Appendix K:
Soils and Geology

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

February 24, 2023

Mrs. Lori Fiorentino, P. E.
Tennessee Department of Transportation
7345 Region Lane
Knoxville, Tennessee 37914

Re: **Geotechnical Exploration Report – Addendum**
SR – 162 Ext – Pellissippi Parkway, Blount County, TN
SR-33 to SR-73 (US-321)
TDOT Project No. 05097-1233-14
Pin No. 101423.00
BFW File No. 20033

Dear Mrs. Fiorentino:

Bacon Farmer Workman Engineering & Testing, Inc. previously submitted a final Soils and Geology Report for the referenced site dated July 1, 2022. We conducted this geotechnical exploration in accordance with our proposal dated January 24, 2020, and applicable ASTM and AASHTO Standards. The submitted report presented our understanding of the project, documents our findings, and provided our conclusions and geotechnical engineering recommendations for the proposed roadway improvements.

Since the time of report submittal, TDOT Geotechnical personnel, Lori Fiorentino and George Sutton, has contacted BFW via e-mails and phone conversations regarding the farm pond at the project located at Station 194+50±. BFW was requested to provide additional information regarding geotechnical remediation of the pond area including a Soils Typical cross-section illustrating any recommendations. The attached Report Addendum provides the requested information. A Typical Cross Section at Station 194+50 was produced and added to the project Soils Sheets. These revised sheets are attached.

We appreciate the opportunity to serve you and look forward to future association with you on this and other projects. If you have questions concerning this report, please call our office.

Sincerely,

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

Christopher N. Farmer, P.E.
Principal Engineer

Attachments: Soils and Geology Report Addendum
Cover Sheet of Soils and Geology Report -July 1, 2022 (for reference only)
Soils Typical Cross-section Station 194+50
Project Soils Sheets- Revised with Station 194+50 added.

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

SOILS AND GEOLOGY REPORT ADDENDUM

State Route 162, Pellissippi Parkway Extension from State Route 33 (Old Knoxville Highway) to US 321/State Route 73/Lamar Alexander Parkway

Station 100+00 to Station 348+59.25
Blount County

Prepared For:

TN TDOT Department of Transportation

Project No. 05097-1233-14
TDOT Pin No. 101423.00
GES File No. 0509719
Federal Project No.SIP-05097-1233-14

Submittal Date:
February 24, 2023 – Addendum

02/24/2023
12/31/2024

Geotechnical Report Addendum
State Route 162, Pellissippi Parkway Extension from State Route 33 (Old Knoxville Highway) to US 321/State Route 73/Lamar Alexander Parkway

This addendum report to the previously submitted Geotechnical Report dated July 1, 2022, provides recommendations for Station 194+50 where the alignment crosses a farm pond. TDOT Geotechnical personnel requested additional specific geotechnical recommendation regarding the remediation of the pond.

In summary, the new 4.7-mile freeway alignment begins at State Route 33 (Old Knoxville Highway) and ends at US 321/State Route 73/Lamar Alexander Parkway entirely in Blount County. Stationing for the project begins at Station 100+00, at the existing ramps from Pellissippi Parkway (Interstate 140) at Old Knoxville Highway and ends at Station 348+59.25 at Lamar Alexander Parkway. The alignment includes several large soil and rock cuts, both soil and rock fill embankments, and stream crossings.

The alignment crosses over the farm pond staring at approximate Station 194+10 to approximate Station 194+80. The pond is oriented north/south, and the centerline of the roadway crosses the centerline of the pond. The pond width is about 80 feet at its widest point. The pond is formed by an apparent earthen manmade impoundment dam on the south end which appears to be about 8 feet high. Below the impoundment a natural drainage conveyance flows south to southeast asway from the pond area. The proposed roadway profile will require that approximately 13 feet of fill to be placed over the pond area.

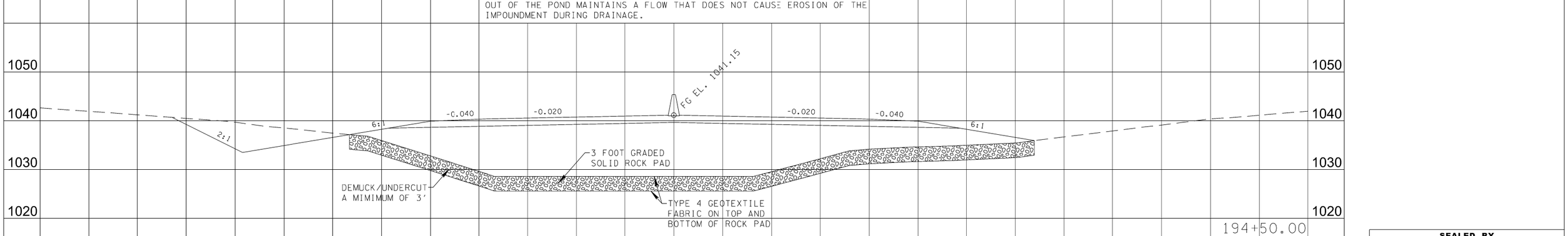
A Soils Typical Cross Section was developed for Station 194+50 which provides recommended steps for construction of the roadway through this area and is attached for review and will be added to the set of Geotechnical Sheets for the project. The recommendations are summarized below.

1. Install erosion control measures as required by the plans prior to conducting grading activities in the area of the pond.
2. Breach the impoundment in a controlled manner such that water flow out of the pond maintains a flow that does not cause erosion of the impoundment during drainage.
3. Once the water is drained, remove the remainder of the impoundment soil.
4. Demuck the pond area by removing wet, soft material.
5. Place TDOT Type 4 Geotextile Fabric on the ground surface.
6. Place three feet of Graded Solid Rock over the fabric.
7. Place TDOT Type 4 Geotextile Fabric over the Graded Solid Rock.
8. Place embankment fill in accordance with TDOT Specifications.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH-162(7)	G38A

INSTALL EROSION CONTROL MEASURES AS REQUIRED BY THE PLANS PRIOR TO CONDUCTING GRADING ACTIVITIES IN THE AREA OF THE POND.

BREACH THE IMPOUNDMENT IN A CONTROLLED MANNER SUCH THAT WATER FLOW OUT OF THE POND MAINTAINS A FLOW THAT DOES NOT CAUSE EROSION OF THE IMPOUNDMENT DURING DRAINAGE.



REPRESENTATIVE OF S.R.162 STATION 194+00 TO STATION 195+50

S.R.162 BLOUNT COUNTY
194+50

PIN 101423.00

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130

SEALED BY

COORDINATE VALUES ARE TENNESSEESTATE PLANE NAD/83 (4100) AND ARE DATUM ADJUSTED BY THE FACTOR OF 1.00009, AND ARE TIED TO THE GEODETIC REFERENCE NETWORK. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 USING THE GEOID 12B MODEL, OBTAINED ON 05-07-18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL TYPICAL SECTIONS

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BACON | FARMER | WORKMAN

ENGINEERING & TESTING, INC.

SOILS AND GEOLOGY REPORT

State Route 162, Pellissippi Parkway Extension from State Route 33 (Old Knoxville Highway) to US 321/State Route 73/Lamar Alexander Parkway

Station 100+00 to Station 348+59.25
Blount County

Prepared For:

TN TDOT Department of Transportation

Project No. 05097-1233-14
TDOT Pin No. 101423.00
GES File No. 0509719
Federal Project No.SIP-05097-1233-14

Submittal Date:
July 1, 2022 – Rev 2

09/02/2022
Ex. 12/31/22

BACON | FARMER | WORKMAN

ENGINEERING & TESTING, INC.

SOILS AND GEOLOGY REPORT

State Route 162, Pellissippi Parkway Extension from State Route 33 (Old Knoxville Highway) to US 321/State Route 73/Lamar Alexander Parkway

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Submittal Date:
July 1, 2022 – Rev 2

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

July 1, 2022

Mrs. Lori Fiorentino, P. E.
Tennessee Department of Transportation
7345 Region Lane
Knoxville, Tennessee 37914

Re: **Geotechnical Exploration Report – Rev**
SR – 162 Ext – Pellissippi Parkway, Blount County, TN
SR-33 to SR-73 (US-321)

Dear Mrs. Fiorentino:

Bacon Farmer Workman Engineering & Testing, Inc., is pleased to present the attached Soils and Geology Report for the referenced site. We conducted this geotechnical exploration in accordance with our proposal dated January 24, 2020, and applicable ASTM and AASHTO Standards. This report presents our understanding of the project, documents our findings, and provides our conclusions and geotechnical engineering recommendations for the proposed roadway improvements.

We appreciate the opportunity to serve you and look forward to future association with you on this and other projects. If you have questions concerning this report, please call our office.

Sincerely,

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

Christopher N. Farmer, P.E.
Principal Engineer

Attachments: Geotechnical Exploration Report

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ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ASTM	American Society for Testing and Materials
BFW	Bacon Farmer Workman Engineering & Testing, Inc.
bgs	below ground surface
CBR	California Bearing Ratio
GSR	graded solid rock
ksf	kips per square feet
LL	Liquid Limit
NRCS	Natural Resource Conservation Service
pcf	pounds per cubic foot
PI	Plasticity Index
PL	Plastic Limit
psf	pounds per square foot
psi	pounds per square inch
RCBC	reinforced concrete box culvert
RCP	reinforced concrete pipe
RQD	rock quality designation
SF	safety factor
SPT	standard penetration test
SR	State Route
TDOT	Tennessee Department of Transportation
UC	unconfined compression
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USGS	United States Geologic Survey
UU	unconsolidated undrained

1. EXECUTIVE SUMMARY

This report presents the results of the geotechnical work completed for State Route (SR) 162 (Pellissippi Parkway) new freeway alignment. The new 4.7-mile freeway alignment begins at State Route 33 (Old Knoxville Highway) and ends at US 321/State Route 73/Lamar Alexander Parkway entirely in Blount County. Stationing for the project begins at Station 100+00, at the existing ramps from Pellissippi Parkway (Interstate 140) at Old Knoxville Highway and ends at Station 348+59.25 at Lamar Alexander Parkway. The alignment includes several large soil and rock cuts, both soil and rock fill embankments, and stream crossings.

Portions of the project alignment traverse the lower flanks of hillsides and some of the hillside slopes are very steep (slope inclinations of up to approximately 1H:1V). The cuts and fills range to maximums of 30 feet and 80 feet, respectively. The alignment also has several stream crossings which include an unnamed branch of Little River near Station 159+50 and Stat. 166+00, the beginning of an unnamed branch of the Little River near Stat. 206+85, Peppermint Branch at approximately Station 250+50, an unnamed branch of Little River near Station 291+00, and Gravelly Creek at Station 323+50. The alignment also extends across a pond between Sta 194+50 and 195+50.

The proposed construction is feasible as preliminarily designed based on the geotechnical analyses. However, there are conditions associated with the high plasticity soils, rock cuts, and retaining walls that require special consideration. They will be elaborated within the text and will need to be fully considered during final design. High plasticity soils will potentially be used in fills and encountered at the base of cuts and will require special attention. The special attention will address soil swell that could be detrimental to pavement performance. Rock excavation will likely be required to achieve planned grades along portions of the alignment. The planned retaining walls are up to 62 feet in height and particular attention to the lateral pressures on the wall and the foundation conditions on such high walls will be required. The use of tieback anchors may be required depending on the type of retaining wall chosen.

Recommended slope inclinations vary along the project alignment and are discussed in the appropriate station portions in Section 7.0 of this report. Recommendations for earthwork, site preparation, slope construction, mass grading, fill, backfill compaction, undercutting and soil stabilization are provided in the appropriate station portions in Section 7.0 of this report. The laboratory test data and a discussion of the data are also provided.

Settlements of embankments should not be a significant concern based on analysis. Typical embankment settlement from consolidation should typically be less than 2-inches.

The selected contractor should be prepared for shallow groundwater culvert construction at all stream crossings and wet weather conveyances. It is common to encounter springs or intermittent seeps in hilly terrain and seasonal variations are not depicted in the borings. It may be determined that additional drainage appurtenances may be required during construction and should be evaluated and approved by the Tennessee Department of Transportation (TDOT) engineer. Subgrade stabilization may be needed for stream crossings and wet weather conveyances. The use of SGR blankets may be used for stabilization. Potential stabilization intervals are provided in Section 7.0 of this report.

Based on our experience in the local geologic setting, we recommend a California Bearing Ratio (CBR) value of 3 be used for design of the proposed flexible pavement design.

2. INTRODUCTION AND PROJECT INFORMATION

This report presents the results of a subsurface exploration performed for the subject SR-162 (Pellissippi Parkway) roadway extension with improvements beginning at its current terminus at SR-33 (Old Knoxville Highway) and ending at US 321/SR-73/Lamar Alexander Parkway entirely in Blount County. The original project information was provided by TDOT and was referenced from the Preliminary Plans dated 10/15/2019. The preliminary plans included plans, profiles, and right-of-way details.

We also referenced the "Pellissippi Parkway Extension (State Route 162) from State Route 33 (Old Knoxville Highway) to US 321 State Route 73 Lamar Alexander Parkway FEIS," and the KMZ file entitled "GoogleEarth-BT162PreliminaryDesign" attached to Google Earth. Later updated project plans were provided based on changes made during an in-person public design meeting in early 2021.

The new alignment is a 4.4-mile freeway with full interchanges at Old Knoxville Highway, Sevierville Road, and Lamar Alexander Parkway in Blount County. The approximate project location is shown on the Site Location Map in Appendix A. The roadway section is divided by 14-foot shoulders and a median barrier as well as full 10-foot-wide outside shoulders protected by low angle slopes or guardrail. There are overpasses with bridges planned at the Pellissippi Place (Stat 117+89.44) over Old Knoxville Hwy / SR 33, Pellissippi Place Access (Stat 153+50 approx.), Wildwood Road (Stat. 208+52.62), Brown School Road (Stat. 277+62.42), Sevierville Road (Stat. 275+34.00), and an underpass at Davis Ford Road (Stat. 300+77.73).

The proposed alignment will include multiple stream crossings, wet weather conveyances, cross-drains, and cross-drain extension locations. The streams and wet weather conveyances will be routed beneath the roadway via reinforced concrete box culverts (RCBC) and reinforced concrete pipes (RCP). There are seven (7) box culverts with a possible needed RCBC at approximately Station 323+00 for the Gravelly Creek crossing. There are also at least 32 concrete pipes currently planned along the section.

Improvements are also planned for existing roadways that will be affected by the new interchanges, bridges or ramps including SR-35 (Sevierville Road), David Ford, West David Ford, Dell Road, and US-321/SR-73 (Lamar Alexander Parkway). The proposed improvements will generally consist of roadway widening along SR-35, adding curb and gutter, and general drainage improvements. Improvements will require minor cuts or fill sections at various locations. Table 2.1 provides a summary of the approximate stations for the proposed RCBC and RCP.

Table 2.1 Planned Locations Box Culvert and RCP Storm Drains Crossing Alignment

RCBC / RCP Stations (approximate)	*Size and Type*	*Comments*
131+50	18" RCP	Mainline & Ramp 1-A (Stat 23+00)
133+50	6' x 6' RCBC	Mainline & Ramp 1-B (Stat 31+50)
140+75	18" RCP	Mainline & Ramp 1-B (Stat 24+25)
151+90	6' x 4' RCBC	Mainline
159+50	6' X 4' RCBC	Unnamed Branch of Little River
166+00	6' X 4' RCBC	Unnamed Branch of Little River
167+00	18" RCP & 30" RCP	Mainline
178+50	18" RCP	Mainline (RT)
180+20	18" RCP	Mainline (RT)

RCBC / RCP Stations (approximate)	*Size and Type*	*Comments*
184+00	24″ RCP	Mainline (RT)
206+70	6′ x 5′ RCBC	Unnamed Branch of Little River
207+20	18″ RCP	Mainline
209+50	18″ RCP	Mainline
215+50	36″ RCP	Mainline
223+90	36″ RCP	Mainline
235+60	24″ RCP	Mainline
250+10	18″ RCP	Mainline (LT)
250+60	8′ x 8′ RCBC	Peppermint Branch
272+25	18″ RCP	Mainline (RT)
278+25	18″ RCP	Mainline (RT)
279+50	42″ RCP	Mainline
291+00	8′ x 7′ RCBC	Across mainline and Ramps 2-C (Stat 65+60) and 2-D (Stat 67+90) Unnamed Branch of Little River
291+75	18″ RCP	Across mainline and Ramps 2-C (Stat 65+60) and 2-D (Stat 67+90) Unnamed Branch of Little River
302+75	18″ RCP	Mainline (RT)
311+75	24″ RCP	Mainline (RT)
320+50	54″ RCP	Near Gravelly Creek
323+50	12′ x 8′ RCBC	Across mainline for Gravelly Creek
323+75	18″ RCP	Mainline (LT) near Gravelly Creek
333+50	18″ RCP	Mainline (LT)
342+75	18″ RCP	Mainline (LT)
338+80	12′ x 9′ RCBC	Across mainline for Flag Branch
12+50	24″ RCP	Ramp 1-A
27+00	30″ RCP	Ramp 1-A
46+80	30″ RCP	Ramp 1-B
30+90	30″ RCP	Ramp 2-A
59+00	18″ RCP	Ramp 2-B
50+60	18″ RCP	Ramp 2-C
54+10	42″ RCP	Ramp 2-C
80+70	18″ RCP	Ramp 2-D
82+90	18″ RCP	Ramp 2-D

The preliminary project plans depict a series of approximately 13 retaining walls along with multiple large cuts at various locations along the alignment. Several retaining walls are proposed at streams and wet weather conveyances where stormwater pipes or box culverts will cross the proposed alignment. These retaining walls are planned either on one side or both sides of the alignment in deep cut areas to limit right of way distances. Additionally, several of these retaining walls are also located in large fill areas to limit the right of way distances.

Table 2.2 Planned Retaining Wall Locations

Retaining Wall ID *(According to plans)*	*Wall Locations (Approximate)*	*Wall Length Along Alignment (feet)*	*Maximum Wall Height (Approximate) (feet)*	*Comments*
1	41+80 to 44+00 Ramp 1-B	220	10	
2	30+93.77 to 32+15.54 Ramp 1- B	122	25	6'x 6' RCBC crosses wall alignment
3	158+85.00 to 167 + 02	817	60	6'x 4' RCBC crosses wall alignment
4	166+75 to 172+35	560	62	6'x 4' RCBC crosses wall alignment
5	174+20.00 to 176+66.18	246	42	
6	178+25.00 to 183+75.00	550	20	
7	204+27.19 to 208+00	373	20	6'x 5' RCBC crosses wall alignment
8	204+31.70 to 208+00	368	20	6'x 5' RCBC crosses wall alignment
9	244+24.30 to 251+35.79	711	40	8'x 8' RCBC crosses wall alignment
10	242+96.34 to 253+50	1054	40	8'x 8' RCBC crosses wall alignment
11	66+38.37 to 77+44.86 Ramp 2-D	1106	40	8'x 7' RCBC crosses wall alignment
12	61+50.21 to 67+77.85 Ramp 2-C	627	40	8'x 7' RCBC crosses wall alignment
13	72+82.76 (Ramp 2-C) to 302+75.01 (Mainline)	476	35	Davis Ford Road Overpass

Boring records and laboratory testing data that were used to evaluate the subsurface conditions present in the areas of the planned retaining walls are provided in this report. However, it should be noted that recommendations for these structures will require additional boring, testing data, and engineering analysis that are not part of this geotechnical report but will be investigated upon receipt of a Retaining Wall, Bridge, or other structure request.

Preliminary project cross sections show numerous planned cuts and fills along the non-walled areas along the roadway alignment. Cuts and fills in non-walled area of up to approximately 30 and 40 feet

respectively were noted. A large portion of the cut sections were 20 to 30 feet deep with slope inclinations of 2 horizontal to 1 vertical (2H:1V). Deeper cuts will be required at locations between Stations 178+00 to 193+00, 257+00 to 269+50, 297+00 to 307+50, 327+50 to 333+00, and several ramp locations.

Based on site conditions, most of the planned embankments are soil fills. On the preliminary plans the soil embankments are shown with inclinations of typically 2H:1V with heights ranging up to approximately 40 feet.

Improvements are also planned for existing roadways that will be affected by the new interchanges, bridges or ramps including SR-35 (Sevierville Road), David Ford, West David Ford, Dell Road, and US-321/SR-73 (Lamar Alexander Parkway). The proposed improvements will generally consist of roadway widening along SR-35, adding curb and gutter and general drainage improvements. Improvements will require minor cuts or fill sections at various locations. A new road, Greenway Road is also proposed and will parallel the proposed mainline along the eastbound side.

2.1 DESCRIPTION OF EXISTING ALIGNMENT CONDITIONS

The proposed project consists of a new alignment that exists from the current terminus of the existing SR 162 (Pellissippi Parkway) at SR 33 (Old Knoxville Highway) to SR 73 (US 321 /Lamar Alexander Highway). Existing ground cover in the planned improvement areas vary and include open grassy fields with stream crossings and rolling terrain, densely wooded areas with steep inclines and hills, agricultural fields, residential lots, and paved roadways. Multiple residential properties will be affected, many of which contain existing buildings, sheds, barns, and other structures. Numerous utility lines (both overhead and underground) and roadside ditches are to be expected along the alignment. Utility lines may include water, sewer, storm water, gas, electric, telephone, and cable. Multiple residential structures, barns, outbuildings, and other appurtenances are also located within the alignment. Associated residential structures may also include basements, foundations, cellars, cisterns, septic tanks, and fields.

Portions of the project alignment traverse the lower flanks of hillsides and some of the hillside slopes are very steep (slope inclinations of up to approximately 1H:1V). The project alignment crosses a farm pond, several water holding depressions (potential sinkholes) and multiple intermittent streams, some with existing culverts.

3. GEOLOGY, SOILS, AND SITE CONDITIONS

The project area is located in the southeastern side of the "Valley and Ridge Physiographic Province." Elongated ridges that trend in a northeast-southwest direction characterize this province. The ridges are typically formed on highly resistant sandstones and shales, while the valleys and rolling hills are formed on less resistant limestone, dolomite, and shales. The terrain along the alignment is typically rolling and characterized by northeast-southwest trending ridges/hill series separated by valleys typical of the Valley and Ridge Physiographic Province. The base geology is a complex folded group of formations including the Peppermint, Wildwood and Brown Creek Faults from northwest to southeast, respectively. Each fault, respectively, caused the older sequence to be thrust upward and repeat as the formation underlaying the alignment. While the faults are not active, they do represent structural discontinuities in the underlying bedrock.

Simply stated, most of the underlying formations are limestone and dolomite with interbedded shale sequences. All the limestone and dolomite formations have the potential for karst development, including the formation of sinkholes. Multiple potential sinkholes have been mapped within the vicinity of the alignment during a preliminary geological survey entitled "Preliminary Geological Report" dated February 17, 2009. The area in the vicinity of Sevierville Road was specifically indicated in the Preliminary Geological Report as having the greatest sinkholes present, especially east of Davis Ford Road. Multiple large sinkholes are mapped on either side of Sevierville Road in close proximity to the planned alignment. One (1) additional large sinkhole is mapped just north of Brown School Road near its intersection with Wildwood Road and approximately 500 feet west of the intersection of Brown School Road and Talbott Lane.

Based on review of the "Geologic Map of the Maryville Quadrangle, Tennessee," by J. M. Cattermole, U.S. Geological Survey (1962) and "Characteristics of Karst Aquifers in Tennessee," by W. J. Wolfe, U.S. Geological Survey (2001), the project site is underlain by the following groups (oldest to youngest):

- Conassauga Group (middle to upper Cambrian):
    - Rutledge Limestone:
    - Rogersville Shale: brownish gray, somewhat silty shale that weathers to light greenish fissile shale residuum.
    - Maryville Limestone: dark blue gray and massive, crystalline with some argillaceous or shaley limestone. This formation has the potential for karst development including sinkholes.
    - Nolichucky Shale: limy shale with lenses of limestone, dark brown to olive brown and weathers to a high plastic clay.
    - Maynardville Limestone: limestone which is transitional formation from the Cambrian to the Ordovician System rocks from the underlying shale to the overlying dolomite. This formation has the potential for karst development including sinkholes.
- Knox Group (Upper Cambrian to Lower Ordovician):
    - Copper Ridge Dolomite: oolitic dolomite that weathers deeply to a thick residuum and in places to a karstic condition, also considered a transitional formation from the Cambrian to the Ordovician System rocks.
    - Chapultepec Dolomite: gray mostly thick bedded and sandy in sequences. High plastic

residuum results from weathering. The soil/rock interface develops karstic porosity and potential sinkholes.

  - Longview Dolomite: light colored and very cherty residuum; generally, a ridge formation. High plastic residuum results from weathering. The soil/rock interface develops karstic porosity and potential sinkholes.
  - Newala Formation: Ordovician limestone and dolomite. High plastic residuum results from weathering. The soil/rock interface develops karstic porosity and potential sinkholes. The Newala Formation is also divided into the older Kingsport Formation dolomite and the younger Mascot Formation

- Mosheim member/Lenoir Formation: Ordovician dove gray limestone: The soil/rock interface develops karstic porosity and potential sinkholes.
- Blockhouse Shale: Ordovician dark gray calcareous shale that weathers to a bluish and grayish residuum.

Fill, alluvial and residual soils were encountered in the borings. Alluvial soils are deposited by flowing water. Residual soils or residuum are the result of weathering from rock formations. Overburden soil thicknesses are variable, with thicknesses ranging from basically none (bedrock beneath a thin veneer of topsoil) to greater than 70 feet.

Rock cored during the exploration was composed of shale, sandstone, limestone, and dolomite. The soil and rock core samples recovered correlated well with the published geologic mapping.

The boundary between soil and rock is not always sharply defined and there is often a transitional zone of variably weathered rock overlying unweathered rock. Weathering is facilitated by water and fractures, joints, and the presence of shales or weathering resistant rock types. The rock surface is normally irregular and erratic and in places will have karst developed voids. It is common to find and cobbles and boulders and/or zones of intact weathered rock within the soil overburden.

The rock underlying most of the alignment is dolomites and limestones. The limestone and dolomite of the underlying formations is susceptible to the hazards of solution weathering including a highly irregular bedrock surface, karstic, or cave and cavern conditions that include surface expressed sinkholes.

Karst topography occurs due to weathering of the bedrock, causing a void and the collapse of the overburden soil into the voids. This loss of soil creates the original void and further weathering and growth of the void over time creates a condition in which collapse of the void occurs.

The borings did not encounter any voids or domes in the overburden soils. However, based on the location of the current proposed alignment, and historic aerials, a minimum of three potential depressions/sinkholes appear to be within the proposed ROW. The approximate stations of the suspect sinkhole areas that may require remediation are provided in Section 7.10.10 of this report.

It is our opinion that the risk of sinkhole development along the alignment is comparable to other adjacent developed sites located within this and similar geologic settings. However, there is an inherent risk with respect to future sinkhole formation and subsidence at any site located within carbonate geologic settings and sinkhole development or discovery of incipient sinkholes or caverns could occur during construction activities or at any other time.

4. SUBSURFACE EXPLORATION PROCEDURES

4.1 FIELD ACTIVITIES

BFW conducted subsurface exploration activities including soil sampling and testing in general accordance with American Association of State Highway and Transportation Officials (AASHTO) procedures and standard engineering practice in the State of Tennessee. Boring locations were staked in the field by BFW survey personnel prior to drilling activities. Some initial borings were required to be relocated or reestablished based on existing landowner cooperation. Drilling activities were delayed in several cases by property owners who refused site access. The boring locations are shown on the plan sheets in Appendix E. The boring locations and elevations are shown on the profile sheets also found in Appendix E and on the Test Boring Logs in Appendix B.

BFW advanced 134 soil borings and five (5) offset borings to evaluate the subsurface conditions along the alignment, as discussed below. The borings were spaced along both sides of the roadway, in proposed cut and fill areas, and along proposed retaining wall locations. The offset borings were drilled adjacent to borings that experienced shallow auger refusal. Rock coring was performed in 13 selected borings to obtain information on the bedrock composition and continuity.

The soil borings were advanced using Diedrich D-50 and CME 45 track-mounted drill rigs to depths ranging from 4.3 feet to about 70.7 feet below the existing ground surface. Disturbed soil samples were obtained from borings using a split-barrel sampler according to AASHTO T 206 on a maximum 2.5-foot interval in the upper 10 feet and on 5-foot intervals thereafter. Bedrock was cored in 13 selected borings using diamond core drilling procedures with an NQ-size core bit. The bedrock lengths cored in these borings ranged from about 14.5 to 31.2 feet. Field geologists logged the soils samples and rock cores in the field. It should be noted that several soil boring locations initially approved by landowners were abandoned due to subsequent denial of site access at the time of drilling. However, it should be noted that sufficient soil information was obtained in the surrounding areas so that soil recommendations were not unduly affected.

Undisturbed and bulk samples were collected for laboratory testing from selected test boring locations and depths. Undisturbed samples were collected using new thin-walled tubes (Shelby Tubes). After each boring was completed, the depth to groundwater was measured, if present. The borings were typically backfilled with auger cuttings at the completion of drilling.

The use of dozer services was required to clear sections of the heavily forested areas and was conducted by contractors. Site restoration was performed after the conclusion of the drilling activities in these areas.

4.2 LABORATORY TEST RESULTS

Natural moisture content, grain size distribution, and Atterberg limit tests were performed on selected standard penetration tests (SPT), thin-walled tube, and bulk bag samples to evaluate the soil moisture profile, to aid our soil classification, and to evaluate volume change potential of the on-site soil. The Atterberg limits and grain size distribution test data were used to assign Unified Soil Classification System (USCS) and AASHTO soil classifications.

Standard Proctor laboratory tests were performed on selected bulk soil samples drilled in proposed cut areas along the roadway alignment. CBRs were performed on selected bulk samples along the roadway alignment.

Unconfined compression (UC), unconsolidated undrained triaxial compression (UU) and consolidated undrained triaxial compression (CU) laboratory tests were performed on thin walled tube soil samples to provide soil shear strength data for the slope stability analyses. The test results are provided in Appendix C.

Consolidation laboratory tests were performed on thin walled tube soil samples. The tests were performed to provide data on the compressibility of the in-situ soils along the alignment. Laboratory testing was performed on selected samples in general accordance with AASHTO test procedures. The laboratory testing program is summarized in Table 4.1.

Based on the soil classifications using the USCS system, soils along the alignment ranged from lean clays (CL), fat clays (CH), low plasticity silts (ML), elastic silts (MH), and minor amounts of dual classification lean clays and low plasticity silts (CL-ML), sandy clay (SC) and silty sands. Based on the samples tested and classified, the percentages of soil types encountered include 32.9% (CH), 26.2% (MH), 23.8 % (CL), 11.9% (ML), 3% (SC) and 2.2% (SM). AASHTO soil classifications for the soils include A-7-6, A-7-5, A-4, A-6, A-2-4, and minor amounts of A-1.

Twenty-eight (28) standard proctor laboratory tests were conducted on bulk samples collected along the alignment from depths ranging from 0 to 28 feet below ground surface (bgs). The sample classifications included lean (CL / A-7-6) to fat clays (CH / A-7-6) with sand, clayey sand (SC / A-6, A-7-5) with gravel, and elastic silt (MH / A-7-5) with sand. The samples yielded standard proctor maximum dry unit weights and optimum moisture contents ranging from 91.0 to 110.2 pounds per cubic foot (pcf) and 16.0 to 28.0 percent, respectively.

A series of CBR tests were conducted from samples also collected along the alignment from depths ranging from 0 to 28 feet bgs. CBR values ranged from a low 1.6 to a high of 17.0, with average CBR values ranging from 2.7 to 5.

Shear strength tests including UC, UU triaxial, and CU triaxial were conducted on undisturbed samples collected at selected borings along the alignment. The shear strength test results were used in the slope stability analysis. Shear strength test results are provided in Appendix C.

Laboratory consolidation tests were also conducted on select undisturbed samples to provide information on the compressibility of the in-situ soils along the alignment. Samples tested had compression indices ranging from 0.019 to 0.044 with recompression indices ranging from 0.003 to 0.015 and pre-consolidation stresses ranging from approximately 2 to 3.3 kips per square foot (ksf).

Table 4.1 – Laboratory Testing

Test Description	*AASHTO (ASTM) Designation*	*Number of Tests Performed*
Moisture Content	T 265 (D2216)	1024
Atterberg Limits	T 89 and T 90 (D4318)	481
Particle Size Distribution including Hydrometer	T 88 (D422)	499
AASHTO (USCS) Classification	M 145 (D2487)	464
Standard Proctor Moisture Density Relationship	T 99 (D698)	28
California Bearing Ratio	T 193(D1883)	27
Consolidation	T 216 (D2435)	5
Unconfined Compression	T 208 (D2216)	10
Unconsolidated, Undrained Triaxial Compression	T 296 (D2850)	18
Consolidated, Undrained Triaxial Compression w/Pore Pressure Measurements	T 297 (D4767)	9

5. SUBSURFACE CONDITIONS

5.1 BORING SOIL AND BEDROCK INFORMATION

Soils and bedrock encountered in the field exploration are detailed in the boring logs. Subsurface conditions encountered in the borings are also summarized in Section 7.0 of this report in the referenced station range.

Soils encountered below the topsoil and vadose zone consisted of weathered in place residual soils of the underlying shales, limestones, and dolomites and some alluvial soils. The alluvial soils encountered were typically composed of silty clays, silts, and sandy silts. The residual soils typically consisted of fat clays, lean clays, elastic silts, silts, and weathered shales. The soils have medium stiff to very stiff consistencies that became soft to very soft when saturated at or near groundwater that was near the rock surface, when encountered.

Nearly half of the soil borings encountered auger refusal which is defined as the depth at which the drilling rig can no longer effectively advance the drill string (augers). Auger refusal was met at depths ranging from 0.6 to 58.7 feet bgs. The remaining borings were advanced to the intended depth without encountering refusal ranging from approximately 10 to 60 feet bgs.

Lithified rock encountered on the site included highly weathered to unweathered shale, limestone, and dolomite. The depth to top of rock varied significantly throughout the alignment. Rock was cored in 13 borings (Borings B-24, B-28, B-29, B-30, B-35, B-38, B-39, B-40, B-76b, B-77, B-108, B-110, and B-111). The rock core samples were composed of shale, limestone, and dolomite. Core recovery was measured and recorded for each core run. Core recoveries ranged from 16 to 100 percent. Rock quality designation (RQD) values were also measured for each core run. RQD is defined as the sum of sound rock core pieces measuring four (4) inches or longer in length divided by the total length of the core run. RQD values ranged from 0 to 100 percent indicating rock qualities ranged from very poor to excellent. The recovery and RQD values for each individual core run are provided on the boring logs in Appendix B.

The boring records and photographs of the rock cores recovered are provided in Appendix B. The boring logs should be reviewed for more details of subsurface conditions encountered at each boring location. The boring records in the report present BFWs interpretation of the subsurface conditions encountered at each boring location at the time of our drilling activities. The stratigraphy lines should be taken as approximate boundaries between different soil types and the actual transitions may be more gradual than shown.

5.2 GROUNDWATER

Groundwater was encountered in 41 of the test borings under two (2) conditions. The first and most predominant condition was at or within five (5) feet of the lithified rock surface. The second was within or above a silt stratum. In the borings where groundwater was encountered at the time of drilling, the depths ranged from approximately 4 to 53.5 feet bgs. Twenty-four (24) hour groundwater readings were obtained in approximately seven (7) of the test borings. Twenty-four (24) hour groundwater depths ranged from approximately 5 to 30.2 feet bgs. The boring logs depict where groundwater was encountered. Groundwater levels fluctuate mainly due to seasonal changes in precipitation, construction activities in the area, and the level of nearby streams, rivers, and lakes. Streams were observed along many portions of the project alignment.

6. ENGINEERING ANALYSIS

6.1 SLOPE STABILITY

A series of roadway cut and fill sections from the preliminary plans were chosen for slope stability analysis. The sections chosen were based on the heights of the proposed slopes and retaining wall heights. Analysis of the design or provision of design parameters of retaining walls is beyond the scope of this report. However, slopes were analyzed in the wall locations should TDOT decide that walls will be used. The slope stability analyses and results are provided in Appendix D.

Strength testing was performed on soil samples obtained in selected borings drilled at the appropriate locations for cuts and fills. The parameters used in our analyses to represent the soils and bedrock encountered in the borings were based on the laboratory testing and published information. The results of UU and CU testing are in Appendix C.

Based on sampling and analysis, the minimum required soil shear strength necessary for the design roadway fill slopes to have long term factors of safety of 1.5 or greater is 1,500 pounds per square foot (psf). Based on our experience and the results of the triaxial tests performed for this project, the on-site and near-by borrow sources will meet the necessary soil strength criteria when compacted to 95 percent of the standard proctor maximum dry density.

The undrained stability analyses used the laboratory strength parameters in the borings where testing was performed, and conservative published correlations were used to estimate undrained shear strengths for the SPT N-values where laboratory testing was not performed. Undrained shear strengths used for the various cross-sections analyzed are shown on the individual stability analysis plots in Appendix D. Groundwater was modeled based on the location encountered in the borings.

The stability of the selected cross-sections was assessed using the state of practice, two-dimensional, method of slices, modeling technique. The computer program SLIDE2 was used to perform the analyses. The Simplified Bishop, GLE/Morgenstern-Price and the Spencer methods (each method computes interslice forces differently) were selected for analyses. The methods were parametrically compared to determine the minimum factor of safety.

The calculated safety factors (SFs) for the representative slope sections analyzed are depicted on the slope stability sheets in Appendix D. A maximum slope of 2H to 1 V was used for all cut and fill analyses. A 2H to 1V slope is the maximum that can be safely maintained for erosion and standard tractor mowing.

6.2 SETTLEMENT

Settlement was calculated at the embankment fill sections where the combination of fill height and soil conditions was evaluated as the most critical. Consolidation parameters were developed from the tests results on the both consolidation tests on thin-walled tube samples and our experience with similar soils.

Classical consolidation theory requires soils to be fully saturated. The majority, if not all the soils encountered, are non-saturated residual soils that do not strictly follow consolidation theory. Residual soils have a structure from the parent rock that usually results in an over-consolidated test result. The standard of practice is to saturate all soils prior to testing to comply with classical consolidation theory. This results in conservative estimates in unsaturated, residual soils as

encountered along this alignment.

The consolidation tests were evaluated by the methodology in the United States Army Corps of Engineers (USACE) Engineering Manual EM 1110-1-1904 pages 3-26 and following. The reconstruction of the field natural soil consolidation curve followed the above method. The re-compression and compression indices were determined to estimate the settlement amount. The "Casagrande" method was used to determine the consolidation indices to estimate the time rate of the settlement.

Fill thicknesses range up to approximately 65 feet. The approximate overburden soil thicknesses at these locations varied from approximately 10 to 50 feet thick. The maximum calculated consolidation settlements at all configurations of embankment fill and overburden thickness were less than 2-inches and will take less than one (1) month.

The embankment fills will settle under their self-weight as they are being constructed. Settlement within the fill is on the order of one inch for each 10 feet of fill thickness. This is accurate for fill compacted to at least 95 percent of the standard proctor maximum dry density (ASTM D-698). This self-weight settlement will occur prior to pavement construction.

7. RECOMENDATIONS

This section provides our recommendations for various station ranges along the SR 162 freeway project alignment, crossroads, and interchanges. Brief discussions of the planned improvements along with recommendations specific to each station range section are provided. General project recommendations are provided in Section 7.10.

7.1 SR 162 STATIONS 100+00 TO 145+00

7.1.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier. Ramp 1A and 1B are proposed to have 16-foot lanes with a 6-foot-wide stabilized interior and 8-foot-wide (6' stabilized) exterior shoulders. Based on the preliminary roadway cross sections drawings for the mainline, this section consists of fills in the range of 5 to 30 feet in depth and cut areas in the range of 5 to 30 feet.

This section includes the approaches (Ramp 1-A and 1-B) to the overpass over SR-33, Knoxville Highway. Minor cut sections of approximately 10 feet or less are proposed for Station 119+50 to 20+50. The remaining portion of the Ramp 1-A consists of fill in the range of 5 to 20 feet.

Ramp 1-B will consist of both fill and cut sections. Fill sections from approximately Station 46+00 to 47+00 will range from at-grade to 20 feet. Most of the remaining portion of the ramp extends through an existing small hill and will involve significant cuts of up to approximately 60 feet from approximately Station 39+50 to 45+50. The planned slope inclinations ranged from four (4) horizontal to one (1) vertical (4H:1V) to 2H:1V. The planned cuts are to include slopes to the outside with inside small (<10' high) retaining wall (near mainline) for Stations 41+80 to 44+00 (Retaining Wall #1). An additional retaining wall is located on Ramp 1-B at Station 30+93.77 to 32+15.54 (Retaining Wall #2) with planned wall heights in this section ranging from approximately 10 to 30 feet. A 6' x 6' RCBC will penetrate the retaining wall at approximately Station 31+50. Additional geotechnical information will be required in the areas of the retaining walls once the structures have been finalized.

7.1.2 Soil / Area Conditions

Borings B-1 through B-22 were drilled along this section of SR 162. The borings were drilled to termination depths of up to 37.5-feet. Borings B-7, B-8, B-9, B-12, B-13, B-16, B-19 and B-20 were advanced along Ramp 1-B most within cut sections. The borings encountered residual soils consisting of silts to high plastic soils. Groundwater was encountered in five (5) borings at depths ranging from 7 to 27 feet and in soils varying from silts to high plasticity clay. Borings that were terminated on lithified rock encountered shale or limestone from 6-feet to 32-feet bgs. On ramp 1-B, boring B-9 encountered shallow shale strata at a depth of approximately six (6) feet. Shale was friable enough to advance the auger through, but no core was retrieved.

It is anticipated that along a significant portion of this section grading and excavation can be performed with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.) However, as noted, shallow shale stratum was encountered in boring B-9 in a planned cut area for Ramp 1-B (Station 41+50). Rock excavation or difficult excavation should be anticipated along

this portion of the ramp. Shale stratum was encountered beyond excavation depths in the remining borings. However, it should be noted that field refusal conditions may vary along with variations in equipment. Rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be firm in consistency at the time of drilling activities. Specifically, it is anticipated that the deeper cut sections along Ramp 1-A, will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Ramp 1B Station 37+50± to Station 46+00±

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.1.3 Settlement

The proposed fill heights will result in less than one (1) inch of total settlement and will not result in post construction settlement through this section.

7.1.4 Slope Stability

Based on slope analyses performed for the project, the planned cut and fill slope inclinations of 2H:1V or flatter will have global factors of safety of 1.5 or greater.

7.2 SR 162 STATIONS 145+00 TO 177+00

7.2.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section will consist of embankment fills in the range of approximately 5 feet to 38 feet between Stations 145+00 and 158+50. A 6’ x 4’ box culvert will be constructed at approximately Station 151+90. Additionally, two 6’ x 4’ RCBC will be built at Stations 159+50 and 166+00, respectively to pass two (2) unnamed branches of Little River through the embankment fill site.

A retaining wall (Retaining Wall #3) is proposed to be built at the downstream end of the 6’ x 4’ RCBC at approximate Station 159 +50. A second retaining wall (Retaining Wall #4) is to be

constructed at Station 166+00 at the upstream and downstream ends of the 6' x 4' RCBC for the unnamed branch of Little River. The upstream retaining wall will hold the adjacent property at the existing elevation above the creek channel. The downstream retaining wall will support the embankment above the RCBC. Embankment fill and retaining wall heights in this section range from approximately 20 to 60 feet. A retaining wall (Retaining Wall #5) is also planned from Station 174+20 to 176+66.18. Embankment and retaining wall heights ranging from 10 to 75 feet are planned. The tallest retaining wall section is approximately 50 feet in height located at Station 175+50. No details on the topography of the base of the walls was provided. Additional geotechnical information will be required in the areas of the retaining walls once the structures have been finalized. The planned slope inclinations for embankment ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

This section also includes approaches to a planned overpass for an access road to Pellissippi Place commercial area near Station 153+50.

7.2.2 Soil / Area Conditions

Borings B-23 through B-36 were drilled along this section. Stations 145+00 to 151+00 is rolling in topography. The alignment crosses several small creek valleys that convey several unnamed branches of the Little River. The remaining portion of this section of the alignment is hilly in nature and includes steep inclines from approximately Station 151+00 to 177+00 and beyond to 180+50. Difficult access for the drill rig was encountered in this section. Numerous rock outcroppings were observed along the hillside with minimal overburden cover in some areas.

The borings were drilled to either auger refusal or full termination depths ranging from 0.7 (surface) to 28 feet. Rock coring was conducted in five (5) borings to determine rock composition. The borings encountered residual soils consisting of silts to high plastic soils to weathered shale and limestone at proposed roadway subgrade elevation. Groundwater was encountered in five (5) borings at depths ranging from 4 to 30 feet. Groundwater was encountered in soils varying from silts, silty clays, high plasticity clays, and clayey sands. Borings that were terminated on lithified rock encountered shale (Nolichucky Shale) and/or Maryville Limestone from 7.5-feet to 38.9-feet below the planned grade surface. It should be noted that during construction, seeps or shallow groundwater may be encountered in the hill sections. It is not uncommon for groundwater to travel along the bedrock interface to be uncovered during earthwork activities. If seeps or other water sources are encountered during earthwork activities, the engineer should be notified for remediation recommendations.

It is anticipated that some portions of this section from approximate Station 145+00 to 151+00 can be constructed with conventional earthmoving equipment (i.e. bulldozers, pans, excavators, etc.) However, the remaining portions will likely encounter difficult conditions that will require rock excavation equipment. In addition, due to the steepness of the slope and the shallow bedrock, it is likely that some rock benching may be required in some places to allow for embankment fill placement. It should be noted that rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range between the boring locations shown.

Soils encountered at planned grade ranged from silts, high plasticity clays, and elastic silts and were observed to be firm in consistency at the time of drilling activities. However, soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year.

Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 158+00± to Station 161+00±

Station 164+00± to Station 167+00±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.2.3 Settlement

Based on the settlement analysis, the proposed fill heights will result in less than 2-inches of total settlement and will not result in post construction settlement through this section.

7.2.4 Slope Stability

Retaining walls are planned to be constructed along portions of this section of the alignment that will support 50-foot to 75-foot fills. Cut and fill slopes, if used in place of the walls, constructed with 2H:1V or flatter slopes will have calculated factors of safety of 1.5 or greater.

7.3 SR 162 STATIONS 177+00 TO 194+00

7.3.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section is all in cut, with a combination of either cut slopes on both sides of alignment or a combination of a cut slope on one side with a retaining wall on the other side of the alignment with a cut slope behind it. Cut slopes heights from Station 177+00 to 178+50 range from approximately 10 to 35 feet. Cut depths from Station 179+00 to 183+00 range from approximately 10 to 50 feet. Cut slope heights from Station 183+50 to 193+50 range from approximately 20 to 35 feet.

A retaining wall (Retaining Wall # 6) is approximately 550 feet in length and extend along the bottom of the cut slope near the roadway from Station 178+25 to 183+75. Retaining wall heights are in the range of 15’ to 20’. Additional geotechnical information will be required in the areas of the retaining walls once the structures have been finalized. The planned slope inclinations for embankment ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

7.3.2 Soil / Area Conditions

Borings B-37 through B-51 were drilled along this section. The section of the alignment is a continuation of the large hill in the previous section. The borings were drilled to auger refusal or termination depths of up to 70.7-feet. The borings encountered either residual soils consisting of silty clays to high plasticity clays or lithified rock at proposed roadway subgrade elevations. It should be noted that auger refusal on rock was encountered above the planned roadway subgrade elevation in borings B-37 (Station 178+50 70R), B-38 (179+00 50R), B-39 (180+00 60R), and B-40 (181+00 60R). Rock was encountered approximately 3 to 21 feet above the planned roadway subgrade elevation in these borings. Rock coring was conducted in three (3) borings to determine rock composition. Borings that were terminated on lithified rock encountered dolomite (Copper Ridge Formation).

Groundwater was encountered in seven (7) borings at depths ranging from 18.5 to 53.5 feet. Groundwater elevations were encountered at grade to 10-feet to 15-feet above centerline grade in this section. It should be noted that during construction seeps or shallow groundwater may be encountered in the hill sections. It is not uncommon for groundwater to travel along the bedrock interface to uncovered during earthwork activities. If seeps or other water sources are encountered during earthwork activities, the engineer should be notified for remediation recommendations.

It is anticipated that some portions of this section from approximate can be constructed with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.). However, the remaining portions will encounter difficult conditions that will require rock excavation equipment. It should be noted that rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range between the boring locations shown. It is anticipated that this section will require the use of subgrade stabilization due to the elevated moisture contents and high plasticity soil at the planned subgrade elevation.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the cut sections along this station range will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Mainline Station 177+50± to Station 194+00±

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.3.3 Settlement

This section of the alignment is in cut and settlement is not considered an issue for the roadway.

7.3.4 Slope Stability

Based on analyses in this section and in areas of walls that are changed to slope cuts, slopes of 2H:1V or flatter have a calculated factor of safety of 1.5 or greater. The cuts will likely encounter groundwater during construction and may require long term drainage below the surface of the cut or behind the planned walls.

Detailed design recommendations for permanent subsurface drainage appurtenances is not in the scope of this investigation. The boring location and cross sections show the areas disclosed in this boring program likely to encounter groundwater.

7.4 SR 162 STATIONS 194+00 TO 255+50

7.4.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

The section will consist of embankments fills, cut sections and retaining walls located at the top of embankments along the roadway. The alignment will cross an existing pond located near Station 195+50.

Minor cuts and fills of up to 35 feet are planned from approximate Station 194+50 to Station 204+31.70. Retaining walls are planned (Retaining Walls # 7 and 8) on both sides of the roadway from Station 204+50 to Station 209+50. Retaining walls are located at top of the embankment to support roadway and have maximum heights of approximately 20 feet.

A 6’ x 5’ box culvert is planned to convey an unnamed branch of Little River at Station 206+75 just west of the proposed overpass located at Wildwood Drive. An unnumbered retaining wall is shown on cross-sections extending past the bridge at Wildwood Drive along the eastbound lane from approximate Station 209+50 to Station 214+00.

Greenway Road is newly proposed that starts at an intersection of Wildwood Road and extends along the mainline to the west. The Greenway Road alignment will include fill of up to 35 feet in height and cut sections with cuts of up to 20 feet. A retaining wall (Retaining Wall #10) will extend from approximate Station 242+96.34 to 253+50.00 located to the west of the Greenway alignment.

There are two 36-inch RCPs and a 24-inch RCP planned at Station 215+50, Station 223+50, and Station 235+60, respectively. This section also includes the approach at the overpass at Wildwood

Road at Station 208+60 and at E. Brown School Road at Station 227+52.42.

A retaining wall (Retaining Wall # 9) is planned on the westbound side of the shoulder from approximately Station 244+24 through Station 251+36 with heights of approximately 30 to 40 feet. Additional geotechnical information will be required in the areas of all retaining walls once the structures have been finalized.

There is an 18" RCT planned at Station 250+10. An 8' x 8' box culvert is planned at the Peppermint Branch stream at Station 250+60. The remaining portions of this section are embankment fills with heights up to approximately 30 feet and minor cut sections. The planned slope inclinations for embankment in this section ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

7.4.2 Soil Conditions

Borings B-52 through B-77 were drilled along this section of SR 162. It should be noted that borings B-78 through B-81 for Stations 250+00 to 255+00 could not be completed due to property owner refusal for site access at the time of drilling activities.

The borings were drilled to termination by refusal on limestone and dolomite (Newala Formation) from 10-feet to 50.5-feet. The borings encountered residual soils consisting of silts, silty clays, high plasticity clays, and elastic silts above refusal depth. When groundwater was encountered it ranged from 6-feet to 40-feet bgs in this embankment fill section.

It is anticipated that in this section grading and excavation can be performed with conventional earthmoving equipment (i.e. bulldozers, pans, excavators, etc.) However, it should be noted that field refusal conditions may vary along with variations in equipment. Rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the cut sections along this station range will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Mainline Station 194+00± to Station 196+00±

Greenway Station 11+00± to Station 16+25±

Station 19+00± to Station 21+00±

Station 39+58± to Station 42+00±

Soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 206+00± to Station 207+50±

Station 250+00± to Station 251+50±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.4.3 Settlement

The proposed fill heights will result in maximum settlements at Station 206+75 and Station 250+75 of approximately 4-inches. The time for settlement to occur in these high fill sections will less be than one (1) month after embankment construction is completed. The remainder of the section will not experience settlements more than 2-inches of total settlement and will not result in post construction settlement.

7.4.4 Slope Stability

Slope stability analysis was completed for this section and at the locations where there are walls planned. The minimum factor of safety for a 2H to 1V slope for the planned embankments and the locations of walls if they are changed to embankments is 1.5 or greater.

After draining the pond at Station 195+50, the soils at the bottom of the pond should be removed to prevent a weak layer at the bottom of fill.

7.5 SR 162 STATIONS 255+50 TO 296+00

7.5.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier. This section includes the approaches and Ramps 2A, 2B, 2C, and 2D for the interchange at Station 275+35.81, US-411/SR-35 (Sevierville Rd). Ramp 2A, 2B, 2C and 2D are proposed to have 16-foot lanes with a 6-foot-wide stabilized interior and 8-foot-wide (6’ stabilized) exterior shoulders.

This section varies from 10-foot to 38-foot cuts to fill up to 55-feet. This section has 20-foot fills to 20-foot cuts through Station 270+00 and minor cuts with larger fills of up to 55 feet through Station 283+00. Large fill areas of up to 60 feet, retaining walls of up to 30 feet in height and cuts

of up to 30 feet in depth are located from Station 283+00 to Station 296+00. The planned slope inclinations for embankment in this section ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

Two (2), 18-inch RCPs and one (1) 42-inch RCP are planned at Stations 272+25, 278+25, and 279+50, respectively. The ramps and mainline will cross an unnamed branch of the Little River at Station 291+00 where an 8' x 7' box culvert is proposed.

Retaining walls are proposed to be built along the upstream and downstream ends of the culvert. The westbound wall for Ramp 2D (Retaining Wall #11) will extend approximately 1,100 feet from Ramp 2D Station 77+44.86 to 66+38.37. The eastbound wall for Ramp 2C (Retaining Wall # 12) will extend approximately 627 feet from approximately Ramp 2D Station 61+50.21 to 67+77.85. These walls are planned up to 45 feet in height. No details on the topography of the base of the walls was provided. Additional geotechnical information will be required in the areas of the retaining walls once the structures have been finalized. It is anticipated that cut areas within this section will require the use of subgrade stabilization due to the elevated moisture contents and high plasticity soil at the planned subgrade elevation.

7.5.2 Soil Conditions

Borings B-82 through B-112 were drilled along this section. These borings were advanced to either boring termination depths or auger refusal at depths ranging from 10 to 51.6 feet. The borings along the alignment between Station 270+00 through Station 272+00 had refusal depths that are 5-feet above to 30-feet below the proposed roadway subgrade. This station range has upper soils that are mainly silty clays, silty sands, and high plasticity clays and silts.

The alignment between Station 270+00 through Station 272+00 borings had refusal depths on dolomite (Newala Formation) of 30-feet to 60-feet. This portion of the alignment had consistent rock elevations between 925 feet and 945 feet amsl. The stream channel at Station 291+00 is apparently in a section of deeper eroded or solutioned rock based on the nearby boring results. Excavation and culvert construction at the stream may have localized soft and unstable soil conditions that require additional design and construction details. Groundwater was encountered in nine (9) of the borings with depths ranging from 5 to 48.5 feet.

It should be noted that auger refusal on rock was encountered above the planned roadway subgrade elevation in boring B-89 (Station 53+00 35R). Rock was encountered approximately five (5) feet above the planned roadway subgrade elevation in this boring. Borings that were terminated on lithified rock encountered dolomite (Copper Ridge Formation).

It is anticipated that a significant portion of this section can be graded and excavated with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.). However, the remaining portions will encounter difficult conditions that will require rock excavation equipment. It should be noted that rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range between the boring locations shown.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the cut sections along this station range will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a

minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Mainline Station 256+00± to Station 262+00±

Station 264+00± to Station 270+00±

Ramp 2A Station 34+50± to Station 40+85±

Station 42+85± to Station 46+94.44±

Ramp 2B Station 40+00± to Station 44+60±

Station 46+65± to Station 56+00±

Greenway Station 58+90± to Station 62+85±

Station 66+50± to Station 72+00±

Soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 290+00± to Station 292+00±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.5.3 Settlement

The proposed fill heights will result in maximum settlements between Station 272+00 through Station 295+75 of approximately 2-inches to 3-inches. This settlement time in this station range will not result in post construction settlement.

7.5.4 Slope Stability

Slope stability analyses in this section for cut and fill slopes of 2H:1V or flatter have calculated factors of safety of 1.5 or greater.

7.6 SR 162 STATIONS 296+00 TO 318+00

7.6.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section various from cuts from five (5) feet up to 40 feet to fills of 10 feet with most of the section in cut. Cut slope depths range from approximately five (5) feet to 25 feet at Station 296+00 through Station 297+50 and up to approximately 35 feet from Station 302+50 to 307+50. A small retaining wall (Retaining Wall #13) is planned for this section from approximately Station 297+80 to Station 302+75.01. The planned retaining wall is low in height and is located at the base of the cut slope along the roadway. This section includes cuts for the approaches to the underpass at Davis Ford Road at Station 300+77. The section from approximately Station 307+50 through Station 318+00 is sidehill cuts and fills up to 10 feet. No details on the topography of the base of the walls was provided. The planned slope inclinations for embankments in this section ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

7.6.2 Soil / Area Conditions

Borings B-113 through B-126 were drilled along this section. The borings in this section were advanced to termination depths between 10 to 60 feet with one refusal at 37.9 feet. However, refusal depth was below the planned roadway subgrade elevation.

The borings encountered residual soils consisting of silts, silty clays, high plasticity clays, and elastic silts above refusal depth. Groundwater was encountered in four (4) of the borings with depths ranging from 3 to 40 feet.

It is anticipated that in this section, grading, and excavation can be performed with conventional earthmoving equipment (i.e. bulldozers, pans, excavators, etc.) However, it should be noted that field refusal conditions may vary along with variations in equipment. Rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the cut sections along this station range will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Mainline Station 296+50± to Station 309+00±

Soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 310+00± to Station 315+00±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.6.3 Settlement

Settlement is not an issue in this this section of the alignment comprised predominantly of cuts and thin fill portions.

7.6.4 Slope Stability

Slope stability analyses in this section for the cut fill slopes of 2H:1V or flatter have calculated factors of safety of 1.5 or greater.

7.7 SR 162 STATIONS 318+00 TO 327+25

7.7.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section is comprised of all fills with proposed fill heights up to 35 feet. A 54-inch RCP is planned near Station 320+50 and will tie into a planned 12’ by 8’ box culvert at approximate Station 323+50 that will convey Gravelly Creek through the embankment. The planned slope inclinations for embankments in this section ranged from 6 horizontal to 1 vertical (6H:1V) to 2H:1V.

7.7.2 Soil Conditions

Borings B-127 through B-130 were drilled along this section. The borings were drilled to auger refusal depths of between 0.5 to 14.5 feet. Borings 128, 129, and 130 were offset and redrilled with auger refusals ranging from 0.6 on 4.5 feet on possible gravel near Gravelly Creek. The

borings in this section had refusal depths that are at grade to less than 5-feet to ten-10 feet below the proposed grade.

It is anticipated that a significant portion of this section can be graded and excavated with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.). However, it should be noted that shallow auger refusal, likely lithified rock, was encountered in the area of the proposed 54-inch RCP and 12' by 8' box culvert. It is likely that rock excavation may be required in these areas. It should be noted that rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range between the boring locations shown.

Soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 319+50± to Station 325+00±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.7.3 Settlement

The proposed fill heights will result in less than 1-inch of total settlement and will not result in post construction settlement through this section.

7.7.4 Slope Stability

Slope stability analyses in this section for the constructed fill slopes of 2H:1V or flatter have calculated factors of safety of 1.5 or greater.

7.8 SR 162 STATIONS 327+25 TO 333+00

7.8.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section is planned to be a cut section up to 35-feet deep. The cut is proposed through a hillside in this section. The planned slope inclinations for embankment in this section ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

7.8.2 Soil Conditions

Borings B-131 through B-133 were drilled along this section. Lithified rock was encountered 30-feet to 43-feet bgs, which is 10-feet to 30-feet below the proposed grade because the borings were located left and right of the centerline. The borings encountered residual soils consisting of silts, silty clays, high plasticity clays, and elastic silts above refusal depth. Groundwater was encountered in one (1) of the borings at a depth of 40 feet.

It is anticipated that in this section, grading, and excavation can be performed with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.) However, it should be noted that field refusal conditions may vary along with variations in equipment. Rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range.

Soils encountered at planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the cut sections along this station range will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction. It is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Mainline Station 327+25± to Station 333+00±

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.8.3 Settlement

Settlement is not considered an issue in this this section of the alignment comprised entirely of a cut.

7.8.4 Slope Stability

Based on slope stability analyses, the planned side slopes in this segment with inclinations of 2H:1V or flatter will have global stability factors of safety of 1.5 or greater.

7.9 SR 162 STATIONS 333+00 TO 348+59.25

7.9.1 Description

The parkway in this section will have two (2) 24-foot-wide driving lanes with 14-foot wide inside shoulders and 10-foot wide stabilized outside shoulders in each direction. The east and west bound lanes will be separated by a median barrier.

This section is proposed be mainly in fill of up to a maximum of 20 feet with an area of side slope cut and fill between Station 333+25 and 334+25. There are two 18-inch RCPs planned at Stations 333+50 and 342+50, respectively. From the original plan set there is a 12' by 9' box culvert planned to be constructed for the conveyance of Flag Branch Creek at Station 338+80. The planned slope inclinations for embankment in this section ranged from 4 horizontal to 1 vertical (4H:1V) to 2H:1V.

7.9.2 Soil Conditions

Borings B-134 through B-139 were drilled along this section. The borings in this section had refusal depths of 10 feet to 15-feet below natural ground surface at 870 feet to 875 feet amsl. The soils encountered are dolomitic (Newala Formation) residual soils comprised mainly of low to high plastic clays with silt, chert, and dolomite fragments.

It is anticipated that this section can be graded and excavated with conventional earthmoving equipment (i.e., bulldozers, pans, excavators, etc.). However, it should be noted that shallow auger refusal (10'), likely lithified rock, was encountered in the area of the proposed 12' by 9' box culvert. It is likely that rock excavation may be required in these areas. It should be noted that rock weathering in this area is generally erratic and variations in the rock profile can occur over small lateral distances. Therefore, it is possible that other areas of rock or difficult excavation may be required in this station range between the boring locations shown.

Soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required prior to any embankment fill being placed in the following intervals, as depicted on the soils sheet, and as directed and modified by the Engineer.

Mainline Station 336+00± to Station 340+00±

Soil stabilization in these areas may use GSR. A 3-feet thick blanket of GSR should be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.9.3 Settlement

The proposed fill heights will result in maximum settlement of 1 inch. The settlement time in this station range will not result in post construction settlement.

7.9.4 Slope Stability

Slope stability analyses in this section for the constructed fill slopes of 2H:1V or flatter have calculated factors of safety of 1.5 or greater.

7.10 GENERAL RECOMMENDATIONS

7.10.1 Retaining Walls

Based on the available plans, multiple retaining walls (at least 13) are planned. In most of the cases, the retaining walls shown are of significant heights ranging approximately from 10 to 62 feet in heights. The design specifics are beyond the scope of the field and laboratory work for this contract. However, there are geoscience items noted from the work on this contract. It should be noted that recommendations for these structures will require additional boring, testing data, and engineering analysis that are not part of this geotechnical report and will be investigated upon receipt of a Retaining Wall, Bridge, or other structure request.

The wall heights can be reduced in cut areas by sloping the ground to the rear of wall. Walls planned in cut and fills will likely have footings that are below or near the encountered lithified rock. The residual soils encountered at or just above rock were in most cases less strong and saturated. The residual soils immediately above rock can be the source of initiation of a global type of failure plane or a bearing capacity failure at or below the base of the wall. The wall type, height and element locations are part of the final design. In addition, depths of penetration will be critical for retaining wall design in areas where a ditch line is in close proximity to the base of the proposed retaining wall. It is recommended that water conveyances or ditch lines not be place in close proximity to the base of planned retaining walls. It should be noted that in the areas of Greenway Road it may be beneficial to place the proposed retaining walls at the base of the slopes for ease of maintenance. Access for maintenance of slopes should be considered when the final retaining wall locations are set during design.

7.10.2 Mainline and Crossroad Bridges and Culverts

The bridge approach and overpass embankments and embankments over culverts were evaluated and are discussed in the relevant station recommendations. Settlement and slope stability recommendations are appropriate for the bridge abutment design. Culvert cambering should be taken into where the high fills cause more than a calculated settlement of 1-inch or more.

7.10.3 Residual Soil

Undisturbed residual soils maintain a varying portion of the parent rock pedological structure having the carbonate and some clay mineral fraction leached out over time. Cycles of wetting and drying may increase the stiffness of the soil structure, which increases its shear strength and decreases its compressibility. The residual soils encountered in the upper portions of borings have moisture contents predominantly at or below the plastic limit and medium stiff to stiff in shear strength. The consolidation tests revealed apparent overconsolidation as proof of the decreased compressibility in the dry and weathered residuum.

Close to the lithified parent rock, the residual soils were frequently saturated at or near the liquid limit. The SPT is performed below and within the hollow stem auger after the center plug is

removed. The drilling disturbs the saturated soil below the auger. The groundwater enters or tends to enter the open auger after plug removal and as such the soil in which the SPT test is performed is weakened and saturated. The SPT blow counts are characteristically low in these conditions, therefore the UU and CU test results were used for strengths in these zones. These softer zones are 5-feet or less in thickness were taken into consideration for settlement and will not result in settlement problems.

7.10.4 Cut and Fill Slopes

Based on the results of our slope stability analyses, we recommend cut and fill slope inclinations no steeper than those recommended for the various SR 162 station ranges discussed in Sections 7.1 through 7.9 above.

Vegetation should be established during construction on soil slopes to meet SWPPP requirements to reduce erosion. This can be accomplished by using erosion control matting with embedded seed. Erosion control measures should be constructed in accordance with TDOT guidelines. Should shallow slides or slumps occur, they should be repaired immediately. Repair of shallow near surface failures should be addressed by the TDOT engineer during construction.

Construction may disclose groundwater seeps or springs, or down-slope dipping that may cause localized instabilities in the soil profile. If the conditions are encountered during construction, the TDOT engineer should be contacted to observe the slope and provide recommendations for corrective measures.

7.10.5 Rock Excavation

The possibility of rock excavation was discussed in Sections 7.1 through 7.9. Areas of rock outcrops were observed during drilling activities in several areas along the project alignment. Generally, in this geologic setting the weathering process is erratic and variations in the rock profile can occur within small lateral distances. Therefore, it is possible shallow rock may be encountered between borings in which rock was encountered at greater depths.

In excavations such as utility trenches, culverts, etc., removal of weathered rock typically requires the use of large backhoes, pneumatic spades, or blasting. Blasting may be required to remove non-weathered lithified rock. The difficulty of excavation will depend on the composition of the rock, the location and orientation of discontinuities and bedding, and the skill of the equipment operator. If blasting is chosen, a consultant and contractor should be carefully selected based on a history of successful experience.

Excavated rock and weathered rock may be unsuitable for use as structural fill. As with all fill materials, the TDOT engineer should approve its use.

7.10.6 Settlement

Settlements discussed above should not be a significant project concern. The embankment fills vary from shallow less than 5-foot fills to nearly 70-foot-high fills with a number of cross slope fills. Consolidation settlements in the underlying natural soils are discussed in each section above. The settlement will not affect the pavement section as they will occur during the embankment construction of within one (1) month after embankment construction.

7.10.7 Site Preparation

All fill areas should be observed and proof-rolled if soft or weak areas are noted. This process should occur after completion of stripping when final grade is achieved. The purpose of proof-rolling is to confirm suspected pockets of soft or unstable soils. Proof-rolling should be performed using a fully loaded dump truck or other heavy equipment approved by the TDOT engineer. The TDOT engineer should be present to observe the proof-rolling operations and to provide recommendations if unstable soils are encountered.

In accordance with Section 205.03 of TDOT's 2015 Standard Specifications, in areas where fill is placed less than three (3) feet below subgrade, the cleared ground surface should be completely broken up by plowing, scarifying or stripping to a minimum depth of six (6) inches and re-compacted as described in Section 7.14.5 of this report. In cut areas, the top one foot of subgrade soils should be scarified, moisture conditioned, and re-compacted in accordance with the recommendations provided in Section 7.14.5.

7.10.8 Demolition

Abandoned utility lines should be removed and replaced with compacted fill. If pipes are not removed, they may serve as conduits for subsurface erosion that could result in voids or depressed areas within the roadway pavement, side slopes, and below planned retaining walls.

There are homes, likely with basements, that will be demolished. The basements should be fully removed and backfilled with fill compacted to at least 95 percent of the standard proctor maximum dry density (ASTM D-698).

7.10.9 Stripping, Undercutting, and Subgrade Stabilization

The site will be cleared and grubbed in accordance with Section 201.03 of TDOT's 2015 Standard Specifications.

Soils encountered at various planned grade ranged from silts, high plasticity clays, elastic silts to shales and were observed to be soft to firm in consistency at the time of drilling activities. It is anticipated that the many of the deep cut sections will encounter high plasticity clays and elastic silts with high moisture contents. These high plasticity and high moisture soils will likely impede construction and will likely require undercutting. Potential undercut intervals have been provided in the Station to Station descriptions in Section 7 of this report.

For the station intervals provided, it is recommended that if encountered, these poor quality soils be excavated a minimum depth of 3 feet below the final subgrade elevation or bearing layer. Undercut materials shall be replaced with graded solid rock (GSR) having a maximum gradation size of 1-foot and underlain and overlain with Type IV geotextile fabric per TDOT specification in the following intervals, as depicted on the soils sheets, and as directed and modified by the Engineer.

Additionally, soils near streams and wet weather conveyances have the potential to require stabilization due to high moisture contents, especially during the wet months of the year. Soil stabilization may be required in these area prior to any embankment fill being placed. Potential stream and wet weather conveyance intervals which may require subgrade stabilization have been provided in the Station to Station descriptions in Section 7 of this report.

A 3-feet thick blanket of GSR is recommended to be placed at grade or in the lower portions of the embankment in accordance with TDOT specifications and/or as directed by the engineer. The layer should be underlain and overlain with Type IV Geotextile Fabric and should be placed to allow construction to continue across wet areas, to promote drainage of any seepage and to provide a working platform for construction activities. It is recommended that the stream or wet weather conveyance be properly cleared and grubbed of all soft and unsuitable material, if possible, prior to stabilization efforts.

Additional areas may require stabilization with GSR or undercutting and backfilling with new compacted fill may become apparent during the time of construction. This is particularly true of the high plasticity soils if construction is conducted during the wet months of the year or after rain events. If it is determined that GSR is required, the GSR should be underlain and overlain by a Type IV geotextile.

7.10.10 Sinkholes / Remediation / Lined Ditches

Karst features have been noted for the project area. Borings advanced did not encounter any voids or domes in the overburden soils. However, based on the location of the current proposed alignment, and historic aerials, a minimum of three potential depressions/sinkholes appear to be within the proposed ROW. The approximate stations of the suspect sinkholes as follows:

Mainline Station 221+00 RT

Station 262+50 RT

Ramp 2B Station 57+00 RT

The depth to bedrock in these potential depression/sinkhole areas was greater than 10 to 30 feet. Method of remediation will be dependent on whether sinkhole is active/inactive and depth to bedrock. Sinkholes shall be remediated per TDOT Specifications and as directed by the Engineer. Additional karst features may be encountered or be revealed along the alignment during construction and may required additional remediation as directed by the Engineer.

As a deterrent to water infiltration and potential sinkhole development from standing water, it is recommended that the Designer consider lining all ditches on the project with concrete or with the addition of a geomembrane layer beneath a sod or rip rap lining as a deterrent to water infiltration.

7.11 GENERAL NOTES

7.11.1 Compacted Fill

7.11.1.1 Materials: Soils and Excavated Rock

The cut soils will be used as embankment fill. Based on laboratory testing, the soils along the alignment consist predominantly of residual soils classified as high plastic clays. Weathered shale used as fill should be thoroughly broken-down and reduced to a soil type gradation. If the material size is not adequately reduced, larger weak fragments may degrade when exposed to water and the weight of the overlying fill and surcharge loads, resulting in losses in soil volume and strength that could adversely affect pavements and improvements supported

by the fill.

Depending on the actual conditions encountered at the time of construction, moisture conditioning of on-site soils may be required to achieve adequate compaction. The natural moisture content tests performed on SPT test samples indicate the moisture contents of the samples ranged from several percentage points drier to several percentage points wetter than the optimum moisture contents. Drying the soil will be difficult if grading occurs during the colder, wetter winter months and may require delaying to the warmer, drier months of the year.

7.11.1.2 Compaction

In accordance with Section 205.04 of TDOT's 2015 Standard Specifications, fill should be placed in thin, horizontal lifts with a maximum loose thickness of 10 inches, then compacted to 95 percent of the standard Proctor maximum dry density (ASTM D-698). The fill should be placed at a moisture content within 3 percent of the optimum moisture content, but acceptable compaction will depend on the equipment used to achieve the specified density. The compacted fill should extend to the limits and grades shown on the roadway design plans.

The TDOT engineer should have the density and moisture content of each lift tested before placing additional lifts to evaluate that specified compaction is being achieved. The actual testing frequency should be determined by the TDOT engineer based on the type of soil being placed, the equipment being used, and the time of year the fill is being placed. Areas that do not meet the compaction specification should be scarified, moisture conditioned as necessary, and re-compacted and retested.

Positive surface drainage should be maintained during grading operations by sloping the surface and rolled smooth to prevent water from ponding on the surface prior to rain or shutdown. It is a contractor's responsibility to prepare the subgrade to place fill after a weather event or shutdown. The contractor should not be allowed to place fill directly on the surface of a wet or frozen subgrade without the TDOT engineer's approval.

7.11.2 Groundwater Control

The proposed roadway improvements will cross streams and drainage features that will be routed beneath the roadway in culverts and storm drain piping. The contractor should be prepared for shallow groundwater in these areas.

Typically, groundwater was encountered below proposed grades. However, water/groundwater conditions can vary seasonally and be affected by recent rainfall conditions, construction activity and/or other site-specific factors such as water levels in drainage features. In addition, it is common to encounter springs or intermittent seeps in hilly terrain.

During periods of heavy rain, perched groundwater conditions may occur throughout the alignment. It will be the means and methods of the contractor to provide adequate dewatering to maintain the groundwater level below the bottom of excavations, except when the excavation is in rock. Pumping from sumps constructed within the excavation should normally be effective in dewatering the soil types encountered in the borings. Water from the pumps should be discharged beyond the construction boundaries. If springs or seeps are encountered within the proposed cut slopes, the TDOT engineer will need to evaluate the measures.

8. PAVEMENT SUBGRADE CBR RECOMMENDATIONS

Based on our experience and results from the CBR testing, we recommend a CBR value of 3 to be used for the design of the parkway's flexible pavements.

9. GEOTECHNICAL NOTES

The Geotechnical Notes sheets included in Appendix E contains a summary of the soil notes that are project specific and may not be covered in TDOT's 2015 Standard Specifications.

10. LIMITATIONS OF REPORT

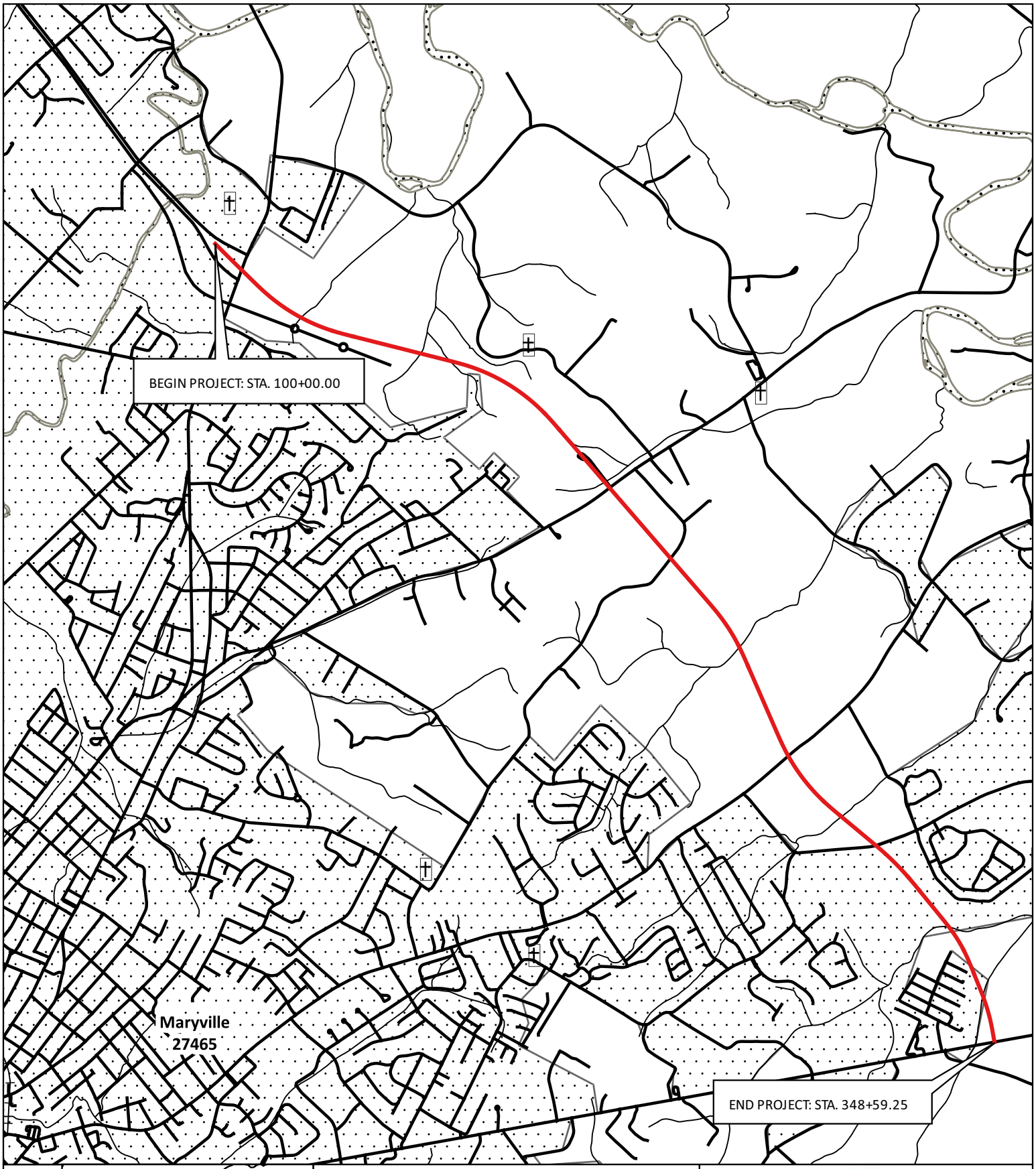
This report has been prepared for the exclusive use of the TDOT project referenced in this report. Our conclusions and recommendations have been prepared using generally accepted standards of geotechnical engineering practice in the State of Tennessee. No other warranty is expressed or implied, BFW is not responsible for the conclusions, opinions, or recommendations of others based on this data.

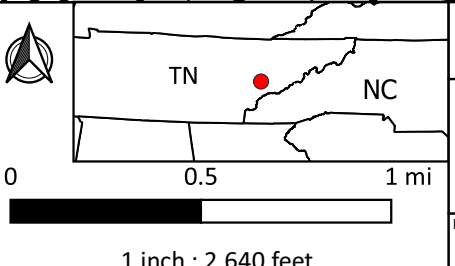
Our conclusions and recommendations are based on the design information furnished to us, the data obtained during the geotechnical exploration, the laboratory test results, and our experience. They do not reflect variations in the subsurface conditions that are likely to exist between our borings and in unexplored areas of the site due to the large spacing between borings and the inherent variability of the subsurface conditions in this geologic region and past land use. If such variations are found during construction, we must be contacted for our evaluation regarding our recommendations.

The recommendations contained in this report are not valid unless BFW has reviewed the changes and modified or verified our recommendations in writing if changes are made in the location of the planned roadways or the currently planned roadway centerline grades.

Appendix A

Maps





1 inch : 2,640 feet

FIGURE 1: SITE LOCATION MAP

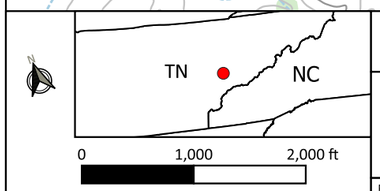
SR 162 Ext (Pellissippi Parkway)
from SR 33 to SR 73 (US 321)
PN: 05097-1233-14
PIN: 101423.00

Project Number:	Drafted/Checked:	Date:
20033	BH / SC	2020-09-03

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

BEGIN PROJECT: STA. 100+00.00

END PROJECT: STA. 348+59.25



1 inch : 1000 feet

FIGURE 2:. USGS TOPOGRAPHIC MAP

SR 162 Ext (Pellissippi Parkway)
from SR 33 to SR 73 (US 321)
PN: 05097-1233-14
PIN: 101423.00

Project Number:	Drafted/Checked:	Date:
20236	BH / SC	2020-09-03

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Appendix B

Boring Logs

BORING LOG / LABORATORY PROCEDURE GUIDE

SUBSURFACE EXPLORATION

Bacon Farmer Workman Engineering & Testing, Inc., conducts soil test borings, field sampling and laboratory analysis in general accordance with methods of the American Society for Testing Materials (ASTM) and generally accepted engineering practices. Soil test borings were advanced with truck or track mounted rotary-type drilling rig equipment. Hollow stem or solid flight augers were used to advance soil test borings (ASTM D 1452). A series of soil samples are typically obtained for visual inspection and laboratory analysis during drilling activities. The samples collected may include disturbed, undisturbed or auger cutting samples.

BORING LOCATIONS / ELEVATIONS

Boring Locations are either selected by our project manager or have been selected by the client. The borings are typically located in the field by estimating right angles and measuring distances from site landmarks. Because of the locating methods used, the boring locations indicated on the Boring Location Plan (In Appendix) are approximate unless specifically noted. When topographic plans of the site are provided, the project engineer estimates the surface elevation of the boring locations using available information. Surveying to determine the locations and elevations of the borings is typically beyond the scope of the typical geotechnical study. Therefore, the boring locations and elevations should be considered approximate unless specifically noted.

BORING LOGS / RECORDS

The Subsurface Boring Logs included in this report are our interpretation of the conditions encountered at each boring location. The Subsurface Boring Logs are prepared on the basis of the field crew's observations during drilling, engineering review of the soil samples obtained, and laboratory testing on selected samples. Soil descriptions are made using the Unified Soil Classification System and ASMT D 2488 as guides. The depths designating strata changes on the Boring Records are estimations. In many geologic settings, the transition between strata is gradual.

GROUNDWATER LEVEL READINGS

Groundwater levels are monitored in each borehole upon the completion of drilling. In low permeability soils such as silts and clays, the groundwater level in the boreholes may take several or more hours to stabilize. Therefore, when possible, water level readings are also made at least 24-hours after drilling activities cease. Groundwater levels may be dependent upon recent rainfall activity and other site specific factors. Since these conditions may change with time, the water level information presented on the Subsurface Boring Logs represents the conditions only at the time each measurement is taken.

SAMPLING TECHNIQUES

Soil samples are typically obtained at selected depths during the drilling activities. Representative portions of the soil samples obtained are placed in sealed containers, labeled, and transported to the laboratory. The soil samples obtained are used for visual classification, and for strength, index and consistency testing. Samples obtained from the drilling activities include: Disturbed, undisturbed and bulk samples. Disturbed samples are collected during the Standard Penetration Tests using a split spoon sampler and hammer as described in the following section. Undisturbed samples are obtained by advancing a thin-walled Shelby tube with hydraulic pressure as described in the following section. Bulk samples are obtained from the auger cuttings generated during the advancement of the augers.

The **STANDARD PENETRATION TEST** (**ASTM D 1586)** is a method to obtain disturbed soil samples for examination and testing and to obtain relative density and consistency information. A standard 1.4-inch I.D. / 2-inch O. D. split-barrel (split spoon) sampler is driven three 6-inch increments with a 140 lb. hammer falling 30 inches. The hammer can either be of a trip, free-fall design or actuated by a rope and cathead. The hammer blows required to drive the sampler the final foot is the *standard penetration resistance (N-value)*. Standard penetration resistance, when properly evaluated, is an index to the soil's strength, consistency and density. Upon completion of each standard penetration test, the sampler is brought to the surface and the tube is split open to expose the soils penetrated. Our project manager / engineer examines the soil and places a representative portion of the soil into a sealed container for transportation to our laboratory.

BORING LOG / LABORATORY PROCEDURE GUIDE
(Continued)

UNDISTURBED SOIL SAMPLING (ASTM D 1587) is a method used to obtain a relatively undisturbed soil sample for more precise laboratory analysis including unconfined compressive strengths, compressibility or permeability. Undisturbed soil sampling is conducted by advancing a 3–inch O. D., 16 gauge, steel tube (Shelby Tube) with a sharpened edge slowly and uniformly into the underlying soil stratum under constant hydraulic pressure to the desired sampling elevation. The tube is then removed from the ground and both ends are sealed to prevent loss of moisture. The depth at which the undisturbed samples were collected is indicated on the Subsurface Boring Logs.

SOIL LABORATORY TESTS

The **MOISTURE CONTENT (ASTM D 2216)** of soils is an indicator of various physical properties, including strength and compressibility. Each test sample is weighed and then placed in an oven ($110^{\circ}C \pm 5^{\circ}C$). The sample remains in the oven until the free moisture has evaporated. The dried sample is removed from the oven, allowed to cool and then reweighed. The moisture content is computed by dividing the weight of evaporated water by the weight of the dry sample. The results are expressed as a percent.

ATTERBERG LIMITS (ASTM D 4318) tests are used to help define the relationship between behavior changes in fine-grained soils at different moisture contents values. Depending upon the moisture content, a fine-grained soil may occur in a liquid, plastic, semi-solid, or solid state. These set of tests are used to establish the approximate moisture contents at which the soil changes its state. **LIQUID LIMIT** – a soil specimen is wetted until it is in a viscous fluid state. A portion of the soil is then placed in a standardized dimension brass cup, and a groove is made through the middle of the soil specimen with a grooving tool of standardized dimensions. The cup is attached to a cam that lifts it 10 mm, and then allows it to freefall and strike a hard rubber base. The cam is rotated at about 2 drops per second until the two halves of the soil specimen come in contact at the bottom of the groove along a distance of 13 mm. The number of blows required to close the groove is recorded, and a portion of the specimen is subjected to moisture content determination. Additional water is added to the remainder of the specimen, and the grooving process and cam action process repeated. After the third trial, the number of blows versus moisture content is plotted on semi-logarithmic graph paper. The moisture content corresponding to 25 blows is designated as the Liquid Limit.

The **Plastic Limit** is the lowest moisture content at which the soil is sufficiently plastic to be manually rolled into threads 3 mm in diameter. It is determined by taking a pat of soil remaining from the liquid limit test, and repeatedly rolling, kneading, and air drying the specimen until the soil breaks into threads about 3 mm in diameter and 3 to 10 mm long. The moisture content of these soil threads is then determined, and is designated the Plastic Limit.

A **PARTICLE SIZE ANALYSIS** determines the distribution of particles sizes in soils. Distribution of particle sizes larger than the No. 200 sieve is determined by the sieving process, while the distribution of particles smaller than the No. 200 sieve are determined by a sedimentation process, using a hydrometer. In the sieving process the soil is prepared by air drying and crushing, to separate clusters that clump together. A series of sieves, that consist of a square mesh woven-wire cloth having different size openings as per ASTM specifications are each weighed individually. They are stacked with the greatest size opening at the top with each successive lower sieve having smaller openings. A pan is placed on the bottom of the stack to catch soil finer that the # 200 sieve (0.75 mm). The soil is placed into the top sieve of the stack and is covered. The nest of sieves is placed and locked into a sieve shaker which is then agitated for approximately 10 minutes. Each sieve is reweighed with the retained soil. A semi-logarithmic graph is created showing the percent passing each specific sieve size.

The **UNCONFINED COMPRESSIVE STRENGTH TEST, (ASTM D 2166)** is a relatively quick method to obtain the approximate compressive strength of soils that possess sufficient cohesion to allow testing in the unconfined state. An undisturbed sample is obtained from the borehole with a Shelby Tube sampler. The tube is sealed in the field to retain natural moisture content. Once in the laboratory the undisturbed sample is extruded from the tube and cut to a specified length. The sample measurements are recorded. The sample is placed in its natural state in a compressive strength load frame. The sample is compressed under increasing load. Measurements of the load applied and the sample strain are recorded. Upon specimen failure the test is concluded and a graph of stress versus strain is plotted. The maximum stress applied is defined as the unconfined compressive strength.

Subsurface Boring Log Legend

Standard Penetration Test (N-Value Tables)

Fine Grained Soils (Silts & Clays)

N	Consistency	Qu, (KSF) Estimate Only
0 - 1	Very Soft	0 – 0.25
2 – 4	Soft	0.25 – 0.5
5 – 8	Firm	0.5 – 1.0
9 – 15	Stiff	1.0 – 2.0
16 – 30	Very Stiff	2.0 – 4.0
Over 30	Hard	> 4.0

Coarse Grained Soils (Sands & Gravels)

N	Relative Density
0 – 4	Very Loose
5 – 10	Loose
11 – 20	Firm
21 – 30	Very Firm
31 – 50	Dense
Over 50	Very Dense

Particle Sizes

Boulders	Greater than 300 mm (12 in)
Cobbles	75 mm to 300 mm (3 to 12 in)
Gravel	4.74 mm to 75 mm (3/16 to 3 in)
Coarse Sand	2 mm to 4.75 mm
Medium Sand	0.425 mm to 2 mm
Fine Sand	0.075 mm to 0.425 mm
Silts & Clays	Less than 0.075 mm

Relative Proportions

Descriptive Term	Percent
Trace	1 – 10
Little	11 – 20
Some	21 – 35
And	36 - 50

Boring Log Symbols / Abbreviations

N: Blows per foot of a 140 lb. hammer falling 30-inches on a 2 inch O. D. split spoon

Qp: Unconfined compressive strength, hand penetrometer, tsf

Qu: Unconfined compressive strength, Shelby tube sample, ksf

Mc: Percent of water in sample (%)

Dd: Sample Dry Density, pcf

LL: Liquid Limit

PL: Plastic Limit

PI: Plasticity Index

-# 200: Percent of sample passing a # 200 sieve (0.075mm)

-#4: Percent of sample passing a # 4 sieve

BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.

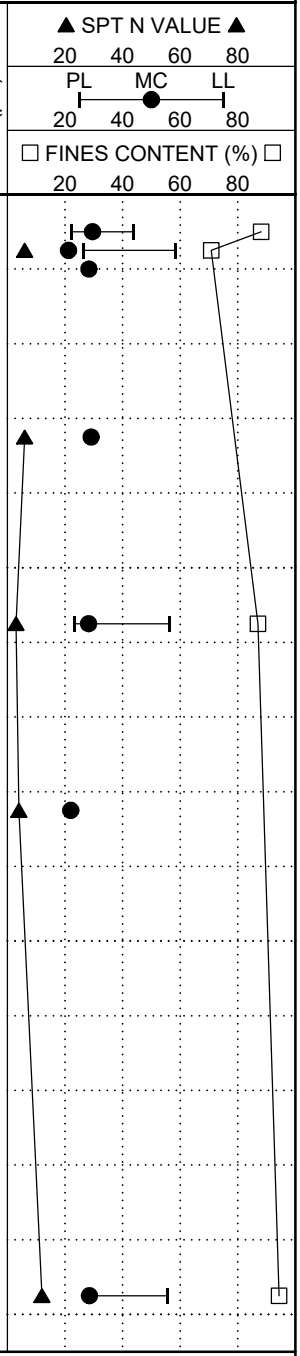
Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 1

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/18/20 **COMPLETED** 3/18/20
GROUND ELEVATION 886.312 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 112+00 **OFFSET** 10L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft to stiff, moist, with trace rock fragments (chert)	AU Bag-1 SPT SS-1	100	2-2-4 (6)		
			SPT SS-2	67	2-2-4 (6)		
5			SPT SS-3	78	2-1-2 (3)		
			SPT SS-4	89	1-2-2 (4)		
10							
15			SPT SS-5	100	3-5-7 (12)		

Bottom of borehole at 15.5 feet.



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Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 2

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/18/20 **COMPLETED** 3/18/20
GROUND ELEVATION 895.071 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 116+50 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(ML) SILT (ML; A-7-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with rock fragments (chert, limestone)	SPT SS-1	33	4-6-7 (13)		
5			SPT SS-2	100	3-5-6 (11)		
			SPT SS-3	100	3-5-4 (9)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist	SPT SS-4	78	3-4-7 (11)		
10			ST ST-1	92			
15			ST ST-2	100			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 17.0 feet.

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500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 3

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/24/20 **COMPLETED** 2/24/20
GROUND ELEVATION 871.239 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 11+25 (Ramp 1A) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist					
2.5			SPT SS-1	78	3-5-7 (12)		97
5.0			SPT SS-2	100	3-6-8 (14)		105
7.5			SPT SS-3	100	6-8-9 (17)		
		(A-7-6)					
10.0			ST ST-1	100			98

Bottom of borehole at 10.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 4

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/19/20 **COMPLETED** 3/19/20
GROUND ELEVATION 871.347 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 13+00 (Ramp 1A) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist					
2.5			SPT SS-1	100	2-2-3 (5)		
5.0			SPT SS-2	78	3-4-6 (10)		84
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist					
7.5			SPT SS-3	100	4-5-7 (12)		
			SPT SS-4	100	3-5-6 (11)		80
10.0		Bottom of borehole at 10.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

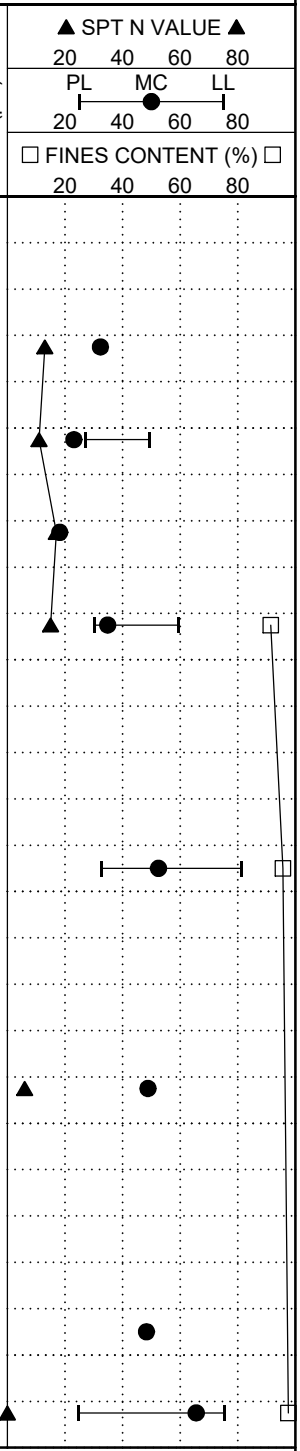
BORING NUMBER 5

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/1/20 **COMPLETED** 4/1/20
GROUND ELEVATION 874.824 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 27.00 ft / Elev 847.82 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 119+50 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (limestone, shale)					
			SPT SS-1	11	5-6-7 (13)		
5			SPT SS-2	72	5-3-8 (11)		
			SPT SS-3	61	4-5-12 (17)		
10			SPT SS-4	100	2-7-8 (15)		
15			ST ST-1	100			
		medium stiff	SPT SS-5	72	2-3-3 (6)		
20							
25			ST ST-2	54			
		very soft, wet (A-7-6)	SPT SS-6	100	0-0-0 (0)		

▽

Bottom of borehole at 27.0 feet.



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Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 6

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/1/20 **COMPLETED** 4/1/20
GROUND ELEVATION 872.965 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 20.00 ft / Elev 852.97 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 121+50 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (16 inches)					
		(ML) SILT (ML; A-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	AU Bag-1				
			SPT SS-1	100	0-5-5 (10)		
5			SPT SS-2	100	5-7-9 (16)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), trace sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff sto stiff, moist	SPT SS-3	100	4-5-6 (11)		
10			SPT SS-4	94	3-4-4 (8)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist					
15			SPT SS-5	78	3-3-5 (8)		
		SHALE, dark gray, highly weathered, wet, with HIGH PLASTICITY CLAY (CH), strong brown (72.5YR 5/6), medium stiff	SPT SS-6	100	6-2-5 (7)		
20	▽						

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 21.2 feet.
Bottom of borehole at 21.2 feet.

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BORING NUMBER 7

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/18/20 **COMPLETED** 3/18/20
GROUND ELEVATION 865.172 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 47+00 (Ramp 1B) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(ML) SILT (ML; A-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist					
2.5			SPT SS-1	100	2-2-3 (5)		
5.0			SPT SS-2	100	2-2-5 (7)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (limestone, shale)					
7.5			SPT SS-3	100	2-9-12 (21)		
			SPT SS-4	100	0-18-9 (27)		90
10.0							
12.5							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 13.2 feet.
Bottom of borehole at 13.2 feet.

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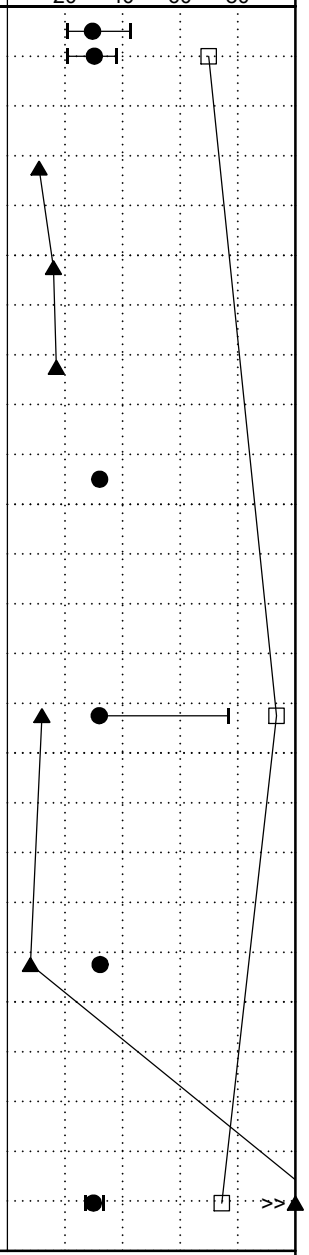
BORING NUMBER 8

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/2/20 **COMPLETED** 4/2/20
GROUND ELEVATION 881.392 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 24.00 ft / Elev 857.39 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 44+00 (Ramp 1B) **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), sandy, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist	SPT SS-1	78	3-5-6 (11)		
5			SPT SS-2	100	5-7-9 (16)		
			SPT SS-3	94	5-8-9 (17)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, strong brown (72.5YR 5/6), medium stiff to stiff, moist, with trace rock fragments (limestone, shale)	ST ST-1	100			
10							
15			SPT SS-4	89	3-5-7 (12)		
20			SPT SS-5	100	3-3-5 (8)		
		(ML) SILT (ML; A-4), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), hard, wet, with trace rock fragments (limestone, shale)					
25		▽	SPT SS-6	100	13-23-50/1"		

Refusal at 25.0 feet.
Bottom of borehole at 25.0 feet.



