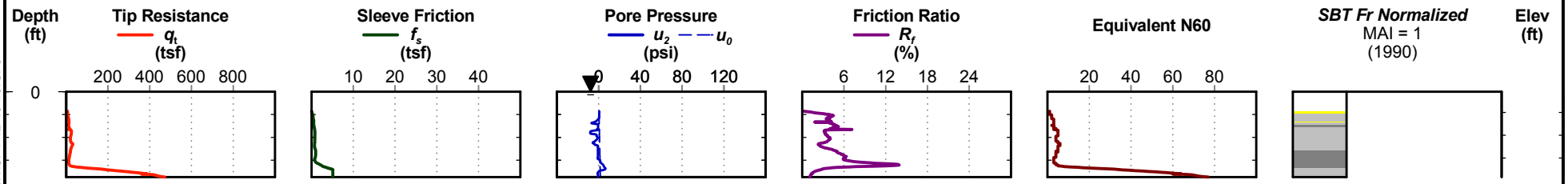

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5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

Cone Penetration Test SCPT 13(1)

Project #: 18-1101-0072
Date: Dec. 14, 2018

Latitude: 33.191
Longitude: -83.3158

Elevation: 370.0787
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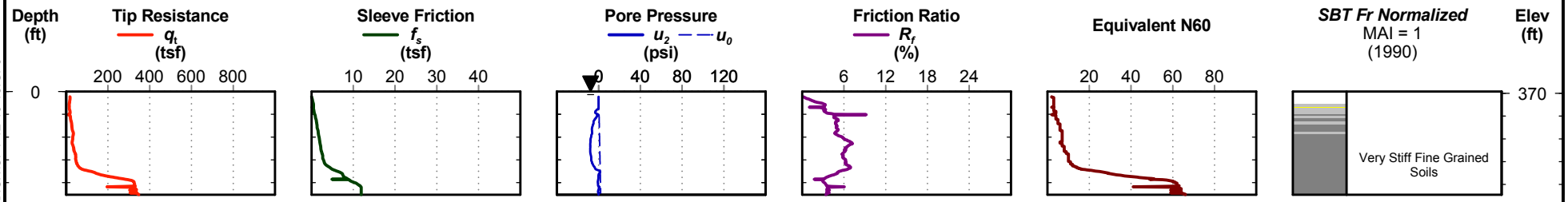

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2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

Cone Penetration Test SCPT 13(2)

Project #: 18-1101-0072
Date: Dec. 14, 2018

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Elevation: 378.937
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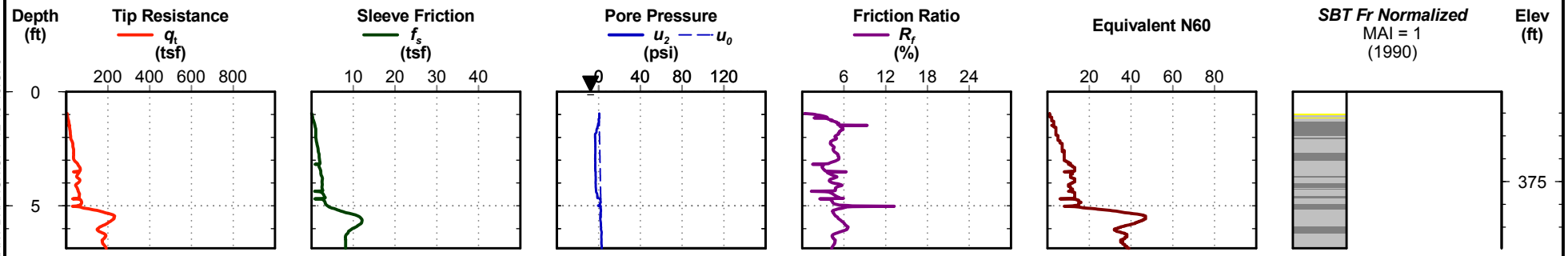

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4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

Cone Penetration Test SCPT 13(3)

Project #: 18-1101-0072
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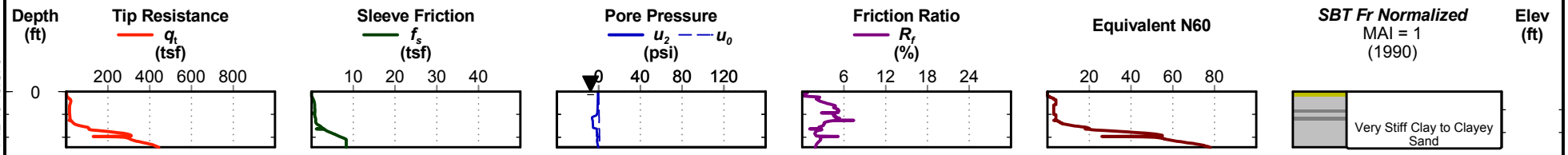

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2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

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Plant Branch

Cone Penetration Test SCPT 14

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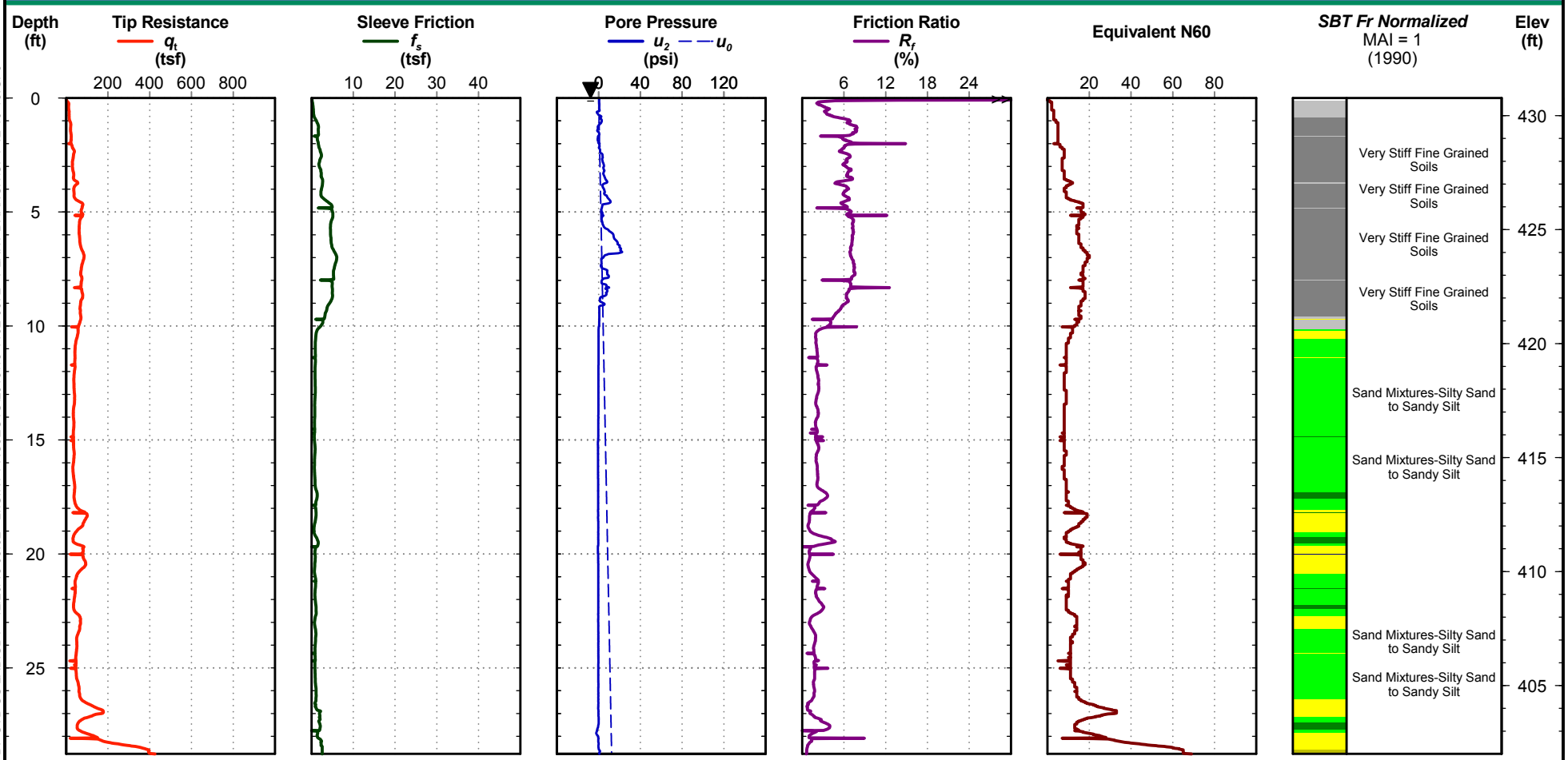

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2 - Organic Soils, Peats
3 - Clays-Clay to Silty Clay
4 - Silt Mixtures-Clay Silt to Silty Clay
5 - Sand Mixtures-Silty Sand to Sandy Silt
6 - Sands-Clean Sand to Silty Sand
7 - Gravelly Sand to Sand
8 - Very Stiff Clay to Clayey Sand
9 - Very Stiff Fine Grained Soils

Attachment D

Geologic and Hydrogeologic Summary Report (Golder 2018)

GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT

PLANT BRANCH

PUTNAM COUNTY, GEORGIA

FOR

Georgia Power

OCTOBER 2018

GOLDER

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Table of Contents - continued

FIGURES & TABLES

Certification

This *Geological and Hydrogeological Report*, Georgia Power Company - Plant Scherer has been prepared in compliance with applicable Georgia Solid Waste Management Rule by a qualified groundwater scientist or engineer with Golder Associates Inc. References to the appropriate 391-3-4 Rules are incorporated throughout this document.

I hereby certify that, I, Rachel P. Kirkman, a "Qualified Groundwater Scientist," in accordance with the Rules of Solid Waste Management, this *Geological and Hydrogeological Report* was prepared under my direct supervision. This technical report of geologic and hydrogeologic units was developed to meet compliance of Georgia Environmental Protection Division Rule 391-3-4-.10(9)(c)(6)(ii).

Golder Associates Inc.

10/23/2018

Dawn L. Prell, CPG
Hydrogeologist, Senior Consultant

Date

10/23/2018

Rachel P. Kirkman, PG
Registered Professional Geologist, No. 1756

Date

dlp/rpk

1.0 INTRODUCTION

Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10 of the Georgia Solid Waste Management Regulations provides the requirements for permitting and closure of CCR regulated facilities in Georgia (GA). A technical report of geologic and hydrogeologic units within the disposal site is required for inactive surface impoundments as specified in Georgia EPD Rule 391-3-4-.10(9)(c)(6)(ii). This report describes geologic and hydrogeologic information for Georgia Power's Plant Branch (Plant Branch).

2.0 BACKGROUND INFORMATION

2.1 Site Description and Physiography

Plant Branch is located in Putnam County, GA, and is owned and operated by Georgia Power Company (GPC). The Plant occurs approximately 8 miles north of Milledgeville, GA and is located north and west of Lake Sinclair. The plant is primarily surrounded by agricultural, residential, and light commercial land use. The property occupies approximately 3,200 acres and is bounded on the south and east by Lake Sinclair, which is an approximate 15,330-acre hydroelectric reservoir that was created in 1953 by GPC's impoundment of the Oconee River. A site location map is included as Figure 1, Existing Conditions

Plant Branch is no longer active and is in the process of decommissioning. While active, the Plant consisted of four coal-fired units that were equipped with flue gas desulfurization (FGD) equipment (i.e., scrubbers). Prior to plant decommissioning, bottom ash, fly ash, and small quantities of FGD wastes were managed onsite within five ash ponds, namely Ponds A, B, C, D, and E ranging in size from one acre to approximately 311 acres. The largest of the ash ponds (E;) has been developed on-site through impoundment of natural, unnamed tributaries that merged and drained in a general west-to-east direction to Beaverdam Creek, which is now an embayment of Lake Sinclair. The pond is maintained at an elevation of approximately 426 feet by a large earthen embankment, at the base of which a series of wells collect pore fluids for recirculation back into the pond.

The site occurs within the Piedmont Physiographic Province of central Georgia, which is characterized by gently rolling hills and narrow valleys, with locally pronounced linear ridges. Overall, the property slopes gently east and south towards Beaverdam Creek and Lake Sinclair. Ash pond E is located in the generally topographically highest area on the property, with radial surface water drainage downslope of the pond to the northeast and east, toward Beaverdam Creek, and to the south toward Lake Sinclair. Several topographically isolated hilltops occur west of Pond E, forming a topographic and surface water (and presumably groundwater) divide between the pond and the embayment to the west of the pond, as shown on Figure 1. Topographic relief across the site is less than 150 feet, with a natural topographic high of nearly 485 feet above mean sea level (ft msl) occurring along the topographic ridge west of Pond E, and with a topographic low where Beaverdam Creek discharges into Lake Sinclair at less than 350 feet.

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 Branch is located on the Lake Sinclair West, GA 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. More recent deformation and emplacement of mafic dikes is associated with the rifting of the North American craton during the Mesozoic and Cenozoic Eras.

The metamorphic and igneous rocks that underlie the area have been subjected to physical and chemical weathering which has created a landscape dissected by creeks and streams forming a dendritic drainage pattern. These rocks are deeply weathered due to the humid climate and bedrock is typically overlain by a variably thick blanket of residual soils and saprolite. The overall depth of weathering in the Piedmont/Blue Ridge is generally about 20 to 60 feet; however, the depth of weathering along discontinuities and/or very feldspathic rock units may extend to depths greater than 100 feet. Because of such variations in rock types and structure, the depth of weathering can vary significantly over short horizontal distances.

2.2.1 Regional Geology

The Lake Sinclair West, GA quadrangle occurs within the Carolina Terrane, which 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.

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 (± 30º) to the principal stress direction and represent conjugate sets formed from shear (Refer to Figure 2.2.1, inset).

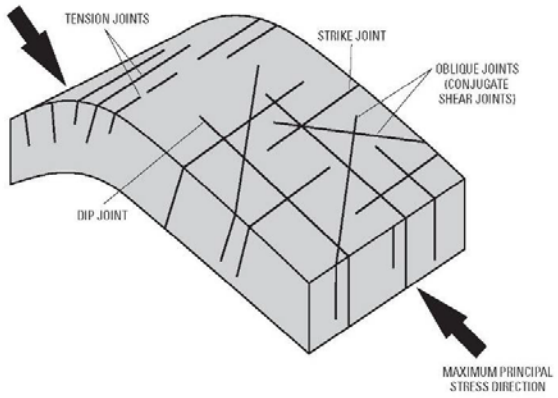


Figure 2.2.1 Schematic diagram showing the typical joint patterns

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, discreet 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 (comprised of both residual soils and transitionally weathered rock) is generally unconfined, the surface of which is generally a subdued reflection of topography. It is recharged by precipitation stored in residual soils and typically discharges into major streams and rivers. During drought, the water levels within the overburden are overall lower. 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) within and around the site using the Lake Sinclair West, GA USGS 7.5-minute topographic quadrangle as a base map. Figure 2, Geologic Map presents interpretation of structural and lithologic features encountered during mapping of the area, Information recorded at each map station includes: lithology and mineralogy; orientation and characteristics of structural discontinuities including, shearing, faulting, jointing, and compositional bedding; and depth and type of weathering characteristics of the rock. Map station locations were 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 such as 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 3, Estimated

Top of Rock, and for five geologic cross sections, presented as Figures 4A through 4D, Geologic Cross Sections Schematic.

Based on this review, 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, as illustrated on Figure 4. The thickness of residual soils encountered in the borings is variable, ranging from a minimum of 11 feet to as much as 74 feet. 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. Where data were available to determine the thickness of PWR, it is relatively thin (i.e., 10 feet or less), if present, with the exception of a few locations where the thickness exceeds 20 feet.

The criterion used for identifying top of bedrock was largely based on the depth at which a significant thickness of fresh, 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 3. The cross sections were also used to bolster three-dimensional interpretation of the surface. As shown on Figure 3, 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 partially/transitionally weathered rock, is collectively referred to as overburden in this report.

3.3 Lithologic Units

Based on the detailed geologic mapping performed by Petrologic, graphically represented on Figure 2, and data review, the Plant property is primarily underlain by a fine- to medium-grained, poorly jointed biotite-quartz-feldspar gneiss that has been deeply and uniformly weathered. The gneiss is well banded and well foliated with a planar, northeast-trending fabric and weathering develops a relatively thick, clay-rich, vermiculitic soil. The gneiss is locally interlayered with a zone of highly concentrated hornblende gneiss/amphibolite that trends northeast across the southern portion of Pond E, as shown on Figures 2 and 3.

Three small mafic intrusive masses were observed around Pond E as well: two occur southeast of the pond and the third occurs northwest of the pond. These discontinuous masses are resistant to weathering, standing out in relief relative to the surrounding differentially-weathered biotite gneiss. The intrusives consist of spheroidally-weathered, medium-grained, equigranular diabase that is well jointed and massive. Weathering of the diabase yields a massive, fat-clay with relict feldspar phenocrysts.

The southern end of the site is underlain by migmatitic gneiss with large amphibole crystals and discontinuous pods of amphibolilte as observed along with entrance road on the southern end of the property. Exposures of this unit are chaotically folded. Based on lack of exposure, contact relationship between the migmatitic gneiss and biotite gneiss was not determined.

3.4 Geologic Structure

3.4.1 Foliation and Faults

Bedrock discontinuity orientations were statistically analyzed using lower hemisphere equal area stereonets, presented as Figure 5, Discontinuity Data from Geologic Mapping, to determine dominant orientations for each discontinuity type (i.e., joints, foliation, and layering). Average foliation orientation for the site is N31E, 47SE. Two domains of foliation, however, were observed on site during geologic mapping. The central and northwestern portion of the property is characterized by foliation that strikes generally northeast and dips to the southeast.

Foliation measured in the southeastern portion of the property primarily strikes to the northeast but dips to the northwest, indicating that a fold axis might occur near the central portion of the site. Although no indication of folding was observed in exposures on or adjacent to the site during geologic mapping, the site is deeply weathered which may have prevented direct observation of structural features in this area, as indicated by the variation in foliation dip direction.

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 intrusives observed within the gneiss are relatively resistant to weathering, well-jointed, and are exfoliated in outcrop. Orientation of the few joints measured during mapping show clusters of poles representing two joint sets, as graphically shown on the equal area stereonet of all joints measured in all lithologies on Figure 5.

The dominant joint set observed on site is oriented northwest-southeast, and based on foliation measurement, this joint set likely represents orientation of the extensional dip joint. As shown on Figure 5, the average strike and dip of this joint set is N46W, 84SW. The second joint set shown on Figure 5 is orientated north-south, which based on foliation measurements, corresponds to a conjugate joint set. As shown on Figure 5, the average strike and dip of this joint set is N1W, 54NE.

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.

3.5 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.

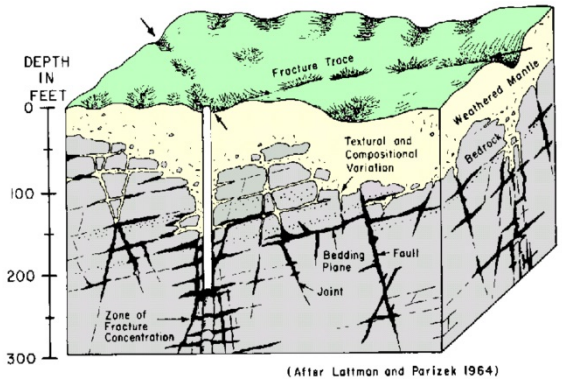


Figure 3.5.1: Block diagram shows how lineament/fracture trace is a surface manifestation of an underlying bedrock fracture zone.

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 (Figure 3.5.1, inset). 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.

Lineament analyses were conducted on USGS topographic maps, USGS Digital Elevation Models (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 6, Remote Sensing Lineament Map / Comparison of Measured Discontinuities and Lineaments. 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 evaluation of a total of 148 lineaments identified on the topographic maps, aerial photographs, and DEM, graphically shown on Figures 6, two major groups of lineament orientations were identified within and around the site and both are consistent in orientation with measured discontinuities in the bedrock:

- L1: N40 to 50W
- L2: N30 to 50E

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

Figure 6 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. Based on geologic mapping, it appears that L1 is related in orientation to the dip joint, which is oriented perpendicular to the northeast-trending foliation; and L2 is related in orientation to the strike direction of the northeast-trending foliation.

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 HYROGEOLOGIC MODEL

4.1 Uppermost Groundwater Aquifer

Boring logs and monitoring/piezometer installation logs were used to evaluate hydrostratigraphy of the site. Material types identified included residual soils, saprolitic soil, saprolitic rock (or PWR if blow counts were provided), transitionally weathered rock, and competent bedrock. Based on review of site cross sections (Figures 4A-D), 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 the soil encountered in the borings is variable, ranging from 11 feet to as much at 74 feet. Thickness of saprolitic soils and/or saprolitic rock range in thickness across the site but were generally encountered at or near ground surface. The saturated thickness of the overburden material ranges from 0 to over 60 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 overburden that is saturated, 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 7, Potentiometric Surface Elevation Contour Map – June 25, 2018.

Localized groundwater flow directions within this aquifer are influenced by topographic and top of rock variations on site. As illustrated on Figure 7, the water table surface is a subdued reflection of topography at the site, with groundwater generally flowing east from the Pond E and southeast toward Lake Juliette. This pond was impounded on a topographic high within a former tributary that flowed eastward into Beaverdam Creek. A series of topographically high hilltops occur west of Pond E and also appear to influence groundwater flow. Piezometer locations PZ-2I/S through PZ-5I/S exhibit groundwater elevations between approximately 438 and 452 feet, or around 12 to 26 feet higher than Pond E. These piezometer locations in turn are located east of the topographic divide between Pond E and the intermittent to permanently flowing creek to the west. Thus, these hilltops likely represent an upgradient groundwater divide on the property west of the ash pond.

Recharge to the uppermost aquifer is primarily through precipitation and this aquifer is considered to be hydraulically unconfined. Out of 11 well clusters, data indicate that there is generally a downward gradient in topographically higher areas and an upward gradient in the topographic lows. As shown on Figure 7, groundwater appears to be supporting surface water flow in these tributaries, as indicated by the local overlap in topographic and groundwater contours of similar elevation.

Based on review of the potentiometric contours, horizontal hydraulic gradient is also 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 transitionally weathered rock 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 transitionally weathered rock, which is considered to have a higher hydraulic conductivity relative to the overlying clay-rich and underlying massive bedrock material.

As indicated on Figure 2 and described in Section 3, the site is developed on biotite gneiss with local mafic lithologic variations represented by amphibolite/hornblende gneiss and diabase. Weathering of different parent rocks with variable geochemical characteristics may yield overburden with variable geochemical characteristics.

4.2 Bedrock Aquifer System

Bedrock aquifer systems also occur beneath the site. Recharge to these aquifer systems comes from water stored in the overburden. This material functions as a sponge, slowly allowing groundwater to infiltrate the bedrock through areas of enhanced permeability. This rate of infiltration is very slow, as indicated by dating of groundwater in other areas in the Piedmont exceeding 60 years.

Relatively thick clay-rich overburden is present across most of the site which may retard recharge from the uppermost aquifer into the underlying bedrock aquifer systems. Additionally, boring logs indicate that some areas, in particular topographic highs, correlate with bedrock that is resistant to weathering and massive (i.e. few discontinuities); consequently, bedrock aquifer systems are likely not well developed or interconnected in these areas. Preferential groundwater flow, however, is anticipated within the bedrock along discontinuities and potentially around diabase dikes.

Table 1, Summary of Historical Groundwater Elevations presents a summary of the historical groundwater elevations in recent monitoring history (August 2016 to present). Based on review of Table 1, groundwater elevations at the site have shown a maximum variability of up to 5 feet. On average historic groundwater elevations typically show a seasonal variability of up to 2 feet. Maximum groundwater elevations for the Pond E area are in the range of 444 feet mean sea level (msl; observed at upgradient well BRGWA-2S/I) while minimum groundwater elevations observed at Pone E are in the range of 364 feet msl (observed at BRGWC-17S and BRGWC-35S). Conversely, maximum groundwater elevations observed in the southern portion of the site is 395 ft msl (observed at BRGWA-23S) with a minimum elevation of 344 ft msl (observed at BRGWC-50).

4.3 Conceptual Site Hydrogeologic Model Summary

A regional, unconfined aquifer system is present at the site, consisting of residual soils and transitionally weathered rock. Interconnected fractures in the transition zone transmit groundwater stored in the overburden soils to underlying bedrock, following the conceptual model for groundwater flow in the Piedmont (LeGrand, 2004). Overall, groundwater recharge is thought to occur in the uplands and groundwater discharge near onsite surface water bodies. The water level trends noted at Plant Branch are comparable to similar hydrogeologic settings in the Piedmont region of southeastern US (e.g., Chapman and others, 2007). Additionally, the relationship between groundwater levels and the site topography is consistent with the slope-aquifer conceptual model for groundwater flow in the Piedmont (Robinson and others, 1996; LeGrand, 2004). Other attributes of the site-specific hydrogeologic model include:

1) The site is directly underlain by up to a 60-foot thick blanket of overburden, which is comprised of residual soils and transitionally weathered rock. Based on slug tests, the overburden is considered to have an average hydraulic conductivity of 10^{-4} cm/s.

2) Bedrock beneath the overburden is primarily characterized by poorly-jointed, feldspathic biotite gneiss with a localized zone of highly concentrated layers of amphibolite/hornblende gneiss interlayered with the biotite gneiss. Isolated diabase intrusive masses are also present on site. Lineaments identified around the site are consistent in orientation with structural features observed during geologic mapping, indicating that development of surface lineations 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 at the site. 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 of Georgia. However, the degree of hydraulic connection between the overburden and the underlying bedrock aquifer system is not known due to limited data available in the bedrock aquifer.

5) The potentiometric surface for the uppermost aquifer is generally eastward from the topographically high area upgradient of Pond E. In general, groundwater flow is to the east, south, and west from Ponds B, C, and D.

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). Additionally, vertical gradients in paired wells are generally downward in topographically high areas and generally upward in topographically low areas.

7) In general, the geochemistry for the site is likely fairly uniform with the exception of local mafic units within the gneiss. These differing rock types are interlayered such that they are not likely to result in significant geochemical variation in the overburden and groundwater chemistry.

5.0 REFERNCES

Publicly Available Information:

Lake Sinclair West, GA United States Geologic Survey (USGS) 7.5 minute topographic quadrangle (2014)

Chapman, Melinda, J., Schlegel, M, Huffman, B.A., and McSwain, K.B, 2007, Hydraulic gradients in recharge and discharge areas and apparent ground- water-age dates from the characterizations of multiple regolith-fractured bedrock ground-water research stations in North Carolina. Proceedings of the 2007 Georgia Water Resources Conference, March 27-29, 2007, Athens, GA., 4p.

LeGrand, H.E., 2004, A Master Conceptual Model for Hydrogeological Site Characterization in the Piedmont and Mountain Region of North Carolina – A Guidance Manual. North Carolina Department of Environment and Natural Resources, Division of Water Quality, Groundwater Section

Robinson, J.L., Journey, C.A., and Atkins, J.B., 1996, round-Water Resources of the Coosa River Basin in Georgia and Alabama – Subarea 6 of the Apalachicola-Chattahoochee-Flint and Alabama-Coosa-Tallapoosa River Basins. U.S. Geological Survey Open-File Report 96-177.

Watson, T., 1984, Hydrogeology of Greene, Morgan and Putnam Counties. Georgia Geologic Survey IC 60.

Internal Reports:

- 2009 Site Acceptability Report related to the feasibility of on-site gypsum disposal.

Available boring logs from previous site investigations:

- 2009 SCS:BH-1 to BH-19
- 2014 SCS:Piezometer locations PZ-1 to PZ-21 (total 38 single, paired, or clustered piezometers at the 21 locations)
- 2017 and 2018 Golder piezometer installation reports (PZ-23S, PZ-23I, PZ-24S, PZ-25I, PZ-26I, PZ-27S, PZ-28I, PZ-29I, PZ-30I, PZ-31S, PZ-32S, PZ-33S, PZ-34S, PZ-35S, PZ-36S, PZ-37S, PZ-38S, PZ-39, PZ-40, PZ-41, PZ-42, PZ-43, PZ-44, PZ-45, PZ-46, PZ-47, PZ-48, PZ-49, PZ-50, PZ-51I/S, and PZ-52I.

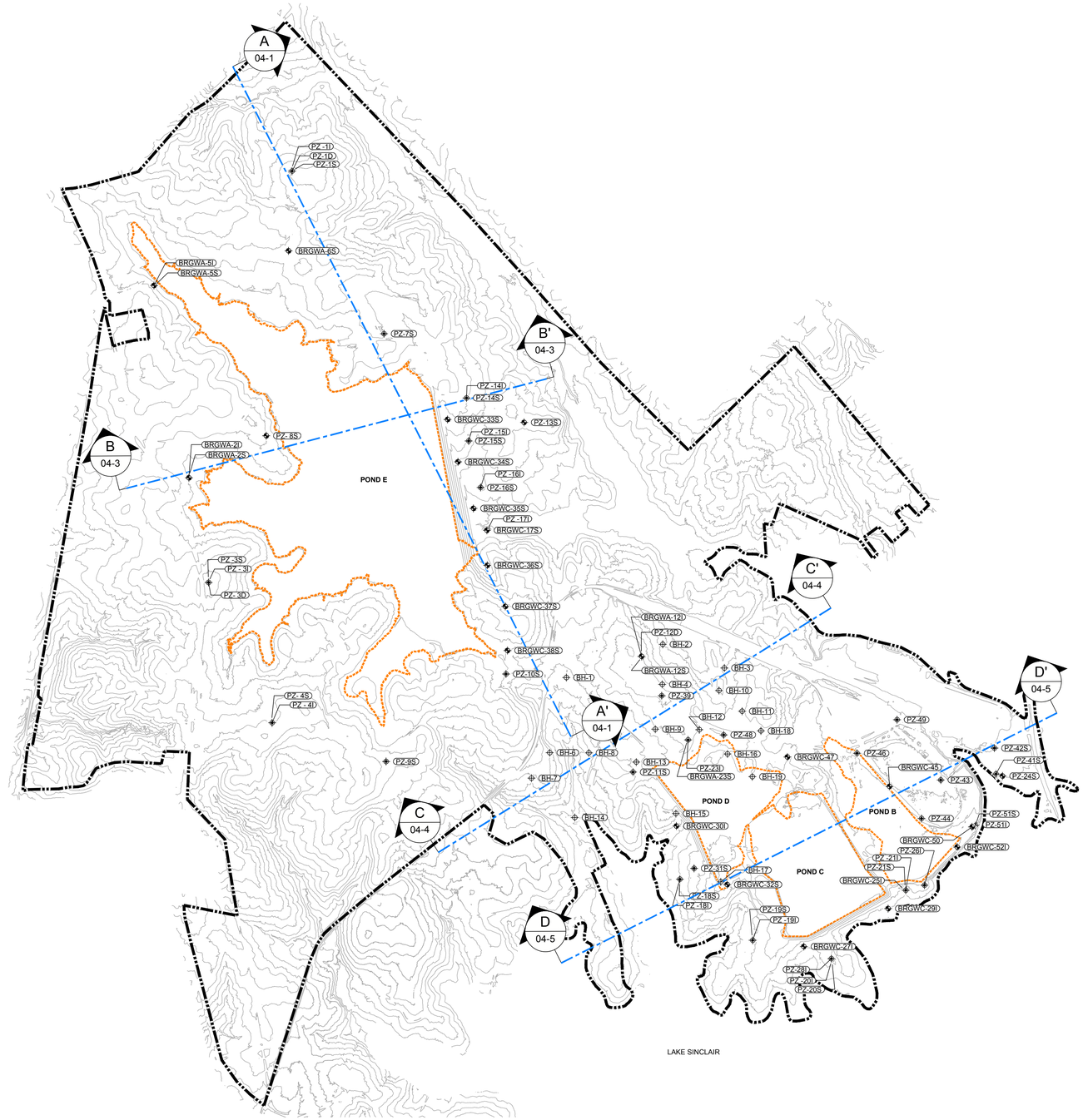
Field and Laboratory data:

- Hydraulic conductivity (SCS 2007 field slug tests): B-4, B-6, B-7, B-8, B-12, B-14
- Hydraulic conductivity (SCS 2014): PZ-1D, PZ-1I, PZ-1S, PZ-2S, PZ-2I, PZ-2S, PZ-4I, PZ-5I, PZ-5S, PZ-6S, PZ-7S, PZ-8S, PZ-10S, PZ-11S, PZ-14I, PZ-14S, PZ-15I, PZ-15S, PZ-16I, PZ-17I, PZ-18I, PZ-19I, P-19S, PZ-20I, PZ-21I,
- Hydraulic conductivity (Golder 2017 and 2018): PZ-23S, PZ-23I, PZ-24S, PZ-25I, PZ-26I, PZ-27S, PZ-28I, PZ-29I, PZ-30I, PZ-31S, PZ-32S, PZ-33S, PZ-34S, PZ-35S, PZ-36S, PZ-37S, PZ-38S, PZ-40, PZ-41, and PZ-42

FIGURES & TABLES

golder.com

FIGURES & TABLES



0 1000 2000
1" = 1000' FEET

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- BH-05 EXISTING BORING LOCATIONS
- PZ-6S EXISTING PIEZOMETER LOCATIONS
- BRGWC-12I EXISTING MONITORING WELL LOCATIONS
- ESTIMATED EXTENT OF SURFACE IMPOUNDMENTS
- CROSS-SECTION LINES

NOTES

1. TOPOGRAPHIC CONTOUR INTERVAL = 10 FEET

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.
2. TOPOGRAPHY PROVIDED BY GEORGIA POWER LAND DEPARTMENT, DATE OF SURVEY 3-15-2018.

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-15
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
EXISTING CONDITIONS PLAN

PROJECT NO.	CONTROL	REV.	FIGURE
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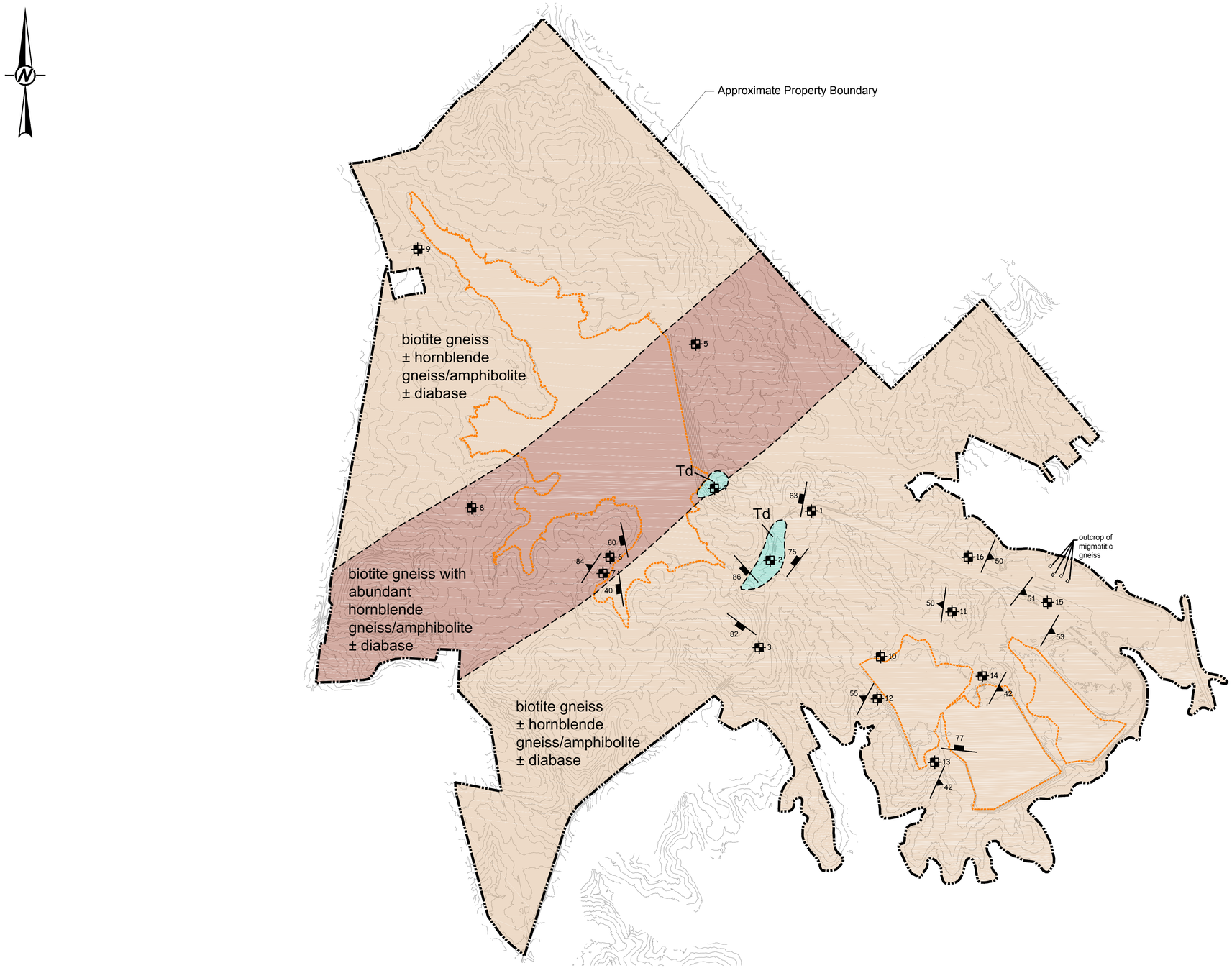

0 1000 2000
1" = 1000' FEET

LEGEND

- APPROXIAMTE PROPERTY BOUNDARY
- ESTIMATED EXTENT OF SURFACE IMPOUNDMENTS
- INTERPRETED GEOLOGIC CONTACT
- 77 JOINTS
- 42 FOLIATION
- 3 GEOLOGIC MAP STATION
- DIABASE DIKE
- BIOTITE GNEISS
- BIOTITE GNEISS WITH INTERLAYERED AMPHIBOLITE

REFERENCES

1. PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC.

2. TOPOGRAPHY OBTAINED BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION WEBSITE, www.coast.noaa.gov, JUNE 2016.

3. GEOLOGIC MAPPING CONDUCTED BY PETROLOGIC SOLUTIONS, INC.

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-23
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
GEOLOGIC MAP

PROJECT NO.	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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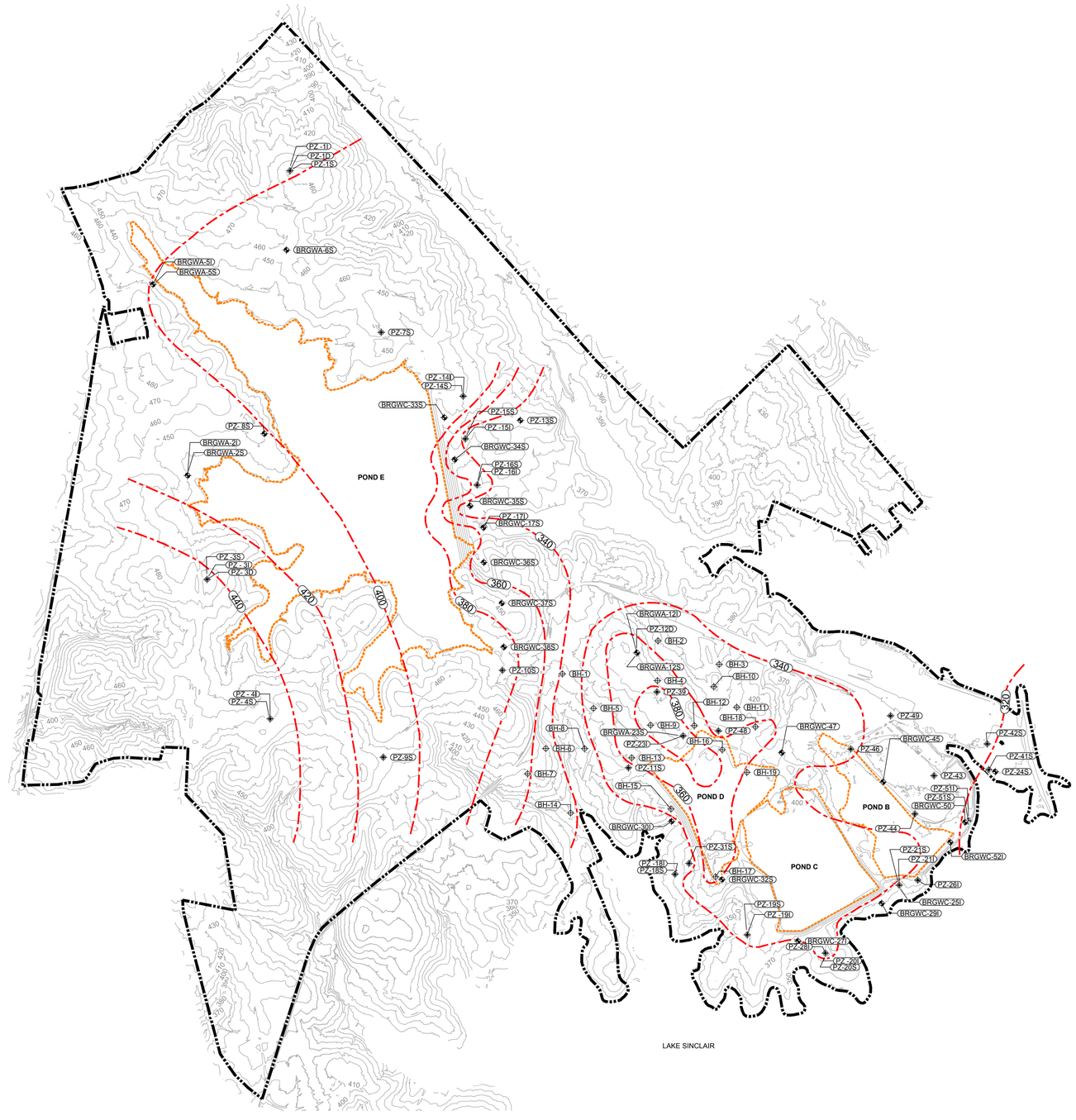

Well-ID	Top of Rock Elevation (ft msl)
BRGWA-2S	~ 405
BRGWA-2I	405.0
BRGWA-5S	~ 400
BRGWA-5I	399.0
BRGWA-6S	< 410
BRGWA-12S	~ 371
BRGWA-12I	371.0
BRGWC-17S	~ 358
BRGWA-23S	385.0
BRGWC-25I	339.0
BRGWC-27I	< 340
BRGWC-29I	< 329
BRGWC-30I	333.0
BRGWC-32S	< 358
BRGWC-33S	388.1
BRGWC-34S	< 364.0
BRGWC-35S	< 333.7
BRGWC-36S	< 354
BRGWC-37S	< 378
BRGWC-38S	< 391
BRGWC-45	< 329.7
BRGWC-47	316.87*
BRGWC-50	318.8
BRGWC-52I	330.9
PZ-1S	~ 401
PZ -1I	401.0
PZ-1D	~ 401
PZ -3S	443.0
PZ - 3I	441.0
PZ- 3D	443.0
PZ- 4S	~ 451
PZ-4I	451.0
PZ-7S	< 408
PZ- 8S	< 405
PZ-9S	< 422
PZ-10S	< 397
PZ-11S	< 371
PZ-12D	371.0
PZ-13S	< 377
PZ-14S	~ 390
PZ -14I	390.0
PZ-15S	~ 338
PZ -15I	338.0
PZ-16S	~358
PZ -16I	358.5
PZ -17I	358.0
PZ-18S	~ 338
PZ -18I	338.0
PZ-19S	~ 343
PZ -19I	343.0
PZ-20S	~ 352
PZ -20I	352.0
PZ-21S	~350*
PZ -21I	350*
PZ-22S	385.6
PZ-23I	387.9
PZ-24S	< 309
PZ-26I	352.6*
PZ-28I	342.4
PZ-31S	< 334
PZ-39	385.6
PZ-40S	< 313
PZ-41S	< 309
PZ-42S	<326.5
PZ-43	~ 347*
PZ-44	329.5
PZ-46	343.1
PZ-48	352.8
PZ-49	375.1*
PZ-51S	< 327.6
PZ-51I	319.8
BH-1	< 343
BH-2	< 346
BH-3	< 351
BH-4	363.0
BH-5	< 347
BH-6	< 345
BH-7	363.0
BH-8	< 335
BH-9	385.0
BH-10	< 354
BH-11	< 359
BH-12	< 361
BH-13	363.0
BH-14	345.0
BH-15	346.0
BH-16	377.0
BH-17	371.0
BH-18	379.0
BH-19	< 387

* anomalous, not used for bedrock contouring

0 1000 2000
1" = 1000' FEET

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- BH-05 EXISTING BORING LOCATIONS
- PZ-6S EXISTING PIEZOMETER LOCATIONS
- BRGWC-12I EXISTING MONITORING WELL LOCATIONS
- ESTIMATED EXTENT OF SURFACE IMPOUNDMENTS
- ESTIMATED TOP OF ROCK SURFACE CONTOUR (feet MSL)

NOTES

1. TOPOGRAPHIC CONTOUR INTERVAL = 10 FEET
2. TOP OF ROCK SURFACE CONTOUR INTERVAL = 20 FEET
3. BEDROCK CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, AND TOPOGRAPHIC CONTOURS. THEREFORE, CONTOURS MAY NOT REFLECT ACTUAL CONDITIONS.

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.
2. TOPOGRAPHY PROVIDED BY GEORGIA POWER LAND DEPARTMENT, DATE OF SURVEY 3-15-2018.

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-15
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
ESTIMATED TOP OF ROCK MAP

PROJECT NO.	CONTROL	REV.	FIGURE
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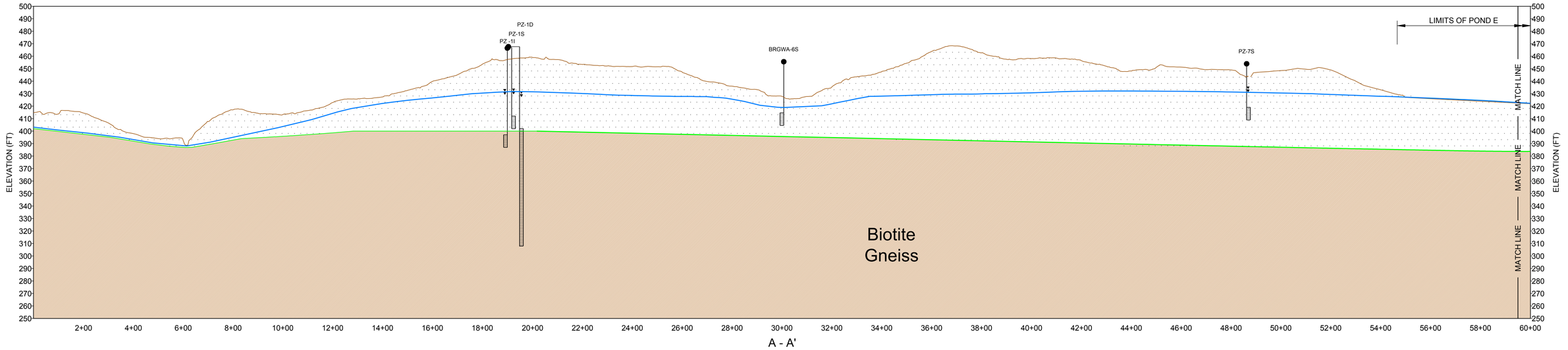
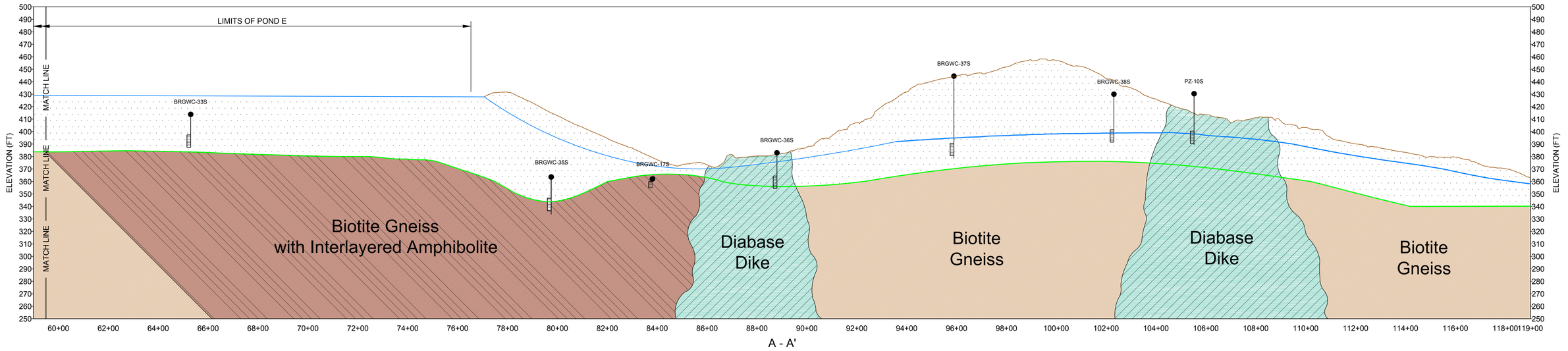


A - A'



A - A'

LEGEND

- EXISTING GRADE
- ESTIMATED GROUNDWATER SURFACE (5-28-16)
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- DIABASE DIKE
- BIOTITE GNEISS
- BIOTITE GNEISS WITH INTERLAYERED AMPHIBOLITE

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.

