

GROUNDWATER MONITORING PLAN

PLANT WANSLEY – ASH POND 1 (AP-1) HEARD AND CARROLL COUNTIES, GEORGIA

FOR



Georgia Power

REVISION 1
MARCH 2026



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GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Approved
Solid Waste Management Program

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I. CERTIFICATION

This *Groundwater Monitoring Plan for Georgia Power Company - Plant Wansley Ash Pond 1 (AP-1)* has been prepared by a qualified groundwater scientist or engineer with Geosyntec Consultants, Inc. (Geosyntec) to meet the requirements contained in Chapter 391-3-4-.10 of the Georgia Environmental Protection Division (GA EPD) Rules of Georgia, Solid Waste Management, Coal Combustion Residuals (i.e., State CCR Rule). References to the appropriate sections of the State CCR Rule are incorporated throughout this document.

I hereby certify that this Groundwater Monitoring Plan was prepared by, or under the direct supervision of, a "Qualified Groundwater Scientist," in accordance with the State of Georgia Rules of Solid Waste Management. According to 391-3-4-.01, a Qualified Groundwater Scientist is "a professional engineer or geologist registered to practice in Georgia who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action." The design of the groundwater monitoring system was developed in compliance with GA EPD Rules of Solid Waste Management, Chapter 391-3-4.10(6).

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1. INTRODUCTION

Groundwater monitoring is required by the Georgia Environmental Protection Division (GA EPD) to detect and quantify potential changes in groundwater chemistry. This *Groundwater Monitoring Plan* (Plan) describes the groundwater monitoring program for Ash Pond 1 (AP-1) at Georgia Power Company's (GPC's) Plant Wansley. This plan meets the requirements of GA EPD regulations referenced on the certification page and uses GA EPD's *Manual for Ground Water Monitoring* dated September 1991 as a guide. Groundwater at the Site is monitored using a comprehensive well network that meets federal and state monitoring requirements. Groundwater monitoring well and piezometer locations are presented on **Figure A-1** and monitoring well and piezometer construction details in **Table A-1**. Routine sampling and reporting began after the background groundwater conditions were established between May 2016 to September 2017. Based on groundwater conditions at the Site, an assessment monitoring program and assessment of corrective measures (ACM) program were established in January 2018 and October 2022, respectively. During the most recent annual reporting period, the Site remained in assessment monitoring.

Groundwater monitoring will continue in accordance with 391-3-4-.10 of the Georgia Solid Waste Management Rules. If the monitoring requirements specified in this plan conflict with GA EPD rules (391-3-4), the GA EPD rules will take precedent.

In accordance with the United States Environmental Protection Agency (USEPA) Coal Combustion Residual (CCR) Rule (§257.90), which is incorporated by Georgia State CCR Rule by reference, a detection monitoring well network for AP-1 has been installed and certified by a qualified professional engineer. This certification was placed in the facility's operating record. The existing monitoring wells were installed following the guidelines presented herein. Additionally, this plan documents the methods for future monitoring well installation and/or replacement, and procedures for well abandonment. As required by 391-3-4.10(6)(g), a minor modification will be submitted to GA EPD prior to the unscheduled installation or abandonment of monitoring wells. Well installation and/or abandonment must be directed by a qualified groundwater scientist.

2. GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

The following section presents a summary of the geologic and hydrogeologic conditions for the Site currently and post closure as described in the *Hydrogeologic Assessment Report (Revision 05)* (HAR Rev. 05) (Geosyntec, 2024a). The summary below presents only relevant information related to the groundwater monitoring network. The HAR Rev. 05 contains more detailed information regarding lithology, hydraulic conductivity, and the conceptual site model for groundwater flow.

2.1 SITE GEOLOGY

AP-1 is located in the Piedmont Physiographic Province of western Georgia, which is characterized by gently rolling hills and narrow valleys with locally pronounced linear ridges. Geologic mapping performed by Golder (2018) and revised by Geosyntec (2024a) indicates that the Site is underlain by schist, amphibolite, gneiss, and quartzite. AP-1 is underlain primarily by four lithologic units; (i) alluvial deposits (ii) residual soils and saprolite, (iii) partially weathered rock (PWR), and (iv) metamorphic crystalline bedrock (generally comprised of an upper fractured portion of bedrock and a deeper, competent bedrock). Historically, AP-1 received sluiced CCR until April 2019, and CCR material is present across the bottom of AP-1 at variable thickness.

Based on subsurface investigations, the CCR material consists of fly ash, generally described as dark to medium gray, soft, and loose to very loose fine sand and silts with some clay. Discontinuous lenses of coarser bottom ash are present throughout the unit, generally described as dark gray, well-graded, fine to coarse sand and fine gravel. Alluvial deposits related to stream and drainage processes are present but not laterally continuous across the Site and likely correspond with former stream channels buried during the construction of the surface impoundment. Alluvium consists of organic silt and fine sand over-bank deposits and fine to coarse sand channel deposits. Residual and saprolitic soils (residual soil/saprolite) resulting from the in-situ weathering of the parent bedrock material make up a large portion of the Site subsurface and is generally encountered across the Site. Residual soils and saprolite are described primarily as sandy silt, silty sand, sandy clay, and silty clay. As the saprolite transitions to more rock-like material approaching the bedrock surface, a zone referred to as PWR is encountered. The PWR unit is the hard, semi-consolidated, weathered to intensely fractured rock interface. PWR may include hard, but friable, decomposed rock, as well as gravel to cobble-size rock fragments bound by clay and silt saprolite matrix. The bedrock at the Site is composed primarily of graphitic schist, muscovite schist, biotite schist, schist with interlayered mafic units, amphibolite/hornblende gneiss, granitic gneiss (Long Island Creek Gneiss), and feldspathic quartzite. The ridges to the northwest and southeast of the surface impoundment are underlain by muscovite schist and Long Island Creek Gneiss, respectively, both of which are relatively resistant to weathering. AP-1 and the Storage Water Pond, however, are underlain by schist with interlayered mafic units and feldspathic quartzite, which are more susceptible to weathering, and, thus, the layer of saprolite and PWR is thicker.

2.2 SITE HYDROGEOLOGY

While the aquifer characteristics of each lithologic unit may vary, the groundwater is interconnected between these units, and they effectively act as one, unconfined aquifer. According to previous site investigations, the potentiometric surface is a subdued reflection of the topography. The top of rock surface also generally follows topography and likely controls groundwater flow direction in the uppermost aquifer, which occurs within the saprolite and PWR (also termed the regolith) and is hydraulically

connected to the bedrock via fractures and deeply weathered areas of the rock. Recharge is by precipitation infiltrating through the saprolite to the bedrock. Groundwater flow in the bedrock is restricted entirely to flow through fractures. As described in the text of the SAR (Geosyntec, 2024b) and demonstrated by associated geotechnical data and boring logs, the top of rock is slightly to strongly weathered but generally becomes less weathered with depth. In general, core recovery increases significantly with depth as the rock becomes less weathered. Rock Quality Designation (RQD) increases significantly with depth. These site-specific data support and additional published data on bedrock hydrogeology describe a general decrease in size and occurrence of fractures with depth. Therefore, it is inferred that groundwater within the bedrock is primarily present in fractures that generally decrease in size and density with depth.

Aquifer testing was conducted by Southern Company Services (SCS) and contracted consulting firms in 2016, 2017, 2020, and 2022 to evaluate hydraulic conditions in the vicinity of AP-1. Results of these field events are discussed in detail in the HAR Rev. 05. Estimated horizontal hydraulic conductivity (K_h) values, based on the aquifer testing activities at wells and piezometers listed in **Table A-1**, were obtained from the HAR Rev. 05. These results indicate that the bedrock has a lower geometric mean K_h (6.24×10^{-5} centimeters per sec; cm/sec) than the residual soil/saprolite and the PWR (1.21×10^{-4} cm/sec and 1.13×10^{-4} cm/sec, respectively), however, it should be noted that localized variation in thickness of the residual soil/saprolite and PWR, variable bedrock fracture density, and fractured bedrock zones may result in areas in which the fractured bedrock exhibits higher K_h values than in the overlying units. The primary zone of groundwater flow was found to be in the regolith (residual soil/saprolite and PWR) and upper fractured portion of the bedrock where the K_h is expected to be greater than the underlying competent bedrock.

Vertical hydraulic conductivity (K_v) values were measured in laboratory permeability tests on sonic drilling cores and Shelby Tubes collected from borings in CCR, alluvium, saprolite, and PWR in March 2017. The K_v obtained from the alluvium (fine-grained, over-bank deposits) was 4.6×10^{-7} cm/sec. The saprolite samples ranged an order of magnitude from 5.1×10^{-6} cm/sec to 5.5×10^{-5} cm/sec, and the PWR core yielded a K_v of 7.6×10^{-6} cm/sec.

A potentiometric surface map depicting groundwater flow in the vicinity of AP-1 is provided on **Figure A-2**. The potentiometric surface map represents data recorded in August 2025. Groundwater in the area generally flows to the south and east toward the Chattahoochee River; however, given the AP-1 pool elevation of approximately 784 ft referenced to the North American Vertical Datum of 1988 (NAVD88) observed in August 2025, groundwater in the near vicinity of AP-1 flows from the topographic ridges around the pond inward into the impoundment, with the exception of a component of flow away from AP-1 in a generally southeastern direction near the southeastern corner of the impoundment. In general, steeper potentiometric contours in areas of higher topographic relief give way to lower gradients as the land surface flattens toward the river.

During the proposed closure by removal, the free water in AP-1 will be removed and CCR excavated. During the post closure period, AP-1 will refill naturally and remain as a service water/industrial water pond. The full pool elevation of this proposed industrial pond post closure will fluctuate in the range of the free pool elevation during historical AP-1 operations, which was 781.5 to 797 ft NAVD88. Should the post closure full pool elevation be on the low end of this range, hydraulic gradients and groundwater flow velocities would be expected to be similar to what is observed in AP-1 based on the August 2025 data. Should the post closure full pool elevation be on the high end of this range, hydraulic gradients and groundwater flow velocities would be expected to be similar to what was observed in October 2017 when the full pool elevation of AP-1 was approximately 795 ft NAVD88. A potentiometric surface map

developed using October 2017 data is provided on **Figure A-3** to illustrate the groundwater flow expected in the vicinity of AP-1 with a high full pool elevation. These potentiometric surfaces provide endmembers and a representative range for groundwater flow. In addition, they indicate that the compliance groundwater monitoring network is sufficient to capture any potential flow from AP-1 regardless of hydraulic conditions and will remain downgradient of AP-1 in the post closure period given the proposed range for the full pool elevation of AP-1. Groundwater monitoring will continue, and the status of downgradient wells will be evaluated and refined, as needed, during the post closure care period.

2.3 HYDRAULIC GRADIENT AND GROUNDWATER FLOW VELOCITY

The horizontal groundwater hydraulic gradients within the uppermost aquifer beneath AP-1 were calculated using the groundwater elevation data from the October 2, 2017 and August 11, 2025 gauging events (shown on Figure A-2 and A-3). The 2017 gradients were obtained from the *2017 Annual Groundwater Monitoring and Corrective Action Report* (Environmental Resources Management (ERM), 2018). The hydraulic gradients along groundwater flow path lines associated with AP-1 in 2017 were 0.006 feet per foot (ft/ft) (WGWC-16 to PZ-16) and 0.088 ft/ft (WGWC-41 (PZ-10) to WGWC-19). In August 2025, hydraulic gradients along groundwater flow path lines from WGWC-20 to WGWC-27 and from PZ-01 to WGWC-17 are estimated to be 0.042 feet per foot (ft/ft) and 0.086 ft/ft, respectively. The supporting hydraulic gradient calculations are presented in **Table A-2**.

The average groundwater velocities were calculated using the Darcy's equation for flow velocity in a porous medium:

$$V = \text{linear velocity} = \frac{K_h * i}{n_e}$$

where:

- V = Groundwater flow velocity (ft/day)
- K_h = Horizontal Hydraulic Conductivity (ft/day)
- i = Horizontal hydraulic gradient (ft/ft)
- h₁ and h₂ = Groundwater elevation at location 1 and 2
- L = Distance between location 1 and 2
- n_e = Effective porosity

Flow velocity calculations for 2017 were completed using the average hydraulic conductivity value of 0.67 ft/day and an effective porosity of 0.25 (ERM, 2018). The K_h has been revised for the 2025 calculation to a value of 0.17 ft/day for residual soil/saprolite, PWR, and bedrock based on slug test data and an effective porosity of 0.10 based on a review of well screen interval lithologies for well pairs (Geosyntec, 2024a). As discussed in the HAR Rev.05, applying the reduced 0.10 effective porosity is considered a conservative assumption given that the well pairs utilized to evaluate the groundwater flow velocity are screened in bedrock. The groundwater flow velocity calculations for both gauging events are presented in **Table A-2**.

3. SELECTION OF WELL LOCATIONS

Groundwater monitoring wells were installed to monitor the uppermost occurrence of groundwater beneath the Site (i.e., the saprolite/PWR/upper fractured portion of the bedrock aquifer). Locations were selected based on the AP-1 footprint and geologic and hydrogeologic considerations. Georgia Power follows the recommendation as stated in Chapter 2 of the *Manual for Groundwater Monitoring* (GA EPD, 1991) to establish well spacing based on site-specific conditions. In October 2024, GA EPD requested installation of additional groundwater monitoring wells to enhance the groundwater monitoring network in the Separator Dike between AP-1 and the Storage Water Pond and along the south side of AP-1. In 2025, detection groundwater monitoring network enhancements were accomplished by installation of thirteen new detection monitoring wells and conversion of six existing piezometers to detection monitoring wells. A map depicting the current detection monitoring well network screened within the uppermost aquifer for AP-1 is included as **Figure A-1**. A more detailed discussion of the hydrogeological investigations conducted in support of monitoring well placement is provided in the HAR Rev. 05.

The groundwater detection monitoring network locations were chosen to monitor upgradient/background (WGWA) and downgradient (WGWC) conditions at the Site based on groundwater flow direction determined by potentiometric evaluation. The potentiometric surface map, **Figure A-2**, depicts the groundwater flow direction from AP-1, based on August 2025 conditions. In addition, select background locations were chosen to monitor additional lithologies not represented in the upgradient locations. Though these locations may not be hydraulically upgradient, they accurately represent the quality of background groundwater and are outside the influence of CCR. The well naming nomenclature is based on GA EPD's Industrial Waste Disposal Site Design and Operations Plan – Supplemental Data for Solid Waste Handling Permit (undated). Wells are positioned to provide adequate coverage to detect potential impacts from the CCR impoundment. Both background and downgradient wells are screened in the uppermost aquifer. Groundwater levels are currently monitored in all monitoring well and piezometer locations to establish potentiometric conditions at the Site.

Monitoring wells are generally located outside of areas with frequent auto traffic (**Figure A-1**); however, wells may be installed in heavily trafficked areas when necessary to meet the groundwater monitoring objectives of the GA EPD rules. In addition to the potentiometric surface map, **Appendix A** also includes a tabulated list (**Table A-1**) of location coordinates for the individual detection monitoring wells, assessment wells, and piezometers used for water level monitoring. Additional well and piezometer construction details (i.e., top-of-casing elevation, well depths, and screened intervals) are also provided on these tables. Well survey data certified by a Georgia-registered professional surveyor are included in **Appendix A**.

4. MONITORING WELL DRILLING, CONSTRUCTION, ABANDONMENT AND REPORTING

The AP-1 monitoring well network described in this plan is already in place. The existing monitoring wells were installed following USEPA Region 4 Science and Ecosystem Support Division (SESD) guidance document, *Design and Installation of Monitoring Wells* (USEPA, SESDGUID-101-R1; USEPA, SESDGUID-101-R2) as a general guide for best practices. Boring and well construction logs are provided in **Appendix A** for all wells and piezometers listed in **Table A-1**. Additional monitoring wells, if necessary, will be installed and abandoned in accordance with the following procedures.

4.1 DRILLING

A variety of well drilling methods are available for the purpose of installing groundwater wells. Drilling methodology include but are not limited to: hollow stem augers, direct push, air rotary, mud rotary, or rotasonic techniques. The drilling method will be selected to minimize the disturbance of subsurface materials and not cause impact to the groundwater. Borings will be advanced using an appropriate drilling technology capable of drilling and installing a well in site-specific geology. Monitoring wells will be installed using the most current version of the USEPA Region 4 SESD SESDGUID-101-R# as a general guide for best practices. Also, drilling equipment will be decontaminated before use and between borehole locations using the procedures described in the most current version of the USEPA Region 4 SESD *Operating Procedure for Field Equipment Cleaning and Decontamination* (USEPA, SESDGUID-205-R#). Well installation will be directed by a qualified groundwater scientist.

Sampling and/or coring may be used to help determine the stratigraphy and geology at the well location. Samples and cores will be logged by a qualified groundwater scientist. Screen depths will be chosen based on the depth of the uppermost aquifer.

All drilling for any subsurface hydrologic investigation, or for installation or abandonment of groundwater monitoring wells, will be performed by a driller that has, at the time of installation, a performance bond on file with the Water Well Standards Advisory Council. Proof of bonding for wells installed at the unit is included as **Attachment A-2** in **Appendix A**. For future installations, proof of bonding will be included in the well installation reports.

4.2 DESIGN AND CONSTRUCTION

Well construction materials will be sufficiently durable to resist chemical and physical degradation and will not interfere with the quality of groundwater samples.

WELL CASINGS AND SCREENS

American Society for Testing and Materials (ASTM), National Science Foundation (NSF) rated, Schedule 40, 2-inch polyvinyl chloride (PVC) pipe with flush threaded connections will be used for the well riser and screens. Groundwater contaminants that can cause PVC to deteriorate (e.g., organic compounds) are not expected at this facility. If conditions warrant, other appropriate materials may be used for construction with prior written approval from the GA EPD.

WELL INTAKE DESIGN

The design and construction of the intake of the groundwater wells shall: (1) allow sufficient groundwater flow to the well for sampling; (2) minimize the passage of formation materials (turbidity) into the well; and (3) ensure sufficient structural integrity to prevent the collapse of the intake structure.

Each groundwater monitoring well will include a well screen designed to limit the amount of formation material passing into the well when it is purged and sampled. Screens with 0.010-inch slots have proven effective for the earth materials at the Site and will be used unless geologic conditions discovered at the time of installation dictate a different size. Screen length will not exceed 10 feet without justification as to why a longer screen is necessary (e.g., significant variation in groundwater level). If the above prove ineffective for developing a well with sufficient yield or acceptable turbidity, further steps will be taken to assure that the well screen is appropriately sized for the formation material. This may include performing sieve analysis of the formation material and determining well screen slot size based on the grain size distribution.

Pre-packed dual-wall well screens may be used for well construction. Pre-packed well screens combine a centralized inner well screen, a developed filter sand pack, and an outer conductor screen in one integrated unit composed of inert materials. If utilized, pre-packed well screens will be installed following general industry standards and using the current version of the USEPA SESDGUID-101-R# as a general guide. If the dual-wall pre-packed-screened wells do not yield sufficient water or are excessively turbid after development, further steps will be taken to assure that the well screen is appropriately sized for the formation material. This may include performing sieve analysis of the formation material and determining well screen slot size based on the grain size distribution.

FILTER PACK AND ANNULAR SEAL

The materials used to construct the filter pack will be clean quartz sand of a size that is appropriate for the screened formation. Fabric filters will not be used as filter pack material. Sufficient filter material will be placed in the hole and measurements taken to ensure that no bridging occurs. Upon placement of the filter pack, the well may be pumped to assure settlement of the pack. If pumping is performed, the top of filter pack depth will be measured, and additional sand added if necessary. The filter pack will extend a minimum of two feet above the top of the well screen.

The materials used to seal the annular space must prevent hydraulic communication between strata and prevent migration from overlying areas into the well screen interval. A minimum of two feet of bentonite (chips, pellets, or slurry) will be placed immediately above the filter pack. The bentonite seal will extend up to the base of any overlying confining zone or the top of the water-bearing zone to prevent cementitious grout from entering the water-bearing or screened zone. If dry bentonite is used, the bentonite must be hydrated with potable water prior to grouting the remaining annulus.

The annulus above the bentonite seal will be grouted with a cement and bentonite mixture (approximately 94 pounds cement / 3 to 5 pounds bentonite / 6.5 gallons of potable water) placed via tremie pipe from the top of the bentonite seal. During grouting, care will be taken to assure that the bentonite seal is not disturbed by locating the base of the tremie pipe approximately two feet above the bentonite seal and injecting grout at low pressure/velocity.

PROTECTIVE CASING AND WELL COMPLETION

After allowing the grout to settle, the well will be finished by installing a flush-mount or above-ground protective casing as appropriate, and building a surface cap. The use of flush-mount wells will generally be limited to paved surfaces unless Site operations warrant otherwise. The surface cap will extend from the top of the cementitious grout to ground surface, where it will become a concrete apron extending outward with a radius of at least 2 feet from the edge of the well casing and sloped to drain water away from the well.

Each well will be fitted with a cap that contains a hole or opening to allow the pressure in the well to equalize with atmospheric pressure. In wells with above-ground protection, the space between the well casing and the protective casing will be filled with coarse sand or pea-gravel to within approximately 6 inches of the top of the well casing. A small weep hole will be drilled at the base of the metal casing for the drainage of moisture from the casing. Above ground protective covers will be locked.

Protective bollards will be installed around each above-grade groundwater monitoring well. Well construction in high traffic areas will generally be limited unless Site conditions warrant otherwise.

The groundwater monitoring well details attached in **Appendix B1**, Groundwater Monitoring Well Detail and **Appendix B2**, Groundwater Monitoring Well Detail Flush-Mount Surface Completion, illustrate the general design and construction details for a monitoring well.

WELL DEVELOPMENT

After well construction is completed, wells will be developed by alternately purging and surging until relatively clear discharge water with little turbidity is observed. The goal will be to achieve a turbidity of less than 5 nephelometric turbidity units (NTUs); however, formation-specific conditions may not allow this target to be accomplished. Development can be discontinued once a turbidity of less than 10 NTU is achieved. Additionally, the stabilization criteria contained in **Appendix C** should be met. A variety of techniques may be used to develop Site groundwater monitoring wells. The method used must create reversals or surges in flow to eliminate bridging by particles around the well screen. These reversals or surges can be created by using surge blocks, bailers, or pumps. The wells will be developed using a pump capable of inducing the stress necessary to achieve the development goals. All development equipment will be decontaminated prior to first use and between wells. Well development data will be included in installation documentation reports.

In low yielding wells, potable water may be added to the well to facilitate surging of the well screen interval and removal of fine-grained sediment. If water is added, the volume will be documented and at minimum, an equal volume purged from the well.

Many geologic formations contain clay and silt particles that are small enough to work their way through the wells' filter packs over time. Therefore, the turbidity of the groundwater from the monitoring wells may gradually increase over time after initial well development. As a result, the monitoring wells may have to be redeveloped periodically to remove the silt and clay that has worked its way into the filter packs of the monitoring wells. Each monitoring well should be redeveloped when sample turbidity values have significantly increased since initial development or since prior redevelopment. The redevelopment should be performed as described above. Well development data will be provided as part of the well installation report.

The certified surveyor's reports are included as **Attachment A-3** in **Appendix A**. Monitoring well logs for the existing monitoring well network are also included in **Appendix A**, as **Attachment A-1**.

4.3 ABANDONMENT

Per Georgia Rule 391-3-4.10(6)(g), monitoring wells require abandonment and replacement after two consecutive dry sampling events, unless an alternate schedule has been approved by GA EPD. Monitoring wells will be abandoned using industry-accepted practices and using the GA EPD *Manual for Groundwater Monitoring* (1991) and Georgia's *Well Water Standards Act of 1985* (O.C.G.A) 12-5-120, 1985 as guides. The wells will be abandoned under the direction of a professional geologist (P.G.) or engineer (P.E.) registered in Georgia. Neat Portland cement or bentonite will be used as appropriate to complete abandonment and seal the well borehole. A minor modification will be submitted in accordance with 391-3-4.02(3)(b)(6) prior to the installation or decommissioning of monitoring wells. Any piezometers or groundwater wells located within the footprint of AP-1 will be over-drilled prior to abandonment.

4.4 DOCUMENTATION

Within 60 days of the construction, survey, and development or abandonment of each new groundwater monitoring well completed under the direction of a qualified groundwater scientist or engineer, a well installation/abandonment report will be submitted to GA EPD. The following information will be documented in this report.

- Well identification
- Name of drilling contractor and type of drill
- Documentation that the driller, at the time the monitoring wells were installed, had a bond on file with the Water Well Advisory Council
- Narrative of drilling technique applied, well construction details, and well development procedures, including dates, drilling fluids used (if applicable), well casing and screen materials, screen slot size, and joint type
- Details of filter pack material/size, emplacement method (narrative), and volume
- Seal emplacement method and type/volume of sealant
- Borehole diameter and well casing diameter
- Type of protective well cap and sump dimensions
- Surface seal and volumes/mix of annular seal material
- Screen length and interval reported in feet below ground surface and elevation
- Well location given to within an accuracy of 0.5 feet based upon survey from acceptable survey point datum by a Georgia-registered professional surveyor
- Well depth given to within an accuracy of 0.01 feet based upon survey from acceptable survey point datum by a Georgia-registered professional surveyor
- Lithologic logs
- Documentation that water quality field parameters meet well development criteria (Section 4.2)
- Completed calibration field forms for the water quality instrumentation used during well development activities
- Documentation of ground surface elevation (± 0.01 feet)
- Documentation of top of casing elevation (± 0.01 feet)

- Schematic of the well with dimensions for all components (e.g., casing, screen, sump, well pad)

In accordance with the Georgia Water Well Standards Act (O.C.G.A. § 12-5-134(5)(d)(vii), at least once every five years, the owner of the property on which a monitoring well is constructed shall have the monitoring well(s) inspected by a Qualified Groundwater Scientist, who shall direct appropriate remedial corrective work to be performed if the well does not conform to standards. Well inspection records and records of remedial corrective work are subject to review by GA EPD. Additionally, as part of the post closure plan, the cost estimate based upon current year cost for the well inspections must be provided for as part of the cost calculations for the groundwater monitoring period.

5. GROUNDWATER MONITORING PARAMETERS AND FREQUENCY

The following describes AP-1 groundwater sampling requirements with respect to parameters for analysis, sampling frequency, sample preservation and shipment, and analytical methods. Groundwater samples used to provide compliance monitoring data will not be filtered prior to collection.

Table 1, Groundwater Monitoring Parameters and Frequency, presents the groundwater monitoring parameters and sampling frequency. A minimum of eight independent samples were collected from each detection well of the AP-1 network between May 2016 and September 2017 and analyzed for 40 CFR 257, Subpart D, Appendix III and Appendix IV test parameters to establish a background statistical dataset, with the exception of WGWC-20, WGWC-21, WGWC-22, WGWC-23, WGWC-24, and WGWC-25, which were installed in 2020 and were sampled four times to establish a background statistical dataset. The fifteen (thirteen new and two converted) dike wall wells, three converted piezometers (WGWC-39, WGWC-40, WGWC-41), and WGWC-8A monitoring well included in the expanded detection monitoring network will be sampled eight independent times on a quarterly basis until 2027 to establish the background statistical dataset.

In accordance with 391-3-4-.10(6), the monitoring frequency for the Appendix III parameters will be at least semi-annual during the active life of the facility and the post-closure care period. Pursuant to 391-3-4-.10(6), an assessment monitoring program was established for AP-1 based on statistically significant increases documented in the *2017 Annual Groundwater Monitoring and Corrective Action Report* (ERM, 2018). Georgia Power initiated an assessment of corrective measures (ACM) program on October 27, 2022. An ACM Report for AP-1 was submitted to GA EPD in March 2023. Georgia Power will continue to complete assessment monitoring activities as required in Chapter 391-3-4-.10(6).

When referenced throughout this plan, Appendix III and Appendix IV parameters refer to the parameters contained in Appendix III and Appendix IV of 40 CFR 257, Subpart D, 80 Fed. Reg. 21468 (April 17, 2015).

As shown on **Table 2**, Analytical Methods, the groundwater samples will be analyzed using methods specified in USEPA Manual SW-846, USEPA 600/4-79-020, Standard Methods for the Examination of Water and Wastewater (SM18-20), USEPA Methods for the Chemical Analysis of Water and Wastes (MCAWW), ASTM, or other suitable analytical methods approved by GA EPD. The method used will be able to reach a suitable practical quantification limit to detect natural background conditions at the facility. The groundwater samples will be analyzed by licensed and accredited laboratories through the National Environmental Laboratory Accreditation Conference (NELAC). Field instruments used to measure pH must be accurate and reproducible to within 0.1 Standard Units (S.U.).

**TABLE 1
 GROUNDWATER MONITORING PARAMETERS & FREQUENCY**

MONITORING PARAMETER		GROUNDWATER MONITORING	
		Background	Semi-Annual Events
Field Parameters	Temperature	X	X
	pH	X	X
	Oxidation Reduction Potential (ORP)	X	X
	Turbidity	X	X
	Specific Conductance	X	X
	Dissolved Oxygen (DO)	X	X
Appendix III (Detection test parameters from 40 CFR 257, Subpart D)	Boron	X	X
	Calcium	X	X
	Chloride	X	X
	Fluoride	X	X
	pH	X	X
	Sulfate	X	X
	Total Dissolved Solids	X	X
Appendix IV (Assessment test parameters from 40 CFR 257, Subpart D)	Antimony	X	Assessment sampling frequency and parameter list determined in accordance with Georgia Chapter 391-3-4.10(6).
	Arsenic	X	
	Barium	X	
	Beryllium	X	
	Cadmium	X	
	Chromium	X	
	Cobalt	X	
	Fluoride	X	
	Lead	X	
	Lithium	X	
	Mercury	X	
	Molybdenum	X	
	Selenium	X	
	Thallium	X	
Radium 226 & 228	X		

**TABLE 2
 ANALYTICAL METHODS**

Parameters	USEPA Method Number
Boron	6010D/6020B
Calcium	6010D/6020B
Chloride	300.0/300.1/9250/9251/9253/9056A
Fluoride	300.0/300.1/9214/9056A
pH	150.1 field
Sulfate	9035/9036/9038/300.0/300.1/9056A
Total Dissolved Solids (TDS)	160/2540C
Antimony	EPA 7040/7041/6010D/6020B
Arsenic	EPA 7060A/7061A/6010D/6020B
Barium	EPA 7080A/7081/6010D/6020B
Beryllium	EPA 7090/7091/6010D/6020B
Cadmium	EPA 7130/7131A/6020B
Chromium	EPA 7190/7191/6010D/6020B
Cobalt	EPA 7200/7201/6010D/6020B
Fluoride	300.0/300.1/9214/9056A
Lead	EPA 7420/7421/6010D/6020B
Lithium	6010D/6020B
Mercury	7470
Molybdenum	6010D/6020B
Selenium	EPA 7740/7741A/6010D/6020B
Thallium	EPA 7840/7841/6010D/6020B
Radium 226 and 228 combined	EPA 903/9320/9315

6. GROUNDWATER SAMPLE COLLECTION

During each sampling event, groundwater samples will be collected and handled in accordance with the procedures specified in **Appendix C**, Groundwater Sampling Procedures. Sampling procedures were developed using standard industry practice and USEPA Region 4 *Field Branches Quality System and Technical Procedures* as a guide. Low-flow sampling methodology will be utilized for sample collection. Alternative industry accepted sampling techniques may be used when appropriate. The applied groundwater purging and sampling methodologies will be discussed in the groundwater semi-annual monitoring reports submitted to GA EPD.

For groundwater sampling, positive gas displacement PVC, Teflon, or stainless-steel bladder pumps will be used for purging. If dedicated bladder pumps are not used, portable bladder pumps or peristaltic pumps (with dedicated or disposable tubing) may be used. When non-dedicated equipment is used, it will be decontaminated prior to use and between wells in general accordance with the current version of the USEPA LSASDPROC-205-R# guidance document.

Per Georgia Rule 391-3-4-.10(6)(g) monitoring wells require replacement after two consecutive dry sampling events. Well installation must be directed by a qualified groundwater scientist. A minor modification shall be submitted to GA EPD in accordance with Rule 391-3-4-.02 prior to the installation or decommissioning of monitoring wells.

7. CHAIN-OF-CUSTODY

All samples will be handled under chain-of-custody (COC) procedures beginning in the field. The COC record will contain the following information:

- Sample identification numbers
- Signature of collector
- Date and time of collection
- Sample type
- Sample point identification
- Number of sample containers
- Signature of person(s) involved in the chain of possession
- Notated date(s) and time(s) of sample transfer between individuals

The samples will remain in the custody of assigned personnel, an assigned agent, or the laboratory. If the samples are transferred to other employees for delivery or transport, the sampler or possessor will relinquish possession and the samples must be received by the new owner.

If the samples are being shipped, a hard copy COC will be signed and enclosed within the shipping container.

Samplers will use COC forms provided by the analytical laboratory or use a COC form similarly formatted and containing the information listed above.

8. FIELD QUALITY ASSURANCE / QUALITY CONTROL

All field quality control samples will be prepared the same as compliance samples with regard to sample volume, containers, and preservation. The following quality control samples will be collected during each sampling event:

- Field Equipment Rinsate Blanks - Where sampling equipment is not new or dedicated, an equipment rinsate blank will be collected at a rate of one blank per 10 samples using non-dedicated equipment.
- Field Duplicates - Field duplicates are collected by filling additional containers at the same location, and the field duplicate is assigned a unique sample identification number. One blind field duplicate will be collected for every 20 samples.
- Field Blanks - Field blanks are collected in the field using the same water source that is used for decontamination. The water is poured directly into the supplied sample containers in the field and submitted to the laboratory for analysis of target constituents. One field blank will be collected for every 20 samples.

The groundwater samples will be analyzed by licensed and accredited laboratories through the National Environmental Laboratory Accreditation Program (NELAP).

Calibration of field instruments will occur daily and follow the recommended (specific) instrument calibration procedures provided by the manufacturer and/or equipment manual specific to each instrument. Daily calibration will be documented on field forms and these field forms will be included in all groundwater monitoring reports. Instruments will be recalibrated as necessary (e.g., when calibration checks indicate significant variability), and all checks and recalibration steps will be documented on field calibration forms. Calibration of the instruments will also be checked if any readings during sampling activities are suspect. Replacement probes and meters will be obtained as a corrective action in the event that recalibration does not improve instrument function. Completed calibration field forms will be provided with the semi-annual groundwater monitoring reports.

9. REPORTING RESULTS

A semi-annual groundwater report that documents the results of sampling and analysis will be submitted to GA EPD, added to the site Operating Record, and posted to Georgia Power's CCR Website. Semi-annual groundwater monitoring reports will be submitted to GA EPD within 90 days of receipt of the groundwater analytical data from the laboratory. At a minimum, semi-annual reports will include:

1. A narrative describing sampling activities and findings including a summary of the number of samples collected, the dates the samples were collected and whether the samples were required by the detection or assessment monitoring programs.
2. A narrative of purging/sampling methodologies, which will include the type of sampling equipment used.
3. Discussion of results.
4. Recommendations for the future monitoring consistent with the Rules.
5. Potentiometric surface contour map for the aquifer(s) being monitored, signed and sealed by a Georgia-registered P.G. or P.E.
6. Table of as-built information for groundwater monitoring wells including top of casing elevations, ground elevations, screened elevations, current groundwater elevations and depth to water measurements.
7. Groundwater flow rate and direction calculations.
8. Identification of any groundwater wells that were installed or abandoned during the preceding year, along with a narrative description of why these actions were taken.
9. A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels).
10. If applicable, semi-annual assessment monitoring results.
11. Any alternate source demonstration completed during the previous monitoring period, if applicable.
12. Laboratory Reports and associated data validation.
13. COC documentation.
14. Field sampling logs including field instrument calibration, indicator parameters and parameter stabilization data.

15. Field logs and forms will be kept for each sampling event, and will include the following, but not limited to, well signage, well access, sampling and purging equipment condition, and any site conditions that may affect sampling.
16. Documentation of non-functioning wells.
17. Table of current analytical results for each well, highlighting statistically significant increases and concentrations above maximum contaminant level (MCL).
18. Statistical analyses of Appendix III statistically significant increases (SSI) and Appendix IV statistically significant limits (SSL), including trend analyses of SSLs of Appendix IV constituents if the unit is currently undergoing assessment of corrective measures (if applicable).
19. An iso-concentration map of each Appendix IV constituent identified at a statistically significant level (SSL) during the reporting period. The concentrations will be contoured to the current state and, if applicable, federal groundwater protection standard. Inclusion of the map(s) is only applicable for a unit currently undergoing assessment of corrective measures and/or corrective action.
20. Certification by a qualified groundwater scientist.
21. Trend charts (only applicable for a unit currently undergoing assessment of corrective measures and/or corrective action).
22. Updated potable water well survey, annually (if applicable based on exceedance of groundwater protection standards)

10. STATISTICAL ANALYSIS

Groundwater quality data from each sampling event will be statistically evaluated to determine if there has been a statistically significant change in groundwater chemistry. Historical background data will be used to establish statistical limits. Statistical analysis techniques will be consistent with the USEPA document *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance* (USEPA, 2009).

According to GA EPD rules (391-3-4-.10(6)(a)), the Site must specify in the operating record the statistical methods to be used in evaluating groundwater monitoring data for each constituent. The statistical test chosen will be conducted separately for each constituent in each well. As authorized by the rule, statistical tests that will be used include:

1. A prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit. [§ 257.93(f)(3)].
2. A control chart approach that gives control limits for each constituent. [§ 257.93(f)(4)].
3. Another statistical test method (such as prediction limits or control charts) that meets the performance standards of § 257.93(g) [§ 257.93(f)(5)]. A justification for an alternative method will be placed in the operating record and the Director notified of the use of an alternative test. The justification will demonstrate that the alternative method meets the performance standards of § 257.93(g).

An interwell statistical method will be used to compare Appendix III groundwater monitoring data to background conditions. Confidence intervals will be constructed for each downgradient well and used to compare Appendix IV groundwater monitoring data to groundwater protection standards.

A site-specific statistical analysis plan that provides details regarding the statistical methods to be used for AP-1 groundwater data was placed in the Site's operating record pursuant to Chapter 391-3-4-.10(6). **Figure 1**, Statistical Analysis Plan Overview, presents a flowchart that depicts the process followed to develop the site-specific plan. **Figure 2**, Decision Logic for Computing Prediction Limits, presents the logic used to calculate site-specific statistical limits and test groundwater results from detection monitoring wells against those limits.

FIGURE 1. STATISTICAL ANALYSIS PLAN OVERVIEW

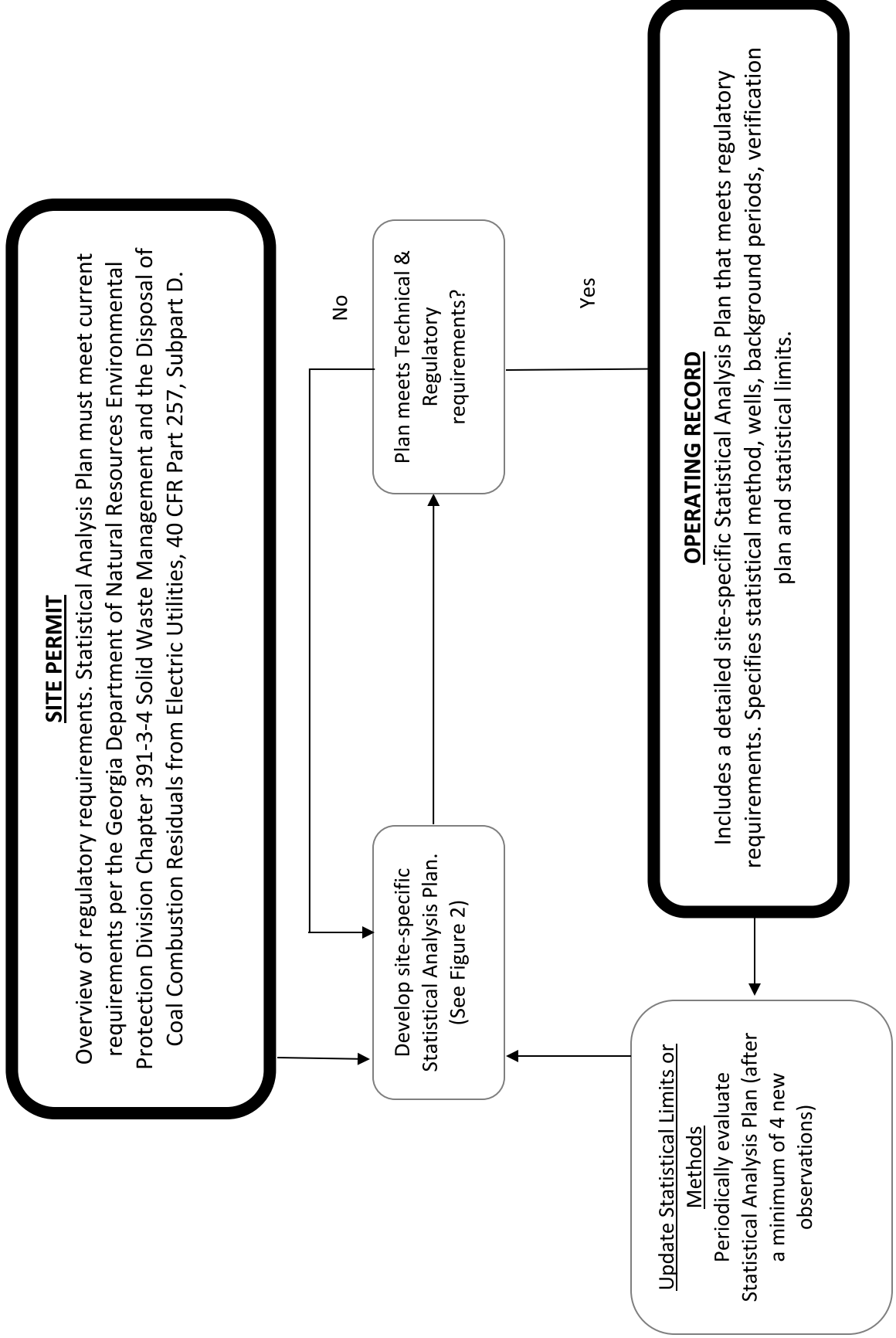
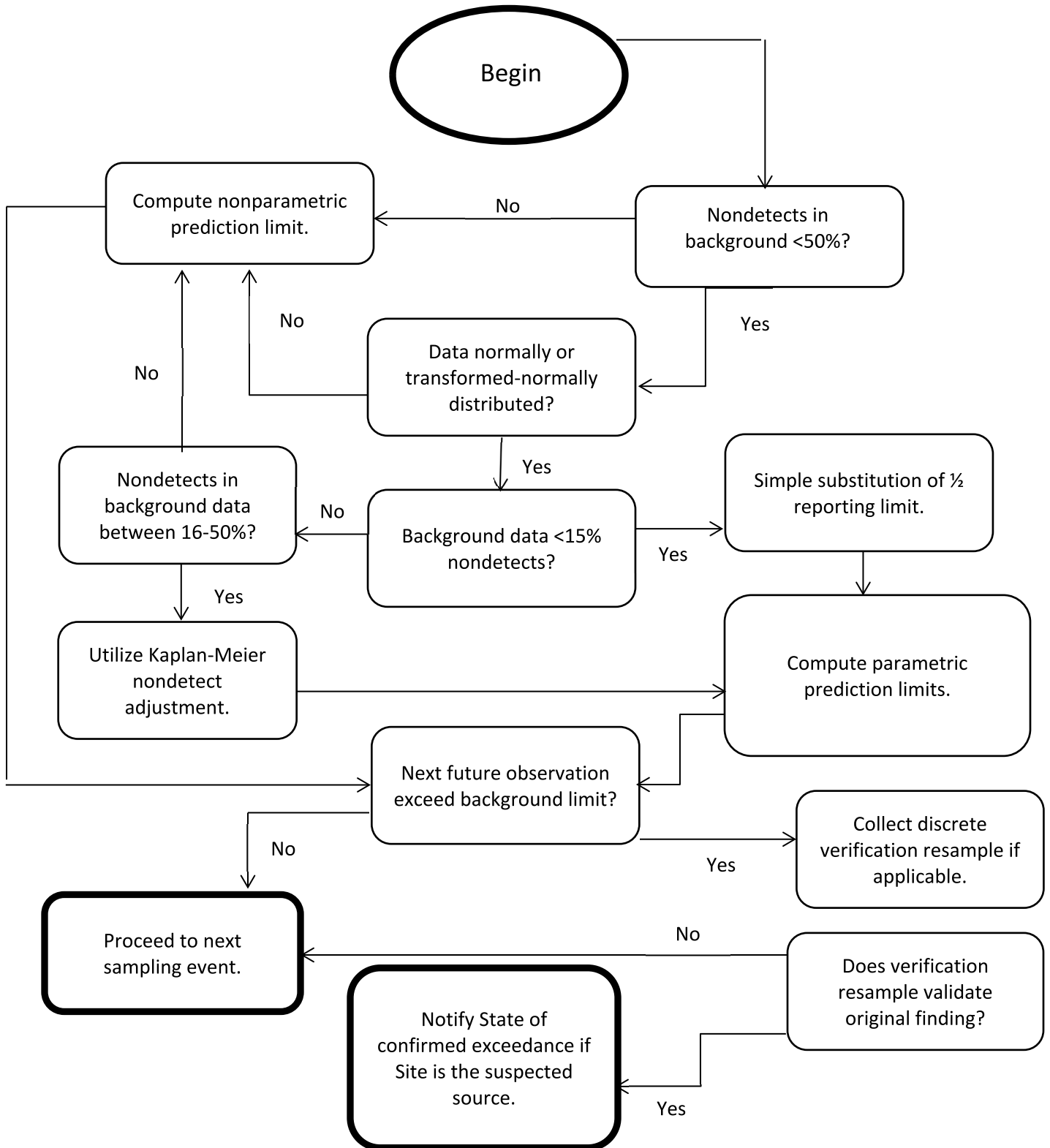


FIGURE 2. DECISION LOGIC FOR COMPUTING PREDICTION LIMITS



11. REFERENCES

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APPENDICES

- A. MONITORING SYSTEM DETAILS
- B. GROUNDWATER MONITORING WELL DETAIL
- C. GROUNDWATER SAMPLING PROCEDURE



A. MONITORING SYSTEM DETAILS

FIGURE A-1 GROUNDWATER MONITORING NETWORK

FIGURE A-2 POTENTIOMETRIC SURFACE CONTOUR MAP – AUGUST 2025

FIGURE A-3 POTENTIOMETRIC SURFACE CONTOUR MAP – OCTOBER 2017

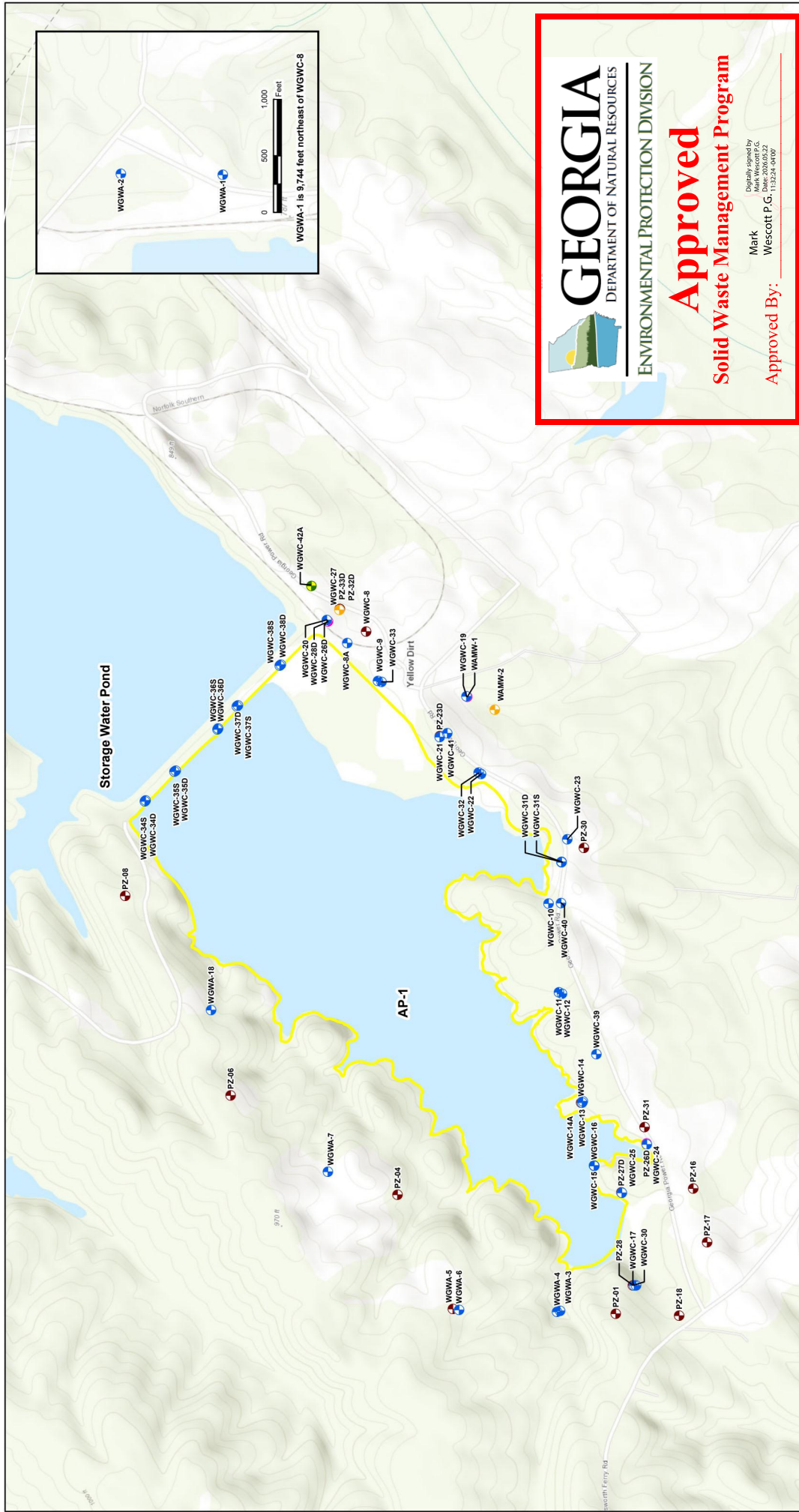
TABLE A-1 AP-1 WELL AND PIEZOMETER NETWORK DETAILS


TABLE A-2 HORIZONTAL GROUNDWATER GRADIENT AND FLOW VELOCITY CALCULATIONS

ATTACHMENT A-1 AP-1 BORING AND WELL CONSTRUCTION LOGS


ATTACHMENT A-2 WELL DRILLERS' PERFORMANCE BONDS

ATTACHMENT A-3 CERTIFIED WELL NETWORK SURVEY DATA











GEORGIA
 DEPARTMENT OF NATURAL RESOURCES
 ENVIRONMENTAL PROTECTION DIVISION

Approved
 Solid Waste Management Program

Approved By: 
 Mark Wescott P.G. 113224-0400
Digitally signed by Mark Wescott P.G. Date: 2026.03.23

Legend

-  Detection Monitoring Well
-  Horizontal Assessment Monitoring Well
-  Monitoring Well
-  Vertical Assessment Monitoring Well
-  Piezometer
-  Horizontal Assessment Monitoring (Proposed WGWC-42 Replacement)
-  Approximate AP-1 Boundary

Notes:

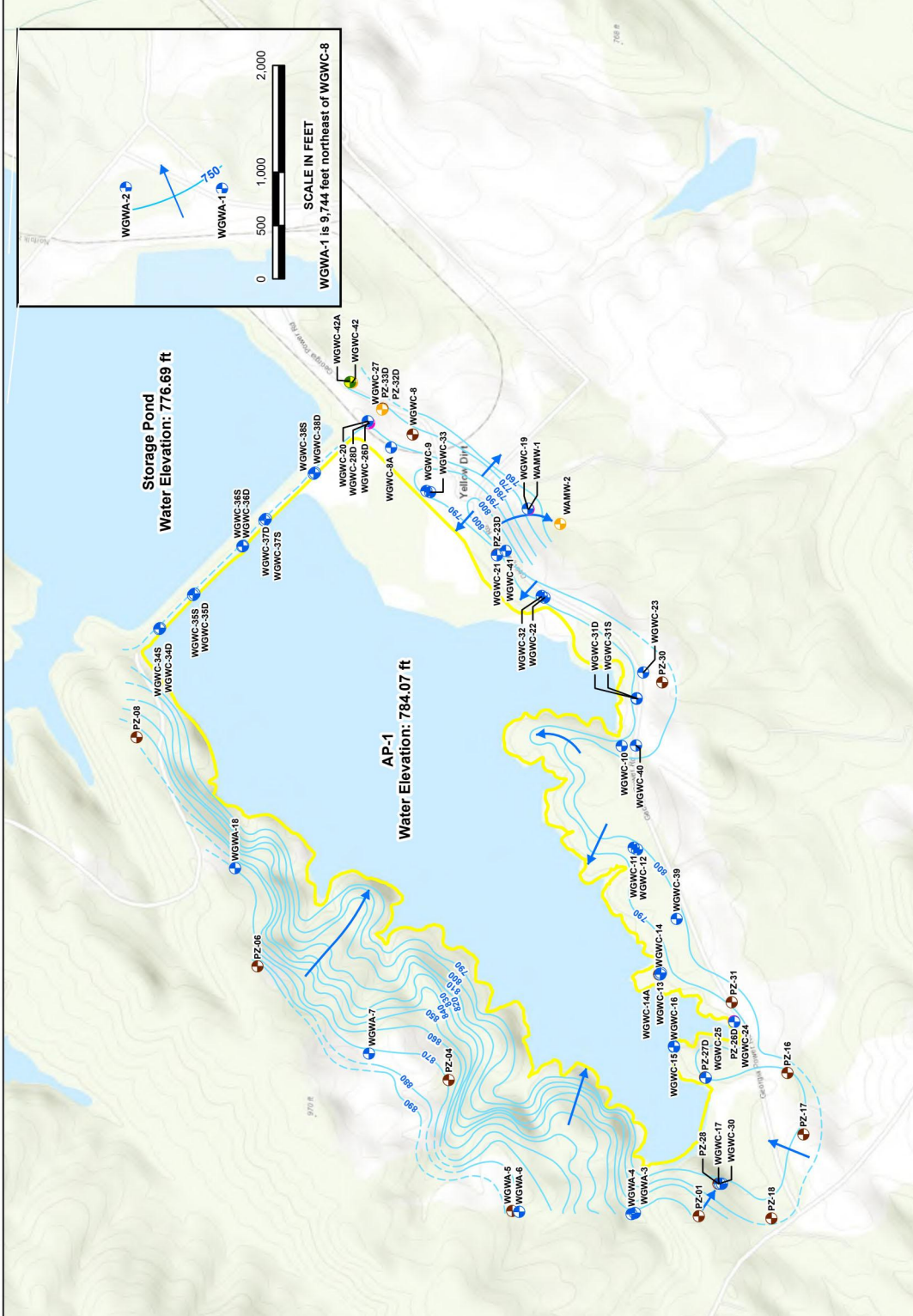
1. Horizontal Assessment Well WGWC-42 was abandoned January 2026 and proposed replacement Horizontal Assessment Well WGWC-42A was installed in January 2026.
2. ESRI, Topo, Map, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, MRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri, Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Figure A-1

Groundwater Monitoring Network
Plant Wansley
 Georgia Power Company
 Plant Wansley Area-1
 Heard and Carroll Counties, Georgia

Geosyntec consultants

Kennesaw, GA MARCH 2026



Well ID	Top of Casing Elevation (ft)	Depth to Water (ft BTOC)	August 15, 2025 Groundwater Elevation (ft)
WGWA-1	782.93	27.74	755.19
WGWA-2	758.23	12.32	745.91
WGWA-3	825.91	3.33	825.58
WGWA-4	834.34	5.75	828.59
WGWA-5	902.15	16.52	885.63
WGWA-6	897.13	17.07	880.06
WGWA-7	897.33	25.37	871.96
WGWA-18	878.02	17.27	860.75
WGWC-8	780.08	5.20	774.88
WGWC-9	806.60	NM	NM
WGWC-10	812.03	19.55	792.48
WGWC-11	812.38	18.70	793.68
WGWC-12	823.96	26.04	797.92
WGWC-13	823.04	25.61	797.43
WGWC-14	809.78	23.90	785.88
WGWC-15	809.50	23.31	786.19
WGWC-16	804.69	23.80	781.14
WGWC-17	804.21	19.21	785.00
WGWC-19	816.00	29.47	786.53
WGWC-20	783.42	21.35	762.07
WGWC-21	807.95	29.36	778.59
WGWC-22	834.41	49.50	784.91
WGWC-23	810.37	18.80	791.57
WGWC-24	823.80	29.48	794.32
WGWC-25	804.80	16.83	787.97
WGWC-26	808.23	18.15	790.83
WGWC-27	806.24	30.35	777.88
WGWC-28	805.24	9.29	771.25
WGWC-30	815.20	31.48	776.76
WGWC-31	814.61	21.76	793.44
WGWC-32	814.69	53.25	761.36
WGWC-33	810.23	22.44	792.25
WGWC-34	812.09	17.22	793.01
WGWC-35	806.04	19.08	793.01
WGWC-36	806.04	27.10	778.94
WGWC-37	806.77	19.67	786.10
WGWC-38	806.02	24.90	781.12
WGWC-39	805.95	19.65	786.30
WGWC-40	805.56	24.45	781.11
WGWC-41	805.62	22.12	783.50
WGWC-42	805.24	23.34	781.90
WGWC-43	805.30	21.16	784.14
WGWC-44	806.15	26.96	779.19
WGWC-45	806.07	22.89	783.18
WGWC-46	826.86	28.71	798.15
WGWC-47	818.74	26.27	792.47
WGWC-48	832.02	28.15	803.87
WGWC-49	787.30	17.75	769.55
WGWC-50	782.66	21.48	761.18
WGWC-51	770.82	14.51	756.31
WGWC-52	856.72	38.05	818.67
WGWC-53	889.01	19.03	869.98
WGWC-54	915.15	21.17	893.98
WGWC-55	867.29	29.39	837.90
WGWC-56	800.70	13.51	787.19
WGWC-57	831.01	37.96	793.05
WGWC-58	814.51	18.32	796.19

Potentiometric Surface Contour Map
August 2025
Georgia Power Company
Plant Wansley Apts-1
Heard and Carroll Counties, Georgia

Geosyntec
consultants
Kennesaw, GA MARCH 2026

Figure A-2

Notes:

1. Water level elevation recorded on August 11, 2025. Elevation provided in feet (ft) referenced to the North American Vertical Datum (NAVD83).
2. Water levels in wells and piezometers measured from feet below top of casing (ft BTOC).
3. Wells installed within the dike materials and may not be representative of actual groundwater conditions.
4. WGWC-3 was reclassified as a Piezometer following the August 2025 semiannual monitoring event.
5. Detection Monitoring Well WGWC-8A was installed October 2025, following the August 11, 2025 monitoring event.
6. Horizontal Assessment Well WGWC-42 was abandoned January 2026.
7. Proposed replacement Horizontal Assessment Well will be installed in 2026. Location approximate.
8. ESRI Geo Map. Sources: Esri, HERE, DeLorme, Swiremap, Incident P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeBCo, IGN, Kartica, CN, Ordinance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

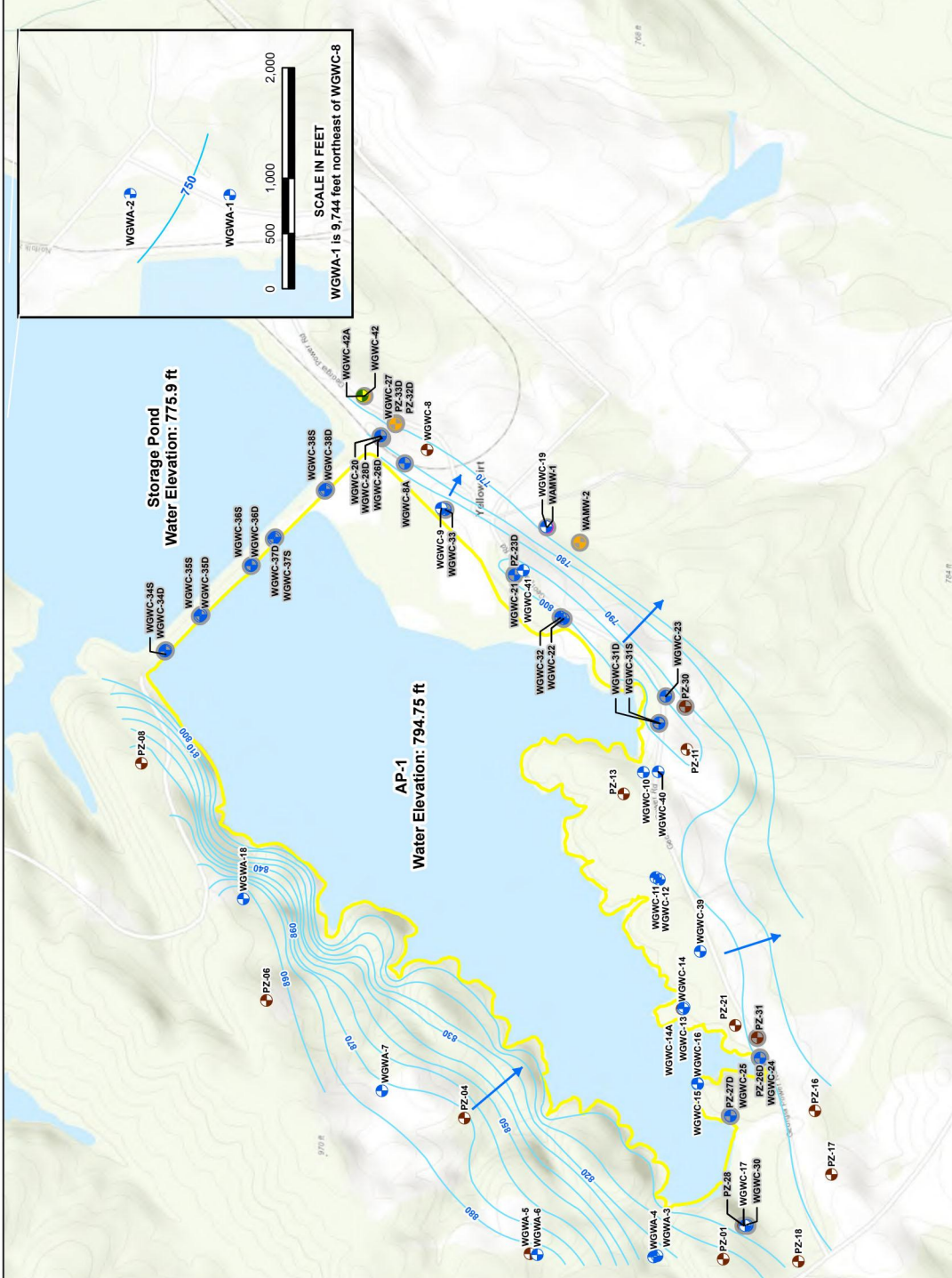
Legend

- Detection Monitoring Well
- Horizontal Assessment Monitoring Well
- Vertical Assessment Monitoring Well
- Piezometer
- Horizontal Assessment Monitoring (Proposed WGWC-42 Replacement)
- Approximate Groundwater Flow Direction
- Groundwater Elevation Iso-Contour
- Groundwater Elevation Iso-Contour (Inferred)
- Approximate AP-1 Boundary

Scale: 0, 500, 1,000 Feet

Scale: 0, 500, 1,000, 2,000 Feet

Well ID	Top of Casing Elevation ⁽¹⁾ (ft)	October 2, 2017	
		Depth to Water (ft BTOC)	Groundwater Elevation ⁽¹⁾
WGWA-1	782.90	27.28	755.62
WGWA-2	758.30	10.83	747.47
WGWA-3	829.00	3.39	825.61
WGWA-4	834.30	5.59	828.71
WGWA-5	902.10	14.97	887.13
WGWA-6	897.10	15.45	881.65
WGWA-7	897.40	26.43	870.97
WGWA-8	780.00	4.99	775.01
WGWA-9	812.08	15.65	796.43
WGWA-10	812.60	20.04	792.56
WGWA-11	824.00	27.81	796.19
WGWA-12	823.10	27.14	795.96
WGWA-13	810.00	15.95	794.05
WGWA-14A	811.09	17.95	793.14
WGWA-15	804.50	9.99	794.51
WGWA-16	805.00	9.54	795.46
WGWA-17	816.00	20.78	795.22
WGWA-18	915.30	20.12	895.18
WGWA-19	783.40	21.08	762.32
WGWA-14	809.50	15.59	793.91
WGWA-39	826.96	31.00	795.96
WGWA-40	818.88	27.15	791.73
WGWA-41	832.16	27.83	804.33
WGWA-42	787.27	17.59	769.68
PZ-1	856.78	38.20	818.58
PZ-4	889.09	18.71	870.38
PZ-6	915.33	21.11	894.22
PZ-8	882.84	29.35	853.49
PZ-11	822.99	22.19	800.80
PZ-13	850.04	53.33	796.71
PZ-16	800.55	12.04	788.51
PZ-17	831.21	50.12	781.09
PZ-18	814.12	17.15	796.97
PZ-21	814.71	21.05	793.66



Potentiometric Surface Contour Map
October 2017
 Georgia Power Company
 Plant Wando, Unit 1
 Heard and Carroll Counties, Georgia

Geosyntec
 consultants

Kennesaw, GA MARCH 2026

Figure A-3

Legend

- Detection Monitoring Well
- Piezometer
- Approximate Groundwater
- Flow Direction
- Groundwater Elevation Iso-Contour
- Approximate AP-1 Boundary

Current Monitoring Network (Installed After 2017)

- Detection Monitoring Well
- Piezometer
- Horizontal Assessment Monitoring Well
- Vertical Assessment Monitoring Well
- Piezometer
- Horizontal Assessment Monitoring (Proposed WGWA-42 Replacement)

Notes:

- Water level elevation recorded on October 2, 2017. Elevation provided in feet (ft) referenced to the North American Vertical Datum (NAVD) 88.
- Water levels in wells and piezometers measured from feet below top of casing (ft BTOC).
- Water level elevations were re-surveyed and certified June 16, 2020. TOC and water level elevations on table represent pre-recovery elevations.
- PZ-13 and PZ-21 were abandoned in 2019. Additionally, PZ-11 was abandoned in March 2024 and WGWA-42 was abandoned January 2028.
- Horizontal Assessment Monitoring Well will be installed in 2028. Locations approximated.
- WGWA-37D (PZ-28D), WGWA-37S (PZ-28S), WGWA-38 (PZ-15), WGWA-40 (PZ-13), WGWA-41 (PZ-10), and WGWA-42 (PZ-20) were retained and reclassified Detection Monitoring Wells.
- ESRI, Topo, Map-Source, Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeBCoast, IGN, Swisstopo, Mapbox, OpenStreetMap contributors, and the GIS User Community

Table A-1
AP-1 Well and Piezometer Network Details
Plant Wansley, Heard and Carroll Counties, Georgia

Well ID	Previous Well / Piezometer ID	Installation Date	Northing ^(1,3)	Easting ^(1,3)	Ground Surface Elevation ^(2,3) (ft NAVD88)	Top of Casing Elevation ^(2,3) (ft NAVD88)	Top of Screen Elevation ^(2,3) (ft NAVD88)	Bottom of Screen Elevation ^(2,3) (ft NAVD88)	Well Depth ⁽⁴⁾ (ft BTOC)	K _s ⁽⁵⁾ (cm/sec)	Screened Media
<i>Detection Monitoring Well</i>											
WGWA-1	APA-1	10/21/2015	1250656.10	2035580.71	780.37	782.93	663.37	653.37	129.56	2.0E-03	PWR
WGWA-2	APA-2D	10/16/2015	1251556.40	2035590.11	755.77	758.23	665.77	655.77	102.46	2.7E-04	PWR/Bedrock
WGWA-3	PZ-02	12/15/2014	1240848.21	2022350.10	826.63	828.91	820.23	810.23	18.68	–	Saprolite/Bedrock
WGWA-4	PZ-02D	01/13/2015	1240879.58	2022339.66	831.33	834.34	780.43	760.43	74.31	4.1E-04	Bedrock
WGWA-6	PZ-03D	01/13/2015	1241932.02	2022360.58	894.62	897.13	822.62	792.62	104.91	1.1E-03	Bedrock
WGWA-7	PZ-05	12/22/2014	1243338.63	2023843.81	894.49	897.33	867.69	857.69	40.04	3.7E-03	Bedrock
WGWA-18	PZ-07	12/16/2014	1244592.56	2025580.71	875.47	878.02	848.47	838.47	39.95	1.4E-04	Saprolite/Bedrock
WGWC-8A ⁽⁹⁾	–	10/22/2025	1243131.88	2029522.99	803.72	806.60	735.72	725.72	81.21	–	Bedrock
WGWC-9	PZ-09	12/04/2014	1242801.12	2029115.75	809.33	812.03	760.93	750.93	61.50	6.0E-05	PWR
WGWC-10	APC-3D	10/27/2015	1240971.96	2026725.61	809.61	812.38	673.61	663.61	148.77	1.7E-05	Saprolite/PWR
WGWC-11	PZ-14	12/08/2014	1240860.18	2025773.39	821.44	823.96	783.14	773.14	51.22	1.5E-04	Saprolite
WGWC-12	APC-4D	10/22/2015	1240827.68	2025755.99	820.57	823.04	756.57	746.57	76.47	6.9E-04	Bedrock
WGWC-13	APC-5D	11/04/2015	1240610.93	2024585.91	807.32	809.78	734.32	714.32	95.46	9.5E-06	Bedrock
WGWC-14A	–	01/31/2017	1240604.54	2024599.63	808.20	810.94	778.20	768.20	42.74	1.2E-04	Saprolite/PWR
WGWC-15	APC-6D	11/11/2015	1240483.16	2023912.92	802.03	804.69	758.53	748.53	56.16	1.6E-06	Bedrock
WGWC-16	APC-6S	11/11/2015	1240480.46	2023903.77	801.72	804.21	779.72	769.72	34.50	7.1E-05	Saprolite/PWR
WGWC-17	APC-7	11/06/2015	1240052.06	2022623.82	813.36	816.00	730.36	720.36	95.94	1.1E-04	Bedrock
WGWC-19	APC-2	10/28/2015	1241851.51	2028949.19	780.60	783.42	698.60	688.60	94.82	1.3E-04	Bedrock
WGWC-20	PZ-22	09/29/2020	1243350.76	2029769.43	804.88	807.95	775.18	765.18	43.17	1.5E-04	Bedrock
WGWC-21	PZ-23S	10/02/2020	1242139.33	2028512.65	831.79	834.41	773.11	763.11	71.70	8.4E-08	Bedrock
WGWC-22	PZ-24	10/18/2020	1241695.25	2028116.05	807.00	810.37	776.92	766.92	43.85	1.3E-05	PWR/Bedrock
WGWC-23	PZ-25S	10/04/2020	1240769.79	2027414.58	820.50	823.80	780.40	770.40	53.80	1.2E-04	PWR
WGWC-24	PZ-26S	10/17/2020	1239916.68	2024139.82	802.22	804.80	774.43	764.43	40.77	2.2E-04	PWR
WGWC-25	PZ-27S	10/28/2020	1240184.18	2023616.69	805.98	808.98	779.51	769.51	39.87	2.9E-04	Saprolite/PWR
WGWC-30 ⁽⁶⁾	–	12/09/2024	1240032.73	2022624.29	812.44	815.2	792.03	782.03	33.5	–	Saprolite
WGWC-31S ⁽⁶⁾	–	12/06/2024	1240831.58	2027173.44	811.74	814.69	782.45	772.45	42.57	–	Saprolite/PWR
WGWC-31D ⁽⁶⁾	–	12/09/2024	1240831.55	2027168.07	811.79	814.61	734.54	724.54	90.4	–	Bedrock
WGWC-32 ⁽⁶⁾	–	12/10/2024	1241721.24	2028131.52	807.7	810.23	786.16	776.16	34.4	–	PWR
WGWC-33 ⁽⁶⁾	–	12/11/2024	1242764.83	2029104.26	809.71	812.09	784.72	774.72	37.7	–	PWR
WGWC-34S ⁽⁶⁾	–	03/19/2025	1245294.99	2027830.72	806.28	805.77	769.5	759.5	46.6	–	Dike Material
WGWC-34D ⁽⁶⁾	–	03/09/2025	1245303.30	2027822.22	806.31	806.04	724.21	714.21	92.15	–	Saprolite
WGWC-35S ⁽⁶⁾	–	02/26/2025	1244973.26	2028152.75	806.24	805.95	755.68	745.68	60.6	–	Dike Material
WGWC-35D ⁽⁶⁾	–	03/06/2025	1244985.87	2028140.13	806.27	806.02	698.55	688.55	117.8	–	Saprolite
WGWC-36S ⁽⁶⁾	–	02/21/2025	1244517.48	2028601.76	805.81	805.62	758.25	748.25	57.7	–	Dike Material
WGWC-36D ⁽⁶⁾	–	02/24/2025	1244524.68	2028595.96	805.81	805.56	689.79	679.79	126.1	–	Dike Material/Saprolite
WGWC-37S	PZ-29S ⁽⁷⁾	10/31/2020	1244317.13	2028839.68	805.80	805.30	770.28	760.28	45.42	–	Dike Material
WGWC-37D	PZ-29D ⁽⁷⁾	11/1/2020	1244304.90	2028853.29	805.77	805.24	688.69	678.69	126.95	8.3E-06	Saprolite/PWR Bedrock
WGWC-38S ⁽⁶⁾	–	02/02/2025	1243844.64	2029287.40	806.32	806.07	756.89	746.89	59.5	–	Dike Material
WGWC-38D ⁽⁶⁾	–	01/31/2025	1243855.62	2029276.99	806.37	806.15	726.72	716.72	89.75	–	PWR
WGWC-39	PZ-15 ⁽⁷⁾	12/10/2014	1240457.61	2025105.38	824.59	826.86	795.79	785.79	41.46	3.9E-05	Saprolite
WGWC-40	PZ-12 ⁽⁷⁾	12/08/2014	1240837.96	2026731.01	816.17	818.74	779.37	769.37	49.78	5.4E-05	Saprolite
WGWC-41	PZ-10 ⁽⁷⁾	12/05/2014	1242058.41	2028554.29	829.26	832.02	810.46	800.46	31.96	1.1E-06	Bedrock

Table A-1
AP-1 Well and Piezometer Network Details
Plant Wansley, Heard and Carroll Counties, Georgia

Well ID	Previous Well / Piezometer ID	Installation Date	Northing ^(1,3)	Easting ^(1,3)	Ground Surface Elevation ^(2,3) (ft NAVD88)	Top of Casing Elevation ^(2,3) (ft NAVD88)	Top of Screen Elevation ^(2,3) (ft NAVD88)	Bottom of Screen Elevation ^(2,3) (ft NAVD88)	Well Depth ⁽⁴⁾ (ft BTOC)	K _h ⁽⁵⁾ (cm/sec)	Screened Media
Piezometer											
PZ-01	-	12/12/2014	1240249.86	2022319.93	853.91	856.72	817.81	807.81	49.31	3.2E-04	Bedrock
PZ-04	-	12/22/2014	1242592.03	2023595.91	886.13	889.01	878.93	868.93	20.48	-	Saprolite/Bedrock
PZ-06	-	12/17/2014	1244382.89	2024661.39	912.30	915.15	898.60	888.60	26.95	3.9E-03	Bedrock
PZ-08	-	12/15/2014	1245514.59	2026807.30	864.65	867.29	836.85	826.85	40.84	2.4E-03	Saprolite/Bedrock
PZ-16	-	12/11/2014	1239419.77	2023662.22	798.05	800.70	785.05	775.05	26.15	3.6E-04	Saprolite
PZ-17	-	12/11/2014	1239270.02	2023086.50	828.54	831.01	789.84	779.84	51.57	6.6E-04	Saprolite
PZ-18	-	12/11/2014	1239569.52	2022299.20	812.10	814.51	788.20	778.20	36.71	2.8E-04	Saprolite
PZ-23D	-	10/02/2020	1242139.53	2028520.87	831.89	834.32	749.92	739.92	94.80	4.5E-04	Bedrock
PZ-27D	-	10/15/2020	1240190.93	2023620.36	806.22	809.28	737.96	727.96	81.72	7.8E-04	Bedrock
PZ-28	-	10/29/2020	1240066.02	2022624.73	813.57	816.18	753.68	743.68	72.90	1.2E-04	Saprolite/PWR
PZ-30	-	03/20/2024	1240592.30	2027321.68	812.43	814.80	787.83	777.83	37.47	-	Saprolite/PWR
PZ-31	-	03/22/2024	1239941.77	2024324.33	807.86	810.90	778.96	768.96	42.44	-	Saprolite
PZ-32D	-	10/17/2024	1243211.88	2029886.45	777.14	776.74	461.74	451.74	325.30	-	Bedrock
PZ-33D	-	10/17/2024	1243211.76	2029886.78	777.14	776.74	381.74	371.74	405.30	-	Bedrock
WGWA-5 ⁽¹³⁾	-	12/23/2014	1241997.94	2022368.85	899.28	902.15	888.88	878.88	23.66	1.2E-03	Saprolite/PWR/Bedrock
WGWC-8 ⁽¹⁴⁾	-	10/29/2015	1242929.40	2029644.58	777.70	780.08	730.70	720.70	59.38	2.2E-05	Bedrock
WGWC-14 ⁽¹²⁾	-	11/05/2015	1240621.86	2024584.92	806.87	809.50	764.87	754.87	52.00	-	PWR/Bedrock
WGWC-26D	-	09/26/2022	1243343.66	2029758.85	805.06	808.23	749.31	739.31	69.27	7.1E-05	Bedrock
Assessment Monitoring Well											
WGWC-27	-	09/27/2022	1243215.51	2029878.92	778.05	780.54	749.15	739.15	41.69	9.2E-06	Bedrock
WGWC-28D	-	8/18/2023	1243337.13	2029751.04	805.36	808.24	609.06	599.06	206.70	5.1E-06	Bedrock
WGWC-42 ⁽¹⁰⁾	PZ-20 ⁽⁸⁾	01/31/2017	1243496.86	2030132.73	784.45	787.30	759.45	749.45	37.85	-	Saprolite
WGWC-42A ⁽¹¹⁾	-	--	1243516.05	2030135.43	-	--	--	--	--	-	--
PZ-26D	-	10/12/2020	1239919.45	2024146.35	802.31	804.93	735.23	725.23	80.10	1.9E-05	Bedrock
WAMW-1 ⁽⁸⁾	-	09/16/2018	1241843.66	2028944.63	780.05	782.66	668.40	658.40	124.60	-	Bedrock
WAMW-2 ⁽⁸⁾	-	09/14/2018	1241547.56	2028806.27	768.39	770.82	694.19	684.19	86.92	-	Bedrock

Notes:

- = not available

ft = feet

BTOC = below top of casing

cm/sec = centimeter per second

PWR = Partially Weathered Rock

K_h = Horizontal Hydraulic Conductivity

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.

(2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Ground surface elevation defined at the survey nail installed within the well pad.

(3) Survey completed by GEL Solutions on the dates presented in Appendix A of the Groundwater Monitoring Plan.

(4) Total well depth accounts for sump if data provided on well construction logs.

(5) K_h as determined by slug testing (in piezometers and wells) or iso-flow packer testing (in open bedrock boreholes). Horizontal hydraulic conductivity in bedrock is from targeted tests of fracture zones and not likely representative of bulk permeability of the rock units.

(6) Detection wells installed in 2025.

(7) Piezometers were reclassified as detection wells in 2025.

(8) Piezometers were reclassified to assessment monitoring wells in 2025.

(9) WGWC-8 was reclassified to a piezometer in August 2025. WGWC-8A was installed as a replacement detection monitoring well for WGWC-8.

(10) WGWC-42 was abandoned in January 2026.

(11) WGWC-42A is a proposed horizontal assessment well that will be placed in close proximity to WGWC-42. The provided Northing and Easting are approximate.

(12) Well WGWC-14 was replaced as a compliance well by WGWC-14A in 2017.

(13) Well WGWA-5 was converted to a piezometer in 2024.

(14) Well WGWC-8 was converted to a piezometer in 2025.



Table A-2
Horizontal Groundwater Gradient and Flow Velocity Calculations
Plant Wansley AP-1, Heard and Carroll Counties, Georgia

October 2, 2017										
Flow Path Direction ⁽¹⁾	K_h (ft/day)	n_e	h_1 (ft)	h_2 (ft)	Δl (ft)	$\Delta h/\Delta l$ (ft/ft)	V (ft/day) ⁽³⁾	Average V (ft/day) ⁽³⁾	V (ft/yr) ⁽³⁾	V (ft/yr) ⁽³⁾
WGWC-16 to PZ-16	0.67	0.25	795.46	788.51	1080	0.006	0.017	0.13	6.3	46.0
WGWC-41 ⁽⁴⁾ to WGWC-19	0.67	0.25	804.33	762.32	480	0.088	0.235		85.6	

August 11, 2025										
Flow Path Direction	K_h (ft/day)	n_e ⁽²⁾	h_1 (ft)	h_2 (ft)	Δl (ft)	$\Delta h/\Delta l$ (ft/ft)	V (ft/day) ⁽³⁾	Average V (ft/day) ⁽³⁾	V (ft/yr) ⁽³⁾	V (ft/yr) ⁽³⁾
WGWC-20 to WGWC-27	0.17	0.10	778.59	771.25	175	0.042	0.071	0.11	26.0	39.6
PZ-01 to WGWC-17	0.17	0.10	818.67	786.53	375	0.086	0.146		53.2	

Notes:

ft = feet

ft/day = feet per day

ft/ft = feet per foot

ft/yr = feet per year

K_h = horizontal hydraulic conductivity

n_e = effective porosity

h_1, h_2 = groundwater elevation at identified wells

$\Delta h/\Delta l$ = hydraulic gradient

Δh = change in groundwater elevation between identified wells

Δl = distance between identified wells

V = groundwater flow velocity

(1) Groundwater velocity calculations obtained from the 2017 Annual Groundwater Monitoring and Corrective Action Report (ERM, 2018)

(2) Conservative effective porosity values interpreted from values in *Groundwater* (Freeze and Cherry, 1979)

(3) Groundwater flow velocity equation: $V = [K * (\Delta h/\Delta l)] / n_e$

(4) Well WGWC-41 (PZ-10) was reclassified as a detection well in 2025.

RECORD OF BOREHOLE WGWA1/APA-1

SHEET 3 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 127.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/19/15
 DATE COMPLETED: 10/21/15

NORTHING: 1250656.41
 EASTING: 2035580.13
 GS ELEVATION: 780.37
 TOC ELEVATION: 782.93

DEPTH W.L.: 27.6' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/21/15
 TIME W.L.: 07:50

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
90	690	91.00 - 107.00 SAPROLITE; moist, white/orange/brown, weathered garnet mica schist	TWR	▲▲▲▲▲	689.37				WELL CASING Interval: -2.5'-118' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 117'-127' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 116-127' Type: #1 Sand/ Pre-packed Filter FILTER PACK SEAL Interval: 114'-116' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-114' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic	
				▲▲▲▲▲	91.00					
95	685					▲▲▲▲▲				
100	680	107.00 - 113.00 wet, broken rock fragments	TWR	▲▲▲▲▲	673.37					
				▲▲▲▲▲	107.00					
105	675					▲▲▲▲▲				
110	670	113.00 - 117.00 moist, weathered orange soil with faint fabric	TWR	▲▲▲▲▲	667.37					
				▲▲▲▲▲	113.00					
115	665					▲▲▲▲▲				
120	660	117.00 - 126.50 TRANSITIONALLY WEATHERED ROCK; wet, brown rock fragments up to 3" in diameter	TWR	▲▲▲▲▲	663.37					
				▲▲▲▲▲	117.00					
125	655					▲▲▲▲▲				
130	650	126.50 - 127.00 SAPROLITE; light brown wix of clay, silt, fine to coarse sand and angular gravel Boring completed at 127.00 ft	TWR	▲▲▲▲▲	653.37					
135	645			▲▲▲▲▲	127.00					

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWA2/APA-2D

SHEET 1 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 107.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/15/15
 DATE COMPLETED: 10/16/15

NORTHING: 1251556.40
 EASTING: 2035590.11
 GS ELEVATION: 755.77
 TOC ELEVATION: 758.23

DEPTH W.L.: 11.55' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/20/15
 TIME W.L.: 10:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
0	755	0.00 - 5.00 SILTY CLAY; reddish-brown, firm, moist. No fabric. <5% mica flakes. Fill/overburden soil	CL	[Hatched Pattern]	750.77				WELL CASING Interval: -2.5'-90' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 90'-100' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 87'-100' Type: #1 Sand/Pre-packed Filter FILTER PACK SEAL Interval: 84'-87' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-84' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
5	750	5.00 - 7.00 SILTY CLAY; orange-red to orange-brown, moist, Oxidized and mottled black stringers (Mn Oxide) and white veins of plagioclase, weathered (saprolite)	CL	[Hatched Pattern]	5.00				
		7.00 - 25.00 SILTY CLAY; saprolite		[Hatched Pattern]	7.00				
10	745			[Hatched Pattern]					
15	740		CL	[Hatched Pattern]					
20	735			[Hatched Pattern]					
25	730	25.00 - 30.00 CLAYEY SILT; moist, pale brown, some red clay, plagioclase stringers	ML	[Vertical Lines]	25.00				
30	725	30.00 - 60.00 SANDY SILT; dry to moist, pale yellow to brown. Fabric not evident		[Vertical Lines]	30.00				
35	720			[Vertical Lines]					
40	715		ML	[Vertical Lines]					
45				[Vertical Lines]					

Log continued on next page

Portland
Type 1

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWA2/APA-2D

SHEET 2 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 107.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/15/15
 DATE COMPLETED: 10/16/15

NORTHING: 1251556.40
 EASTING: 2035590.11
 GS ELEVATION: 755.77
 TOC ELEVATION: 758.23

DEPTH W.L.: 11.55' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/20/15
 TIME W.L.: 10:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
45	710	30.00 - 60.00 SANDY SILT; dry to moist, pale yellow to brown. Fabric not evident <i>(Continued)</i>	ML		695.77				3/8" Bentonite - Pellets	<p>WELL CASING Interval: -2.5'-90' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 90'-100' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 87'-100' Type: #1 Sand/Pre-packed Filter</p> <p>FILTER PACK SEAL Interval: 84'-87' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-84' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
60	695	60.00 - 70.00 SANDY SILT; Quartzite rock hard cobble rock fragments			60.00					
65	690		ML		685.77					
70	685	70.00 - 77.00 dry, pale yellow to brown, gravelly	70.00							
75	680	73.00 - 77.00 NO RECOVERY	ML		678.77					
80	675	77.00 - 81.00 SILTY CLAY; sandy; green, moist, weathered rock with chlorite	CL	77.00						
	675		ML	674.77						
	675	81.00 - 83.00 GRAVELLY SILT; transitionally weathered rock, dry, pale brown	ML	81.00						
	675		ML	672.77						
	670	83.00 - 90.00 TRANSITIONALLY WEATHERED ROCK; brown, >3" rock fragments, moist	TWR	83.00						
90			TWR	665.77						

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWA2/APA-2D

SHEET 3 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 107.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/15/15
 DATE COMPLETED: 10/16/15

NORTHING: 1251556.40
 EASTING: 2035590.11
 GS ELEVATION: 755.77
 TOC ELEVATION: 758.23

DEPTH W.L.: 11.55' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/20/15
 TIME W.L.: 10:30

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
90	665	90.00 - 107.00 BEDROCK; SCHIST to SCHISTOSE GNEISS; grey, trace garnets (1-3mm), trace muscovite	BR	90.00				<p>#1 Sand -</p> <p>0.010" Screen Slot</p> <p>#1 Sand -</p> <p>3/8" Bentonite Pellets</p>	<p>WELL CASING Interval: -2.5'-90' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 90'-100' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 87'-100' Type: #1 Sand/Pre-packed Filter</p> <p>FILTER PACK SEAL Interval: 84'-87' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-84' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
95	660	97.00 - 107.00 quartzite with muscovite, pyrite, garnet		648.77					
100	655	Boring completed at 107.00 ft							
105	650								
110	645								
115	640								
120	635								
125	630								
130	625								
135									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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





**LOG OF TEST BORING
AND WELL INSTALLATION**

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DATE STARTED 12/15/2014 COMPLETED 12/15/2014 SURF. ELEV. 826.63 COORDINATES: N:1240848.21 E:2022350.10

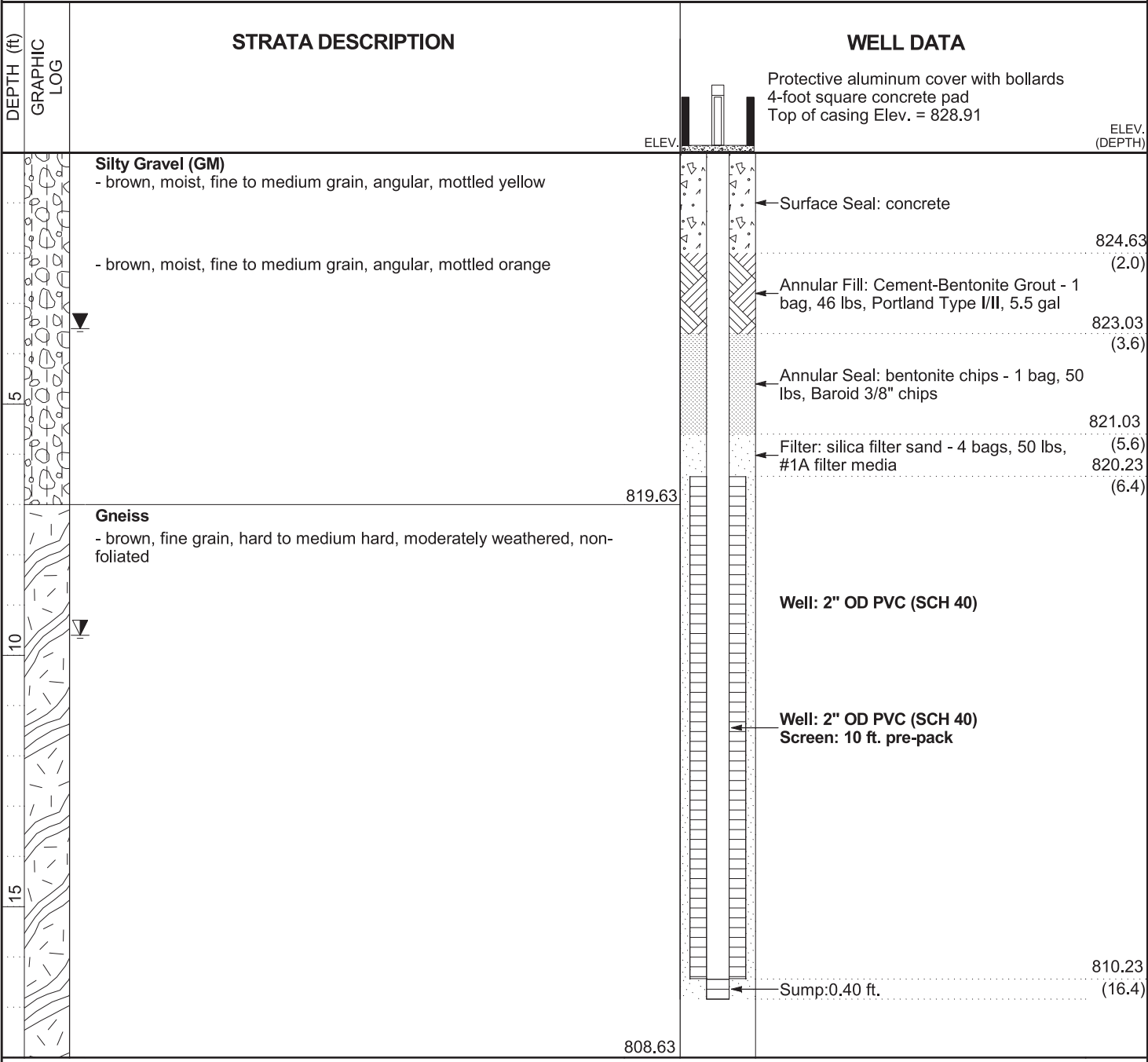
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 18 ft. GROUND WATER DEPTH: DURING _____ COMP. 3.5 ft. DELAYED 9.6 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



Bottom of borehole at 18.0 feet.



LOG OF TEST BORING AND WELL INSTALLATION

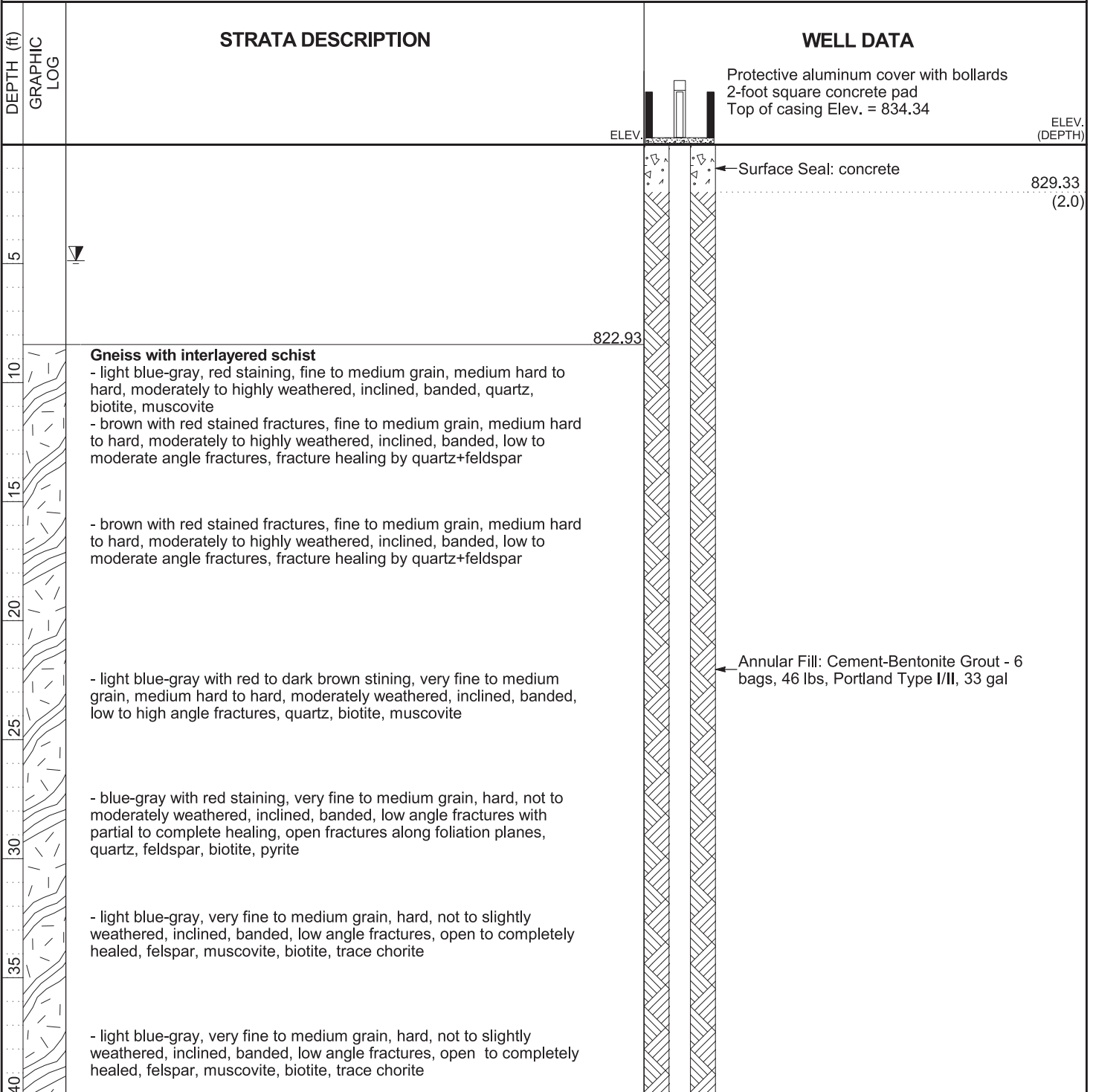
BORING WGWA-4
(PZ-02D) PAGE 1 OF 2
 ECS38198

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 1/6/2015 COMPLETED 1/13/2015 SURF. ELEV. 831.33 COORDINATES: N:1240879.58 E:2022339.66
 CONTRACTOR SCS Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger; HQ Rock Core
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 70 ft. GROUND WATER DEPTH: DURING _____ COMP. _____ DELAYED 4.88 ft. after 1000 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PIEZOMETER\WANSLEY_ASH_POND_1 (2).GPJ

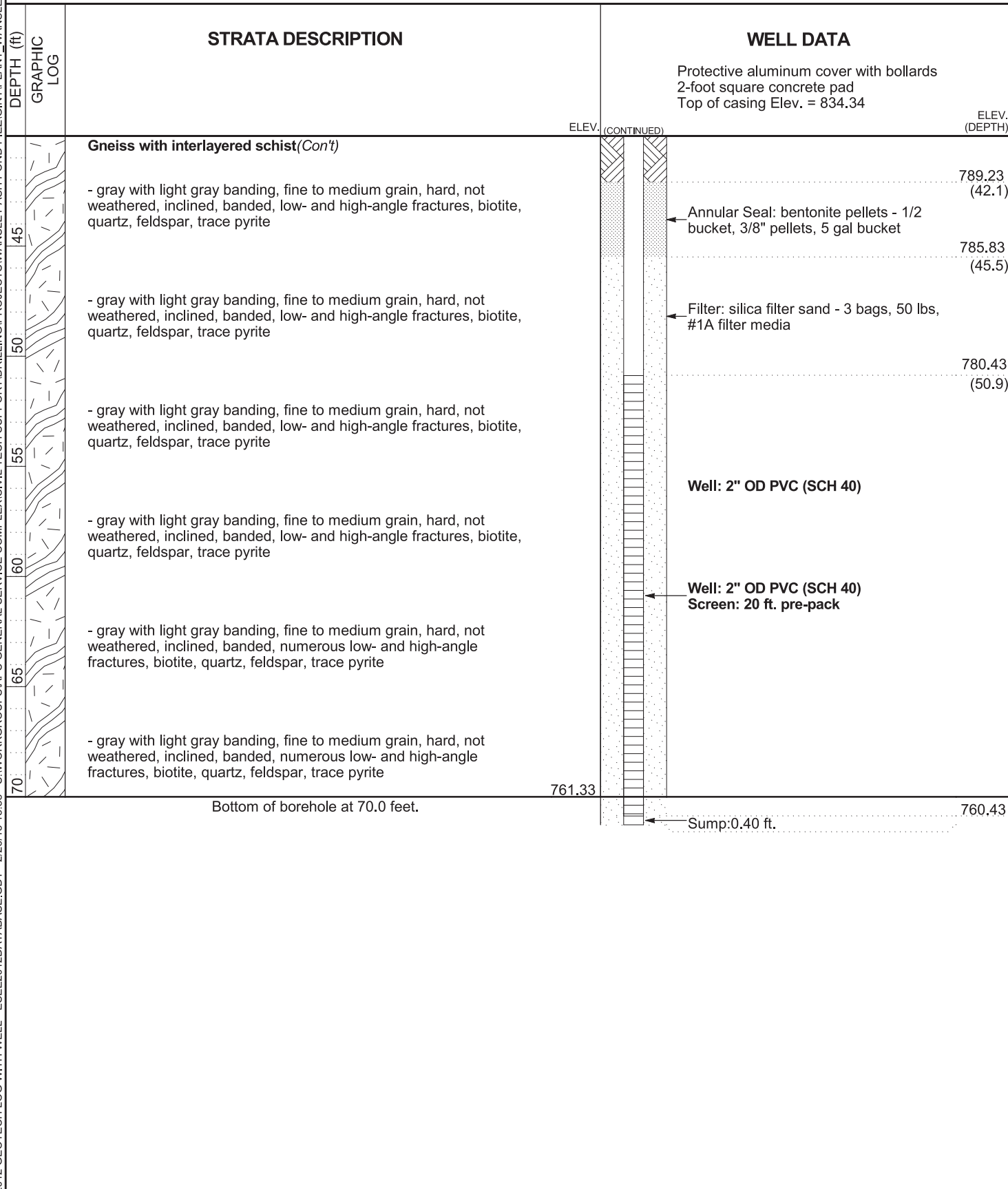


LOG OF TEST BORING AND WELL INSTALLATION

**BORING WGWA-4
(PZ-02D)** PAGE 2 OF 2
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
LOCATION Plant Wansley





LOG OF TEST BORING AND WELL INSTALLATION

WGWA-5 (PZ-03S)

PAGE 1 OF 1
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DATE STARTED 12/23/2014 COMPLETED 12/23/2014 SURF. ELEV. 899.28 COORDINATES: N:1241997.94 E:2022368.85

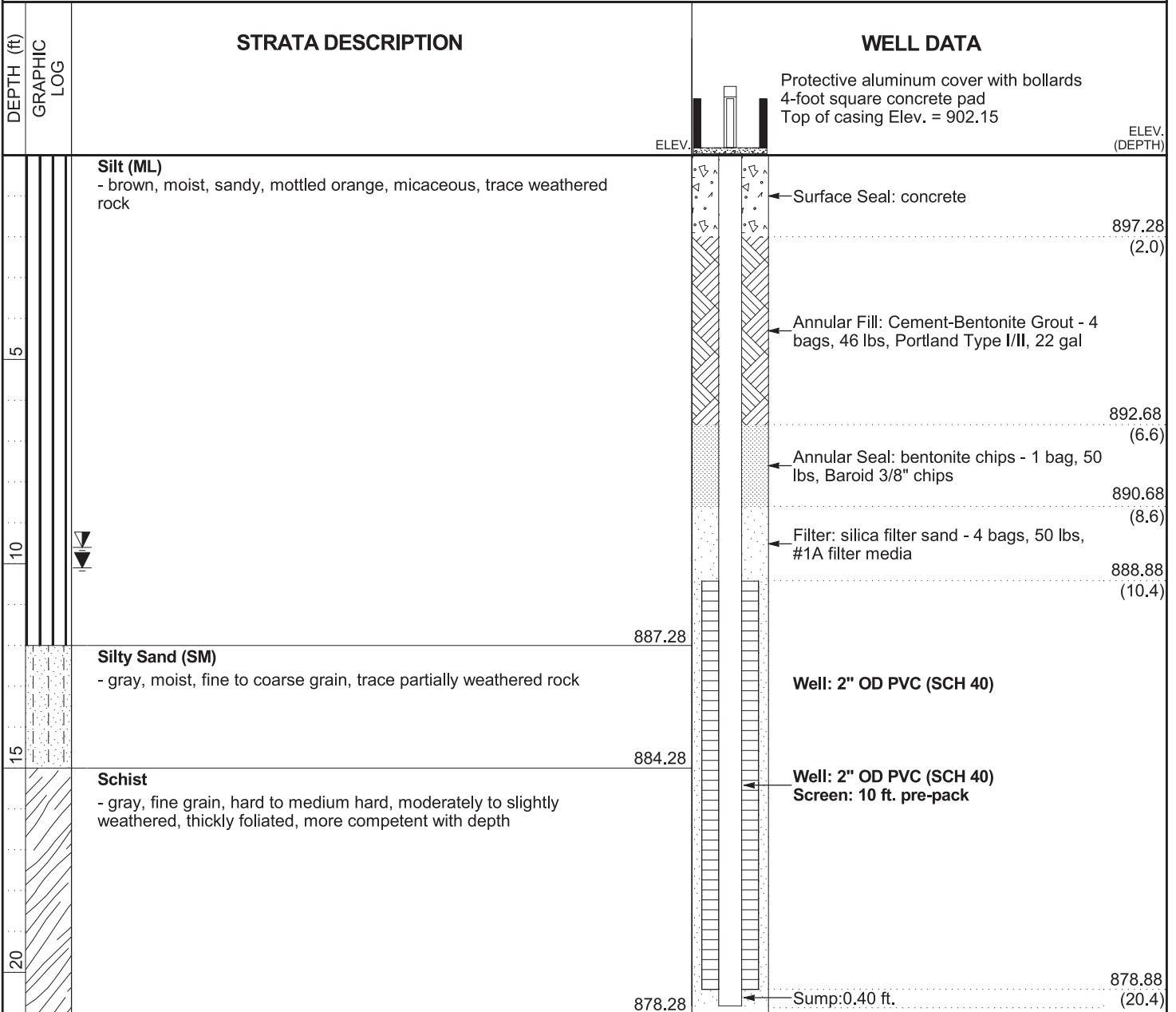
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 21 ft. GROUND WATER DEPTH: DURING _____ COMP. 10.1 ft. DELAYED 9.6 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



Bottom of borehole at 21.0 feet.



LOG OF TEST BORING AND WELL INSTALLATION

**BORING WGWA-6
(PZ-03D)**

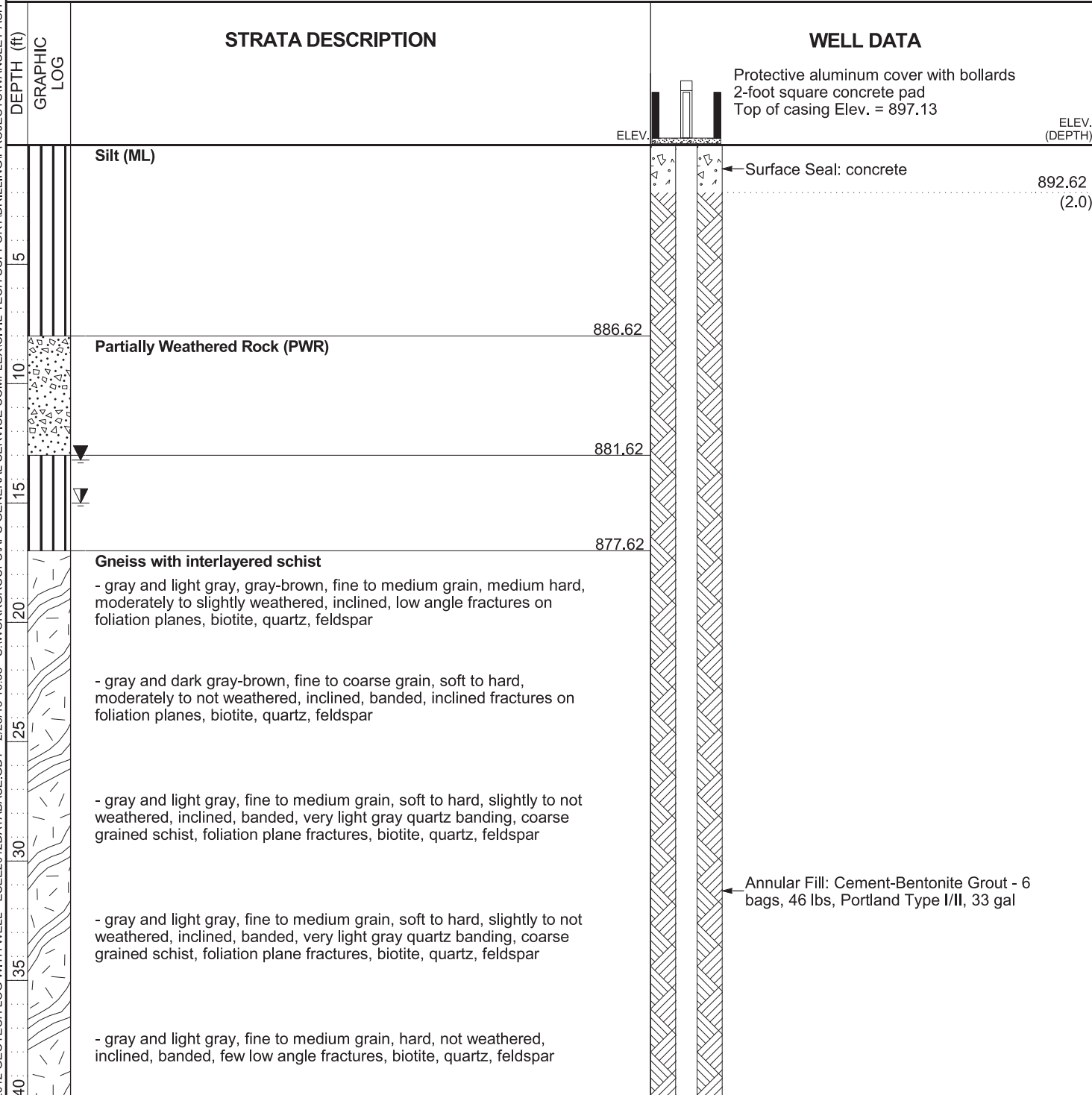
PAGE 1 OF 3
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
LOCATION Plant Wansley

DATE STARTED 12/16/2014 COMPLETED 1/13/2015 SURF. ELEV. 894.62 COORDINATES: N:1241932.02 E:2022360.58
 CONTRACTOR SCS Field Services EQUIPMENT CME550 METHOD Hollow Stem Auger; HQ Rock Core
 DRILLED BY T. Milam LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 100.5 ft. GROUND WATER DEPTH: DURING _____ COMP. 13.2 ft. DELAYED 15 ft. after 24 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)



LOG OF TEST BORING AND WELL INSTALLATION

BORING WGWA-6
(PZ-03D) PAGE 2 OF 3
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
LOCATION Plant Wansley

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PIANT_WANSLEY_ASH_POND_1 (2).GPJ

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	WELL DATA
			Protective aluminum cover with bollards 2-foot square concrete pad Top of casing Elev. = 897.13
			ELEV. (DEPTH)
		Gneiss with interlayered schist(Con't)	
45		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding	
50		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, trace pyrite on foliation planes	
55		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes	
60		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes	
65		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes	834.12 (60.5)
70		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, garnet up to 4mm	Annular Seal: bentonite pellets - 1/2 bucket, 3/8" pellets, 5 gal bucket
75		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, garnet up to 4mm	829.02 (65.6)
80		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds	Filter: silica filter sand - 3 bags, 50 lbs, #1A filter media
85		- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, finer grained downward	822.62 (72.0)
			Well: 2" OD PVC (SCH 40)
			Well: 2" OD PVC (SCH 40) Screen: 30 ft. pre-pack

(Continued Next Page)

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



LOG OF TEST BORING AND WELL INSTALLATION

BORING WGWA-6
(PZ-03D) PAGE 3 OF 3
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	WELL DATA
90		<p>Gneiss with interlayered schist (Con't)</p> <p>- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, massive quartz vein</p>	<p style="text-align: right;">ELEV. (DEPTH)</p> <p style="text-align: center;">(CONTINUED)</p> <p style="text-align: right;">792.62</p> <p style="text-align: center;">← Sump: 0.40 ft.</p>
95		<p>- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, massive quartz vein</p>	
100		<p>- gray and light gray, fine to coarse grain, hard, not weathered, inclined, banded, coarse grained schist, quartz-felsic banding, pyrite common on foliation planes, micro-folds, massive quartz vein</p>	
		Bottom of borehole at 100.5 feet.	794.12



LOG OF TEST BORING AND WELL INSTALLATION

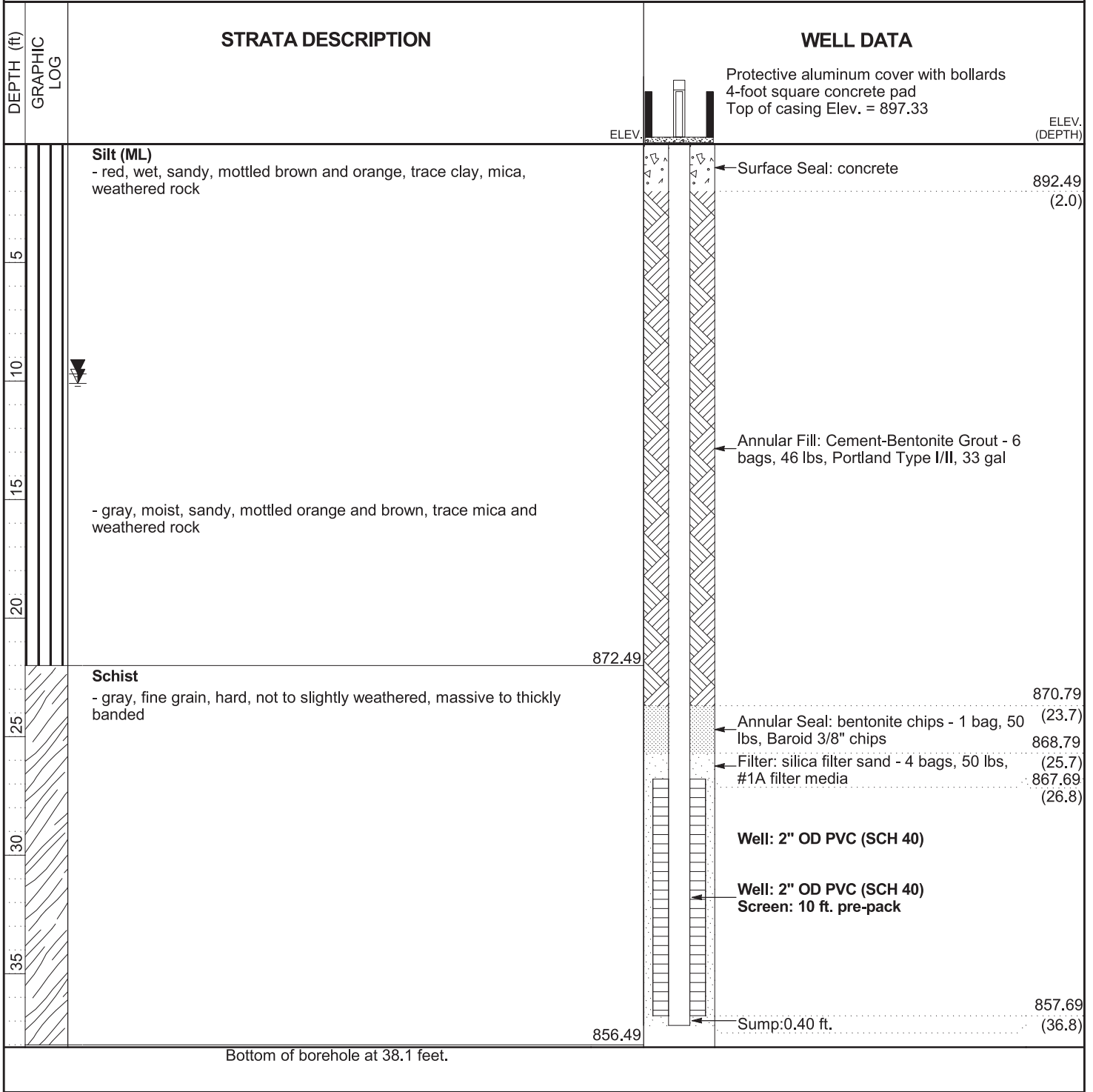
WGWA-7 (PZ-05)
 PAGE 1 OF 1
 ECS38198

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/22/2014 COMPLETED 12/22/2014 SURF. ELEV. 894.49 COORDINATES: N:1243338.63 E:2023843.81
 CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic
 DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 38.1 ft. GROUND WATER DEPTH: DURING _____ COMP. 9.7 ft. DELAYED 10.1 ft. after 24 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DATE STARTED 12/16/2014 COMPLETED 12/16/2014 SURF. ELEV. 875.47 COORDINATES: N: 1244592.56 E:2025580.71

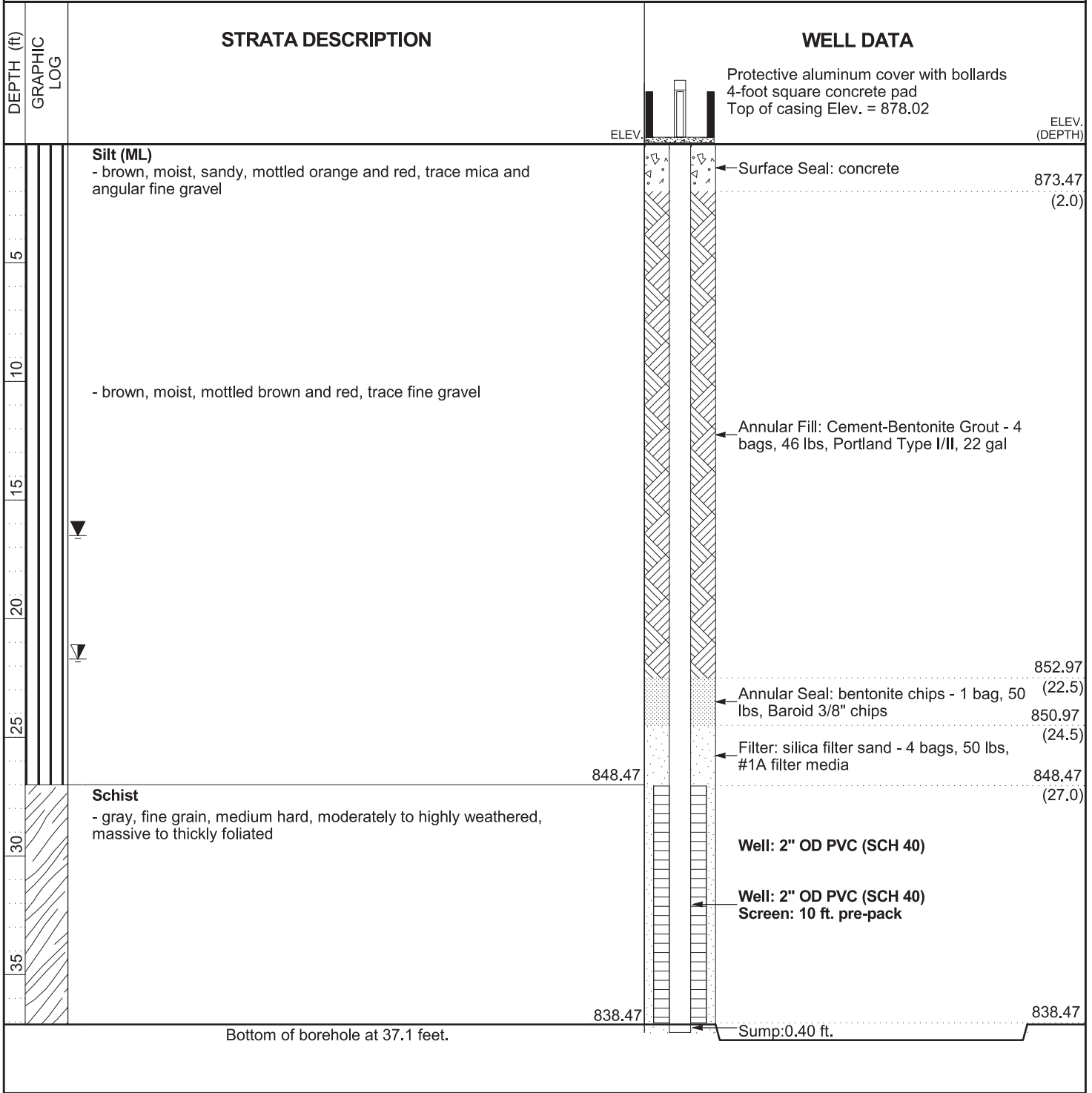
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 37.1 ft. GROUND WATER DEPTH: DURING _____ COMP. 16.5 ft. DELAYED 21.7 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



RECORD OF BOREHOLE WGWC8/APC-1

SHEET 1 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 57.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/29/15
 DATE COMPLETED: 10/29/15

NORTHING: 1242929.40
 EASTING: 2029644.58
 GS ELEVATION: 777.70
 TOC ELEVATION: 780.08

DEPTH W.L.: 36' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/02/2015
 TIME W.L.: 12:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
0		0.00 - 2.00 SAPROLITE; overburden, dry to moist, brown to reddish orange	ML		775.70			Portland Type 1	WELL CASING Interval: -2.5'-47' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 47'-57' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 45'-57' Type: #1 Sand/Prepacked Filter FILTER PACK SEAL Interval: 41.5'-45' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-41.5' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: Hydrovac/4-inch Sonic Rock Drill: 4-inch Sonic
775		2.00 - 4.00 CLAYEY SILT; dry to moist, brown overburden (saprolite)			2.00				
					773.70				
5		4.00 - 8.00 red orange overburden (saprolite)	ML		4.00				
					770				
		8.00 - 24.00 dry to moist, brown to reddish orange			769.70				
10					8.00				
					765				
15					760				
					755				
25		24.00 - 28.00 GRAVELLY CLAY; wet, yellow-orange, trace black and white stringers, manganese oxide and weathered feldspar, lean clay	GC		24.00				
					750				
30		28.00 - 29.00 CLAYEY SAND/TRANSITIONALLY WEATHERED ROCK; wet, brown, clayey silt, some fine to coarse sand, some fine gravel size rock fragments	TWR		28.00				
		29.00 - 57.00 Mylonitic QUARTZITE ROCK; white to light brown, rock is less coherent and likely fractured around 54-56' interval			29.00				
					745				
35					740				
			BR		735				
					45		3/8" Bentonite - Pellets		

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC8/APC-1


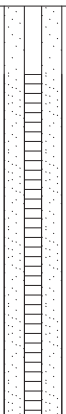
SHEET 2 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 57.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/29/15
 DATE COMPLETED: 10/29/15

NORTHING: 1242929.40
 EASTING: 2029644.58
 GS ELEVATION: 777.70
 TOC ELEVATION: 780.08

DEPTH W.L.: 36' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/02/2015
 TIME W.L.: 12:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
45		29.00 - 57.00 Mylonitic QUARTZITE ROCK; white to light brown, rock is less coherent and likely fractured around 54-56' interval (Continued)	BR					#1 Sand - 0.010" Slot Screen - 	WELL CASING Interval: -2.5'-47' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 47'-57' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 45'-57' Type: #1 Sand/Prepacked Filter FILTER PACK SEAL Interval: 41.5'-45' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-41.5' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: Hydrovac/4-inch Sonic Rock Drill: 4-inch Sonic
730									
50									
725									
55									
720		Boring completed at 57.00 ft			720.70				
60									
715									
65									
710									
70									
705									
75									
700									
80									
695									
85									
690									
90									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

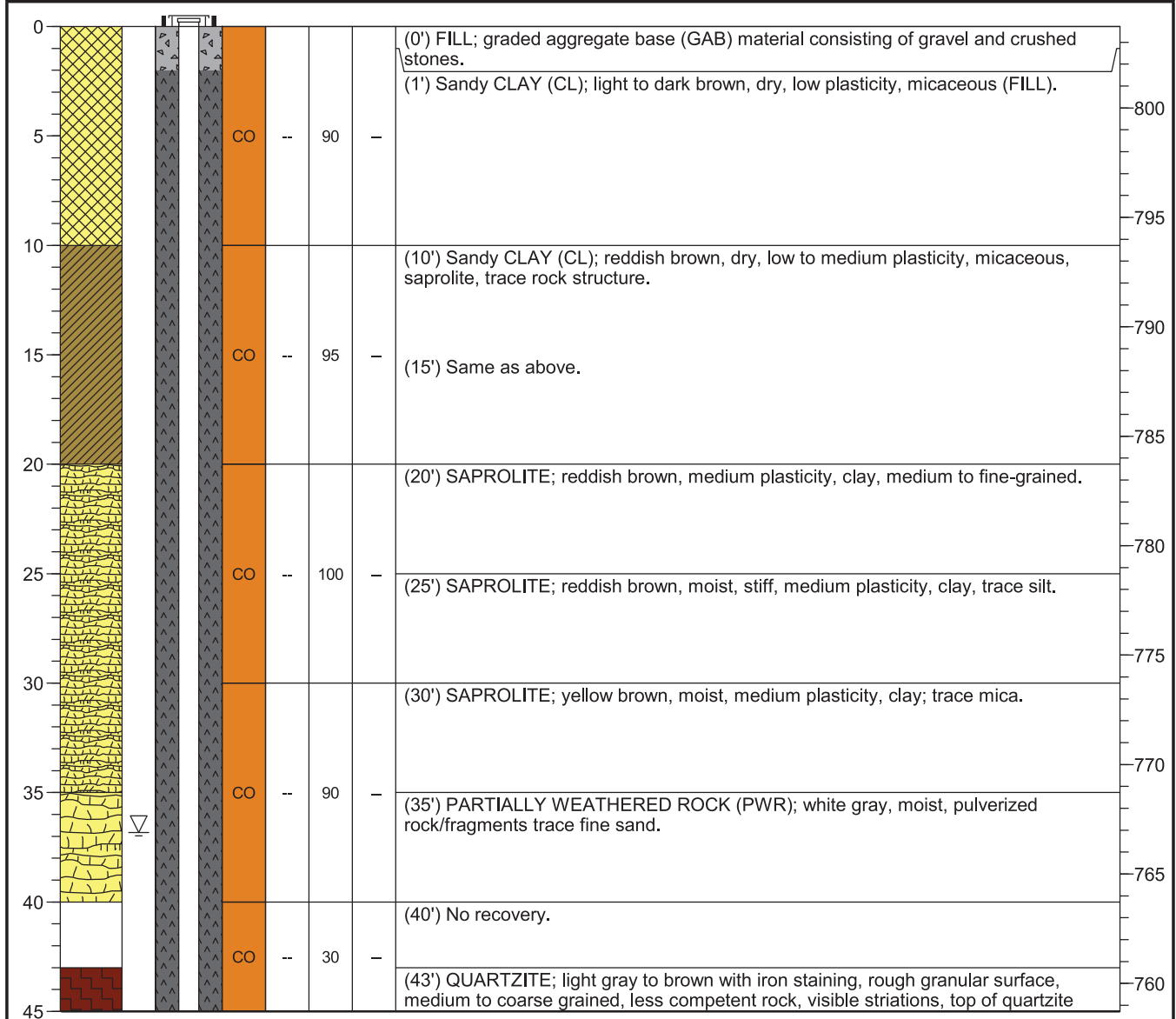
LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



Drilling Start Date: 10/21/2025	Boring Depth (ft): 85	Well Depth (ft bgs): 78.33
Drilling End Date: 10/22/2025	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 39.7	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150CC	Ground Surface Elev. (ft): 803.721	Screen Material: Sch 40 PVC U-Pack
Driller: M. Herron	Top of Casing Elev. (ft): 806.596	Seal Material(s): Grout, Bentonite
Logged By: A. Dwomoh	North,East (ft): 1243131.876, 2029522.99	Filter Pack: #20/40 Sand

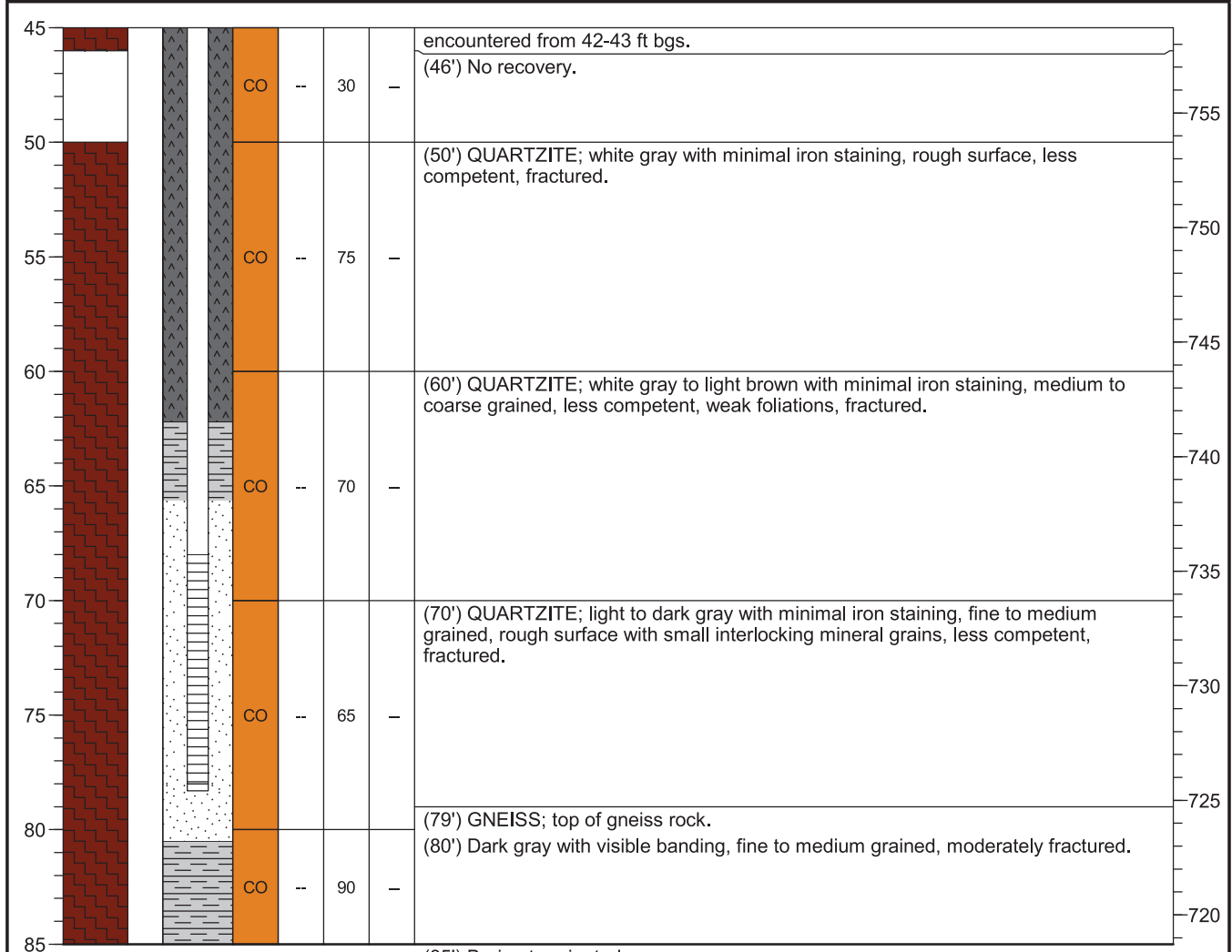
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring backfilled from 85-80.5 ft bgs with bentonite pellets prior to well installation. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 10/21/2025	Boring Depth (ft): 85	Well Depth (ft bgs): 78.33
Drilling End Date: 10/22/2025	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 39.7	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150CC	Ground Surface Elev. (ft): 803.721	Screen Material: Sch 40 PVC U-Pack
Driller: M. Herron	Top of Casing Elev. (ft): 806.596	Seal Material(s): Grout, Bentonite
Logged By: A. Dwomoh	North,East (ft): 1243131.876, 2029522.99	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
------------	-----------	-------------	-----------------	-------------	-------------	--------------	---------	------------------------------	-----------------------



NOTES: Boring backfilled from 85-80.5 ft bgs with bentonite pellets prior to well installation. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.



LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DATE STARTED 12/4/2014 COMPLETED 12/4/2014 SURF. ELEV. 809.33 COORDINATES: N:1242801.12 E:209115.75

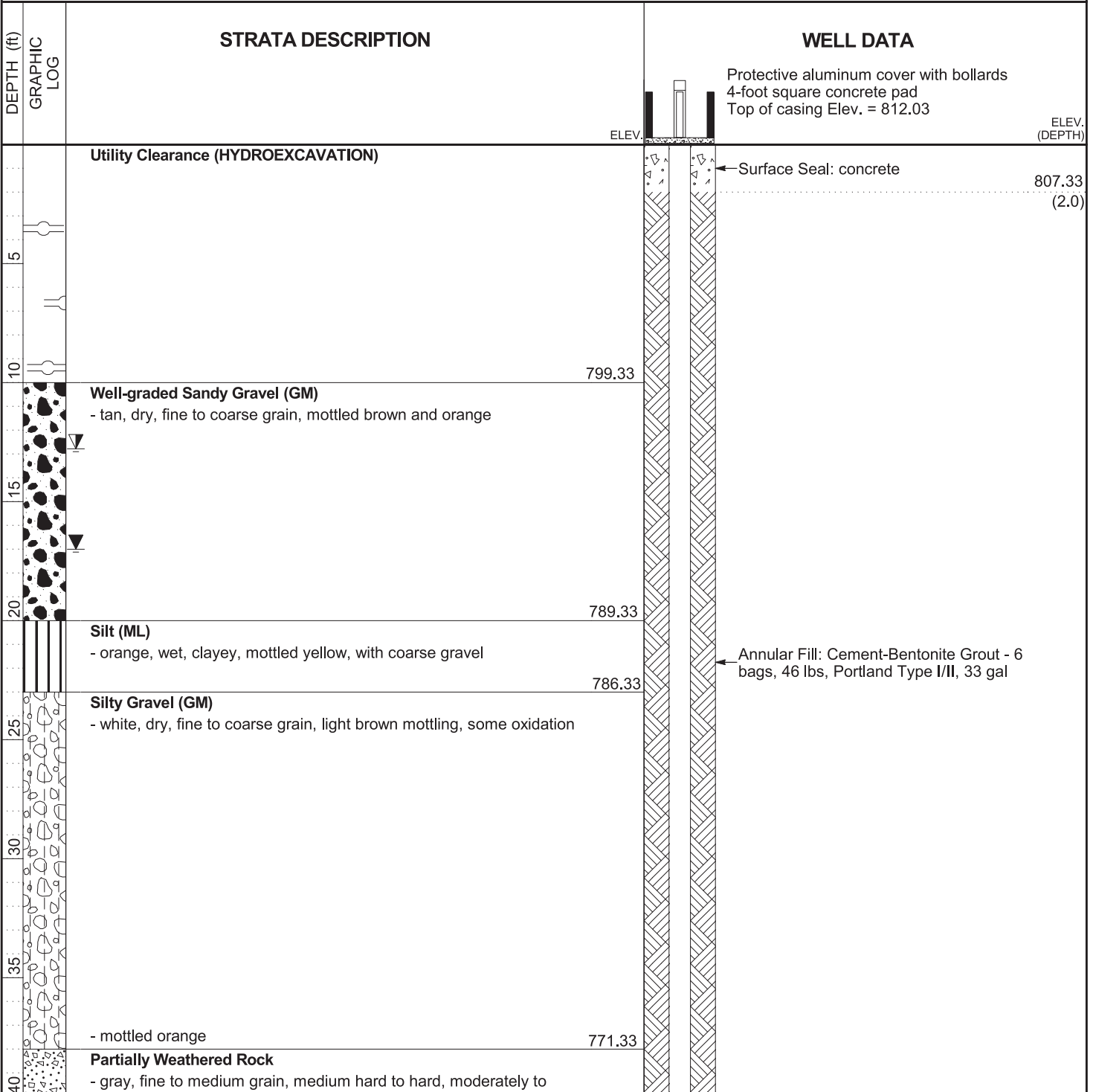
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 58 ft. GROUND WATER DEPTH: DURING _____ COMP. 17 ft. DELAYED 12.78 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)



LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION	ELEV. (CONTINUED)	WELL DATA	ELEV. (DEPTH)
45		highly weathered, with oxidation Partially Weathered Rock(Cont)		Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 812.03	767.83 (41.5)
50				Annular Seal: bentonite chips - 1 bag, 50 lbs, Baroid 3/8" chips	765.23 (44.1)
55				Filter: silica filter sand - 4.5 bags, 50 lbs, #1A filter media	760.93 (48.4)
				Well: 2" OD PVC (SCH 40)	
				Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
		Bottom of borehole at 58.0 feet.	751.33	Sump: 0.40 ft.	750.93

RECORD OF BOREHOLE WGWC10/APC-3D

SHEET 1 of 4

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 146.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/27/15
 DATE COMPLETED: 10/27/15

NORTHING: 1240971.96
 EASTING: 2026725.61
 GS ELEVATION: 809.61
 TOC ELEVATION: 812.38

DEPTH W.L.: 7.73' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/27/15
 TIME W.L.: 14:41

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 11.00 SILT; dry to moist, yellow to orange-red, some clay, some very fine sand, trace muscovite							<p>WELL CASING Interval: -2.5'-136' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 136'-146' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 134'-136' Type: #1 Sand Prepacked Filter</p> <p>FILTER PACK SEAL Interval: 131.5'-134' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-131.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	<p>WELL CONSTRUCTION DETAILS</p>
5	805	6.00: Shelby Tube Collected: 6'-8'	ML							
10	800	11.00 - 23.00 CLAYEY SILT; dry to moist, orange to red, 5-10% muscovite, trace black MnO, trace garnet, trace quartz, saprolite			798.61 11.00					
15	795		ML							
20	790				786.61 23.00					
25	785	23.00 - 37.00 SILT; moist, yellow brown, some clay, come very fine sand, layers of white CLAYEY SILT, 3" thick lense of weathered pegmatite material at 25', 39', and 42'								
30	780		ML							
35	775	36.00: Shelby Tube Collected: 36'-38'			772.61 37.00					
40	770	37.00 - 40.00 CLAYEY SILT; some weathered pegmatite material, white/pink weathered potassium feldspar and plagioclase	ML							
45	765	40.00 - 47.00 SILT; moist, yellow brown, some clay, come very fine sand, layers of white CLAYEY SILT, 3" thick lense of weathered pegmatitic material at 42'	ML		769.61 40.00					

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC10/APC-3D

SHEET 2 of 4

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 146.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/27/15
 DATE COMPLETED: 10/27/15

NORTHING: 1240971.96
 EASTING: 2026725.61
 GS ELEVATION: 809.61
 TOC ELEVATION: 812.38

DEPTH W.L.: 7.73' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/27/15
 TIME W.L.: 14:41

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
45			ML		762.61 47.00				<p>WELL CASING Interval: -2.5'-136' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 136'-146' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 134'-136' Type: #1 Sand Prepacked Filter</p> <p>FILTER PACK SEAL Interval: 131.5'-134' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-131.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
50	760	47.00 - 58.00 SAPROLITE; moist, grayish brown with some orange mineral oxidation, weathered muscovite schist, predominately weathered feldspars, 10-15% muscovite, <10% quartz								
55	755		ML		751.61 58.10					
60	750	58.00 - 58.10 1" black layer with gravel size quarts grains, silt sized black particles 58.10 - 88.00 moist, grayish brown with some orange mineral oxidation, weathered muscovite schist, predominately weathered feldspars								
65	745							Portland Type 1		
70	740									
75	735									
80	730									
85	725									
90	720	88.00 - 92.00 SANDY SILT; moist to wet, orange brown, sandy silt, very fine to fine sand, trace fine gravel, micaceous	ML		721.61 88.00					

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT | 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC10/APC-3D

SHEET 3 of 4

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 146.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/27/15
 DATE COMPLETED: 10/27/15

NORTHING: 1240971.96
 EASTING: 2026725.61
 GS ELEVATION: 809.61
 TOC ELEVATION: 812.38

DEPTH W.L.: 7.73' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/27/15
 TIME W.L.: 14:41

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
90		88.00 - 92.00 SANDY SILT; moist to wet, orange brown, sandy silt, very fine to fine sand, trace fine gravel, micaceous <i>(Continued)</i>	ML		717.61					<p>WELL CASING Interval: -2.5'-136' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 136'-146' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 134'-136' Type: #1 Sand Prepacked Filter</p> <p>FILTER PACK SEAL Interval: 131.5'-134' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-131.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
	715	92.00 - 96.00 SAPROLITE; moist, grayish brown with some orange mineral oxidation, weathered muscovite schist, predominantly feldspar, trace quartz, trace biotite, trace garnet	ML		92.00					
		96.00 - 97.00 SANDY SILT; moist to wet, orange brown, sandy silt, very fine to fine sand, trace fine gravel, micaceous	ML		713.61					
		97.00 - 106.00 SAPROLITE; moist, grayish brown with some orange mineral oxidation, weathered muscovite schist, predominantly feldspar, trace quartz, trace biotite, trace garnet	ML		96.00 712.61 97.00					
100	710		ML		703.61					
		106.00 - 116.00 NO RECOVERY			106.00					
	700									
		116.00 - 119.00 SAPROLITE ROCK; gametiferous, muscovite meta quartzite rock fragments up to 2.5" interbedded with weathered muscovite schist	TWR	▲ ▲ ▲ ▲	693.61 116.00					
		119.00 - 139.00 moist to wet, silty clay and silt, weathered garnet, muscovite, plagioclase, schist, trace quartz	TWR	▲ ▲ ▲ ▲	690.61 119.00					
120	690									
	685									
	680									
130	675									
		Log continued on next page								

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ - PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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





LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DATE STARTED 12/8/2014 COMPLETED 12/9/2014 SURF. ELEV. 821.44 COORDINATES: N:1240860.18 E:2025773.39

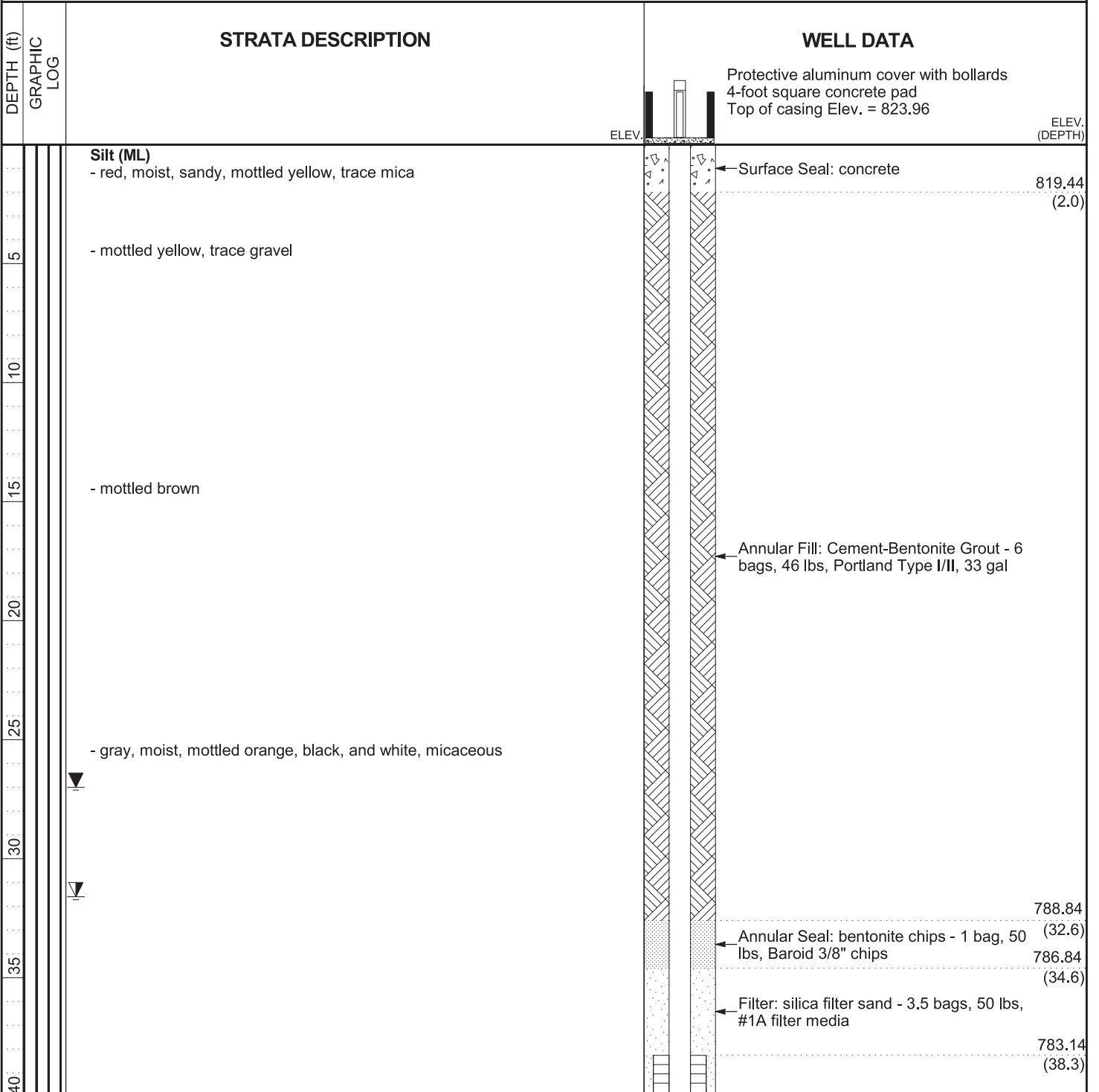
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T. Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 47 ft. GROUND WATER DEPTH: DURING _____ COMP. 27 ft. DELAYED 31.6 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PIANT_WANSLEY_ASH_POND_1 (2).GPJ



LOG OF TEST BORING AND WELL INSTALLATION

WGWC-11 (PZ-14)

PAGE 2 OF 2

ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

	DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	ELEV. (CONTINUED)	WELL DATA	ELEV. (DEPTH)
	45	Silt (ML)(Con't)	774.44	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 823.96 Well: 2" OD PVC (SCH 40) Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack	
		Bottom of borehole at 47.0 feet.		Sump: 0.40 ft.	773.14

RECORD OF BOREHOLE WGWC12/APC-4D

SHEET 1 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 77.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/22/15
 DATE COMPLETED: 10/22/15

NORTHING: 1240827.68
 EASTING: 2025755.99
 GS ELEVATION: 820.57
 TOC ELEVATION: 823.04

DEPTH W.L.: 20.1' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/22/15
 TIME W.L.: 08:05

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV.	SAMPLE NO.	TYPE	REC		
0	820	0.00 - 4.00 CLAYEY SILT; dry to moist, orange-red, <5% muscovite, <5% medium quartz grains, homogenous texture, no fabric	ML		816.57				<p>WELL CASING Interval: -2.5'-64' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 64'-74' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 61.5'-77" Type: #1 Sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 59'-61.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-59" Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
5	815	4.00 - 6.00 moist, yellow, orange, garnet, muscovite, plagioclase			4.00					
		6.00 - 7.00 dry to moist, orange-red, <5% muscovite, <5% medium quartz grains, homogenous texture, no fabric		6.00						
		7.00 - 17.00 SAPROLITE/TRANSITIONALLY WEATHERED ROCK; moist (7-49') to wet (49-56'), yellow orange to brown and orange, weathered garnet muscovite feldspar (plagioclase + K-spar) schist, metamorphic fabric more apparent at depth due to the material being less weathered Shelby Tube Collected: 16'-17'	TWR		7.00					
10	810				813.57					
		17.00 - 27.00 transitionally weathered rock, weathered garnet rich, with muscovite, feldspar, schist fabric			17.00					
15	805				803.57					
		27.00 - 37.00 less weathered, relict fabric evident			27.00					
20	800				793.57					
		37.00 - 56.00 transitionally weathered rock, moist to wet at 49 feet			37.00					
25	795				783.57					
30	790									
35	785									
40	780									
45		Log continued on next page								

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC13/APC-5D

SHEET 1 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 96.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/2/15
 DATE COMPLETED: 11/4/15

NORTHING: 1240610.93
 EASTING: 2024585.91
 GS ELEVATION: 807.32
 TOC ELEVATION: 809.78

DEPTH W.L.: 20.25' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/4/15
 TIME W.L.: 10:08

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 2.00 SILT; moist, orange overburden	ML		805.32				<p>WELL CASING Interval: -2.5'-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 73'-93' 3" Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 69.5'-96' Type: #1 Sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 66.5'-69.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-66.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
805		2.00 - 7.00 CLAYEY SILT; moist, brown, micaceous, trace garnets up to 1cm, materials are loose/soft	ML		2.00					
5										
800		7.00 - 22.00 SILTY SAND; moist to wet (18 - 26 feet), orange, brown and white (saprolite)	SM		800.32					
10										
795										
15										
790		16.00: Shelby Tube Collected: 16'-17'								
20										
785		22.00 - 26.00 SAPROLITE; weathered pegmatite	ML		785.32					
25										
780		26.00 - 28.00 trace quartz, wet			781.32					
30					26.00					
775		28.00 - 35.00 SILTY CLAY; moist, very light brown. metamorphic foliation present. trace gravel size quartzite rock fragments (saprolite)	CL		779.32					
35					28.00					
770		35.00 - 36.00 SAPROLITE-ROCK; weathered micaceous meta-quartzite	TWR		772.32					
40		36.00 - 46.00 ROCK; light brown quartzite with light orange oxidation, micaceous meta quartzite	BR		35.00					
45					771.32					
					36.00					

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

Log continued on next page

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC13/APC-5D

SHEET 2 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 96.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/2/15
 DATE COMPLETED: 11/4/15

NORTHING: 1240610.93
 EASTING: 2024585.91
 GS ELEVATION: 807.32
 TOC ELEVATION: 809.78

DEPTH W.L.: 20.25' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/4/15
 TIME W.L.: 10:08

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
45			BR		761.32					
760		46.00 - 56.00 more competent rock			46.00					WELL CASING Interval: -2.5'-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 73'-93' 3" Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 69.5'-96' Type: #1 Sand/ Prepack Filter FILTER PACK SEAL Interval: 66.5'-69.5' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-66.5' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
50										
755										
55					751.32					
750		56.00 - 87.00 light brown quartzite with light orange oxidation, micaceous meta quartzite			56.00					
60										
745										
65										
740										
70										
735			BR							
75										
730										
80										
725										
85										
720		87.00 - 96.00 grey and pink quartzite			720.32					
90					87.00					

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ - PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC13/APC-5D

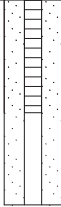
SHEET 3 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 96.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/2/15
 DATE COMPLETED: 11/4/15

NORTHING: 1240610.93
 EASTING: 2024585.91
 GS ELEVATION: 807.32
 TOC ELEVATION: 809.78

DEPTH W.L.: 20.25' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/4/15
 TIME W.L.: 10:08

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
90		87.00 - 96.00 grey and pink quartzite <i>(Continued)</i>		[Wavy Pattern]	711.32				<p>WELL CASING Interval: -2.5'-73' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 73'-93' 3" Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 69.5'-96' Type: #1 Sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 66.5'-69.5' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-66.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
715									
95									
710		Boring completed at 96.00 ft							
100									
705									
105									
700									
110									
695									
115									
690									
120									
685									
125									
680									
130									
675									
135									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



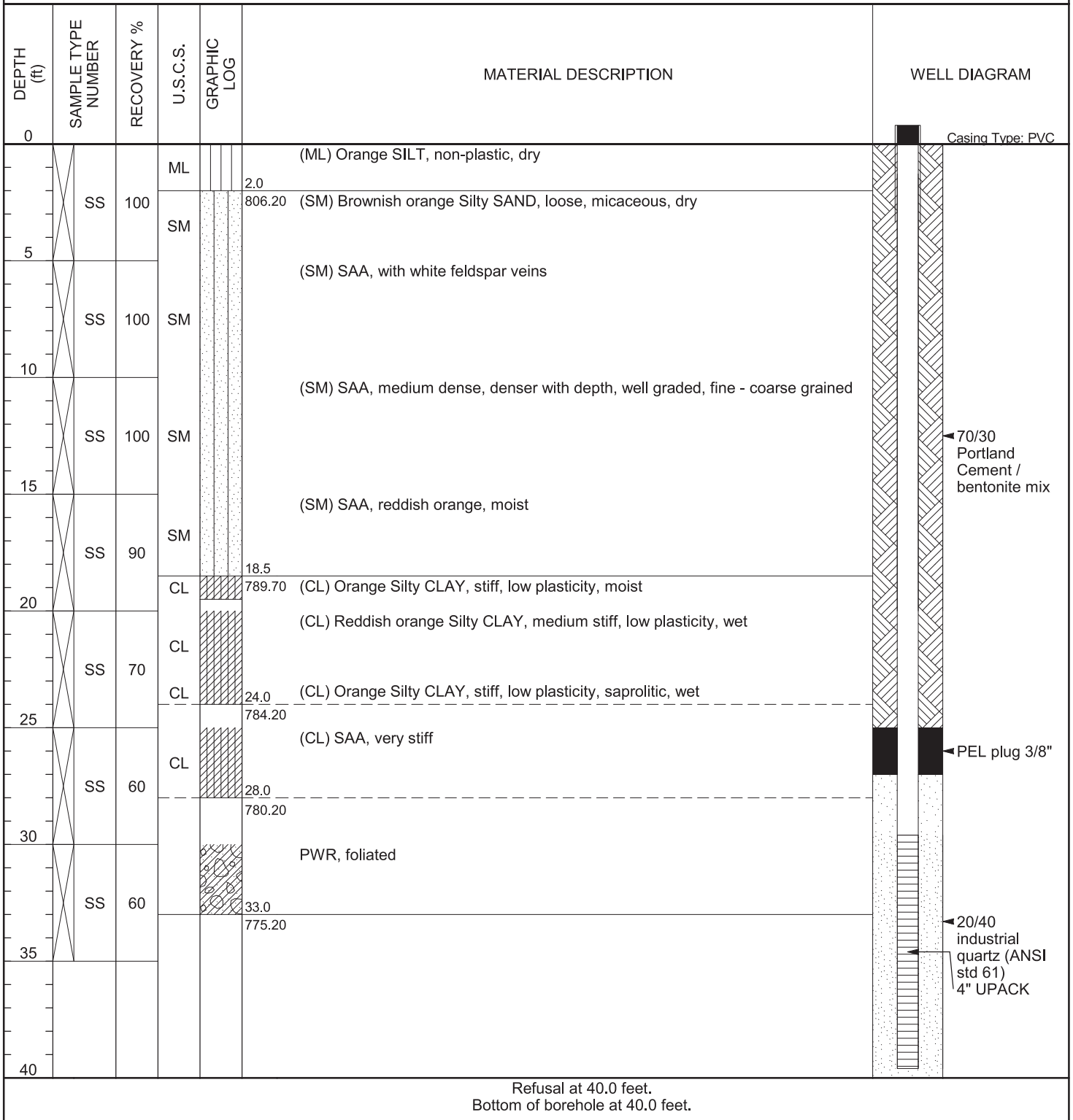
WELL NUMBER WGWC-14A

ERM
 3200 Windy Hill Rd Ste 1500W
 Atlanta, GA 30339
 Telephone: 678-486-2700

COORDINATES: N:1240604.54 E:2024599.63

CLIENT Southern Company Services, Inc.
 PROJECT NUMBER 0372406
 DATE STARTED 1/31/17 COMPLETED 1/31/17
 DRILLING CONTRACTOR Southern Company Services, Inc
 DRILLING METHOD Hollow Stem Auger 2"
 LOGGED BY MR CHECKED BY GEJ
 NOTES _____

PROJECT NAME Plant Wansley
 PROJECT LOCATION AP-1
 GROUND ELEVATION 808.20 HOLE SIZE 4.25 inches
 GROUND WATER LEVELS:
 AT TIME OF DRILLING ---
 AT END OF DRILLING --
 AFTER DRILLING ---



RECORD OF BOREHOLE WGWC15/APC-6D

SHEET 1 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 53.50 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/11/15
 DATE COMPLETED: 11/11/15

NORTHING: 1240483.16
 EASTING: 2023912.92
 GS ELEVATION: 802.03
 TOC ELEVATION: 804.69

DEPTH W.L.: 5.85' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/13/15
 TIME W.L.:

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 3.00 CLAYEY SILT; homogenous overburden, orange brown, dry to moist	ML		799.03				<p style="font-size: small;">WELL CASING Interval: -2.5'-43' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p style="font-size: small;">WELL SCREEN Interval: 43.5'-53.5' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p style="font-size: small;">FILTER PACK Interval: 41'-53.5' Type: #1 Sand/Prepack filter</p> <p style="font-size: small;">FILTER PACK SEAL Interval: 38.8'-41' Type: 3/8" Bentonite Pellets</p> <p style="font-size: small;">ANNULUS SEAL Interval: 0'-38.8' Type: Portland Type 1</p> <p style="font-size: small;">WELL COMPLETION Pad: 4"x4"x4" Protective Casing: Anodized Aluminum</p> <p style="font-size: small;">DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>	
800		3.00 - 5.00 CLAYEY SILT; homogenous overburden some coarse gravel, some subrounded weathered cobbles of quartzite, trace white and black staining, orange brown, dry to moist			3.00					
5		5.00 - 7.00 CLAYEY SILT; homogenous overburden, orange brown, black foliations, moist, soft			5.00					
795		7.00 - 9.00 SILTY SAND; grey/brown, silty sand to clayey sand, moist Shelby Tube Collected: 7-9'	SM		7.00					
		9.00 - 11.00 SILTY SAND; with some gravel, subangular, slightly weathered quartzite; greyish brown, moist			9.00					
10		11.00 - 14.00 GRAVELLY CLAYEY SILT; fine to coarse quartzite gravel, some medium coarse sand, trace black, brown and white micaceous foliations; greyish brown	MLG		11.00					
790		14.00 - 16.00 SILTY CLAY; micaceous, grey, trace brown and black foliations, dry, soft to firm	CL		14.00					
15		16.00 - 22.00 CLAYEY GRAVEL; fine to coarse gravel and cobbles, some white quartzite, red, orange and black staining, brown silty clay, moist Shelby Tube Collected: 17.1'-17.5'	GC		16.00					
785		22.00 - 24.50 TRANSITIONALLY WEATHERED ROCK/SAPROLITE; cobble and pulverized quartzite	TWR		22.00					
25		24.50 - 27.00 weathered quartzose schist, trace fine pyrite, drill pulverized rock into grey powder, some 3-4" cobbles			24.50					
775		27.00 - 29.00 weathered, quartzose gravel, some grey clay			27.00					
30		29.00 - 30.00 weathered, pulverized schist, wet			29.00					
770		30.00 - 33.00 weathered, quartzose gravel, some grey clay, wet			30.00					
35		33.00 - 37.00 BEDROCK; quartzose schist/gneiss, large garnets, green amphibole, mica, black hornblende/biotite, white feldspar	BR		33.00					
765		37.00 - 43.00 various sizes of mafic gneiss and quartzose schist, weathered			37.00					
40		43.00 - 53.50 mafic gneiss, fine to coarse grey gravel, small weathered cobbles, bedrock			43.00					
760					759.03					
45					769.03					

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ - PIEDMONT.GDT 9/29/17

Log continued on next page

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: David Wilcox

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



RECORD OF BOREHOLE WGWC15/APC-6D


SHEET 2 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 53.50 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/11/15
 DATE COMPLETED: 11/11/15

NORTHING: 1240483.16
 EASTING: 2023912.92
 GS ELEVATION: 802.03
 TOC ELEVATION: 804.69

DEPTH W.L.: 5.85' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/13/15
 TIME W.L.:

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
45		43.00 - 53.50 mafic gneiss, fine to coarse grey gravel, small weathered cobbles, bedrock (<i>Continued</i>)						#1 Sand — 0.010" slot screen	<p>WELL CASING Interval: -2.5'-43' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 43.5'-53.5' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 41'-53.5' Type: #1 Sand/Prepack filter</p> <p>FILTER PACK SEAL Interval: 38.8'-41' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-38.8' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
755					748.53				
50		Boring completed at 53.50 ft							
750									
55									
745									
60									
740									
65									
735									
70									
730									
75									
725									
80									
720									
85									
715									
90									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: David Wilcox

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



RECORD OF BOREHOLE WGWC16/APC-6S

SHEET 1 of 1

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 32.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/11/15
 DATE COMPLETED: 11/11/15

NORTHING: 1240480.46
 EASTING: 2023903.77
 GS ELEVATION: 801.72
 TOC ELEVATION: 804.21

DEPTH W.L.: 5.99' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/13/15
 TIME W.L.:

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
0		0.00 - 3.00 CLAYEY SILT (ML); Trace mica flakes, orange brown, homogenous, moist (wet from previous drilling), firm	ML		798.72				<p style="font-size: small;">Well Construction Details: WELL CASING: Interval: -2.5'-23', Material: Schedule 40 PVC, Diameter: 2", Joint Type: Threaded WELL SCREEN: Interval: -22'-32', Material: Schedule 40 PVC, Diameter: 2", Slot Size: 0.010", End Cap: Schedule 40 PVC FILTER PACK: Interval: 20'-32', Type: #1 Sand/Prepack Filter FILTER PACK SEAL: Interval: 17.5'-20', Type: 3/8" Bentonite Pellets ANNULUS SEAL: Interval: 0'-17.5', Type: Type 1 Portland WELL COMPLETION: Pad: 4"x4"x4", Protective Casing: Anodized Aluminum DRILLING METHODS: Soil Drill: 4-inch Sonic, Rock Drill: 4-inch Sonic</p>	
800		3.00 - 5.00 trace coarse gravel, trace mica flakes, light and trace foliations, firm gravel-subrounded quartzite			3.00					
5		5.00 - 7.00 SILTY CLAY (ML); trace coarse sand (black, subrounded, firm), orange brown, some light brown and black foliation, moist	ML		5.00					
795		7.00 - 9.00 SILTY SAND (SM); poorly graded, fine to coarse, angular, white quartzite, some clay, orange brown, wet Shelby Tube Collected: 7'-9"	SM		7.00					
10		9.00 - 11.00 CLAYEY SILT (ML); saprolite, trace coarse sand, trace fine gravel, stained black and white quartzite, black, dark brown and light brown foliations, some mica flakes, dry to moist			9.00					
790		11.00 - 15.00 CLAYEY SILT with GRAVEL; fine to coarse brown gravel, trace rounded cobbles, trace medium coarse sand, quartzite stained black and red, some black foliations, moist	ML		11.00					
15		15.00 - 17.00 SILTY SAND; trace fine gravel (quartzite, quartz and schist), orange brown, dry to moist	SM		15.00					
785		17.00 - 20.00 SILTY CLAY (ML); gravelly, fine to coarse gravel, cobbles of white quartzite, trace mica flakes, red, orange and black stringers, moist	ML		17.00					
20		20.00 - 22.00 SILT (ML); micaceous, trace to large cobbles of quartzite, angular, white/black/orange weathered schist	MLG		20.00					
780		22.00 - 26.00 SAPROLITE (ML); pulverized quartzose schist, some cobbles of quartzose schist with coarse sand, orange staining, dry			22.00					
25		26.00 - 26.30 GRAVELLY SILT (MLG); brown, weathered micaceous schist, small fracture with fine gravel, dark brown, red brow, orange foliations, moist	ML		26.00					
775		26.30 - 27.00 SILT (ML); micaceous, grey silt, moist	TWR		26.30					
30		27.00 - 28.00 SAPROLITE			27.00					
770		28.00 - 29.00 TRANSITIONALLY WEATHERED ROCK; saprolite and gravel, quartzose schist, some cobbles, dry			28.00					
35		29.00 - 30.00 sand and gravel, coarse, weathered quartzose schist, small to large cobbles, dry			29.00					
765		30.00 - 31.00 sand and gravel, some grey quartzose schist, some silt, fine to coarse sand, fine to coarse gravel, trace cobbles, angular			30.00					
40		31.00 - 32.00 sand and gravel, saprolite and coarse, weathered quartzose schist, small to large cobbles, some sand, dry			31.00					
45		Boring completed at 32.00 ft								

BOREHOLE RECORD: WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT | 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: David Wilcox

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



RECORD OF BOREHOLE WGWC17/APC-7

SHEET 1 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 97.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/6/15
 DATE COMPLETED: 11/6/15

NORTHING: 1240052.06
 EASTING: 2022623.82
 GS ELEVATION: 813.36
 TOC ELEVATION: 816.00

DEPTH W.L.: 23' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/6/15
 TIME W.L.: 08:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
0		0.00 - 13.00 CLAYEY SILT; moist, orange red and orange brown, mottled, homogenous, soft.	ML					WELL CASING Interval: -2.5'-83' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded WELL SCREEN Interval: 83'-93' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 81'-94' Type: #1 sand/ Prepack Filter FILTER PACK SEAL Interval: 78.5'-81' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-78.5' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4' Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic	Portland Tpe 1
810		7.00: Shelby Tube Collected: 7-9'							
5									
805									
10									
800		13.00 - 17.00 CLAYEY SILT; dry to moist, light brown to orange, mottled, relict metamorphic texture, fine to medium sand, light brown	ML		800.36				
15					13.00				
795		17.00 - 27.00 SILTY SAND; Fine to medium, light brown Shelby Tube Collected: 17'-19'	SM						
790									
25									
785		27.00 - 37.00 CLAYEY SILT; dry to moist, light brown to orange, mottled, relict metamorphic texture, fine to medium sand, light brown	ML		17.00				
30									
780									
35									
775		37.00 - 42.00 CLAYEY SILT and SILT; dry to moist, brown and grey, metamorphic texture observed, predominantly feldspar, varying amounts of quartz (<5-15%), biotite and muscovite (5-15%), saprolite			776.36				
40					37.00				
770		42.00 - 47.00 NO RECOVERY; not competent (soil washout)			771.36				
45					42.00				

Log continued on next page

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ - PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC17/APC-7

SHEET 2 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 97.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/6/15
 DATE COMPLETED: 11/6/15

NORTHING: 1240052.06
 EASTING: 2022623.82
 GS ELEVATION: 813.36
 TOC ELEVATION: 816.00

DEPTH W.L.: 23' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/6/15
 TIME W.L.: 08:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE				SAMPLES			MONITORING WELL/PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE	REC		
45		42.00 - 47.00 NO RECOVERY; not competent (soil washout) <i>(Continued)</i>			766.36					<p>WELL CASING Interval: -2.5'-83' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 83'-93' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 81'-94' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 78.5'-81' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-78.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
765		47.00 - 53.00 CLAYEY SILT and SILT; dry to moist, brown and grey, metamorphic texture observed, predominantly feldspar, varying amounts of quartz (<5-15%), biotite and muscovite (5-15%), saprolite	ML		47.00					
50					760.36					
760		53.00 - 54.00 SILT; grey silt, weathered quartzite and gneiss, trace black laminations, chunks of silt, speckled greywacke	ML		53.00					
55		54.00 - 57.00 SILT; saprolitic texture more predominant			759.36					
					54.00					
					756.36					
755		57.00 - 59.00 SILT; dry, dark brown silt, some fine coarse sand, white quartz/feldspar, some thin laminations of quartzite			57.00					
					754.36					
60		59.00 - 67.00 TRANSITIONALLY WEATHERED ROCK; clayey silt, weathered quartzite, trace black minerals			59.00					
750			TWR							
65					746.36					
745		67.00 - 71.00 CLAYEY SAND/SILTY SAND; large cobbles of gneiss and quartzite	SC-SM		67.00					
70					742.36					
740		71.00 - 76.00 CLAYEY SAND; moist, brown, some orange silty sand, muscovite, weathered quartzite			71.00					
75		75.00: 75'-76' large cobbles present			737.36					
735		76.00 - 82.00 BEDROCK; grey and white, fractured quartzite, some light orange from mineral oxidation, staining present	BR		76.00					
80					731.36					
730		82.00 - 93.00 quartzite			82.00					
85										
725										
90		Log continued on next page								

BOREHOLE RECORD: WANSLEY BORING LOGS.GPJ - PIEDMONT.GDT: 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC17/APC-7

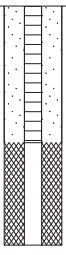
SHEET 3 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 97.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/6/15
 DATE COMPLETED: 11/6/15

NORTHING: 1240052.06
 EASTING: 2022623.82
 GS ELEVATION: 813.36
 TOC ELEVATION: 816.00

DEPTH W.L.: 23' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/6/15
 TIME W.L.: 08:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
90		82.00 - 93.00 quartzite (Continued)			720.36			 <p style="font-size: small; margin-top: 5px;">3/8" Bentonite Pellets</p>	<p>WELL CASING Interval: -2.5'-83' Material: Schedule 40 PVC Diameter: 6" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 83'-93' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 81'-94' Type: #1 sand/ Prepack Filter</p> <p>FILTER PACK SEAL Interval: 78.5'-81' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-78.5' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic</p>
720		93.00 - 97.00 SCHIST; fractured quartzitic schist	BR		93.00				
95		Boring completed at 97.00 ft			716.36				
715									
100									
710									
105									
705									
110									
700									
115									
695									
120									
690									
125									
685									
130									
680									
135									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC19/APC-2

SHEET 1 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 92.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/28/15
 DATE COMPLETED: 10/28/15

NORTHING: 1241851.51
 EASTING: 2028949.19
 GS ELEVATION: 780.60
 TOC ELEVATION: 783.42

DEPTH W.L.: 20.5' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/28/15
 TIME W.L.: 13:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
0	780	0.00 - 27.00 SILTY SAND; reddish orange overburden	SM					WELL CASING Interval: -2.5'-82' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 82'-92' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 79.1'-92' Type: #1 Sand/Prepacked Filter FILTER PACK SEAL Interval: 77'-79.1' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-77' Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: Hydrovac/4-inch Sonic Rock Drill: 4-inch Sonic	
5	775								
10	770								
15	765								
20	760	22.00: Shelby Tube Collected: 22'-24'			753.60				
25	755								
30	750	27.00 - 30.00 SILT; dry to moist, light brown, brown, orange brown and grey. Trace white feldspar and black MnO laminations, trace fine gravel, quartz-rich lense from 30-33' (35% quartz). some weathered schist (saprolite)	ML		27.00				
		30.00 - 33.00 some severely weathered gneiss				750.60	30.00		
		33.00 - 60.00 dry to moist, light brown, brown, orange brown and grey. Trace white feldspar and black MnO laminations, trace fine gravel, quartz-rich lense from 30-33' (35% quartz). some weathered schist (saprolite)				747.60	33.00		
35	745						Portland Type 1		
40	740								
45		Log continued on next page							

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



RECORD OF BOREHOLE WGWC19/APC-2



SHEET 3 of 3

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 92.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 10/28/15
 DATE COMPLETED: 10/28/15

NORTHING: 1241851.51
 EASTING: 2028949.19
 GS ELEVATION: 780.60
 TOC ELEVATION: 783.42

DEPTH W.L.: 20.5' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 10/28/15
 TIME W.L.: 13:10

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
90	690	87.00 - 92.00 ROCK; wet, dark grey micaceous schist <i>(Continued)</i>	BR		688.60				<p>WELL CASING Interval: -2.5'-82' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded</p> <p>WELL SCREEN Interval: 82'-92' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC</p> <p>FILTER PACK Interval: 79.1'-92' Type: #1 Sand/Prepacked Filter</p> <p>FILTER PACK SEAL Interval: 77'-79.1' Type: 3/8" Bentonite Pellets</p> <p>ANNULUS SEAL Interval: 0'-77' Type: Portland Type 1</p> <p>WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum</p> <p>DRILLING METHODS Soil Drill: Hydrovac/4-inch Sonic Rock Drill: 4-inch Sonic</p>
		Boring completed at 92.00 ft							
95	685								
100	680								
105	675								
110	670								
115	665								
120	660								
125	655								
130	650								
135									

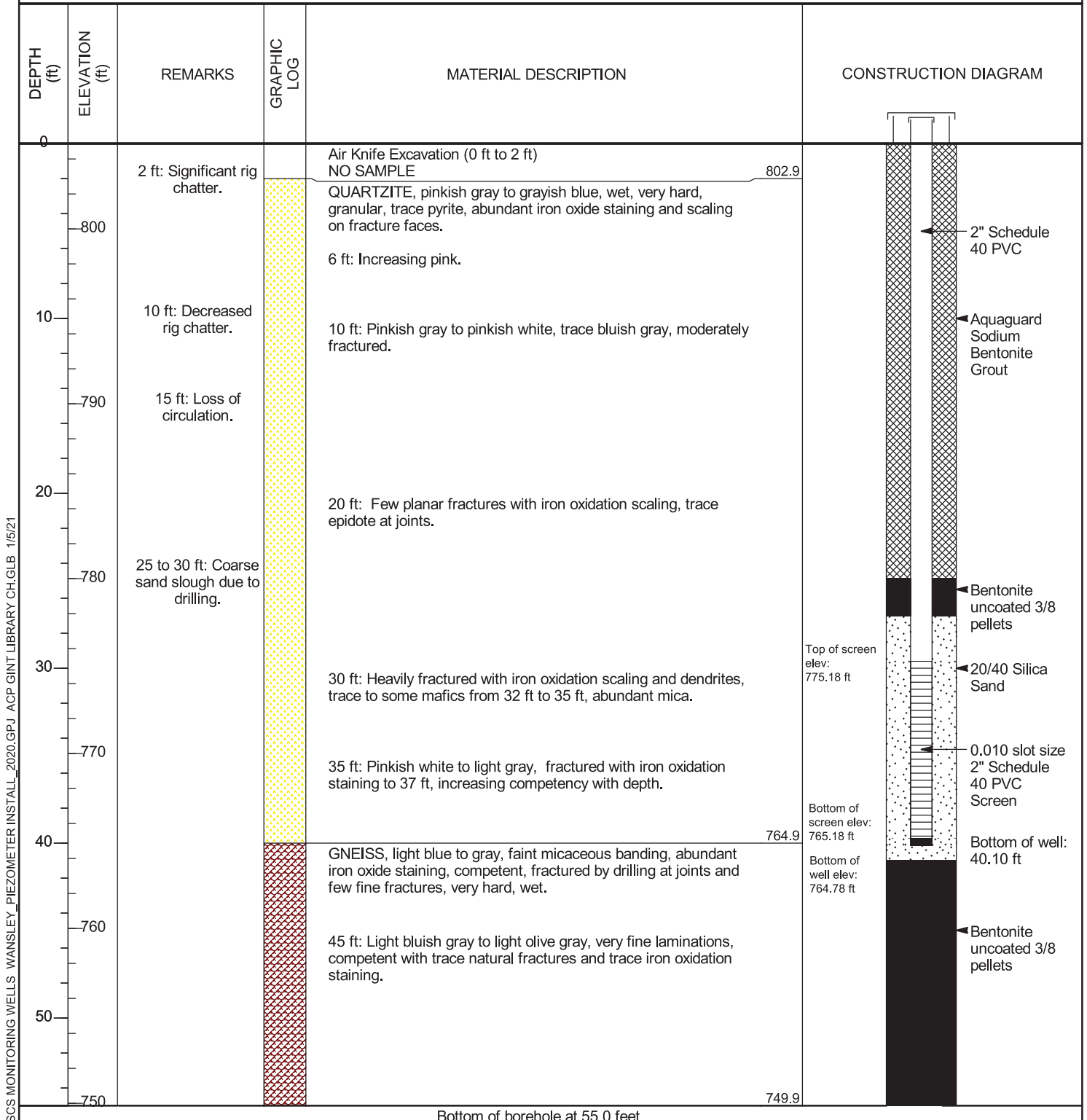
BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



CLIENT Southern Company Services	PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327	PROJECT LOCATION Plant Wansley AP-1
DATE STARTED 9/29/20	COMPLETED 9/29/20
DRILLER Cascade Drilling	NORTHING 1243350.76 ft
DRILLING METHOD Sonic	EASTING 2029769.43 ft
SAMPLING METHOD 4 in. core 6 in. override	GROUND ELEVATION 804.88 ft
RIG TYPE Terrasonic 1051181	BORING DIAMETER 6 in.
	TOP OF CASING ELEVATION 807.95 ft
	GEOPHYSICAL CONTRACTOR ---
	LOGGED BY A. Ramsey
	CHECKED BY A. Reimer



SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21

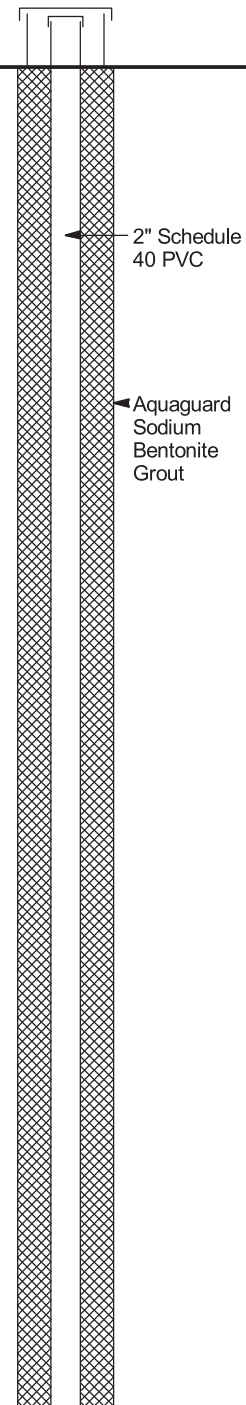


Geosyntec Consultants
 1255 Roberts Boulevard
 Kennesaw, GA 30144

CLIENT <u>Southern Company Services</u>	PROJECT NAME <u>Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation</u>
PROJECT NUMBER <u>GW7327</u>	PROJECT LOCATION <u>Plant Wansley AP-1</u>
DATE STARTED <u>10/2/20</u> COMPLETED <u>10/2/20</u>	NORTHING <u>1242139.33 ft</u> EASTING <u>2028512.65 ft</u>
DRILLER <u>Cascade Drilling</u>	GROUND ELEVATION <u>831.79 ft</u> BORING DIAMETER <u>6 in.</u>
DRILLING METHOD <u>Sonic</u>	TOP OF CASING ELEVATION <u>834.41 ft</u>
SAMPLING METHOD <u>4 in. core 6 in. override</u>	GEOPHYSICAL CONTRACTOR <u>---</u>
RIG TYPE <u>Terrasonic 1051181</u>	LOGGED BY <u>A. Ramsey</u> CHECKED BY <u>A. Reimer</u>

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0				Air Knife Excavation (0 ft to 10 ft) NO SAMPLE	
5					
10				NO RECOVERY (10 ft to 17 ft)	
15					
20					
25					
30					
35					

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21



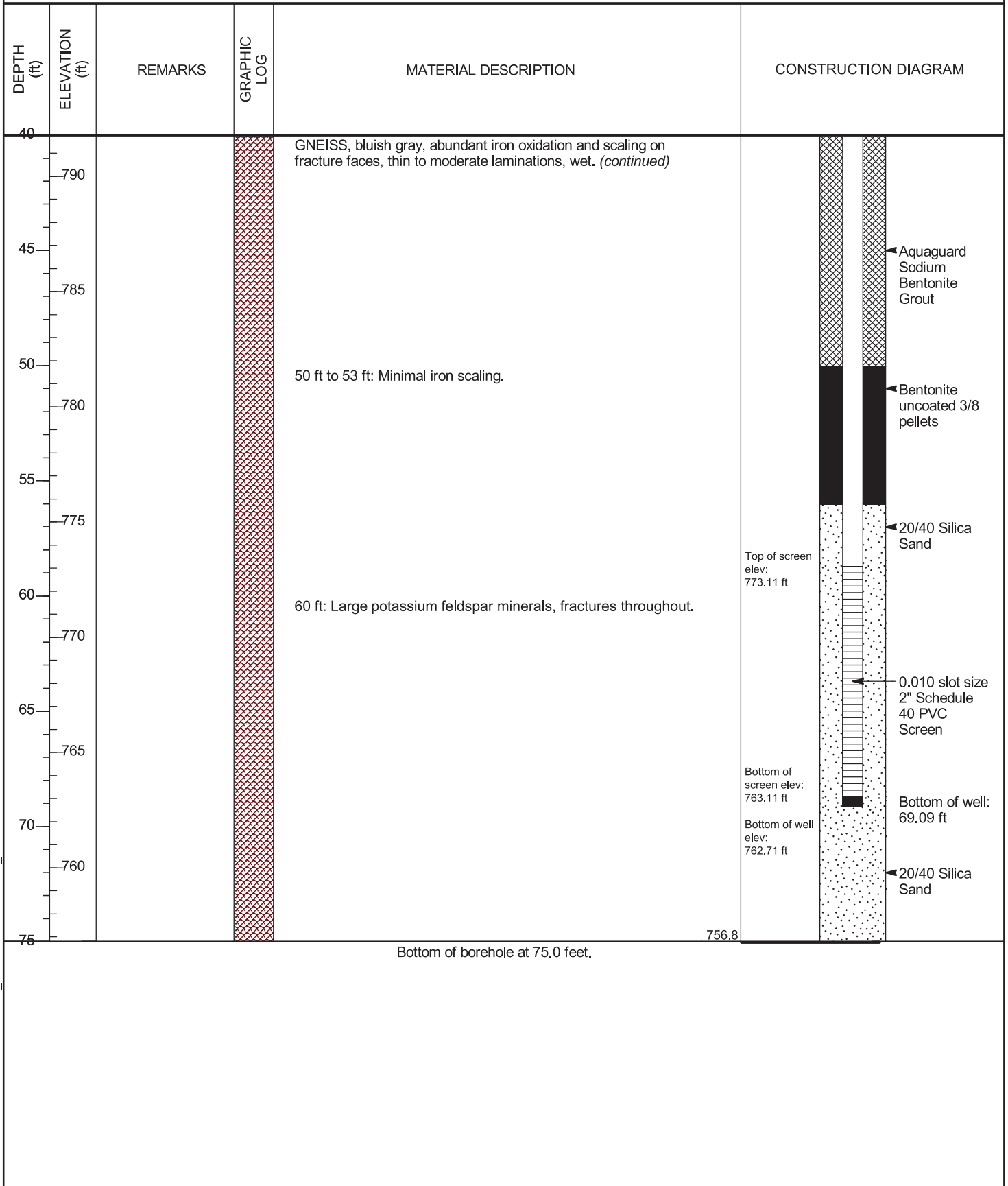
CLIENT Southern Company Services

PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation

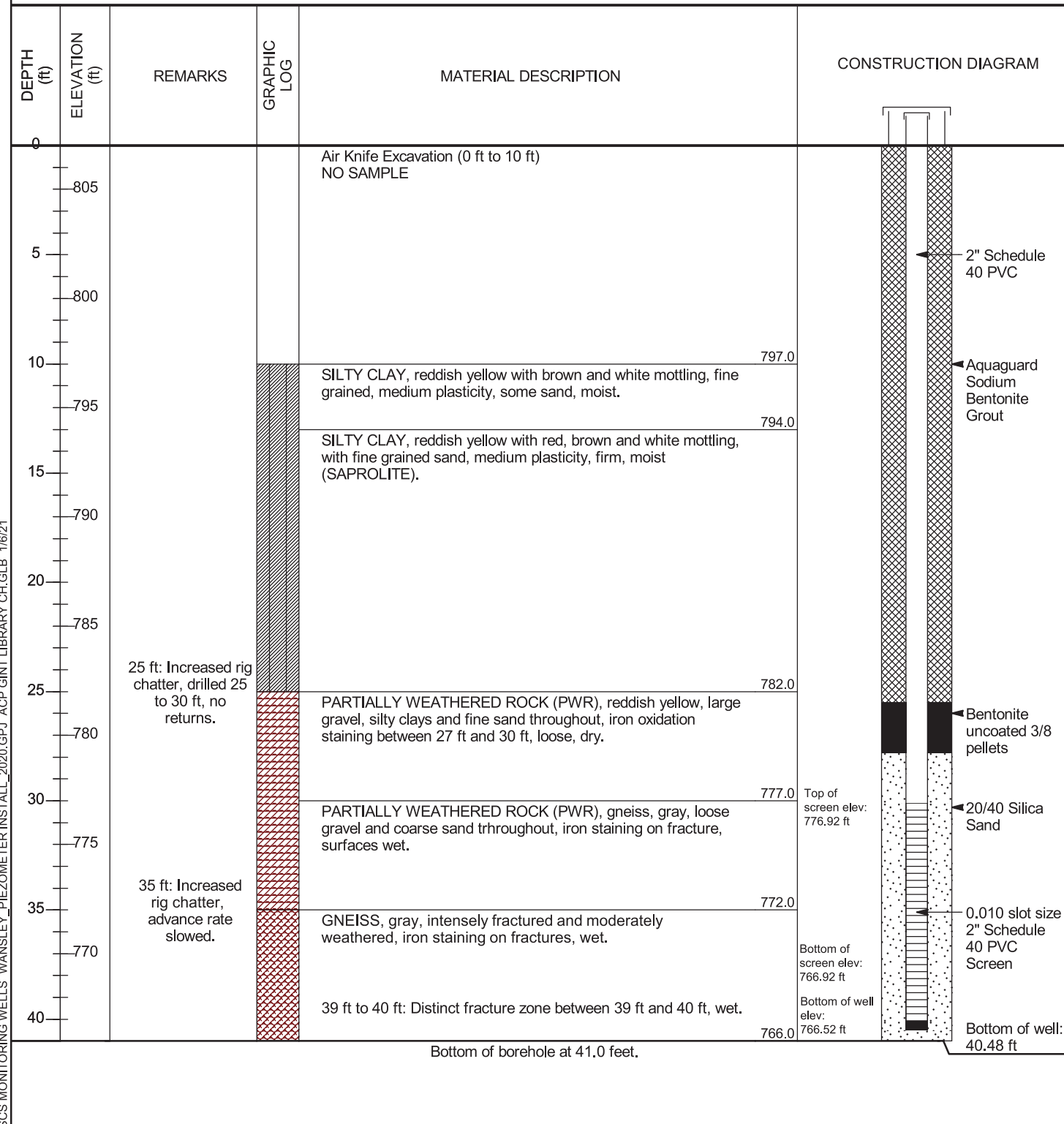
PROJECT NUMBER GW7327

PROJECT LOCATION Plant Wansley AP-1

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21



CLIENT Southern Company Services	PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327	PROJECT LOCATION Plant Wansley AP-1
DATE STARTED 10/18/20 COMPLETED 10/18/20	NORTHING 1241695.25 ft EASTING 2028116.05 ft
DRILLER Cascade Drilling	GROUND ELEVATION 807.00 ft BORING DIAMETER 6 in.
DRILLING METHOD Sonic	TOP OF CASING ELEVATION 810.37 ft
SAMPLING METHOD 4 in. core 6 in. override	GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181	LOGGED BY T. Kessler CHECKED BY A. Reimer

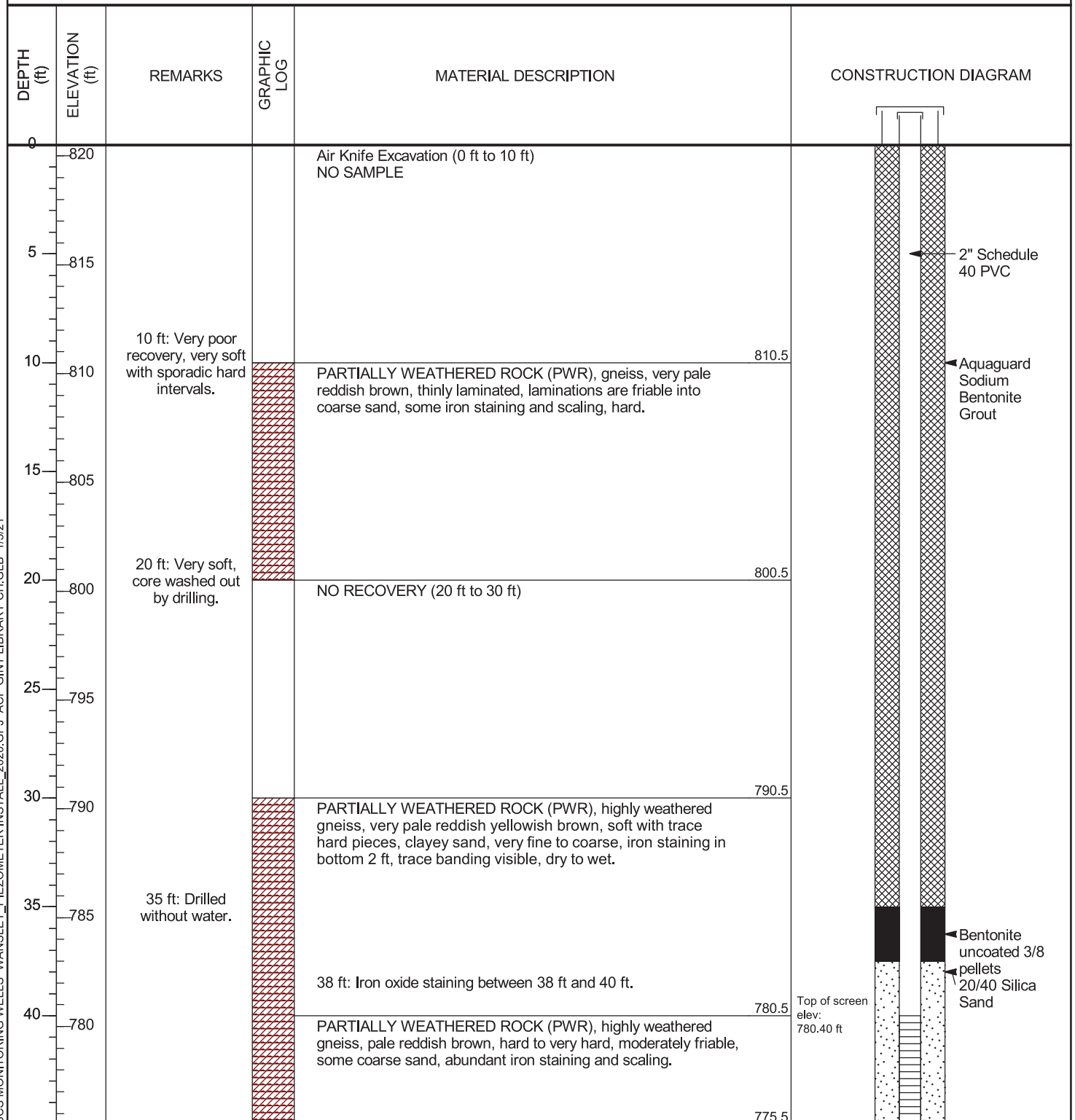


SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY.CH.GLB 1/6/21

CLIENT Southern Company Services
PROJECT NUMBER GW7327
DATE STARTED 10/4/20 **COMPLETED** 10/4/20
DRILLER Cascade Drilling
DRILLING METHOD Sonic
SAMPLING METHOD 4 in. core 6 in. override
RIG TYPE Terrasonic 1051181

PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT LOCATION Plant Wansley AP-1
NORTHING 1240769.79 ft **EASTING** 2027414.58 ft
GROUND ELEVATION 820.50 ft **BORING DIAMETER** 6 in.
TOP OF CASING ELEVATION 823.80 ft
GEOPHYSICAL CONTRACTOR ---
LOGGED BY A. Ramsey **CHECKED BY** A. Reimer

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21



(Continued Next Page)

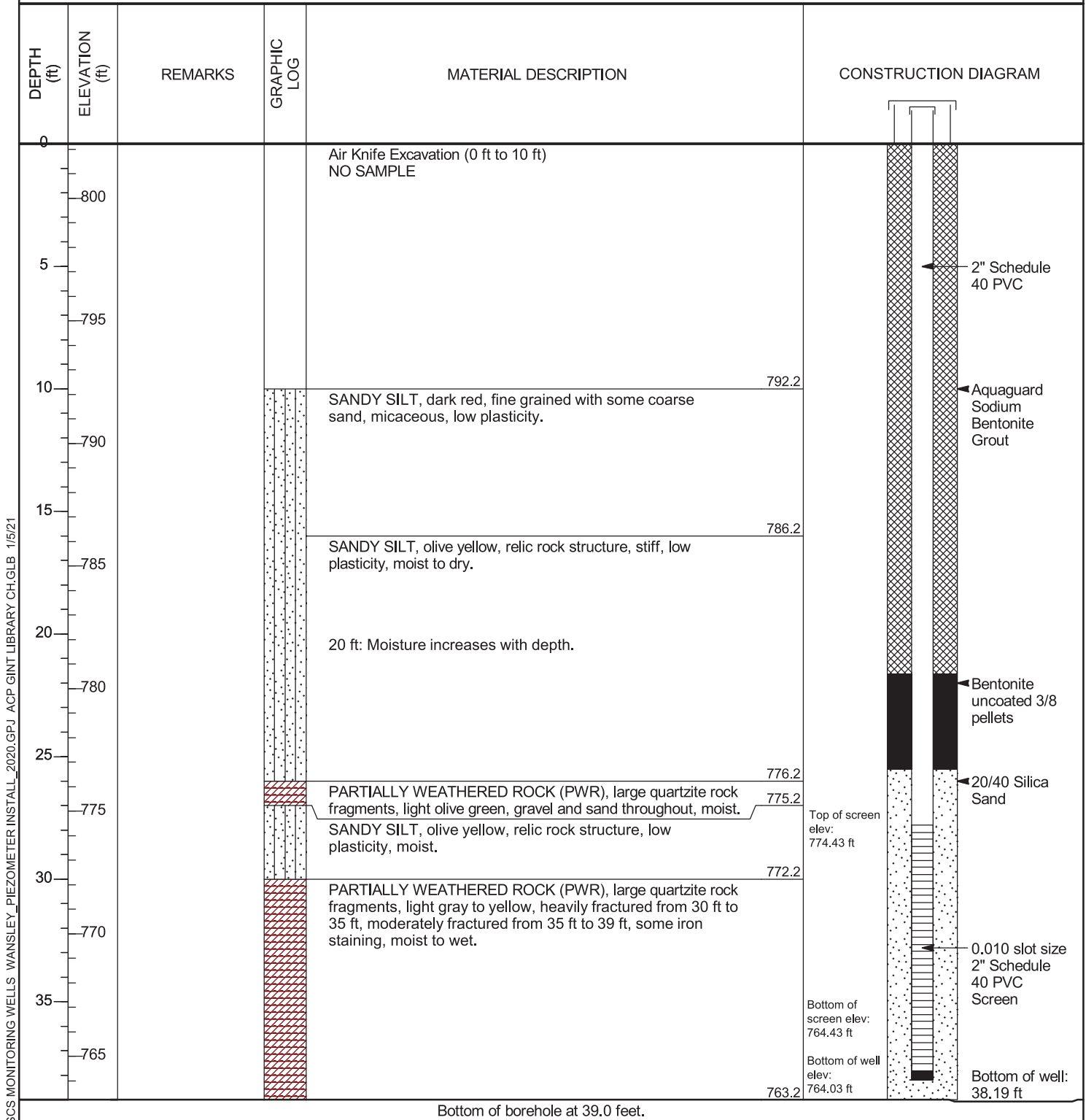
CLIENT Southern Company Services **PROJECT NAME** Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327 **PROJECT LOCATION** Plant Wansley AP-1

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
45	775			PARTIALLY WEATHERED ROCK (PWR), gneiss, with trace very hard schistose gneiss fragments and clayey sandy silt, pale reddish brown, banded, micaceous, non plastic, some iron staining, hard, moist to dry.	 0.010 slot size 2" Schedule 40 PVC Screen Bottom of screen elev: 770.40 ft Bottom of well elev: 770.00 ft Bottom of well: 50.50 ft Bentonite uncoated 3/8 pellets
50	770				
55	765			SCHIST, black, very hard, thinly laminated.	
60	760				760.5
65	755			GNEISS, pink, very pale brown, massive with some thin laminations.	
70	750				
75					745.5

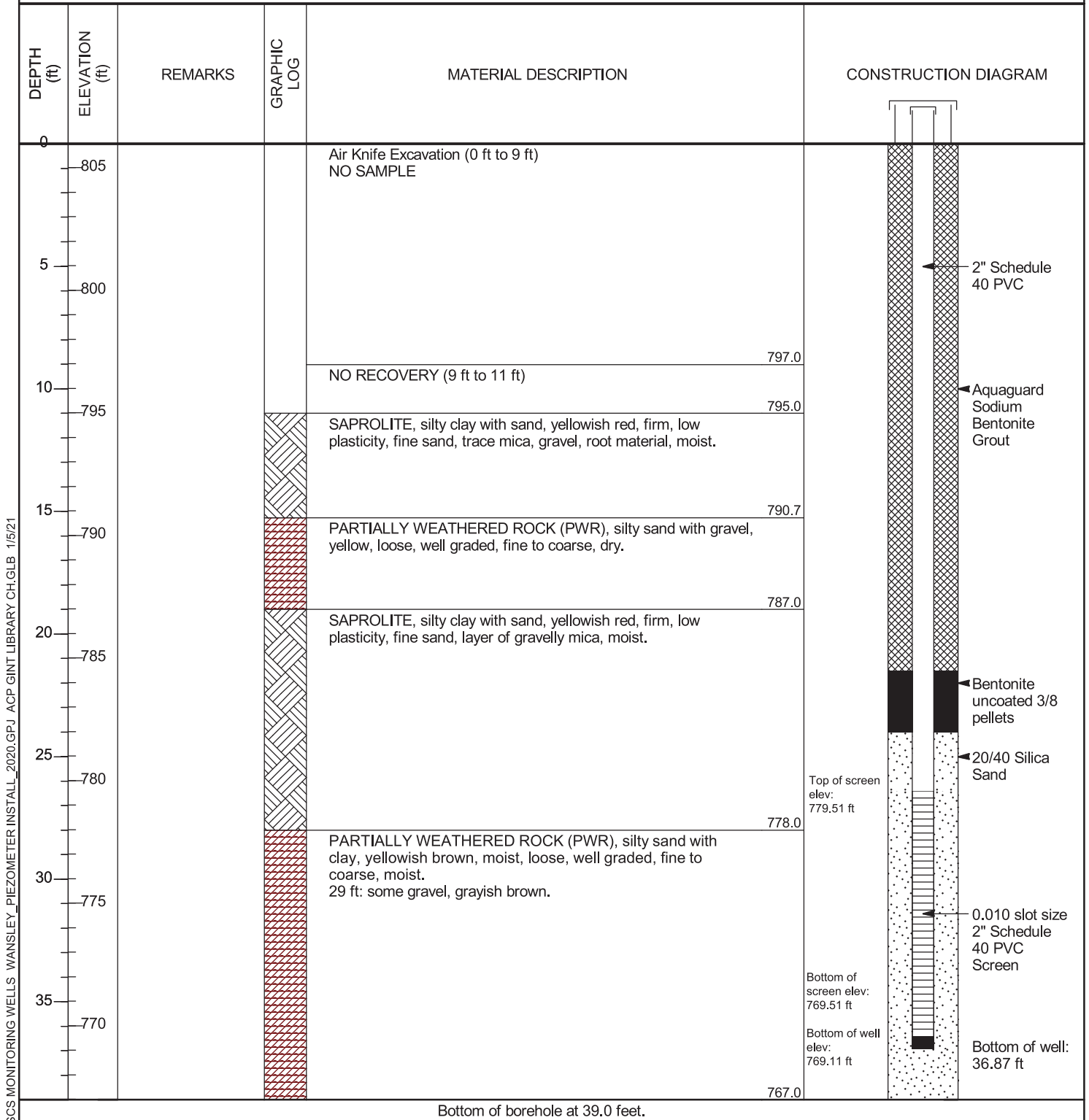
Bottom of borehole at 75.0 feet.