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BORING NUMBER 9

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/2/20 **COMPLETED** 4/2/20
GROUND ELEVATION 903.79 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 41+50 (Ramp 1B) **OFFSET** 5R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very stiff to hard, moist, with trace rock fragments (shale)	SPT SS-1	89	9-18-17 (35)		
5			SPT SS-2	100	17-30-50/5"		
		SHALE (Rogersville Shale), dark gray to browish-gray, highly weathered to greenish-gray, very stiff to hard, wet	SPT SS-3	100	21-50		
10			SPT SS-4	89	25-30-35 (65)		
15			SPT SS-5	89	7-16-26 (42)		
			AU Bag-2				
20			SPT SS-6	67	6-20-30 (50)		
25			SPT SS-7	100	32-50		
30			SPT SS-8	100	35-50/2"		
35			SPT SS-9	100	30-50/5"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 37.5 feet.
Bottom of borehole at 37.5 feet.

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BORING NUMBER 10

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/19/20 **COMPLETED** 3/19/20
GROUND ELEVATION 889.864 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 125+00 **OFFSET** 45R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(ML) SILT (ML), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	78	2-2-5 (7)		
5			SPT SS-2	100	3-5-6 (11)		
		(A-4)	SPT SS-3	100	3-4-5 (9)		
10			SPT SS-4	100	3-6-9 (15)		
		(A-7-6)	SPT SS-5	100	4-6-9 (15)		
15							
			SPT SS-6	67	4-6-10 (16)		40
20		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), strong brown (72.5YR 5/6), stiff, moist, potentially very highly compressible (LL>80)					
			SPT SS-7	100	6-8-10 (18)		42
25		Bottom of borehole at 25.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 11

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/19/20 **COMPLETED** 3/19/20
GROUND ELEVATION 875.727 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 17+00 (Ramp 1A) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0.0		TOPSOIL (6 inches)						
		(ML) SILT (ML; A-4), with sand, trace gravel reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), hard, moist, with trace rock fragments (limestone)						
2.5			SPT SS-1	100	12-21-50/1"			>>▲

Refusal at 4.5 feet.
Bottom of borehole at 4.5 feet.

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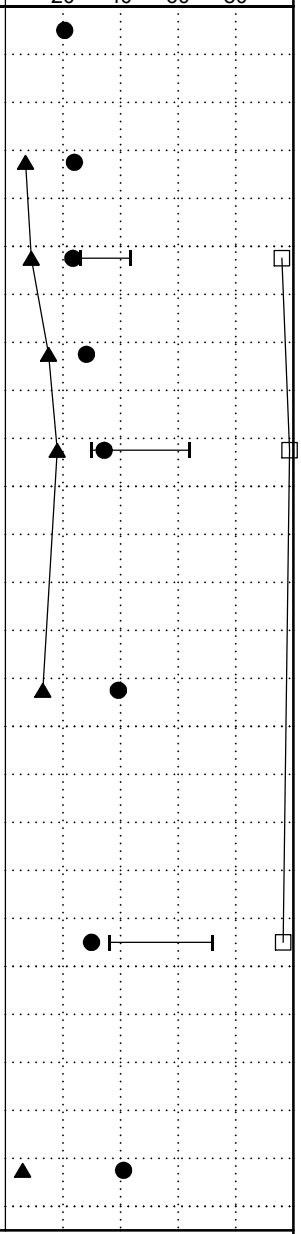
BORING NUMBER 12

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/5/20 **COMPLETED** 4/5/20
GROUND ELEVATION 891.881 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 39+50 (Ramp 1B) **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), trace sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist	SPT SS-1	100	3-3-4 (7)		
5		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, strong brown (72.5YR 5/6), stiff, moist	SPT SS-2	78	3-4-5 (9)		
			SPT SS-3	100	6-7-8 (15)		
10			SPT SS-4	89	5-8-10 (18)		
15			SPT SS-5	100	3-5-8 (13)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	ST ST-1	100			
20							
25			SPT SS-6	100	3-2-4 (6)		



Refusal at 25.5 feet.
Bottom of borehole at 25.5 feet.

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BORING NUMBER 13

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/5/20 **COMPLETED** 4/5/20
GROUND ELEVATION 884.594 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 38+15.40 (Ramp 1B) **OFFSET** 52.09L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL: A-7-6), trace sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	94	2-3-2 (5)		
5			SPT SS-2	100	3-5-6 (11)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), strong brown (72.5YR 5/6), stiff, moist	SPT SS-3	100	8-8-10 (18)		
10			SPT SS-4	89	5-6-9 (15)		
15			ST ST-1	100			

Bottom of borehole at 15.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 14

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/19/20 **COMPLETED** 3/19/20
GROUND ELEVATION 871.374 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 18.50 ft / Elev 852.87 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 129+00 **OFFSET** 40R
24hrs AFTER DRILLING 15.00 ft / Elev 856.37 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	78	2-2-3 (5)		
5			SPT SS-2	89	3-6-7 (13)		
			SPT SS-3	72	6-9-12 (21)		85
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), strong brown (72.5YR 5/6), stiff, moist	SPT SS-4	100	6-9-10 (19)		86
10							
15			SPT SS-5	44	4-5-6 (11)		
		(MH) HIGHLY PLASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist					
20			SPT SS-6	89	3-5-9 (14)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 21.0 feet.
Bottom of borehole at 21.0 feet.

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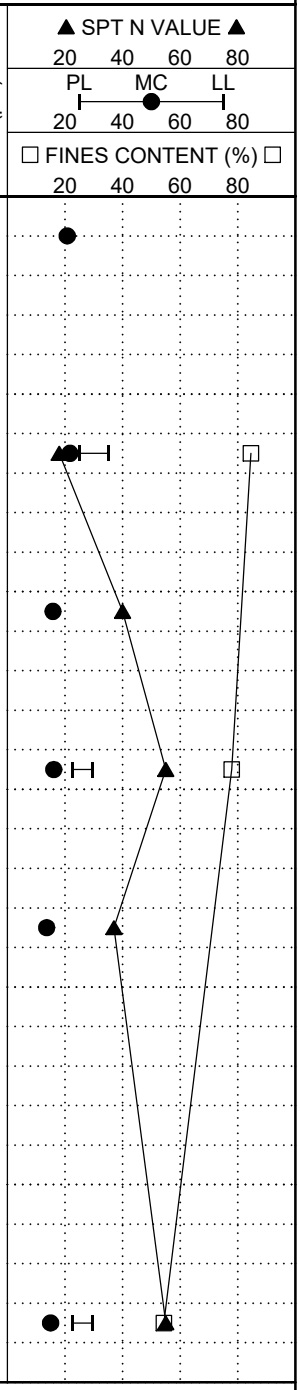
BORING NUMBER 15

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/19/20 **COMPLETED** 3/19/20
GROUND ELEVATION 874.52 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 22+00 (Ramp 1A) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(ML) SILT (ML) to SILTY CLAY (ML-CL; A-4)) reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff to hard, moist, with trace rock fragments (shale)					
2.5			SPT SS-1	72	5-8-10 (18)		
5.0			SPT SS-2	89	7-19-21 (40)		
		(CL-ML) SILTY CLAY to SANDY SILTY CLAY (CL-ML; A-4) gray to brownish gray, very stiff to hard, moist highly weathered shale (Rogersville Shale)	SPT SS-3	89	21-25-30 (55)		
7.5							
10.0			SPT SS-4	78	12-17-20 (37)		
12.5							
15.0			SPT SS-5	89	16-25-30 (55)		

Bottom of borehole at 15.0 feet.



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BORING NUMBER 16

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/20/20 **COMPLETED** 3/20/20
GROUND ELEVATION 868.565 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 34.36.61 (Ramp 1B) **OFFSET** 2.73L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(ML) SILT (ML; A-7-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-1	67	4-5-8 (13)		
5			SPT SS-2	78	6-8-12 (20)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand strong brown (72.5YR 5/6), medium stiff to stiff, moist	SPT SS-3	100	4-7-8 (15)		80
10			SPT SS-4	100	5-5-8 (13)		78
15			SPT SS-5	100	3-3-5 (8)		
20			ST ST-1	100			
25		very soft, (A-7-6)	SPT SS-6	100	0-1-1 (2)		

Bottom of borehole at 25.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 17

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/20/20 **COMPLETED** 3/20/20
GROUND ELEVATION 868.957 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 132+00 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(ML) SILT (ML; A-7-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-1	67	1-5-5 (10)		
5		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist	SPT SS-2	100	2-4-6 (10)		94
			SPT SS-3	100	5-9-11 (20)		
10			ST ST-1	75			
15			SPT SS-4	89	4-5-9 (14)		
20			SPT SS-5	100	4-5-7 (12)		83

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 20.0 feet.

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Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 18

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/21/20 **COMPLETED** 3/21/20
GROUND ELEVATION 864.877 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 135+50 **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		TOPSOIL (6 inches)						
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist	SPT SS-1	100	3-5-7 (12)			
5			SPT SS-2	89	3-5-6 (11)		87	
			SPT SS-3	100	5-6-9 (15)			
10			SPT SS-4	100	3-6-9 (15)		80	
			SPT SS-5	100	3-6-8 (14)			
15								
		(A-7-6)	SPT SS-6	100	5-8-10 (18)			
20								

Bottom of borehole at 20.0 feet.

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BORING NUMBER 19

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/3/20 **COMPLETED** 4/3/20
GROUND ELEVATION 856.765 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 13.40 ft / Elev 843.37 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 135+00 **OFFSET** 70L
▼ **48hrs AFTER DRILLING** 7.00 ft / Elev 849.77 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist					
2.5			SPT SS-1	94	1-5-7 (12)		
5.0			SPT SS-2	78	2-5-5 (10)		
7.5			ST ST-1	71			109
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft, moist					
10.0			SPT SS-3	39	0-1-2 (3)		
12.5							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 13.4 feet.
Bottom of borehole at 13.4 feet.

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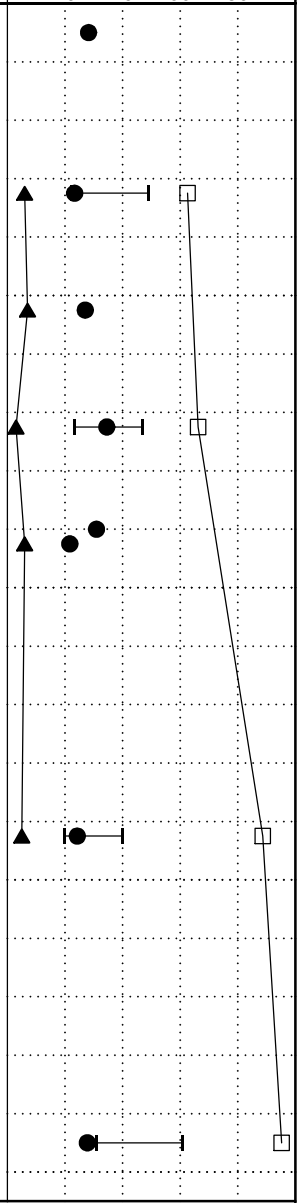
BORING NUMBER 20

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/21/20 **COMPLETED** 3/21/20
GROUND ELEVATION 882.27 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 29.96.40 (Ramp 1B) **OFFSET** 16.82L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), SANDY, with gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to medium stiff, moist, with trace rock fragments (limestone)					
			SPT SS-1	61	2-2-4 (6)		
5			SPT SS-2	72	3-4-3 (7)		
			SPT SS-3	56	2-1-2 (3)		
10			SPT SS-4	67	0-3-3 (6)		
		organic material (grass, roots); (A-6)	SPT SS-5	78	2-1-4 (5)		
15							
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), moist	ST ST-1	100			
20							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Bottom of borehole at 20.5 feet.

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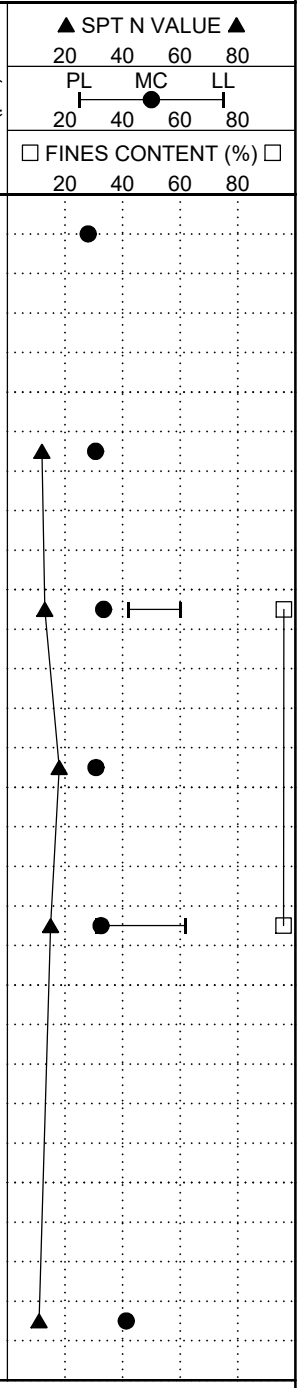
BORING NUMBER 21

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/21/20 **COMPLETED** 3/21/20
GROUND ELEVATION 872.325 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 26+04.95 (Ramp 1B) **OFFSET** 5.43R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist					
2.5			SPT SS-1	100	4-5-7 (12)		92
5.0			SPT SS-2	100	3-5-8 (13)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist					
7.5			SPT SS-3	100	10-8-10 (18)		91
10.0			SPT SS-4	100	3-7-8 (15)		88
12.5							
15.0			SPT SS-5	89	3-4-7 (11)		

Bottom of borehole at 15.0 feet.



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BORING NUMBER 22

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/21/20 **COMPLETED** 3/21/20
GROUND ELEVATION 880.069 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 144+00 **OFFSET** 20L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		DENSE GRADED AGGREGATE (DGA), 30 inches, with clay	AU Bag-1				
2.5		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand and gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very soft to medium stiff, moist	SPT SS-1	0	1-0-1 (1)		
5.0		(A-7-6), trace gravel	SPT SS-2	100	0-0-5 (5)		
7.5		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (limestone)	SPT SS-3	100	5-8-13 (21)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 8.3 feet.
Bottom of borehole at 8.3 feet.

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BORING NUMBER 23

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/22/20 **COMPLETED** 3/22/20
GROUND ELEVATION 877.789 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 148+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, with trace rock fragments (limestone)					
2.5			SPT SS-1	78	4-5-7 (12)		
5.0			SPT SS-2	100	3-6-8 (14)		101
7.5			SPT SS-3	100	5-8-8 (16)		97
		trace gravel					
10.0			SPT SS-4	78	3-7-17 (24)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 10.6 feet.
Bottom of borehole at 10.6 feet.

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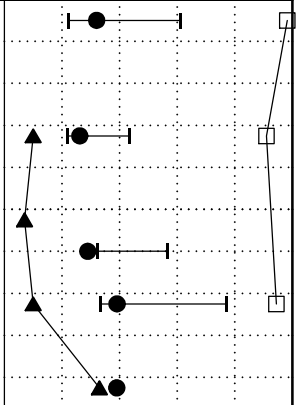
BORING NUMBER 24

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/3/20 **COMPLETED** 4/4/20
GROUND ELEVATION 871.84 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 151+50 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	72	4-5-5 (10)		
5			SPT SS-2	78	3-4-3 (7)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to very stiff, moist, with trace rock fragments (limestone)	SPT SS-3	67	4-5-5 (10)		
10			SPT SS-4	89	4-16-17 (33)		
		LIMESTONE (Maryville Limestone), dark bluish-gray, crystalline to fine-grained granular, weathers to light brownish-gray (core loss at top of Run 1)	RC Run1	100 (58)			
15			RC Run2	100 (90)			
20		VOID, loss of DW					
		LIMESTONE (Maryville Limestone), dark bluish-gray, crystalline to fine-grained granular, weathers to light brownish-gray	RC Run3	100 (60)			
25			RC Run4	100 (40)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Refusal at 10.7 feet.
Bottom of borehole at 29.7 feet.

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ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-24**
Site:	Blount Co.	Project No.:	20033	Elevation:	871.84 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 151+50		
Method:	CME 45, track-mounted				Offset 60L		
Driller:	F. Woodard	Date:	4/3/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 23.5'	24-hr:	10'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					10.7	861.1			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 10.7 feet bgs **Top of bedrock:** 10.7 feet bgs
Run 1 (4 feet)	Recovery: 42 inches / 88%	RQD: 58			11.7 12.7 13.7 14.7	857.1			Maryville Limestone (Mn) - Limestone, dark blue-gray, massive, crystalline to very-finely granular, some argillaceous beds; weathers to bluish gray to light brownish gray 10.7-29.7 - Bluish-gray to medium gray limestone,
Run 2 (5 feet)	Recovery: 58 inches / 97%	RQD: 90			15.7 16.7 17.7 18.7 19.7	852.1			15.5 - closed fracture, weathered
Run 3 (5 feet)	Recovery: 52 inches / 87%	RQD: 60			20.7 21.7 22.7 23.7 24.7	847.1			21.0-21.6 - void, loss of water
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 40			25.7 26.7 27.7 28.7 29.7	842.1			26.5 - closed fracture, weathered, stained Rock Coring Terminated - 29.7 feet bgs / 842.14 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-24**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	151+50	**Offset:**	60L
		Date:	4/3/2020	**Refusal:**	10.7	**Total Depth:**	29.7

Run 1	Start Depth:	10.7'		**Run 2**	Start Depth:	14.7'
	End Depth:	14.7'			End Depth:	19.7'
	Recovery:	88%			Recovery:	97%
	RQD:	58			RQD:	90

Rock Core Photograph Log

Boring:	**B-24**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	151+50	**Offset:**	60L
		Date:	4/3/2020	**Refusal:**	10.7	**Total Depth:**	29.7

Run 3	Start Depth:	19.7'		**Run 4**	Start Depth:	24.7'
	End Depth:	24.7'			End Depth:	29.7'
	Recovery:	87%			Recovery:	100%
	RQD:	60			RQD:	40

BFW
BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

Rock Core Photograph Log

Boring:	**B-24**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00 **Station:** 151+50	**Offset:**	60L
		Date:	4/3/2020 **Refusal:** 10.7	**Total Depth:**	29.7

Run			Run	
	Start Depth:			Start Depth:
	End Depth:			End Depth:
	Recovery:			Recovery:
	RQD:			RQD:

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Fax: 270-443-1904

BORING NUMBER 25

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 3/22/20 **COMPLETED** 3/22/20
GROUND ELEVATION 881.614 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 151+50 **OFFSET** 130R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist					
2.5			SPT SS-1	67	2-3-3 (6)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, trace gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to hard, moist					
5.0			SPT SS-2	56	3-2-1 (3)		
			SPT SS-3	0	50/3"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

Refusal at 7.0 feet.
Bottom of borehole at 7.0 feet.

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BORING NUMBER 26

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/5/20 **COMPLETED** 4/6/20
GROUND ELEVATION 883.862 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 155+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	100	3-4-7 (11)		
5			SPT SS-2	89	5-6-8 (14)		
			SPT SS-3	100	6-8-10 (18)		
10			SPT SS-4	94	3-4-6 (10)		
			ST ST-1	100			96
15			SPT SS-5	78	3-5-5 (10)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (limestone)	SPT SS-6	100	4-4-4 (8)		
20							
			SPT SS-7	100	3-3-3 (6)		
25							
			SPT SS-8	78	1-2-4 (6)		
30		Bottom of borehole at 30.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 27

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/6/20 **COMPLETED** 4/6/20
GROUND ELEVATION 883.157 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 30.00 ft / Elev 853.16 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 158+50 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to very stiff, moist, with trace rock fragments (shale)	SPT SS-1	56	2-4-4 (8)		
5			SPT SS-2	72	5-8-13 (21)		
			SPT SS-3	61	14-13-9 (22)		
10			SPT SS-4	100	2-5-17 (22)		
			SPT SS-5	100	6-17-20 (37)		
15							
20			ST ST-1	100			
25			SPT SS-6	72	8-11-8 (19)		
30		▽	SPT SS-7	106	4-4-7 (11)		
		SHALE (Nolichucky Shale), dark browish-gray to gray, carbonaceous, highly weathered to greenish-gray, moist					
35			SPT SS-8	100	42-50/5"		

Bottom of borehole at 35.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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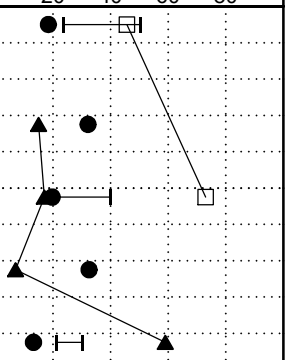
BORING NUMBER 28

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/6/20 **COMPLETED** 4/7/20
GROUND ELEVATION 880.033 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 870.03 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 160+50 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(SC) CLAYEY SAND (SC; A-7-6), with gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to hard, moist, with trace rock fragments (shale)	SPT SS-1	72	5-6-9 (15)		
5		(A-6)	SPT SS-2	89	2-6-11 (17)		
			SPT SS-3	78	7-4-3 (7)		
10		▽	SPT SS-4	89	22-27-32 (59)		
		LIMESTONE and SHALE (Nolichucky Shale), bluish-gray crystalline, limestone and dark browish-gray to gray, carbonaceous shale, highly weathered to greenish-gray, moist	RC Run1	100 (51)			
15			RC Run2	100 (40)			
20			RC Run3	100 (58)			
25			RC Run4	100 (40)			
30			RC Run5	100 (53)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Refusal at 11.6 feet.
Bottom of borehole at 34.5 feet.

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-28**
Site:	Blount Co.	Project No.:	20033	Elevation:	880.03 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 160+50		
Method:	CME 45, track-mounted				Offset 40L		
Driller:	F. Woodard	Date:	4/7/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 10'	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
									See Soil Log for Soil Descriptions **Soil Boring Terminated at** **Auger Refusal:** 11.6 feet bgs **Top of bedrock:** 11.6 feet bgs
					11.6	868.4			
Run 1 (2.9 feet)	Recovery: 34.8 inches / 99%	RQD: 51			12.5 13.5 14.5	865.5			11.6-13.5 - Coarse crystalline, gray limestone, massive 13.2-13.5 - very highly weathered 13.5-15.0 - Very fine grained, dark blue-gray limestone
Run 2 (5 feet)	Recovery: 60 inches / 100%	RQD: 40			15.5 16.5 17.5 18.5 19.5	860.5			15.0-15.5 - weathered buff shale 15.5-19.0 - Coarse crystalline, gray limestone, massive 18.2 - weathered buff shale, parting 19.0-21.4 - Very fine grained, dark blue-gray limestone
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 58			20.5 21.5 22.5 23.5 24.5	855.5			21.4-22.1 - Coarse crystalline, gray limestone, massive 22.1-25.9 - Very fine grained, dark blue-gray limestone
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 40			25.5 26.5 27.5 28.5 29.5	850.5			25.9-28.7 - Coarse crystalline, gray limestone, massive 27.6 - open fracture, weathered, stained 29.3-31.5 - Very fine grained, dark blue-gray limestone
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 53			30.5 31.5 32.5 33.5 34.5	845.5			31.5-32.7 - Coarse crystalline, gray limestone, massive 32.7-33.4 - Very fine grained, dark blue-gray limestone 33.4-34.5 - Coarse crystalline, gray limestone, massive

Nolichucky Shale (Cn) - Shale, carbonaceous, dark brown to gray, thin beds of shaly limestone and lenses of blue crystalline to granular limestone near top of unit; shale weathers to drab, olive-brown residuum with shale fragments

Rock Coring Terminated - 34.5 feet bgs / 845.53 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-28**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	160+50	**Offset:**	40L
		Date:	4/7/2020	**Refusal:**	11.6	**Total Depth:**	34.5

Run 1	Start Depth:	11.6'		**Run 2**	Start Depth:	14.5'
	End Depth:	14.5'			End Depth:	19.5'
	Recovery:	99%			Recovery:	100%
	RQD:	51			RQD:	40

Rock Core Photograph Log

Boring:	**B-28**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	160+50	**Offset:**	40L
		Date:	4/7/2020	**Refusal:**	11.6	**Total Depth:**	34.5

Run 3	Start Depth:	19.5'		**Run 4**	Start Depth:	24.5'
	End Depth:	24.5'			End Depth:	29.5'
	Recovery:	100%			Recovery:	100%
	RQD:	58			RQD:	40

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Rock Core Photograph Log

Boring:	**B-28**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	160+50	**Offset:**	40L
		Date:	4/7/2020	**Refusal:**	11.6	**Total Depth:**	34.5

Run 5	Start Depth: 29.5'			Start Depth:	
	End Depth: 34.5'			End Depth:	
	Recovery: 100%			Recovery:	
	RQD: 53			RQD:	

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BORING NUMBER 29

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/14/20 **COMPLETED** 4/14/20
GROUND ELEVATION 902.943 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 16.00 ft / Elev 886.94 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 164+00 **OFFSET** 40L
▼ **24hrs AFTER DRILLING** 9.00 ft / Elev 893.94 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
0	TOPSOIL (6 inches)	AU Bag-1		
	(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (shale)	SPT SS-1	100	3-4-6 (10)
5		SPT SS-2	100	4-3-6 (9)
		SPT SS-3	100	4-5-4 (9)
	(SM) SILTY SAND (SM; A-2-4), with gravel; brownish yellow (10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (shale)	AU Bag-2	100	3-3-4 (7)
10		SPT SS-4		
	SHALE (Nolichucky Shale), dark browish-gray to gray, carbonaceous, very highly weathered to greenish-gray, moist			
15	▽	SPT SS-5	67	18-17-8 (25)
		SPT SS-6	100	50/4"
20	SHALE (Nolichucky Shale), dark browish-gray to gray, carbonaceous, highly weathered to greenish-gray, moist	RC Run1	83 (60)	
25		RC Run2	83 (0)	
30		RC Run3	73 (25)	
35		RC Run4	100 (20)	

POCKET PEN. (tsf) | DRY UNIT WT. (pcf)

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Refusal at 18.9 feet.
Bottom of borehole at 38.9 feet.

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PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-29**
Site:	Blount Co.	Project No.:	20033	Elevation:	902.94 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 164		
Method:	CME 45, track-mounted				Offset 40L		
Driller:	F. Woodard	Date:	4/14/2020	Methods:	Soil: SPT	Rock:	N
Water Level:	Initial: 16'	24-hr:	9'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					18.9	884.0			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 18.9 feet bgs **Top of bedrock:** 18.9 feet bgs
Run 1 (5 feet)	Recovery: 50.4 inches / 84%	RQD: 60			19.9 20.9 21.9 22.9 23.9	879.0			18.9-20.7 - coarsely crystalline, blue-gray limestone 20.7-21.2 - buff to tan weathered shale 21.2-23.9 - coarsely crystalline, blue-gray limestone
Run 2 (5 feet)	Recovery: 50.4 inches / 84%	RQD: 0			24.9 25.9 26.9 27.9 28.9	874.0			23.9-29.4 - Buff to tan weathered, fractured shale and light gray limestone
Run 3 (5 feet)	Recovery: 44.4 inches / 74%	RQD: 25			29.9 30.9 31.9 32.9 33.9	869.0			29.4-30.0 - coarsely crystalline, blue-gray limestone 30.0-38.9 - ribboned blue-gray limestone and buff calcareous shale, highly fractured throughout, abundant calcite veins,
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 20			34.9 35.9 36.9 37.9 38.9	864.0			Nolichucky Shale (Cn) - Shale, carbonaceous, dark brown to gray, thin beds of shaly limestone and lenses of blue crystalline to granular limestone near top of unit; weathers to drab, olive-brown residuum with shale fragments

Rock Coring Terminated - 38.9 feet bgs / 864.04 feet asl

Rock Core Photograph Log

Boring:	**B-29**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00	**Station:** 164	**Offset:** 40L
		Date:	4/14/2020	**Refusal:** 18.9	**Total Depth:** 38.9

Run 1	Start Depth:	18.9'		**Run 2**	Start Depth: 23.9'
	End Depth:	23.9'			End Depth: 28.9'
	Recovery:	84%			Recovery: 84%
	RQD:	60			RQD: 0

Rock Core Photograph Log

Boring:	**B-29**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	164	**Offset:**	40L
		Date:	4/14/2020	**Refusal:**	18.9	**Total Depth:**	38.9

Run 3	Start Depth:	28.9'		**Run 4**	Start Depth:	33.9'
	End Depth:	33.9'			End Depth:	38.9'
	Recovery:	74%			Recovery:	100%
	RQD:	25			RQD:	20

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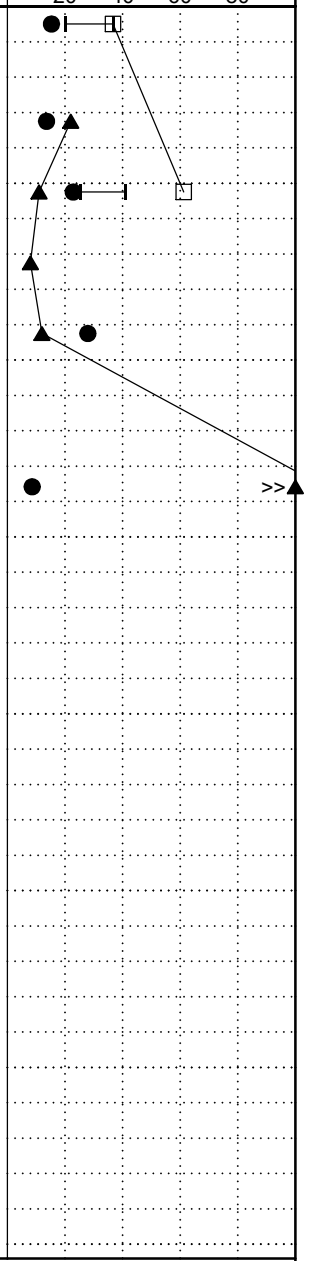
BORING NUMBER 30

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/25/20 **COMPLETED** 7/25/20
GROUND ELEVATION 896.029 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 8.50 ft / Elev 887.53 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 166+00 **OFFSET** 40L
▼ **AFTER DRILLING** 9.00 ft / Elev 887.03 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0	TOPSOIL (6 inches)	AU Bag-1				
	(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (shale)	SPT SS-1	61	10-12-10 (22)		
5		SPT SS-2	78	3-5-6 (11)		
		SPT SS-3	61	4-5-3 (8)		
10		SPT SS-4	94	0-5-7 (12)		
	weathered shale	SPT SS-5	100	50/2"		
15	SHALE (Nolichucky Shale), dark browish-gray to gray, carbonaceous, very highly weathered to greenish-gray, moist	RC R-1	100			
		RC R-2	100			
20						
		RC R-3	100			
25						
		RC R-4	97			
30						
		RC R-5	100			
35						



Refusal at 13.7 feet.
Bottom of borehole at 35.4 feet.

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PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-30**
Site:	Blount Co.	Project No.:	20033	Elevation:	896.03 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 166		
Method:	CME 45, track-mounted				Offset 40L		
Driller:	F. Woodard	Date:	7/25/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 8.5'	24-hr:	9'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					13.7	882.3			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 13.7 feet bgs **Top of bedrock:** 13.7 feet bgs
1	20.4 / 102%	RQD: 55			14.4 15.4	880.6			13.7-35.4 - Dark gray calcareous shale interbedded with light gray limestone
Run 2 (5 feet)	Recovery: 60 inches / 100%	RQD: 55			16.4 17.4 18.4 19.4 20.4	875.6			19.0 - open fracture, weathered, stained
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 28			21.4 22.4 23.4 24.4 25.4	870.6			22.5 - open fracture, weathered, stained 22.6-22.8 - blue-gray, coarse limestone 23.0-23.8 - highly fractured, weathered
Run 4 (5 feet)	Recovery: 57.6 inches / 96%	RQD: 68			26.4 27.4 28.4 29.4 30.4	865.6			28.6-29.4 - highly fractured, weathered 30.3-30.6 - open fracture, weathered, stained
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 15			31.4 32.4 33.4 34.4 35.4	860.6			32.0 - open fracture, weathered, stained

Nolichucky Shale (Cn) - Shale, carbonaceous, dark brown to gray, thin beds of shaly limestone and lenses of blue crystalline to granular limestone near top of unit; shale weathers to drab, olive-brown residuum with shale fragments

Rock Coring Terminated - 35.4 feet bgs / 860.63 feet asl

Rock Core Photograph Log

Boring:	**B-30**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00	**Station:** 166	**Offset:** 40L
		Date:	7/25/2020	**Refusal:** 13.7	**Total Depth:** 35.4

Run 1	Start Depth:	13.7'		**Run 2**	Start Depth: 15.4'
	End Depth:	15.4'			End Depth: 20.4'
	Recovery:	102%			Recovery: 100%
	RQD:	55			RQD: 55

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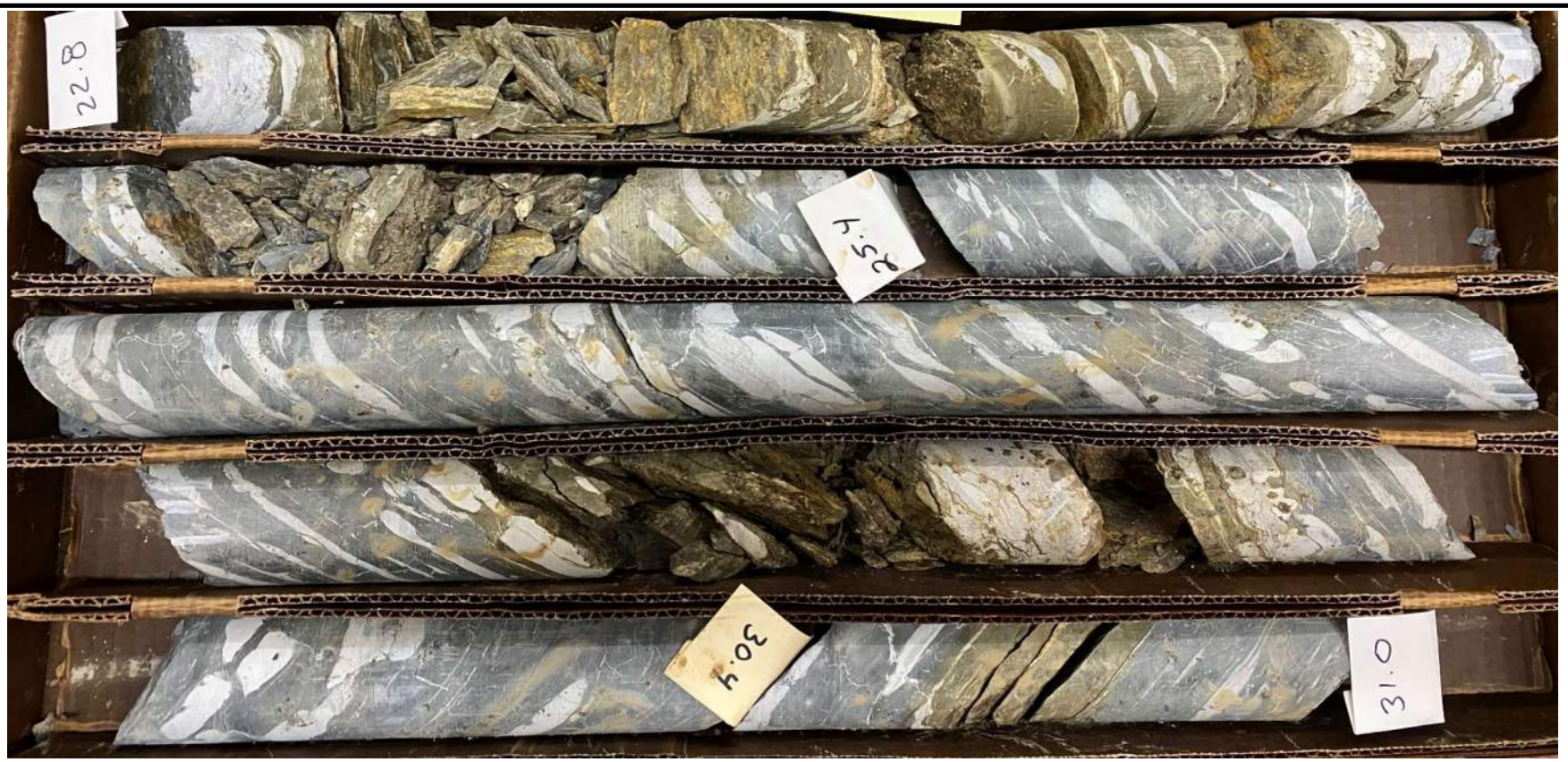
Rock Core Photograph Log

Boring:	**B-30**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	166	**Offset:**	40L
		Date:	7/25/2020	**Refusal:**	13.7	**Total Depth:**	35.4



Run 3	Start Depth:	20.4'		**Run 4**	Start Depth:	25.4'
	End Depth:	25.4'			End Depth:	30.4'
	Recovery:	100%			Recovery:	96%
	RQD:	28			RQD:	68

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Rock Core Photograph Log

Boring:	**B-30**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	166	**Offset:**	40L
		Date:	7/25/2020	**Refusal:**	13.7	**Total Depth:**	35.4

Run 5	Start Depth: 30.4'		**Run**	Start Depth:	
	End Depth: 21.7'			End Depth:	
	Recovery: 100%			Recovery:	
	RQD: 15			RQD:	

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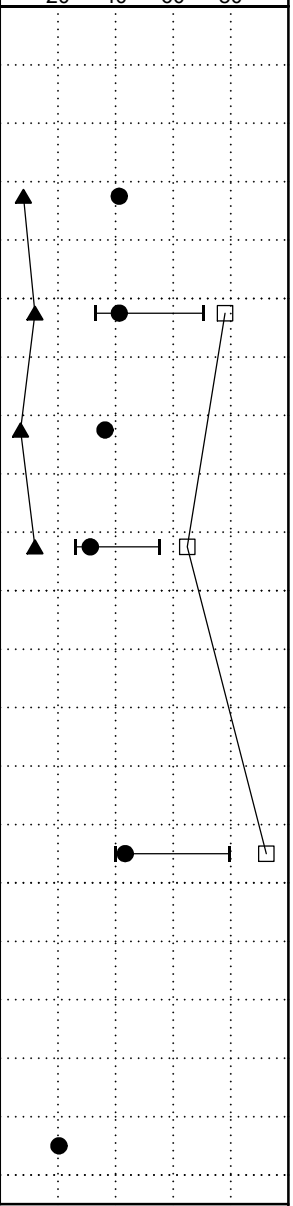
BORING NUMBER 31

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/15/20 **COMPLETED** 4/15/20
GROUND ELEVATION 930.842 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 166+00 **OFFSET** 80R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (shale)					
			SPT SS-1	67	1-4-4 (8)		
5			SPT SS-2	100	3-5-7 (12)		
			SPT SS-3	100	12-2-5 (7)		
10			SPT SS-4	100	4-5-7 (12)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), moist					
15			ST ST-1	79			
20			ST ST-2	100			

Bottom of borehole at 20.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 32

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/26/20 **COMPLETED** 7/26/20
GROUND ELEVATION 931.991 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 169+00 **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff to hard, moist, with trace rock fragments (shale)	SPT SS-1	89	11-24-28 (52)		
5			SPT SS-2	100	15-35-47 (82)		
			SPT SS-3	94	11-20-15 (35)		
10			SPT SS-4	89	8-11-15 (26)		
			AU Bag-2				
15			SPT SS-5	78	9-8-6 (14)		
		weathered shale, very stiff	SPT SS-6	61	20-30-18 (48)		
20							
			SPT SS-7	67	9-20-13 (33)		
25							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 28.0 feet.
Bottom of borehole at 28.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 33

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/26/20 **COMPLETED** 7/26/20
GROUND ELEVATION 963.702 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 172+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		TOPSOIL (6 inches)						
		(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), moist, with trace rock fragments (shale)	AU Bag-1					
1								
2								

Refusal at 2.5 feet.
Bottom of borehole at 2.5 feet.

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Fax: 270-443-1904

BORING NUMBER 34

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/26/20 **COMPLETED** 7/26/20
GROUND ELEVATION 973.056 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 174+00 **OFFSET** 125R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), hard, moist, with trace rock fragments (shale)					
2.5			SPT SS-1	78	18-30-40 (70)		
5.0			SPT SS-2	33	15-45-20 (65)		
			SPT SS-3	0	50/2"		
7.5							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 7.5 feet.
Bottom of borehole at 7.5 feet.

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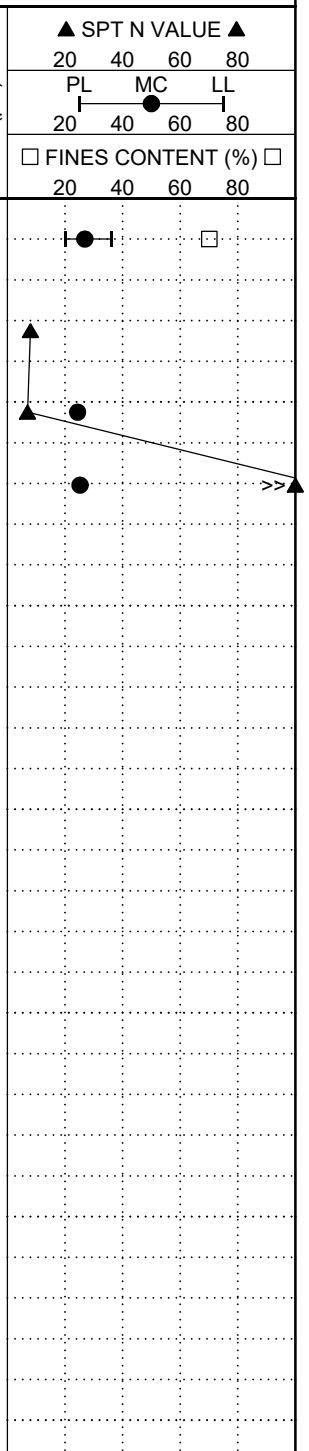
BORING NUMBER 35

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/26/20 **COMPLETED** 7/26/20
GROUND ELEVATION 931.085 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 4.00 ft / Elev 927.09 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 175+50 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6) to ELASTIC SILT (ML; A-7-5), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (shale)	SPT SS-1	100	3-4-4 (8)		
5		▽	SPT SS-2	44	2-3-4 (7)		
			SPT SS-3	85	0-30-50/1"		
10		SHALE (Nolichucky Shale), dark browish-gray to gray, carbonaceous, very highly weathered to greenish-gray, moist	RC R-1	97 (87)			
			RC R-2	98 (78)			
15			RC R-3	100 (92)			
20			RC R-4	100 (83)			
25			RC R-5	100 (62)			
30							



Refusal at 7.6 feet.
Bottom of borehole at 30.8 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-35**
Site:	Blount Co.	Project No.:	20033	Elevation:	931.09 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 175+50		
Method:	CME 45, track-mounted				Offset 40L		
Driller:	F. Woodard	Date:	7/26/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 4'	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					7.6	923.5			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 7.6 feet bgs **Top of bedrock:** 7.6 feet bgs
Run 1 (3.2 feet)	Recovery: 37.2 inches / 98%	RQD: 87			7.8 8.8 9.8 10.8	920.3			7.6-30.8 - Dark gray calcareous shale interbedded with light gray limestone 8.3 - open fracture, weathered, stained 9.0 - open fracture, weathered, stained
Run 2 (5 feet)	Recovery: 58.8 inches / 98%	RQD: 78			11.8 12.8 13.8 14.8 15.8	915.3			11.3 - open fracture, weathered, stained 14.0 - open fracture, weathered, stained, steeply dipping 14.8 - open fracture, weathered, stained
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 92			16.8 17.8 18.8 19.8 20.8	910.3			15.8-16.8 - blue-gray, coarse limestone
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 83			21.8 22.8 23.8 24.8 25.8	905.3			
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 62			26.8 27.8 28.8 29.8 30.8	900.3			Nolichucky Shale (Cn) - Shale, carbonaceous, dark brown to gray, thin beds of shaly limestone and lenses of blue crystalline to granular limestone near top of unit; shale weathers to drab, olive-brown residuum with shale fragments

Rock Coring Terminated - 30.8 feet bgs / 900.29 feet asl

Rock Core Photograph Log

Boring:	**B-35**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	175+50	**Offset:**	40L
		Date:	7/26/2020	**Refusal:**	7.6	**Total Depth:**	30.8

Run 1	Start Depth:	7.6'	**Run 2**	Start Depth:	10.8'
	End Depth:	10.8'		End Depth:	15.8'
	Recovery:	98%		Recovery:	98%
	RQD:	87		RQD:	78

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Rock Core Photograph Log

Boring:	**B-35**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	175+50	**Offset:**	40L
		Date:	7/26/2020	**Refusal:**	7.6	**Total Depth:**	30.8

Run 3	Start Depth:	15.8'		**Run 4**	Start Depth: 20.8'
	End Depth:	20.8'			End Depth: 25.8'
	Recovery:	100%			Recovery: 100%
	RQD:	92			RQD: 83

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Rock Core Photograph Log

Boring:	**B-35**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	175+50	**Offset:**	40L
		Date:	7/26/2020	**Refusal:**	7.6	**Total Depth:**	30.8

Run			Run	
	Start Depth: 25.8'			Start Depth:
	End Depth: 30.8'			End Depth:
	Recovery: 100%			Recovery:
	RQD: 62			RQD:

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Fax: 270-443-1904

BORING NUMBER 36

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/15/20 **COMPLETED** 7/15/20
GROUND ELEVATION 994.307 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 177+00 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		TOPSOIL (7 inches) - ROCK (LIMESTONE) AT SURFACE						

Refusal at 0.6 feet.
Bottom of borehole at 0.6 feet.

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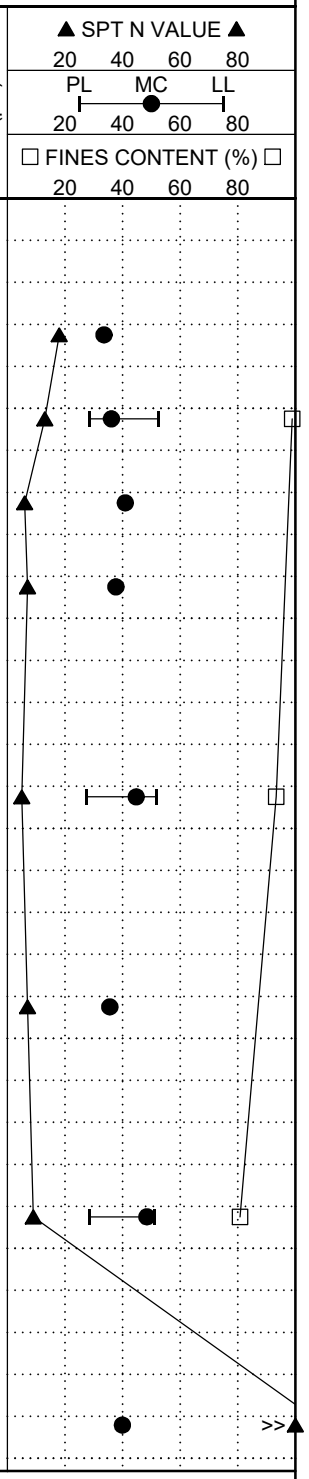
BORING NUMBER 37

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/16/20 **COMPLETED** 7/16/20
GROUND ELEVATION 1042.726 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 30.00 ft / Elev 1012.73 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 178+50 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (limestone)					
			SPT SS-1	89	5-8-10 (18)		
5			SPT SS-2	100	3-5-8 (13)		
			SPT SS-3	100	3-3-3 (6)		
10			SPT SS-4	100	3-3-4 (7)		
15			SPT SS-5	100	3-2-3 (5)		
20			SPT SS-6	94	3-3-4 (7)		
25			SPT SS-7	100	6-7-2 (9)		
30		▽	SPT SS-8	100	1-3-50/5"		



Refusal at 30.3 feet.
Bottom of borehole at 30.3 feet.

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BORING NUMBER 38

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/17/20 **COMPLETED** 7/17/20
GROUND ELEVATION 1054.485 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 30.00 ft / Elev 1024.49 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 179+00 **OFFSET** 50R
24hrs AFTER DRILLING 25.00 ft / Elev 1029.49 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
0	TOPSOIL (6 inches)			
	(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (limestone)	SPT SS-1	72	4-9-12 (21)
		SPT SS-2	94	3-6-8 (14)
		SPT SS-3	100	2-4-5 (9)
10		SPT SS-4	100	2-3-4 (7)
		ST ST-1	75	
20	wet, soft to very soft	SPT SS-5	100	1-1-1 (2)
		SPT SS-6	100	0-0-2 (2)
30		SPT SS-7	100	1-1-2 (3)
		SPT SS-8	100	3-6-3 (9)
	LIMESTONE (Maynardville Limestone), dark bluish-gray, massive, ribboned to mottled	RC R-1	16 (14)	
40		RC R-2	32 (0)	
		RC R-3	68 (33)	
50		RC R-4	100 (57)	
		RC R-5	100 (52)	
60				

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Refusal at 36.0 feet.
Bottom of borehole at 60.2 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-38**
Site:	Blount Co.	Project No.:	20033	Elevation:	1054.49 feet asl		
Logged by:	B. Hooks	Date:	7/27/2020	Location:	Station 179		
Method:	CME 45, track-mounted				Offset 50R		
Driller:	F. Woodard	Date:	7/17/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 30'	24-hr:	25'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					36	1018.5			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 36 feet bgs **Top of bedrock:** 36 feet bgs
Run 1 (4.2 feet)	Recovery: 8 inches / 16%	RQD: 14			37.2 38.2 39.2 40.2	1014.3			36.0-60.2 - Light to medium gray, dolomite and limestone with banded limestone with dark gray dolomite, seperation along bedding planes common
Run 2 (5 feet)	Recovery: 19 inches / 32%	RQD: 0			41.2 42.2 43.2 44.2 45.2	1009.3			40.2-49.4 - highly fractured and weathered, stained
Run 3 (5 feet)	Recovery: 41 inches / 68%	RQD: 33			46.2 47.2 48.2 49.2 50.2	1004.3			
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 57			51.2 52.2 53.2 54.2 55.2	999.3			38.7-39.3 - dipping, open fracture, weathered, stained
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 52			56.2 57.2 58.2 59.2 60.2	994.3			

Maynardsville Limestone (Omn) - Limestone, lower part consists of massive ribboned or mottled blue limestone, middle part consists of thinly laminated dolomite and bluish limestone, and upper part consists of thick bedded, chert-free dolomite.

Rock Coring Terminated - 60.2 feet bgs / 994.29 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-38**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	179	**Offset:**	50R
		Date:	7/17/2020	**Refusal:**	36.0	**Total Depth:**	60.2

Run 1	Start Depth:	36'	**Run 2**	Start Depth:	40.2'	**Run 3**	Start Depth:	45.2'
	End Depth:	40.2'		End Depth:	45.2'		End Depth:	50.2'
	Recovery:	16%		Recovery:	32%		Recovery:	68%
	RQD:	14		RQD:	0		RQD:	33

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Rock Core Photograph Log

Boring:	**B-38**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	179	**Offset:**	50R
		Date:	7/17/2020	**Refusal:**	36.0	**Total Depth:**	60.2

Run 4	Start Depth:	50.2'		**Run 5**	Start Depth:	55.2'
	End Depth:	55.2'			End Depth:	60.2'
	Recovery:	100%			Recovery:	100%
	RQD:	57			RQD:	52

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BORING NUMBER 39

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/15/20 **COMPLETED** 7/15/20
GROUND ELEVATION 1069.456 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 53.50 ft / Elev 1015.96 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 180+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very soft to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	67	7-7-9 (16)		
			SPT SS-2	89	3-8-9 (17)		
10			SPT SS-3	78	5-7-10 (17)		
			SPT SS-4	78	2-2-3 (5)		
			AU Bag-2				
			SPT SS-5	100	4-1-1 (2)		
20			SPT SS-6	100	2-1-2 (3)		
			ST ST-1	100			
30			SPT SS-7	100	2-3-3 (6)		
			SPT SS-8	100	1-1-2 (3)		
40			SPT SS-9	78	1-6-5 (11)		
			SPT SS-10	100	1-2-8 (10)		
50			SPT SS-11	94	1-1-2 (3)		
		▽	SPT SS-12	100	3-50/4"		
		DOLOMITE (Copper Ridge Dolomite), dark bluish-gray, crystalline to granular	RC R-1	79 (71)			
60			RC R-2	32 (12)			
			RC R-3	47 (8)			
70			RC R-4	80 (23)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 54.5 feet.
Bottom of borehole at 70.7 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-39**
Site:	Blount Co.	Project No.:	20033	Elevation:	1069.46 feet asl		
Logged by:	B. Hooks	Date:	7/27/2020	Location:	Station 180		
Method:	CME 45, track-mounted				Offset 60R		
Driller:	F. Woodard	Date:	7/15/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 53.5'	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
									See Soil Log for Soil Descriptions
					54.5	1015.0			**Soil Boring Terminated at Auger Refusal:** 54.5 feet bgs **Top of bedrock:** 54.5 feet bgs
1 / 1.2'	11 / 79%	71			55.7	1013.8			38.7-39.3 - Blue-gray to light gray dolomite to dolomitic limestone, fine grained to medium grained
Run 2 (5 feet)	Recovery: 19 inches / 32%	RQD: 12			56.7 57.7 58.7 59.7 60.7	1008.8			55.7-55.9 - Light brown clay seam 56.4-65.7 - Highly fractured, weathered
Run 3 (5 feet)	Recovery: 29 inches / 48%	RQD: 8			61.7 62.7 63.7 64.7 65.7	1003.8			
Run 4 (5 feet)	Recovery: 48 inches / 80%	RQD: 23			66.7 67.7 68.7 69.7 70.7	998.8			65.7 - Reddish-brown clay seam 65.7-70.1 - Tan to buff shale, split along bedding planes 70.1-70.7 - Blue-gray to light gray dolomite to dolomitic limestone, fine grained to medium grained

Maynardsville Limestone (Omn) - Limestone, lower part consists of massive ribboned or mottled blue limestone, middle part consists of thinly laminated dolomite and bluish limestone, and upper part consists of thick bedded, chert-free dolomite.

Rock Coring Terminated - 70.7 feet bgs / 998.76 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-39**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	180	**Offset:**	60R
		Date:	7/15/2020	**Refusal:**	54.5	**Total Depth:**	70.7

Run 1	Start:	54.5'	**Run 2**	Start:	55.7'	**Run 3**	Start:	60.7'	**Run 4**	Start:	65.7'
	End:	55.7'		End:	60.7'		End:	65.7'		End:	70.7'
	Recovery:	79%		Recovery:	32%		Recovery:	48%		Recovery:	80%
	RQD:	71		RQD:	12		RQD:	8		RQD:	23

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BORING NUMBER 40

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/13/20 **COMPLETED** 7/13/20
GROUND ELEVATION 1067.964 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 181+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	5-7-10 (17)		
5			SPT SS-2	94	4-5-7 (12)		
			SPT SS-3	94	2-5-6 (11)		
10			SPT SS-4	100	2-4-5 (9)		
15			SPT SS-5	78	3-4-4 (8)		
20			SPT SS-6	67	2-1-4 (5)		
		DOLOMITE (Copper Ridge Dolomite), dark bluish-gray, crystalline to granular	RC R-1	52	(38)		
25			RC R-2	47	(18)		
30			RC R-3	88	(55)		
35			RC R-4	92	(45)		
40			RC R-5	92	(72)		
45							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 22.1 feet.
Bottom of borehole at 46.1 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:34 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-40**
Site:	Blount Co.	Project No.:	20033	Elevation:	1067.96 feet asl		
Logged by:	B. Hooks	Date:	7/27/2020	Location:	Station 181		
Method:	CME 45, track-mounted				Offset 60R		
Driller:	F. Woodard	Date:	7/13/2020	Methods:	Soil: SPT	Rock:	N
Water Level:	Initial: n/a	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					22.1	1045.9			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at** **Auger Refusal:** 22.1 feet bgs **Top of bedrock:** 22.1 feet bgs
Run 1 (4 feet)	Recovery: 25 inches / 52%	RQD: 38			23.1 24.1 25.1 26.1	1041.9			22.1-46.1 - Light to medium gray, massive dolomite 22.9-23.3 - Reddish-brown clay seam
Run 2 (5 feet)	Recovery: 28 inches / 47%	RQD: 18			27.1 28.1 29.1 30.1 31.1	1036.9			27.1-27.4 - Vertical open fracture, weathered, clay lined 30.7-31.1 - Vertical closed fracture
Run 3 (5 feet)	Recovery: 53 inches / 88%	RQD: 55			32.1 33.1 34.1 35.1 36.1	1031.9			32.0 - Open fracture, weathered, clay filled 33.3 - Open fracture, weathered, clay filled
Run 4 (5 feet)	Recovery: 55 inches / 92%	RQD: 45			37.1 38.1 39.1 40.1 41.1	1026.9			36.8-37.2 - Closed fracture/calcite filled vein
Run 5 (5 feet)	Recovery: 55 inches / 92%	RQD: 72			42.1 43.1 44.1 45.1 46.1	1021.9			41.8 - Open fracture, weathered, clay filled 42.1 - Open fracture, weathered, clay filled 42.8 - Closed fracture, weathered 43.8- Closed fracture, weathered

Copper Ridge Dolomite (Ccr) - Dolomite, dark bluish-gray, crystalline and granular, thick bedded, asphaltic odor; dark-colored, iron-stained, coarsely oolitic chert present

Rock Coring Terminated - 46.1 feet bgs / 1021.86 feet asl

Remarks:

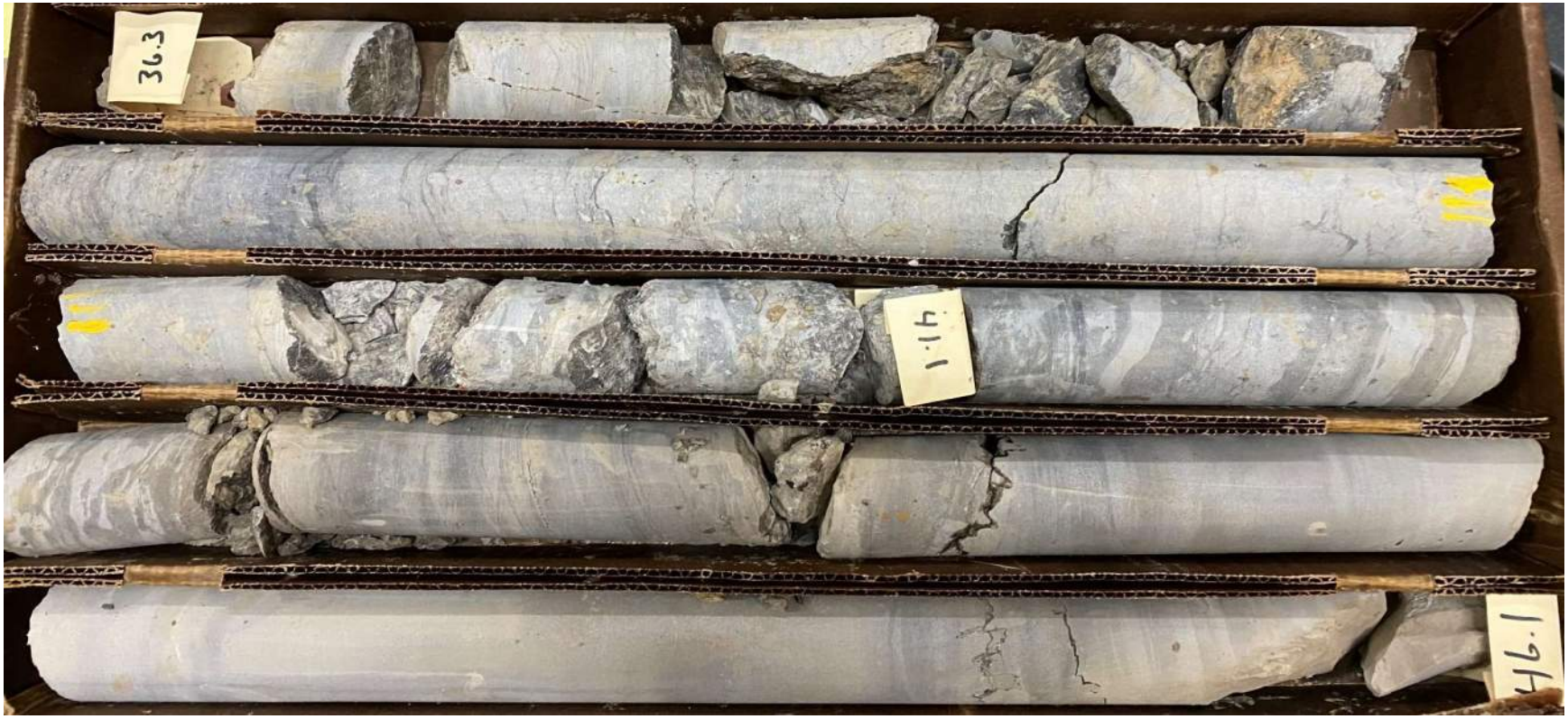
Rock Core Photograph Log

Boring:	**B-40**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	181	**Offset:**	60R
		Date:	7/13/2020	**Refusal:**	22.1	**Total Depth:**	46.1

Run 1	Start Depth:	22.1'	**Run 2**	Start Depth:	26.1'
	End Depth:	26.1'		End Depth:	31.1'
	Recovery:	52%		Recovery:	47%
	RQD:	38		RQD:	18

Rock Core Photograph Log

Boring:	**B-40**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	181	**Offset:**	60R
		Date:	7/13/2020	**Refusal:**	22.1	**Total Depth:**	46.1



Run 3	Start Depth:	31.1'	**Run 4**	Start Depth:	36.1'	**Run 5**	Start Depth:	41.1'
	End Depth:	36.1'		End Depth:	41.1'		End Depth:	46.1'
	Recovery:	88%		Recovery:	92%		Recovery:	92%
	RQD:	55		RQD:	45		RQD:	72

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BORING NUMBER 41

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/18/20 **COMPLETED** 7/18/20
GROUND ELEVATION 1063.395 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 181+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	5-12-18 (30)		
5			SPT SS-2	100	5-13-18 (31)		
			SPT SS-3	89	6-18-23 (41)		
10			SPT SS-4	100	4-10-12 (22)		
15			SPT SS-5	100	3-3-4 (7)		
20			AU Bag-2				
25			SPT SS-7	100	4-3-2 (5)		
30			SPT SS-8	94	2-2-2 (4)		
35			SPT SS-9	39	2-3-3 (6)		
40			SPT SS-10	44	1-2-2 (4)		

Bottom of borehole at 40.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 42

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/18/20 **COMPLETED** 7/18/20
GROUND ELEVATION 1059.774 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 181+00 **OFFSET** 120L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff to very stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-1	78	9-18-18 (36)		
5			SPT SS-2	89	5-11-17 (28)		
			SPT SS-3	100	5-10-15 (25)		
			ST ST-1	50	6-9-14 (23)		
10			SPT SS-4	100			
			SPT SS-5	100	2-9-9 (18)		
15							
			SPT SS-6	94	3-10-11 (21)		
20							
		soft	SPT SS-7	100	2-1-2 (3)		
25							
			ST ST-2	58			
30			SPT SS-8	100	1-1-2 (3)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 32.0 feet.

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BORING NUMBER 43

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/13/00 **COMPLETED** 7/13/20
GROUND ELEVATION 1066.269 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 183+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	67	5-11-14 (25)		
			SPT SS-2	72	6-12-15 (27)		
			SPT SS-3	67	5-10-18 (28)		
10			SPT SS-4	89	3-7-10 (17)		
			SPT SS-5	100	3-5-9 (14)		
20			SPT SS-6	72	3-5-9 (14)		
			SPT SS-7	100	3-4-6 (10)		
30			SPT SS-8	61	4-5-6 (11)		
			SPT SS-9	100	2-3-4 (7)		
40			SPT SS-10	89	3-4-5 (9)		
			SPT SS-11	33	8-8-11 (19)		
50			SPT SS-12	100	2-4-4 (8)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 58.7 feet.
Bottom of borehole at 58.7 feet.

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BORING NUMBER 44

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/11/20 **COMPLETED** 7/11/20
GROUND ELEVATION 1059.671 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 184+00 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	39	6-20-18 (38)		
5			SPT SS-2	67	5-10-15 (25)		
			SPT SS-3	72	5-11-16 (27)		
10			SPT SS-4	100	5-10-15 (25)		
15			SPT SS-5	78	8-10-10 (20)		
20			SPT SS-6	100	3-7-9 (16)		
25			SPT SS-7	100	3-4-6 (10)		
30			SPT SS-8	100	2-3-5 (8)		
35			SPT SS-9	44	2-2-5 (7)		
40			SPT SS-10	91	1-3-2/0"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

Bottom of borehole at 40.0 feet.

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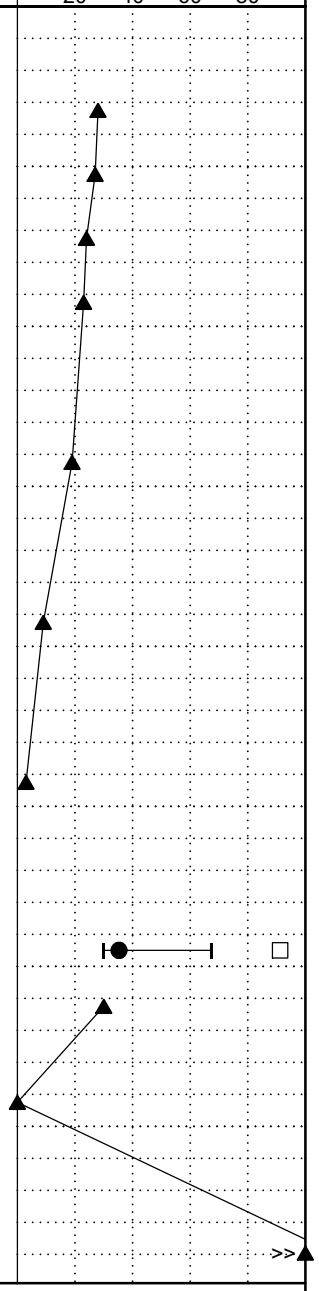
BORING NUMBER 45

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/11/20 **COMPLETED** 7/11/20
GROUND ELEVATION 1059.547 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 184+00 **OFFSET** 120R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL), strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	72	8-14-14 (28)		
5			SPT SS-2	89	5-11-16 (27)		
			SPT SS-3	100	5-9-15 (24)		
10			SPT SS-4	100	6-10-13 (23)		
15			SPT SS-5	100	4-9-10 (19)		
20			SPT SS-6	94	3-3-6 (9)		
25			SPT SS-7	67	3-2-1 (3)		
30			ST ST-1	50			
			SPT SS-8	72	2-21-9 (30)		
35		very soft	SPT SS-9	11	0-0-0 (0)		
			SPT SS-10	64	2-50/5"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Refusal at 39.9 feet.
Bottom of borehole at 39.9 feet.

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BORING NUMBER 46

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/15/20 **COMPLETED** 4/16/20
GROUND ELEVATION 1066.477 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 38.50 ft / Elev 1027.98 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 186+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
0	TOPSOIL (6 inches)	AU Bag-1		
	(CL) LOW PLASTICITY CLAY (CL; A-7-6) to HIGH PLASTICITY CLAY (A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist	SPT SS-1	89	3-6-3 (9)
5		SPT SS-2	100	6-9-12 (21)
	(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-2	100	6-9-13 (22)
		SPT SS-3		
10		SPT SS-4	89	4-7-10 (17)
		SPT SS-4	100	10-12-13 (25)
15	(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist	ST ST-1	75	3-5-7 (12)
20		SPT SS-5	78	9-8-10 (18)
25		SPT SS-6	100	3-5-6 (11)
		AU MC-2		
30	(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-7	100	3-4-7 (11)
35	with gravel (A-7-6)	SPT SS-8	100	9-4-5 (9)
	▽ wet			
40		ST ST-2	92	

Bottom of borehole at 40.5 feet.

POCKET PEN. (tsf) | DRY UNIT WT. (pcf)

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH B H PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
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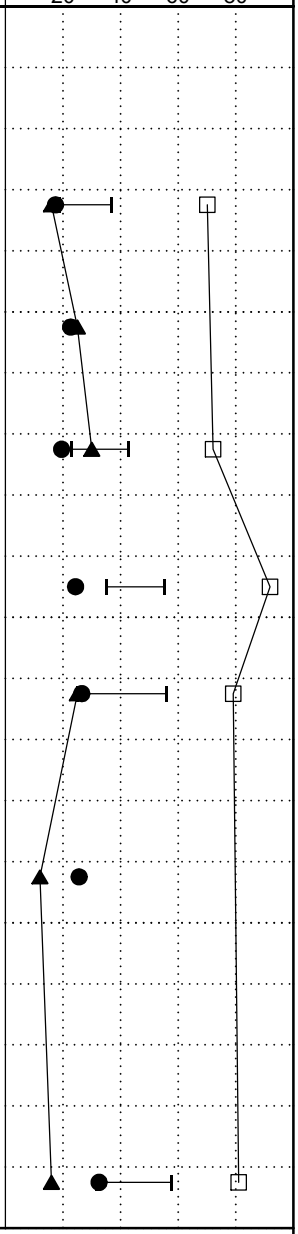
BORING NUMBER 47

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/16/20 **COMPLETED** 4/16/20
GROUND ELEVATION 1066.279 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 186+00 **OFFSET** 120L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand and gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	67	3-6-10 (16)		
5			SPT SS-2	89	8-10-15 (25)		
		(A-7-6)	SPT SS-3	89	7-12-18 (30)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist	ST ST-1	54			
10		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-4	100	10-12-13 (25)		
15			SPT SS-5	100	3-5-7 (12)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)					
20			SPT SS-6	100	4-9-7 (16)		

Bottom of borehole at 20.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 48

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/16/20 **COMPLETED** 4/16/20
GROUND ELEVATION 1065.158 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 25.50 ft / Elev 1039.66 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 188+00 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), very soft to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	56	0-1-1 (2)		
5			SPT SS-2	72	3-2-4 (6)		
		trace gravel	SPT SS-3	100	7-8-8 (16)		
10			ST ST-1	100			
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-4	100	3-4-7 (11)		
15							
		(MH) ELASTIC SILT (MH; A-7-5), trace sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-5	100	2-3-3 (6)		
20							
			ST ST-2	100			
25		▽ (CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), meidum stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-6	100	2-2-3 (5)		
30							
			SPT SS-7	28	9-5-8 (13)		
35							
			SPT SS-8	100	5-5-6 (11)		
40		Bottom of borehole at 40.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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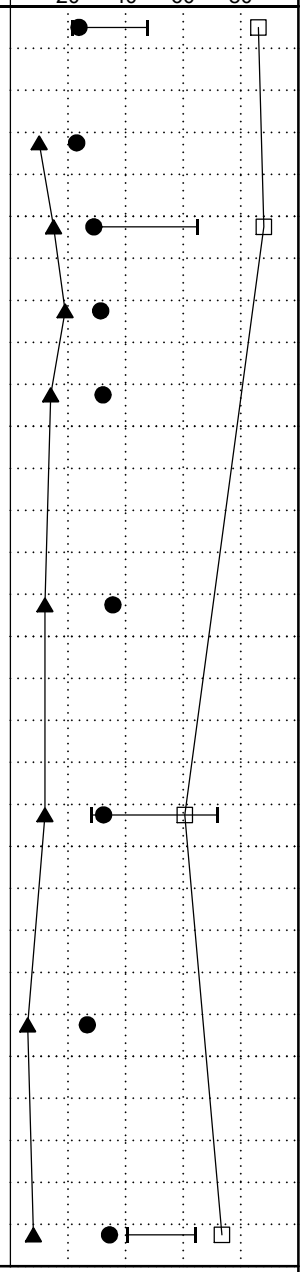
BORING NUMBER 49

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/17/20 **COMPLETED** 4/17/20
GROUND ELEVATION 1056.813 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 18.50 ft / Elev 1038.31 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 189+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	1-4-6 (10)		
5			SPT SS-2	100	4-6-9 (15)		
			SPT SS-3	100	6-8-11 (19)		
10			SPT SS-4	100	3-6-8 (14)		
			SPT SS-5	100	3-5-7 (12)		
15							
		▽ with gravel, wet	SPT SS-6	100	7-5-7 (12)		
20		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, wet, with trace rock fragments (dolomite, chert)					
			SPT SS-7	94	4-3-3 (6)		
25							
			SPT SS-8	100	3-3-5 (8)		
30		Bottom of borehole at 30.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 50

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/18/20 **COMPLETED** 4/18/20
GROUND ELEVATION 1061.565 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 40.00 ft / Elev 1021.57 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 190+00 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0	TOPSOIL (12 inches)	AU Bag-1				
	(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	72	4-6-7 (13)		
5	(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	89	11-8-10 (18)		
		SPT SS-3	78	8-10-14 (24)		
10	(A-7-6)	SPT SS-4	100	4-7-8 (15)		
15		ST ST-1				86
20		SPT SS-5	100	3-2-5 (7)		
25		SPT SS-6	100	2-3-4 (7)		
30		ST ST-2	100			
35		SPT SS-7	100	3-2-2 (4)		
40	wet ▽	SPT SS-8	100	1-2-2 (4)		

Bottom of borehole at 40.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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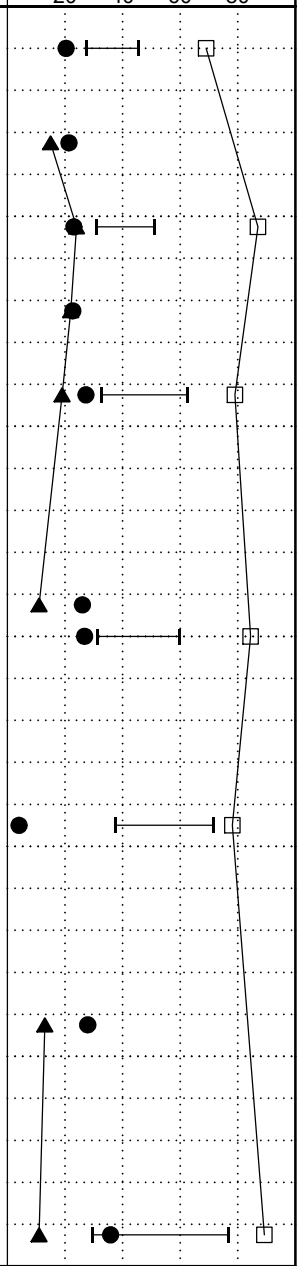
BORING NUMBER 51

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/17/20 **COMPLETED** 4/17/20
GROUND ELEVATION 1059.739 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 192+00 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	3-6-9 (15)		
5			SPT SS-2	100	6-9-15 (24)		
			SPT SS-3	100	8-10-12 (22)		
10			SPT SS-4	78	3-7-12 (19)		
15			SPT SS-5	78	2-5-6 (11)		
			AU Bag-2				
20			ST ST-1	100			
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist	SPT SS-6	28	3-7-6 (13)		
25							
30			SPT SS-7	72	4-5-6 (11)		

Bottom of borehole at 30.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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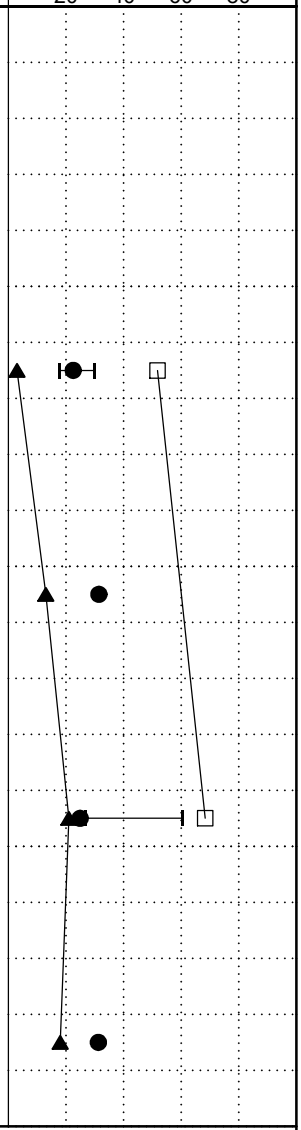
BORING NUMBER 52

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/19/20 **COMPLETED** 4/19/20
GROUND ELEVATION 1033.666 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 193+50 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft, moist					
2.5			SPT SS-1	39	2-1-2 (3)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
5.0			SPT SS-2	78	5-5-8 (13)		
7.5			SPT SS-3	100	9-9-12 (21)		
			SPT SS-4	100	5-8-10 (18)		
10.0		Bottom of borehole at 10.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 53

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/19/20 **COMPLETED** 4/19/20
GROUND ELEVATION 1033.338 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 195+50 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		FILL (local, man-made dike for pond), low plasticity clay, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very soft to medium stiff, moist, with trace rock fragments (dolomite, chert)					
2.5			SPT SS-1	28	2-1-2 (3)		
5.0			SPT SS-2	22	0-0-2 (2)		
7.5			SPT SS-3	39	0-2-3 (5)		
10.0			SPT SS-4	22	0-0-1 (1)		
12.5							
		(CH) HIGH PLASTICITY CLAY (CH), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), moist					
15.0			ST ST-1	100			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 15.5 feet.

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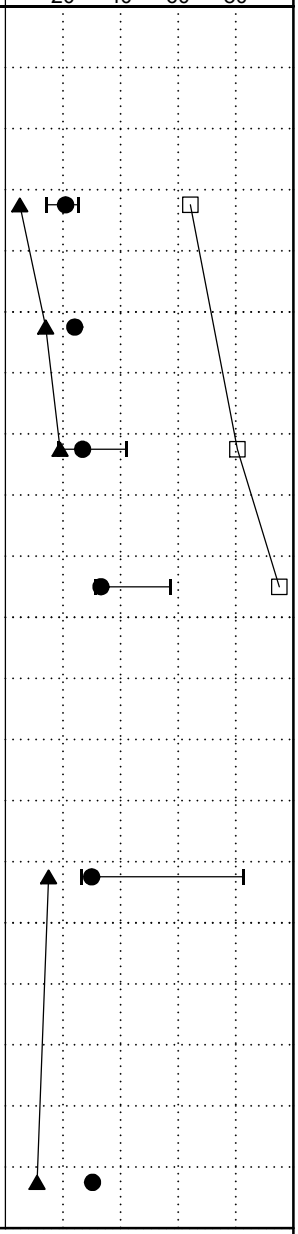
BORING NUMBER 54

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/20/20 **COMPLETED** 4/20/20
GROUND ELEVATION 1012.128 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 198+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-1	94	1-2-3 (5)		
5			SPT SS-2	89	5-6-8 (14)		
		(A-7-6)	SPT SS-3	89	6-7-12 (19)		
10			ST ST-1	75			43
			SPT SS-4	100	5-6-9 (15)		
15							
			SPT SS-5	100	4-5-6 (11)		
20		Bottom of borehole at 20.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 55

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/20/20 **COMPLETED** 4/20/20
GROUND ELEVATION 1016.607 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 200+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
2.5			SPT SS-1	89	2-3-4 (7)		
5.0			SPT SS-2	100	6-7-11 (18)		
		with gravel, (A-7-6)					
7.5			SPT SS-3	100	6-8-10 (18)		
			SPT SS-4	100	5-6-11 (17)		
10.0		Bottom of borehole at 10.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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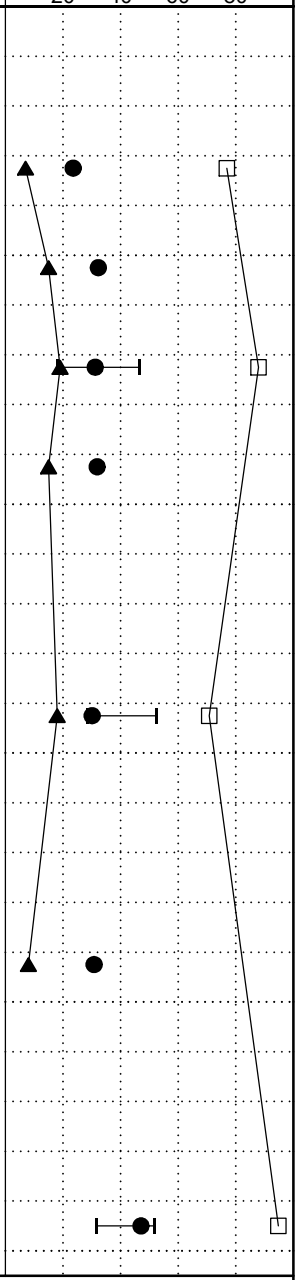
BORING NUMBER 56

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/21/20 **COMPLETED** 4/21/20
GROUND ELEVATION 1007.063 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 202+00 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	1-3-4 (7)		
5			SPT SS-2	100	6-5-10 (15)		
			SPT SS-3	100	7-8-11 (19)		
10			SPT SS-4	100	4-5-10 (15)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist	SPT SS-5	61	5-11-7 (18)		
15							
20			SPT SS-6	100	4-4-4 (8)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist					
25			ST ST-1	100			

Bottom of borehole at 25.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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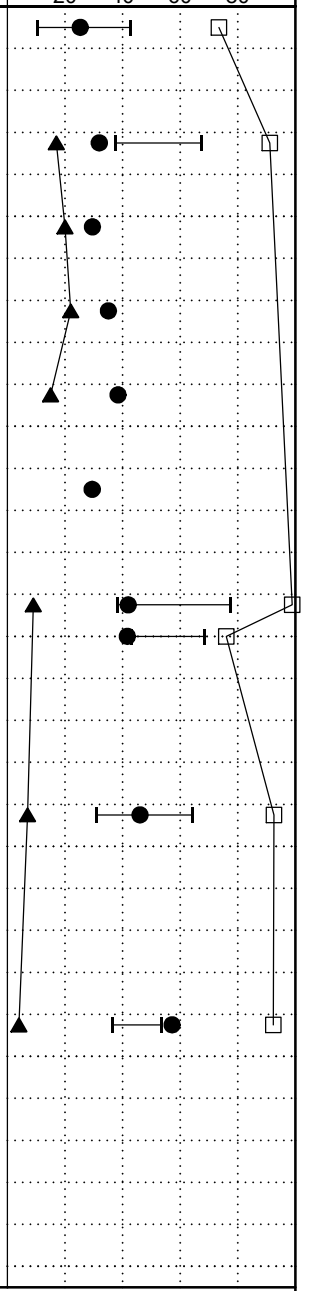
BORING NUMBER 57

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/29/20 **COMPLETED** 4/29/20
GROUND ELEVATION 993.736 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 25.00 ft / Elev 968.74 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 204+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-1	78	4-7-10 (17)		
5			SPT SS-2	89	7-8-12 (20)		
			SPT SS-3	100	5-8-14 (22)		
10			SPT SS-4	100	8-7-8 (15)		
			AU Bag-2				
15		trace gravel	SPT SS-5	100	1-5-4 (9)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	2-2-5 (7)		
20							
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, wet	SPT SS-7	100	1-1-3 (4)		
25	▽						
			ST ST-1	100			
30							

Bottom of borehole at 30.5 feet.



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Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 58

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/29/20 **COMPLETED** 4/29/20
GROUND ELEVATION 968.708 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 205+50 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	5-8-10 (18)		
5			SPT SS-2	100	8-8-10 (18)		
			SPT SS-3	100	5-6-10 (16)		
10			SPT SS-4	100	4-6-9 (15)		
15			SPT SS-5	100	2-4-6 (10)		
20			SPT SS-6	100	3-4-6 (10)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-7	100	3-5-6 (11)		
25		(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6),stiff, moist					
30			ST ST-1	100			

Bottom of borehole at 30.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 59

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/21/20 **COMPLETED** 4/21/20
GROUND ELEVATION 968.934 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 205+50 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist	SPT SS-1	100	3-6-10 (16)		
5			SPT SS-2	100	6-9-10 (19)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist	SPT SS-3	100	6-5-6 (11)		
10			SPT SS-4	100	6-6-9 (15)		
15			SPT SS-5	100	4-5-6 (11)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	4-5-6 (11)		
20							
25			SPT SS-7	100	4-5-8 (13)		
30			SPT SS-8	100	4-4-7 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 30.0 feet.

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BORING NUMBER 60

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/28/20 **COMPLETED** 4/28/20
GROUND ELEVATION 968.535 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 25.50 ft / Elev 943.04 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 208+00 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	4-6-7 (13)		
			SPT SS-2	100	3-5-7 (12)		
			SPT SS-3	100	4-6-7 (13)		
10			SPT SS-4	100	2-4-6 (10)		
			SPT SS-5	100	2-3-4 (7)		
			AU Bag-2				
20			SPT SS-6	100	2-3-4 (7)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist to wet, with trace rock fragments (dolomite, chert)	ST ST-1	100			
		▽ wet	SPT SS-7	100	0-4-6 (10)		
30			SPT SS-8	100	0-13-12 (25)		
			SPT SS-9	100	3-2-3 (5)		
40		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, wet, with trace rock fragments (dolomite, chert)	SPT SS-10	100	3-4-6 (10)		
50			SPT SS-11	100	3-2-4 (6)		

Bottom of borehole at 50.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 61

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/30/20 **COMPLETED** 4/30/20
GROUND ELEVATION 969.465 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 18.50 ft / Elev 950.97 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 208+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	4-5-7 (12)		
			SPT SS-2	100	5-6-8 (14)		
			SPT SS-3	100	6-6-9 (15)		
10			SPT SS-4	100	5-6-7 (13)		
			SPT SS-5	100	2-4-5 (9)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), very soft to soft, moist to wet ▽	SPT SS-6	100	2-1-1 (2)		
20			SPT SS-7	100	1-1-3 (4)		
			AU Bag-2				
		(ML) SILT (ML; A-7-6) to ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft to medium stiff, wet, with trace rock fragments (dolomite, chert)	SPT SS-8	100	2-1-3 (4)		
30			SPT SS-9	100	1-1-2 (3)		
			SPT SS-10	100	2-6-8 (14)		
40		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, wet	SPT SS-11	100	1-3-2 (5)		
		(ML) SILT (ML; A-7-6) to ELASTIC SILT (MH; A-7-6), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft to medium stiff, wet, with trace rock fragments (dolomite, chert)	ST ST-1	79			
50							

Bottom of borehole at 50.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Fax: 270-443-1904

BORING NUMBER 62

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 4/30/20 **COMPLETED** 4/30/20
GROUND ELEVATION 974.359 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 15.00 ft / Elev 959.36 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 209+00 **OFFSET** 30R
▼ **24hrs AFTER DRILLING** 9.00 ft / Elev 965.36 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	2-8-8 (16)		
5			SPT SS-2	89	4-6-8 (14)		
			SPT SS-3	100	8-5-7 (12)		
10		▼	SPT SS-4	100	2-5-4 (9)		
		very soft to medium stiff; wet	SPT SS-5	89	1-4-5 (9)		
15		▽					
20			SPT SS-6	94	1-4-2 (6)		
25			SPT SS-7	100	0-1-1 (2)		
30			SPT SS-8	100	2-2-4 (6)		
35			SPT SS-9	100	2-2-4 (6)		
40			SPT SS-10	100	0-0-4 (4)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 40.0 feet.

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BORING NUMBER 63

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/1/20 **COMPLETED** 5/1/20
GROUND ELEVATION 999.772 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 211+00 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-1	72	3-7-10 (17)		
5			SPT SS-2	100	8-9-11 (20)		
			SPT SS-3	100	7-11-11 (22)		
10			SPT SS-4	100	5-8-8 (16)		
			ST ST-1	100			
15							
			SPT SS-5	44	4-5-4 (9)		
20							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 20.0 feet.

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BORING NUMBER 64

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/1/20 **COMPLETED** 5/1/20
GROUND ELEVATION 994.863 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 214+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	61	1-1-6 (7)		
5			SPT SS-2	100	1-6-8 (14)		
			SPT SS-3	78	5-7-7 (14)		
10			SPT SS-4	100	2-5-6 (11)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
15			SPT SS-5	100	1-3-3 (6)		
			ST ST-1	78			
20			SPT SS-6	100	10-5-8 (13)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 21.2 feet.

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BORING NUMBER 65

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/2/20 **COMPLETED** 5/2/20
GROUND ELEVATION 994.442 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 217+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, trace organic material (tree root)	SPT SS-1	28	0-5-6 (11)		
5			SPT SS-2	89	3-4-6 (10)		
			SPT SS-3	100	5-5-6 (11)		
10			SPT SS-4	100	12-6-8 (14)		
15			SPT SS-5	100	4-5-7 (12)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	3-4-5 (9)		
20							
25			SPT SS-7	100	2-3-4 (7)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)					
30			SPT SS-8	100	3-4-7 (11)		

Bottom of borehole at 30.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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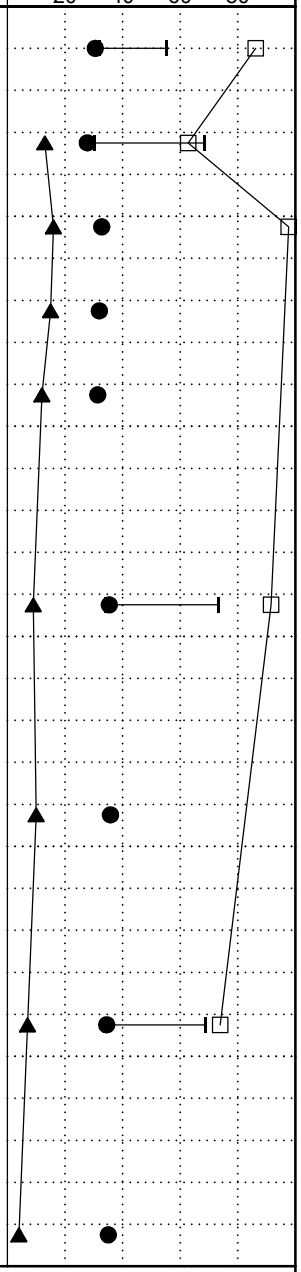
BORING NUMBER 66

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/2/20 **COMPLETED** 5/2/20
GROUND ELEVATION 999.168 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 220+50 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	67	0-6-7 (13)		
5			SPT SS-2	100	1-8-8 (16)		
			SPT SS-3	100	6-7-8 (15)		
10			SPT SS-4	100	3-4-8 (12)		
			SPT SS-5	100	2-4-5 (9)		
15							
			SPT SS-6	100	3-4-6 (10)		
20		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-7	78	4-3-4 (7)		
25							
			SPT SS-8	100	2-2-2 (4)		
30		Bottom of borehole at 30.0 feet.					



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BORING NUMBER 67

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/2/20 **COMPLETED** 5/3/20
GROUND ELEVATION 993.539 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 6.00 ft / Elev 987.54 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 224+00 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	0-3-4 (7)		
5		▽	SPT SS-2	100	6-7-7 (14)		
			SPT SS-3	100	3-4-5 (9)		
10			SPT SS-4	100	5-6-7 (13)		
15			SPT SS-5	78	2-6-8 (14)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, wet, with trace rock fragments (dolomite, chert)	ST ST-1	100			
20							
25			SPT SS-6	100	2-2-3 (5)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist to wet	SPT SS-7	100	2-3-3 (6)		
30							
35			SPT SS-8	100	3-4-4 (8)		
40			SPT SS-9	100	4-4-6 (10)		

Bottom of borehole at 40.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 68

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/3/20 **COMPLETED** 5/3/20
GROUND ELEVATION 997.718 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 28.50 ft / Elev 969.22 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 226+50 **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	39	3-3-4 (7)		
5			SPT SS-2	100	3-4-6 (10)		
			SPT SS-3	100	6-7-8 (15)		
10			SPT SS-4	100	3-4-6 (10)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist					
15			SPT SS-5	100	5-5-7 (12)		
20			SPT SS-6	100	3-4-6 (10)		
25		(A-7-6)	SPT SS-7	100	3-4-6 (10)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), moist					
30		▽	ST ST-1	100			

Bottom of borehole at 30.5 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 70

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/3/20 **COMPLETED** 5/3/20
GROUND ELEVATION 996.459 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 232+00 **OFFSET** 47L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist	SPT SS-1	94	0-1-4 (5)		
5		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	5-6-9 (15)		
			SPT SS-3	100	8-10-14 (24)		
10			SPT SS-4	100	9-9-11 (20)		
15			ST ST-1	100			
20			SPT SS-5	100	3-4-5 (9)		
25			SPT SS-6	100	2-3-4 (7)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 25.0 feet.

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BORING NUMBER 71

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/4/20 **COMPLETED** 5/4/20
GROUND ELEVATION 984.651 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 235+00 **OFFSET** 47L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	56	4-5-6 (11)		
5			SPT SS-2	100	3-5-7 (12)		
			SPT SS-3	100	7-6-10 (16)		
10			SPT SS-4	100	3-4-6 (10)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist					
15			SPT SS-5	100	2-2-3 (5)		
20			SPT SS-6	100	3-3-4 (7)		
25			SPT SS-7	100	2-3-3 (6)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), very soft, moist					
30			ST ST-1	100			
35			SPT SS-8	100	0-0-1 (1)		

Bottom of borehole at 35.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 72

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/4/20 **COMPLETED** 5/4/20
GROUND ELEVATION 995.903 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 238+00 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / □ FINES CONTENT (%) □ 20 40 60 80
0.0		TOPSOIL (12 inches)						
		(ML) SILT (ML; A-7-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to very stiff, moist, with trace rock fragments (dolomite, chert)						
2.5			SPT SS-1	67	0-3-3 (6)			
5.0			SPT SS-2	100	6-9-11 (20)			
7.5			SPT SS-3	100	10-13-19 (32)			
10.0			SPT SS-4	100	9-12-13 (25)			

Bottom of borehole at 10.0 feet.

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BORING NUMBER 73

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/4/20 **COMPLETED** 5/4/20
GROUND ELEVATION 976.413 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 241+50 **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very soft to medium stiff, moist	SPT SS-1	72	1-1-1 (2)		
5			SPT SS-2	22	0-0-0 (0)		
			SPT SS-3	100	0-3-3 (6)		
10			ST ST-1	100			104
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)					
15			SPT SS-4	100	4-4-7 (11)		
20			SPT SS-5	100	4-5-5 (10)		

Bottom of borehole at 20.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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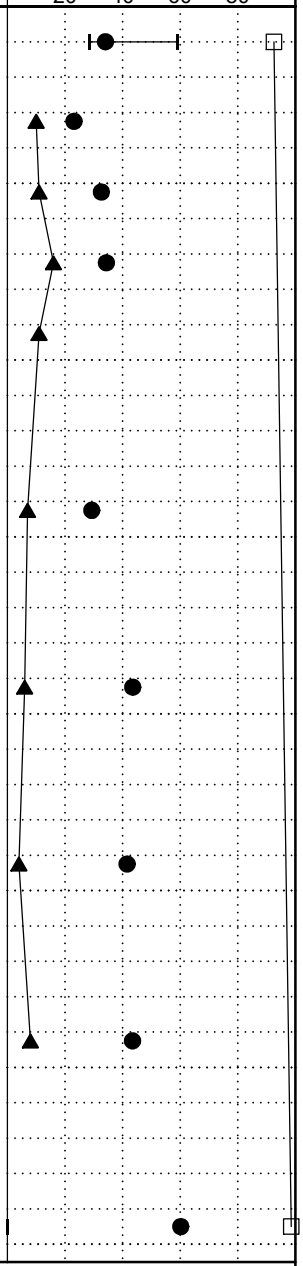
BORING NUMBER 74

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/4/20 **COMPLETED** 5/5/20
GROUND ELEVATION 952.782 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 244+00 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist	SPT SS-1	89	3-4-6 (10)		
5			SPT SS-2	89	4-5-6 (11)		
			SPT SS-3	100	6-7-9 (16)		
10			SPT SS-4	100	4-5-6 (11)		
15			SPT SS-5	100	2-3-4 (7)		
		(ML) SILT (ML; A-4), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	2-3-3 (6)		
20							
25			SPT SS-7	100	3-2-2 (4)		
30			SPT SS-8	89	3-3-5 (8)		
35			ST ST-1	100			

Bottom of borehole at 35.5 feet.



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BORING NUMBER 75

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/12/20 **COMPLETED** 5/12/20
GROUND ELEVATION 928.386 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 40.50 ft / Elev 887.89 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 245+50 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	89	4-2-4 (6)		
			SPT SS-2	78	3-4-5 (9)		
			SPT SS-3	100	7-7-10 (17)		
10			SPT SS-4	100	4-6-7 (13)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-5	100	2-3-4 (7)		
			AU Bag-2				
20			ST ST-1	100			
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), very soft to soft, moist	SPT SS-6	100	0-3-2 (5)		
30			SPT SS-7	100	0-2-1 (3)		
		(A-7-6)	SPT SS-8	100	0-0-1 (1)		
40		wet ▽	ST ST-2	100			
			SPT SS-9	100	0-0-1 (1)		
50			SPT SS-10	100	0-0-0 (0)		

Bottom of borehole at 50.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Telephone: 270-443-1995
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BORING NUMBER 76

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/12/20 **COMPLETED** 5/13/20
GROUND ELEVATION 910.803 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 20.00 ft / Elev 890.80 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 247+00 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	61	0-2-3 (5)		
5			SPT SS-2	33	0-0-0 (0)		
		(A-6)	SPT SS-3	94	3-3-4 (7)		
10			SPT SS-4	89	4-4-6 (10)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-2				
15			SPT SS-5	89	3-4-5 (9)		
20	▽		ST ST-1	79			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 23.1 feet.
Bottom of borehole at 23.1 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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BORING NUMBER 76b

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/13/20 **COMPLETED** 5/14/20
GROUND ELEVATION 910.803 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 247+00 **OFFSET** 50L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)						
5								
10								
15		LIMESTONE (Newala Formation), blue-gray, fine-grained limestone interbedded with irregularly laminated dolomite and nodular chert	RC R-1	40 (25)				
20		CLAY, reddish-brown						
		LIMESTONE (Newala Formation)	RC R-2	100 (100)				
25			RC R-3	97 (75)				
30			RC R-4	78 (77)				
35		CLAY, reddish-brown	RC R-5	20 (17)				
40		LIMESTONE (Newala Formation)	RC R-6	90 (75)				
45								

Refusal at 15.6 feet.
Bottom of borehole at 45.6 feet.