2. GEOLOGIC UNITS TAKEN FROM RECENT MAPPING (PETROLOGIC, INC.).

3. GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTION INC.'S GEOLOGIC MAPPING INCLUDED IN THIS REPORT.

0 200 400
1" = 200' FEET
5X VERTICAL EXAGGERATION

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-16
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
GEOLOGIC CROSS-SECTIONS SCHEMATIC (1 OF 4)

PROJECT NO.	CONTROL	REV.	FIGURE
166625418	166625418A003.dwg	0	04-A

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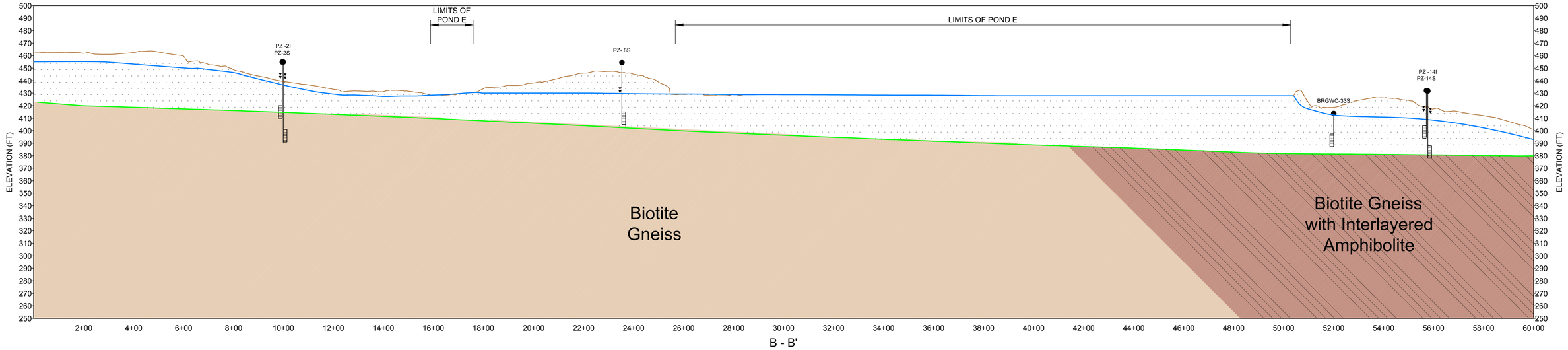

B - B'

LEGEND

- EXISTING GRADE
- ESTIMATED GROUNDWATER SURFACE (5-28-16)
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- DIABASE DIKE
- BIOTITE GNEISS
- BIOTITE GNEISS WITH INTERLAYERED AMPHIBOLITE

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.

2. GEOLOGIC UNITS TAKEN FROM RECENT MAPPING (PETROLOGIC, INC.).

3. GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTION INC.'S GEOLOGIC MAPPING INCLUDED IN THIS REPORT.

0 200 400
1" = 200' FEET
5X VERTICAL EXAGGERATION

CLIENT
Georgia Power

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GOLDER

YYYY-MM-DD	2018-10-16
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
GEOLOGIC CROSS-SECTIONS SCHEMATIC (2 OF 4)

PROJECT NO.	CONTROL	REV.	FIGURE
166625418	166625418A003.dwg	0	04-B

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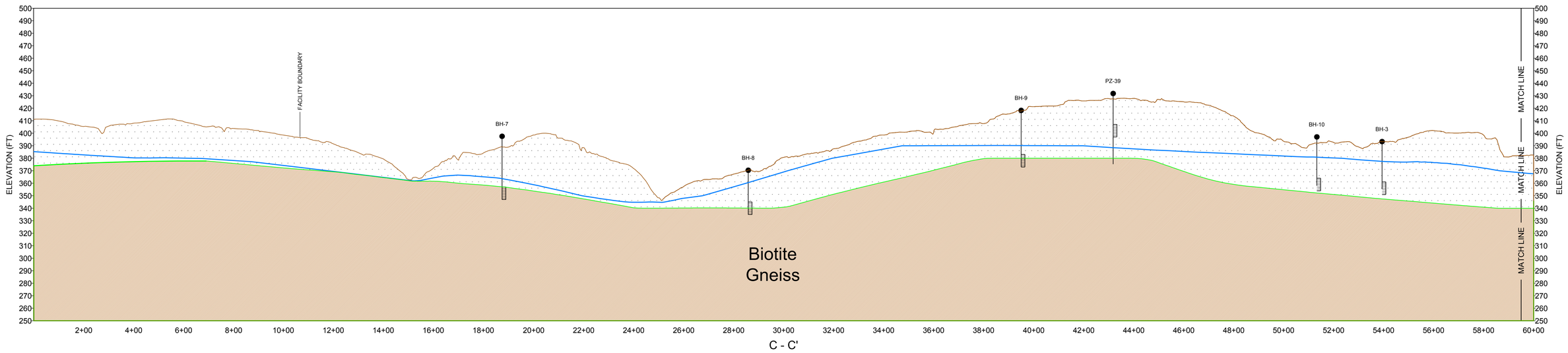
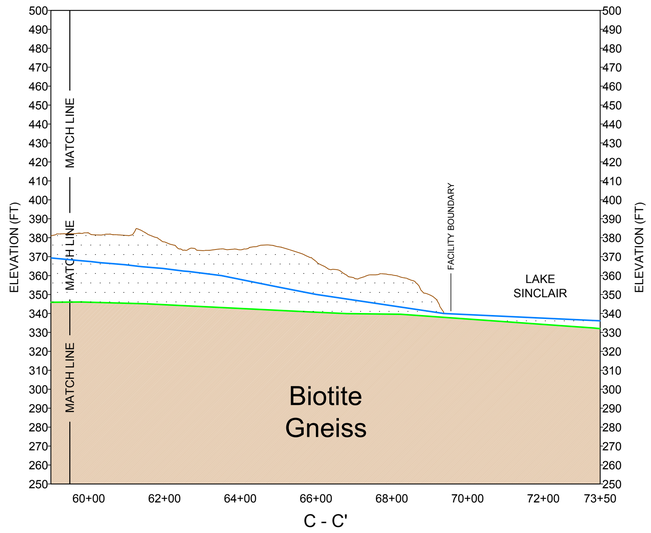


C - C'



C - C'

LEGEND

- EXISTING GRADE
- ESTIMATED GROUNDWATER SURFACE (5-28-16)
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- DIABASE DIKE
- BIOTITE GNEISS
- BIOTITE GNEISS WITH INTERLAYERED AMPHIBOLITE

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.

2. GEOLOGIC UNITS TAKEN FROM RECENT MAPPING (PETROLOGIC, INC.).

3. GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTION INC.'S GEOLOGIC MAPPING INCLUDED IN THIS REPORT.

0 200 400
1" = 200' FEET
5X VERTICAL EXAGGERATION

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-16
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
GEOLOGIC CROSS-SECTIONS SCHEMATIC (3 OF 4)

PROJECT NO.	CONTROL	REV.	FIGURE
166625418	166625418A003.dwg	0	04-C

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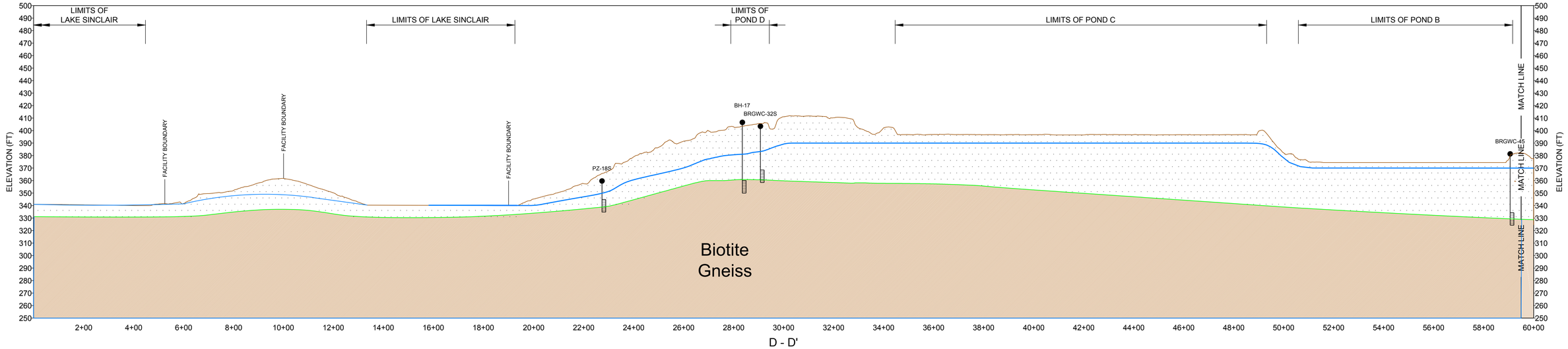
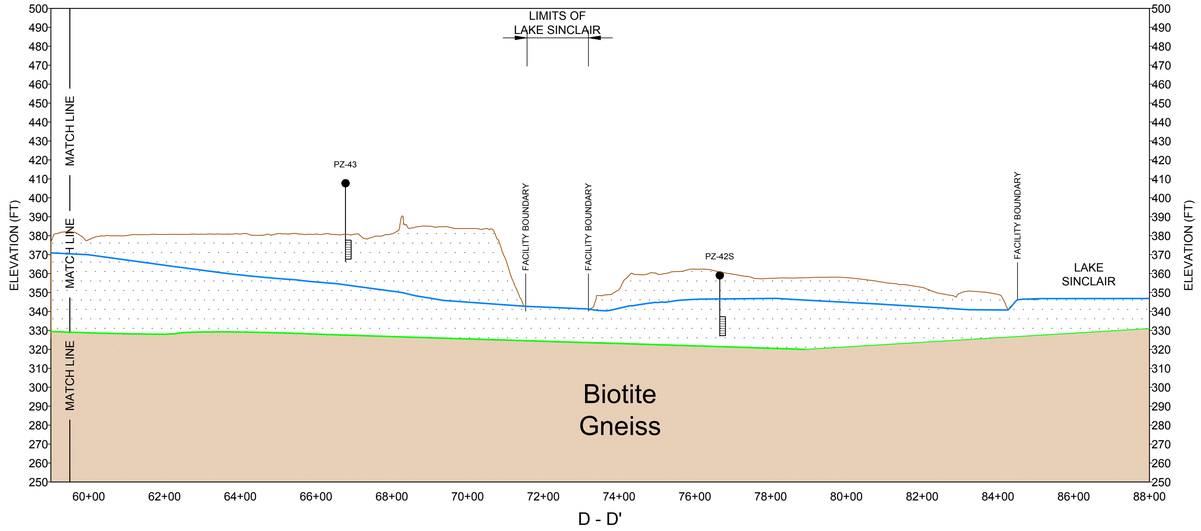


D - D'



D - D'

LEGEND

- EXISTING GRADE
- ESTIMATED GROUNDWATER SURFACE (5-28-16)
- ESTIMATED TOP OF ROCK SURFACE
- OVERBURDEN/RESIDUUM
- DIABASE DIKE
- BIOTITE GNEISS
- BIOTITE GNEISS WITH INTERLAYERED AMPHIBOLITE

REFERENCES

1. BORING/WELL/PIEZOMETER LOCATIONS PROVIDED BY SOUTHERN COMPANY SERVICES, INC. AND GOLDER ASSOCIATES.

2. GEOLOGIC UNITS TAKEN FROM RECENT MAPPING (PETROLOGIC, INC.).

3. GEOLOGIC UNITS TAKEN FROM PETROLOGIC SOLUTION INC.'S GEOLOGIC MAPPING INCLUDED IN THIS REPORT.

0 200 400
1" = 200' FEET
5X VERTICAL EXAGGERATION

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2018-10-16
DESIGNED	DLP
PREPARED	DJC
REVIEWED	RPK
APPROVED	DLP

PROJECT
GEOLOGIC AND HYDROGEOLOGIC SUMMARY REPORT
PLANT BRANCH

TITLE
GEOLOGIC CROSS-SECTIONS SCHEMATIC (4 OF 4)

PROJECT NO.	CONTROL	REV.	FIGURE
166625418	166625418A003.dwg	0	04-D

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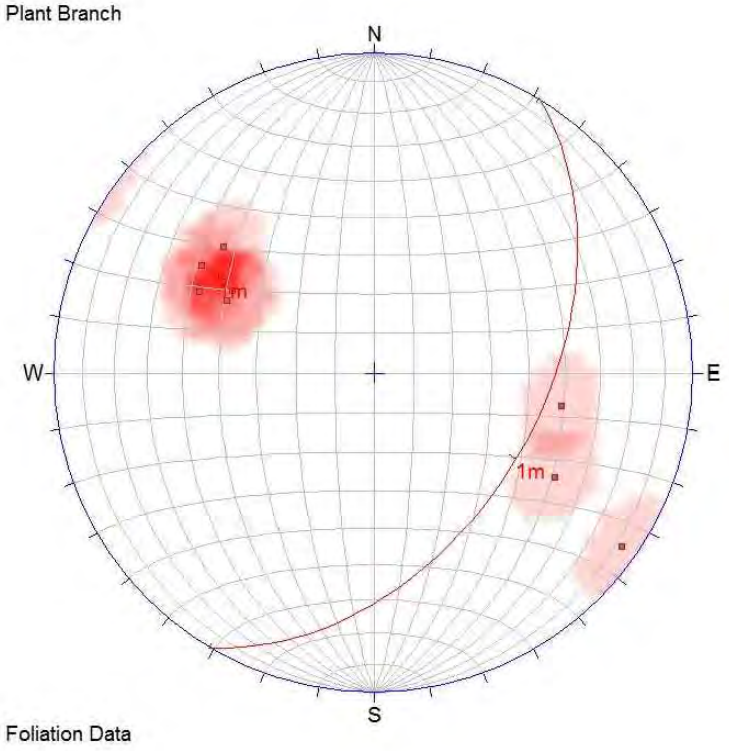


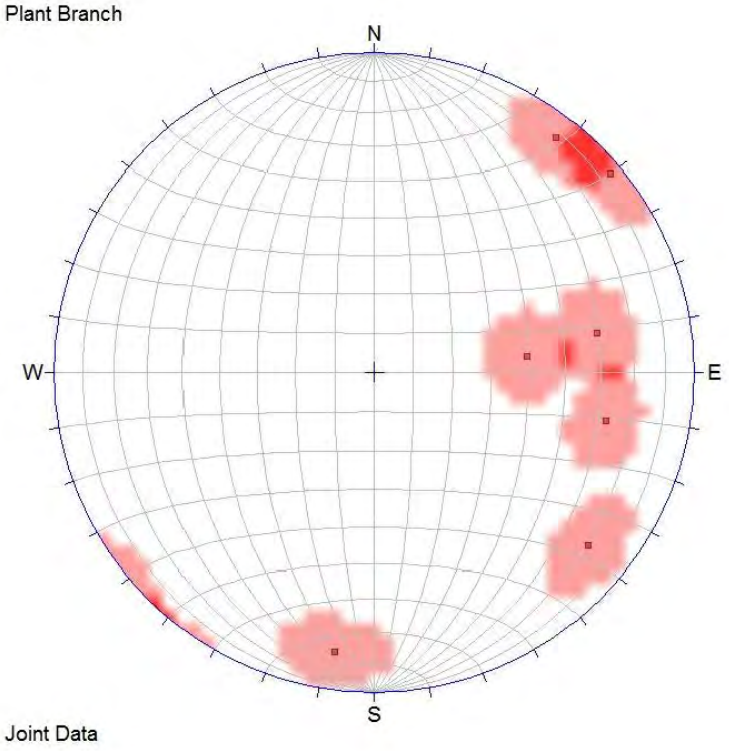
Foliation Data

Schmidt
Concentrations
% of total per 2.0 % area

0.00 ~ 3.00 %
6.00 ~ 9.00 %
12.00 ~ 15.00 %
18.00 ~ 21.00 %
24.00 ~ 27.00 %
30.00 ~ 33.00 %
36.00 ~ 39.00 %
42.00 ~ 45.00 %
48.00 ~ 51.00 %
54.00 ~ 57.00 %
60.00 ~ 63.00 %
66.00 ~ 69.00 %

No Bias Correction
Max. Conc. = 62.5000%

Equal Area
Lower Hemisphere
8 Poles
8 Entries



Joint Data

Equal Area
Lower Hemisphere
7 Poles
7 Entries

Poles

NOTE(S)

1. DISCONTINUITY DATA COLLECTED BY PETROLOGIC SOLUTIONS, INC.

NOT TO SCALE

CLIENT

Georgia Power

CONSULTANT

GOLDER

YYYY-MM-DD	2017/09/25
DESIGNED	CCP
PREPARED	SEP
REVIEWED	DLP
APPROVED	RPK

PROJECT

GEOLOGIC AND HYDROGEOLOGIC REPORT
PLANT BRANCH

TITLE

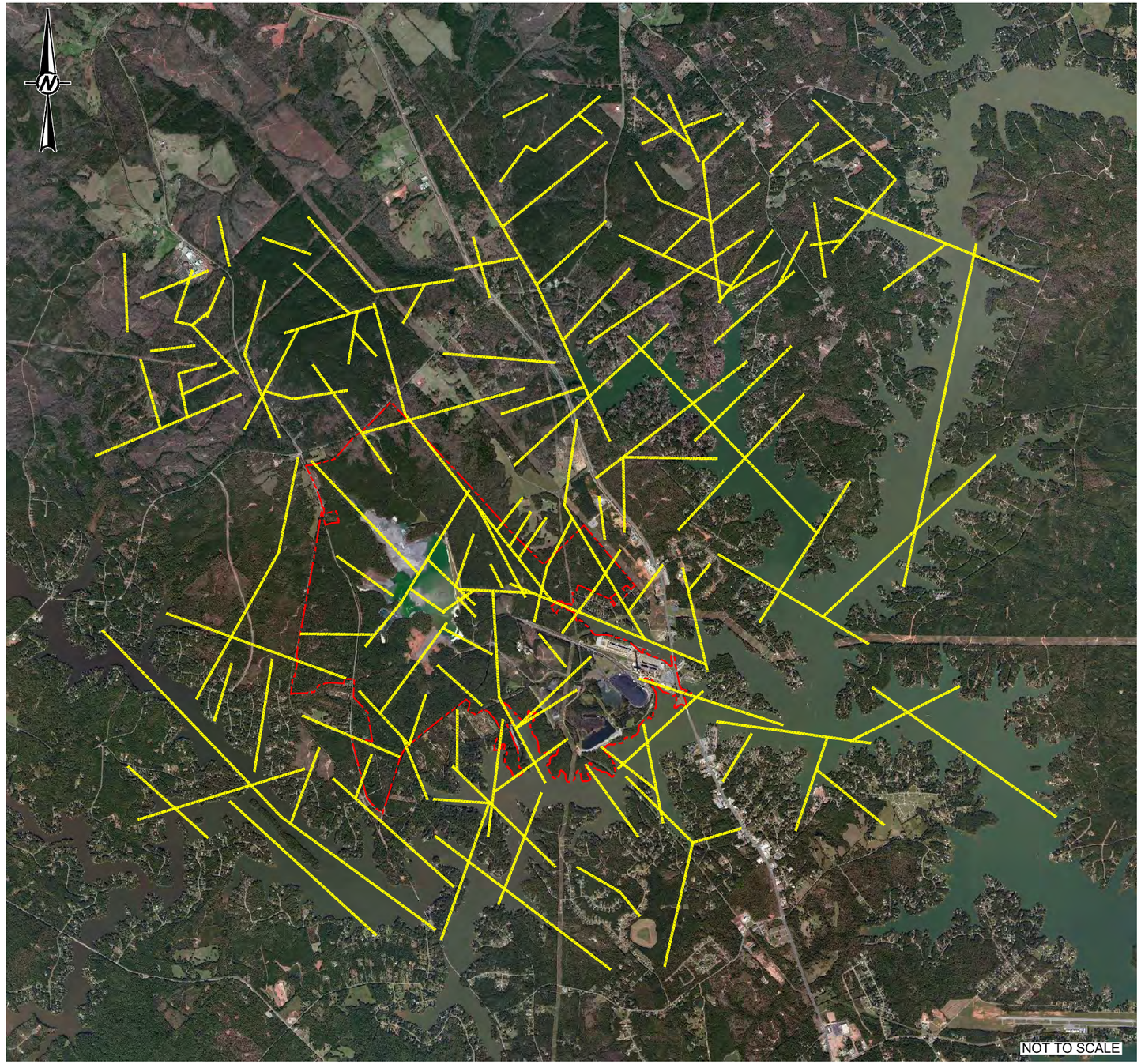
DISCONTINUITY DATA FROM GEOLOGIC MAPPING

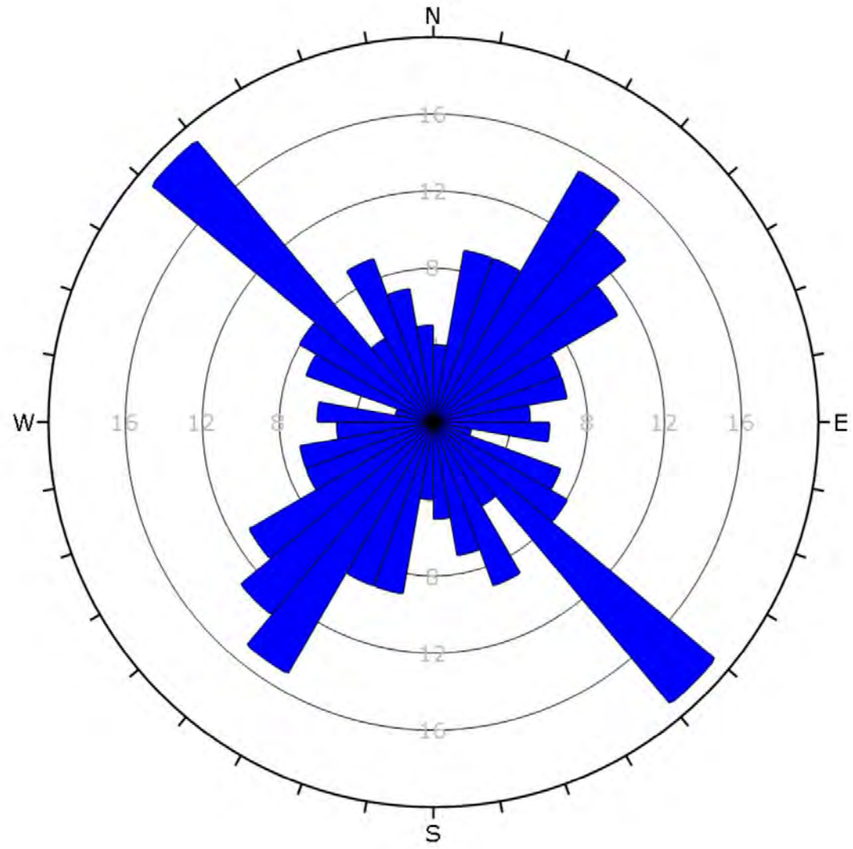
PROJECT NO.	REV.	FIGURE
	----	05

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

1 in

0





Plot Mode	Rosette
Plot Data	Apparent Strike
Face Normal Trend	0.0
Face Normal Plunge	90.0
Bin Size	10°
Outer Circle	20 planes per arc
Planes Plotted	148
Minimum Angle To Plot	45.0°
Maximum Angle To Plot	90.0°

LEGEND

APPROXIMATE PROPERTY BOUNDARY

LINEAMENTS

REFERENCES

1. AERIAL IMAGE OBTAINED VIA BING IMAGERY, DATED 2016.

2. PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES, INC.

CLIENT
Georgia Power

CONSULTANT
GOLDER

YYYY-MM-DD	2017/09/25
DESIGNED	CCP
PREPARED	SEP
REVIEWED	DLP
APPROVED	RPK

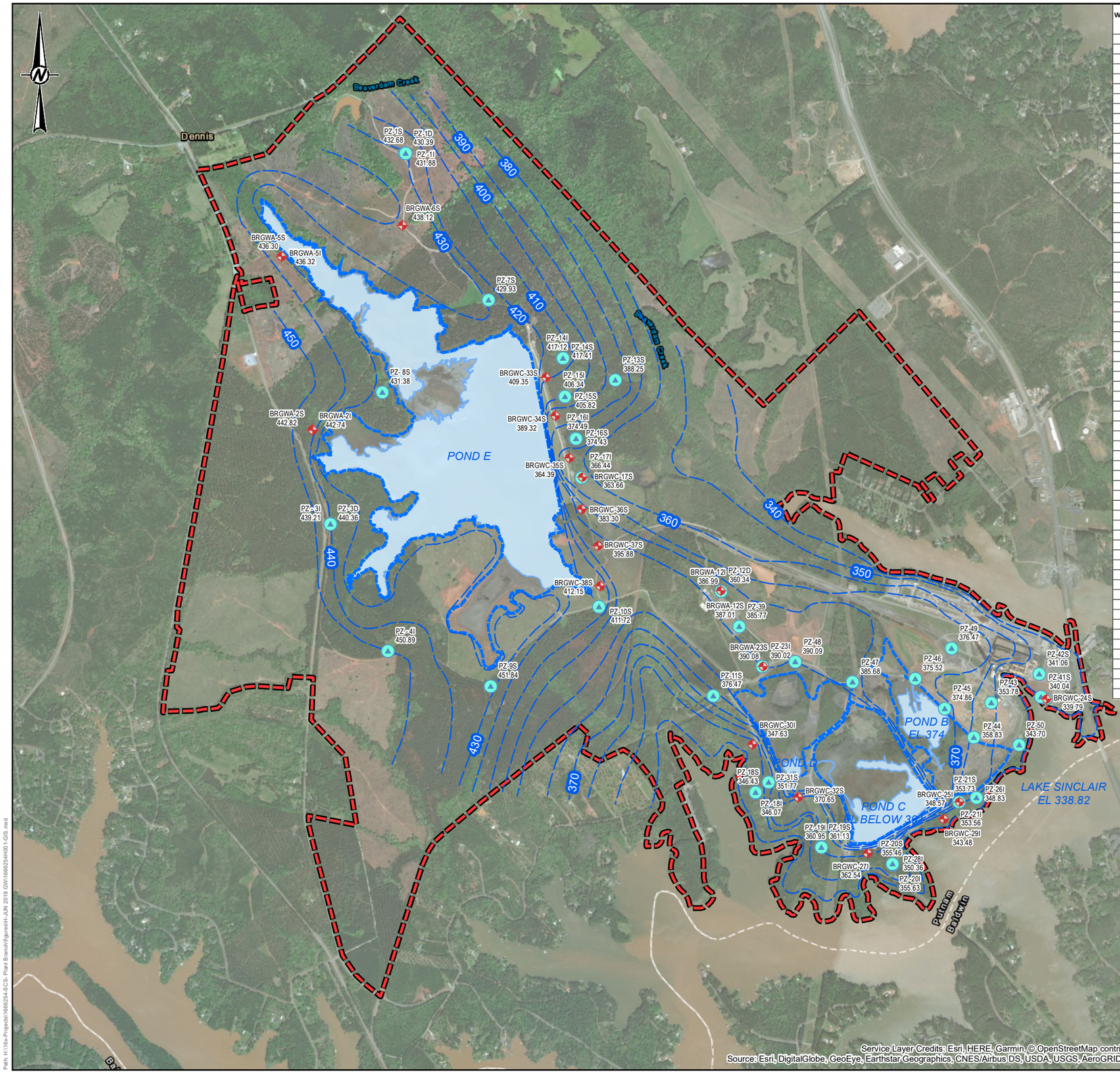
PROJECT
GEOLOGIC AND HYDROGEOLOGIC REPORT
PLANT BRANCH

TITLE
REMOTE SENSING LINEAMENT MAP / COMPARISON OF MEASURED DISCONTINUITIES AND LINEAMENTS

PROJECT NO. 1659442/166625418 | REV. - | FIGURE 06

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

Path: \\greensboro\CAD_2016\1659442 - confidential - plant branch\production\a - hydrogeologic investigation\1659442 - plant branch - hydrogeologic investigation - ga 01_2013\Production\ | File Name: 1659442-06-Remote Sensing Lineament Map.dwg



Well/Piezometer/Boring Identification	Groundwater Elevation (feet AMSL) 06/25/2018
BRGWA-2S	442.82
BRGWA-2I	442.74
BRGWA-5S	436.30
BRGWA-5I	436.32
BRGWA-6S	438.12
BRGWA-12S	387.01
BRGWA-12I	386.99
BRGWC-17S	363.66
BRGWA-23S	390.08
BRGWC-24S	339.79
BRGWC-25I	348.57
BRGWC-27I	362.54
BRGWC-29I	343.48
BRGWC-30I	347.63
BRGWC-32S	370.65
BRGWC-33S	409.35
BRGWC-34S	389.32
BRGWC-35S	364.39
BRGWC-36S	383.30
BRGWC-37S	395.88
BRGWC-38S	412.15
PZ-1S	432.68
PZ -1I	431.88
PZ-1D	430.39
PZ -3S	DRY
PZ - 3I	439.21
PZ- 3D	440.36
PZ- 4S	DRY
PZ - 4I	450.89
PZ-7S	429.93
PZ- 8S	431.38
PZ-9S	451.84
PZ-10S	411.72
PZ-11S	376.47
PZ-12D	360.34
PZ-13S	388.25
PZ-14S	417.41
PZ -14I	417.12
PZ-15S	405.82
PZ -15I	406.34
PZ-16S	374.43
PZ -16I	374.49
PZ -17I	366.44
PZ-18S	346.43
PZ -18I	346.07
PZ-19S	361.13
PZ -19I	360.95
PZ-20S	355.46
PZ -20I	355.63
PZ-21S	353.73
PZ -21I	353.56
PZ-23I	390.02
PZ-26I	348.83
PZ-28I	350.36
PZ-31S	351.77
PZ-39	385.77
PZ-40S	340.66
PZ-41S	340.04
PZ-42S	341.06
PZ-43	353.78
PZ-44	358.83
PZ-45	374.86
PZ-46	375.52
PZ-47	385.68
PZ-48	390.09
PZ-49	376.47
PZ-50	343.70

LEGEND

- ESTIMATE GROUNDWATER SURFACE CONTOUR (feet MSL)
- PROPERTY BOUNDARY
- APPROXIMATE ASH POND BOUNDARY
- APPROXIMATE SURFACE WATER LIMITS
- MONITORING WELL (ELEVATION feet AMSL)
- PIEZOMETER (ELEVATION feet AMSL)

NOTES

1. GROUNDWATER SURFACE CONTOUR INTERVAL = 10 FEET

2. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, AND TOPOGRAPHIC CONTOURS. THEREFORE, CONTOURS MAY NOT REFLECT ACTUAL CONDITIONS.

3. PZ-8S*, PZ-10S*, PZ-11S*, PZ-12D*, AND PZ-49* DATA NOT USED FOR CONTOURING.

4. AMSL=ABOVE MEAN SEA LEVEL.

REFERENCE

1. SERVICE LAYER CREDITS: ESRI, HERE, GARMIN, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

2. COORDINATE SYSTEM: NAD 1983 STATE PLAN GEORGIA WEST (U.S. FEET).

3. BORING/PIEZOMETER LOCATIONS AND PROPERTY LINE PROVIDED BY SOUTHERN COMPANY SERVICES.

1800 900 0 1800
Feet

CLIENT
GEORGIA POWER COMPANY
PLANT BRANCH

PROJECT
GROUNDWATER MONITORING PLAN

TITLE
PIEZOMETRIC SURFACE ELEVATION CONTOUR MAP
JUNE 25, 2018

CONSULTANT
GOLDER

YYYY-MM-DD	2018-08-20
PREPARED	DJC
DESIGN	DLP
REVIEW	DLP
APPROVED	RPK

PROJECT No.	CONTROL	Rev.	FIGURE
1666254	1666254H001-GIS.mxd	0	7

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

Path: H:\16k-Projects\1666254-SCS- Plant Branch\figures\H-JUN 2018 GW\1666254H001-GIS.mxd

TABLE 1
Summary of Historical Groundwater Elevations
Georgia Power Company- Plant Branch
Milledgeville, Georgia

Well-ID	Top of Casing Elevation (feet msl)[1]	GROUNDWATER ELEVATIONS (FEET MSL)								
		8/30/2016	11/21/2016	2/17/2017	6/12/2017	9/25/2017	2/7/2018	2/13/2018	6/25/2018	9/18/2018
POND BCD										
BRGWA-12S	439.69	391.26	341.94	389.54	388.88	388.42	387.14	387.43	387.01	DRY
BRGWA-12I	439.43	390.64	341.60	389.57	388.80	388.47	425.03	387.40	386.99	386.50
BRGWA-23S	428.42	395.74	361.06	394.05	392.90	392.61	390.71	390.74	390.08	389.57
BRGWC-25I	357.46	348.30	338.59	349.86	349.53	349.01	349.60	349.75	348.57	347.66
BRGWC-27I	367.99	363.35	357.29	364.60	364.91	364.63	364.40	364.23	362.54	360.67
BRGWC-29I	353.30	343.46	333.29	344.15	344.30	343.72	343.73	344.06	343.48	343.05
BRGWC-30I	352.33	347.85	343.69	348.42	348.13	348.36	348.11	348.16	347.63	347.61
BRGWC-32S	406.51	372.01	335.50	370.37	371.86	372.10	371.12	371.05	370.65	369.37
BRGWC-45	384.61	NA	NA	NA	NA	NA	373.67	373.55	374.86	372.77
BRGWC-47	411.32	NA	NA	NA	NA	NA	385.72	385.59	385.68	384.27
BRGWC-50	381.53	NA	NA	NA	NA	NA	343.47	346.10	343.70	343.45
BRGWC-52I	383.83	NA	NA	NA	NA	NA	NA	NA	NA	344.57
POND E										
BRGWA-2S	458.02	439.6	419.5	442.40	443.20	442.31	443.65	443.75	442.82	440.63
BRGWA-2I	457.85	439.7	419.6	442.15	443.00	442.14	443.45	443.61	442.74	440.63
BRGWA-5S	448.53	436.0	422.5	436.76	436.18	435.44	435.91	435.87	436.30	435.22
BRGWA-5I	448.44	435.9	422.5	436.74	436.17	435.49	435.91	435.86	436.32	435.24
BRGWA-6S	463.63	438.5	411.0	439.65	437.92	437.74	435.11	437.60	438.12	436.36
BRGWC-17S	370.25	364.7	358.8	364.60	364.17	364.11	364.05	364.39	363.66	363.95
BRGWC-33S	416.92	408.7	400.9	410.10	409.30	408.84	409.32	409.39	409.35	408.87
BRGWC-34S	392.06	389.3	386.7	389.68	389.52	389.36	389.59	389.67	389.32	389.36
BRGWC-35S	366.54	364.4	362.2	364.44	364.40	364.34	364.44	364.51	364.39	364.37
BRGWC-36S	386.00	384.3	382.4	384.20	383.94	383.80	383.42	383.47	383.30	383.30
BRGWC-37S	447.23	400.6	352.9	398.18	399.72	396.98	395.84	395.82	395.88	395.79
BRGWC-38S	432.33	412.2	391.0	413.61	412.05	411.47	411.78	411.69	412.15	410.79

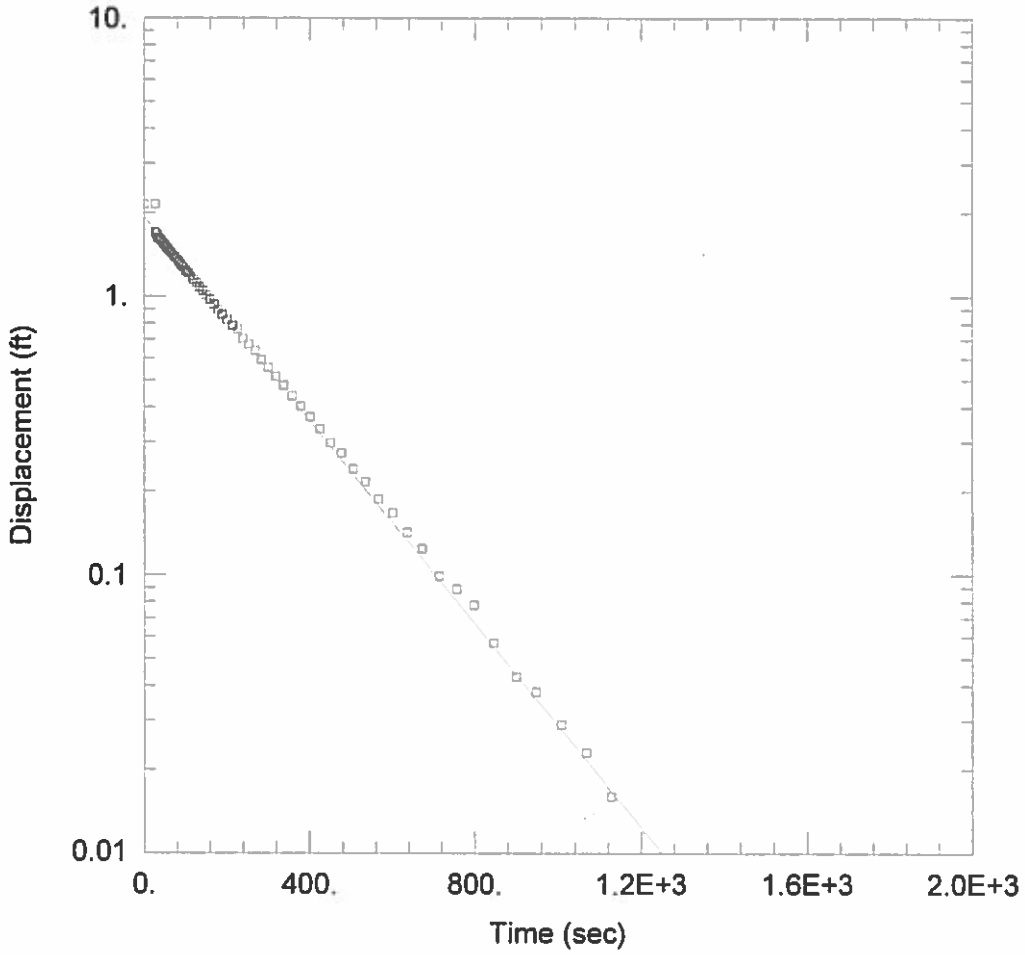
Note:

1. feet msl = feet mean sea level

golder.com

Attachment E

Slug Test Data Plots



PZ-32S FALLING

Data Set: G:\...\PZ-32S Falling.aqt
Date: 09/19/16 Time: 14:31:25

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-32S Falling
Test Date: 08/16/16

AQUIFER DATA

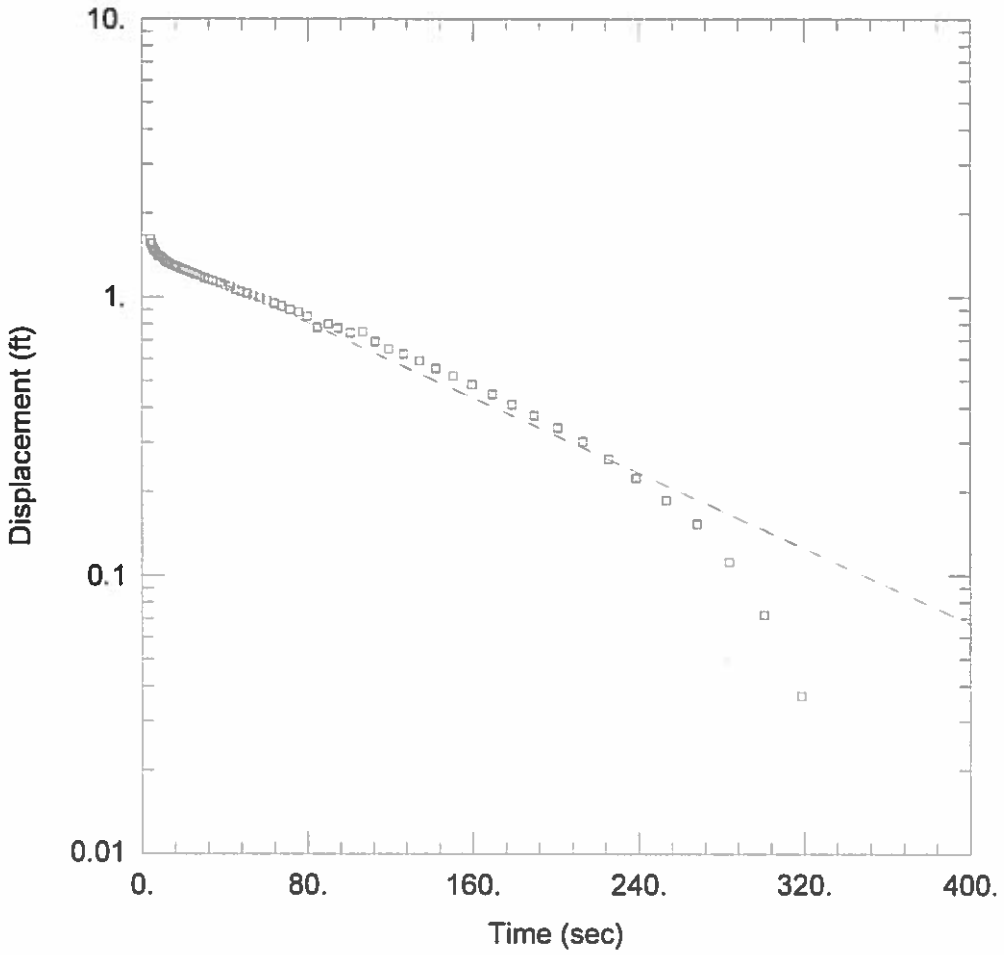
Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-32S Falling)

Initial Displacement: 2.139 ft
Total Well Penetration Depth: 10.5 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.5 ft
Screen Length: 9.5 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.3795 ft/day y0 = 1.925 ft



PZ-32S RISING

Data Set: G:\...\PZ-32S Rising.aqt
Date: 09/19/16 Time: 14:33:30

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-32S Rising
Test Date: 08/16/16

AQUIFER DATA

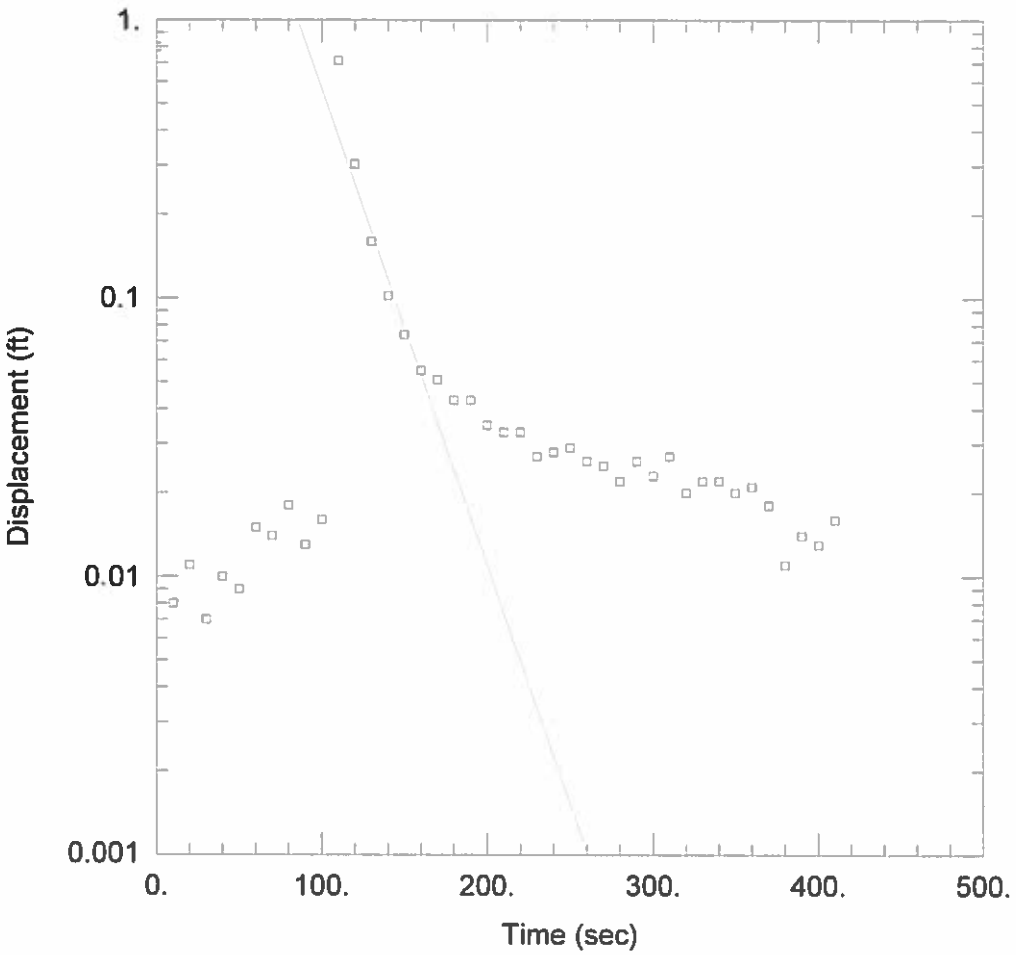
Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-32S Rising)

Initial Displacement: 1.612 ft
Total Well Penetration Depth: 11. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 10.5 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6744 ft/day
y0 = 1.507 ft



WELL TEST ANALYSIS

Data Set: N:\...\11-1.aqt
Date: 11/13/19 Time: 16:19:15

PROJECT INFORMATION

Company: SCS
Test Well: Branch PZ-11S

AQUIFER DATA

Saturated Thickness: 12. ft Anisotropy Ratio (Kz/Kr): 1.