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY.CH.GLB 1/5/21

CLIENT Southern Company Services	PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327	PROJECT LOCATION Plant Wansley AP-1
DATE STARTED 10/17/20 COMPLETED 10/17/20	NORTHING 1239916.68 ft EASTING 2024139.82 ft
DRILLER Cascade Drilling	GROUND ELEVATION 802.22 ft BORING DIAMETER 6 in.
DRILLING METHOD Sonic	TOP OF CASING ELEVATION 804.80 ft
SAMPLING METHOD 4 in. core 6 in. override	GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181	LOGGED BY V. Taukoor CHECKED BY A. Reimer



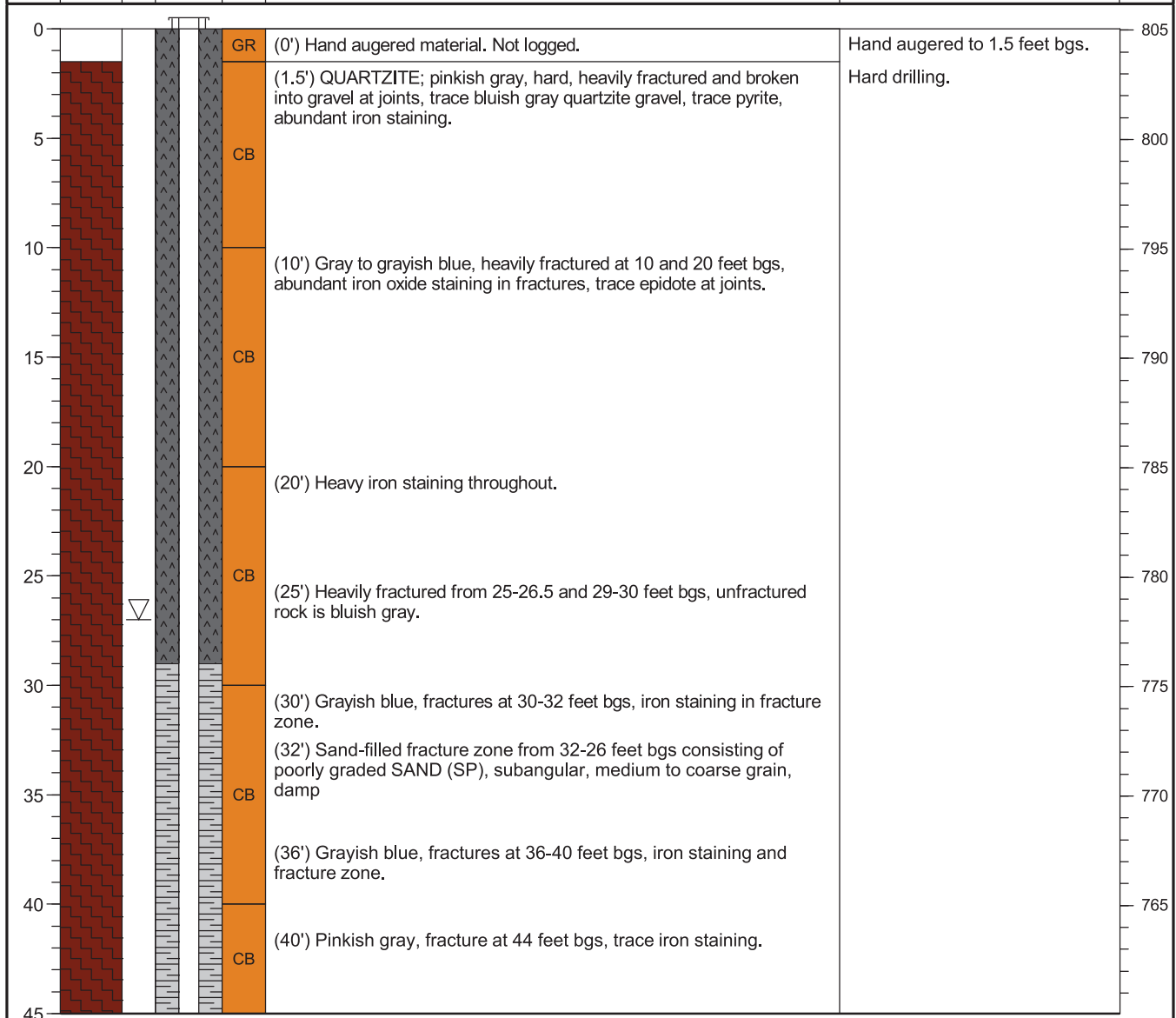
CLIENT Southern Company Services	PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327	PROJECT LOCATION Plant Wansley AP-1
DATE STARTED 10/28/20 COMPLETED 10/28/20	NORTHING 1240184.18 ft EASTING 2023616.69 ft
DRILLER Cascade Drilling	GROUND ELEVATION 805.98 ft BORING DIAMETER 6 in.
DRILLING METHOD Sonic	TOP OF CASING ELEVATION 808.98 ft
SAMPLING METHOD 4 in. core 6 in. override	GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181	LOGGED BY T. Wilson CHECKED BY A. Reimer



SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21

Drilling Start Date: 09/26/2022	Boring Depth (ft): 70	Well Depth (ft TOC): 69.57
Drilling End Date: 09/26/2022	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 27.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic	Ground Surface Elev. (ft): 805.06 NAV88	Screen Material: Sch 40 PVC Slotted
Driller: Cory Franklin	Top of Casing Elev. (ft): 808.23 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler	Location (N,E): 1243343.658, 2029758.846	Filter Pack: 20/40 Sand

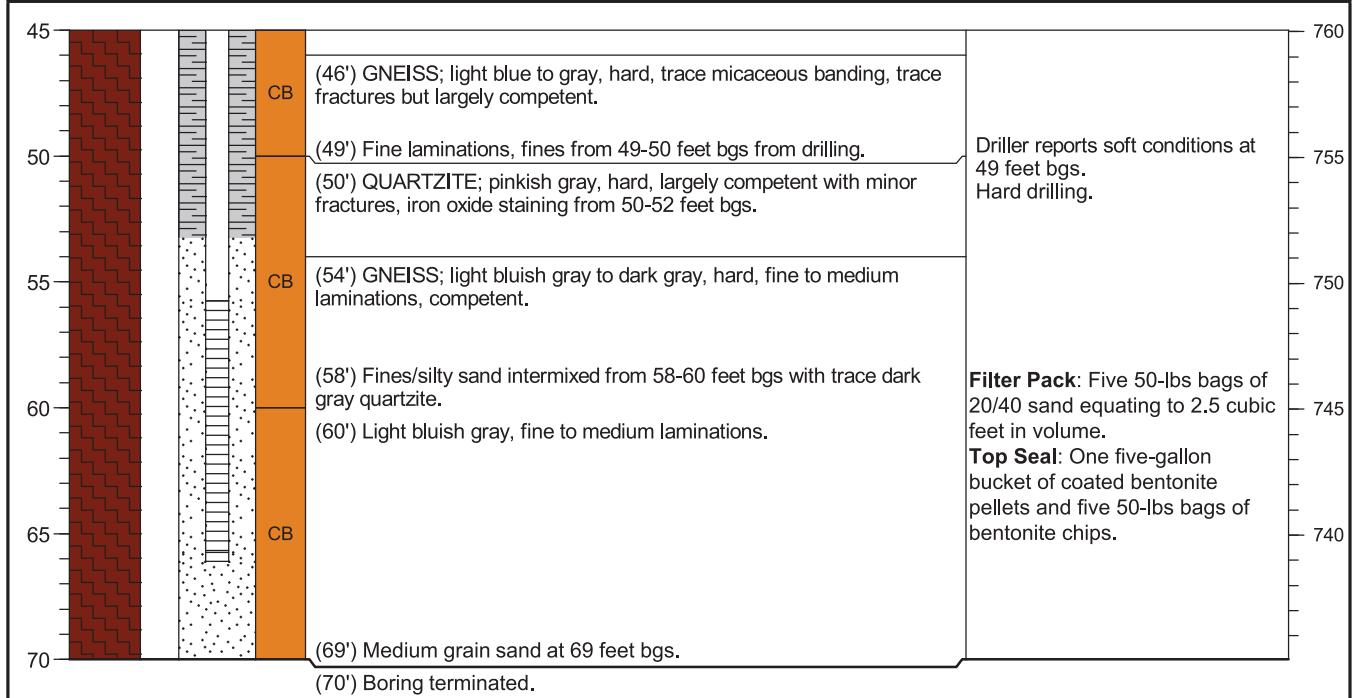
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Well completed with aboveground (+3.17 ft) PVC stickup. Well depth measured from top of casing (TOC). Seal extended due to proximity of adjacent well screen.

Drilling Start Date: 09/26/2022	Boring Depth (ft): 70	Well Depth (ft TOC): 69.57
Drilling End Date: 09/26/2022	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 27.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic	Ground Surface Elev. (ft): 805.06 NAV88	Screen Material: Sch 40 PVC Slotted
Driller: Cory Franklin	Top of Casing Elev. (ft): 808.23 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler	Location (N,E): 1243343.658, 2029758.846	Filter Pack: 20/40 Sand

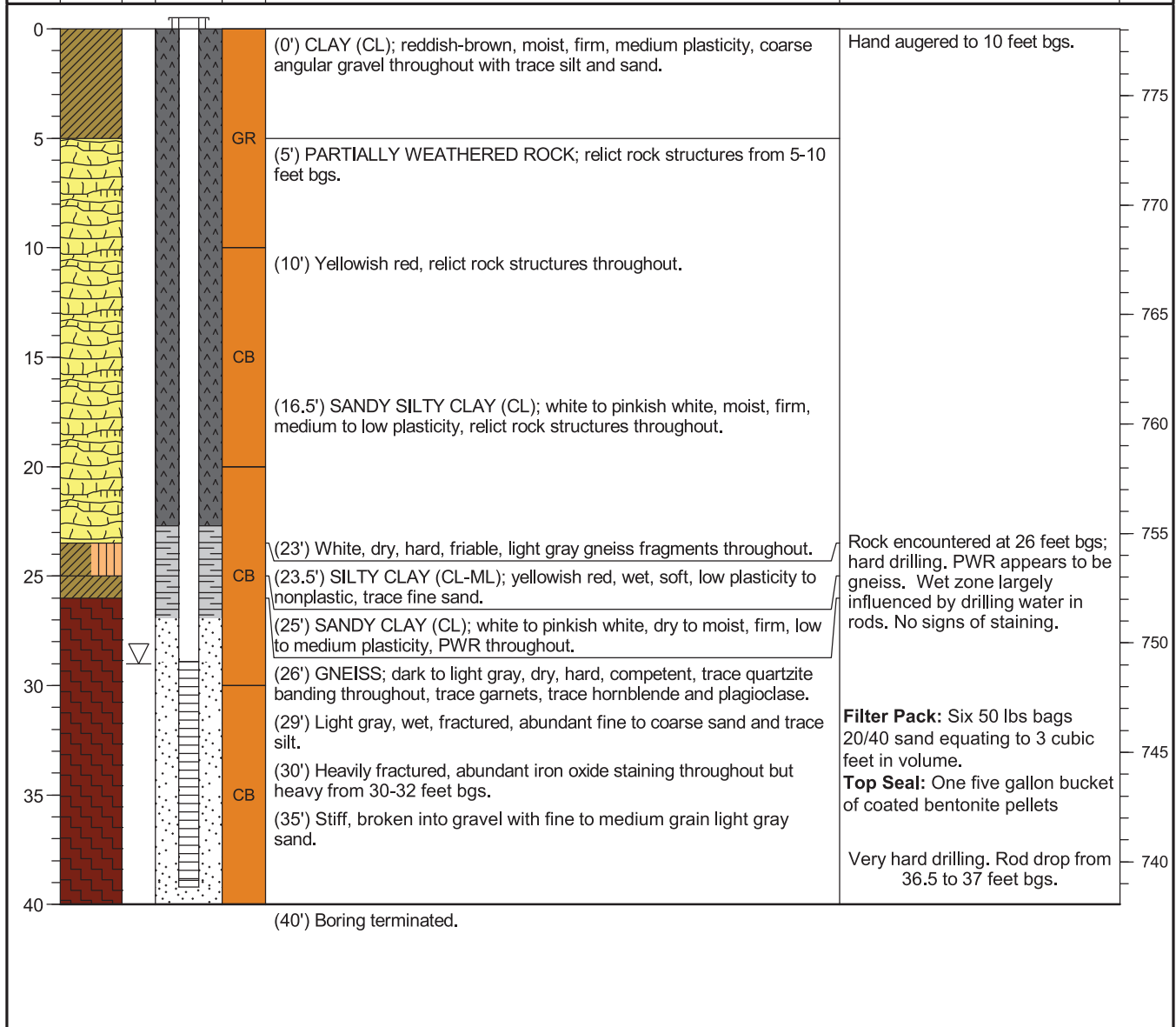
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Well completed with aboveground (+3.17 ft) PVC stickup. Well depth measured from top of casing (TOC). Seal extended due to proximity of adjacent well screen.

Drilling Start Date: 09/26/2022	Boring Depth (ft): S0	Well Depth (ft TOC): S2.15
Drilling End Date: 09/27/2022	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade I rillin8	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: 4onic Sx6	DTW During Drilling (ft): 29.0	Riser Material: 4ch S0 PVC
Drilling Equipment: Terrasonic	Ground Surface Elev. (ft): 775.0D NAV55	Screen Material: 4ch S0 PVC 4lotted
Driller: Cory Franklin	Top of Casing Elev. (ft): 750.DS NAV55	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler	Location (N,E): 12S321D,D13, 2029575.915	Filter Pack: 20/S0 4and

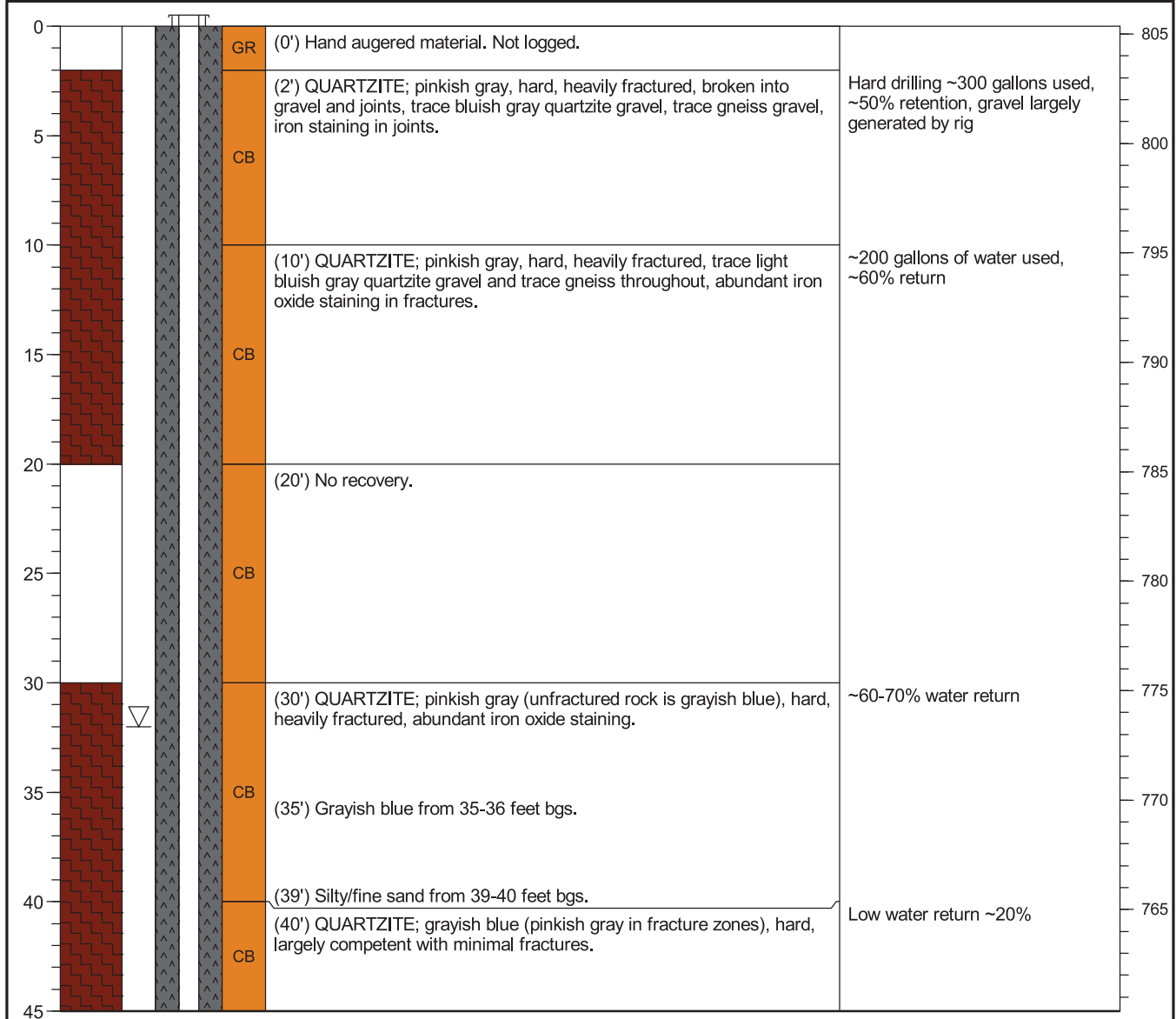
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Well completed with aboveground (+2.49 feet) PVC stickup. Well depth measured from top of casing (TOC).

Drilling Start Date: 06/26/2023	Boring Depth (ft): 220	Well Depth (ft TOC): 209.6
Drilling End Date: 08/18/2023	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 32.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150T	Ground Surface Elev. (ft): 805.36 NAV88	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin/B. Griffis	Top of Casing Elev. (ft): 808.24 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler/T. Payne	Location (N,E): 1243337.13, 2029751.04	Filter Pack: 20/40 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Boring backfilled with bentonite pellets to 207.8 ft bgs prior to well installation. Well completed with aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from top of casing (TOC).

Drilling Start Date: 06/26/2023	Boring Depth (ft): 220	Well Depth (ft TOC): 209.6
Drilling End Date: 08/18/2023	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 32.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150T	Ground Surface Elev. (ft): 805.36 NAV88	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin/B. Griffis	Top of Casing Elev. (ft): 808.24 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler/T. Payne	Location (N,E): 1243337.13, 2029751.04	Filter Pack: 20/40 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
45				CB	(48') Iron oxide staining evident in fracture zones.		760
50					(50') QUARTZITE; pinkish gray to grayish blue, hard, competent, quartz seams throughout.		755
55				CB			750
60				CB	(60') QUARTZITE; bluish gray green, hard, competent, quartz seams throughout.	Switch bit	745
65					(64') Iron staining. (65') Same as above.		740
70				GR	(67') GNEISS; light bluish gray, hard, fine laminations, micaceous. (69') Large fracture zone with iron oxide staining from 69-70 feet bgs. (70') Competent.	Packer testing conducted from 70-80 ft bgs	735
75				CB			730
80					(80') AMPHIBOLITE GNEISS; gray to dark gray, hard, fine laminations, competent, pink quartz inclusions throughout.	Packer testing conducted from 80-90 ft bgs	725
85				CB			720
90							

NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Boring backfilled with bentonite pellets to 207.8 ft bgs prior to well installation. Well completed with aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from top of casing (TOC).

Drilling Start Date: 06/26/2023	Boring Depth (ft): 220	Well Depth (ft TOC): 209.6
Drilling End Date: 08/18/2023	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 32.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150T	Ground Surface Elev. (ft): 805.36 NAV88	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin/B. Griffis	Top of Casing Elev. (ft): 808.24 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler/T. Payne	Location (N,E): 1243337.13, 2029751.04	Filter Pack: 20/40 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
90				CB	(90') SILTY SAND (SM); gray, loose, fine-grained with abundant angular gravel (amphibolite gneiss), moist.	Fine sand likely crushed from drill rig Packer testing conducted from 90-100 ft bgs	715
95				CB	(96') PARTIALLY WEATHERED ROCK; dark brown, loose, thin fine sand lenses (~1 cm thick) separating PWR layers, contain horizontal stained banding, relict rock structure, abundant medium to coarse grained sand (subangular), wet to moist becoming dry at 98 feet bgs, abundant iron staining.	Packer testing conducted from 100-110 ft bgs	710
100			CB	(98') AMPHIBOLITE GNEISS; dark gray, hard, large grains and abundant pink quartz inclusions. (100') Same as above.	705		
105			CB	(105') Rock is broken into angular gravel.	700		
110				GR	(110') With pink quartzite (similar to 2-10 ft bgs), rock is broken into angular gravel throughout. (112') Fractures with abundant iron staining.	Pump dry from 110-120 feet bgs; unable to seal packer Overdrilling very difficult; stall rod location/lock rods multiple times, suspect bit damage Pull 6 inches out to replace bit	695
115			GR	(117') Fractures with abundant iron staining.	690		
120				CB	(120') AMPHIBOLITE GNEISS/GNEISS; dark gray, hard, some visible thin laminations, large grains with abundant pink/orange quartz inclusions, rock is broken into gravel and iron staining present from 120-122 feet bgs.	Low water return - suspect highly fractured	685
125				CB	(128') Rock is broken into gravel.	Suspect sand due to rig crush Hole accepting water	680
130				CB	(130') Pinkish gray from 130-132 feet bgs, heavily fractured quartzite, coarse and angular to subangular sand, abundant iron staining from 130-132 feet bgs.		675
135							

NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Boring backfilled with bentonite pellets to 207.8 ft bgs prior to well installation. Well completed with aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from top of casing (TOC).

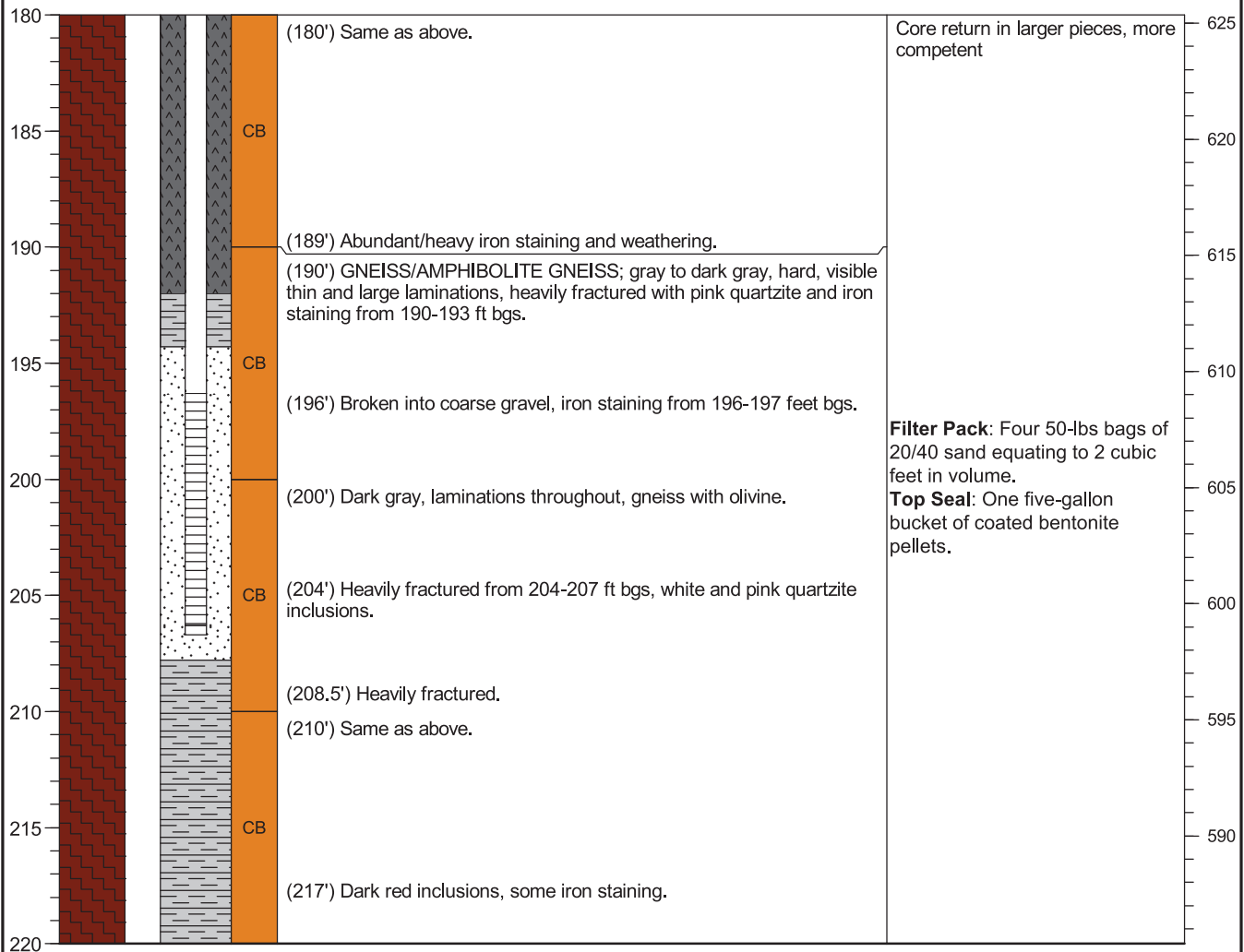
Drilling Start Date: 06/26/2023	Boring Depth (ft): 220	Well Depth (ft TOC): 209.6
Drilling End Date: 08/18/2023	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 32.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150T	Ground Surface Elev. (ft): 805.36 NAV88	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin/B. Griffis	Top of Casing Elev. (ft): 808.24 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler/T. Payne	Location (N,E): 1243337.13, 2029751.04	Filter Pack: 20/40 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
135				CB		Harder drilling	670
140				CB	(140') AMPHIBOLITE GNEISS/GNEISS; dark gray, hard, thin visible laminations, pink quartz inclusions throughout.	~50% water retention Packer testing conducted from 140-150 ft bgs	665
145				CB	(145') Broken into gravel from 145-150 feet bgs.		660
150				CB	(149') Heavily weathered gneiss and abundant iron staining. (150') Micaceous.	50% return Packer testing conducted from 150-160 ft bgs	655
155				CB			650
160				CB	(159') Trace iron staining. (160') Same as above. (161') Iron staining from 161-162 feet bgs.	60% return Packer testing conducted from 160-170 ft bgs	645
165				GR			640
170				CB	(170') Same as above.	No packer due to similarity to previous intervals, lack of fracture	635
175				CB	(174') Trace iron staining.		630
180							

NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Boring backfilled with bentonite pellets to 207.8 ft bgs prior to well installation. Well completed with aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from top of casing (TOC).

Drilling Start Date: 06/26/2023	Boring Depth (ft): 220	Well Depth (ft TOC): 209.6
Drilling End Date: 08/18/2023	Boring Diameter (in): 6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic 4x6	DTW During Drilling (ft): 32.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150T	Ground Surface Elev. (ft): 805.36 NAV88	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin/B. Griffis	Top of Casing Elev. (ft): 808.24 NAV88	Seal Material(s): Grout/Bentonite
Logged By: T. Kessler/T. Payne	Location (N,E): 1243337.13, 2029751.04	Filter Pack: 20/40 Sand

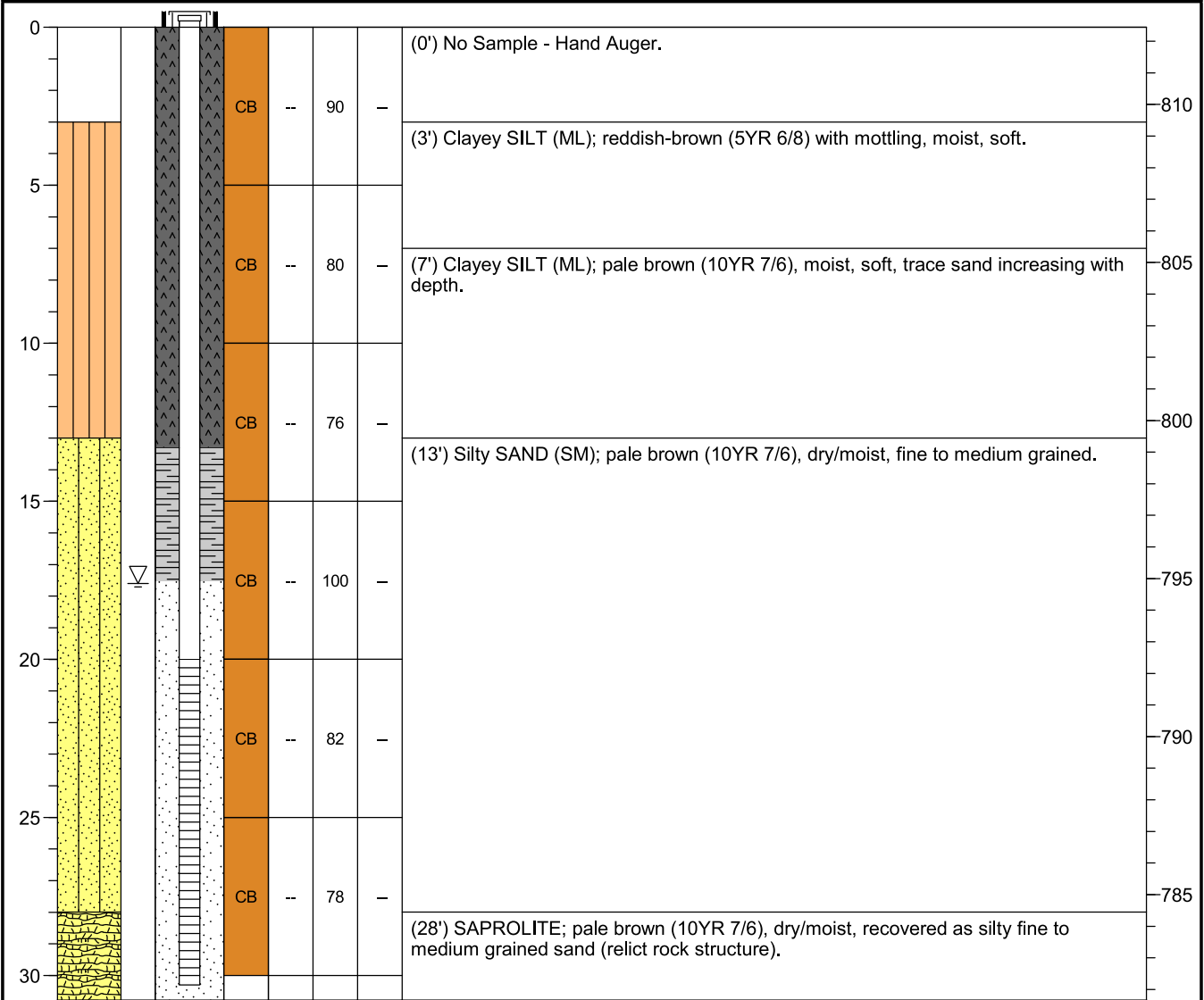
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft NAV88)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Boring backfilled with bentonite pellets to 207.8 ft bgs prior to well installation. Well completed with aboveground (+2.88 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from top of casing (TOC).

Drilling Start Date: 12/9/2024	Boring Depth (ft): 30.8	Well Depth (ft bgs): 30.74
Drilling End Date: 12/9/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 20.36	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 812.44	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 815.20	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240032.73, 2022624.29	Filter Pack: #20/40 Sand

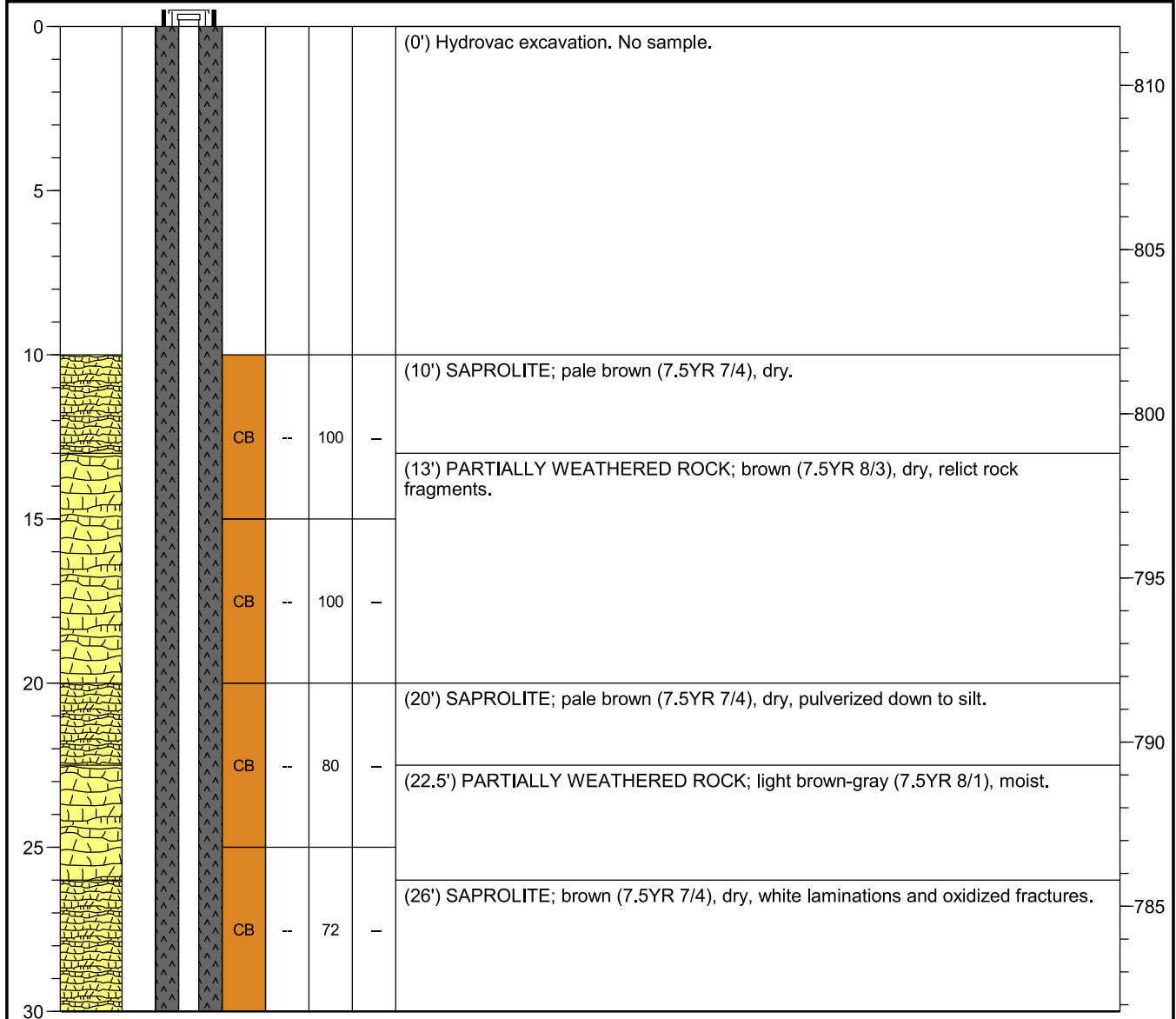
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.76 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/6/2024	Boring Depth (ft): 90	Well Depth (ft bgs): 87.58
Drilling End Date: 12/9/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 79.73	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 811.79	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 814.61	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240831.55, 2027168.07	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.87 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/6/2024	Boring Depth (ft): 90	Well Depth (ft bgs): 87.58
Drilling End Date: 12/9/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 79.73	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 811.79	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 814.61	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240831.55, 2027168.07	Filter Pack: #20/40 Sand

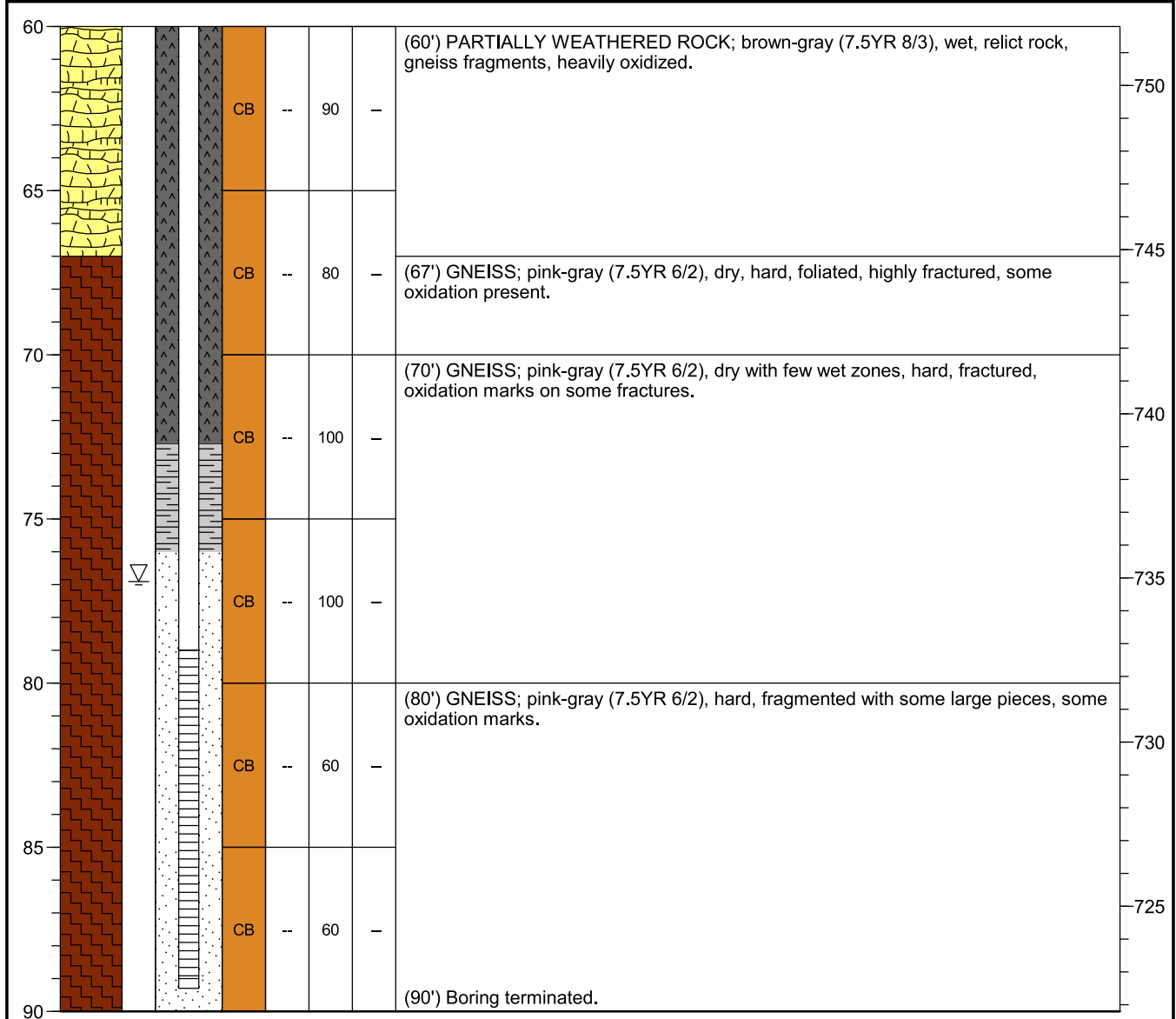
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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30				CB	--	100	-	(30') PARTIALLY WEATHERED ROCK; brown-red-yellowish (7.5YR 8/6), moist/wet, loose-firm, pulverized.	780
35				CB	--	90	-	(35') PARTIALLY WEATHERED ROCK; red-gray (7.5YR 8/3), moist, rock fragments, oxidized.	775
40				CB	--	90	-		770
45								(44') Pulverized material recovered as sand (<1 foot recovery). REMARK: No recovery. Top of rock; bag was mostly water with some sand and rock fragments from 44-50 ft bgs.	765
50								(50') No recovery.	760
55									755
60									

NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.87 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/6/2024	Boring Depth (ft): 90	Well Depth (ft bgs): 87.58
Drilling End Date: 12/9/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 79.73	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 811.79	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 814.61	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240831.55, 2027168.07	Filter Pack: #20/40 Sand

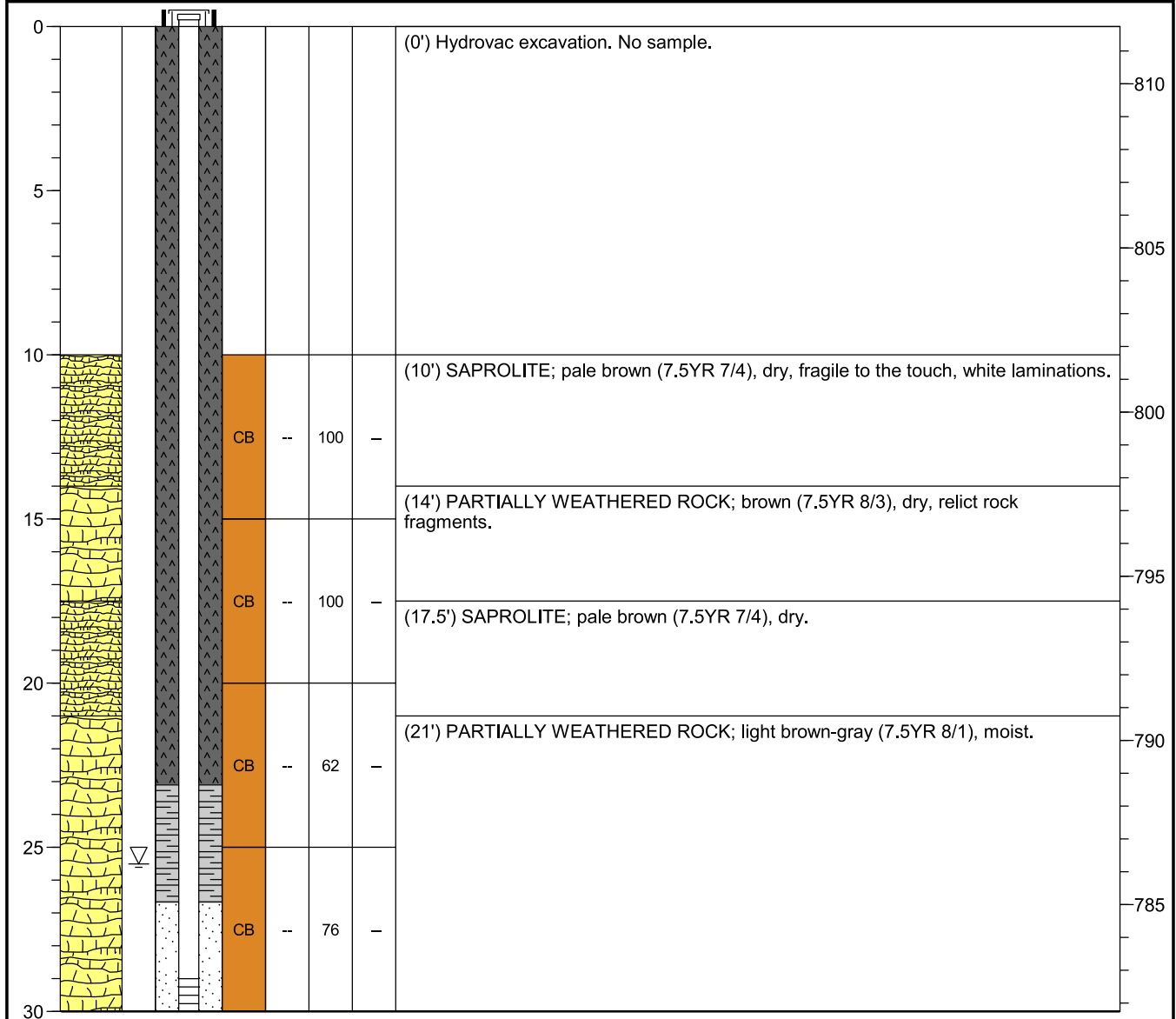
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.87 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/6/2024	Boring Depth (ft): 40	Well Depth (ft bgs): 39.62
Drilling End Date: 12/6/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 28.46	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 811.74	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 814.69	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240831.58, 2027173.44	Filter Pack: #20/40 Sand


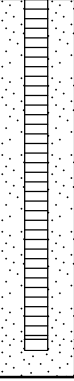




DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.90 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/6/2024	Boring Depth (ft): 40	Well Depth (ft bgs): 39.62
Drilling End Date: 12/6/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 28.46	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 811.74	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 814.69	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1240831.58, 2027173.44	Filter Pack: #20/40 Sand

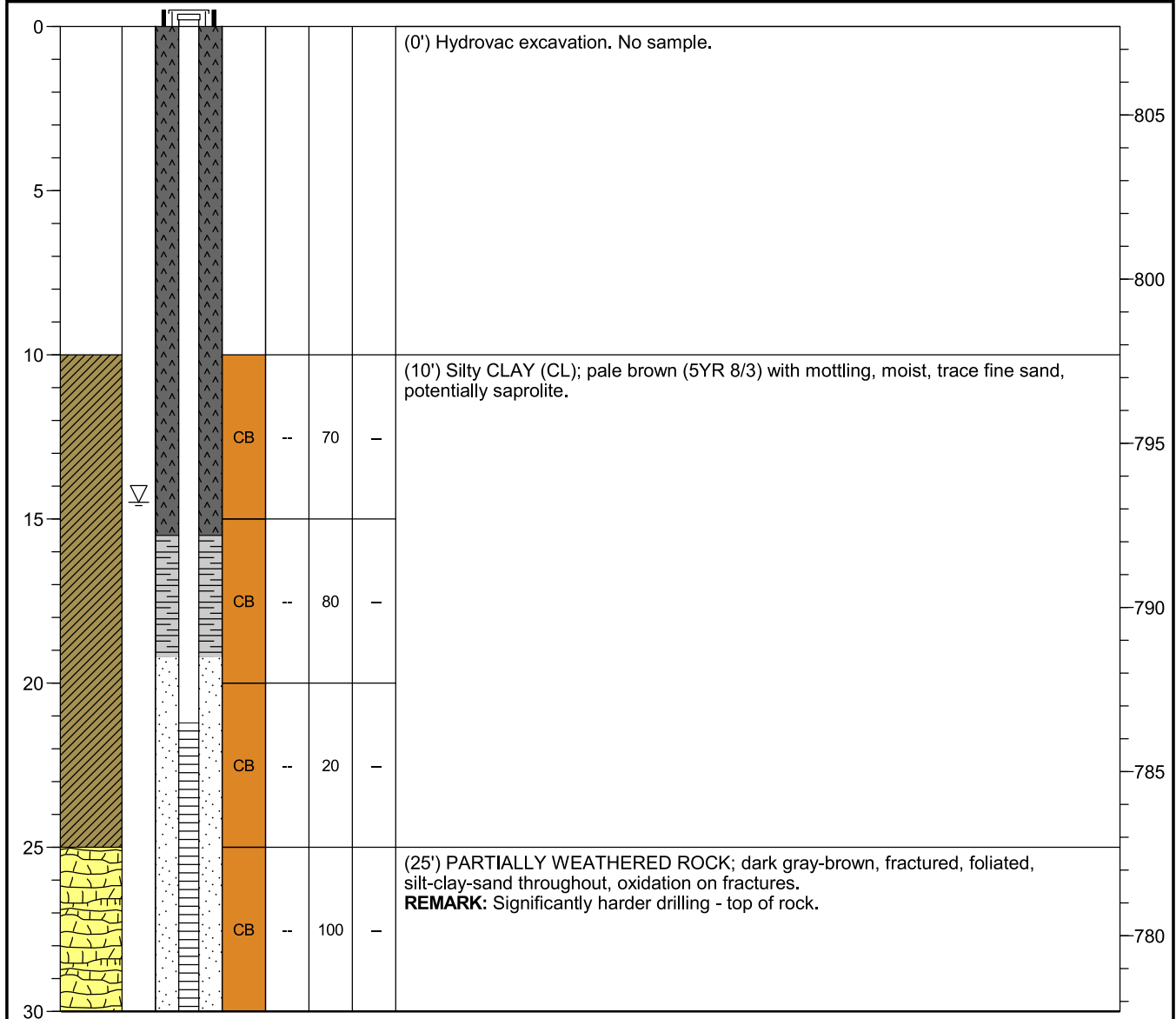
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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30				CB	--	100	-	(30') SAPROLITE; pinkish pale brown (7.5YR 8/3), moist.	780
35				CB	--	80	-	(35') PARTIALLY WEATHERED ROCK; light brown-gray (7.5YR 8/1), moist.	775
40								(37.5') SAPROLITE; brown (7.5YR 8/3), moist/wet, relict rock fragments of gneiss, oxidation marks.	
								(40') Boring terminated.	

NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.90 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/10/2024	Boring Depth (ft): 32	Well Depth (ft bgs): 31.87
Drilling End Date: 12/10/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 17.02	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 807.70	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 810.23	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1241721.24, 2028131.52	Filter Pack: #20/40 Sand



DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.53 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/10/2024	Boring Depth (ft): 32	Well Depth (ft bgs): 31.87
Drilling End Date: 12/10/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 17.02	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 807.70	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 810.23	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1241721.24, 2028131.52	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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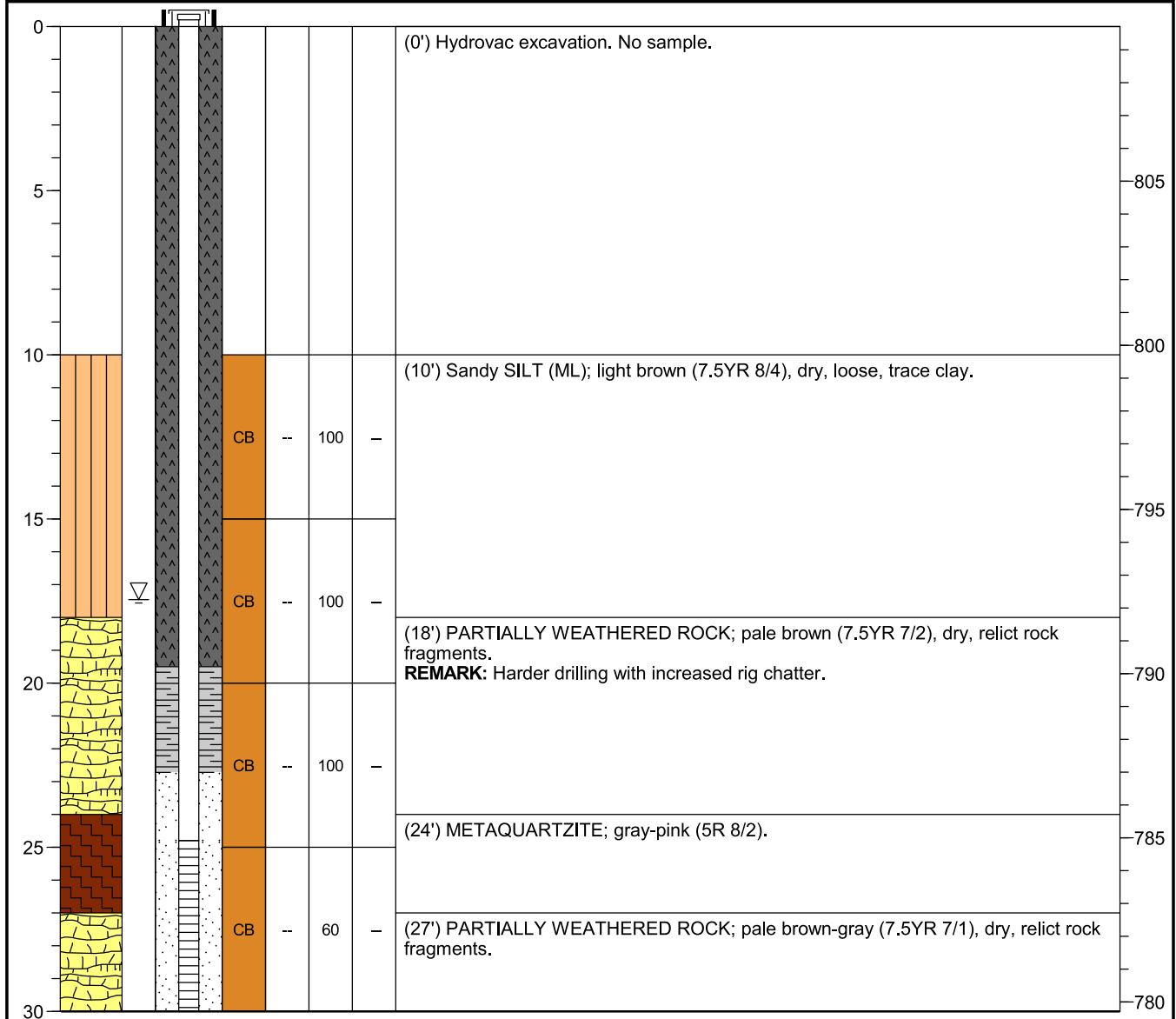
30				CB	-	100	-		
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(32') Boring terminated.

NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.53 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/11/2024	Boring Depth (ft): 36	Well Depth (ft bgs): 35.32
Drilling End Date: 12/11/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 19.84	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 809.71	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 812.09	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1242764.83, 2029104.26	Filter Pack: #20/40 Sand

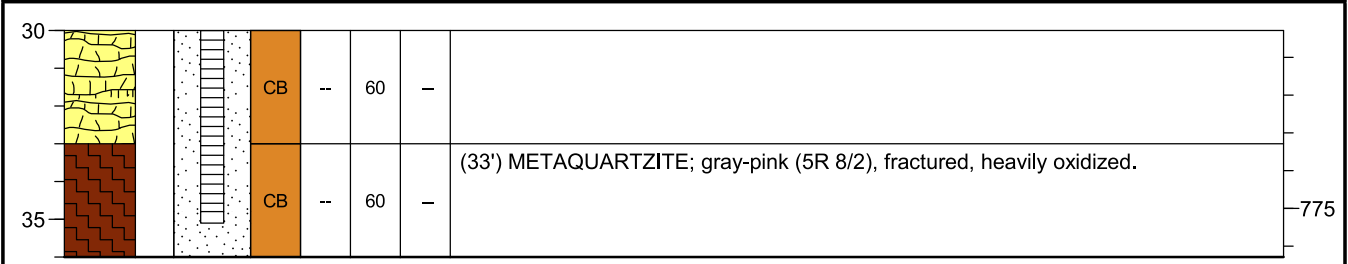
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.38 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 12/11/2024	Boring Depth (ft): 36	Well Depth (ft bgs): 35.32
Drilling End Date: 12/11/2024	Boring Diameter (in): 4x6	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	Depth to Water (ft btoc): 19.84	Riser Material: Sch 40 PVC
Drilling Equipment: Terrasonic TSI-150	Ground Surface Elev. (ft): 809.71	Screen Material: Sch 40 PVC U-Pack
Driller: C. Franklin	Top of Casing Elev. (ft): 812.09	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1242764.83, 2029104.26	Filter Pack: #20/40 Sand

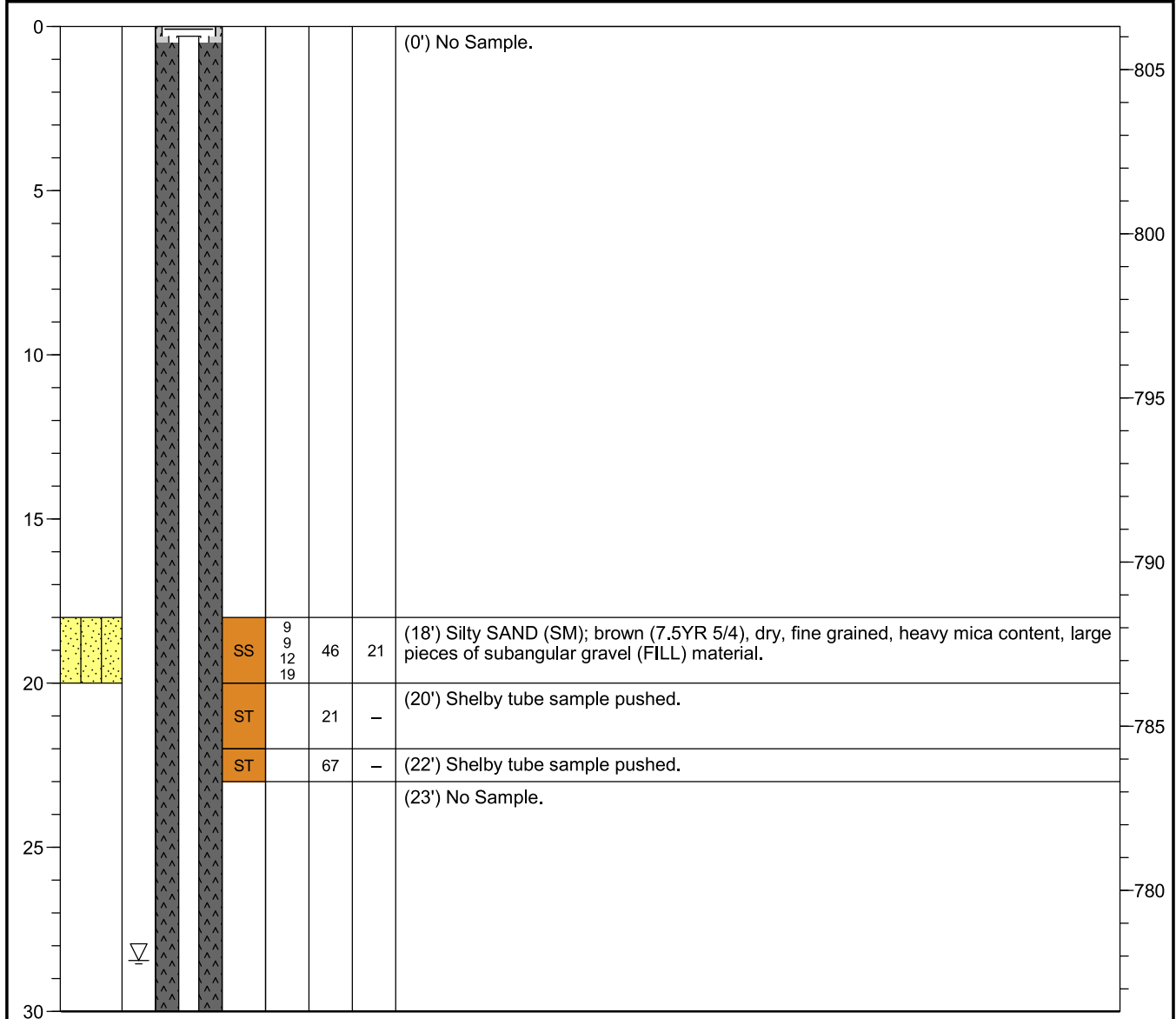
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and aboveground (+2.38 ft) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/7/2025	Boring Depth (ft): 94	Well Depth (ft bgs): 92.43
Drilling End Date: 3/9/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.45	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.31	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.04	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245303.30, 2027822.22	Filter Pack: #20/40 Sand

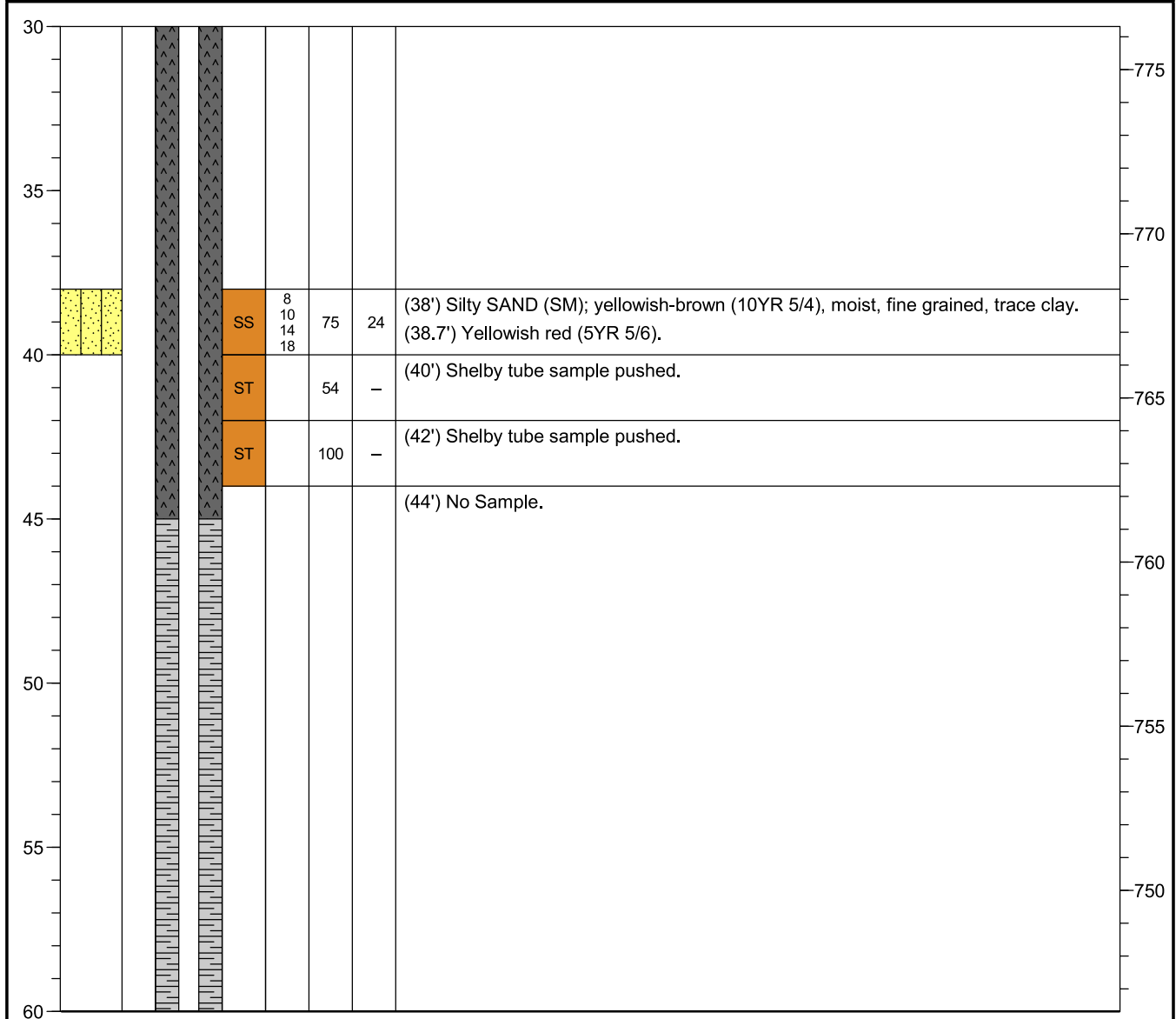
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/7/2025	Boring Depth (ft): 94	Well Depth (ft bgs): 92.43
Drilling End Date: 3/9/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.45	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.31	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.04	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245303.30, 2027822.22	Filter Pack: #20/40 Sand

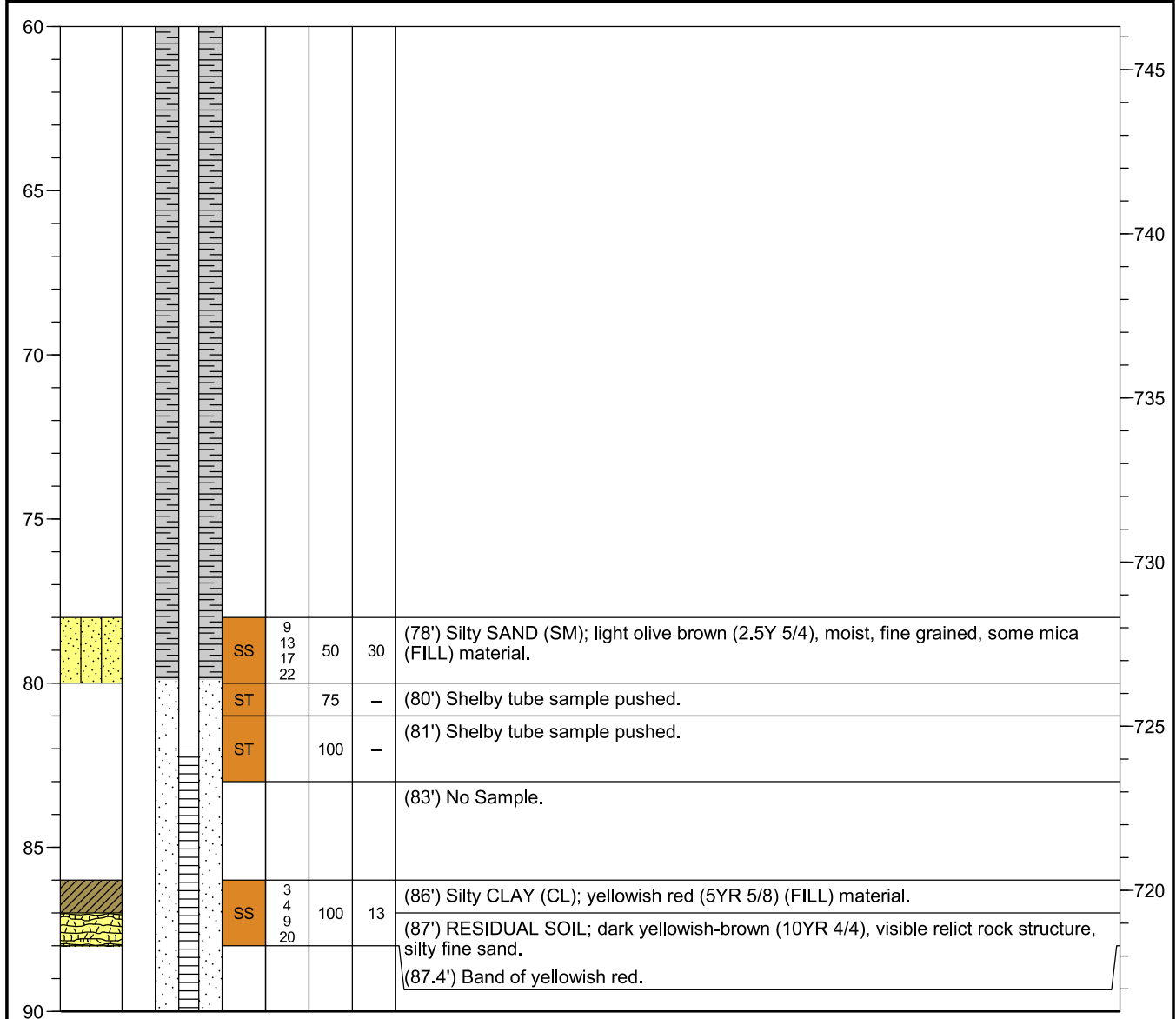
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/7/2025	Boring Depth (ft): 94	Well Depth (ft bgs): 92.43
Drilling End Date: 3/9/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.45	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.31	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.04	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245303.30, 2027822.22	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/7/2025	Boring Depth (ft): 94	Well Depth (ft bgs): 92.43
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Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.45	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.31	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.04	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245303.30, 2027822.22	Filter Pack: #20/40 Sand

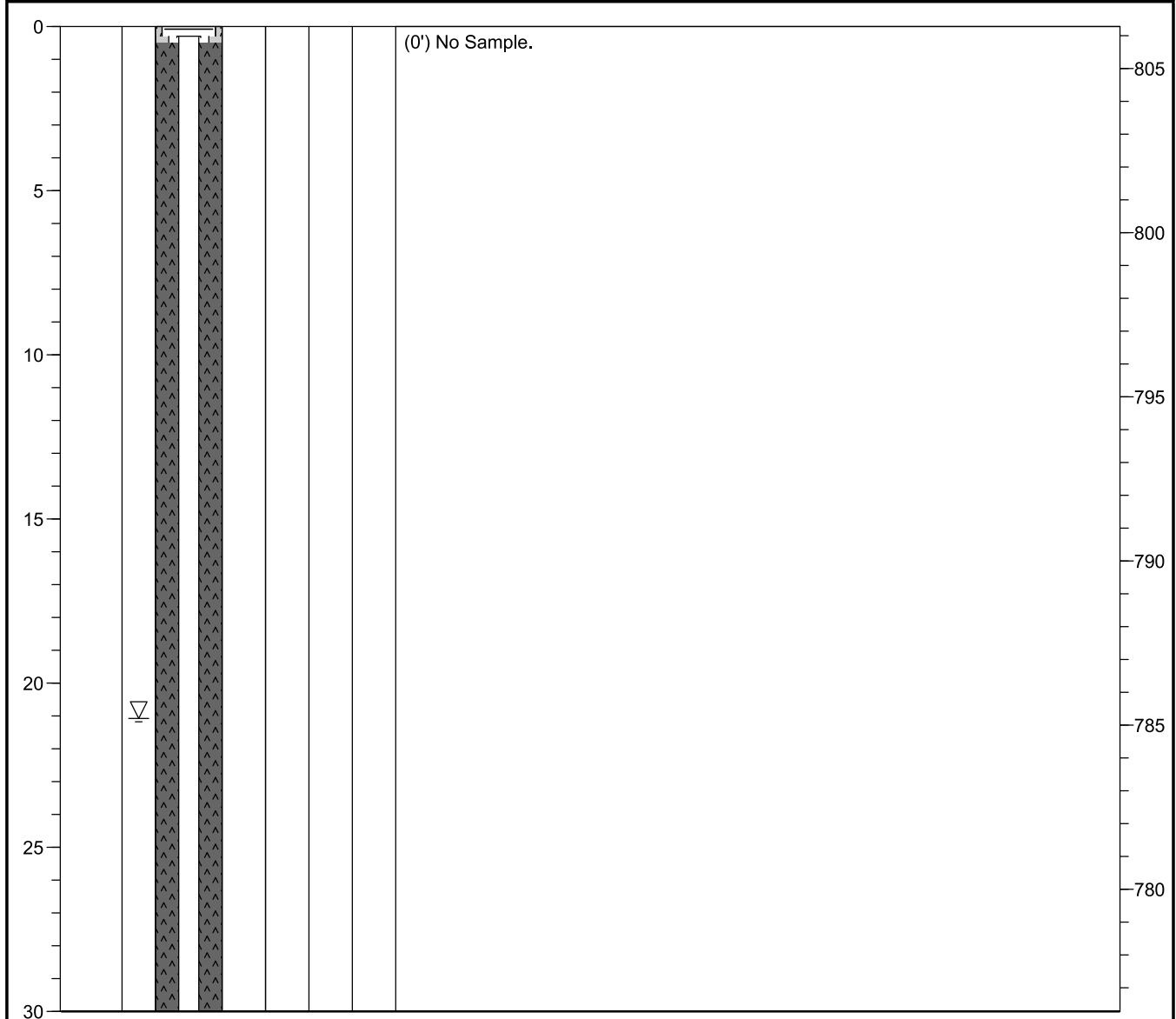
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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90				SS	13 16 16 19	67	32	(88') No Sample. (90') RESIDUAL SOIL; yellowish-brown (10YR 5/4), wet, abundant relict rock structure, silty fine sand. (92') No Sample.	715
								(94') Boring terminated.	

NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/18/2025	Boring Depth (ft): 80	Well Depth (ft bgs): 47.11
Drilling End Date: 3/19/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.08	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.28	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.77	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245294.99, 2027830.72	Filter Pack: #20/40 Sand

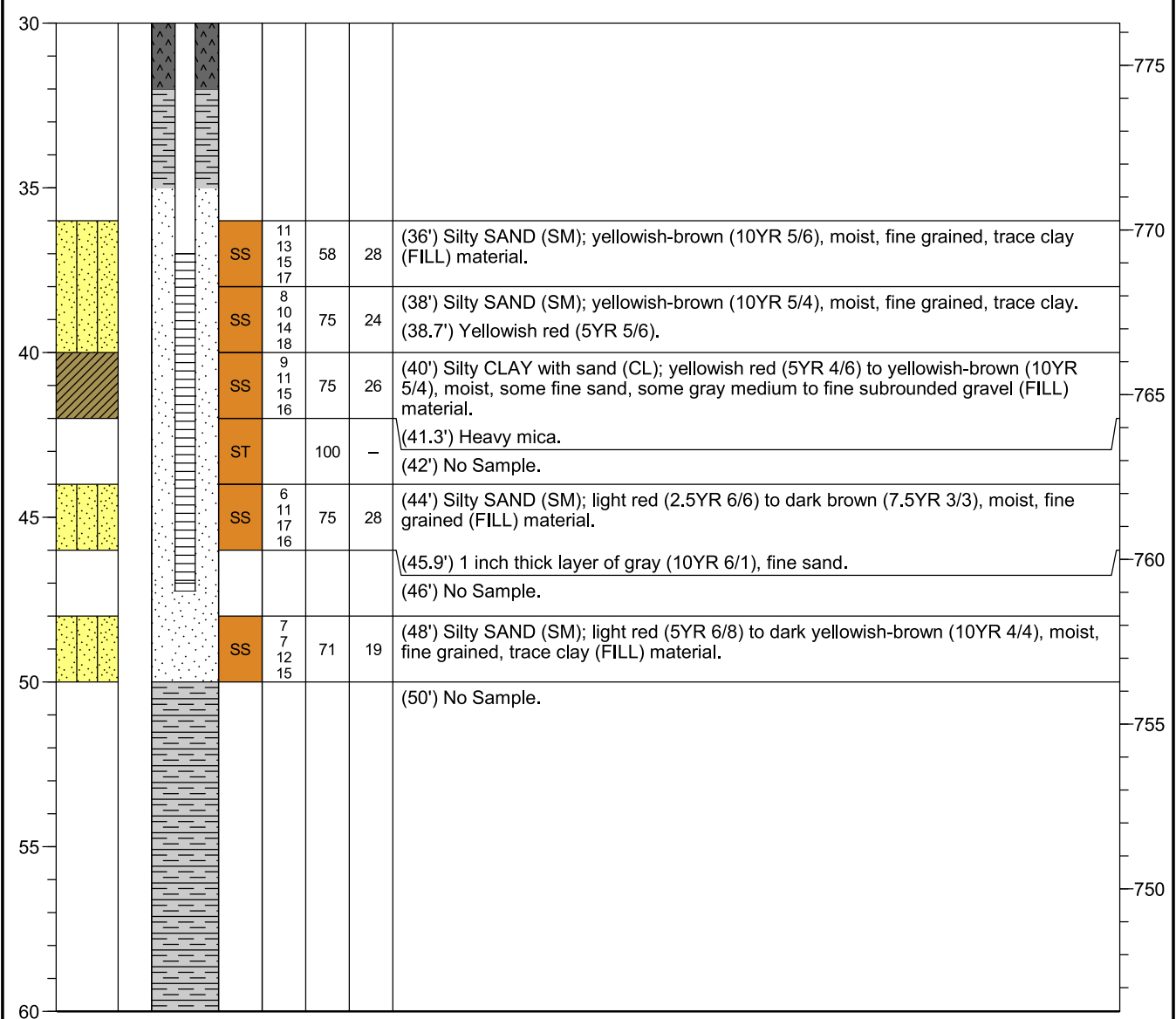
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring backfilled from 80-50 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/18/2025	Boring Depth (ft): 80	Well Depth (ft bgs): 47.11
Drilling End Date: 3/19/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.08	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.28	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.77	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245294.99, 2027830.72	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring backfilled from 80-50 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/18/2025	Boring Depth (ft): 80	Well Depth (ft bgs): 47.11
Drilling End Date: 3/19/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.08	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.28	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.77	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1245294.99, 2027830.72	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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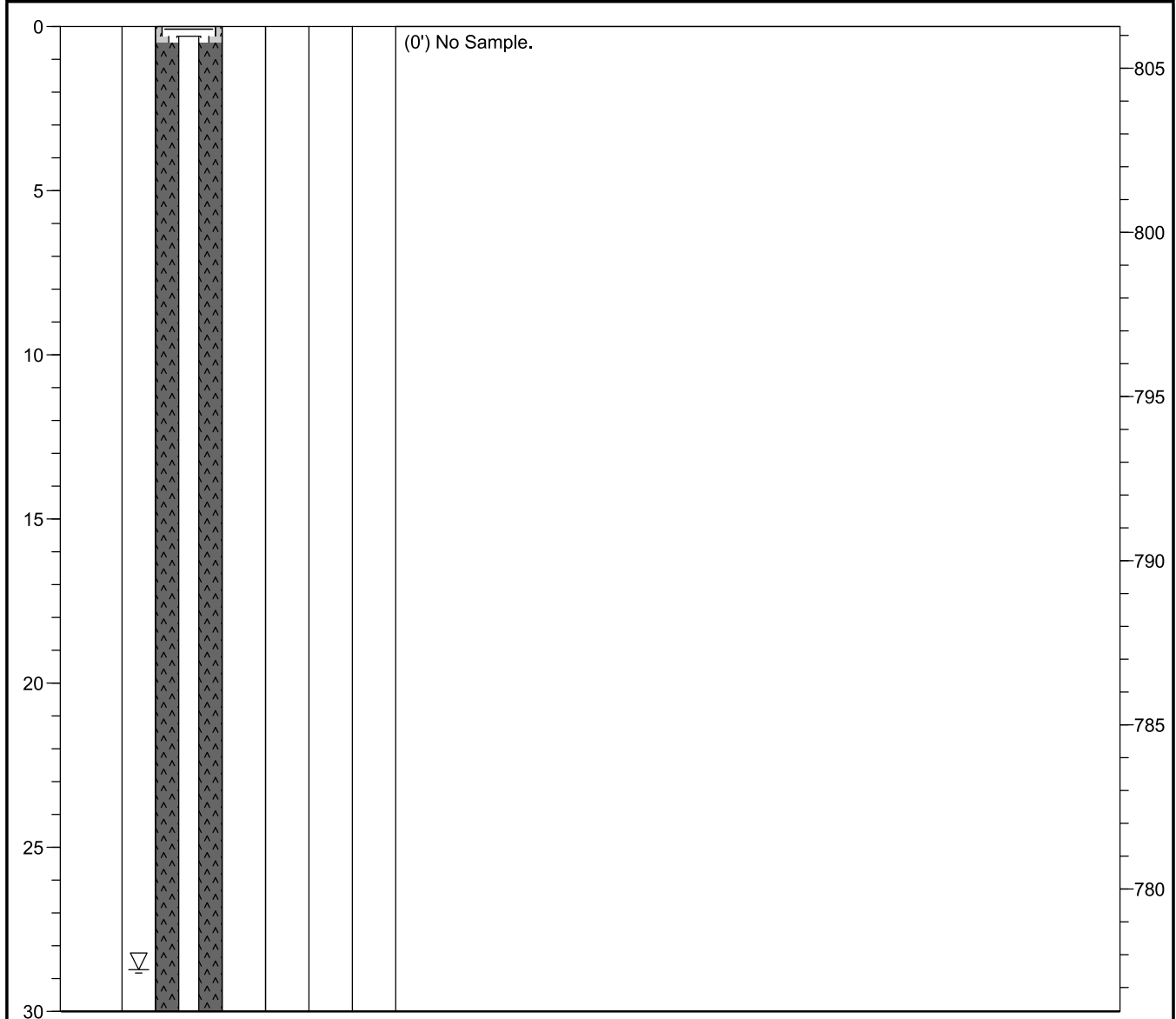
60				SS	5 8 9 13	100	17	(60') SAND (SP); medium to coarse grained.	745
				SS	9 13 16 20	92	29	(60.5') Silty CLAY (CL); red (2.5YR 4/8) mottled with light yellowish-brown (10YR 6/4), moist (FILL) material.	
				SS	6 6 8 11	100	14	(62') Silty CLAY (CL); red (2.5YR 4/6), moist, 4" thick layer of medium to coarse sand at the top (FILL) material.	
65				SS	8 11 12 16	79	23	(64') Silty CLAY (CL); red (2.5YR 5/6) to strong brown (7.5YR 5/6), moist (FILL) material.	740
				SS	11 12 16	79	23	(64.8') Coarse sand layer.	
				ST		100	-	(66') Silty CLAY (CL); yellowish red (5YR 5/6), moist, grading to clayey silt, 2" thick lens of coarse sand at top (FILL) material.	
70				ST		100	-	(68') Shelby tube sample pushed.	
				SS	7 9 11 13	79	20	(70') Silty SAND (SM); yellowish red (5YR 5/6), moist, fine grained, with coarse sand fine gravel at top, trace clay (FILL) material.	735
				SS	8 10 16 20	75	26	(72') Clayey SILT (ML); reddish yellow (7.5YR 6/8) with black banding throughout, wet, some fine sand (FILL) material.	
75				SS	11 11 17 20	75	28	(74') Same as above.	730
				SS	7 11 12 25	67	23	(76') Silty SAND (SM); yellowish-brown (10YR 5/6), moist, fine grained (FILL) material.	
80				SS	11 15 16 22	71	31	(78') Light olive brown (2.5Y 5/4).	

(80') Boring terminated.

NOTES: Boring backfilled from 80-50 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/4/2025	Boring Depth (ft): 120	Well Depth (ft bgs): 118.05
Drilling End Date: 3/6/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.73	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.27	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.02	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244985.87, 2028140.13	Filter Pack: #20/40 Sand

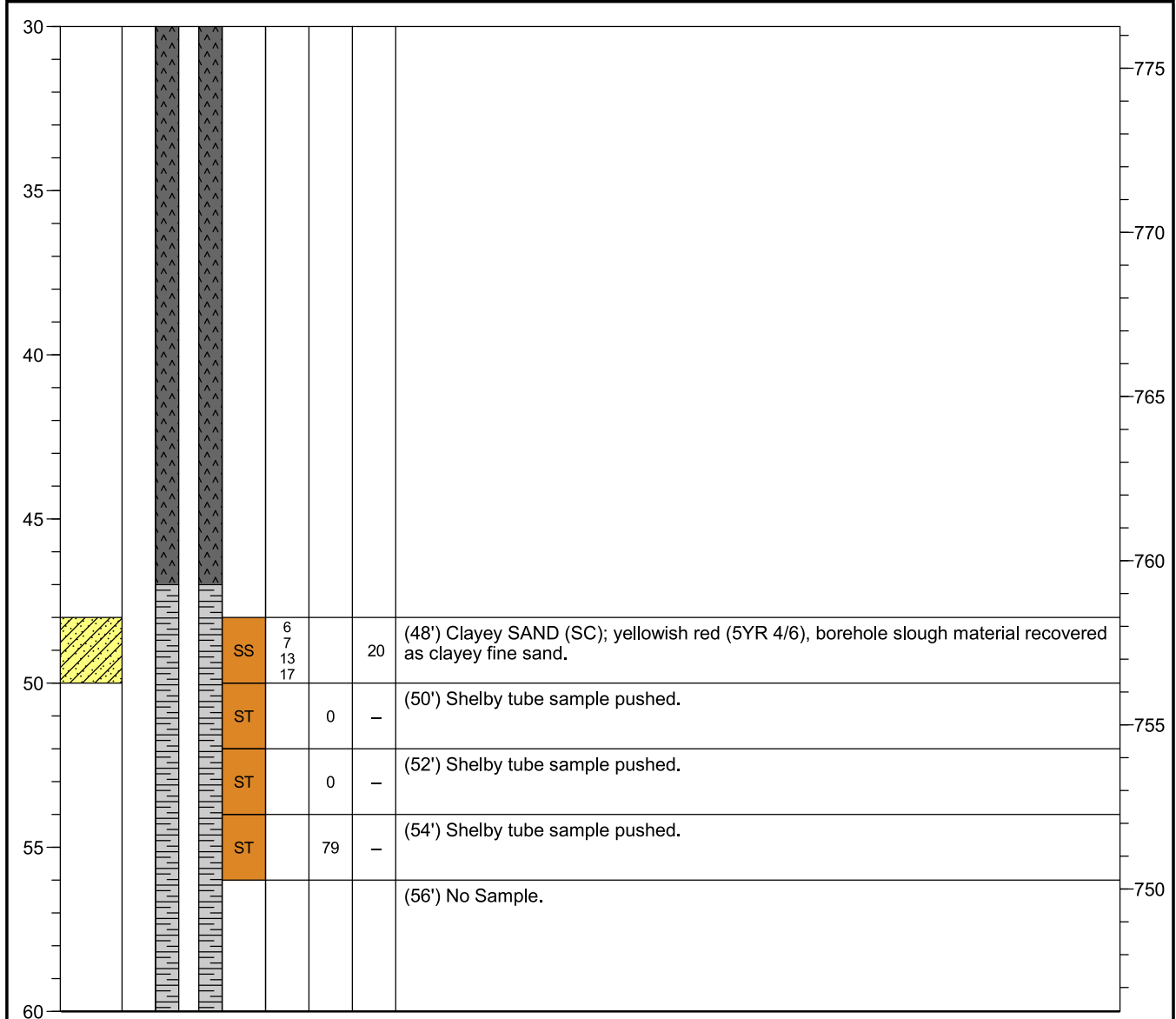
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/4/2025	Boring Depth (ft): 120	Well Depth (ft bgs): 118.05
Drilling End Date: 3/6/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.73	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.27	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.02	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244985.87, 2028140.13	Filter Pack: #20/40 Sand

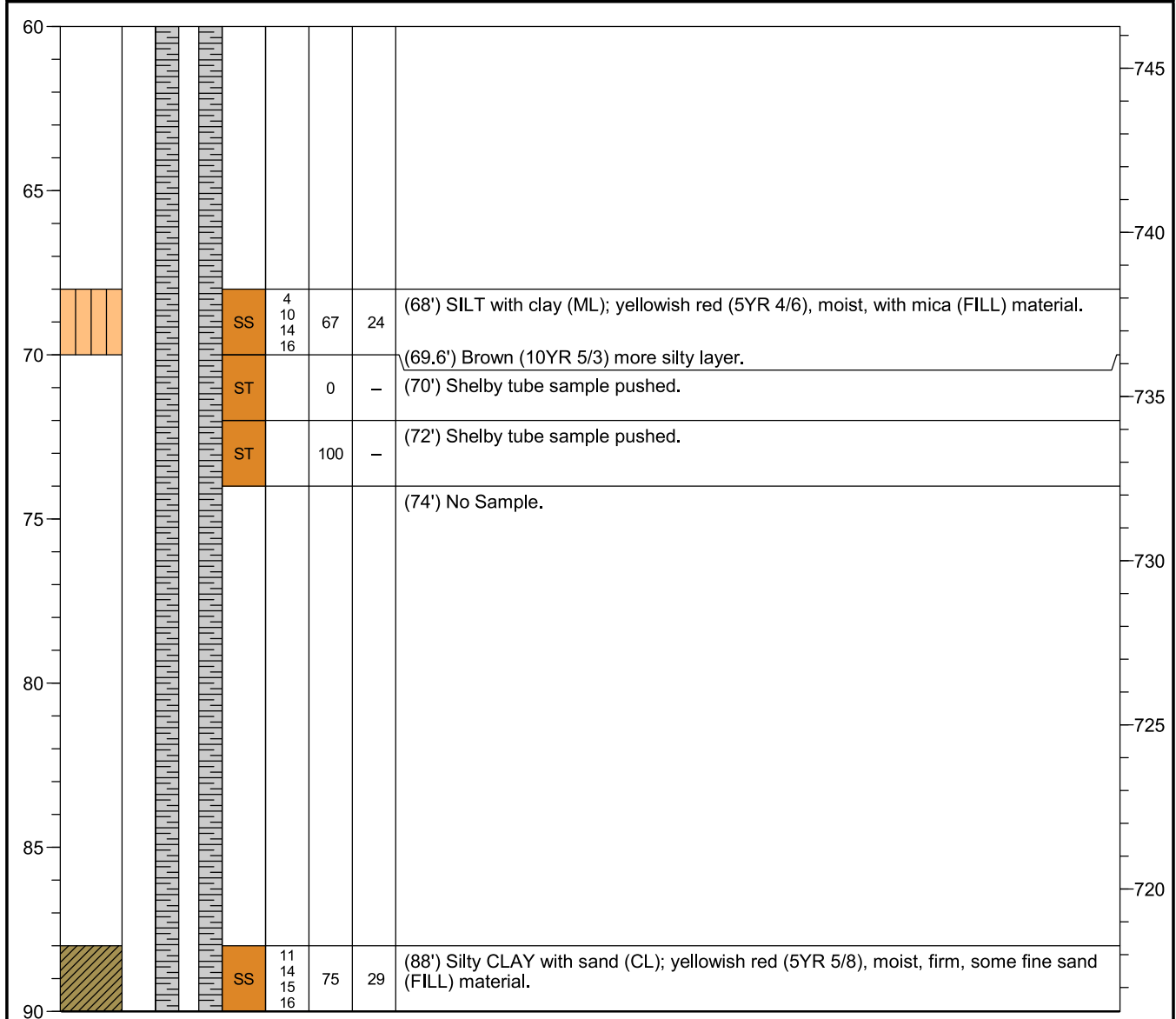
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 3/4/2025	Boring Depth (ft): 120	Well Depth (ft bgs): 118.05
Drilling End Date: 3/6/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.73	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.27	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.02	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244985.87, 2028140.13	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

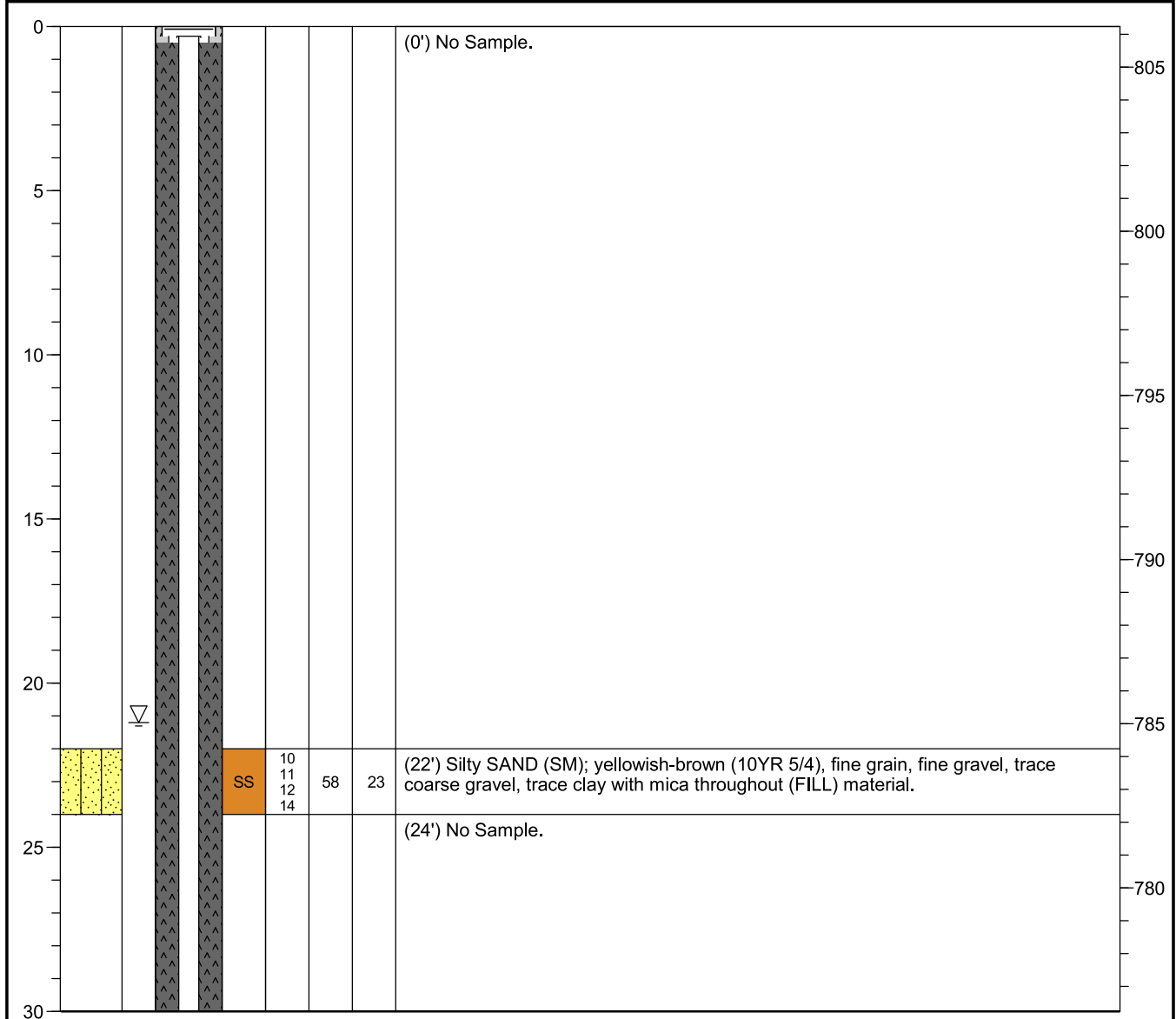
Drilling Start Date: 3/4/2025	Boring Depth (ft): 120	Well Depth (ft bgs): 118.05
Drilling End Date: 3/6/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 28.73	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.27	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.02	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244985.87, 2028140.13	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
90				ST		100	-	(90') Shelby tube sample pushed.	715
								(92') No Sample.	
95				SS	5 8 11 13	100	19	(95') CLAY (CL); red (2.5YR 5/6), moist, moderately firm, trace silt (FILL) material.	710
								(97') No Sample.	
100				SS	6 11 12 13	63	23	(99') CLAY (CL); brownish yellow (10YR 6/6) with pale yellow (5Y 8/3) and red (2.5YR 5/8) mottling, moist, firm, low plasticity, trace silt, piece of large subangular gravel.	705
								(101') No Sample.	
105				SS	3 4 6 7	0	10	(103') No recovery.	700
								(105') No Sample.	
110				SS	3 4 8 20	100	12	(107') Silty CLAY (CL); yellow (2.5Y 7/6) with light olive brown (2.5Y 5/3) bands, coarse subangular gravel at 107 ft bgs. (108') Silty CLAY (CL); yellowish-brown (10YR 5/6), wet, trace fine sand, layer of white silty clay at 108 ft bgs.	695
								(109') No Sample.	
115				SS	3 6 10 18	100	16	(111') Silty CLAY (CL); olive brown (2.5Y 4/3) with some yellowish-brown (10YR 5/6) mottling from 111-112 ft bgs, wet, relict rock structure apparent, native material.	690
								(113') No Sample.	
120								(120') Boring terminated.	

NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/25/2025	Boring Depth (ft): 62	Well Depth (ft bgs): 60.89
Drilling End Date: 2/26/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.2	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.24	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.95	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244973.26, 2028152.75	Filter Pack: #20/40 Sand

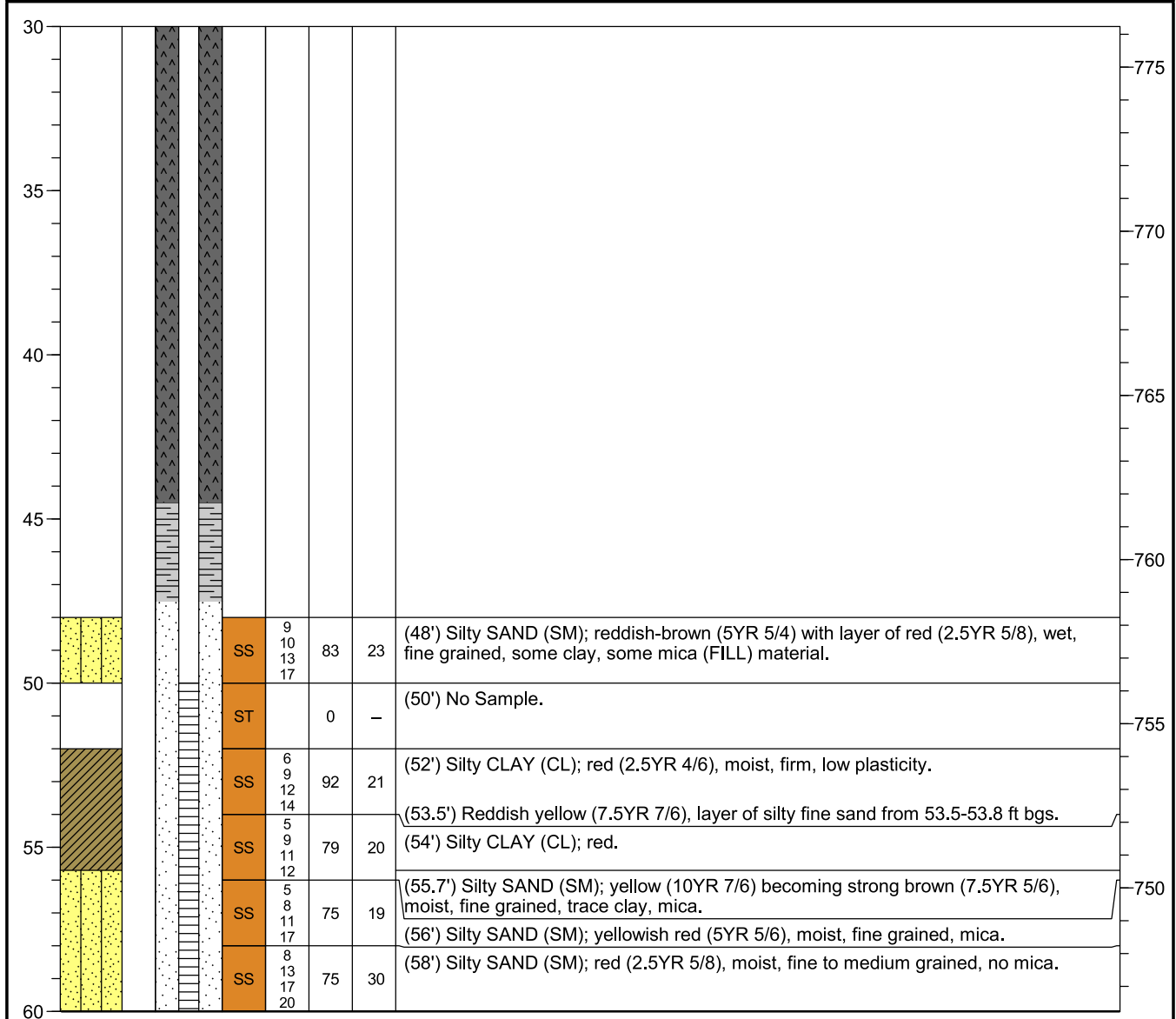
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/25/2025	Boring Depth (ft): 62	Well Depth (ft bgs): 60.89
Drilling End Date: 2/26/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.2	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.24	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.95	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244973.26, 2028152.75	Filter Pack: #20/40 Sand

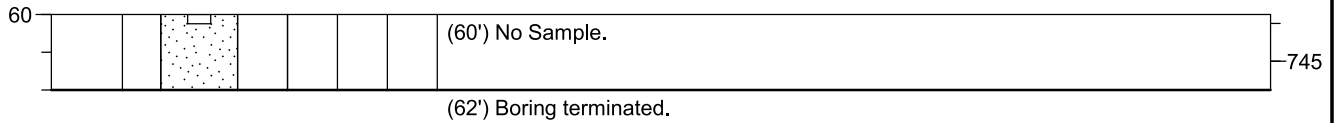
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/25/2025	Boring Depth (ft): 62	Well Depth (ft bgs): 60.89
Drilling End Date: 2/26/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 21.2	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.24	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.95	Seal Material(s): Grout, Bentonite
Logged By: A. Tomlinson	North,East (ft): 1244973.26, 2028152.75	Filter Pack: #20/40 Sand

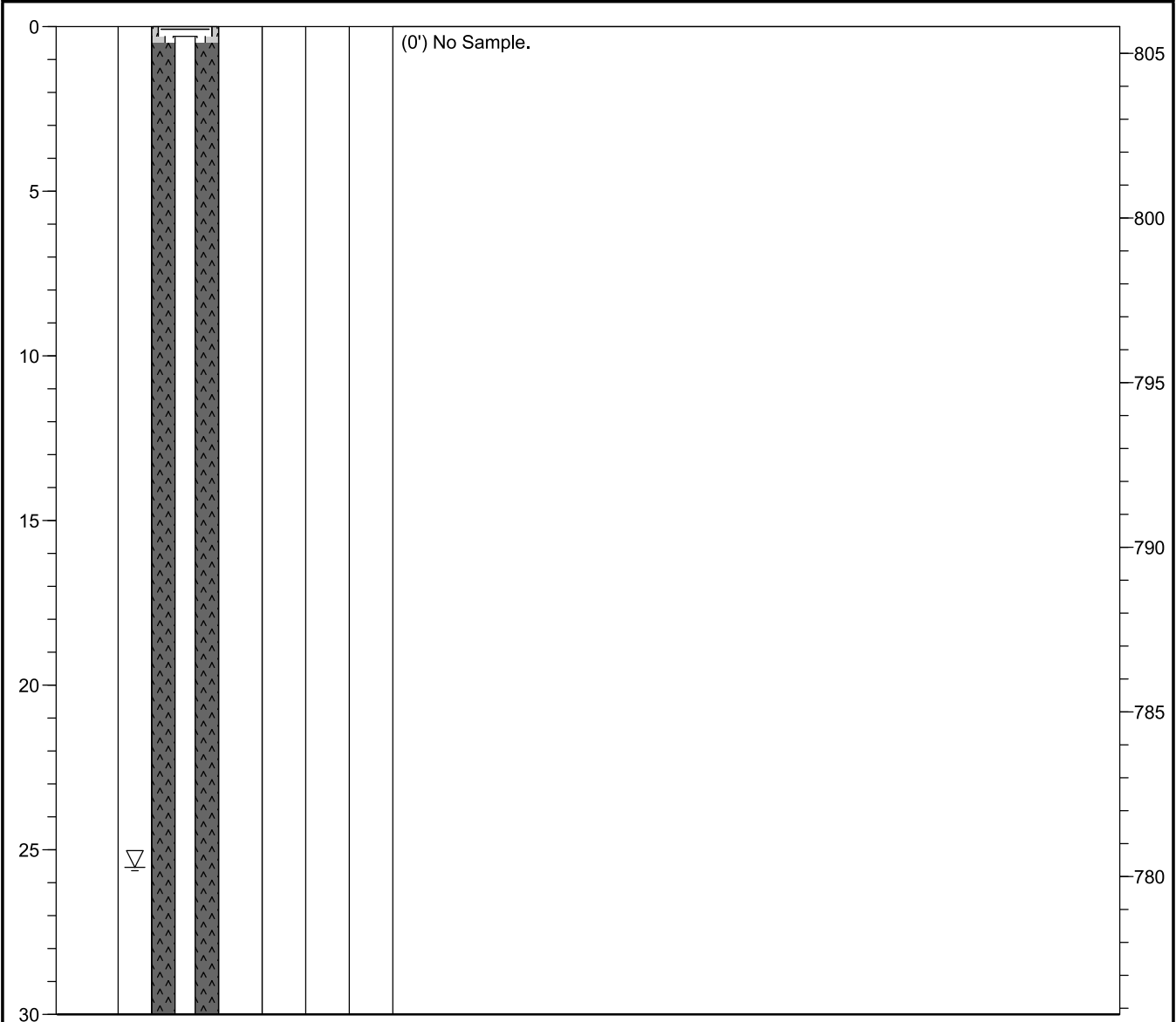
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/22/2025	Boring Depth (ft): 127	Well Depth (ft bgs): 126.35
Drilling End Date: 2/24/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.53	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.56	Seal Material(s): Grout, Bentonite
Logged By: D. Kegley	North,East (ft): 1244524.68, 2028595.96	Filter Pack: #20/40 Sand

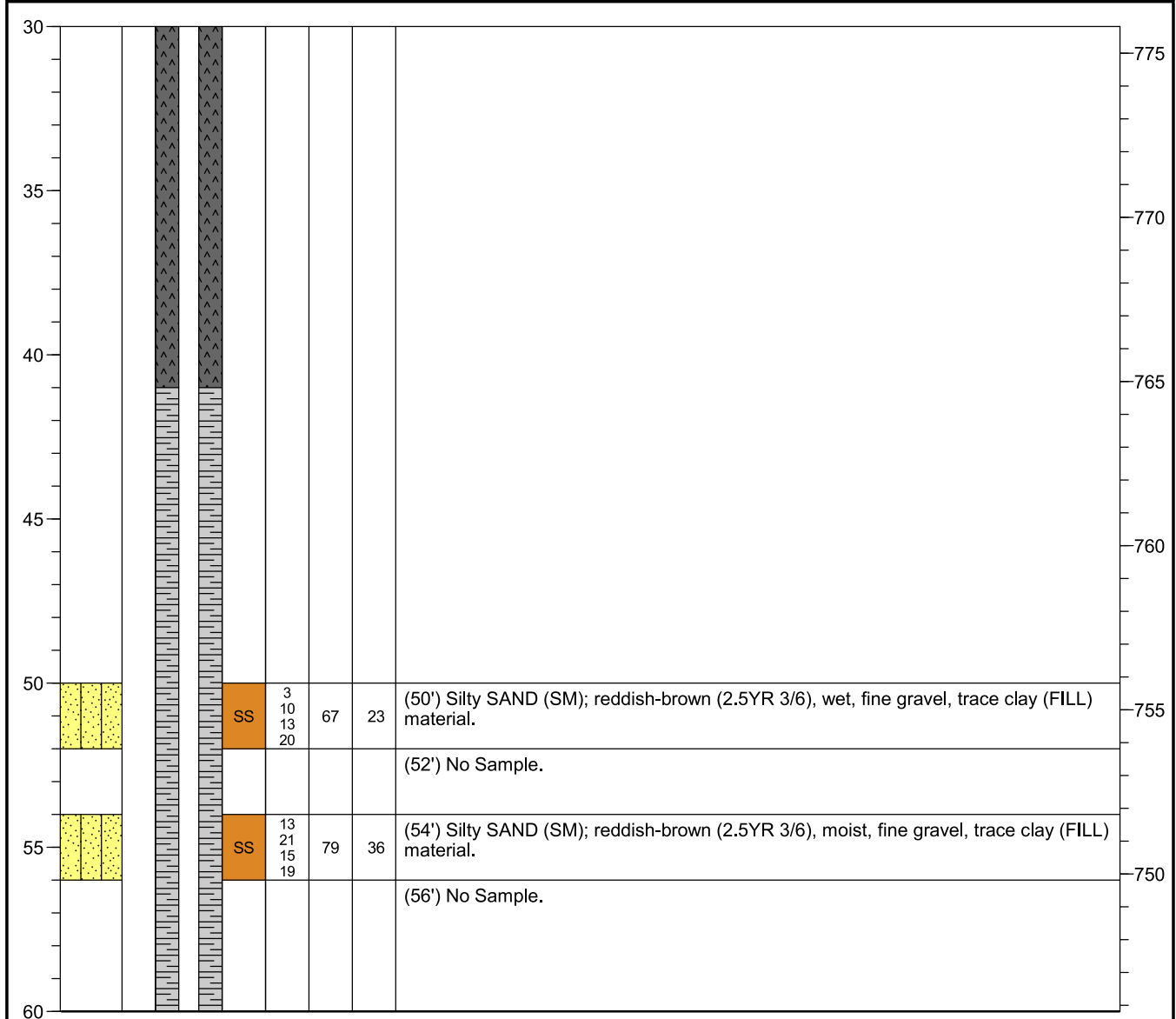
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/22/2025	Boring Depth (ft): 127	Well Depth (ft bgs): 126.35
Drilling End Date: 2/24/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.53	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.56	Seal Material(s): Grout, Bentonite
Logged By: D. Kegley	North,East (ft): 1244524.68, 2028595.96	Filter Pack: #20/40 Sand

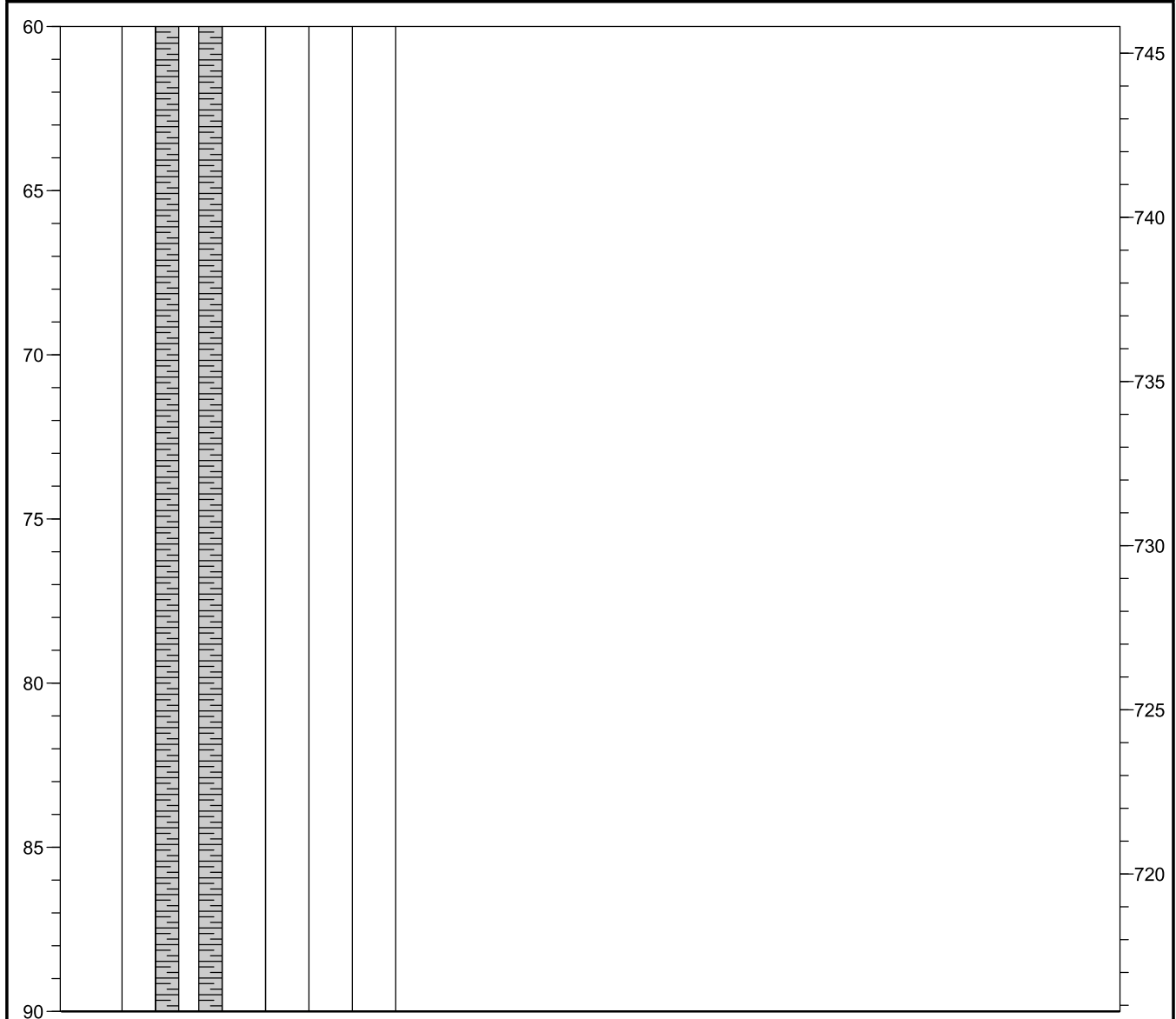
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/22/2025	Boring Depth (ft): 127	Well Depth (ft bgs): 126.35
Drilling End Date: 2/24/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.53	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.56	Seal Material(s): Grout, Bentonite
Logged By: D. Kegley	North,East (ft): 1244524.68, 2028595.96	Filter Pack: #20/40 Sand

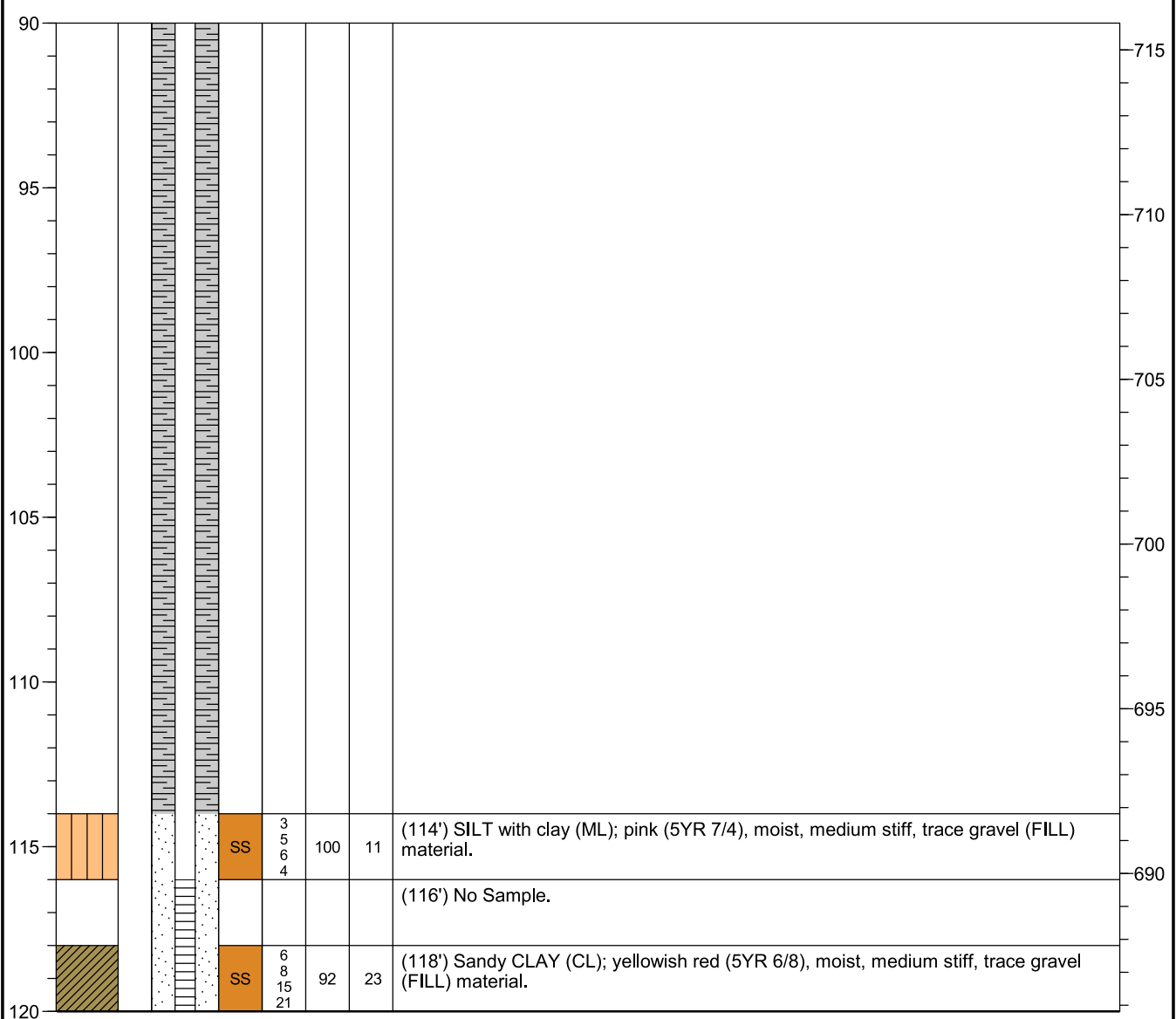
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/22/2025	Boring Depth (ft): 127	Well Depth (ft bgs): 126.35
Drilling End Date: 2/24/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.53	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.56	Seal Material(s): Grout, Bentonite
Logged By: D. Kegley	North,East (ft): 1244524.68, 2028595.96	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/22/2025	Boring Depth (ft): 127	Well Depth (ft bgs): 126.35
Drilling End Date: 2/24/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.53	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.56	Seal Material(s): Grout, Bentonite
Logged By: D. Kegley	North,East (ft): 1244524.68, 2028595.96	Filter Pack: #20/40 Sand

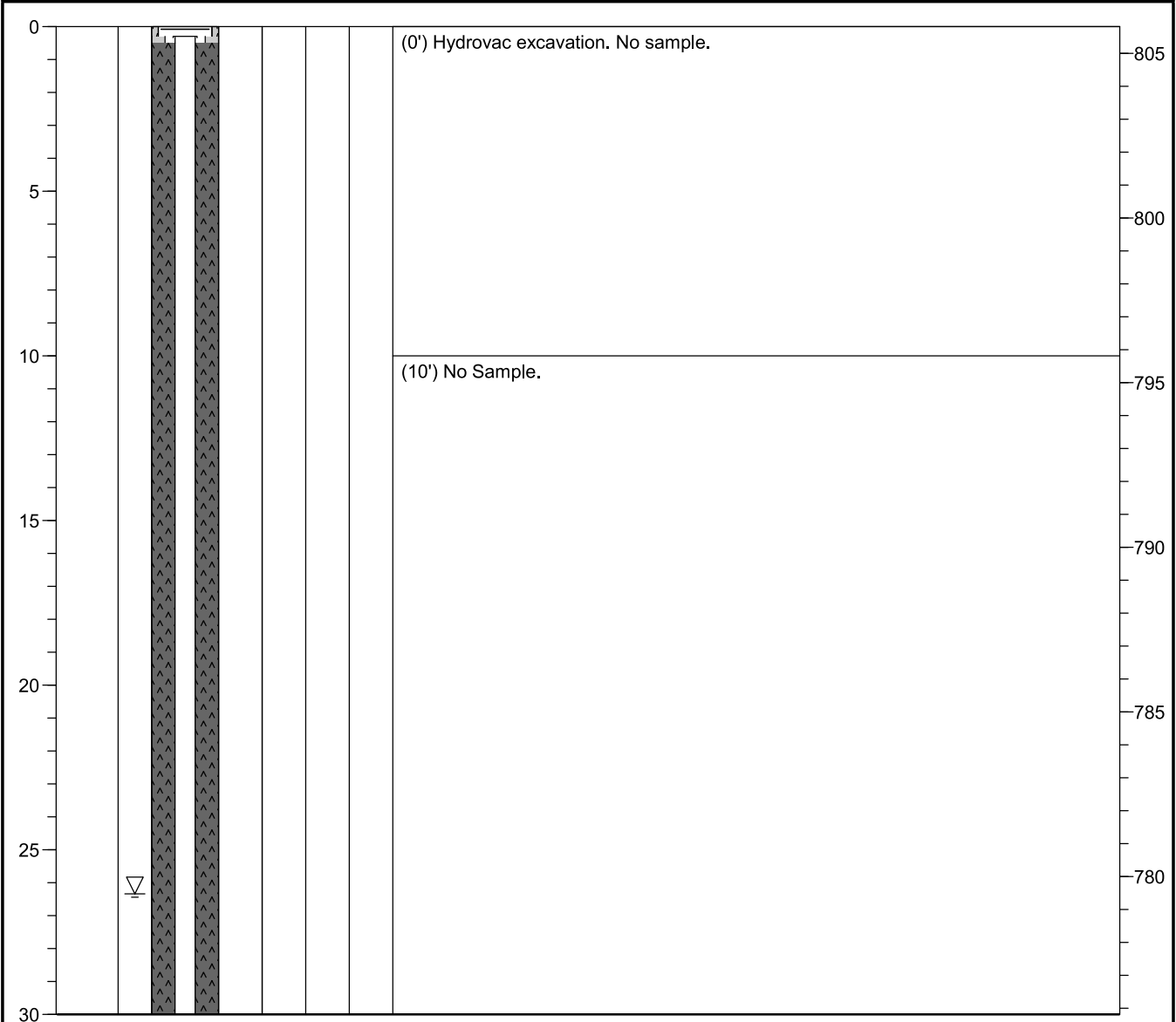
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
120								(120') No Sample.	685
				SS	6 8 23	100	14	(122') RESIDUAL SOIL; yellowish red (5YR 6/8), moist, medium stiff, abundant relict rock structure, clay, trace sand.	
125								(124') No Sample.	680

(127') Boring terminated.

NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/3/2025	Boring Depth (ft): 140	Well Depth (ft bgs): 57.89
Drilling End Date: 2/21/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.34	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.62	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1244517.48, 2028601.76	Filter Pack: #20/40 Sand

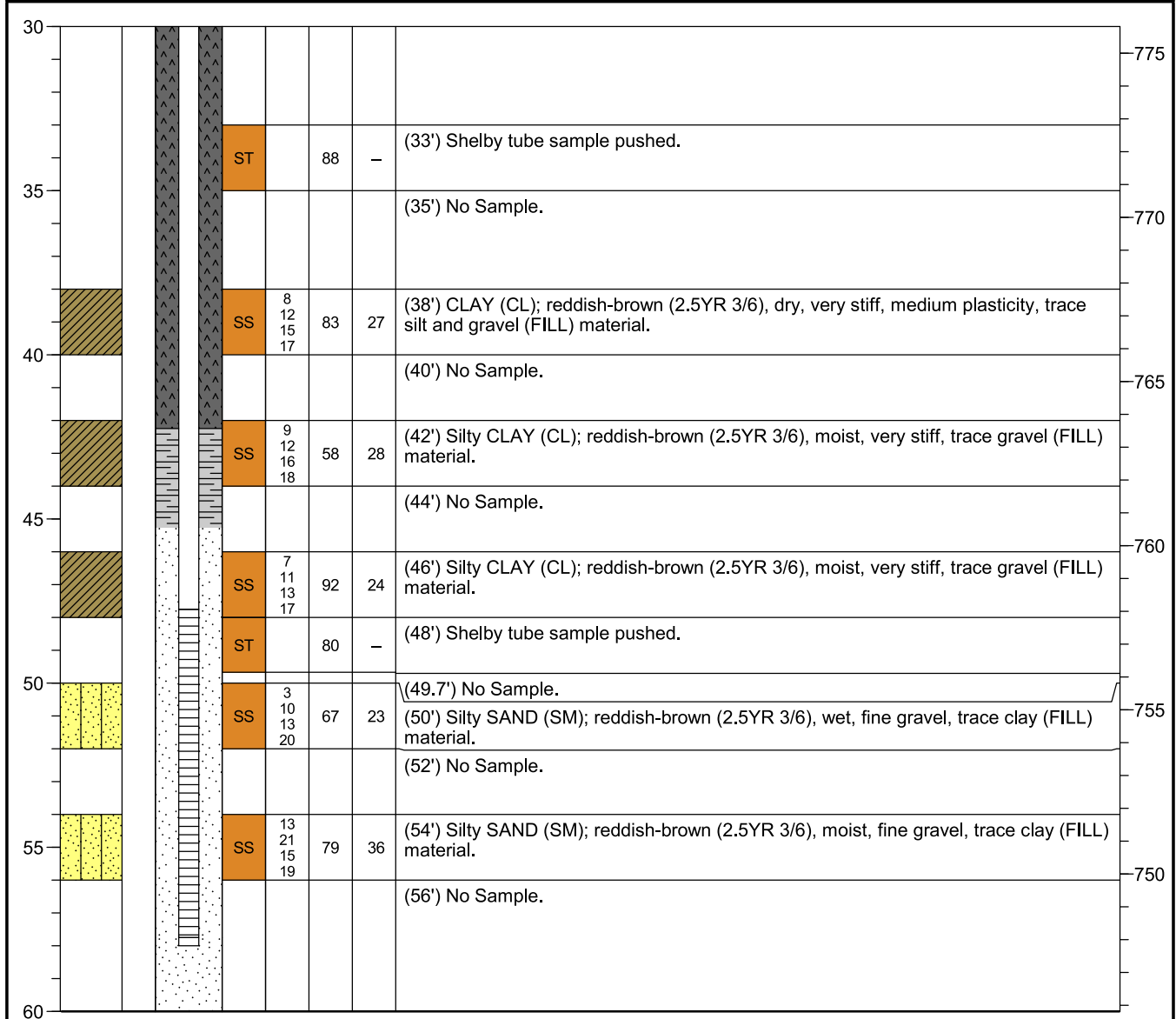
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Boring backfilled from 140-80 ft bgs with Aquaguard grout and 80-60 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/3/2025	Boring Depth (ft): 140	Well Depth (ft bgs): 57.89
Drilling End Date: 2/21/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.34	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.62	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1244517.48, 2028601.76	Filter Pack: #20/40 Sand

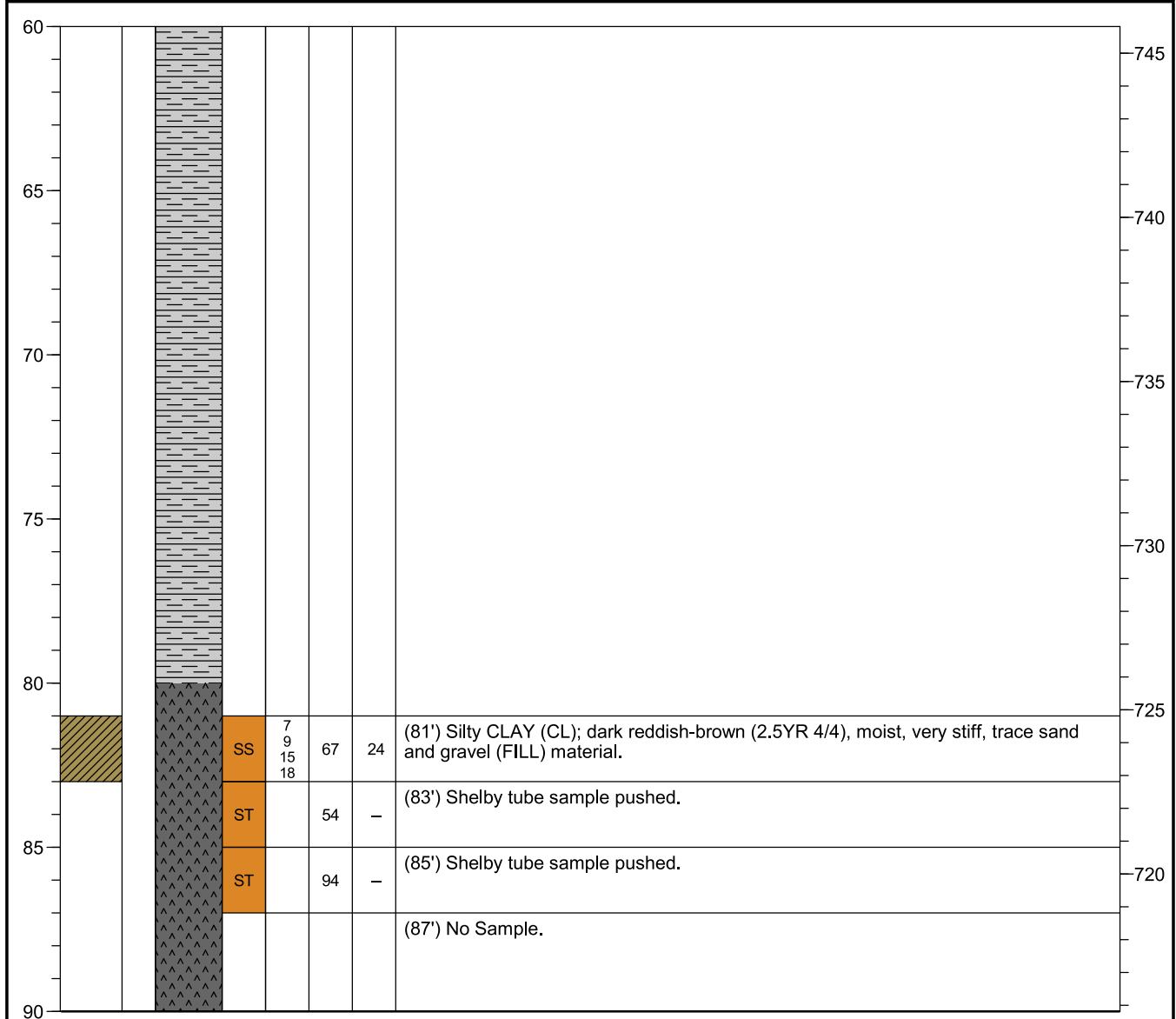
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Boring backfilled from 140-80 ft bgs with Aquaguard grout and 80-60 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/3/2025	Boring Depth (ft): 140	Well Depth (ft bgs): 57.89
Drilling End Date: 2/21/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.34	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.62	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1244517.48, 2028601.76	Filter Pack: #20/40 Sand

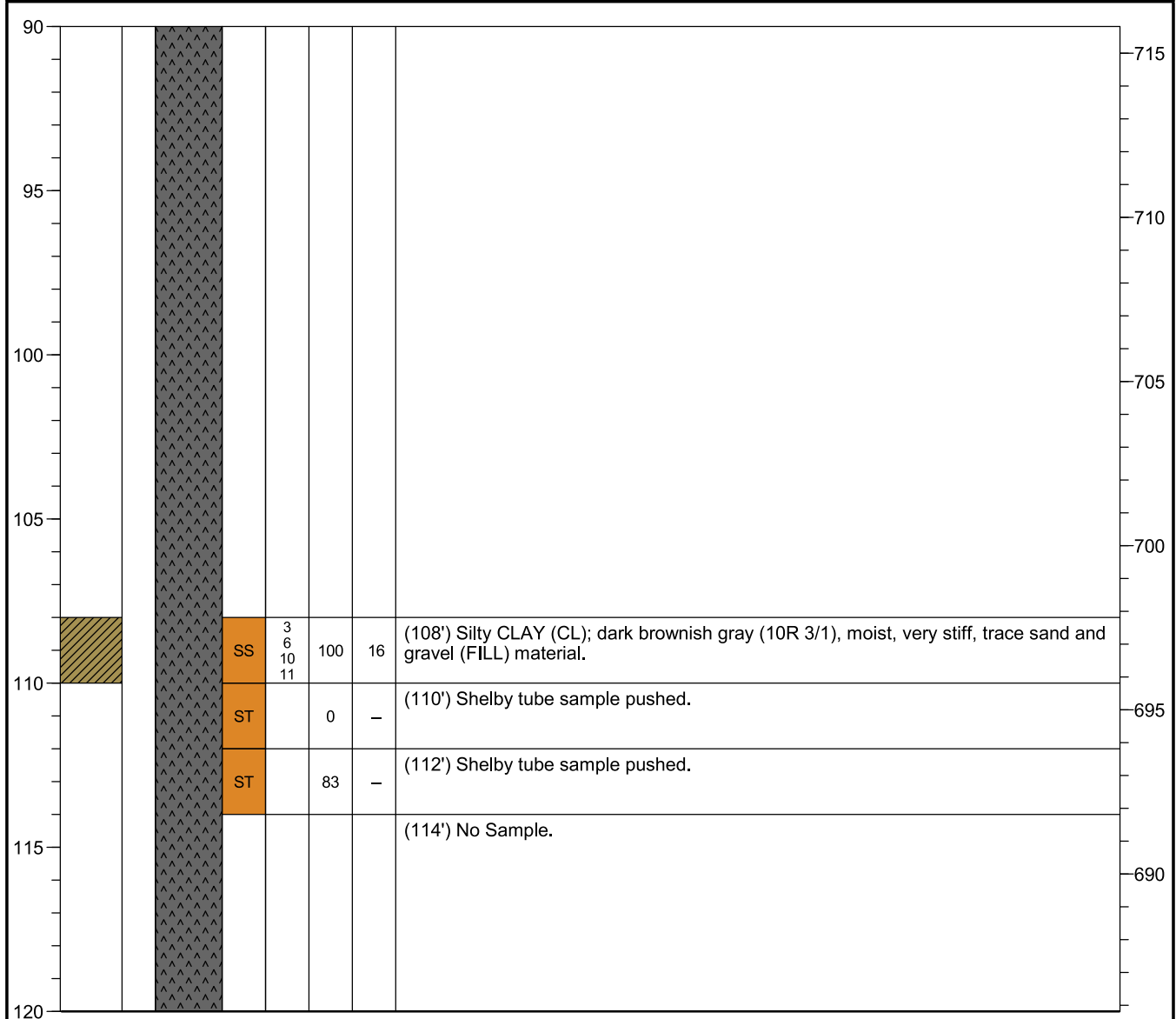
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Boring backfilled from 140-80 ft bgs with Aquaguard grout and 80-60 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/3/2025	Boring Depth (ft): 140	Well Depth (ft bgs): 57.89
Drilling End Date: 2/21/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.34	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.62	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1244517.48, 2028601.76	Filter Pack: #20/40 Sand

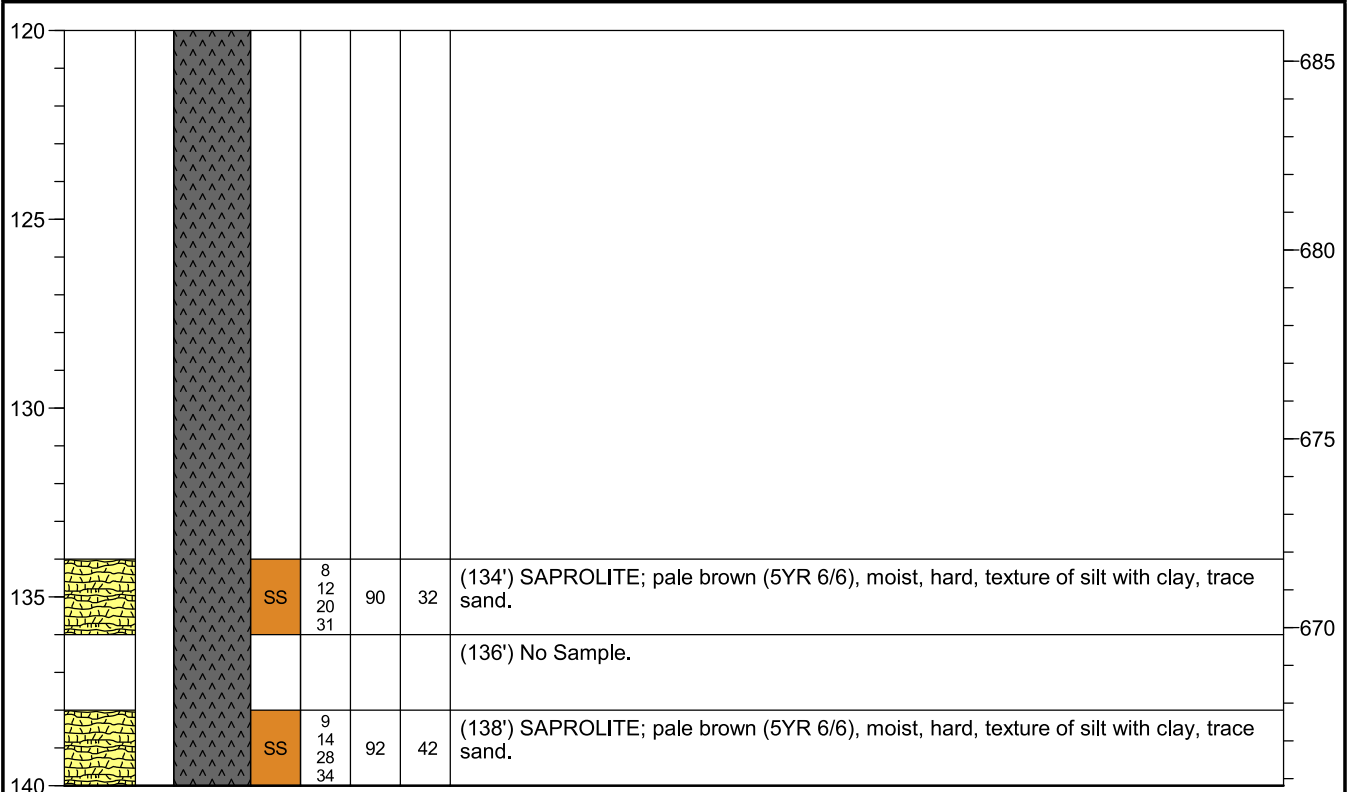
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Boring backfilled from 140-80 ft bgs with Aquaguard grout and 80-60 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/3/2025	Boring Depth (ft): 140	Well Depth (ft bgs): 57.89
Drilling End Date: 2/21/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.34	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 805.81	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 805.62	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1244517.48, 2028601.76	Filter Pack: #20/40 Sand

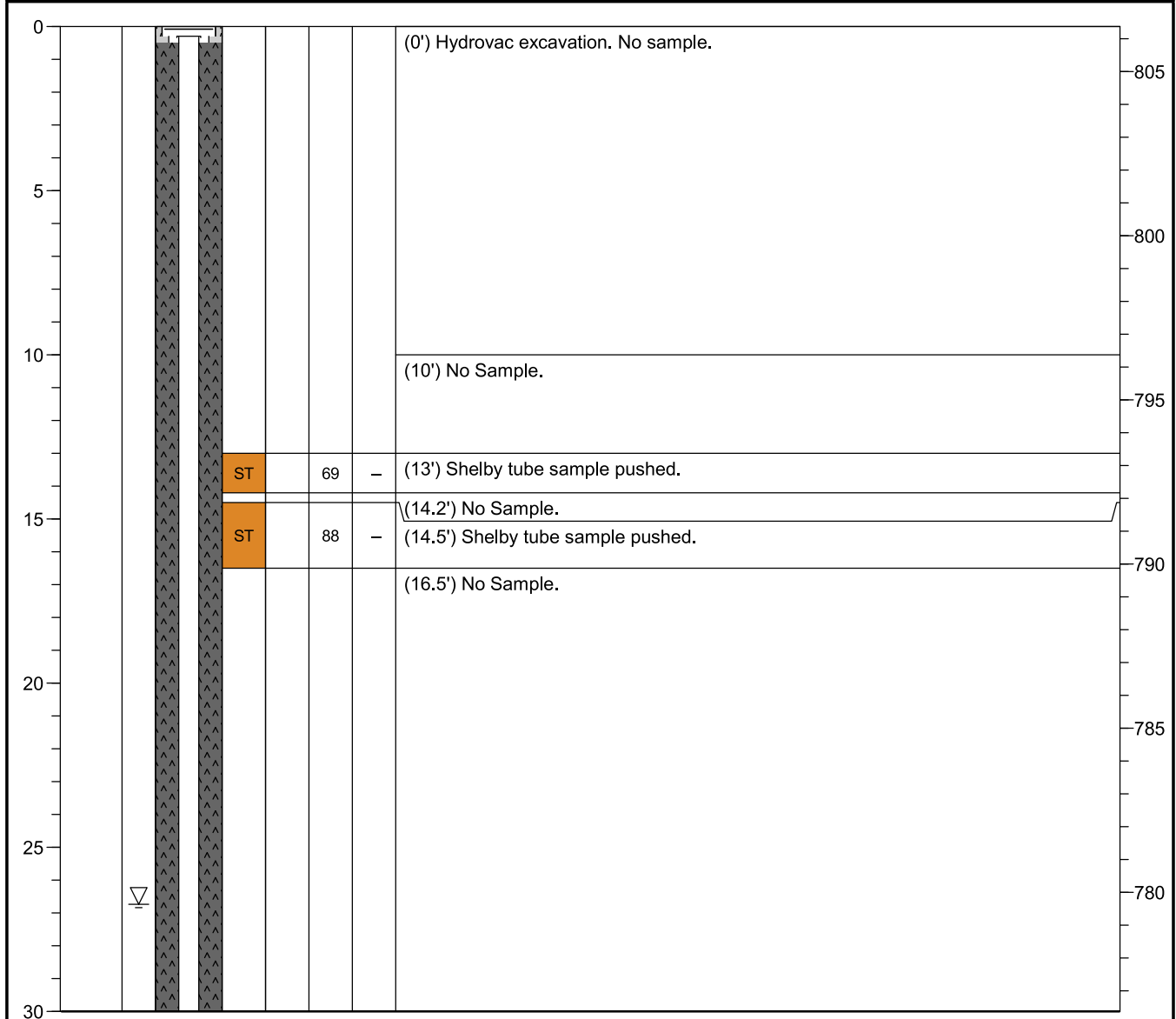
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Boring backfilled from 140-80 ft bgs with Aquaguard grout and 80-60 ft bgs with bentonite chips prior to setting the well. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 1/29/2025	Boring Depth (ft): 90	Well Depth (ft bgs): 89.98
Drilling End Date: 1/31/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.74	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.37	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.15	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1243855.62, 2029276.99	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 1/29/2025	Boring Depth (ft): 90	Well Depth (ft bgs): 89.98
Drilling End Date: 1/31/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.74	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.37	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.15	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1243855.62, 2029276.99	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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30									775
35				SS	10 12 20 26	100	32	(34') Silty CLAY with sand (CL); brownish red (5YR 6/6), moist, hard, trace gravel (FILL) material.	770
								(36') No Sample.	
40				ST		92	-	(38') Shelby tube sample pushed.	
								(40') No Sample.	765
45				SS	7 13 11 12	88	24	(42') Sandy SILT (ML); pink-gray (7.5YR 6/2), moist, very stiff, some sand, trace fine gravel (FILL) material.	
								(44') No Sample.	
50				SS	11 15 15 17	83	30	(46') Clayey SILT with sand (ML); gray (5YR 7/1), moist, hard, trace fine gravel (FILL) material.	760
								(48') No Sample.	755
55				SS	8 15 17 21	75	32	(56') SILT with clay (ML); yellowish red (5YR 7/6) to brown (5YR 4/6), moist, hard, trace sand and fine gravel (FILL) material.	750
60				ST		0	-	(58') Shelby tube sample pushed.	

NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 1/29/2025	Boring Depth (ft): 90	Well Depth (ft bgs): 89.98
Drilling End Date: 1/31/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT, Shelby Tube	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 26.74	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.37	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.15	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1243855.62, 2029276.99	Filter Pack: #20/40 Sand

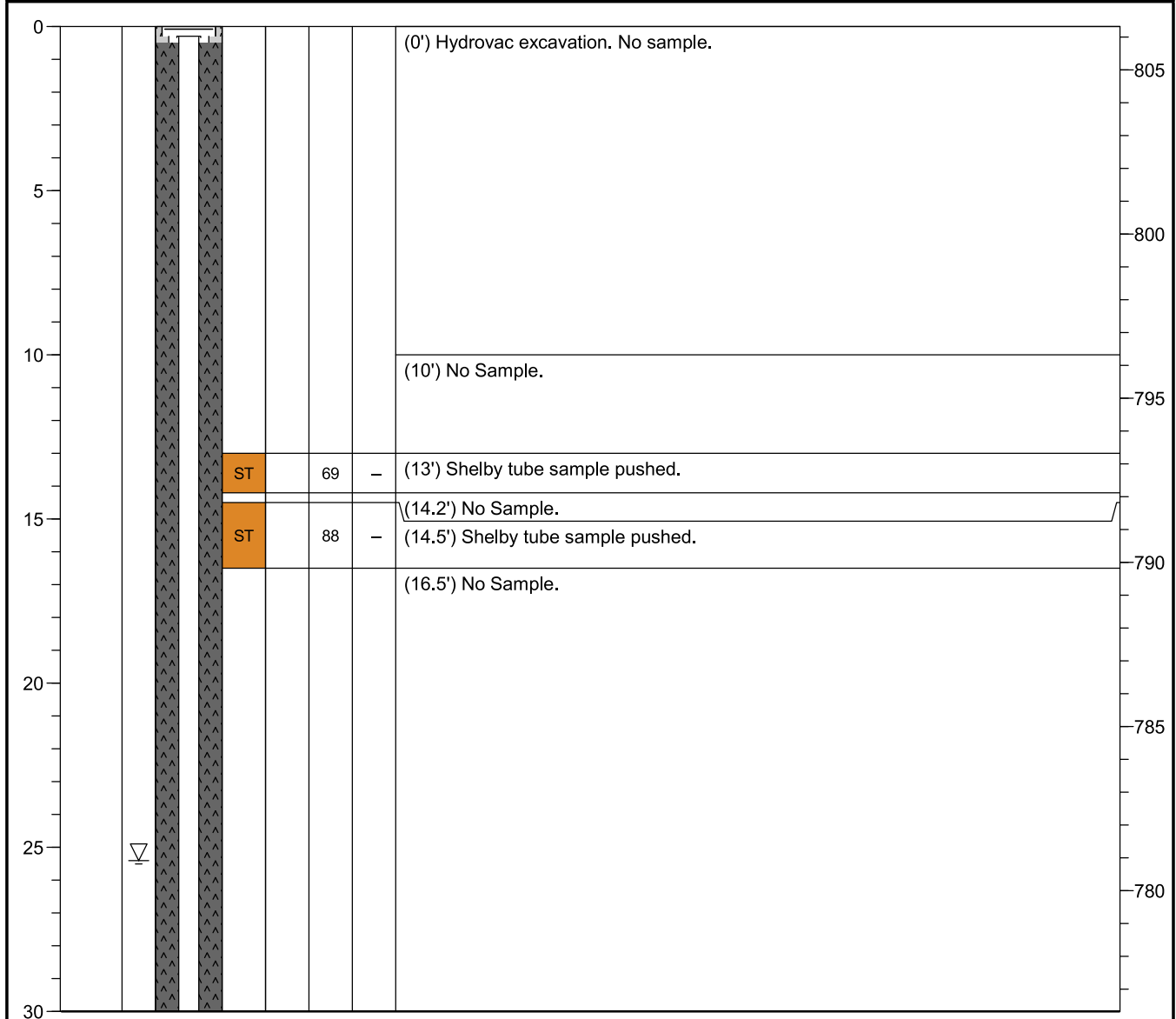
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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60				ST		60	-	(60') Shelby tube sample pushed.	745
								(61.8') No Sample.	
				ST		76	-	(63') Shelby tube sample pushed.	
65								(65') No Sample.	740
70									735
75									730
80				SS	27	50/4.5	95	(81') PARTIALLY WEATHERED ROCK; wet, recovered as silty sand with fine gravel, relict rock (gneiss/quartzite?).	725
								(83') No Sample.	
85				SS	50/2	74	-	(85') PARTIALLY WEATHERED ROCK; wet, recovered as silty sand with fine gravel, relict rock (gneiss/quartzite?).	720
								(87') No Sample.	
90				SS	50/1.5	67	-	(88') PARTIALLY WEATHERED ROCK; wet, recovered as silty sand with fine gravel, relict rock (gneiss/quartzite?).	
								(90') Boring terminated.	

NOTES: Boring cleared to 10 ft bgs using hydrovac. Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

Drilling Start Date: 2/2/2025	Boring Depth (ft): 60	Well Depth (ft bgs): 59.76
Drilling End Date: 2/2/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.41	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.32	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.07	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatsis	North,East (ft): 1243844.64, 2029287.40	Filter Pack: #20/40 Sand

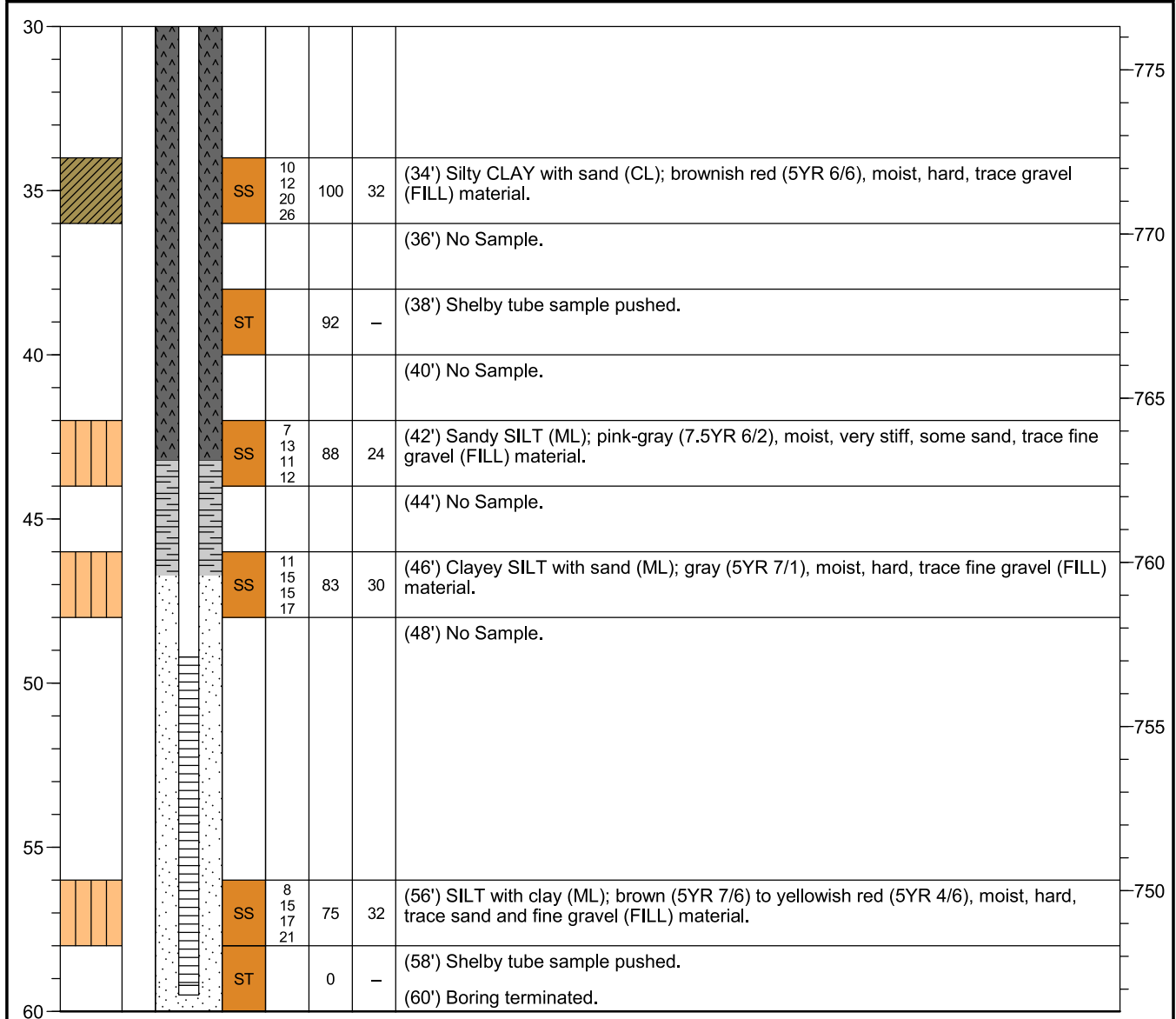
DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

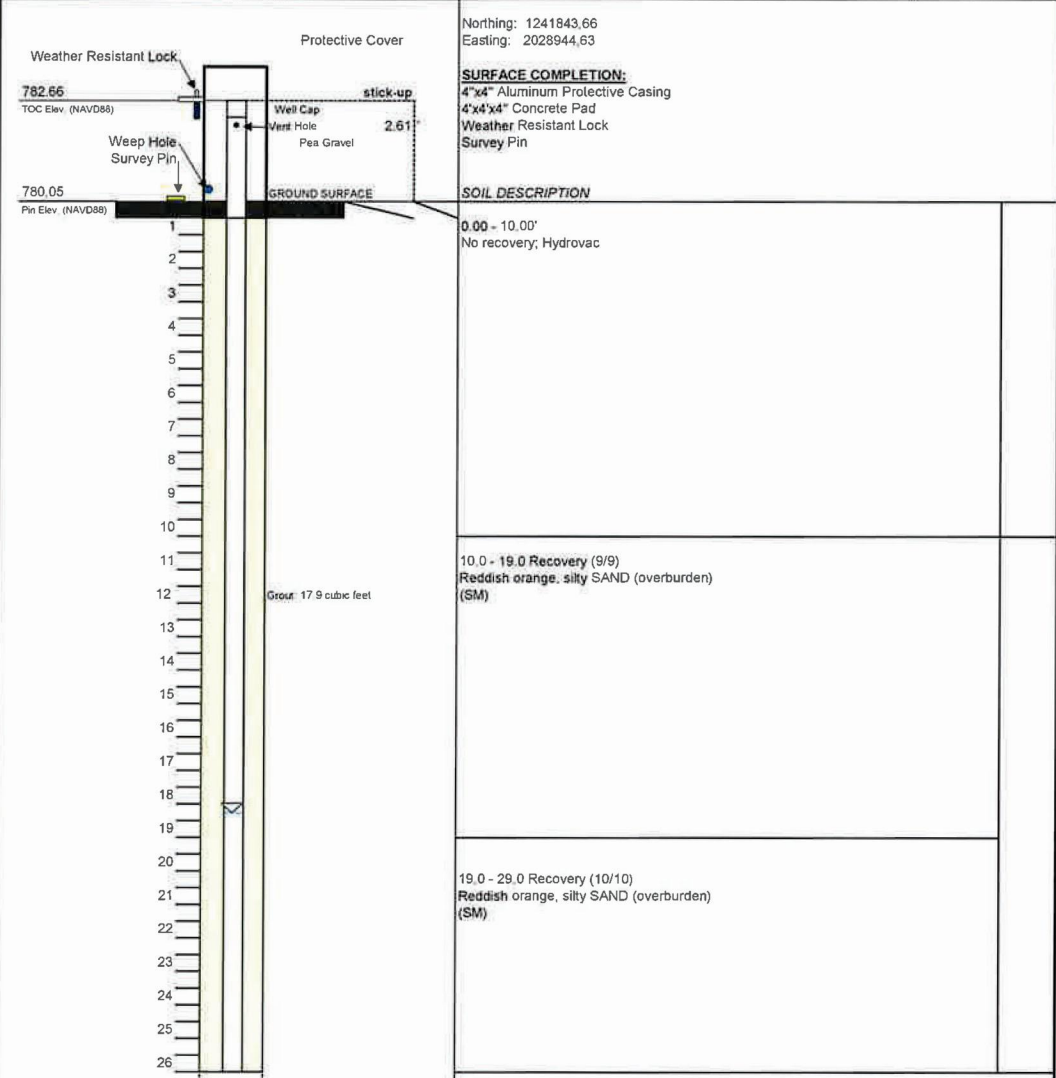
Drilling Start Date: 2/2/2025	Boring Depth (ft): 60	Well Depth (ft bgs): 59.76
Drilling End Date: 2/2/2025	Boring Diameter (in): 6.875	Well Diameter (in): 2
Drilling Company: Thompson Engineering	Sampling Method(s): SPT	Screen Slot (in): 0.010
Drilling Method: Mud Rotary	Depth to Water (ft btoc): 25.41	Riser Material: Sch 40 PVC
Drilling Equipment: CME 550X	Ground Surface Elev. (ft): 806.32	Screen Material: Sch 40 PVC Slotted
Driller: R. Odom	Top of Casing Elev. (ft): 806.07	Seal Material(s): Grout, Bentonite
Logged By: G. Kouvatzis	North,East (ft): 1243844.64, 2029287.40	Filter Pack: #20/40 Sand

DEPTH (FT)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	Sample Type	Blow Counts	Recovery (%)	N Value	SOIL/ROCK VISUAL DESCRIPTION	ELEVATION (FT NAVD88)
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NOTES: Well sealed with cement-bentonite grout and bentonite pellets. Well completed with 4 inch long PVC sump below well screen, and flush mount PVC riser with metal protective cover. Well depth measured from ground surface. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988.

ATLANTIC COAST CONSULTING, INC.		WAMW-1	
		BORING ID	
PROJECT:	Plant Wansley - Ash Pond	PROJECT NO.:	1054-110
TOTAL DEPTH:	124.94 ft. TOC	SITE LOCATION:	Carrollton, Georgia
DATE BEGIN:	7-Sep-2018	DRILLER:	Issac Youub
DATE COMPLETE:	16-Sep-2018	RIG TYPE:	T-300 Rotosonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic
SUPERVISED BY:	Ryan Walker	TOC Elev.	782.66 NAVD88
WATER 1ST ENCOUNTERED:	55' BGS		
WATER AFTER 48 HOURS:	21.34' TOC		



Northing: 1241943.66
Easting: 2028944.63

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

SOIL DESCRIPTION
0.00 - 10.00'
No recovery; Hydrovac

10.0 - 19.0 Recovery (9/9)
Reddish orange, silty SAND (overburden) (SM)

19.0 - 29.0 Recovery (10/10)
Reddish orange, silty SAND (overburden) (SM)

MATERIALS:

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

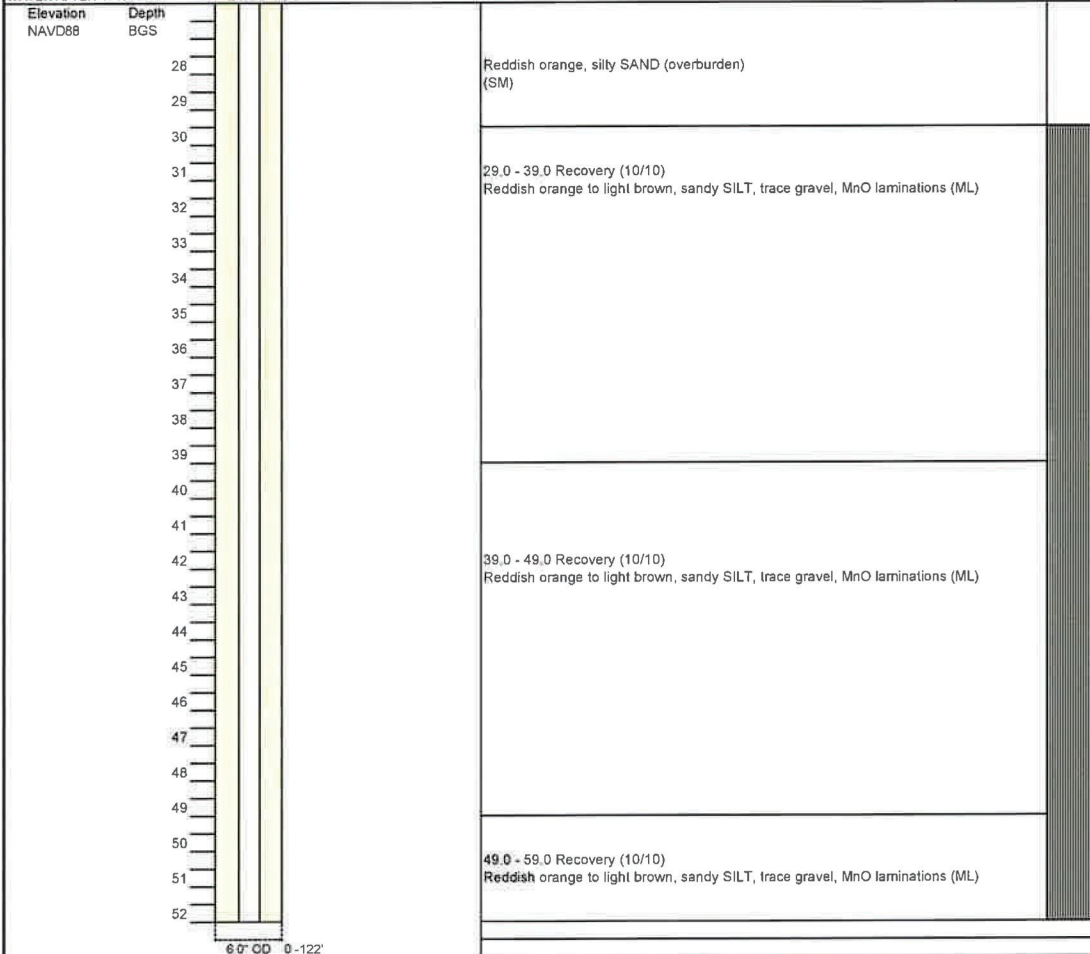
TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
NAVD88 - North American Vertical Datum of 1988
BGS - Below Ground Surface








ATLANTIC COAST CONSULTING, INC.

WAMW-1
BORING ID

PROJECT: Plant Wansley - Ash Pond PROJECT NO.: 1054-110
TOTAL DEPTH: 124.94 ft. TOC SITE LOCATION: Carrollton, Georgia
DATE BEGIN: 14-Sep-2018 DRILLER: Issac Youub
DATE COMPLETE: 16-Sep-2018 RIG TYPE: T-300 Rotosonic
INSTALLED BY: Cascade METHOD: Rotosonic
SUPERVISED BY: Ryan Walker TOC Elev. 782.66 NAVD86
WATER 1ST ENCOUNTERED: 55' BGS
WATER AFTER 48 HOURS: 21.34' TOC



MATERIALS:

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

TOC - Top of Casing
ID - Inside Diameter; OD - Outside Diameter
NAVD88 - North American Vertical Datum of 1988
BGS - Below Ground Surface



ATLANTIC COAST CONSULTING, INC.

WAMW-1

BORING ID

PROJECT: Plant Wansley - Ash Pond

PROJECT NO.: 1054-110

TOTAL DEPTH: 124.94 ft TOC

SITE LOCATION: Carrollton, Georgia

DATE BEGIN: 14-Sep-2018

DRILLER: Issac Youub

DATE COMPLETE: 16-Sep-2018

RIG TYPE: T-300 Rotosonic

INSTALLED BY: Cascade

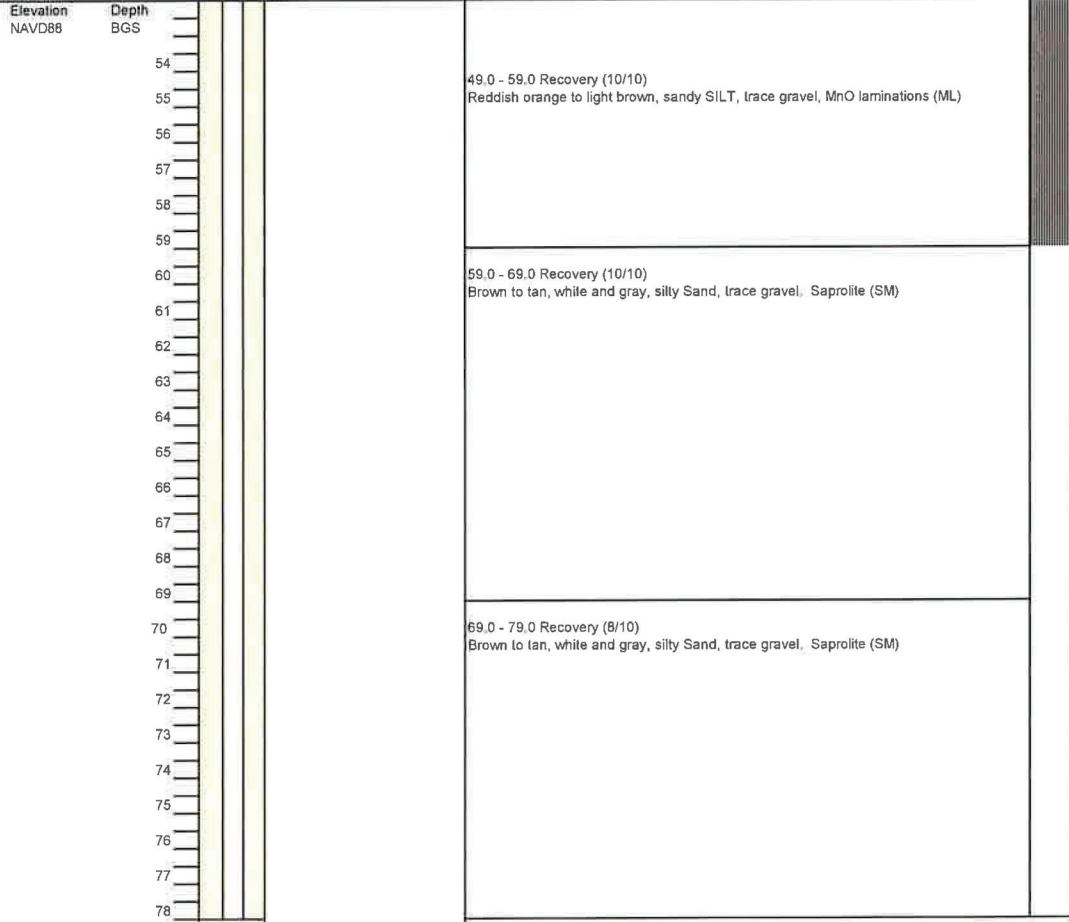
METHOD: Rotosonic

SUPERVISED BY: Ryan Walker

TOC Elev. 782.66 NAVD88

WATER 1ST ENCOUNTERED: 55' BGS

WATER AFTER 48 HOURS: 21.34' TOC



MATERIALS:

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

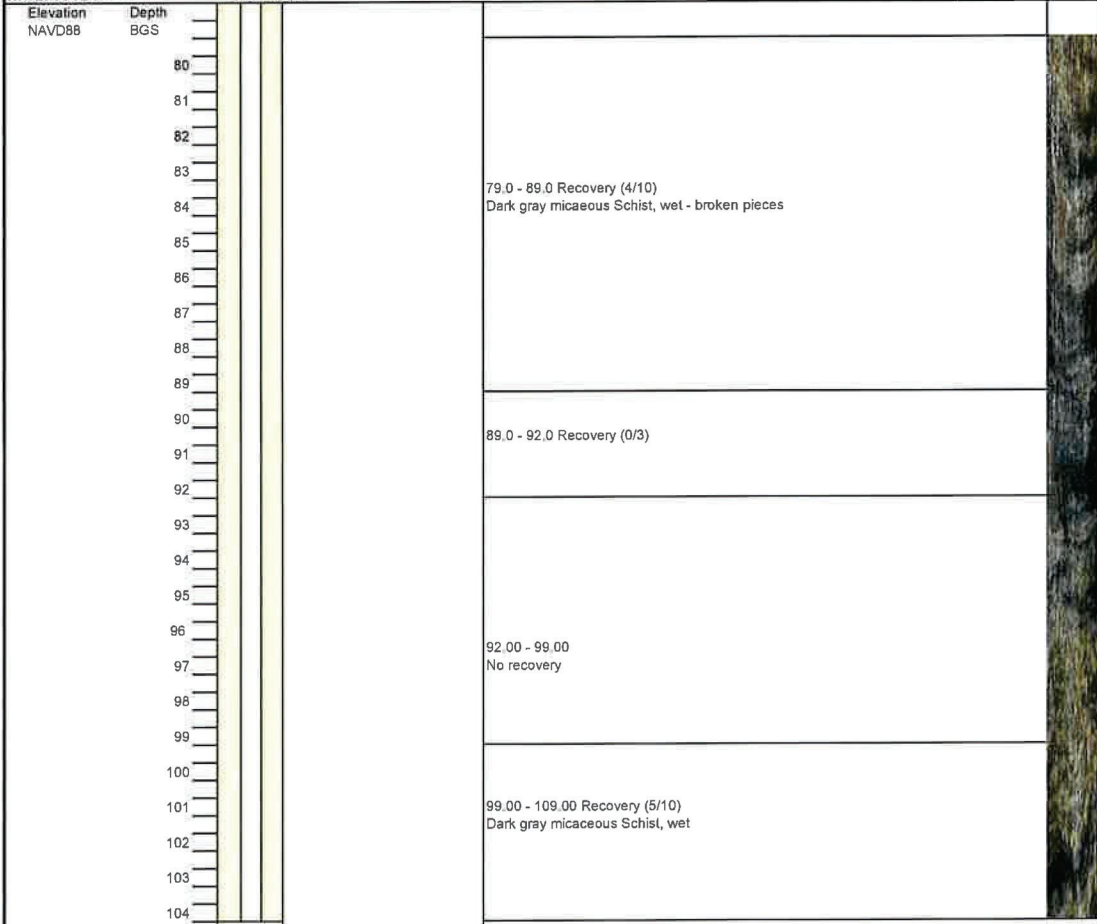
TOC - Top of Casing
 ID - Inside Diameter, OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface



ATLANTIC COAST CONSULTING, INC.

WAMW-1
BORING ID

PROJECT:	Plant Wansley - Ash Pond	PROJECT NO.:	1054-110
TOTAL DEPTH:	124.94 ft. TOC	SITE LOCATION:	Carrollton, Georgia
DATE BEGIN:	14-Sep-2018	DRILLER:	Issac Youub
DATE COMPLETE:	16-Sep-2018	RIG TYPE:	T-300 Rotosonic
INSTALLED BY:	Cascade	METHOD:	Rotosonic
SUPERVISED BY:	Ryan Walker	TOC Elev.	782.66 NAVD88
WATER 1ST ENCOUNTERED:	55' BGS		
WATER AFTER 48 HOURS:	21.34' TOC		



MATERIALS:

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

TOC - Top of Casing
 ID - Inside Diameter; OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface



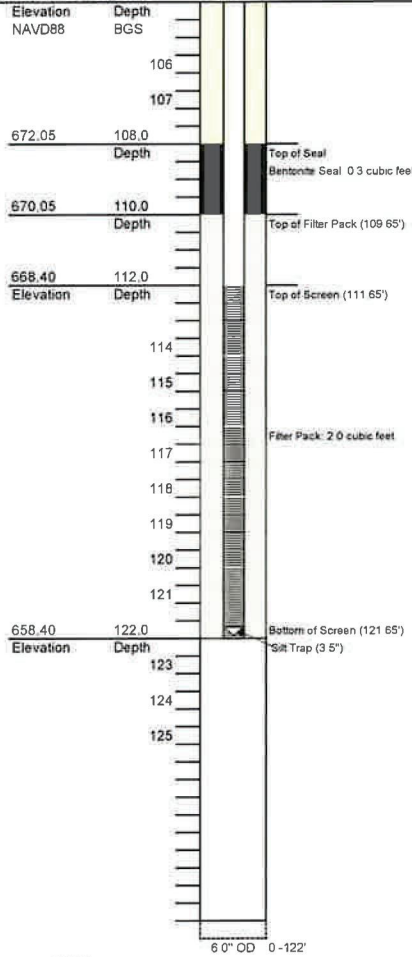
ATLANTIC COAST CONSULTING, INC.

WAMW-1

BORING ID

PROJECT: Plant Wansley - Ash Pond PROJECT NO.: 1054-110
 TOTAL DEPTH: 124.94 ft TOC SITE LOCATION: Carrollton, Georgia
 DATE BEGIN: 14-Sep-2018 DRILLER: Issac Youub
 DATE COMPLETE: 16-Sep-2018 RIG TYPE: T-300 Rotosonic
 INSTALLED BY: Cascade METHOD: Rotosonic
 SUPERVISED BY: Ryan Walker TOC Elev. 782.66 NAVD88

WATER 1ST ENCOUNTERED: 55' BGS
 WATER AFTER 48 HOURS: 21.34' TOC



99.00 - 109.00 Recovery (5/10)
Dark gray micaceous Schisl, wet

109.00 - 119.00 Recovery (0/10)
No recovery

115.00 - 118.00
Large fracture, produces groundwater


119.0 - 125.0 Recovery (0/6)
No recovery

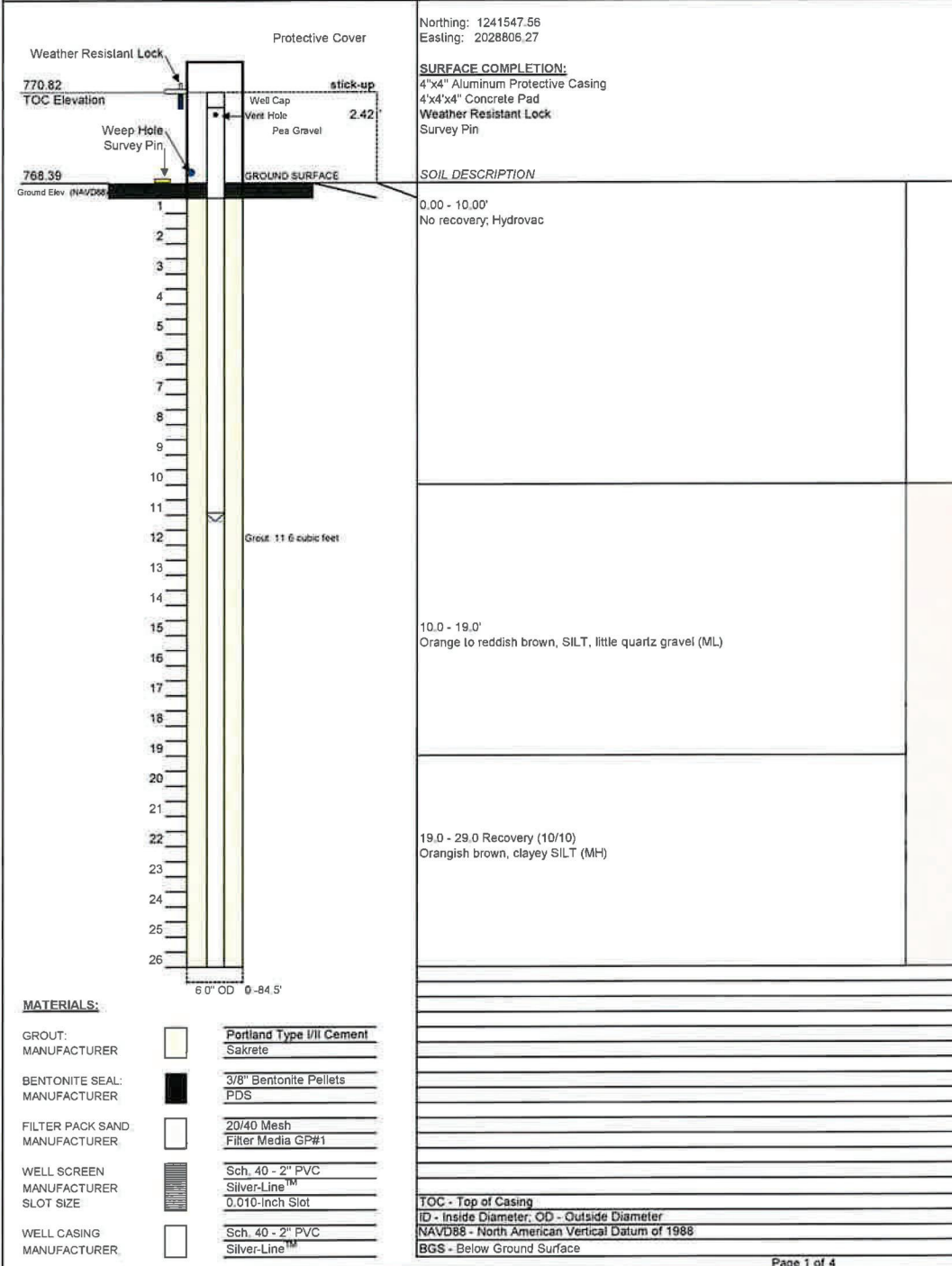
Boring terminated at 125' BGS

MATERIALS:

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

TOC - Top of Casing
 ID - Inside Diameter, OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface

 ATLANTIC COAST CONSULTING, INC.		WAMW-2 BORING ID
PROJECT: Plant Wansley - Ash Pond TOTAL DEPTH: 85.14 ft. TOC DATE BEG: 12-Sep-2018 DATE COMPLETE: 14-Sep-2018 INSTALLED BY: Cascade SUPERVISED BY: Ryan Walker WATER 1ST ENCOUNTERED: 44' BGS WATER AFTER 48 HOURS: 14.42' TOC	PROJECT NO.: J054-110 SITE LOCATION: Carrollton, Georgia DRILLER: Issac Youub RIG TYPE: T-300 Rotosonic METHOD: Rotosonic TOC Elev.: 770.82 NAVD88	





ATLANTIC COAST CONSULTING, INC.

WAMW-2

BORING ID

PROJECT: Plant Wansley - Ash Pond

PROJECT NO.: J054-110

TOTAL DEPTH: 86.14 ft. TOC

SITE LOCATION: Carrollton, Georgia

DATE BEGIN: 12-Sep-2018

DRILLER: Issac Youub

DATE COMPLETE: 14-Sep-2018

RIG TYPE: T-300 Rotosonic

INSTALLED BY: Cascade

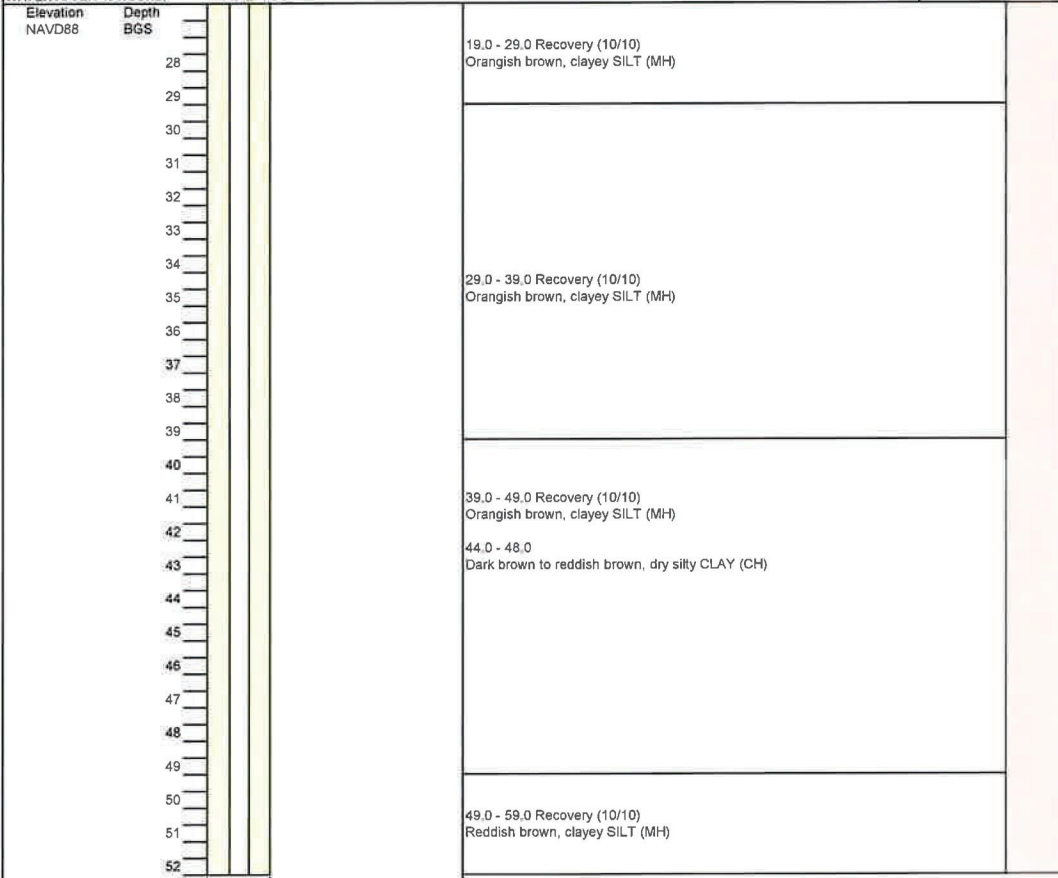
METHOD: Rotosonic

SUPERVISED BY: Ryan Walker

TOC Elev. 770.82 NAVD88

WATER 1ST ENCOUNTERED: 44' BGS

WATER AFTER 48 HOURS: 14.42' TOC



MATERIALS:

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

TOC - Top of Casing
 ID - Inside Diameter, OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface



ATLANTIC COAST CONSULTING, INC.

WAMW-2

BORING ID

PROJECT: Plant Wansley - Ash Pond

PROJECT NO.: 1054-110

TOTAL DEPTH: 86.14 ft TOC

SITE LOCATION: Carrollton, Georgia

DATE BEG: 12-Sep-2018

DRILLER: Issac Youub

DATE COMPLETE: 14-Sep-2018

RIG TYPE: T-300 Rotosonic

INSTALLED BY: Cascade

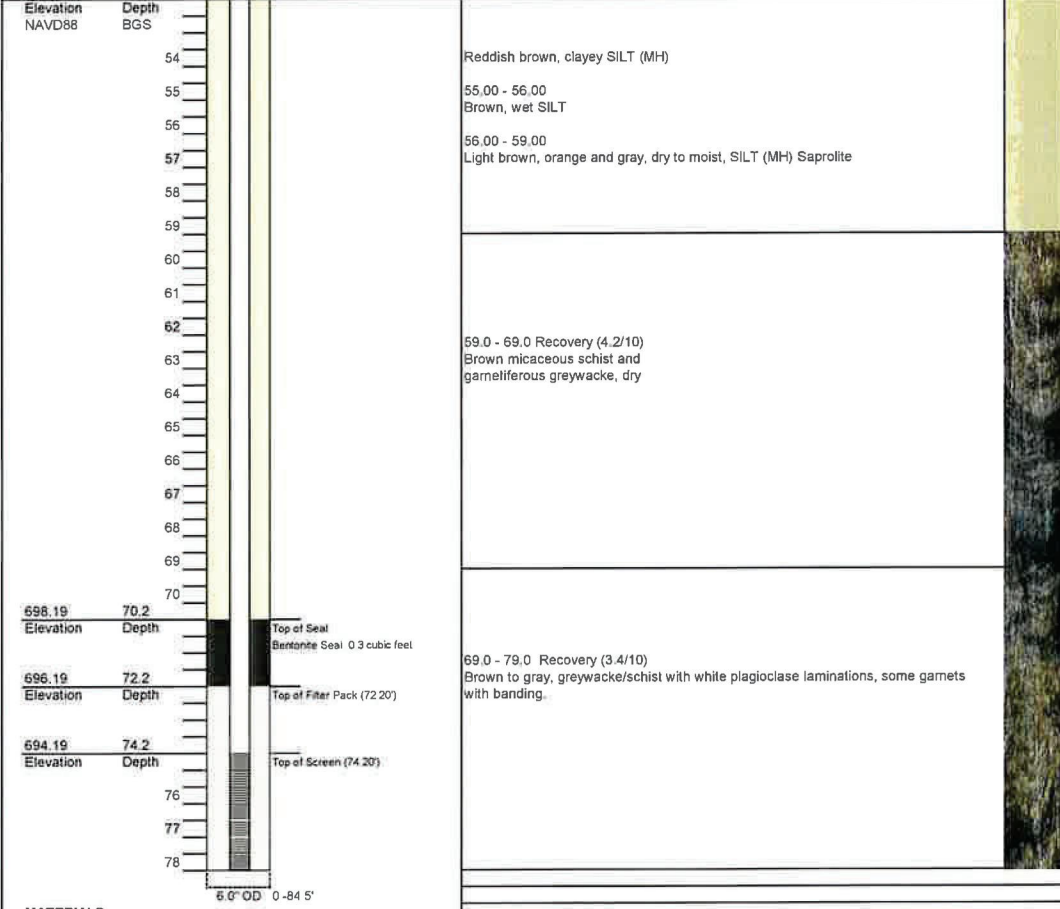
METHOD: Rotosonic

SUPERVISED BY: Ryan Walker

TOC Elev. 770.82 NAVD88

WATER 1ST ENCOUNTERED: 44' BGS

WATER AFTER 48 HOURS: 14.42 TOC



MATERIALS:

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

TOC - Top of Casing
 ID - Inside Diameter; OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface



ATLANTIC COAST CONSULTING, INC.

WAMW-2

BORING ID

PROJECT: Plant Wansley - Ash Pond

PROJECT NO.: 1054-110

TOTAL DEPTH: 86.14 ft TOC

SITE LOCATION: Carrollton, Georgia

DATE BEGIN: 12-Sep-2018

DRILLER: Issac Youub

DATE COMPLETE: 14-Sep-2018

RIG TYPE: T-300 Rotosonic

INSTALLED BY: Cascade

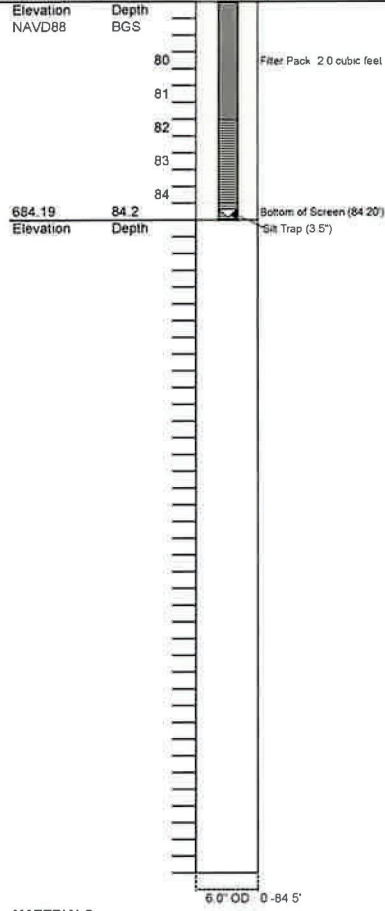
METHOD: Rotosonic

SUPERVISED BY: Ryan Walker

TOC Elev. 770.82 NAVD88

WATER 1ST ENCOUNTERED: 44' BGS

WATER AFTER 48 HOURS: 14.42' TOC



69.0 - 79.0 Recovery (3.4/10)

79.0 - 84.0 Recovery (1.0/5.0)

Dark brown to gray, wet micaceous, Schist/Greywacke with banding

Boring terminated at 84.5' BGS



MATERIALS:

GROUT: MANUFACTURER:	<input type="checkbox"/>	Portland Type I/II Cement Sakrete
BENTONITE SEAL: MANUFACTURER:	<input type="checkbox"/>	3/8" Bentonite Pellets PDS
FILTER PACK SAND: MANUFACTURER:	<input type="checkbox"/>	20/40 Mesh Filter Media GP#1
WELL SCREEN: MANUFACTURER: SLOT SIZE:	<input type="checkbox"/>	Sch, 40 - 2" PVC Silver-Line™ 0.010-inch Slot
WELL CASING: MANUFACTURER:	<input type="checkbox"/>	Sch, 40 - 2" PVC Johnson Screens™

TOC - Top of Casing
 ID - Inside Diameter; OD - Outside Diameter
 NAVD88 - North American Vertical Datum of 1988
 BGS - Below Ground Surface



LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/12/2014 COMPLETED 12/12/2014 SURF. ELEV. 853.91 COORDINATES: N:1240249.86 E:2022319.93

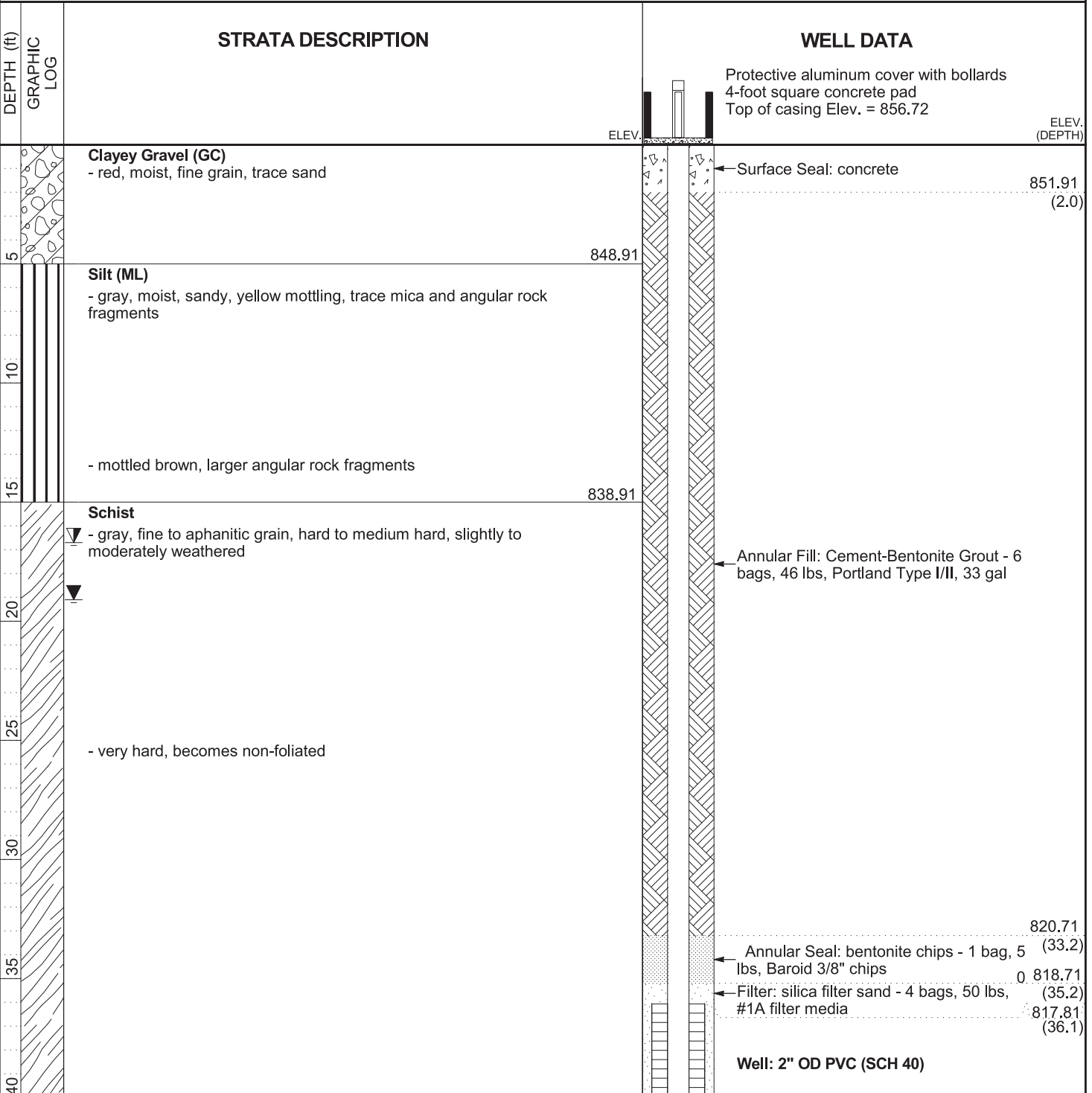
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 47.6 ft. GROUND WATER DEPTH: DURING _____ COMP. 19.1 ft. DELAYED 16.7 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



LOG OF TEST BORING AND WELL INSTALLATION

BORING PZ-01
PAGE 2 OF 2
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SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

DEPTH (ft)	GRAPHIC LOG	STRATA DESCRIPTION		WELL DATA
45		Schist(Con't)	ELEV. (CONTINUED)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 856.72 Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack Sump: 0.40 ft.
			806.31	ELEV. (DEPTH) 807.81 (46.1)

Bottom of borehole at 47.6 feet.



LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/22/2014 COMPLETED 12/22/2014 SURF. ELEV. 886.13 COORDINATES: N:1242592.03 E:2023595.91

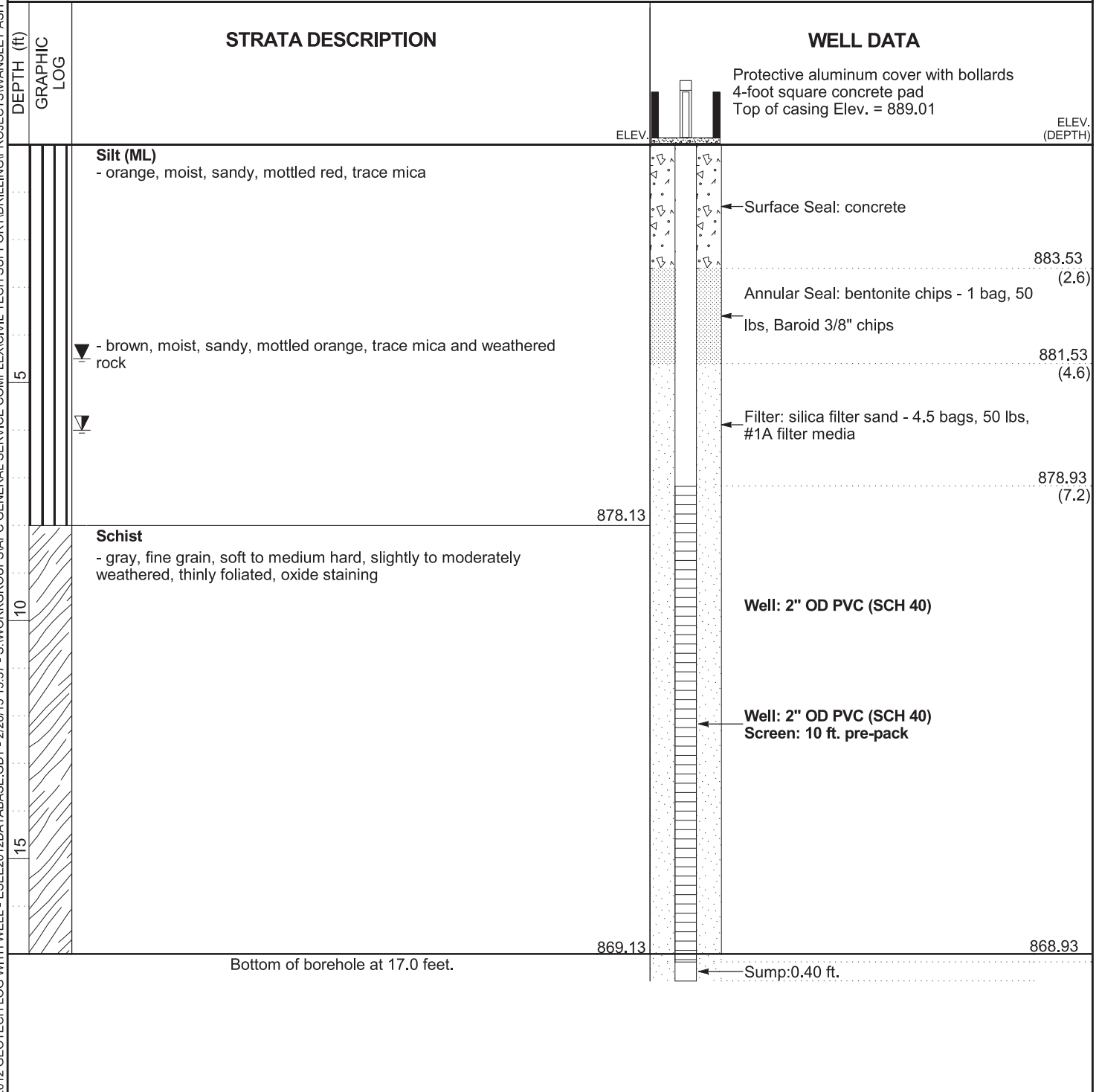
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 17 ft. GROUND WATER DEPTH: DURING _____ COMP. 4.5 ft. DELAYED 6 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/16/2014 COMPLETED 12/17/2014 SURF. ELEV. 912.30 COORDINATES: N:1244382.89 E:2024661.39

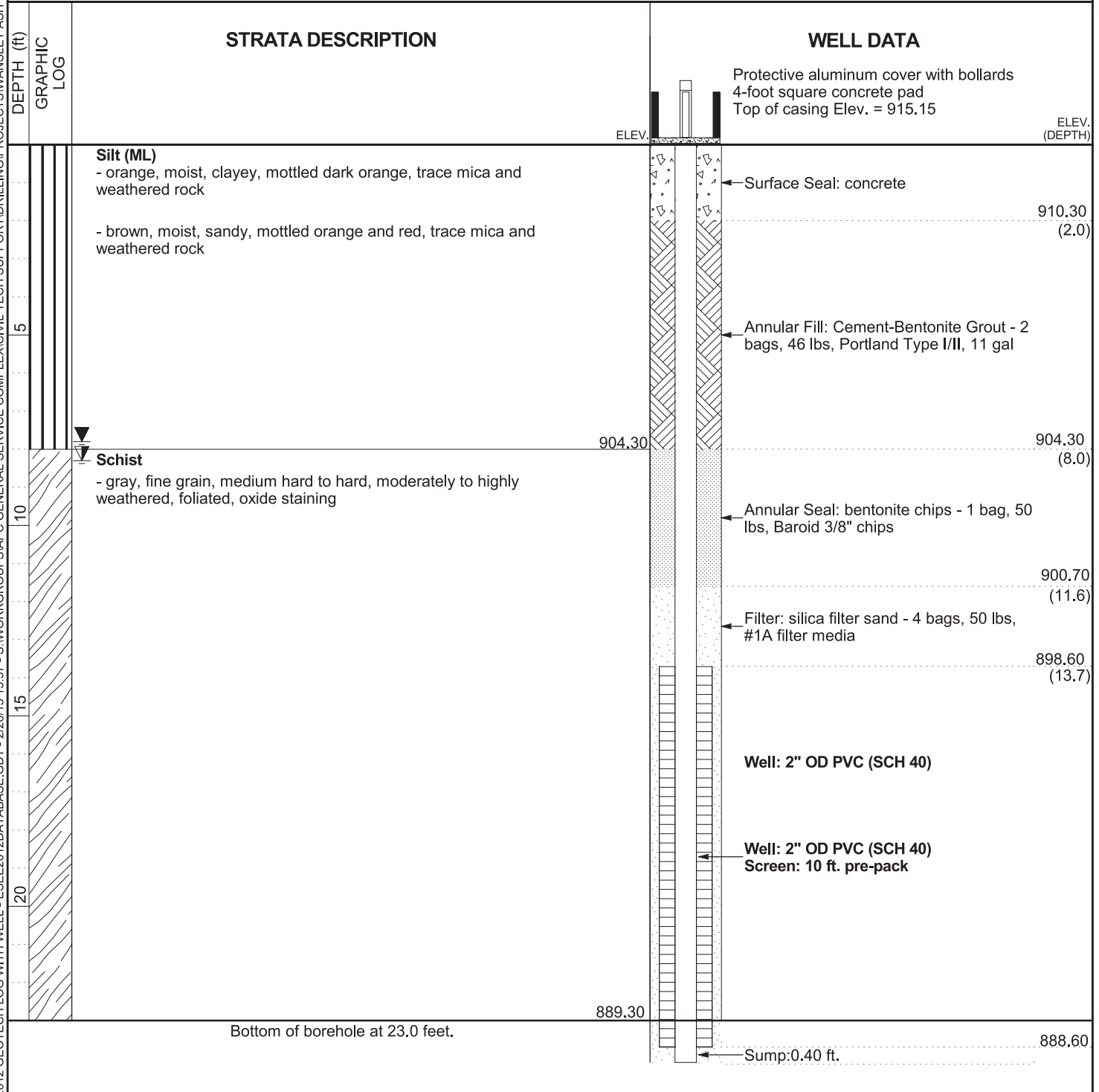
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T. Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 23 ft. GROUND WATER DEPTH: DURING _____ COMP. 7.8 ft. DELAYED 8.3 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/15/2014 COMPLETED 12/15/2014 SURF. ELEV. 864.65 COORDINATES: N:1245514.59 E:2026807.30

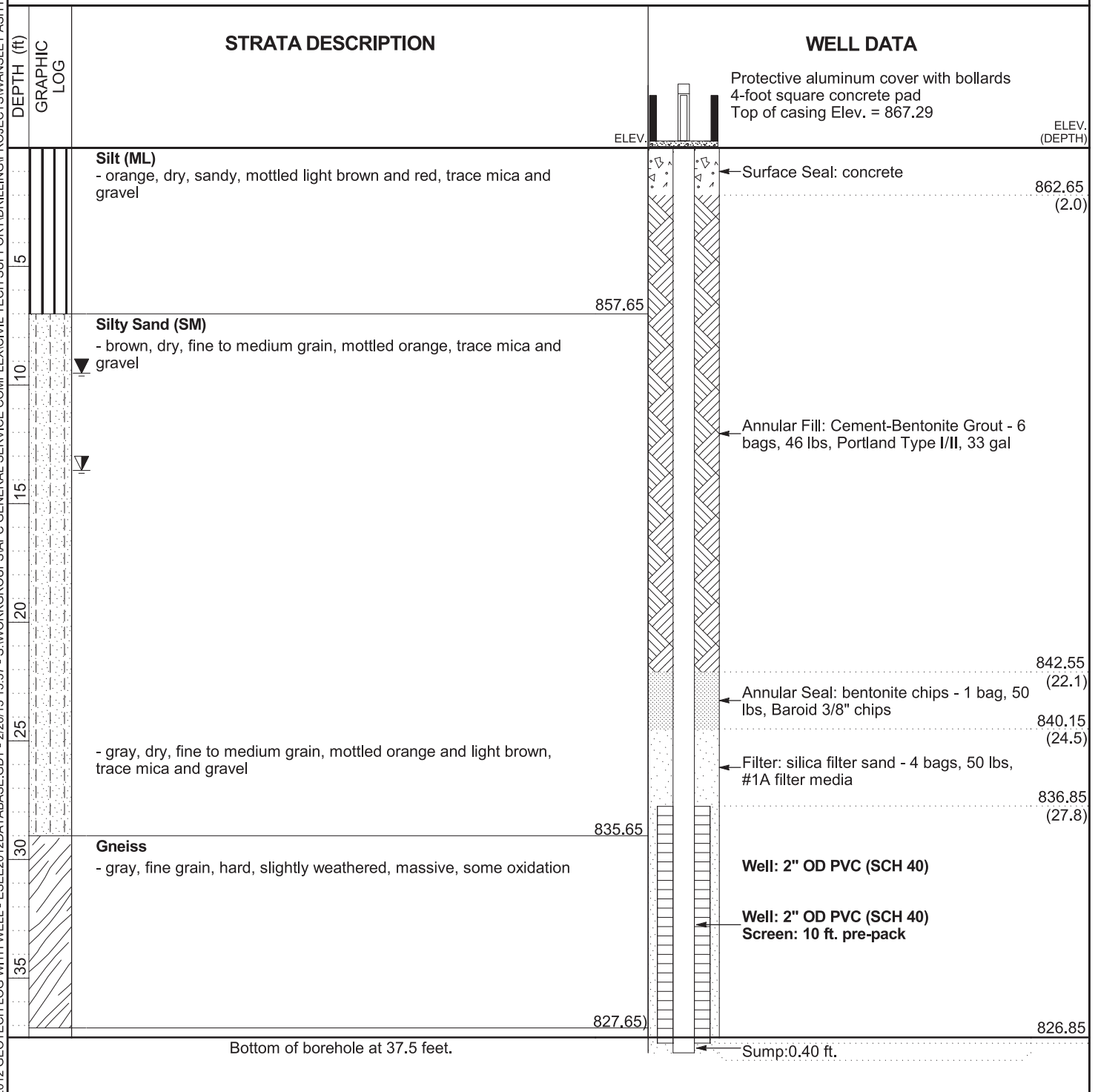
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 37.5 ft. GROUND WATER DEPTH: DURING _____ COMP. 9.5 ft. DELAYED 13.6 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

WGWC-41 (PZ-10)
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 ECS38198

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/5/2014 COMPLETED 12/5/2014 SURF. ELEV. 829.26 COORDINATES: N:1242058.41 E:2028554.29

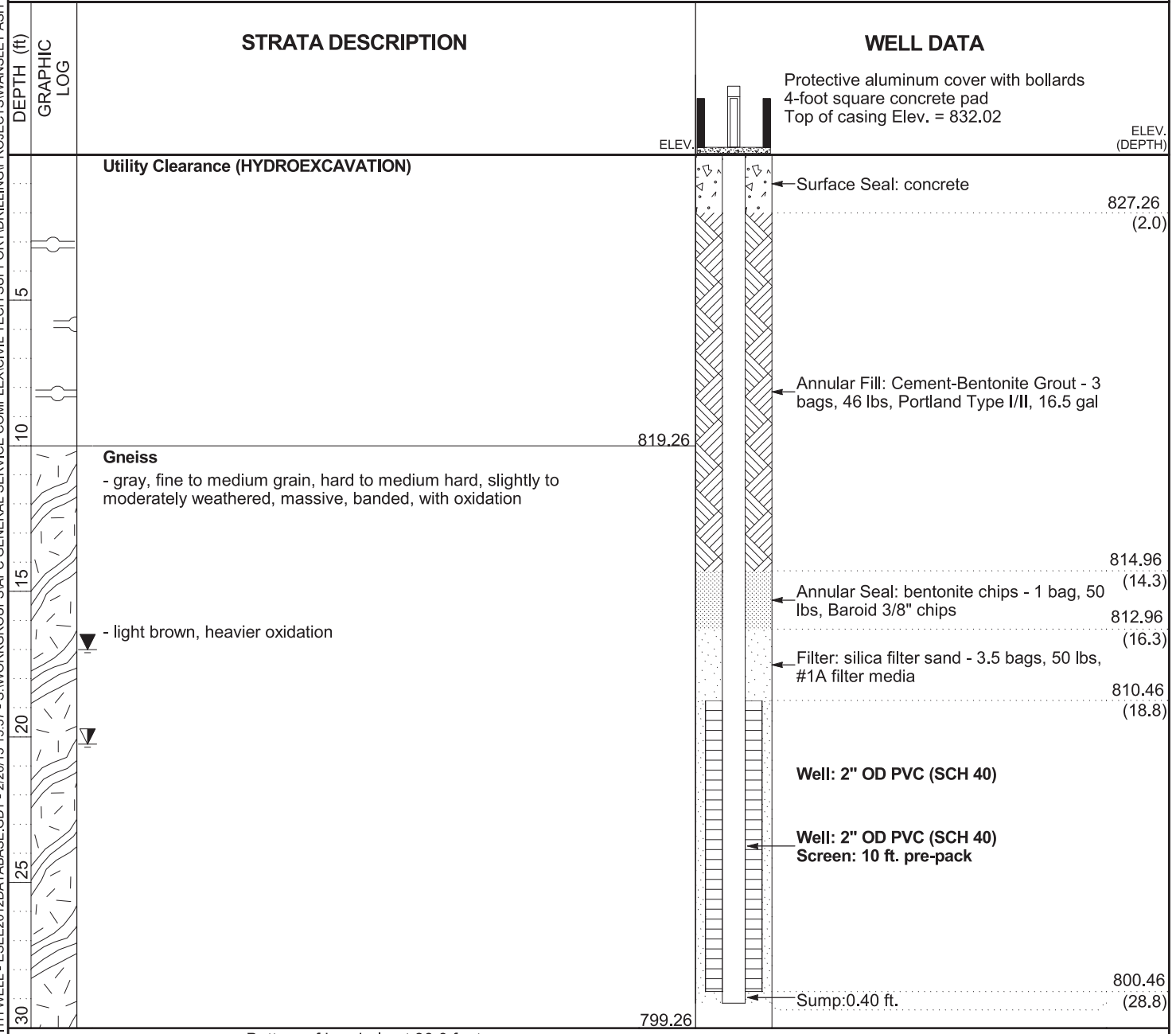
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 30 ft. GROUND WATER DEPTH: DURING _____ COMP. 17 ft. DELAYED 20.25 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:57 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

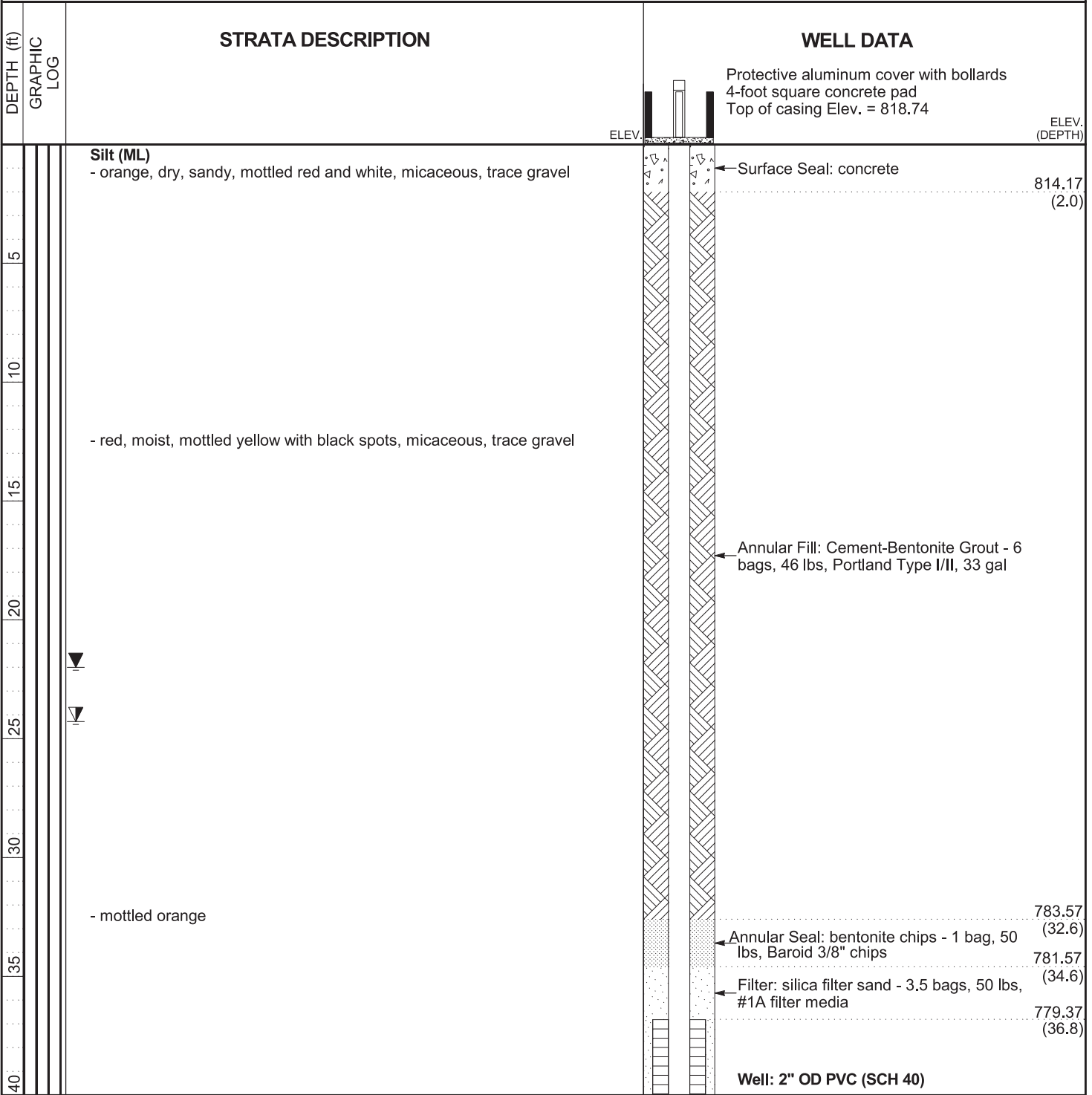
WGWC-40 (PZ-12)
 PAGE 1 OF 2
 ECS38198

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/8/2014 COMPLETED 12/8/2014 SURF. ELEV. 816.17 COORDINATES: N:1240838.50 E:2026731.05
 CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic
 DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 47 ft. GROUND WATER DEPTH: DURING _____ COMP. 22 ft. DELAYED 24.28 ft. after 24 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)



LOG OF TEST BORING AND WELL INSTALLATION

WGWC-40 (PZ-12)
PAGE 2 OF 2
ECS38198

SOUTHERN COMPANY SERVICES, INC.
EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers

LOCATION Plant Wansley

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ

DEPTH (ft) GRAPHIC LOG	STRATA DESCRIPTION	WELL DATA
45	Silt (ML)(Con't)	Protective aluminum cover with bollards 4-foot square concrete pad Top of casing Elev. = 818.74 Well: 2" OD PVC (SCH 40) Screen: 10 ft. pre-pack Sump: 0.40 ft.

ELEV. (CONTINUED)

ELEV. (DEPTH)

769.17

769.37

Bottom of borehole at 47.0 feet.



LOG OF TEST BORING AND WELL INSTALLATION

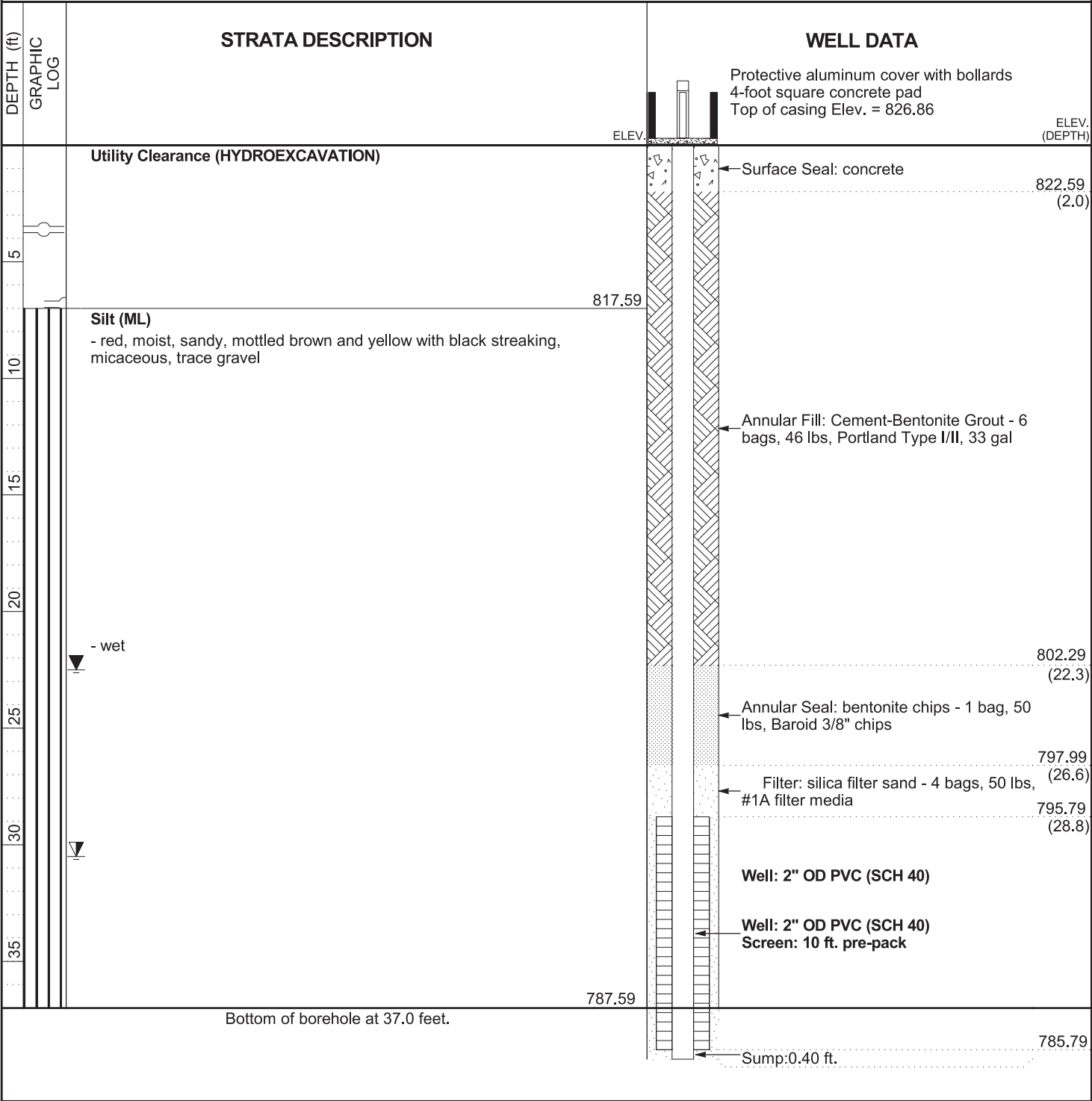
WGWC-39 (PZ-15)
 PAGE 1 OF 1
 ECS38198

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/10/2014 COMPLETED 12/10/2014 SURF. ELEV. 824.59 COORDINATES: N: 1240457.61 E: 2025105.38
 CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic
 DRILLED BY T. Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 37 ft. GROUND WATER DEPTH: DURING _____ COMP. 22.5 ft. DELAYED 30.5 ft. after 24 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\WANSLEY_ASH_POND_1 (2).GPJ





LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/10/2014 COMPLETED 12/11/2014 SURF. ELEV. 798.05 COORDINATES: N:1239419.77 E:2023662.22

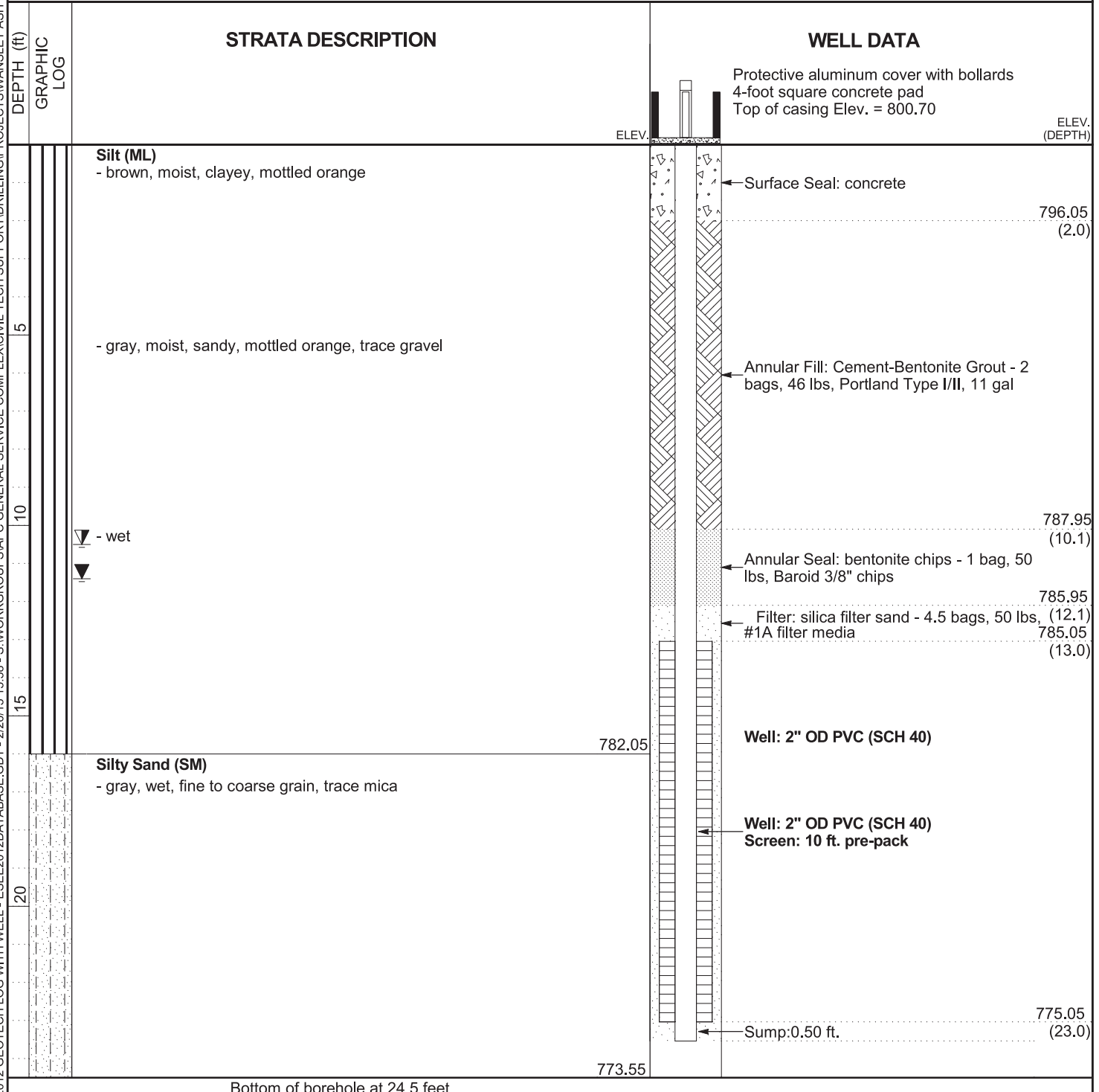
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 24.5 ft. GROUND WATER DEPTH: DURING _____ COMP. 11.4 ft. DELAYED 10.5 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ





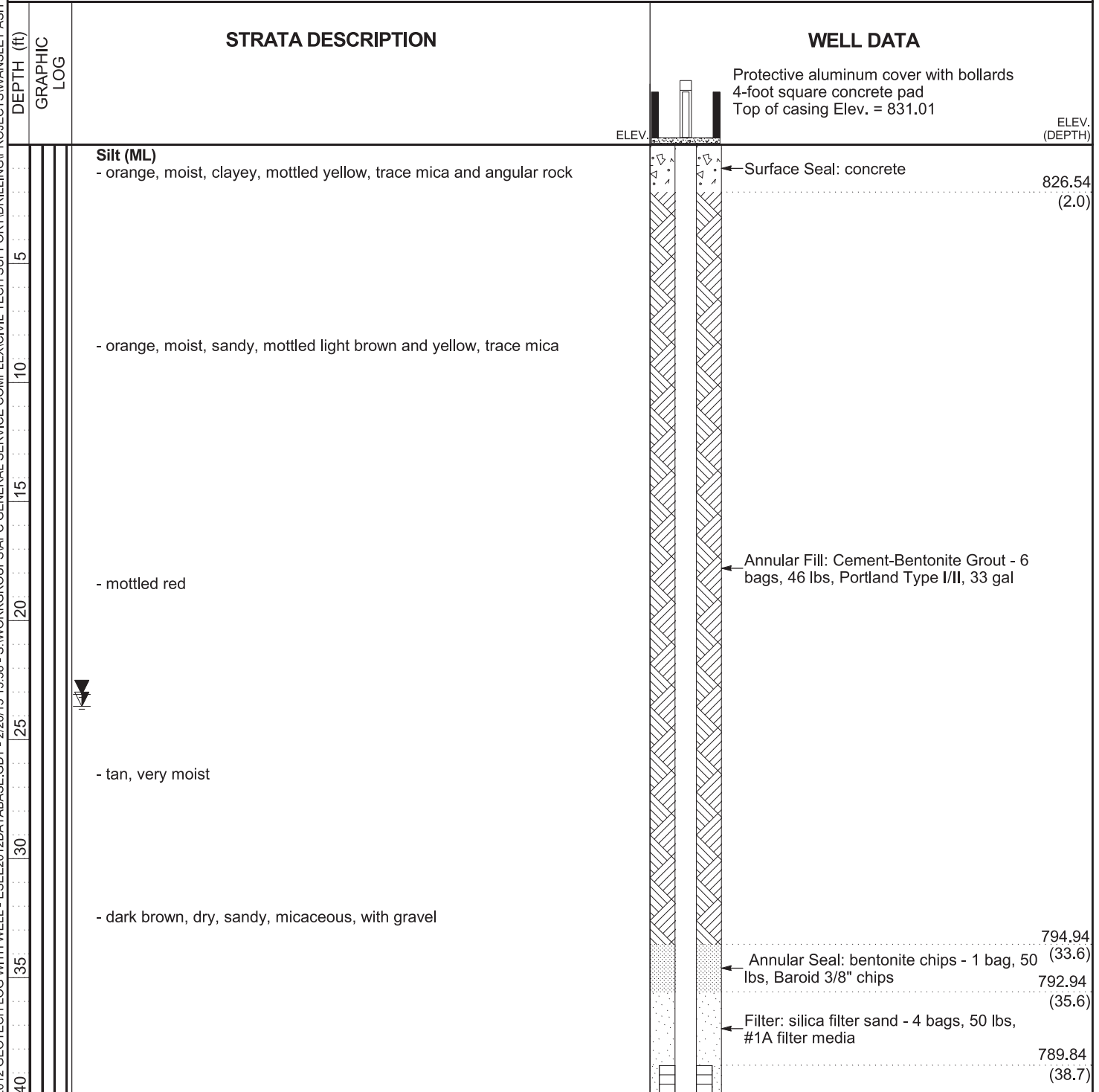
LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/11/2014 COMPLETED 12/11/2014 SURF. ELEV. 828.54 COORDINATES: N:1239270.02 E:2023086.51
 CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic
 DRILLED BY T.Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____
 BORING DEPTH 48 ft. GROUND WATER DEPTH: DURING _____ COMP. 23.1 ft. DELAYED 23.6 ft. after 24 hrs.
 NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PIANT_WANSLEY_ASH_POND_1 (2).GPJ



(Continued Next Page)



LOG OF TEST BORING AND WELL INSTALLATION

SOUTHERN COMPANY SERVICES, INC.
 EARTH SCIENCE AND ENVIRONMENTAL ENGINEERING

PROJECT Ash Pond Piezometers
 LOCATION Plant Wansley

DATE STARTED 12/11/2014 COMPLETED 12/12/2014 SURF. ELEV. 812.10 COORDINATES: N:1239569.52 E:2022299.20

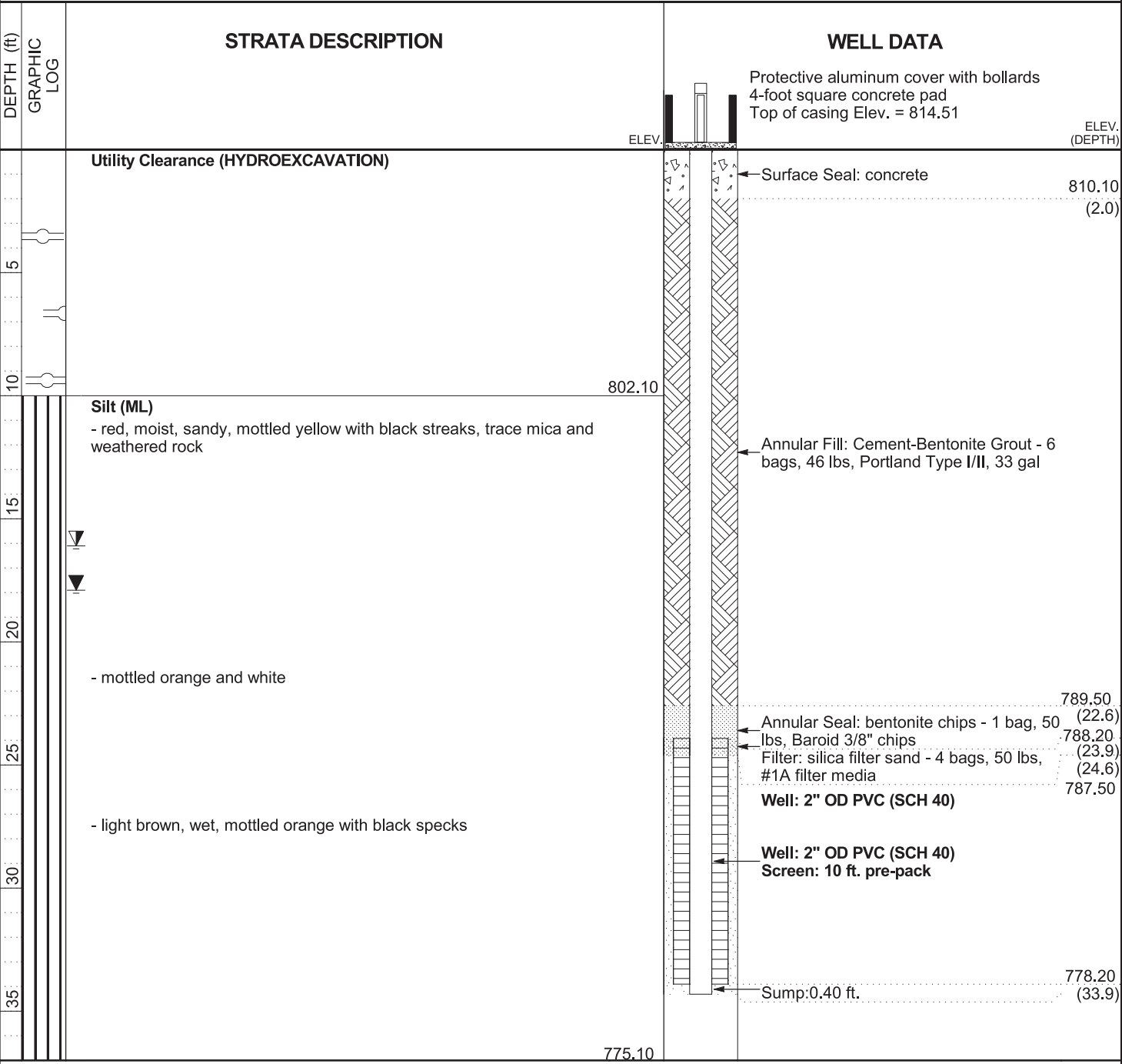
CONTRACTOR CASCADE EQUIPMENT SONIC METHOD Rotosonic

DRILLED BY T. Ardito LOGGED BY S. Baxter CHECKED BY L. Millet ANGLE _____ BEARING _____

BORING DEPTH 37 ft. GROUND WATER DEPTH: DURING _____ COMP. 17.9 ft. DELAYED 16.1 ft. after 24 hrs.

NOTES _____

2012 GEOTECH LOG WITH WELL - ESEE2012DATABASE.GDT - 2/26/15 15:58 - S:\WORKGROUPS\APC GENERAL SERVICE COMPLEX\CIVIL TECH SUPPORT\DRILLING\PROJECTS\WANSLEY ASH POND PIEZOMETER\PLANT_WANSLEY_ASH_POND_1 (2).GPJ



WGWC-42 (PZ-20)

PAGE 1 OF 1

ERM
 3200 Windy Hill Rd Ste 1500W
 Atlanta, GA 30339
 Telephone: 678-486-2700

COORDINATES: N:1243496.86 E:2030132.73

CLIENT Southern Company Services, Inc.

PROJECT NAME Plant Wansley

PROJECT NUMBER 0372406

PROJECT LOCATION AP

DATE STARTED 1/31/17 **COMPLETED** 1/31/17

GROUND ELEVATION 784.45 **HOLE SIZE** 4.25 inches

DRILLING CONTRACTOR Southern Company Services, Inc

GROUND WATER LEVELS:

DRILLING METHOD Hollow Stem Auger 2"

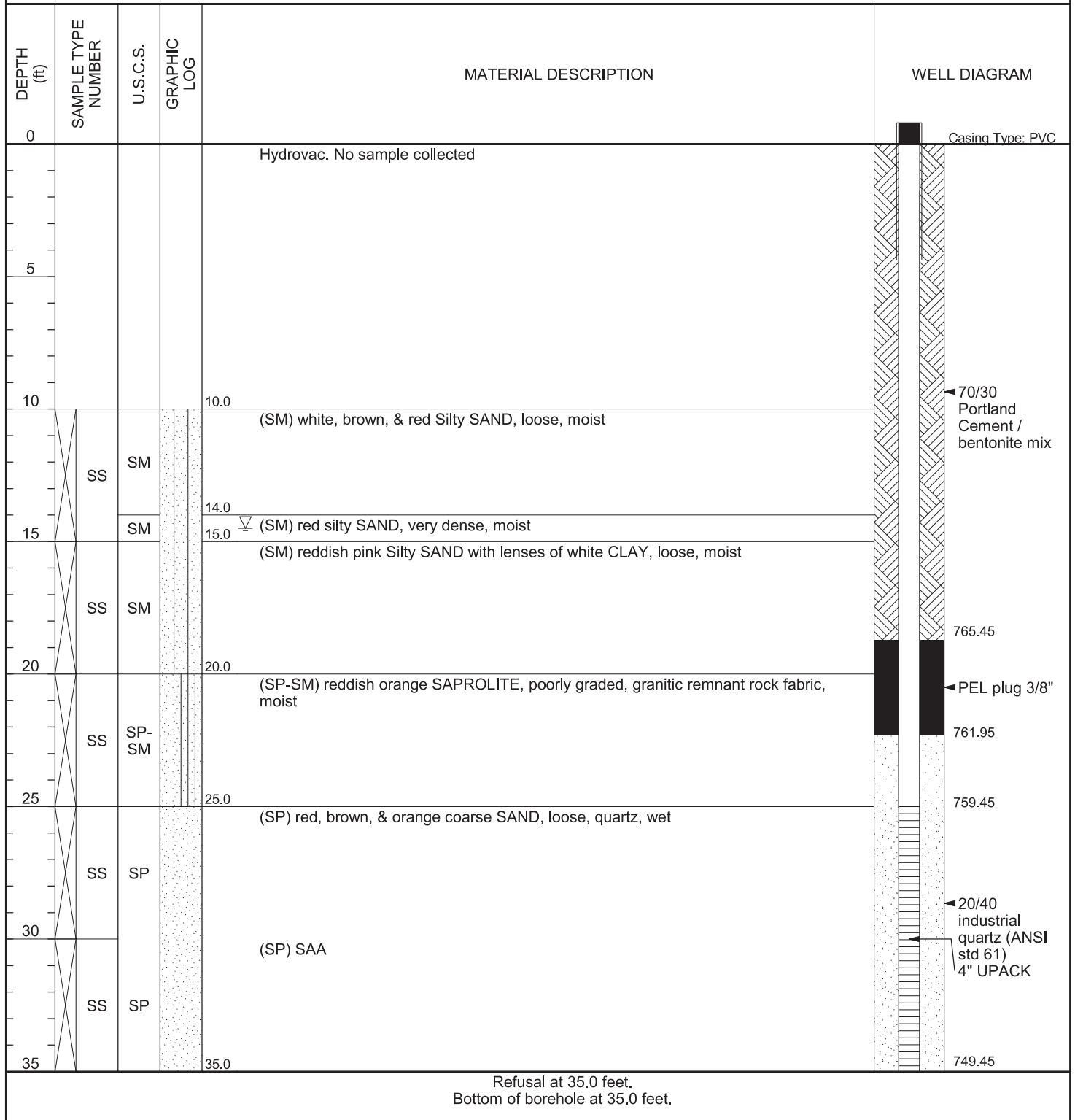
AT TIME OF DRILLING 14.50 ft

LOGGED BY MR **CHECKED BY** GEJ

AT END OF DRILLING --

NOTES

AFTER DRILLING ---



CLIENT <u>Southern Company Services</u>	PROJECT NAME <u>Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation</u>
PROJECT NUMBER <u>GW7327</u>	PROJECT LOCATION <u>Plant Wansley AP-1</u>
DATE STARTED <u>9/30/20</u> COMPLETED <u>10/2/20</u>	NORTHING <u>1242139.53 ft</u> EASTING <u>2028520.87 ft</u>
DRILLER <u>Cascade Drilling</u>	GROUND ELEVATION <u>831.89 ft</u> BORING DIAMETER <u>6 in.</u>
DRILLING METHOD <u>Sonic</u>	TOP OF CASING ELEVATION <u>834.32 ft</u>
SAMPLING METHOD <u>4 in. core 6 in. override</u>	GEOPHYSICAL CONTRACTOR <u>---</u>
RIG TYPE <u>Terrasonic 1051181</u>	LOGGED BY <u>A. Ramsey</u> CHECKED BY <u>A. Reimer</u>

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0				Air Knife Excavation (0 ft to 5 ft) NO SAMPLE	
830		5 ft: Significant rig chatter.		826.9 PARTIALLY WEATHERED ROCK (PWR), gneiss, very pale brown to brown, wet, very thin lamination, hard, friable, some coarse silty sand throughout, few 2 inch thick competent non-friable fragments, wet.	
10		10 ft: Decreased rig chatter, advance rate slowed ~50%.		14 ft: Highly weathered, white to reddish brown, clayey with silty to very fine sand, original bandad structure visible, abundant iron oxidation staining to 18 ft, very soft to soft, low plasticity to non-plastic, moist to 18 ft then dry.	
820				811.9 GNEISS, gray to bluish gray, iron scaling present on fracture faces and vertical hairline fractures, broken into cobble size pieces along joints, faint thin banding, very hard, wet. Fracture zone between 20 ft and 23 ft.	
20		27 ft: Some water circulation loss observed.		25 ft: Fracture zone between 25 ft and 27 ft.	
810				30 ft: Fracture zone between 30 ft and 33 ft.	
30				35 ft: Fracture zone between 35 ft and 36 ft.	
800		40 ft: Significantly increased rig chatter, no return of drill water.			
40				47 ft: Little to no iron scaling.	
790				781.9	

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21

CLIENT Southern Company Services

PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation

PROJECT NUMBER GW7327

PROJECT LOCATION Plant Wansley AP-1

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
50					
	780			GNEISS, gray to bluish gray, iron scaling present on fracture faces and vertical hairline fractures, broken into cobble size pieces along joints, faint thin banding, very hard, wet.	
				53 ft: Likely fracture.	
60					
	770			60 ft: Increased separation of minerals in very thin laminations.	
70					
	760			75 ft: Large potassium feldspar minerals.	
80					
	750			80 ft: Potassium feldspar throughout.	
90		90 ft: Increased rig chatter and resistance.			
	740				

Bottom of borehole at 95.0 feet.

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21

736.9

Top of screen elev: 749.92 ft

Bottom of screen elev: 739.92 ft

Bottom of well elev: 739.52 ft

Aquagard Sodium Bentonite Grout

Bentonite uncoated 3/8 pellets

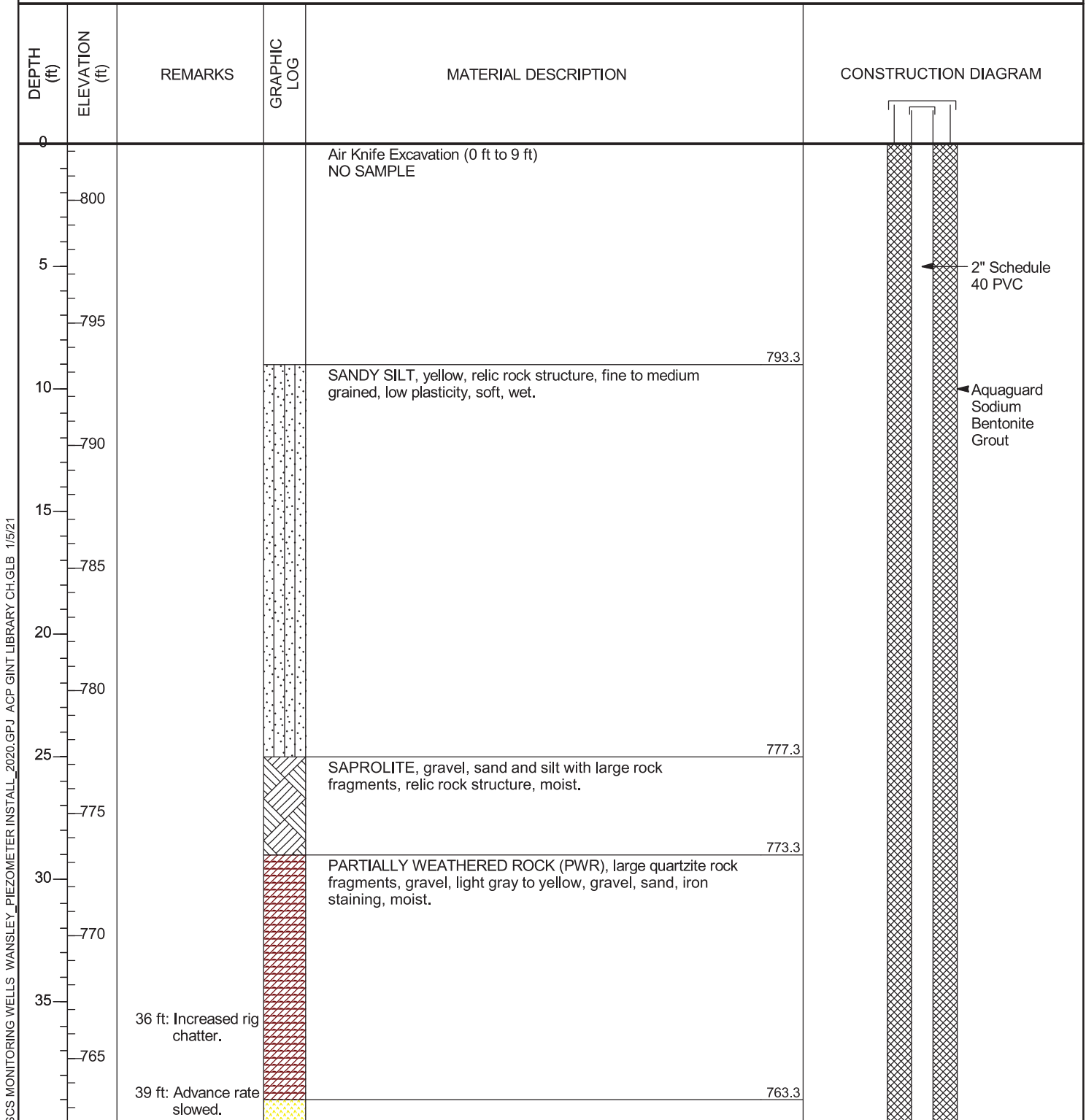
20/40 Silica Sand

0.010 slot size 2" Schedule 40 PVC Screen

Bottom of well: 92.37 ft

Slough

CLIENT <u>Southern Company Services</u>	PROJECT NAME <u>Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation</u>
PROJECT NUMBER <u>GW7327</u>	PROJECT LOCATION <u>Plant Wansley AP-1</u>
DATE STARTED <u>10/12/20</u> COMPLETED <u>10/12/20</u>	NORTHING <u>1239919.45 ft</u> EASTING <u>2024146.35 ft</u>
DRILLER <u>Cascade Drilling</u>	GROUND ELEVATION <u>802.31 ft</u> BORING DIAMETER <u>6 in.</u>
DRILLING METHOD <u>Sonic</u>	TOP OF CASING ELEVATION <u>804.93 ft</u>
SAMPLING METHOD <u>4 in. core 6 in. override</u>	GEOPHYSICAL CONTRACTOR <u>---</u>
RIG TYPE <u>Terrasonic 1051181</u>	LOGGED BY <u>T. Kessler</u> CHECKED BY <u>A. Reimer</u>



SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21

CLIENT Southern Company Services

PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation

PROJECT NUMBER GW7327

PROJECT LOCATION Plant Wansley AP-1

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
40	-760			QUARTZITE, pinkish gray, slightly weathered and highly fractured, large quartz fragments, micaceous, iron staining, hard, wet. (continued)	
45	-755	49 ft: Increased rig chatter.			
50	-750				
55	-745	59 ft: Increased rig chatter.		59 ft: Pinkish gray to blue gray.	
60	-740				
65	-735				
70	-730			69 ft: Blue gray.	
75	-725				
					Top of screen elev: 735.23 ft Bottom of screen elev: 725.23 ft Bottom of well elev: 724.83 ft Bottom of well: 77.47 ft

Bottom of borehole at 79.0 feet.

723.3

Aquaguard Sodium Bentonite Grout

Bentonite uncoated 3/8 pellets

20/40 Silica Sand

0.010 slot size 2" Schedule 40 PVC Screen

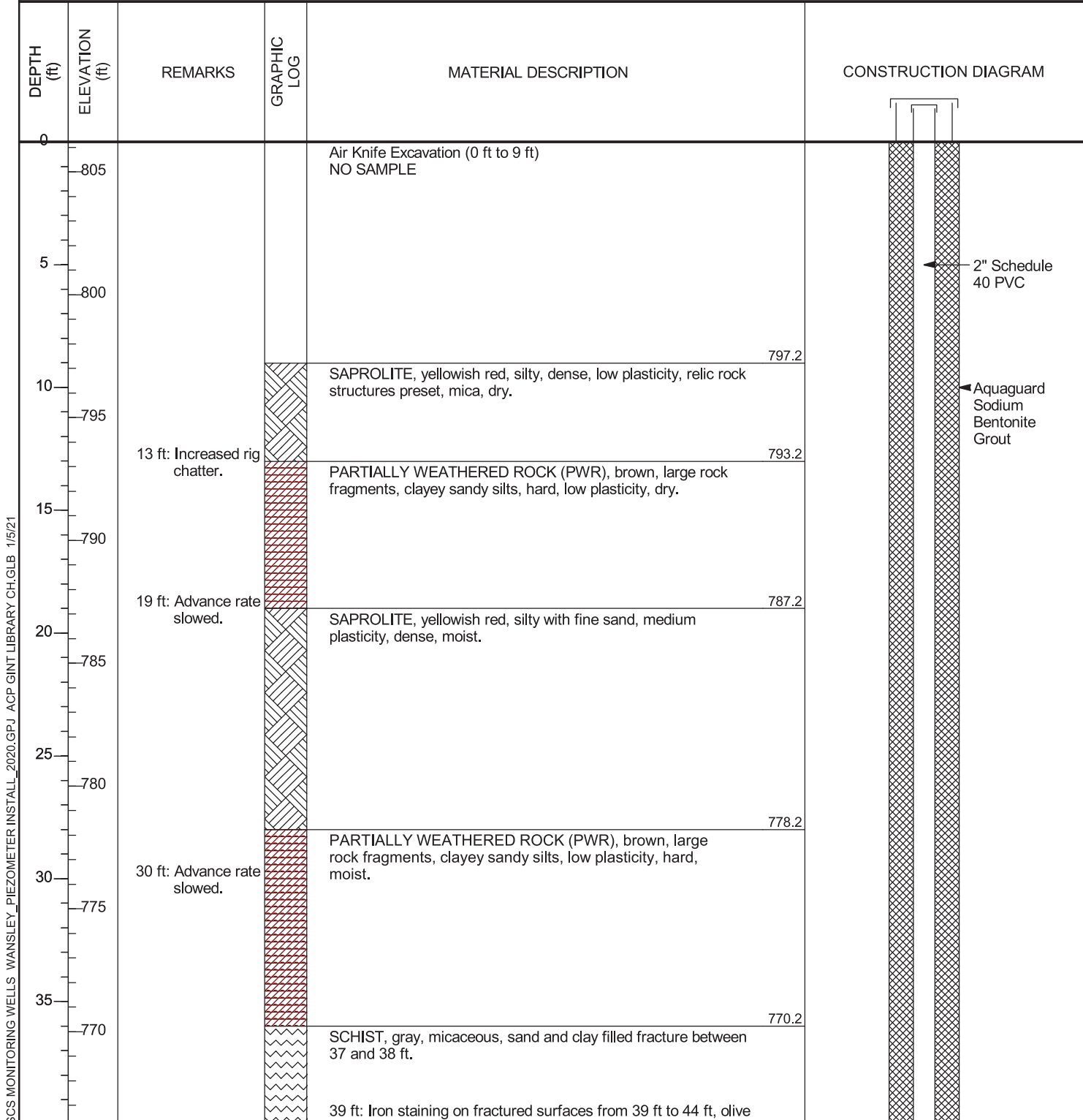
Bottom of well: 77.47 ft



Geosyntec Consultants
 1255 Roberts Boulevard
 Kennesaw, GA 30144

PIEZOMETER PZ-27D

CLIENT <u>Southern Company Services</u>	PROJECT NAME <u>Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation</u>
PROJECT NUMBER <u>GW7327</u>	PROJECT LOCATION <u>Plant Wansley AP-1</u>
DATE STARTED <u>10/15/20</u> COMPLETED <u>10/15/20</u>	NORTHING <u>1240190.93 ft</u> EASTING <u>2023620.36 ft</u>
DRILLER <u>Cascade Drilling</u>	GROUND ELEVATION <u>806.22 ft</u> BORING DIAMETER <u>6 in.</u>
DRILLING METHOD <u>Sonic</u>	TOP OF CASING ELEVATION <u>809.28 ft</u>
SAMPLING METHOD <u>4 in. core 6 in. override</u>	GEOPHYSICAL CONTRACTOR <u>---</u>
RIG TYPE <u>Terrasonic 1051181</u>	LOGGED BY <u>T. Kessler</u> CHECKED BY <u>A. Reimer</u>



SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY.CH.GLB 11/5/21

(Continued Next Page)

CLIENT Southern Company Services

PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation


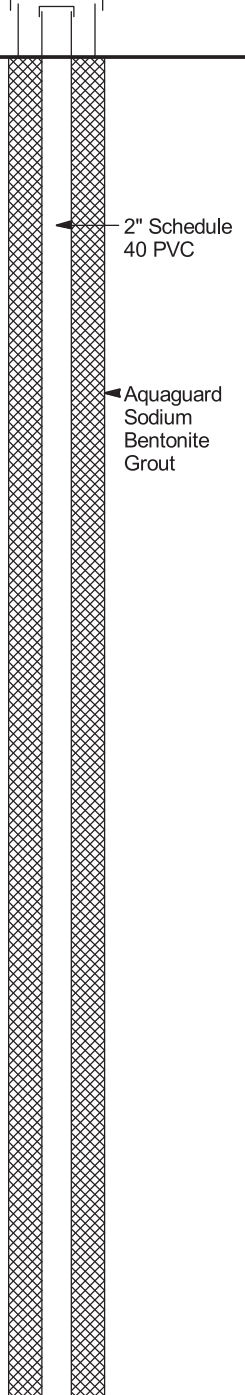
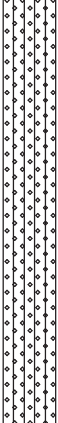

PROJECT NUMBER GW7327

PROJECT LOCATION Plant Wansley AP-1

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
40	-765			staining on fractured surfaces from 44 ft to 48 ft, quartz banding, garnets present. SCHIST, gray, micaceous, sand and clay filled fracture between 37 and 38 ft. (continued)	
45	-760	49 ft: Slow advance rate, moderate rig chatter.		48 ft to 49 ft: Highly weathered, gray, silty sands and gravel, wet.	
50	-755				
55	-750	59 ft: Slow advance rate, increased rig chatter.		59 ft: Highly fractured, gravel and weathered cobbles, less garnet, sand zone at 64 ft.	
60	-745				
65	-740	69 ft: Slow advance rate, significant rig chatter.		69 ft: Highly fractured, gravel and weathered cobbles, some quartzite fragments.	
70	-735				
75	-730				
Bottom of borehole at 79.0 feet.					<p>Top of screen elev: 737.96 ft Bottom of screen elev: 727.96 ft Bottom of well elev: 727.56 ft Bottom of well: 78.65 ft</p>

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21

CLIENT <u>Southern Company Services</u>	PROJECT NAME <u>Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation</u>
PROJECT NUMBER <u>GW7327</u>	PROJECT LOCATION <u>Plant Wansley AP-1</u>
DATE STARTED <u>10/29/20</u> COMPLETED <u>10/29/20</u>	NORTHING <u>1240066.02 ft</u> EASTING <u>2022624.73 ft</u>
DRILLER <u>Cascade Drilling</u>	GROUND ELEVATION <u>813.57 ft</u> BORING DIAMETER <u>6 in.</u>
DRILLING METHOD <u>Sonic</u>	TOP OF CASING ELEVATION <u>816.18 ft</u>
SAMPLING METHOD <u>4 in. core 6 in. override</u>	GEOPHYSICAL CONTRACTOR <u>---</u>
RIG TYPE <u>Terrasonic 1051181</u>	LOGGED BY <u>T. Wilson</u> CHECKED BY <u>A. Reimer</u>

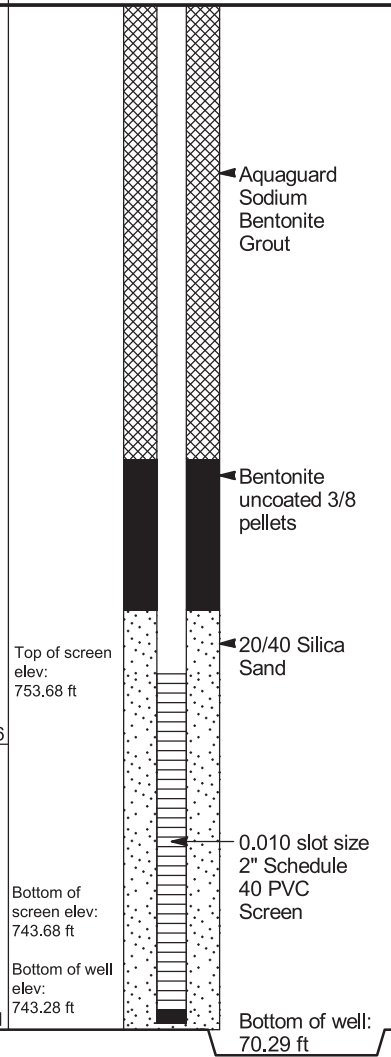
DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0				Air Knife Excavation (0 ft to 4 ft) NO SAMPLE	
	810				
5				SILTY CLAY with sand, red, soft, low plasticity, trace root material, moist. 809.6	 <p>2" Schedule 40 PVC</p> <p>Aquaguard Sodium Bentonite Grout</p>
	806.6				
	805			SILTY SAND with clay, reddish yellow, fine grained, moist, loose, poorly graded, moist. 806.6	
10				10 ft: Increasing clay content with depth.	
	800				
15					
	795				
20				NO RECOVERY (20 ft to 23 ft) 793.6	
	790				
25				SILTY CLAY with sand, reddish yellow, soft, low plasticity, fine grained, moist. 790.6	
	785				
30					
	780				
35					
	775				
					773.6

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 11/5/21

CLIENT Southern Company Services **PROJECT NAME** Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327 **PROJECT LOCATION** Plant Wansley AP-1

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
40				SAPROLITE, sandy silt, reddish yellow, stiff, non plastic, iron concretions and staining, faint rock fabric visible, moist.	
45	770				
50	765				
55	760			51 ft: Dense, well graded, trace gravel, increasing gravel content with depth.	
60	755				
65	750			PARTIALLY WEATHERED ROCK (PWR), silty sand and gravel, very pale brown, fine to coarse grained, relic rock structure, iron staining, increasing gravel with depth, moist.	
70	745				

Bottom of borehole at 70.5 feet.

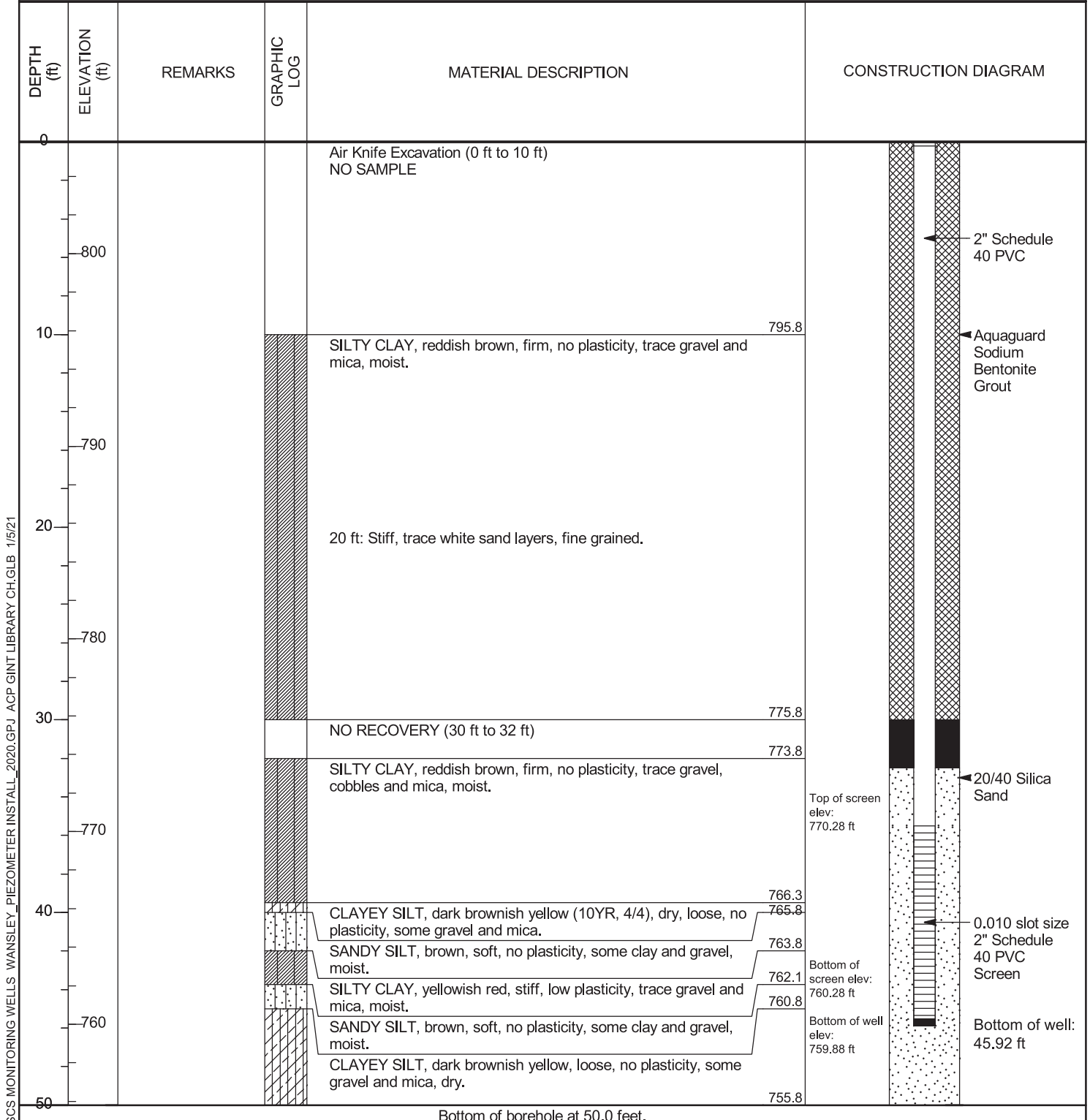


SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21



Geosyntec Consultants
1255 Roberts Boulevard
Kennesaw, GA 30144

CLIENT Southern Company Services	PROJECT NAME Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327	PROJECT LOCATION Plant Wansley AP-1
DATE STARTED 10/30/20 COMPLETED 10/31/20	NORTHING 1244317.13 ft EASTING 2028839.68 ft
DRILLER Cascade Drilling	GROUND ELEVATION 805.80 ft BORING DIAMETER 6 in.
DRILLING METHOD Sonic	TOP OF CASING ELEVATION 805.30 ft
SAMPLING METHOD 4 in. core 6 in. override	GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181	LOGGED BY T. Wilson CHECKED BY A. Reimer




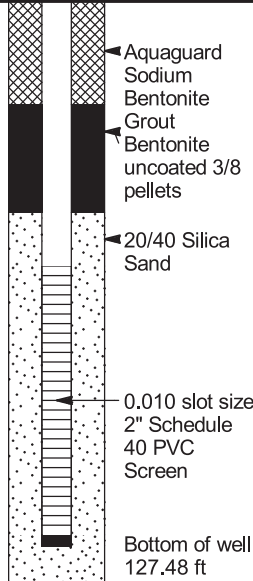


CLIENT Southern Company Services **PROJECT NAME** Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327 **PROJECT LOCATION** Plant Wansley AP-1

SCS MONITORING WELLS WANSLEY_PIEZOMETER INSTALL_2020.GPJ ACP GINT LIBRARY CH.GLB 1/5/21

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
50				SANDY SILT, yellowish brown, yellowish red, light greenish gray, and strong brown, stiff, trace fine to coarse gravel, some clay, non plastic, mica present, moist.	
	750				
60				CLAYEY SILT, strong brown, soft, few coarse gravel mica present, dry.	
				SANDY SILT, yellowish brown, yellowish red, light greenish gray, and strong brown, stiff, trace fine to coarse gravel, some clay, non-plastic, mica present, moist.	
	740				
70					
	730				
80				CLAYEY SILT, reddish brown, very stiff, few fine to coarse gravel, little fine-medium sand, medium plasticity, moist.	
	720				
90				SANDY SILT, strong brown, very stiff, little coarse gravel, some clay, non-plastic, mica present, moist.	
	710				
100				NO RECOVERY (100 ft to 102 ft)	
	700			SILTY CLAY, red, stiff, trace fine to coarse gravel, non-plastic, increasing clay content with depth, moist.	

← Aquaguard Sodium Bentonite Grout

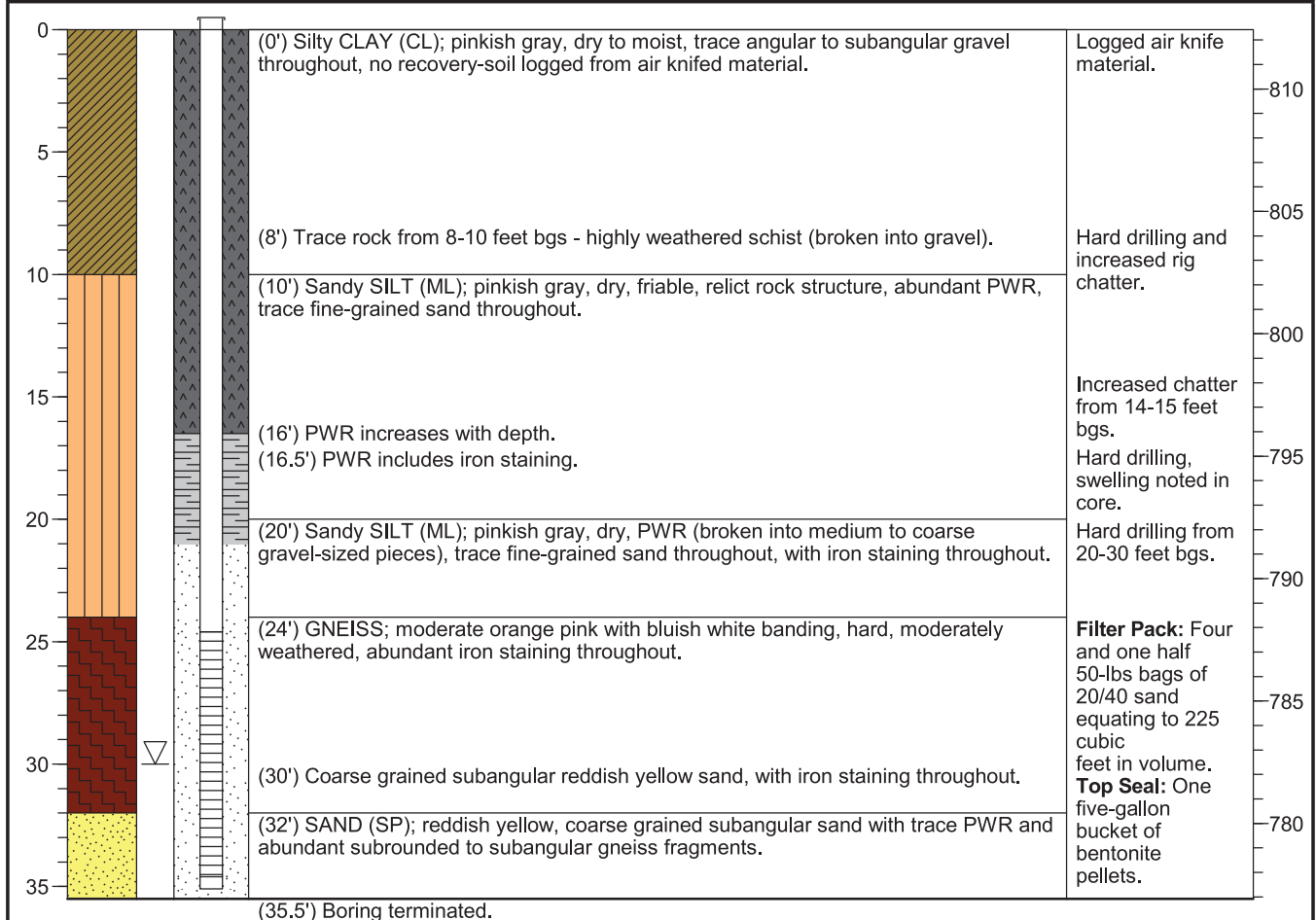
CLIENT Southern Company Services **PROJECT NAME** Plant Wansley Ash Pond 1 (AP-1) Piezometer Installation
PROJECT NUMBER GW7327 **PROJECT LOCATION** Plant Wansley AP-1

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
110				SILTY CLAY, red, stiff, trace fine to coarse gravel, non-plastic, increasing clay content with depth, moist. (continued)	 <p>Top of screen elev: 688.69 ft</p> <p>Bottom of screen elev: 678.69 ft</p> <p>Bottom of well elev: 678.29 ft</p> <p>Bottom of well: 127.48 ft</p>
	690				
120				SILT, light greenish gray, soft, some clay, non-plastic, trace subrounded gravel, moist. NO RECOVERY (120 ft to 126 ft)	
	680			SCHIST, light grayish olive, weathered, numerous natural fractures with iron staining, with weathered garnets and mica, thinly foliated.	

Bottom of borehole at 129.0 feet.