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-76B**
Site:	Blount Co.	Project No.:	20033	Elevation:	910.80 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 247		
Method:	CME 45, track-mounted				Offset 50L		
Driller:	F. Woodard	Date:	5/14/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: n/a	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					15.6	895.2			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 15.6 feet bgs **Top of bedrock:** 15.6 feet bgs
Run 1 (5 feet)	Recovery: 24 inches / 40%	RQD: 25			16.6 17.6 18.6 19.6 20.6	890.2			15.6-45.6 - Bluish- to medium gray, fine-grained, medium to thin beded limestone with irregularly laminated dolomite, dark-colored chert 17.1-20.2 - clay seam
Run 2 (5 feet)	Recovery: 60 inches / 100%	RQD: 100			21.6 22.6 23.6 24.6 25.6	885.2			
Run 3 (5 feet)	Recovery: 58 inches / 97%	RQD: 75			26.6 27.6 28.6 29.6 30.6	880.2			25.8-26.7 - 70° dipping clay-lined fracture, weathered
Run 4 (5 feet)	Recovery: 47 inches / 78%	RQD: 77			31.6 32.6 33.6 34.6 35.6	875.2			34.5-39.4 - clay seam

Newala Formation (On) - Limestone and Dolomite, light- to blue-gray, interbedded and/or laminated, with dark-colored nodular chert

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-76B**
Site:	Blount Co.	Project No.:	20033	Elevation:	910.80 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 247		
Method:	CME 45, track-mounted				Offset 50L		
Driller:	F. Woodard	Date:	5/14/2020	Methods:	Soil: SPT	Rock:	N
Water Level:	Initial: n/a	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log		Description
Run 5 (5 feet)	Recovery: 12 inches / 20%	RQD: 17			36.6 37.6 38.6 39.6 40.6	870.2				34.5-39.4 - clay seam
Run 6 (5 feet)	Recovery: 54 inches / 90%	RQD: 75			41.6 42.6 43.6 44.6 45.6	865.2			Newala Formation (On)	43.0 - Closed fracture, stained, mineralized 43.3 - Closed fracture, stained, mineralized

Rock Coring Terminated - 45.6 feet bgs / 865.2 feet asl

Rock Core Photograph Log

Boring:	**B-76B**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	247	**Offset:**	50L
		Date:	5/14/2020	**Refusal:**	15.6	**Total Depth:**	45.6

Run 1	Start Depth:	15.6'		**Run 2**	Start Depth:	20.6'
	End Depth:	20.6'			End Depth:	25.6'
	Recovery:	40%			Recovery:	100%
	RQD:	25			RQD:	100

Rock Core Photograph Log

Boring:	**B-76B**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00 **Station:** 247	**Offset:**	50L
		Date:	5/14/2020 **Refusal:** 15.6	**Total Depth:**	45.6

Run 3	Start Depth:	25.6'		**Run 4**	Start Depth: 30.6'
	End Depth:	30.6'			End Depth: 35.6'
	Recovery:	97%			Recovery: 78%
	RQD:	75			RQD: 77

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Rock Core Photograph Log

Boring:	**B-76B**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	247	**Offset:**	50L
		Date:	5/14/2020	**Refusal:**	15.6	**Total Depth:**	45.6

Run 5	Start Depth:	35.6'		**Run 6**	Start Depth:	40.6'
	End Depth:	40.6'			End Depth:	45.6'
	Recovery:	20%			Recovery:	90%
	RQD:	17			RQD:	75

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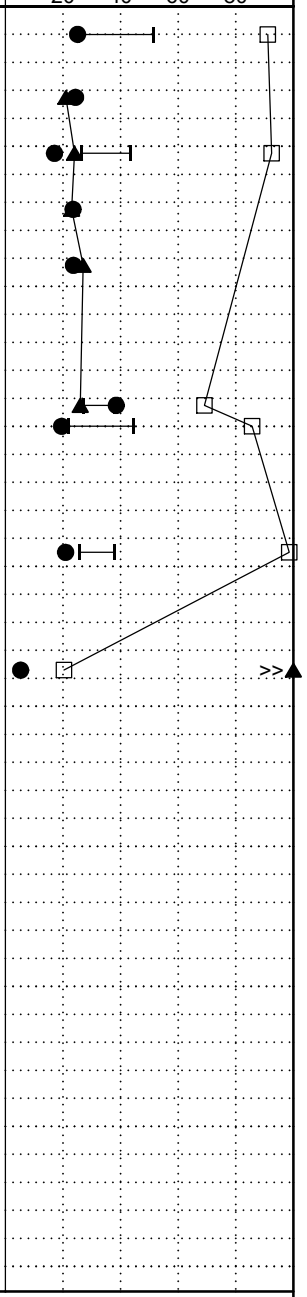
Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 77

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/14/20 **COMPLETED** 5/14/20
GROUND ELEVATION 910.752 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 249+00 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist	SPT SS-1	89	7-9-12 (21)		
5			SPT SS-2	100	9-10-14 (24)		
			SPT SS-3	100	7-9-14 (23)		
10			SPT SS-4	100	10-12-15 (27)		
		(ML) SILT (ML; A-6), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (shale)	SPT SS-5	100	5-11-15 (26)		
15		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), moist	AU Bag-2				
		(ML) SILT (ML; A-6), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (shale)	ST ST-1	100			
20			SPT SS-6	100	50/5"		
		SHALE (Blockhouse Shale) dark gray, clacareous, shale, weathers to buff colored shale residuum	RC RC-1	82 (0)			
25			RC RC-2	60 (0)			
			RC RC-3	100 (75)			
30			RC RC-4	60 (8)			
			RC RC-5	100 (22)			
35							
40							
45							



Refusal at 24.1 feet.
Bottom of borehole at 45.9 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-77**
Site:	Blount Co.	Project No.:	20033	Elevation:	910.75 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 249		
Method:	CME 45, track-mounted				Offset 50R		
Driller:	F. Woodard	Date:	5/14/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: n/a	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					24.1	886.7			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 24.1 feet bgs **Top of bedrock:** 24.1 feet bgs
1	1 / 1.8'	RQD: 0			24.9 25.9	884.9			34.1-45.9 - Light to medium gray, argillaceous to silty shale
Run 2 (5 feet)	Recovery: 36 inches / 60%	RQD: 0			26.9 27.9 28.9 29.9 30.9	879.9			
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 75			31.9 32.9 33.9 34.9 35.9	874.9			25.5-45.9 - very fractured
Run 4 (5 feet)	Recovery: 36 inches / 60%	RQD: 8			36.9 37.9 38.9 39.9 40.9	869.9			
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 22			41.9 42.9 43.9 44.9 45.9	864.9			Blockhouse Shale (Obl) - Shale, dark gray to blue, agrillaceous-silty, calcareous, and/or dolomitic; with thin, platy regular beds and lenses of dark-gray limestone; thin argillaceous limestone (Whitesburg Limestone) forms basal member; weathers ot buff colored fissile shale residuum

Rock Coring Terminated - 45.9 feet bgs / 864.85 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-77**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	249	**Offset:**	50R
		Date:	5/14/2020	**Refusal:**	24.1	**Total Depth:**	45.9

Run 1	Start Depth:	24.1'	**Run 2**	Start Depth:	25.9'	**Run 3**	Start Depth:	30.9'
	End Depth:	25.9'		End Depth:	30.9'		End Depth:	35.9'
	Recovery:	82%		Recovery:	60%		Recovery:	100%
	RQD:	0		RQD:	0		RQD:	75

Rock Core Photograph Log

Boring:	**B-77**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	249	**Offset:**	50R
		Date:	5/14/2020	**Refusal:**	24.1	**Total Depth:**	45.9

Run 4	Start Depth:	35.9'		**Run 5**	Start Depth:	40.9'
	End Depth:	40.9'			End Depth:	45.9'
	Recovery:	60%			Recovery:	100%
	RQD:	8			RQD:	22

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BORINGS **B-78** THROUGH **B-81**

WERE NOT DRILLED DUE TO LANDOWNER REFUSAL

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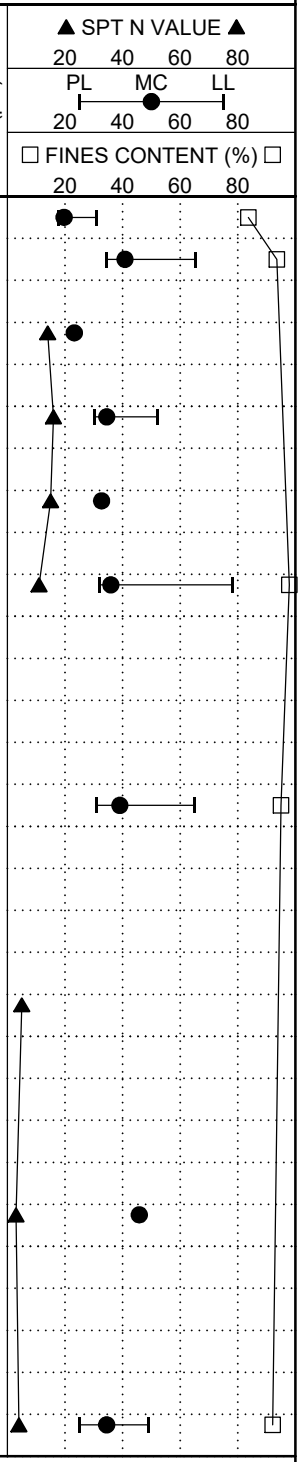
BORING NUMBER 82

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/16/20 **COMPLETED** 5/16/20
GROUND ELEVATION 978.486 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 260+50 **OFFSET** 80R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	3-5-9 (14)		
5		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	3-7-9 (16)		
			SPT SS-3	100	6-5-10 (15)		
10			SPT SS-4	100	2-4-7 (11)		
			ST ST-1	100			
15							
			SPT SS-5	100	1-2-3 (5)		
20		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-6	100	1-1-2 (3)		
25							
			SPT SS-7	100	1-2-2 (4)		
30		Bottom of borehole at 30.0 feet.					



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
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Fax: 270-443-1904

BORING NUMBER 83

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/17/20 **COMPLETED** 5/17/20
GROUND ELEVATION 970.576 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 263+50 **OFFSET** 80L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (6 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist					
2.5			SPT SS-1	89	2-3-5 (8)		
5.0			SPT SS-2	100	4-5-8 (13)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist					
7.5			SPT SS-3	100	5-6-9 (15)		
10.0			SPT SS-4	100	2-3-5 (8)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 10.0 feet.

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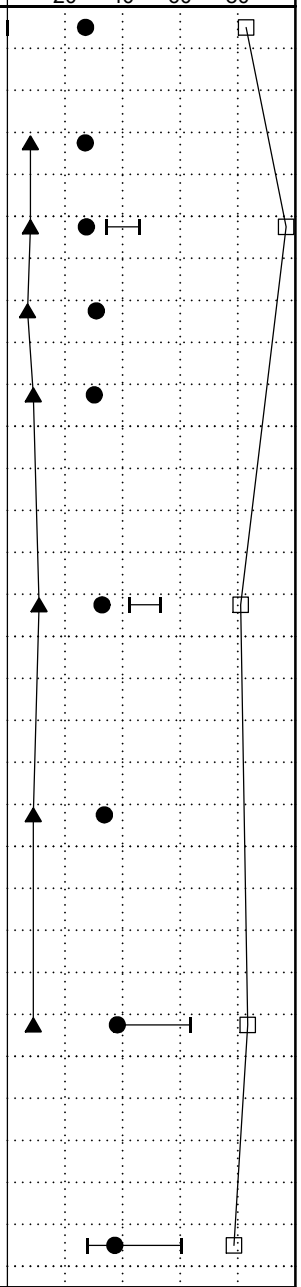
BORING NUMBER 84

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/17/20 **COMPLETED** 5/17/20
GROUND ELEVATION 992.219 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 266+00 **OFFSET** 130R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-1	67	1-4-4 (8)		
5			SPT SS-2	100	3-4-4 (8)		
			SPT SS-3	100	4-3-4 (7)		
10			SPT SS-4	100	2-4-5 (9)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
15			SPT SS-5	100	3-5-6 (11)		
20			SPT SS-6	100	3-4-5 (9)		
25			SPT SS-7	100	3-4-5 (9)		
30			ST ST-1	100			

Bottom of borehole at 30.5 feet.



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BORING NUMBER 85

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/17/20 **COMPLETED** 5/17/20
GROUND ELEVATION 991.535 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 267+00 **OFFSET** 110L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	39	1-1-2 (3)		
5			SPT SS-2	94	1-2-4 (6)		
			SPT SS-3	78	4-3-4 (7)		
10			SPT SS-4	94	1-4-5 (9)		
			AU Bag-2				
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-5	100	3-5-6 (11)		
15							
			SPT SS-6	100	4-4-5 (9)		
20							
			SPT SS-7	100	2-3-3 (6)		
25							
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-8	39	2-2-3 (5)		
30							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 30.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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BORING NUMBER 86

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/18/20 **COMPLETED** 5/19/20
GROUND ELEVATION 1010.941 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 43.50 ft / Elev 967.44 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 268+00 **OFFSET** 190R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist	SPT SS-1	78	3-5-9 (14)		
		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	89	3-6-9 (15)		
			SPT SS-3	100	4-7-9 (16)		
10			SPT SS-4	100	3-8-9 (17)		
			SPT SS-5	100	4-4-7 (11)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, with gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-2				
20			ST ST-1	100			
			SPT SS-6	100	2-2-3 (5)		
30			SPT SS-7	100	2-2-3 (5)		
		(A-7-6)	SPT SS-8	100	1-1-1 (2)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-9	33	4-5-6 (11)		
40		▽ wet, very soft	SPT SS-10	22	2-1-1 (2)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, trace gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, wet, with trace rock fragments (dolomite, chert)					
50			SPT SS-11	100	3-2-3 (5)		

Bottom of borehole at 50.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

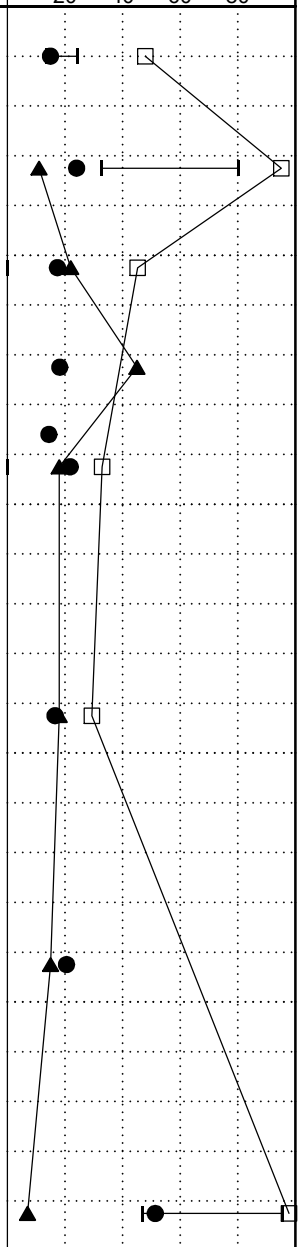
Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 87

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/20/20 **COMPLETED** 5/20/20
GROUND ELEVATION 999.787 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 269+50 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	56	5-4-7 (11)		
5		(SM) SILTY SAND (SM; A-4), brownish yellow (10YR 6/6), medium dense, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	3-12-10 (22)		
			SPT SS-3	89	6-26-19 (45)		
10		(A-2-4)	SPT SS-4	100	4-9-9 (18)		
15			SPT SS-5	94	4-8-10 (18)		
20			SPT SS-6	100	4-6-9 (15)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff					
25			SPT SS-7	100	2-3-4 (7)		

Bottom of borehole at 25.0 feet.



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Bacon Farmer Workman Engineering & Testing Inc.
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Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 88

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/20/20 **COMPLETED** 5/20/20
GROUND ELEVATION 986.144 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 35+00 (Ramp 2A) **OFFSET** 10R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist	SPT SS-1	78	1-3-4 (7)		
5		(SM) SILTY SAND (SM; A-4), brownish yellow (10YR 6/6), medium dense, moist	SPT SS-2	89	3-4-7 (11)		
			ST ST-1	25	5-6-8 (14)		
			SS SS-3	100			
10			SPT SS-4	94	2-6-8 (14)		
15			SPT SS-5	100	2-4-5 (9)		
20			ST ST-2	100			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 20.5 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 89

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/19/20 **COMPLETED** 5/20/20
GROUND ELEVATION 1001.67 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 53+00 (Ramp 2B) **OFFSET** 35L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	72	2-3-4 (7)		
5			SPT SS-2	100	2-6-10 (16)		
			SPT SS-3	89	5-9-12 (21)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-4	100	3-7-11 (18)		
10							
		(SM) SILTY SAND (SM; A-4), brownish yellow (10YR 6/6), medium dense, moist, with trace rock fragments (dolomite, chert)	AU Bag-2				
			SPT SS-5	100	2-5-10 (15)		
15							
			SPT SS-6	100	4-7-9 (16)		
20							
			SPT SS-7	100	5-6-18 (24)		
25							
		Refusal at 28.5 feet. Bottom of borehole at 28.5 feet.	SPT SS-8		50/0"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 90

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/9/20 **COMPLETED** 7/9/20
GROUND ELEVATION 969.178 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 55+50 (Ramp 2B) **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist					
			SPT SS-1	72	1-2-4 (6)		
5			SPT SS-2	78	3-4-5 (9)		
			SPT SS-3	89	2-3-5 (8)		
10			SPT SS-4	100	2-3-5 (8)		
			ST ST-1	100			
15		Bottom of borehole at 15.5 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 91

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/10/20 **COMPLETED** 7/10/20
GROUND ELEVATION 970.126 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 273+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist					
			SPT SS-1	78	2-4-6 (10)		
5			SPT SS-2	89	2-5-8 (13)		
			SPT SS-3	78	3-6-8 (14)		
			SPT SS-4	89	3-5-7 (12)		
10							
			SPT SS-5	100	2-4-4 (8)		
15							
			SPT SS-6	100	2-2-2 (4)		
20							
			ST ST-1	100			
25							
			SPT SS-7	100	1-2-3 (5)		
30							

Bottom of borehole at 30.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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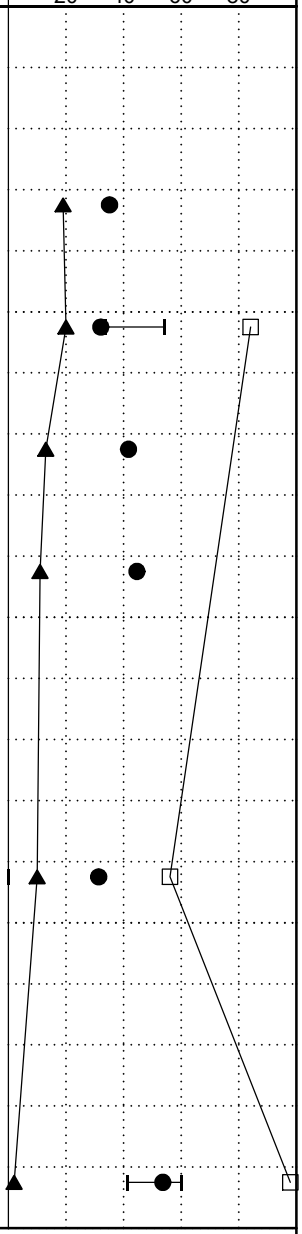
BORING NUMBER 92

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/10/20 **COMPLETED** 7/10/20
GROUND ELEVATION 981.016 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 32+00 (Ramp 2A) **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	89	5-7-12 (19)		
5			SPT SS-2	94	3-9-11 (20)		
			SPT SS-3	100	2-5-8 (13)		
10			SPT SS-4	100	2-5-6 (11)		
			SPT SS-5	89	1-5-5 (10)		
15							
		very soft	SPT SS-6	100	1-1-1 (2)		
20							

Bottom of borehole at 20.0 feet.



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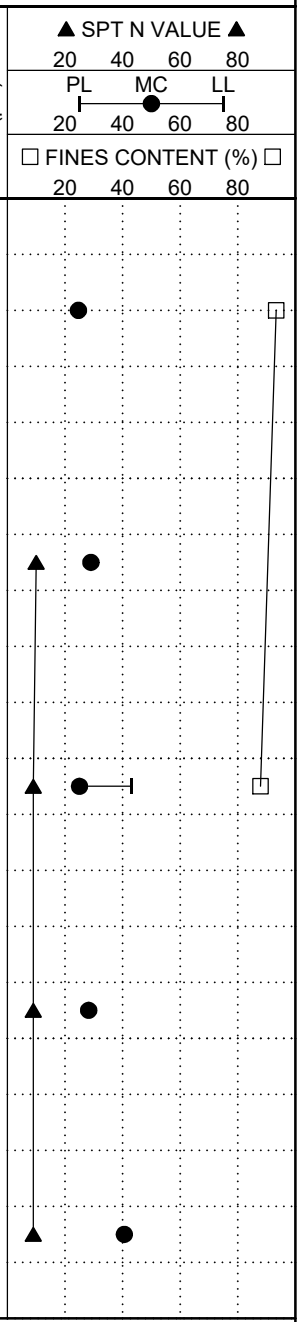
BORING NUMBER 93

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/9/20 **COMPLETED** 7/9/20
GROUND ELEVATION 966.168 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 58+00 (Ramp 2B) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-1				
2.5			SPT SS-1	72	2-4-6 (10)		
5.0			SPT SS-2	100	1-3-6 (9)		
7.5			SPT SS-3	100	2-4-5 (9)		
			SPT SS-4	100	2-4-5 (9)		
10.0		Bottom of borehole at 10.0 feet.					



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BORING NUMBER 94

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/7/20 **COMPLETED** 7/7/20
GROUND ELEVATION 967.985 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 276+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	39	1-0-2 (2)		
5			SPT SS-2	94	1-5-7 (12)		
			SPT SS-3	94	2-5-8 (13)		
10			SPT SS-4	94	2-5-7 (12)		
			SPT SS-5	100	3-5-6 (11)		
15			AU Bag-2				
			SPT SS-6	94	2-2-4 (6)		
20							
			SPT SS-7	100	1-2-3 (5)		
25							
			SPT SS-8	11	1-3-2 (5)		
30		Bottom of borehole at 30.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 95

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/9/20 **COMPLETED** 7/9/20
GROUND ELEVATION 975.258 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 82+00 (Ramp 2D) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist					
2.5			SPT SS-1	67	2-5-8 (13)		
5.0			SPT SS-2	78	2-5-9 (14)		
7.5			SPT SS-3	100	3-5-8 (13)		
10.0			SPT SS-4	100	3-5-7 (12)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 10.0 feet.

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BORING NUMBER 96

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/6/20 **COMPLETED** 7/6/20
GROUND ELEVATION 970.523 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 51+00 (Ramp 2C) **OFFSET** 30R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-1				
			SPT SS-1	44	2-7-7 (14)		
5			SPT SS-2	56	4-6-8 (14)		
			SPT SS-3	100	3-7-18 (25)		
10			SPT SS-4	72	9-6-4 (10)		
			SPT SS-5	78	4-6-6 (12)		
15							
			SPT SS-6	67	2-3-4 (7)		
20		Bottom of borehole at 20.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 97

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/7/20 **COMPLETED** 7/7/20
GROUND ELEVATION 963.52 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 48.50 ft / Elev 915.02 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 279+00 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft to medium stiff, moist	SPT SS-1	56	1-2-4 (6)		
			SPT SS-2	94	2-4-5 (9)		
			SPT SS-3	94	2-3-4 (7)		
10			ST ST-1	100			
			SPT SS-4	100	2-3-4 (7)		
20			SPT SS-5	100	1-2-2 (4)		
			SPT SS-6	100	1-3-4 (7)		
30			SPT SS-7	100	1-1-2 (3)		
			SPT SS-8	11	2-2-3 (5)		
40		wet, very soft	SPT SS-9	100	0-0-1 (1)		
			SPT SS-10	100	0-0-1 (1)		
50		▽	SPT SS-11	89	0-0-0 (0)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 50.6 feet.

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BORING NUMBER 98

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/6/20 **COMPLETED** 7/6/20
GROUND ELEVATION 959.998 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 55+00 (Ramp 2C) **OFFSET** 10R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist	SPT SS-1	33	1-2-2 (4)		
5			SPT SS-2	78	1-2-4 (6)		
			ST ST-1	100			
10			SPT SS-3	100	3-10-15 (25)		
15			SPT SS-4	100	2-6-8 (14)		
20			SPT SS-5	100	2-4-4 (8)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 20.0 feet.

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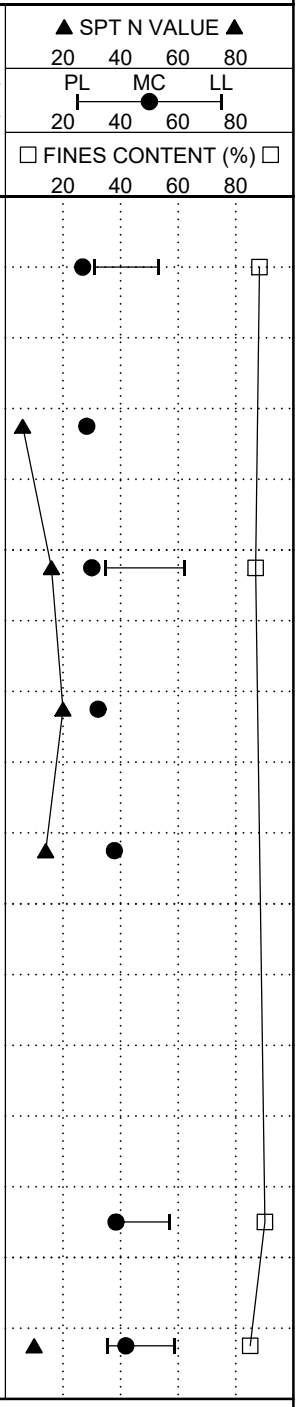
BORING NUMBER 99

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/9/20 **COMPLETED** 7/9/20
GROUND ELEVATION 972.915 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 79+00 (Ramp 2D) **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist	AU Bag-1				
			SPT SS-1	44	1-1-5 (6)		
5			SPT SS-2	72	2-6-10 (16)		
			SPT SS-3	89	3-8-12 (20)		
			SPT SS-4	94	2-5-9 (14)		
10							
			ST ST-1	58			
15			SPT SS-5	100	3-5-5 (10)		

Bottom of borehole at 17.0 feet.



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BORING NUMBER 100

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/9/20 **COMPLETED** 7/9/20
GROUND ELEVATION 970.835 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 76+50 (Ramp 2D) **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	61	1-1-3 (4)		
5			SPT SS-2	78	2-2-5 (7)		
			SPT SS-3	89	2-3-6 (9)		
10			SPT SS-4	100	2-4-6 (10)		
15			SPT SS-5	100	3-4-6 (10)		
20			SPT SS-6	100	2-2-2 (4)		
25			SPT SS-7	100	2-3-3 (6)		

Bottom of borehole at 25.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 101

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/8/20 **COMPLETED** 7/8/20
GROUND ELEVATION 967.358 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 38.50 ft / Elev 928.86 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 282+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	2-2-4 (6)		
5			SPT SS-2	100	3-4-8 (12)		
			SPT SS-3	100	3-5-9 (14)		
10			SPT SS-4	100	3-6-8 (14)		
			SPT SS-5	78	1-4-6 (10)		
15							
			SPT SS-6	22	1-2-1 (3)		
20							
			ST ST-1	42			
25		wet, very soft	SPT SS-7	100	0-1-0 (1)		
			SPT SS-8	44	0-0-1 (1)		
30							
			SPT SS-9	6	0-0-0 (0)		
35							
		▽	SPT SS-10	94	0-0-0 (0)		
40							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 44.3 feet.
Bottom of borehole at 44.3 feet.

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BORING NUMBER 102

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/6/20 **COMPLETED** 7/6/20
GROUND ELEVATION 965.031 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 57+50 (Ramp 2C) **OFFSET** 10R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	94	1-3-3 (6)		
5			SPT SS-2	100	2-2-4 (6)		
			SPT SS-3	78	3-3-5 (8)		
10			SPT SS-4	78	2-3-5 (8)		
15			SPT SS-5	100	2-3-4 (7)		
20			SPT SS-6	89	1-4-5 (9)		
25			SPT SS-7	100	1-2-5 (7)		

Bottom of borehole at 25.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 103

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/8/20 **COMPLETED** 7/8/20
GROUND ELEVATION 972.116 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 33.50 ft / Elev 938.62 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 74+08.50 (Ramp 2D) **OFFSET** 6.92R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft to stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-1				
			SPT SS-1	94	2-3-5 (8)		
5			SPT SS-2	89	3-7-10 (17)		
			SPT SS-3	89	4-7-9 (16)		
10			SPT SS-4	94	4-6-8 (14)		
			SPT SS-5	89	4-6-7 (13)		
15							
			SPT SS-6	100	1-3-4 (7)		
20							
			SPT SS-7	100	1-1-2 (3)		
25							
		wet, very soft	SPT SS-8	100	1-1-1 (2)		
30							
	▽		SPT SS-9	100	1-1-0 (1)		
35							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 38.1 feet.
Bottom of borehole at 38.1 feet.

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BORING NUMBER 104

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/8/20 **COMPLETED** 7/8/20
GROUND ELEVATION 974.184 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 33.50 ft / Elev 940.68 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 285+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	2-3-5 (8)		
5			SPT SS-2	100	3-6-9 (15)		
			SPT SS-3	94	3-7-10 (17)		
10			SPT SS-4	100	3-5-8 (13)		
15			SPT SS-5	100	3-4-5 (9)		
20			SPT SS-6	100	2-3-4 (7)		
25			SPT SS-7	100	1-1-2 (3)		
30			SPT SS-8	100	1-1-2 (3)		
35		▽ wet, very soft	ST ST-1	79			
40			SPT SS-9	11	0-0-0 (0)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 42.8 feet.
Bottom of borehole at 42.8 feet.

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BORING NUMBER 105

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/6/20 **COMPLETED** 7/6/20
GROUND ELEVATION 973.09 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 59+83.72 (Ramp 2C) **OFFSET** 5.40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (24 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	AU Bag-1				
			SPT SS-1	67	0-1-2 (3)		
5			SPT SS-2	100	2-2-4 (6)		
			SPT SS-3	78	3-3-6 (9)		
			AU Bag-2				
10			SPT SS-4	89	2-5-8 (13)		
			SPT SS-5	94	5-6-9 (15)		
15							
			SPT SS-6	100	2-4-4 (8)		
20							
			ST ST-1	100			
25							
			SPT SS-7	100	1-2-3 (5)		
30		Bottom of borehole at 30.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 106

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/4/20 **COMPLETED** 7/4/20
GROUND ELEVATION 955.331 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 38.50 ft / Elev 916.83 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 71+15.76 (Ramp 2D) **OFFSET** 6.84R
24hrs AFTER DRILLING 30.20 ft / Elev 925.13 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	61	2-3-3 (6)		
			SPT SS-2	56	2-4-5 (9)		
			SPT SS-3	78	4-4-7 (11)		
10			ST ST-1	100			
			SPT SS-4	100	2-3-5 (8)		
20			SPT SS-5	100	1-2-3 (5)		
		soft	SPT SS-6	100	2-1-2 (3)		
30	▽		ST ST-2	100			
			SPT SS-7	100	1-1-2 (3)		
	▽	wet, very soft	SPT SS-8	100	1-0-2 (2)		
40			SPT SS-9	100	17-6-2 (8)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 48.4 feet.
Bottom of borehole at 48.4 feet.

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BORING NUMBER 107

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/5/20 **COMPLETED** 7/6/20
GROUND ELEVATION 952.854 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 62+96.60 (Ramp 2C) **OFFSET** 3.18R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (18 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	72	5-7-9 (16)		
5			SPT SS-2	100	2-4-6 (10)		
			SPT SS-3	94	3-6-8 (14)		
10			ST ST-1	100			
		medium stiff	SPT SS-4	100	2-3-3 (6)		
15							
20			SPT SS-5	100	2-2-2 (4)		
25			SPT SS-6	100	1-2-2 (4)		
30			ST ST-2	100			
35			SPT SS-7	100	2-2-2 (4)		
40			SPT SS-8	100	2-2-2 (4)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 43.2 feet.
Bottom of borehole at 43.2 feet.

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BORING NUMBER 108

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/3/20 **COMPLETED** 7/4/20
GROUND ELEVATION 942.904 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 70+13.53 (Ramp 2D) **OFFSET** 1.86R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (18 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	2-2-4 (6)		
5			SPT SS-2	100	3-4-5 (9)		
			SPT SS-3	100	3-4-6 (10)		
10			ST ST-1	100			
15			SPT SS-4	100	1-3-3 (6)		
20			SPT SS-5	100	1-2-2 (4)		
25			SPT SS-6	89	1-6-3 (9)		
30			ST ST-2	0			
		LIMESTONE (Newala Formation), dense, dark gray, dolomitic limestone interbedded with dark-colored nodular chert	SPT SS-7	0	50/4"		
35			RC R-1	100 (83)			
40			RC R-2	100 (92)			
45			RC R-3	100 (80)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 30.8 feet.
Bottom of borehole at 45.3 feet.

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BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 1	Boring:	**B-108**
Site:	Blount Co.	Project No.:	20033	Elevation:	942.9 feet asl		
Logged by:	B. Hooks	Date:	7/27/2020	Location:	Station 289		
Method:	CME 45, track-mounted				Offset 120L		
Driller:	F. Woodard	Date:	7/4/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: n/a	24-hr:	n/a	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					30.8	912.1			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 30.8 feet bgs **Top of bedrock:** 30.8 feet bgs
Run 1 (4.5 feet)	Recovery: 54 inches / 100%	RQD: 83.3			31.3 32.3 33.3 34.3 35.3	907.6			Newala Formation (On) - Limestone and Dolomite, light- to blue-gray, interbedded and/or laminated, with dark-colored nodular chert 30.8-45.3 - Light to medium gray, massive dolomite to dolomitic limestone, highly dipping bedding (>70°)
Run 2 (5 feet)	Recovery: 60 inches / 100%	RQD: 91.7			36.3 37.3 38.3 39.3 40.3	902.6			38.7-39.3 - vertical closed fracture/calcite filled vein
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 80			41.3 42.3 43.3 44.3 45.3	897.6			

Rock Coring Terminated - 45.3 feet bgs / 897.6 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-108**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00	**Station:** 289	**Offset:** 120L
		Date:	7/4/2020	**Refusal:** 30.8	**Total Depth:** 45.3

Run 1	Start Depth:	30.8'		**Run 2**	Start Depth: 35.3'
	End Depth:	35.3'			End Depth: 40.3'
	Recovery:	100%			Recovery: 100%
	RQD:	83			RQD: 92

BFW
BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.

Rock Core Photograph Log

Boring:	**B-108**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	289	**Offset:**	120L
		Date:	7/4/2020	**Refusal:**	30.8	**Total Depth:**	45.3

Run 3	Start Depth:	40.3'			
	End Depth:	45.3'			
	Recovery:	100%			
	RQD:	80			

BFW
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ENGINEERING & TESTING, INC.

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BORING NUMBER 109

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 7/3/20 **COMPLETED** 7/3/20
GROUND ELEVATION 940.929 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 28.50 ft / Elev 912.43 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 63+98.21 (Ramp 2C) **OFFSET** 11.05R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (18 inches)					
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	39	0-2-2 (4)		
5			SPT SS-2	56	3-4-5 (9)		
			SPT SS-3	100	3-4-7 (11)		
10			ST ST-1	100			
15			SPT SS-4	100	1-3-4 (7)		
20			SPT SS-5	100	2-2-4 (6)		
25		wet, soft to very soft	SPT SS-6	100	1-1-2 (3)		
30		▽	ST ST-2	58			
35			SPT SS-7	100	10-14-18 (32)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 35.3 feet.
Bottom of borehole at 35.3 feet.

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BORING NUMBER 110

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/31/20 **COMPLETED** 5/31/20
GROUND ELEVATION 933.792 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 11.20 ft / Elev 922.59 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 67+10.00 (Ramp 2D) **OFFSET** 7.3R
▼ **24hrs AFTER DRILLING** 5.00 ft / Elev 928.79 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(ML) SILT (ML; A-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	89	2-5-8 (13)		
5			SPT SS-2	100	3-7-12 (19)		
			SPT SS-3	100	3-9-12 (21)		
10			ST ST-1	67	9-12-18 (30)		
			SPT SS-4	100			
15		(A-4)	SPT SS-5	100	6-13-24 (37)		
20		LIMESTONE (Newala Formation), dense, dark gray, dolomitic limestone interbedded with dark-colored nodular chert	RC R-1	93 (59)			
25			RC R-2	80 (25)			
30			RC R-3	93 (75)			
35			RC R-4	63 (20)			
40			RC R-5	100 (27)			
45			RC R-6	100 (30)			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 17.2 feet.
Bottom of borehole at 46.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:35 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-110**
Site:	Blount Co.	Project No.:	20033	Elevation:	933.79 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 292		
Method:	CME 45, track-mounted				Offset 70L		
Driller:	F. Woodard	Date:	5/31/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 11.2'	24-hr:	5'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					17.2	916.6			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 17.2 feet bgs **Top of bedrock:** 17.2 feet bgs
Run 1 (3.8 feet)	Recovery: 43 inches / 93%	RQD: 59			18 19 20 21	912.8			18.3 - open fracture, weathered, stained 19.2 - open fracture, weathered, stained, 45° dip 20.7 - open fracture, weathered, stained
Run 2 (5 feet)	Recovery: 48 inches / 80%	RQD: 25			22 23 24 25 26	907.8			21.0-23.2 - Brownish to greenish-gray, shale, 45° dip, highly fracture
Run 3 (5 feet)	Recovery: 56 inches / 93%	RQD: 75			27 28 29 30 31	902.8			29.5 - open fracture, weathered, stained 30.5 - open fracture, weathered
Run 4 (5 feet)	Recovery: 38 inches / 63%	RQD: 20			32 33 34 35 36	897.8			31.0 - open fracture, weathered, stained 31.7-32.8 - fractured zone, steeply dipping (>70°), weathered, stained
Run 5 (5 feet)	Recovery: 60 inches / 100%	RQD: 27			37 38 39 40 41	892.8			35.5-37.6 - fractured zone, steeply dipping (>70°), weathered, stained 39.4-42.6 - fractured zone, steeply dipping (>70°), weathered, stained

Newala Formation (On) - Limestone and Dolomite, light- to blue-gray, interbedded and/or laminated, with dark-colored nodular chert

Remarks:

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-110**
Site:	Blount Co.	Project No.:	20033	Elevation:	933.79 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 292		
Method:	CME 45, track-mounted				Offset 70L		
Driller:	F. Woodard	Date:	5/31/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 11.2'	24-hr:	5'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
Run 6 (5 feet)	Recovery: 60 inches / 100%	RQD: 30			42 43 44 45 46	887.8		Newala Formation (On)	

Rock Coring Terminated - 46 feet bgs / 887.79 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-110**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	292	**Offset:**	70L
		Date:	5/31/2020	**Refusal:**	17.2	**Total Depth:**	46.0

Run 1	Start Depth:	17.2'		**Run 2**	Start Depth:	21'
	End Depth:	21'			End Depth:	26'
	Recovery:	93%			Recovery:	80%
	RQD:	59			RQD:	25

Rock Core Photograph Log

Boring:	**B-110**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	292	**Offset:**	70L
		Date:	5/31/2020	**Refusal:**	17.2	**Total Depth:**	46.0

Run 3	Start Depth:	26'		**Run 4**	Start Depth:	31'
	End Depth:	31'			End Depth:	36'
	Recovery:	93%			Recovery:	63%
	RQD:	75			RQD:	20

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Rock Core Photograph Log

Boring:	**B-110**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	292	**Offset:**	70L
		Date:	5/31/2020	**Refusal:**	17.2	**Total Depth:**	46.0

Run 5	Start Depth:	36'		**Run 6**	Start Depth: 41'
	End Depth:	41'			End Depth: 46'
	Recovery:	100%			Recovery: 100%
	RQD:	27			RQD: 30

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Telephone: 270-443-1995
Fax: 270-443-1904

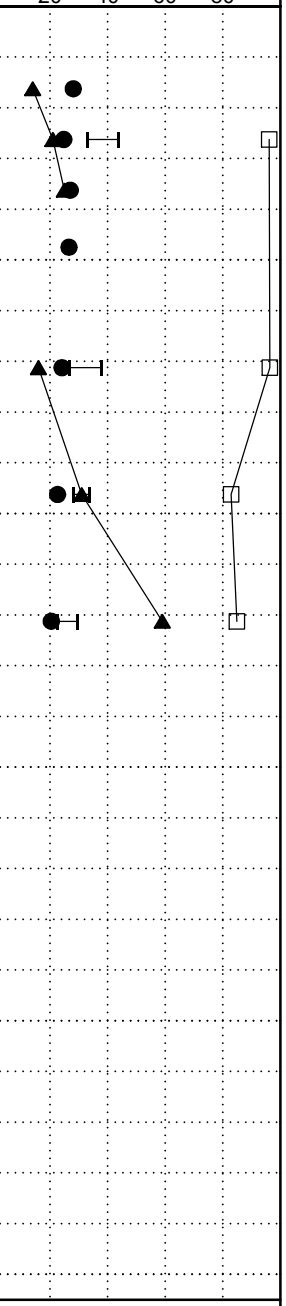
BORING NUMBER 111

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/30/20 **COMPLETED** 5/31/20
GROUND ELEVATION 938.357 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 23.50 ft / Elev 914.86 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 67+00.52 (Ramp 2C) **OFFSET** 8.85R
24hrs AFTER DRILLING 10.00 ft / Elev 928.36 ft

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
0	TOPSOIL (12 inches)			
	(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff to very stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	61	2-6-8 (14)
		SPT SS-2	94	3-9-12 (21)
		SPT SS-3	100	6-11-14 (25)
10		ST ST-1	79	
	(A-6)	SPT SS-4	100	3-6-10 (16)
20	(A-4)	SPT SS-5	89	6-12-19 (31)
	SILTY CLAY (CL-ML; A-4) with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), hard, wet, with trace rock fragments (dolomite, chert)	SPT SS-6	94	6-24-35 (59)
	LIMESTONE (Newala Formation), dense, dark gray, dolomitic limestone interbedded with dark-colored nodular chert	RC R-1	92 (23)	
30		RC R-2	100 (42)	
		RC R-3	100 (65)	
40	VOID			
	LIMESTONE (Newala Formation), dense, dark gray, dolomitic limestone interbedded with dark-colored nodular chert	RC R-4	100 (100)	
		RC R-5	97 (80)	
50				

POCKET PEN. (tsf) | DRY UNIT WT. (pcf)

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Refusal at 26.0 feet.
Bottom of borehole at 51.0 feet.

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500 SOUTH 17TH STREET
PADUCAH, KY 42003

Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-111**
Site:	Blount Co.	Project No.:	20033	Elevation:	938.36 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 292		
Method:	CME 45, track-mounted				Offset 100R		
Driller:	F. Woodard	Date:	5/31/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 23.5'	24-hr:	10'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
					26	912.4			**See Soil Log for Soil Descriptions** **Soil Boring Terminated at Auger Refusal:** 26 feet bgs **Top of bedrock:** 26 feet bgs
Run 1 (5 feet)	Recovery: 55 inches / 92%	RQD: 23			27 28 29 30 31	907.4			26.0-51.0 - Light to medium gray, massive dolomite to dolomitic limestone 26.0-31.0 - highly fractured, weathered, stained
Run 2 (5 feet)	Recovery: 60 inches / 100%	RQD: 42			32 33 34 35 36	902.4			31.7 - open fracture, weathered, stained 32.3 - open fracture, weathered, stained 38.3 - open fracture, weathered, stained, steeply dipping
Run 3 (5 feet)	Recovery: 60 inches / 100%	RQD: 65			37 38 39 40 41	897.4			38.3 - closed fracture, weathered, stained 39.8-41.0 - highly fractured, weathered, stained
Run 4 (5 feet)	Recovery: 60 inches / 100%	RQD: 67			42 43 44 45 46	892.4			Newala Formation (On) - Limestone and Dolomite, light- to blue-gray, interbedded and/or laminated, with dark-colored nodular chert

Remarks:

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Project:	SR-162 (Pellissippi Parkway) Extension			Sheet:	1 of 2	Boring:	**B-111**
Site:	Blount Co.	Project No.:	20033	Elevation:	938.36 feet asl		
Logged by:	B. Hooks	Date:	7/28/2020	Location:	Station 292		
Method:	CME 45, track-mounted				Offset 100R		
Driller:	F. Woodard	Date:	5/31/2020	Methods:	Soil: SPT	Rock: N	
Water Level:	Initial: 23.5'	24-hr:	10'	Orientation:	Vertical	Size:	Auger: 6.25"/Core: 2"

Run / Run Length	Recovered / % Recovery	RQD	Test or Sample	Value	Depth (feet bgs)	Elevation (feet asl)	Core Image	Graphic Log	Description
Run 5 (5 feet)	Recovery: 58 inches / 97%	RQD: 80			47 48 49 50 51	887.4			Newala Formation (On)

Rock Coring Terminated - 51 feet bgs / 887.36 feet asl

Remarks:

Rock Core Photograph Log

Boring:	**B-111**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	292	**Offset:**	100R
		Date:	5/31/2020	**Refusal:**	26.0	**Total Depth:**	51.0

Run 1	Start Depth:	26'		**Run 2**	Start Depth:	31'
	End Depth:	31'			End Depth:	36'
	Recovery:	92%			Recovery:	100%
	RQD:	23			RQD:	42

Rock Core Photograph Log

Boring:	**B-111**	**Project:**	SR-162 (Pellissippi Parkway) Extension			**No:**	05097-1233-14
		PIN:	101423.00	**Station:**	292	**Offset:**	100R
		Date:	5/31/2020	**Refusal:**	26.0	**Total Depth:**	51.0

Run 3	Start Depth:	36'		**Run 4**	Start Depth: 41'
	End Depth:	41'			End Depth: 46'
	Recovery:	100%			Recovery: 100%
	RQD:	65			RQD: 67

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Rock Core Photograph Log

Boring:	**B-111**	**Project:**	SR-162 (Pellissippi Parkway) Extension	**No:**	05097-1233-14
		PIN:	101423.00 **Station:** 292	**Offset:**	100R
		Date:	5/31/2020 **Refusal:** 26.0	**Total Depth:**	51.0

Run 5	Start Depth:	46'			Start Depth:
	End Depth:	51'			End Depth:
	Recovery:	97%			Recovery:
	RQD:	80			RQD:

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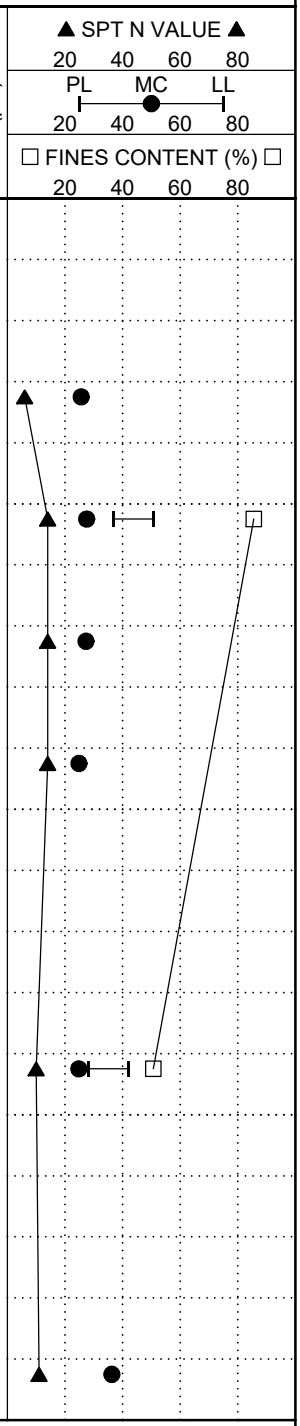
BORING NUMBER 112

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/29/20 **COMPLETED** 5/29/20
GROUND ELEVATION 967.673 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 294+00 **OFFSET** 80R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist					
			SPT SS-1	89	1-2-4 (6)		
5			SPT SS-2	89	2-6-8 (14)		
			SPT SS-3	100	5-6-8 (14)		
10			SPT SS-4	89	2-6-8 (14)		
		(ML) SILT (ML; A-7-6), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
15			SPT SS-5	100	1-4-6 (10)		
			SPT SS-6	94	2-5-6 (11)		
20		Bottom of borehole at 20.0 feet.					



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BORING NUMBER 113

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 6/1/20 **COMPLETED** 6/1/20
GROUND ELEVATION 982.024 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 297+00 **OFFSET** 40L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (6 inches)	AU Bag-1				
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft to medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	2-3-6 (9)		
5			SPT SS-2	100	2-3-5 (8)		
			SPT SS-3	100	1-1-2 (3)		
10			ST ST-1	100			
			SPT SS-4	100	1-2-2 (4)		
15							
20			ST ST-2	100			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 20.5 feet.

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Fax: 270-443-1904

BORING NUMBER 114

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/29/20 **COMPLETED** 5/29/20
GROUND ELEVATION 986.859 ft NAVD **HOLE SIZE** 6.52 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 297+00 **OFFSET** 100R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft medium stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-1	100	2-3-5 (8)		
5			SPT SS-2	100	2-3-6 (9)		
			SPT SS-3	100	2-2-3 (5)		
			SPT SS-4	100	1-3-2 (5)		
10							
			SPT SS-5	100	1-1-3 (4)		
15							
			SPT SS-6	78	4-8-7 (15)		
20							
		(A-6)	SPT SS-7	100	2-1-2 (3)		
25							

Bottom of borehole at 25.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Fax: 270-443-1904

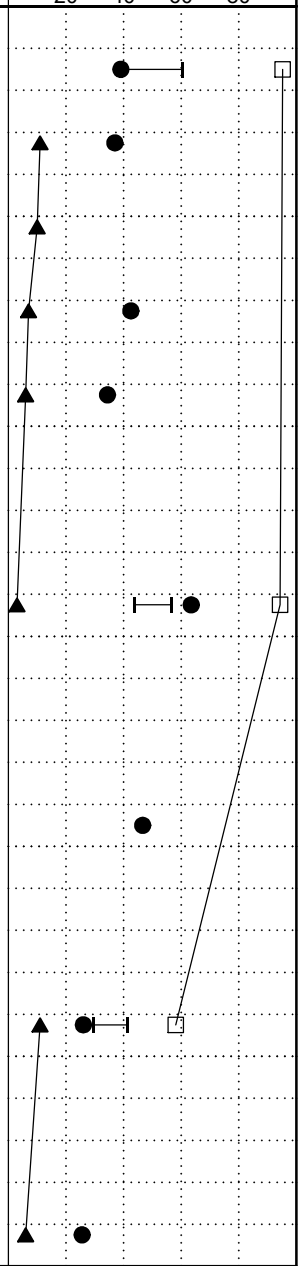
BORING NUMBER 115

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/29/20 **COMPLETED** 5/29/20
GROUND ELEVATION 1000.768 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 13.50 ft / Elev 987.27 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 299+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist	SPT SS-1	100	2-4-7 (11)		
5			SPT SS-2	100	3-4-6 (10)		
			SPT SS-3	1006	3-3-4 (7)		
10			SPT SS-4	44	1-2-4 (6)		
		▽ soft, wet	SPT SS-5	100	1-1-2 (3)		
15							
			ST ST-1	100			
20		(ML) SILT (ML; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
			SPT SS-6	72	3-4-7 (11)		
25							
			SPT SS-7	94	5-3-3 (6)		
30							

Bottom of borehole at 30.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 116

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/28/20 **COMPLETED** 5/29/20
GROUND ELEVATION 1001.575 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 43.50 ft / Elev 958.08 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 300+00 **OFFSET** 80L
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0	TOPSOIL (12 inches)					
	(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	89	3-6-10 (16)		
		SPT SS-2	100	4-6-10 (16)		
	(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-3	100	5-4-6 (10)		
10		SPT SS-4	100	3-3-3 (6)		
		SPT SS-5	100	2-3-5 (8)		
	(CL) LOW PLASTICITY CLAY (CL; A-6), with sand and gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-1	100			
20		SPT SS-6	100	2-2-4 (6)		
	(ML) SILT (ML; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), very soft, moist to wet, with trace rock fragments (dolomite, chert)	ST ST-2	67			
30	(A-4), very soft	SPT SS-7	100	1-1-1 (2)		
		SPT SS-8	94	1-1-1 (2)		
40	▽ wet	ST ST-3	100			
		SPT SS-9	100	1-0-1 (1)		
50	(A-7-5)	ST ST-3	100			
	(GC) CLAYEY GRAVEL (GC; A-2-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium dense, wet, with trace rock fragments (dolomite, chert)	SPT SS-10	94	0-9-15 (24)		
60		SPT SS-11	67	15-12-6 (18)		

Bottom of borehole at 60.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Telephone: 270-443-1995
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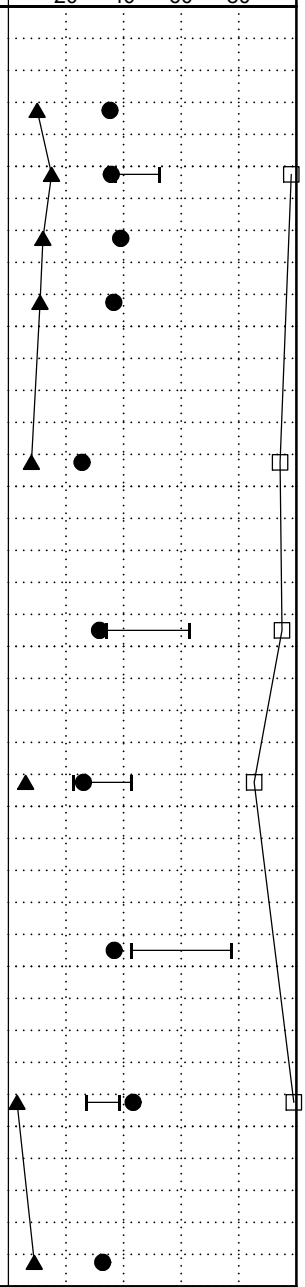
BORING NUMBER 117

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/28/20 **COMPLETED** 5/28/20
GROUND ELEVATION 998.734 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 35.00 ft / Elev 963.73 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 300+00 **OFFSET** 120L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	89	2-4-6 (10)		
5			SPT SS-2	100	3-6-9 (15)		
			SPT SS-3	100	5-5-7 (12)		
10			SPT SS-4	100	2-4-7 (11)		
15			SPT SS-5	100	3-3-5 (8)		
20			ST ST-1	100			
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, trace gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	2-2-4 (6)		
25							
30			ST ST-2	100			
		(ML) SILT (ML; A-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft to medium stiff, moist to wet, with trace rock fragments (dolomite, chert)					
35	▽		SPT SS-7	100	1-1-2 (3)		
40			SPT SS-8	100	2-5-4 (9)		

Bottom of borehole at 40.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 118

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/27/20 **COMPLETED** 5/27/20
GROUND ELEVATION 994.106 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 30.50 ft / Elev 963.61 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 301+50 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist	SPT SS-1	100	2-6-8 (14)		
5			SPT SS-2	100	3-6-9 (15)		
			SPT SS-3	100	4-5-6 (11)		
10			SPT SS-4	100	2-2-3 (5)		
		soft	SPT SS-5	100	1-1-2 (3)		
15							
			ST ST-1	100			
20							
			SPT SS-6	33	2-2-3 (5)		
25		(ML) SILT (ML; A-4), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), very soft to soft, wet, with trace rock fragments (dolomite, chert)					
			ST ST-2	100			
30	▽						
			SPT SS-7	100	0-1-1 (2)		
35							
			SPT SS-8	100	0-1-1 (2)		
40		Bottom of borehole at 40.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 119

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/26/20 **COMPLETED** 5/26/20
GROUND ELEVATION 979.699 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 303+00 **OFFSET** 80R
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)
0	TOPSOIL (12 inches)	SPT SS-1	78	3-4-5 (9)
	(SC) CLAYEY SAND (DC; A-6), with gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium dense, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	3-6-7 (13)
		SPT SS-3	94	4-6-8 (14)
	(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-1	100	
10	(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-4	100	3-3-5 (8)
	(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-2	83	
20	(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-5	78	3-3-3 (6)
30		SPT SS-6	78	3-4-3 (7)
	(A-7-6)	SPT SS-7	100	3-3-3 (6)
40		SPT SS-8	100	3-5-6 (11)
		SPT SS-9	100	3-4-3 (7)
50		SPT SS-10	100	3-3-4 (7)

Bottom of borehole at 50.0 feet.

POCKET PEN. (tsf)

DRY UNIT WT. (pcf)

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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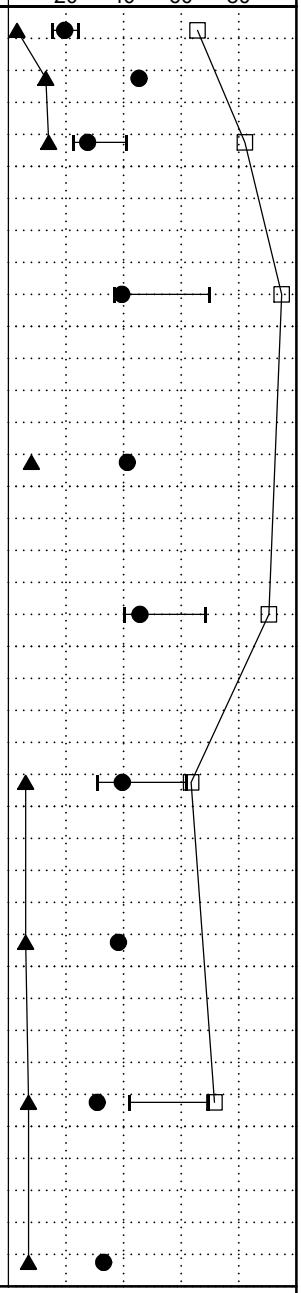
BORING NUMBER 120

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/26/20 **COMPLETED** 5/26/20
GROUND ELEVATION 979.685 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 303+00 **OFFSET** 130R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	SPT SS-1	94	2-1-2 (3)		
		(CL) LOW PLASTICITY CLAY (CL; A-4), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	78	4-6-7 (13)		
5		(A-7-6)	SPT SS-3	100	3-6-8 (14)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-1	83			
10							
15			SPT SS-4	100	2-3-5 (8)		
20		trace gravel	ST ST-2	100			
		(CH) HIGH PLASTICITY CLAY (CH; A-7-5), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
25			SPT SS-5	78	4-3-3 (6)		
30			SPT SS-6	100	3-3-3 (6)		
35			SPT SS-7	78	4-3-4 (7)		
40			SPT SS-8	94	3-3-4 (7)		

Bottom of borehole at 40.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 121

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/25/20 **COMPLETED** 5/25/20
GROUND ELEVATION 970.9 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 305+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	SPT SS-1	94	2-1-1 (2)		
		(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, wet, with trace rock fragments (dolomite, chert)	SPT SS-2	100	4-7-8 (15)		
5			SPT SS-3	100	5-7-9 (16)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-1	100			
10							
15			SPT SS-4	100	3-3-5 (8)		
			ST ST-2	100			
20		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
25			SPT SS-5	100	4-7-6 (13)		
30			SPT SS-6	100	3-3-3 (6)		
35			SPT SS-7	100	3-2-3 (5)		
40			SPT SS-8	100	2-3-3 (6)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 40.0 feet.

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BORING NUMBER 122

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/25/20 **COMPLETED** 5/25/20
GROUND ELEVATION 971.409 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 305+00 **OFFSET** 110L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(MH) ELASTIC SILT (MH; A-7-5), with sand and gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	1-1-1 (2)		
			SPT SS-2	100	3-7-7 (14)		
5			SPT SS-3	100	3-6-9 (15)		
10			ST ST-1	46			
15			SPT SS-4	100	3-4-5 (9)		
20			ST ST-2	83			
25			SPT SS-5	100	3-3-4 (7)		
30			SPT SS-6	100	3-4-3 (7)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 30.0 feet.

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BORING NUMBER 123

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/24/20 **COMPLETED** 5/24/20
GROUND ELEVATION 966.48 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 306+00 **OFFSET** 90R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	SPT SS-1	100	1-1-1 (2)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	4-4-6 (10)		
5			SPT SS-3	100	4-6-8 (14)		
		(MH) ELASTIC SILT (MH; A-7-5), trace sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)					
10			SPT SS-4	100	3-5-9 (14)		
15			SPT SS-5	100	5-6-7 (13)		
20			SPT SS-6	100	2-3-3 (6)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), with sand and gravel, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), stiff, moist, with trace rock fragments (dolomite, chert)					
25			SPT SS-7	100	4-5-5 (10)		
		(ML) SILT (ML; A-7-6), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
30			SPT SS-8	100	3-4-5 (9)		
35			SPT SS-9	100	3-4-4 (8)		
			SPT SS-10	107	2-2-50/2"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

Refusal at 39.7 feet.
Bottom of borehole at 39.7 feet.

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BORING NUMBER 124

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/24/20 **COMPLETED** 5/24/20
GROUND ELEVATION 939.649 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 310+00 **OFFSET** 60R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	94	3-3-4 (7)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)					
2.5			SPT SS-2	100	4-6-10 (16)		
			SPT SS-3	100	3-5-9 (14)		
5.0							
7.5							
10.0			SPT SS-4	100	3-4-6 (10)		
12.5							
15.0			SPT SS-5	100	4-5-6 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 15.0 feet.

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BORING NUMBER 125

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/24/20 **COMPLETED** 5/24/20
GROUND ELEVATION 920.496 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 314+00 **OFFSET** 10L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	78	4-3-3 (6)		
			SPT SS-2	100	4-3-4 (7)		
2.5							
			SPT SS-3	100	2-4-5 (9)		
5.0							
7.5							
			SPT SS-4	100	3-2-3 (5)		
10.0		Bottom of borehole at 10.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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BORING NUMBER 126

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/24/20 **COMPLETED** 5/24/20
GROUND ELEVATION 928.724 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 317+00 **OFFSET** 70R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	100	2-1-2 (3)		
		(ML) SILT (ML), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), soft to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	2-1-2 (3)		
2.5							
5.0			ST ST-1	100			107
7.5							
10.0			SPT SS-3	100	3-3-5 (8)		
12.5							
15.0			SPT SS-4	100	6-5-6 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 15.0 feet.

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Telephone: 270-443-1995
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BORING NUMBER 127

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/23/20 **COMPLETED** 5/23/20
GROUND ELEVATION 907.147 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 319+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	72	4-5-4 (9)		
		(ML) SILT (ML; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	3-4-5 (9)		
2.5							
			SPT SS-3	94	3-3-5 (8)		
5.0							
7.5							
			SPT SS-4	100	3-3-4 (7)		
10.0							
12.5			SPT SS-5	18	2-50/5"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 14.5 feet.
Bottom of borehole at 14.5 feet.

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BORING NUMBER 128

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 6/2/20 **COMPLETED** 6/2/20
GROUND ELEVATION 897.287 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 321+00 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to medium stiff, moist, with trace rock fragments (dolomite, chert)					
2.5							
5.0			SPT SS-1	61	1-2-2 (4)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 6.1 feet.
Bottom of borehole at 6.1 feet.

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BORING NUMBER 128B

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/23/20 **COMPLETED** 5/23/20
GROUND ELEVATION 897.287 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 321+00 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	89	5-6-9 (15)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	4-5-5 (10)		
2.5							
			SPT SS-3	100	5-50		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 4.5 feet.
Bottom of borehole at 4.5 feet.

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BORING NUMBER 129

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 6/2/20 **COMPLETED** 6/2/20
GROUND ELEVATION 895.432 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 6.00 ft / Elev 889.43 ft
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 324+00 **OFFSET** 60L
24hrs AFTER DRILLING 2.50 ft / Elev 892.93 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), very soft to soft, wet, with trace rock fragments (dolomite, chert)					
2.5			SPT SS-1	6	3-2-2 (4)		
5.0			SPT SS-2	22	1-1-1 (2)		
7.5			SPT SS-3	72	1-0-1 (1)		
			SPT SS-4	100	1-2-50/2"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

>>

Refusal at 9.8 feet.
Bottom of borehole at 9.8 feet.

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BORING NUMBER 129B

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/23/20 **COMPLETED** 5/23/20
GROUND ELEVATION 895.432 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 324+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		TOPSOIL (7 inches) - ROCK (DOLOMITE) AT SURFACE	SPT SS-1	29	2-50/1"			>>▲

Refusal at 0.5 feet.
Bottom of borehole at 0.6 feet.

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BORING NUMBER 130

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 6/2/20 **COMPLETED** 6/2/20
GROUND ELEVATION 895.654 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 326+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	AU Bag-1				
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
2.5							
5.0			SPT SS-1	44	3-5-2 (7)		
		(GM) SILTY GRAVEL (GM; A-4), with sand, brownish yellow (10YR 6/6), dense, moist, with trace rock fragments (dolomite, chert)					
7.5			SPT SS-2	61	15-18-30 (48)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 8.5 feet.
Bottom of borehole at 8.5 feet.

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BORING NUMBER 130B

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/23/20 **COMPLETED** 5/23/20
GROUND ELEVATION 895.654 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 326+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		TOPSOIL (12 inches)	SPT SS-1	67	2-3-3 (6)			
1		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)						
2			SPT SS-2	73	2-4-50/3"			>>
3								
4			SPT SS-3	100	6-50/4"			>>

Refusal at 4.3 feet.
Bottom of borehole at 4.3 feet.

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BORING NUMBER 131

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/19/20 **COMPLETED** 5/19/20
GROUND ELEVATION 942.234 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 40.00 ft / Elev 902.23 ft
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 329+00 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	SPT SS-1	100	3-4-7 (11)		
		(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	7-7-9 (16)		
5			SPT SS-3	100	4-6-7 (13)		
10			ST ST-1	100			
15			SPT SS-4	100	3-3-4 (7)		
20			SPT SS-5	100	3-3-3 (6)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), trace sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	3-3-4 (7)		
25		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
30			SPT SS-7	100	2-3-3 (6)		
35			SPT SS-8	100	2-3-3 (6)		
40	▽		ST ST-2	100			

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 43.5 feet.
Bottom of borehole at 43.5 feet.

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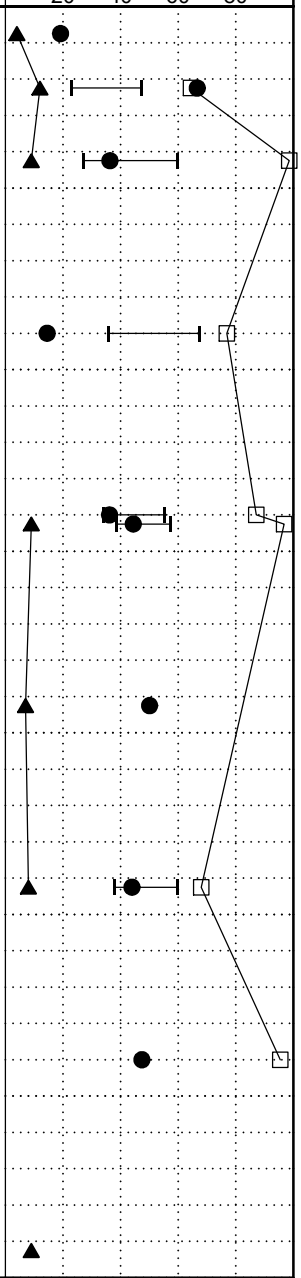
BORING NUMBER 132

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/20/20 **COMPLETED** 5/20/20
GROUND ELEVATION 944.98 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 329+00 **OFFSET** 120L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	SPT SS-1	100	2-2-2 (4)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand and gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	94	4-6-6 (12)		
		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-3	100	4-4-5 (9)		
5							
		(MH) ELASTIC SILT (MH; A-7-5), with sand, trace gravel, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	ST ST-1	75			
10							
			SPT SS-4	100	4-4-5 (9)		
15							
			SPT SS-5	100	3-3-4 (7)		
20							
		with gravel	SPT SS-6	100	3-4-4 (8)		
25							
			ST ST-2	71			
30							
			SPT SS-7	100	3-4-5 (9)		
35		Bottom of borehole at 35.0 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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BORING NUMBER 133

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 6/2/20 **COMPLETED** 6/2/20
GROUND ELEVATION 931.869 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY F. Woodard **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 332+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)	AU Bag-1				
		(GM) SILTY GRAVEL (GM; A-4), with sand, brownish yellow (10YR 6/6), medium dense to dense, moist, with trace rock fragments (dolomite, chert)					
15		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, trace gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
35			SPT SS-1	22	1-1-1 (2)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 38.3 feet.
Bottom of borehole at 38.3 feet.

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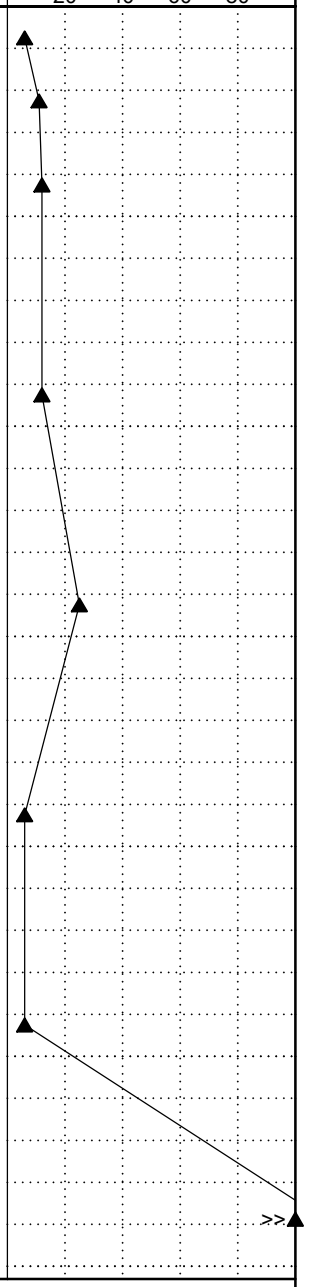
BORING NUMBER 133B

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/19/20 **COMPLETED** 5/19/20
GROUND ELEVATION 931.869 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 332+00 **OFFSET** 40R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0		TOPSOIL (12 inches)					
		(GM) SILTY GRAVEL (GM; A-4), with sand, brownish yellow (10YR 6/6), medium dense to dense, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	2-2-4 (6)		
			SPT SS-2	100	3-4-7 (11)		
5			SPT SS-3	100	3-5-7 (12)		
10			SPT SS-4	100	4-6-6 (12)		
15			SPT SS-5	100	12-17-8 (25)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, trace gravel, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-6	100	3-3-3 (6)		
20							
25			SPT SS-7	100	2-3-3 (6)		
			SPT SS-8	100	21-50/3"		
30							

Refusal at 30.3 feet.
Bottom of borehole at 30.3 feet.



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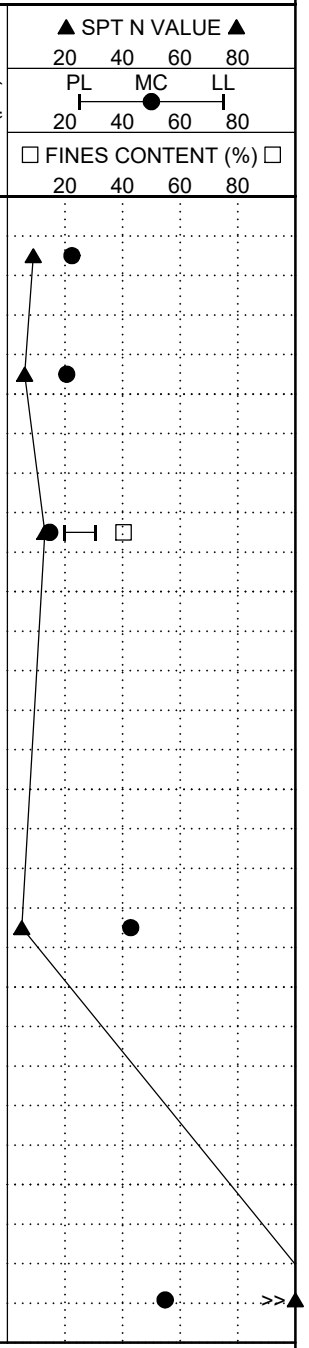
BORING NUMBER 134

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/20/20 **COMPLETED** 5/20/20
GROUND ELEVATION 890.777 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 335+00 **OFFSET** 20L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	100	3-4-5 (9)		
		(SC) CLAYEY SAND (SC; A-4), with gravel, brownish yellow (10YR 6/6), loose to medium dense, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	3-3-3 (6)		
2.5							
			SPT SS-3	100	4-6-7 (13)		
5.0		(CH) HIGH PLASTICITY CLAY (CH), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), medium stiff, moist, with trace rock fragments (dolomite, chert)					
7.5							
			SPT SS-4	100	3-2-3 (5)		
10.0							
12.5			SPT SS-5	100	6-50/5"		



Refusal at 14.5 feet.
Bottom of borehole at 14.5 feet.

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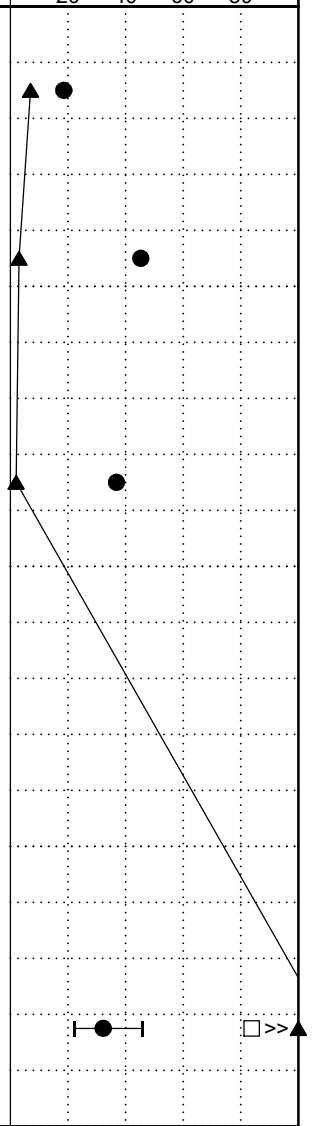
BORING NUMBER 135

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/20/20 **COMPLETED** 5/20/20
GROUND ELEVATION 888.231 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 338+00 **OFFSET** CL
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)					
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), soft to medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-1	100	3-4-3 (7)		
2.5			SPT SS-2	100	1-2-1 (3)		
5.0			SPT SS-3	100	1-1-1 (2)		
7.5			SPT SS-4	100	2-4-50/3"		
10.0							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



Refusal at 10.0 feet.
Bottom of borehole at 10.0 feet.

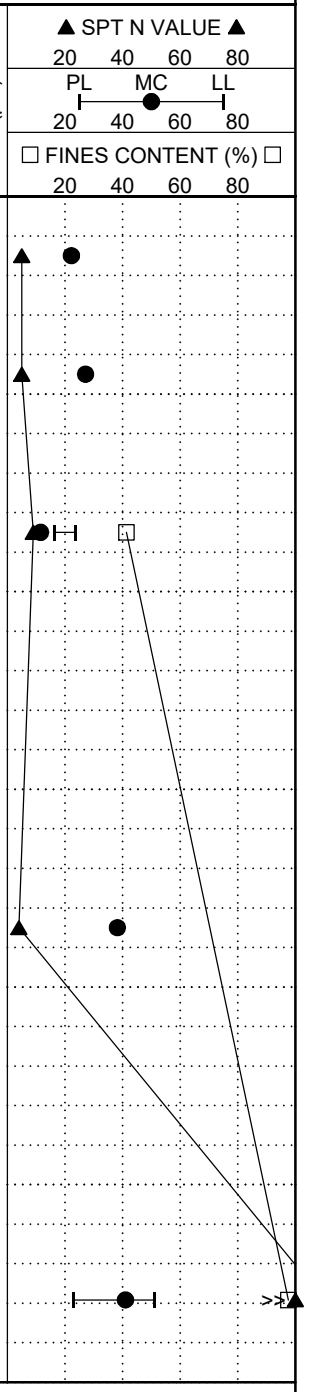
GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 136

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/21/20 **COMPLETED** 5/21/20
GROUND ELEVATION 889.868 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 3.00 ft / Elev 886.87 ft
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 341+00 **OFFSET** 60L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	100	2-3-2 (5)		
		(SC) CLAYEY SAND (SC; A-4), with gravel, brownish yellow (10YR 6/6), loose, moist, with trace rock fragments (dolomite, chert)					
2.5		▽	SPT SS-2	78	1-2-3 (5)		
			SPT SS-3	100	3-5-4 (9)		
5.0		(CH) HIGH PLASTICITY CLAY (CH; A-7-6), trace sand, reddish brown to dark red (2.5YR 4/4 to 2.5YR 3/6), soft to medium stiff, moist, with trace rock fragments (dolomite, chert)					
7.5							
10.0			SPT SS-4	100	2-2-2 (4)		
12.5							
			SPT SS-5	164	2-2-2/0"		
15.0		Bottom of borehole at 15.0 feet.					



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 137

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/21/20 **COMPLETED** 5/21/20
GROUND ELEVATION 889.924 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
▽ **AT TIME OF DRILLING** 3.00 ft / Elev 886.92 ft
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 343+50 **OFFSET** 20R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	100	2-2-3 (5)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	94	2-2-2 (4)		
2.5		▽					
5.0			ST ST-1	100			100
7.5							
10.0			SPT SS-4	100	3-3-2 (5)		
12.5							
			SPT SS-5	100	2-50/2"		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 14.0 feet.
Bottom of borehole at 14.0 feet.

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 138

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/21/20 **COMPLETED** 5/21/20
GROUND ELEVATION 893.642 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 347+00 **OFFSET** 50R
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	78	2-2-2 (4)		
		(CL) LOW PLASTICITY CLAY (CL; A-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	100	2-1-2 (3)		
2.5			SPT SS-3	100	3-4-5 (9)		
5.0							
7.5							

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Refusal at 8.0 feet.
Bottom of borehole at 8.0 feet.

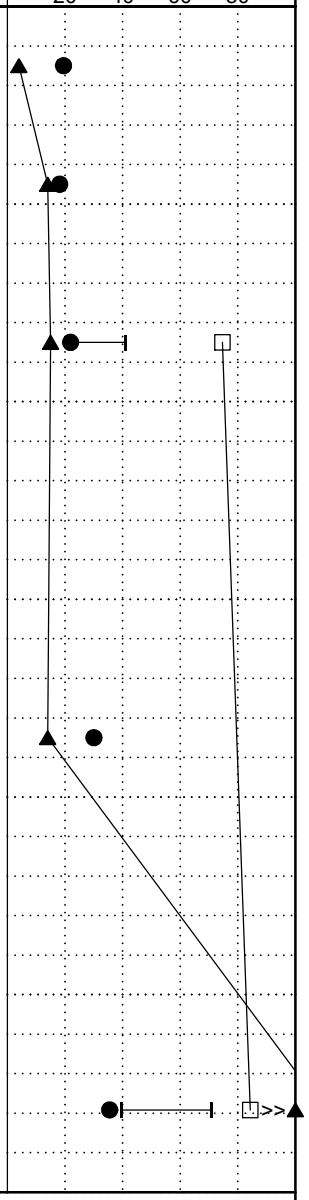
GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering & Testing Inc.
500 S 17th St
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

BORING NUMBER 139

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 162 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County
DATE STARTED 5/21/20 **COMPLETED** 5/21/20
GROUND ELEVATION 920.824 ft NAVD **HOLE SIZE** 6.25 inches
DRILLING CONTRACTOR BFW
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY J. Champion **CHECKED BY** B. Hooks
AT END OF DRILLING ---
STATION 347+50 **OFFSET** 70L
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)
0.0		TOPSOIL (12 inches)	SPT SS-1	78	2-2-2 (4)		
		(CL) LOW PLASTICITY CLAY (CL; A-7-6), with sand, strong brown to brownish yellow (7.5YR 5/6 to 10YR 6/6), medium stiff to stiff, moist, with trace rock fragments (dolomite, chert)	SPT SS-2	89	5-6-8 (14)		
2.5							
			SPT SS-3	67	5-7-8 (15)		
5.0		(MH) ELASTIC SILT (MH; A-7-5), with sand, reddish- to yellowish-brown (2.5YR 4/4 to 10YR 6/6), stiff, moist, with trace rock fragments (dolomite, chert)					
7.5							
			SPT SS-4	72	4-6-8 (14)		
10.0							
12.5							
			SPT SS-5	100	5-7-8/0"		
15.0		Bottom of borehole at 15.0 feet.					



GEOTECH BH PLOTS - GINT STD US LAB.GDT - 9/16/20 14:36 - C:\USERS\BHOOKS\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Appendix C

Laboratory Test Results

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
500 SOUTH 17th STREET | PADUCAH, KY 42003

Laboratory Testing Summary

Project Number:	20033
Project Name:	T-Dot – SR 162 Extension
Date:	8/13/2020

Minimum & Maximum Moisture Content

Depth	Minimum	Maximum
0-5'	17.8	38.2
5-10'	8.2	57.7
10-15'	8.6	63.5
15-20'	4.0	55.6
20-25'	5.3	59.3
25-30'	6.6	65.6
30-35'	10.5	64.1
35-40'	25.1	65.4
40-45'	27.0	47.7
45-50'	30.4	48.8
50-55'	4.7	29.2
55-60'	23.2	23.2

Dry Density

Boring	Depth	Dry Density
B-3	2.5	96.6
B-3	4.5	105.3
B-3	8.5	97.7
B-4	4.5	84.1
B-4	6.5	80.3
B-7	8.5	90.0
B-10	18.5	39.0
B-10	23.5	41.7
B-14	6.5	85.1
B-14	8.5	86.3
B-16	6.5	80.5
B-16	8.5	77.9
B-17	4.5	94.4
B-17	18.5	82.9
B-18	4.5	87.2
B-18	8.5	79.6
B-19	6.5	108.6
B-21	2.5	92.3

Boring	Depth	Dry Density
B-21	6.5	91.1
B-21	8.5	88.4
B-23	6.5	97.3
B-24	10	91.4
B-26	10	91.4
B-50	13.5	86.2
B-54	8.5	43.1
B-73	8.5	104.2
B-126	4	107.3
B-137	4	100.3

Atterberg Limits

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-1	0.0	58	26	32	CH	A-7-6
B-1	0.5	44	22	22	CL	A-7-6
B-1	5.0	56	23	33	CH	A-7-6
B-1	14.0	56	28	28	CH	A-7-6
B-2	4.0	45	27	18	ML	A-7-6
B-2	6.0	49	28	21	ML	A-7-6
B-2	11.0	71	33	38	CH	A-7-5
B-2	15.0	70	33	37	CH	A-7-5
B-3	4.5	50	23	27	CH	A-7-6
B-3	8.5	72	34	38	CH	A-7-5
B-4	2.5	32	24	8	ML	A-4
B-4	6.5	67	31	36	CH	A-7-5
B-5	4.5	49	27	22	-	-
B-5	8.5	59	30	29	CH	A-7-5
B-5	13.5	81	33	48	CH	A-7-5
B-5	25.5	76	25	51	CH	A-7-6
B-6	1.3	52	23	29	CH	A-7-6
B-6	2.5	37	25	12	CL	A-6
B-6	6.5	45	23	22	CL	A-7-6
B-6	13.5	66	27	39	CH	A-7-6
B-7	4.5	38	25	13	ML	A-6
B-7	8.5	64	38	26	MH	A-7-5
B-8	0.5	43	21	22	-	-
B-8	1.0	38	21	17	CL	A-6
B-8	13.5	77	32	45	CH	A-7-5
B-8	23.5	33	27	6	ML	A-4
B-9	0.5	33	21	12	CL	A-6
B-9	17.2	36	21	15	CL	A-6
B-10	2.5	46	28	18	ML	A-7-6
B-10	6.5	33	24	9	ML	A-4
B-10	13.5	47	28	19	ML	A-7-6
B-10	23.5	88	36	52	CH	A-7-5
B-11	2.5	NP	NP	NP	ML	A-4
B-12	4.5	43	26	17	CL	A-7-6
B-12	8.5	64	30	34	CH	A-7-5
B-12	18.5	72	36	36	MH	A-7-5
B-13	2.5	41	23	18	CL	A-7-6
B-13	4.5	41	20	21	-	-
B-13	6.5	79	34	45	CH	A-7-5
B-13	8.5	66	32	34	CH	A-7-5
B-14	4.5	59	35	24	MH	A-7-5
B-14	8.5	66	32	34	CH	A-7-5

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-14	18.5	74	35	39	MH	A-7-5
B-15	2.5	35	25	10	ML	A-4
B-15	6.5	29	22	7	CL-ML	A-4
B-15	13.5	29	22	7	CL-ML	A-4
B-16	4.5	44	27	17	ML	A-7-6
B-16	8.5	78	35	43	CH	A-7-6
B-16	18.5	80	33	47	CH	A-7-5
B-16	23.5	57	28	29	CH	A-7-6
B-17	0.5	52	28	24	CH	A-7-6
B-17	2.5	41	26	15	ML	A-7-6
B-17	6.5	63	31	32	CH	A-7-5
B-17	8.5	70	33	37	CH	A-7-5
B-17	18.5	74	34	40	CH	A-7-5
B-18	4.5	69	33	36	CH	A-7-5
B-18	8.5	69	32	37	CH	A-7-5
B-18	18.5	62	28	34	CH	A-7-6
B-19	2.5	46	23	23	CL	A-7-6
B-19	6.5	41	25	16	CL	A-7-6
B-19	8.5	71	33	38	CH	A-7-5
B-20	2.5	49	22	27	CL	A-7-6
B-20	6.5	47	23	24	CL	A-7-6
B-20	13.5	40	20	20	CL	A-6
B-20	18.5	61	31	30	CH	A-7-5
B-21	4.5	60	42	18	MH	A-7-5
B-21	8.5	62	31	31	CH	A-7-5
B-22	2.5	40	20	20	CL	A-6
B-22	4.5	41	19	22	CL	A-7-6
B-22	6.5	50	25	25	CH	A-7-6
B-23	4.5	44	22	22	CL	A-7-6
B-23	8.5	41	21	20	CL	A-7-6
B-24	0.5	61	22	39	CH	A-7-6
B-24	2.5	43	22	21	CL	A-7-6
B-24	6.0	57	32	25	N/A	N/A
B-24	6.5	77	33	44	CH	A-7-6
B-25	2.5	59	29	30	CH	A-7-6
B-25	4.5	43	20	23	CL	A-7-6
B-26	4.5	69	36	33	MH	A-7-5
B-26	8.5	75	42	33	MH	A-7-5
B-26	10.0	68	41	27	MH	A-7-5
B-26	13.5	73	35	38	MH	A-7-5
B-26	23.5	83	33	50	CH	A-7-5
B-27	4.5	31	23	8	ML	A-4
B-27	8.5	NP	NP	NP	ML	A-4
B-27	28.5	NP	NP	NP	ML	A-4
B-28	0.5	50	24	26	SC	A-7-6
B-28	4.5	40	20	20	CL	A-7-6
B-28	8.5	30	21	9	-	-
B-29	0.5	57	33	24	MH	A-7-5
B-29	4.5	48	27	21	CL	A-7-6
B-29	7.5	45	26	19	-	-
B-29	8.5	NP	NP	NP	SM	A-2-4
B-30	0.5	37	20	17	SC	A-6
B-30	4.5	41	25	16	CL	A-7-6
B-31	4.5	71	33	38	CH	A-7-5
B-31	8.5	55	26	29	CH	A-7-6
B-31	13.5	80	40	40	MH	A-7-5
B-32	0.5	36	21	15	-	-

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-32	4.5	32	20	12	SC	A-6
B-32	10.5	43	23	20	-	-
B-32	13.5	44	25	19	-	-
B-32	23.5	NP	NP	NP	SP-SM	A-1
B-35	1.0	36	20	16	CL	A-6
B-35	3.5	38	20	18	-	-
B-37	4.5	52	29	23	MH	A-7-6
B-37	13.5	52	27	25	CH	A-7-6
B-37	23.5	51	28	23	CH	A-7-6
B-38	0.5	46	21	25	CL	A-7-6
B-38	6.5	53	28	25	CH	A-7-6
B-38	13.5	47	22	25	CL	A-7-6
B-38	18.5	40	19	21	CL	A-6
B-38	28.5	51	26	25	CH	A-7-6
B-39	0.5	52	24	28	CH	A-7-6
B-39	4.5	59	30	29	CH	A-7-5
B-39	10.0	62	26	36	CH	A-7-6
B-39	13.5	57	32	25	MH	A-7-5
B-39	23.5	52	23	29	-	A-7-6
B-39	28.5	57	24	33	CH	A-7-6
B-39	38.5	30	14	16	CL	A-6
B-39	48.5	45	22	23	CL	A-7-6
B-39	53.5	40	23	17	CL	A-6
B-40	0.5	38	18	20	CL	A-6
B-40	4.5	56	27	29	CH	A-7-6
B-40	13.5	59	23	36	CH	A-7-6
B-41	0.5	40	19	21	CL	A-7-6
B-41	4.5	57	33	24	MH	A-6
B-41	13.5	57	32	25	MH	A-7-5
B-41	18.5	61	28	33	CH	A-7-6
B-41	28.5	53	24	29	CH	A-7-6
B-41	38.5	49	21	28	CH	A-7-6
B-42	6.5	57	33	24	MH	A-7-5
B-42	8.5	57	28	29	CH	A-7-6
B-42	18.5	63	30	33	SC	A-7-5
B-42	28.5	70	29	41	CH	A-7-6
B-42	30.5	60	24	36	CH	A-7-6
B-43	0.5	46	22	24	CL	A-7-6
B-43	4.5	54	32	22	MH	A-7-5
B-43	13.5	69	34	35	MH	A-7-5
B-43	23.5	70	32	38	-	-
B-43	33.5	80	32	48	CH	A-7-5
B-43	48.5	60	27	33	CH	A-7-6
B-44	0.5	33	19	14	CL	A-6
B-44	4.5	64	29	35	CH	A-7-6
B-44	13.5	51	23	28	CH	A-7-6
B-44	23.5	73	28	45	CH	A-7-6
B-44	33.5	47	24	23	CL	A-7-6
B-45	28.5	67	30	37	CH	A-7-5
B-46	0.5	43	24	19	CL	A-7-6
B-46	4.5	57	29	28	CH	A-7-6
B-46	8.5	64	31	33	CH	A-7-5
B-46	13.5	70	44	26	MH	A-7-5
B-46	23.5	63	34	29	MH	A-7-5
B-46	28.0	65	31	34	CH	A-7-5
B-46	33.5	62	29	33	CH	A-7-6
B-46	33.5	62	29	33	CH	A-7-6

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-46	38.5	68	29	39	CH	A-7-6
B-47	2.5	37	19	18	CL	A-6
B-47	6.5	43	23	20	CL	A-7-6
B-47	8.5	55	35	20	MH	A-7-5
B-47	10.5	56	25	31	CH	A-7-6
B-47	18.5	57	31	26	MH	A-7-5
B-48	0.5	57	28	29	CH	A-7-6
B-48	2.5	57	30	27	MH	A-7-6
B-48	6.5	65	35	30	MH	A-7-5
B-48	8.5	58	35	23	MH	A-7-5
B-48	13.5	66	31	35	CH	A-7-5
B-48	23.5	62	35	27	MH	A-7-5
B-48	28.5	50	26	24	CH	A-7-6
B-48	38.5	54	23	31	CH	A-7-6
B-49	0.5	48	21	27	CL	A-7-6
B-49	4.5	65	29	36	CH	A-7-6
B-49	18.5	72	28	44	CH	A-7-6
B-49	28.5	64	41	23	MH	A-7-5
B-50	1.0	58	31	27	MH	A-7-5
B-50	4.5	73	32	41	CH	A-7-5
B-50	8.5	67	28	39	CH	A-7-6
B-50	13.5	71	23	48	CH	A-7-6
B-50	27.5	71	24	47	CH	A-7-6
B-50	33.5	71	25	46	CH	A-7-6
B-51	1.0	45	27	18	N/A	A-7-6
B-51	4.5	51	31	20	MH	A-7-5
B-51	8.5	62	33	29	MH	A-7-5
B-51	15.0	60	31	29	MH	A-7-5
B-51	18.5	71	37	34	MH	A-7-5
B-51	28.5	77	29	48	CH	A-7-6
B-52	2.5	30	18	12	CL	A-6
B-52	6.5	60	27	33	CH	A-7-6
B-53	13.5	50	27	23	CH	A-7-6
B-54	2.5	24	14	11	CL	A-6
B-54	6.5	42	18	24	CL	A-7-6
B-54	8.5	57	31	26	MH	A-7-5
B-54	13.5	83	27	56	-	-
B-55	2.5	38	18	20	CL	A-6
B-55	6.5	46	26	20	CL	A-7-6
B-56	6.5	47	18	29	CL	A-7-6
B-56	13.5	53	28	25	CH	A-7-6
B-56	23.5	52	31	21	MH	A-7-5
B-57	0.5	43	11	32	CL	A-7-6
B-57	2.5	67	38	29	MH	A-7-5
B-57	13.5	78	38	40	MH	A-7-5
B-57	15.0	69	43	26	MH	A-7-5
B-57	18.5	64	31	33	CH	A-7-5
B-57	23.5	54	36	18	MH	A-7-5
B-58	0.5	40	28	12	ML	A-6
B-58	2.5	47	33	14	ML	A-7-5
B-58	13.5	47	34	13	ML	A-7-5
B-58	23.5	48	24	24	CL	A-7-6
B-58	28.5	48	30	18	ML	A-7-5
B-59	1.0	46	25	21	CL	A-7-6
B-59	2.5	45	26	19	CL	A-7-6
B-59	6.5	58	33	25	MH	A-7-5
B-59	13.5	56	31	25	MH	A-7-5

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-59	23.5	47	25	22	CL	A-7-6
B-60	0.5	62	36	26	MH	A-7-5
B-60	4.5	69	41	28	MH	A-7-5
B-60	17.5	62	34	28	MH	A-7-5
B-60	28.5	69	26	43	CH	A-7-6
B-60	38.5	50	24	26	CH	A-7-6
B-60	43.5	45	21	24	CL	A-7-6
B-61	1.0	NP	NP	NP	ML	A-4
B-61	2.5	33	22	11	CL	A-6
B-61	4.5	33	22	11	CL	A-6
B-61	18.5	67	37	30	MH	A-7-5
B-61	25.0	53	25	28	CH	A-7-6
B-61	28.5	49	29	20	ML	A-7-6
B-61	38.5	38	21	17	CL	A-6
B-61	43.5	53	35	18	MH	A-7-5
B-61	48.5	46	28	18	ML	A-7-6
B-62	1.0	60	37	23	MH	A-7-5
B-62	18.5	60	42	18	MH	A-7-5
B-62	28.5	71	44	27	N/A	N/A
B-63	13.5	57	29	28	CH	A-7-6
B-63	18.5	55	27	28	CH	A-6
B-64	0.5	40	18	22	CL	A-7-5
B-64	4.5	63	39	24	MH	A-7-6
B-64	13.5	56	29	27	CH	A-7-6
B-64	18.5	56	25	31	CH	A-7-6
B-65	4.5	41	25	16	CL	A-7-6
B-65	18.5	50	34	16	MH	A-7-5
B-65	28.5	68	30	38	CH	A-7-5
B-66	1.0	55	32	23	MH	A-7-5
B-66	2.5	68	30	38	CH	A-7-5
B-66	13.5	73	34	39	CH	A-7-5
B-66	23.5	69	34	35	MH	A-7-5
B-67	4.5	50	21	29	CH	A-7-6
B-67	13.5	66	27	39	CH	A-7-6
B-67	18.5	67	38	29	MH	A-7-5
B-67	28.5	75	34	41	CH	A-7-5
B-67	38.5	86	34	52	CH	A-7-5
B-68	4.5	67	33	34	MH	A-7-5
B-68	13.5	62	30	32	CH	A-7-5
B-68	23.5	65	28	37	CH	A-7-6
B-68	28.5	67	34	33	MH	A-7-5
B-70	1.0	41	23	18	CL	A-7-6
B-70	4.5	51	33	18	MH	A-7-5
B-71	4.5	33	15	18	CL	A-6
B-71	13.5	58	30	28	CH	A-7-5
B-71	28.5	67	38	29	MH	A-7-5
B-72	4.5	42	27	15	ML	A-7-5
B-73	4.5	33	21	12	CL	A-7-5
B-73	8.5	31	19	12	CL	A-7-6
B-73	18.5	68	44	24	MH	A-6
B-74	1.0	59	29	30	CH	A-6
B-74	33.5	NP	NP	NP	ML	A-7-5
B-75	1.0	35	19	16	CL	A-7-6
B-75	2.5	39	19	20	CL	A-4
B-75	13.5	68	39	29	MH	A-6
B-75	15.0	61	32	29	MH	A-6
B-75	23.5	65	31	34	CH	A-7-5

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-75	33.5	52	24	28	CH	A-7-5
B-75	43.5	50	28	22	CH	A-7-5
B-76	0.5	44	19	25	CL	A-7-6
B-76	6.5	39	21	18	CL	A-7-6
B-76	12.0	61	22	39	CH	A-7-6
B-76	18.5	55	24	31	CH	A-6
B-77	1.0	51	25	26	CH	A-7-6
B-77	4.5	43	26	17	CL	A-7-6
B-77	13.5	38	27	11	ML	A-7-6
B-77	15.0	45	22	23	CL	A-7-6
B-77	18.5	38	26	12	ML	A-6
B-82	0.5	31	18	13	CL	A-6
B-82	1.5	65	34	31	MH	A-7-5
B-82	4.5	52	30	22	-	-
B-82	8.5	78	32	46	CH	A-7-5
B-82	13.5	65	31	34	CH	A-7-5
B-82	28.5	49	25	24	CL	A-7-6
B-83	0.5	29	16	13	CL	A-6
B-83	4.5	52	30	22	MH	A-7-5
B-84	0.5	NP	NP	NP	ML	A-4
B-84	4.5	46	34	12	ML	A-7-5
B-84	13.5	53	42	11	MH	A-7-5
B-84	23.5	63	37	26	MH	A-7-5
B-84	28.5	60	28	32	CH	A-7-6
B-85	0.5	37	22	15	CL	A-6
B-85	4.5	33	22	11	CL	A-6
B-85	12.0	58	35	23	MH	A-7-5
B-85	23.5	71	40	31	MH	A-7-5
B-85	28.5	59	28	31	CH	A-7-6
B-86	1.0	35	21	14	CL	A-6
B-86	4.5	NP	NP	NP	ML	A-4
B-86	15.0	74	36	38	MH	A-7-5
B-86	17.5	69	38	31	MH	A-7-5
B-86	28.5	64	30	34	CH	A-7-5
B-86	33.5	60	27	33	CH	A-7-6
B-86	38.5	67	34	33	MH	A-7-5
B-86	48.5	87	29	58	CH	A-7-6
B-87	1.0	24	13	11	SC	A-6
B-87	2.5	80	33	47	CH	A-7-5
B-87	4.5	NP	NP	NP	SM	A-4
B-87	8.5	NP	NP	NP	SM	A-2-4
B-87	23.5	95	47	48	MH	A-7-5
B-88	1.0	37	18	19	CL	A-6
B-88	6.5	NP	NP	NP	SM	A-4
B-89	4.5	42	29	13	ML	A-7-6
B-89	13.5	68	26	42	CH	A-7-6
B-89	14.0	58	28	30	CH	A-7-6
B-89	23.5	NP	NP	NP	SM	A-2-4
B-90	4.5	NP	NP	NP	ML	A-4
B-90	13.5	NP	NP	NP	ML	A-7-5
B-91	4.5	54	31	23	MH	A-7-5
B-91	13.5	74	44	30	MH	A-7-5
B-91	23.5	73	33	40	-	-
B-91	28.5	43	20	23	CL	A-7-6
B-92	4.5	54	34	20	MH	A-7-5
B-92	13.5	NP	NP	NP	ML	A-4
B-92	18.5	60	41	19	MH	A-7-5

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-93	4.5	43	25	18	CL	A-7-6
B-94	1.0	37	20	17	CL	A-6
B-94	4.5	37	18	19	CL	A-6
B-94	13.5	66	33	33	MH	A-7-5
B-94	15.0	60	26	34	CH	A-7-6
B-94	23.5	64	31	33	CH	A-7-5
B-94	28.5	52	29	23	-	-
B-95	6.5	50	37	13	MH	A-7-5
B-96	1.0	50	23	27	CH	A-7-6
B-97	4.5	43	22	21	MH	A-7-6
B-97	8.5	76	32	44	CH	A-7-5
B-97	13.5	64	35	29	MH	A-7-5
B-97	38.5	40	20	20	CL	A-6
B-97	48.5	34	17	17	CL	A-6
B-98	4.5	31	16	15	CL	A-6
B-98	6.5	42	20	22	CL	A-7-6
B-98	13.5	55	41	14	MH	A-7-5
B-99	1.0	53	31	22	MH	A-7-5
B-99	4.5	62	35	27	MH	A-7-5
B-99	13.5	57	38	19	MH	A-7-5
B-99	15.5	59	35	24	MH	A-7-5
B-100	4.5	47	22	25	CL	A-7-6
B-100	13.5	68	36	32	MH	A-7-5
B-101	4.5	43	25	18	CL	A-7-6
B-101	13.5	66	38	28	MH	A-7-5
B-101	23.5	88	38	50	CH	A-7-5
B-101	25.5	74	34	40	CH	A-7-5
B-101	38.5	49	23	26	CL	A-7-6
B-102	4.5	38	20	18	CL	A-6
B-102	13.5	55	31	24	MH	A-7-5
B-102	23.5	58	26	32	CH	A-7-6
B-103	2.0	66	36	30	MH	A-7-5
B-103	4.5	55	38	17	MH	A-7-5
B-103	18.5	55	28	27	CH	A-7-6
B-103	23.5	64	30	34	CH	A-7-5
B-103	38.5	57	31	26	MH	A-7-5
B-104	1.5	55	25	30	CH	A-7-6
B-104	13.5	74	40	34	MH	A-7-5
B-104	28.5	88	35	53	CH	A-7-5
B-104	33.5	79	31	48	CH	A-7-5
B-105	2.0	32	17	15	CL	A-6
B-105	4.5	35	19	16	CL	A-6
B-105	8.5	40	23	17	CL	A-6
B-105	13.5	64	34	30	MH	A-7-5
B-105	23.5	85	36	49	CH	A-7-5
B-105	28.5	88	33	55	CH	A-7-5
B-106	6.5	56	31	25	MH	A-7-5
B-106	8.5	52	27	25	CH	A-7-6
B-106	18.5	47	20	27	CL	A-7-6
B-106	23.5	59	26	33	CH	A-7-6
B-106	28.5	54	25	29	CH	A-7-6
B-106	38.5	39	19	20	SC	A-6
B-106	43.5	47	22	25	CL	A-7-6
B-107	4.5	58	34	24	MH	A-7-5
B-107	8.5	77	41	36	MH	A-7-5
B-107	13.5	63	31	32	CH	A-7-5
B-107	23.5	65	24	41	CH	A-7-6