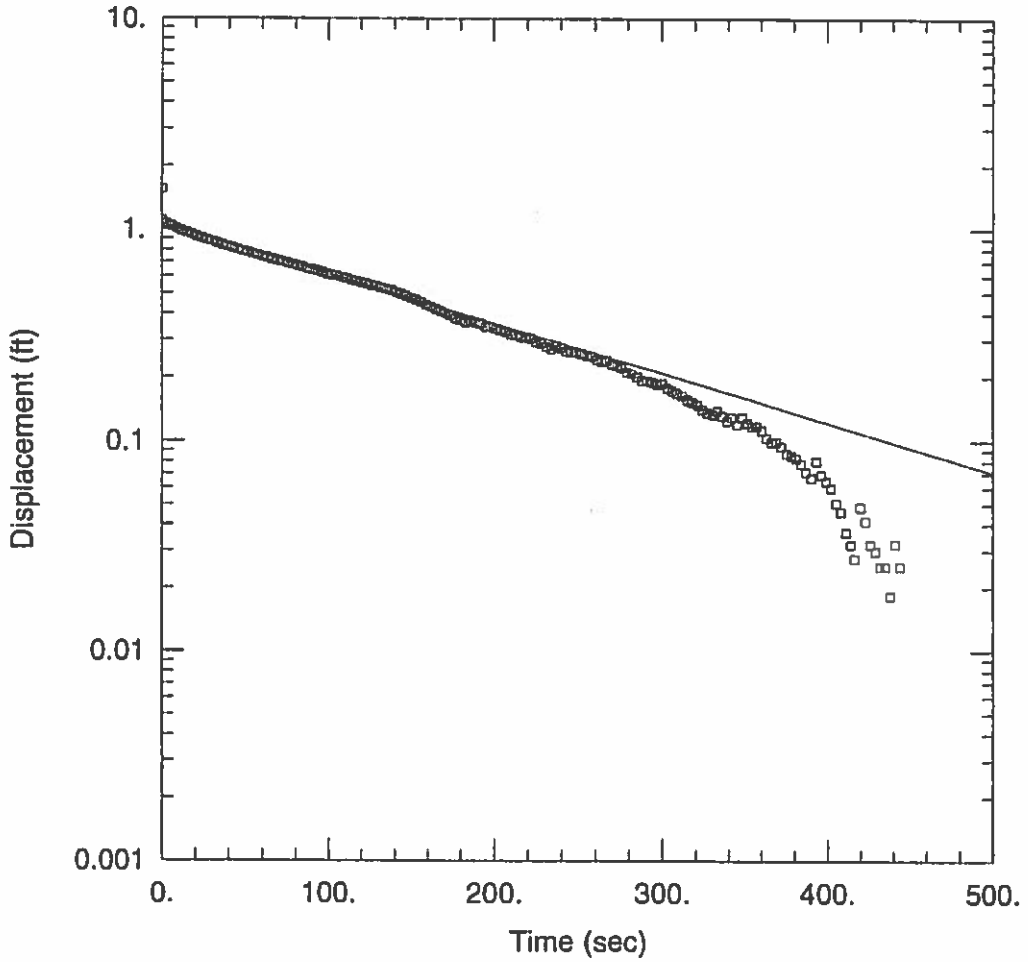
WELL DATA (PZ-11S Rising Head 1)

Initial Displacement: 0.8 ft
Total Well Penetration Depth: 21.7 ft
Casing Radius: 0.167 ft
Static Water Column Height: 12. ft
Screen Length: 10. ft
Well Radius: 0.42 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 7.615 ft/day y0 = 29.3 ft



B-6 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B6 Slug In.aqt
Date: 01/17/08 Time: 14:47:20

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-6
Test Date: 12/18/07

AQUIFER DATA

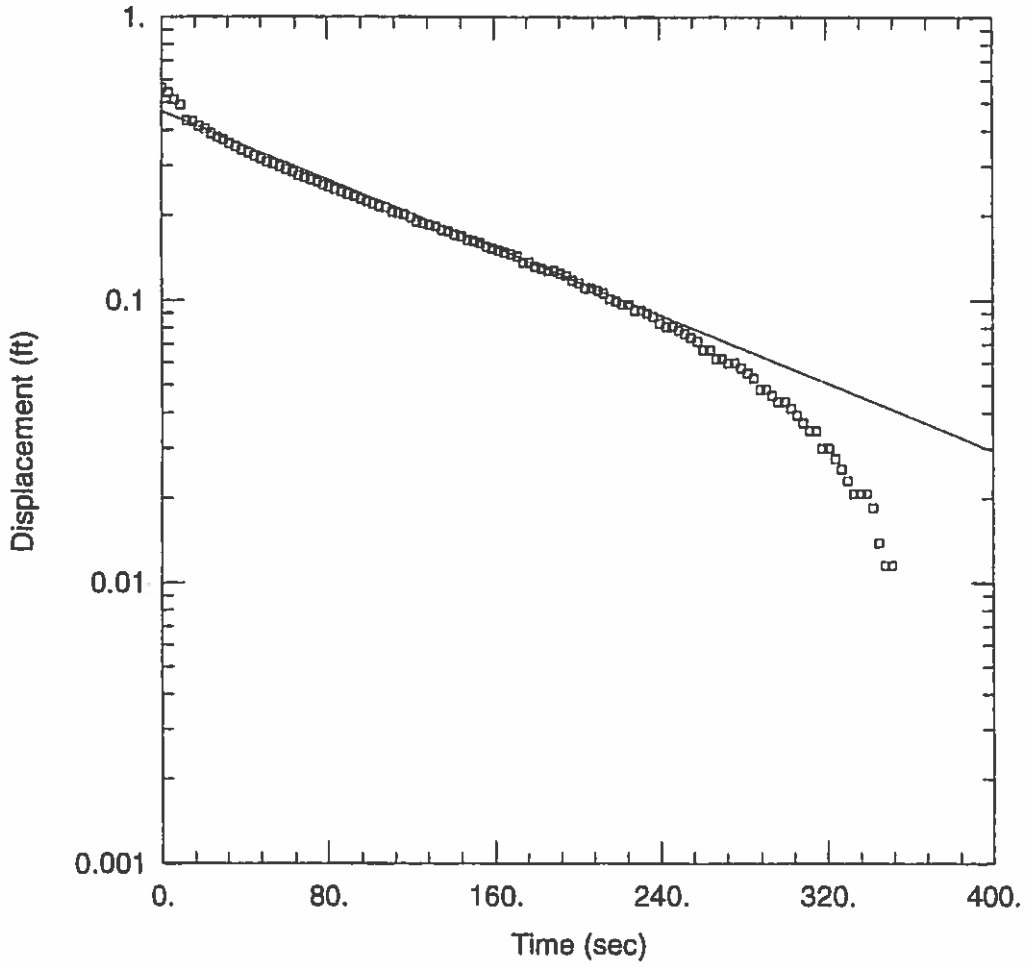
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B6 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 19.2 ft
Casing Radius: 0.083 ft
Static Water Column Height: 35.3 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0001332 cm/sec
y0 = 1.055 ft



B-6 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B6 Slug Out.aqt
Date: 01/17/08 Time: 14:47:26

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-6
Test Date: 12/18/07

AQUIFER DATA

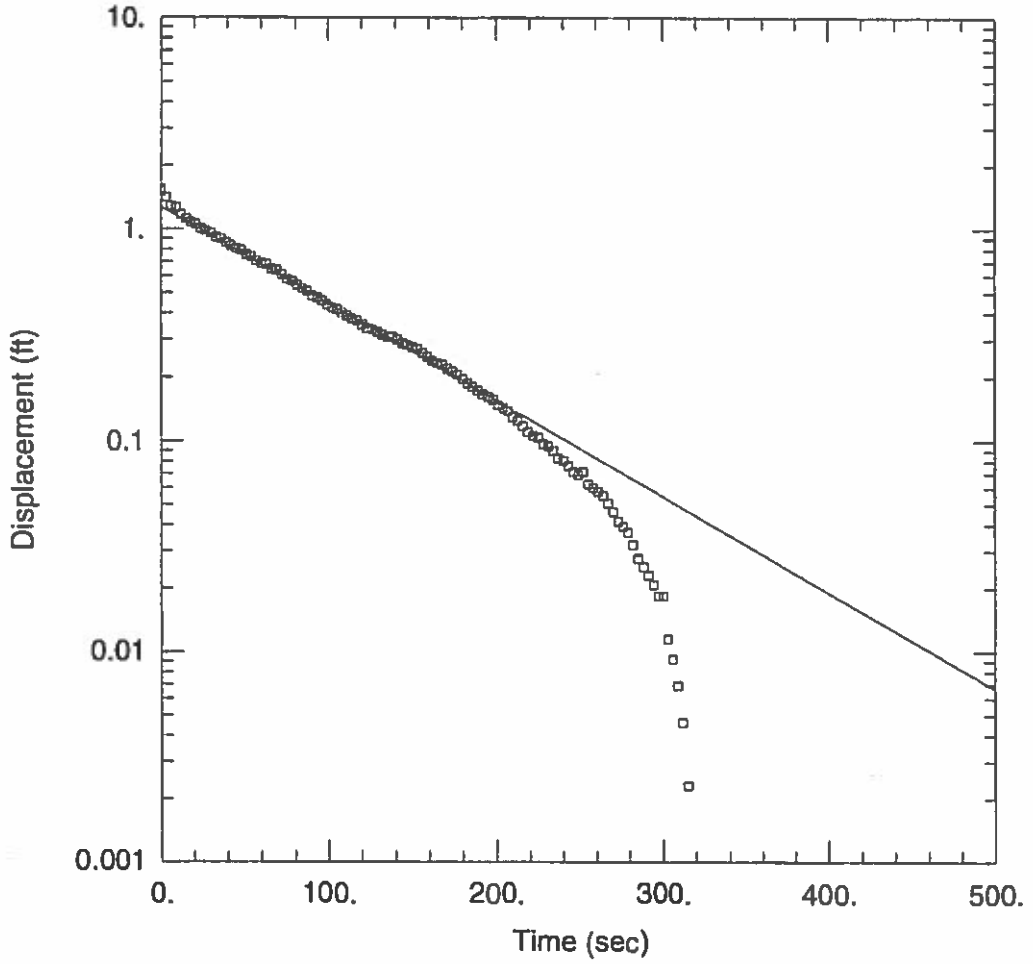
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B6 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 19.2 ft
Casing Radius: 0.083 ft
Static Water Column Height: 35.3 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0001705 cm/sec
y0 = 0.4654 ft



B-8 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B8 Slug In.aqt
Date: 01/29/08 Time: 14:35:14

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-8
Test Date: 12/18/07

AQUIFER DATA

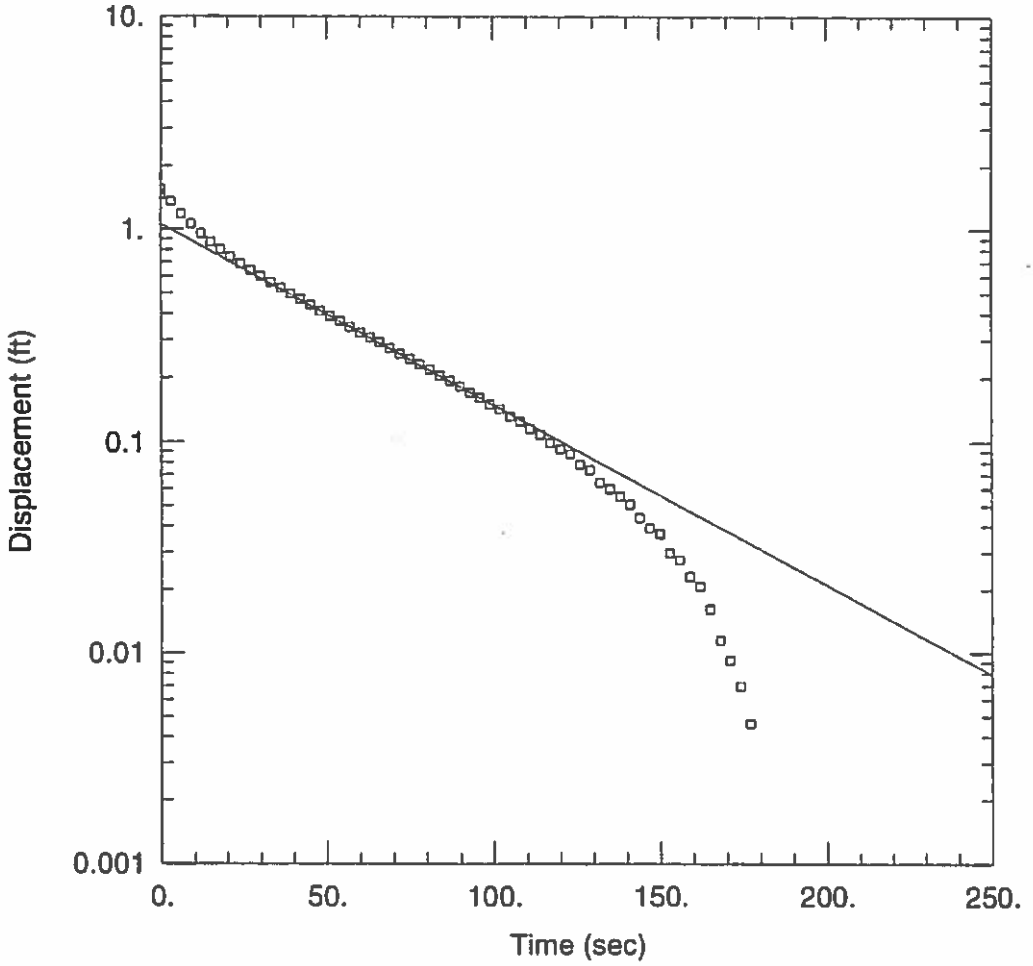
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B8 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 29.7 ft
Casing Radius: 0.083 ft
Static Water Column Height: 29.7 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0002775 cm/sec
y0 = 1.271 ft



B-8 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B8 Slug Out.aqt
Date: 01/29/08 Time: 14:39:08

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-8
Test Date: 12/18/07

AQUIFER DATA

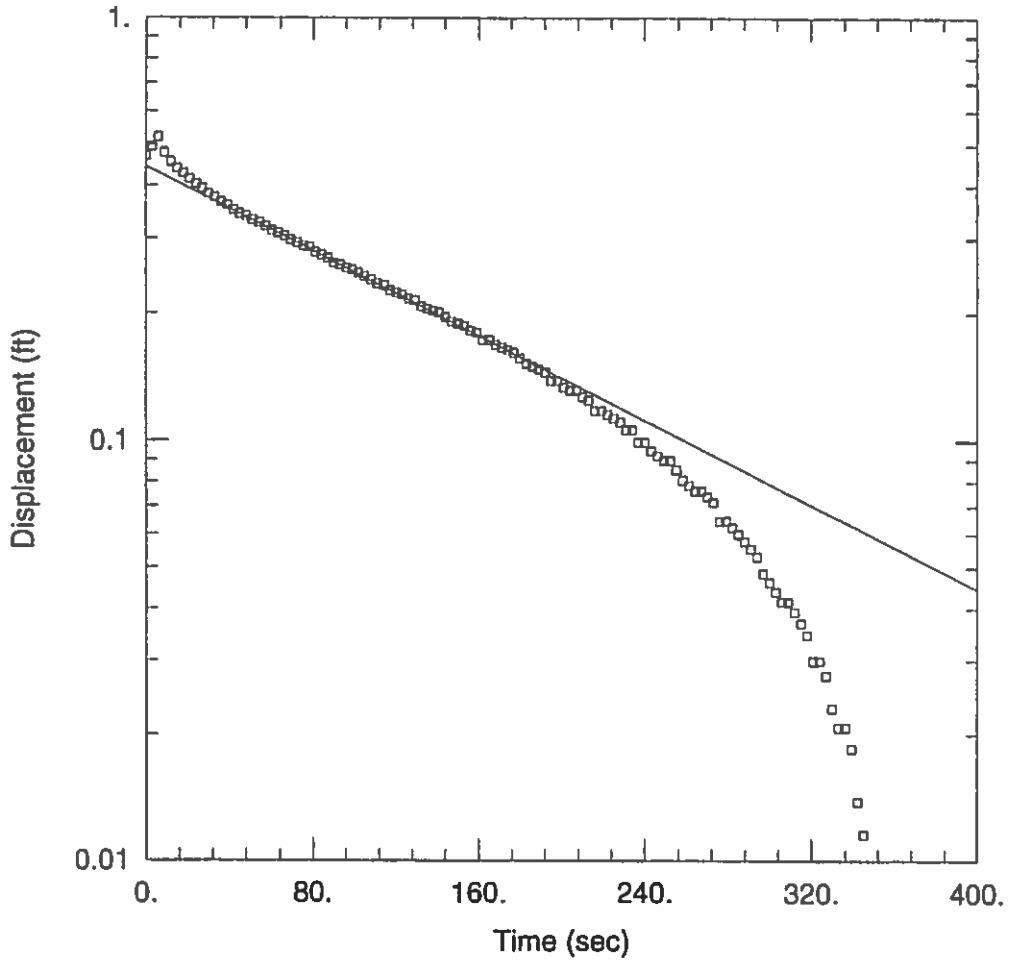
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B8 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 29.7 ft
Casing Radius: 0.083 ft
Static Water Column Height: 29.7 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0005172 cm/sec
y0 = 1.054 ft



B-12 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B12 Slug Out.aqt
Date: 01/29/08 Time: 14:52:04

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-12
Test Date: 12/18/07

AQUIFER DATA

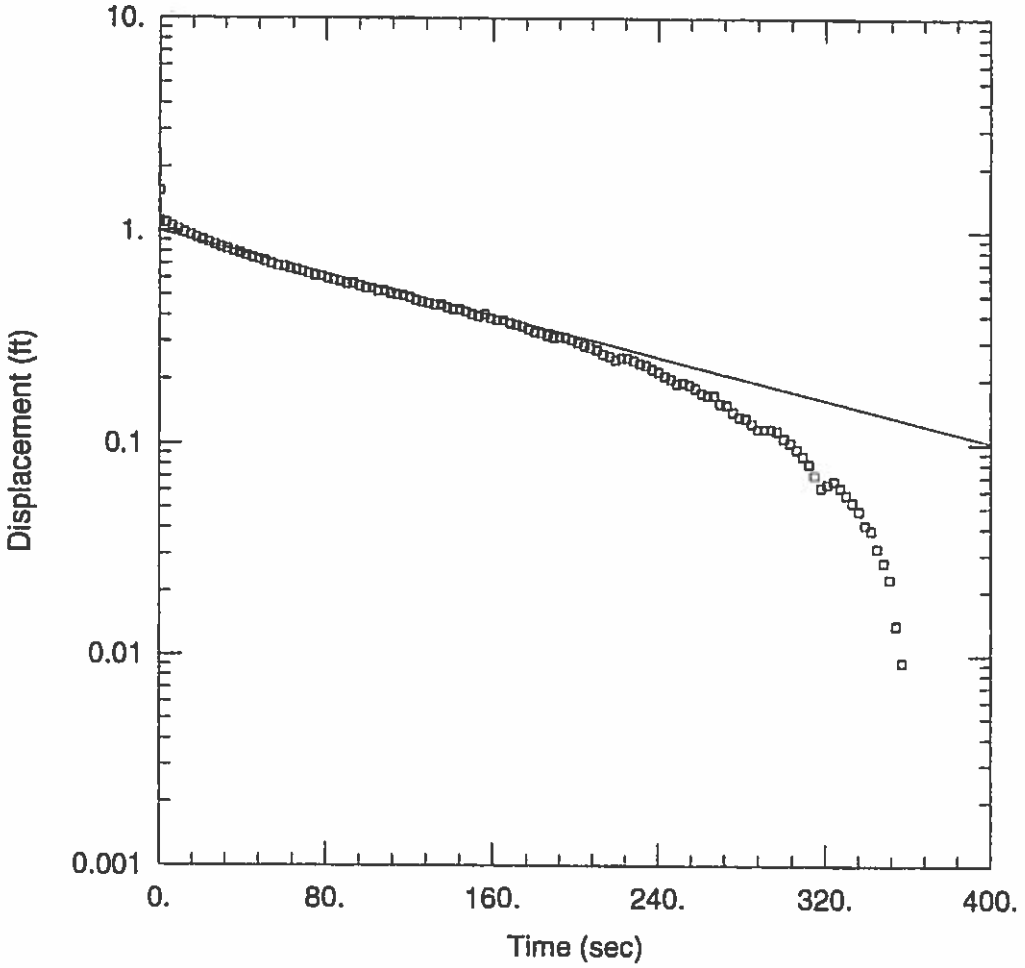
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B12 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 19.3 ft
Casing Radius: 0.083 ft
Static Water Column Height: 19.3 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0001422 cm/sec
y0 = 0.4445 ft



B-12 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B12 Slug In.agt
Date: 01/29/08 Time: 15:02:18

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-12
Test Date: 12/18/07

AQUIFER DATA

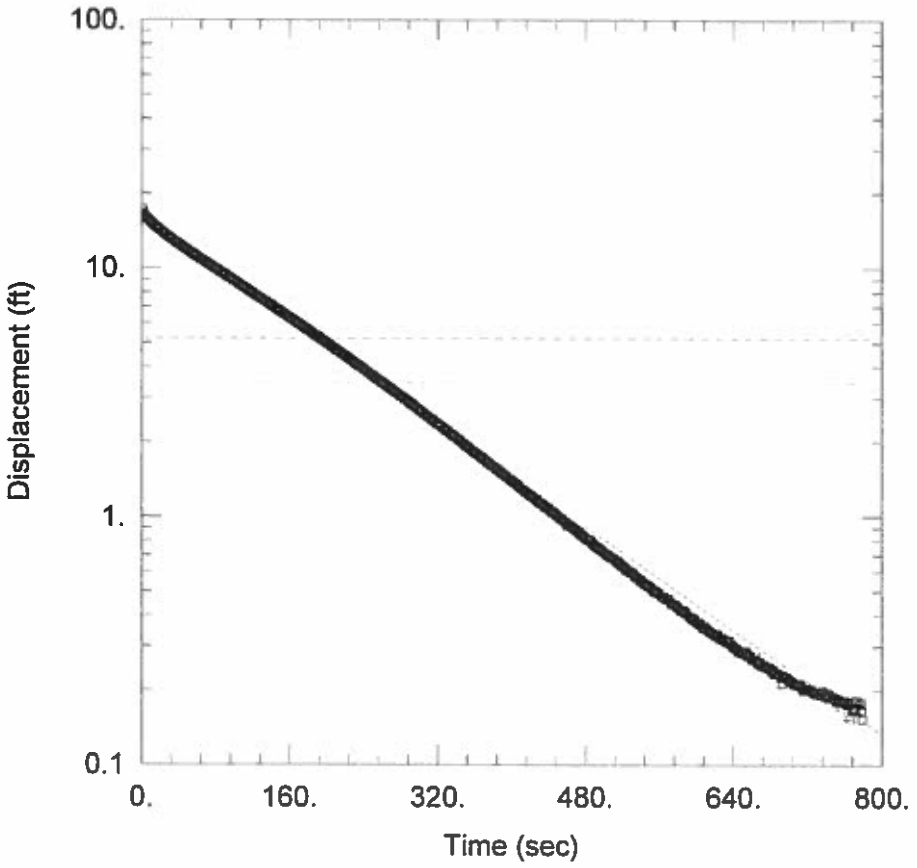
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B12 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 19.3 ft
Casing Radius: 0.083 ft
Static Water Column Height: 19.3 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0001409 cm/sec
y0 = 0.9951 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 17:40:23

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

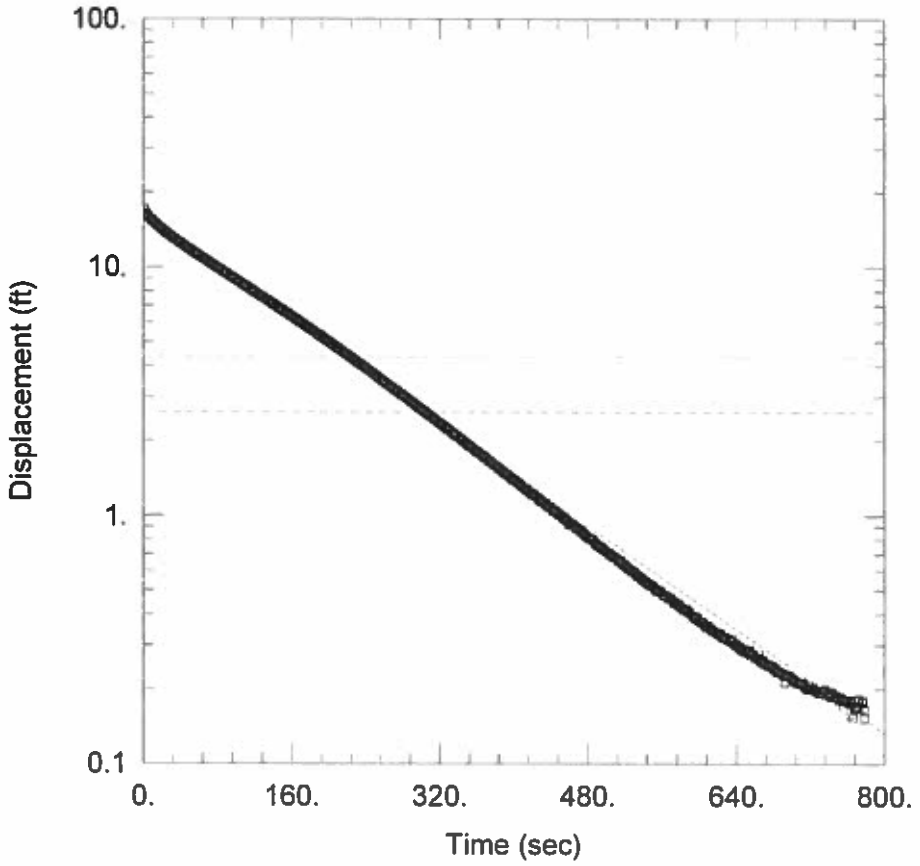
Saturated Thickness: 79.92 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13S)

Initial Displacement: 17.36 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.838 ft/day
y0 = 16.16 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 17:41:34

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

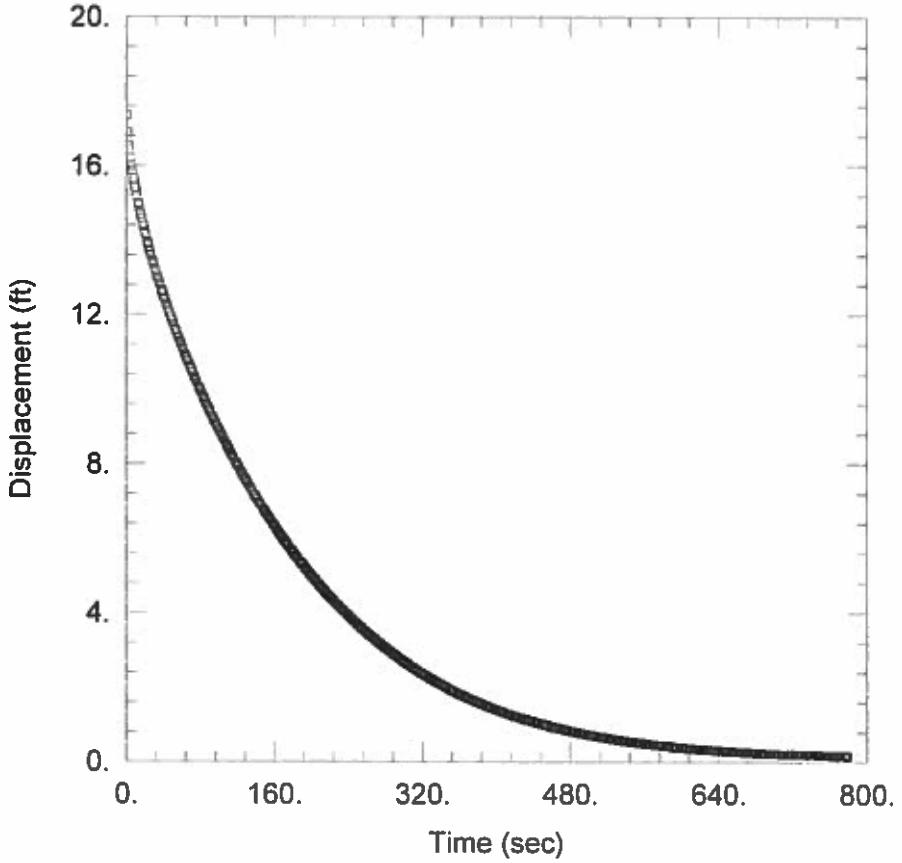
Saturated Thickness: 79.92 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13S)

Initial Displacement: 17.36 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.9759 ft/day
y0 = 16.16 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test1 KGS.aqt
Date: 02/07/19 Time: 17:44:49

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 79.92 ft

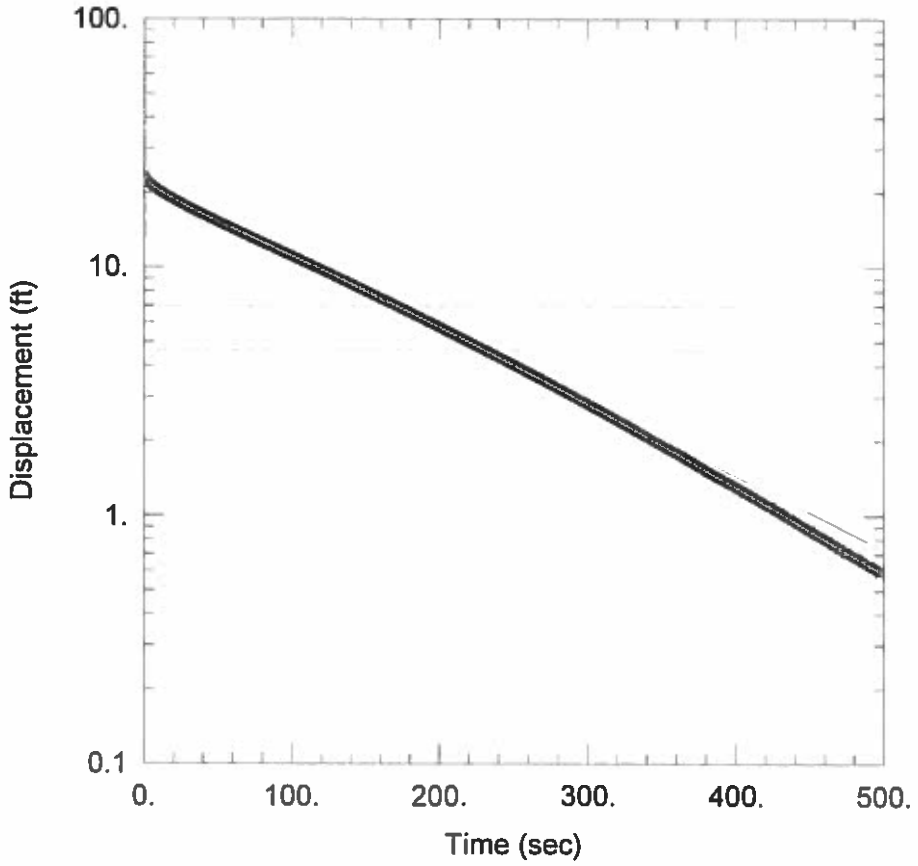
WELL DATA (PB-13S)

Initial Displacement: 17.36 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.9507 ft/day
Kz/Kr = 0.1
Ss = 2.081E-6 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 17:48:26

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

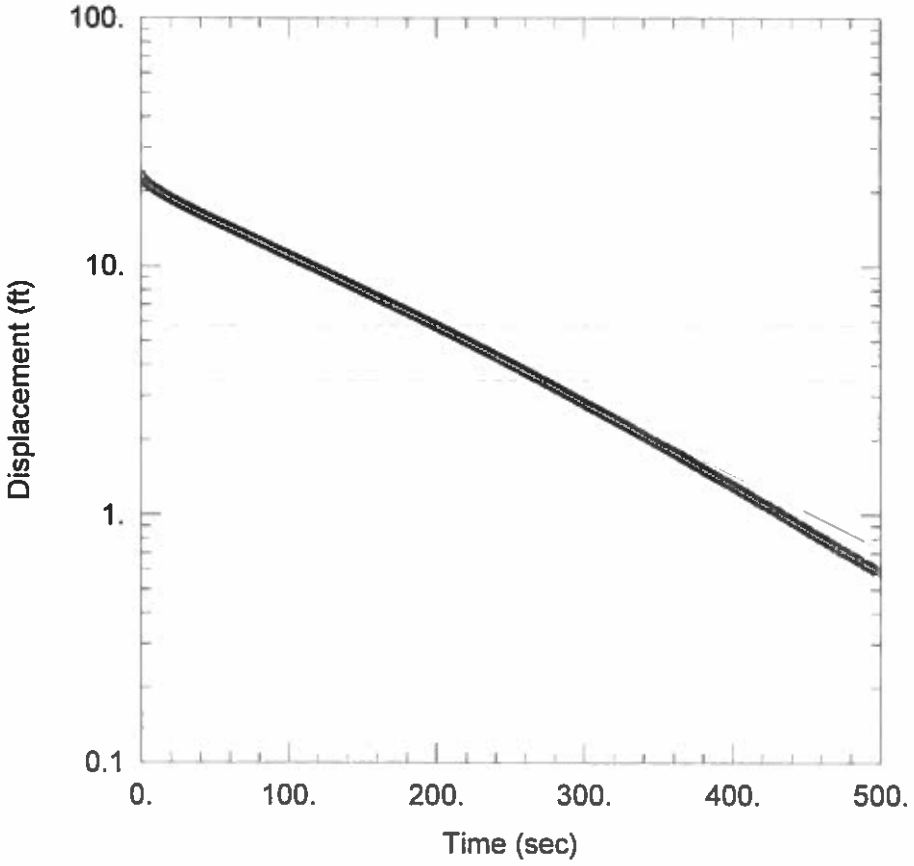
Saturated Thickness: 79.92 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13S)

Initial Displacement: 23.15 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.9462 ft/day
y0 = 21.67 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 17:50:29

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

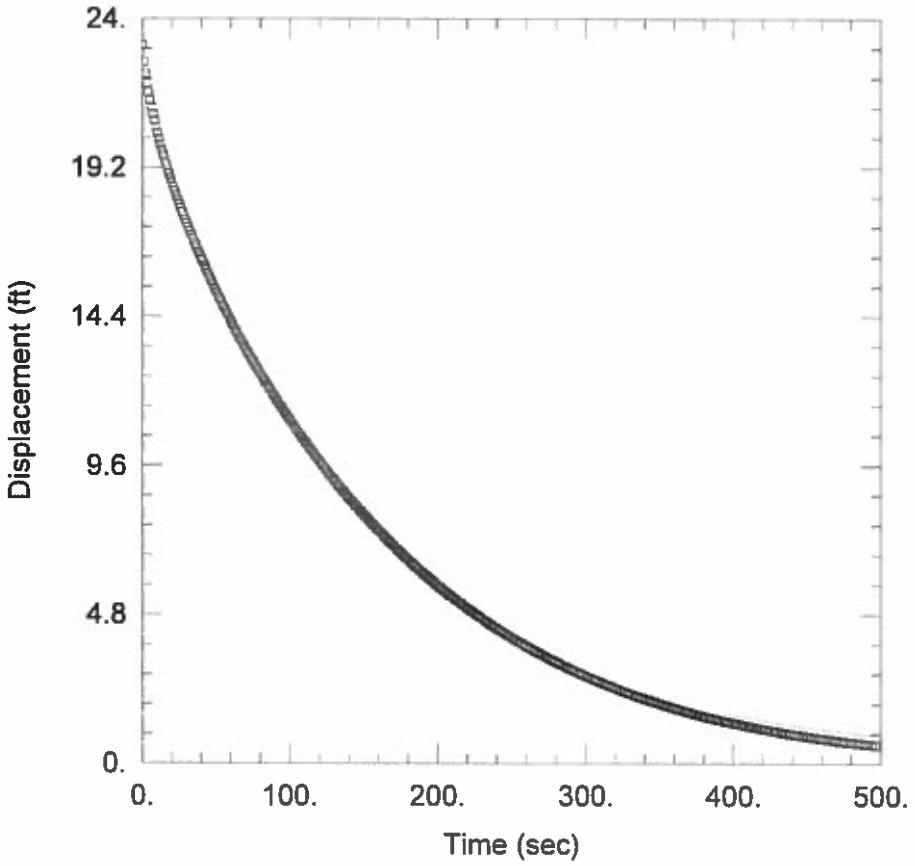
Saturated Thickness: 79.92 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13S)

Initial Displacement: 23.15 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 1.102 ft/day
y0 = 21.67 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13S-Test2 KGS.aqt
Date: 02/07/19 Time: 17:52:25

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13S
Test Date: 1/29/2019

AQUIFER DATA

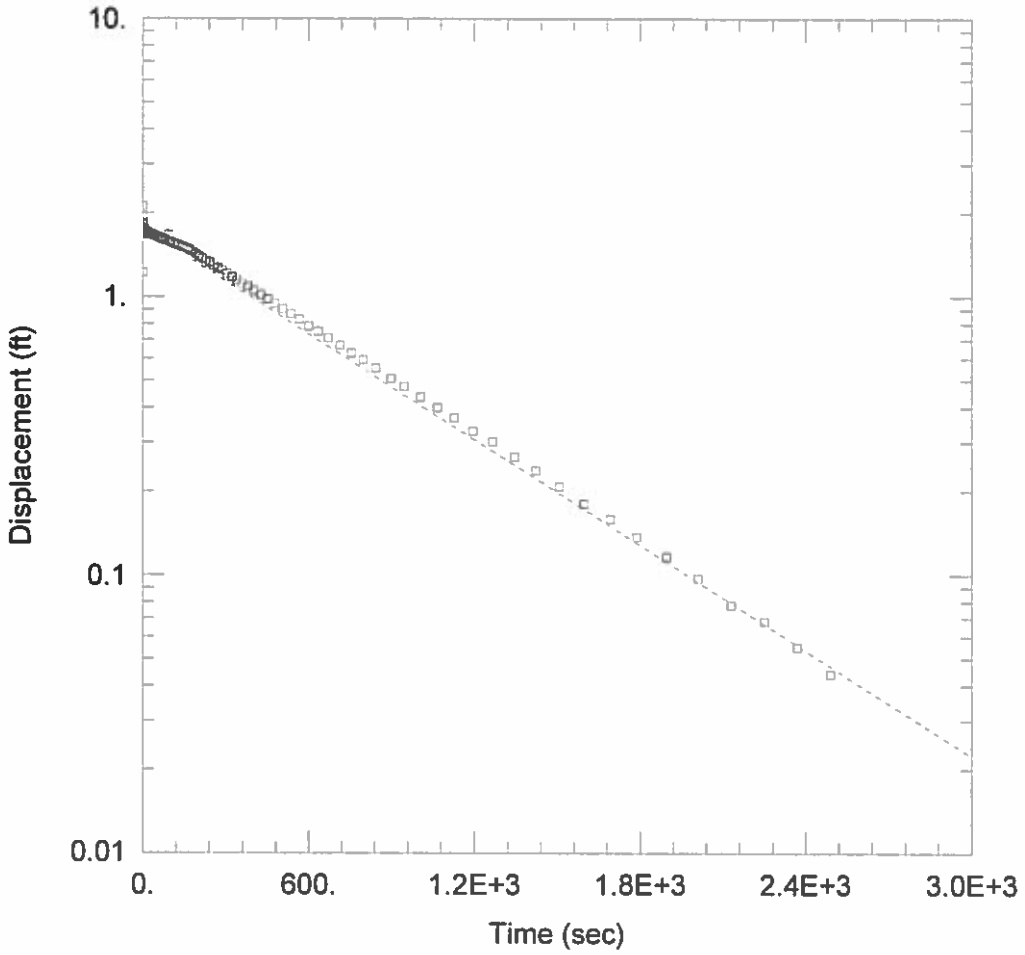
Saturated Thickness: 79.92 ft

WELL DATA (PB-13S)

Initial Displacement: 23.15 ft
Total Well Penetration Depth: 43.82 ft
Casing Radius: 0.08 ft
Static Water Column Height: 43.82 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model
Kr = 1.061 ft/day
Kz/Kr = 0.1
Ss = 2.396E-6 ft^{-1}



PZ-23S RISING

Data Set: G:\...\PZ-23S Rising.aqt
Date: 09/19/16 Time: 15:29:33

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-23S Rising
Test Date: 08/15/16

AQUIFER DATA

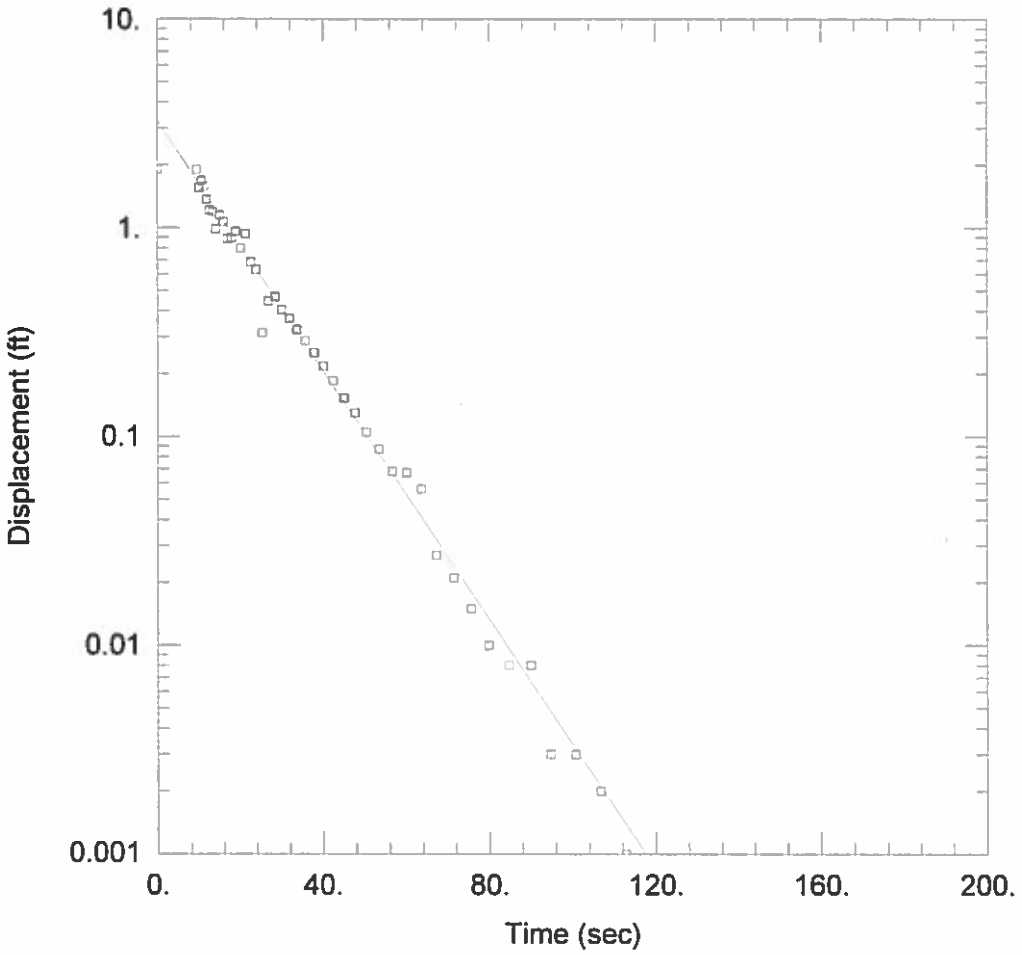
Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-23S Rising)

Initial Displacement: 1.943 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08333 ft
Static Water Column Height: 7.65 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.1208 ft/day y0 = 1.76 ft



PZ-31S FALLING

Data Set: G:\...\PZ-31S Falling.aqt
Date: 09/19/16 Time: 14:25:55

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-31S Falling
Test Date: 08/15/16

AQUIFER DATA

Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

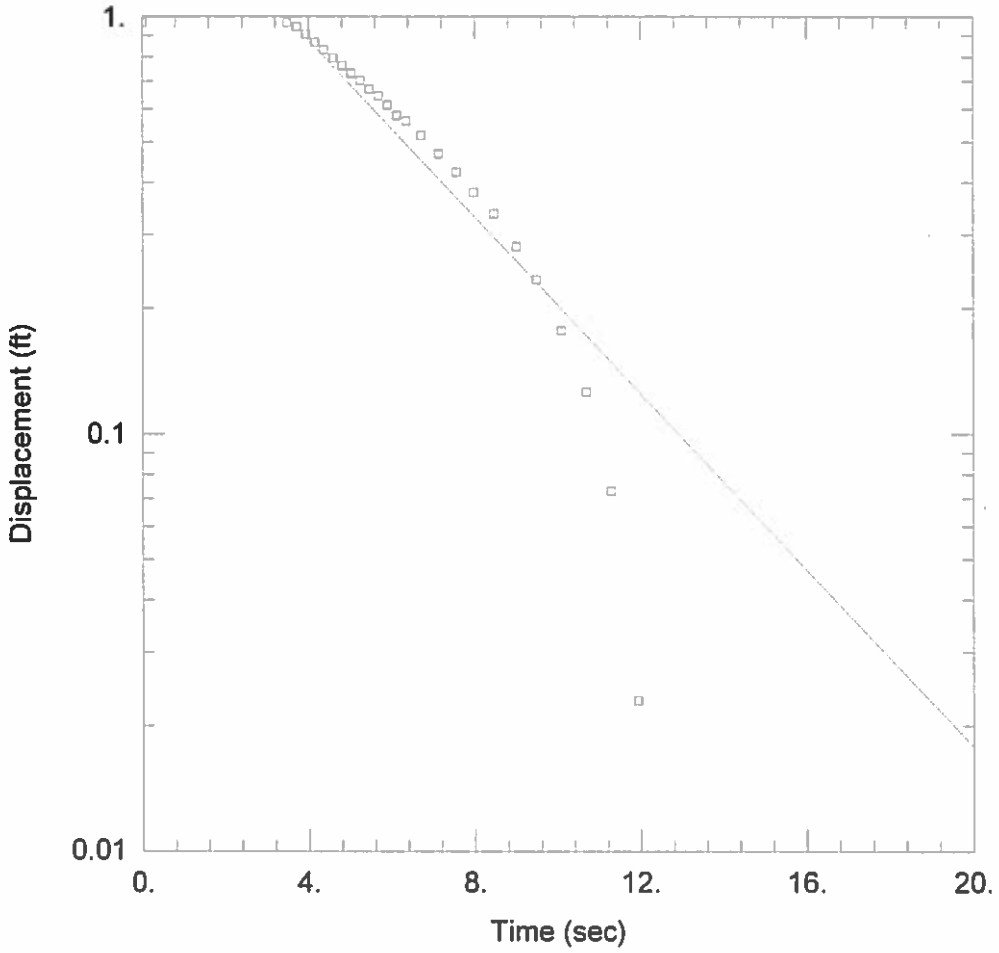
WELL DATA (PZ-31S Falling)

Initial Displacement: 1.901 ft
Total Well Penetration Depth: 15.64 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 15.14 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 6.101 ft/day y0 = 3.24 ft



PZ-31S RISING

Data Set: G:\...\PZ-31S Rising.aqt
Date: 09/19/16 Time: 14:28:41

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-31S Rising
Test Date: 08/15/16

AQUIFER DATA

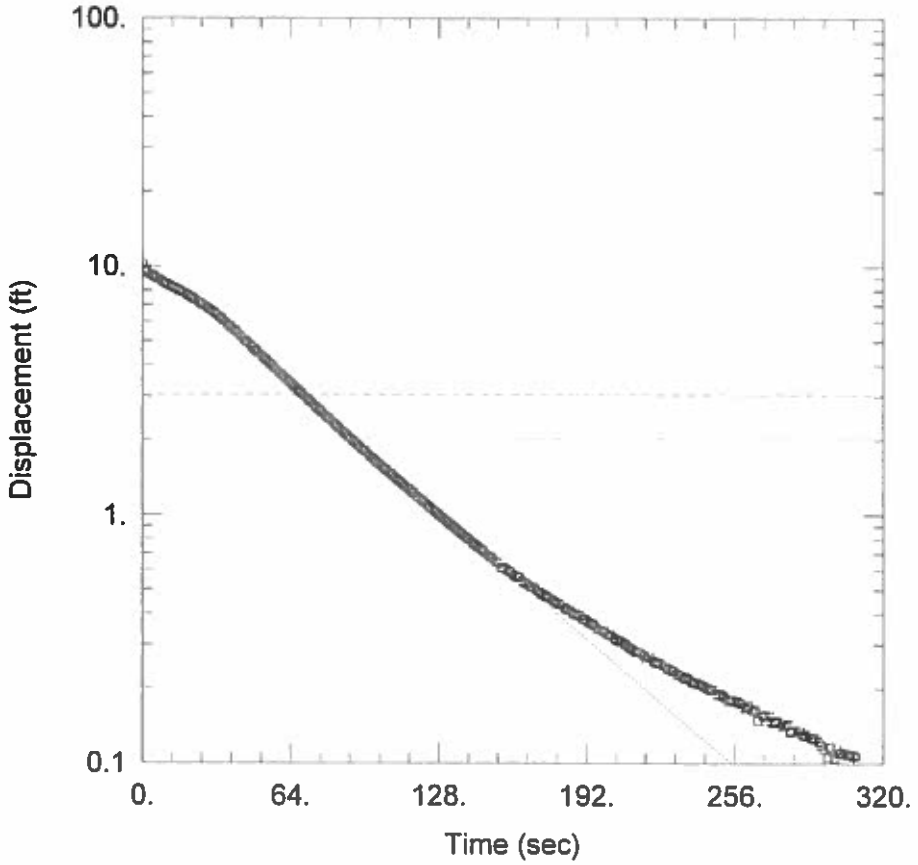
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-31S Rising)

Initial Displacement: 0.968 ft
Total Well Penetration Depth: 15.64 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 15.14 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 21.56 ft/day
y0 = 2.32 ft



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 11:53:40

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

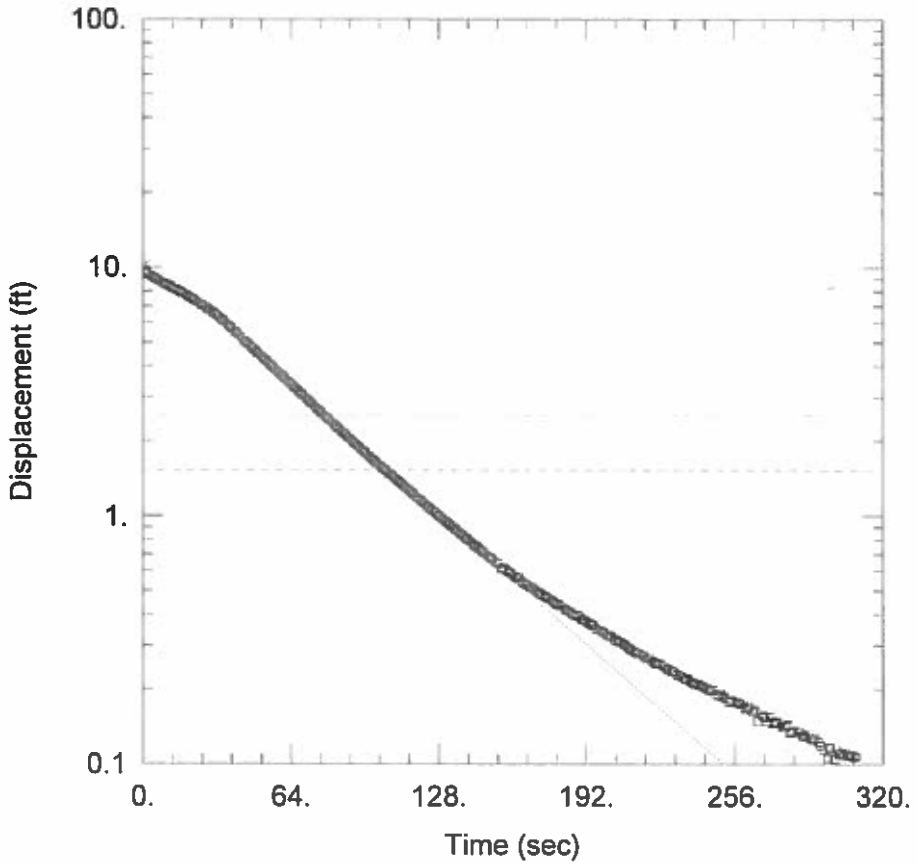
Saturated Thickness: 42.44 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-1S)

Initial Displacement: 10.17 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.27 ft/day
y0 = 10.83 ft



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 11:54:10

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

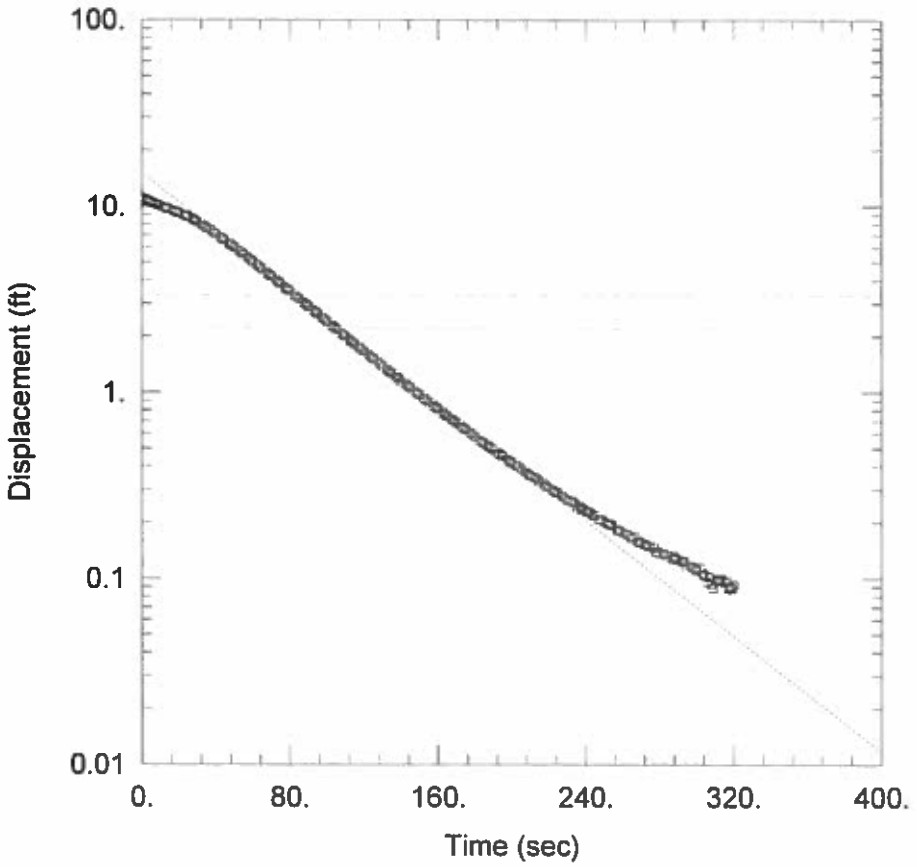
Saturated Thickness: 42.44 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-1S)