Drilling Start Date: 3/28/2024	Boring Depth (ft): 35.5	Well Depth (ft): 35.1
Drilling End Date: 3/30/2024	Boring Diameter (in): 6"	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 30.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 812.43	Screen Material: Sch 40 PVC U-Pack
Driller: K. Grant	Top of Casing Elev. (ft): 814.80	Seal Material(s): Bentonite
Logged By: T. Kessler/Z. Webb	North, East (Y,X): 1240592.30, 2027321.68	Filter Pack: 20/40 Sand

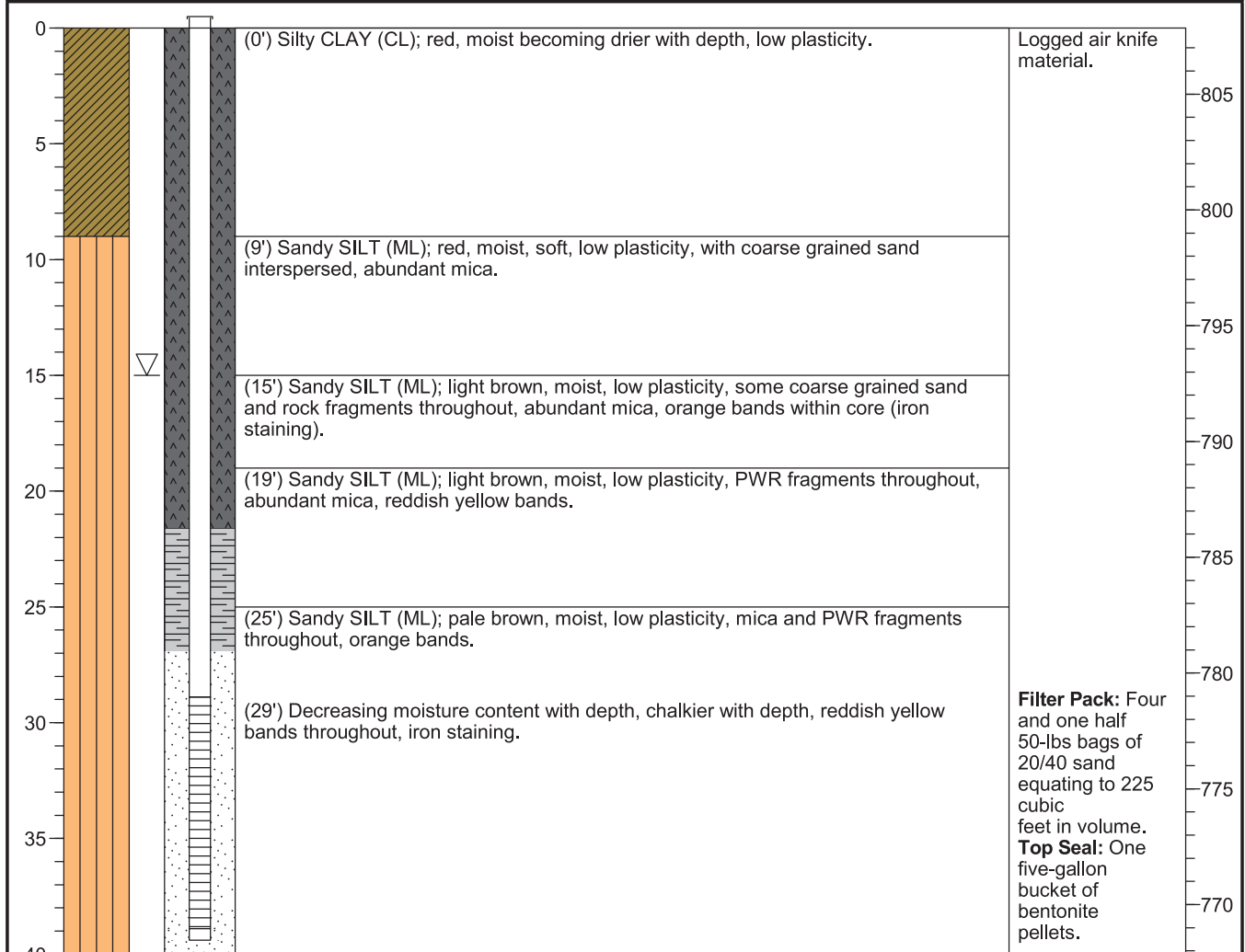
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Well completed with 6 inch long PVC sump below well screen, and aboveground (+2.37 feet) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface.

Drilling Start Date: 3/21/2024	Boring Depth (ft): 40	Well Depth (ft): 39.4
Drilling End Date: 3/22/2024	Boring Diameter (in): 6"	Well Diameter (in): 2
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 15.0	Riser Material: Sch 40 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 807.86	Screen Material: Sch 40 PVC U-Pack
Driller: K. Grant	Top of Casing Elev. (ft): 810.90	Seal Material(s): Bentonite
Logged By: Z. Webb	North, East (Y,X): 1239941.77, 2024324.33	Filter Pack: 20/40 Sand

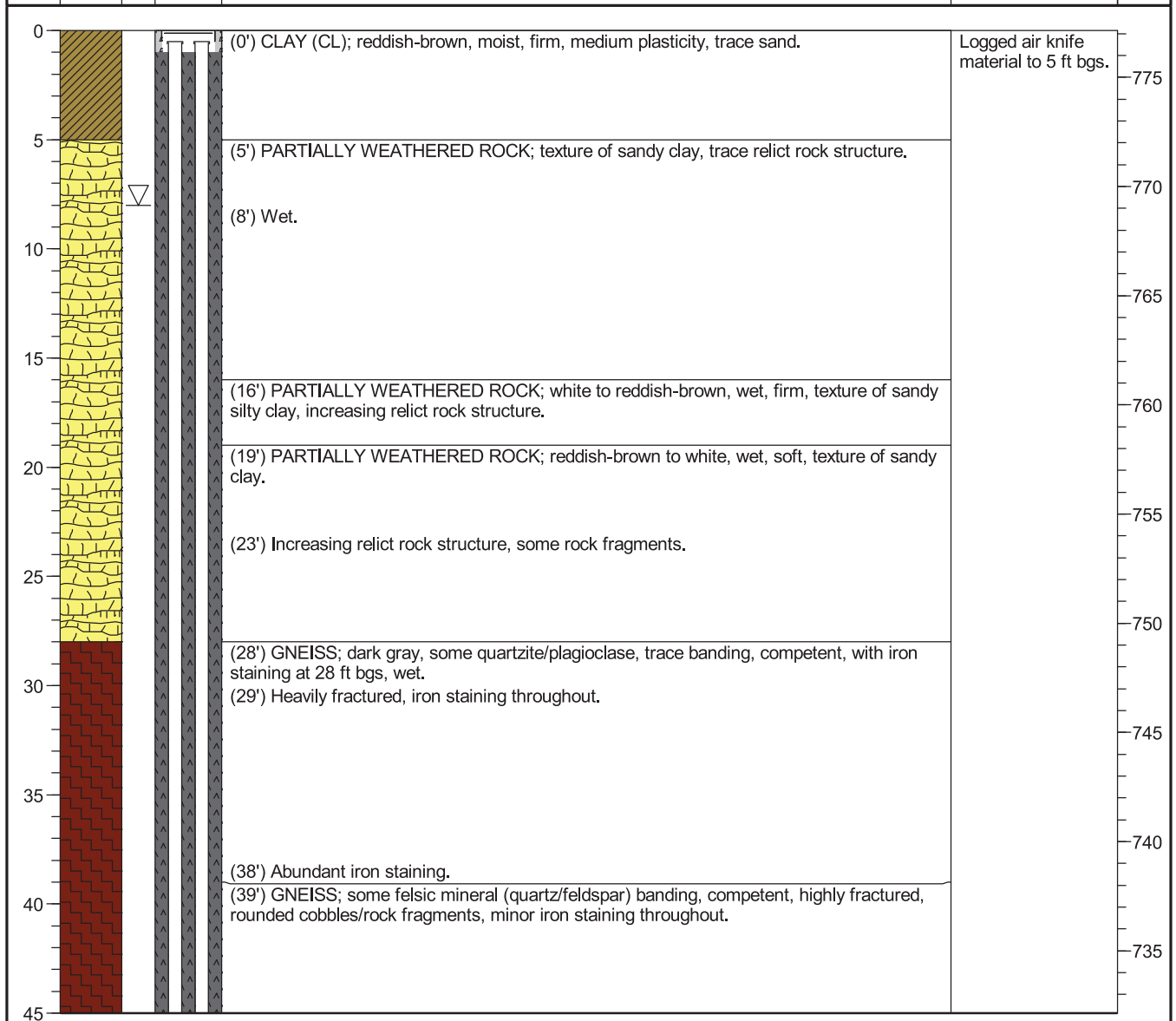
DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
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NOTES: Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Well completed with 6 inch long PVC sump below well screen, and aboveground (+3.04 feet) PVC stickup with metal protective cover and guard posts set in concrete. Well depth measured from ground surface.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
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NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
45	[Red brick pattern]	[Vertical line]	[Vertical line]	(49') AMPHIBOLITE/GNEISS; hard, highly fractured, minor iron staining throughout.		730
50				(59') Same as above.		725
55						720
60						715
65						710
70				(69') AMPHIBOLITE/GNEISS; highly fractured, weathering of fracture surfaces, rounding on apertures, increased iron staining.		705
75				(75') Increased iron staining.		700
80				(79') AMPHIBOLITE; light gray, some banding, highly fractured, iron staining throughout.		695
85						690
90				(87') Heavy staining from 87-88 ft bgs.		

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
90				(89') AMPHIBOLITE; gray, some banding, highly fractured (broken into gravel), weathering of fracture surfaces, minor iron oxide staining throughout, wet.		685
95				(92') Quartz vein.		680
100				(99') AMPHIBOLITE; large feldspar inclusions, some lineation of amphibole, highly fractured, becoming more competent, minor iron staining.		675
105						670
110				(109') Dark gray, increased iron staining.		665
115						660
120				(119') Subangular gravel present, highly fractured. (120') Increased iron staining.		655
125				(125') Increased iron staining.		650
130				(128') Increased iron staining. (129') Some iron staining.		645
135						

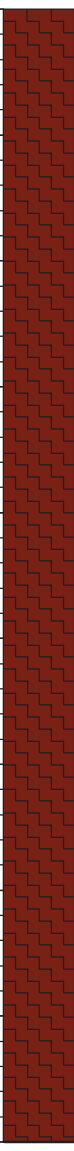


NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
135				(137') PARTIALLY WEATHERED ROCK; light gray, loose, fine-grained sand with silt and gravel, texture of silty sand, wet.		640
140				(139') AMPHIBOLITE; dark gray, large feldspar inclusions, highly fractured, some iron staining.		635
145				(145') QUARTZITE; reddish-brown, few feldspar inclusions, hard, competent, few natural fractures.		630
150				(154') GNEISS/AMPHIBOLITE; dark gray, trace iron oxide.		625
155				(158') Fracture with subangular gravel, some iron staining, wet.		620
160				(159') GNEISS/AMPHIBOLITE GNEISS; dark gray, hard, thin laminations throughout, Broken into angular/subangular gravel from ~186-199 ft bgs.		615
165						610
170				(169') GNEISS/AMPHIBOLITE GNEISS; gray to dark gray, pink quartzite inclusions and feldspar throughout, hard, thin laminations visible, increasing competency with depth, iron staining on fracture surfaces from 169-171 ft bgs, broken into angular/subangular gravel from 169-172 ft bgs.	Very hard drilling from 169-179 ft bgs. Abundant rig chatter. Low to no water return.	605
175						600
180					Heavy drill chatter	

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
180				(179') GNEISS/AMPHIBOLITE GNEISS; gray to dark gray, pink quartzite and feldspar inclusions visible, thin laminations visible, abundant fractures with iron staining throughout.	from 179-189 ft bgs. ~30% water return.	595
				(181') Light gray, mostly quartzite, competent from 181-182 ft bgs.		590
185				(186') Broken into angular/subangular gravel from ~186-199 ft bgs.	585	
190				(189') GNEISS/AMPHIBOLITE GNEISS; gray to dark gray, abundant pink quartzite (feldspar inclusions) throughout, hard, thin laminations, black staining on fracture surfaces, trace iron staining.	580	
195				(199') GNEISS/AMPHIBOLITE GNEISS; gray to dark gray, hard, thin laminations, competent.	575	
200				(203') Quartzite seam ~1" thick, abundant pink quartzite and feldspar.	570	
205				(204') Thin ~1mm fractures from 204-209 ft bgs.	565	
210				(209') GNEISS/AMPHIBOLITE GNEISS; dark gray, trace angular gravel from 209-212 ft bgs, abundant feldspar/pink quartzite, hard, thin laminations, competent, trace ~1mm fractures throughout.	560	
215				(215') Trace angular gravel from 215-219 ft bgs.	555	
220				(219') Increasing feldspar content with depth.		
225						

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
225				(225') Broken into angular to subangular gravel from 225-229 ft bgs.	Water return reduced to ~20%. Heavy rig chatter.	550
230				(229') Increasing feldspar, trace mica, increasing small fractures.		545
235				(239') Rock broken into medium angular gravel from 239-241 ft bgs.		540
240				(246') Abundant feldspar and quartzite from 246-249 ft bgs. (247') Rock broken into medium angular gravel from 247-249 ft bgs.		535
245				(249') GNEISS/AMPHIBOLITE GNEISS; medium gray (N5), abundant grayish orange pink (5YR 7/2) feldspar throughout, hard, thin laminations, trace ~1mm fractures throughout with black staining in fractures.		530
250				(254') Broken into angular gravel from 254-256 ft bgs, small grayish green (10GY 5/2) inclusions from 254-255.5 ft bgs.		525
255				(259') Same as above.		520
260				(265') MUSCOVITE SCHIST; medium gray (N5), abundant white (N9) quartz and grayish orange pink (5YR 7/2) feldspar throughout, some biotite and some mica throughout, hard, competent. (267') Trace grayish yellow-green (5GY 7/2) inclusions, iron staining from 267-269 ft bgs. (269') MUSCOVITE SCHIST; medium dark gray (N4), abundant white (N9) quartz and		515
265						510
270						

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
*PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
270				grayish orange pink (5YR 7/2) feldspar laminations/seams throughout, some biotite and mica throughout, hard, competent, abundant moderate yellow-green (5GY 7/4) epidote in ~1" thick lens/seam from 269-270 ft bgs, schist friable where thin (<5cm thick).		505
275						500
280				(279') Same as above.		495
285				(282.5') GNEISS/AMPHIBOLITE GNEISS; greenish black (5GY 2/1), abundant moderate brown (5YR 4/4) feldspar throughout, hard, thin laminations, competent, trace fine fractures less than 1mm throughout, broken into subangular-angular gravel throughout.		490
290				(289') GNEISS/AMPHIBOLITE GNEISS; dark gray (N3), abundant grayish orange pink (5YR 7/2) feldspar, trace white (N9) quartz and epidote, hard, thin laminations, competent, trace fine (<1mm) fractures with dark greenish gray (5G 4/1) staining on faces, trace cubic pyrite crystals visible in fracture faces.	Heavy rig chatter from 289-299 ft bgs.	485
295						480
300				(299') Light brownish gray (10YR 6/2), abundant fine sand (recovered material consisted of sand crush from drilling operations), wet, loose.	Very hard drilling from 299-309 ft bgs.	475
305						470
310				(309') Abundant small (<1mm) pyrite throughout.		465
315				(314') Trace medium (~3-5mm) cubic pyrite crystals.		

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
315				(315') Trace iron staining from 315-316 ft bgs.		460
320				(319') Same as above. (320') Trace medium/large pyrite crystals.		455
325				(327') Trace epidote.		450
330				(329') GNEISS/AMPHIBOLITE GNEISS; dark greenish gray (5GY 4/1), abundant grayish orange pink (5YR 7/2) feldspar, some white (N9) quartz/quartzite, hard, thin laminations, competent, abundant small (<1mm) fractures from 329-330 ft bgs with very light gray staining present in open fractures, wet. (329.5') Trace weathered small garnet in fracture zone, trace pyrite. (334') Small (less than 1mm) fractures with black staining on fractures.	Core broken into angular gravel from 332-336 ft bgs. Driller reports soft spot at 334 ft bgs.	445 440
335				(339') GNEISS/AMPHIBOLITE GNEISS; dark greenish gray (5GY 4/1), abundant gray orange pink (5YR 7/2) feldspar throughout, abundant white (N9) quartzite, hard, thin laminations throughout, competent, abundant small (<1mm) fractures throughout with gray (N8) and dark greenish gray (5GY 4/1) staining and fractures, abundant iron staining on fracture surfaces from 339-340 ft bgs, broken into medium subangular gravel from 339-340 ft bgs, wet.		435
340				(347') Trace/some ~1-2mm pyrite crystals and ~0.5mm garnet in fracture faces, trace iron staining from 347-347.5 ft bgs. (349') GNEISS/AMPHIBOLITE GNEISS; dark gray (N3), abundant light brown (5YR 5/6) feldspar throughout, hard, thin laminations throughout, competent, thin (<1mm) fractures throughout with gray (N8) dark green gray (5G 4/1) and black (N1) staining on fracture surfaces, broken into medium to large subrounded to angular gravel (heavily weathered gneiss, friable) with abundant iron staining from 349-351 ft bgs, trace garnet at 349-349.1 ft bgs, wet. (351') Trace very small (>0.5mm) pyrite in fractures.	Heavy rig chatter from 349-353 ft bgs.	430 425
345				(357') Angular gravel from 357-357.5 ft bgs.		420
350						
355						
360						

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
*PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

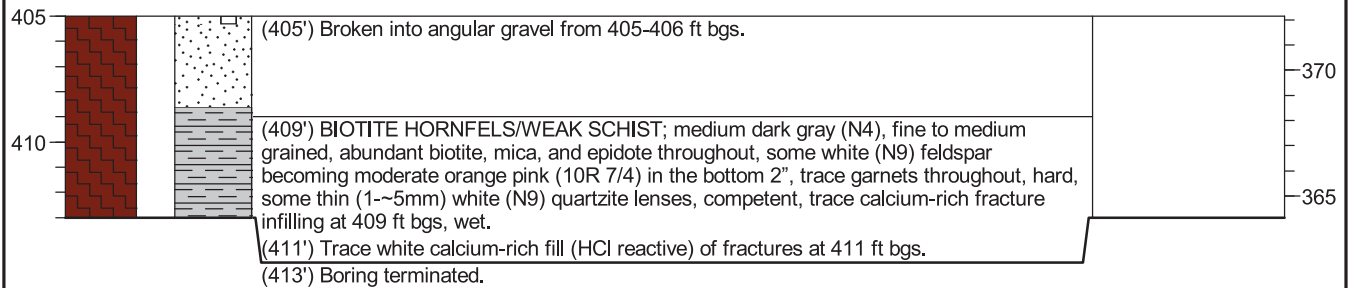
Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
360				(359') GNEISS/AMPHIBOLITE GNEISS; dark gray (N3), abundant light brown (5YR 5/6) feldspar throughout, trace epidote throughout core, hard, competent, some small (>1mm) fractures throughout with dark greenish gray and gray staining on fracture surfaces, some very small pyrite (>0.05-0.5mm) throughout core concentrated in, but not limited to, open fractures, wet.	Very heavy rig chatter from 359-364.5 ft bgs.	415
365				(363') Broken into medium to large angular gravel from 363-367 ft bgs.		410
370				(369') GNEISS/AMPHIBOLITE GNEISS; black (N2), abundant moderate brown (5YR4/4) feldspar decreasing with depth, hard, some thin laminations, competent, small (>1mm) fractures from 369-372 ft bgs with white and dark green gray staining on fracture surfaces, wet.	Very heavy rig chatter from 369-379 ft bgs.	405
375				(371') Broken into medium to coarse angular to subangular gravel from 371-377 ft bgs. (372') Some epidote from 372-373 ft bgs. (376') Some epidote from 376-379 ft bgs.		400
380				(379') GNEISS/GRANITIC AMPHIBOLITE GNEISS; dark gray (N3), abundant light brown (5YR 5/6) feldspar, small white (N9) quartzite (1-2mm thick) and some epidote throughout, hard, thin laminations decrease with depth, competent, some small fractures (>1mm) throughout with white and dark green gray staining on faces, broken into small to coarse angular to subangular gravel throughout core, wet.		Heavy rig chatter; very hard drilling from 379-389 ft bgs.
385				(384') Some quartzite (1-2" thick) from 384-384.5 ft bgs.	390	
390				(390') Abundant biotite in fractures, large (~1" thick) quartzite vein vertically from 390-391.5 ft bgs.	385	
395				(395') BIOTITE HORNFELS/WEAK SCHIST; medium dark gray (N4), fine-grained, abundant biotite and mica, some light brown (5YR 5/6) feldspar, pyrite crystals (1-2mm), and epidote throughout, trace small garnets (<1mm), trace thin laminations, competent, some fractures (1-5mm) with white calcium-rich fill (HCl reactive), wet.	380	
400				(399') BIOTITE HORNFELS/WEAK SCHIST; medium dark gray (N4), abundant biotite and mica, some thin (1-5mm) white (N9) quartzite lenses, some light brown (5YR 5/6) feldspar and small (1.5mm) pyrite crystals throughout, trace small garnets (<1mm) and epidote throughout, decreasing feldspar and quartzite with depth, hard, competent, wet.	375	
405						

NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
*PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

Drilling Start Date: 3/5/2024	Boring Depth (ft): 413	Well Depth (ft TOC): 325.3 (32D), 405.3 (33D)
Drilling End Date: 10/17/2024	Boring Diameter (in): 4", 6"	Well Diameter (in): 1 (32D), 2 (33D)
Drilling Company: Cascade Drilling	Sampling Method(s): Core Barrel	Screen Slot (in): 0.010
Drilling Method: Sonic	DTW During Drilling (ft): 8.0	Riser Material: Sch 80 PVC
Drilling Equipment: Terra Sonic 150CC	Ground Surface Elev. (ft): 777.14	Screen Material: Sch 80 PVC Slotted
Driller: J. Hall, D. Wilcox, K. Grant	Top of Casing Elev. (ft): 776.74 (32D,33D)	Seal Material(s): Grout/Bentonite
Logged By: D. Kegley, T. Kessler	North, East: (see Notes below)*	Filter Pack: #1 Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	SOIL/ROCK VISUAL DESCRIPTION	REMARKS	ELEVATION (ft MSL)
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NOTES: Boring backfilled with bentonite to 408.6 ft below ground surface (bgs) prior to installing wells.
 *PZ-32D - 1243211.88 N, 2029886.45 E; PZ-33D - 1243211.76 N, 2029886.78 E. Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Wells completed with flush-mount well cover set in concrete. Top of Casing (toc). Total well depth includes 4-inch sump.

RECORD OF BOREHOLE WGWC-14/APC-5S

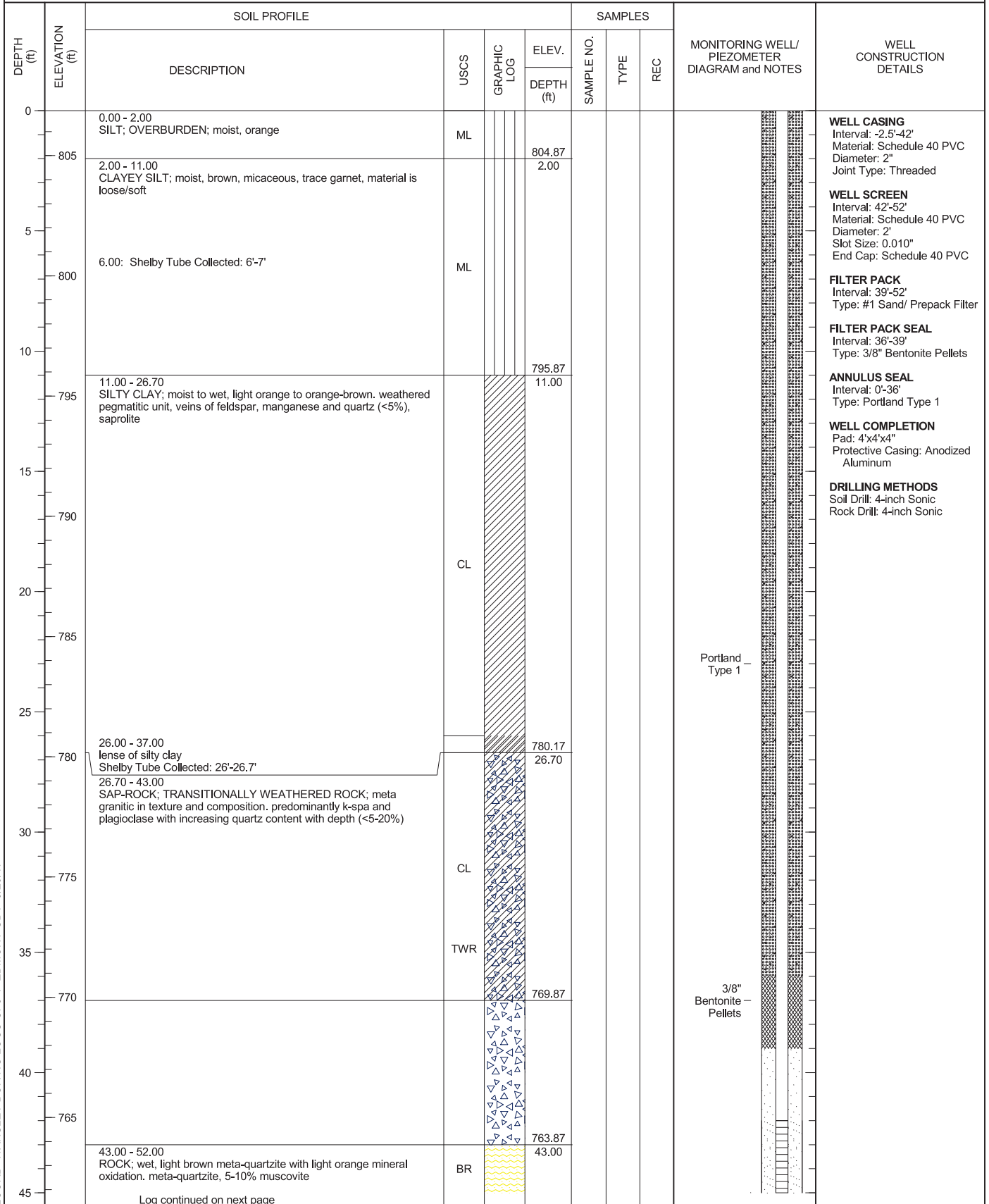
SHEET 1 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 52.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/4/15
 DATE COMPLETED: 11/5/15

NORTHING: 1,240,621.86
 EASTING: 2,024,584.92
 GS ELEVATION: 806.87
 TOC ELEVATION: 809.50 ft

DEPTH W.L.: 33' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/4/15
 TIME W.L.: 14:00



BOREHOLE RECORD WANSLEY BORING LOGS.GPJ_PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



Log continued on next page

RECORD OF BOREHOLE WGWC-14/APC-5S

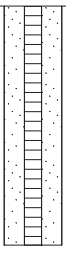
SHEET 2 of 2

PROJECT: SCS Wansley
 PROJECT NUMBER: 154117
 DRILLED DEPTH: 52.00 ft
 LOCATION: Carrollton, GA

DRILL RIG: PS-150 Track Mounted Rig
 DATE STARTED: 11/4/15
 DATE COMPLETED: 11/5/15

NORTHING: 1,240,621.86
 EASTING: 2,024,584.92
 GS ELEVATION: 806.87
 TOC ELEVATION: 809.50 ft

DEPTH W.L.: 33' (bgs)
 ELEVATION W.L.: (amsl)
 DATE W.L.: 11/4/15
 TIME W.L.: 14:00

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE			SAMPLES			MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
		DESCRIPTION	USCS	GRAPHIC LOG	ELEV. DEPTH (ft)	SAMPLE NO.	TYPE		
45	760	43.00 - 52.00 ROCK; wet, light brown meta-quartzite with light orange mineral oxidation. meta-quartzite, 5-10% muscovite <i>(Continued)</i>	BR	[Wavy pattern]	754.87			#1 sand 0.010" slot screen 	WELL CASING Interval: -2.5'-42' Material: Schedule 40 PVC Diameter: 2" Joint Type: Threaded WELL SCREEN Interval: 42'-52' Material: Schedule 40 PVC Diameter: 2" Slot Size: 0.010" End Cap: Schedule 40 PVC FILTER PACK Interval: 39'-52' Type: #1 Sand/ Prepack Filter FILTER PACK SEAL Interval: 36'-39' Type: 3/8" Bentonite Pellets ANNULUS SEAL Interval: 0'-36" Type: Portland Type 1 WELL COMPLETION Pad: 4'x4'x4" Protective Casing: Anodized Aluminum DRILLING METHODS Soil Drill: 4-inch Sonic Rock Drill: 4-inch Sonic
50	755	Boring completed at 52.00 ft							
55	750								
60	745								
65	740								
70	735								
75	730								
80	725								
85	720								
90									

BOREHOLE RECORD WANSLEY BORING LOGS.GPJ | PIEDMONT.GDT 9/29/17

LOG SCALE: 1 in = 5.5 ft
 DRILLING COMPANY: Cascade Drilling
 DRILLER: Tom Ardito

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



Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail on Pad Northing	Nail on Pad Easting	Nail on Pad Elevation
PZ-1	1240249.8630	2022319.9310	856.72	1240249.9700	2022320.5080	853.91
PZ-4	1242592.0290	2023595.9140	889.01	1242592.3380	2023596.5490	886.13
PZ-6	1244382.8880	2024661.3940	915.15	1244383.1700	2024661.9960	912.30
PZ-8	1245514.5910	2026807.2980	867.29	1245514.7420	2026806.5550	864.65
PZ-10	1242058.4080	2028554.2850	832.02	1242059.0170	2028553.7330	829.26
PZ-11	1240578.8710	2026933.0880	823.09	1240579.6810	2026932.6430	820.21
PZ-12	1240837.9640	2026731.0050	818.74	1240838.5000	2026731.0470	816.17
PZ-15	1240457.6050	2025105.3770	826.86	1240456.9660	2025105.5600	824.59
PZ-16	1239419.7700	2023662.2240	800.70	1239419.1270	2023662.3410	798.05
PZ-17	1239270.0160	2023086.5000	831.01	1239269.7540	2023086.3130	828.54
PZ-18	1239569.5150	2022299.1990	814.51	1239569.7940	2022300.1040	812.10
PZ-20	1243496.8600	2030132.7300	787.30	1243495.6070	2030132.0520	784.45
WAMW-1	1241843.6600	2028944.6250	782.66	1241844.0310	2028943.9790	780.05
WAMW-2	1241547.5560	2028806.2670	770.82	1241547.1220	2028805.7030	768.39
WGWA-1	1250656.0950	2035580.7080	782.93	1250656.4090	2035580.1280	780.37
WGWA-2	1251556.3950	2035590.1080	758.23	1251556.3970	2035589.4980	755.77
WGWA-3	1240848.2140	2022350.0950	828.91	1240848.0950	2022350.8040	826.63
WGWA-4	1240879.5820	2022339.6570	834.34	1240879.8680	2022340.9730	831.33
WGWA-5	1241997.9440	2022368.8480	902.15	1241998.0000	2022369.7100	899.28
WGWA-6	1241932.0170	2022360.5840	897.13	1241931.8200	2022361.6140	894.62
WGWA-7	1243338.6270	2023843.8080	897.33	1243337.9640	2023843.4880	894.49
WGWA-18	1244592.5610	2025580.7050	878.02	1244592.1320	2025580.1320	875.47
WGWC-8	1242929.4040	2029644.5810	780.08	1242928.7100	2029644.4410	777.70
WGWC-9	1242801.1220	2029115.7520	812.03	1242800.5100	2029116.3540	809.33
WGWC-10	1240971.9590	2026725.6080	812.38	1240971.3740	2026725.3710	809.61
WGWC-11	1240860.1770	2025773.3940	823.96	1240859.5740	2025772.9470	821.44
WGWC-12	1240827.6760	2025755.9870	823.04	1240827.1900	2025755.4920	820.57
WGWC-13	1240610.9290	2024585.9120	809.78	1240610.3180	2024586.1010	807.32
WGWC-14A	1240604.5360	2024599.6310	810.94	1240603.9380	2024598.3360	808.20
WGWC-15	1240483.1620	2023912.9150	804.69	1240483.1680	2023912.2850	802.03
WGWC-16	1240480.4570	2023903.7730	804.21	1240480.3010	2023903.1200	801.72
WGWC-17	1240052.0560	2022623.8220	816.00	1240052.0140	2022623.1790	813.36
WGWC-19	1241851.5120	2028949.1850	783.42	1241851.9040	2028948.5970	780.60

Benchmark	Northing	Easting	Elevation
BM-W1	1243475.416	2029633.083	804.08
BM-W2	1251565.596	2035853.723	747.75

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 06/03/2020-06/10/2020. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 & BM-W2 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL



Jimmy R. Toole

06/16/2020

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail on Pad Northing	Nail on Pad Easting	Nail on Pad Elevation
PZ-22	1243350.7570	2029769.4340	807.95	1243351.5210	2029768.3170	804.88
PZ-23D	1242139.5320	2028520.8680	834.32	1242138.6260	2028521.5100	831.89
PZ-23S	1242139.3280	2028512.6500	834.41	1242138.3710	2028513.3390	831.79
PZ-24	1241695.2460	2028116.0540	810.37	1241694.5570	2028117.2730	807.00
PZ-25S	1240769.7850	2027414.5750	823.80	1240770.8890	2027414.3720	820.50
PZ-26D	1239919.4530	2024146.3480	804.93	1239920.5460	2024145.9060	802.31
PZ-26S	1239916.6790	2024139.8210	804.80	1239917.8130	2024139.2740	802.22
PZ-27D	1240190.9250	2023620.3600	809.28	1240191.2500	2023619.0790	806.22
PZ-27S	1240184.1820	2023616.6900	808.98	1240184.5500	2023615.5290	805.98
PZ-28	1240066.0150	2022624.7330	816.18	1240066.0550	2022623.6960	813.57
PZ-29D	1244304.8990	2028853.2900	805.24	1244304.4270	2028852.7910	805.77
PZ-29S	1244317.1290	2028839.6800	805.30	1244316.6610	2028839.1970	805.80

PZ-22 has been renamed WGWC-20
PZ-23S has been renamed WGWC-21
PZ-24 has been renamed WGWC-22
PZ-25S has been renamed WGWC-23
PZ-26S has been renamed WGWC-24
PZ-27S has been renamed WGWC-25
PZ-29D is being renamed WGWC-37D
PZ-29S is being renamed WGWC-37S

Benchmark	Northing	Easting	Elevation
BM-W1	1243475.416	2029633.083	804.08

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 11/04/2020-11/05/2020. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL



Jimmy R. Toole


11/17/2020

GEL ENGINEERING OF NC INC
Plant Wansley Monitoring Wells

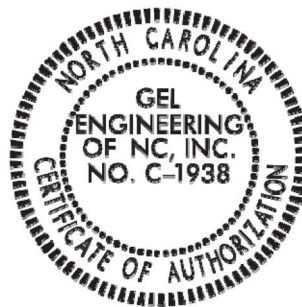
Field Surveys: 10/11/2022

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail or Pad Northing	Nail or Pad Easting	Nail or Pad Elevation	Description
WGWC-26D	1243343.658	2029758.846	808.23	1243344.161	2029757.977	805.06	NAIL
WGWC-27	1243215.513	2029878.918	780.54	1243215.002	2029879.991	778.05	NAIL
CSB-2022-01	1243334.918	2029756.286	804.93	N/A	N/A	N/A	BORING
CSB-2022-02	1243337.255	2029761.150	804.86	N/A	N/A	N/A	BORING
CSB-2022-03	1243341.239	2029768.805	804.81	N/A	N/A	N/A	BORING
Benchmark	Northing	Easting	Elevation				
BM-W1	1243475.416	2029633.083	804.08				

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 10/11/2022. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 & R12 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL



10/13/2022



COA - LS003119
 Exp. 12/31/2022

GEL ENGINEERING OF NC INC
Plant Wansley Monitoring Wells

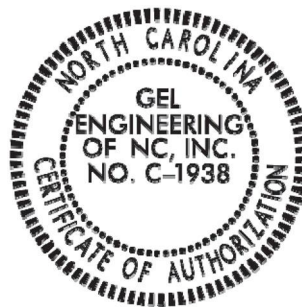
Field Surveys: 8/29/2023

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail or Pad Northing	Nail or Pad Easting	Nail or Pad Elevation	Description
WGWC-28D	1243337.128	2029751.04	808.24	1243338.077	2029750.31	805.36	NAIL
Benchmark	Northing	Easting	Elevation				
BM-W1	1243475.416	2029633.083	804.08				

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 8/29/2023. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 & R12 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL

Derek Bradner

9/5/2023



COA - LS003119
 Exp. 12/31/2022

GEL ENGINEERING OF NC INC
Plant Wansley Monitoring Wells

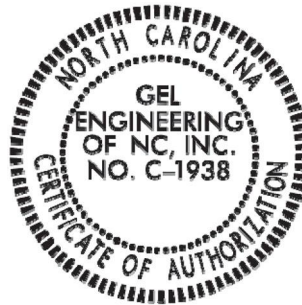
Field Surveys: 7/01/2024

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail or Pad Northing	Nail or Pad Easting	Nail or Pad Elevation	Description
PZ-30	1240592.295	2027321.682	814.80	1240591.324	2027321.634	812.43	NAIL
PZ-31	1239941.772	2024324.328	810.90	1239940.65	2024324.993	807.86	NAIL
Benchmark	Northing	Easting	Elevation				
BM-W1	1243475.416	2029633.083	804.08				

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 7/01/2024. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R12 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL

Derek Bradner

7/1/2024



COA - LS003119
 Exp. 12/31/2024

GEL ENGINEERING OF NC INC
Plant Wansley Monitoring Wells

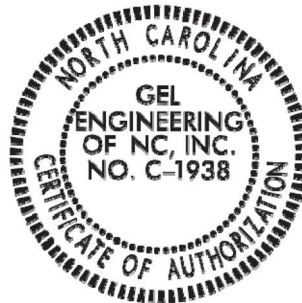
Field Surveys: 11/06/2024

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail or Pad Northing	Nail or Pad Easting	Nail or Pad Elevation	Description
PZ-32D	1243211.878	2029886.449	776.74	1243211.283	2029887.715	777.14	NAIL
PZ-33D	1243211.758	2029886.775	776.74				
Benchmark	Northing	Easting	Elevation				
BM-W1	1243475.416	2029633.083	804.08				

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION:11/06/2024. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD '88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R12 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM-W1 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL

Derek Bradner


11/7/2024




COA - LS003119
 Exp. 12/31/2024

Plant Wansley Carrolton County, Georgia									
Monitoring Well survey and Soil Boring									
Well ID	Casing		Casing		Top of Casing		Nail or Pad		Nail or Pad
	Northing	Easting	Northing	Easting	Elevation	Northing	Easting	Elevation	
WGWC-30	1240032.727	2022624.285	1240032.651	2022623.081	815.203	1240032.651	2022623.081	812.443	
WGWC-31D	1240831.553	2027168.065	1240830.770	2027168.031	814.613	1240830.770	2027168.031	811.793	
WGWC-31S	1240831.576	2027173.435	1240830.639	2027173.517	814.693	1240830.639	2027173.517	811.743	
WGWC-32	1241721.241	2028131.515	1241720.732	2028132.355	810.228	1241720.732	2028132.355	807.698	
WGWC-33	1242764.834	2029104.255	1242763.820	2029104.994	812.093	1242763.820	2029104.994	809.713	
WGWC-34D	1245303.302	2027822.224	1245304.053	2027822.890	806.038	1245304.053	2027822.890	806.313	
WGWC-34S	1245294.991	2027830.717	1245295.508	2027831.621	805.768	1245295.508	2027831.621	806.278	
WGWC-35D	1244985.871	2028140.126	1244986.643	2028140.920	806.023	1244986.643	2028140.920	806.273	
WGWC-35S	1244973.255	2028152.746	1244973.881	2028153.404	805.953	1244973.881	2028153.404	806.238	
WGWC-36D	1244524.680	2028595.964	1244525.364	2028596.522	805.563	1244525.364	2028596.522	805.813	
WGWC-36S	1244517.478	2028601.760	1244518.646	2028602.803	805.618	1244518.646	2028602.803	805.813	
WGWC-38D	1243855.622	2029276.990	1243856.137	2029277.479	806.148	1243856.137	2029277.479	806.373	
WGWC-38S	1243844.644	2029287.399	1243845.493	2029288.344	806.068	1243845.493	2029288.344	806.323	
Boring	Northing	Easting	Elevation						
GSD1	1245312.899	2027812.522	806.104						
GSD2	1245346.828	2027776.536	805.890						
SB24	1239924.129	2024156.045	802.124						

All coordinates are based upon Georgia State Plane, West Zone. Elevations are referenced to NAVD 1988 datum. Control used to perform work set by Thompson in 2021 by running static sessions and submitting to OPUS for coordinates and elevations. Equipment used for horizontal positions: Trimble R12 RTK GPS. Elevations for each point was established by running closed level loops with Sokkia level.


 Johnny E. Holley
 Georgia Registration Number LS003550
 date 4/9/2025
 Thompson Engineering Certificate of Authorization LSF-1151





Approved
Solid Waste Management Program

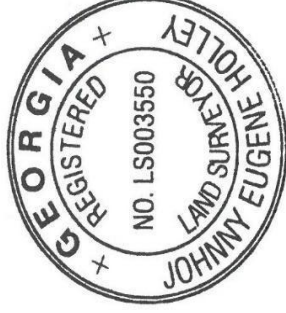
Mark Westcott
P.G.
Approved By:

Quality Control: Mark Westcott
Date: 05/08/2025 11:50:00 AM

Plant Wansley Carrollton County, Georgia					
Monitoring Well Survey					
Well ID	Casing	Top of Casing	Nail or Pad	Nail or Pad	Nail or Pad
	Northing	Elevation	Northing	Easting	Elevation
WGWC-8A	1243131.876	2029522.990	1243131.342	2029523.921	803.721

Existing well WGWC-38S pk nail (elevation 806.323) was used to establish the elevations for Well WGWC-8A

All coordinates are based upon Georgia State Plane, West Zone. Elevations are referenced to NAVD 1988 datum. Control used to perform work set by Thompson in 2021 by running static sessions and submitting to OPUS for coordinates and elevations. Equipment used for horizontal positions: Trimble R12 RTK GPS. Elevations for each point was established by running closed level loops with Trimble DINI Level.

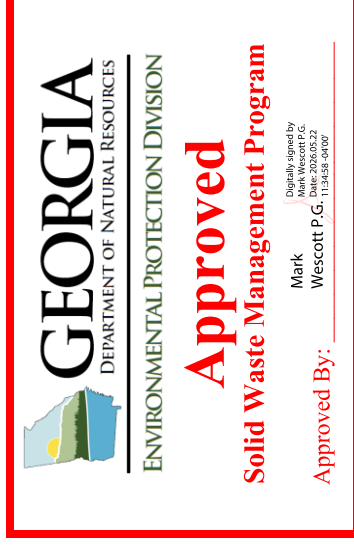
10/31/2025

date

Johnny E. Holley

Georgia Registration Number LS003550

Thompson Engineering Certificate of Authorization LSF-1151



SURETY RIDER

To be attached to and form a part of

Bond No. 800031223

Type of

Bond: Performance Bond for Water Well Contractors

dated

effective June 30, 2017
(MONTH-DAY-YEAR)

executed by Michael C. Rice/Cascade Drilling, L.P. . as Principal,
(PRINCIPAL)

and by Atlantic Specialty Insurance Company . as Surety,

in favor of State of Georgia
(OBLIGEE)

in consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to changing

Coverage under the bond to include:
Michael Coleman

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated.

This rider

is effective December 21, 2017
(MONTH-DAY-YEAR)

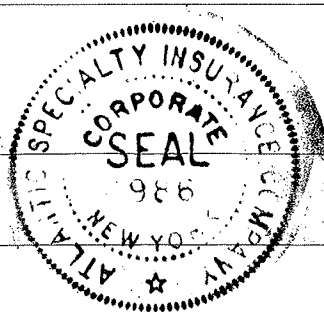
Signed and Sealed December 21, 2017
(MONTH-DAY-YEAR)

Michael C. Rice/Cascade Drilling, L.P.
(PRINCIPAL)

By: _____
(PRINCIPAL)

Atlantic Specialty Insurance Company

By: 
Elizabeth R. Hahn, Attorney-in-Fact



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Jill A. Wallace, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **sixty million dollars (\$60,000,000)** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.


Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

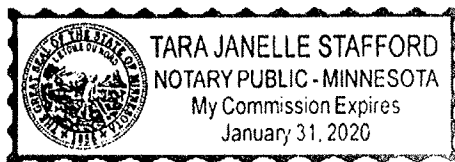
IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this eighth day of December, 2014.



By 
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

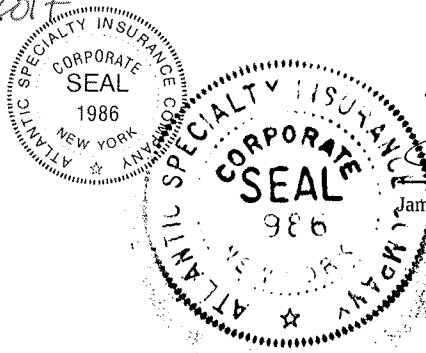
On this eighth day of December, 2014, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.





Notary Public

I, the undersigned, Assistant Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 21 day of December, 2017



This Power of Attorney expires
October 1, 2019


James G. Jordan, Assistant Secretary

CONTINUATION
CERTIFICATE

SAFECO Insurance Company of America

, Surety upon

a certain Bond No. 4993104

dated effective June 30, 1987
(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.
(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2017
(MONTH-DAY-YEAR)

and ending on June 30, 2018
(MONTH-DAY-YEAR)

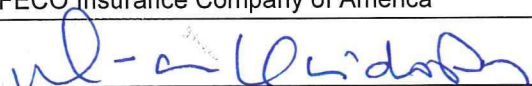
Amount of bond \$10,000.00

Description of bond Water Well Contractors & Drillers

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

Signed and dated on May 04, 2017
(MONTH-DAY-YEAR)

SAFECO Insurance Company of America

By 
D-Ann Kleidosty, Attorney-in-Fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7710213

American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American States Insurance Company is a corporation duly organized under the laws of the State of Indiana, that First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America are corporations duly organized under the laws of the State of New Hampshire (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Brooke A. Sharp; Christine Doczy; D-Ann Kleidosty; Gary D. Eklund; Sharon J. Potts; Sylvia M. Ogle

all of the city of Atlanta, state of GA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 4th day of April, 2017.



American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 4th day of April, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notary Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS - Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, whenever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 4th day of May, 2017.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

Bond Number 1001126889

Performance Bond For Drillers

Name of Driller Phillip Pitts and Stan White

Know All Men By These Presents

That we Phillip Pitts and Stan White and Thompson Engineering, Inc. any and all employees, officers and partners (collectively hereinafter, **Principal**), and we American Contractors Indemnity Company, duly organized under the laws of the State of California (hereinafter, **Surety**), are held and firmly bound unto the Director of the Environmental Protection Division, Department of Natural Resources, State of Georgia (**Director**) and his or her Successor or Successors in office, as **Obligee**, in the full sum of **FIFTEEN THOUSAND DOLLARS (\$15,000.00)** for the payment of which will and truly to be made, the Principal and Surety bind ourselves, our heirs, administrators, successors and assigns, jointly and severally, by these presents.

WHEREAS, the Water Well Standards Act of 1985 (O.C.G.A. §§ 12-5-120 *et seq.*) (the Act) requires that a Driller, as that term is defined by the Act, have a performance bond with the Director to ensure compliance with the Act; and WHEREAS the above bound Principal is subject to the terms and provisions of said Act.

NOW, THEREFORE, the conditions of this obligation are such that if the above bound Principal shall fully and faithfully perform the duties and in all things comply with the procedures and standards set forth in the Act as now and hereafter amended, and the rules and regulations promulgated pursuant thereto, including but not limited to the correction of any violation of such procedures and standards upon discovery, irrespective of whether such discovery is made before completion of any well subject to this bond, then this obligation shall be void; otherwise it shall remain in full force and effect.

And Surety, for value received, agrees that no amendment to existing laws, rules or regulations, or adoption of new laws, rules or regulations shall in anyway discharge its obligation on this bond, and does hereby waive notice of any such amendment, adoption or modification.

This bond shall be effective from the 1st day of November, 2018 and shall continue in effect until June 30, 2019, unless sooner terminated by mutual agreement of Principal and Surety, provided that no such termination may be made unless sixty (60) days' prior written notice is made to the Director. In the event of such termination, the rights of the Director as Obligee and beneficiaries under this bond which arose prior to such termination shall continue.

IN WITNESS THEREOF the Principal and Surety have caused these present to be duly signed and sealed, this the 26th day of February, 2019.

Principal
Thompson Engineering, Inc.

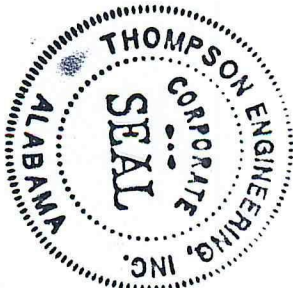
Print name: Chad R. Brown
Title: CO + Secretary

Surety
American Contractors Indemnity Company

Print name: Dewey Brashier
Title: Attorney-in-Fact

Seal:

Seal:





TOKIOMARINE
HCC

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Jim E. Brashier, Troy P. Wagener, Loren Richard Howell, Jr., Dewey Brashier,
Kathleen B. Scarborough, Susan Skrmetta, John W. Nance

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed *****Unlimited***** Dollars (***unlimited***). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
County of Los Angeles



By:
Daniel P. Aguilar, Vice President

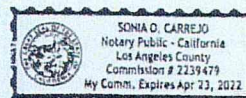
A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 26th day of February, 2019.

Corporate Seals
Bond No. 1001126889
Agency No. 17033



Kio Lo, Assistant Secretary

CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company

, Surety upon

a certain Bond No. 800033976

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

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

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

does hereby continue said bond in force for the further period

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

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

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

Description of bond Performance Bond for Water Well Contractors

Premium: \$1200.00

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

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

Atlantic Specialty Insurance Company

By 
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.

Agent

2233 112th Ave NE Bellevue, WA 98004

Address of Agent

425-709-3600

Telephone Number of Agent





Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Deanna M. French, Susan B. Larson, Elizabeth R. Hahn, Jana M. Roy, Scott McGilvray, Mindee L. Rankin, Ronald J. Lange, John R. Claeys, Roger Kaltenbach, Guy Armfield, Scott Fisher, Andrew P. Larsen, Nicholas Fredrickson, William M. Smith, Derek Sabo, Charla M. Boadle**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

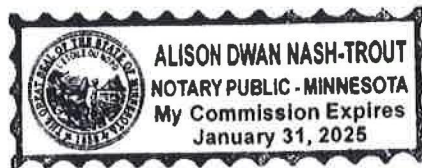
IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.



By *Paul J. Brehm*
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

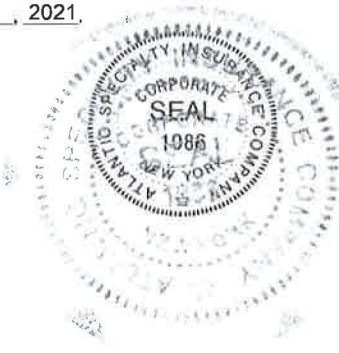


Alison Nash-Trout
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 12 day of April, 2021.

This Power of Attorney expires
January 31, 2025



Kara Barrow
Kara Barrow, Secretary

CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company

, Surety upon

a certain Bond No. 800033976

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

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

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

does hereby continue said bond in force for the further period

beginning on 06/30/2021
(MONTH-DAY-YEAR)

and ending on 06/30/2023
(MONTH-DAY-YEAR)

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

Description of bond Performance Bond for Water Well Contractors

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

Signed and dated on April 12th, 2021
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By 
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.

Agent
2233 112th Ave NE Bellevue, WA 98004

Address of Agent

425-709-3600

Telephone Number of Agent

CONTINUATION
CERTIFICATE

Atlantic Specialty Insurance Company

, Surety upon

a certain Bond No. 800033976

dated effective September 27, 2017
(MONTH-DAY-YEAR)

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

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

does hereby continue said bond in force for the further period

beginning on June 30, 2023
(MONTH-DAY-YEAR)

and ending on June 30, 2025
(MONTH-DAY-YEAR)

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

Description of bond Performance Bond for Water Well Contractors

Premium:

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

Signed and dated on April 13, 2023
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By 
ATTORNEY-IN-FACT Carlos A. Albelo



Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Megan Sivley, Melissa Haddick, Sandra Parker, Orlando Aguirre, Stacy Killebrew, Carlos A. Albelo**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.


Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

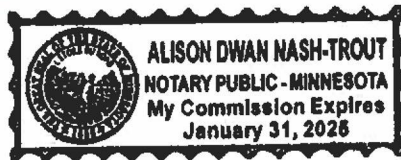
IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this first day of January, 2023.



By 
Sarah A. Kolar, General Counsel

STATE OF MINNESOTA
HENNEPIN COUNTY

On this first day of January, 2023, before me personally came Sarah A. Kolar, General Counsel of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and she acknowledged the execution of the same, and being by me duly sworn, that she is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.




Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 13th day of April, 2023.

This Power of Attorney expires
January 31, 2025




Kara Barrow, Secretary

CONTINUATION
CERTIFICATE

Safeco Insurance Company of America

, Surety upon

a certain Bond No. **4993104**

dated effective June 30, 1987
(MONTH-DAY-YEAR)

on behalf of Southern Company Services, Inc.
(PRINCIPAL)

and in favor of Georgia Department of Natural Resources, Environmental Protection Division
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on June 30, 2025
(MONTH-DAY-YEAR)

and ending on June 30, 2027
(MONTH-DAY-YEAR)

Amount of bond Fifteen Thousand and 00/100 Dollars (\$15,000.00)

Description of bond Water Well Contractors & Drillers

Premium: \$100.00

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

Signed and dated on May 19, 2025
(MONTH-DAY-YEAR)
Safeco Insurance Company of America
175 Berkeley Street, Boston, MA 02116

By 
Attorney-in-Fact Jeffrey M. Wilson

McGriff Insurance Services, A Marsh & McLennan Agency LLC Company
Agent
2000 International Park Drive, Suite 600, Birmingham, AL 35243
Address of Agent
(205) 252-9871
Telephone Number of Agent





POWER OF ATTORNEY

Certificate No: 8213598-016032

American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America

KNOWN ALL PERSONS BY THESE PRESENTS: That American States Insurance Company is a corporation duly organized under the laws of the State of Indiana, that First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America are corporations duly organized under the laws of the State of New Hampshire (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alisa B. Ferris; Anna Childress; Jeffrey M. Wilson, Mark W. Edwards, II; Richard H. Mitchell; Robert R. Freeli; Samuel F. Audia, III; William M. Smith

all of the city of Birmingham state of AL each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 3rd day of April, 2025.



American States Insurance Company
First National Insurance Company of America
General Insurance Company of America
Safeco Insurance Company of America
By: Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 3rd day of April, 2025 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-law and Authorizations of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America, which are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorney-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of American States Insurance Company, First National Insurance Company of America, General Insurance Company of America, and Safeco Insurance Company of America do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 19th day of May, 2025.

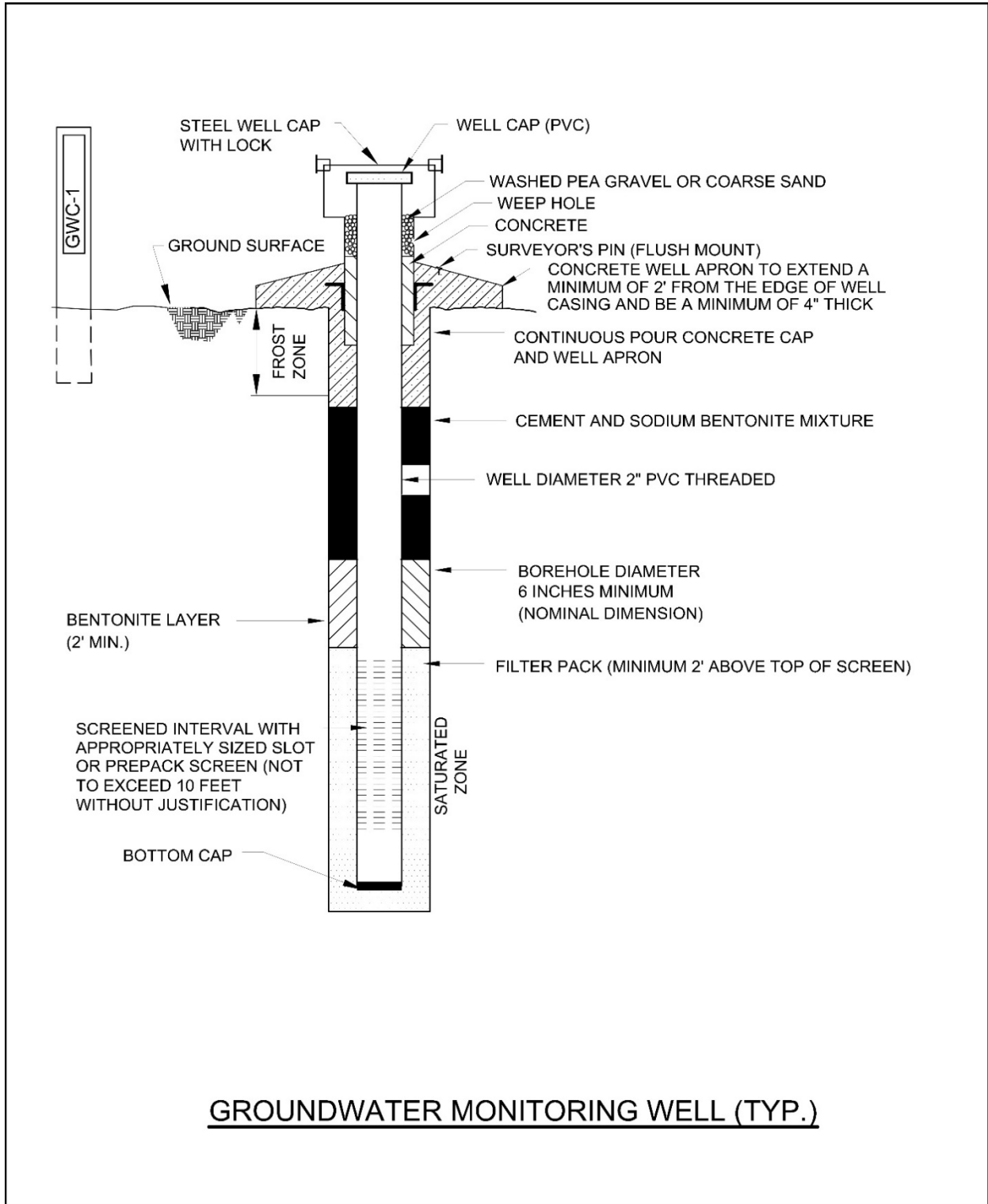


By: Renee C. Llewellyn, Assistant Secretary

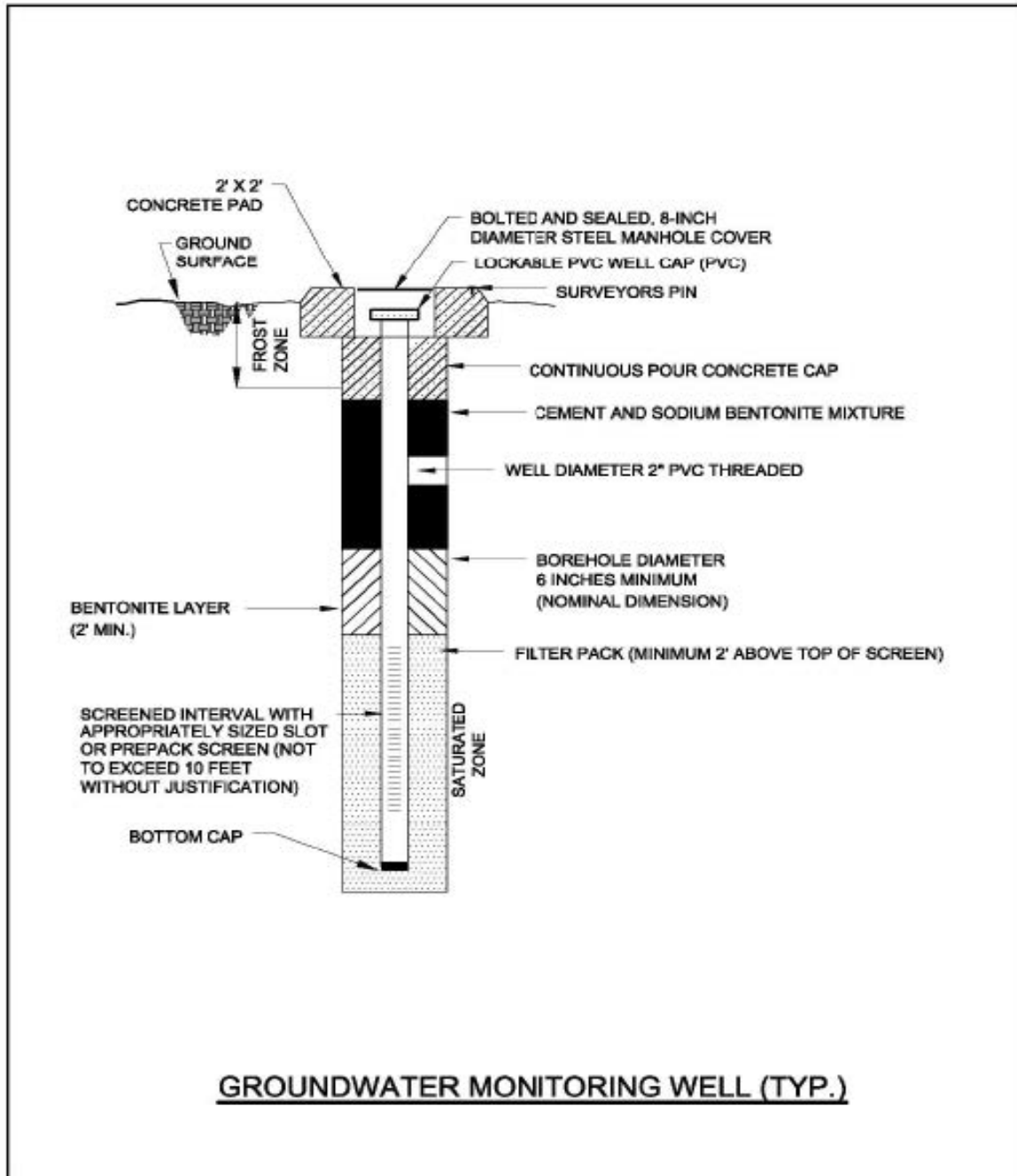
Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

B1. GROUNDWATER MONITORING WELL DETAIL ABOVE-GROUND SURFACE COMPLETION



B2. GROUNDWATER MONITORING WELL DETAIL FLUSH MOUNT SURFACE COMPLETION



C. GROUNDWATER SAMPLING PROCEDURE

Groundwater sampling will be conducted using the most current applicable USEPA Region 4 SESD Field Branches Quality System and Technical Procedures as a guide (<https://www.epa.gov/quality/quality-system-and-technical-procedures-lsasd-field-branches>). The following procedures describe the general methods associated with groundwater sampling at the Site. Prior to sampling, the well must be evacuated (purged) to ensure that representative groundwater is obtained. Any item coming in contact with the inside of the well casing or the well water will be kept in a clean container and handled only with gloved hands.

Georgia Power will follow the procedures below at each well to ensure that a representative sample is collected:

1. Check the well, the lock, and the locking cap for damage or evidence of tampering. Record observations and notify Georgia Power if it appears that the well has been compromised.
2. Measure and record the depth to water in all wells to be sampled prior to purging using a water measuring device consisting of probe and measuring tape capable of measuring water levels with accuracy to 0.01 foot. Static water levels will be measured from each well, within a 24-hour period. The water level measuring device will be decontaminated prior to lowering in each well.
3. Install Pump: If a dedicated pump is not present, slowly lower the pump into the well to the midpoint of the well screen or a depth otherwise approved by the hydrogeologist or project scientist. The pump intake must be kept at least two feet above the bottom of the well to prevent disturbance and suspension of any sediment present in the bottom of the well. Record the depth to which the pump is lowered. All non-dedicated equipment will be decontaminated before use and between well locations using procedures described in the latest version of the USEPA Region 4 SESD guidance document, *Operating Procedure for Field Equipment Cleaning and Decontamination* (USEPA, SESDGUID-205-R#) as a guide.
4. Measure Water Level: Immediately prior to purging, measure the water level again with the pump in the well. Leave the water level measuring device in the well.
5. Purge Well: Begin pumping the well at approximately 100 to 500 milliliters per minute (mL/min). Monitor the water level continually. Maintain a steady flow rate that results in a stabilized water level with 0.3 feet or less of variability. Avoid entraining air in the tubing. Record each adjustment made to the pumping rate and the water level measured immediately after each adjustment.
6. Monitor Indicator Parameters: Monitor and record the field indicator parameters [turbidity, temperature, specific conductance, pH, oxidation-reduction potential (ORP), and dissolved oxygen (DO)] approximately every three to five minutes. The well is considered stabilized and ready for sample collection when the indicator parameters have stabilized for three consecutive readings at a minimum:

±0.1 for pH

±5% for specific conductance (conductivity)

±10% or ±0.2 mg/L (whichever is greater) for DO where DO>0.5mg/L. If DO<0.5mg/L no stabilization criteria apply

<5 NTU for turbidity

Temperature – Record only, not used for stabilization criteria

ORP – Record only, not used for stabilization criteria.

7. Collect samples at a low-flow rate according to the most current version of USEPA Region 4 SEDS guidance document, *Operating Procedure for Groundwater Sampling* (USEPA, SEDSPROC-301-R#), and such that drawdown of the water level within the well is stable. Flow rate must be reduced if excessive drawdown is observed during sampling. All sample containers should be filled with minimal turbulence by allowing the groundwater to flow from the tubing gently down the inside of the container.
8. Compliance samples will be unfiltered; however, to determine if turbidity is affecting sample results (i.e., >10 NTU), duplicate samples may be filtered in the field prior to being placed in a sample container, clearly marked as filtered and preserved. Filtering will be accomplished by the use of 0.45-micron filters on the sampling line. At least two filter volumes of sample will pass through before filling sample containers. A new filter must be used for each well and each sampling event. Filtered samples are not considered compliance samples and are only used to evaluate the effects of turbidity. Additional details related to managing for elevated turbidity is discussed below.
9. All sample bottles will be filled, capped, and placed in an ice containing cooler immediately after sampling where temperature control is required. Samples that do not require temperature control will be placed in a clean and secure container.
10. Sample containers and preservative will be appropriate for the analytical method being used.
11. Information contained on sample container labels will include:
 - a. Name of facility
 - b. Date and time of sampling
 - c. Sample description (well number)
 - d. Sampler's initials
 - e. Preservatives
 - f. Analytical method(s)
12. After samples are collected, samplers will remove all non-dedicated equipment. Upon completion of all activity the well will be closed and locked.

13. Samples will be delivered to the laboratory following appropriate COC and temperature control requirements. The goal for sample delivery will be within 48 hours of collection.

Throughout the sampling process new latex or nitrile gloves will be worn by the sampling personnel. A clean pair of new, disposable gloves will be worn each time a different location is sampled, and new gloves donned prior to filling sample bottles. Gloves will be discarded after sampling each well and before sampling the next well.

The goal when sampling is to attain a turbidity of less than 5 NTU; however, samples may be collected where turbidity is less than 10 NTU and the stabilization criteria described above are met.

If sample turbidity is greater than 5 NTU and all other stabilization criteria have been met, samplers will continue purging for 3 additional hours in order to reduce the turbidity to 5 NTU or less.

- If turbidity remains above 5 NTU but is less than 10 NTU, and all other parameters are stabilized, the well can be sampled.
- Where turbidity remains above 10 NTU, an unfiltered sample will be collected followed by a filtered sample that has passed through an in-line 0.45-micron filter attached to the discharge (sample collection) tube. Data from filtered samples will only be used to quantify the effects of turbidity on sample results.

Samplers will identify the sample bottle as containing a filtered sample on the sample bottle label and on the COC form.