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-107	28.5	47	21	26	CL	A-7-6
B-107	38.5	45	20	25	CL	A-7-6
B-108	4.5	80	32	48	CH	A-7-5
B-108	13.5	67	28	39	CH	A-7-6
B-108	23.5	NP	NP	NP	ML	A-4
B-109	4.5	44	31	13	-	-
B-109	6.5	67	28	39	CH	A-7-6
B-109	8.5	76	35	41	-	A-7-5
B-109	18.5	53	23	30	CH	A-7-6
B-109	23.5	48	23	25	CL	A-7-6
B-109	28.5	48	28	20	ML	A-7-6
B-109	33.5	NP	NP	NP	ML	A-4
B-110	4.5	43	34	9	ML	A-5
B-110	13.5	NP	NP	NP	ML	A-4
B-111	4.5	44	33	11	ML	A-7-5
B-111	13.5	38	27	11	ML	A-6
B-111	18.5	34	28	6	ML	A-4
B-111	23.5	29	22	7	CL-ML	A-4
B-112	4.5	51	37	14	MH	A-7-5
B-112	13.5	42	28	14	ML	A-7-6
B-113	4.5	61	49	12	MH	A-7-5
B-114	4.5	46	32	14	ML	A-7-5
B-114	13.5	44	32	12	ML	A-7-5
B-114	23.5	37	26	11	ML	A-6
B-115	1.5	60	39	21	MH	A-7-5
B-115	13.5	57	44	13	MH	A-7-5
B-115	23.5	41	30	11	ML	A-7-5
B-116	4.5	54	29	25	CH	A-7-6
B-116	13.5	54	36	18	MH	A-7-5
B-116	23.5	40	24	16	CL	A-6
B-116	28.5	38	27	11	ML	A-6
B-116	33.5	29	26	3	ML	A-4
B-116	48.5	38	32	6	ML	A-4
B-116	50.0	48	31	17	ML	A-7-5
B-116	58.5	32	23	9	SC	A-2-4
B-117	4.5	52	37	15	MH	A-7-5
B-117	18.5	63	34	29	MH	A-7-5
B-117	23.5	43	23	20	CL	A-7-6
B-117	28.5	78	43	35	ML	A-6
B-117	33.5	39	27	12	ML	A-7-5
B-118	4.5	63	39	24	MH	A-7-5
B-118	13.5	51	37	14	MH	A-5
B-118	33.5	53	43	10	MH	A-6
B-119	3.5	36	22	14	SC	A-7-5
B-119	8.0	61	34	27	MH	A-7-5
B-119	13.5	72	33	39	CH	A-7-5
B-119	18.0	60	32	28	MH	A-7-5
B-119	23.5	64	30	34	CH	A-7-6
B-119	33.5	50	25	25	CH	A-7-6
B-119	43.5	56	25	31	CH	A-4
B-120	0.0	24	15	9	CL	A-7-6
B-120	3.5	41	22	19	CL	A-7-5
B-120	8.0	70	37	33	MH	A-7-5
B-120	18.0	68	40	28	MH	A-7-5
B-120	23.5	62	31	31	CH	A-7-5
B-120	33.5	69	42	27	MH	A-7-5
B-121	3.5	47	32	15	ML	A-7-5

Sample	Depth	LL	PL	PI	Classification	AASHTO
B-121	8.0	55	36	19	MH	A-7-5
B-121	13.5	64	43	21	MH	A-7-5
B-121	18.0	81	38	43	MH	A-7-6
B-121	23.5	64	13	51	CH	A-7-6
B-121	33.5	53	22	31	CH	A-7-6
B-122	3.5	54	36	18	MH	A-7-5
B-123	1.5	31	18	13	CL	A-6
B-123	13.5	86	38	48	MH	A-7-5
B-123	23.5	58	25	33	CH	A-7-6
B-123	33.5	48	28	20	ML	A-7-6
B-124	3.5	70	37	33	MH	A-7-5
B-125	3.5	36	19	17	CL	A-6
B-127	8.5	45	32	13	ML	A-7-5
B-128	1.0	33	18	15	CL	A-6
B-128	1.5	33	20	13	CL	A-6
B-128	4.5	42	25	17	CL	A-7-6
B-130	1.5	29	18	11	CL	A-6
B-130	6.5	NP	NP	NP	GM	A-1-b
B-131	3.5	58	37	21	MH	A-7-5
B-131	10.0	58	38	20	MH	A-7-5
B-131	13.5	64	35	29	MH	A-7-5
B-131	23.5	47	25	22	CL	A-7-6
B-131	33.5	52	28	24	CH	A-7-6
B-131	40.0	56	24	32	CH	A-7-6
B-132	1.5	47	23	24	CL	A-7-6
B-132	3.5	60	27	33	CH	A-7-6
B-132	8.0	67	36	31	MH	A-7-5
B-132	13.5	57	38	19	MH	A-7-5
B-132	14.0	55	34	21	MH	A-7-5
B-132	23.5	60	38	22	MH	A-7-5
B-133	13.5	55	30	25	GM	A-2-7
B-133	23.5	44	23	21	CL	A-7-6
B-134	3.5	30	20	10	SC	A-4
B-135	8.5	46	22	24	CL	A-7-6
B-136	3.5	24	16	8	SC	A-4
B-137	4.0	35	16	19	CL	A-6
B-137	13.5	31	15	16	CL	A-6
B-138	3.5	28	15	13	CL	A-6
B-139	3.5	41	22	19	CL	A-6
B-139	13.5	71	40	31	MH	A-7-5

Grain Size and Hydrometer Analysis

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-1	0.0	9.500	0.053	-	-	1.3	16.4	31.4	39.4
B-1	0.5	9.500	0.028	-	-	0.2	10.1	52.1	36.0
B-1	5.0	9.500	0.017	-	-	0.5	12.2	39.8	47.3
B-1	14.0	4.750	0.016	-	-	-	5.6	41.5	52.9
B-2	4.0	9.500	0.047	0.003	-	0.5	14.3	51.0	32.3
B-2	6.0	9.500	0.052	0.001	-	0.7	9.5	47.2	35.7
B-2	11.0	0.425	0.006	-	-	-	3.2	39.3	57.3
B-2	15.0	2.000	0.038	-	-	-	4.4	45.6	50.0
B-3	4.5	4.750	0.015	-	-	-	6.7	48.4	44.8
B-3	8.5	2.000	0.002	-	-	-	5.8	30.5	63.6
B-4	2.5	2.000	0.048	0.005	-	-	9.4	60.3	29.6
B-4	6.5	2.000	0.001	-	-	-	1.0	32.5	66.6

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-5	4.5	-	-	-	-	-	-	-	36.4
B-5	8.5	2.000	0.058	0.012	-	-	7.3	68.8	22.6
B-5	13.5	4.750	0.003	-	-	-	4.2	28.7	67.0
B-5	25.5	2.000	0.003	-	-	-	2.4	33.3	64.3
B-6	1.3	2.000	0.012	-	-	-	3.5	46.1	50.2
B-6	2.5	4.750	0.022	0.004	-	-	5.6	62.0	32.3
B-6	6.5	2.000	0.018	-	-	-	2.4	50.1	47.5
B-6	13.5	2.000	-	-	-	-	2.2	19.1	78.5
B-7	4.5	4.750	0.044	0.005	-	-	8.4	60.9	30.6
B-7	8.5	4.750	0.021	-	-	-	2.3	56.8	40.6
B-8	0.5	-	0.011	-	-	-	-	-	47.7
B-8	1.0	4.750	0.057	-	-	-	30.1	28.5	41.4
B-8	13.5	9.500	-	-	-	0.5	4.6	32.5	61.0
B-8	23.5	9.500	0.051	.0007	-	5.4	17.4	48.6	25.9
B-9	0.5	4.750	0.063	0.021	-	-	25.2	55.2	16.0
B-9	17.2	4.750	0.061	0.017	-		19.6	56.1	22.8
B-10	0.5	19.000	0.259	-	-	13.5	35.6	50.1	
B-10	2.5	2.000	0.048	0.002	-	-	10.1	53.1	35.4
B-10	6.5	2.000	0.046	0.008	-	-	10.6	63.7	25.4
B-10	13.5	2.000	0.011	-	-	-	4.2	50.4	45.2
B-10	23.5	2.000	-	-	-	-	2.0	19.5	78.4
B-11	2.5	9.500	0.064	0.048	0.003	5.5	15.5	64.0	12.9
B-12	4.5	2.000	0.019	-	-	-	3.7	56.8	39.2
B-12	8.5	2.000	-	-	-	-	1.3	29.8	68.9
B-12	18.5	0.425	0.018	-	-	-	3.3	47.5	46.2
B-13	2.5	0.425	0.018	-	-	-	3.3	47.5	46.2
B-13	6.5	2.000	-	-	-	-	0.5	24.5	74.9
B-13	8.5	2.000	-	-	-	-	0.6	26.8	72.4
B-14	4.5	2.000	0.007	-	-	-	2.5	40.6	56.8
B-14	8.5	0.425	-	-	-	-	0.8	24.5	74.6
B-14	18.5	2.000	0.014	0.003	-	-	3.8	60.8	35.3
B-15	2.5	2.000	0.590	0.028	0.003	-	15.3	72.4	12.2
B-15	6.5	2.000	0.063	0.048	0.007	-	22.0	68.3	9.7
B-15	13.5	4.750	0.118	0.027	0.010	-	45.7	46.4	7.9
B-16	4.5	2.000	0.049	0.006	-	-	22.3	47.9	28.7
B-16	8.5	2.000	0.010	-	-	-	4.0	41.0	54.8
B-16	18.5	4.750	0.004	-	-	-	2.4	35.9	61.6
B-16	23.5	2.000	0.012	-	-	-	4.7	44.8	50.4
B-17	0.5	2.000	0.010	-	-	-	3.4	41.4	55.2
B-17	2.5	2.000	0.052	0.005	-	-	13.9	56.5	28.4
B-17	6.5	4.750	0.015	-	-	-	3.3	45.5	51.2
B-17	8.5	2.000	0.002	-	-	-	1.0	34.6	64.4
B-17	18.5	0.425	-	-	-	-	2.1	23.1	74.6
B-18	4.5	4.750	0.009	-	-	-	3.5	41.0	55.0
B-18	8.5	0.425	-	-	-	-	0.4	29.6	69.9
B-18	18.5	4.750	0.020	-	-	-	2.4	49.4	48.0
B-19	2.5	2.000	0.031	-	-	-	7.0	51.3	41.5
B-19	6.5	2.000	0.012	-	-	-	5.8	44.0	50.0
B-19	8.5	2.000	-	-	-	-	2.1	27.6	70.2
B-20	2.5	9.500	0.071	0.005	-	6.2	28.6	33.9	28.7
B-20	6.5	9.500	0.066	0.006		1.7	31.7	38.9	27.3
B-20	13.5	2.000	0.015	-	-	-	10.2	40.7	48.0
B-20	18.5	2.000	0.017	-	-	-	4.7	44.1	51.1

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-21	4.5	4.750	0.045	-	-	-	3.9	48.0	48.0
B-21	8.5	0.425	0.004	-	-	-	3.5	35.7	60.2
B-22	2.5	25.000	0.056	0.003	-	9.9	15.7	36.8	33.4
B-22	4.5	9.500	0.050	0.003		1.6	13.8	50.8	32.9
B-22	6.5	9.500	0.017	-	-	0.4	5.9	39.3	51.8
B-23	0.5	9.500	0.048	0.012	-	0.2	10.1	71.4	16.7
B-23	4.5	4.750	0.013	-	-	-	6.0	46.8	47.1
B-23	6.5	9.500	0.042	-	-	3.1	9.4	38.7	45.5
B-24	0.5	2.000	-	-	-	-	1.7	31.8	66.4
B-24	2.5	2.000	0.009	-	-	-	8.7	38.0	53.0
B-24	6.5	2.000	-	-	-	-	5.5	17.0	77.5
B-25	2.5	4.750	0.003	-	-	-	7.7	27.1	64.8
B-25	4.5	9.500	0.043	0.003	-	1.0	11.0	53.7	32.9
B-26	4.5	2.000	0.004	-	-	-	2.8	34.4	62.7
B-26	8.5	0.425	-	-	-	-	0.9	28.6	70.5
B-26	10.0	2.000	-	-	-	-	1.9	25.8	72.3
B-26	13.5	2.000	-	-	-	-	3.8	23.1	73.0
B-26	23.5	4.750	0.006	-	-	-	2.6	37.9	59.4
B-27	0.5	9.500	-	-	-	0.1	6.1	92.9	
B-27	4.5	2.000	0.063	0.050	-	-	17.9	70.3	11.7
B-27	8.5	2.000	0.064	0.049	0.004	-	22.7	65.4	11.2
B-27	28.5	4.750	0.063	0.050	0.01	-	18.3	74.7	6.9
B-28	0.5	9.500	1.677	0.056	-	13.8	28.7	32.2	13.4
B-28	4.5	9.500	0.069	0.056	0.008	1.3	24.2	66.0	6.9
B-28	8.5	-	-	0.007	-	-	-	-	26.6
B-29	0.5	4.750	0.055	0.002	-	-	20.7	43.4	35.4
B-29	4.5	4.750	0.071	0.028	-	-	34.6	43.8	20.0
B-29	7.5	-	-	-	-	-	-	-	18.8
B-29	8.5	9.500	2.778	0.380	0.018	18.2	53.1	18.5	7.0
B-29	18.5	9.500	2.845	0.131	0.036	16.7	44.5	21.9	6.0
B-30	0.5	9.500	2.670	0.066	0.005	17.3	38.9	26.8	9.9
B-30	4.5	9.500	0.074	0.051	0.001	6.0	32.5	45.0	16.2
B-31	4.5	4.750	0.056	-	-	-	20.9	41.2	36.8
B-31	8.5	4.750	0.069	0.019	-	-	34.5	37.7	27.1
B-31	13.5	2.000	0.052	-	-	-	7.6	51.1	41.3
B-32	0.5	-	-	-	0.006	-	-	-	9.4
B-32	4.5	4.75	1.072	0.062	0.008	-	51.8	34.6	7.7
B-32	10.5	-	-	-	-	-	-	-	12.9
B-32	13.5	-	-	-	-	-	-	-	13.2
B-32	23.5	9.500	4.506	2.062	0.212	22.9	53.7	7.3	1.0
B-34	4.5	9.500	5.476	2.615	0.450	29.5	46.6	6.5	0.8
B-35	1.0	9.500	0.064	0.014	-	3.8	24.9	48.3	21.9
B-35	3.5	-	-	0.003	-	-	-	-	34.3
B-37	4.5	2.000	0.010	-	-	-	1.1	45.0	53.9
B-37	13.5	4.750	0.009	-	-	-	4.9	41.4	51.9
B-37	23.5	9.500	0.050	0.004	-	2.4	16.4	47.2	33.6
B-38	0.5	9.500	0.049	-	-	0.5	10.6	39.2	49.0
B-38	6.5	4.750	0.044	-	-	-	6.3	41.0	51.1
B-38	13.5	0.425	0.054	-	-	-	11.0	46.6	42.3
B-38	18.5	4.750	0.044	-	-	-	6.9	48.9	44.2
B-38	28.5	4.750	0.024	0.002	-	-	7.0	51.6	40.7
B-39	0.5	4.750	0.041	-	-	-	7.9	35.5	54.1
B-39	4.5	4.750	0.008	-	-	-	2.8	41.6	55.4

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-39	10.0	9.500	0.043	-	-	1.9	10.3	39.9	47.4
B-39	13.5	4.750	0.008	-	-	-	2.4	42.1	53.5
B-39	23.5	2.000	0.011	-	-	-	26.9	17.9	55.0
B-39	28.5	0.425	0.006	-	-	-	1.0	41.6	57.4
B-39	38.5	4.750	0.065	0.025	-	-	27.0	45.1	27.3
B-39	48.5	9.500	0.030	-	-	1.6	6.0	42.4	48.0
B-39	53.5	4.750	0.050	0.004	-	-	7.1	60.4	32.3
B-40	0.5	9.500	0.053	0.002	-	1.5	12.2	46.0	35.9
B-40	4.5	9.500	0.049	-	-	1.9	9.2	42.1	44.1
B-40	13.5	9.500	0.062	0.002	-	7.6	17.9	35.3	34.1
B-41	0.5	9.500	0.042	-	-	1.1	9.1	45.0	43.8
B-41	4.5	4.750	0.022	-	-	-	5.1	39.4	53.9
B-41	13.5	9.500	0.049	-	-	5.2	9.0	38.7	43.2
B-41	18.5	4.750	0.044	-	-	-	8.6	39.4	51.6
B-41	28.5	9.500	0.049	0.002	-	0.8	3.2	53.4	42.4
B-41	38.5	4.750	-	-	-	-	14.1	84.7	
B-42	6.5	4.750	0.005	-	-	-	3.8	37.6	58.4
B-42	8.5	4.750	0.039	-	-	-	7.2	43.6	48.4
B-42	18.5	4.750	0.492	0.01	-	-	35.1	20.7	27.7
B-42	28.5	9.500	0.049	-	-	3.3	12.8	33.4	49.5
B-42	30.5	2.000	0.006	-	-	-	1.1	41.0	57.8
B-43	0.5	4.750	0.046	-	-	-	10.7	40.30	47.0
B-43	4.5	9.500	0.045	-	-	2.4	5.9	41.3	47.8
B-43	13.5	4.750	0.003	-	-	-	1.6	34.5	63.9
B-43	23.5	-	0.008	-	-	-	-	-	55.3
B-43	33.5	4.750	0.008	-	-	-	2.7	39.5	57.3
B-43	48.5	9.500	0.044	-	-	3.4	8.7	31.7	55.4
B-44	0.5	9.500	0.070	0.011	-	9.2	21.5	40.7	22.2
B-44	4.5	9.500	0.049	-	-	11.6	10.9	26.4	45.5
B-44	13.5	9.500	0.073	0.005	-	3.4	12.8	31.1	30.1
B-44	23.5	4.750	0.007	-	-	-	2.7	41.3	55.8
B-44	33.5	9.500	0.014	-	-	2.9	6.4	37.8	50.3
B-45	28.5	25.000	0.002	-	-	0.1	1.1	26.7	64.5
B-46	0.5	4.750	0.034	-	-	-	7.9	44.7	47.1
B-46	4.5	2.000	0.006	-	-	-	2.5	40.3	56.9
B-46	8.5	9.500	0.010	-	-	1.2	5.3	40.0	53.1
B-46	13.5	4.750	0.047	-	-	-	15.3	30.1	48.9
B-46	23.5	9.5	0.004	-	-	4.5	8.8	20.8	62.7
B-46	28.0	9.500	0.047	-	-	2.7	16.4	31.1	49.2
B-46	33.5	25.4	0.006	-	-	5.6	5.1	26.8	55.8
B-46	38.5	4.750	0.010	-	-	-	6.2	37.2	55.6
B-47	2.5	9.500	0.058	0.004	-	7.3	21.7	37.5	32.6
B-47	6.5	9.500	0.054	0.002	-	8.1	14.0	33.5	38.6
B-47	8.5	9.500	0.010	-	-	1.6	5.3	41.4	50.4
B-47	10.5	9.500	0.040	-	-	6.5	8.2	29.5	49.6
B-47	18.5	9.500	0.007	-	-	5.6	12.8	24.7	56.2
B-48	0.5	9.500	0.008	-	-	1.3	5.3	35.5	55.7
B-48	2.5	4.750	0.010	-	-	-	9.0	37.4	52.9
B-48	6.5	9.500	0.005	-	-	3.3	6.3	26.5	60.8
B-48	8.5	4.750	0.012	-	-	-	3.6	45.2	50.8
B-48	13.5	2.000	0.05	-	-	-	2.5	52.3	44.6
B-48	18.5	2.000	-	-	-	-	4.1	95.6	
B-48	23.5	25.000	0.010	-	-	1.1	2.4	43.0	49.3

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-48	28.5	2.000	0.009	-	-	-	4.1	43.6	52.0
B-48	38.5	2.000	0.009	-	-	-	0.9	45.0	53.9
B-49	0.5	4.750	0.045	-	-	-	12.6	42.4	43.8
B-49	4.5	4.75	0.045	-	-	-	11.5	40.2	47.7
B-49	18.5	9.500	0.073	-	-	14.2	12.9	20.3	40.3
B-49	28.5	9.500	0.046	-	-	9.2	11.5	24.5	49.0
B-50	1.0	9.500	0.043	-	-	3.0	7.6	32.0	53.5
B-50	4.5	9.500	0.003	-	-	3.2	6.5	23.0	62.6
B-50	8.5	25.400	0.038	-	-	4.1	4.2	31.4	54.5
B-50	13.5	2.000	-	-	-	-	1.8	98.0	
B-50	27.5	9.500	0.003	-	-	0.4	2.6	27.7	67.3
B-50	33.5	4.750	0.001	-	-	-	2.5	20.2	75.7
B-51	1.0	9.500	0.026	-	-	3.5	25.0	21.7	47.2
B-51	4.5	4.750	0.007	-	-	-	12.8	30.2	56.8
B-51	8.5	9.500	0.058	-	-	2.2	10.4	40.7	38.3
B-51	15.0	9.500	0.047	-	-	1.4	13.4	33.4	51.0
B-51	18.5	9.500	0.042	-	-	6.5	10.0	24.2	53.9
B-51	28.5	2.000	-	-	-	-	10.7	15.6	73.6
B-52	2.5	4.750	0.273	-	-	-	38.2	51.8	
B-52	6.5	9.500	0.049	-	-	12.1	13.0	18.5	49.9
B-53	6.5	9.500	-	-	-	5.1	20.7	70.1	
B-53	13.5	4.750	0.055	-	-	-	19.0	33.2	44.2
B-54	2.5	4.750	0.070	0.009	-	-	32.7	40.0	24.2
B-54	6.5	2.000	0.056	-	-	-	19.2	39.6	41.0
B-54	8.5	9.500	0.007	-	-	-	4.4	38.4	56.7
B-54	13.5	-	0.007	-	-	-	-	-	56.2
B-55	2.5	4.750	0.055	-	-	-	27.7	31.5	37.6
B-55	6.5	9.500	0.191	0.003	-	9.2	33.0	21.2	33.0
B-56	2.5	9.500	-	-	-	1.7	19.6	76.9	
B-56	6.5	4.750	0.022	-	-	-	11.3	39.5	48.4
B-56	13.5	25.400	0.051	-	-	11.8	11.9	26.1	44.7
B-56	23.5	2.000	0.002	-	-	-	5.2	27.6	67.2
B-57	0.5	9.500	0.056	-	-	2.4	23.4	29.7	43.8
B-57	2.5	2.000	0.062	0.052	-	-	8.7	76.9	14.3
B-57	8.5	-	0.033	-	-	-	-	-	54.5
B-57	13.5	4.750	-	-	-	-	1.1	29.5	69.3
B-57	15.0	9.500	-	-	-	1.5	20.5	76.0	
B-57	18.5	9.500	0.008	-	-	0.2	7.0	36.3	56.2
B-57	23.5	2.000	0.048	0.003	-	-	7.4	54.4	38.0
B-58	0.5	4.750	0.026	-	-	-	37.9	11.3	50.8
B-58	2.5	9.500	0.053	0.003	-	-	19.2	40.9	39.7
B-58	13.5	2.000	0.056	-	-	-	23.7	32.8	43.4
B-58	23.5	4.750	0.061	-	-	-	28.5	34.2	37.2
B-58	28.5	4.750	0.061	-	-	-	27.0	32.6	38.5
B-59	1.0	2.000	0.034	-	-	-	24.5	24.7	50.5
B-59	2.5	4.750	0.056	-	-	-	29.2	30.2	40.2
B-59	6.5	2.000	0.050	-	-	-	21.5	35.3	43.1
B-59	13.5	4.750	0.027	-	-	-	14.8	34.7	50.4
B-59	23.5	4.750	0.054	-	-	-	25.4	28.4	45.7
B-60	0.5	4.750	0.005	-	-	-	5.3	34.1	60.5
B-60	4.5	2.000	0.011	-	-	-	2.3	41.6	56.1
B-60	13.5	9.500	0.043	-	-	1.1	13.6	34.4	49.4
B-60	17.5	4.750	0.003	-	-	-	5.4	32.9	61.1

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-60	28.5	9.500	0.008	-	-	0.9	3.9	40.8	53.9
B-60	38.5	9.500	0.059	0.015	-	1.1	5.9	67.2	23.2
B-60	43.5	9.500	0.042	-	-	0.5	8.9	36.8	48.1
B-61	1.0	4.750	0.043	-	-	-	21.1	36.9	41.8
B-61	2.5	2.000	0.061	0.005	-	-	26.1	42.8	30.3
B-61	4.5	0.075	0.062	0.005	-	-	-	43.1	29.1
B-61	18.5	2.000	0.035	-	-	-	2.3	53.1	44.5
B-61	25.0	4.750	0.043	-	-	-	10.2	41.0	48.5
B-61	28.5	2.000	0.050	-	-	-	13.9	38.3	47.7
B-61	38.5	9.500	0.063	0.006	-	2.8	25.1	41.7	29.7
B-61	43.5	4.750	0.044	0.005	-	-	5.9	64.1	29.1
B-61	48.5	9.500	0.046	-	-	0.3	12.7	42.9	43.5
B-62	1.0	4.750	0.005	-	-	-	5.5	33.8	60.4
B-62	18.5	2.000	-	-	-	-	6.4	19.4	74.1
B-63	13.5	9.500	0.013	-	-	1.7	6.5	39.9	50.6
B-63	18.5	25.400	0.008	-	-	2.0	13.5	23.7	58.0
B-64	0.5	9.500	0.058	-	-	2.0	26.6	32.1	39.0
B-64	4.5	2.000	0.047	-	-	-	8.5	41.0	50.3
B-64	13.5	2.000	0.052	-	-	-	8.8	51.1	39.3
B-64	18.5	9.500	0.007	-	-	0.5	4.2	39.3	54.9
B-65	4.5	2.000	0.051	0.002	-	-	19.3	44.9	35.4
B-65	18.5	4.750	0.062	0.004	-	-	27.3	41.3	31.2
B-65	28.5	9.500	0.007	-	-	1.0	5.5	35.4	56.5
B-66	1.0	4.750	0.045	-	-	-	11.9	33.6	52.6
B-66	2.5	9.500	-	-	-	8.2	25.3	62.8	
B-66	4.5	2.000	-	-	-	-	2.3	97.7	
B-66	13.5	9.500	0.007	-	-	0.8	5.2	33.8	57.8
B-66	23.5	50.000	0.048	-	-	10.5	7.9	23.9	50.0
B-67	4.5	2.000	0.047	0.005	-	-	7.1	63.1	29.6
B-67	13.5	4.750	0.045	-	-	-	16.7	35.8	47.0
B-67	18.5	4.750	0.001	-	-	-	3.8	29.7	66.2
B-67	28.5	9.500	0.001	-	-	1.3	3.3	25.9	68.2
B-67	38.5	19.000	0.008	-	-	2.6	2.9	34.9	56.5
B-68	4.5	4.750	0.046	-	-	-	6.3	41.0	52.3
B-68	13.5	25.000	0.047	-	-	0.7	4.3	30.6	49.0
B-68	23.5	4.750	0.044	0.002	-	-	7.3	51.0	41.4
B-68	28.5	25.00	0.066	-	-	15.5	7.0	26.5	38.5
B-70	1.0	4.750	0.049	-	-	-	16.3	44.9	38.5
B-70	4.5	2.000	0.004	-	-	-	11.5	27.4	61.0
B-70	13.5	4.750	0.007	-	-	-	1.4	42.5	56.0
B-71	4.5	4.750	0.061	0.002	-	-	31.4	29.6	38.6
B-71	13.5	4.750	0.002	-	-	-	6.1	24.1	69.4
B-71	28.5	2.000	-	-	-	-	3.7	96.3	
B-72	4.5	25.400	0.054	-	-	0.9	20.8	32.8	44.7
B-73	4.5	9.500	0.019	0.004	-	0.4	9.2	53.9	36.0
B-73	8.5	2.000	0.024	0.003	-	-	10.4	55.6	34.0
B-73	18.5	9.500	-	-	-	-	1.2	18.8	78.9
B-74	1.0	2.000	0.012	-	-	-	6.1	37.7	54.8
B-74	33.5	4.750	0.035	0.006	-	-	1.3	70.8	27.7
B-75	1.0	4.750	0.053	0.002	-	-	20.7	43.7	35.3
B-75	2.5	4.750	0.053	0.003	-	-	25.9	39.5	34.1
B-75	13.5	2.000	0.055	0.030	-	-	5.6	66.9	27.5
B-75	15.0	0.425	0.044	-	-	-	1.5	41.8	55.9

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-75	18.5	9.500	0.049	-	-	0.9	7.7	42.7	47.3
B-75	23.5	4.750	0.002	-	-	-	4.3	30.0	65.7
B-75	33.5	2.000	0.014	-	-	-	2.3	49.7	47.7
B-75	38.5	4.750	-	-	-	-	1.7	98.3	
B-75	43.5	4.750	0.048	-	-	-	1.2	60.6	38.0
B-76	0.5	4.750	0.050	-	-	-	21.3	36.7	41.8
B-76	6.5	4.750	0.070	0.002	-	-	36.5	26.9	35.3
B-76	12.0	4.750	0.005	-	-	-	13.4	26.6	59.9
B-76	18.5	2.000	0.011	-	-	-	5.3	42.4	52.3
B-77	1.0	2.000	0.033	-	-	-	8.5	44.8	46.3
B-77	4.5	4.750	0.061	0.050	-	-	7.5	77.4	15.1
B-77	13.5	2.000	0.062	0.001	-	-	28.7	31.6	37.5
B-77	15.0	2.000	0.052	0.003	-	-	13.4	52.0	33.6
B-77	18.5	4.750	0.061	0.052	0.005	-	1.4	89.0	9.6
B-77	23.5	9.500	5.024	0.341	-	10.4	38.8	20.3	
B-82	0.5	4.750	0.014	0.003	-	-	16.3	46.5	37.1
B-82	1.5	4.75	0.044	-	-	-	6.0	43.9	49.7
B-82	8.5	2.000	0.007	-	-	-	1.9	41.0	56.9
B-82	13.5	4.750	0.022	-	-	-	4.8	43.7	51.2
B-82	25.0	-	0.21	0.003	-	-	-	-	39.4
B-82	28.5	4.750	0.011	-	-	-	6.8	42.9	49.2
B-83	0.5	4.750	0.065	0.008	-	-	32.2	42.3	25.5
B-83	4.5	4.750	0.058	0.003	-	-	22.5	42.8	34.7
B-84	0.5	2.000	0.042	-	-	-	17.1	39.1	43.7
B-84	4.5	4.750	0.055	0.033	-	-	3.2	76.5	20.2
B-84	13.5	4.750	0.042	-	-	-	18.7	31.7	49.2
B-84	23.5	4.750	0.048	-	-	-	16.3	33.2	50.3
B-84	28.5	2.000	0.054	-	-	-	20.8	33.7	45.0
B-85	0.5	2.000	0.064	0.007	-	-	27.9	45.0	27.0
B-85	4.5	2.000	0.065	0.008	-	-	31.7	40.6	27.6
B-85	12.0	2.000	0.007	-	-	-	7.8	36.2	55.8
B-85	13.5	0.0425	0.005	-	-	-	2.3	35.5	61.7
B-85	23.5	4.750	0.107	-	-	-	44.0	6.7	48.3
B-85	28.5	9.500	0.007	-	-	0.9	4.3	35.9	56.5
B-86	1.0	2.000	0.074	-	-	-	39.4	20.4	40.0
B-86	4.5	4.750	0.155	0.003	-	-	47.7	21.0	31.1
B-86	15.0	2.000	0.002	-	-	-	10.6	24.5	64.8
B-86	17.5	2.000	0.005	-	-	-	3.4	35.7	60.8
B-86	23.5	-	-	-	-	-	-	-	50.8
B-86	28.5	9.500	0.043	-	-	5.9	9.9	34.3	47.0
B-86	33.5	4.750	0.041	-	-	-	17.1	30.0	49.6
B-86	38.5	2.000	0.048	-	-	-	19.3	31.8	48.5
B-86	43.5	2.000	-	-	-	-	13.6	85.5	
B-86	48.5	9.500	0.046	-	-	2.9	4.6	39.9	48.6
B-87	1.0	4.750	0.167	-	-	-	52.0	5.6	42.2
B-87	2.5	4.750	0.001	-	-	-	4.7	22.0	73.1
B-87	4.5	2.000	0.171	0.056	-	-	54.7	27.3	18.0
B-87	8.5	0.425	0.204	0.069	-	-	66.7	14.7	18.1
B-87	13.5	0.425	0.220	0.080	-	-	70.3	29.4	
B-87	23.5	4.750	-	-	-	-	2.1	26.8	71.0
B-88	1.0	2.000	0.067	-	-	-	35.9	26.5	37.5
B-88	6.5	2.000	0.191	0.063	-	-	60.7	25.2	14.0
B-88	18.5	2.000	0.045	-	-	-	3.5	48.2	48.2

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-89	4.5	4.750	0.062	0.001	-	-	31.2	33.2	35.6
B-89	13.5	4.750	0.047	-	-	-	15.8	39.5	44.6
B-89	14.0	4.750	0.084	-	-	-	43.2	9.0	47.7
B-89	23.5	2.000	0.241	0.154	-	-	74.3	11.8	13.9
B-90	4.5	2.000	0.061	0.001	-	-	25.5	40.8	33.6
B-90	13.5	2.000	0.056	-	-	-	23.8	37.3	38.6
B-91	4.5	0.425	0.019	-	-	-	12.1	35.2	51.1
B-91	13.5	0.425	0.010	-	-	-	2.8	42.3	54.7
B-91	23.5	4.750	0.005	-	-	-	2.0	37.1	60.8
B-91	28.5	4.750	0.102	0.049	-	-	46.5	24.4	28.9
B-92	4.5	2.000	0.052	-	-	-	15.8	38.6	45.5
B-92	13.5	2.000	0.107	-	-	-	43.2	56.2	
B-92	18.5	2.000	0.004	-	-	-	2.1	34.8	63.2
B-93	1.0	2.000	0.032	-	-	-	5.9	45.6	47.8
B-93	4.5	4.750	-	-	-	-	11.7	87.9	
B-94	1.0	2.000	0.055	0.004	-	-	17.8	51.4	30.5
B-94	4.5	9.500	0.006	0.008	-	1.2	23.3	49.2	25.5
B-94	13.5	9.500	0.055	0.006	-	1.3	12.0	58.8	26.7
B-94	15.0	4.750	0.036	-	-	-	1.6	47.7	50.6
B-94	23.5	4.750	0.044	0.002	-	-	3.8	52.5	43.2
B-95	6.5	2.000	0.049	-	-	-	17.0	34.7	48.3
B-96	1.0	9.500	0.063	0.002	-	6.0	15.9	36.9	33.2
B-96	4.5	9.500	-	-	-	6.4	12.1	66.4	
B-96	13.5	9.500	0.066	0.004	-	7.2	10.9	32.9	31.2
B-97	4.5	2.000	0.057	0.002	-	-	18.4	46.7	34.4
B-97	8.5	2.000	0.044	-	-	-	5.7	39.2	55.1
B-97	13.5	2.000	0.003	-	-	-	1.0	37.2	61.7
B-97	28.5	4.750	0.042	0.004	-	-	4.9	59.9	35.1
B-97	38.5	0.425	0.043	-	-	-	1.2	47.0	51.8
B-97	48.5	2.000	0.052	0.003	-	-	10.7	55.2	34.0
B-98	4.5	4.750	-	-	-	-	22.5	72.8	
B-98	6.5	4.750	0.050	0.002	-	-	10.8	44.5	44.6
B-98	13.5	0.425	0.043	-	-	-	9.7	36.6	52.8
B-99	1.0	2.000	0.049	-	-	-	11.7	39.3	49.0
B-99	4.5	2.000	0.050	-	-	-	13.0	38.3	48.6
B-99	13.5	0.425	0.052	-	-	-	8.7	52.9	37.2
B-99	15.5	4.750	0.049	-	-	-	14.9	40.3	44.7
B-100	4.5	4.750	0.058	-	-	-	25.1	41.1	33.7
B-100	13.5	4.75	0.047	-	-	-	14.3	34.4	51.2
B-101	4.5	2.000	0.054	-	-	-	19.5	43.6	36.8
B-101	13.5	4.750	0.051	-	-	-	13.2	37.6	47.2
B-101	23.5	2.000	-	-	-	-	5.9	29.2	64.9
B-101	25.5	9.500	0.006	-	-	0.1	5.9	34.4	58.3
B-101	38.5	9.500	0.057	-	-	3.0	20.7	34.7	41.0
B-102	4.5	2.000	0.063	0.008	-	-	23.6	49.4	26.9
B-102	13.5	4.750	0.047	-	-	-	16.1	32.9	50.5
B-102	23.5	9.500	0.059	0.002	-	8.7	16.3	36.9	36.8
B-103	2.0	2.000	0.003	-	-	-	6.1	29.0	64.8
B-103	4.5	2.000	0.05	-	-	-	13.6	37.7	48.6
B-103	18.5	25.000	0.051	-	-	0.7	4.5	46.1	43.1
B-103	23.5	4.750	0.056	-	-	-	29.1	24.4	46.5
B-103	38.5	4.750	0.057	0.004	-	-	14.4	53.4	30.5
B-104	1.5	2.000	0.048	-	-	-	8.9	40.6	50.5

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-104	4.5	4.750	-	-	-	-	24.0	75.9	
B-104	13.5	4.750	0.004	-	-	-	4.8	32.7	62.3
B-104	28.5	0.425	-	-	-	-	1.6	23.8	74.4
B-104	33.5	2.000	0.003	-	-	-	3.4	30.4	66.0
B-105	2.0	2.000	0.062	0.012	-	-	21.1	58.6	19.8
B-105	4.5	9.500	0.061	0.009	-	0.9	24.4	49.7	24.2
B-105	8.0	4.750	0.052	0.002	-	-	14.1	49.3	36.6
B-105	13.5	9.500	0.065	0.004	-	4.2	19.4	39.5	30.5
B-105	23.5	4.750	0.003	-	-	-	5.6	28.2	62.3
B-105	28.5	4.750	-	-	-	-	5.7	26.2	67.9
B-106	6.5	2.000	0.058	-	-	-	18.8	44.8	36.0
B-106	8.5	9.500	0.066	0.008	-	1.0	26.4	43.6	28.5
B-106	18.5	2.000	0.060	0.003	-	-	21.1	47.2	31.7
B-106	23.5	4.750	0.053	-	-	-	15.5	39.2	44.8
B-106	28.5	4.750	0.009	-	-	-	8.4	37.6	52.7
B-106	38.5	4.750	0.308	0.062	0.011	-	54.1	36.3	9.5
B-106	43.5	9.500	0.056	0.002	-	1.8	10.6	51.6	33.0
B-107	4.5	2.000	0.049	-	-	-	3.2	48.0	48.7
B-107	8.5	4.750	0.002	-	-	-	4.3	31.4	63.8
B-107	13.5	9.500	0.042	-	-	1.0	9.5	33.6	55.2
B-107	23.5	4.750	0.050	-	-	-	6.7	54.8	38.5
B-107	28.5	4.750	0.039	-	-	-	6.4	47.2	46.0
B-107	38.5	4.75	0.050	-	-	-	6.7	54.8	38.5
B-108	4.5	4.750	0.047	-	-	-	3.9	49.4	46.5
B-108	13.5	4.750	0.012	-	-	-	1.7	39.7	58.6
B-108	23.5	2.000	0.061	0.025	-	-	15.1	59.0	25.8
B-109	4.5	-	-	-	-	-	-	-	35.9
B-109	6.5	4.750	0.048	-	-	-	8.2	44.6	46.8
B-109	8.5	2.000	0.004	-	-	-	1.0	38.9	60.1
B-109	18.5	2.000	0.005	-	-	-	4.6	36.4	58.6
B-109	23.5	4.750	0.046	-	-	-	6.8	49.1	43.3
B-109	28.5	25.000	0.974	0.046	-	14.9	9.1	30.2	23.3
B-109	33.5	9.500	0.075	0.054	0.009	9.2	28.3	52.4	7.7
B-110	4.5	4.750	0.059	0.012	0.002	-	13.2	66.1	19.6
B-110	13.5	4.750	0.064	0.053	0.005	-	15.0	75.6	9.4
B-111	4.5	4.750	-	-	-	-	3.7	96.2	
B-111	13.5	2.000	0.057	0.022	0.002	-	3.6	78.4	18.0
B-111	18.5	2.000	0.067	0.057	0.052	-	16.9	76.9	6.1
B-111	23.5	2.000	-	-	-	-	15.0	84.9	
B-112	4.5	2.000	0.054	-	-	-	14.4	43.8	41.7
B-112	13.5	9.500	0.217	0.010	-	5.4	43.5	26.2	24.4
B-113	4.5	2.000	0.043	0.002	-	-	3.0	56.7	40.3
B-114	4.5	2.000	0.046	0.002	0.003	-	6.8	51.4	41.5
B-114	13.5	2.000	0.050	0.003	-	-	1.3	61.3	37.2
B-114	23.5	2.000	-	-	-	-	6.5	93.5	
B-115	1.5	2.000	0.050	0.002	-	-	4.7	58.2	37.0
B-115	13.5	4.750	0.030	0.004	-	-	5.5	61.0	33.3
B-115	23.5	9.500	0.016	0.013	0.001	2.1	39.3	36.3	21.7
B-116	4.5	4.75	0.008	-	-	-	4.6	40.3	54.0
B-116	13.5	9.500	0.043	-	-	0.7	3.6	47.50	47.1
B-116	23.5	9.500	0.053	0.004	-	4.2	12.0	49.0	32.7
B-116	28.5	0.425	0.048	0.003	-	-	2.2	63.8	34.0
B-116	33.5	2.000	0.060	0.050	0.002	-	4.4	79.1	16.1

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-116	48.5	4.750	0.055	0.007	0.002	-	5.2	69.0	25.0
B-116	50.0	4.750	0.016	0.001	-	-	1.8	50.2	47.9
B-116	58.5	9.500	5.281	0.798	-	22.3	34.8	21.8	
B-117	4.5	2.000	0.008	-	-	-	1.6	44.0	54.2
B-117	13.5	4.750	0.044	0.003	-	-	5.4	56.4	38.0
B-117	18.5	2.000	0.038	-	-	-	4.6	40.1	54.8
B-117	23.5	9.500	0.048	0.003	-	1.3	10.5	48.9	36.5
B-117	33.5	2.000	0.048	0.003	-	-	0.8	61.9	37.3
B-117	38.5	-	-	0.002	-	-	-	-	39.9
B-118	4.5	2.000	0.006	-	-	-	2.1	42.0	55.9
B-118	13.5	2.000	0.058	0.023	-	-	1.2	80.7	18.1
B-118	23.5	2.000	0.045	0.002	-	-	13.2	42.4	43.7
B-118	33.5	2.000	0.049	0.004	-	-	5.0	62.9	32.1
B-119	3.5	9.500	2.606	0.052	0.003	20.5	28.7	30.6	13.4
B-119	8.0	4.750	0.004	-	-	-	4.1	30.0	65.5
B-119	13.5	9.500	0.050	-	-	6.9	12.7	31.7	43.4
B-119	18.0	25.000	0.064	0.003	-	12.6	11.0	34.2	33.8
B-119	23.5	9.500	-	-	-	8.6	13.9	72.9	
B-119	33.5	25.000	0.063	0.002	-	14.9	10.6	33.5	34.7
B-119	43.5	9.500	0.065	0.006	-	5.7	15.9	41.2	28.1
B-120	0.0	4.750	0.070	0.047	0.003	-	31.6	51.6	14.0
B-120	3.5	4.750	0.005	-	-	-	16.7	21.5	60.7
B-120	8.0	4.750	0.043	-	-	-	4.7	41.0	53.9
B-120	18.0	9.500	0.044	-	-	2.4	6.1	41.2	49.3
B-120	23.5	9.500	0.069	0.006	-	5.3	11.6	34.9	28.5
B-120	33.5	9.500	-	-	-	4.1	15.1	71.6	
B-121	3.5	4.750	0.050	-	-	-	10.8	49.1	39.1
B-121	8.0	9.500	0.054	-	-	4.3	7.6	43.9	39.7
B-121	13.5	9.500	0.048	-	-	4.0	12.7	29.4	47.1
B-121	18.0	2.000	0.009	-	-	-	3.2	38.6	57.3
B-121	23.5	9.500	0.064	-	-	10.4	12.2	24.6	41.4
B-121	33.5	9.500	0.049	0.002	-	3.8	13.7	38.7	43.1
B-122	3.5	4.750	0.009	-	-	-	2.3	42.9	54.6
B-122	8.0	25.000	5.716	0.043	-	29.6	12.2	17.7	27.1
B-122	13.5	9.500	0.054	-	-	9.2	12.1	26.4	46.2
B-122	18.0	25.000	10.58	0.066	-	32.0	12.3	17.9	16.4
B-122	23.5	9.500	0.056	-	-	8.4	13.2	27.2	45.1
B-123	1.5	4.750	-	-	-	-	22.5	77.1	
B-123	4.5	-	-	0.005	-	-	-	-	30.00
B-123	13.5	4.750	0.005	-	-	-	0.9	40.6	58.4
B-123	23.5	9.5000	1.566	0.048	-	10.1	28.6	29.2	21.4
B-123	33.5	4.750	0.015	0.001	-	-	8.9	46.4	43.9
B-124	3.5	4.750	0.005	-	-	-	7.8	31.7	59.7
B-125	3.5	4.750	0.053	0.004	-	-	21.7	45.7	32.3
B-126	8.5	4.750	0.057	0.006	-	-	18.4	53.5	27.1
B-127	8.5	9.500	0.054	0.002	-	3.4	10.1	46.6	34.3
B-128	1.0	9.500	0.259	0.044	-	7.4	41.7	30.6	19.5
B-128	1.5	9.500	0.059	0.008	-	2.9	17.0	54.5	24.8
B-128	4.5	9.500	0.060	0.004	-	6.5	20.2	39.6	31.7
B-129	6.5	9.500	3.321	0.068	-	9.7	34.7	15.5	15.9
B-130	1.5	4.750	0.75	0.049	-	-	37.0	41.6	18.6
B-130	4.5	9.500	0.050	-	-	0.4	8.1	48.1	40.3
B-130	6.5	25.000	7.059	0.316	0.059	38.9	27.9	22.2	1.4

Sample	Depth	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
B-131	3.5	2.000	0.044	-	-	-	10.2	39.6	49.8
B-131	10.0	9.500	-	-	-	1.1	6.7	90.7	
B-131	13.5	4.75	-	-	-	-	2.9	96.9	
B-131	23.5	2.000	0.006	-	-	-	0.7	41.6	57.6
B-131	33.5	4.750	-	-	-	-	3.8	96.2	
B-131	40.0	2.000	0.022	0.003	-	-	1.9	61.0	37.1
B-132	1.5	25.000	0.069	0.007	-	15.1	13.7	37.5	26.9
B-132	3.5	2.000	0.014	-	-	-	1.4	45.8	52.7
B-132	8.0	9.5000	0.051	-	-	3.6	19.0	34.6	42.2
B-132	13.5	4.750	0.012	-	-	-	3.0	46.8	50.1
B-132	14.0	2.000	0.045	-	-	-	11.1	36.7	50.4
B-132	23.5	9.500	0.065	0.005	-	9.5	11.4	38.3	29.7
B-132	28.0	9.500	0.020	-	-	1.5	2.8	41.3	54.1
B-133	3.5	4.750	0.014	-	-	-	9.2	40.4	50.3
B-133	13.5	25.000	17.849	2.189	0.036	29.3	17.6	14.1	8.3
B-133	23.5	9.500	0.044	0.003	-	3.1	4.2	44.5	39.9
B-133	35.0	9.500	4.957	0.276	0.005	24.1	32.6	16.4	9.5
B-134	3.5	9.500	0.547	0.060	0.002	13.4	39.7	26.3	14.0
B-135	8.5	4.750	0.051	-	-	-	15.7	37.2	46.6
B-136	3.5	9.500	0.325	0.062	0.006	10.5	40.1	32.7	8.7
B-136	13.5	4.750	0.035	-	-	-	2.4	50.6	46.9
B-137	4.0	0.425	0.060	0.026	-	-	11.4	65.9	22.6
B-137	13.5	2.000	0.052	0.004	-	-	7.6	61.1	31.1
B-138	3.5	4.750	0.057	0.008	-	-	18.4	58.0	23.5
B-139	3.5	4.750	0.055	0.003	-	-	25.1	40.1	34.6
B-139	13.5	4.750	0.050	-	-	-	14.8	36.2	48.2

Proctor Analysis

Sample	Depth	Maximum Dry Density PCF	%Optimum Moisture Content
B-1	0.5	99.1	23.2
B-6	1.3	102.4	20.9
B-8	0.5	104.8	20.0
B-9	0.5	112.4	15.9
B-9	17.2	110.5	15.1
B-12	0.5	107.7	18.8
B-17	0.5	93.9	25.3
B-22	2.5	103.7	19.9
B-24	0.5	93.4	27.0
B-28	0.5	104.7	17.9
B-29	0.5	92.4	25.6
B-29	7.5	100.4	21.9
B-46	0.5	99.2	23.3
B-46	28.0	91.7	28.0
B-48	0.5	91.1	27.5
B-51	15.0	96.7	25.0
B-59	1.0	99.4	22.1
B-61	1.0	109.7	17.3
B-66	1.0	93.4	26.8
B-75	1.0	105.4	19.0
B-87	13.5	102.8	20.7
B-93	1.0	98.1	21.1
B-105	2.0	110.2	16.0
B-113	0.5	89.3	29.5
B-122	24.0	89.8	24.3
B-126	8.0	108.0	16.8
B-131	8.0	91.0	27.6
B-133	0.5	99.1	23.0

CBR Results

Sample	Depth	CBR @ 0.10 (in)	CBR @ 0.20 (in)
B-1	0.5	3.8	3.5
B-8	0.5	8.4	7.6
B-9	0.5	4.0	4.0
B-9	17.2	2.8	2.8
B-12	0.5	9.9	8.4
B-17	0.5	12.7	10.8
B-22	25	7.4	6.9
B-24	0.5	2.7	2.4
B-28	0.5	1.6	1.4
B-29	0.5	3.8	3.6
B-29	7.5	0.9	1.0
B-46	.5	7.3	6.5
B-46	28	4.5	4.4
B-48	.5	4.3	4.2
B-51	15	1.6	1.5
B-59	1	6.4	5.8
B-61	1	5.9	5.4
B-66	1	3.7	3.4
B-75	1	6.0	5.3
B-87	13.5	5.6	5.0
B-93	1	3.0	2.8
B-105	2	10.7	10.1
B-113	.5	2.9	2.8
B-122	24	7.1	7.3
B-126	8	17.0	13.9
B-131	8	8.3	7.5
B-133	.5	6.6	5.9

Unconfined Compressive Strength

Boring	Depth (FT)	Compressive Strength
B-3	8.5	4489.3
B-7	8.5	2574.9
B-19	6.5	1380.7
B-24	10.0	1846.0
B-26	10.0	4287.3
B-50	13.5	3014.1
B-54	8.5	716.7
B-73	8.5	2626.3
B-126	4.0	1320.3
B-137	4.0	1824.4

Specific Gravity

Boring	Depth (FT)	Specific Gravity
B-29	0.5	2.66
B-51	15	2.65
B-61	1.0	2.69
B-74	1.0	2.67
B-77	15.0	2.71

Unconsolidated Undrained Analysis

Sample	Depth	Maximum Stress (PSF)	Strain (%)	Moisture (%)	Dry Density (PCF)	Wet Density (PCF)	Cell Pressure (PSI)	Strength Intercept (PSI)	Friction Angle (%)
B-1	18.5	3528.0	-4.2	47.2	73.1	107.7	15.0	12.3	0
B-2	11	6120.0	8.3	22.5	96.6	118.3	12.0	21.9	0
B-2	15	2966.4	6.0	N/A	N/A	N/A	11.0	10.5	0
B-5	13.5	3614.4	15.3	24.4	110.0	110.0	10.0	13.9	0
B-12	18.5	4161.6	15.3	30.4	89.4	116.6	9.0	14.4	0
B-20	18.5	7459.2	15.4	27.8	93.7	119.7	14.0	26.6	0
B-31	13.5	2232.0	15.3	43.3	73.9	105.9	10.0	7.8	0
B-50	27.5	2793.6	15.4	22.7	93.0	114.1	21	11.1	0
B-63	13.5	6134.4	15.3	40.2	81.5	114.2	12	21.4	0
B-67	18.5	3196.8	15.2	41.1	113.9	113.9	14.0	12.5	0
B-71	28.5	662.4	15.3	49.7	72.0	107.8	21.0	3.4	0
B-75	18.5	2894.4	15.3	38.6	124.9	124.9	15.0	10.2	0
B-82	13.5	2548.8	15.3	28.8	80.5	112.0	11.0	8.8	0
B-86	17.5	4723.2	15.3	44.9	76.7	111.1	15.0	16.4	0
B-117	18.5	8366.4	-13.4	31.6	87.4	115.1	11.0	29.1	0
B-119	8	2649.6	15.3	40.1	112.1	112.1	10.0	9.2	0
B-121	8	5083.2	15.4	31.7	88.8	117.0	10.0	17.6	0
B-131	10	2073.6	1.4	35.0	82.4	111.1	10.0	7.2	0

Consolidation Analysis

Sample	Depth	Preconsolidation Stress (tsf)	Cc	Cr
B-7	8.5	1.000	0.025	0.005
B-12	18.5	1.113	0.019	0.003
B-63	13.5	1.00	0.044	0.006
B-118	18.5	1.00	0.036	0.003
B-132	28.0	1.654	0.032	0.015

Consolidated Undrained Analysis

Sample	Depth	Total Strength Intercept (PSI)	Total Friction Angle (%)	Effective Strength Intercept (PSI)	Effective Friction Angle (%)
B-5	23.5	N/A	N/A	8.8	16.1
B-16	18.5	1.2	19.6	2.1	19.2
B-46	38.5	10.0	19.2	6.8	19.1
B-58	28.5	9.1	17.9	15.6	17.9
B-70	13.5	12.1	19.0	12.3	19.0
B-75	38.5	3.0	19.6	11.2	16.8
B-84	28.5	10.6	18.7	13.8	17.7
B-120	18	4.6	17.7	10.3	17.2
B-132	28	2.6	18.3	4.3	17.2

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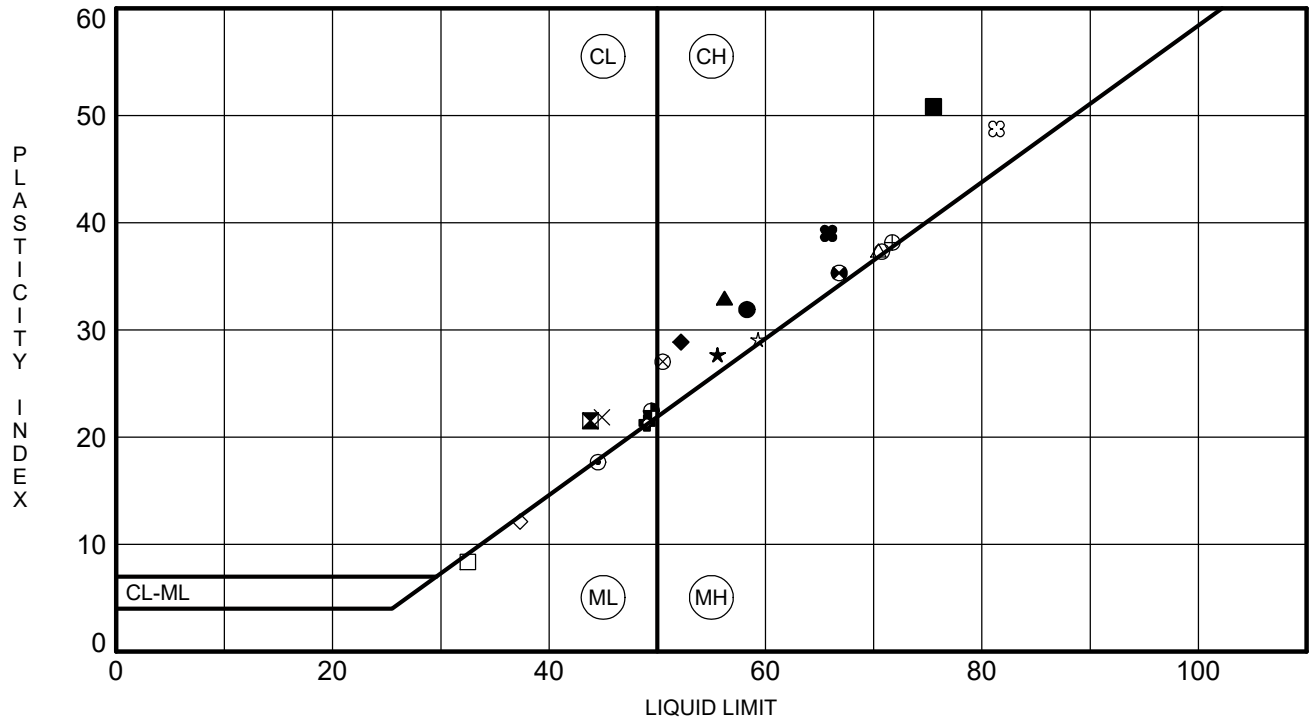
ATTERBERG LIMITS' RESULTS

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	1	0.0	58	26	32	71	FAT CLAY with SAND(CH)
⊠	1	0.5	44	22	22	88	LEAN CLAY(CL)
▲	1	5.0	56	23	33	87	FAT CLAY(CH)
★	1	14.0	56	28	28	94	FAT CLAY(CH)
⊙	2	4.0	45	27	18	83	SILT with SAND(ML)
✿	2	6.0	49	28	21	83	SILT with SAND(ML)
○	2	11.0	71	33	38	97	FAT CLAY(CH)
△	2	15.0	70	33	37	96	FAT CLAY(CH)
⊗	3	4.5	50	23	27	93	FAT CLAY(CH)
⊕	3	8.5	72	34	38	94	FAT CLAY(CH)
□	4	2.5	32	24	8	90	SILT(ML)
⊛	4	6.5	67	31	36	99	FAT CLAY(CH)
◕	5	4.5	49	27	22		
☆	5	8.5	59	30	29	91	FAT CLAY(CH)
⊠	5	13.5	81	33	48	96	FAT CLAY(CH)
■	5	25.5	76	25	51	98	FAT CLAY(CH)
◆	6	1.3	52	23	29	96	FAT CLAY(CH)
◇	6	2.5	37	25	12	94	SILT(ML)
×	6	6.5	45	23	22	98	LEAN CLAY(CL)
✖	6	13.5	66	27	39	98	FAT CLAY(CH)

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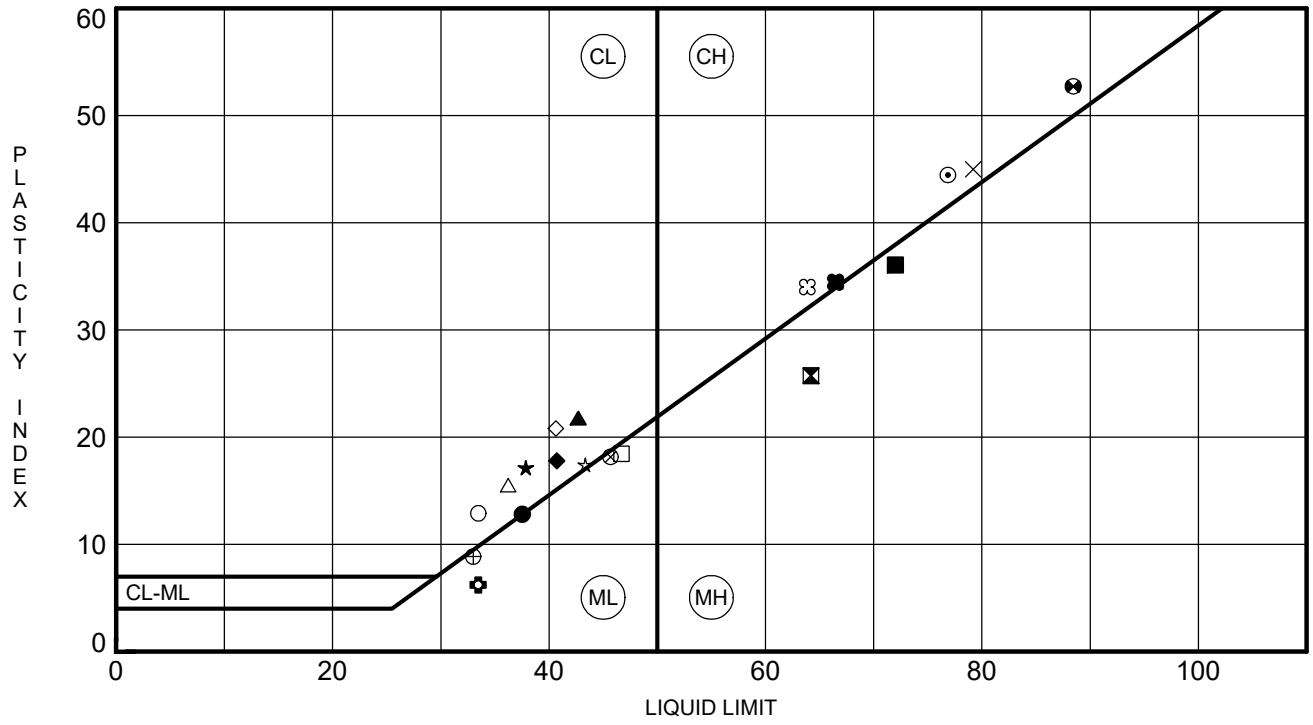

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	7	4.5	38	25	13	92	SILT(ML)
⊠	7	8.5	64	38	26	97	ELASTIC SILT(MH)
▲	8	0.5	43	21	22		
★	8	1.0	38	21	17	70	SANDY LEAN CLAY(CL)
⊙	8	13.5	77	32	45	93	FAT CLAY(CH)
✿	8	23.5	33	27	6	74	SILT with SAND(ML)
○	9	0.5	33	21	12	71	LEAN CLAY with SAND(CL)
△	9	17.2	36	21	15	79	LEAN CLAY with SAND(CL)
⊗	10	2.5	46	28	18	88	SILT(ML)
⊕	10	6.5	33	24	9	89	SILT(ML)
□	10	13.5	47	28	19	96	SILT(ML)
⊛	10	23.5	88	36	52	98	FAT CLAY(CH)
◕	11	2.5	NP	NP	NP	77	SILT with SAND(ML)
☆	12	4.5	43	26	17	96	LEAN CLAY(CL)
⊠	12	8.5	64	30	34	99	FAT CLAY(CH)
■	12	18.5	72	36	36	96	ELASTIC SILT(MH)
◆	13	2.5	41	23	18	94	LEAN CLAY(CL)
◇	13	4.5	41	20	21		
×	13	6.5	79	34	45	99	FAT CLAY(CH)
✖	13	8.5	66	32	34	99	FAT CLAY(CH)

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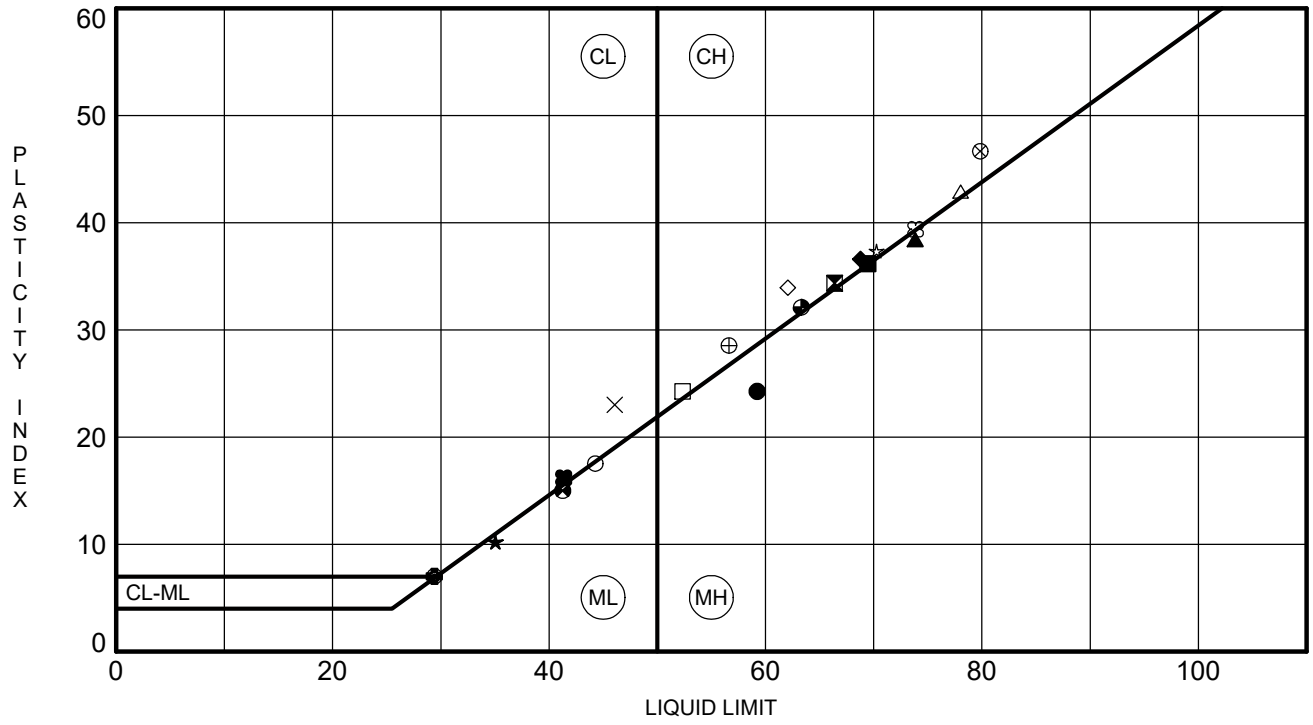

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	14	4.5	59	35	24	97	ELASTIC SILT(MH)
⊠	14	8.5	66	32	34	99	FAT CLAY(CH)
▲	14	18.5	74	35	39	96	ELASTIC SILT(MH)
★	15	2.5	35	25	10	85	SILT with SAND(ML)
⊙	15	6.5	29	22	7	78	SILTY CLAY with SAND(CL-ML)
✿	15	13.5	29	22	7	54	SANDY SILTY CLAY(CL-ML)
○	16	4.5	44	27	17	77	SILT with SAND(ML)
△	16	8.5	78	35	43	96	FAT CLAY(CH)
⊗	16	18.5	80	33	47	98	FAT CLAY(CH)
⊕	16	23.5	57	28	29	95	FAT CLAY(CH)
□	17	0.5	52	28	24	97	FAT CLAY(CH)
⊛	17	2.5	41	26	15	85	SILT with SAND(ML)
◕	17	6.5	63	31	32	97	FAT CLAY(CH)
☆	17	8.5	70	33	37	99	FAT CLAY(CH)
⊠	17	18.5	74	34	40	98	FAT CLAY(CH)
■	18	4.5	69	33	36	96	FAT CLAY(CH)
◆	18	8.5	69	32	37	99	FAT CLAY(CH)
◇	18	18.5	62	28	34	97	FAT CLAY(CH)
×	19	2.5	46	23	23	93	LEAN CLAY(CL)
✖	19	6.5	41	25	16	94	LEAN CLAY(CL)

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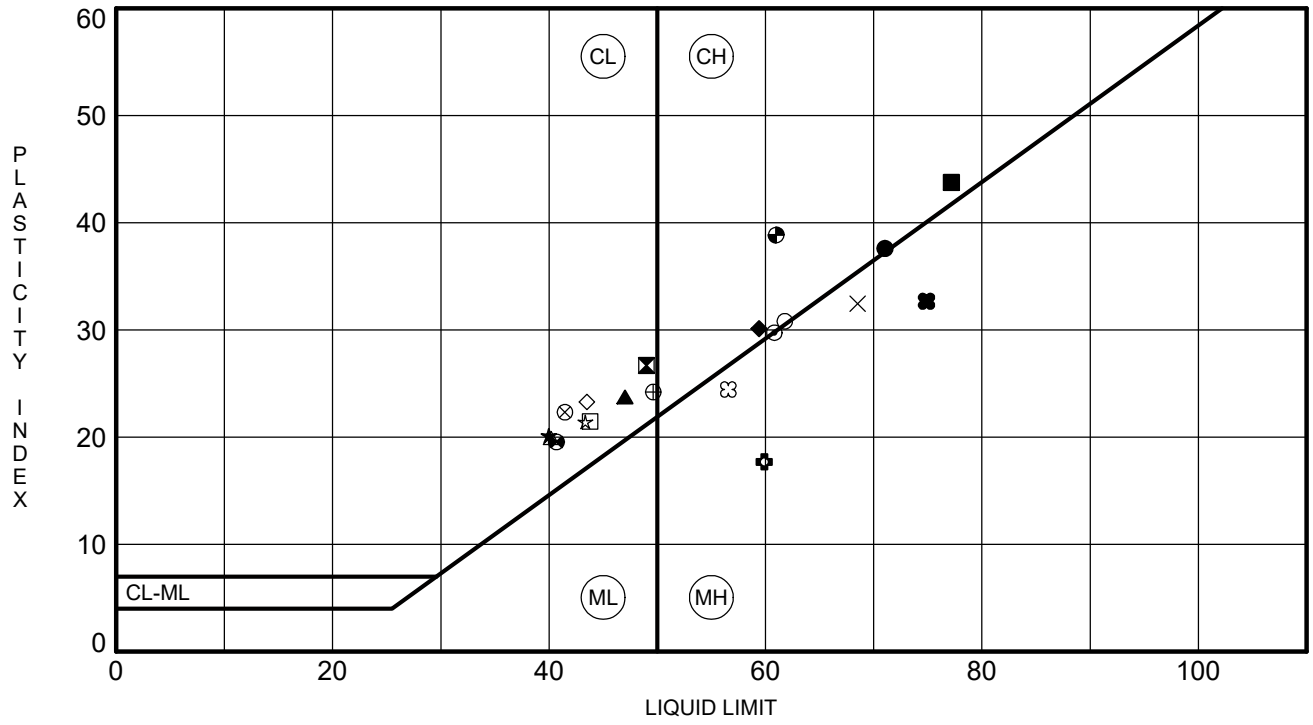

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	19	8.5	71	33	38	98	FAT CLAY(CH)
⊠	20	2.5	49	22	27	63	SANDY LEAN CLAY(CL)
▲	20	6.5	47	23	24	66	SANDY LEAN CLAY(CL)
★	20	13.5	40	20	20	89	LEAN CLAY(CL)
⊙	20	18.5	61	31	30	95	FAT CLAY(CH)
✿	21	4.5	60	42	18	96	ELASTIC SILT(MH)
○	21	8.5	62	31	31	96	FAT CLAY(CH)
△	22	2.5	40	20	20	70	LEAN CLAY with SAND(CL)
⊗	22	4.5	41	19	22	84	LEAN CLAY with SAND(CL)
⊕	22	6.5	50	25	25	91	FAT CLAY(CH)
□	23	4.5	44	22	22	94	LEAN CLAY(CL)
⊛	23	8.5	41	21	20	84	LEAN CLAY with SAND(CL)
◕	24	0.5	61	22	39	98	FAT CLAY(CH)
☆	24	2.5	43	22	21	91	LEAN CLAY(CL)
⊠	24	6.0	57	32	25		
■	24	6.5	77	33	44	94	FAT CLAY(CH)
◆	25	2.5	59	29	30	92	FAT CLAY(CH)
◇	25	4.5	43	20	23	87	LEAN CLAY(CL)
×	26	4.5	69	36	33	97	ELASTIC SILT(MH)
✖	26	8.5	75	42	33	99	ELASTIC SILT(MH)

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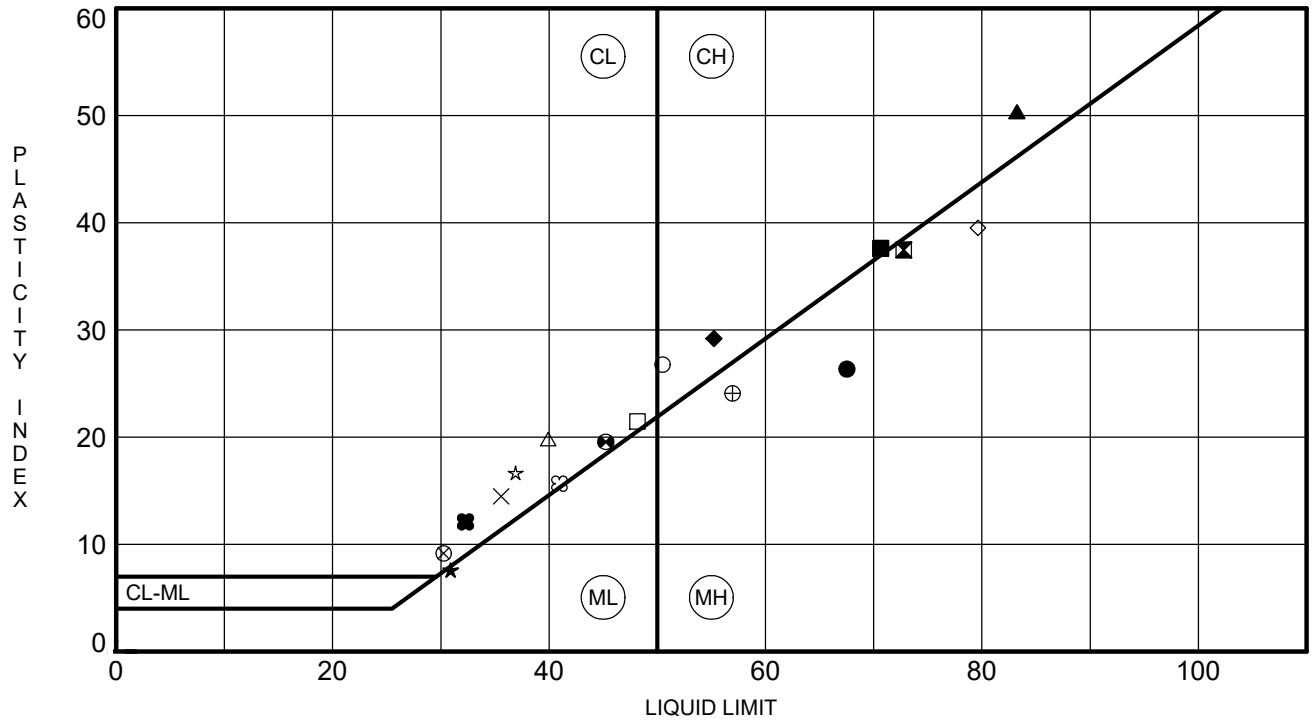

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	26	10.0	68	41	27	98	ELASTIC SILT(MH)
⊠	26	13.5	73	35	38	96	ELASTIC SILT(MH)
▲	26	23.5	83	33	50	97	FAT CLAY(CH)
★	27	4.5	31	23	8	82	SILT with SAND(ML)
⊙	27	8.5	NP	NP	NP	77	SILT with SAND(ML)
✿	27	28.5	NP	NP	NP	82	SILT with SAND(ML)
○	28	0.5	50	24	26	46	CLAYEY SAND with GRAVEL(SC)
△	28	4.5	40	20	20	73	LEAN CLAY with SAND(CL)
⊗	28	8.5	30	21	9		
⊕	29	0.5	57	33	24	79	ELASTIC SILT with SAND(MH)
□	29	4.5	48	27	21	64	SANDY LEAN CLAY(CL)
⊛	29	7.5	45	26	19		
◕	29	8.5	NP	NP	NP	26	SILTY SAND with GRAVEL(SM)
☆	30	0.5	37	20	17	37	CLAYEY SAND with GRAVEL(SC)
⊠	30	4.5	41	25	16	61	SANDY LEAN CLAY(CL)
■	31	4.5	71	33	38	78	FAT CLAY with SAND(CH)
◆	31	8.5	55	26	29	65	SANDY FAT CLAY(CH)
◇	31	13.5	80	40	40	92	ELASTIC SILT(MH)
×	32	0.5	36	21	15		
✖	32	4.5	32	20	12	42	CLAYEY SAND(SC)

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ATTERBERG LIMITS' RESULTS

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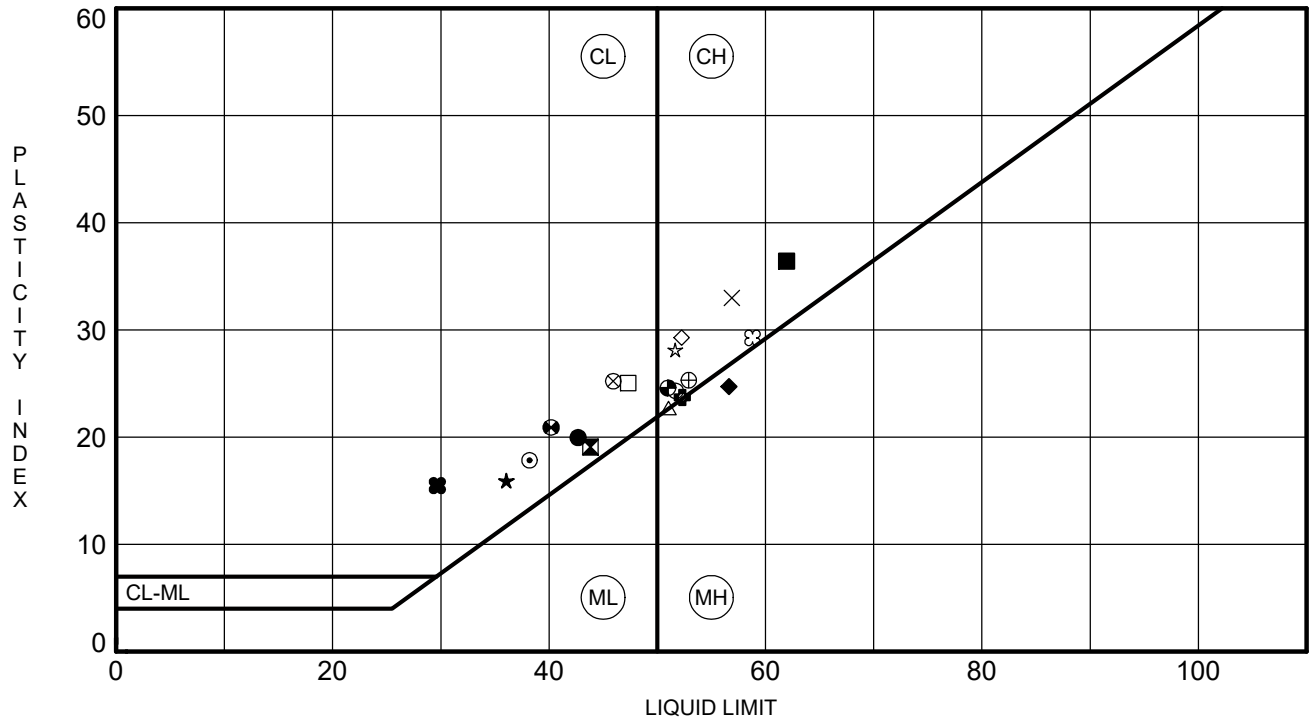
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	32	10.5	43	23	20		
⊠	32	13.5	44	25	19		
▲	32	23.5	NP	NP	NP	8	POORLY GRADED SAND with SILT and GRAVEL(SP-SM)
★	35	1.0	36	20	16	70	LEAN CLAY with SAND(CL)
⊙	35	3.5	38	20	18		
✿	37	4.5	52	29	23	99	ELASTIC SILT(MH)
○	37	13.5	52	27	25	93	FAT CLAY(CH)
△	37	23.5	51	28	23	81	FAT CLAY with SAND(CH)
⊗	38	0.5	46	21	25	88	LEAN CLAY(CL)
⊕	38	6.5	53	28	25	92	FAT CLAY(CH)
□	38	13.5	47	22	25	89	LEAN CLAY(CL)
⊛	38	18.5	40	19	21	93	LEAN CLAY(CL)
◕	38	28.5	51	26	25	92	FAT CLAY(CH)
☆	39	0.5	52	24	28	90	FAT CLAY(CH)
⊠	39	4.5	59	30	29	97	FAT CLAY(CH)
■	39	10.0	62	26	36	87	FAT CLAY(CH)
◆	39	13.5	57	32	25	96	ELASTIC SILT(MH)
◇	39	23.5	52	23	29	73	
×	39	28.5	57	24	33	99	FAT CLAY(CH)
✖	39	38.5	30	14	16	72	LEAN CLAY with SAND(CL)

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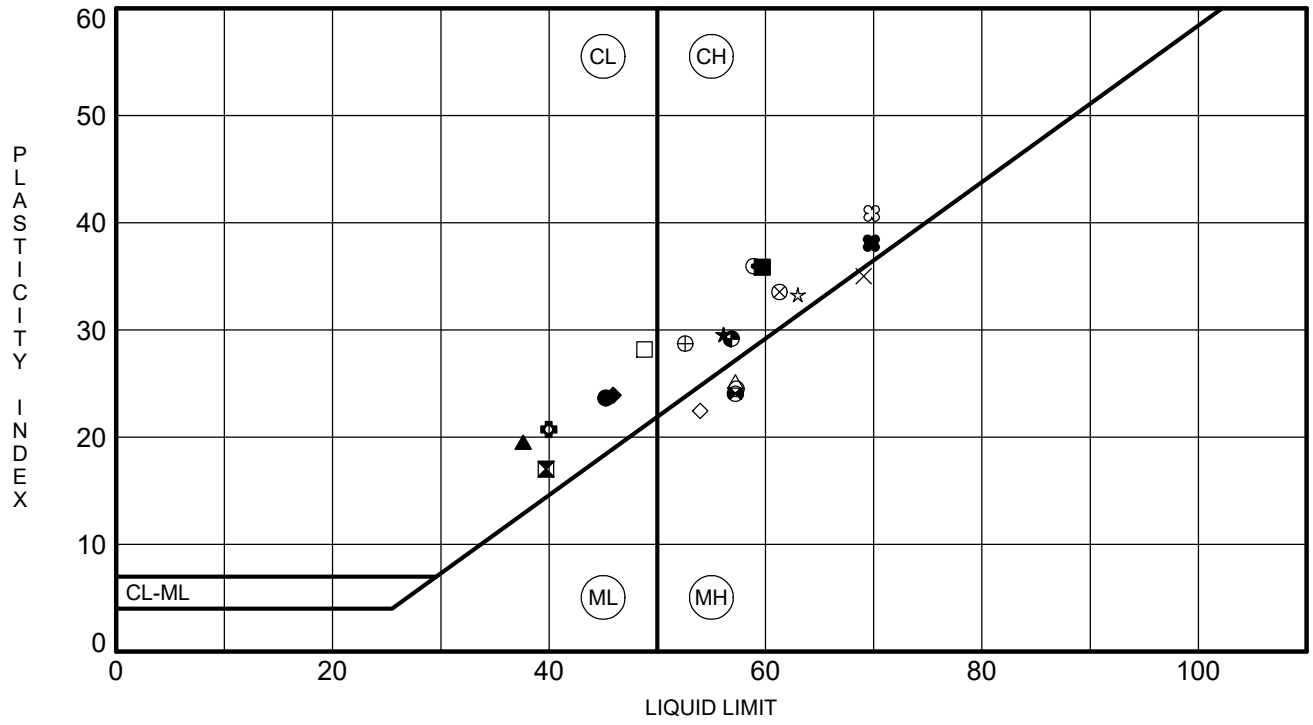

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	39	48.5	45	22	23	90	LEAN CLAY(CL)
⊠	39	53.5	40	23	17	93	LEAN CLAY(CL)
▲	40	0.5	38	18	20	82	LEAN CLAY with SAND(CL)
★	40	4.5	56	27	29	86	FAT CLAY(CH)
⊙	40	13.5	59	23	36	69	SANDY FAT CLAY(CH)
✿	41	0.5	40	19	21	89	LEAN CLAY(CL)
○	41	4.5	57	33	24	93	ELASTIC SILT(MH)
△	41	13.5	57	32	25	82	ELASTIC SILT with GRAVEL(MH)
⊗	41	18.5	61	28	33	91	FAT CLAY(CH)
⊕	41	28.5	53	24	29	96	FAT CLAY(CH)
□	41	38.5	49	21	28	85	LEAN CLAY with SAND(CL)
⊛	42	6.5	57	33	24	96	ELASTIC SILT(MH)
◕	42	8.5	57	28	29	92	FAT CLAY(CH)
☆	42	18.5	63	30	33	48	CLAYEY SAND with GRAVEL(SC)
⊠	42	28.5	70	29	41	83	FAT CLAY with SAND(CH)
■	42	30.5	60	24	36	99	FAT CLAY(CH)
◆	43	0.5	46	22	24	87	LEAN CLAY(CL)
◇	43	4.5	54	32	22	89	ELASTIC SILT(MH)
×	43	13.5	69	34	35	98	ELASTIC SILT(MH)
✖	43	23.5	70	32	38		

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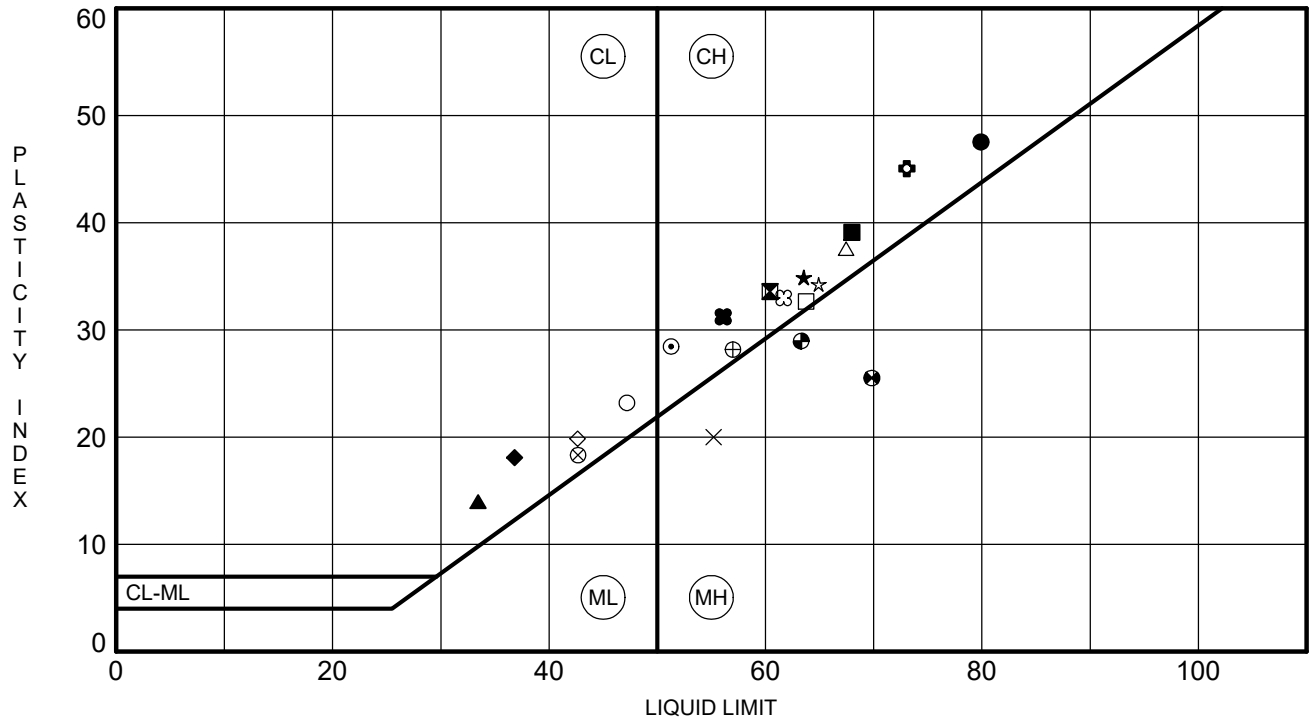

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	43	33.5	80	32	48	97	FAT CLAY(CH)
⊠	43	48.5	60	27	33	87	FAT CLAY(CH)
▲	44	0.5	33	19	14	63	SANDY LEAN CLAY with GRAVEL(CL)
★	44	4.5	64	29	35	72	FAT CLAY with GRAVEL(CH)
⊙	44	13.5	51	23	28	61	GRAVELLY FAT CLAY(CH)
✿	44	23.5	73	28	45	97	FAT CLAY(CH)
○	44	33.5	47	24	23	88	LEAN CLAY(CL)
△	45	28.5	67	30	37	91	FAT CLAY(CH)
⊗	46	0.5	43	24	19	92	LEAN CLAY(CL)
⊕	46	4.5	57	29	28	97	FAT CLAY(CH)
□	46	8.5	64	31	33	93	FAT CLAY(CH)
⊛	46	13.5	70	44	26	79	ELASTIC SILT with SAND(MH)
◕	46	23.5	63	34	29	84	ELASTIC SILT with SAND(MH)
☆	46	28.0	65	31	34	80	FAT CLAY with SAND(CH)
⊠	46	33.5	62	29	33	83	FAT CLAY with GRAVEL(CH)
■	46	38.5	68	29	39	93	FAT CLAY(CH)
◆	47	2.5	37	19	18	70	LEAN CLAY with SAND(CL)
◇	47	6.5	43	23	20	72	LEAN CLAY with SAND(CL)
×	47	8.5	55	35	20	92	ELASTIC SILT(MH)
✖	47	10.5	56	25	31	79	FAT CLAY with GRAVEL(CH)

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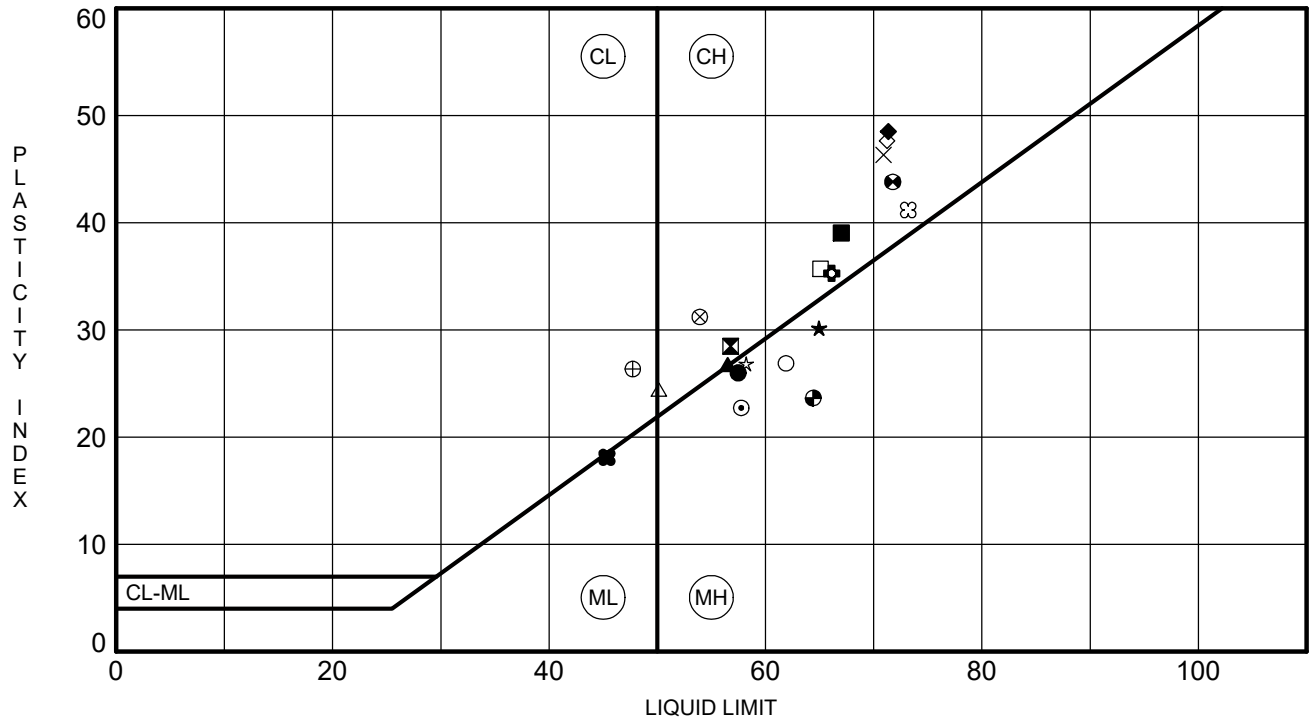

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	47	18.5	57	31	26	81	ELASTIC SILT with SAND(MH)
⊠	48	0.5	57	28	29	91	FAT CLAY(CH)
▲	48	2.5	57	30	27	90	ELASTIC SILT(MH)
★	48	6.5	65	35	30	87	ELASTIC SILT(MH)
⊙	48	8.5	58	35	23	96	ELASTIC SILT(MH)
✿	48	13.5	66	31	35	97	FAT CLAY(CH)
○	48	23.5	62	35	27	92	ELASTIC SILT(MH)
△	48	28.5	50	26	24	96	FAT CLAY(CH)
⊗	48	38.5	54	23	31	99	FAT CLAY(CH)
⊕	49	0.5	48	21	27	86	LEAN CLAY(CL)
□	49	4.5	65	29	36	88	FAT CLAY(CH)
⊛	49	18.5	72	28	44	61	GRAVELLY FAT CLAY(CH)
◕	49	28.5	64	41	23	73	ELASTIC SILT with GRAVEL(MH)
☆	50	1.0	58	31	27	86	ELASTIC SILT(MH)
⊠	50	4.5	73	32	41	86	FAT CLAY(CH)
■	50	8.5	67	28	39	86	FAT CLAY(CH)
◆	50	13.5	71	23	48	98	FAT CLAY(CH)
◇	50	27.5	71	24	47	95	FAT CLAY(CH)
⨯	50	33.5	71	25	46	96	FAT CLAY(CH)
✖	51	1.0	45	27	18	69	

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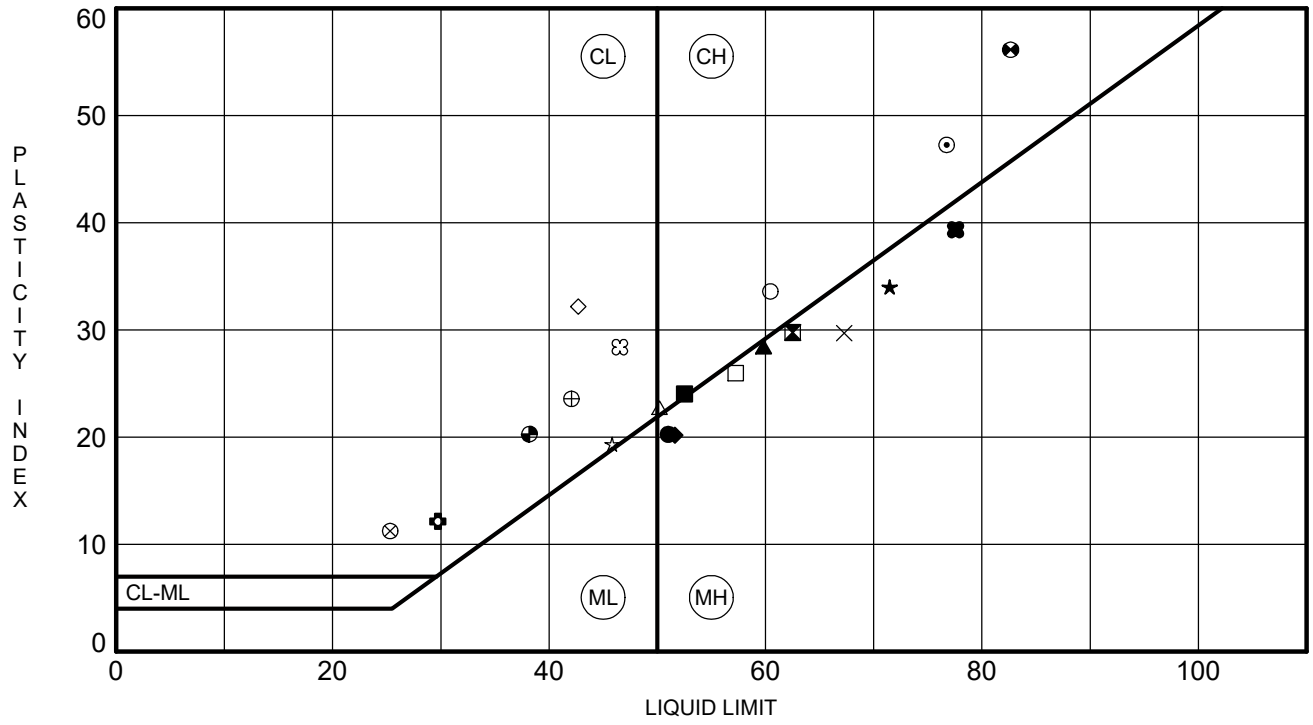

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	51	4.5	51	31	20	87	ELASTIC SILT(MH)
⊠	51	8.5	62	33	29	79	ELASTIC SILT with GRAVEL(MH)
▲	51	15.0	60	31	29	84	ELASTIC SILT with SAND(MH)
★	51	18.5	71	37	34	78	ELASTIC SILT with GRAVEL(MH)
⊙	51	28.5	77	29	48	89	FAT CLAY(CH)
✿	52	2.5	30	18	12	52	SANDY LEAN CLAY(CL)
○	52	6.5	60	27	33	68	GRAVELLY FAT CLAY(CH)
△	53	13.5	50	27	23	77	FAT CLAY with SAND(CH)
⊗	54	2.5	25	14	11	64	SANDY LEAN CLAY(CL)
⊕	54	6.5	42	18	24	81	LEAN CLAY with SAND(CL)
□	54	8.5	57	31	26	95	ELASTIC SILT(MH)
⊛	54	13.5	83	27	56		
◕	55	2.5	38	18	20	69	SANDY LEAN CLAY(CL)
☆	55	6.5	46	26	20	54	SANDY LEAN CLAY(CL)
⊠	56	6.5	47	18	29	88	LEAN CLAY(CL)
■	56	13.5	53	28	25	71	FAT CLAY with GRAVEL(CH)
◆	56	23.5	52	31	21	95	ELASTIC SILT(MH)
◇	57	0.5	43	11	32	73	LEAN CLAY with SAND(CL)
×	57	2.5	67	38	29	91	ELASTIC SILT(MH)
✖	57	13.5	78	38	40	99	ELASTIC SILT(MH)