Initial Displacement: 10.17 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 3.055 ft/day
y0 = 11.18 ft



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 11:55:16

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

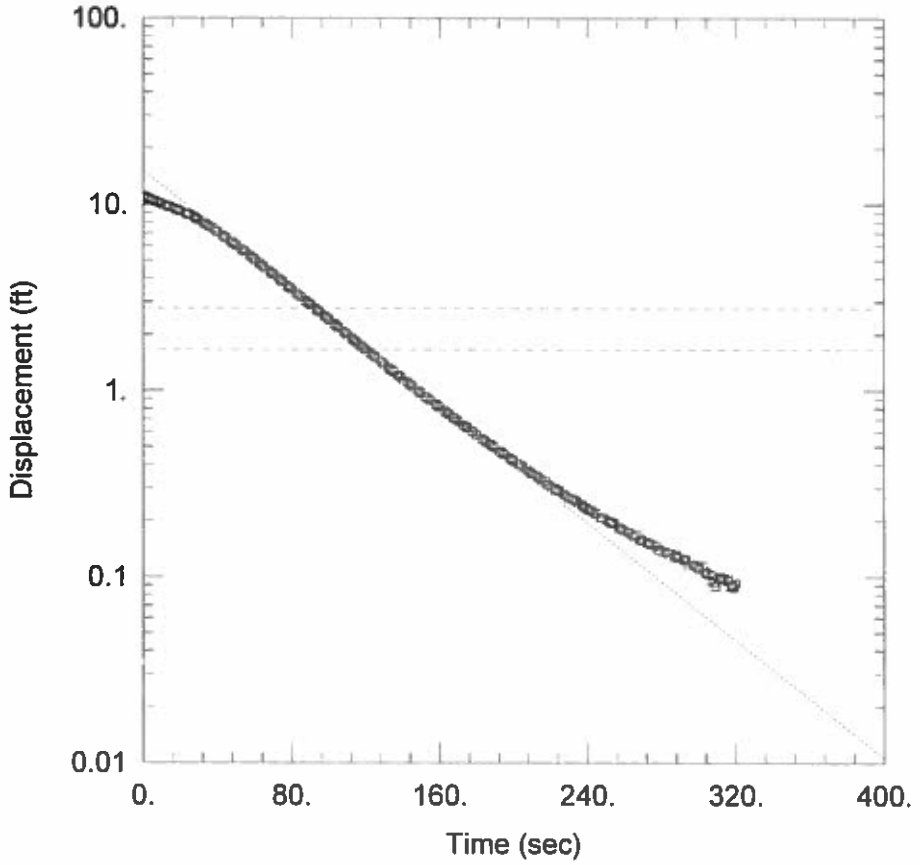
Saturated Thickness: 42.44 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-1S)

Initial Displacement: 11.03 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.207 ft/day
y0 = 15.03 ft



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 11:55:44

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

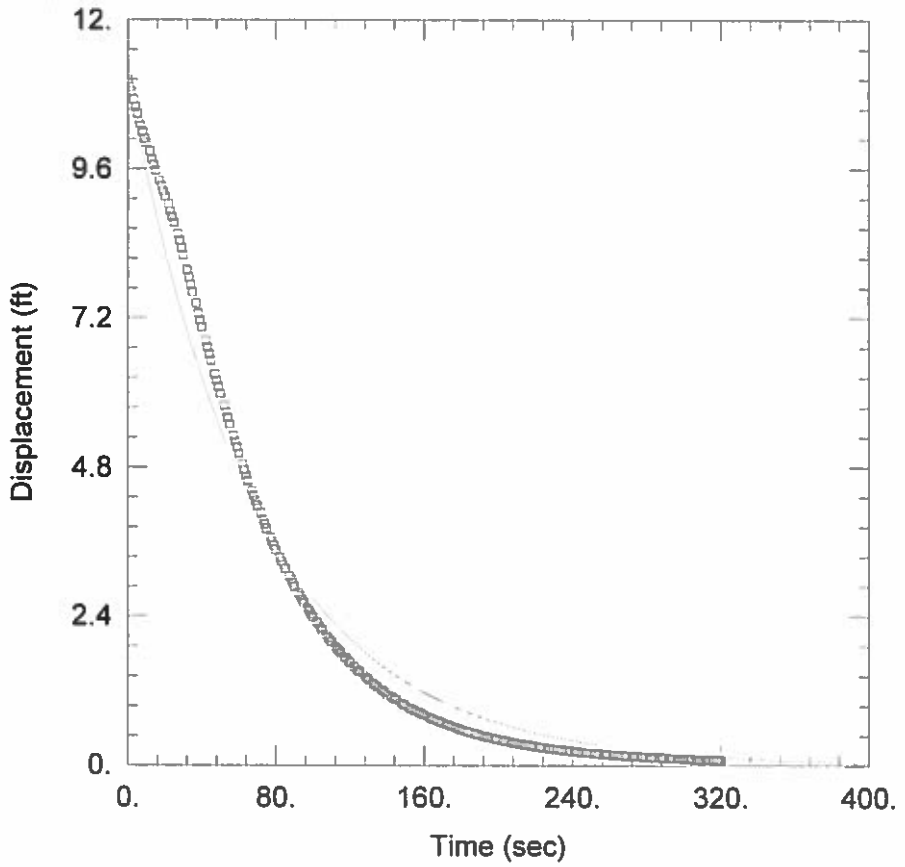
Saturated Thickness: 42.44 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-1S)

Initial Displacement: 11.03 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 2.954 ft/day
y0 = 15.17 ft



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test1 KGS.aqt
Date: 02/08/19 Time: 13:34:18

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

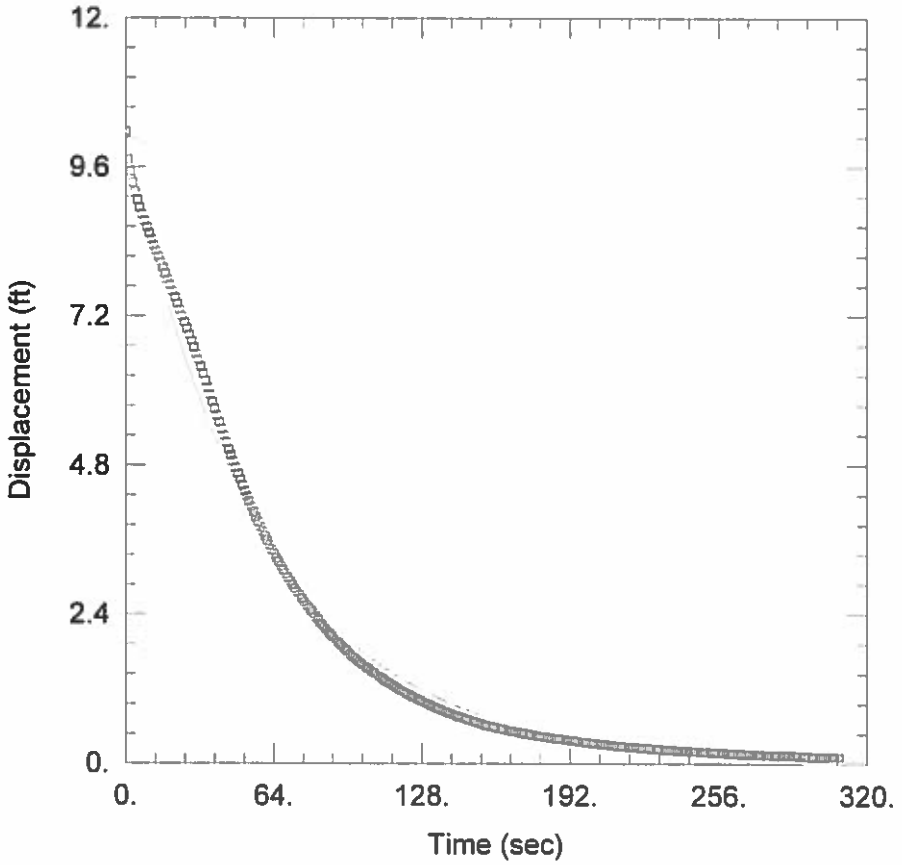
Saturated Thickness: 42.44 ft

WELL DATA (PB-1S)

Initial Displacement: 11.03 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model
Kr = 2.085 ft/day
Kz/Kr = 0.1
Ss = 1.387E-7 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-1S-Test2 KGS.aqt
Date: 02/08/19 Time: 13:36:19

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-1S
Test Date: 1/30/2019

AQUIFER DATA

Saturated Thickness: 42.44 ft

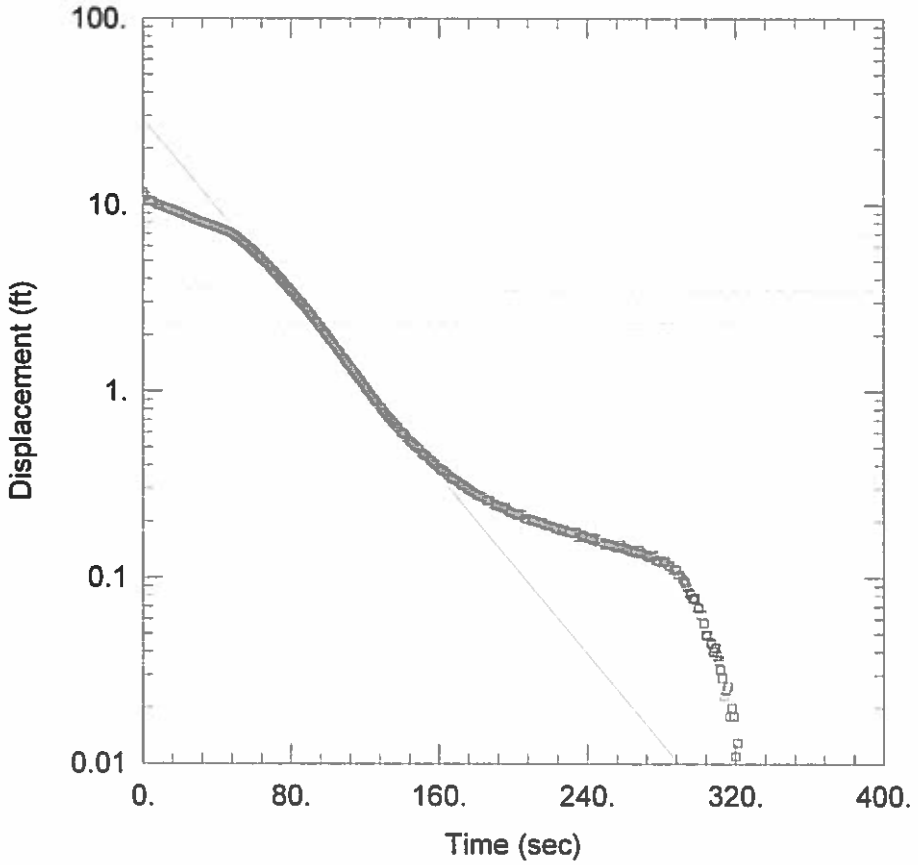
WELL DATA (PB-1S)

Initial Displacement: 10.17 ft
Total Well Penetration Depth: 14.44 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.44 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 2.504 ft/day
Kz/Kr = 0.1
Ss = 2.866E-7 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 12:00:47

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

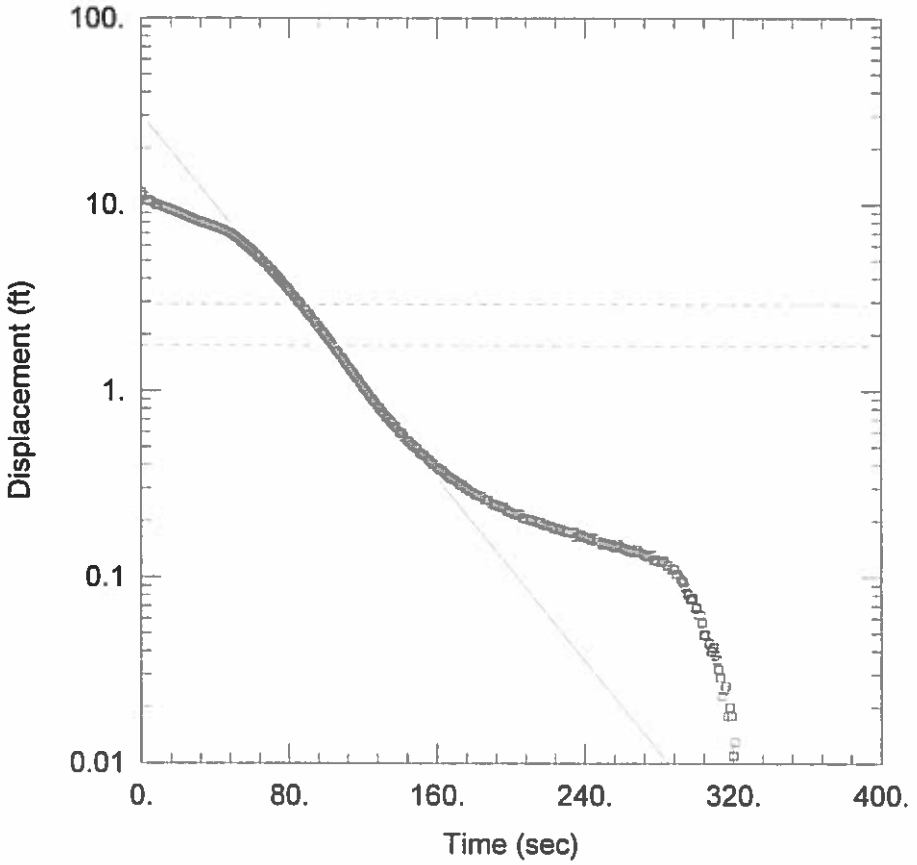
Saturated Thickness: 72.42 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-4S)

Initial Displacement: 11.61 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.462 ft/day
y0 = 28.67 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 12:01:49

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

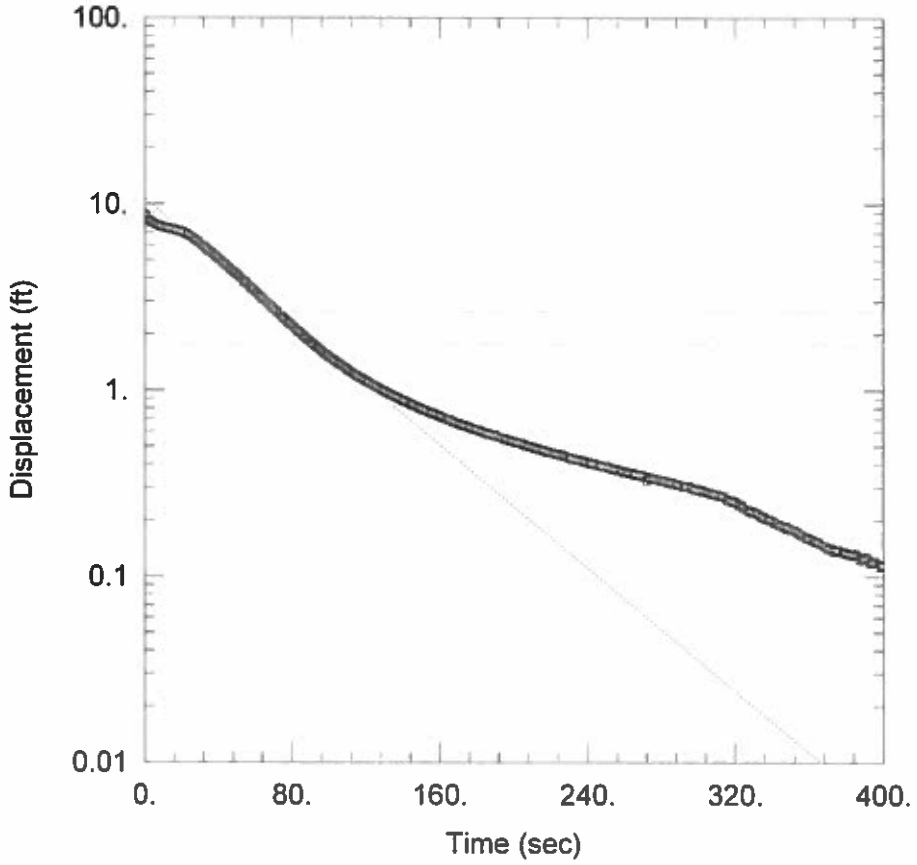
Saturated Thickness: 72.42 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-4S)

Initial Displacement: 11.61 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 4.577 ft/day
y0 = 30.34 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 12:09:56

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

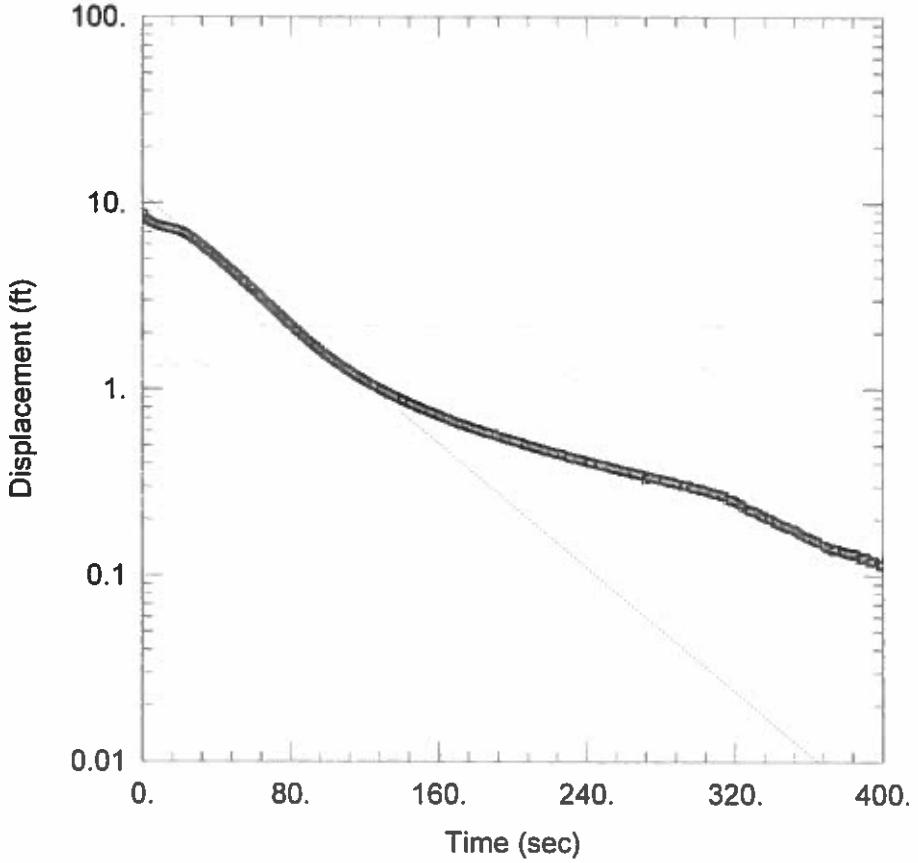
Saturated Thickness: 72.42 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-4S)

Initial Displacement: 8.79 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.395 ft/day
y0 = 10.7 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 12:11:10

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

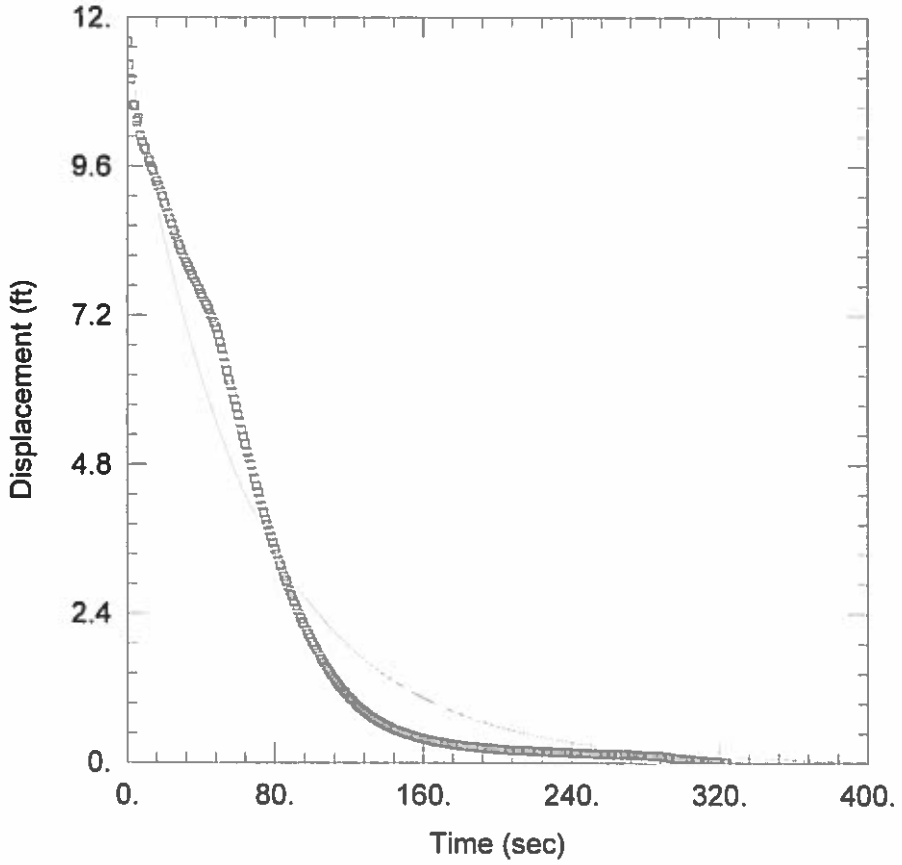
Saturated Thickness: 72.42 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-4S)

Initial Displacement: 8.79 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 3.123 ft/day
y0 = 11.03 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test1 KGS.aqt
Date: 02/08/19 Time: 16:03:21

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

Saturated Thickness: 72.42 ft

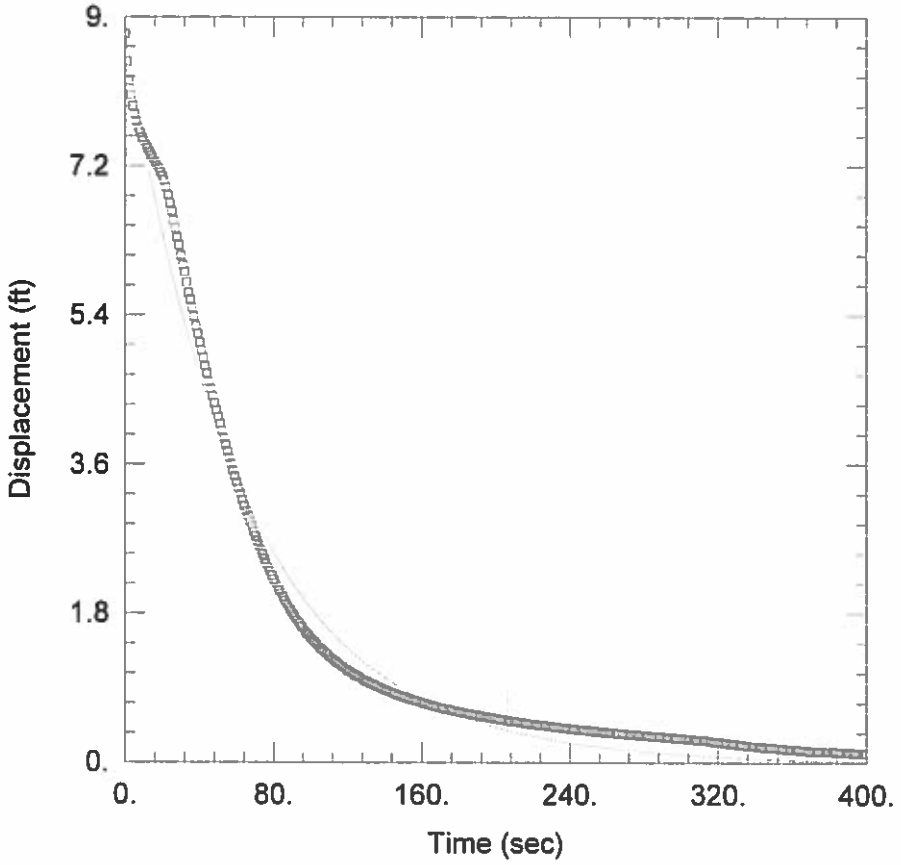
WELL DATA (PB-4S)

Initial Displacement: 11.61 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 2.282 ft/day
Kz/Kr = 0.1
Ss = 4.733E-7 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-4S-Test2 KGS.aqt
Date: 02/08/19 Time: 16:05:53

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4S
Test Date: 1/28/2019

AQUIFER DATA

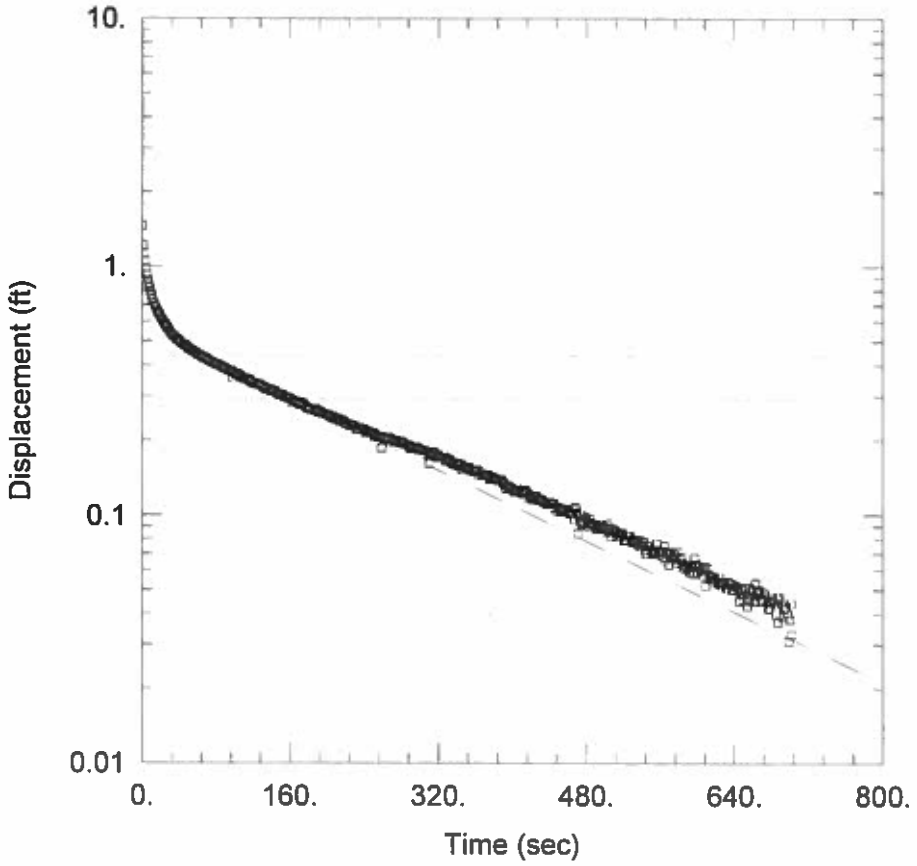
Saturated Thickness: 72.42 ft

WELL DATA (PB-4S)

Initial Displacement: 8.79 ft
Total Well Penetration Depth: 16.92 ft
Casing Radius: 0.08 ft
Static Water Column Height: 16.92 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model
Kr = 2.308 ft/day
Kz/Kr = 0.1
Ss = 2.819E-7 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 14:45:26

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

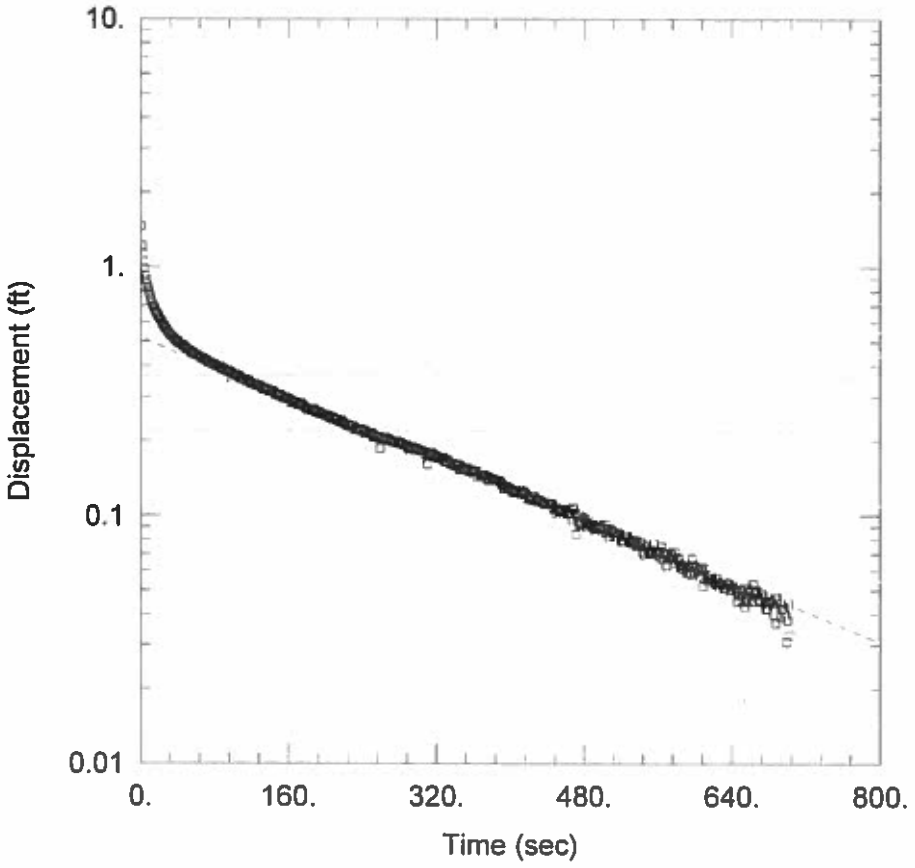
Saturated Thickness: 12.48 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-7S)

Initial Displacement: 1.46 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.497 ft/day
y0 = 0.5622 ft



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 14:48:27

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

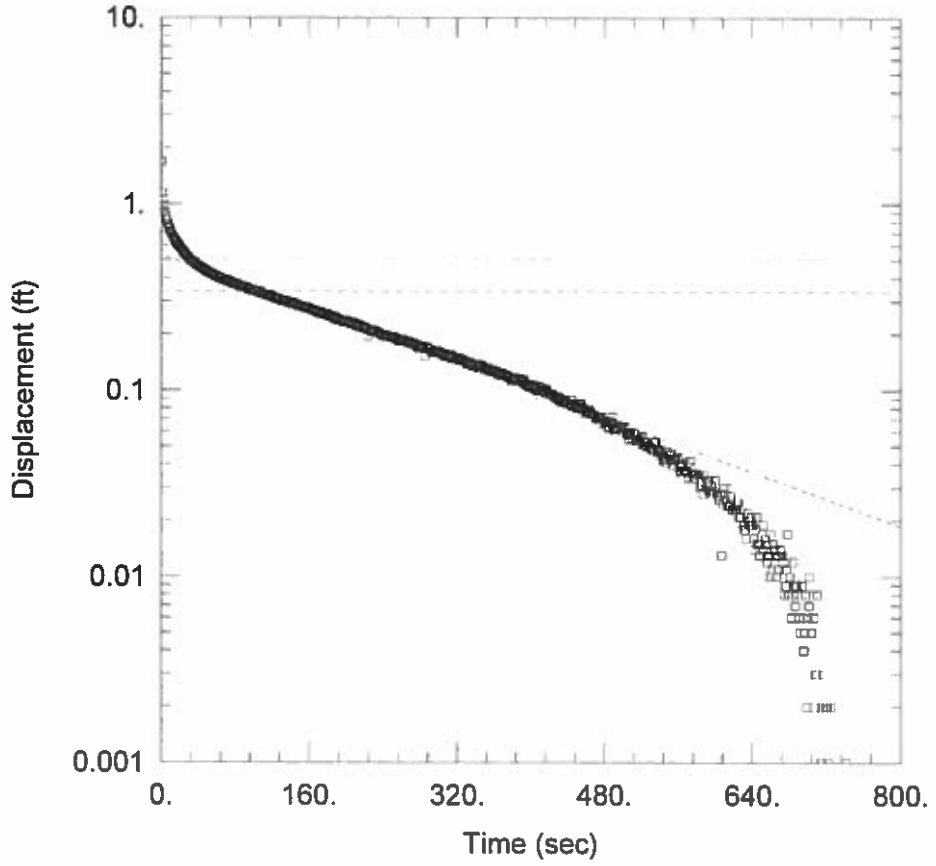
Saturated Thickness: 12.48 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-7S)

Initial Displacement: 1.46 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.5739 ft/day
y0 = 0.5189 ft



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test4 Bouwer-Rice.aqt
Date: 02/07/19 Time: 14:56:02

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

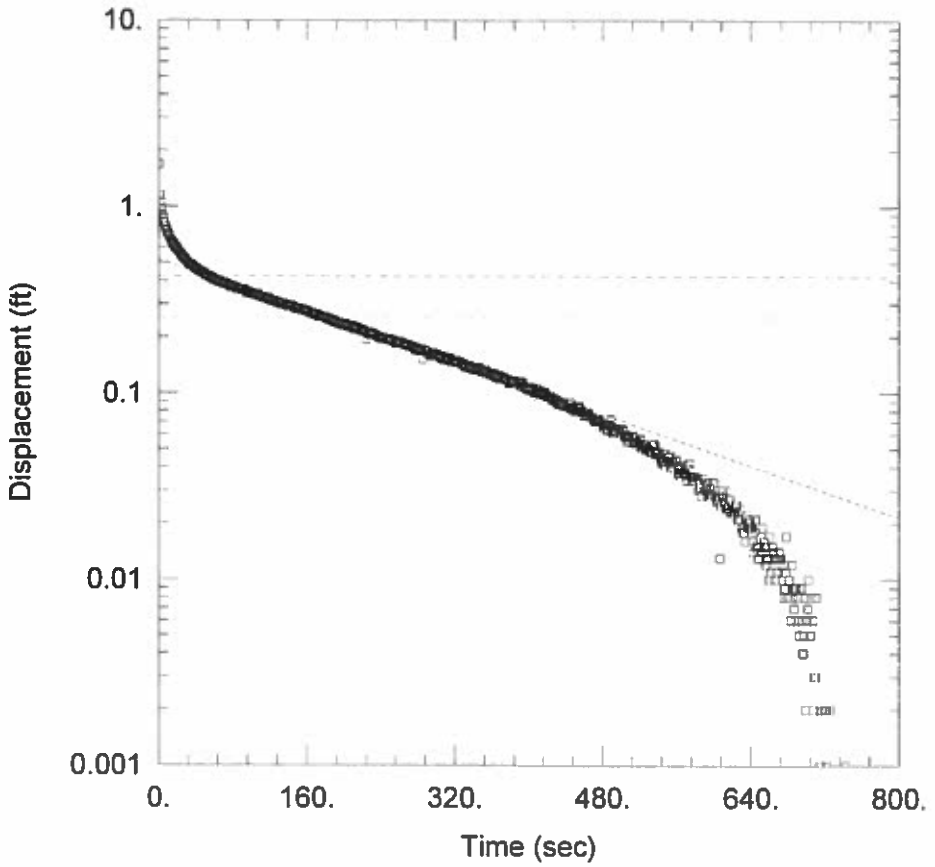
Saturated Thickness: 12.48 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-7S)

Initial Displacement: 1.69 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.5073 ft/day
y0 = 0.5319 ft



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test4 Hvorslev.aqt
Date: 02/07/19 Time: 14:57:41

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

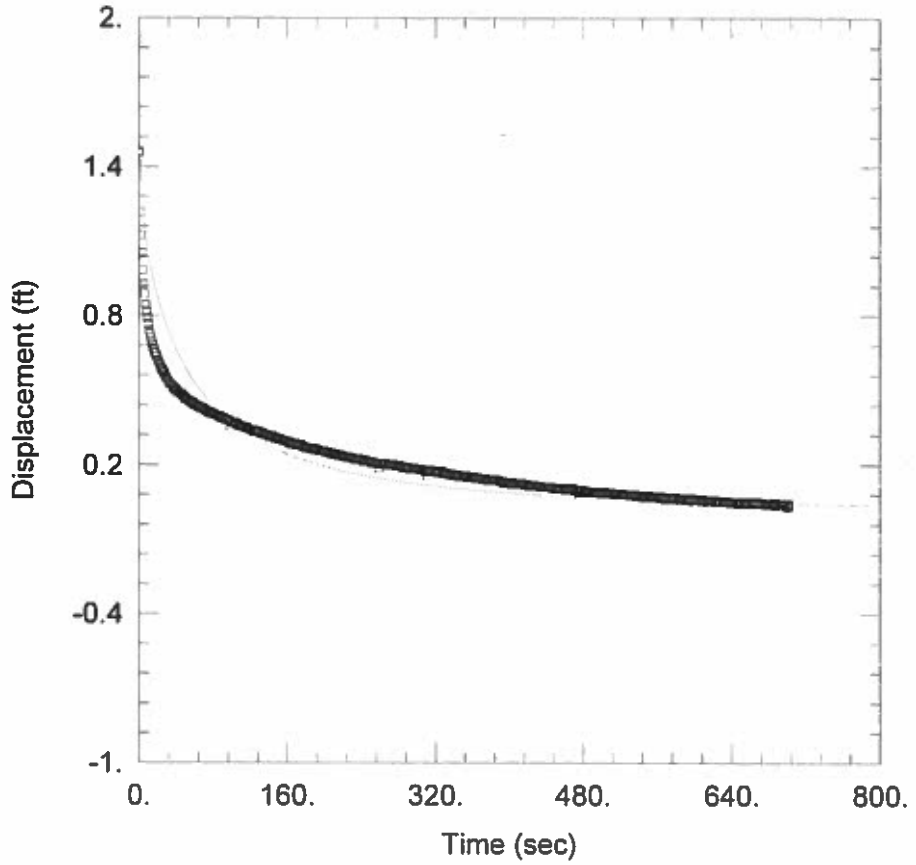
Saturated Thickness: 12.48 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-7S)

Initial Displacement: 1.69 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.6487 ft/day
y0 = 0.5201 ft



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test2 KGS.aqt
Date: 02/07/19 Time: 15:04:39

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

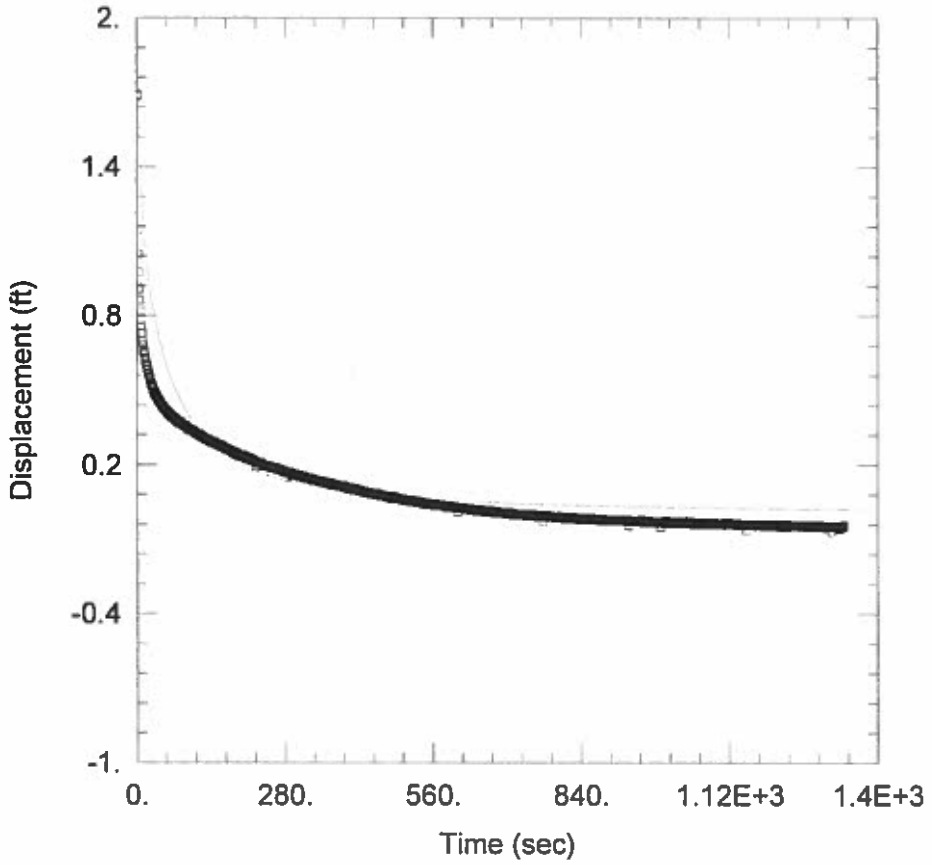
Saturated Thickness: 12.48 ft

WELL DATA (PB-7S)

Initial Displacement: 1.46 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model
Kr = 0.7604 ft/day
Kz/Kr = 0.1
Ss = 0.008013 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-7S-Test4 KGS.aqt
Date: 02/08/19 Time: 10:15:31

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-7S
Test Date: 1/28/2019

AQUIFER DATA

Saturated Thickness: 12.48 ft

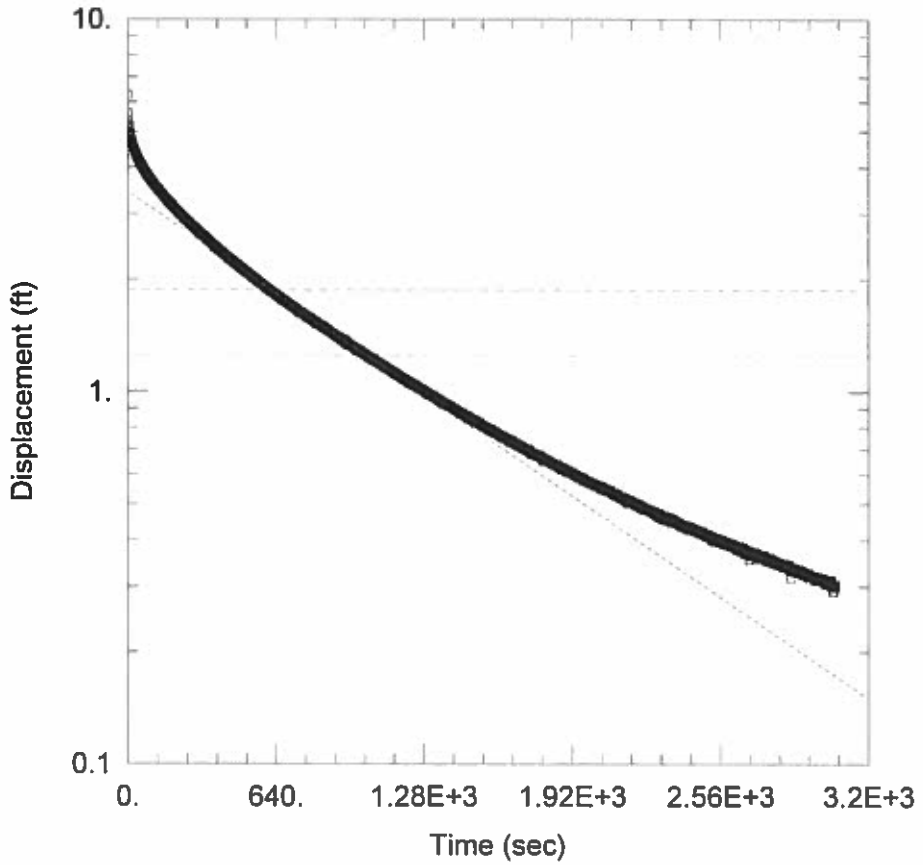
WELL DATA (PB-7S)

Initial Displacement: 1.69 ft
Total Well Penetration Depth: 10. ft
Casing Radius: 0.08 ft
Static Water Column Height: 8.78 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.8449 ft/day
Kz/Kr = 0.1
Ss = 0.008013 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-8S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 15:36:04

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8S
Test Date: 1/29/2019

AQUIFER DATA

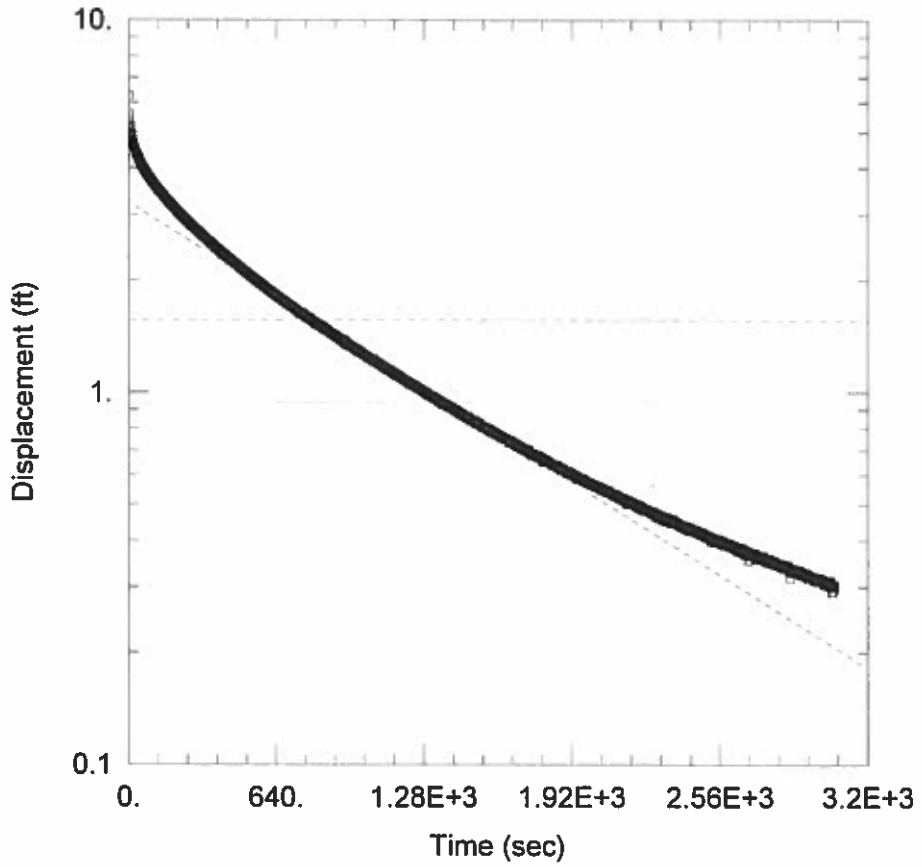
Saturated Thickness: 63.95 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-8S)

Initial Displacement: 6.249 ft
Total Well Penetration Depth: 14.45 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.45 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.1208 ft/day
y0 = 3.44 ft



WELL TEST ANALYSIS

Data Set: \...\PB-8S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 15:37:30

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 63.95 ft Anisotropy Ratio (Kz/Kr): 0.1

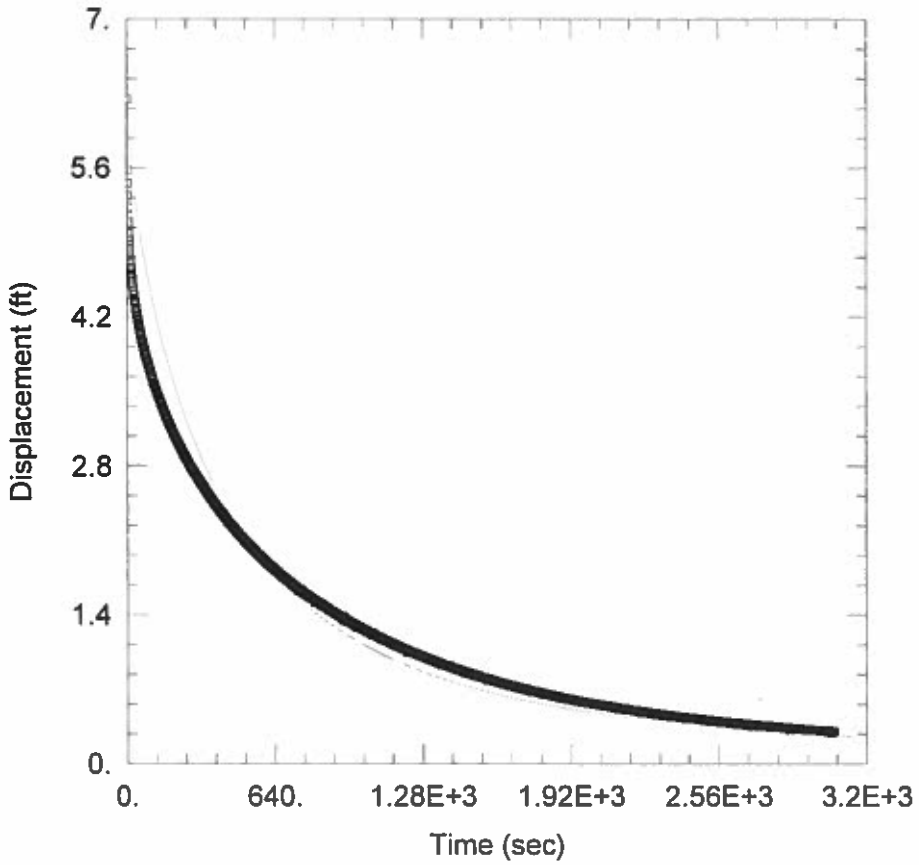
WELL DATA (PB-8S)