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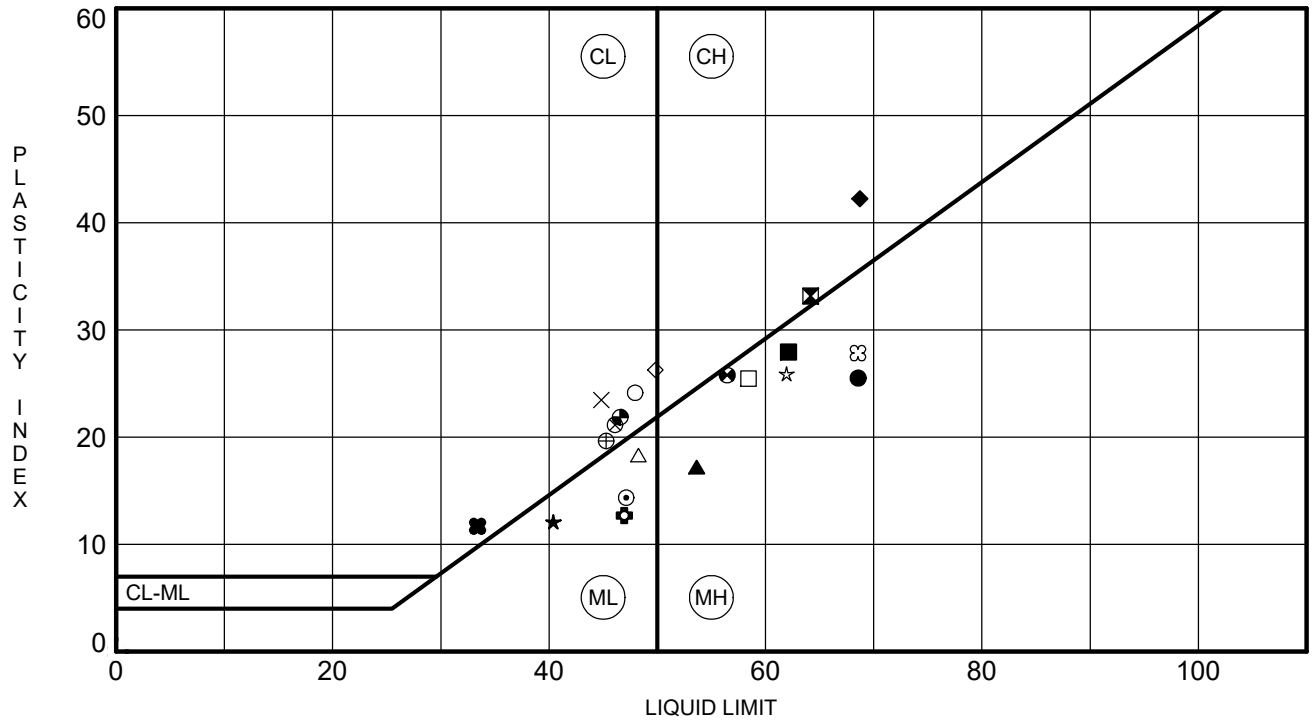

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	57	15.0	69	43	26	76	ELASTIC SILT with SAND(MH)
⊠	57	18.5	64	31	33	93	FAT CLAY(CH)
▲	57	23.5	54	36	18	92	ELASTIC SILT(MH)
★	58	0.5	40	28	12	62	SANDY SILT(ML)
⊙	58	2.5	47	33	14	81	SILT with SAND(ML)
✿	58	13.5	47	34	13	76	SILT with SAND(ML)
○	58	23.5	48	24	24	71	LEAN CLAY with SAND(CL)
△	58	28.5	48	30	18	71	SILT with SAND(ML)
⊗	59	1.0	46	25	21	75	LEAN CLAY with SAND(CL)
⊕	59	2.5	45	26	19	70	LEAN CLAY with SAND(CL)
□	59	6.5	58	33	25	78	ELASTIC SILT with SAND(MH)
⊠	59	13.5	56	31	25	85	ELASTIC SILT(MH)
◕	59	23.5	47	25	22	74	LEAN CLAY with SAND(CL)
☆	60	0.5	62	36	26	95	ELASTIC SILT(MH)
⊠	60	4.5	69	41	28	98	ELASTIC SILT(MH)
■	60	17.5	62	34	28	94	ELASTIC SILT(MH)
◆	60	28.5	69	26	43	95	FAT CLAY(CH)
◇	60	38.5	50	24	26	90	FAT CLAY(CH)
×	60	43.5	45	21	24	85	LEAN CLAY with SAND(CL)
✖	61	1.0	33	22	11	79	LEAN CLAY with SAND(CL)

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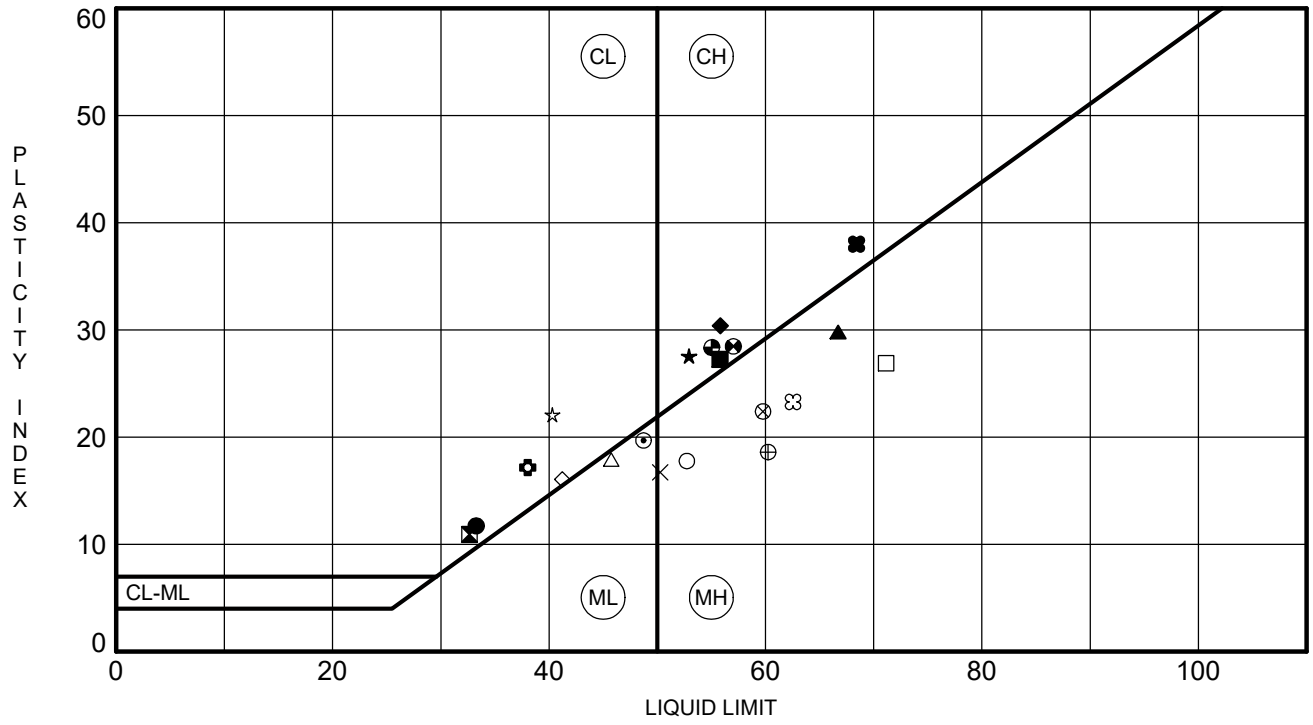

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	61	2.5	33	22	11	73	LEAN CLAY with SAND(CL)
⊠	61	4.5	33	22	11	72	LEAN CLAY with SAND(CL)
▲	61	18.5	67	37	30	98	ELASTIC SILT(MH)
★	61	25.0	53	25	28	89	FAT CLAY(CH)
⊙	61	28.5	49	29	20	86	SILT(ML)
✿	61	38.5	38	21	17	71	LEAN CLAY with SAND(CL)
○	61	43.5	53	35	18	93	ELASTIC SILT(MH)
△	61	48.5	46	28	18	86	SILT(ML)
⊗	62	1.0	60	37	23	94	ELASTIC SILT(MH)
⊕	62	18.5	60	42	18	94	ELASTIC SILT(MH)
□	62	28.5	71	44	27		
⊛	63	13.5	57	29	28	90	FAT CLAY(CH)
◕	63	18.5	55	27	28	82	FAT CLAY with SAND(CH)
☆	64	0.5	40	18	22	71	LEAN CLAY with SAND(CL)
⊠	64	4.5	63	39	24	91	ELASTIC SILT(MH)
■	64	13.5	56	29	27	90	FAT CLAY(CH)
◆	64	18.5	56	25	31	94	FAT CLAY(CH)
◇	65	4.5	41	25	16	80	LEAN CLAY with SAND(CL)
×	65	18.5	50	34	16	72	ELASTIC SILT with SAND(MH)
✖	65	28.5	68	30	38	92	FAT CLAY(CH)

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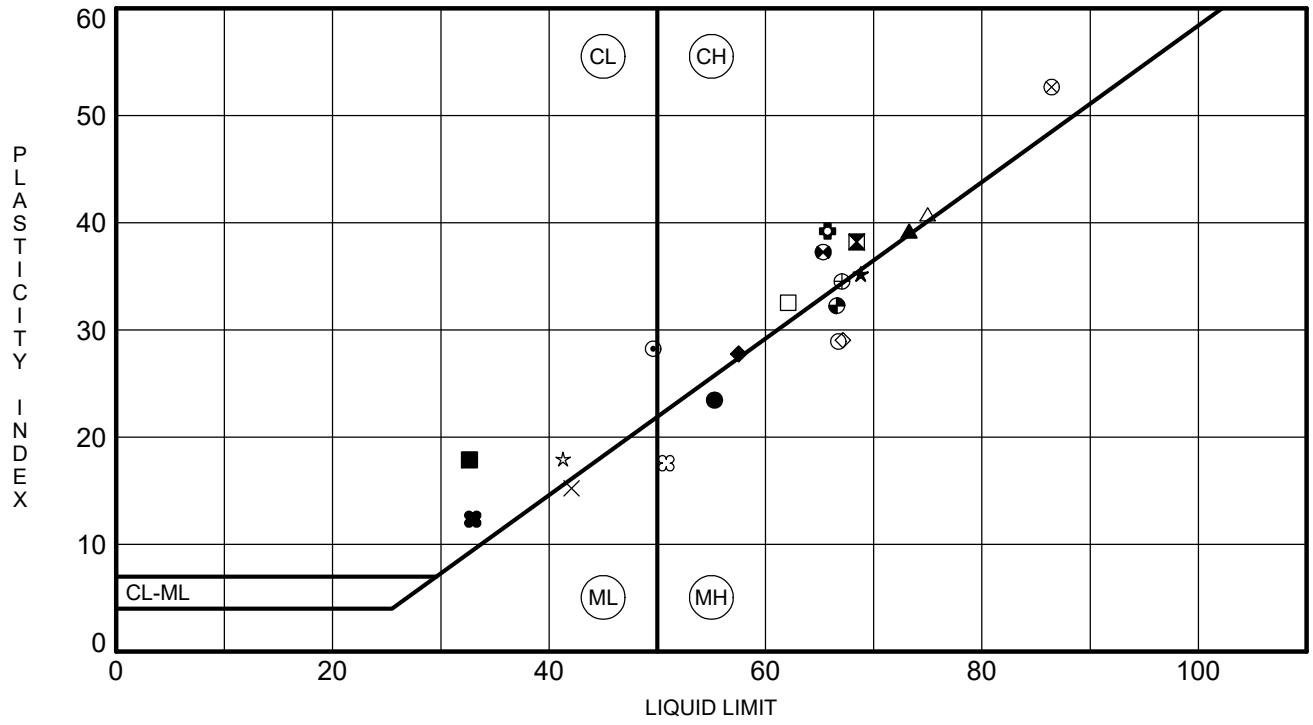

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	66	1.0	55	32	23	86	ELASTIC SILT(MH)
⊠	66	2.5	68	30	38	63	SANDY FAT CLAY(CH)
▲	66	13.5	73	34	39	92	FAT CLAY(CH)
★	66	23.5	69	34	35	74	ELASTIC SILT with GRAVEL(MH)
⊙	67	4.5	50	21	29	93	FAT CLAY(CH)
✿	67	13.5	66	27	39	83	FAT CLAY with SAND(CH)
○	67	18.5	67	38	29	96	ELASTIC SILT(MH)
△	67	28.5	75	34	41	94	FAT CLAY(CH)
⊗	67	38.5	86	34	52	91	FAT CLAY(CH)
⊕	68	4.5	67	33	34	93	ELASTIC SILT(MH)
□	68	13.5	62	30	32	80	FAT CLAY with GRAVEL(CH)
⊛	68	23.5	65	28	37	92	FAT CLAY(CH)
◕	68	28.5	67	34	33	65	GRAVELLY ELASTIC SILT(MH)
☆	70	1.0	41	23	18	83	LEAN CLAY with SAND(CL)
⊠	70	4.5	51	33	18	88	ELASTIC SILT(MH)
■	71	4.5	33	15	18	68	SANDY LEAN CLAY(CL)
◆	71	13.5	58	30	28	94	FAT CLAY(CH)
◇	71	28.5	67	38	29	96	ELASTIC SILT(MH)
×	72	4.5	42	27	15	77	SILT with SAND(ML)
✖	73	4.5	33	21	12	90	LEAN CLAY(CL)

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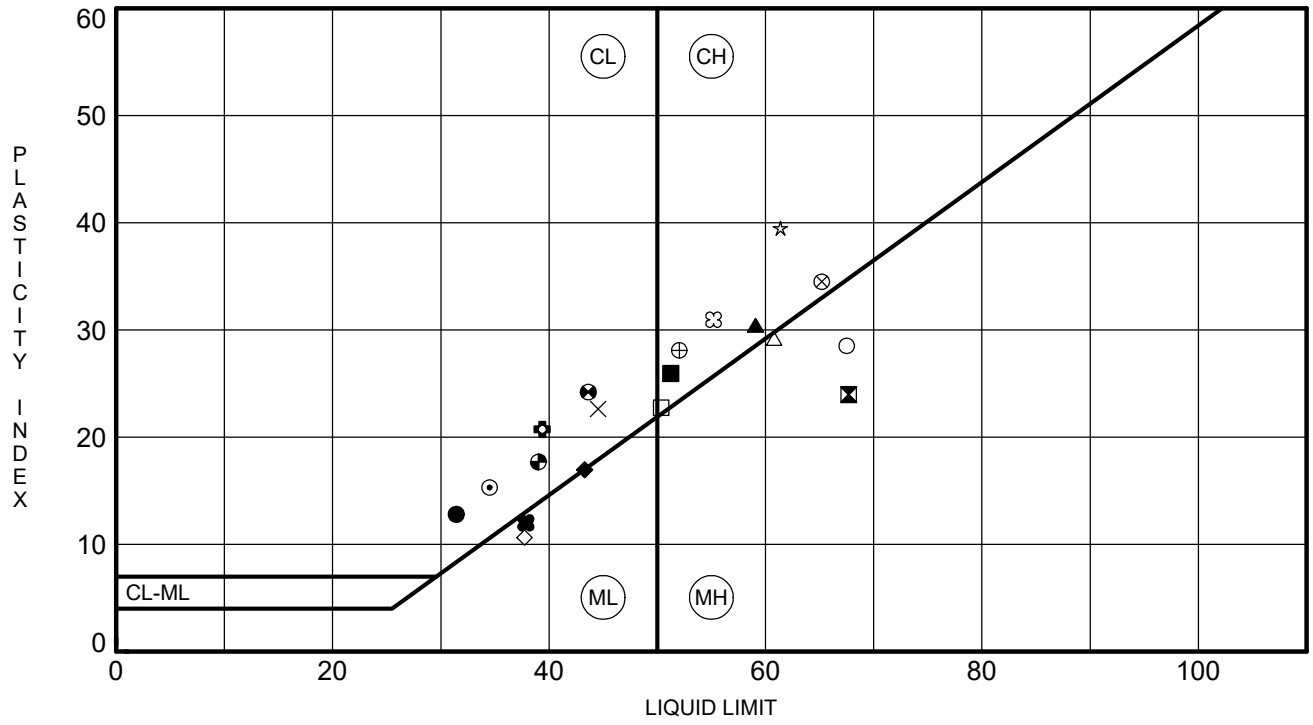

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	73	8.5	31	19	12	90	LEAN CLAY(CL)
⊠	73	18.5	68	44	24	98	ELASTIC SILT(MH)
▲	74	1.0	59	29	30	93	FAT CLAY(CH)
★	74	33.5	NP	NP	NP	99	SILT(ML)
⊙	75	1.0	35	19	16	79	LEAN CLAY with SAND(CL)
✿	75	2.5	39	19	20	74	LEAN CLAY with SAND(CL)
○	75	13.5	68	39	29	94	ELASTIC SILT(MH)
△	75	15.0	61	32	29	98	ELASTIC SILT(MH)
⊗	75	23.5	65	31	34	96	FAT CLAY(CH)
⊕	75	33.5	52	24	28	97	FAT CLAY(CH)
□	75	43.5	50	28	22	99	FAT CLAY(CH)
⊛	76	0.5	44	19	25	78	LEAN CLAY with SAND(CL)
◕	76	6.5	39	21	18	62	SANDY LEAN CLAY(CL)
☆	76	12.0	61	22	39	86	FAT CLAY(CH)
⊠	76	18.5	55	24	31	95	FAT CLAY(CH)
■	77	1.0	51	25	26	91	FAT CLAY(CH)
◆	77	4.5	43	26	17	92	LEAN CLAY(CL)
◇	77	13.5	38	27	11	69	SANDY SILT(ML)
×	77	15.0	45	22	23	86	LEAN CLAY(CL)
✖	77	18.5	38	26	12	99	SILT(ML)

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ATTERBERG LIMITS' RESULTS

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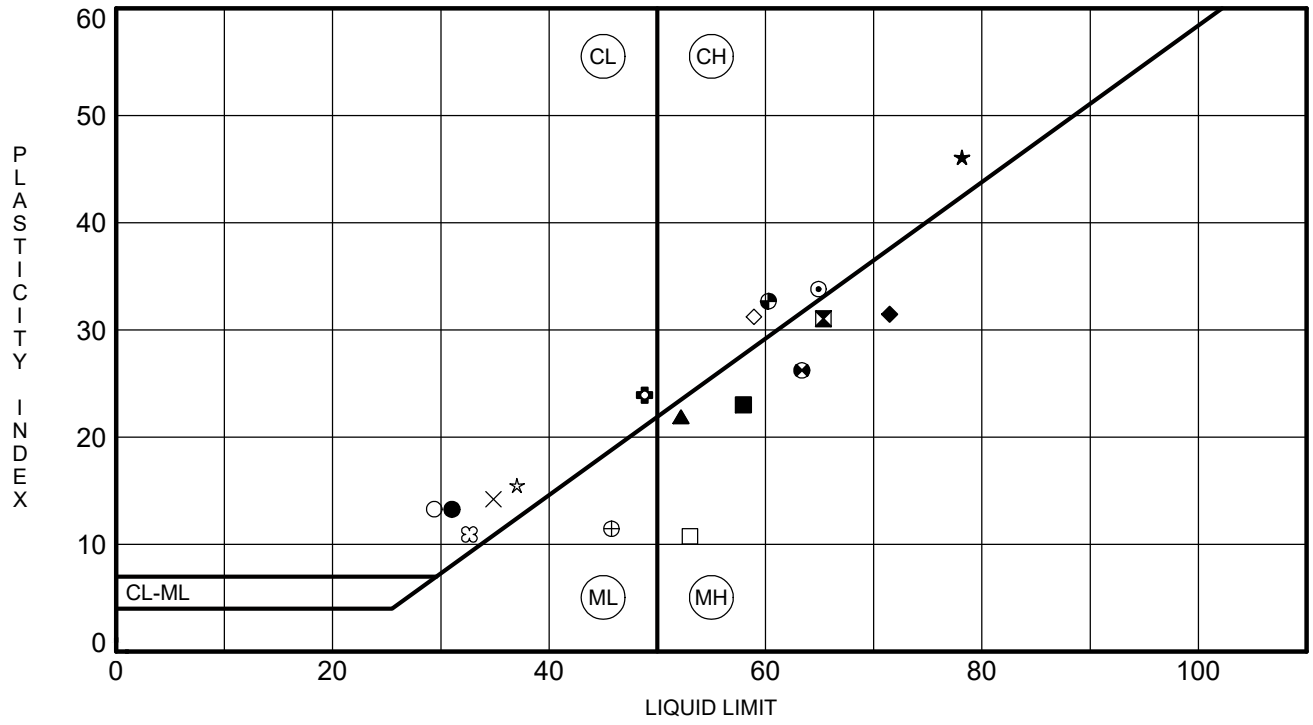
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	82	0.5	31	18	13	84	LEAN CLAY with SAND(CL)
⊠	82	1.5	65	34	31	94	ELASTIC SILT(MH)
▲	82	4.5	52	30	22		
★	82	8.5	78	32	46	98	FAT CLAY(CH)
⊙	82	13.5	65	31	34	95	FAT CLAY(CH)
✿	82	28.5	49	25	24	92	LEAN CLAY(CL)
○	83	0.5	29	16	13	68	SANDY LEAN CLAY(CL)
△	83	4.5	52	30	22	77	ELASTIC SILT with SAND(MH)
⊗	84	0.5	NP	NP	NP	83	SILT with SAND(ML)
⊕	84	4.5	46	34	12	97	SILT(ML)
□	84	13.5	53	42	11	81	ELASTIC SILT with SAND(MH)
⊛	84	23.5	63	37	26	83	ELASTIC SILT with SAND(MH)
◕	84	28.5	60	28	32	79	FAT CLAY with SAND(CH)
☆	85	0.5	37	22	15	72	LEAN CLAY with SAND(CL)
⊠	85	4.5	33	22	11	68	SANDY LEAN CLAY(CL)
■	85	12.0	58	35	23	92	ELASTIC SILT(MH)
◆	85	23.5	71	40	31	55	SANDY ELASTIC SILT(MH)
◇	85	28.5	59	28	31	92	FAT CLAY(CH)
×	86	1.0	35	21	14	60	SANDY LEAN CLAY(CL)
✖	86	4.5	NP	NP	NP	52	SANDY SILT(ML)

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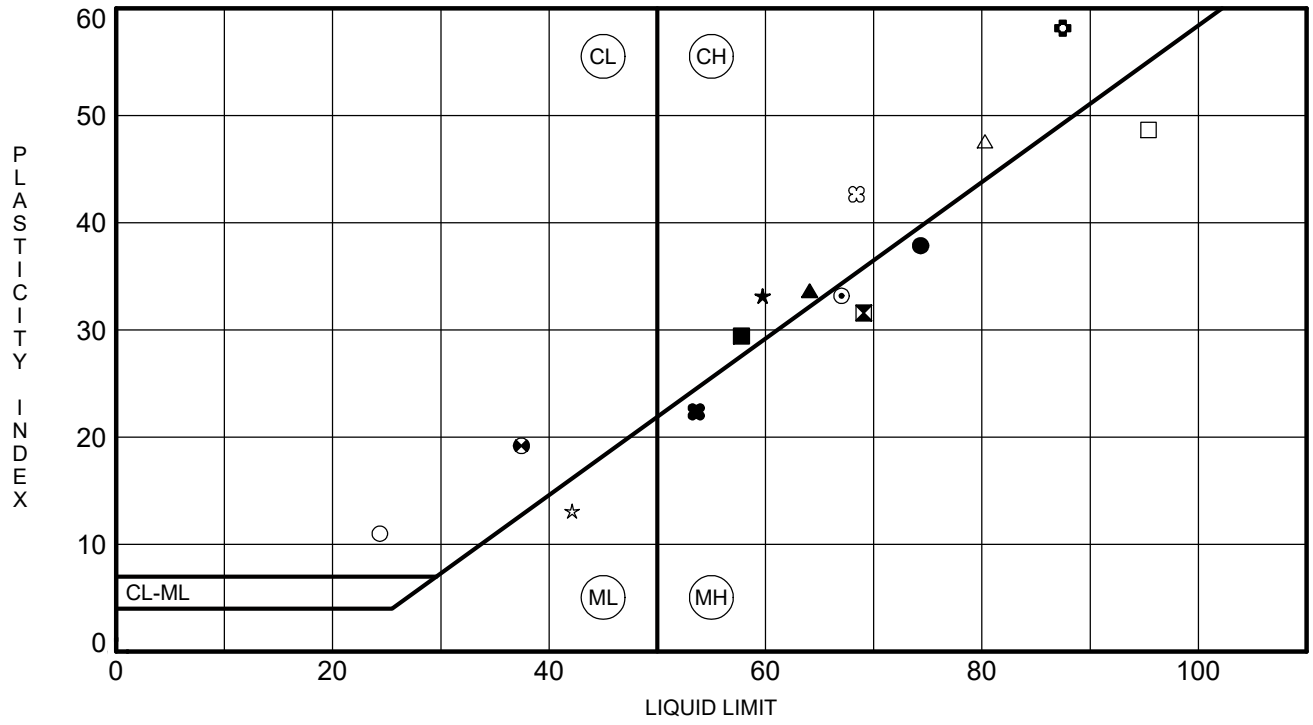

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	86	15.0	74	36	38	89	ELASTIC SILT(MH)
⊠	86	17.5	69	38	31	97	ELASTIC SILT(MH)
▲	86	28.5	64	30	34	81	FAT CLAY with SAND(CH)
★	86	33.5	60	27	33	80	FAT CLAY with SAND(CH)
⊙	86	38.5	67	34	33	80	ELASTIC SILT with SAND(MH)
✿	86	48.5	87	29	58	88	FAT CLAY(CH)
○	87	1.0	24	13	11	48	CLAYEY SAND(SC)
△	87	2.5	80	33	47	95	FAT CLAY(CH)
⊗	87	4.5	NP	NP	NP	45	SILTY SAND(SM)
⊕	87	8.5	NP	NP	NP	33	SILTY SAND(SM)
□	87	23.5	95	47	48	98	ELASTIC SILT(MH)
⊛	88	1.0	37	18	19	64	SANDY LEAN CLAY(CL)
◕	88	6.5	NP	NP	NP	39	SILTY SAND(SM)
☆	89	4.5	42	29	13	69	SANDY SILT(ML)
⊠	89	13.5	68	26	42	84	FAT CLAY with SAND(CH)
■	89	14.0	58	28	30	57	SANDY FAT CLAY(CH)
◆	89	23.5	NP	NP	NP	26	SILTY SAND(SM)
◇	90	4.5	NP	NP	NP	74	SILT with SAND(ML)
×	90	13.5	NP	NP	NP	76	SILT with SAND(ML)
✖	91	4.5	54	31	23	86	ELASTIC SILT(MH)

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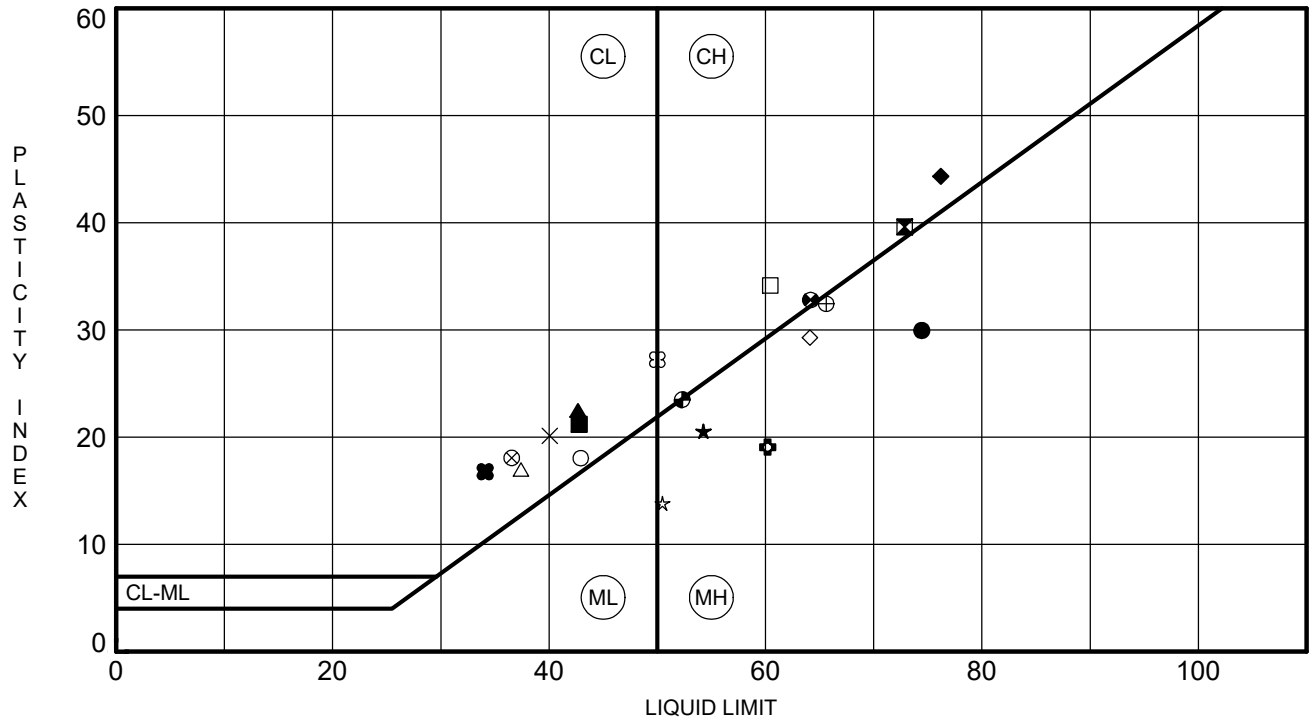

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	91	13.5	74	44	30	97	ELASTIC SILT(MH)
⊠	91	23.5	73	33	40	98	FAT CLAY(CH)
▲	91	28.5	43	20	23	53	SANDY LEAN CLAY(CL)
★	92	4.5	54	34	20	84	ELASTIC SILT with SAND(MH)
⊙	92	13.5	NP	NP	NP	56	SANDY SILT(ML)
✿	92	18.5	60	41	19	98	ELASTIC SILT(MH)
○	93	4.5	43	25	18	88	LEAN CLAY(CL)
△	94	1.0	37	20	17	82	LEAN CLAY with SAND(CL)
⊗	94	4.5	37	18	19	75	LEAN CLAY with SAND(CL)
⊕	94	13.5	66	33	33	85	ELASTIC SILT(MH)
□	94	15.0	60	26	34	98	FAT CLAY(CH)
⊛	94	23.5	64	31	33	96	FAT CLAY(CH)
◕	94	28.5	52	29	23		
☆	95	6.5	50	37	13	83	ELASTIC SILT with SAND(MH)
⊠	96	1.0	50	23	27	70	FAT CLAY with SAND(CH)
■	97	4.5	43	22	21	81	LEAN CLAY with SAND(CL)
◆	97	8.5	76	32	44	94	FAT CLAY(CH)
◇	97	13.5	64	35	29	99	ELASTIC SILT(MH)
×	97	38.5	40	20	20	99	LEAN CLAY(CL)
✖	97	48.5	34	17	17	89	LEAN CLAY(CL)

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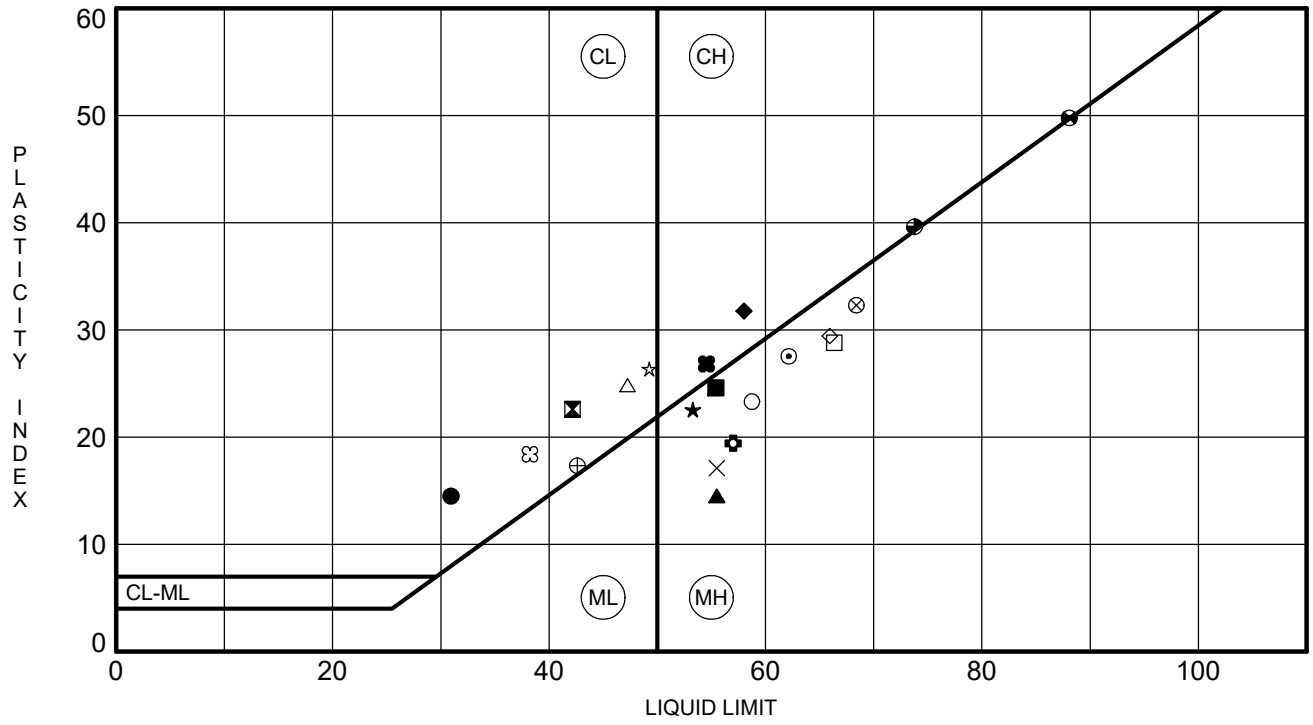

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	98	4.5	31	16	15	73	LEAN CLAY with SAND(CL)
⊠	98	6.5	42	20	22	89	LEAN CLAY(CL)
▲	98	13.5	55	41	14	89	ELASTIC SILT(MH)
★	99	1.0	53	31	22	88	ELASTIC SILT(MH)
⊙	99	4.5	62	35	27	87	ELASTIC SILT(MH)
✿	99	13.5	57	38	19	90	ELASTIC SILT(MH)
○	99	15.5	59	35	24	85	ELASTIC SILT with SAND(MH)
△	100	4.5	47	22	25	75	LEAN CLAY with SAND(CL)
⊗	100	13.5	68	36	32	86	ELASTIC SILT(MH)
⊕	101	4.5	43	25	18	80	LEAN CLAY with SAND(CL)
□	101	13.5	66	38	28	85	ELASTIC SILT with SAND(MH)
❀	101	23.5	88	38	50	94	FAT CLAY(CH)
◕	101	25.5	74	34	40	93	FAT CLAY(CH)
☆	101	38.5	49	23	26	76	LEAN CLAY with SAND(CL)
⊠	102	4.5	38	20	18	76	LEAN CLAY with SAND(CL)
■	102	13.5	55	31	24	83	ELASTIC SILT with SAND(MH)
◆	102	23.5	58	26	32	74	FAT CLAY with SAND(CH)
◇	103	2.0	66	36	30	94	ELASTIC SILT(MH)
×	103	4.5	55	38	17	86	ELASTIC SILT(MH)
✖	103	18.5	55	28	27	89	FAT CLAY(CH)

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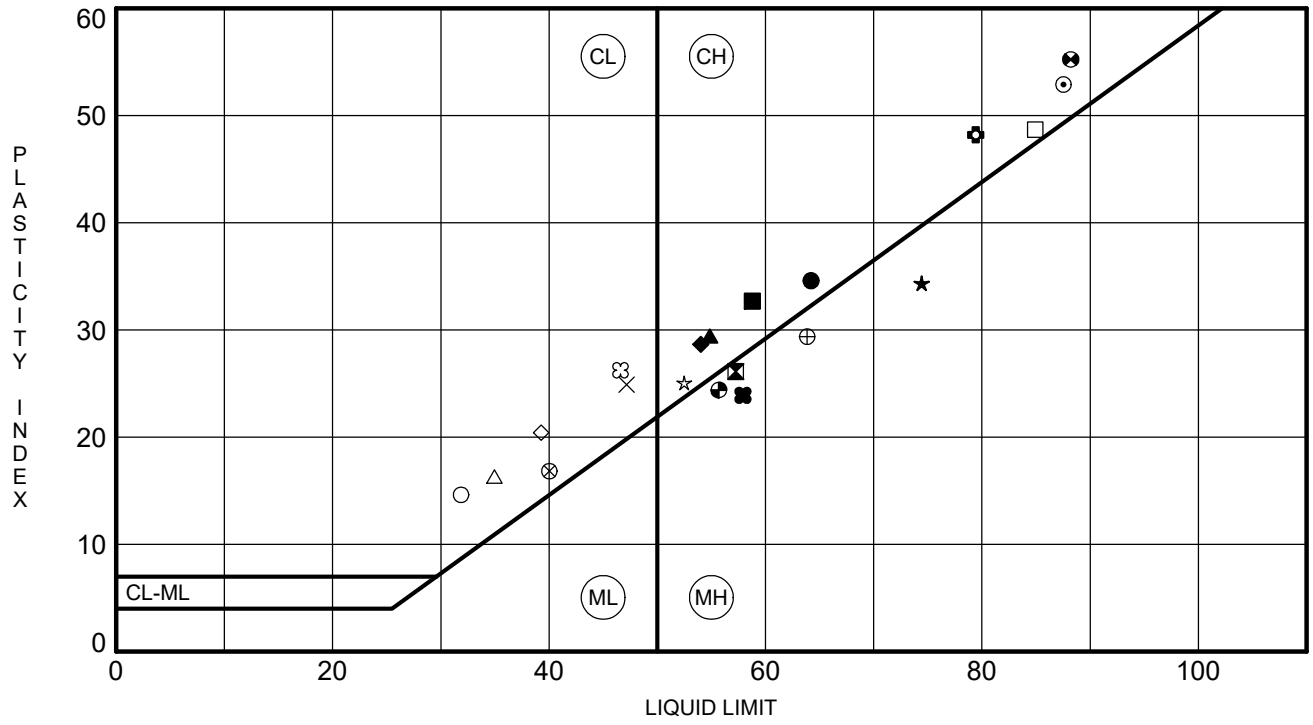

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	103	23.5	64	30	34	71	FAT CLAY with SAND(CH)
⊠	103	38.5	57	31	26	84	ELASTIC SILT with SAND(MH)
▲	104	1.5	55	25	30	91	FAT CLAY(CH)
★	104	13.5	74	40	34	95	ELASTIC SILT(MH)
⊙	104	28.5	88	35	53	98	FAT CLAY(CH)
✿	104	33.5	79	31	48	96	FAT CLAY(CH)
○	105	2.0	32	17	15	78	LEAN CLAY with SAND(CL)
△	105	4.5	35	19	16	74	LEAN CLAY with SAND(CL)
⊗	105	8.0	40	23	17	86	LEAN CLAY(CL)
⊕	105	13.5	64	34	30	70	ELASTIC SILT with SAND(MH)
□	105	23.5	85	36	49	91	FAT CLAY(CH)
⊛	105	28.5	88	33	55	94	FAT CLAY(CH)
◕	106	6.5	56	31	25	81	ELASTIC SILT with SAND(MH)
☆	106	8.5	52	27	25	72	FAT CLAY with SAND(CH)
⊠	106	18.5	47	20	27	79	LEAN CLAY with SAND(CL)
■	106	23.5	59	26	33	84	FAT CLAY with SAND(CH)
◆	106	28.5	54	25	29	90	FAT CLAY(CH)
◇	106	38.5	39	19	20	46	CLAYEY SAND(SC)
×	106	43.5	47	22	25	85	LEAN CLAY with SAND(CL)
✖	107	4.5	58	34	24	97	ELASTIC SILT(MH)

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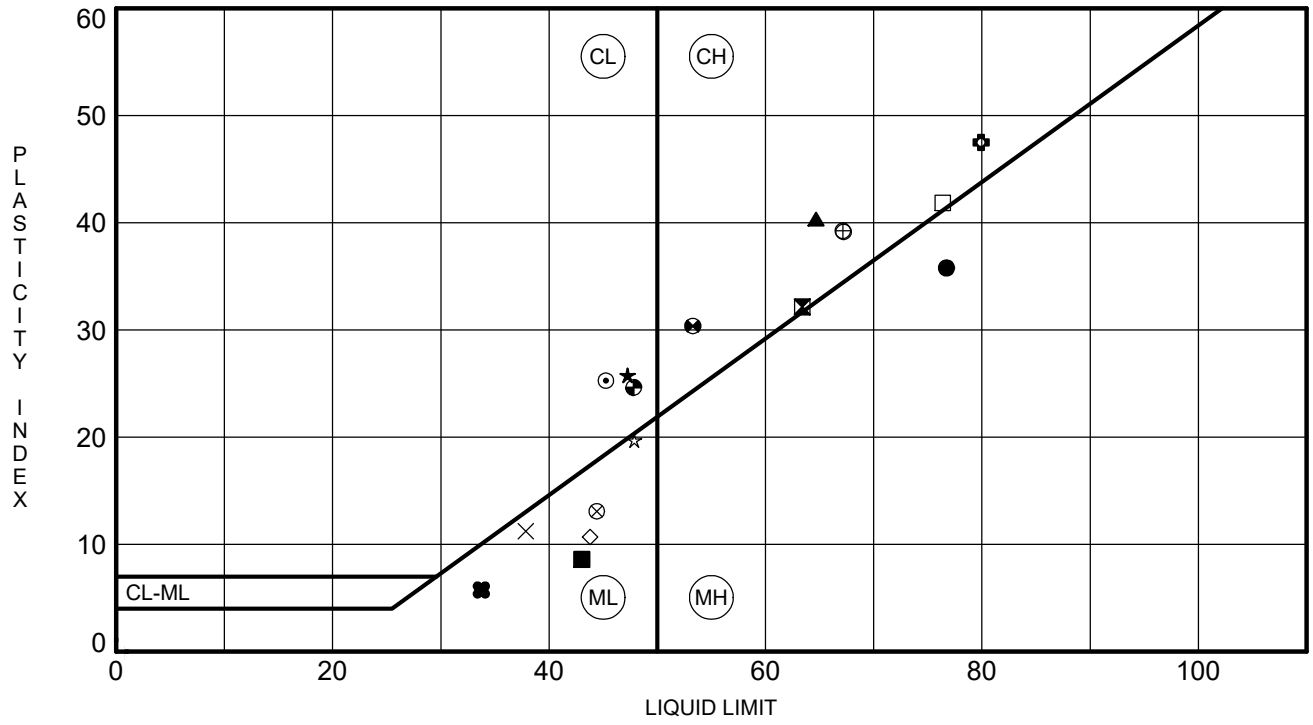

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	107	8.5	77	41	36	95	ELASTIC SILT(MH)
⊠	107	13.5	63	31	32	89	FAT CLAY(CH)
▲	107	23.5	65	24	41	97	FAT CLAY(CH)
★	107	28.5	47	21	26	93	LEAN CLAY(CL)
⊙	107	38.5	45	20	25	93	LEAN CLAY(CL)
✿	108	4.5	80	32	48	96	FAT CLAY(CH)
○	108	13.5	67	28	39	98	FAT CLAY(CH)
△	108	23.5	NP	NP	NP	85	SILT with SAND(ML)
⊗	109	4.5	44	31	13		
⊕	109	6.5	67	28	39	91	FAT CLAY(CH)
□	109	8.5	76	35	41	99	FAT CLAY(CH)
⊛	109	18.5	53	23	30	95	FAT CLAY(CH)
◕	109	23.5	48	23	25	92	LEAN CLAY(CL)
☆	109	28.5	48	28	20	54	GRAVELLY SILT(ML)
⊠	109	33.5	NP	NP	NP	60	SANDY SILT(ML)
■	110	4.5	43	34	9	86	SILT(ML)
◆	110	13.5	NP	NP	NP	85	SILT with SAND(ML)
◇	111	4.5	44	33	11	96	SILT(ML)
×	111	13.5	38	27	11	96	SILT(ML)
✖	111	18.5	34	28	6	83	SILT with SAND(ML)

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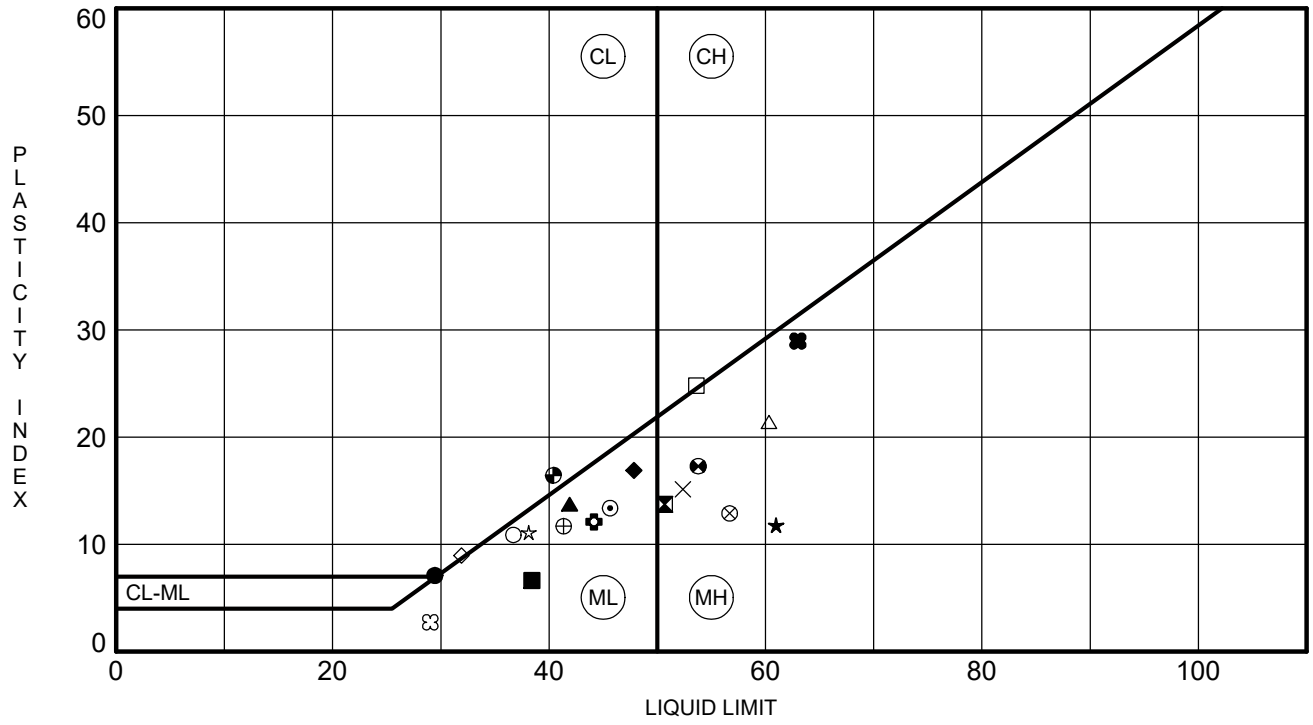

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	111	23.5	29	22	7	85	SILTY CLAY with SAND(CL-ML)
⊠	112	4.5	51	37	14	86	ELASTIC SILT(MH)
▲	112	13.5	42	28	14	51	SANDY SILT(ML)
★	113	4.5	61	49	12	97	ELASTIC SILT(MH)
⊙	114	4.5	46	32	14	93	SILT(ML)
✿	114	13.5	44	32	12	99	SILT(ML)
○	114	23.5	37	26	11	93	SILT(ML)
△	115	1.5	60	39	21	95	ELASTIC SILT(MH)
⊗	115	13.5	57	44	13	94	ELASTIC SILT(MH)
⊕	115	23.5	41	30	11	58	SANDY SILT(ML)
□	116	4.5	54	29	25	94	FAT CLAY(CH)
⊛	116	13.5	54	36	18	95	ELASTIC SILT(MH)
◕	116	23.5	40	24	16	82	LEAN CLAY with SAND(CL)
☆	116	28.5	38	27	11	98	SILT(ML)
⊠	116	33.5	29	26	3	96	SILT(ML)
■	116	48.5	38	32	6	94	SILT(ML)
◆	116	50.0	48	31	17	98	SILT(ML)
◇	116	58.5	32	23	9	22	CLAYEY GRAVEL with SAND(GC)
×	117	4.5	52	37	15	98	ELASTIC SILT(MH)
✖	117	18.5	63	34	29	95	ELASTIC SILT(MH)

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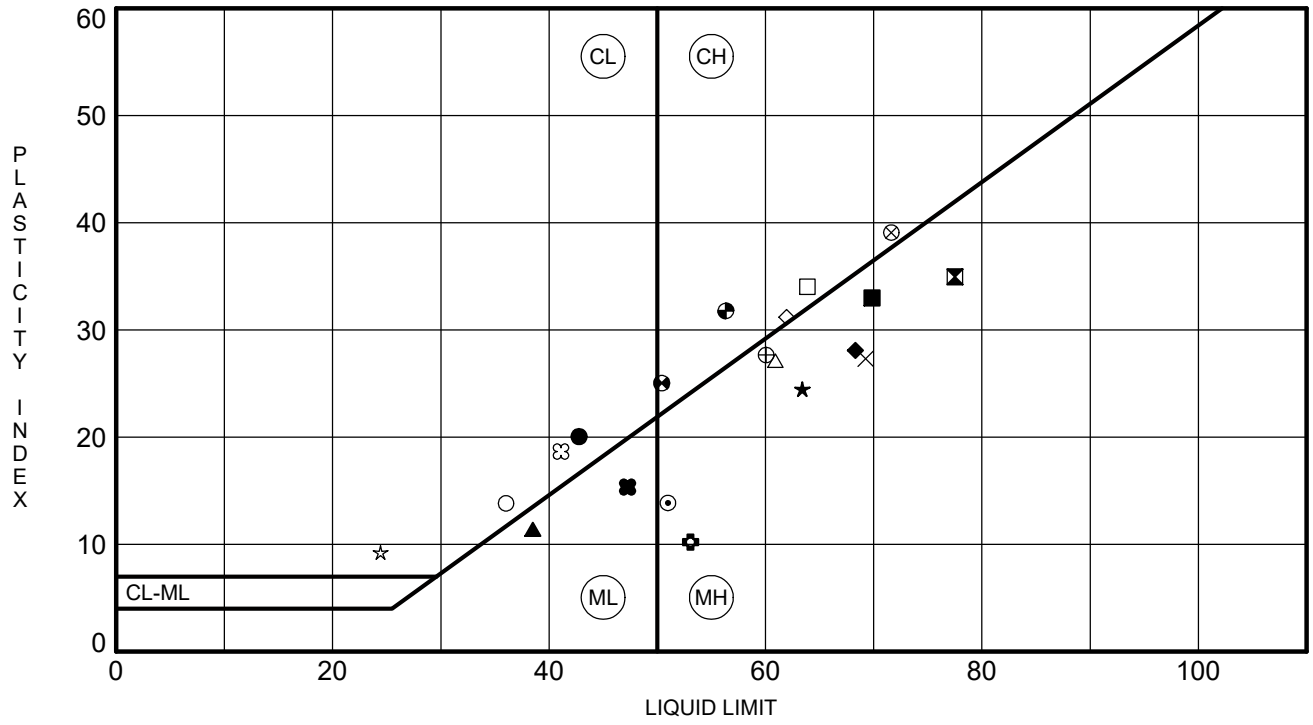

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	117	23.5	43	23	20	85	LEAN CLAY(CL)
⊠	117	28.5	78	43	35		
▲	117	33.5	39	27	12	99	SILT(ML)
★	118	4.5	63	39	24	98	ELASTIC SILT(MH)
⊙	118	13.5	51	37	14	99	ELASTIC SILT(MH)
✿	118	33.5	53	43	10	95	ELASTIC SILT(MH)
○	119	3.5	36	22	14	44	CLAYEY SAND with GRAVEL(SC)
△	119	8.0	61	34	27	95	ELASTIC SILT(MH)
⊗	119	13.5	72	33	39	75	FAT CLAY with SAND(CH)
⊕	119	18.0	60	32	28	68	GRAVELLY ELASTIC SILT(MH)
□	119	23.5	64	30	34	73	FAT CLAY with SAND(CH)
⊛	119	33.5	50	25	25	68	GRAVELLY FAT CLAY(CH)
◕	119	43.5	56	25	31	69	SANDY FAT CLAY(CH)
☆	120	0.0	24	15	9	66	SANDY LEAN CLAY(CL)
⊠	120	3.5	41	22	19	82	LEAN CLAY with SAND(CL)
■	120	8.0	70	37	33	95	ELASTIC SILT(MH)
◆	120	18.0	68	40	28	90	ELASTIC SILT(MH)
◇	120	23.5	62	31	31	63	GRAVELLY FAT CLAY(CH)
⨯	120	33.5	69	42	27	72	ELASTIC SILT with SAND(MH)
✖	121	3.5	47	32	15	88	SILT(ML)

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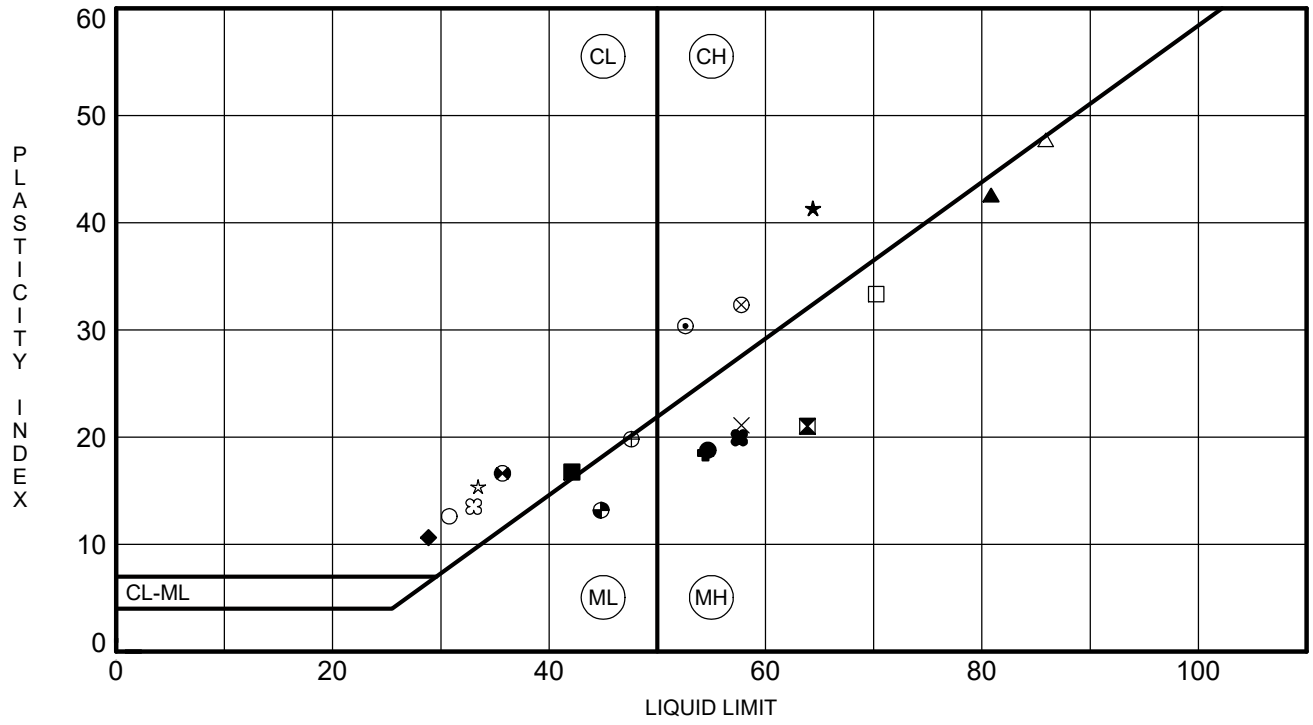

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	121	8.0	55	36	19	84	ELASTIC SILT with GRAVEL(MH)
⊠	121	13.5	64	43	21	77	ELASTIC SILT with SAND(MH)
▲	121	18.0	81	38	43	96	ELASTIC SILT(MH)
★	121	23.5	64	23	41	66	GRAVELLY FAT CLAY(CH)
⊙	121	33.5	53	22	31	82	FAT CLAY with SAND(CH)
✿	122	3.5	54	36	18	98	ELASTIC SILT(MH)
○	123	1.5	31	18	13	77	LEAN CLAY with SAND(CL)
△	123	13.5	86	38	48	99	ELASTIC SILT(MH)
⊗	123	23.5	58	25	33	51	SANDY FAT CLAY with GRAVEL(CH)
⊕	123	33.5	48	28	20	90	SILT(ML)
□	124	3.5	70	37	33	91	ELASTIC SILT(MH)
⊛	125	3.5	36	19	17	78	LEAN CLAY with SAND(CL)
◕	127	8.5	45	32	13	81	SILT with SAND(ML)
☆	128	1.0	33	18	15	50	SANDY LEAN CLAY(CL)
⊠	128	1.5	33	20	13	79	LEAN CLAY with SAND(CL)
■	128	4.5	42	25	17	71	LEAN CLAY with SAND(CL)
◆	130	1.5	29	18	11	60	SANDY LEAN CLAY(CL)
◇	130	6.5	NP	NP	NP	24	SILTY GRAVEL with SAND(GM)
×	131	3.5	58	37	21	89	ELASTIC SILT(MH)
✖	131	10.0	58	38	20	91	ELASTIC SILT(MH)

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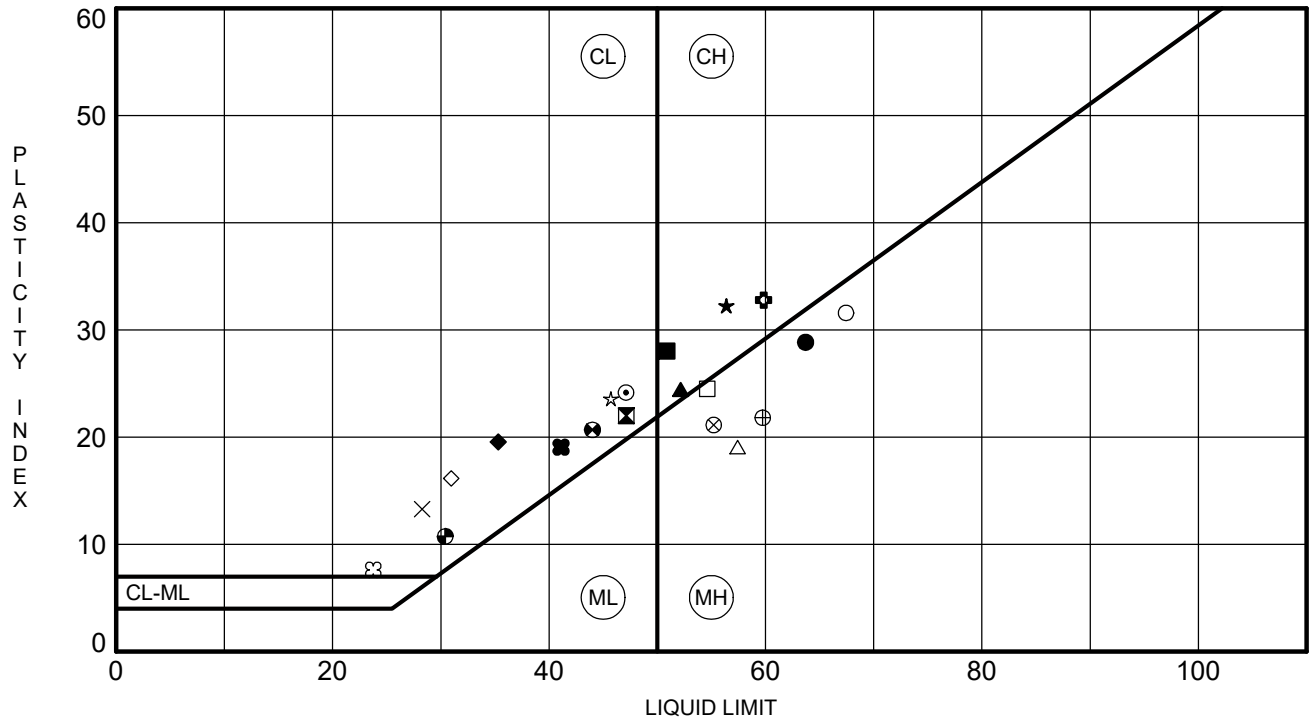
ATTERBERG LIMITS' RESULTS

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	131	13.5	64	35	29	97	ELASTIC SILT(MH)
⊠	131	23.5	47	25	22	99	LEAN CLAY(CL)
▲	131	33.5	52	28	24	96	FAT CLAY(CH)
★	131	40.0	56	24	32	98	FAT CLAY(CH)
⊙	132	1.5	47	23	24	64	GRAVELLY LEAN CLAY(CL)
✿	132	3.5	60	27	33	99	FAT CLAY(CH)
○	132	8.0	67	36	31	77	ELASTIC SILT with SAND(MH)
△	132	13.5	57	38	19	97	ELASTIC SILT(MH)
⊗	132	14.0	55	34	21	87	ELASTIC SILT(MH)
⊕	132	23.5	60	38	22	68	GRAVELLY ELASTIC SILT(MH)
□	133	13.5	55	30	25	22	SILTY GRAVEL with SAND(GM)
⊛	133	23.5	44	23	21	84	LEAN CLAY with GRAVEL(CL)
◕	134	3.5	30	20	10	40	CLAYEY SAND with GRAVEL(SC)
☆	135	8.5	46	22	24	84	LEAN CLAY with SAND(CL)
⊠	136	3.5	24	16	8	41	CLAYEY SAND with GRAVEL(SC)
■	136	13.5	51	23	28	98	FAT CLAY(CH)
◆	137	4.0	35	16	19	89	LEAN CLAY(CL)
◇	137	13.5	31	15	16	92	LEAN CLAY(CL)
×	138	3.5	28	15	13	82	LEAN CLAY with SAND(CL)
✖	139	3.5	41	22	19	75	LEAN CLAY with SAND(CL)

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ATTERBERG LIMITS' RESULTS

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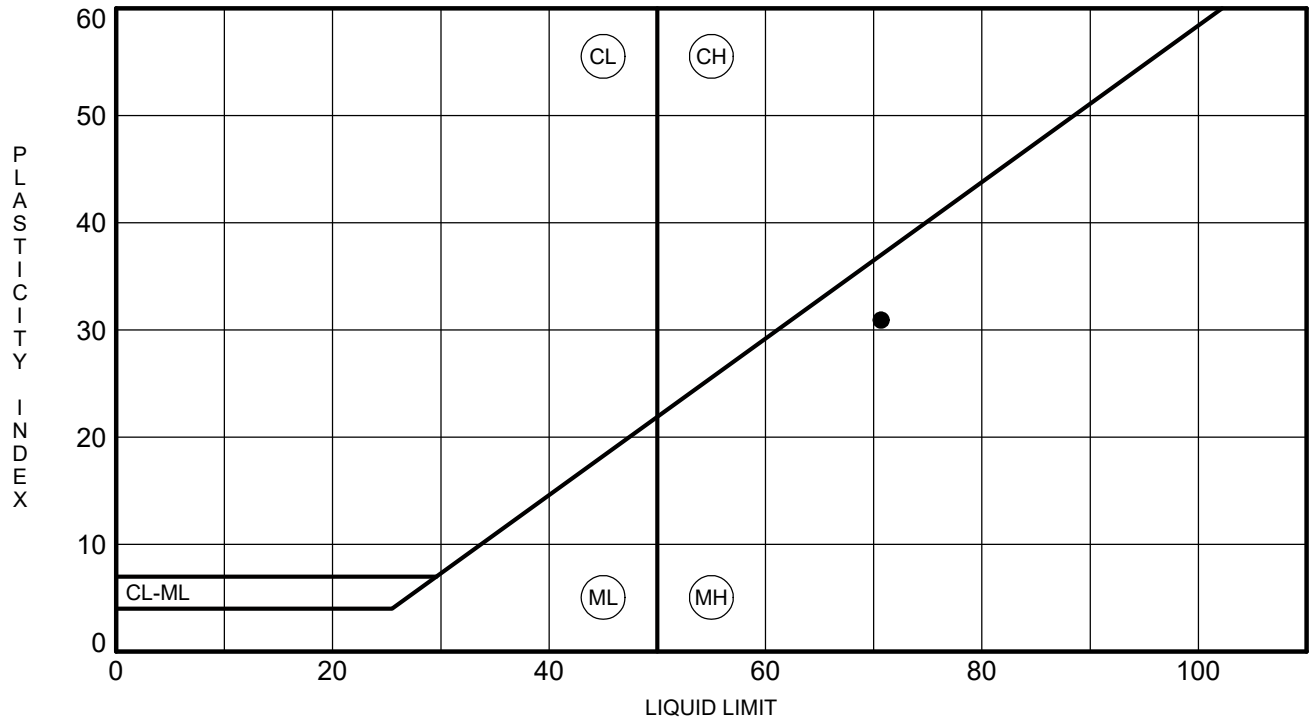
PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**139**	**13.5**	**71**	**40**	**31**	**84**	**ELASTIC SILT with SAND(MH)**

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GRAIN SIZE DISTRIBUTION

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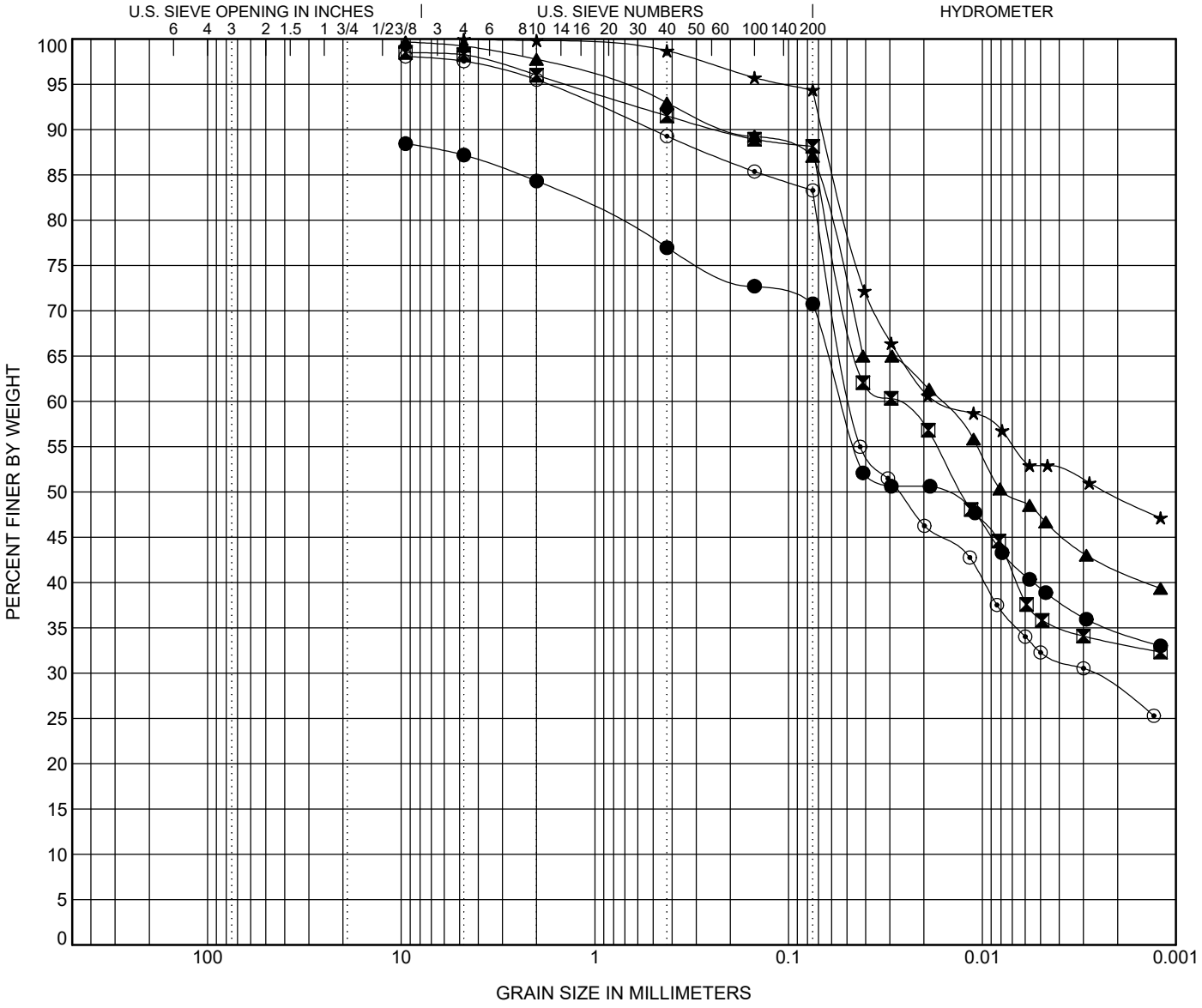

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	1	0.0	**FAT CLAY with SAND(CH) A-7-6**	58	26	32		
⊠	1	0.5	**LEAN CLAY(CL) A-7-6**	44	22	22		
▲	1	5.0	**FAT CLAY(CH) A-7-6**	56	23	33		
★	1	14.0	**FAT CLAY(CH) A-7-6**	56	28	28		
⊙	2	4.0	**SILT with SAND(ML) A-7-6**	45	27	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	1	0.0	9.5	0.053			1.3	16.4	31.4	39.4
⊠	1	0.5	9.5	0.028			0.2	10.1	52.1	36.0
▲	1	5.0	9.5	0.017			0.5	12.2	39.8	47.3
★	1	14.0	4.75	0.016				5.6	41.5	52.9
⊙	2	4.0	9.5	0.047	0.003		0.5	14.3	51.0	32.3

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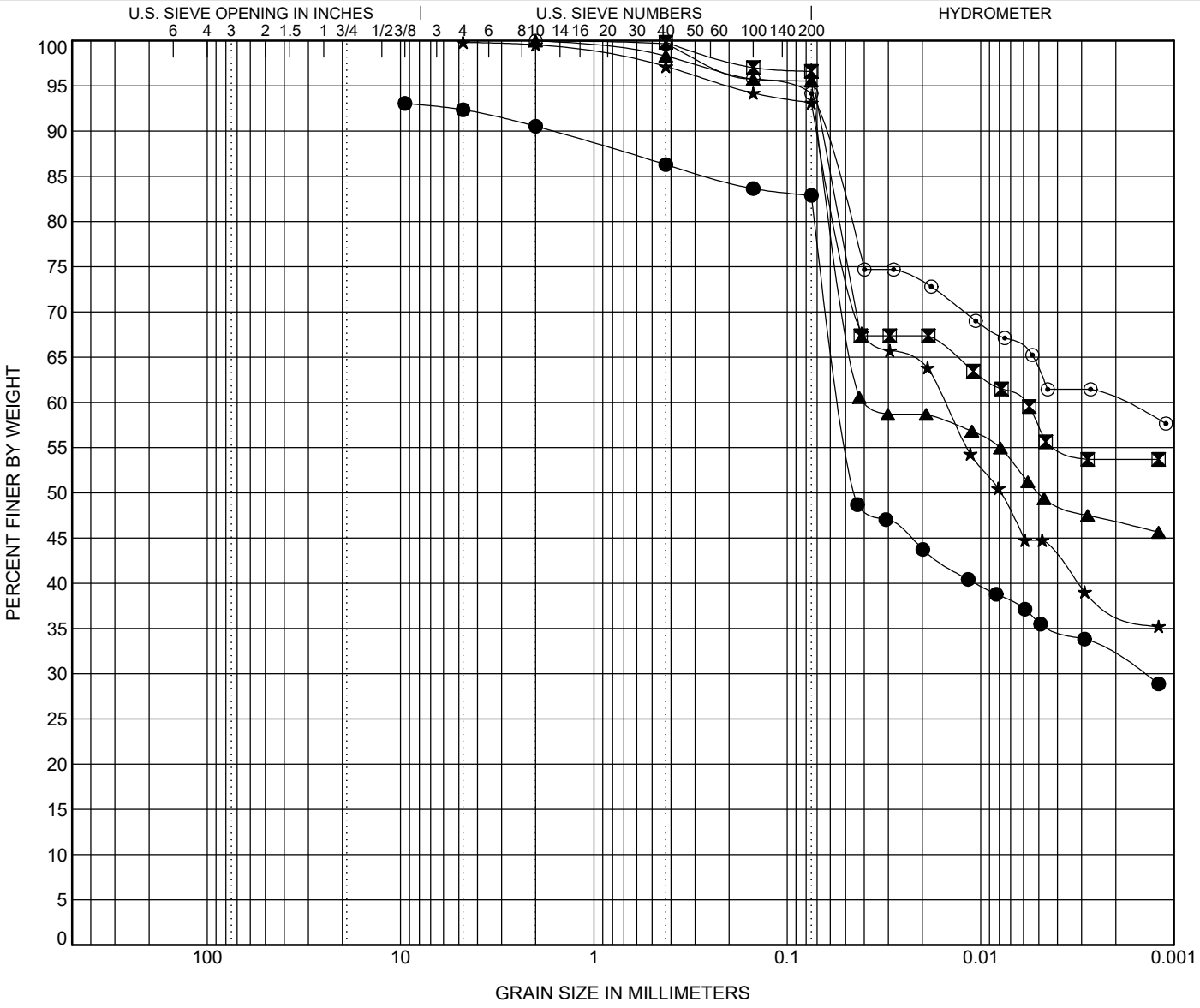

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	2	6.0	**SILT with SAND(ML) A-7-6**	49	28	21		
⊠	2	11.0	**FAT CLAY(CH) A-7-5**	71	33	38		
▲	2	15.0	**FAT CLAY(CH) A-7-5**	70	33	37		
★	3	4.5	**FAT CLAY(CH) A-7-6**	50	23	27		
⊙	3	8.5	**FAT CLAY(CH) A-7-5**	72	34	38		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	2	6.0	**9.5**	**0.052**	**0.001**		**0.7**	**9.5**	**47.2**	**35.7**
⊠	2	11.0	**0.425**	**0.006**				**3.2**	**39.3**	**57.3**
▲	2	15.0	**2**	**0.038**				**4.4**	**45.6**	**50.0**
★	3	4.5	**4.75**	**0.015**				**6.7**	**48.4**	**44.8**
⊙	3	8.5	**2**	**0.002**				**5.8**	**30.5**	**63.6**

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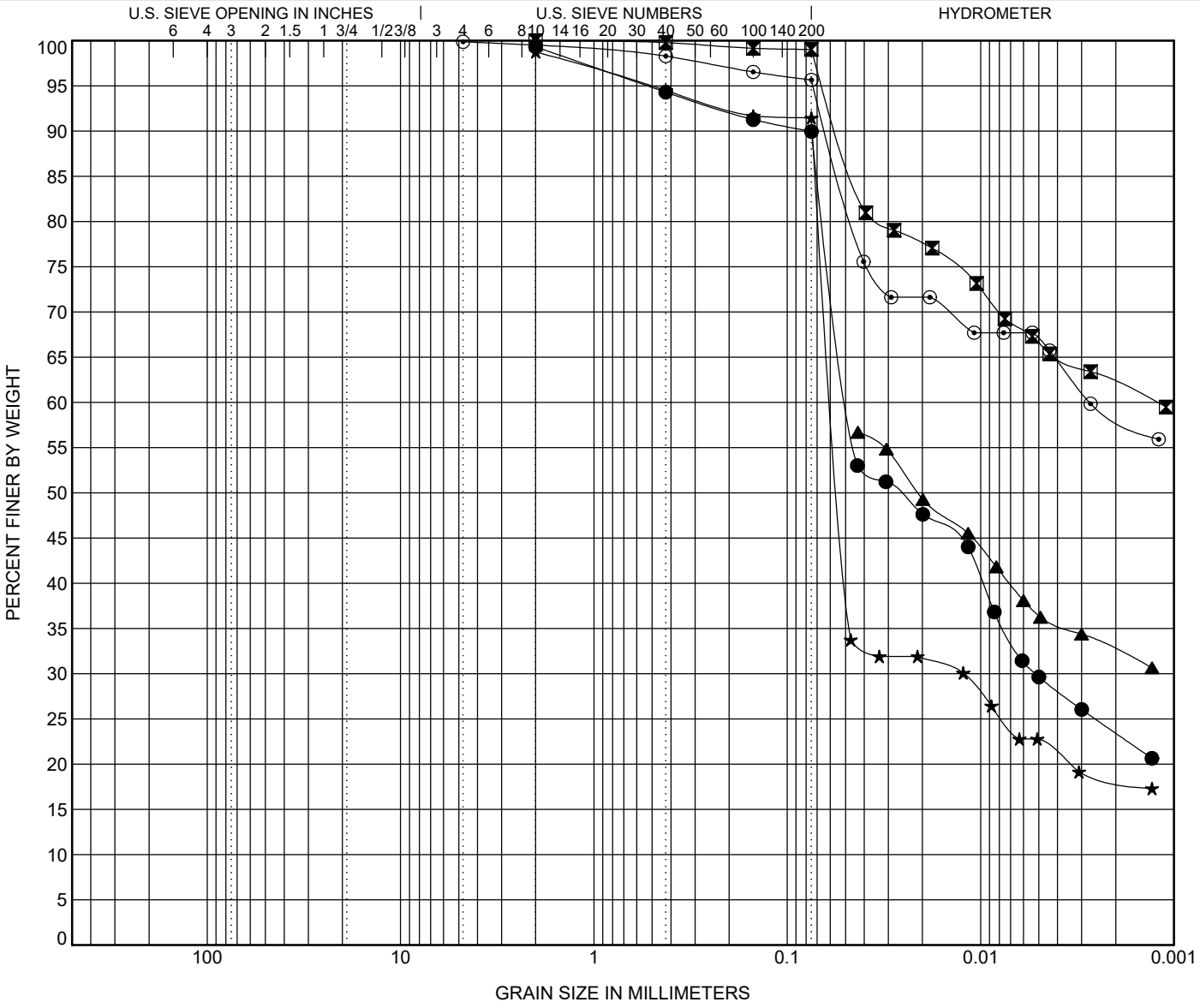

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	4	2.5	**SILT(ML) A-4**	32	24	8		
⊠	4	6.5	**FAT CLAY(CH) A-7-5**	67	31	36		
▲	5	4.5		49	27	22		
★	5	8.5	**FAT CLAY(CH) A-7-5**	59	30	29		
⊙	5	13.5	**FAT CLAY(CH) A-7-5**	81	33	48		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	4	2.5	2	0.048	0.005			9.4	60.3	29.6
⊠	4	6.5	2	0.001				1.0	32.5	66.6
▲	5	4.5								36.4
★	5	8.5	2	0.058	0.012			7.3	68.8	22.6
⊙	5	13.5	4.75	0.003				4.2	28.7	67.0

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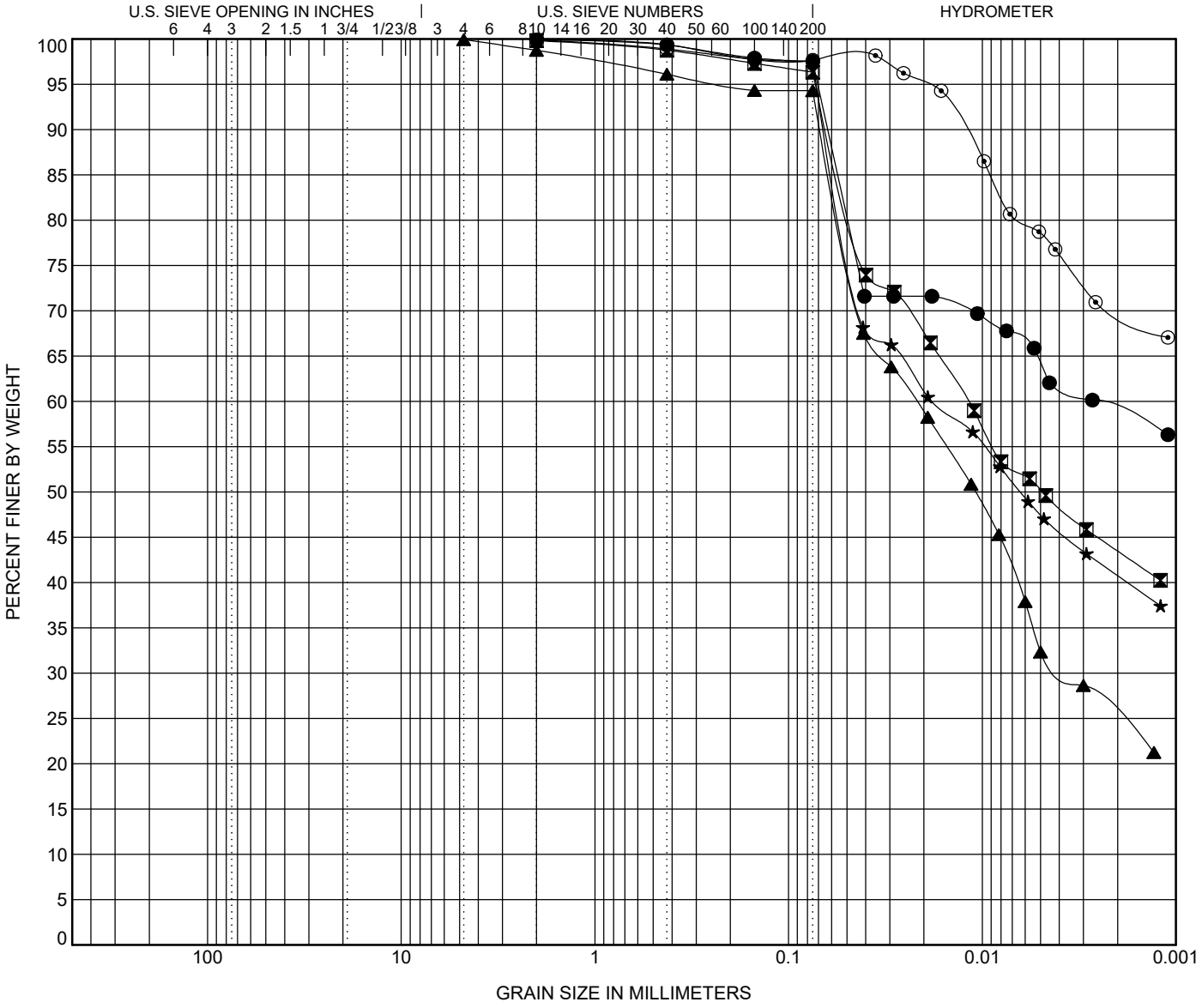

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	5	25.5	**FAT CLAY(CH) A-7-6**	76	25	51		
⊠	6	1.3	**FAT CLAY(CH) A-7-6**	52	23	29		
▲	6	2.5	**SILT(ML) A-6**	37	25	12		
★	6	6.5	**LEAN CLAY(CL) A-7-6**	45	23	22		
⊙	6	13.5	**FAT CLAY(CH) A-7-6**	66	27	39		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	5	25.5	2	0.003				2.4	33.3	64.3
⊠	6	1.3	2	0.012				3.5	46.1	50.2
▲	6	2.5	4.75	0.022	0.004			5.6	62.0	32.3
★	6	6.5	2	0.018				2.4	50.1	47.5
⊙	6	13.5	2					2.2	19.1	78.5

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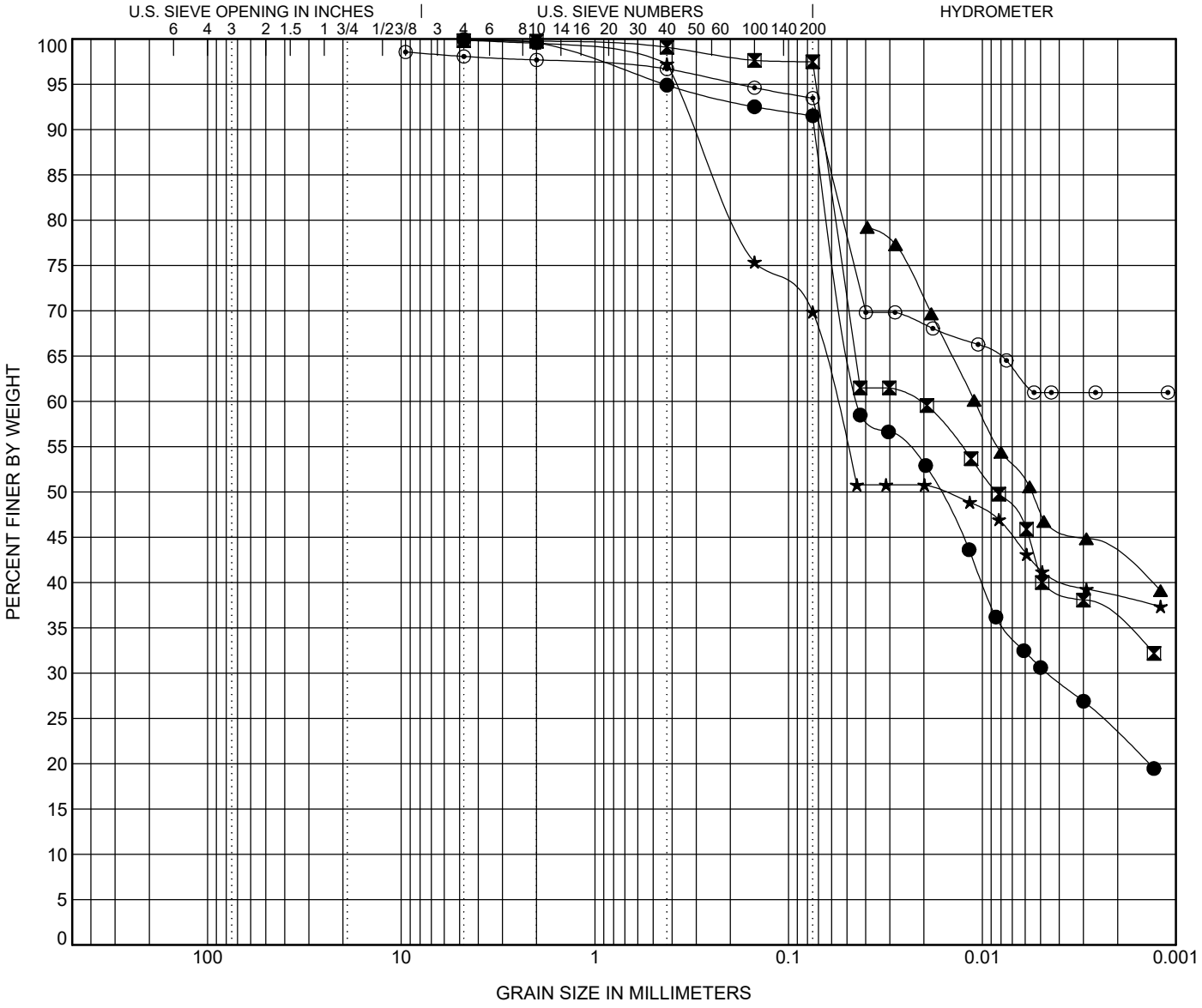

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	7	4.5	SILT(ML) A-6	38	25	13		
⊠	7	8.5	ELASTIC SILT(MH) A-7-5	64	38	26		
▲	8	0.5		43	21	22		
★	8	1.0	SANDY LEAN CLAY(CL) A-6	38	21	17		
⊙	8	13.5	FAT CLAY(CH) A-7-5	77	32	45		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	7	4.5	4.75	0.044	0.005			8.4	60.9	30.6
⊠	7	8.5	4.75	0.021				2.3	56.8	40.6
▲	8	0.5		0.011						47.7
★	8	1.0	4.75	0.057				30.1	28.5	41.4
⊙	8	13.5	9.5				0.5	4.6	32.5	61.0

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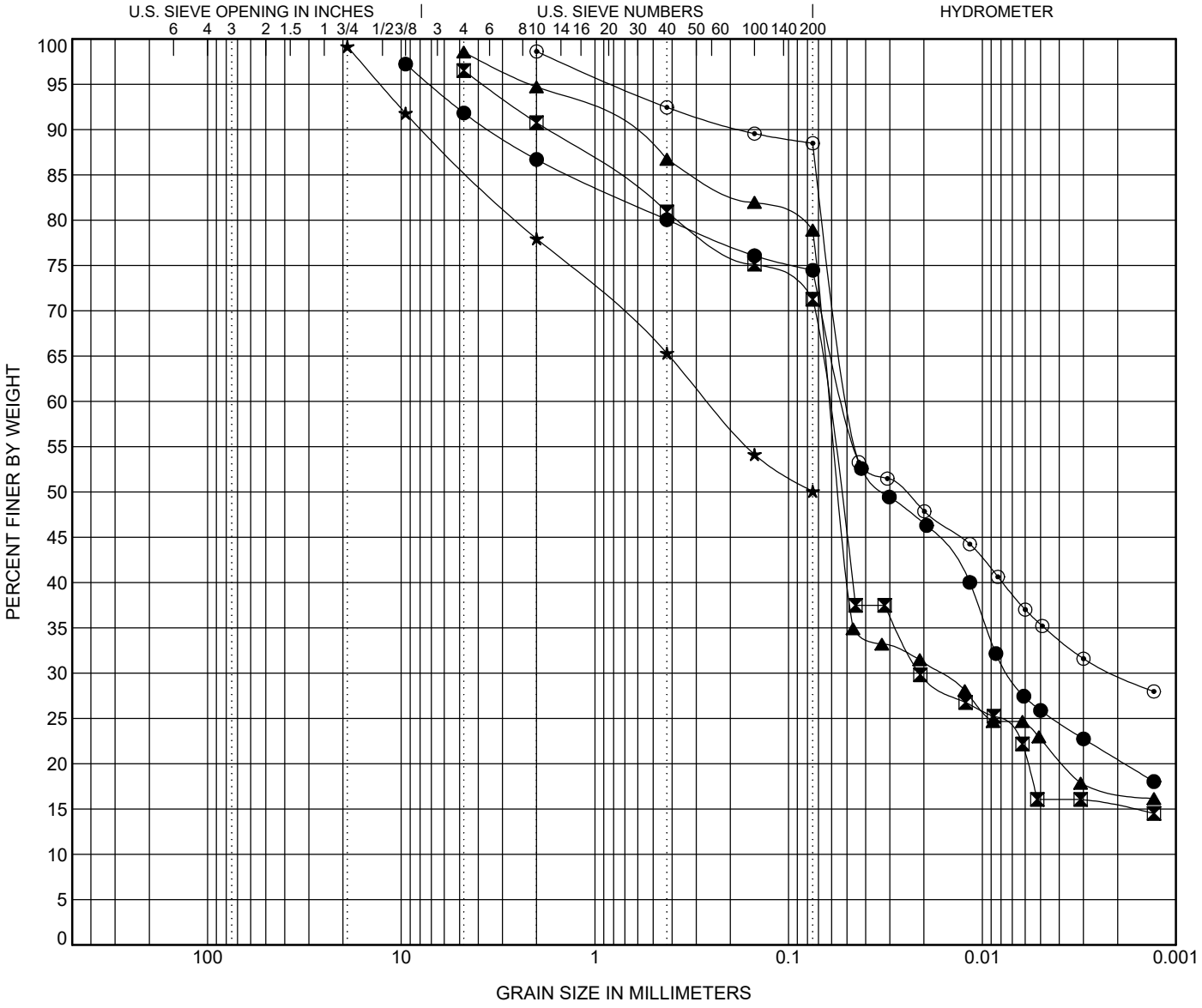

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	8	23.5	SILT with SAND(ML) A-4	33	27	6		
⊠	9	0.5	LEAN CLAY with SAND(CL) A-6	33	21	12		
▲	9	17.2	LEAN CLAY with SAND(CL) A-6	36	21	15		
★	10	0.5						
⊙	10	2.5	SILT(ML) A-7-6	46	28	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	8	23.5	9.5	0.051	0.007		5.4	17.4	48.6	25.9
⊠	9	0.5	4.75	0.063	0.021			25.2	55.2	16.0
▲	9	17.2	4.75	0.061	0.017			19.6	56.1	22.8
★	10	0.5	19	0.259			13.5	35.6	50.1	
⊙	10	2.5	2	0.048	0.002			10.1	53.1	35.4

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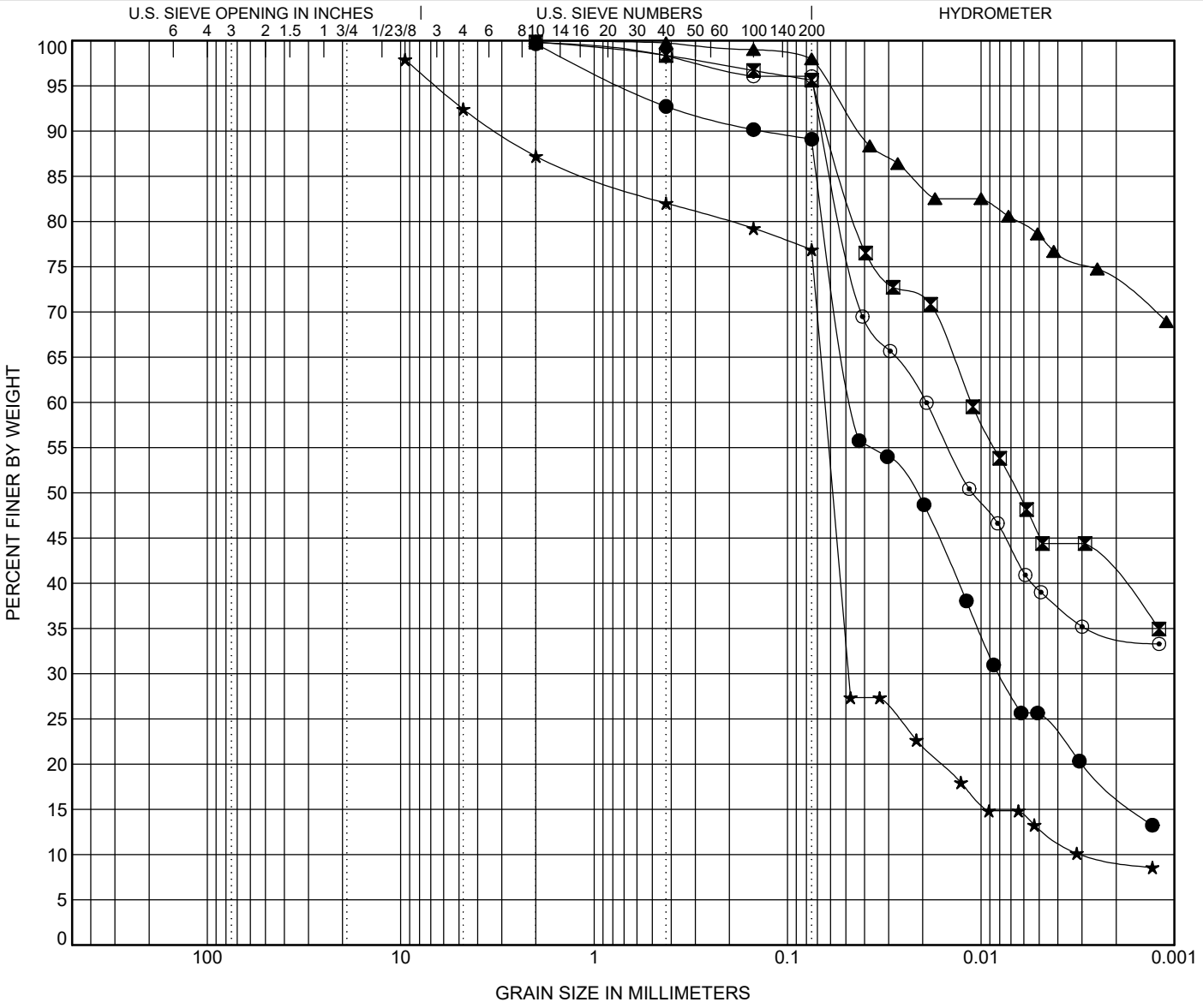

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	10	6.5	SILT(ML) A-4	33	24	9		
⊠	10	13.5	SILT(ML) A-7-6	47	28	19		
▲	10	23.5	FAT CLAY(CH) A-7-5	88	36	52		
★	11	2.5	SILT with SAND(ML) A-4	NP	NP	NP	12.42	21.71
⊙	12	4.5	LEAN CLAY(CL) A-7-6	43	26	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	10	6.5	2	0.046	0.008			10.6	63.7	25.4
⊠	10	13.5	2	0.011				4.2	50.4	45.2
▲	10	23.5	2					2.0	19.5	78.4
★	11	2.5	9.5	0.064	0.048	0.003	5.5	15.5	64.0	12.9
⊙	12	4.5	2	0.019				3.7	56.8	39.2

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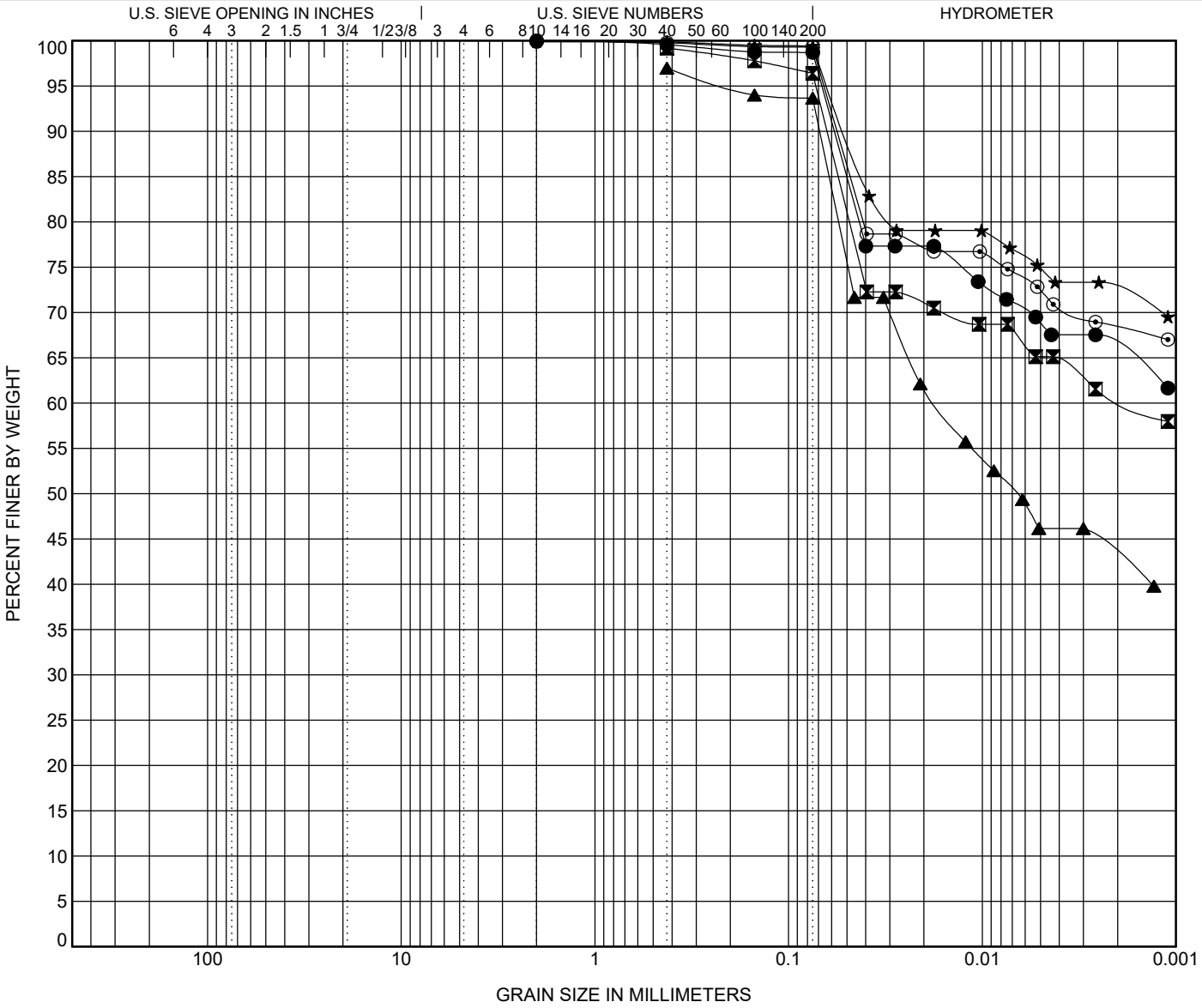

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	12	8.5	**FAT CLAY(CH) A-7-5**	64	30	34		
⊠	12	18.5	**ELASTIC SILT(MH) A-7-5**	72	36	36		
▲	13	2.5	**LEAN CLAY(CL) A-7-6**	41	23	18		
★	13	6.5	**FAT CLAY(CH) A-7-5**	79	34	45		
⊙	13	8.5	**FAT CLAY(CH) A-7-5**	66	32	34		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	12	8.5	2					1.3	29.8	68.9
⊠	12	18.5	0.425	0.002				2.8	31.3	65.1
▲	13	2.5	0.425	0.018				3.3	47.5	46.2
★	13	6.5	2					0.5	24.5	74.9
⊙	13	8.5	2					0.6	26.8	72.4

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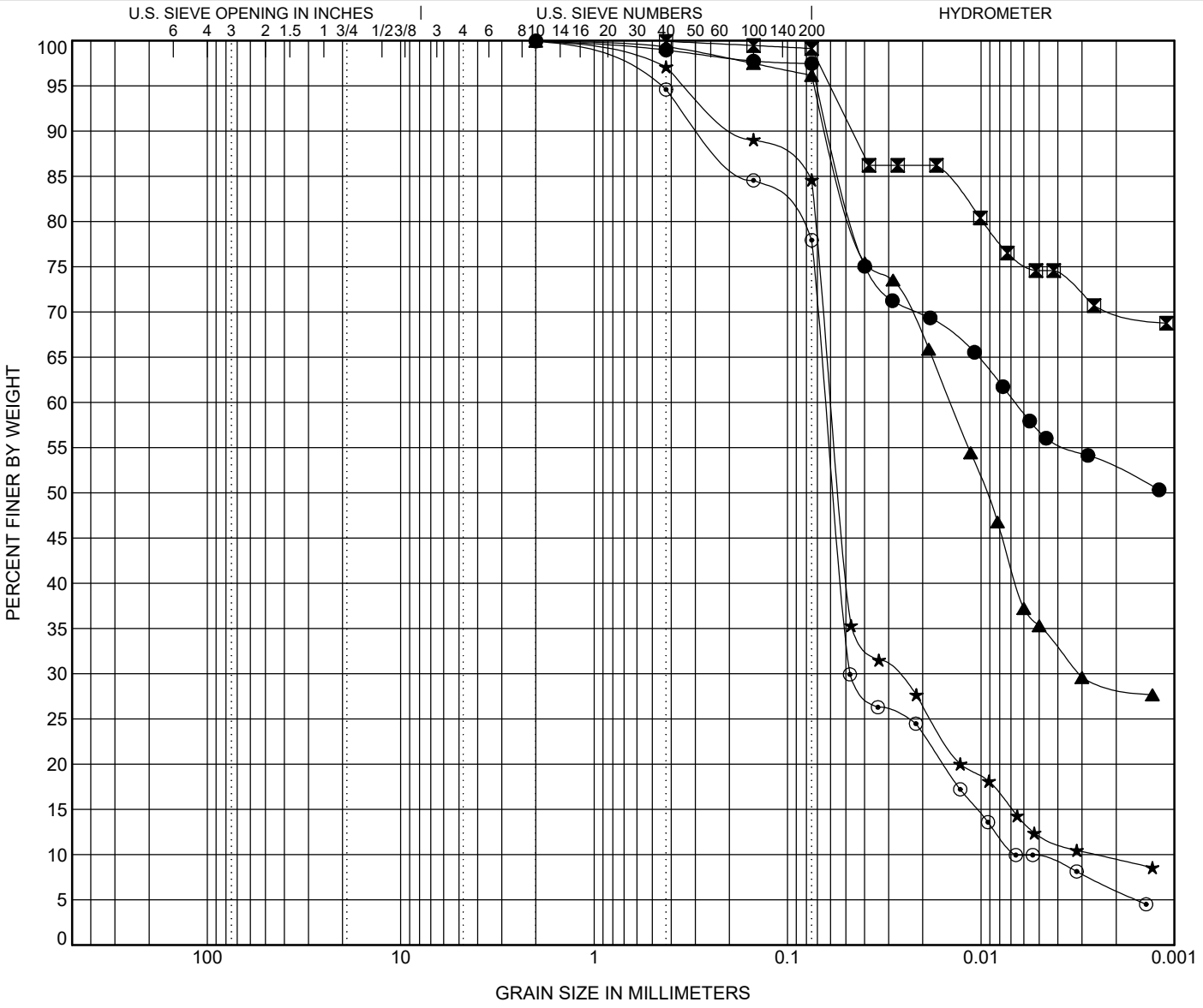

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	14	4.5	**ELASTIC SILT(MH) A-7-5**	59	35	24		
⊠	14	8.5	**FAT CLAY(CH) A-7-5**	66	32	34		
▲	14	18.5	**ELASTIC SILT(MH) A-7-5**	74	35	39		
★	15	2.5	**SILT with SAND(ML) A-4**	35	25	10	5.27	23.18
⊙	15	6.5	**SILTY CLAY with SAND(CL-ML) A-4**	29	22	7	5.41	9.54

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	14	4.5	2	0.007				2.5	40.6	56.8
⊠	14	8.5	0.425					0.8	24.5	74.6
▲	14	18.5	2	0.014	0.003			3.8	60.8	35.3
★	15	2.5	2	0.059	0.028	0.003		15.3	72.4	12.2
⊙	15	6.5	2	0.063	0.048	0.007		22.0	68.3	9.7

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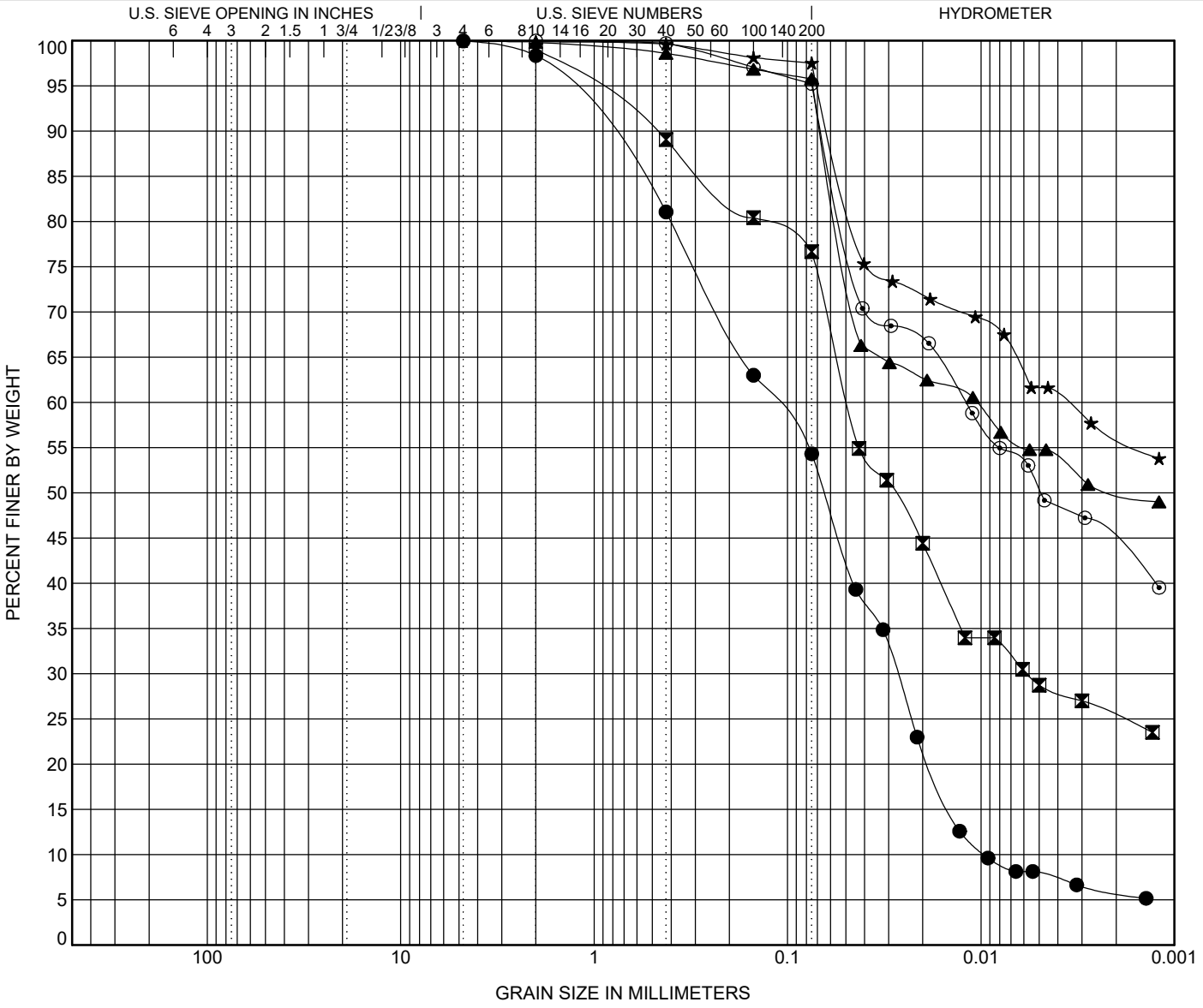
PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	15	13.5	SANDY SILTY CLAY(CL-ML) A-4	29	22	7	0.65	12.29
⊠	16	4.5	SILT with SAND(ML) A-7-6	44	27	17		
▲	16	8.5	FAT CLAY(CH) A-7-5	78	35	43		
★	16	18.5	FAT CLAY(CH) A-7-5	80	33	47		
⊙	16	23.5	FAT CLAY(CH) A-7-6	57	28	29		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	15	13.5	4.75	0.118	0.027	0.01		45.7	46.4	7.9
⊠	16	4.5	2	0.049	0.006			22.3	47.9	28.7
▲	16	8.5	2	0.01				4.0	41.0	54.8
★	16	18.5	4.75	0.004				2.4	35.9	61.6
⊙	16	23.5	2	0.012				4.7	44.8	50.4

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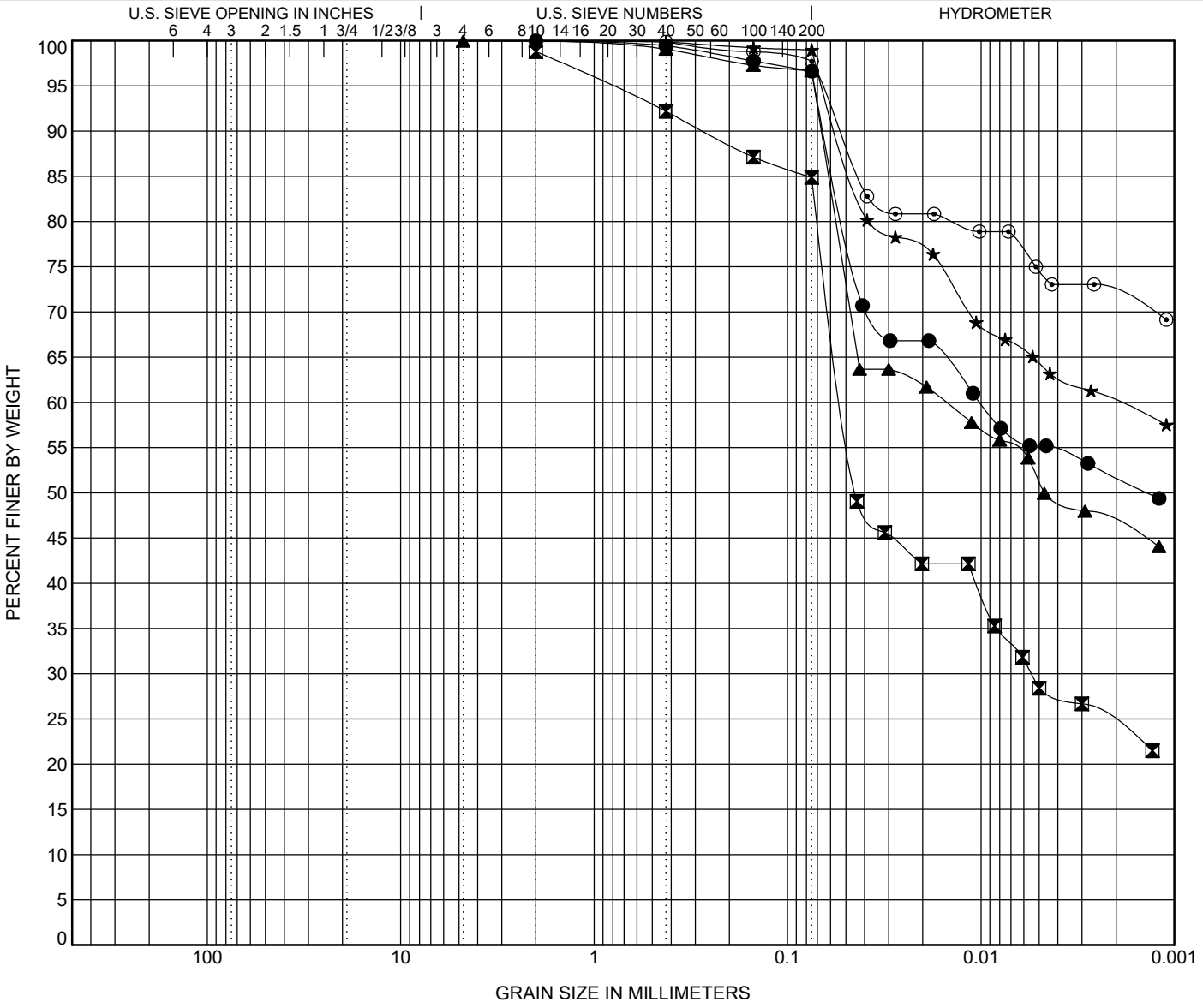

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	17	0.5	**FAT CLAY(CH) A-7-6**	52	28	24		
⊠	17	2.5	**SILT with SAND(ML) A-7-6**	41	26	15		
▲	17	6.5	**FAT CLAY(CH) A-7-5**	63	31	32		
★	17	8.5	**FAT CLAY(CH) A-7-5**	70	33	37		
⊙	17	18.5	**FAT CLAY(CH) A-7-5**	74	34	40		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	17	0.5	2	0.01				3.4	41.4	55.2
⊠	17	2.5	2	0.052	0.005			13.9	56.5	28.4
▲	17	6.5	4.75	0.015				3.3	45.5	51.2
★	17	8.5	2	0.002				1.0	34.6	64.4
⊙	17	18.5	0.425					2.1	23.1	74.6

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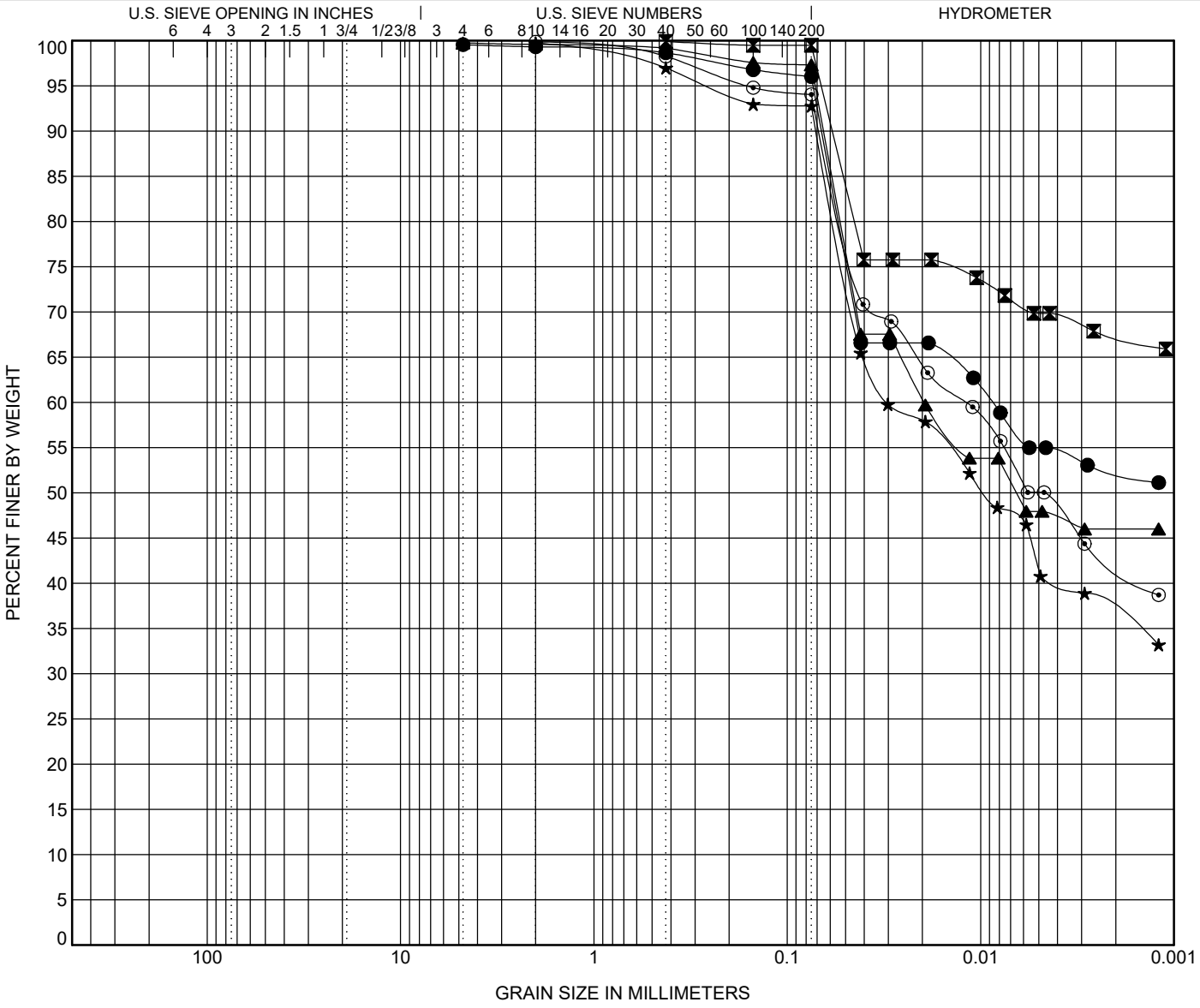

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	18	4.5	**FAT CLAY(CH) A-7-5**	69	33	36		
⊠	18	8.5	**FAT CLAY(CH) A-7-5**	69	32	37		
▲	18	18.5	**FAT CLAY(CH) A-7-6**	62	28	34		
★	19	2.5	**LEAN CLAY(CL) A-7-6**	46	23	23		
⊙	19	6.5	**LEAN CLAY(CL) A-7-6**	41	25	16		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	18	4.5	4.75	0.009				3.5	41.0	55.0
⊠	18	8.5	0.425					0.4	29.6	69.9
▲	18	18.5	4.75	0.02				2.4	49.4	48.0
★	19	2.5	2	0.031				7.0	51.3	41.5
⊙	19	6.5	2	0.012				5.8	44.0	50.0

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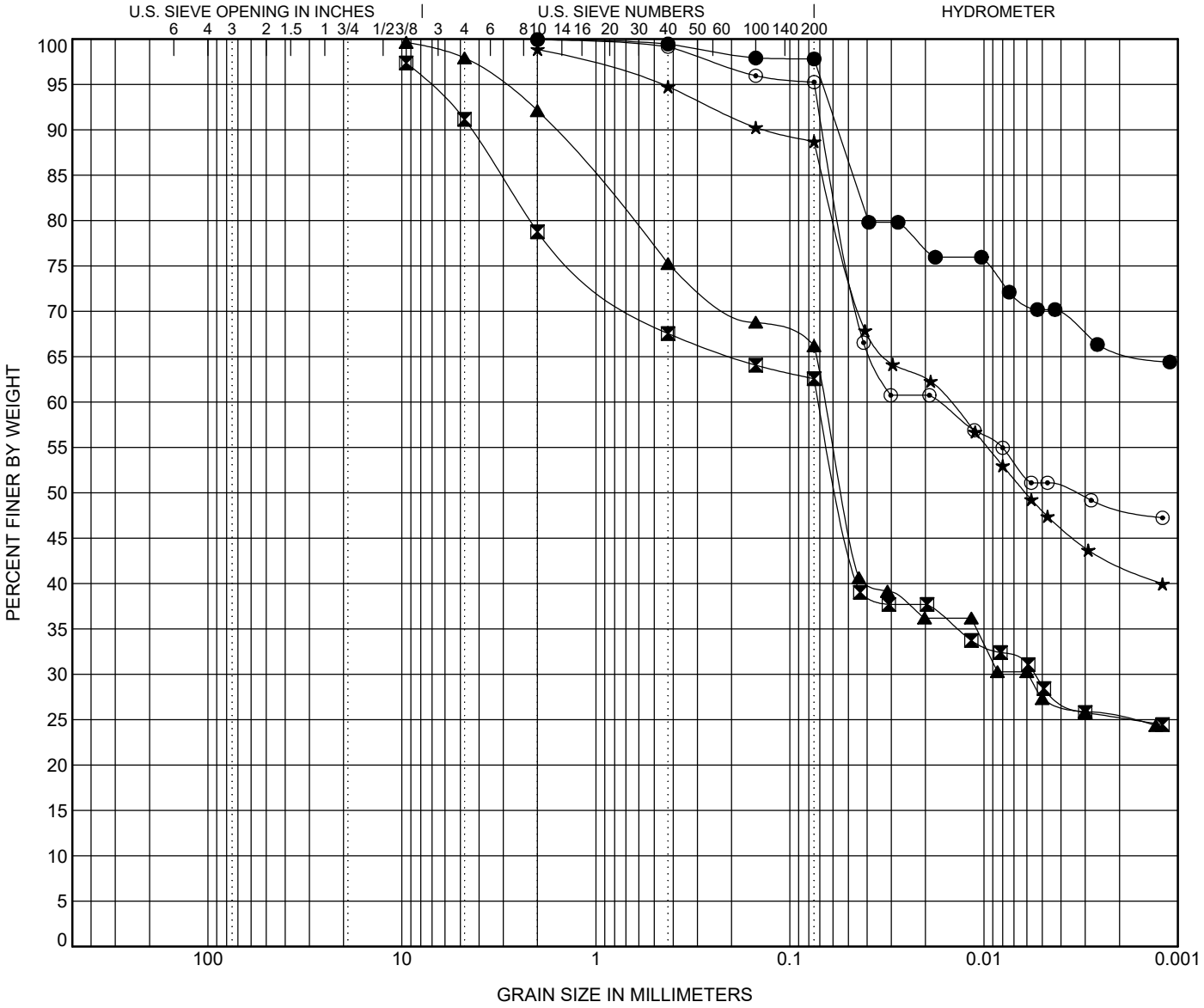

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	19	8.5	FAT CLAY(CH) A-7-5	71	33	38		
⊠	20	2.5	SANDY LEAN CLAY(CL) A-7-6	49	22	27		
▲	20	6.5	SANDY LEAN CLAY(CL) A-7-6	47	23	24		
★	20	13.5	LEAN CLAY(CL) A-6	40	20	20		
⊙	20	18.5	FAT CLAY(CH) A-7-5	61	31	30		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	19	8.5	2					2.1	27.6	70.2
⊠	20	2.5	9.5	0.071	0.005		6.2	28.6	33.9	28.7
▲	20	6.5	9.5	0.066	0.006		1.7	31.7	38.9	27.3
★	20	13.5	2	0.015				10.2	40.7	48.0
⊙	20	18.5	2	0.017				4.7	44.1	51.1

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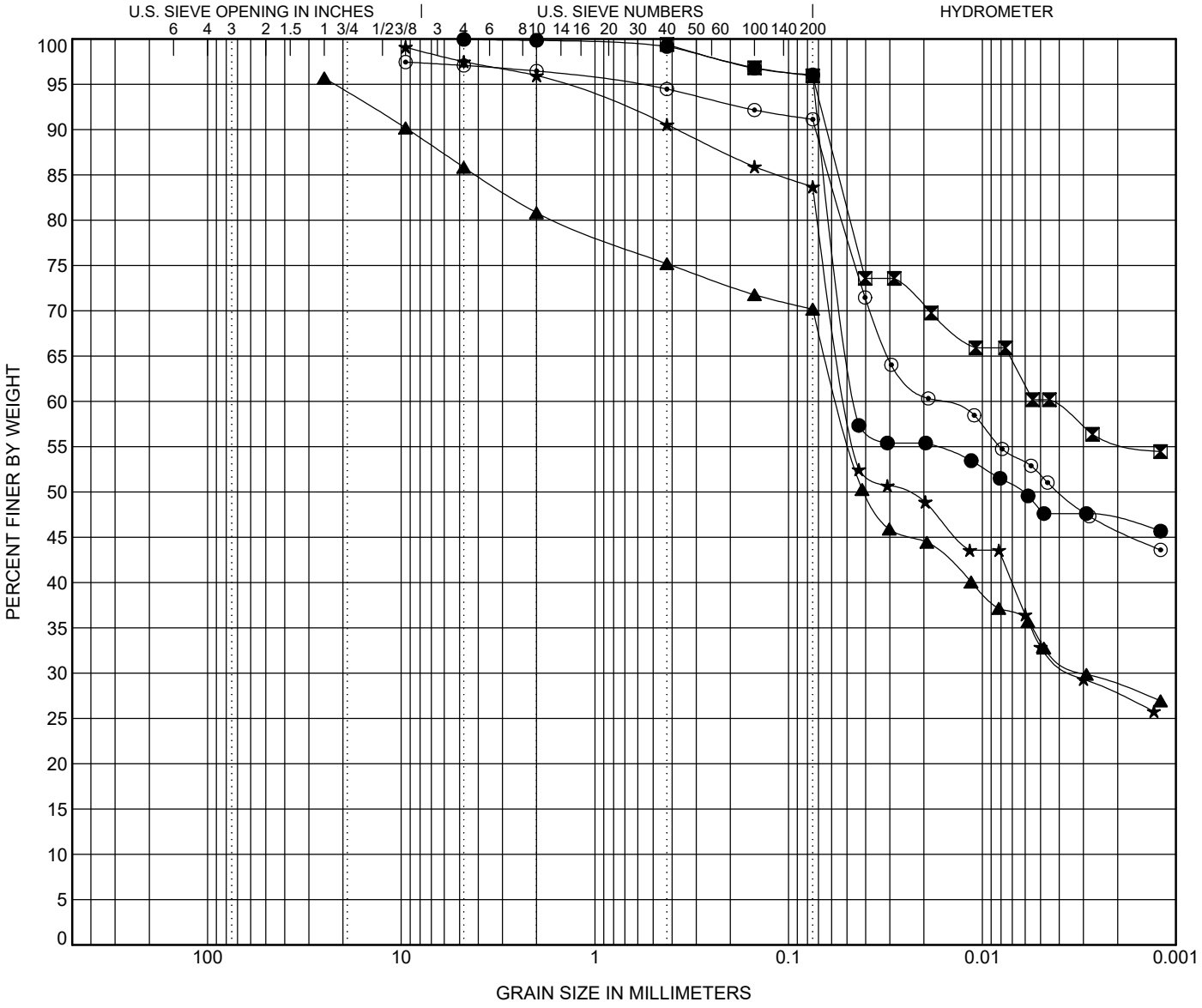

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	21	4.5	**ELASTIC SILT(MH) A-7-5**	**60**	**42**	**18**		
⊠	21	8.5	**FAT CLAY(CH) A-7-5**	**62**	**31**	**31**		
▲	22	2.5	**LEAN CLAY with SAND(CL) A-6**	**40**	**20**	**20**		
★	22	4.5	**LEAN CLAY with SAND(CL) A-7-6**	**41**	**19**	**22**		
⊙	22	6.5	**FAT CLAY(CH) A-7-6**	**50**	**25**	**25**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	21	4.5	**4.75**	**0.045**				**3.9**	**48.0**	**48.0**
⊠	21	8.5	**0.425**	**0.004**				**3.5**	**35.7**	**60.2**
▲	22	2.5	**25**	**0.056**	**0.003**		**9.9**	**15.7**	**36.8**	**33.4**
★	22	4.5	**9.5**	**0.05**	**0.003**		**1.6**	**13.8**	**50.8**	**32.9**
⊙	22	6.5	**9.5**	**0.017**			**0.4**	**5.9**	**39.3**	**51.8**

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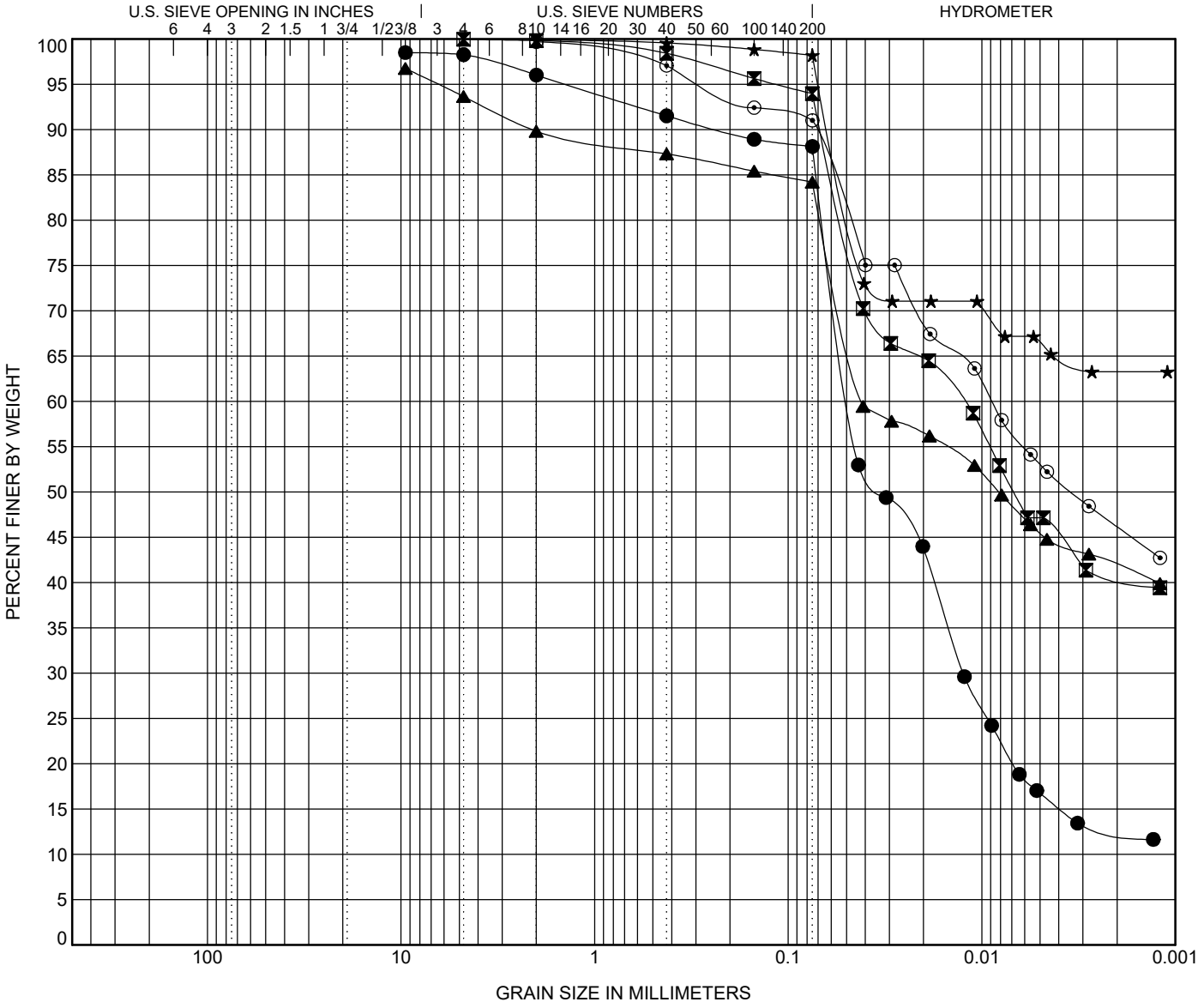

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	23	0.5						
⊠	23	4.5	LEAN CLAY(CL) A-7-6	44	22	22		
▲	23	8.5	LEAN CLAY with SAND(CL) A-7-6	41	21	20		
★	24	0.5	FAT CLAY(CH) A-7-6	61	22	39		
⊙	24	2.5	LEAN CLAY(CL) A-7-6	43	22	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	23	0.5	9.5	0.048	0.012		0.2	10.1	71.4	16.7
⊠	23	4.5	4.75	0.013				6.0	46.8	47.1
▲	23	8.5	9.5	0.042			3.1	9.4	38.7	45.5
★	24	0.5	2					1.7	31.8	66.4
⊙	24	2.5	2	0.009				8.7	38.0	53.0

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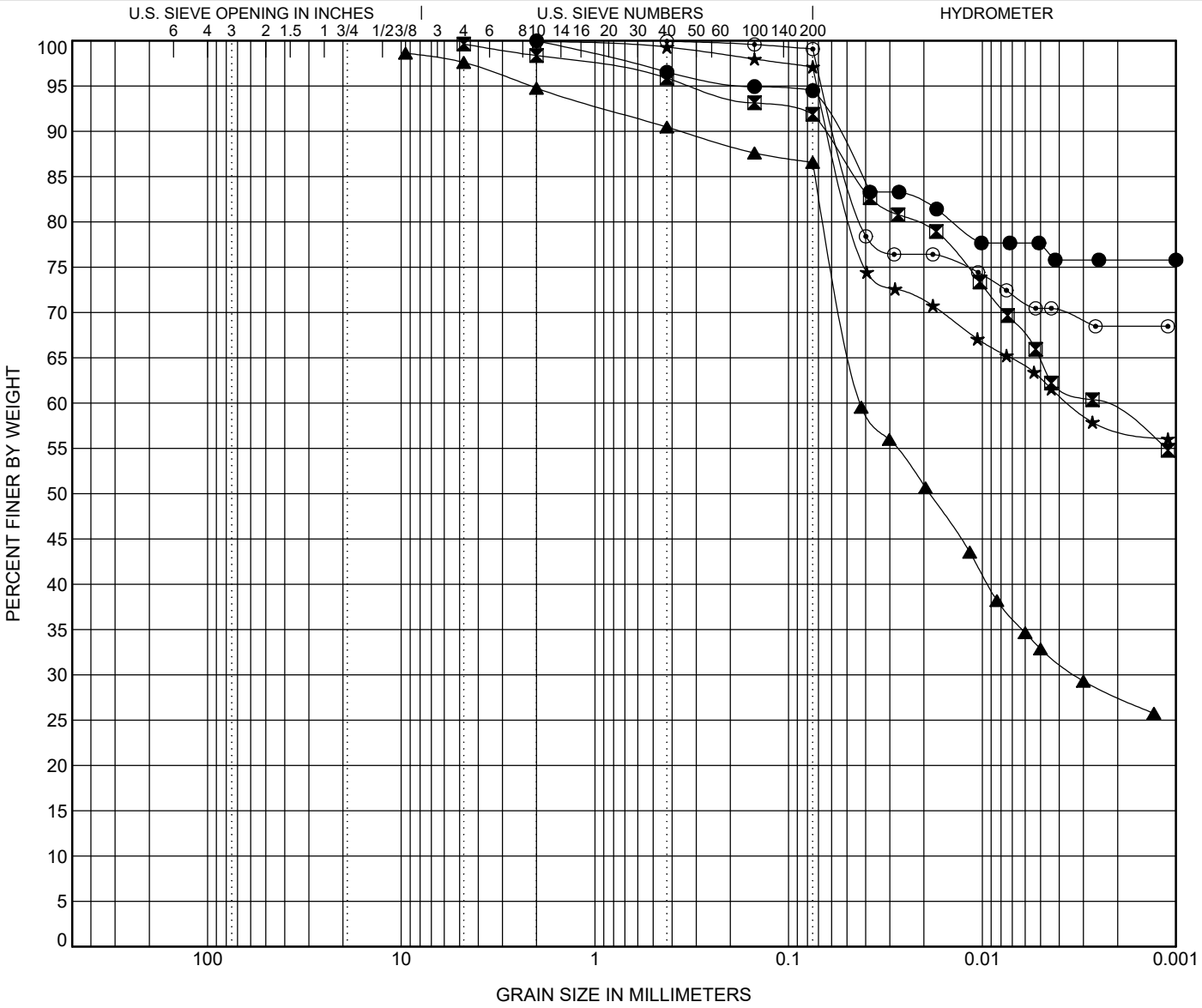

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	24	6.5	**FAT CLAY(CH) A-7-5**	77	33	44		
⊠	25	2.5	**FAT CLAY(CH) A-7-6**	59	29	30		
▲	25	4.5	**LEAN CLAY(CL) A-7-6**	43	20	23		
★	26	4.5	**ELASTIC SILT(MH) A-7-5**	69	36	33		
⊙	26	8.5	**ELASTIC SILT(MH) A-7-5**	75	42	33		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	24	6.5	2					5.5	17.0	77.5
⊠	25	2.5	4.75	0.003				7.7	27.1	64.8
▲	25	4.5	9.5	0.043	0.003		1.0	11.0	53.7	32.9
★	26	4.5	2	0.004				2.8	34.4	62.7
⊙	26	8.5	0.425					0.9	28.6	70.5

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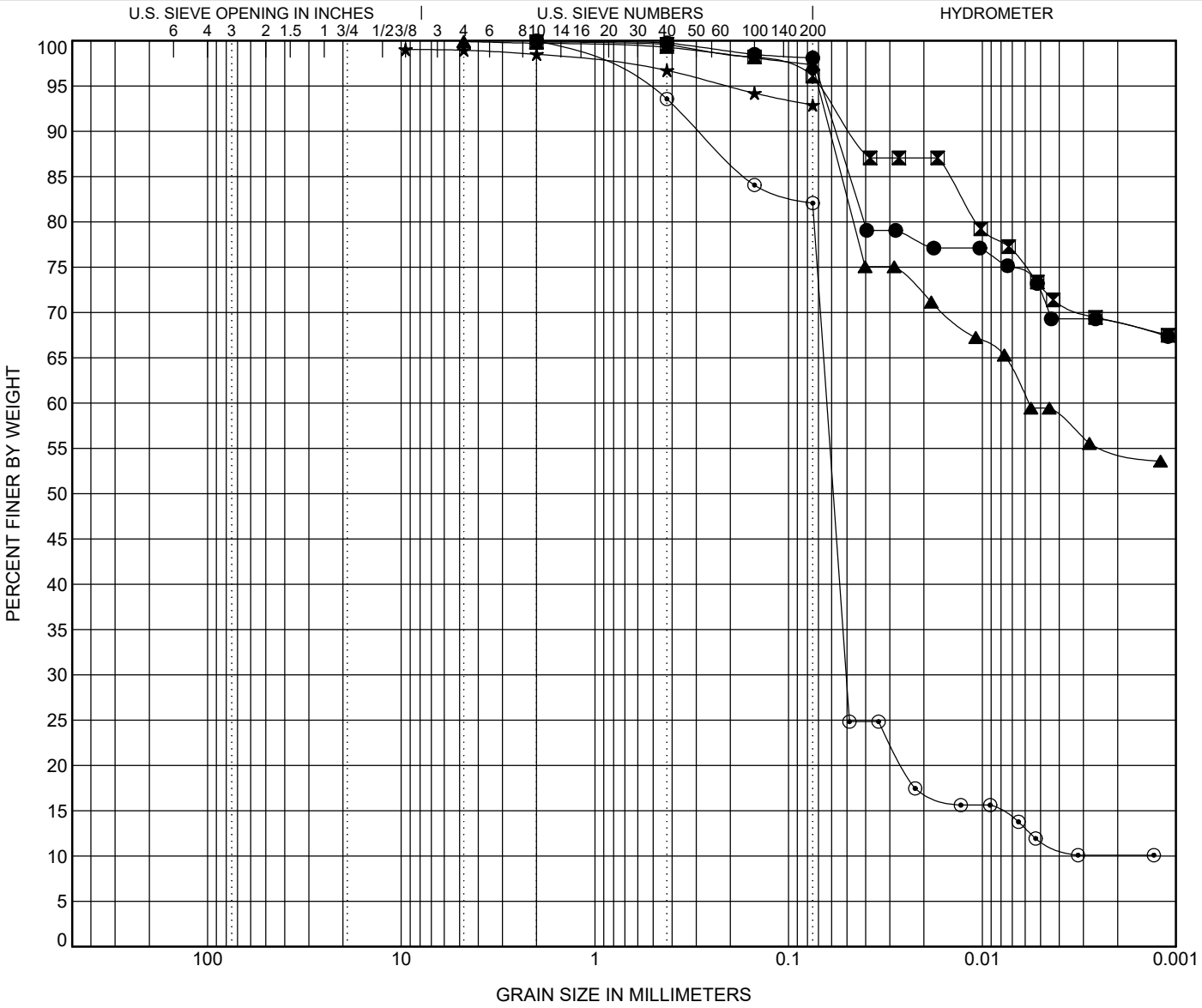

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	26	10.0	**ELASTIC SILT(MH) A-7-5**	68	41	27		
⊠	26	13.5	**ELASTIC SILT(MH) A-7-5**	73	35	38		
▲	26	23.5	**FAT CLAY(CH) A-7-5**	83	33	50		
★	27	0.5						
⊙	27	4.5	**SILT with SAND(ML) A-4**	31	23	8		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	26	10.0	2					1.9	25.8	72.3
⊠	26	13.5	2					3.8	23.1	73.0
▲	26	23.5	4.75	0.006				2.6	37.9	59.4
★	27	0.5	9.5				0.1	6.1	92.9	
⊙	27	4.5	2	0.063	0.05			17.9	70.3	11.7

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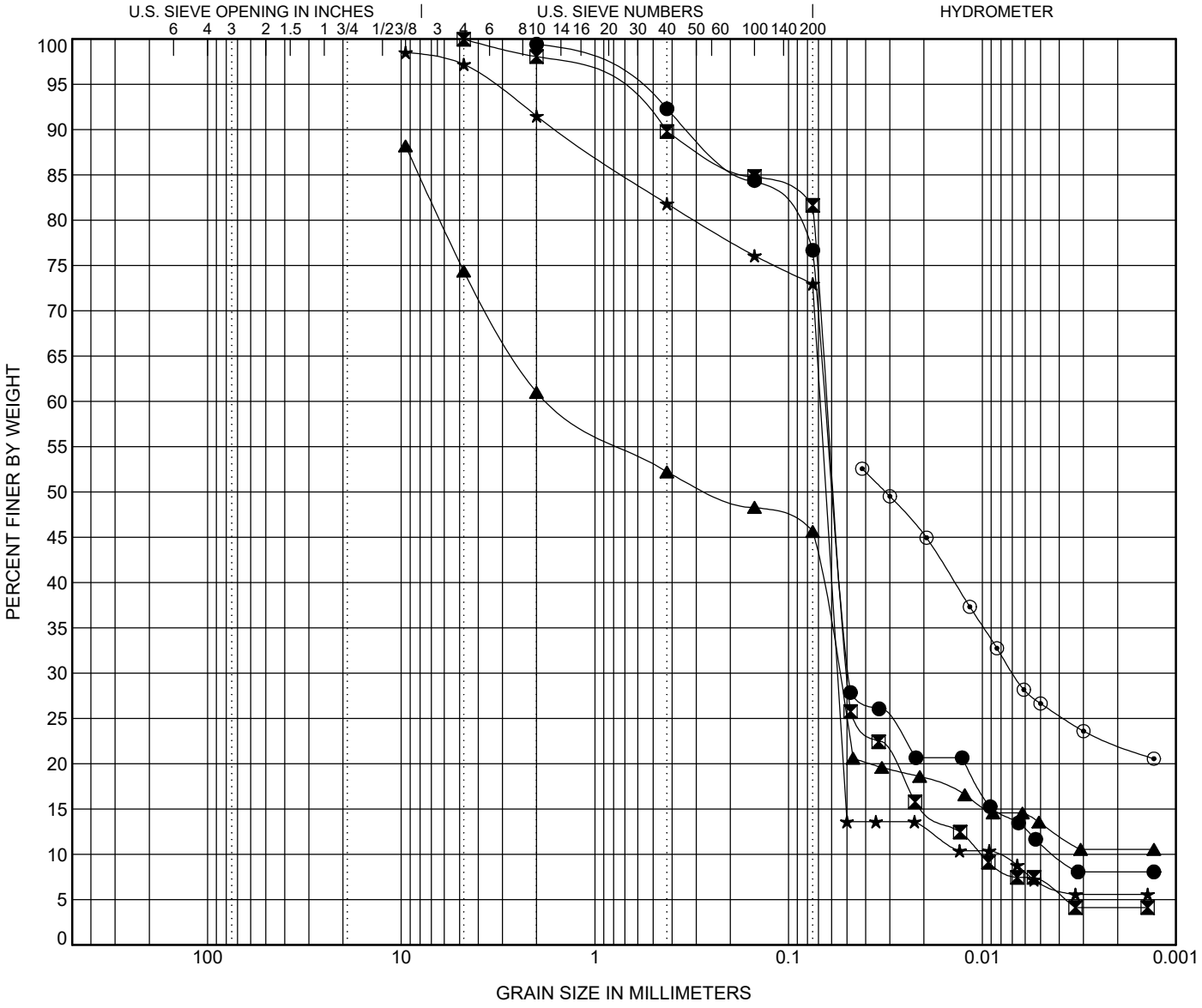

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	27	8.5	SILT with SAND(ML) A-4	NP	NP	NP	8.83	15.32
⊠	27	28.5	SILT with SAND(ML) A-4	NP	NP	NP	3.83	6.20
▲	28	0.5	CLAYEY SAND with GRAVEL(SC) A-7-6	50	24	26		
★	28	4.5	LEAN CLAY with SAND(CL) A-6	40	20	20	5.37	8.09
⊙	28	8.5		30	21	9		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	27	8.5	2	0.064	0.049	0.004		22.7	65.4	11.2
⊠	27	28.5	4.75	0.063	0.05	0.01		18.3	74.7	6.9
▲	28	0.5	9.5	1.677	0.056		13.8	28.7	32.2	13.4
★	28	4.5	9.5	0.069	0.056	0.008	1.3	24.2	66.0	6.9
⊙	28	8.5			0.007					26.6

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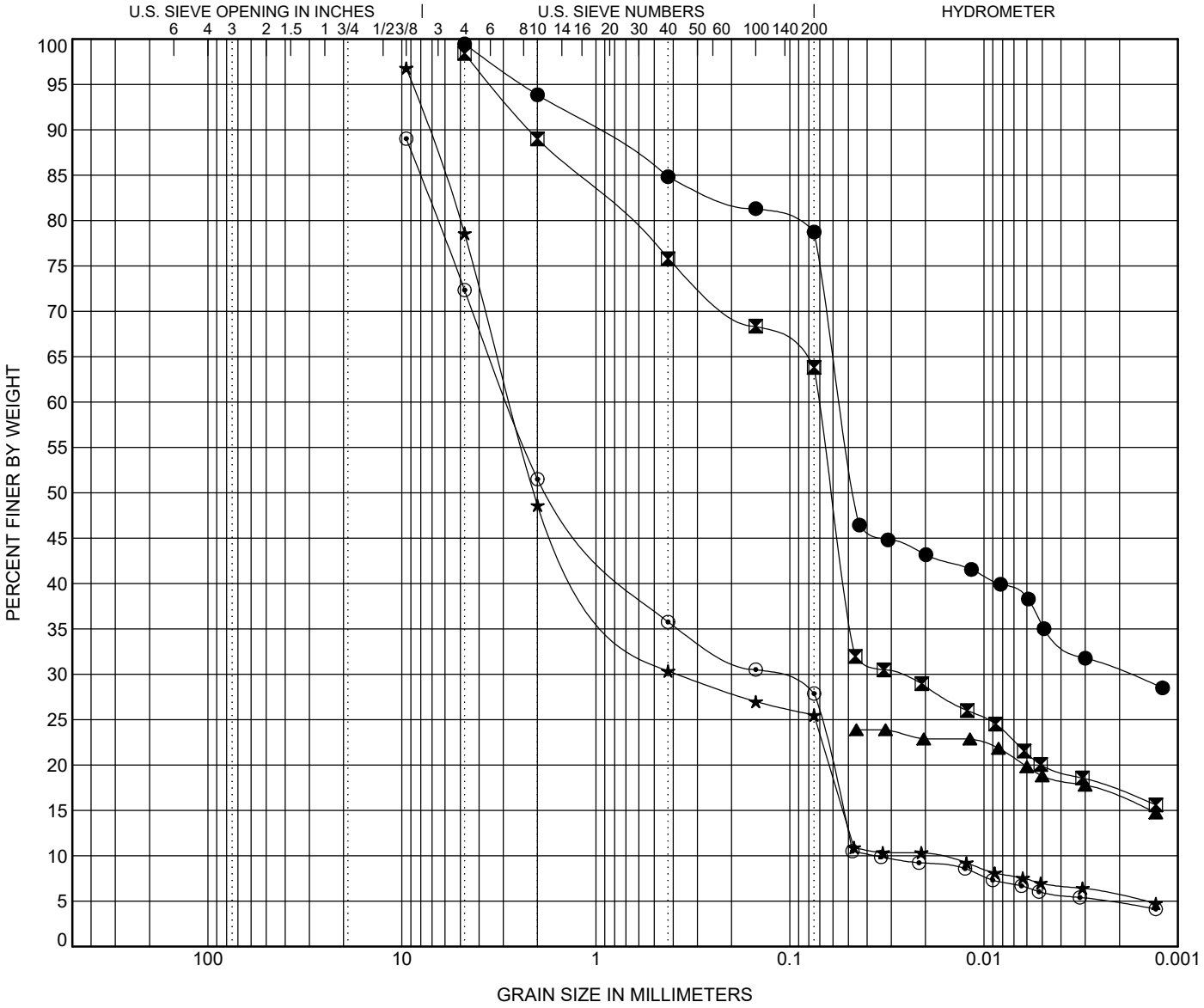

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	29	0.5	ELASTIC SILT with SAND(MH) A-7-5	57	33	24		
⊠	29	4.5	SANDY LEAN CLAY(CL) A-7-6	48	27	21		
▲	29	7.5		45	26	19		
★	29	8.5	SILTY SAND with GRAVEL(SM) A-2-4	NP	NP	NP	2.93	156.17
⊙	29	18.5					0.17	78.38

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	29	0.5	4.75	0.055	0.002			20.7	43.4	35.4
⊠	29	4.5	4.75	0.071	0.028			34.6	43.8	20.0
▲	29	7.5								18.8
★	29	8.5	9.5	2.778	0.38	0.018	18.2	53.1	18.5	7.0
⊙	29	18.5	9.5	2.845	0.131	0.036	16.7	44.5	21.9	6.0

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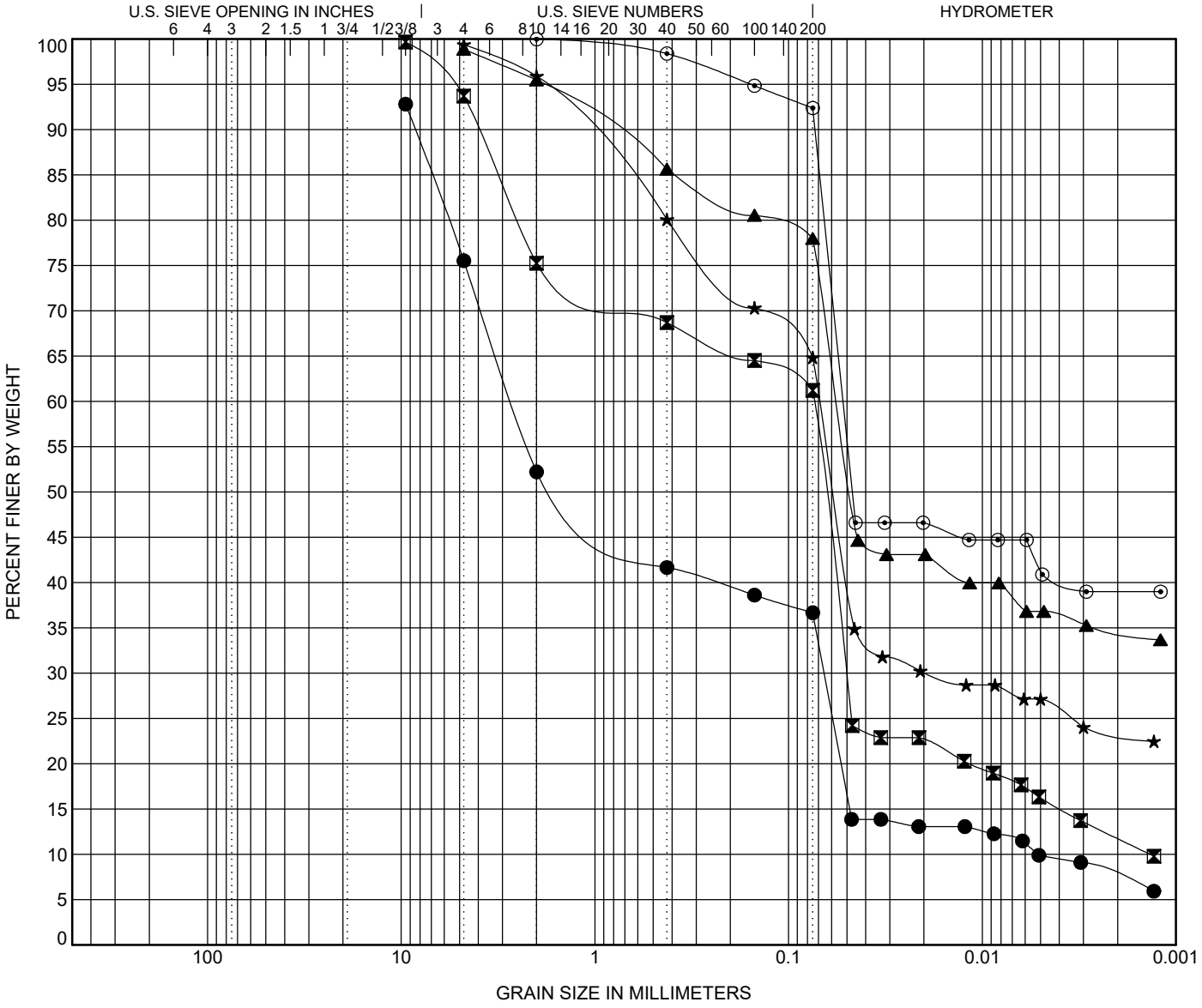
PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	30	0.5	CLAYEY SAND with GRAVEL(SC) A-6	37	20	17	0.31	516.59
⊠	30	4.5	SANDY LEAN CLAY(CL) A-7-6	41	25	16	25.45	54.30
▲	31	4.5	FAT CLAY with SAND(CH) A-7-5	71	33	38		
★	31	8.5	SANDY FAT CLAY(CH) A-7-6	55	26	29		
⊙	31	13.5	ELASTIC SILT(MH) A-7-5	80	40	40		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	30	0.5	9.5	2.67	0.066	0.005	17.3	38.9	26.8	9.9
⊠	30	4.5	9.5	0.074	0.051	0.001	6.0	32.5	45.0	16.2
▲	31	4.5	4.75	0.056				20.9	41.2	36.8
★	31	8.5	4.75	0.069	0.019			34.5	37.7	27.1
⊙	31	13.5	2	0.052				7.6	51.1	41.3

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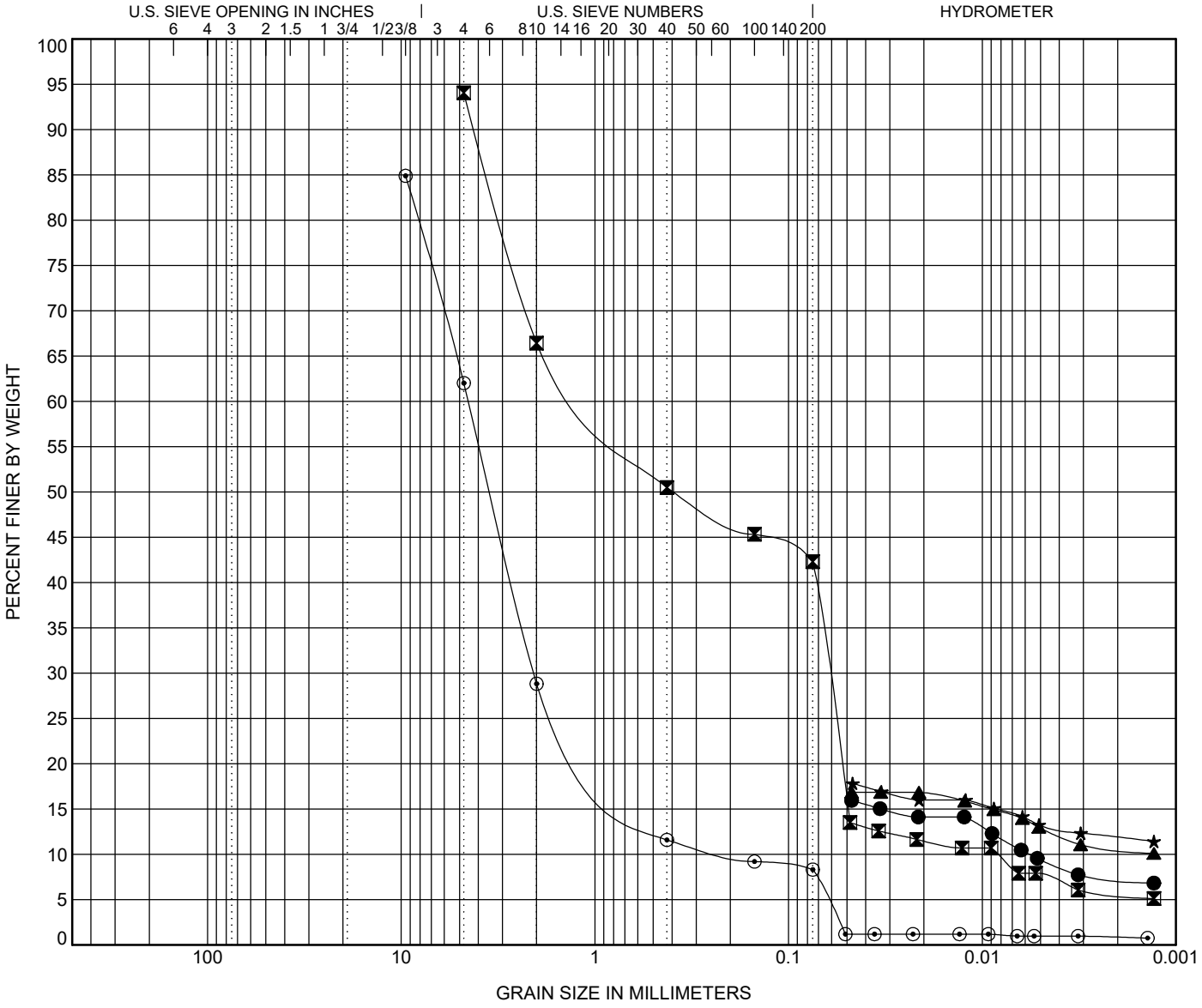

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	32	0.5		36	21	15		
⊠	32	4.5	CLAYEY SAND(SC) A-6	32	20	12	0.43	129.39
▲	32	10.5		43	23	20		
★	32	13.5		44	25	19		
⊙	32	23.5	POORLY GRADED SAND with SILT and GRAVEL(SP-SM) A-1-b	NP	NP	NP	4.45	21.25

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	32	0.5				0.006				9.4
⊠	32	4.5	4.75	1.072	0.062	0.008		51.8	34.6	7.7
▲	32	10.5								12.9
★	32	13.5								13.2
⊙	32	23.5	9.5	4.506	2.062	0.212	22.9	53.7	7.3	1.0

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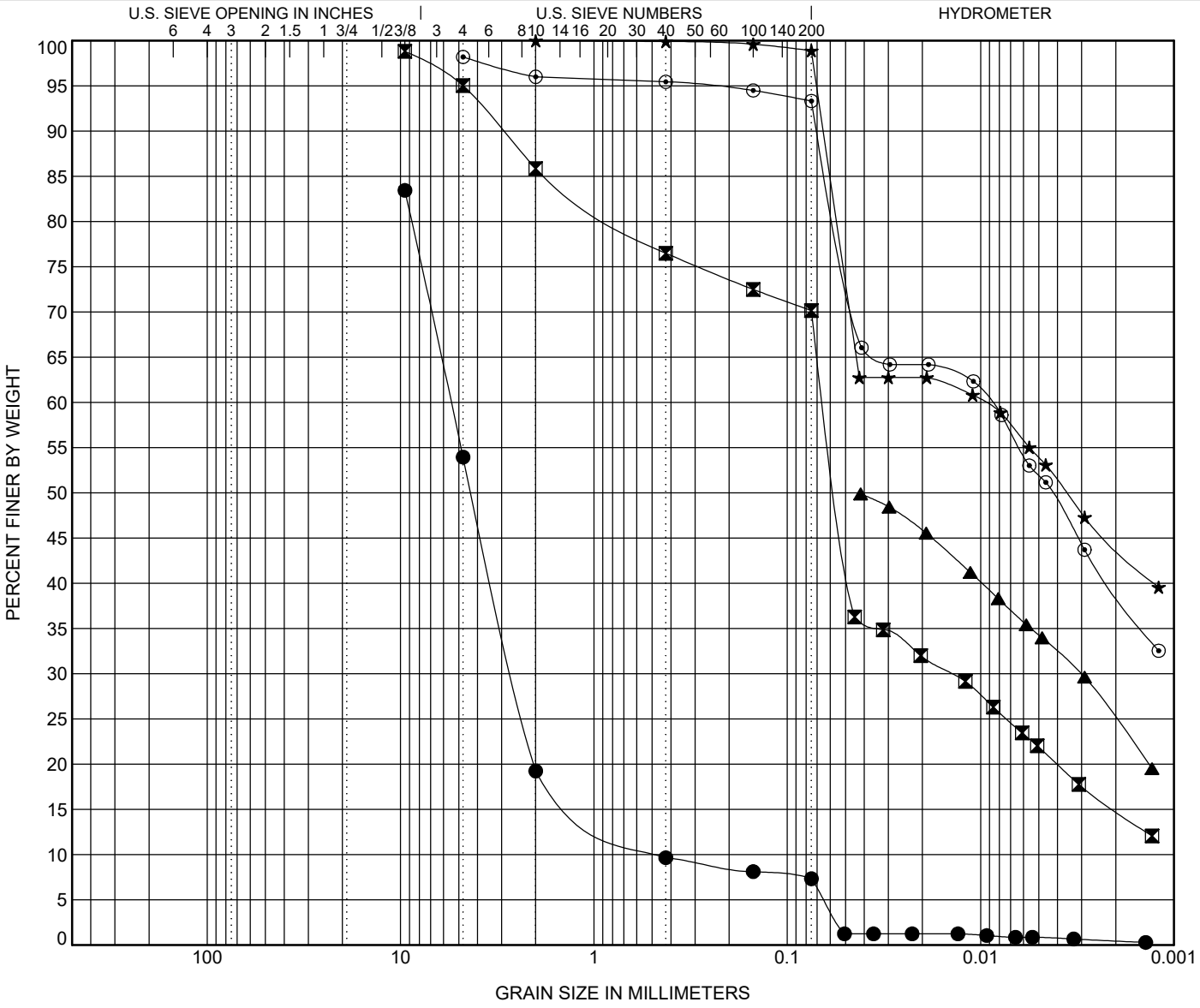

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	34	4.5					2.78	12.18
⊠	35	1.0	LEAN CLAY with SAND(CL) A-6	36	20	16		
▲	35	3.5		38	20	18		
★	37	4.5	ELASTIC SILT(MH) A-7-6	52	29	23		
⊙	37	13.5	FAT CLAY(CH) A-7-6	52	27	25		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	34	4.5	9.5	5.476	2.615	0.45	29.5	46.6	6.5	0.8
⊠	35	1.0	9.5	0.064	0.014		3.8	24.9	48.3	21.9
▲	35	3.5			0.003					34.3
★	37	4.5	2	0.01				1.1	45.0	53.9
⊙	37	13.5	4.75	0.009				4.9	41.4	51.9

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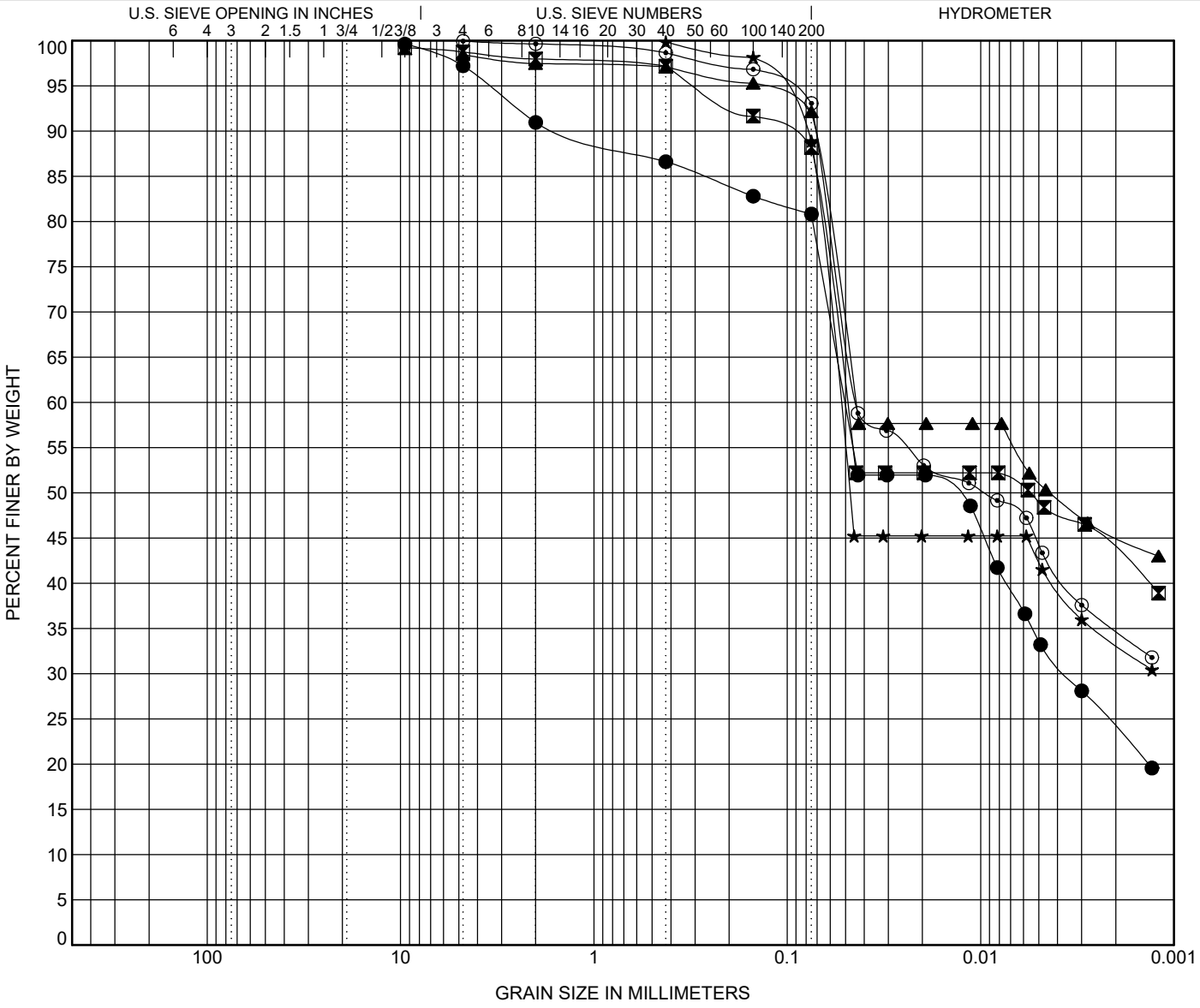

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	37	23.5	FAT CLAY with SAND(CH) A-7-6	51	28	23		
⊠	38	0.5	LEAN CLAY(CL) A-7-6	46	21	25		
▲	38	6.5	FAT CLAY(CH) A-7-6	53	28	25		
★	38	13.5	LEAN CLAY(CL) A-7-6	47	22	25		
⊙	38	18.5	LEAN CLAY(CL) A-6	40	19	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	37	23.5	9.5	0.05	0.004		2.4	16.4	47.2	33.6
⊠	38	0.5	9.5	0.049			0.5	10.6	39.2	49.0
▲	38	6.5	4.75	0.044				6.3	41.0	51.1
★	38	13.5	0.425	0.054				11.0	46.6	42.3
⊙	38	18.5	4.75	0.044				6.9	48.9	44.2

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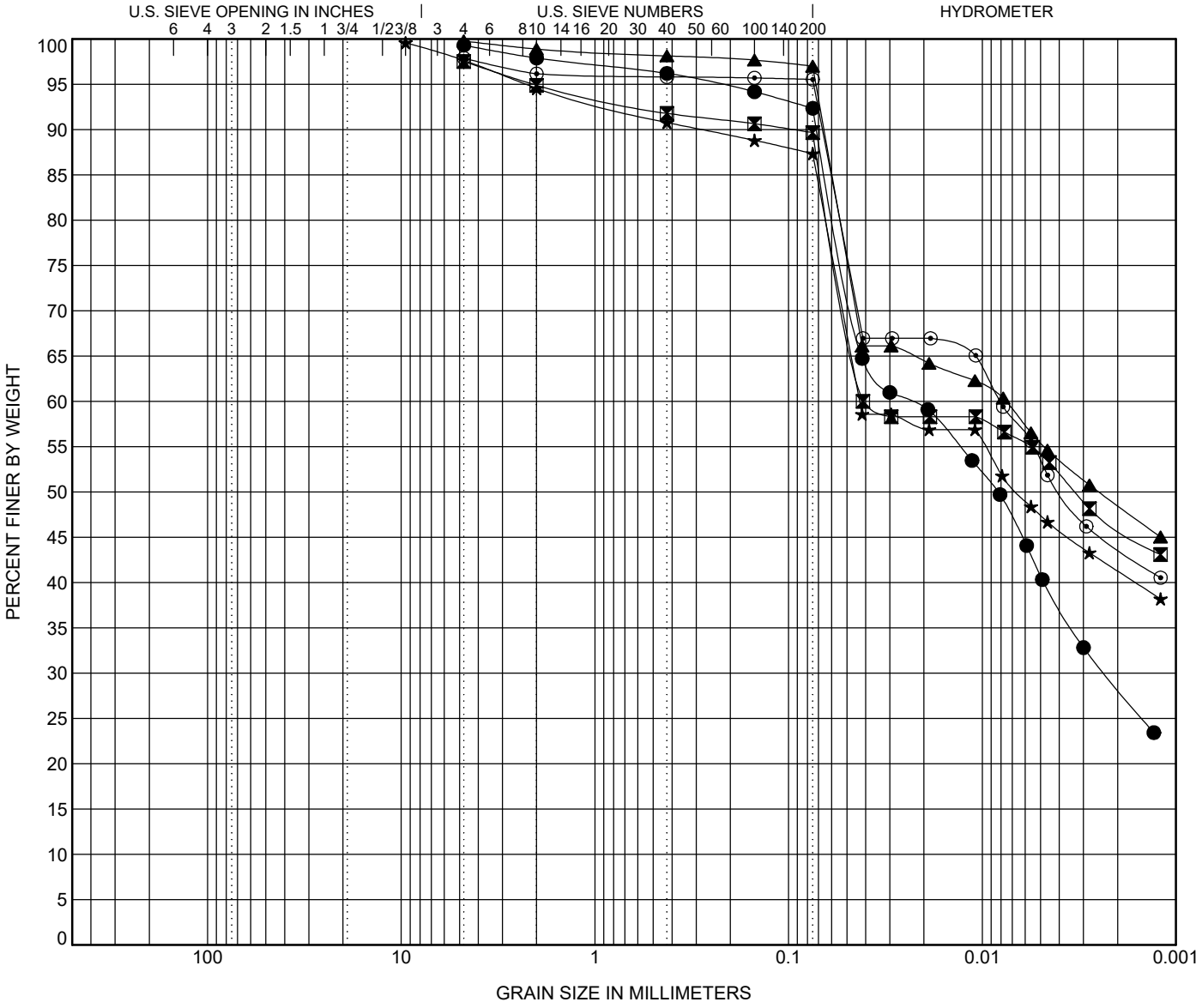

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	38	28.5	**FAT CLAY(CH) A-7-6**	51	26	25		
⊠	39	0.5	**FAT CLAY(CH) A-7-6**	52	24	28		
▲	39	4.5	**FAT CLAY(CH) A-7-5**	59	30	29		
★	39	10.0	**FAT CLAY(CH) A-7-6**	62	26	36		
⊙	39	13.5	**ELASTIC SILT(MH) A-7-5**	57	32	25		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	38	28.5	4.75	0.024	0.002			7.0	51.6	40.7
⊠	39	0.5	4.75	0.041				7.9	35.5	54.1
▲	39	4.5	4.75	0.008				2.8	41.6	55.4
★	39	10.0	9.5	0.043			1.9	10.3	39.9	47.4
⊙	39	13.5	4.75	0.008				2.4	42.1	53.5

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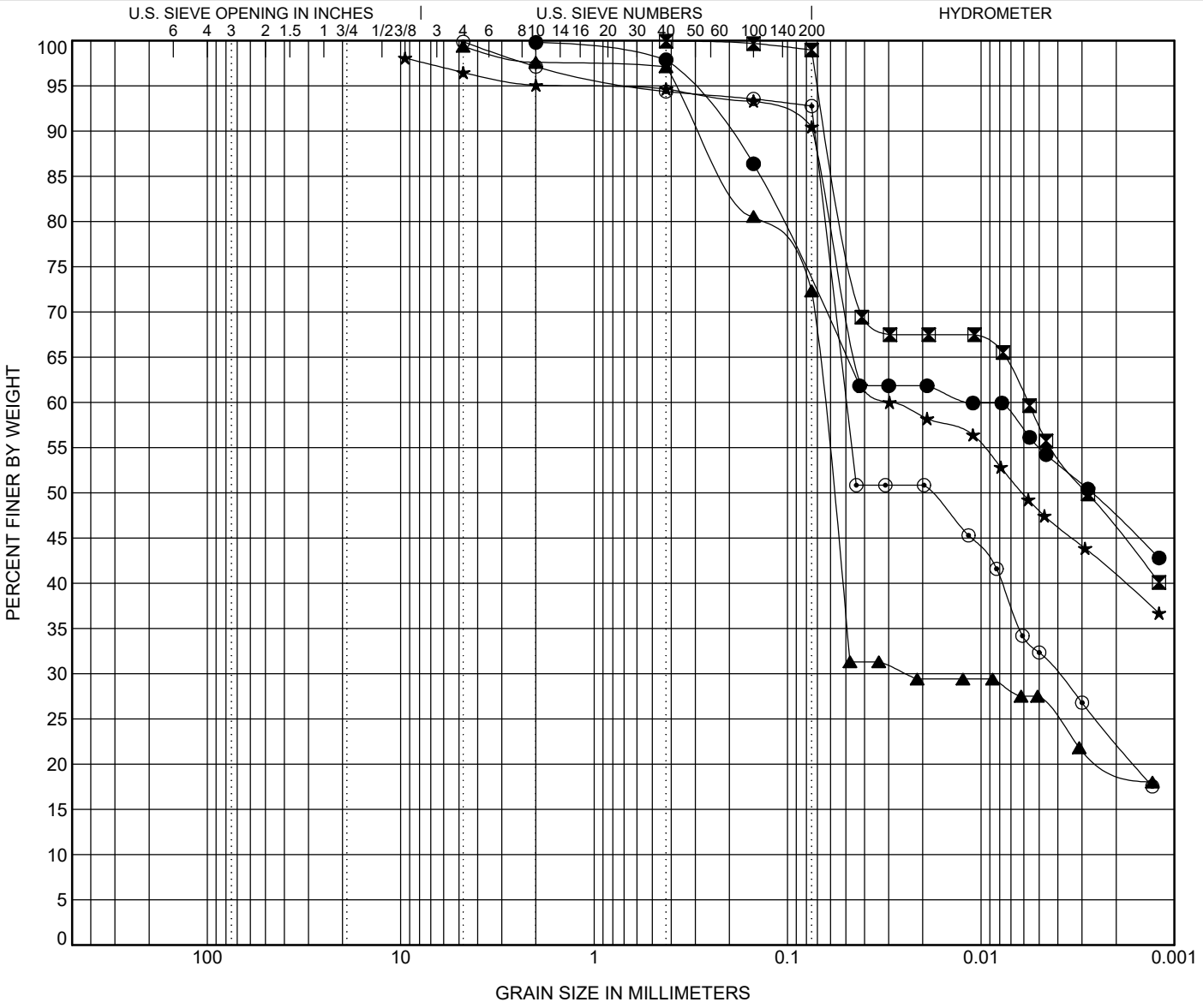

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	39	23.5	A-7-6	52	23	29		
⊠	39	28.5	FAT CLAY(CH) A-7-6	57	24	33		
▲	39	38.5	LEAN CLAY with SAND(CL) A-6	30	14	16		
★	39	48.5	LEAN CLAY(CL) A-7-6	45	22	23		
⊙	39	53.5	LEAN CLAY(CL) A-6	40	23	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	39	23.5	2	0.011				26.9	17.9	55.0
⊠	39	28.5	0.425	0.006				1.0	41.6	57.4
▲	39	38.5	4.75	0.065	0.025			27.0	45.1	27.3
★	39	48.5	9.5	0.03			1.6	6.0	42.4	48.0
⊙	39	53.5	4.75	0.05	0.004			7.1	60.4	32.3

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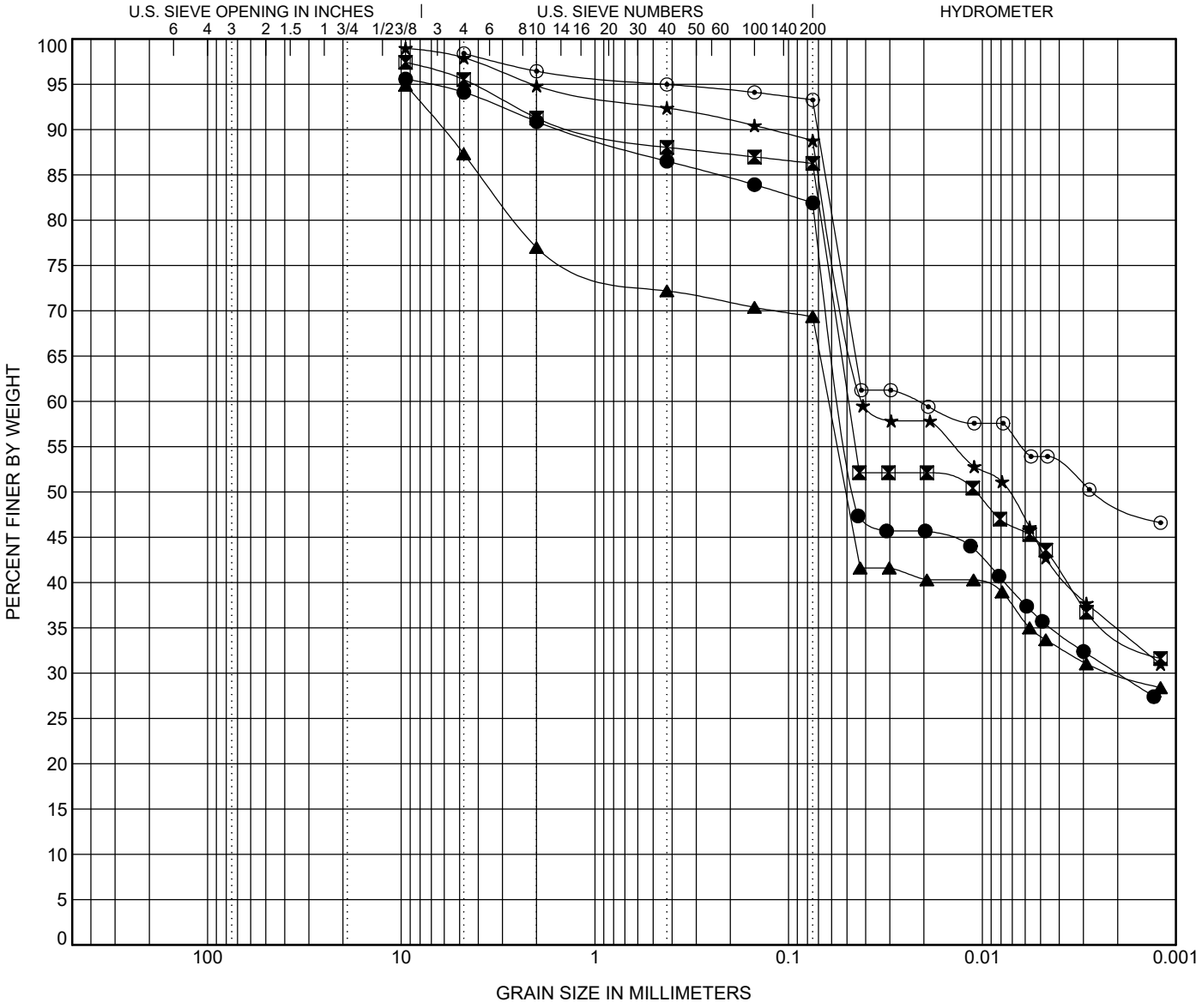

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	40	0.5	LEAN CLAY with SAND(CL) A-6	38	18	20		
⊠	40	4.5	FAT CLAY(CH) A-7-6	56	27	29		
▲	40	13.5	SANDY FAT CLAY(CH) A-7-6	59	23	36		
★	41	0.5	LEAN CLAY(CL) A-6	40	19	21		
⊙	41	4.5	ELASTIC SILT(MH) A-7-5	57	33	24		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	40	0.5	9.5	0.053	0.002		1.5	12.2	46.0	35.9
⊠	40	4.5	9.5	0.049			1.9	9.2	42.1	44.1
▲	40	13.5	9.5	0.062	0.002		7.6	17.9	35.3	34.1
★	41	0.5	9.5	0.042			1.1	9.1	45.0	43.8
⊙	41	4.5	4.75	0.022				5.1	39.4	53.9

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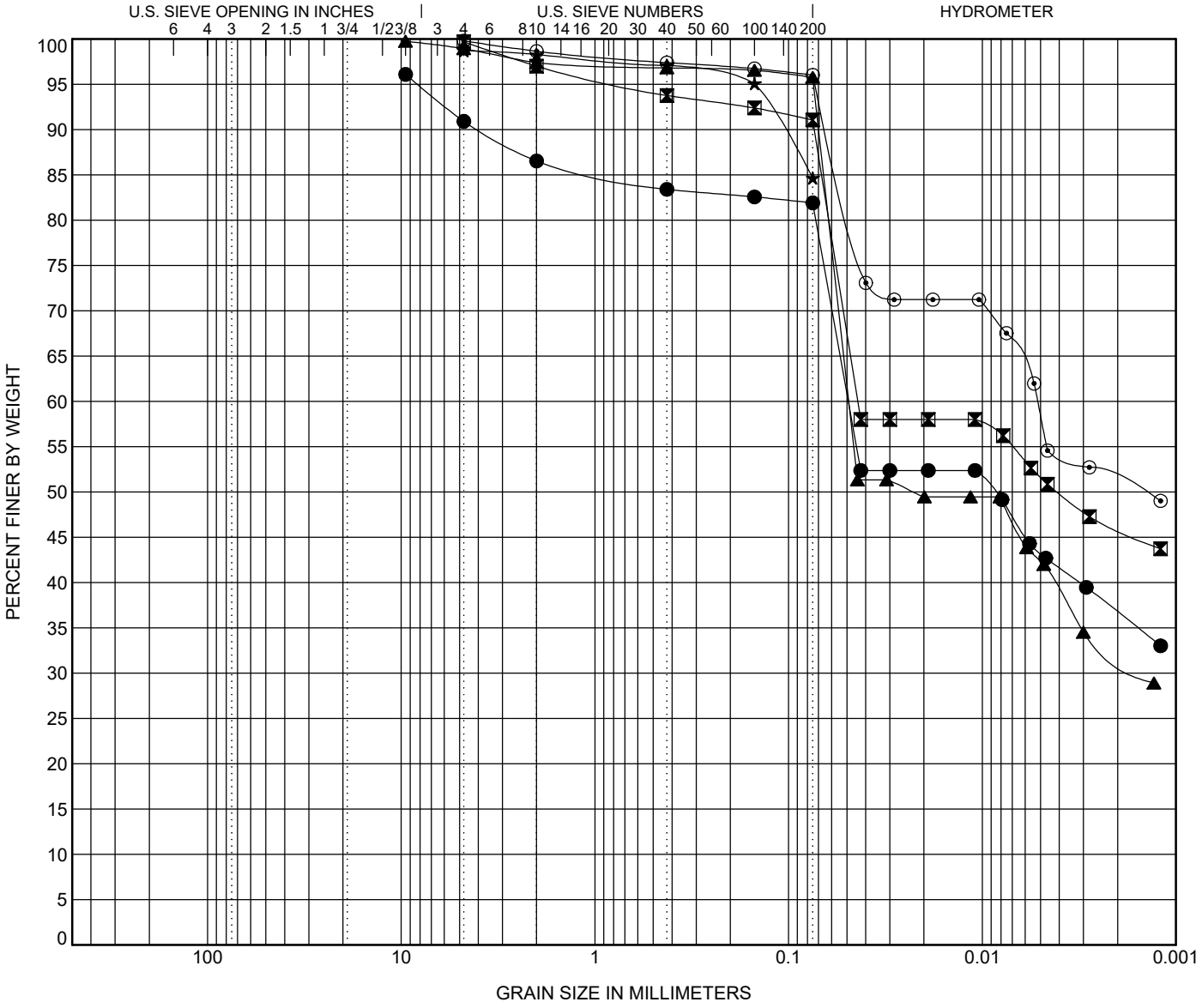

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	41	13.5	**ELASTIC SILT with GRAVEL(MH) A-7-5**	57	32	25		
⊠	41	18.5	**FAT CLAY(CH) A-7-6**	61	28	33		
▲	41	28.5	**FAT CLAY(CH) A-7-6**	53	24	29		
★	41	38.5	**LEAN CLAY with SAND(CL) A-7-6**	49	21	28		
⊙	42	6.5	**ELASTIC SILT(MH) A-7-5**	57	33	24		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	41	13.5	9.5	0.049			5.2	9.0	38.7	43.2
⊠	41	18.5	4.75	0.044				8.6	39.4	51.6
▲	41	28.5	9.5	0.049	0.002		0.8	3.2	53.4	42.4
★	41	38.5	4.75					14.1	84.7	
⊙	42	6.5	4.75	0.005				3.8	37.6	58.4

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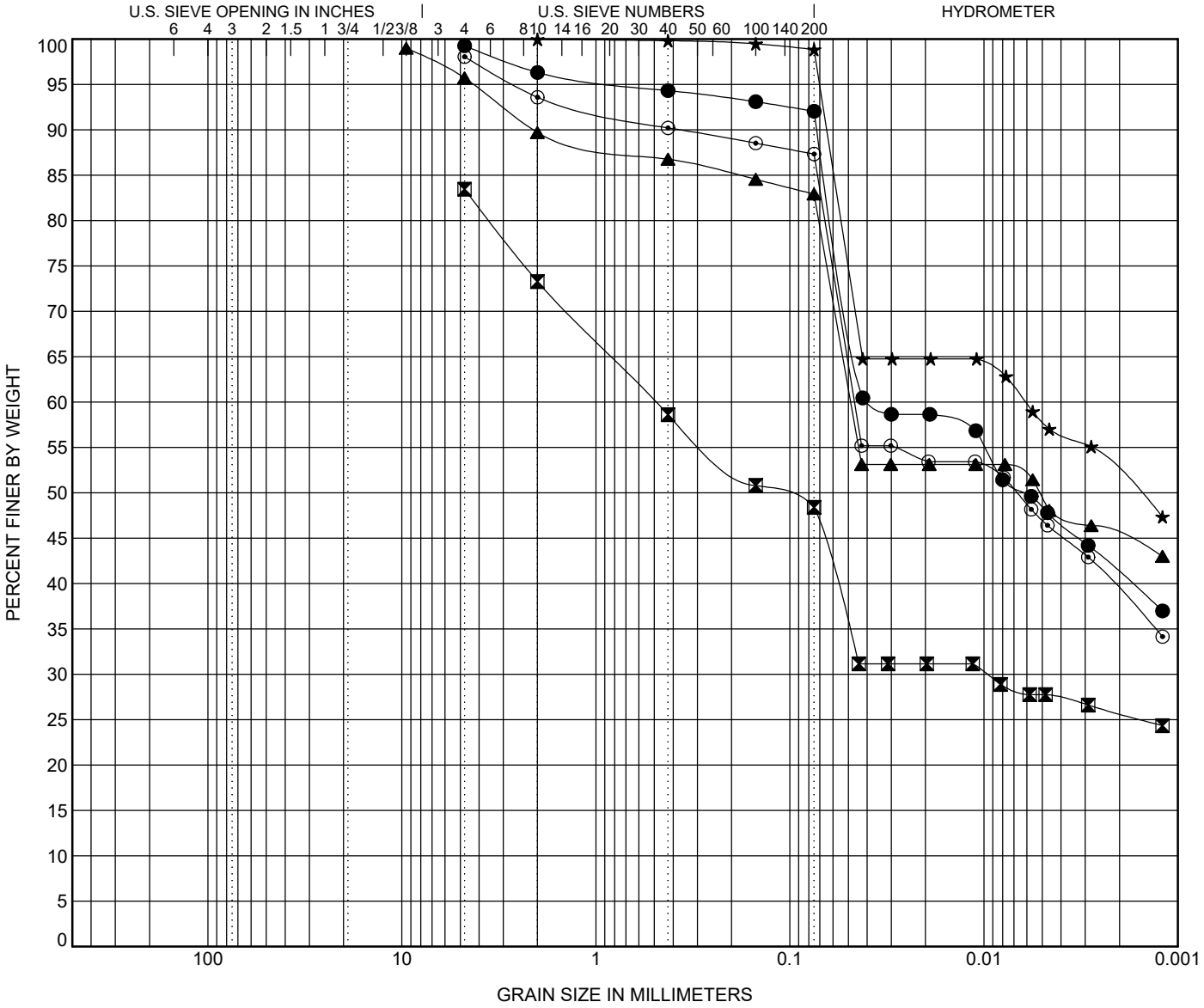

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	42	8.5	FAT CLAY(CH) A-7-6	57	28	29		
⊠	42	18.5	CLAYEY SAND with GRAVEL(SC) A-7-5	63	30	33		
▲	42	28.5	FAT CLAY with SAND(CH) A-7-6	70	29	41		
★	42	30.5	FAT CLAY(CH) A-7-6	60	24	36		
⊙	43	0.5	LEAN CLAY(CL) A-7-6	46	22	24		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	42	8.5	4.75	0.039				7.2	43.6	48.4
⊠	42	18.5	4.75	0.492	0.01			35.1	20.7	27.7
▲	42	28.5	9.5	0.049			3.3	12.8	33.4	49.5
★	42	30.5	2	0.006				1.1	41.0	57.8
⊙	43	0.5	4.75	0.046				10.7	40.3	47.0

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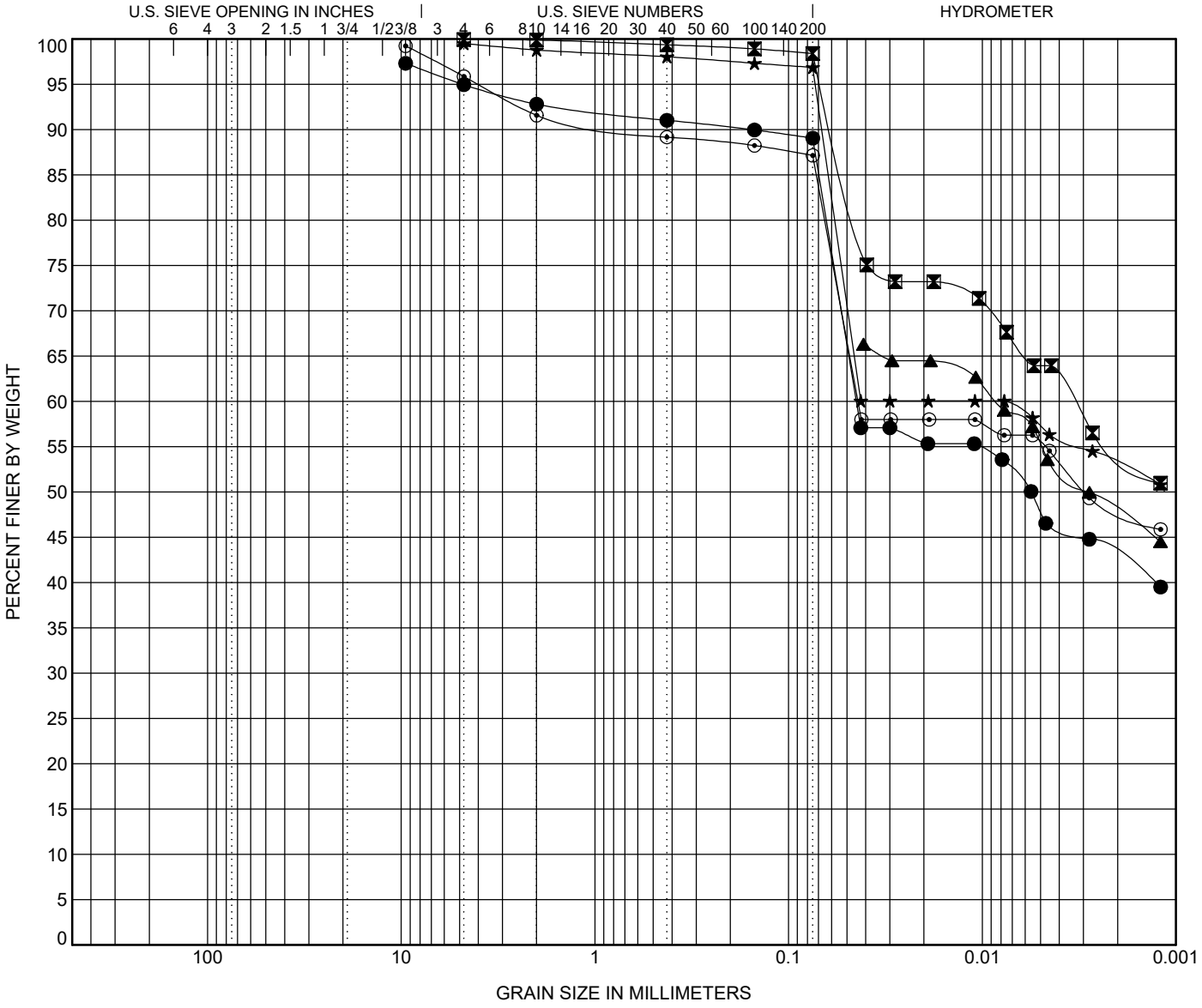

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	43	4.5	**ELASTIC SILT(MH) A-7-5**	54	32	22		
⊠	43	13.5	**ELASTIC SILT(MH) A-7-5**	69	34	35		
▲	43	23.5		70	32	38		
★	43	33.5	**FAT CLAY(CH) A-7-5**	80	32	48		
⊙	43	48.5	**FAT CLAY(CH) A-7-6**	60	27	33		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	43	4.5	9.5	0.045			2.4	5.9	41.3	47.8
⊠	43	13.5	4.75	0.003				1.6	34.5	63.9
▲	43	23.5		0.008						55.3
★	43	33.5	4.75	0.008				2.7	39.5	57.3
⊙	43	48.5	9.5	0.044			3.4	8.7	31.7	55.4

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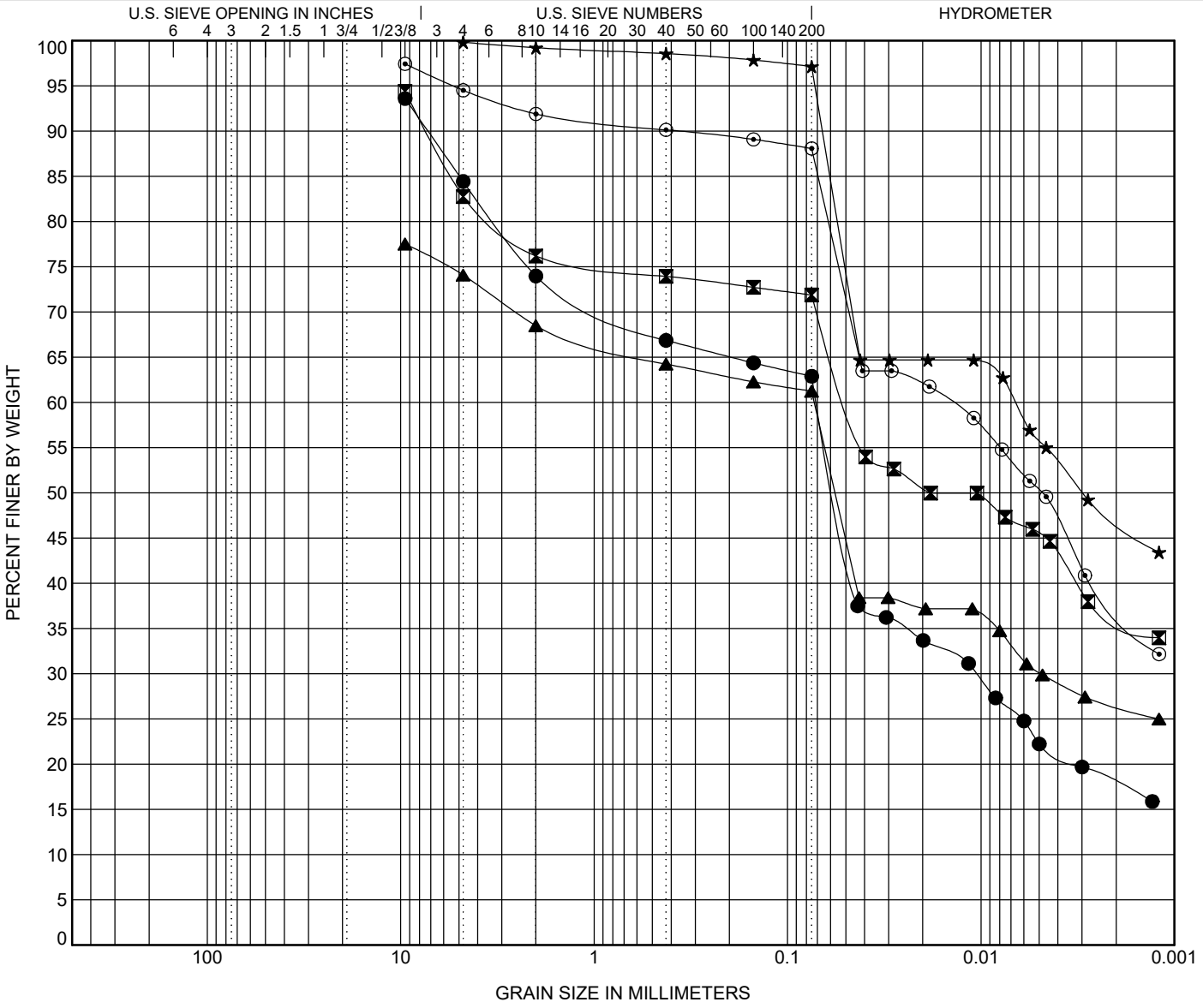