Initial Displacement: 6.249 ft
Total Well Penetration Depth: 14.45 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.45 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.1464 ft/day y0 = 3.233 ft



WELL TEST ANALYSIS

Data Set: \...\PB-8S-Test2 KGS.aqt
Date: 02/07/19 Time: 15:49:43

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 63.95 ft

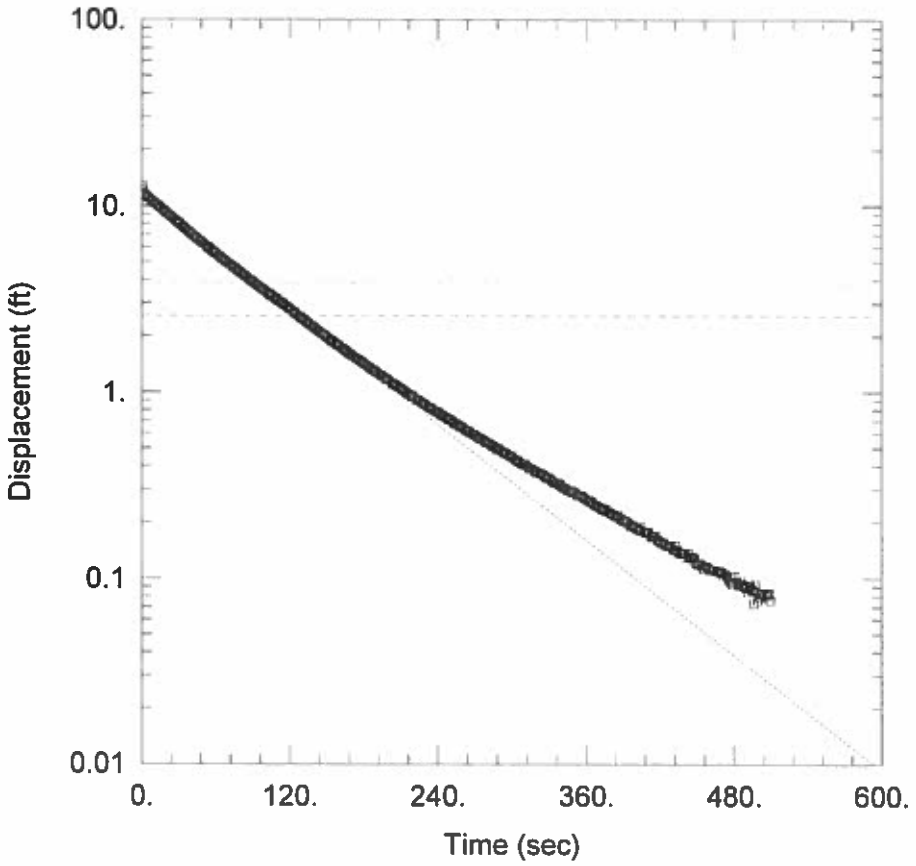
WELL DATA (PB-8S)

Initial Displacement: 6.249 ft
Total Well Penetration Depth: 14.45 ft
Casing Radius: 0.08 ft
Static Water Column Height: 14.45 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.1504 ft/day
Kz/Kr = 0.1
Ss = 0.001564 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 16:22:42

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

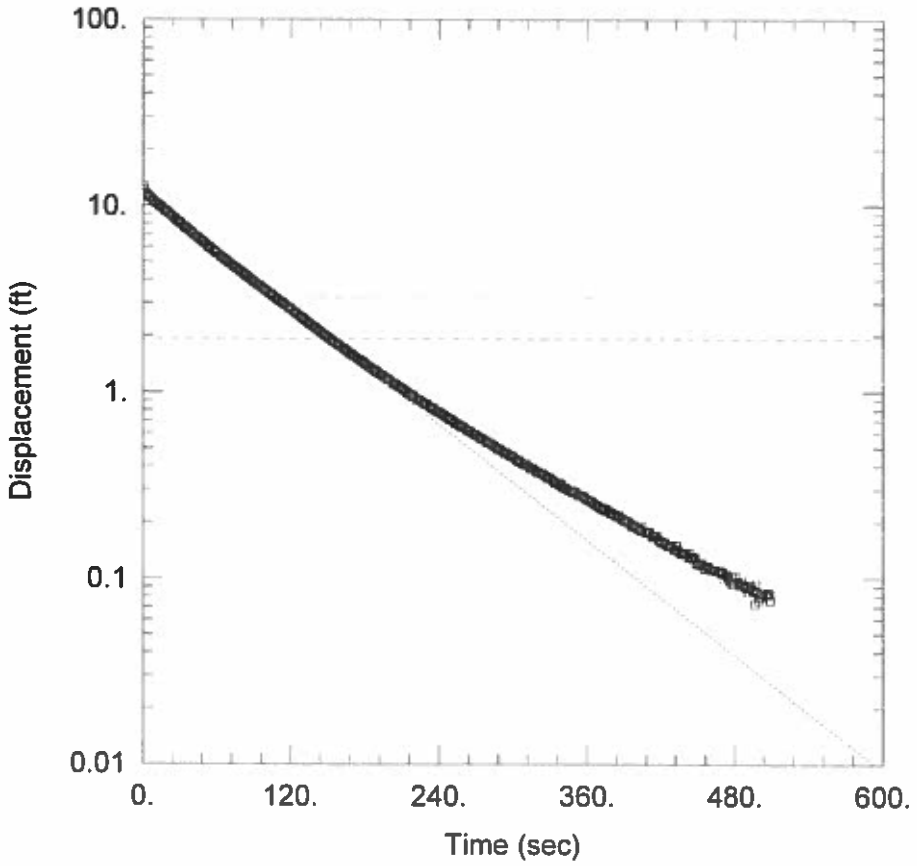
Saturated Thickness: 57.78 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-10S)

Initial Displacement: 12.81 ft
Total Well Penetration Depth: 24.38 ft
Casing Radius: 0.08 ft
Static Water Column Height: 24.38 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.561 ft/day
y0 = 11.57 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 16:23:52

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 57.78 ft Anisotropy Ratio (Kz/Kr): 0.1

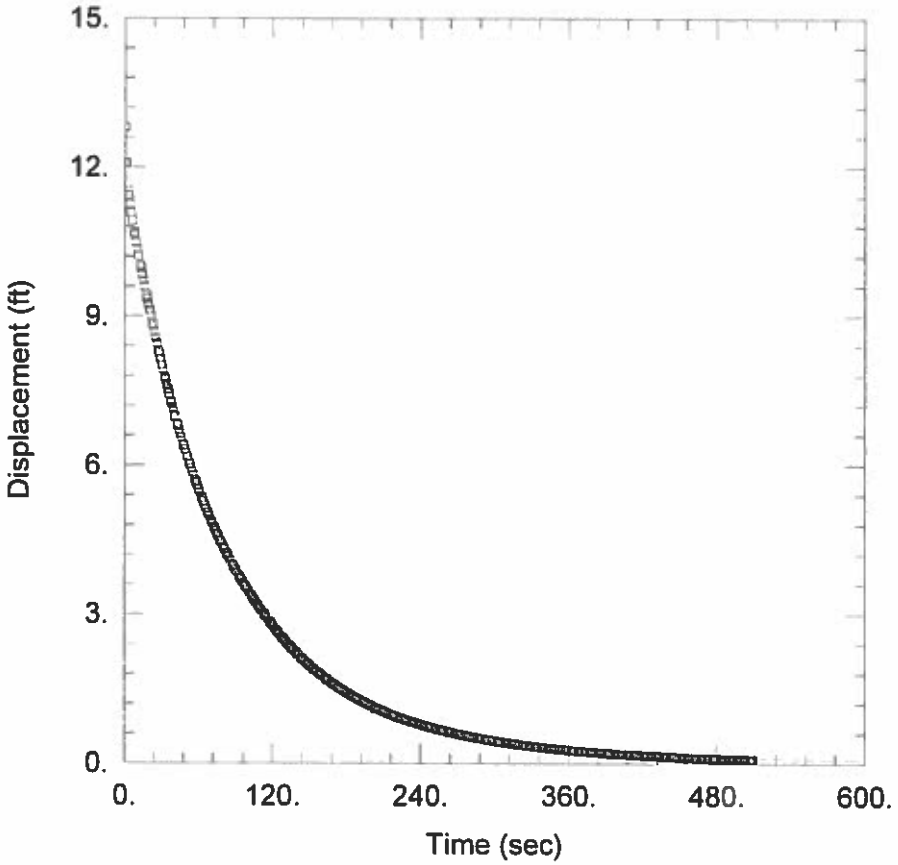
WELL DATA (PB-10S)

Initial Displacement: 12.81 ft
Total Well Penetration Depth: 24.38 ft
Casing Radius: 0.08 ft
Static Water Column Height: 24.38 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 1.935 ft/day y0 = 11.57 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test1 KGS.aqt
Date: 02/07/19 Time: 16:25:52

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 57.78 ft

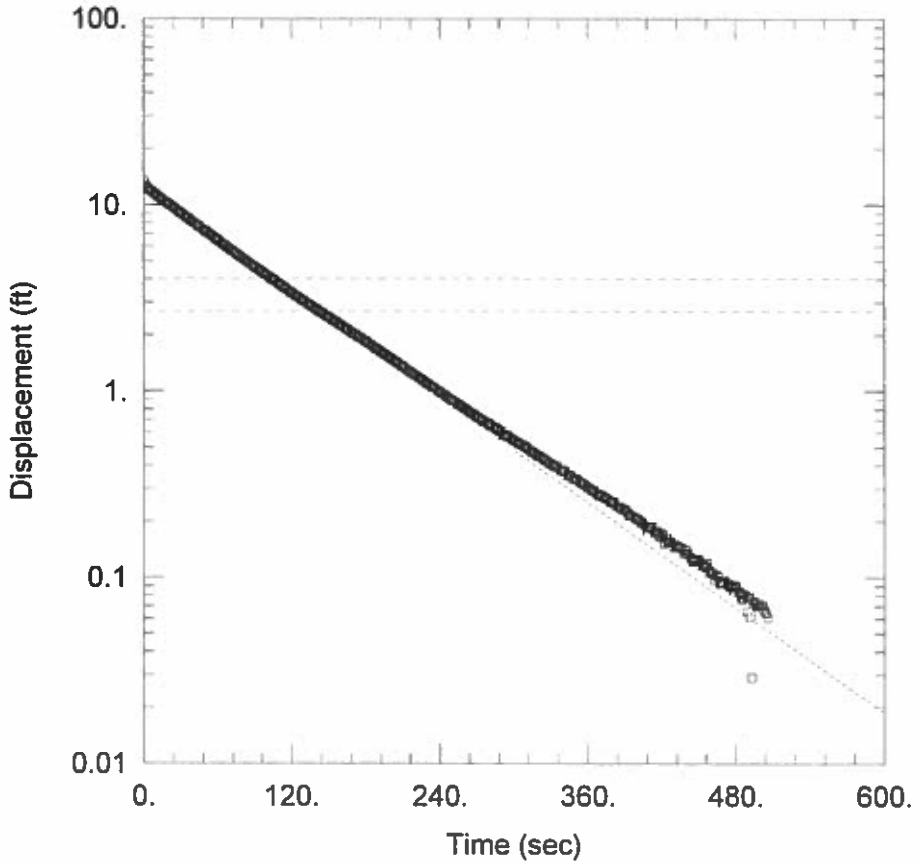
WELL DATA (PB-10S)

Initial Displacement: 12.81 ft
Total Well Penetration Depth: 24.38 ft
Casing Radius: 0.08 ft
Static Water Column Height: 24.38 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 1.835 ft/day
Kz/Kr = 0.1
Ss = 1.187E-5 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test2 Bouwer-Rice.aqt
Date: 02/07/19 Time: 17:03:22

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

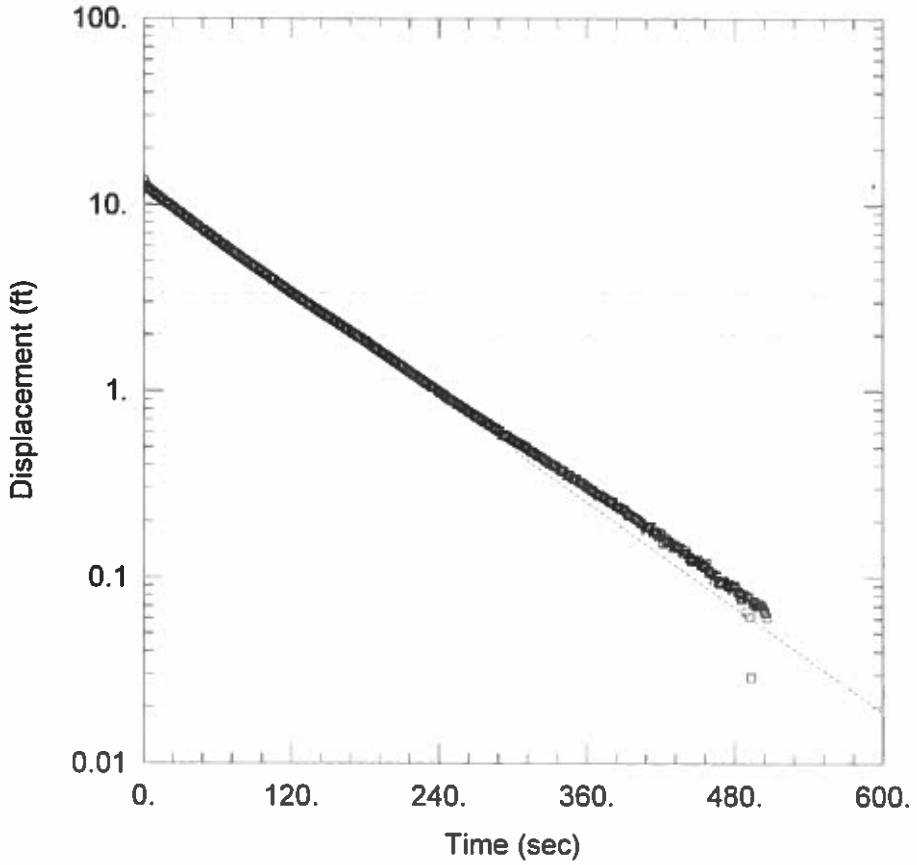
Saturated Thickness: 57.78 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-10S)

Initial Displacement: 13.43 ft Static Water Column Height: 24.38 ft
Total Well Penetration Depth: 24.38 ft Screen Length: 10. ft
Casing Radius: 0.08 ft Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 1.423 ft/day y0 = 12.54 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test2 Hvorslev.aqt
Date: 02/07/19 Time: 17:04:59

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

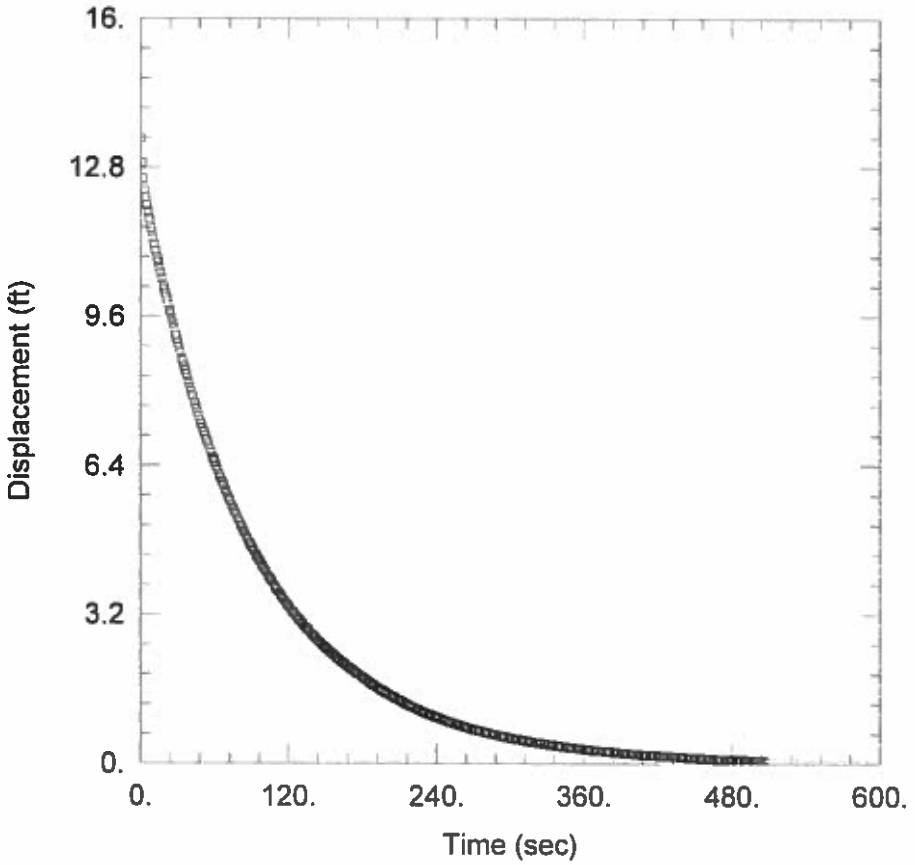
Saturated Thickness: 57.78 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-10S)

Initial Displacement: 13.43 ft Static Water Column Height: 24.38 ft
Total Well Penetration Depth: 24.38 ft Screen Length: 10. ft
Casing Radius: 0.08 ft Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
K = 1.764 ft/day y0 = 12.54 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10S-Test2 KGS.aqt
Date: 02/07/19 Time: 17:07:10

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10S
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 57.78 ft

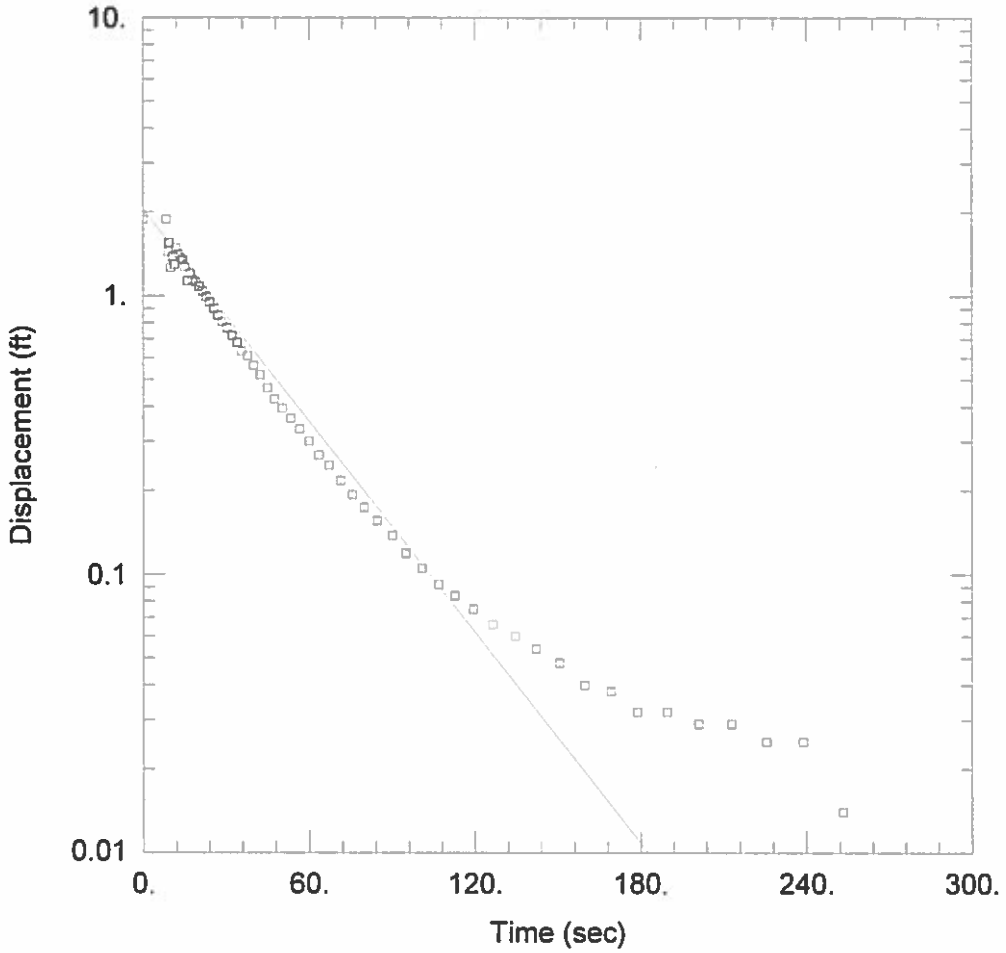
WELL DATA (PB-10S)

Initial Displacement: 13.43 ft
Total Well Penetration Depth: 24.38 ft
Casing Radius: 0.08 ft
Static Water Column Height: 24.38 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 1.69 ft/day
Kz/Kr = 0.1
Ss = 3.614E-6 ft^{-1}



PZ-30I FALLING

Data Set: G:\...\PZ-30I Falling.aqt
Date: 09/19/16 Time: 14:21:41

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-30I Falling
Test Date: 08/15/16

AQUIFER DATA

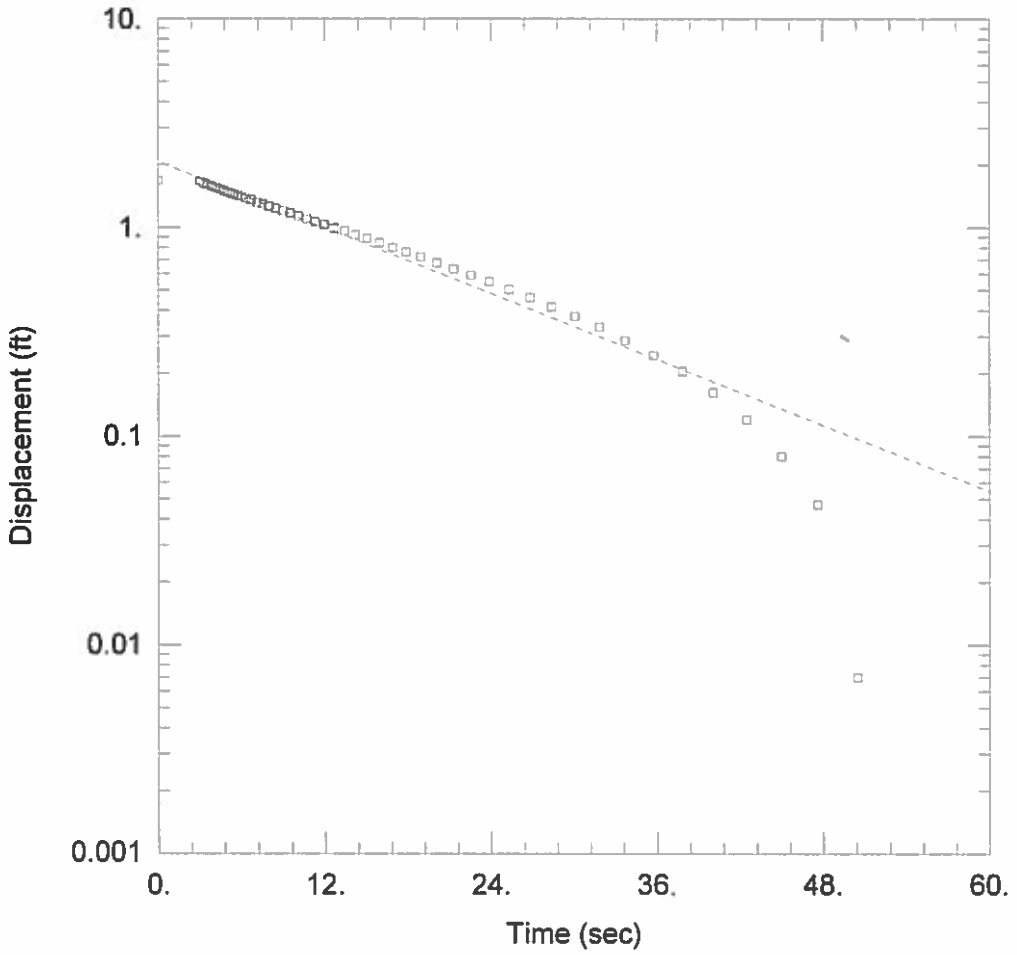
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-30I Falling)

Initial Displacement: 1.879 ft
Total Well Penetration Depth: 15.95 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 15.45 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 2.587 ft/day
y0 = 2.043 ft



PZ-30I RISING

Data Set: G:\...\PZ-30I Rising.aqt
Date: 09/19/16 Time: 14:23:53

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-30I Rising
Test Date: 08/15/16

AQUIFER DATA

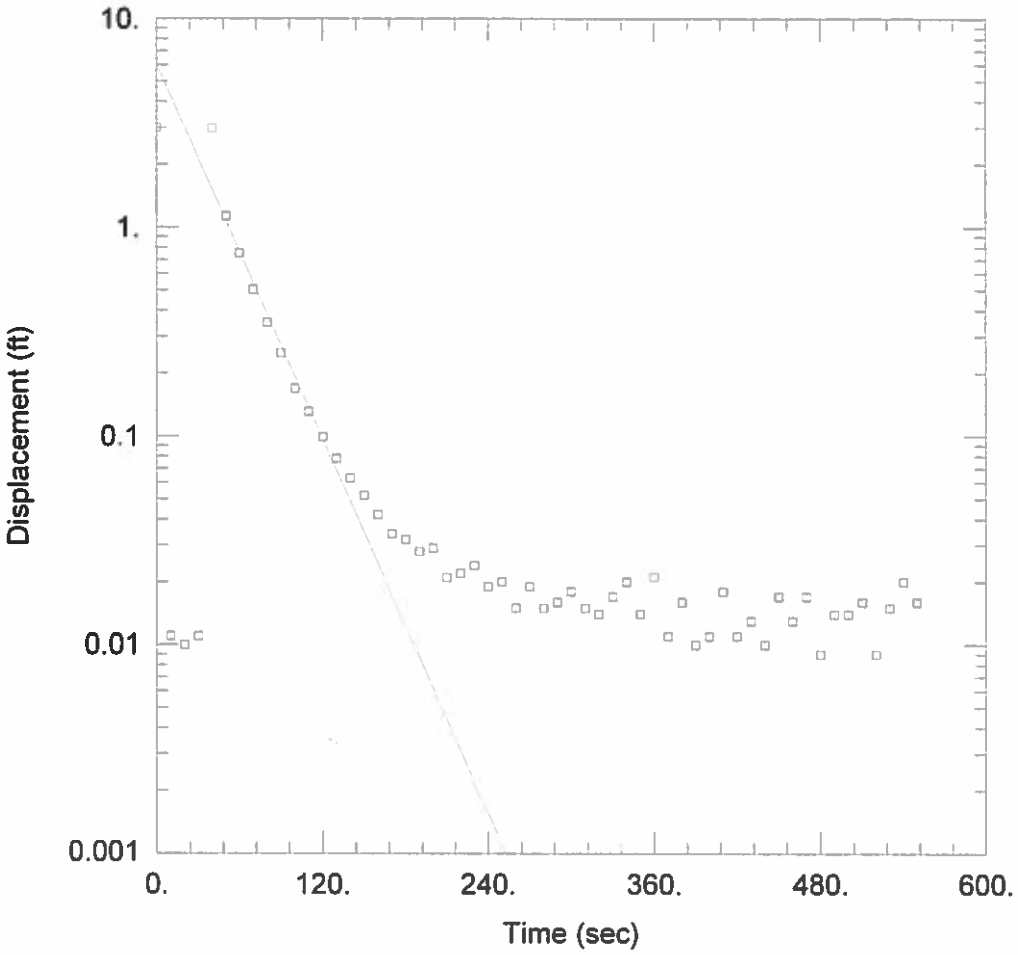
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-30I Rising)

Initial Displacement: 1.678 ft
Total Well Penetration Depth: 15.45 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 15.45 ft
Screen Length: 9.5 ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 5.607 ft/day
y0 = 2.067 ft



WELL TEST ANALYSIS

Data Set: N:\...\18I-1.aqt
Date: 11/13/19 Time: 16:21:04

PROJECT INFORMATION

Company: SCS
Test Well: BRANCH 18I

AQUIFER DATA

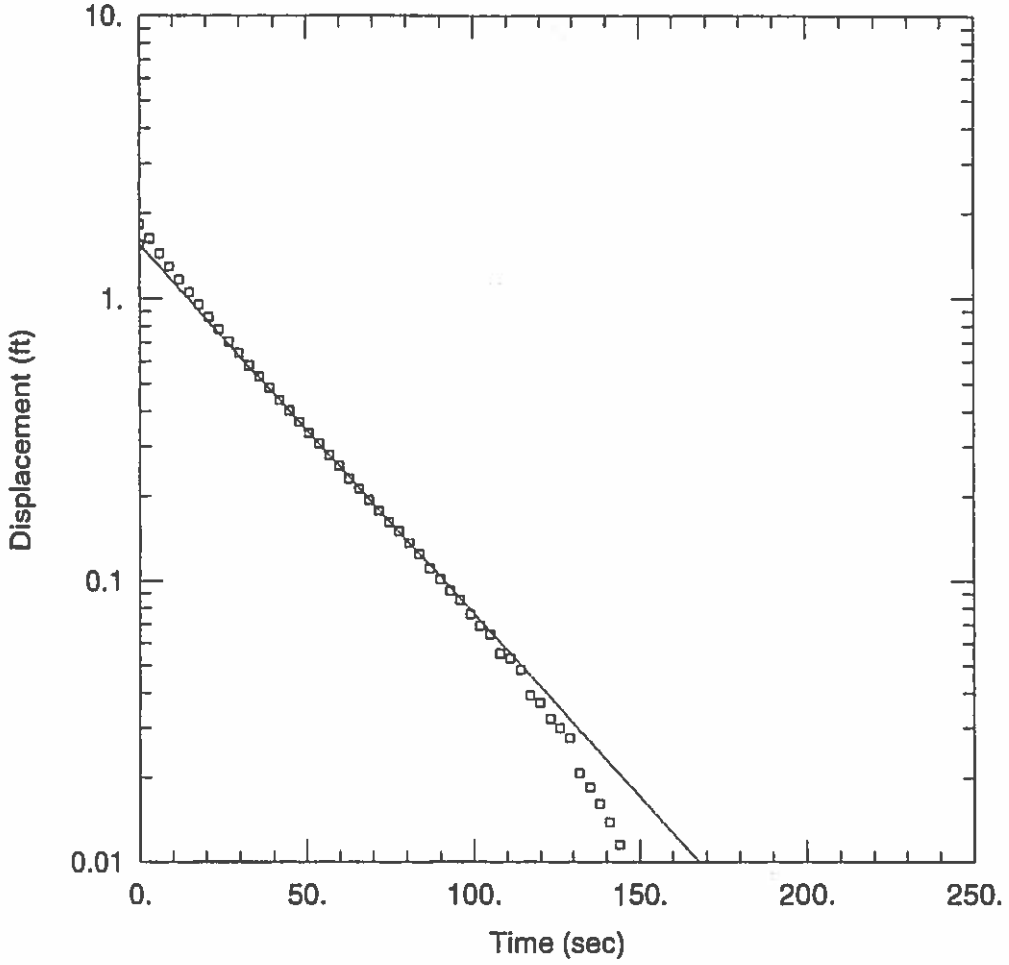
Saturated Thickness: 21.7 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-18I RISING HEAD 1)

Initial Displacement: 3. ft
Total Well Penetration Depth: 21.7 ft
Casing Radius: 0.167 ft
Static Water Column Height: 21.7 ft
Screen Length: 10. ft
Well Radius: 0.42 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 6.67 ft/day y0 = 6.063 ft



B-14 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B14 Slug Out.aqt
Date: 01/29/08 Time: 14:59:40

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-14
Test Date: 12/18/07

AQUIFER DATA

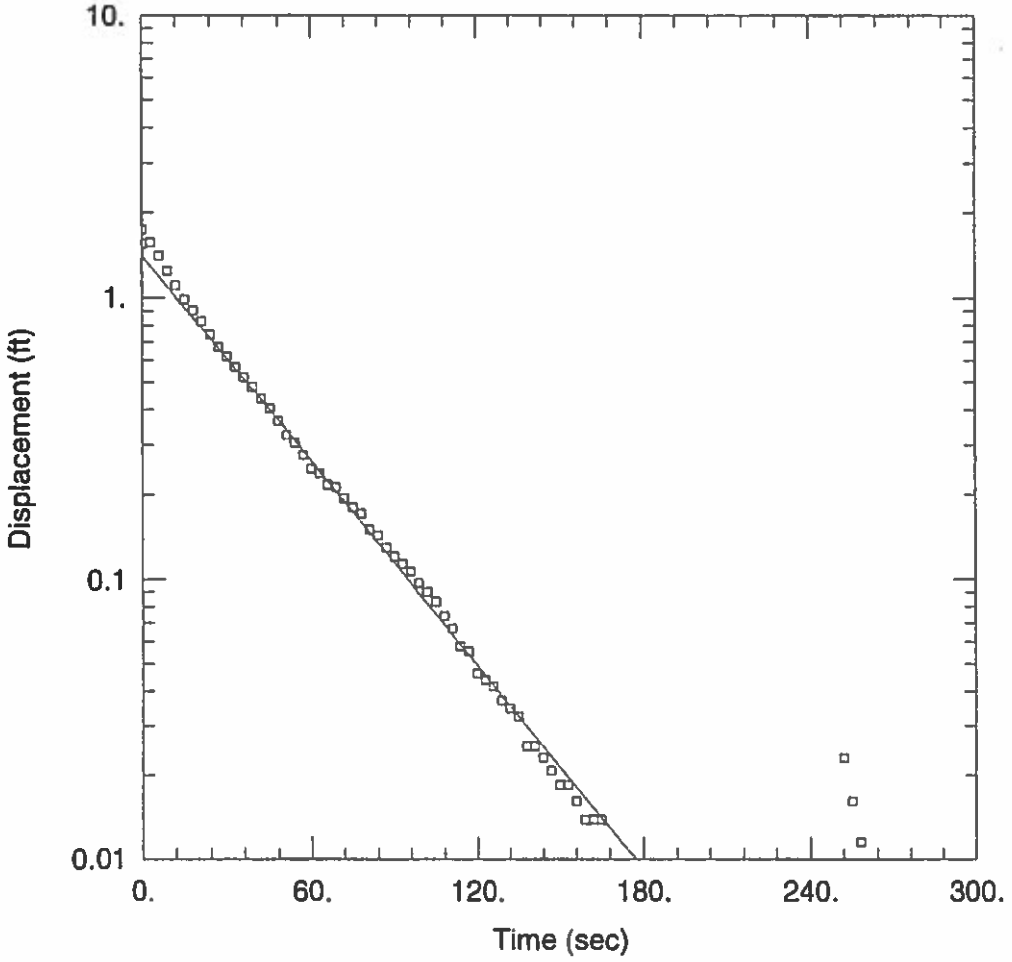
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B14 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 26.5 ft
Casing Radius: 0.083 ft
Static Water Column Height: 26.5 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0007795 cm/sec
y0 = 1.549 ft



B-14 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B14 Slug In.aqt
Date: 01/29/08 Time: 15:02:01

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-14
Test Date: 12/18/07

AQUIFER DATA

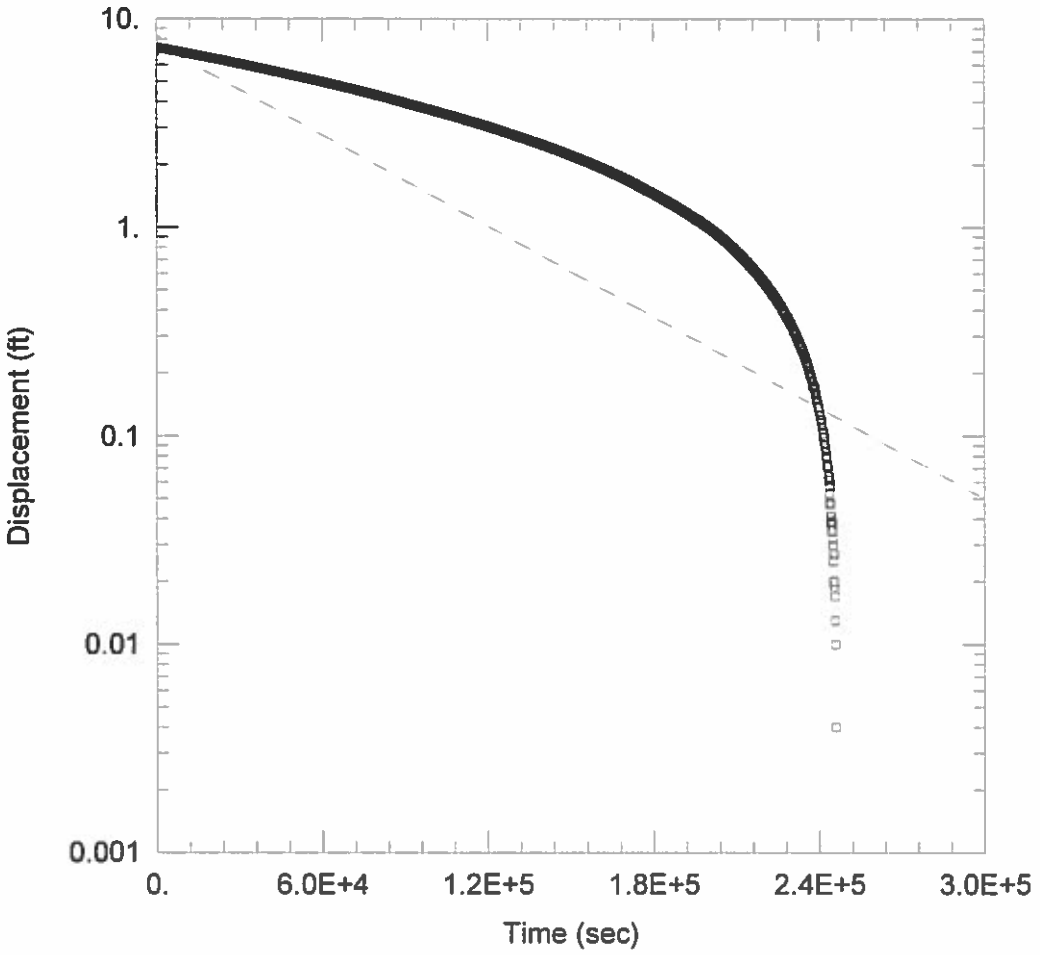
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B14 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 19.3 ft
Casing Radius: 0.083 ft
Static Water Column Height: 19.3 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0006892 cm/sec
y0 = 1.407 ft



PZ-23I RISING

Data Set: G:\...\PZ-23I Rising.aqt
Date: 09/19/16 Time: 13:07:36

PROJECT INFORMATION

Company: Golder Associates
Client: Southern Company Services
Project: 1660939
Location: Plant Branch
Test Well: PZ-23I Rising
Test Date: 08/12/16

AQUIFER DATA

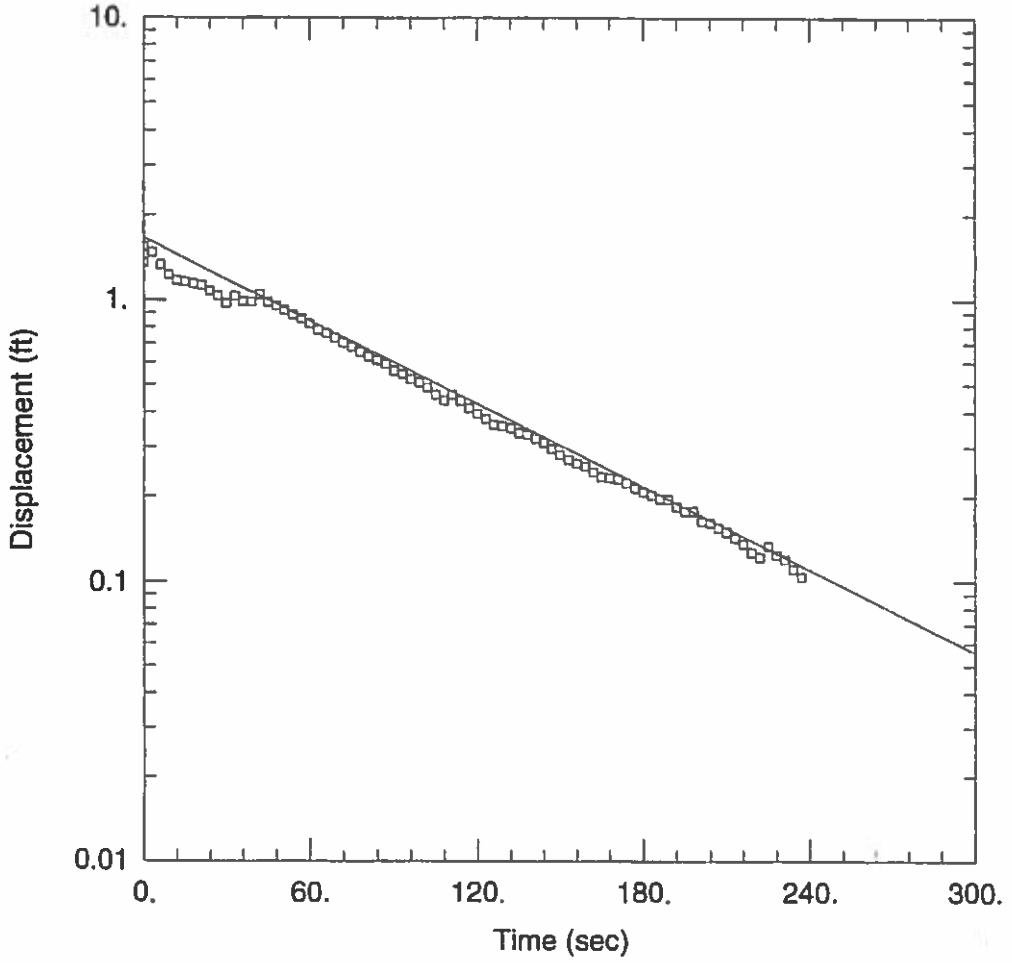
Saturated Thickness: 100. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-23I Rising)

Initial Displacement: 7.907 ft
Total Well Penetration Depth: 27.21 ft
Casing Radius: 0.08333 ft
Static Water Column Height: 27.21 ft
Screen Length: 10. ft
Well Radius: 0.08333 ft
Gravel Pack Porosity: 0.15

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.001593 ft/day y0 = 7.568 ft



B-4 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B4 Slug In.aqt
Date: 01/17/08 Time: 14:47:06

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-4
Test Date: 12/18/07

AQUIFER DATA

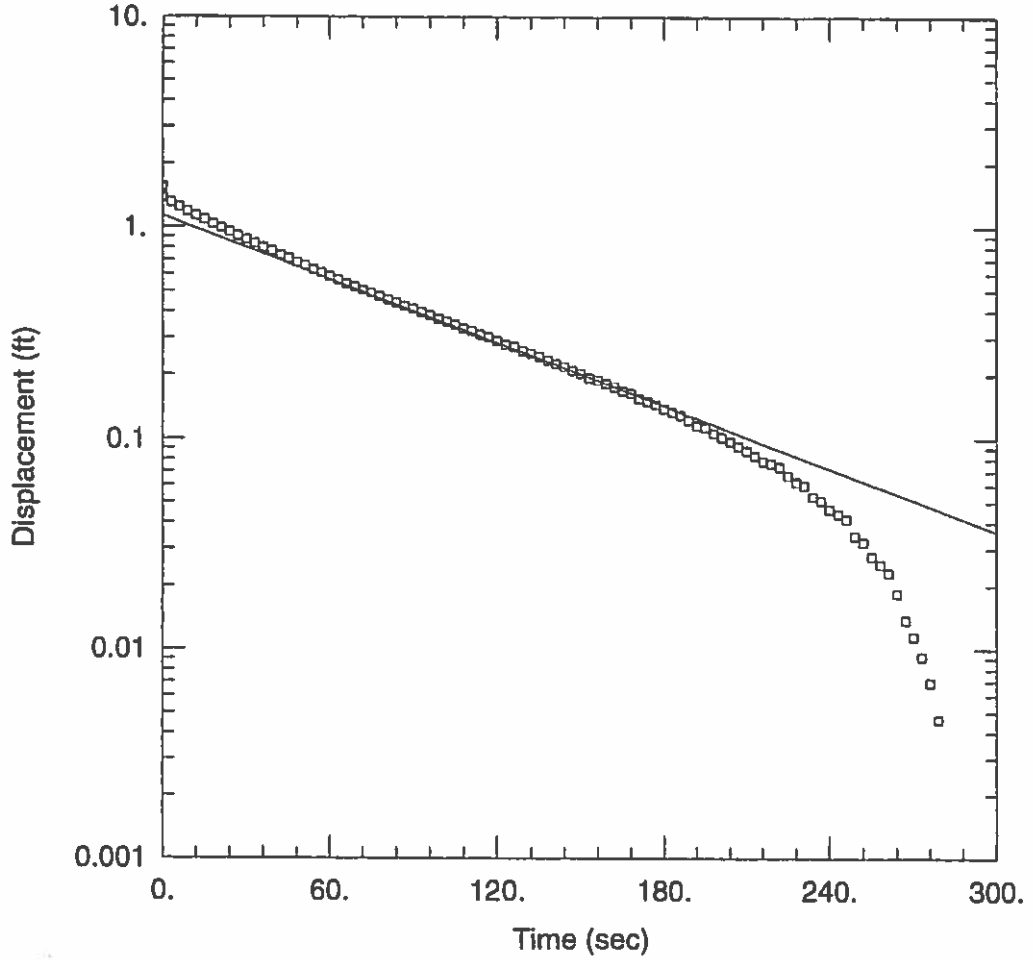
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B4 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 68.5 ft
Casing Radius: 0.083 ft
Static Water Column Height: 47.6 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.000341 cm/sec
y0 = 1.662 ft



B-4 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B4 Slug Out.aqt
Date: 03/04/08 Time: 13:22:39

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-4
Test Date: 12/18/07

AQUIFER DATA

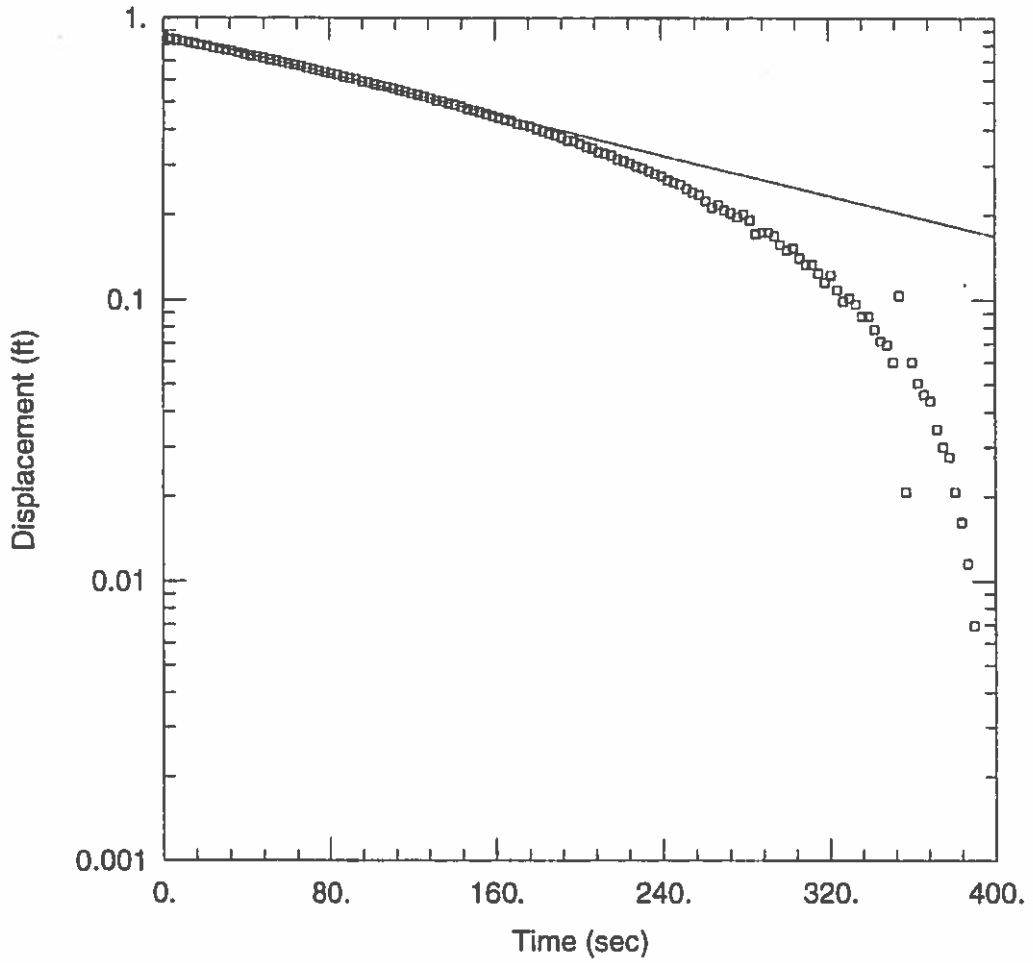
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B4 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 68.5 ft
Casing Radius: 0.083 ft
Static Water Column Height: 47.6 ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.0003459 cm/sec
y0 = 1.127 ft



B-7 SLUG IN

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B7 Slug In.aqt
Date: 01/17/08 Time: 14:47:32