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	44	0.5	**SANDY LEAN CLAY with GRAVEL(CL) A-6**	33	19	14		
⊠	44	4.5	**FAT CLAY with GRAVEL(CH) A-7-6**	64	29	35		
▲	44	13.5	**GRAVELLY FAT CLAY(CH) A-7-6**	51	23	28		
★	44	23.5	**FAT CLAY(CH) A-7-6**	73	28	45		
⊙	44	33.5	**LEAN CLAY(CL) A-7-6**	47	24	23		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	44	0.5	9.5	0.07	0.011		9.2	21.5	40.7	22.2
⊠	44	4.5	9.5	0.049			11.6	10.9	26.4	45.5
▲	44	13.5	9.5	0.073	0.005		3.4	12.8	31.1	30.1
★	44	23.5	4.75	0.007				2.7	41.3	55.8
⊙	44	33.5	9.5	0.014			2.9	6.4	37.8	50.3

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Fax: 270-443-1904

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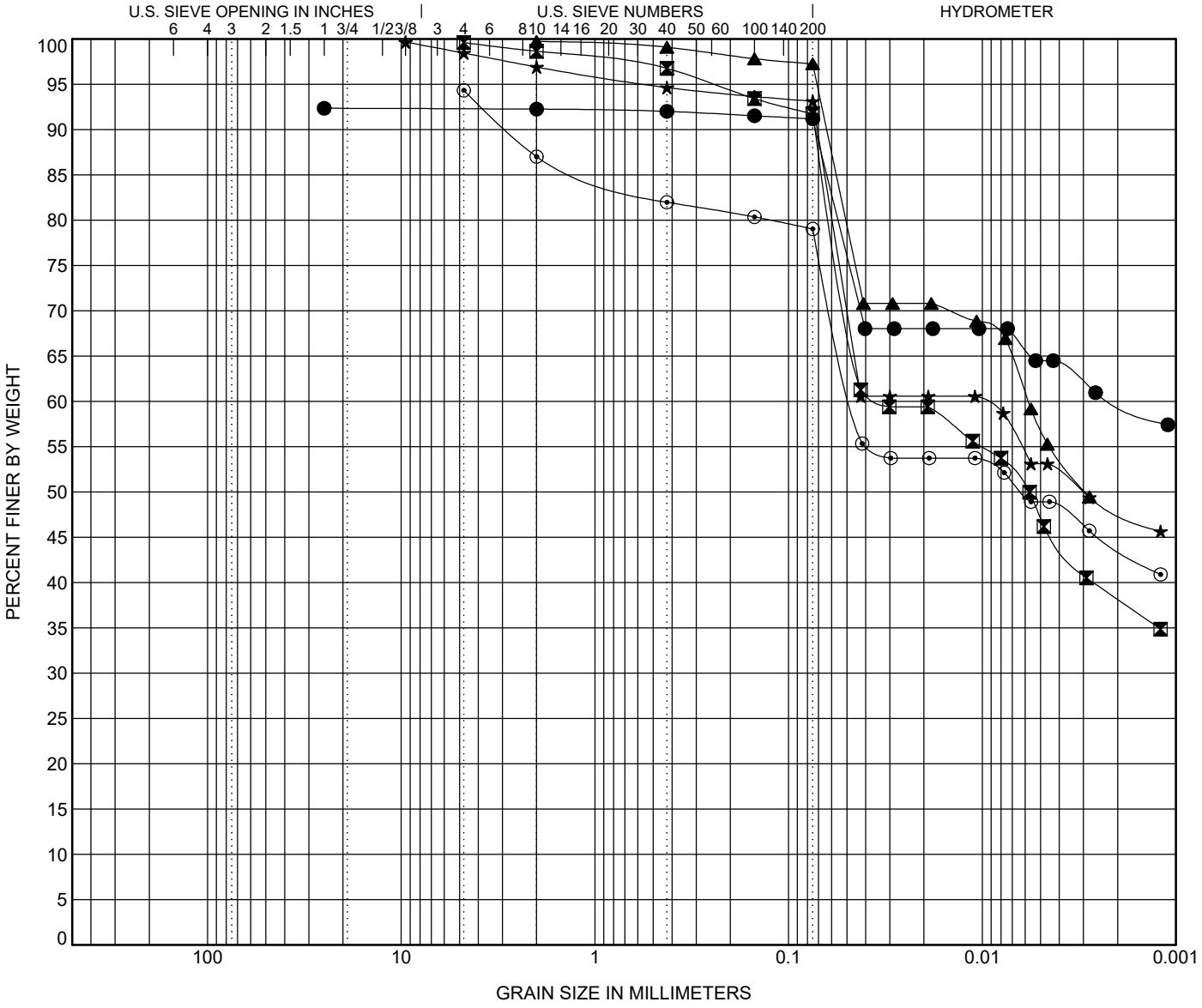
PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	45	28.5	**FAT CLAY(CH) A-7-5**	67	30	37		
⊠	46	0.5	**LEAN CLAY(CL) A-7-6**	43	24	19		
▲	46	4.5	**FAT CLAY(CH) A-7-6**	57	29	28		
★	46	8.5	**FAT CLAY(CH) A-7-5**	64	31	33		
⊙	46	13.5	**ELASTIC SILT with SAND(MH) A-7-5**	70	44	26		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	45	28.5	25	0.002			0.1	1.1	26.7	64.5
⊠	46	0.5	4.75	0.034				7.9	44.7	47.1
▲	46	4.5	2	0.006				2.5	40.3	56.9
★	46	8.5	9.5	0.01			1.2	5.3	40.0	53.1
⊙	46	13.5	4.75	0.047				15.3	30.1	48.9

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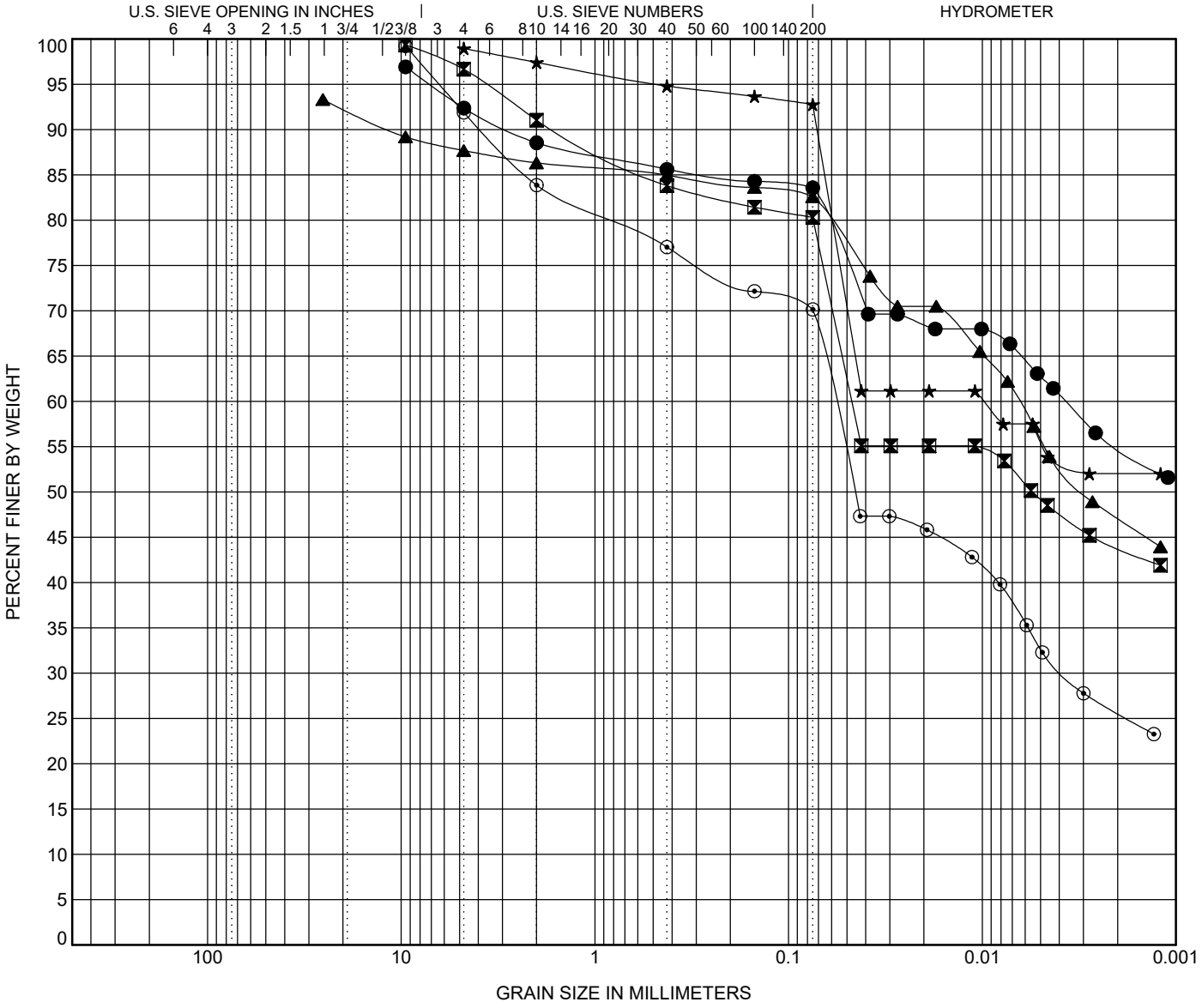

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 46	23.5	**ELASTIC SILT with SAND(MH) A-7-5**	63	34	29		
⊠ 46	28.0	**FAT CLAY with SAND(CH) A-7-5**	65	31	34		
▲ 46	33.5	**FAT CLAY with GRAVEL(CH) A-7-6**	62	29	33		
★ 46	38.5	**FAT CLAY(CH) A-7-6**	68	29	39		
⊙ 47	2.5	**LEAN CLAY with SAND(CL) A-6**	37	19	18		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 46	23.5	9.5	0.004			4.5	8.8	20.8	62.7
⊠ 46	28.0	9.5	0.047			2.7	16.4	31.1	49.2
▲ 46	33.5	25.4	0.006			5.6	5.1	26.8	55.8
★ 46	38.5	4.75	0.01				6.2	37.2	55.6
⊙ 47	2.5	9.5	0.058	0.004		7.3	21.7	37.5	32.6

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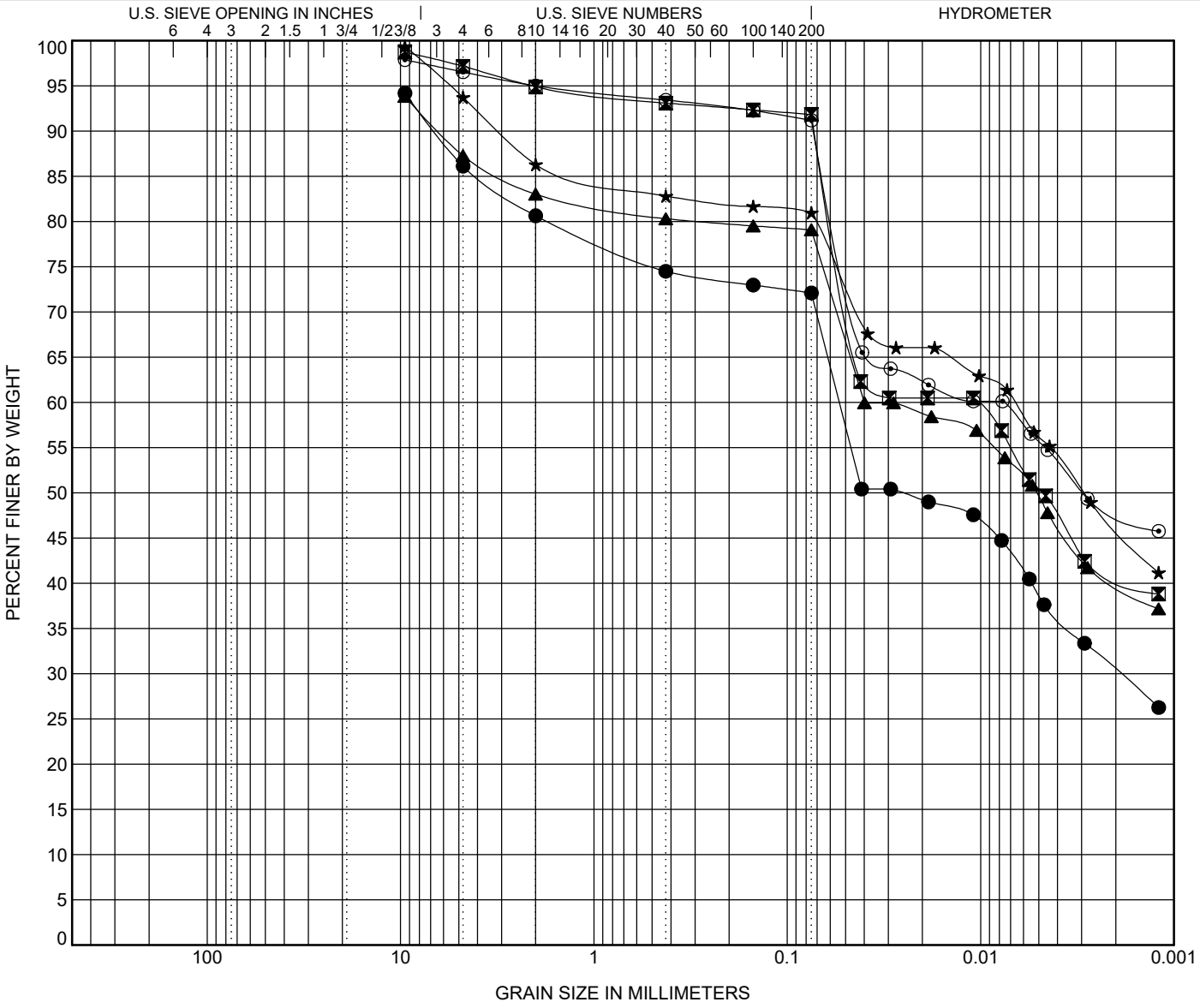

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	47	6.5	LEAN CLAY with SAND(CL) A-7-6	43	23	20		
⊠	47	8.5	ELASTIC SILT(MH) A-7-5	55	35	20		
▲	47	10.5	FAT CLAY with GRAVEL(CH) A-7-6	56	25	31		
★	47	18.5	ELASTIC SILT with SAND(MH) A-7-5	57	31	26		
⊙	48	0.5	FAT CLAY(CH) A-7-6	57	28	29		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	47	6.5	9.5	0.054	0.002		8.1	14.0	33.5	38.6
⊠	47	8.5	9.5	0.01			1.6	5.3	41.4	50.4
▲	47	10.5	9.5	0.04			6.5	8.2	29.5	49.6
★	47	18.5	9.5	0.007			5.6	12.8	24.7	56.2
⊙	48	0.5	9.5	0.008			1.3	5.3	35.5	55.7

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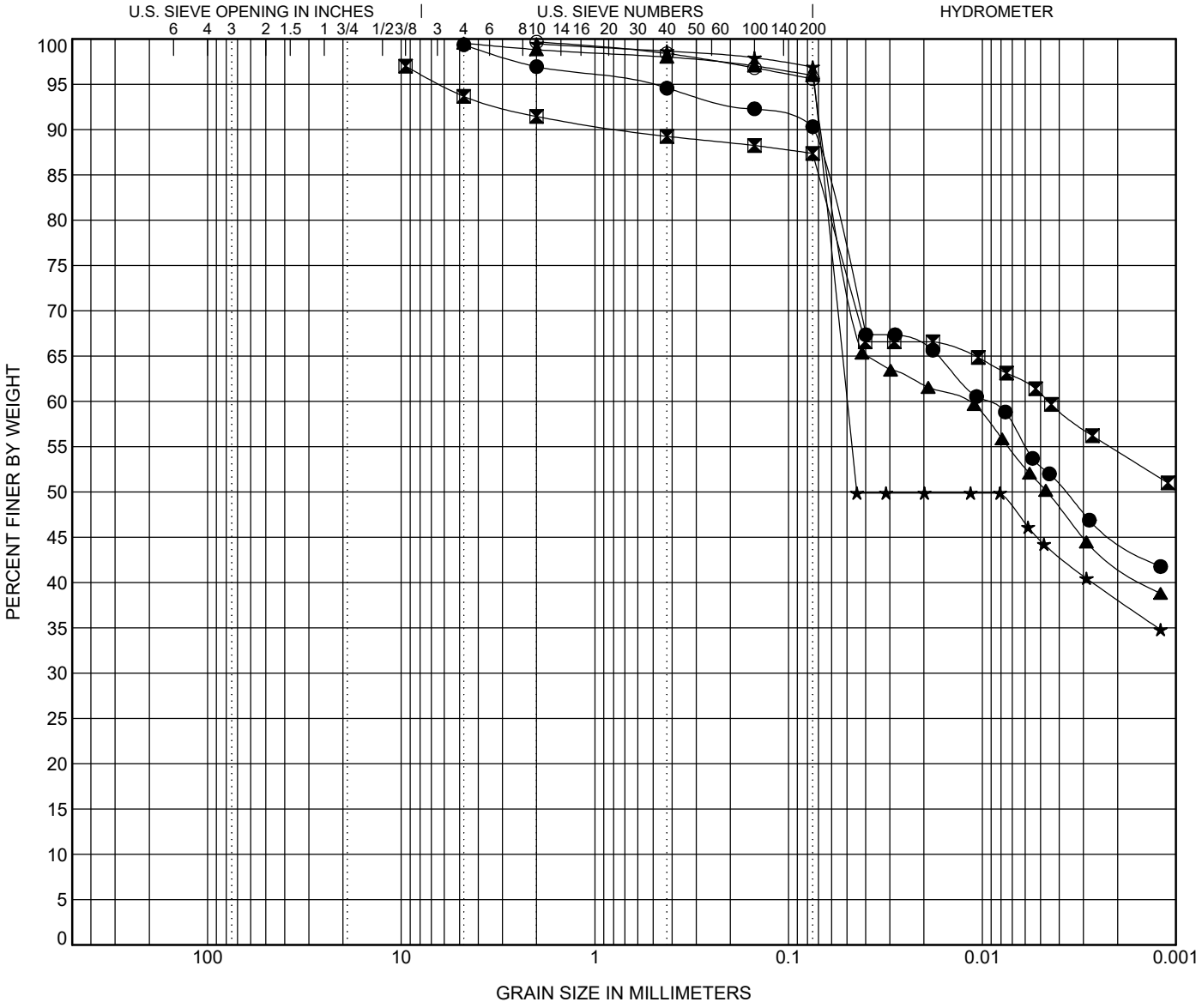

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	48	2.5	**ELASTIC SILT(MH) A-7-5**	**57**	**30**	**27**		
⊠	48	6.5	**ELASTIC SILT(MH) A-7-5**	**65**	**35**	**30**		
▲	48	8.5	**ELASTIC SILT(MH) A-7-5**	**58**	**35**	**23**		
★	48	13.5	**FAT CLAY(CH) A-7-5**	**66**	**31**	**35**		
⊙	48	18.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	48	2.5	**4.75**	**0.01**				**9.0**	**37.4**	**52.9**
⊠	48	6.5	**9.5**	**0.005**			**3.3**	**6.3**	**26.5**	**60.8**
▲	48	8.5	**4.75**	**0.012**				**3.6**	**45.2**	**50.8**
★	48	13.5	**2**	**0.05**				**2.5**	**52.3**	**44.6**
⊙	48	18.5	**2**					**4.1**	**95.6**	

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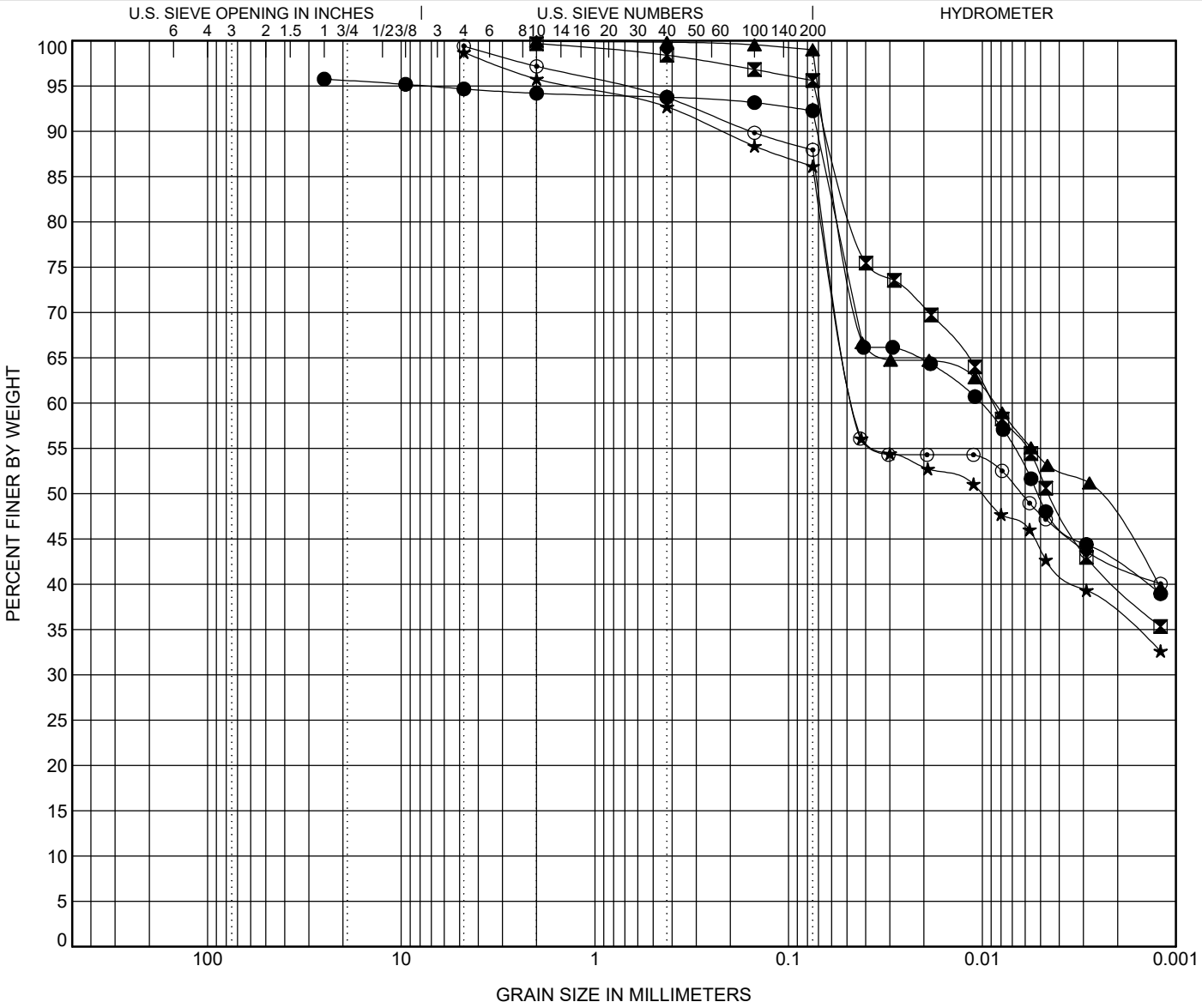

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	48	23.5	**ELASTIC SILT(MH) A-7-5**	62	35	27		
⊠	48	28.5	**FAT CLAY(CH) A-7-6**	50	26	24		
▲	48	38.5	**FAT CLAY(CH) A-7-6**	54	23	31		
★	49	0.5	**LEAN CLAY(CL) A-7-6**	48	21	27		
⊙	49	4.5	**FAT CLAY(CH) A-7-6**	65	29	36		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	48	23.5	25	0.01			1.1	2.4	43.0	49.3
⊠	48	28.5	2	0.009				4.1	43.6	52.0
▲	48	38.5	2	0.009				0.9	45.0	53.9
★	49	0.5	4.75	0.045				12.6	42.4	43.8
⊙	49	4.5	4.75	0.046				11.5	40.2	47.7

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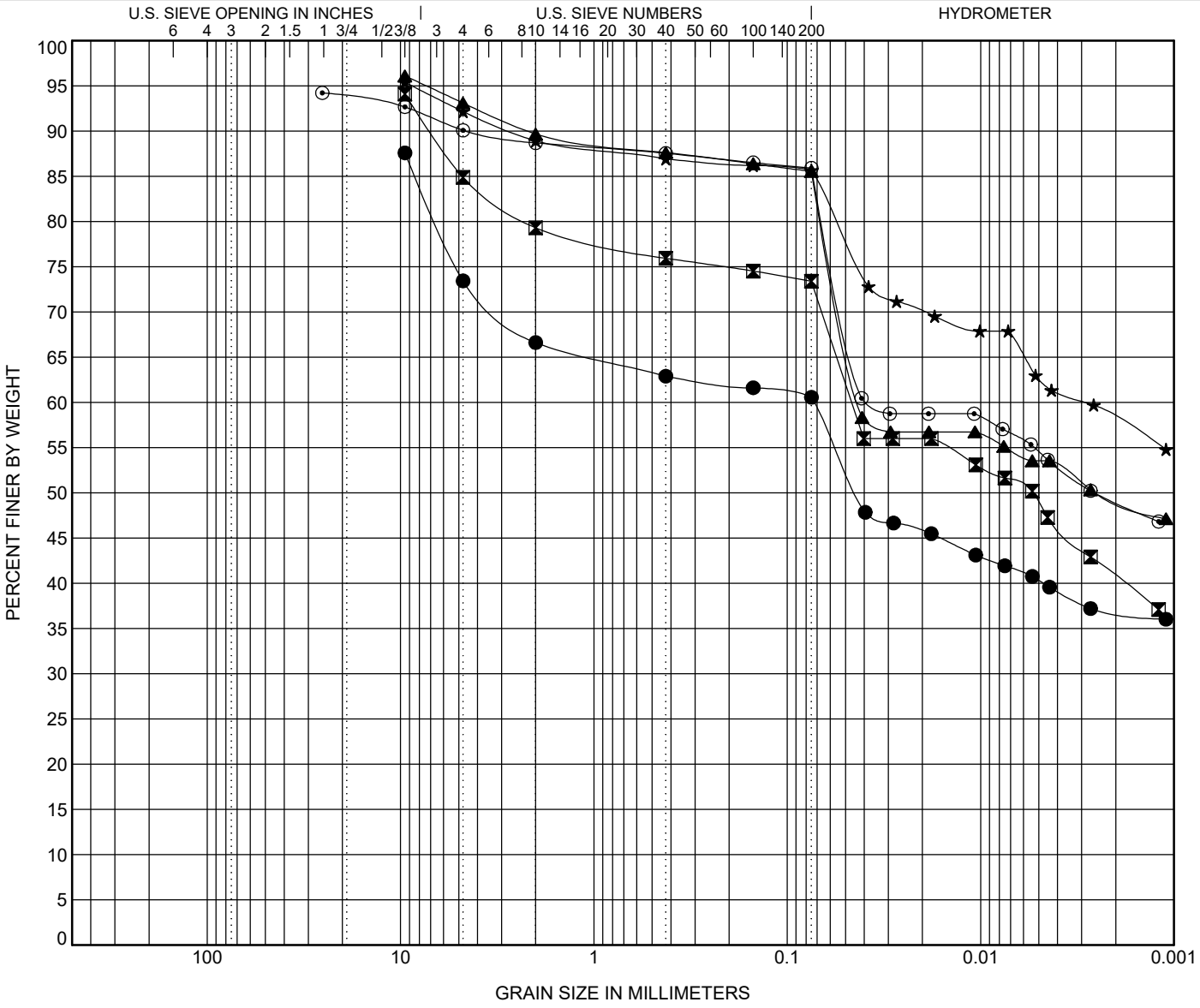

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	49	18.5	GRAVELLY FAT CLAY(CH) A-7-6	72	28	44		
⊠	49	28.5	ELASTIC SILT with GRAVEL(MH) A-7-5	64	41	23		
▲	50	1.0	ELASTIC SILT(MH) A-7-5	58	31	27		
★	50	4.5	FAT CLAY(CH) A-7-5	73	32	41		
⊙	50	8.5	FAT CLAY(CH) A-7-6	67	28	39		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	49	18.5	9.5	0.073			14.2	12.9	20.3	40.3
⊠	49	28.5	9.5	0.046			9.2	11.5	24.5	49.0
▲	50	1.0	9.5	0.043			3.0	7.6	32.0	53.5
★	50	4.5	9.5	0.003			3.2	6.5	23.0	62.6
⊙	50	8.5	25.4	0.038			4.1	4.2	31.4	54.5

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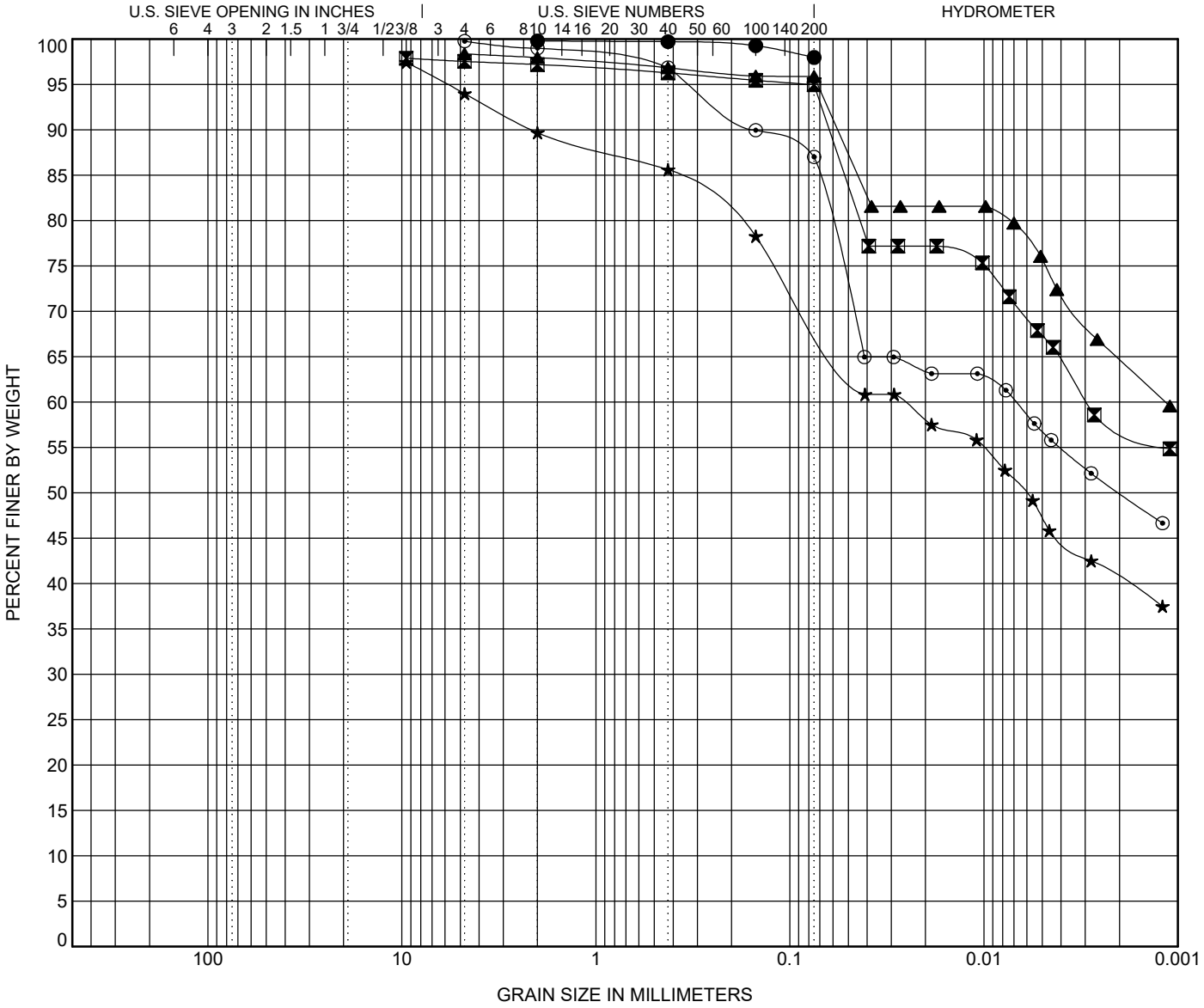

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	50	13.5	FAT CLAY(CH) A-7-6	71	23	48		
⊠	50	27.5	FAT CLAY(CH) A-7-6	71	24	47		
▲	50	33.5	FAT CLAY(CH) A-7-6	71	25	46		
★	51	1.0	A-7-6	45	27	18		
⊙	51	4.5	ELASTIC SILT(MH) A-7-5	51	31	20		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	50	13.5	2					1.8	98.0	
⊠	50	27.5	9.5	0.003			0.4	2.6	27.7	67.3
▲	50	33.5	4.75	0.001				2.5	20.2	75.7
★	51	1.0	9.5	0.026			3.5	25.0	21.7	47.2
⊙	51	4.5	4.75	0.007				12.8	30.2	56.8

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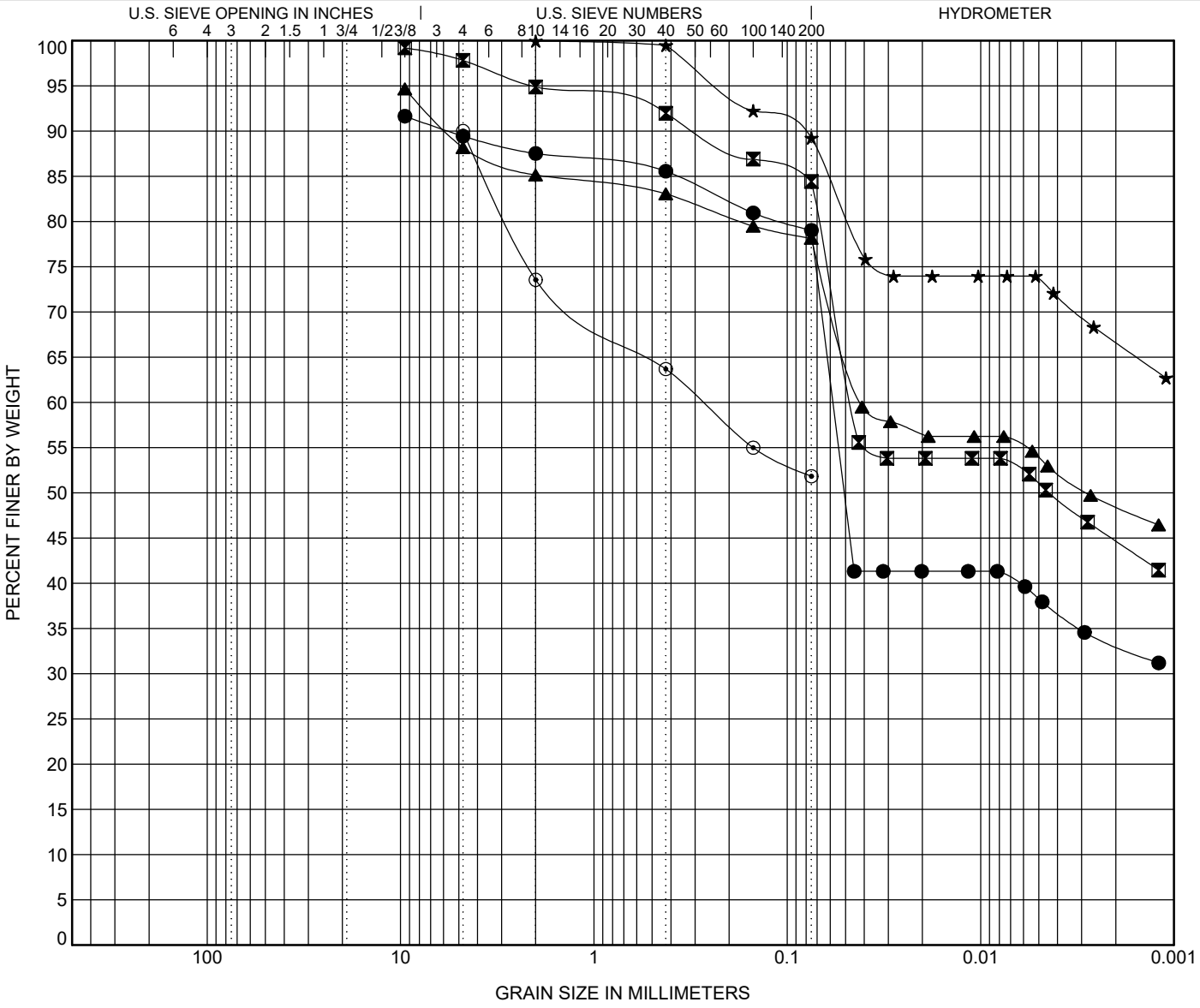

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	51	8.5	ELASTIC SILT with GRAVEL(MH) A-7-5	62	33	29		
⊠	51	15.0	ELASTIC SILT with SAND(MH) A-7-5	60	31	29		
▲	51	18.5	ELASTIC SILT with GRAVEL(MH) A-7-5	71	37	34		
★	51	28.5	FAT CLAY(CH) A-7-6	77	29	48		
⊙	52	2.5	SANDY LEAN CLAY(CL) A-6	30	18	12		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	51	8.5	9.5	0.058			2.2	10.4	40.7	38.3
⊠	51	15.0	9.5	0.047			1.4	13.4	33.4	51.0
▲	51	18.5	9.5	0.042			6.5	10.0	24.2	53.9
★	51	28.5	2					10.7	15.6	73.6
⊙	52	2.5	4.75	0.273				38.2	51.8	

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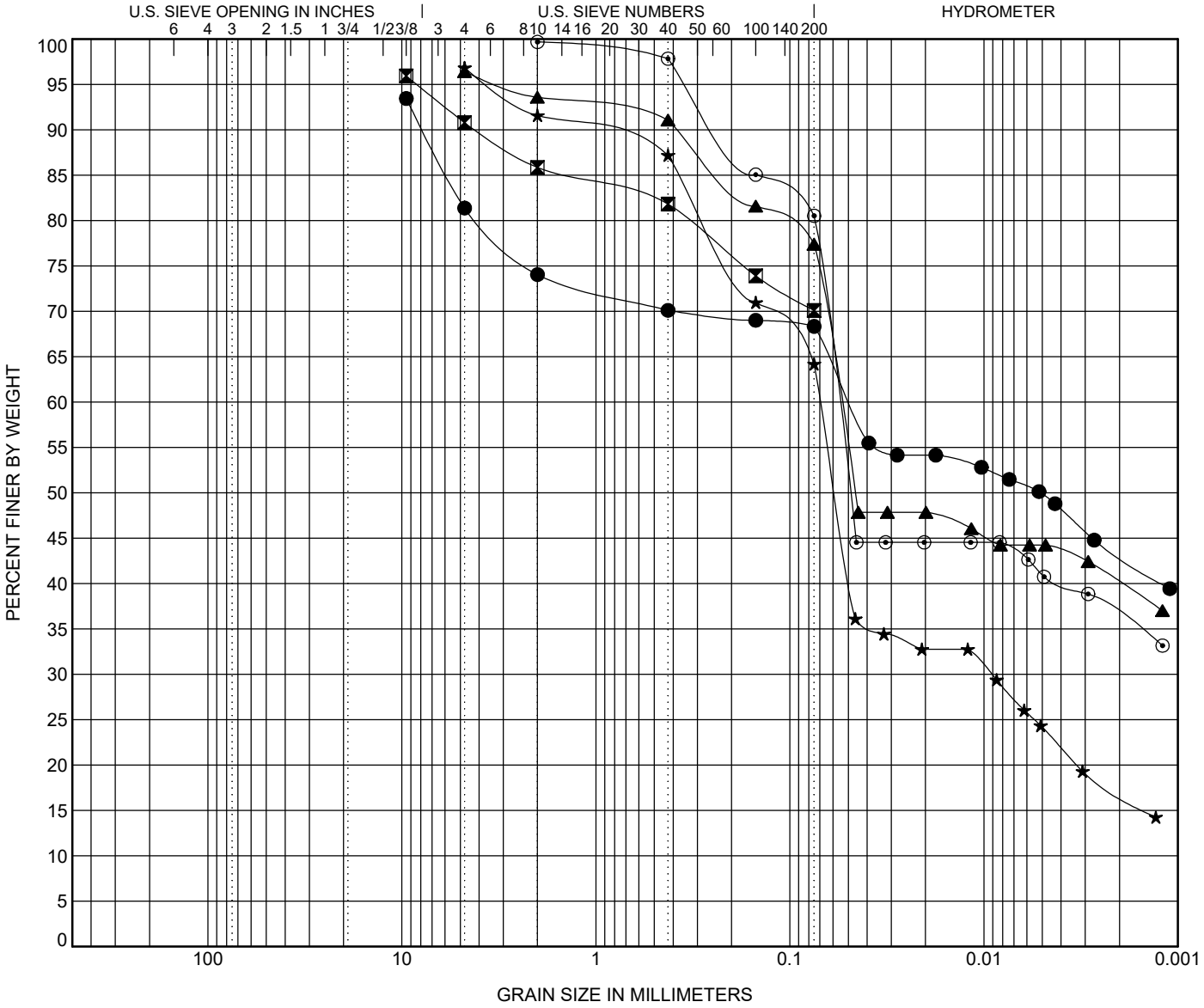

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	52	6.5	GRAVELLY FAT CLAY(CH) A-7-6	60	27	33		
⊠	53	6.5						
▲	53	13.5	FAT CLAY with SAND(CH) A-7-6	50	27	23		
★	54	2.5	SANDY LEAN CLAY(CL) A-6	25	14	11		
⊙	54	6.5	LEAN CLAY with SAND(CL) A-7-6	42	18	24		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	52	6.5	9.5	0.049			12.1	13.0	18.5	49.9
⊠	53	6.5	9.5				5.1	20.7	70.1	
▲	53	13.5	4.75	0.055				19.0	33.2	44.2
★	54	2.5	4.75	0.07	0.009			32.7	40.0	24.2
⊙	54	6.5	2	0.056				19.2	39.6	41.0

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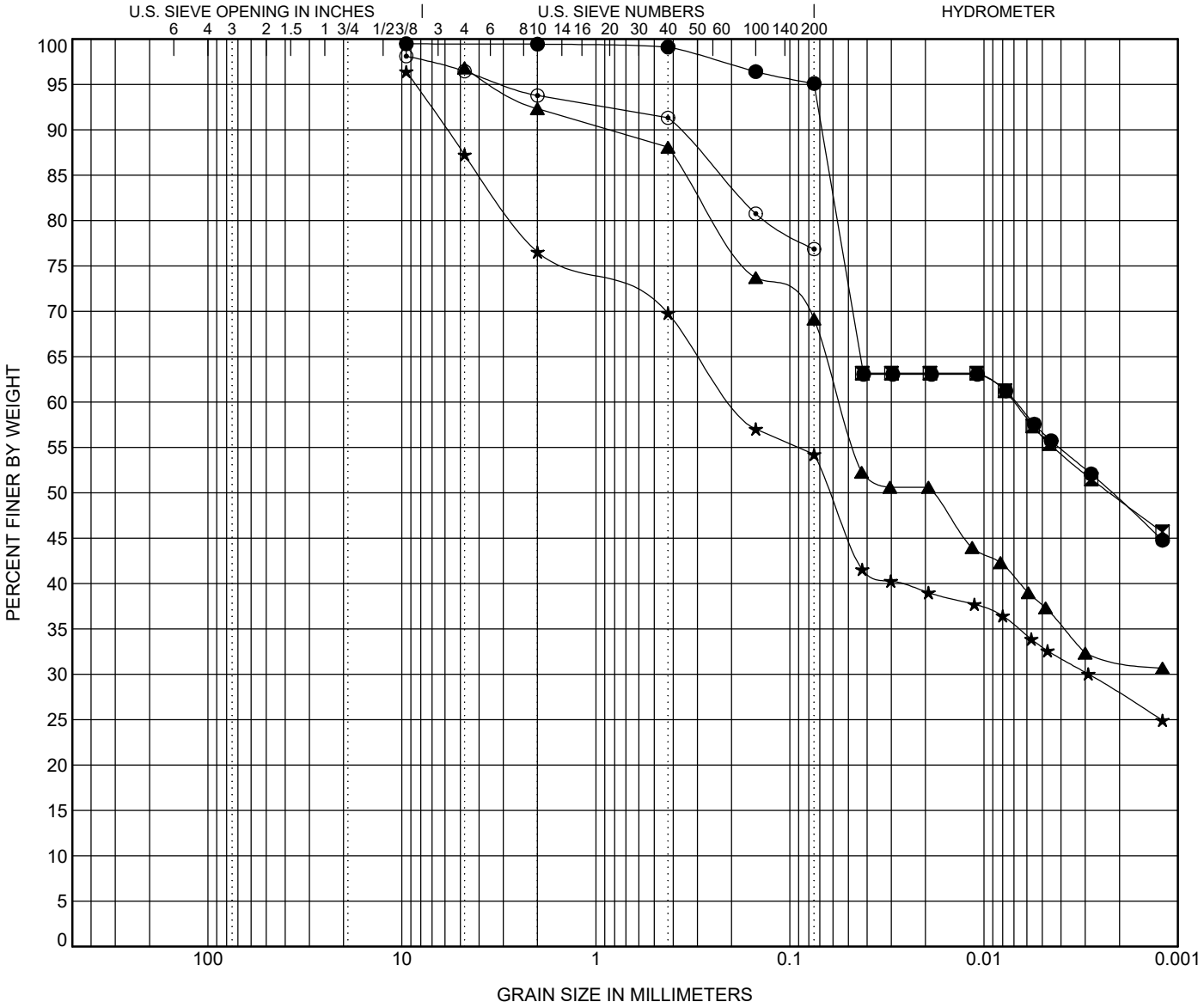

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	54	8.5	**ELASTIC SILT(MH) A-7-5**	57	31	26		
⊠	54	13.5		83	27	56		
▲	55	2.5	**SANDY LEAN CLAY(CL) A-6**	38	18	20		
★	55	6.5	**SANDY LEAN CLAY(CL) A-7-6**	46	26	20		
⊙	56	2.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	54	8.5	9.5	0.007			0.0	4.4	38.4	56.7
⊠	54	13.5		0.007						56.2
▲	55	2.5	4.75	0.055				27.7	31.5	37.6
★	55	6.5	9.5	0.191	0.003		9.2	33.0	21.2	33.0
⊙	56	2.5	9.5				1.7	19.6	76.9	

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PROJECT NUMBER 20033

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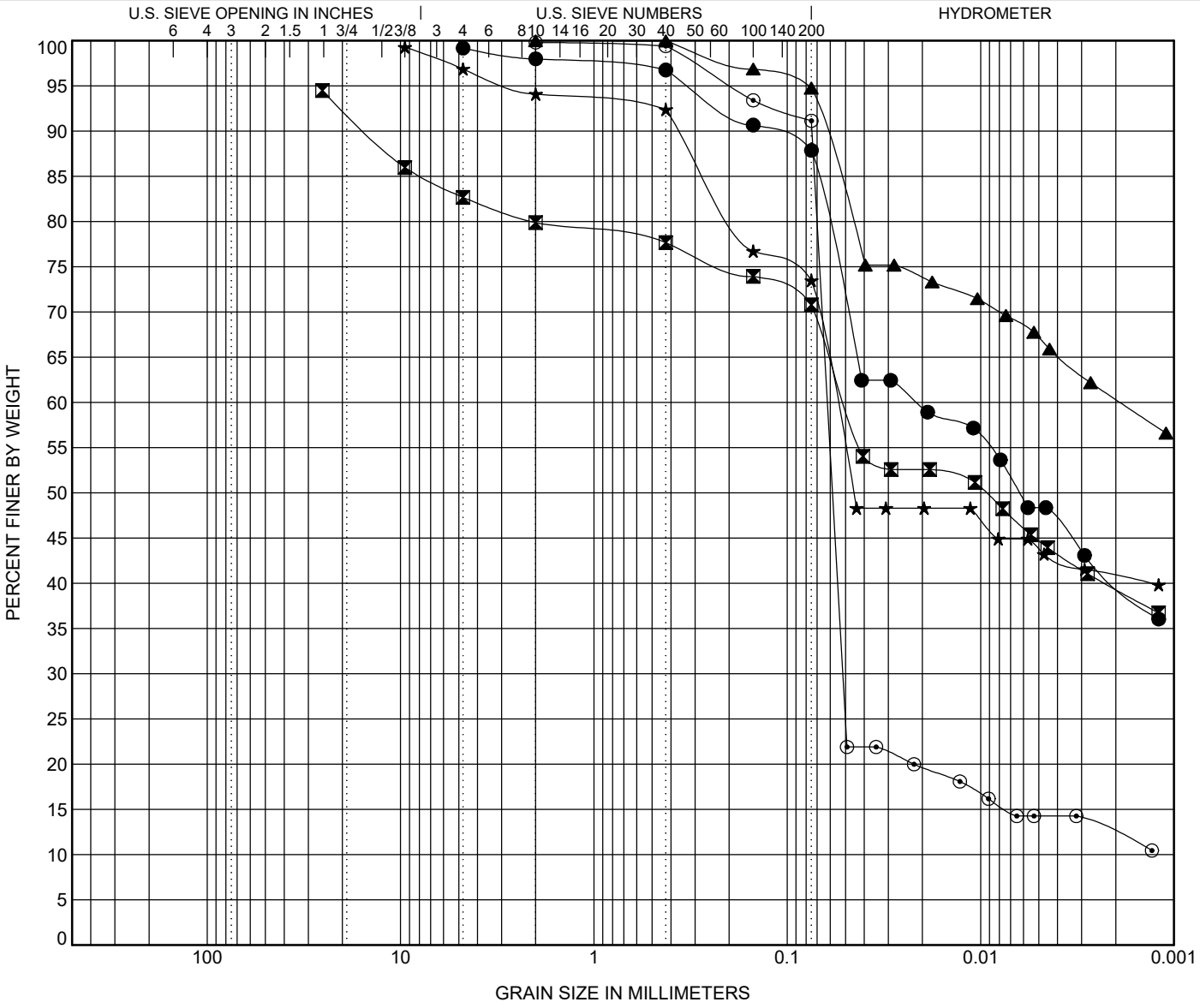

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	56	6.5	**LEAN CLAY(CL) A-7-6**	47	18	29		
⊠	56	13.5	**FAT CLAY with GRAVEL(CH) A-7-6**	53	28	25		
▲	56	23.5	**ELASTIC SILT(MH) A-7-5**	52	31	21		
★	57	0.5	**LEAN CLAY with SAND(CL) A-7-6**	43	11	32		
⊙	57	2.5	**ELASTIC SILT(MH) A-7-5**	67	38	29		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	56	6.5	4.75	0.022				11.3	39.5	48.4
⊠	56	13.5	25.4	0.051			11.8	11.9	26.1	44.7
▲	56	23.5	2	0.002				5.2	27.6	67.2
★	57	0.5	9.5	0.056			2.4	23.4	29.7	43.8
⊙	57	2.5	2	0.062	0.052			8.7	76.9	14.3

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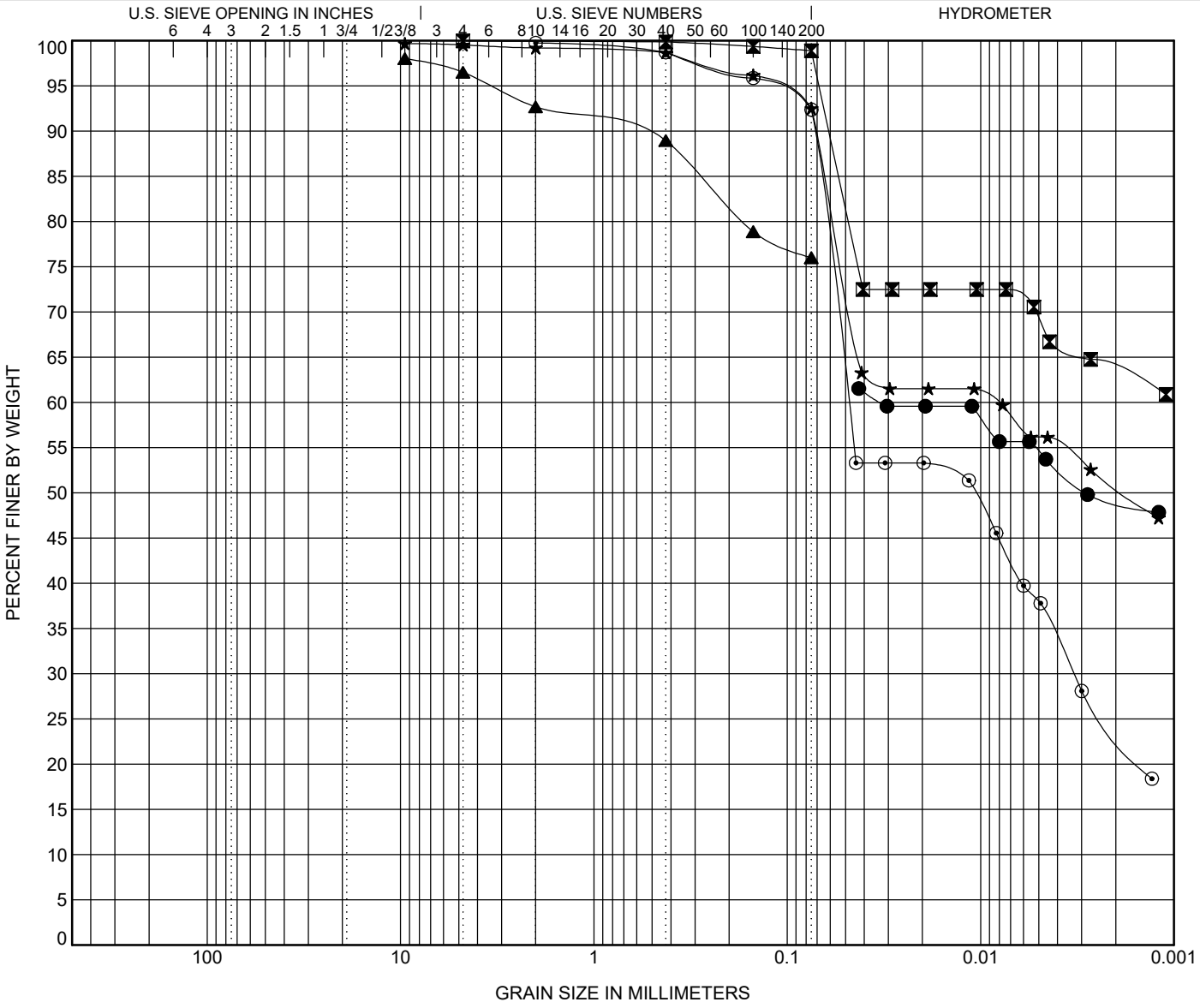

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	57	8.5						
⊠	57	13.5	ELASTIC SILT(MH) A-7-5	78	38	40		
▲	57	15.0	ELASTIC SILT with SAND(MH) A-7-5	69	43	26		
★	57	18.5	FAT CLAY(CH) A-7-5	64	31	33		
⊙	57	23.5	ELASTIC SILT(MH) A-7-5	54	36	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	57	8.5		0.033						54.5
⊠	57	13.5	4.75					1.1	29.5	69.3
▲	57	15.0	9.5				1.5	20.5	76.0	
★	57	18.5	9.5	0.008			0.2	7.0	36.3	56.2
⊙	57	23.5	2	0.048	0.003			7.4	54.4	38.0

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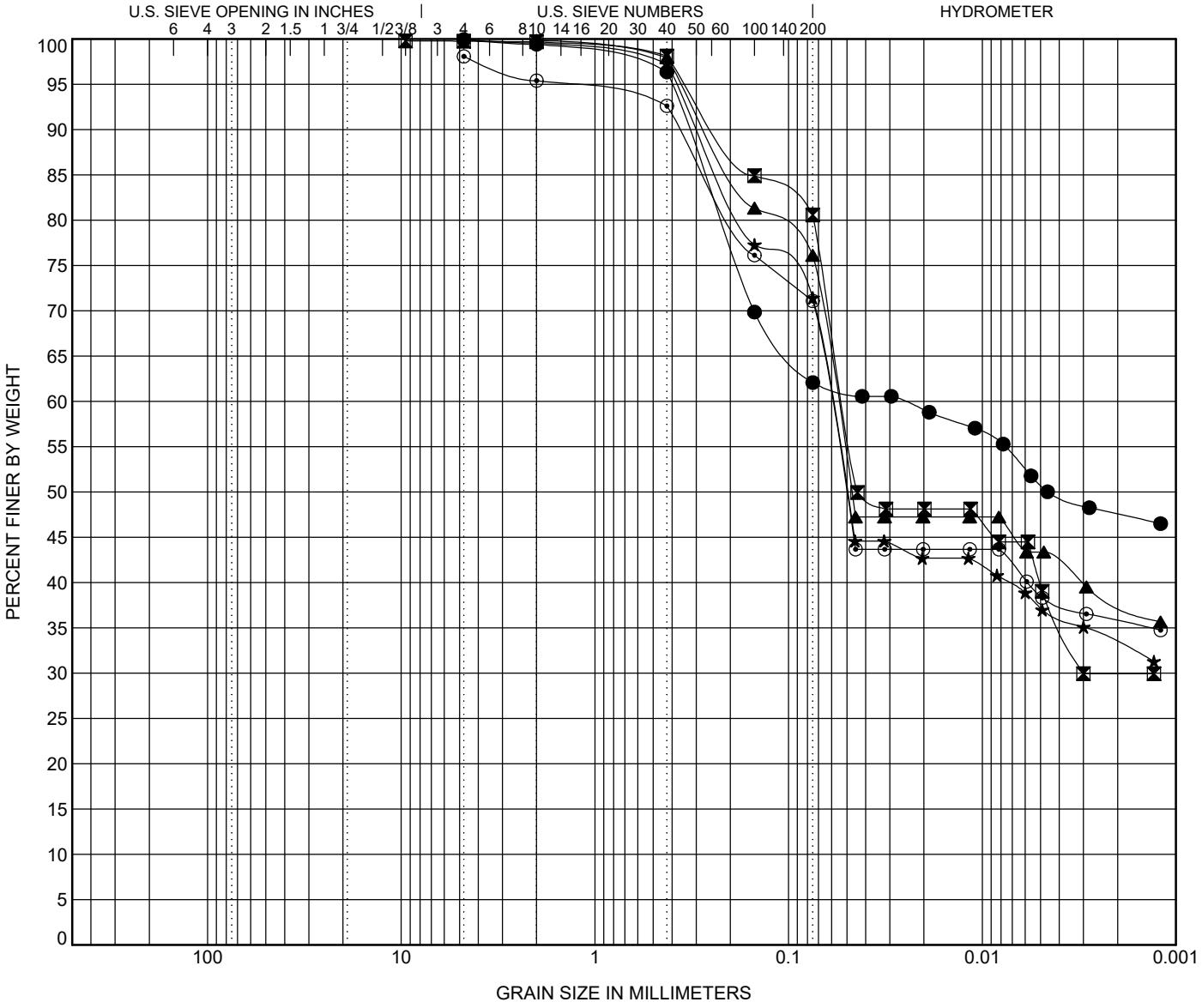

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	58	0.5	SANDY SILT(ML) A-6	40	28	12		
⊠	58	2.5	SILT with SAND(ML) A-7-5	47	33	14		
▲	58	13.5	SILT with SAND(ML) A-7-5	47	34	13		
★	58	23.5	LEAN CLAY with SAND(CL) A-7-6	48	24	24		
⊙	58	28.5	SILT with SAND(ML) A-7-5	48	30	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	58	0.5	4.75	0.026				37.9	11.3	50.8
⊠	58	2.5	9.5	0.053	0.003		0.0	19.2	40.9	39.7
▲	58	13.5	2	0.056				23.7	32.8	43.4
★	58	23.5	4.75	0.061				28.5	34.2	37.2
⊙	58	28.5	4.75	0.061				27.0	32.6	38.5

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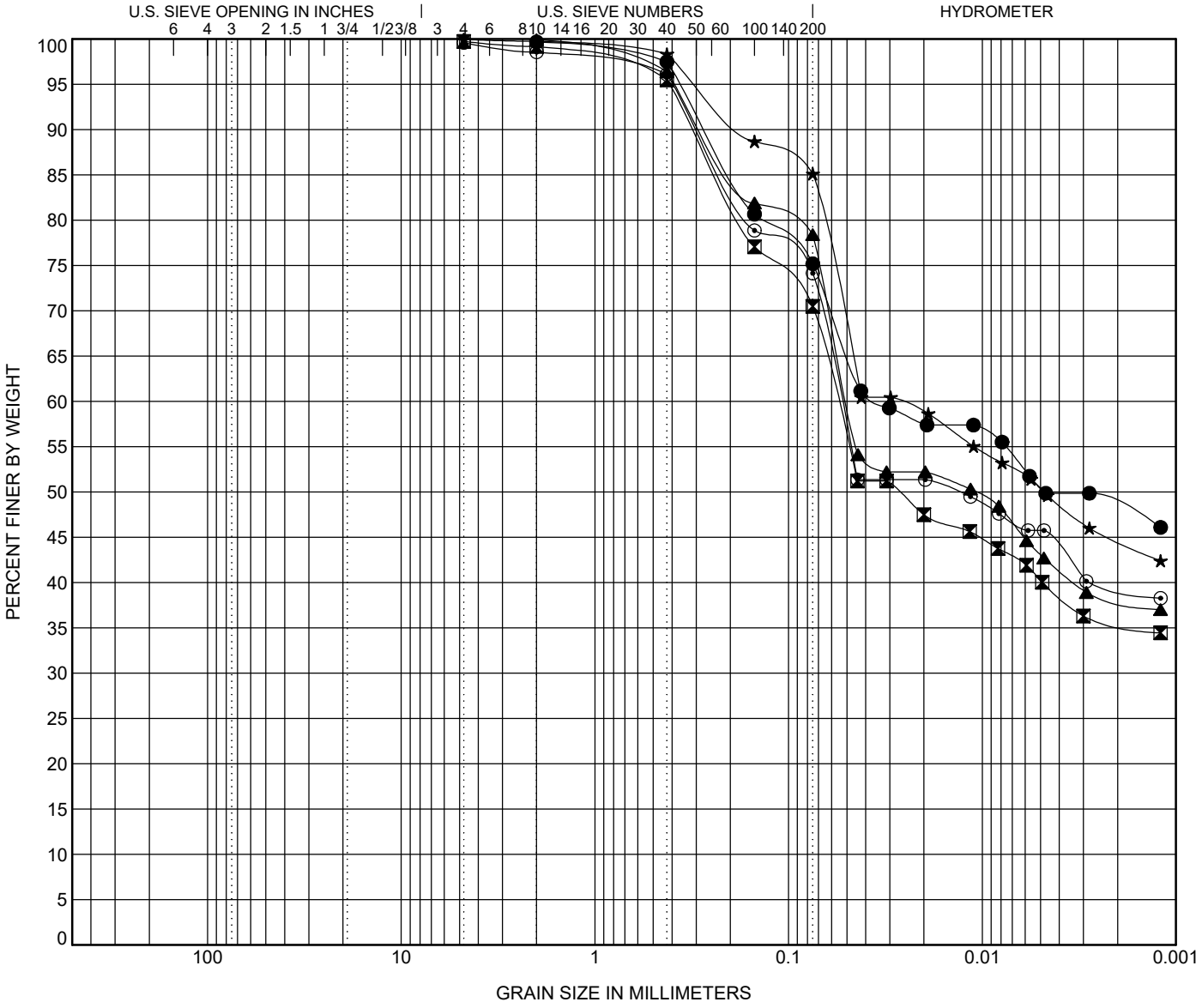

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	59	1.0	**LEAN CLAY with SAND(CL) A-7-6**	46	25	21		
⊠	59	2.5	**LEAN CLAY with SAND(CL) A-7-6**	45	26	19		
▲	59	6.5	**ELASTIC SILT with SAND(MH) A-7-5**	58	33	25		
★	59	13.5	**ELASTIC SILT(MH) A-7-5**	56	31	25		
⊙	59	23.5	**LEAN CLAY with SAND(CL) A-7-6**	47	25	22		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	59	1.0	2	0.034				24.5	24.7	50.5
⊠	59	2.5	4.75	0.056				29.2	30.2	40.2
▲	59	6.5	2	0.05				21.5	35.3	43.1
★	59	13.5	4.75	0.027				14.8	34.7	50.4
⊙	59	23.5	4.75	0.054				25.4	28.4	45.7

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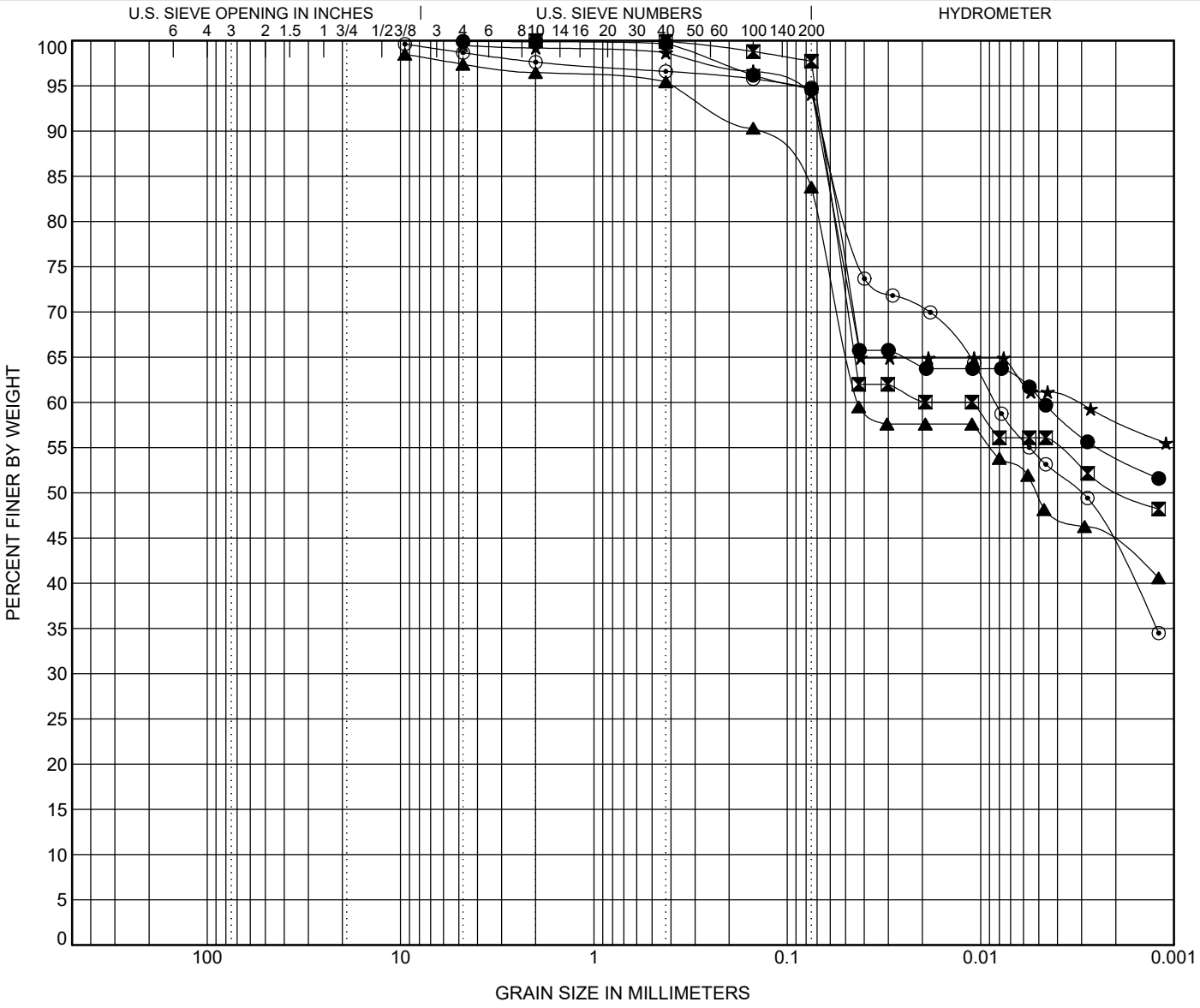

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	60	0.5	**ELASTIC SILT(MH) A-7-5**	62	36	26		
⊠	60	4.5	**ELASTIC SILT(MH) A-7-5**	69	41	28		
▲	60	13.5						
★	60	17.5	**ELASTIC SILT(MH) A-7-5**	62	34	28		
⊙	60	28.5	**FAT CLAY(CH) A-7-6**	69	26	43		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	60	0.5	4.75	0.005				5.3	34.1	60.5
⊠	60	4.5	2	0.011				2.3	41.6	56.1
▲	60	13.5	9.5	0.043			1.1	13.6	34.4	49.4
★	60	17.5	4.75	0.003				5.4	32.9	61.1
⊙	60	28.5	9.5	0.008			0.9	3.9	40.8	53.9

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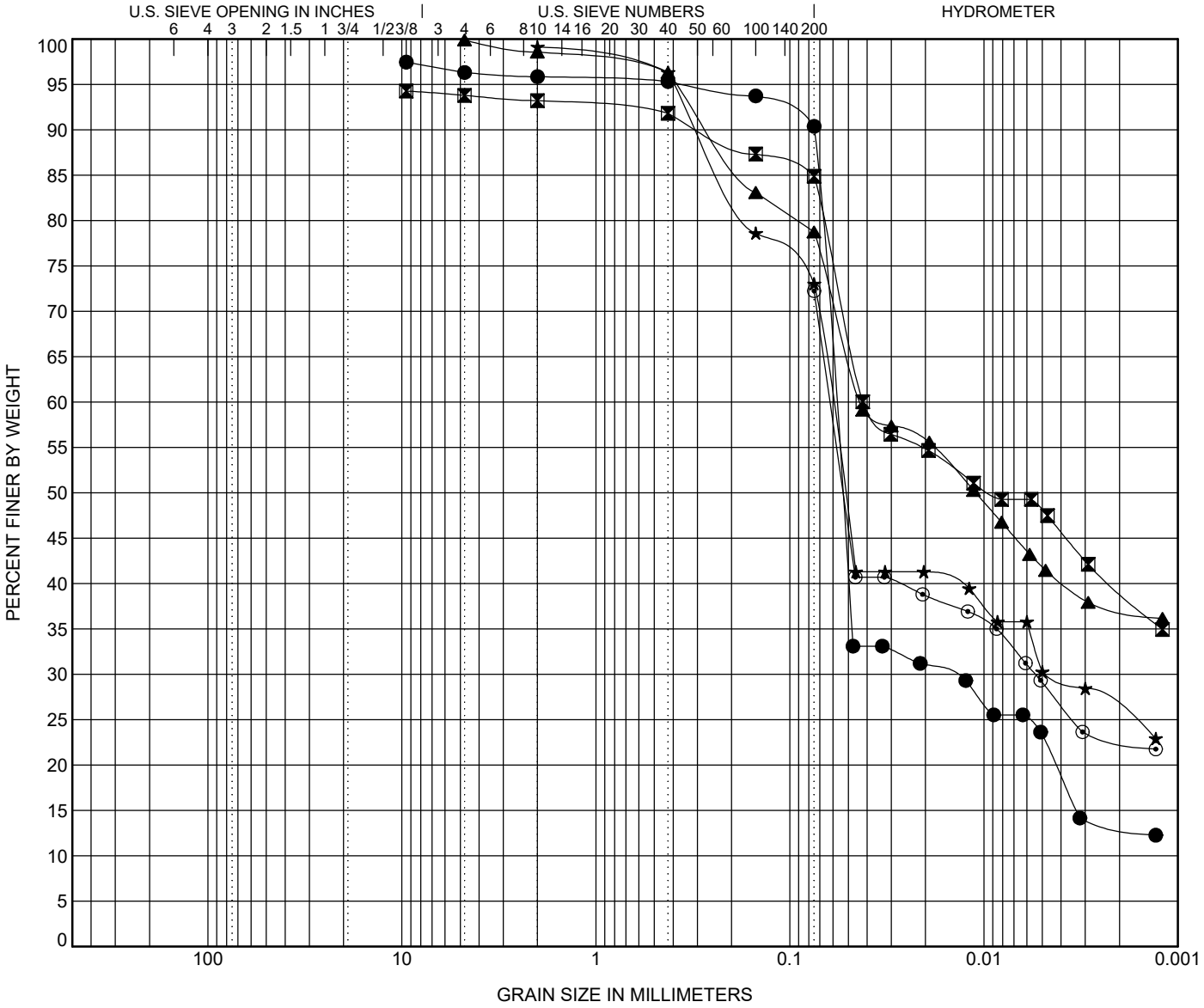

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	60	38.5	FAT CLAY(CH) A-7-6	50	24	26		
⊠	60	43.5	LEAN CLAY with SAND(CL) A-7-6	45	21	24		
▲	61	1.0	SILT with SAND(ML) A-4	NP	NP	NP		
★	61	2.5	LEAN CLAY with SAND(CL) A-6	33	22	11		
⊙	61	4.5	LEAN CLAY with SAND(CL) A-6	33	22	11		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	60	38.5	9.5	0.059	0.015		1.1	5.9	67.2	23.2
⊠	60	43.5	9.5	0.042			0.5	8.9	36.8	48.1
▲	61	1.0	4.75	0.043				21.1	36.9	41.8
★	61	2.5	2	0.061	0.005			26.1	42.8	30.3
⊙	61	4.5	0.075	0.062	0.005				43.1	29.1

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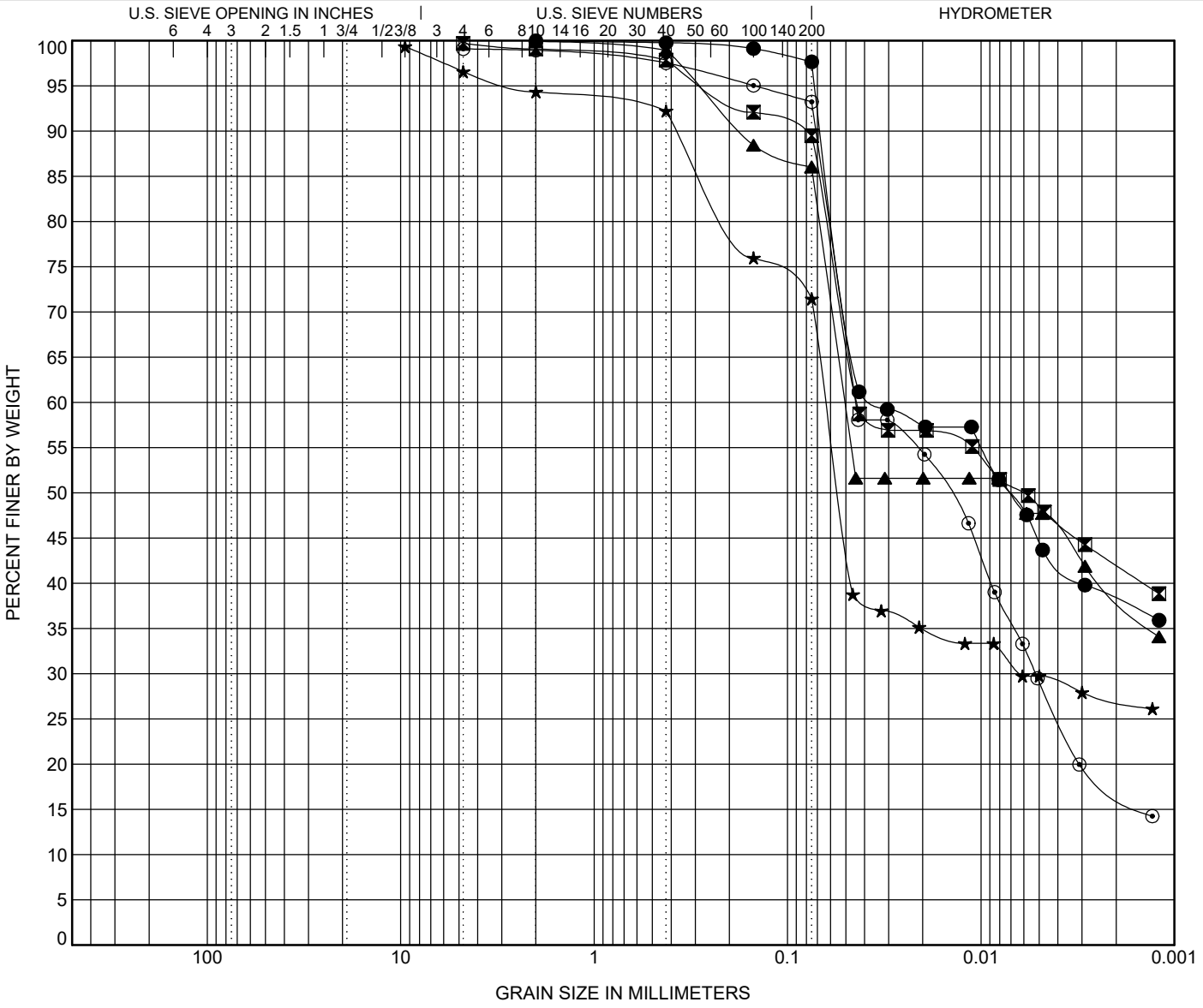

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	61	18.5	ELASTIC SILT(MH) A-7-5	67	37	30		
⊠	61	25.0	FAT CLAY(CH) A-7-6	53	25	28		
▲	61	28.5	SILT(ML) A-7-6	49	29	20		
★	61	38.5	LEAN CLAY with SAND(CL) A-6	38	21	17		
⊙	61	43.5	ELASTIC SILT(MH) A-7-5	53	35	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	61	18.5	2	0.035				2.3	53.1	44.5
⊠	61	25.0	4.75	0.043				10.2	41.0	48.5
▲	61	28.5	2	0.05				13.9	38.3	47.7
★	61	38.5	9.5	0.063	0.006		2.8	25.1	41.7	29.7
⊙	61	43.5	4.75	0.044	0.005			5.9	64.1	29.1

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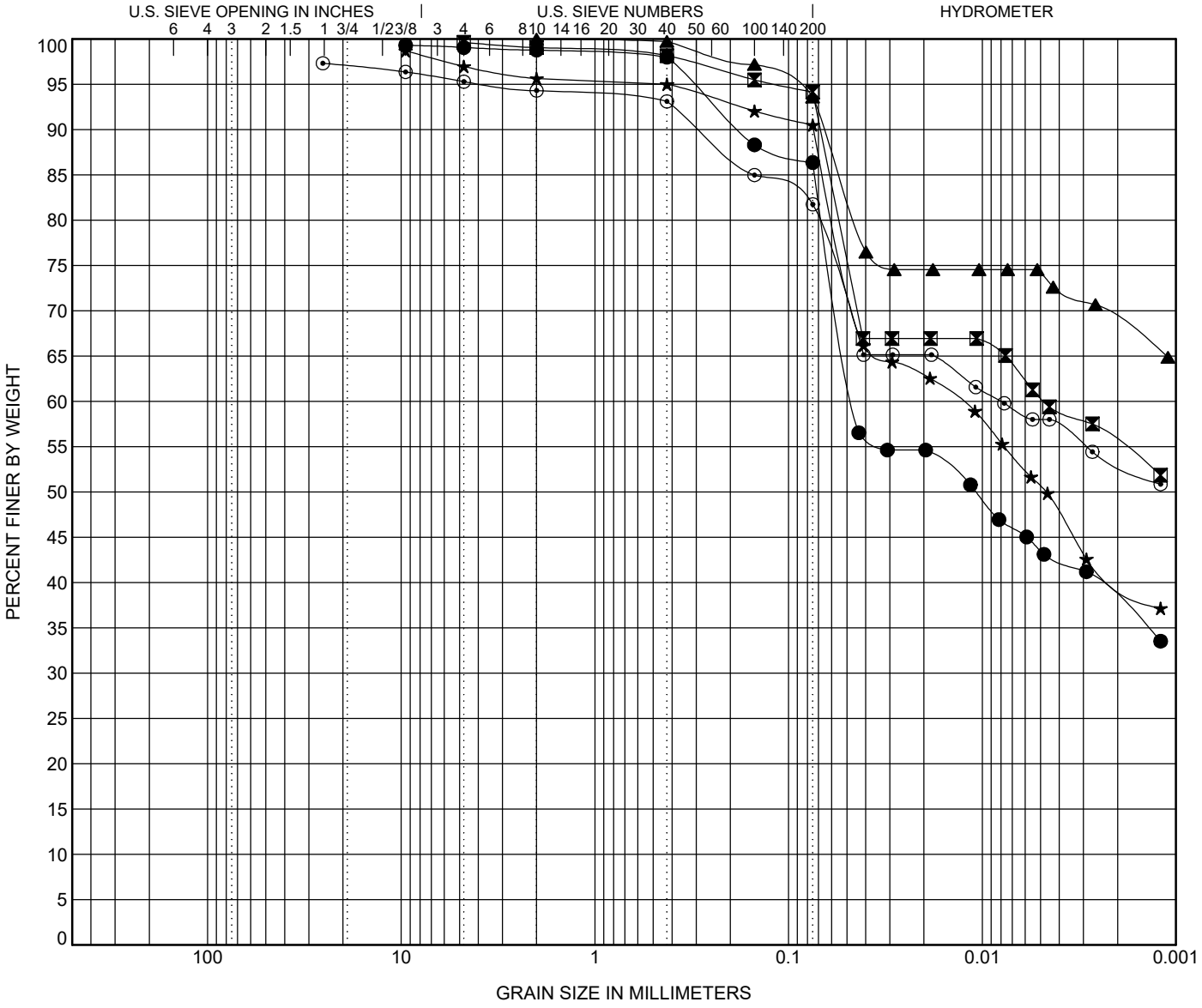

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	61	48.5	SILT(ML) A-7-6	46	28	18		
⊠	62	1.0	ELASTIC SILT(MH) A-7-5	60	37	23		
▲	62	18.5	ELASTIC SILT(MH) A-7-5	60	42	18		
★	63	13.5	FAT CLAY(CH) A-7-6	57	29	28		
⊙	63	18.5	FAT CLAY with SAND(CH) A-7-6	55	27	28		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	61	48.5	9.5	0.046			0.3	12.7	42.9	43.5
⊠	62	1.0	4.75	0.005				5.5	33.8	60.4
▲	62	18.5	2					6.4	19.4	74.1
★	63	13.5	9.5	0.013			1.7	6.5	39.9	50.6
⊙	63	18.5	25.4	0.008			2.0	13.5	23.7	58.0

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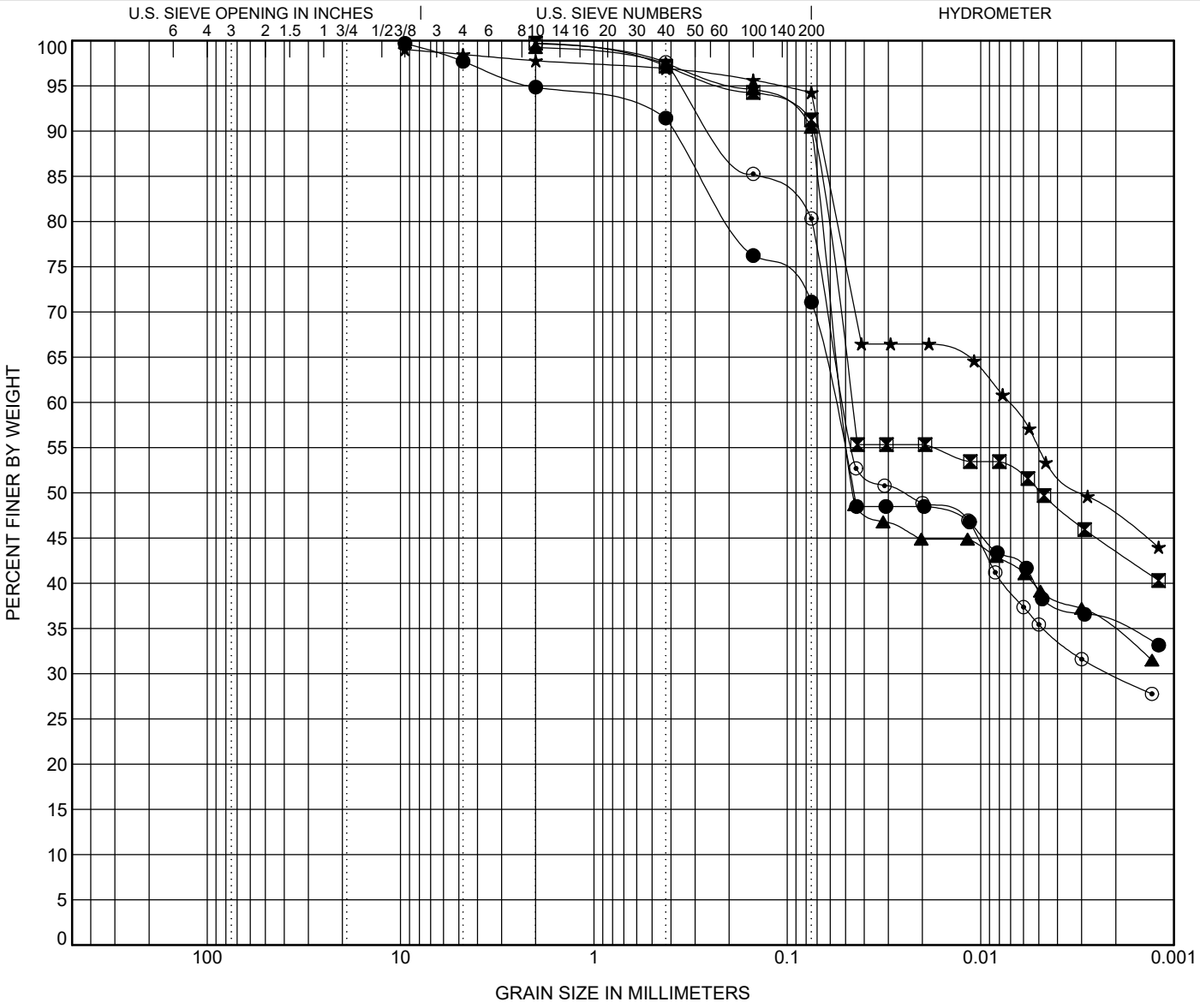

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	64	0.5	**LEAN CLAY with SAND(CL) A-6**	40	18	22		
⊠	64	4.5	**ELASTIC SILT(MH) A-7-5**	63	39	24		
▲	64	13.5	**FAT CLAY(CH) A-7-6**	56	29	27		
★	64	18.5	**FAT CLAY(CH) A-7-6**	56	25	31		
⊙	65	4.5	**LEAN CLAY with SAND(CL) A-7-6**	41	25	16		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	64	0.5	9.5	0.058			2.0	26.6	32.1	39.0
⊠	64	4.5	2	0.047				8.5	41.0	50.3
▲	64	13.5	2	0.052				8.8	51.1	39.3
★	64	18.5	9.5	0.007			0.5	4.2	39.3	54.9
⊙	65	4.5	2	0.051	0.002			19.3	44.9	35.4

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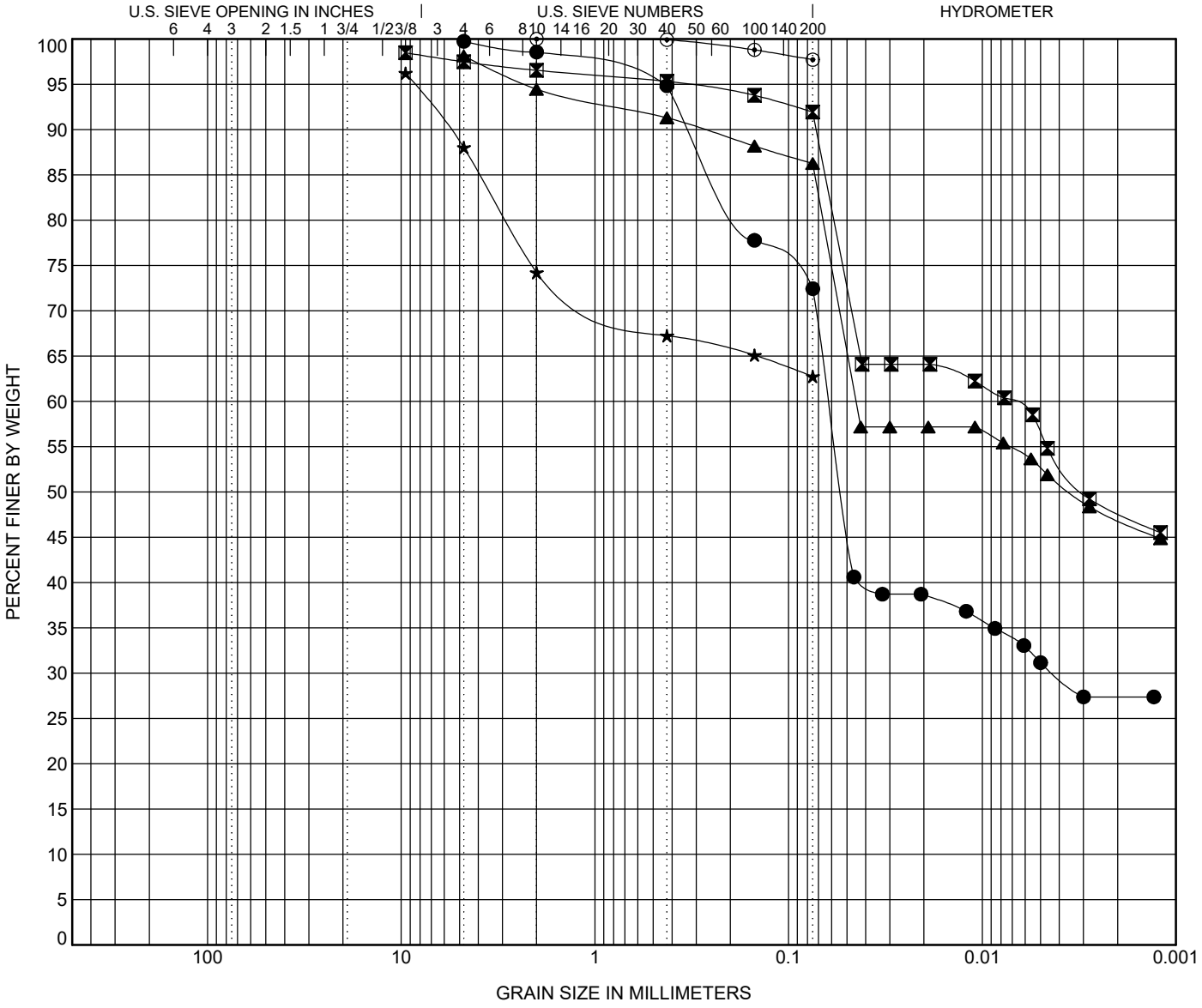

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	65	18.5	ELASTIC SILT with SAND(MH) A-7-5	50	34	16		
⊠	65	28.5	FAT CLAY(CH) A-7-5	68	30	38		
▲	66	1.0	ELASTIC SILT(MH) A-7-5	55	32	23		
★	66	2.5	SANDY FAT CLAY(CH) A-7-5	68	30	38		
⊙	66	4.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	65	18.5	4.75	0.062	0.004			27.3	41.3	31.2
⊠	65	28.5	9.5	0.007			1.0	5.5	35.4	56.5
▲	66	1.0	4.75	0.045				11.9	33.6	52.6
★	66	2.5	9.5				8.2	25.3	62.8	
⊙	66	4.5	2					2.3	97.7	

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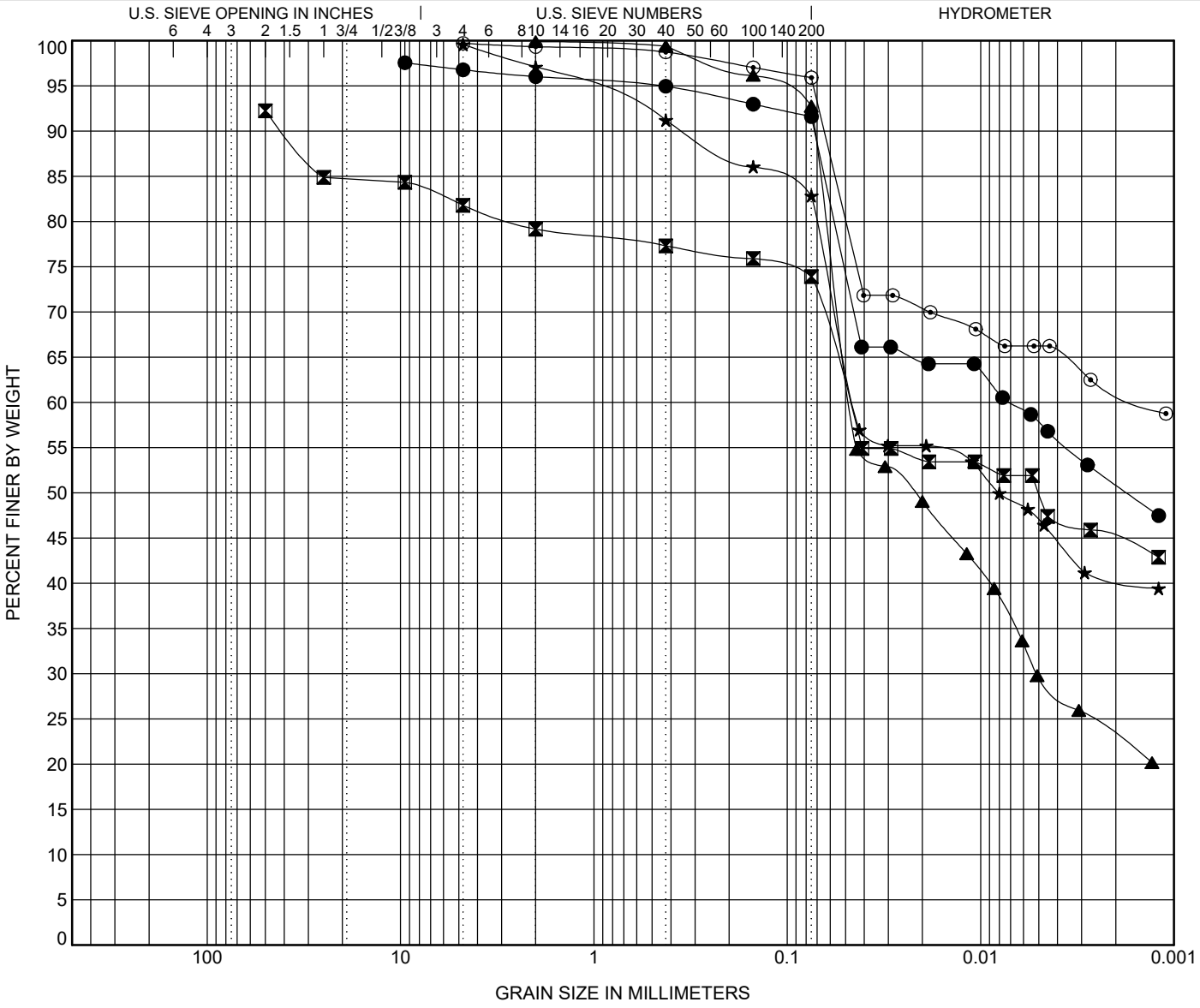

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	66	13.5	FAT CLAY(CH) A-7-5	73	34	39		
⊠	66	23.5	ELASTIC SILT with GRAVEL(MH) A-7-5	69	34	35		
▲	67	4.5	FAT CLAY(CH) A-7-6	50	21	29		
★	67	13.5	FAT CLAY with SAND(CH) A-7-6	66	27	39		
⊙	67	18.5	ELASTIC SILT(MH) A-7-5	67	38	29		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	66	13.5	9.5	0.007			0.8	5.2	33.8	57.8
⊠	66	23.5	50	0.048			10.5	7.9	23.9	50.0
▲	67	4.5	2	0.047	0.005			7.1	63.1	29.6
★	67	13.5	4.75	0.045				16.7	35.8	47.0
⊙	67	18.5	4.75	0.001				3.8	29.7	66.2

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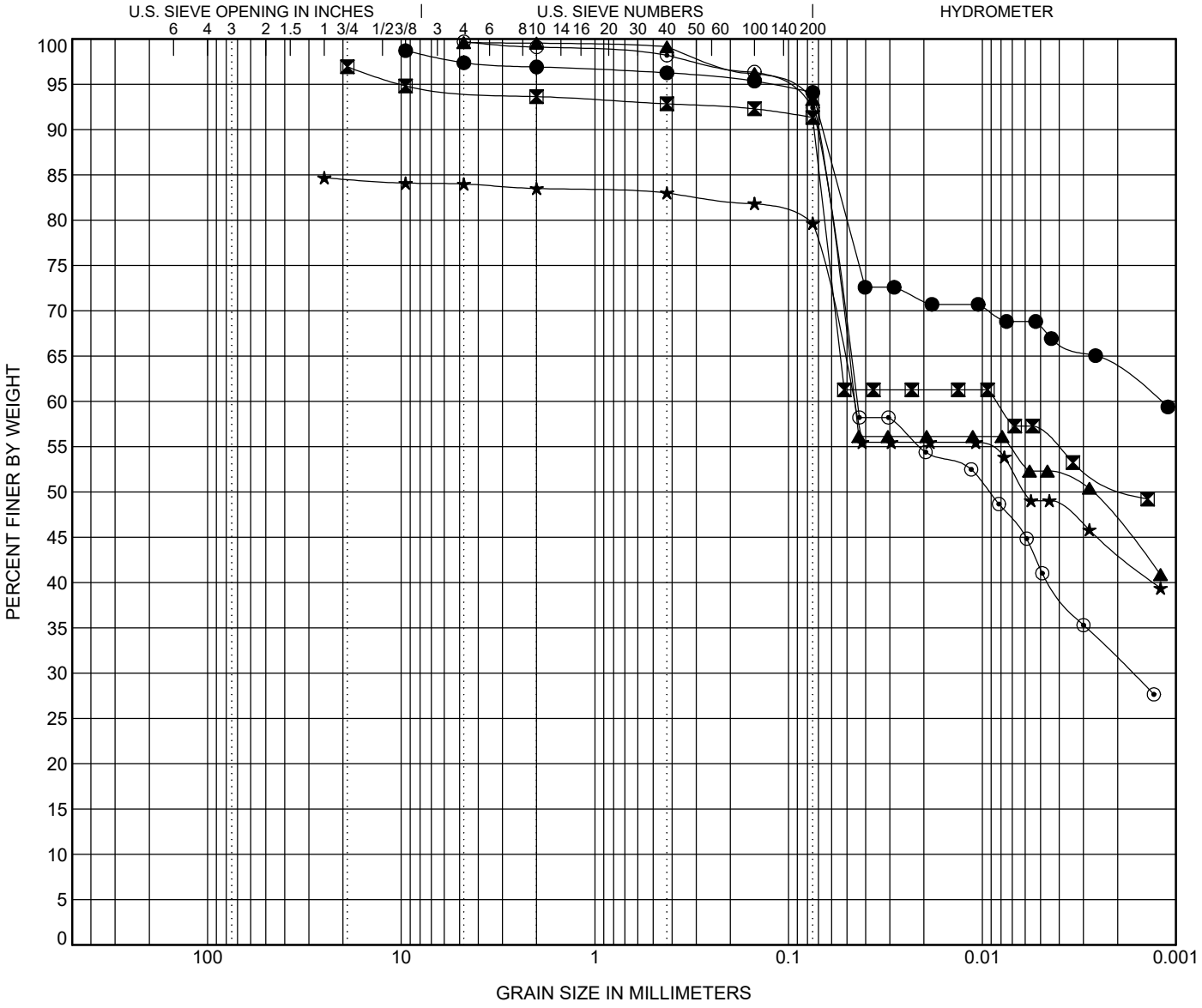
PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	67	28.5	FAT CLAY(CH) A-7-5	75	34	41		
⊠	67	38.5	FAT CLAY(CH) A-7-5	86	34	52		
▲	68	4.5	ELASTIC SILT(MH) A-7-5	67	33	34		
★	68	13.5	FAT CLAY with GRAVEL(CH) A-7-5	62	30	32		
⊙	68	23.5	FAT CLAY(CH) A-7-6	65	28	37		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	67	28.5	9.5	0.001			1.3	3.3	25.9	68.2
⊠	67	38.5	19	0.008			2.6	2.9	34.9	56.5
▲	68	4.5	4.75	0.046				6.3	41.0	52.3
★	68	13.5	25	0.047			0.7	4.3	30.6	49.0
⊙	68	23.5	4.75	0.044	0.002			7.3	51.0	41.4