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-7
Test Date: 12/18/07

AQUIFER DATA

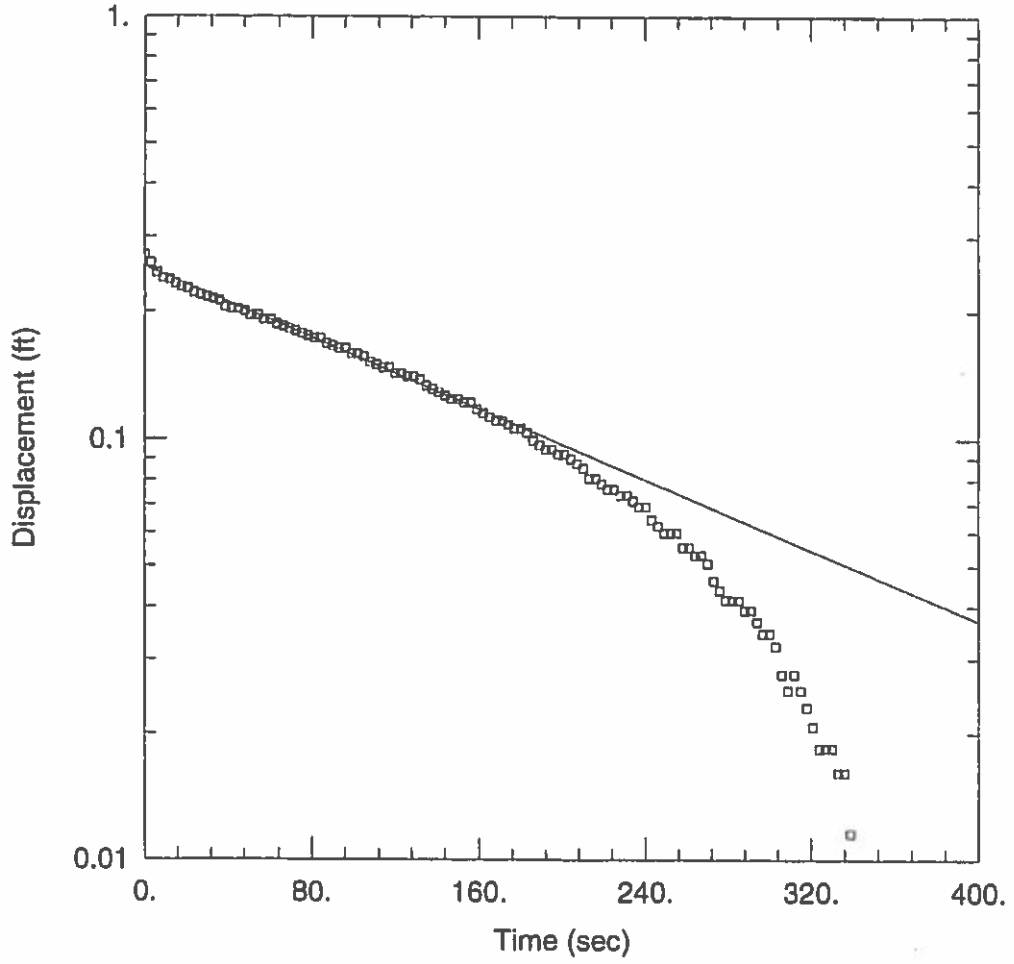
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B7 Slug In)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 11. ft
Casing Radius: 0.083 ft
Static Water Column Height: 27. ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 9.258E-5 cm/sec
y0 = 0.8788 ft



B-7 SLUG OUT

Data Set: T:\ESEE MAJOR PROJECTS\PROJECTS\Branch\2007\SAR\Slug Tests\B7 Slug Out.aqt
Date: 01/17/08 Time: 14:47:38

PROJECT INFORMATION

Company: Georgia Power
Location: Plant Branch
Test Well: B-7
Test Date: 12/18/07

AQUIFER DATA

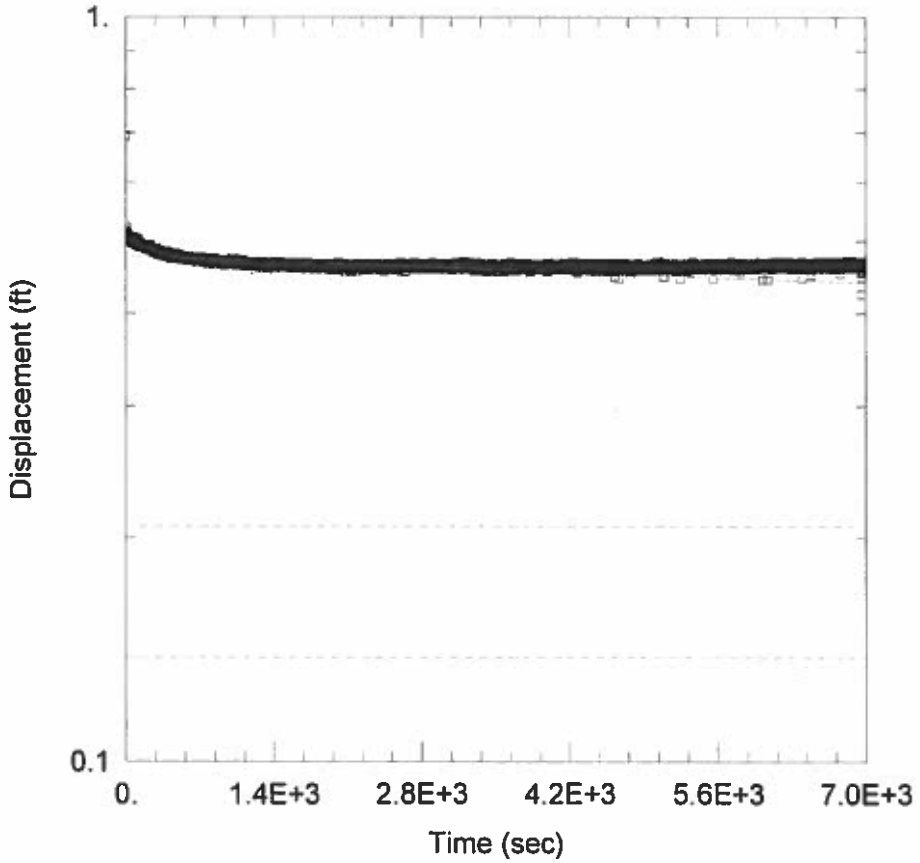
Saturated Thickness: 100. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (B7 Slug Out)

Initial Displacement: 1.545 ft
Total Well Penetration Depth: 11. ft
Casing Radius: 0.083 ft
Static Water Column Height: 27. ft
Screen Length: 10. ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.000108 cm/sec
y0 = 0.2556 ft



WELL TEST ANALYSIS

Data Set: \...\PB-2D-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 11:41:37

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-2D
Test Date: 1/30/2019

AQUIFER DATA

Saturated Thickness: 21.21 ft Anisotropy Ratio (Kz/Kr): 0.1

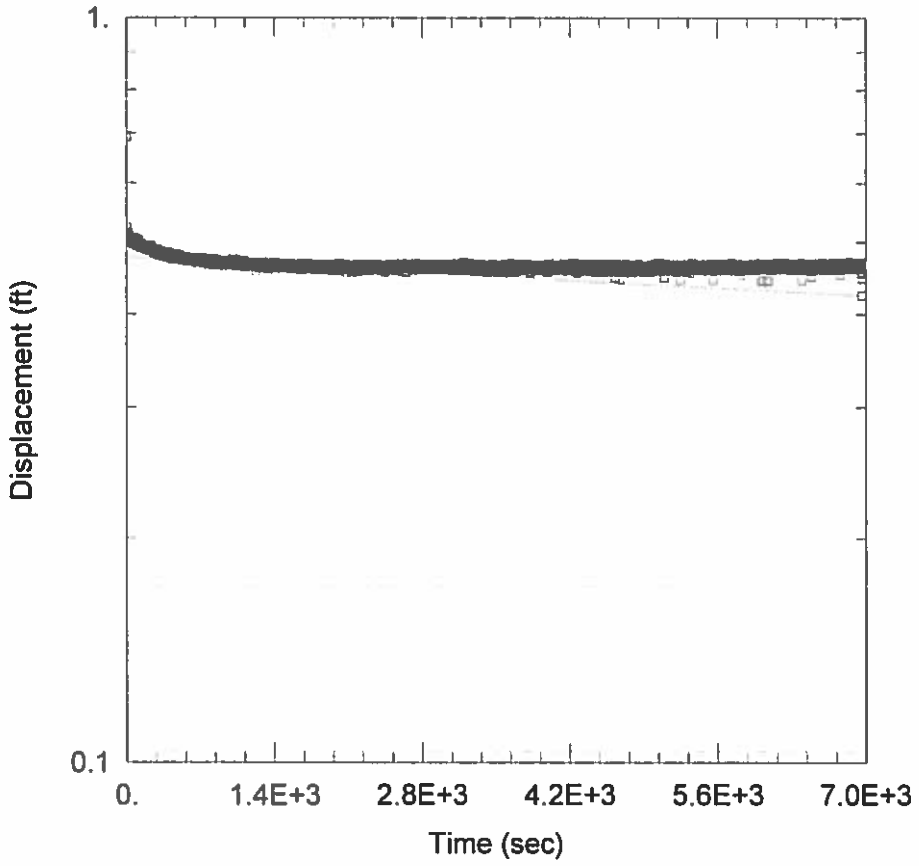
WELL DATA (PB-2D)

Initial Displacement: 0.69 ft
Total Well Penetration Depth: 19.31 ft
Casing Radius: 0.08 ft
Static Water Column Height: 19.31 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.001595 ft/day y0 = 0.4781 ft



WELL TEST ANALYSIS

Data Set: \...\PB-2D-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 11:52:23

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-2D
Test Date: 1/30/2019

AQUIFER DATA

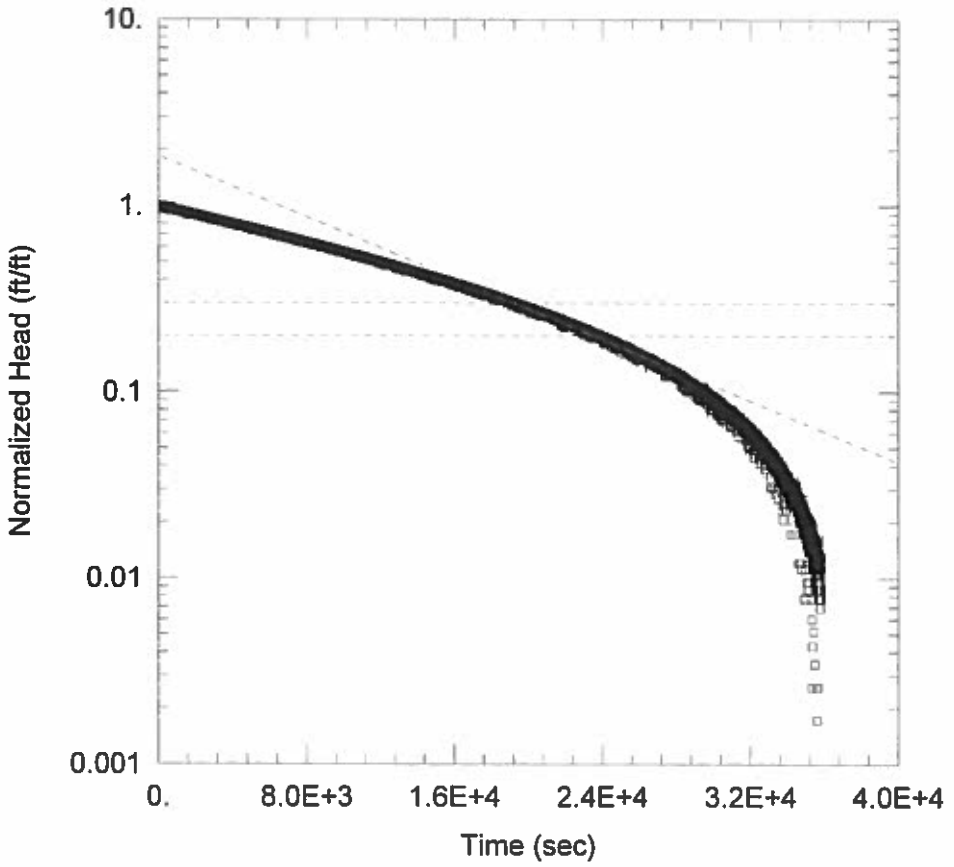
Saturated Thickness: 21.21 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-2D)

Initial Displacement: 0.69 ft
Total Well Penetration Depth: 19.31 ft
Casing Radius: 0.08 ft
Static Water Column Height: 19.31 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.002708 ft/day
y0 = 0.4767 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4D-Test5 Bouwer-Rice.aqt
Date: 02/07/19 Time: 11:38:30

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4D
Test Date: 1/30/2019

AQUIFER DATA

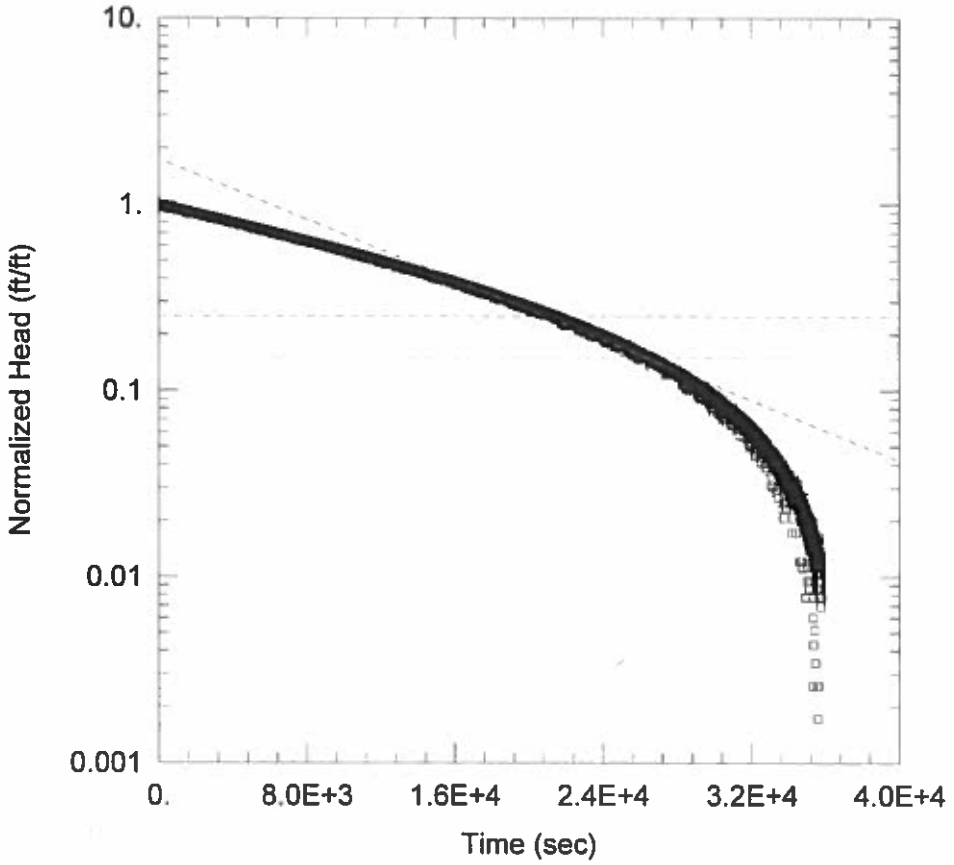
Saturated Thickness: 88.01 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-4D)

Initial Displacement: 1.158 ft
Total Well Penetration Depth: 84.91 ft
Casing Radius: 0.08 ft
Static Water Column Height: 84.91 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01452 ft/day
y0 = 2.136 ft



WELL TEST ANALYSIS

Data Set: \...\PB-4D-Test5 Hvorslev.aqt
Date: 02/07/19 Time: 11:39:54

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-4D
Test Date: 1/30/2019

AQUIFER DATA

Saturated Thickness: 88.01 ft Anisotropy Ratio (Kz/Kr): 0.1

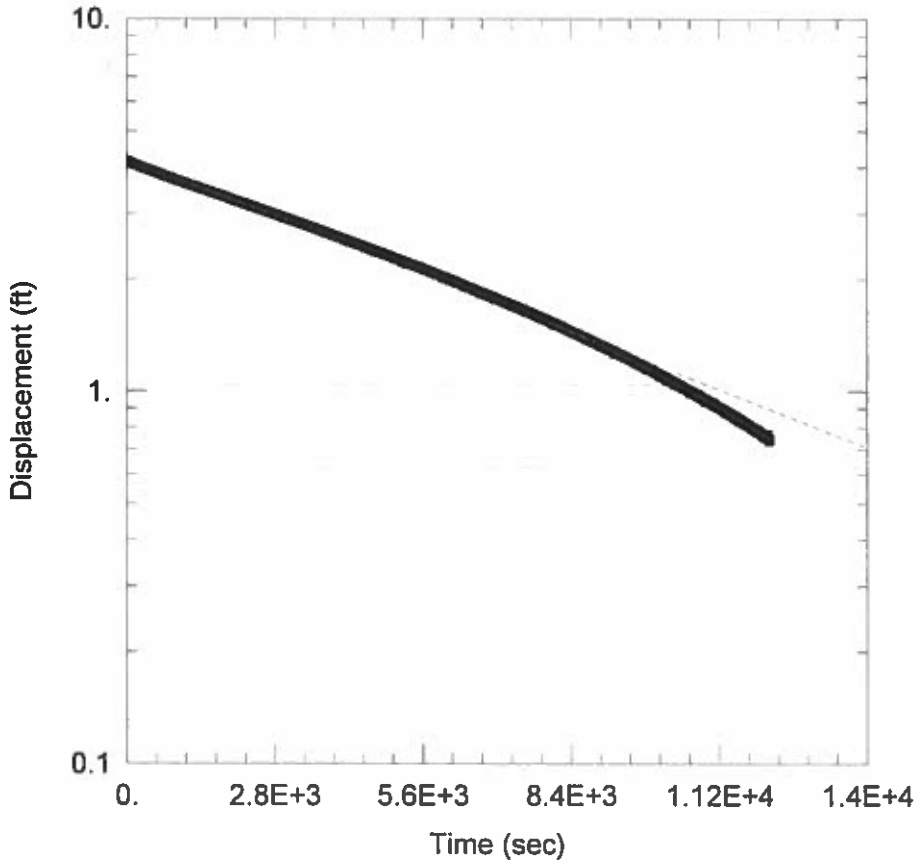
WELL DATA (PB-4D)

Initial Displacement: 1.158 ft
Total Well Penetration Depth: 84.91 ft
Casing Radius: 0.08 ft
Static Water Column Height: 84.91 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 0.01516 ft/day y0 = 2.023 ft



WELL TEST ANALYSIS

Data Set: \...\PB-8D-Test3 Hvorslev.aqt
Date: 02/07/19 Time: 15:15:48

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8D
Test Date: 1/29/2019

AQUIFER DATA

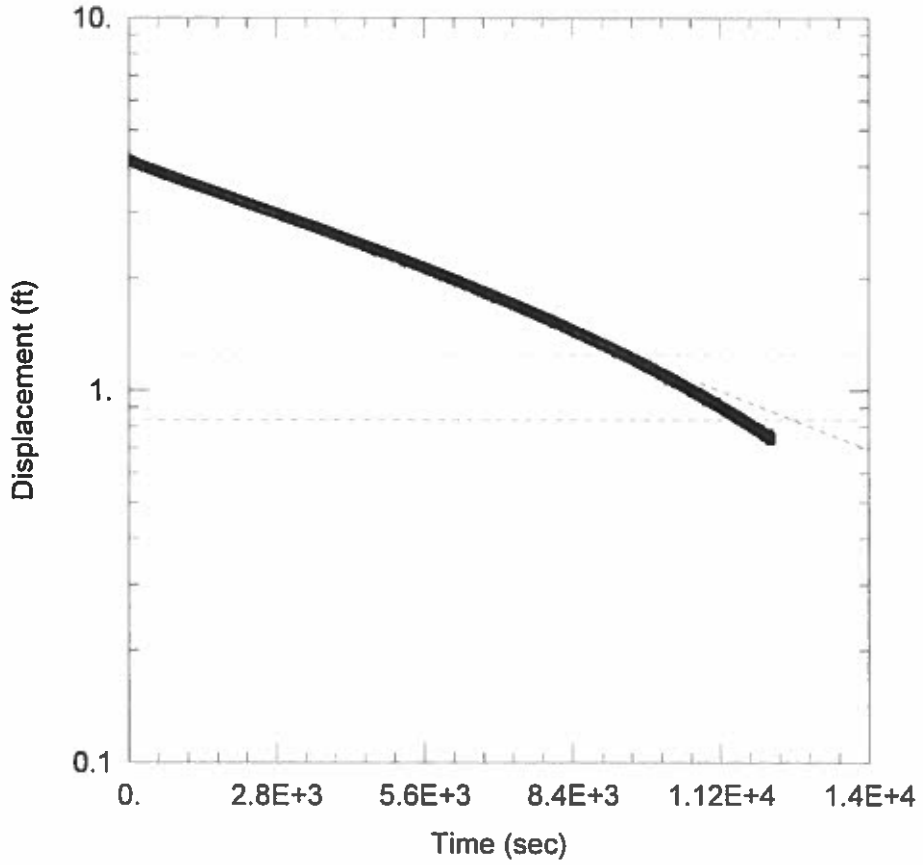
Saturated Thickness: 87.45 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-8D)

Initial Displacement: 4.164 ft Static Water Column Height: 84.15 ft
Total Well Penetration Depth: 84.15 ft Screen Length: 10. ft
Casing Radius: 0.08 ft Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev
K = 0.02077 ft/day y0 = 4.224 ft



WELL TEST ANALYSIS

Data Set: \...\PB-8D-Test3 Bouwer-Rice.aqt
Date: 02/07/19 Time: 15:17:11

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8D
Test Date: 1/29/2019

AQUIFER DATA

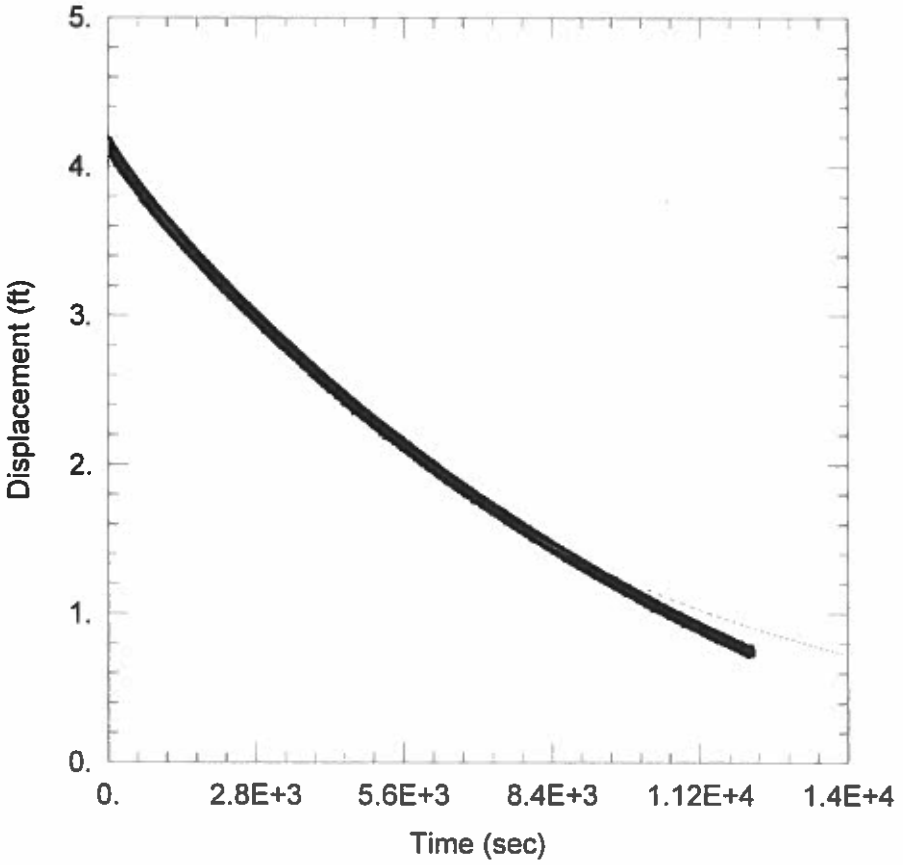
Saturated Thickness: 87.45 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-8D)

Initial Displacement: 4.164 ft Static Water Column Height: 84.15 ft
Total Well Penetration Depth: 84.15 ft Screen Length: 10. ft
Casing Radius: 0.08 ft Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.01984 ft/day y0 = 4.248 ft



WELL TEST ANALYSIS

Data Set: \...\PB-8D-Test3 KGS.aqt
Date: 02/07/19 Time: 15:25:15

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-8D
Test Date: 1/29/2019

AQUIFER DATA

Saturated Thickness: 87.45 ft

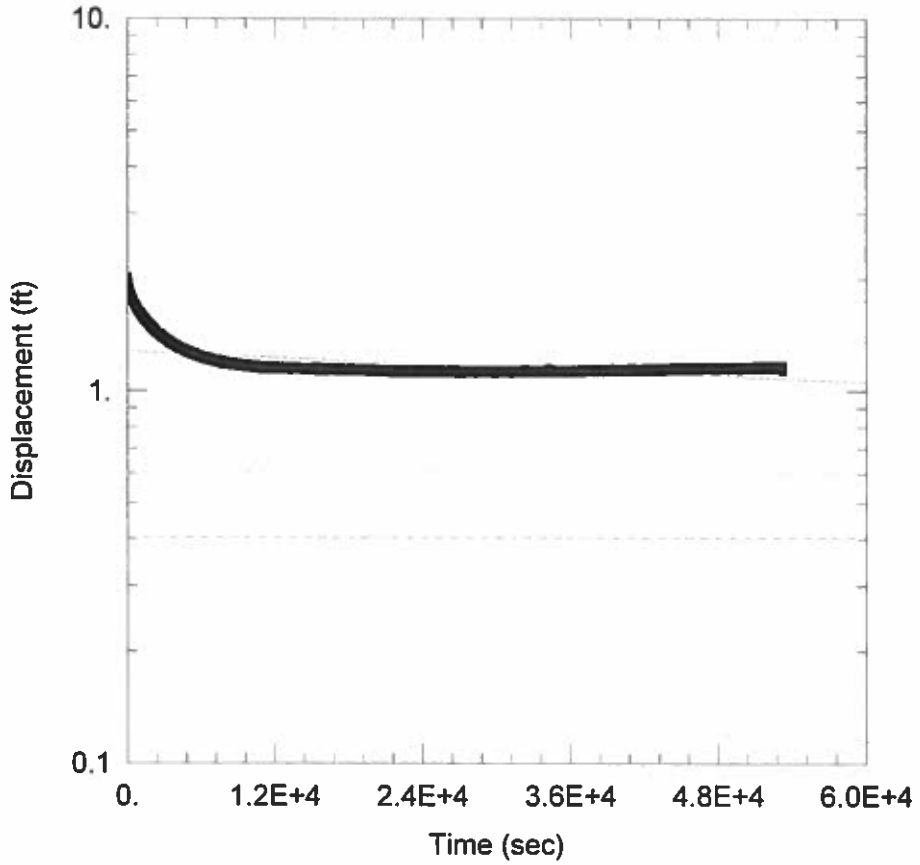
WELL DATA (PB-8D)

Initial Displacement: 4.164 ft
Total Well Penetration Depth: 84.15 ft
Casing Radius: 0.08 ft
Static Water Column Height: 84.15 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.02011 ft/day
Kz/Kr = 0.1
Ss = 1.144E-12 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-10D-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 15:58:23

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10D
Test Date: 1/29/2019

AQUIFER DATA

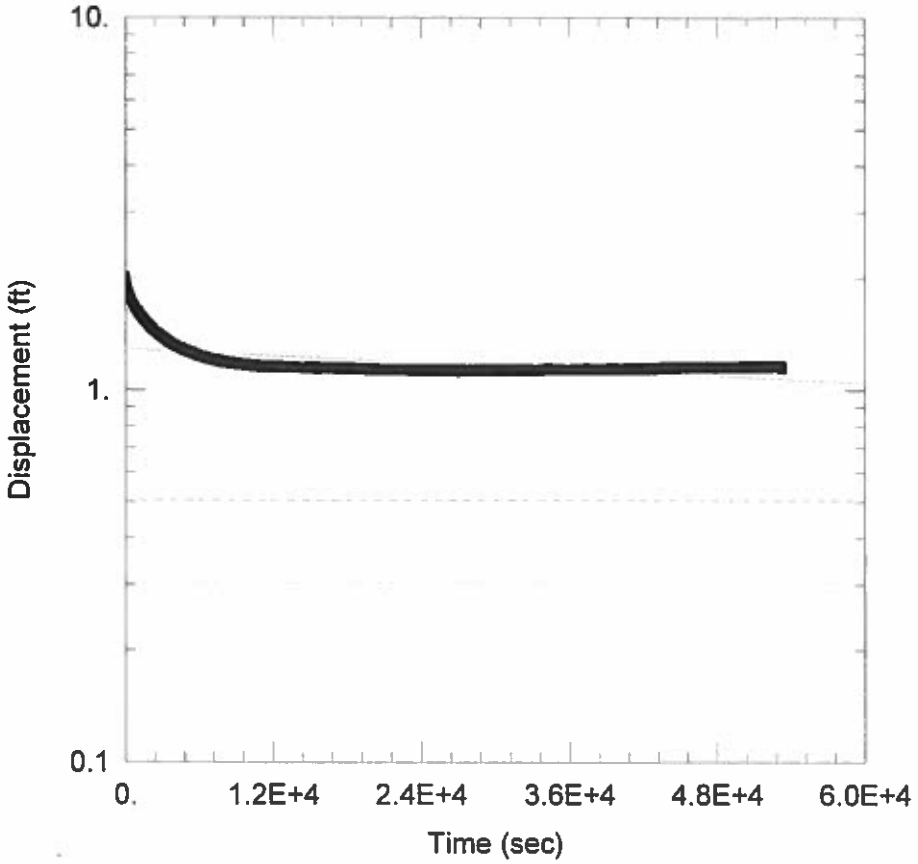
Saturated Thickness: 79.25 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-10D)

Initial Displacement: 2.02 ft Static Water Column Height: 76.9 ft
Total Well Penetration Depth: 76.9 ft Screen Length: 10. ft
Casing Radius: 0.08 ft Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.0004809 ft/day y0 = 1.277 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10D-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 16:04:14

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10D
Test Date: 1/29/2019

AQUIFER DATA

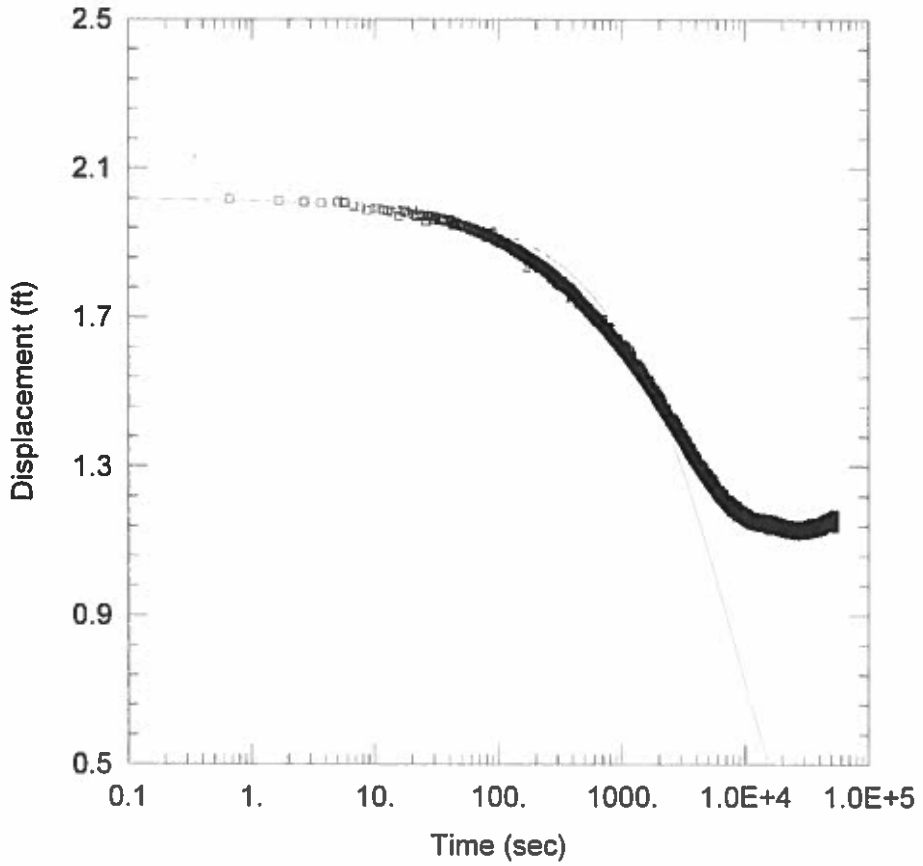
Saturated Thickness: 79.25 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-10D)

Initial Displacement: 2.02 ft
Total Well Penetration Depth: 76.9 ft
Casing Radius: 0.08 ft
Static Water Column Height: 76.9 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.0005599 ft/day
y0 = 1.286 ft



WELL TEST ANALYSIS

Data Set: \...\PB-10D-Test1 KGS.aqt
Date: 02/07/19 Time: 16:16:04

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-10D
Test Date: 1/29/2019

AQUIFER DATA

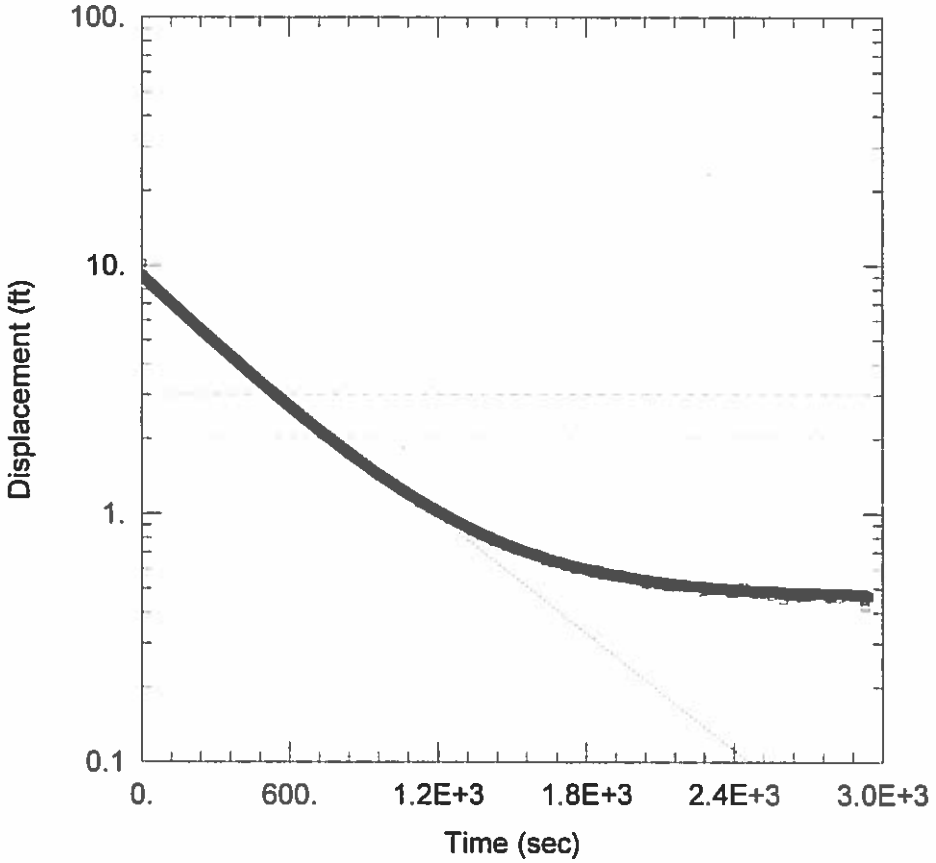
Saturated Thickness: 79.25 ft

WELL DATA (PB-10D)

Initial Displacement: 2.02 ft
Total Well Penetration Depth: 76.9 ft
Casing Radius: 0.08 ft
Static Water Column Height: 76.9 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model
Kr = 0.007202 ft/day
Kz/Kr = 0.1
Ss = 0.001564 ft^{-1}



WELL TEST ANALYSIS

Data Set: \...\PB-13D-Test1 Bouwer-Rice.aqt
Date: 02/07/19 Time: 17:14:20

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13D
Test Date: 1/30/2019

AQUIFER DATA

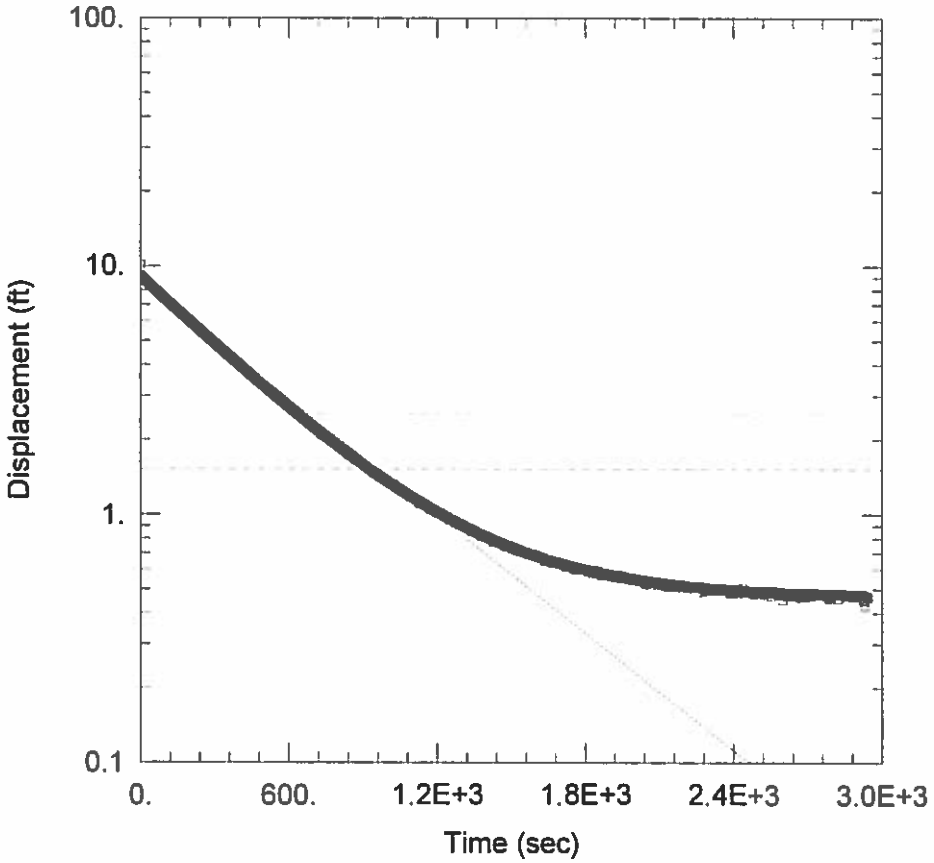
Saturated Thickness: 92.42 ft Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13D)

Initial Displacement: 10.13 ft
Total Well Penetration Depth: 89.72 ft
Casing Radius: 0.08 ft
Static Water Column Height: 89.72 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.2806 ft/day
y0 = 8.644 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13D-Test1 Hvorslev.aqt
Date: 02/07/19 Time: 17:28:39

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13D
Test Date: 1/30/2019

AQUIFER DATA

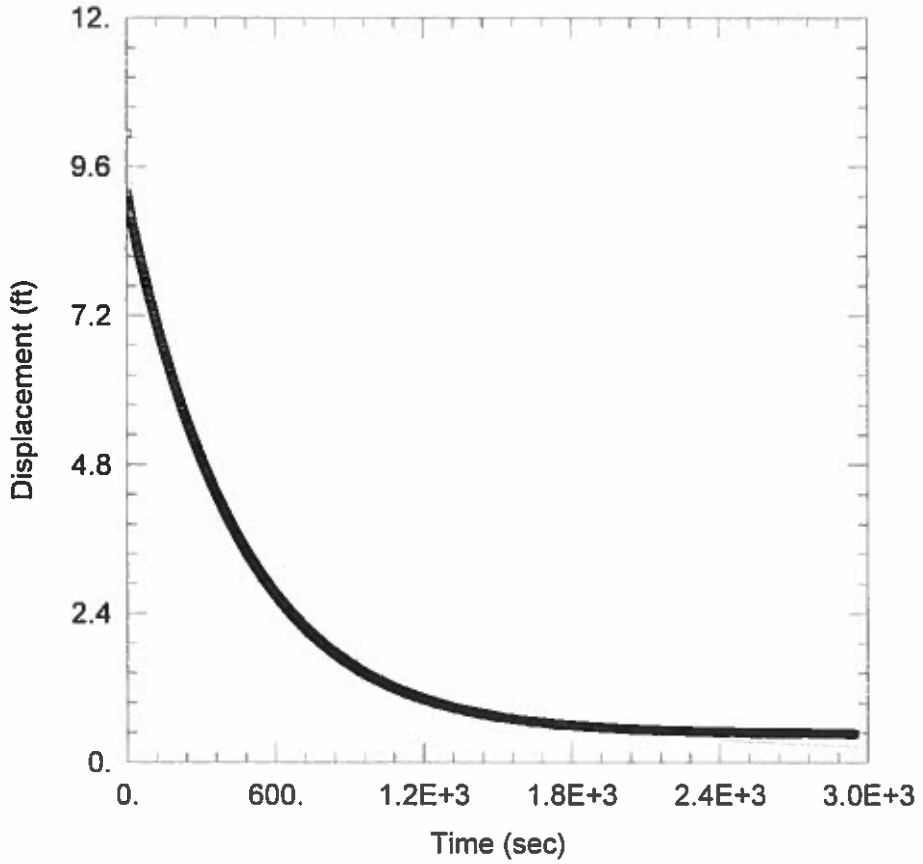
Saturated Thickness: 92.42 ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (PB-13D)

Initial Displacement: 10.13 ft
Total Well Penetration Depth: 89.72 ft
Casing Radius: 0.08 ft
Static Water Column Height: 89.72 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.2946 ft/day
y0 = 8.643 ft



WELL TEST ANALYSIS

Data Set: \...\PB-13D-Test1 KGS.aqt
Date: 02/07/19 Time: 17:30:35

PROJECT INFORMATION

Company: Geosyntec Consultants
Client: Georgia Power Company
Project: GW6364
Location: Milledgeville, Georgia
Test Well: PB-13D
Test Date: 1/30/2019

AQUIFER DATA

Saturated Thickness: 92.42 ft

WELL DATA (PB-13D)

Initial Displacement: 10.13 ft
Total Well Penetration Depth: 89.72 ft
Casing Radius: 0.08 ft
Static Water Column Height: 89.72 ft
Screen Length: 10. ft
Well Radius: 0.08 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.2327 ft/day
Kz/Kr = 0.1
Ss = 0.0002057 ft^{-1}

Attachment F

Soil Laboratory Test Results

Bin 39110
5131 Maner Road
Smyrna, Georgia 30080

Tel 404.799.2100
Fax 404.799.2141

GEORGIA POWER
A SOUTHERN COMPANY

February 11, 2006

Ms. Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Branch Kd Sorption and Cation Exchange Capacity Analytical Results

The Environmental Laboratory has completed the analysis of your samples and reports the results on the attached pages. Our laboratory maintains current NELAC accreditation for those analytes listed under the scope of accreditation. Analytes not listed in this scope are currently not maintained under an accreditation program. The analytes of this report that are listed under our NELAC scope of accreditation meet all requirements of the NELAC standard unless otherwise noted by data qualifiers. For internal clients, the scope and effective dates of our accreditation can be found at:

http://environmental.southernco.com/gpc/environmental-lab/chem.html

Please note the attached results from TestAmerica Laboratories, Inc. All results relate only to the contents of the samples as submitted. Samples will be disposed of after 30 days unless otherwise instructed. This report should only be reproduced in full with all associated records.

If you have any questions, please advise.

Respectively Submitted,

Robert S. Dickerson
Project Manager

Report Number: 020608-200391

Georgia Power Company
Environmental Laboratory
5131 Maner Road
Smyrna, GA 30080
(404) 799-2100
(404) 799-2141 (FAX)

Certificate of Analysis

Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

REPORT SUMMARY

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD	QC HBN
28330001	BH #4 0-6', Water		EPA 6010B	261953
28330002	BH #4 0-6', Water		EPA 6010B	261953
28330003	BH #4 0-6', Water		EPA 6010B	261953
28330004	BH #5 0-10', Water		EPA 6010B	261953
28330005	BH #5 0-10', Water		EPA 6010B	261953
28330006	BH #5 0-10', Water		EPA 6010B	261953
28330007	BH #7 0-6', Water		EPA 6010B	261953
28330008	BH #7 0-6', Water		EPA 6010B	261953
28330009	BH #7 0-6', Water		EPA 6010B	261953
28330010	BH #11 0-7', Water		EPA 6010B	261953
28330011	BH #11 0-7', Water		EPA 6010B	261953
28330012	BH #11 0-7', Water		EPA 6010B	261953
28330013	BH #12 0-8', Water		EPA 6010B	261953
28330014	BH #12 0-8', Water		EPA 6010B	261953
28330015	BH #12 0-8', Water		EPA 6010B	261953
28330016	BH #13 0-10', Water		EPA 6010B	262013
28330017	BH #13 0-10', Water		EPA 6010B	261953

February 06, 2008

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42 Inverness Center parkway
Birmingham, AL 35242

Workorder Kd Sorption - Branch

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD	QC HBN
28330018	BH #13 0-10', Water		EPA 6010B	261953

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330001	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #4 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.013	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330002	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #4 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.021	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330003	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #4 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.026	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Certificate of Analysis

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Birmingham, AL 35242

Sample Information

Sample ID:	28330004	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #5 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Certificate of Analysis

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Birmingham, AL 35242

Sample Information

Sample ID:	28330005	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #5 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.0085	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

Georgia Power Company
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(404) 799-2141 (FAX)

Certificate of Analysis

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SCG Earth Sciences & Env Engr
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Birmingham, AL 35242

Sample Information

Sample ID:	28330006	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #5 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

Georgia Power Company
Environmental Laboratory
5131 Maner Road
Smyrna, GA 30080
(404) 799-2100
(404) 799-2141 (FAX)

Certificate of Analysis

Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

Sample Information

Sample ID:	28330007	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #7 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330008	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #7 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330009	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #7 0-6'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.017	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330010	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #11 0-7'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.012	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330011	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #11 0-7'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.014	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Birmingham, AL 35242

Sample Information

Sample ID:	28330012	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #11 0-7'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.0086	0.0080	mg/L	CKP	02/05/08

February 06, 2008

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Birmingham, AL 35242

Sample Information

Sample ID:	28330013	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #12 0-8'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.015	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Certificate of Analysis

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SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

Sample Information

Sample ID:	28330014	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #12 0-8'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Certificate of Analysis

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Birmingham, AL 35242

Sample Information

Sample ID:	28330015	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #12 0-8'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	ND	0.0080	mg/L	CKP	02/05/08

February 06, 2008

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Birmingham, AL 35242

Sample Information

Sample ID:	28330016	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #13 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/04/08	EPA 3010	CKP	EPA 6010B	0.066	0.0080	mg/L	CKP	02/05/08

February 06, 2008

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Certificate of Analysis

Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

Sample Information

Sample ID:	28330017	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #13 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.090	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

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Certificate of Analysis

Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

Sample Information

Sample ID:	28330018	Matrix:	Water	Analysis Request:	23337
Location:	Branch	Sample Date/Time:		Workorder ID:	28330
Description:	Branch Soil	Received Date/Time:	01/18/08 09:00	Purchase Order:	
Field ID:	BH #13 0-10'	Collector:	Rhonda Tinsley		

INORGANICS

Analyte	Date Prepared	Prep Method	Prep By	Analytical Method	Result	Reporting Limit	Units	Analyst	Date Analyzed
Selenium	02/01/08	EPA 3010	ECS	EPA 6010B	0.11	0.0080	mg/L	CKP	02/05/08

February 06, 2008

ND - Not detectable at specified reporting limit.

Georgia Power Company
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(404) 799-2141 (FAX)

Certificate of Analysis

Rhonda Tinsley
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center parkway
Birmingham, AL 35242

Method Blank Report

Client ID: Southern Company Services
Workorder ID: Kd Sorption - Branch
Laboratory ID: 52946
Sample ID: MB for HBN 261953 [DIGM/2255]
Matrix: Water

Parameter	Date Prepared	Analytical Method	Date Analyzed	Result	Reporting Limit	Units
INORGANICS						
Selenium	02/01/08	EPA 6010B	02/05/08	ND	0.0080	mg/L

February 06, 2008

ND - Not detectable at specified reporting limit.

Georgia Power Company
Environmental Laboratory
5131 Maner Road
Smyrna, GA 30080
(404) 799-2100
(404) 799-2141 (FAX)

Certificate of Analysis

Terri Hartsfield
Southern Company Services
SCG Earth Sciences & Env Engr
42 Inverness Center Parkway
Birmingham, AL 35242

Method Blank Report

Client ID: Southern Company Services
Workorder ID: Kd Sorption - Branch
Laboratory ID: 53000
Sample ID: MB for HBN 262013 [DIGM/2257]
Matrix: Water

Parameter	Date Prepared	Analytical Method	Date Analyzed	Result	Reporting Limit	Units
INORGANICS						
Selenium	02/04/08	EPA 6010B	02/05/08	ND	0.0080	mg/L

February 06, 2008

ND - Not detectable at specified reporting limit.

ENV-474

ASTM D 4646 Standard Test Method for 24-h Batch-Type Measurement of Contaminant Sorption by Soils and Sediments

2/11/2008 11:01
Workorder 28330 (Branch)

Date	[illegible]	[illegible]	[illegible]	[illegible]	
Air Dry Weight					
Composited soil weights (Branch Soil [illegible])	Initial Weight (grams)	Air Dry Weight (grams)	Air Dry Weight (grams)	Air Dry Weight (grams)	% Moisture
28330001-003	3387.9	2934.0	2913.9	2913.8	1.01
28330004-006	4025.0	3510.1	3457.2	3456.0	0.46
28330007-009	3115.1	2707.8	2697.2	2698.2	0.48

Soil pH [illegible]		Weight (grams)	Extraction Vessel	Initial pH Solution	Final pH (pH)	Sample Rotation (hrs)	
Sample						Time Start	Time End
28330001	A	70.4	9	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330002	B	70.4	23	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330003	C	70.4	24	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330004	A	70.4	100	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330005	B	70.4	101	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330006	C	70.4	102	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330007	A	70.4	103	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330008	B	70.4	104	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330009	C	70.4	105	5.0	5.0	1/31/08 11:40	2/1/08 11:10
Control	A	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10
Control	B	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10
Control	C	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10

Distribution Ratio		Selenium (ug/mL) Initial	Selenium (ug/mL) Final	Soil Oven Dried Basis (g)	Distribution Ratio (mL/g)	Average (mL/g)	St Dev (mL/g)
28330001	A	0.986	0.013	69.7	1504		
28330002	B	0.986	0.021	69.7	923	1056	398
28330003	C	0.986	0.026	69.7	742		
28330004	A	0.986	0.008	70.1	2443		
28330005	B	0.986	0.009	70.1	2298	2395	84
28330006	C	0.986	0.008	70.1	2443		
28330007	A	0.986	0.008	70.1	2443		
28330008	B	0.986	0.008	70.1	2443	2443	0
28330009	C	0.986	0.008	70.1	2443		
Control	A	0.986	0.942				
Control	B	0.986	0.942				
Control	C	0.986	0.942				

Average Blank +/- Std Dev	**0.942**	**0.012**

Selenium concentrations by ICP with MDL of 0.008 ug/mL. Results below MDL are entered as the MDL value.
Volume (mL) 1400

Horizon Batch#	Date	Analyst	Reviewed / Date
261953/262013	2/5/08	CKP/ECS	RSD 02/06/08

ENV-474

ASTM D 4646 Standard Test Method for 24-h Batch-Type Measurement of Contaminant Sorption by Soils and Sediments

2/11/2008 11:01
Workorder **28330 (Branch)**

Air Dry Weights (Composited moist weights to form Soil:Water Slurries)	10 g Air Dry Initial Weight (grams)	10 g Air Dry Weight (grams)	10 g Oven Dried Weight (grams)	Final Dry Weight (grams)	% Moisture
28330010-012	3708.7	3343.1	3269.4	3263.1	0.65
28330013-015	3770.2	3296.3	3188.8	3177.0	0.34
28330016-018	1735.7	1455.1	1455.9	1455.9	0.47

Soil Sample		Weight (grams)	Extraction Vessel	Initial Volume (mL)	Final Volume (mL)	Sample Rotation Time Start	Sample Rotation Time End
28330010	A	70.4	106	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330011	B	70.4	107	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330012	C	70.4	108	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330013	A	70.4	109	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330014	B	70.4	110	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330015	C	70.4	111	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330016	A	70.4	115	5.0	5.0	2/1/08 11:15	2/2/08 11:35
28330017	B	70.4	113	5.0	5.0	1/31/08 11:40	2/1/08 11:10
28330018	C	70.4	114	5.0	5.0	1/31/08 11:40	2/1/08 11:10
Control	A	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10
Control	B	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10
Control	C	0	1A	7.0	7.0	1/31/08 11:40	2/1/08 11:10

Distribution Ratio		Selenium (ug/mL) Initial	Selenium (ug/mL) Final	Soil Oven Dried Equivalent	Distribution Ratio (ml/g)	Average (ml/g)	St Dev (ml/g)
28330010	A	0.986	0.012	69.9	1625		
28330011	B	0.986	0.014	69.9	1390	1763	459
28330012	C	0.986	0.009	69.9	2275		
28330013	A	0.986	0.015	70.2	1292		
28330014	B	0.986	0.008	70.2	2440	2057	663
28330015	C	0.986	0.008	70.2	2440		
28330016	A	0.986	0.066	70.1	279		
28330017	B	0.986	0.090	70.1	199	212	61
28330018	C	0.986	0.110	70.1	159		
Control	A	0.986	0.942				
Control	B	0.986	0.942				
Control	C	0.986	0.942				

Average Blank +/- Std Dev	**0.942**	**0.012**

Selenium concentrations by ICP with MDL of 0.008 ug/mL. Results below MDL are entered as the MDL value.
Volume (mL) **1400**

Horizon Batch	Date	Analyst	Reviewed / Date
261953/262013	**2/5/08**	**CKP/ECS**	**RSD 02/06/08**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 680-33710-1

Job Description: Branch

For:
Georgia Power - Environmental Lab
5131 Maner Road, Bin 39110
Smyrna, GA 30080

Attention: Mr. Robert S Dickerson

Abbie Page
Project Manager I
abbie.page@testamericainc.com
02/07/2008

mments
No additional comments.

Receipt
The Chain-of-Custody (COC) was not properly filled out. No sampling dates and times were provided. Client confirmed via telephone that all samples were collected on 1/23/08.

All other samples were received in good condition within temperature requirements.

Metals
No analytical or quality issues were noted.

METHOD / ANALYST SUMMARY

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Method	Analyst	Analyst ID
SW846 9081	Smith, Tim J	TJS

SAMPLE SUMMARY

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received	
680-33710-1	28330001	Solid	01/23/2008 0000	01/24/2008 0903	4 0-6'
680-33710-2	28330004	Solid	01/23/2008 0000	01/24/2008 0903	5 0-10'
680-33710-3	28330007	Solid	01/23/2008 0000	01/24/2008 0903	7 0-6'
680-33710-4	28330010	Solid	01/23/2008 0000	01/24/2008 0903	11 0-7'
680-33710-5	28330013	Solid	01/23/2008 0000	01/24/2008 0903	12 0-8'
680-33710-6	28330016	Solid	01/23/2008 0000	01/24/2008 0903	13 0-10'

General Chemistry

Client Sample ID: **28330001**

Lab Sample ID: 680-33710-1 | Date Sampled: 01/23/2008 0000
Client Matrix: Solid | % Moisture: 14.3 | Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	18	B	meq/100gm	0.025	0.025	1.0	9081
Anly Batch: 360-28582	Date Analyzed	02/06/2008 1414				DryWt Corrected: Y	
Prep Batch: 360-28511	Date Prepared:	02/05/2008 0921					

Client Sample ID: **28330004**

Lab Sample ID: 680-33710-2 | Date Sampled: 01/23/2008 0000
Client Matrix: Solid | % Moisture: 14.1 | Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	17	B	meq/100gm	0.025	0.025	1.0	9081
Anly Batch: 360-28582	Date Analyzed	02/06/2008 1420				DryWt Corrected: Y	
Prep Batch: 360-28511	Date Prepared:	02/05/2008 0921					

Client Sample ID: **28330007**

Lab Sample ID: 680-33710-3 | Date Sampled: 01/23/2008 0000
Client Matrix: Solid | % Moisture: 13.8 | Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	18	B	meq/100gm	0.025	0.025	1.0	9081
Anly Batch: 360-28582	Date Analyzed	02/06/2008 1422				DryWt Corrected: Y	
Prep Batch: 360-28511	Date Prepared:	02/05/2008 0921					

Client Sample ID: **28330010**

Lab Sample ID: 680-33710-4 | Date Sampled: 01/23/2008 0000
Client Matrix: Solid | % Moisture: 22.1 | Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	22	B	meq/100gm	0.028	0.028	1.0	9081
Anly Batch: 360-28582	Date Analyzed	02/06/2008 1425				DryWt Corrected: Y	
Prep Batch: 360-28511	Date Prepared:	02/05/2008 0921					

Client Sample ID: **28330013**

Lab Sample ID: 680-33710-5 | Date Sampled: 01/23/2008 0000
Client Matrix: Solid | % Moisture: 20.5 | Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	14	B	meq/100gm	0.027	0.027	1.0	9081
Anly Batch: 360-28582	Date Analyzed	02/06/2008 1428				DryWt Corrected: Y	
Prep Batch: 360-28511	Date Prepared:	02/05/2008 0921					

General Chemistry

Client Sample ID: **28330016**

Lab Sample ID: 680-33710-6
Client Matrix: Solid
% Moisture: 17.6
Date Sampled: 01/23/2008 0000
Date Received: 01/24/2008 0903

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cation Exchange Capacity	19	B	meq/100gm	0.026	0.026	1.0	9081

Anly Batch: 360-28582 Date Analyzed 02/06/2008 1430 DryWt Corrected: Y
Prep Batch: 360-28511 Date Prepared: 02/05/2008 0921

DATA REPORTING QUALIFIERS

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Lab Section	Qualifier	Description
General Chemistry		
	B	Compound was found in the blank and sample.
	F	Duplicate RPD exceeds the control limit

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Method Blank - Batch: 360-28511

Method: 9081
Preparation: 9081

Lab Sample ID: MB 360-28511/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/06/2008 1348
Date Prepared: 02/05/2008 0921

Analysis Batch: 360-28582
Prep Batch: 360-28511
Units: meq/100gm

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Cation Exchange Capacity	1.0		0.022	0.022

Duplicate - Batch: 360-28511

Method: 9081
Preparation: 9081

Lab Sample ID: 680-33710-1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/06/2008 1417
Date Prepared: 02/05/2008 0921

Analysis Batch: 360-28582
Prep Batch: 360-28511
Units: meq/100gm

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume: 4.49 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Cation Exchange Capacity	18	23.0	24	20	F

Calculations are performed before rounding to avoid round-off errors in calculated results.

Environmental Laboratory
5131 Manier Road, Bin 39110
Smyrna, Georgia 30080

Phone: (404) 799-2100 Fax: (404) 799-2141
Company: 8-530-2100 Fax: 8-530-2141

TRANSFER OF SAMPLES

GEORGIA POWER
A SOUTHERN COMPANY

02/07/2008

Sample Delivery Group No. 28330

Lab Contact: Bobby Dickerson 404-799-2128

Project Name: Branch

Vendor Laboratory Name and Address: Test America SAVANNAH

☐ Fax Results To:

☑ Mail Results To: Bobby Dickerson (e-mail rsdicker@southernco.com)

Turnaround Time: (or expected date of results) 10 Days

Rush Charges Authorized: ☐ Yes ☐ No Signature:

Date of Sample Transfer

Sample Date	Sample Time	No. of Containers	Project ID No.	Lab. ID No.	Analysis Requested	REMARKS
		1	BH #4 0-6'	28330001	Cation Exchange Capacity	
		1	BH #5 0-10'	28330004		
		1	BH #7 0-6'	28330007		
		1	BH #11 0-7'	28330010		
		1	BH #12 0-8'	28330013		
		1	BH #13 0-10'	28330016		
						1.6
						680-33710

Page 9 of 11

* Note: Attach copy of original Analysis Request

TRANSFERRED BY (Signature) [signature]

DATE 1/23/08 TIME

RECEIVED BY (Signature) [signature] 1/23/08

TITLE [signature] DATE 012408 TIME 0903

TELEPHONE 14:15

KAHL HALL (TMS)

707454 MA WHITE—Laboratory CANARY—Originator PINK—Laboratory

Login Sample Receipt Check List

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Login Number: 33710
Creator: Hall, Karl I
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
ole collection date/times are provided.	False	sample date of 1/23/08 provided by R. Dickerson
.opriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Login Sample Receipt Check List

Client: Georgia Power - Environmental Lab

Job Number: 680-33710-1

Login Number: 33710
Creator: Tremblay, Kara R
List Number: 1

List Source: TestAmerica Westfield
List Creation: 01/25/08 10:13 AM

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	0.8 C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
·ple collection date/times are provided.	True	
.opriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

MOISTURE DENSITY TEST DATA

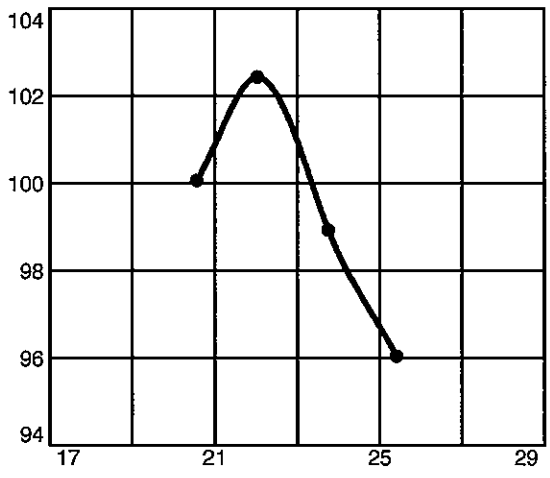
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH4
Elev. or Depth: 0.0 - 6.0 **Sample Length(in./cm.):**
Location:
Description: (lab#17)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/08/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 17

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56



POINT NO.	1	2	3	4
WM + WS	3809.5	3875.5	3836.5	3806.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	248.80	245.80	242.40	239.20
TARE	0.00	0.00	0.00	0.00
MOIST	20.6	22.1	23.8	25.4
MOISTURE	20.6	22.1	23.8	25.4
DRY DEN	100.1	102.4	98.9	96.0

Max dry den= 102.4 pcf **Opt moisture=** 22.1 %

Oversize Correction Not Applied

MOISTURE DENSITY TEST DATA

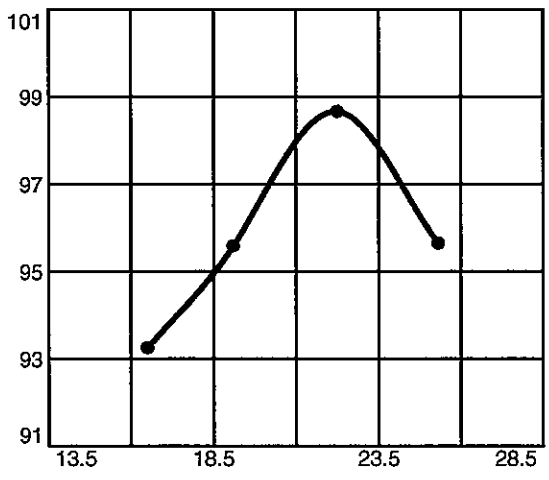
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH5
Elev. or Depth: 0.0 - 10.0 **Sample Length(in./cm.):**
Location:
Description: (lab#18)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/18/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 18

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56



POINT NO.	1	2	3	4
WM + WS	3628.0	3706.5	3809.0	3797.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	257.50	251.90	245.40	239.40
TARE	0.00	0.00	0.00	0.00
MOIST	16.5	19.1	22.2	25.3
MOISTURE	16.5	19.1	22.2	25.3
DRY DEN	93.3	95.6	98.7	95.6

Max dry den= 98.7 pcf **Opt moisture=** 22.2 %

Oversize Correction Not Applied

MOISTURE DENSITY TEST DATA

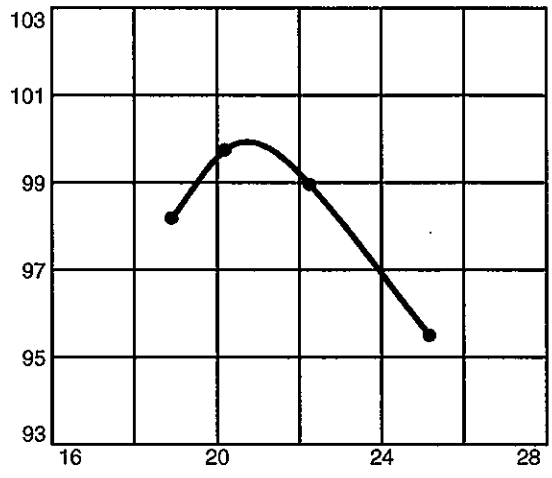
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH7
Elev. or Depth: 0.0 - 6.0 **Sample Length(in./cm.):**
Location:
Description: (lab19)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/18/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 19

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56



POINT NO.	1	2	3	4
WM + WS	3750.5	3798.0	3814.5	3792.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	252.30	249.60	245.40	239.70
TARE	0.00	0.00	0.00	0.00
MOIST	18.9	20.2	22.2	25.2
MOISTURE	18.9	20.2	22.2	25.2
DRY DEN	98.2	99.7	99.0	95.5

Max dry den= 99.9 pcf **Opt moisture=** 20.7 %

Oversize Correction Not Applied

MOISTURE DENSITY TEST DATA

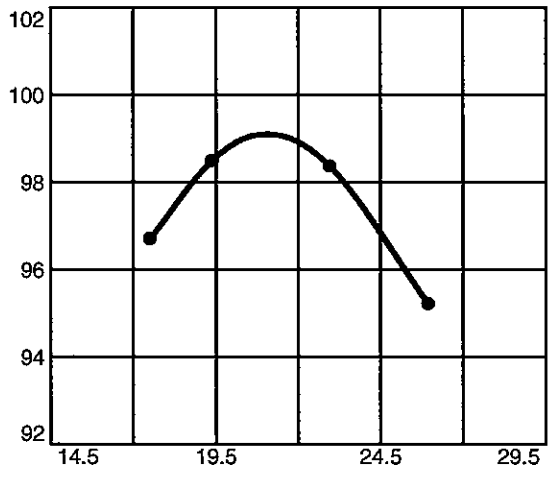
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH11
Elev. or Depth: 0.0 - 7.0 **Sample Length(in./cm.):**
Location:
Description: (lab20)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/18/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 20

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56



POINT NO.	1	2	3	4
WM + WS	3703.5	3763.0	3814.0	3798.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	255.30	251.30	244.00	238.20
TARE	0.00	0.00	0.00	0.00
MOIST	17.5	19.4	23.0	25.9
MOISTURE	17.5	19.4	23.0	25.9
DRY DEN	96.7	98.5	98.4	95.2

Max dry den= 99.1 pcf **Opt moisture=** 21.1 %

Oversize Correction Not Applied

MOISTURE DENSITY TEST DATA

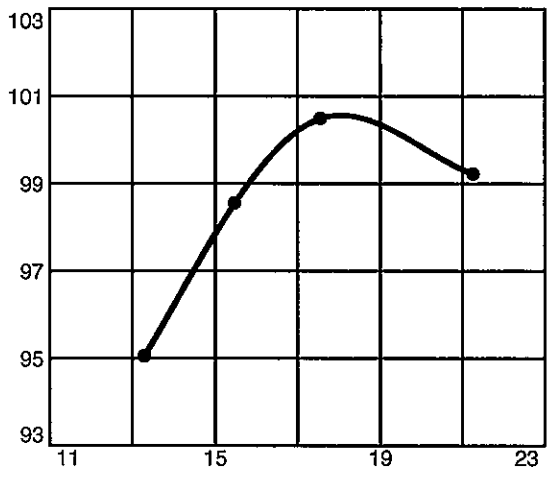
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH12
Elev. or Depth: 0.0 - 8.0 **Sample Length(in./cm.):**
Location:
Description: (lab21)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/18/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 21

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56



POINT NO.	1	2	3	4
WM + WS	3613.5	3706.0	3771.5	3804.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	264.80	259.80	255.20	247.40
TARE	0.00	0.00	0.00	0.00
MOIST	13.3	15.5	17.6	21.3
MOISTURE	13.3	15.5	17.6	21.3
DRY DEN	95.0	98.6	100.5	99.2

Max dry den= 100.6 pcf **Opt moisture=** 18.1 %

Oversize Correction Not Applied

MOISTURE DENSITY TEST DATA

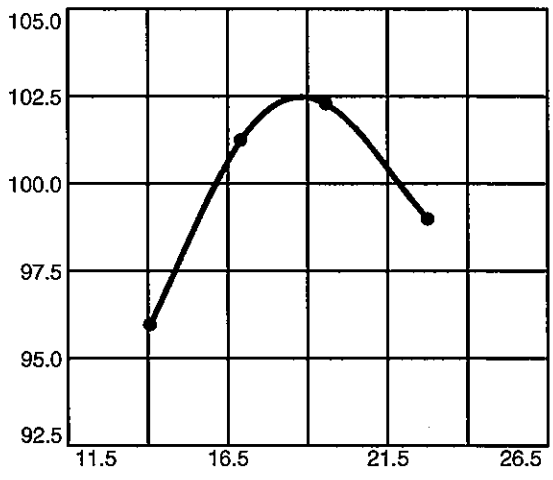
Client: SCS - Rhonda Tinsley & Gary McWhorter
Project: Plant Branch Gypsum Storage
Project Number: EWO -

Specimen Data

Source:
Sample No.: BH13
Elev. or Depth: 0.0 - 10.0 **Sample Length(in./cm.):**
Location:
Description: (lab22)
Liquid Limit: **Plasticity Index:** **Natural Moisture:**
Date: 01/18/08 **USCS Classification:** **AASHTO Classification:**
Testing Remarks:
Percent retained on 3/4 in. sieve:
Percent passing No. 200 sieve: **Specific gravity:**

Test Data And Results For Curve 22

Type of test: ASTM D 698-91 Procedure C Standard
Mold Dia.: 6.00 in. **Hammer Wt.:** 5.5 lb. **Drop:** 12 in.
Layers: three **Blows per Layer:** 56

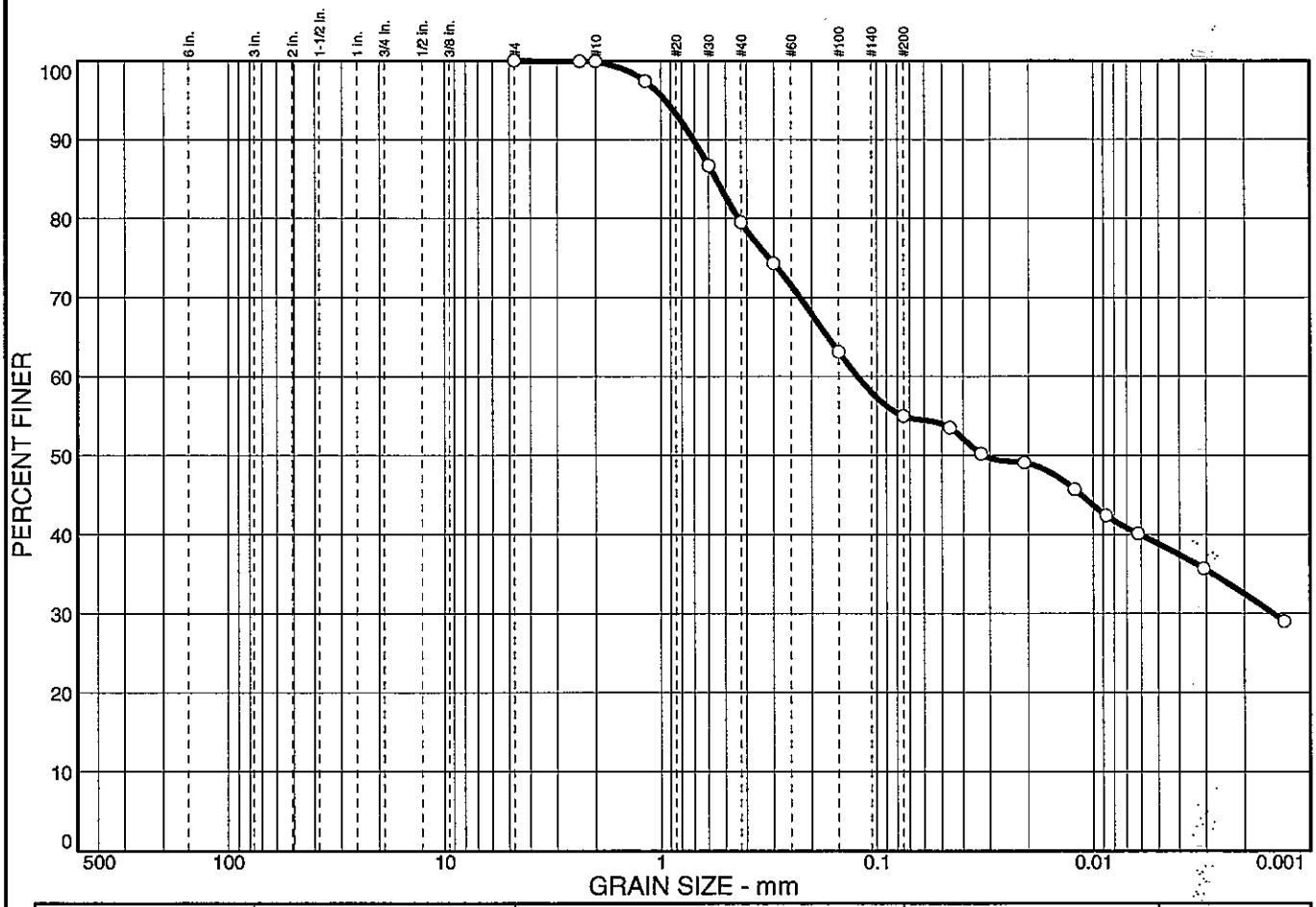


POINT NO.	1	2	3	4
WM + WS	3640.5	3775.0	3834.5	3822.5
WM	1985.5	1985.5	1985.5	1985.5
WW+T	300.00	300.00	300.00	300.00
WD+T	263.00	256.60	250.90	244.40
TARE	0.00	0.00	0.00	0.00
MOIST	14.1	16.9	19.6	22.7
MOISTURE	14.1	16.9	19.6	22.7
DRY DEN	96.0	101.2	102.3	99.0

Max dry den= 102.5 pcf **Opt moisture=** 18.8 %

Oversize Correction Not Applied

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	45.0	16.2	38.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.9		
#10	99.9		
#16	97.4		
#30	86.7		
#40	79.5		
#50	74.3		
#100	63.1		
#200	55.0		

* (no specification provided)

Soil Description

Dark Reddish Brown Sandy lean clay

Atterberg Limits

PL= 24 LL= 47 PI= 23

Coefficients

D_{85}= 0.555 D_{60}= 0.123 D_{50}= 0.0320
D_{30}= 0.0015 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

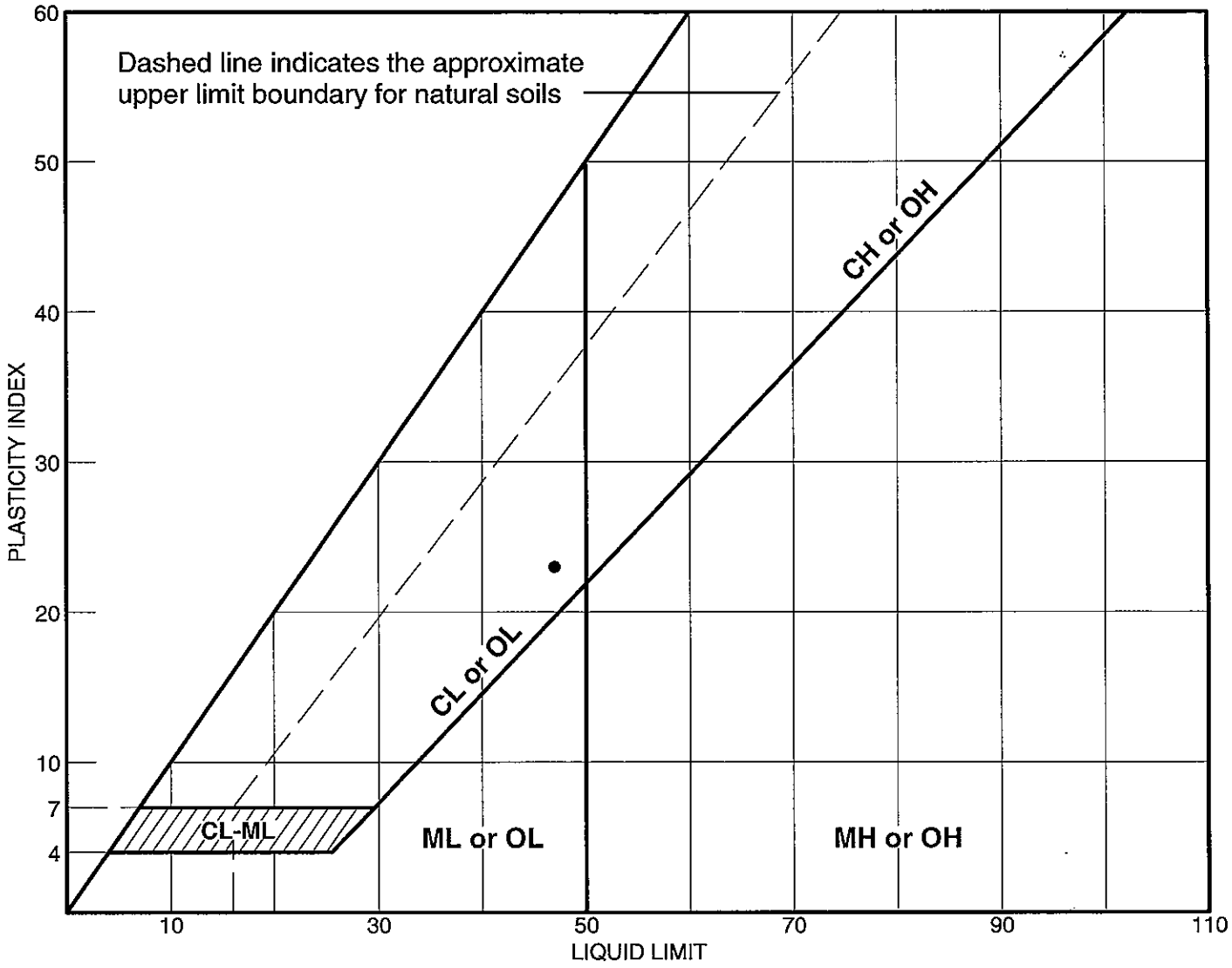
Specific Gravity - 2.67
Moisture Content - 15.2%

Sample No.: 1 **Source of Sample:** **Date:** 01/18/08
Location: Boring #13 **Elev./Depth:** 4.5 - 6.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 1

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		1	4.5 - 6.0	15.2%	24	47	23	CL

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

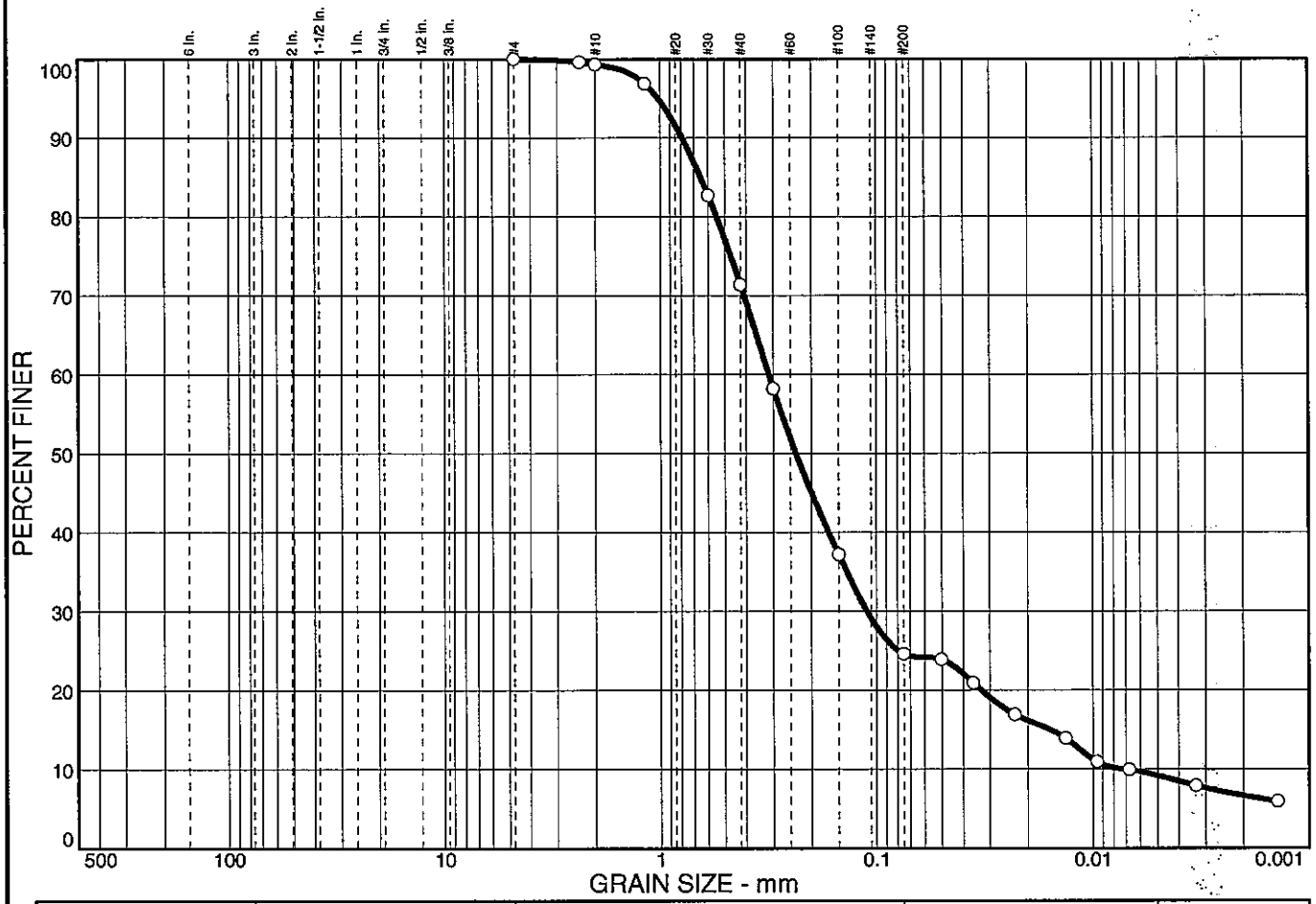
Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 1

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	75.4	15.4	9.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.6		
#10	99.3		
#16	96.9		
#30	82.7		
#40	71.4		
#50	58.2		
#100	37.2		
#200	24.6		

* (no specification provided)

Soil Description

Light Brown Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.650 D_{60}= 0.315 D_{50}= 0.236
D_{30}= 0.111 D_{15}= 0.0158 D_{10}= 0.0072
C_u= 43.69 C_c= 5.40

Classification

USCS= SM AASHTO=

Remarks

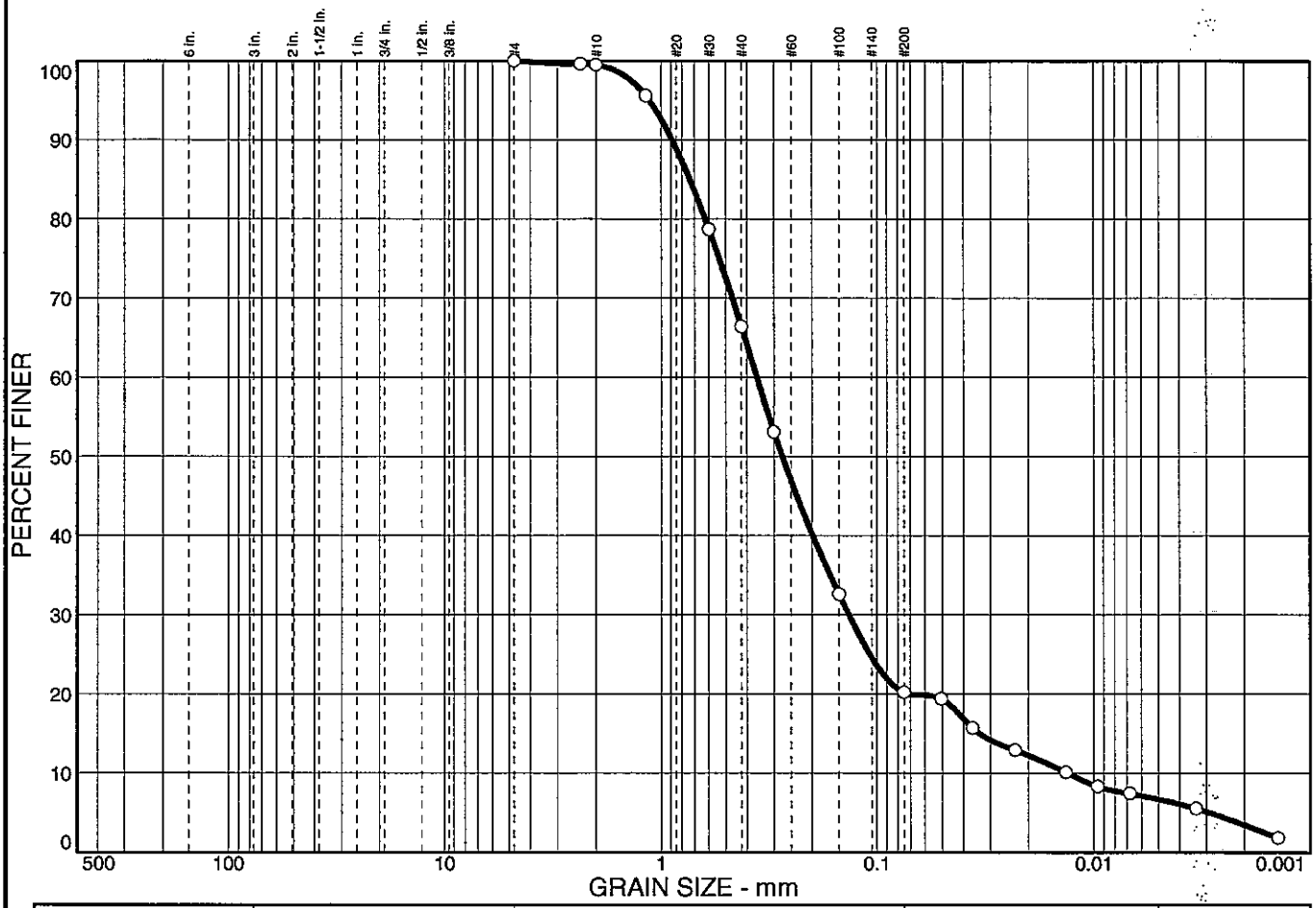
Specific Gravity - 2.64
Moisture Content - 22.5

Sample No.: 3 **Source of Sample:** **Date:** 01/18/08
Location: Boring #13 **Elev./Depth:** 14.5 - 16.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 2

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	79.8	13.5	6.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.6		
#10	99.5		
#16	95.6		
#30	78.7		
#40	66.4		
#50	53.1		
#100	32.6		
#200	20.2		

* (no specification provided)

Soil Description

Light Gray Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.735 D_{60}= 0.360 D_{50}= 0.275
D_{30}= 0.135 D_{15}= 0.0337 D_{10}= 0.0132
C_u= 27.25 C_c= 3.83

Classification

USCS= SM AASHTO=

Remarks

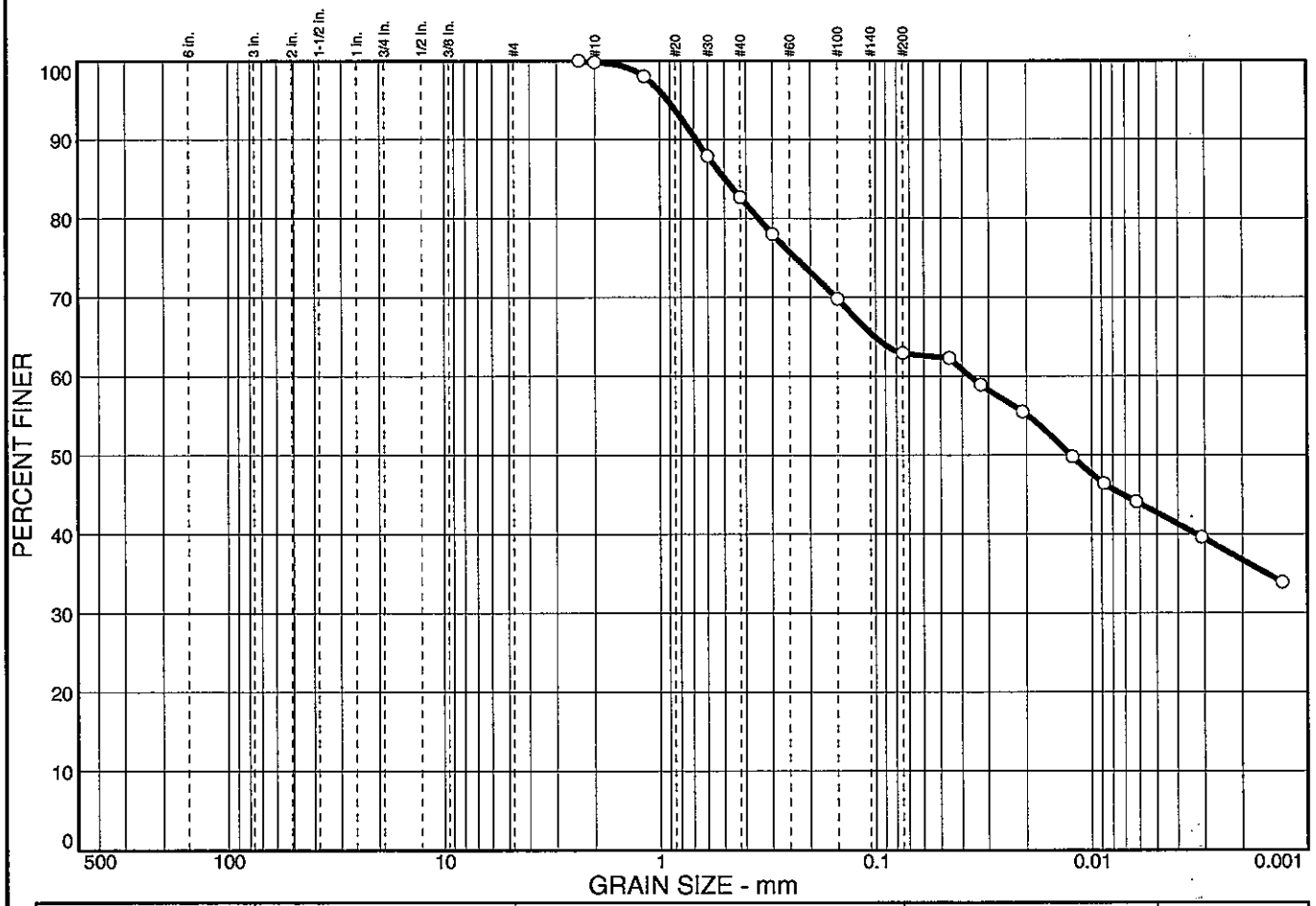
Specific Gravity - 2.65
Moisture Content - 2.5

Sample No.: 2 **Source of Sample:** **Date:** 01/18/08
Location: Boring #16 **Elev./Depth:** 8.5 - 10.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 3

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	37.1	20.2	42.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#8	100.0		
#10	99.8		
#16	98.0		
#30	87.9		
#40	82.7		
#50	78.0		
#100	69.8		
#200	62.9		

* (no specification provided)

Soil Description

Reddish Brown Sandy elastic silt

Atterberg Limits

PL= 36 LL= 57 PI= 21

Coefficients

D_{85}= 0.498 D_{60}= 0.0367 D_{50}= 0.0125
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO=

Remarks

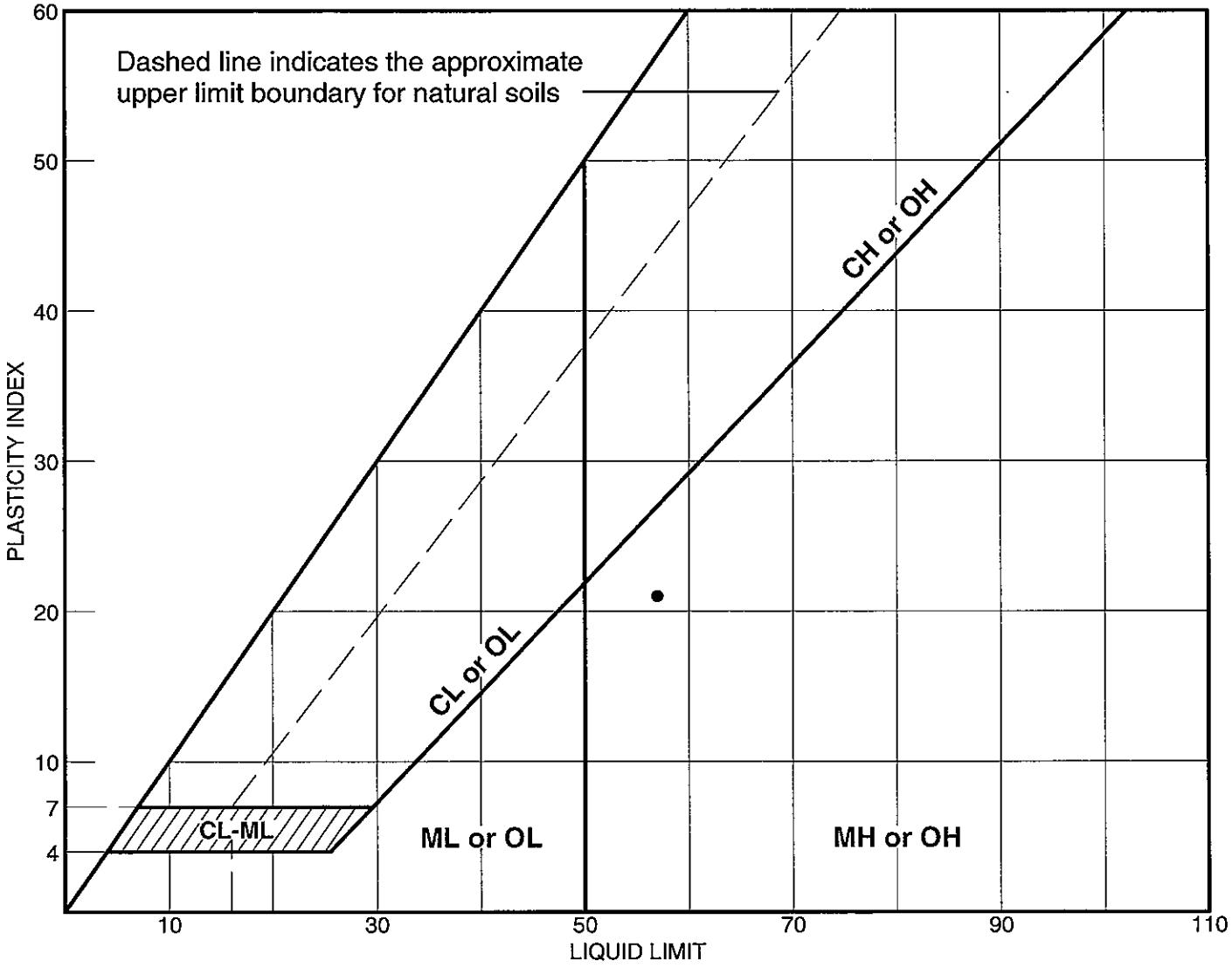
Specific Gravity - 2.62
Moisture Content - 10.3

Sample No.: 1 **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 4.5 - 6.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 4

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		1	4.5 - 6.0	10.3%	36	57	21	MH

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 4

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	9.2	67.0	17.7	6.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.75 in.	100.0		
.375 in.	94.8		
#4	90.8		
#8	86.3		
#10	85.3		
#16	80.3		
#30	67.0		
#40	58.7		
#50	52.3		
#100	35.7		
#200	23.8		

* (no specification provided)

Soil Description

Light Gray Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 1.91 D_{60}= 0.451 D_{50}= 0.268
D_{30}= 0.117 D_{15}= 0.0220 D_{10}= 0.0127
C_u= 35.56 C_c= 2.38

Classification

USCS= SM AASHTO=

Remarks

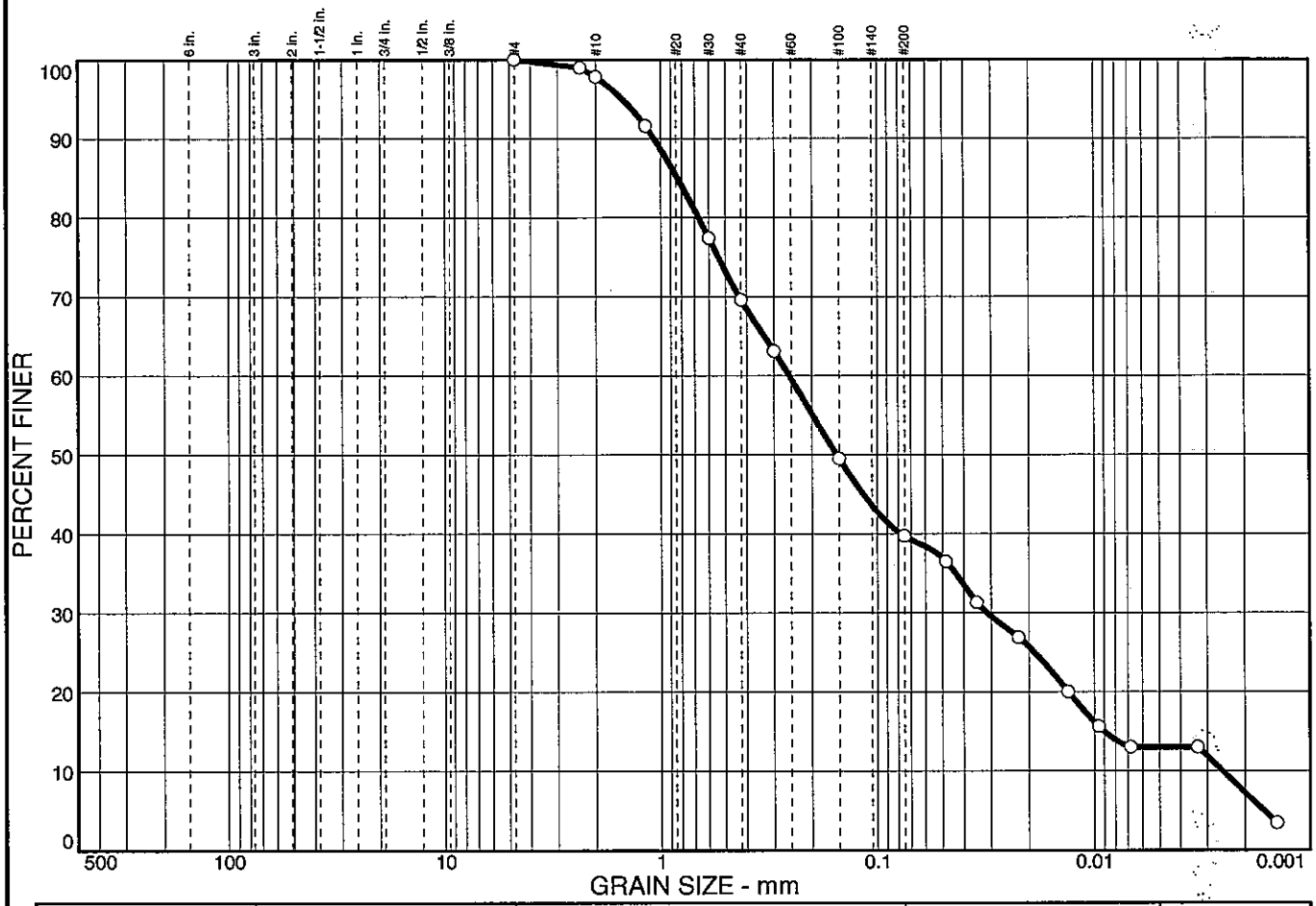
Specific Gravity - 2.60
Moisture Content - 20.6

Sample No.: 11 **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 54.5 - 56.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 5

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	60.3	26.7	13.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.0		
#10	97.8		
#16	91.6		
#30	77.4		
#40	69.6		
#50	63.1		
#100	49.5		
#200	39.7		

* (no specification provided)

Soil Description

Light Grayish Brown Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.837 D_{60}= 0.255 D_{50}= 0.154
D_{30}= 0.0314 D_{15}= 0.0090 D_{10}= 0.0025
C_u= 100.10 C_c= 1.51

Classification

USCS= SM AASHTO=

Remarks

Specific Gravity - 2.59
Moisture Content - 22.7

Sample No.: 6 **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 29.5 - 31.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 6

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.2	70.6	21.0	8.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.8		
#8	97.4		
#10	95.9		
#16	90.4		
#30	76.1		
#40	67.2		
#50	56.7		
#100	39.6		
#200	29.2		

* (no specification provided)

Soil Description

Light Gray Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.878 D_{60}= 0.335 D_{50}= 0.235
D_{30}= 0.0833 D_{15}= 0.0127 D_{10}= 0.0064
C_u= 52.06 C_c= 3.23

Classification

USCS= SM AASHTO=

Remarks

Specific Gravity - 2.56
Moisture Content - 31.1

Sample No.: 7 **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 34.5 - 36.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 7

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.6	33.2	26.1	40.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.4		
#8	99.2		
#10	99.0		
#16	96.2		
#30	88.3		
#40	83.8		
#50	79.2		
#100	71.2		
#200	66.2		

* (no specification provided)

Soil Description

Light Reddish Brown Sandy elastic silt

Atterberg Limits

PL= 42 LL= 66 PI= 24

Coefficients

D_{85}= 0.466 D_{60}= 0.0233 D_{50}= 0.0122
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO=

Remarks

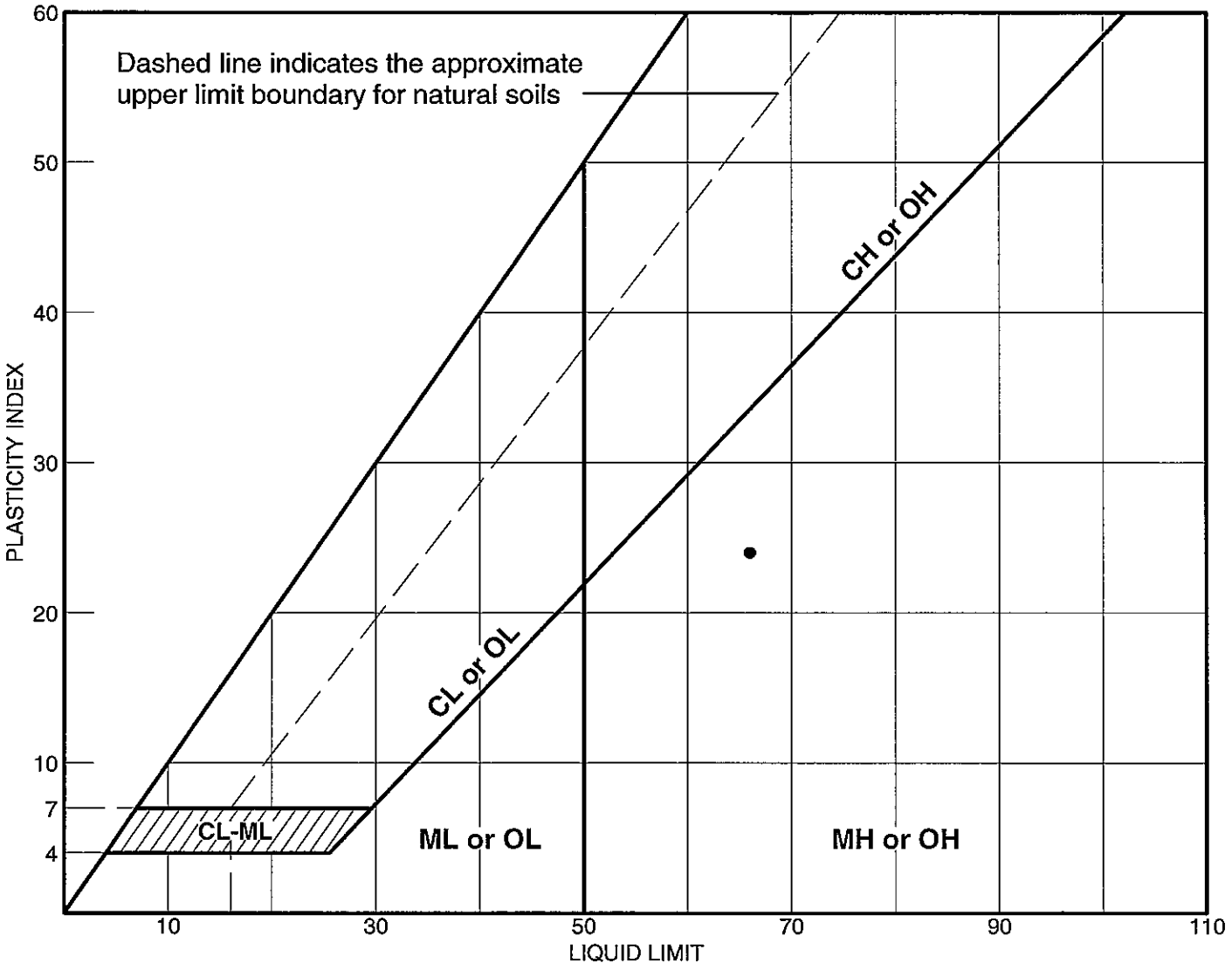
Specific Gravity - 2.67
Moisture Content - 15.0

Sample No.: 1 **Source of Sample:** **Date:** 01/18/08
Location: Boring #5 **Elev./Depth:** 3.5 - 5.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 8

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		1	3.5 - 5.0	15.0%	42	66	24	MH

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 8

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	45.4	32.7	21.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.9		
#10	99.6		
#16	95.6		
#30	85.5		
#40	79.7		
#50	73.2		
#100	61.9		
#200	54.6		

* (no specification provided)

Soil Description

Light Brown Sandy silt

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.582 D_{60}= 0.131 D_{50}= 0.0322
D_{30}= 0.0105 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

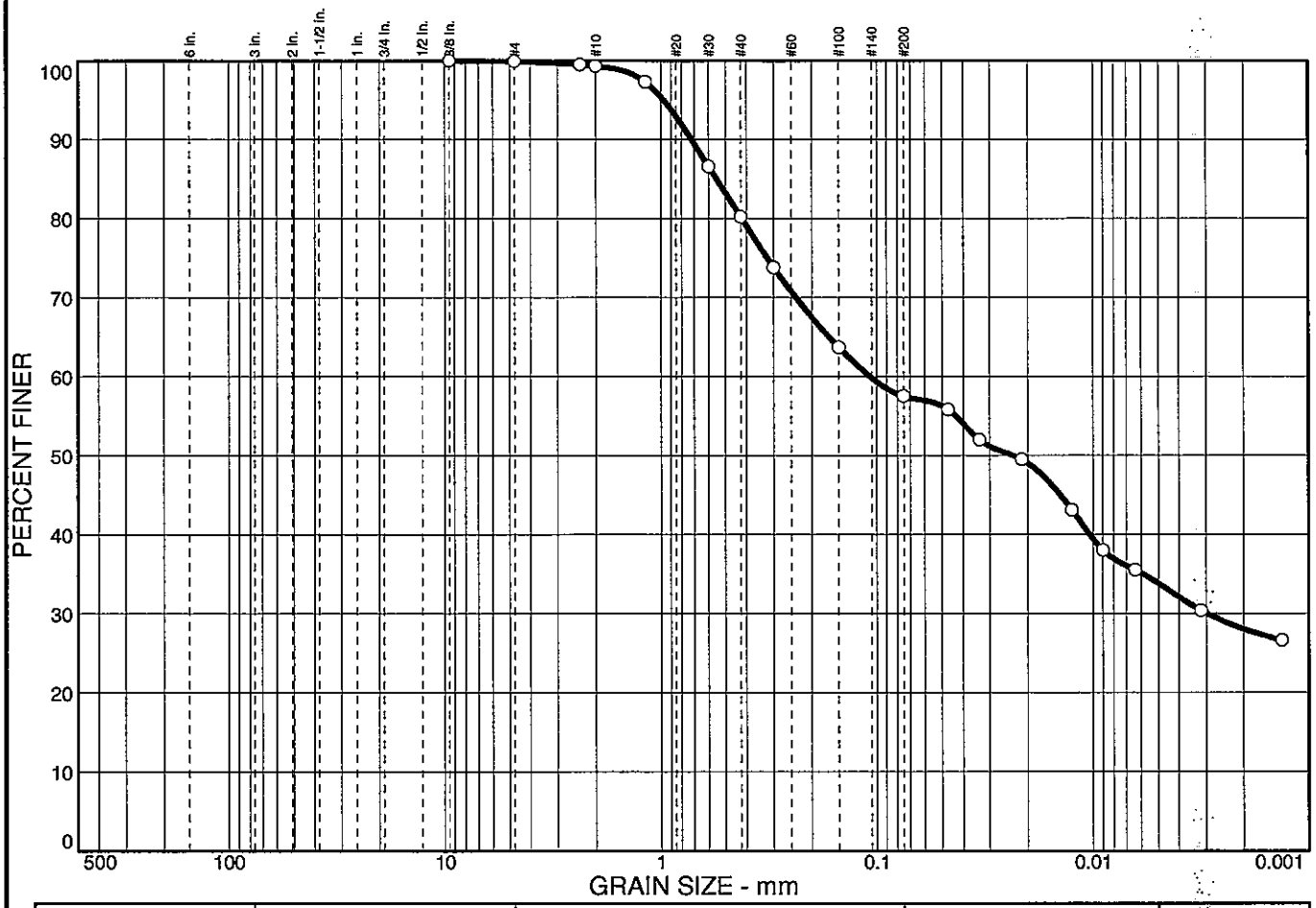
Specific Gravity - 2.64
Moisture Content - 16.2

Sample No.: 3 **Source of Sample:** **Date:** 01/18/08
Location: Boring #5 **Elev./Depth:** 13.5 - 15.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 9

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.1	42.4	23.7	33.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.9		
#8	99.5		
#10	99.3		
#16	97.3		
#30	86.6		
#40	80.2		
#50	73.8		
#100	63.7		
#200	57.5		

* (no specification provided)

Soil Description

Brown Sandy elastic silt

Atterberg Limits

PL= 34 LL= 56 PI= 22

Coefficients

D_{85}= 0.551 D_{60}= 0.108 D_{50}= 0.0233
D_{30}= 0.0030 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO=

Remarks

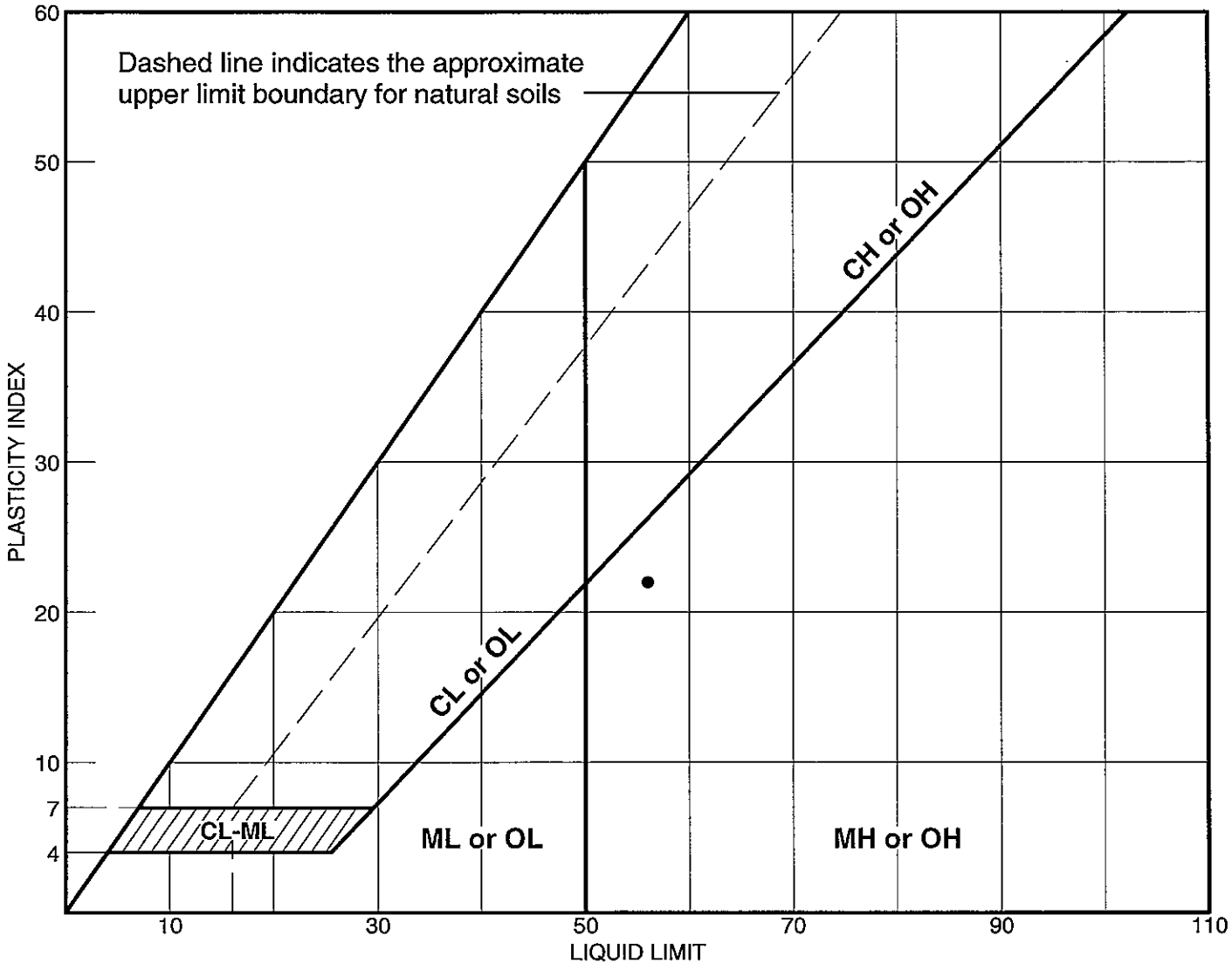
Specific Gravity - 2.66
Moisture Content - 12.7

Sample No.: 2 **Source of Sample:** **Date:** 01/18/08
Location: Boring #5 **Elev./Depth:** 8.5 - 10.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 10

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		2	8.5 - 10.0	12.7%	34	56	22	MH

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

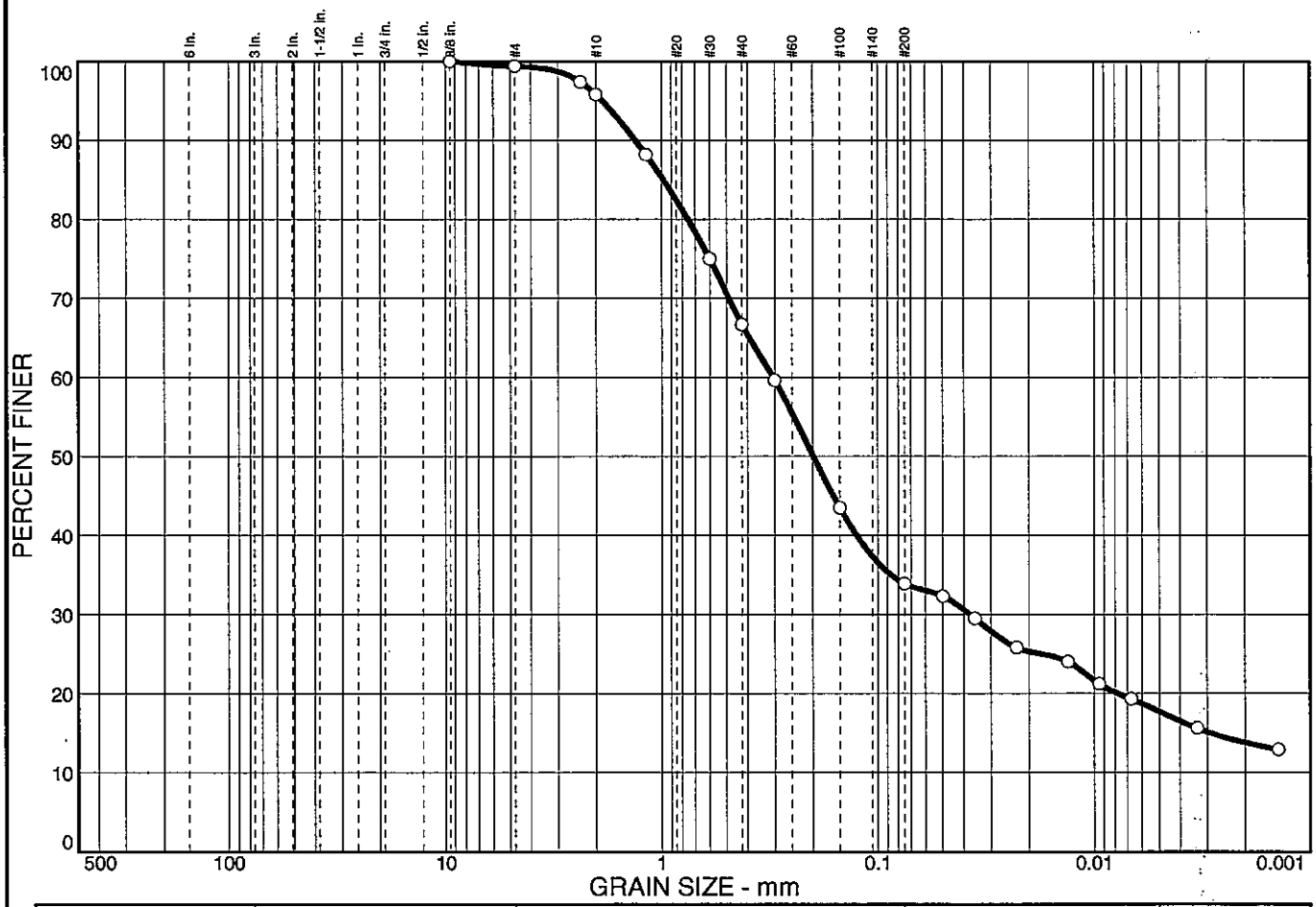
Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 10

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.6	65.5	16.2	17.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.4		
#8	97.4		
#10	95.8		
#16	88.2		
#30	75.0		
#40	66.7		
#50	59.6		
#100	43.5		
#200	33.9		

* (no specification provided)

Soil Description

Light Gray Clayey sand

Atterberg Limits

PL= 22 LL= 43 PI= 21

Coefficients

D_{85}= 0.980 D_{60}= 0.306 D_{50}= 0.199
D_{30}= 0.0374 D_{15}= 0.0029 D_{10}=
C_u= C_c=

Classification

USCS= SC AASHTO=

Remarks

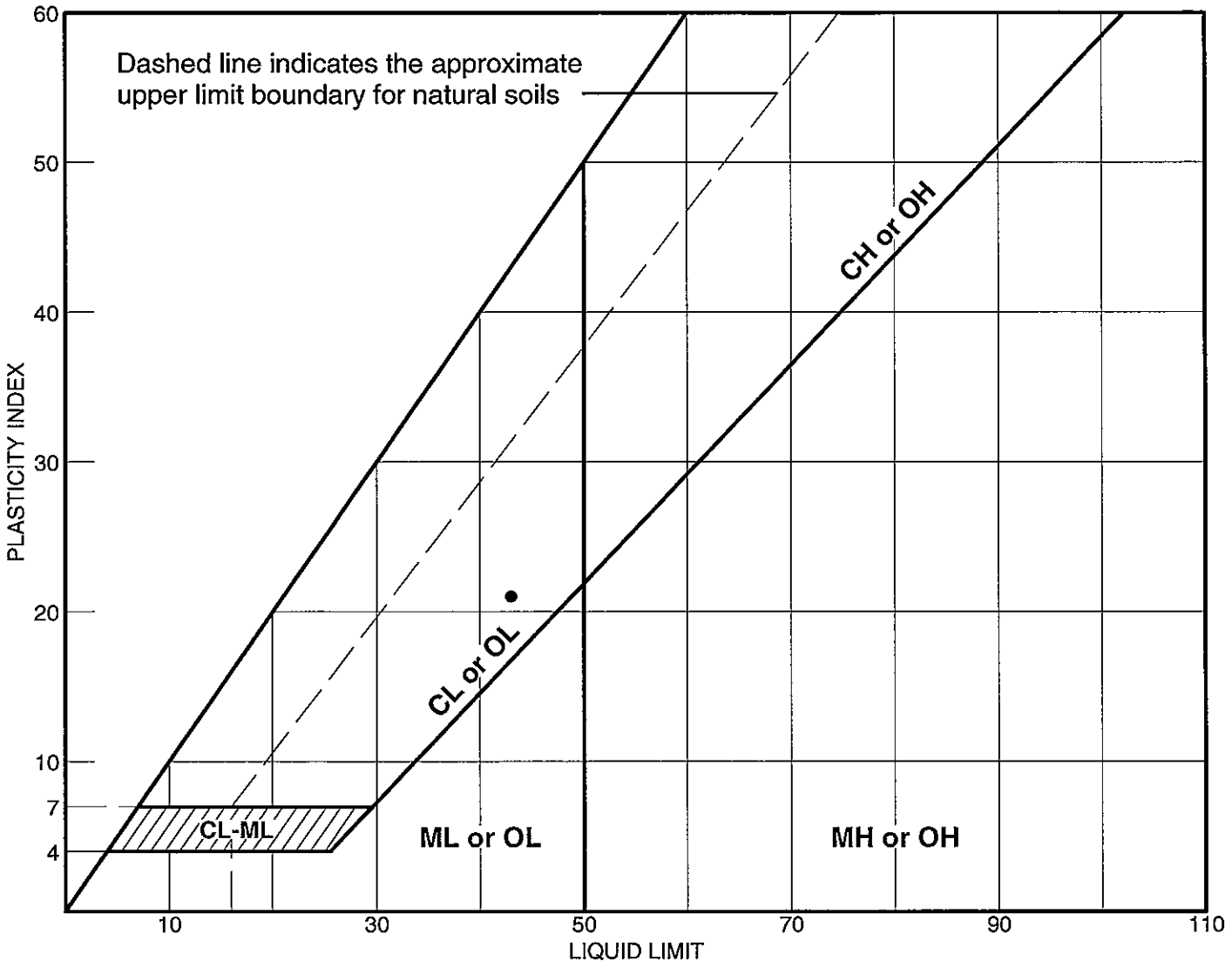
Specific Gravity - 2.56
Moisture Content - 10.2

Sample No.: 1 **Source of Sample:** **Date:** 01/18/08
Location: Boring #8 **Elev./Depth:** 4.5 - 6.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 11

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		1	4.5 - 6.0	10.2%	22	43	21	SC

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 11

Particle Size Distribution Report

% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	36.5	20.8	42.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.9		
#10	99.7		
#16	97.3		
#30	91.4		
#40	87.3		
#50	83.6		
#100	67.4		
#200	63.5		

* (no specification provided)

Soil Description

Dark Reddish Brown Sandy elastic silt

Atterberg Limits

PL= 41 LL= 65 PI= 24

Coefficients

D_{85}= 0.333 D_{60}= 0.0293 D_{50}= 0.0107
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= MH AASHTO=

Remarks

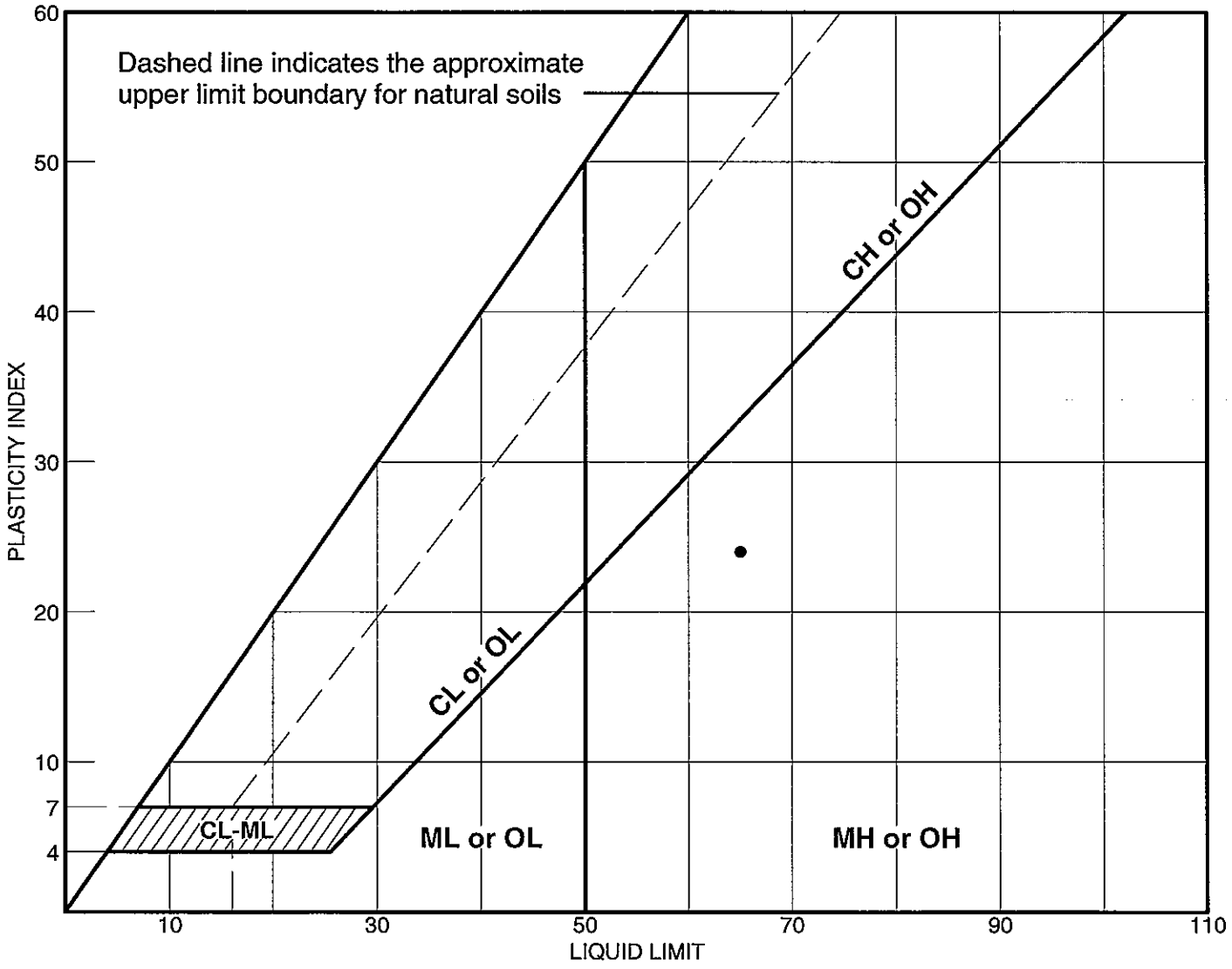
Specific Gravity - 2.70
Moisture Content - 20.0

Sample No.: 2 **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 9.5 - 11.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 12

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		2	9.5 - 11.0	20.0%	41	65	24	MH

LIQUID AND PLASTIC LIMITS TEST REPORT

SOUTHERN COMPANY

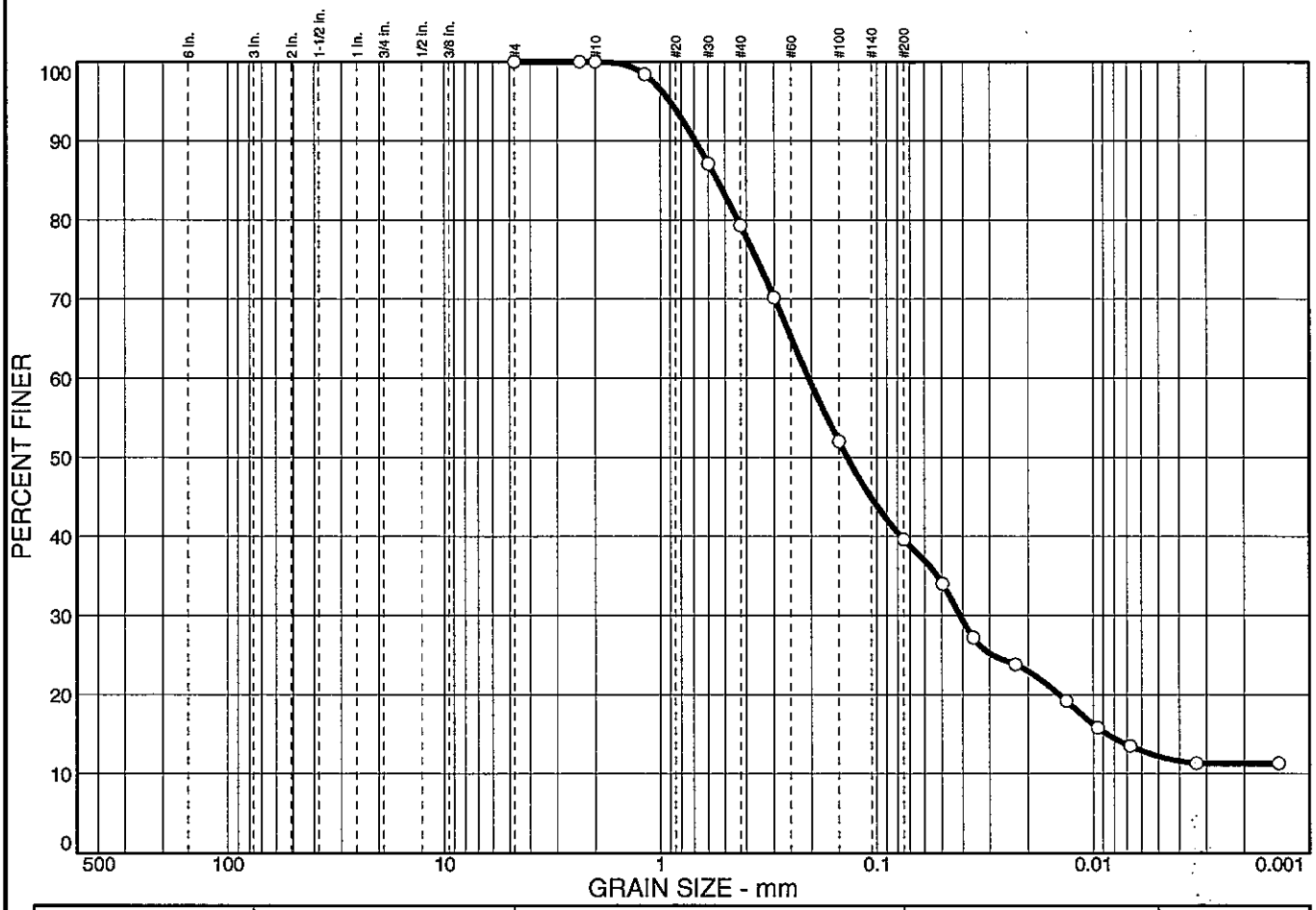
Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO -

Lab# 12

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	60.4	27.4	12.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	100.0		
#10	100.0		
#16	98.4		
#30	87.1		
#40	79.3		
#50	70.2		
#100	52.0		
#200	39.6		

* (no specification provided)

Soil Description

Light Brown Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.544 D_{60}= 0.206 D_{50}= 0.137
D_{30}= 0.0413 D_{15}= 0.0086 D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

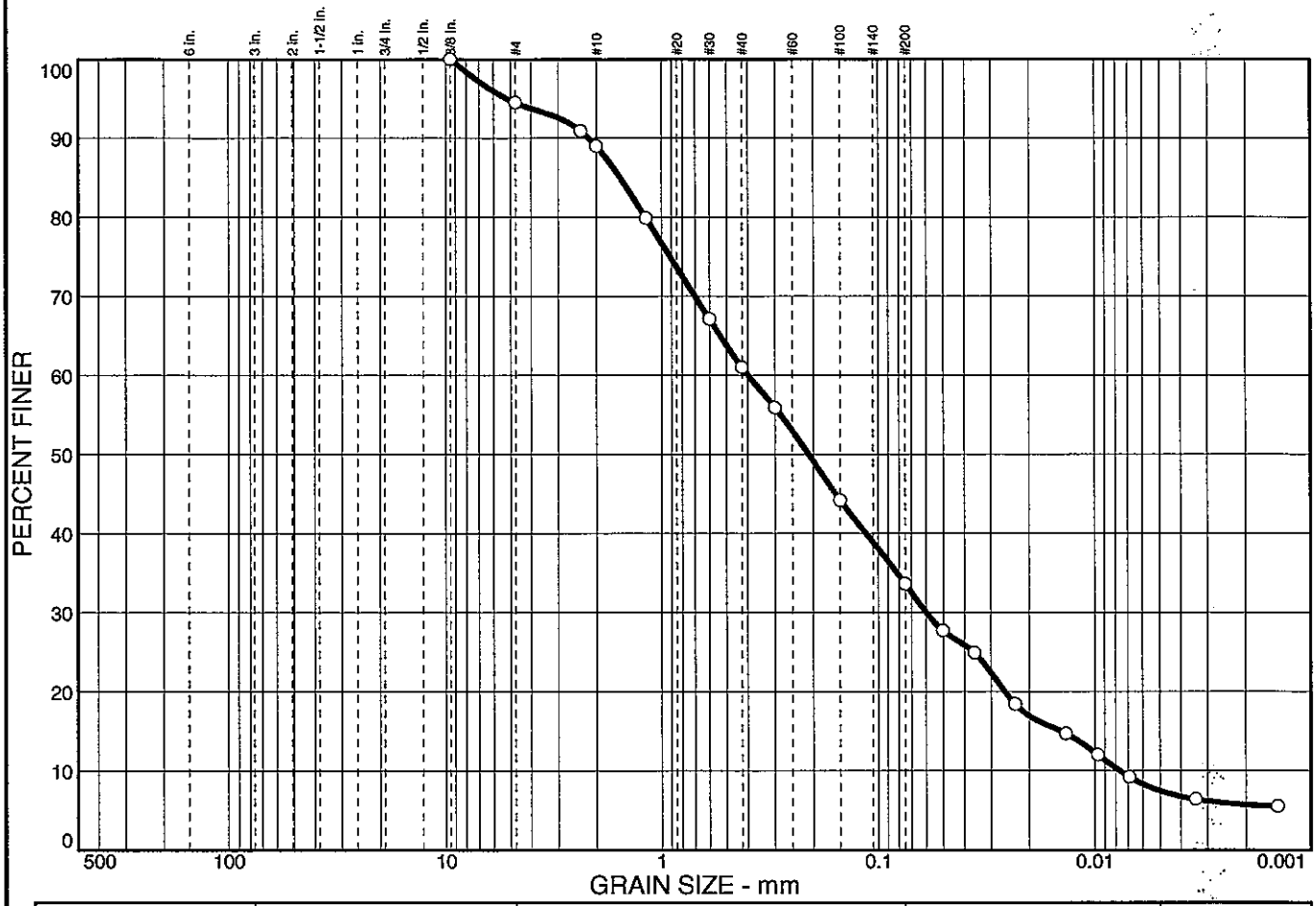
Specific Gravity - 2.62
Moisture Content - 7.2

Sample No.: 1 **Source of Sample:** **Date:** 01/18/08
Location: Boring #7 **Elev./Depth:** 4.5 - 6.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 13

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	5.5	60.9	26.1	7.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	94.5		
#8	90.9		
#10	89.0		
#16	79.9		
#30	67.1		
#40	61.0		
#50	55.9		
#100	44.2		
#200	33.6		

* (no specification provided)

Soil Description

Light Reddish Brown Silty sand

Atterberg Limits

PL= 29 LL= 37 PI= 8

Coefficients

D_{85}= 1.55 D_{60}= 0.398 D_{50}= 0.210
D_{30}= 0.0601 D_{15}= 0.0143 D_{10}= 0.0077
C_u= 51.97 C_c= 1.18

Classification

USCS= SM AASHTO=

Remarks

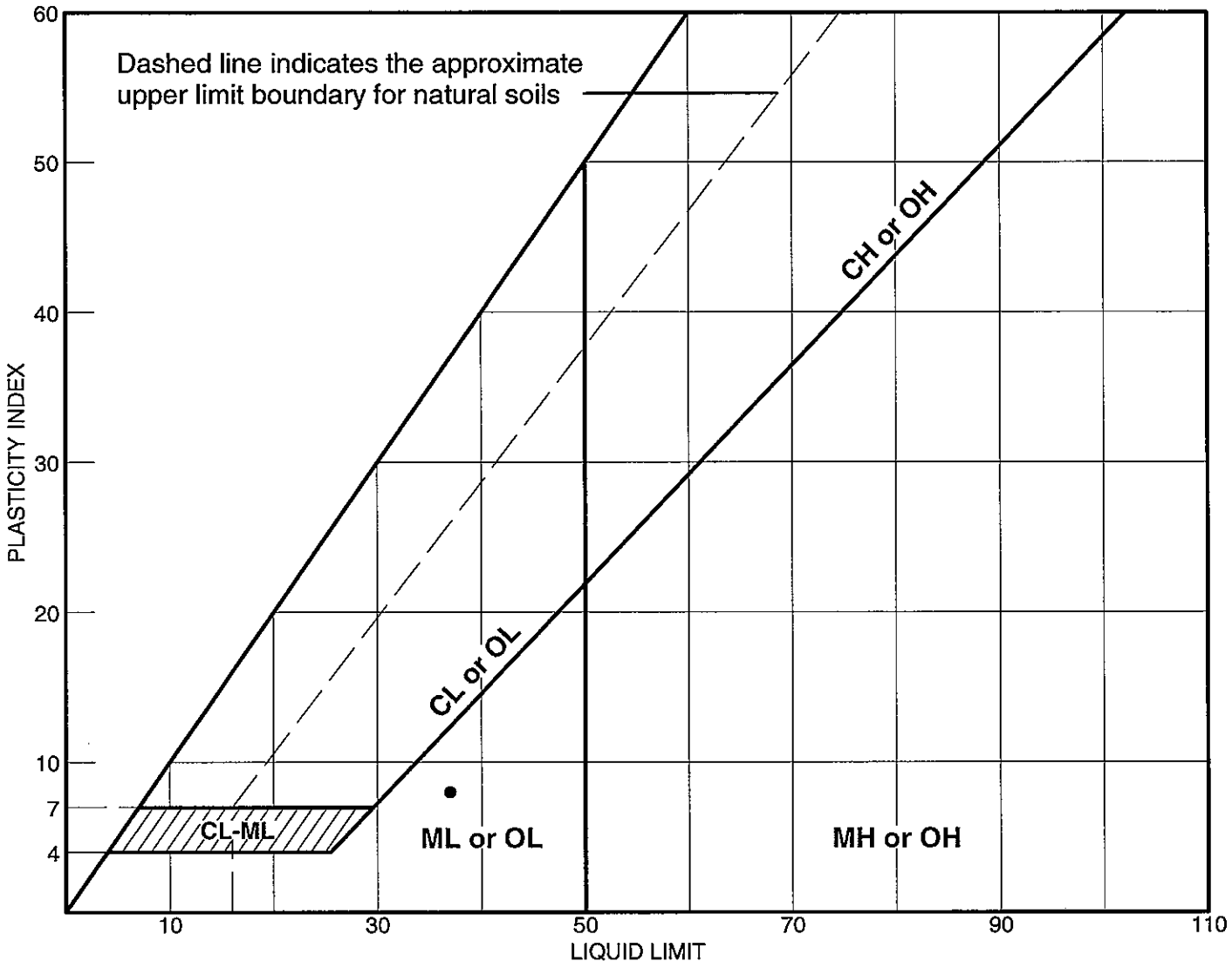
Specific Gravity - 2.58
Moisture Content - 6.3

Sample No.: 2 **Source of Sample:** **Date:** 01/18/08
Location: Boring #7 **Elev./Depth:** 9.5 - 11.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 14

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		2	9.5 - 11.0	6.3%	29	37	8	SM

LIQUID AND PLASTIC LIMITS TEST REPORT

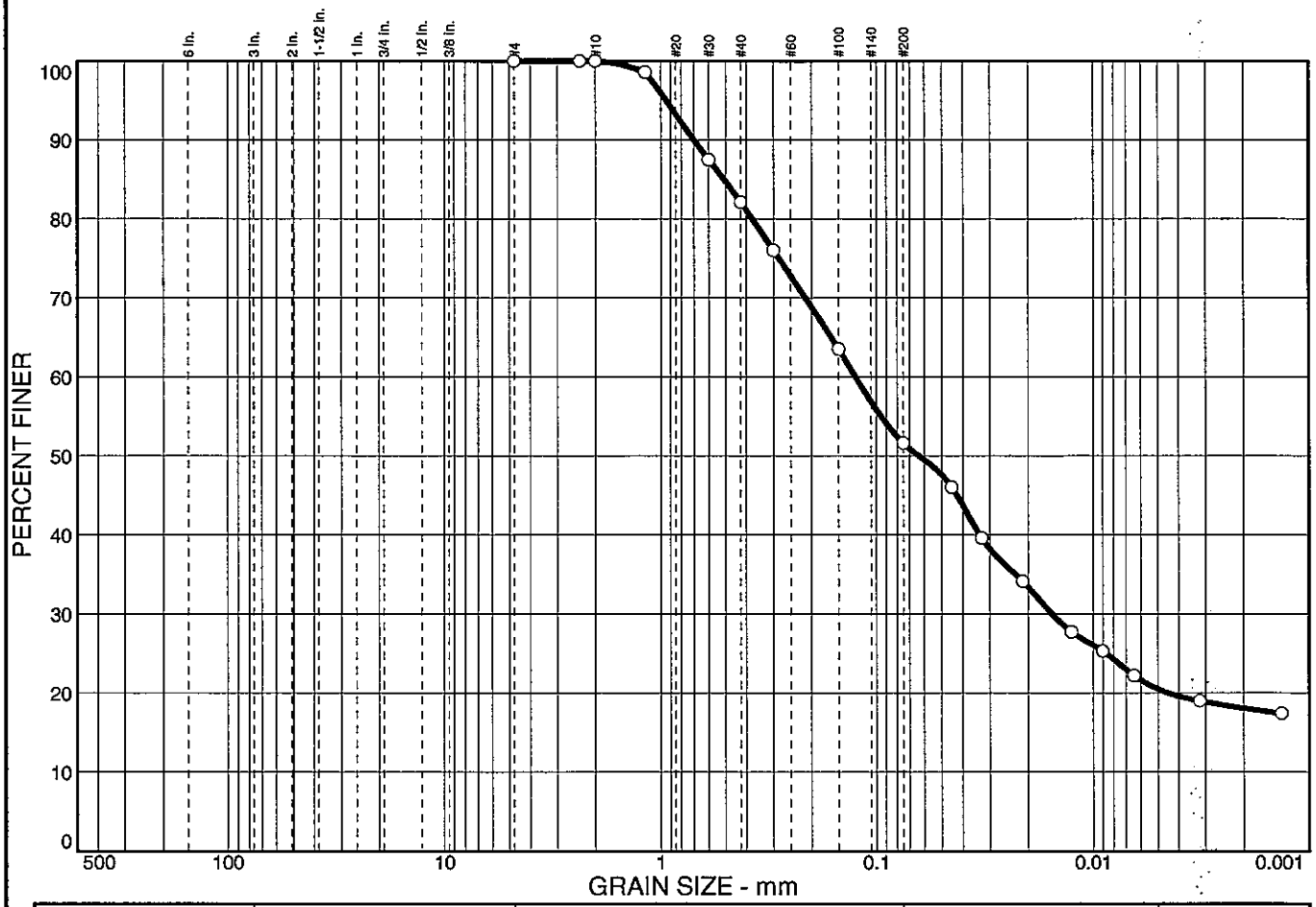
SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley

Project: Plant Branch SAR

Project No.: EWO - **Lab#** 14

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	48.4	31.1	20.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	100.0		
#10	100.0		
#16	98.6		
#30	87.5		
#40	82.1		
#50	76.0		
#100	63.5		
#200	51.6		

* (no specification provided)

Soil Description

Light Reddish Brown Sandy silt

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 0.511 D_{60}= 0.125 D_{50}= 0.0637
D_{30}= 0.0155 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

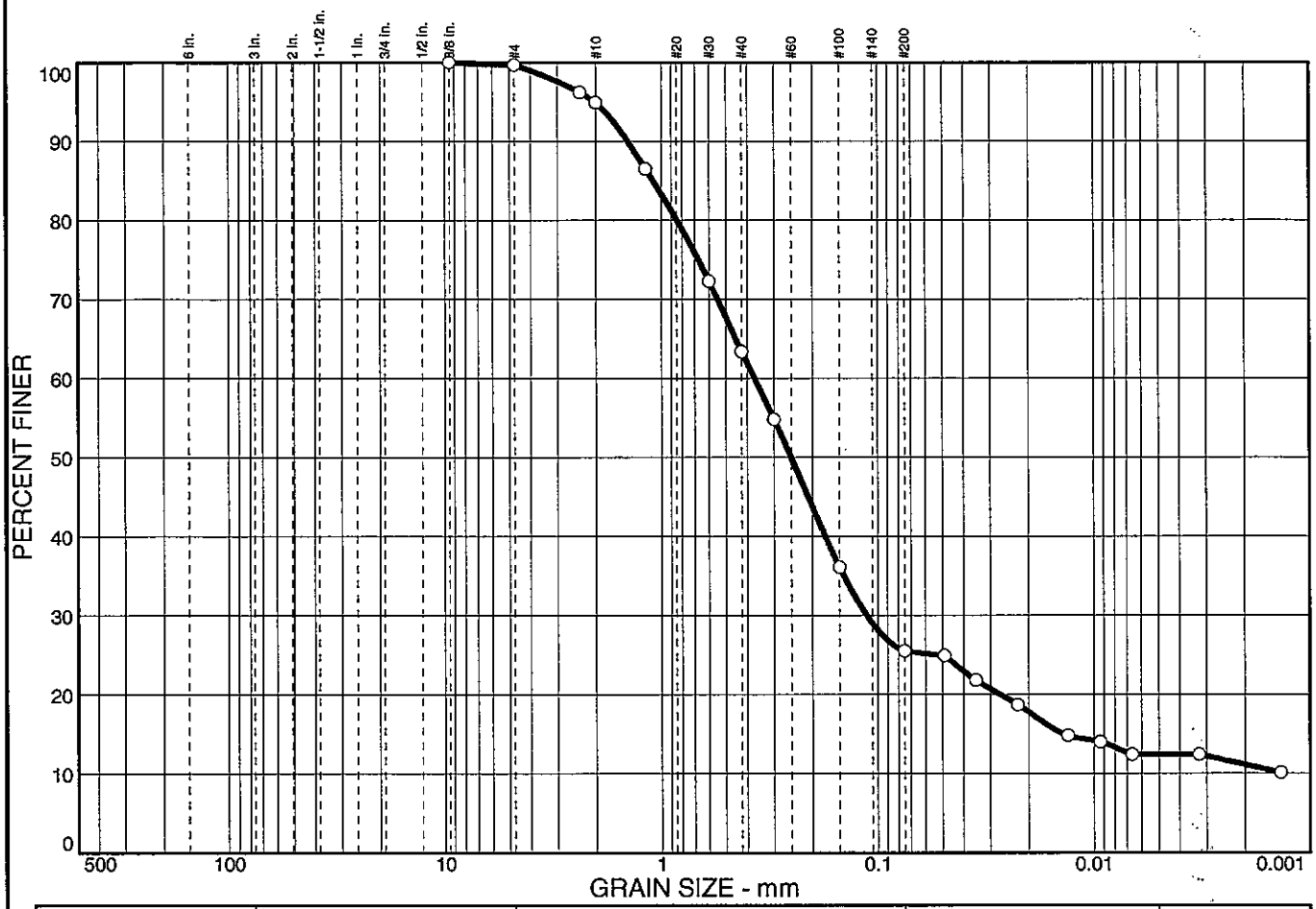
Specific Gravity - 2.63
Permeability - 7.1x10-5
Dry Density - 89.8pcf & 16.0% Moisture

Sample No.: UD **Source of Sample:** **Date:** 01/18/08
Location: Boring #6 **Elev./Depth:** 9.0 - 11.0

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 15

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.3	74.2	13.1	12.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.7		
#8	96.2		
#10	94.9		
#16	86.5		
#30	72.3		
#40	63.4		
#50	54.8		
#100	36.1		
#200	25.5		

* (no specification provided)

Soil Description

Gray Silty sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{85}= 1.09 D_{60}= 0.370 D_{50}= 0.251
D_{30}= 0.112 D_{15}= 0.0138 D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Specific Gravity - 2.65

Sample No.: UD **Source of Sample:** **Date:** 01/18/08
Location: Boring #8 **Elev./Depth:** 9.5 - 11.5

SOUTHERN COMPANY

Client: SCS - Rhonda Tinsley
Project: Plant Branch SAR
Project No: EWO - **Lab#** 16