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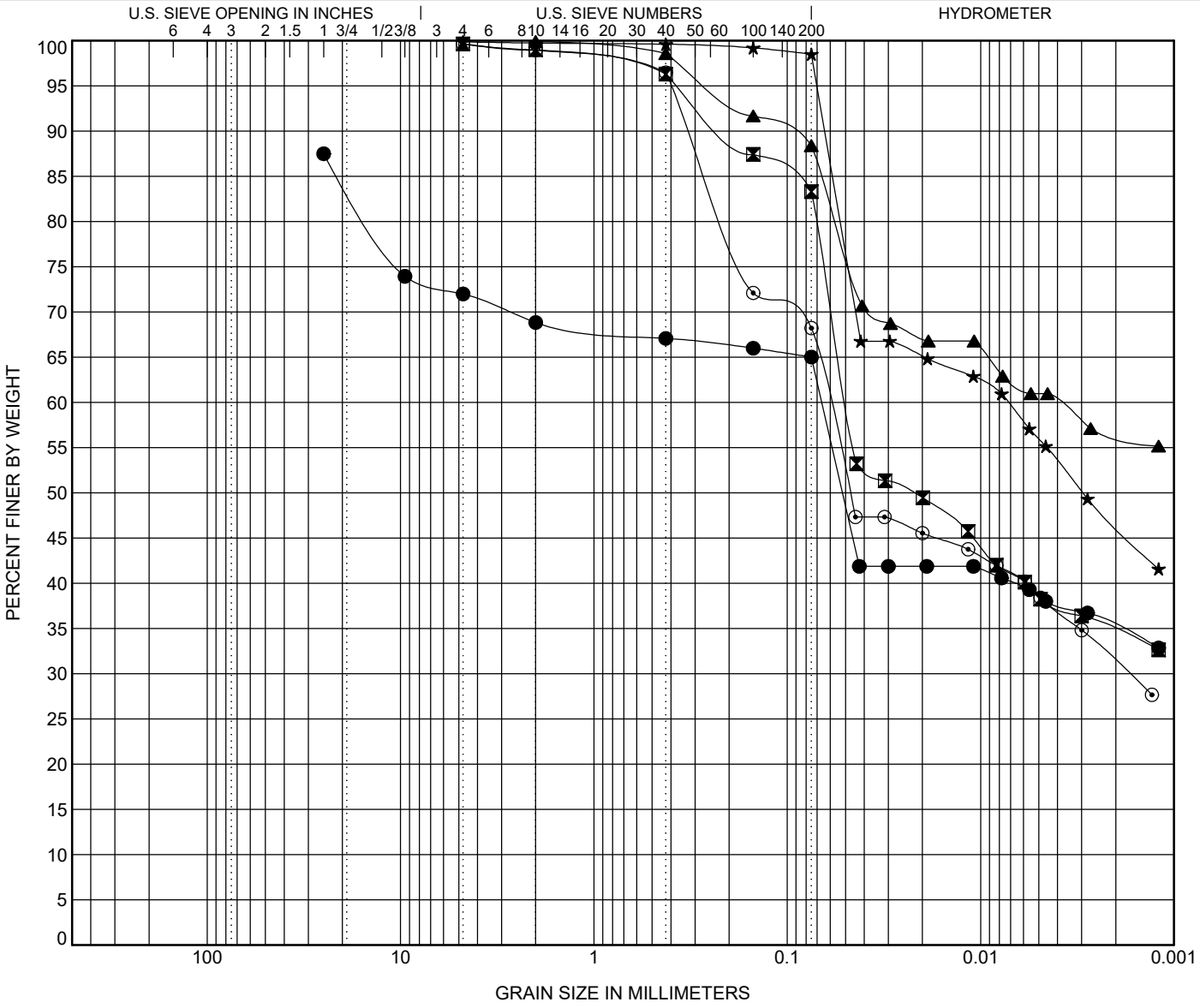

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 68	28.5	GRAVELLY ELASTIC SILT(MH) A-7-5	67	34	33		
⊠ 70	1.0	LEAN CLAY with SAND(CL) A-7-6	41	23	18		
▲ 70	4.5	ELASTIC SILT(MH) A-7-5	51	33	18		
★ 70	13.5						
⊙ 71	4.5	SANDY LEAN CLAY(CL) A-6	33	15	18		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 68	28.5	25	0.066			15.5	7.0	26.5	38.5
⊠ 70	1.0	4.75	0.049				16.3	44.9	38.5
▲ 70	4.5	2	0.004				11.5	27.4	61.0
★ 70	13.5	4.75	0.007				1.4	42.5	56.0
⊙ 71	4.5	4.75	0.061	0.002			31.4	29.6	38.6

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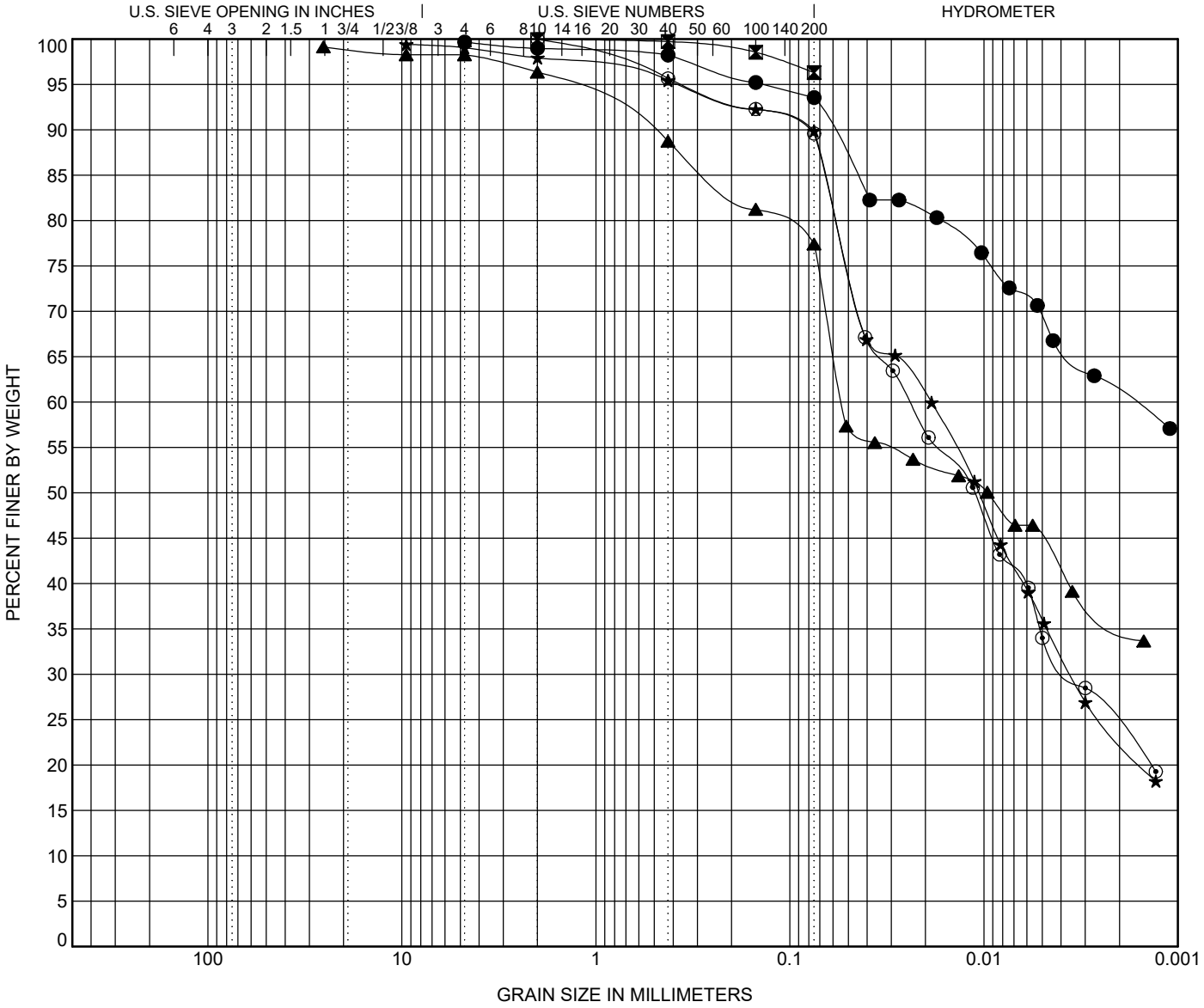

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	71	13.5	FAT CLAY(CH) A-7-5	58	30	28		
⊠	71	28.5	ELASTIC SILT(MH) A-7-5	67	38	29		
▲	72	4.5	SILT with SAND(ML) A-7-6	42	27	15		
★	73	4.5	LEAN CLAY(CL) A-6	33	21	12		
⊙	73	8.5	LEAN CLAY(CL) A-6	31	19	12		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	71	13.5	4.75	0.002				6.1	24.1	69.4
⊠	71	28.5	2					3.7	96.3	
▲	72	4.5	25.4	0.054			0.9	20.8	32.8	44.7
★	73	4.5	9.5	0.019	0.004		0.4	9.2	53.9	36.0
⊙	73	8.5	2	0.024	0.003			10.4	55.6	34.0

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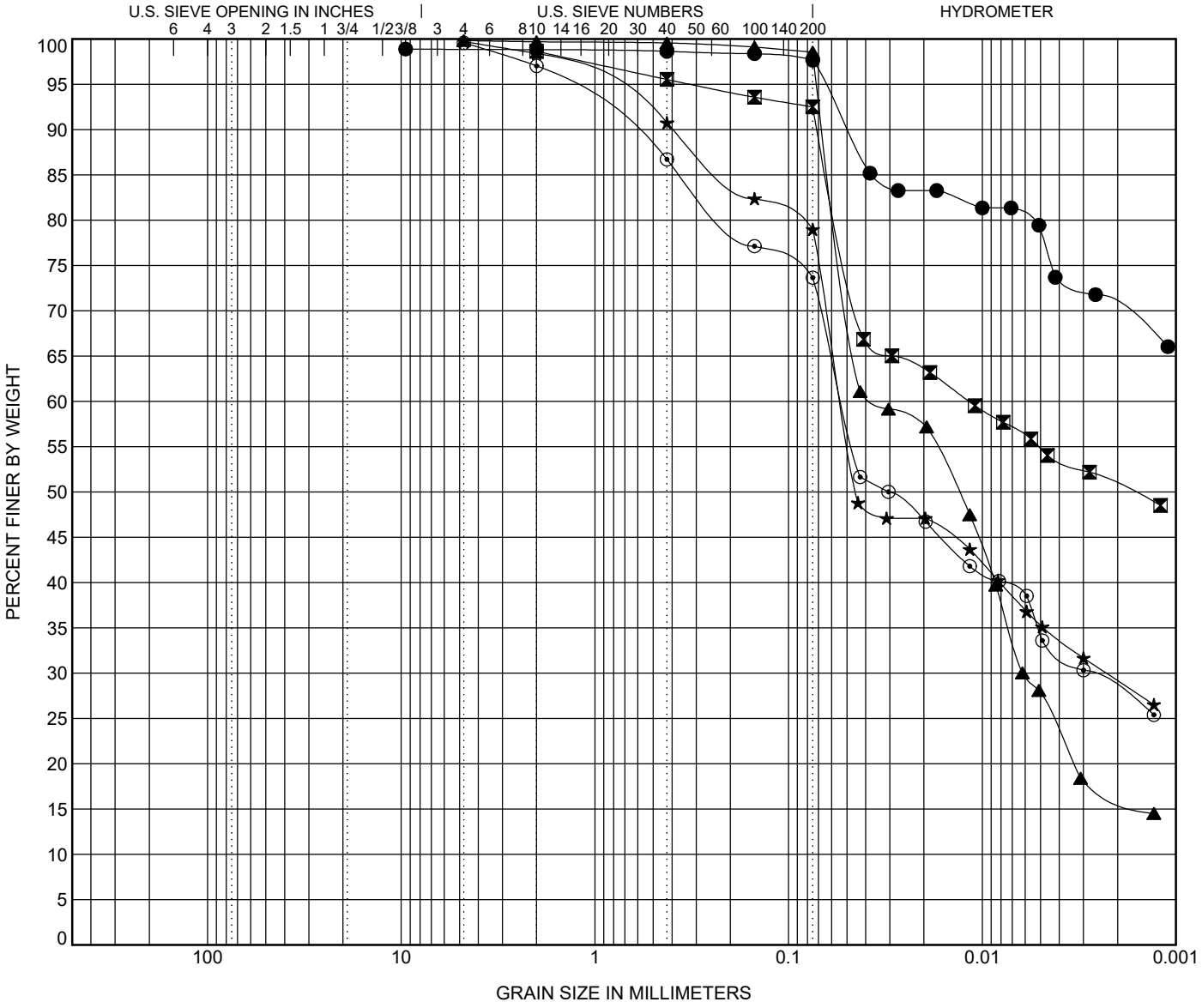

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	73	18.5	ELASTIC SILT(MH) A-7-5	68	44	24		
⊠	74	1.0	FAT CLAY(CH) A-7-6	59	29	30		
▲	74	33.5	SILT(ML) A-4	NP	NP	NP		
★	75	1.0	LEAN CLAY with SAND(CL) A-6	35	19	16		
⊙	75	2.5	LEAN CLAY with SAND(CL) A-6	39	19	20		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73	18.5	9.5				0.0	1.2	18.8	78.9
⊠	74	1.0	2	0.012				6.1	37.7	54.8
▲	74	33.5	4.75	0.035	0.006			1.3	70.8	27.7
★	75	1.0	4.75	0.053	0.002			20.7	43.7	35.3
⊙	75	2.5	4.75	0.053	0.003			25.9	39.5	34.1

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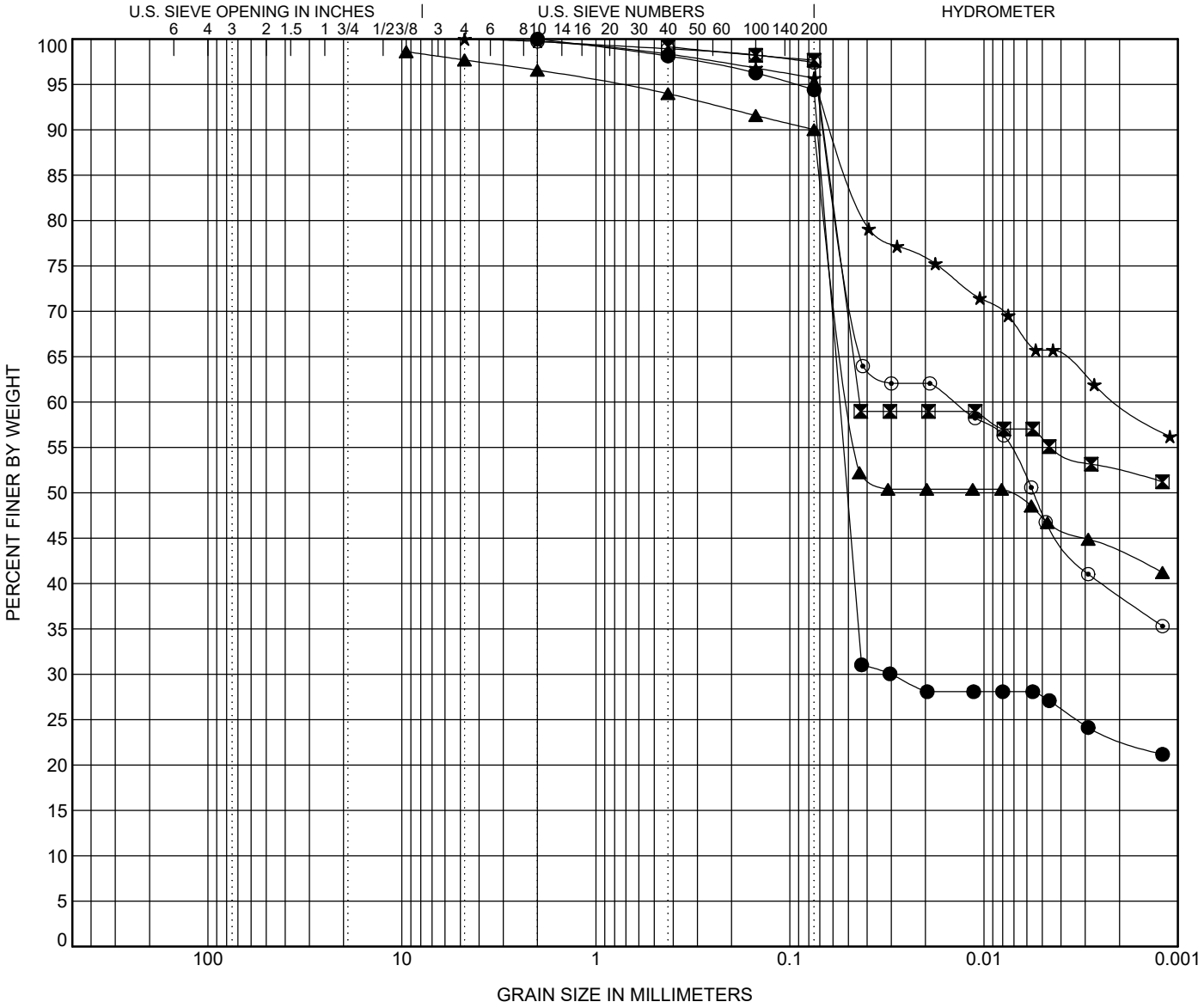

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	75	13.5	**ELASTIC SILT(MH) A-7-5**	68	39	29		
⊠	75	15.0	**ELASTIC SILT(MH) A-7-5**	61	32	29		
▲	75	18.5						
★	75	23.5	**FAT CLAY(CH) A-7-5**	65	31	34		
⊙	75	33.5	**FAT CLAY(CH) A-7-6**	52	24	28		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	75	13.5	2	0.055	0.03			5.6	66.9	27.5
⊠	75	15.0	0.425	0.044				1.5	41.8	55.9
▲	75	18.5	9.5	0.049			0.9	7.7	42.7	47.3
★	75	23.5	4.75	0.002				4.3	30.0	65.7
⊙	75	33.5	2	0.014				2.3	49.7	47.7

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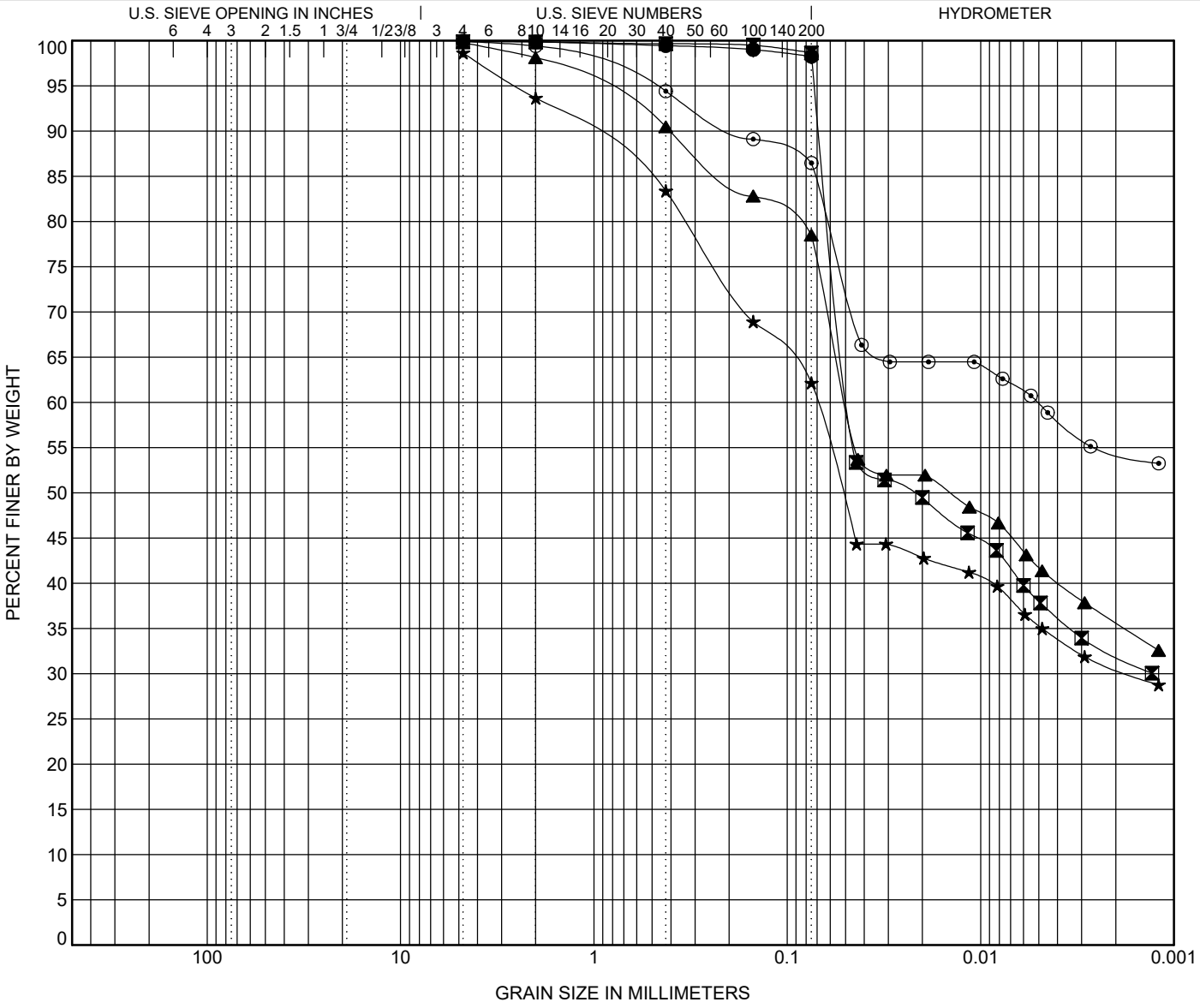

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	75	38.5						
⊠	75	43.5	FAT CLAY(CH) A-7-6	50	28	22		
▲	76	0.5	LEAN CLAY with SAND(CL) A-7-6	44	19	25		
★	76	6.5	SANDY LEAN CLAY(CL) A-6	39	21	18		
⊙	76	12.0	FAT CLAY(CH) A-7-6	61	22	39		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	75	38.5	4.75					1.7	98.3	
⊠	75	43.5	4.75	0.048				1.2	60.6	38.0
▲	76	0.5	4.75	0.05				21.3	36.7	41.8
★	76	6.5	4.75	0.07	0.002			36.5	26.9	35.3
⊙	76	12.0	4.75	0.005				13.4	26.6	59.9

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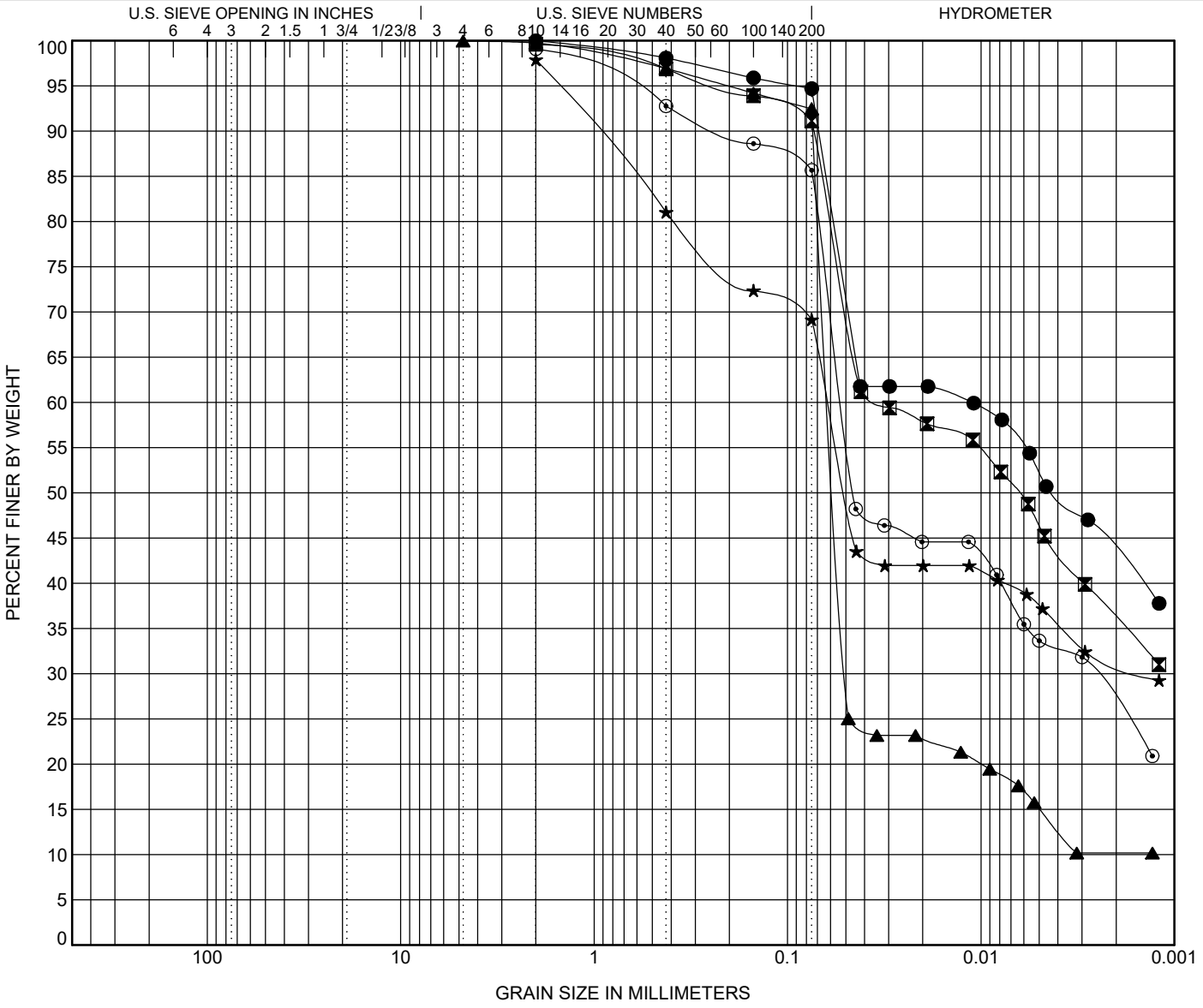

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	76	18.5	FAT CLAY(CH) A-7-6	55	24	31		
⊠	77	1.0	FAT CLAY(CH) A-7-6	51	25	26		
▲	77	4.5	LEAN CLAY(CL) A-7-6	43	26	17		
★	77	13.5	SANDY SILT(ML) A-6	38	27	11		
⊙	77	15.0	LEAN CLAY(CL) A-7-6	45	22	23		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	76	18.5	2	0.011				5.3	42.4	52.3
⊠	77	1.0	2	0.033				8.5	44.8	46.3
▲	77	4.5	4.75	0.061	0.05			7.5	77.4	15.1
★	77	13.5	2	0.062	0.001			28.7	31.6	37.5
⊙	77	15.0	2	0.052	0.003			13.4	52.0	33.6

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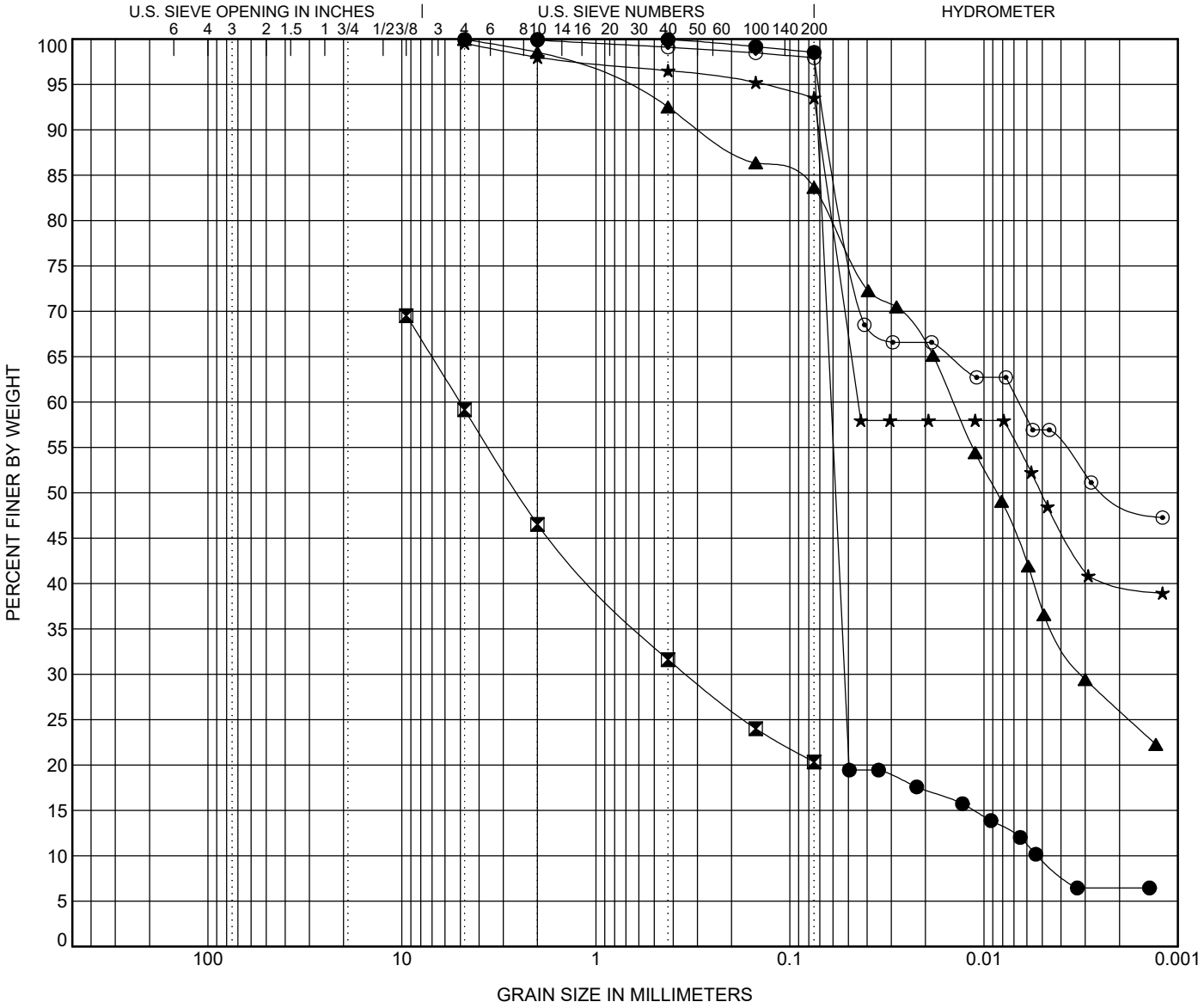

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	77	18.5	SILT(ML) A-6	38	26	12	8.44	11.59
⊠	77	23.5						
▲	82	0.5	LEAN CLAY with SAND(CL) A-6	31	18	13		
★	82	1.5	ELASTIC SILT(MH) A-7-5	65	34	31		
⊙	82	8.5	FAT CLAY(CH) A-7-5	78	32	46		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	77	18.5	4.75	0.061	0.052	0.005		1.4	89.0	9.6
⊠	77	23.5	9.5	5.024	0.341		10.4	38.8	20.3	
▲	82	0.5	4.75	0.014	0.003			16.3	46.5	37.1
★	82	1.5	4.75	0.044				6.0	43.9	49.7
⊙	82	8.5	2	0.007				1.9	41.0	56.9

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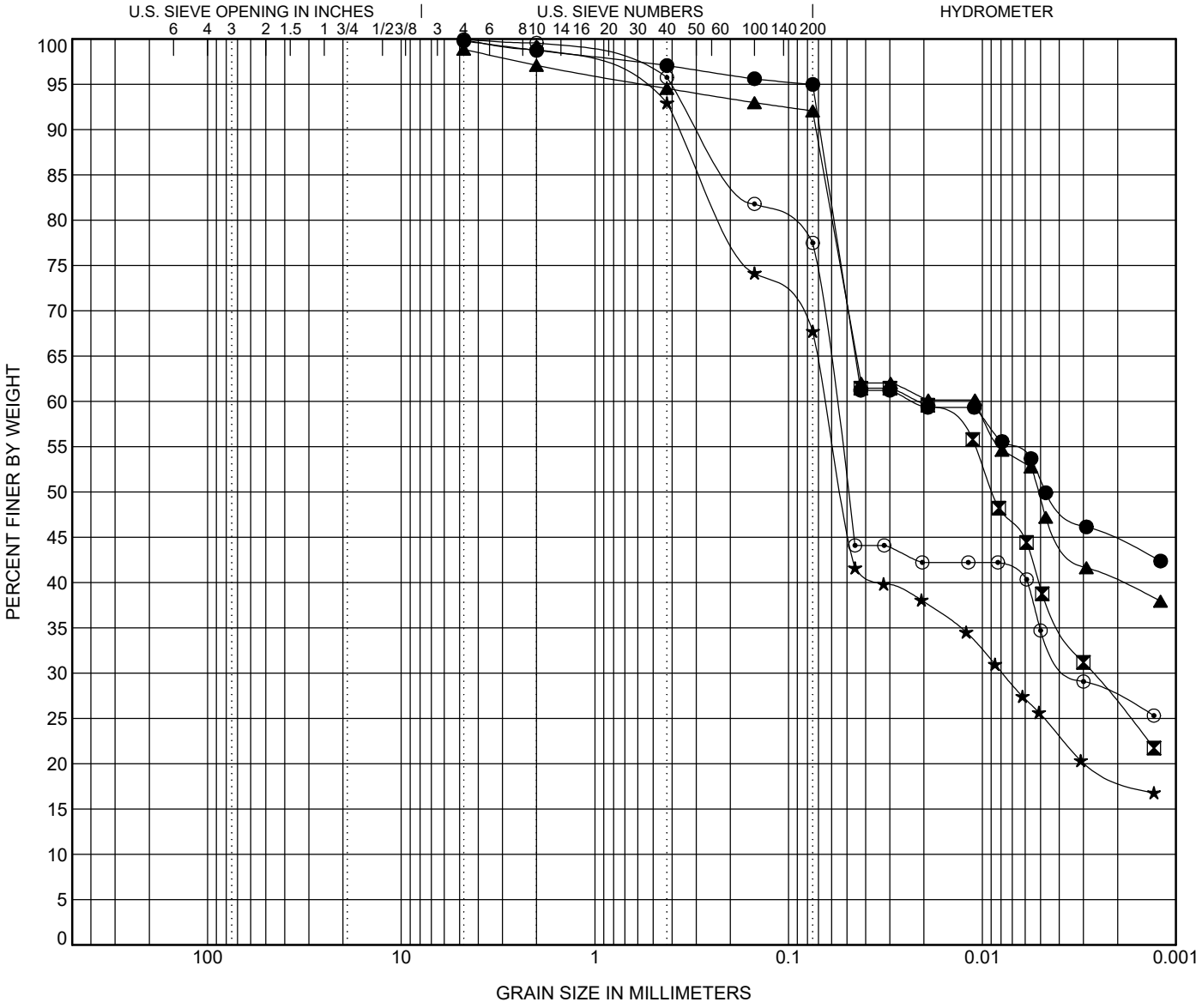

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	82	13.5	**FAT CLAY(CH) A-7-5**	65	31	34		
⊠	82	25.0						
▲	82	28.5	**LEAN CLAY(CL) A-7-6**	49	25	24		
★	83	0.5	**SANDY LEAN CLAY(CL) A-6**	29	16	13		
⊙	83	4.5	**ELASTIC SILT with SAND(MH) A-7-5**	52	30	22		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	82	13.5	4.75	0.022				4.8	43.7	51.2
⊠	82	25.0		0.021	0.003					39.4
▲	82	28.5	4.75	0.011				6.8	42.9	49.2
★	83	0.5	4.75	0.065	0.008			32.2	42.3	25.5
⊙	83	4.5	4.75	0.058	0.003			22.5	42.8	34.7

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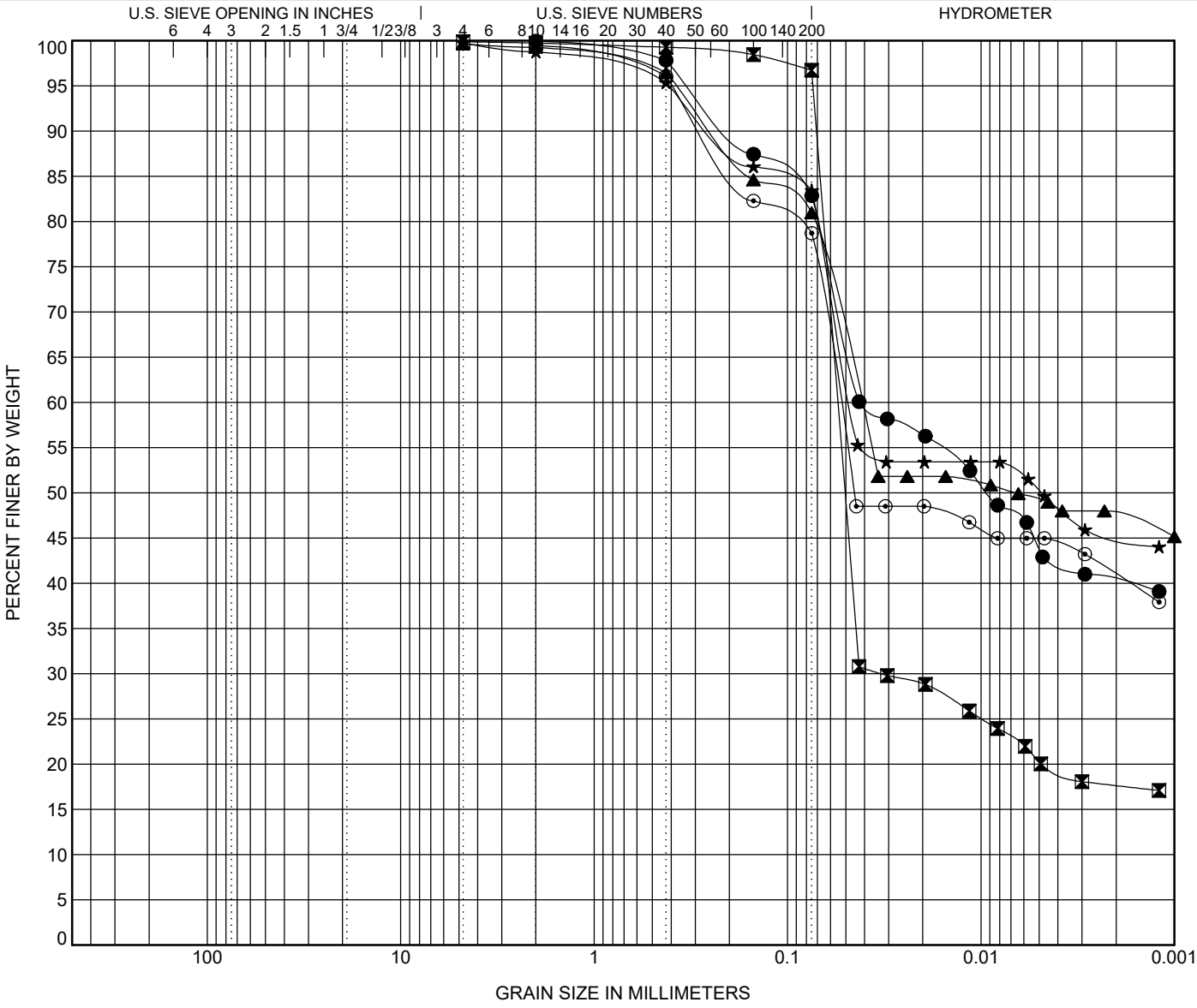

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 84	0.5	SILT with SAND(ML) A-4	NP	NP	NP		
⊠ 84	4.5	SILT(ML) A-7-5	46	34	12		
▲ 84	13.5	ELASTIC SILT with SAND(MH) A-7-5	53	42	11		
★ 84	23.5	ELASTIC SILT with SAND(MH) A-7-5	63	37	26		
⊙ 84	28.5	FAT CLAY with SAND(CH) A-7-6	60	28	32		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 84	0.5	2	0.042				17.1	39.1	43.7
⊠ 84	4.5	4.75	0.055	0.033			3.2	76.5	20.2
▲ 84	13.5	4.75	0.042				18.7	31.7	49.2
★ 84	23.5	4.75	0.048				16.3	33.2	50.3
⊙ 84	28.5	2	0.054				20.8	33.7	45.0

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PROJECT NUMBER 20033

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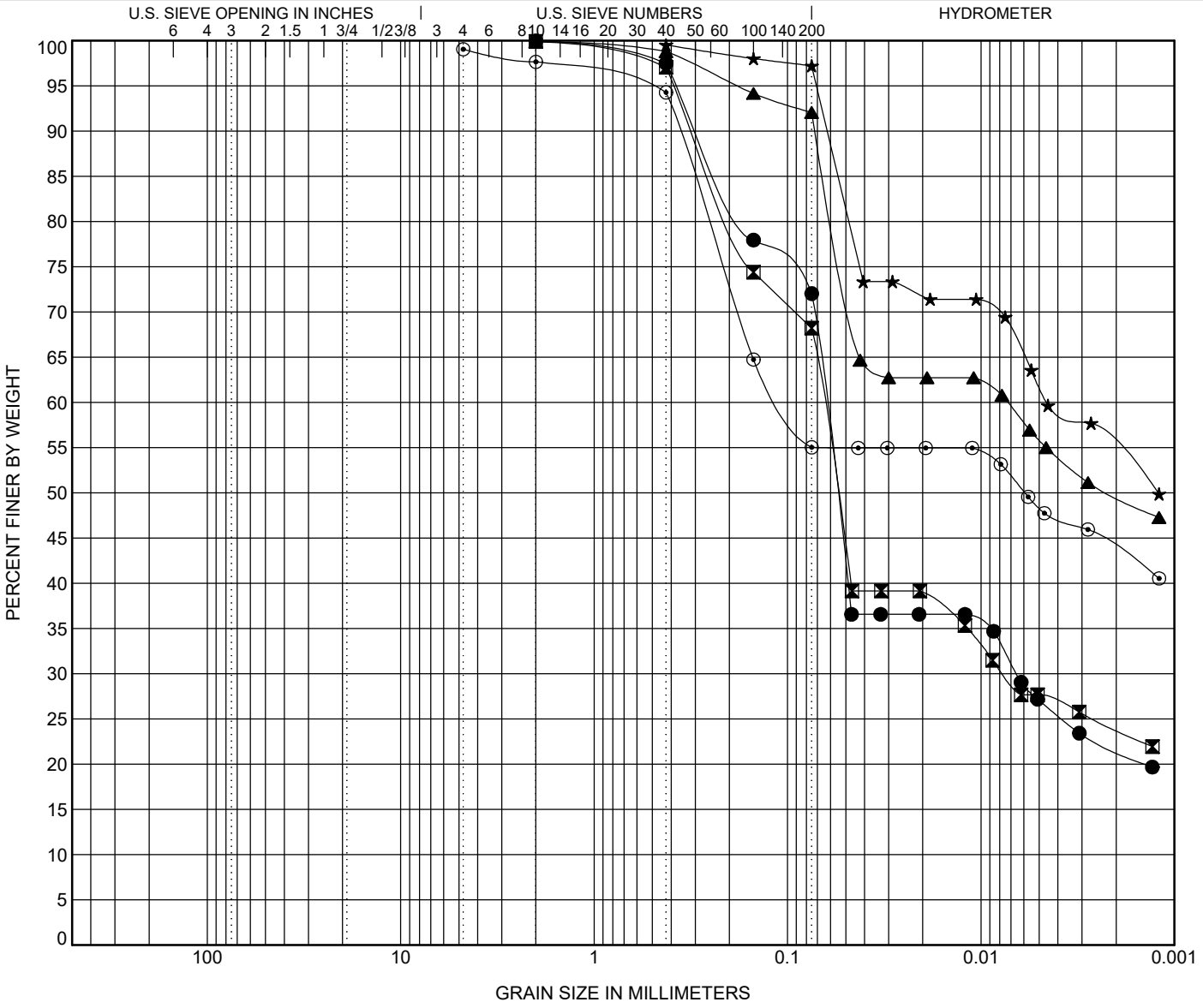

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	85	0.5	**LEAN CLAY with SAND(CL) A-6**	37	22	15		
⊠	85	4.5	**SANDY LEAN CLAY(CL) A-6**	33	22	11		
▲	85	12.0	**ELASTIC SILT(MH) A-7-5**	58	35	23		
★	85	13.5						
⊙	85	23.5	**SANDY ELASTIC SILT(MH) A-7-5**	71	40	31		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	85	0.5	2	0.064	0.007			27.9	45.0	27.0
⊠	85	4.5	2	0.065	0.008			31.7	40.6	27.6
▲	85	12.0	2	0.007				7.8	36.2	55.8
★	85	13.5	0.425	0.005				2.3	35.5	61.7
⊙	85	23.5	4.75	0.107				44.0	6.7	48.3

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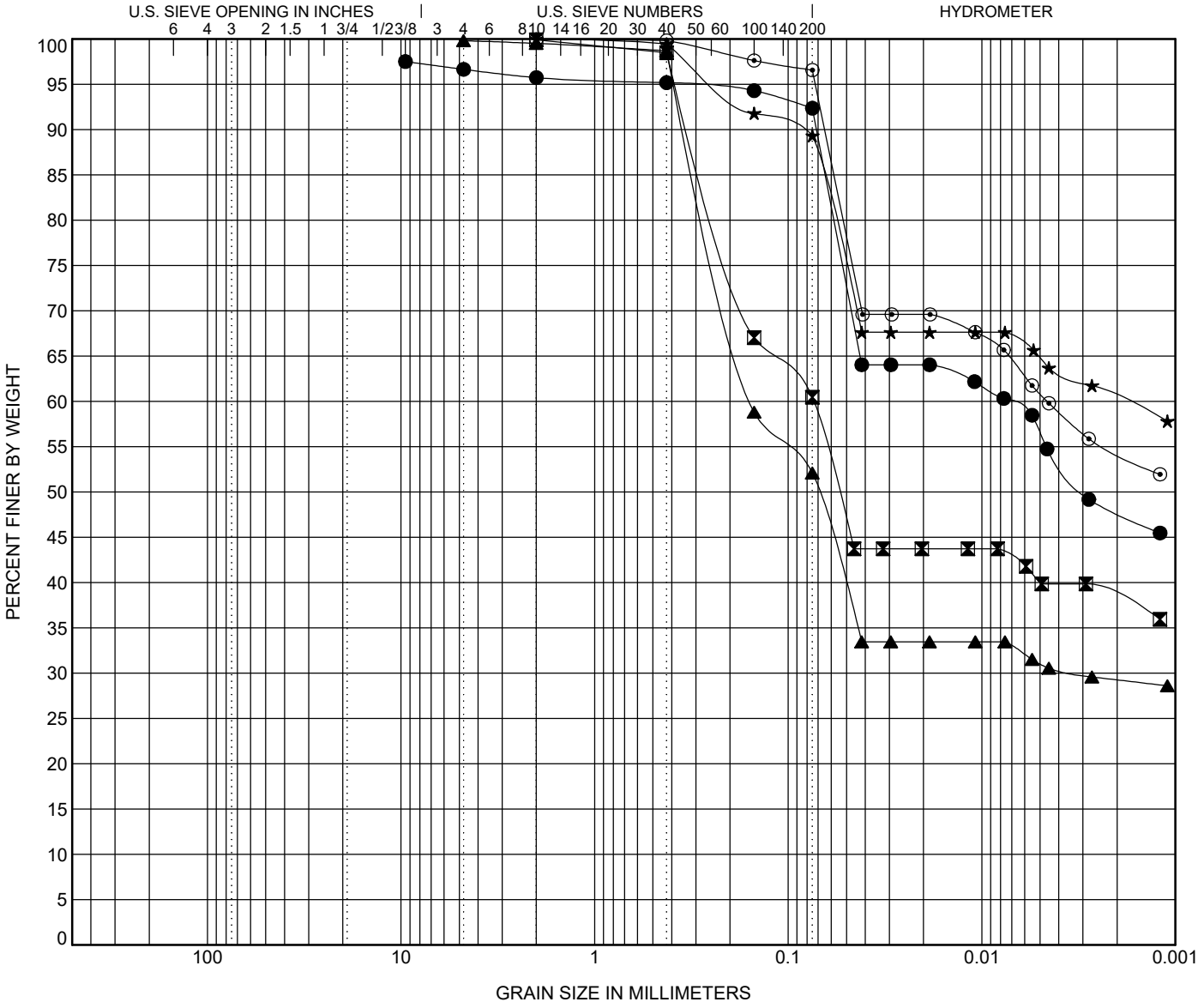

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	85	28.5	FAT CLAY(CH) A-7-6	59	28	31		
⊠	86	1.0	SANDY LEAN CLAY(CL) A-6	35	21	14		
▲	86	4.5	SANDY SILT(ML) A-4	NP	NP	NP		
★	86	15.0	ELASTIC SILT(MH) A-7-5	74	36	38		
⊙	86	17.5	ELASTIC SILT(MH) A-7-5	69	38	31		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	85	28.5	9.5	0.007			0.9	4.3	35.9	56.5
⊠	86	1.0	2	0.074				39.4	20.4	40.0
▲	86	4.5	4.75	0.155	0.003			47.7	21.0	31.1
★	86	15.0	2	0.002				10.6	24.5	64.8
⊙	86	17.5	2	0.005				3.4	35.7	60.8

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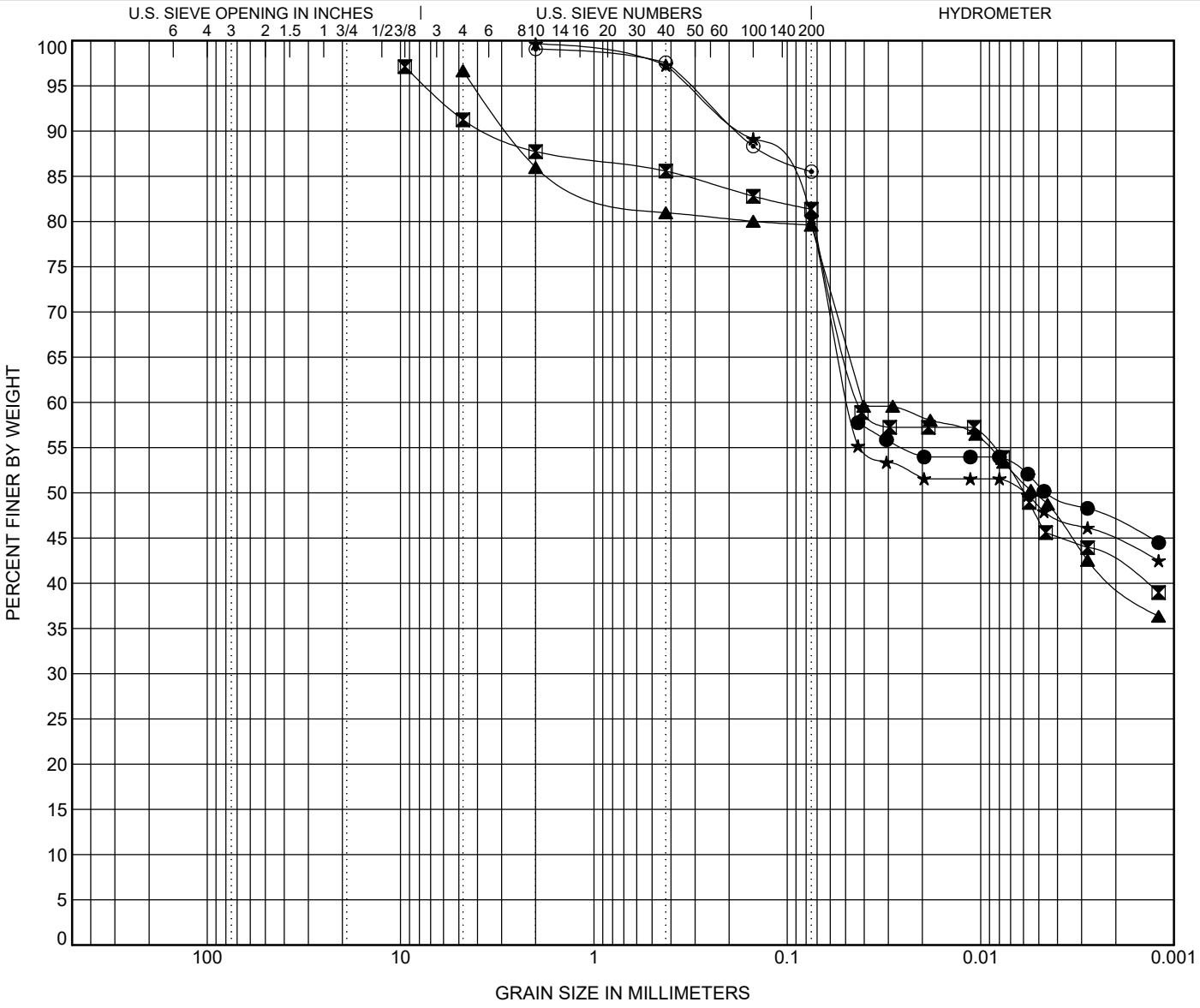

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	86	23.5						
⊠	86	28.5	**FAT CLAY with SAND(CH) A-7-5**	**64**	**30**	**34**		
▲	86	33.5	**FAT CLAY with SAND(CH) A-7-6**	**60**	**27**	**33**		
★	86	38.5	**ELASTIC SILT with SAND(MH) A-7-5**	**67**	**34**	**33**		
⊙	86	43.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	86	23.5								**50.8**
⊠	86	28.5	**9.5**	**0.043**			**5.9**	**9.9**	**34.3**	**47.0**
▲	86	33.5	**4.75**	**0.041**				**17.1**	**30.0**	**49.6**
★	86	38.5	**2**	**0.048**				**19.3**	**31.8**	**48.5**
⊙	86	43.5	**2**					**13.6**	**85.5**	

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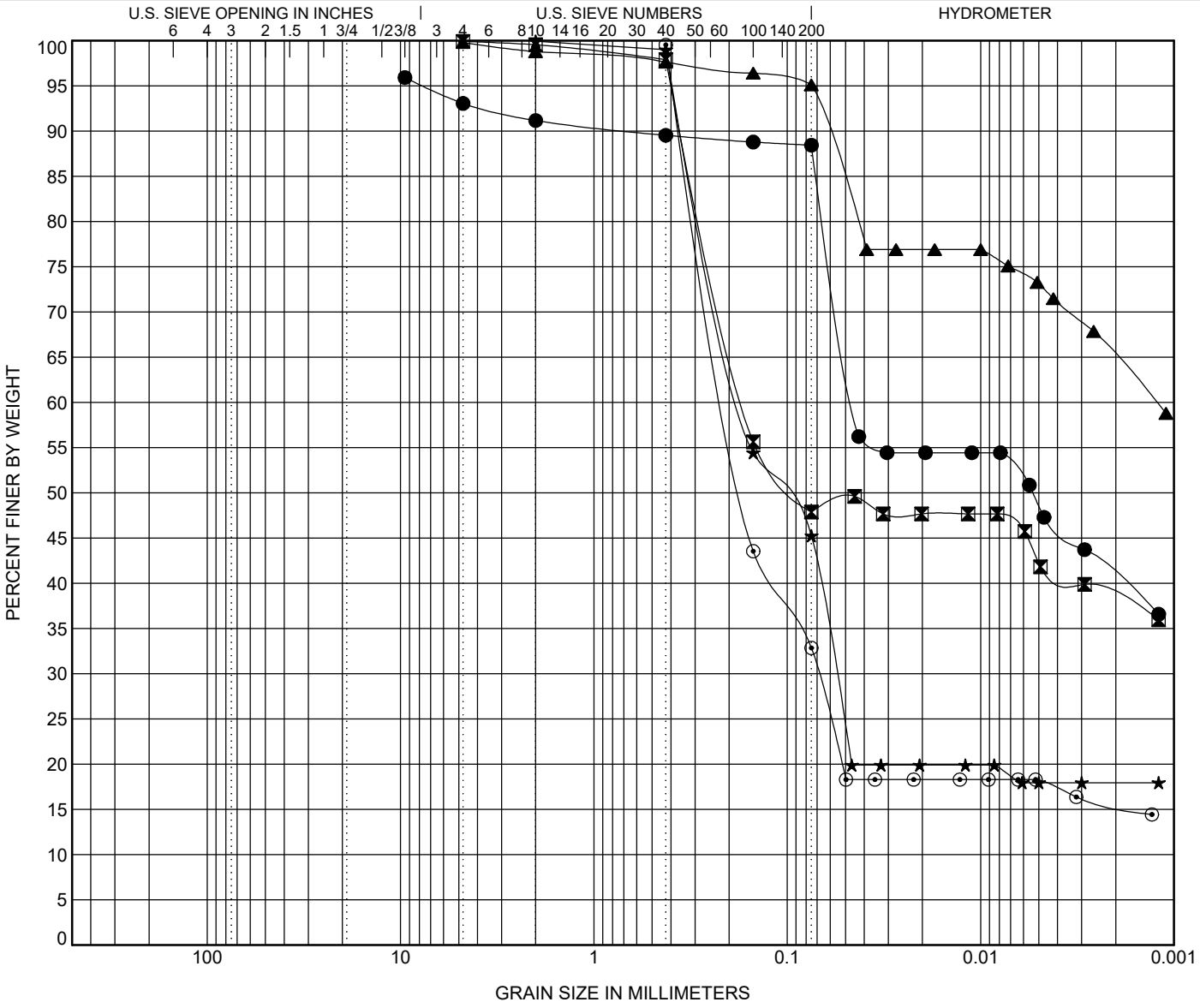

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	86	48.5	FAT CLAY(CH) A-7-6	87	29	58		
⊠	87	1.0	CLAYEY SAND(SC) A-6	24	13	11		
▲	87	2.5	FAT CLAY(CH) A-7-5	80	33	47		
★	87	4.5	SILTY SAND(SM) A-4	NP	NP	NP		
⊙	87	8.5	SILTY SAND(SM) A-2-4	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	86	48.5	9.5	0.046			2.9	4.6	39.9	48.6
⊠	87	1.0	4.75	0.167				52.0	5.6	42.2
▲	87	2.5	4.75	0.001				4.7	22.0	73.1
★	87	4.5	2	0.171	0.056			54.7	27.3	18.0
⊙	87	8.5	0.425	0.204	0.069			66.7	14.7	18.1

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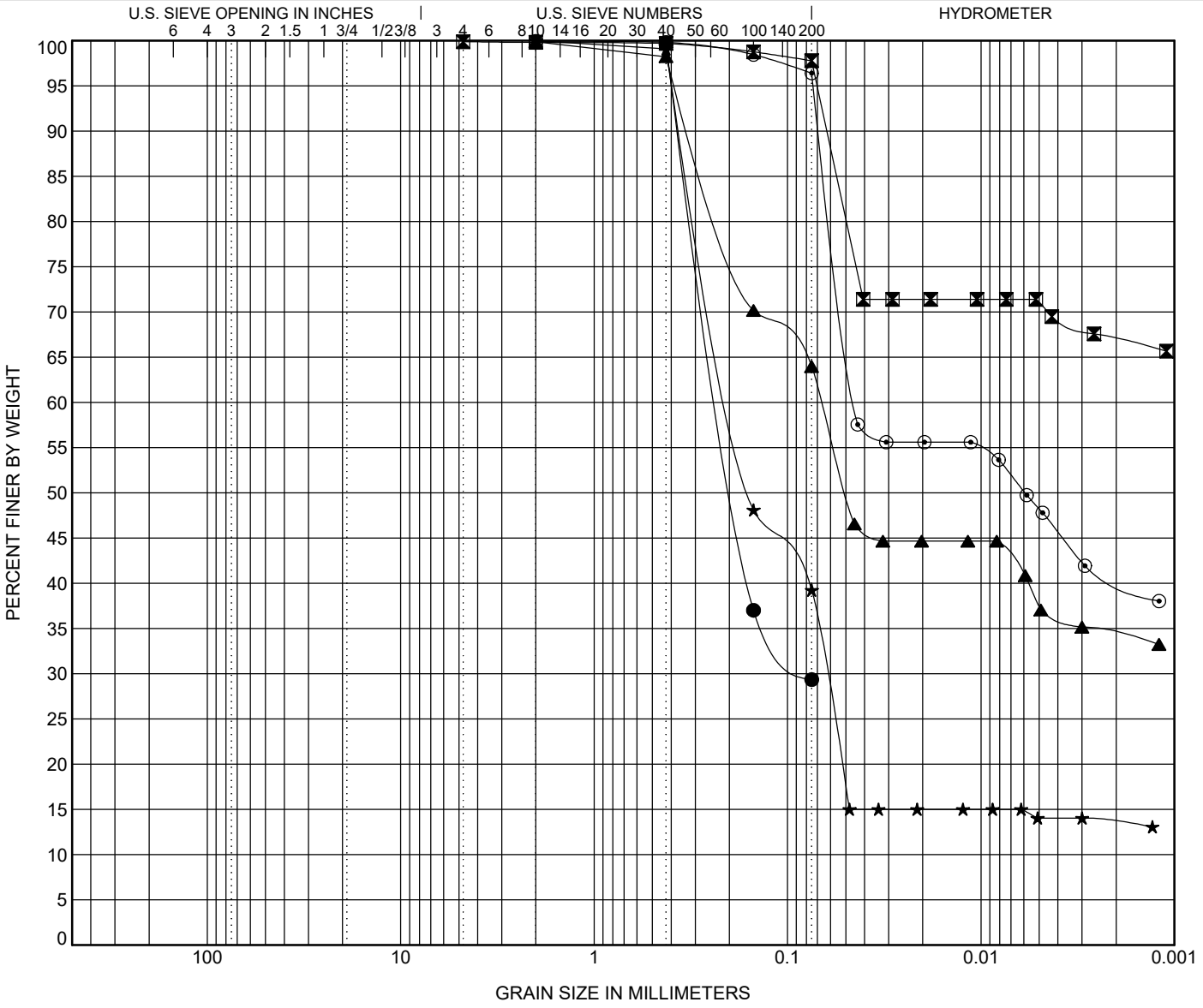

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	87	13.5						
⊠	87	23.5	ELASTIC SILT(MH) A-7-5	95	47	48		
▲	88	1.0	SANDY LEAN CLAY(CL) A-6	37	18	19		
★	88	6.5	SILTY SAND(SM) A-4	NP	NP	NP		
⊙	88	18.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	87	13.5	0.425	0.22	0.08			70.3	29.4	
⊠	87	23.5	4.75					2.1	26.8	71.0
▲	88	1.0	2	0.067				35.9	26.5	37.5
★	88	6.5	2	0.191	0.063			60.7	25.2	14.0
⊙	88	18.5	2	0.045				3.5	48.2	48.2

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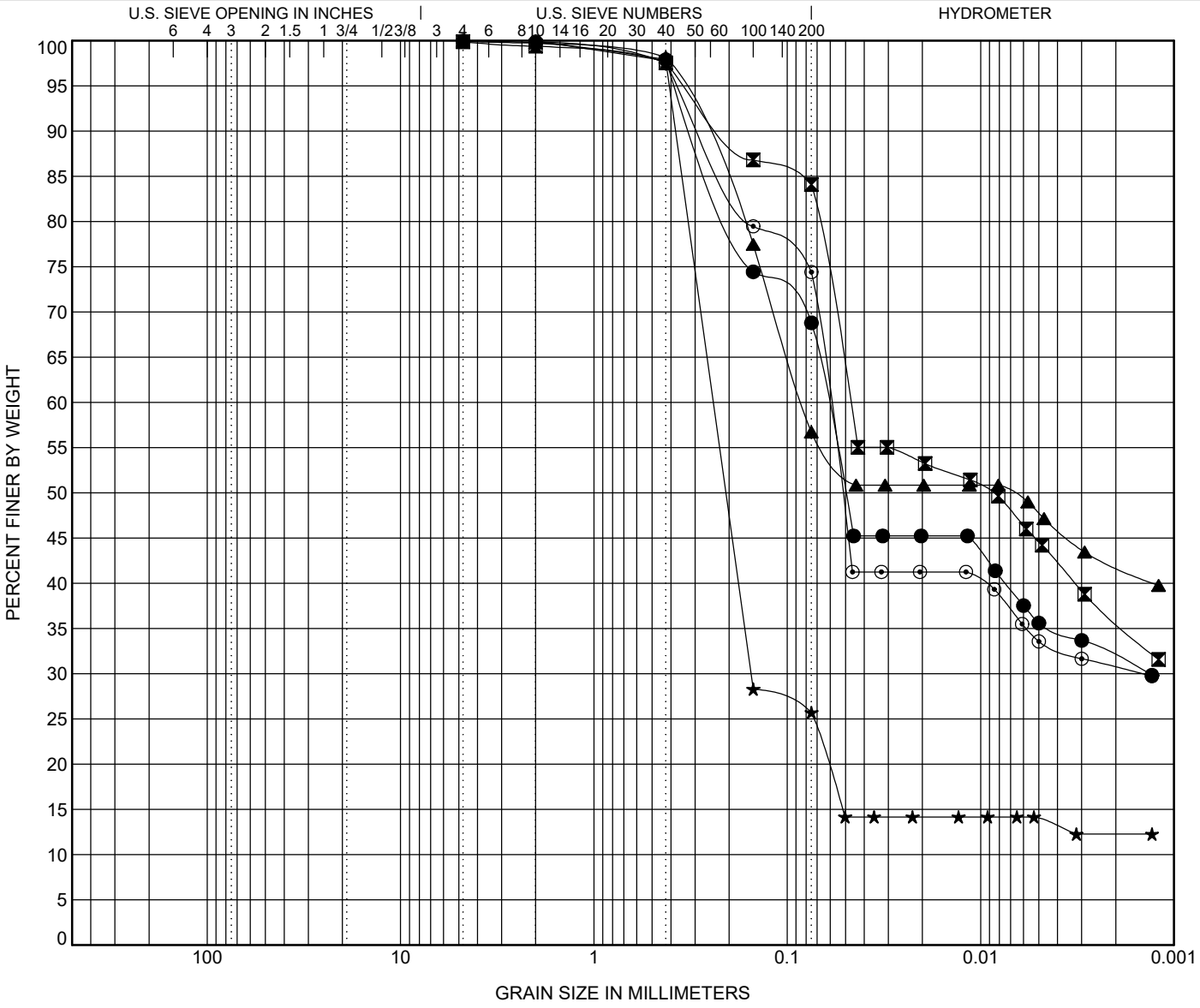

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	89	4.5	**SANDY SILT(ML) A-7-6**	42	29	13		
⊠	89	13.5	**FAT CLAY with SAND(CH) A-7-6**	68	26	42		
▲	89	14.0	**SANDY FAT CLAY(CH) A-7-6**	58	28	30		
★	89	23.5	**SILTY SAND(SM) A-2-4**	NP	NP	NP		
⊙	90	4.5	**SILT with SAND(ML) A-4**	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	89	4.5	4.75	0.062	0.001			31.2	33.2	35.6
⊠	89	13.5	4.75	0.047				15.8	39.5	44.6
▲	89	14.0	4.75	0.084				43.2	9.0	47.7
★	89	23.5	2	0.241	0.154			74.3	11.8	13.9
⊙	90	4.5	2	0.061	0.001			25.5	40.8	33.6

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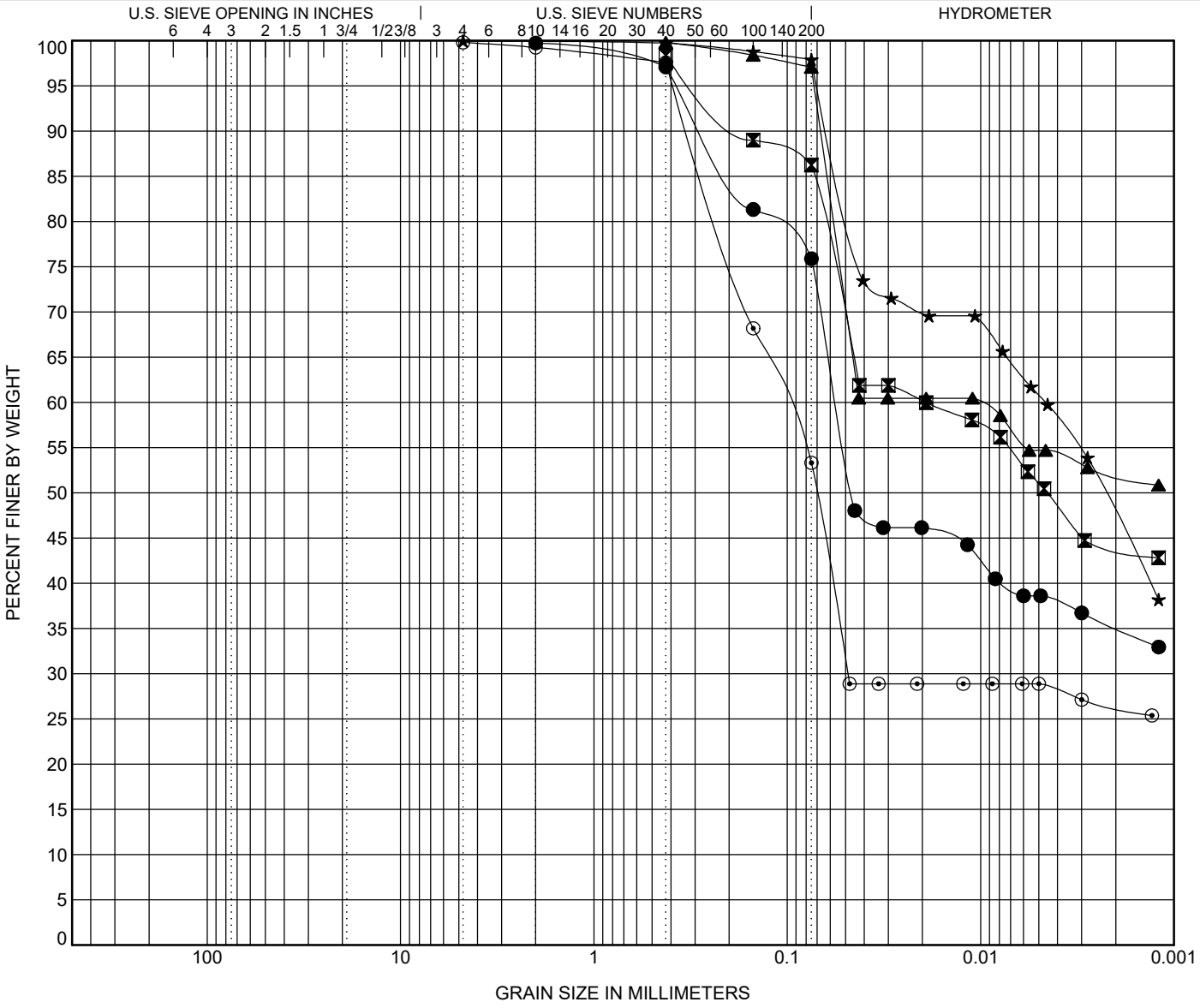

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 90	13.5	**SILT with SAND(ML) A-4**	**NP**	**NP**	**NP**		
⊠ 91	4.5	**ELASTIC SILT(MH) A-7-5**	**54**	**31**	**23**		
▲ 91	13.5	**ELASTIC SILT(MH) A-7-5**	**74**	**44**	**30**		
★ 91	23.5	**FAT CLAY(CH) A-7-5**	**73**	**33**	**40**		
⊙ 91	28.5	**SANDY LEAN CLAY(CL) A-7-6**	**43**	**20**	**23**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 90	13.5	**2**	**0.056**				**23.8**	**37.3**	**38.6**
⊠ 91	4.5	**0.425**	**0.019**				**12.1**	**35.2**	**51.1**
▲ 91	13.5	**0.425**	**0.01**				**2.8**	**42.3**	**54.7**
★ 91	23.5	**4.75**	**0.005**				**2.0**	**37.1**	**60.8**
⊙ 91	28.5	**4.75**	**0.102**	**0.049**			**46.5**	**24.4**	**28.9**

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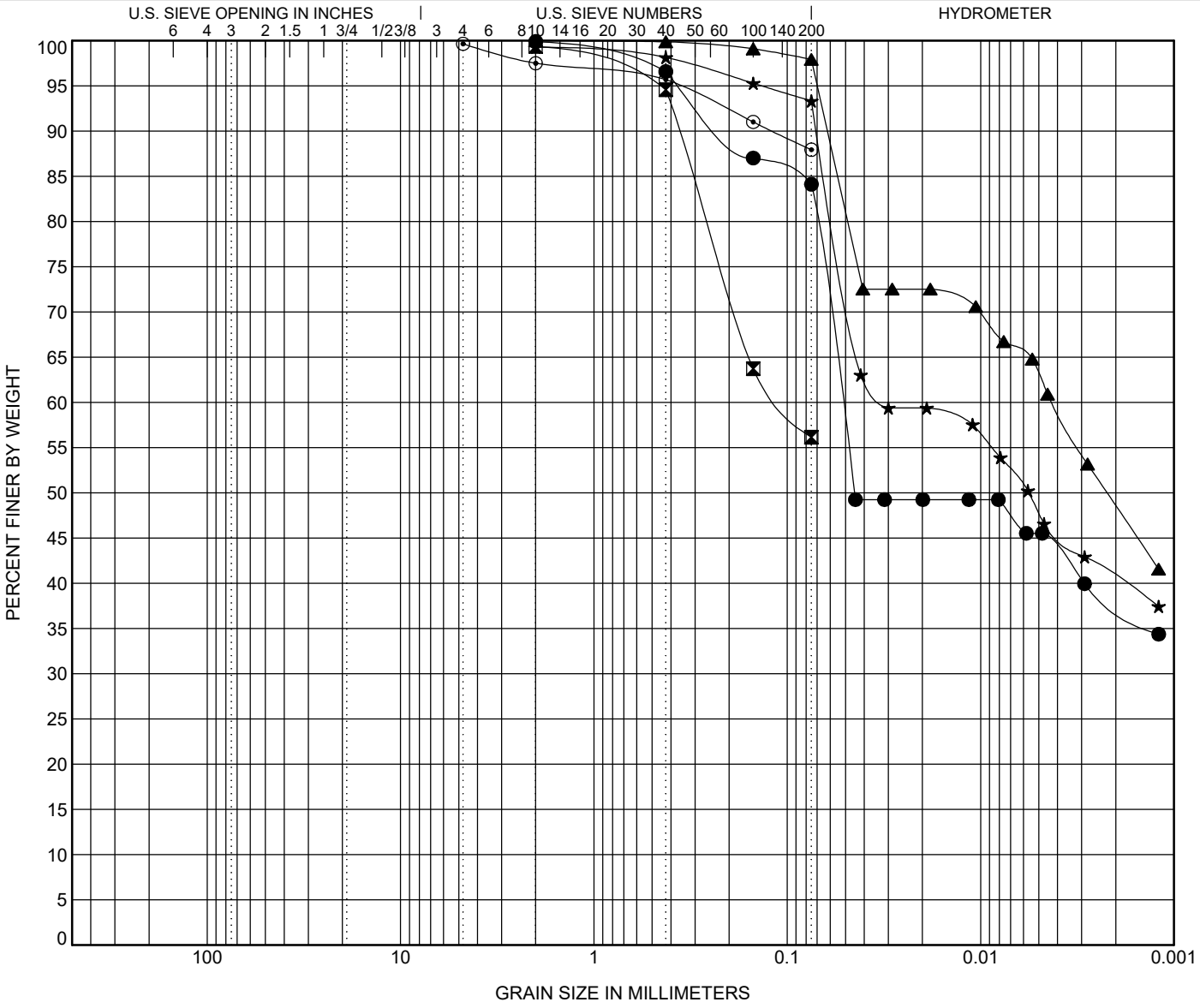

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	92	4.5	ELASTIC SILT with SAND(MH) A-7-5	54	34	20		
⊠	92	13.5	SANDY SILT(ML) A-4	NP	NP	NP		
▲	92	18.5	ELASTIC SILT(MH) A-7-5	60	41	19		
★	93	1.0						
⊙	93	4.5	LEAN CLAY(CL) A-7-6	43	25	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	92	4.5	2	0.052				15.8	38.6	45.5
⊠	92	13.5	2	0.107				43.2	56.2	
▲	92	18.5	2	0.004				2.1	34.8	63.2
★	93	1.0	2	0.032				5.9	45.6	47.8
⊙	93	4.5	4.75					11.7	87.9	

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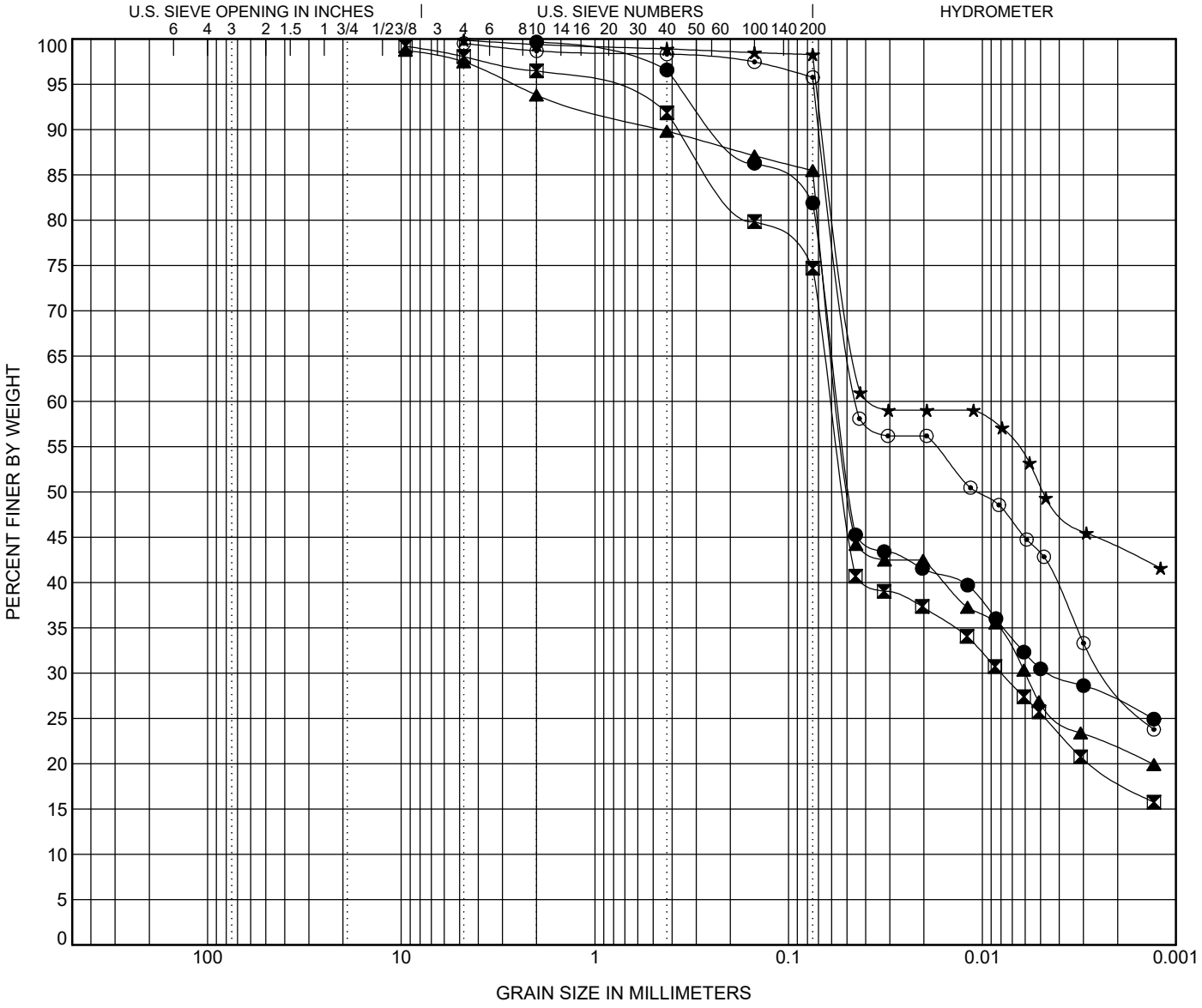

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	94	1.0	**LEAN CLAY with SAND(CL) A-6**	37	20	17		
⊠	94	4.5	**LEAN CLAY with SAND(CL) A-6**	37	18	19		
▲	94	13.5	**ELASTIC SILT(MH) A-7-5**	66	33	33		
★	94	15.0	**FAT CLAY(CH) A-7-6**	60	26	34		
⊙	94	23.5	**FAT CLAY(CH) A-7-5**	64	31	33		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	94	1.0	2	0.055	0.004			17.8	51.4	30.5
⊠	94	4.5	9.5	0.06	0.008		1.2	23.3	49.2	25.5
▲	94	13.5	9.5	0.055	0.006		1.3	12.0	58.8	26.7
★	94	15.0	4.75	0.036				1.6	47.7	50.6
⊙	94	23.5	4.75	0.044	0.002			3.8	52.5	43.2

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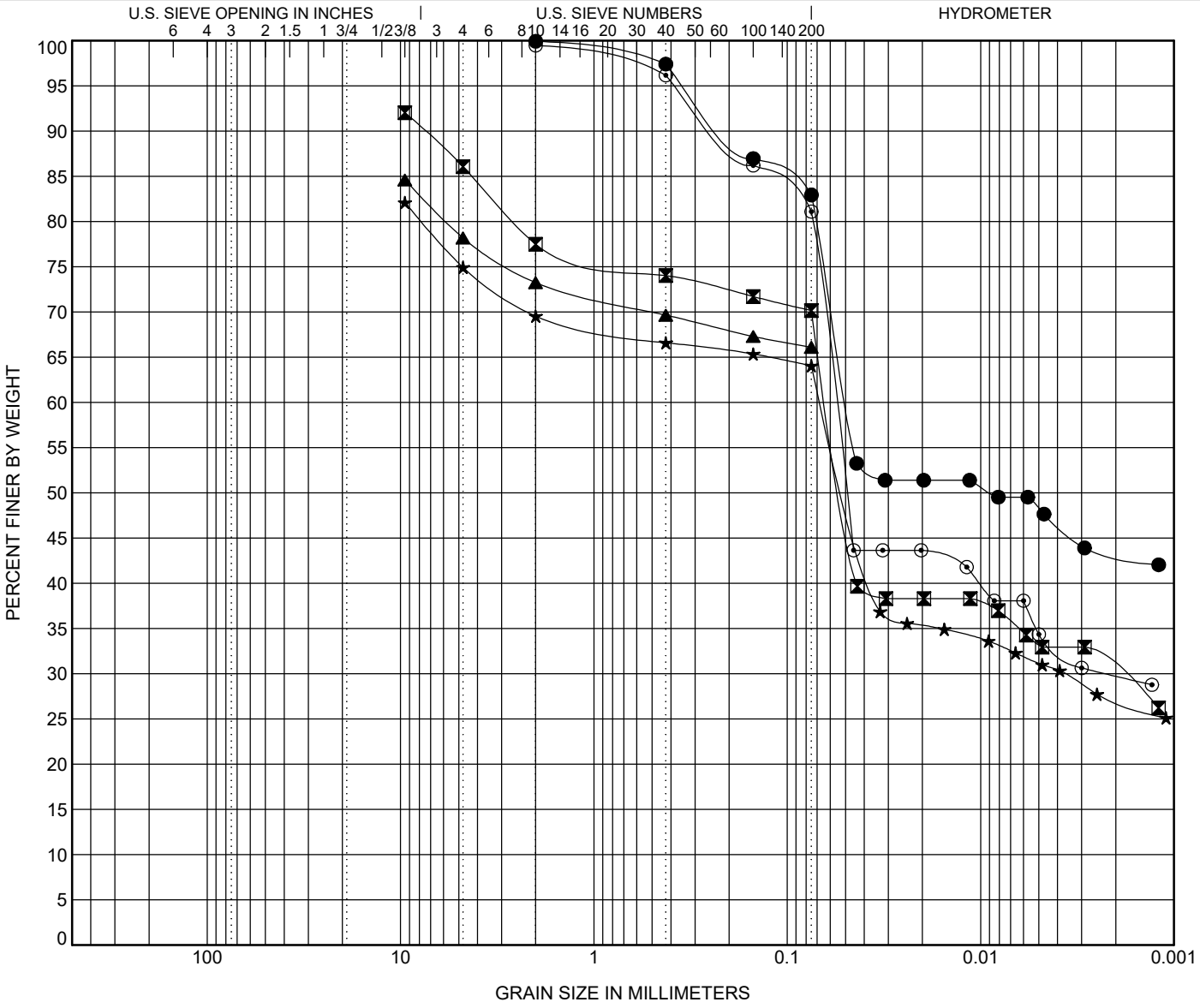

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	95	6.5	**ELASTIC SILT with SAND(MH) A-7-5**	50	37	13		
⊠	96	1.0	**FAT CLAY with SAND(CH) A-7-6**	50	23	27		
▲	96	4.5						
★	96	13.5						
⊙	97	4.5	**LEAN CLAY with SAND(CL) A-7-6**	43	22	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	95	6.5	2	0.049				17.0	34.7	48.3
⊠	96	1.0	9.5	0.063	0.002		6.0	15.9	36.9	33.2
▲	96	4.5	9.5				6.4	12.1	66.1	
★	96	13.5	9.5	0.066	0.004		7.2	10.9	32.9	31.2
⊙	97	4.5	2	0.057	0.002			18.4	46.7	34.4

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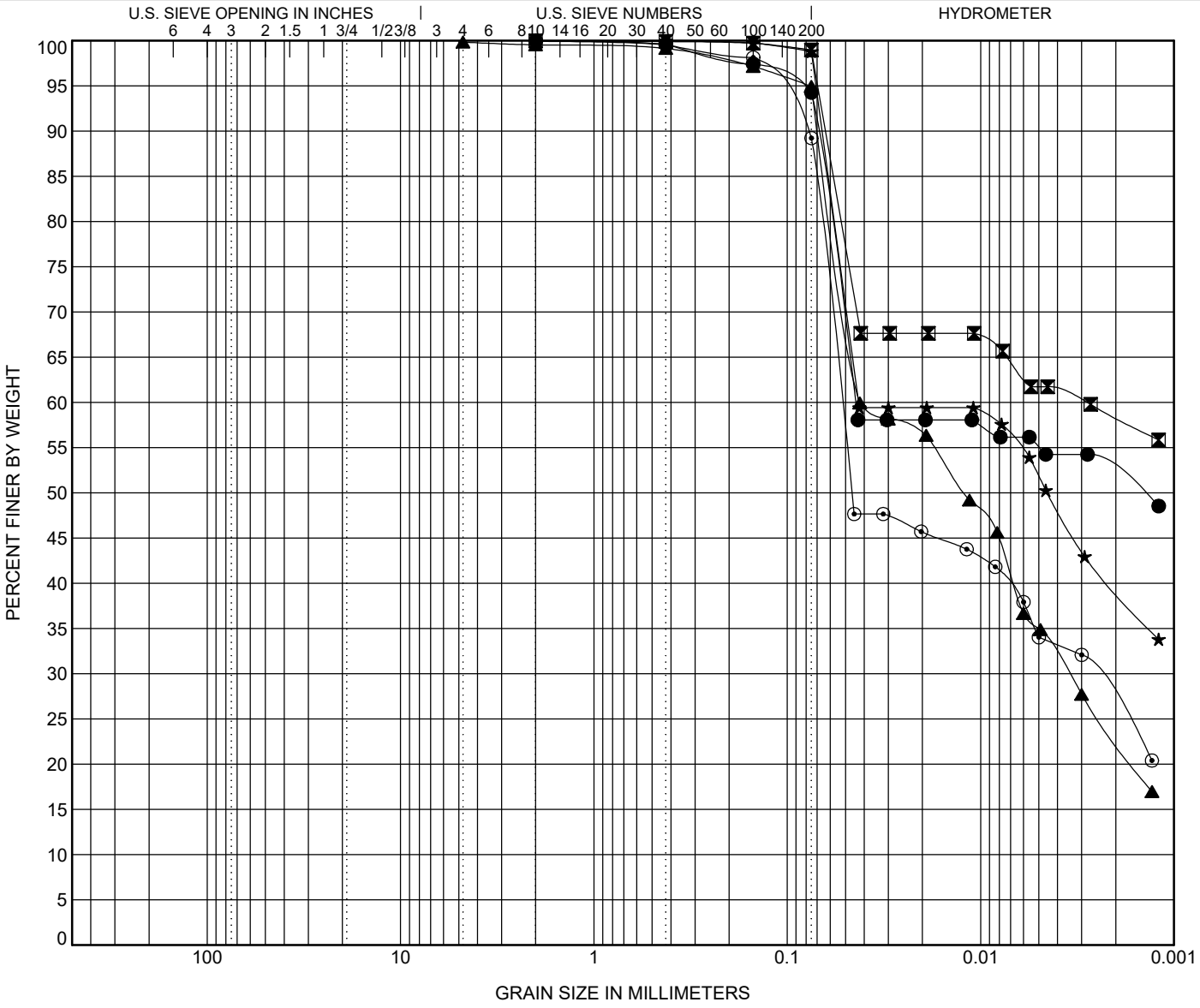

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	97	8.5	**FAT CLAY(CH) A-7-5**	76	32	44		
⊠	97	13.5	**ELASTIC SILT(MH) A-7-5**	64	35	29		
▲	97	28.5						
★	97	38.5	**LEAN CLAY(CL) A-6**	40	20	20		
⊙	97	48.5	**LEAN CLAY(CL) A-6**	34	17	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	97	8.5	2	0.044				5.7	39.2	55.1
⊠	97	13.5	2	0.003				1.0	37.2	61.7
▲	97	28.5	4.75	0.042	0.004			4.9	59.9	35.1
★	97	38.5	0.425	0.043				1.2	47.0	51.8
⊙	97	48.5	2	0.052	0.003			10.7	55.2	34.0

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PROJECT NUMBER 20033

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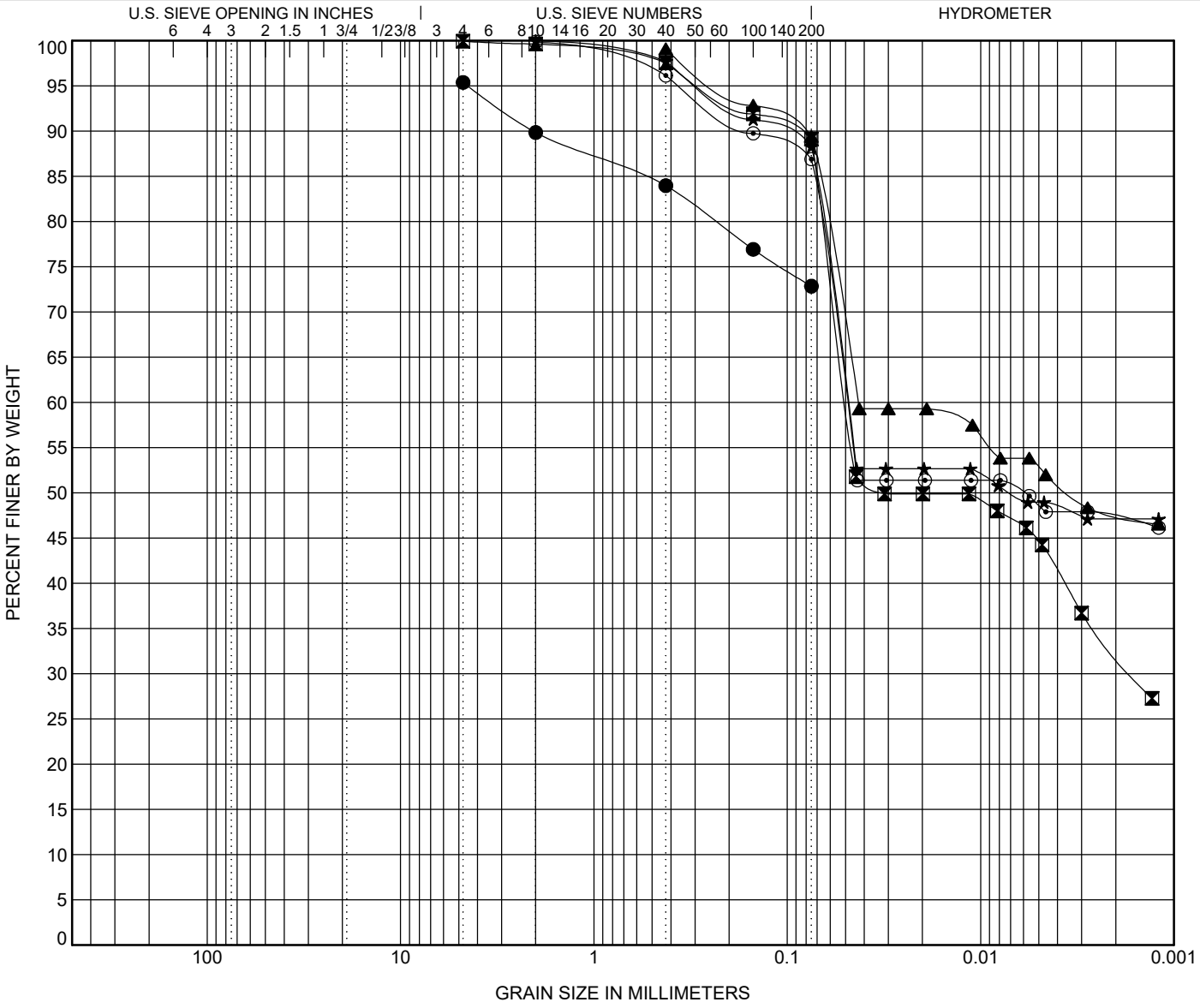

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	98	4.5	**LEAN CLAY with SAND(CL) A-6**	31	16	15		
⊠	98	6.5	**LEAN CLAY(CL) A-7-6**	42	20	22		
▲	98	13.5	**ELASTIC SILT(MH) A-7-5**	55	41	14		
★	99	1.0	**ELASTIC SILT(MH) A-7-5**	53	31	22		
⊙	99	4.5	**ELASTIC SILT(MH) A-7-5**	62	35	27		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	98	4.5	4.75					22.5	72.8	
⊠	98	6.5	4.75	0.05	0.002			10.8	44.5	44.6
▲	98	13.5	0.425	0.043				9.7	36.6	52.8
★	99	1.0	2	0.049				11.7	39.3	49.0
⊙	99	4.5	2	0.05				13.0	38.3	48.6

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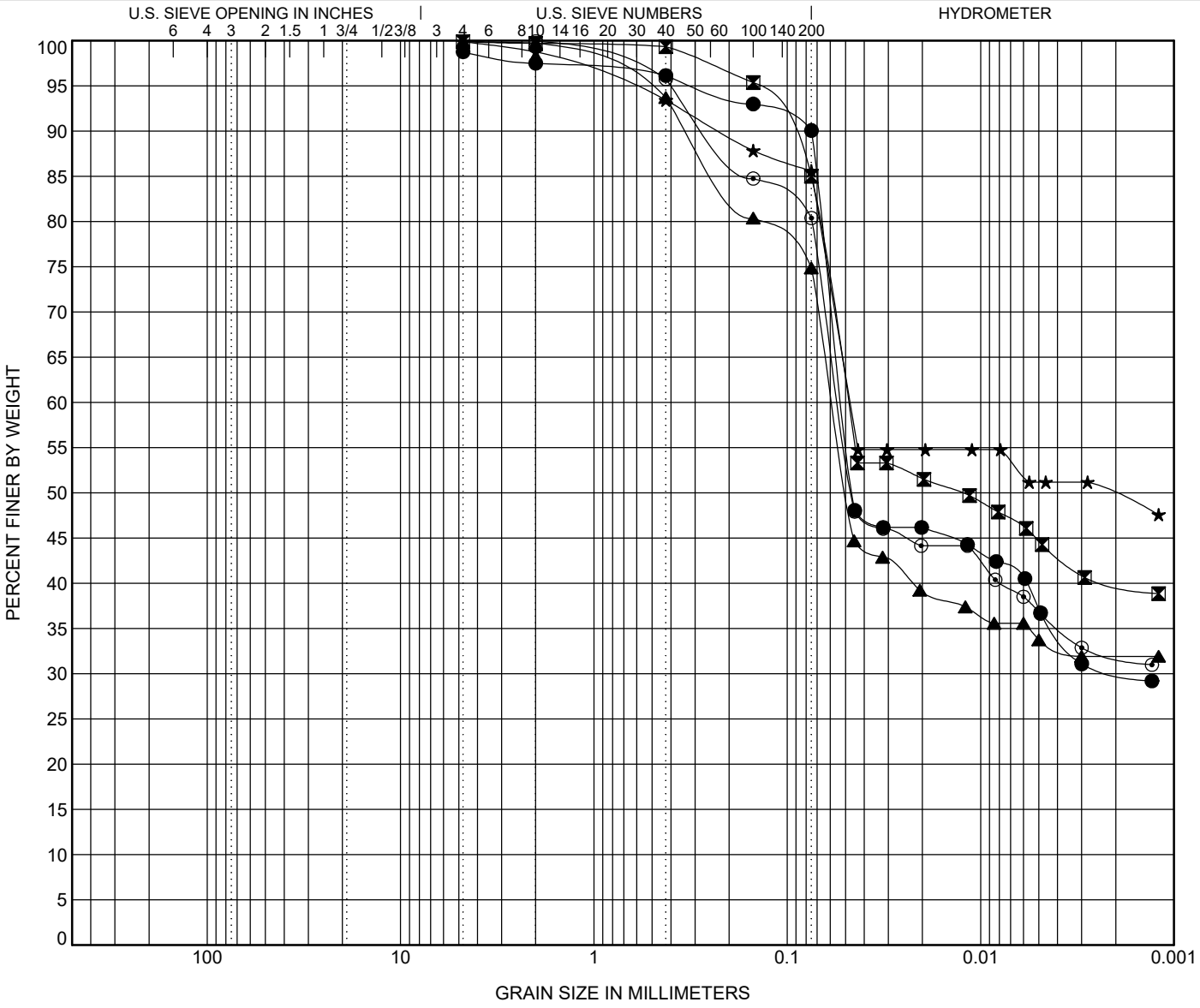

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	99	13.5	ELASTIC SILT(MH) A-7-5	57	38	19		
⊠	99	15.5	ELASTIC SILT with SAND(MH) A-7-5	59	35	24		
▲	100	4.5	LEAN CLAY with SAND(CL) A-7-6	47	22	25		
★	100	13.5	ELASTIC SILT(MH) A-7-5	68	36	32		
⊙	101	4.5	LEAN CLAY with SAND(CL) A-7-6	43	25	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	99	13.5	4.75	0.052	0.002			8.7	52.9	37.2
⊠	99	15.5	4.75	0.049				14.9	40.3	44.7
▲	100	4.5	4.75	0.058				25.1	41.1	33.7
★	100	13.5	4.75	0.047				14.3	34.4	51.2
⊙	101	4.5	2	0.054				19.5	43.6	36.8

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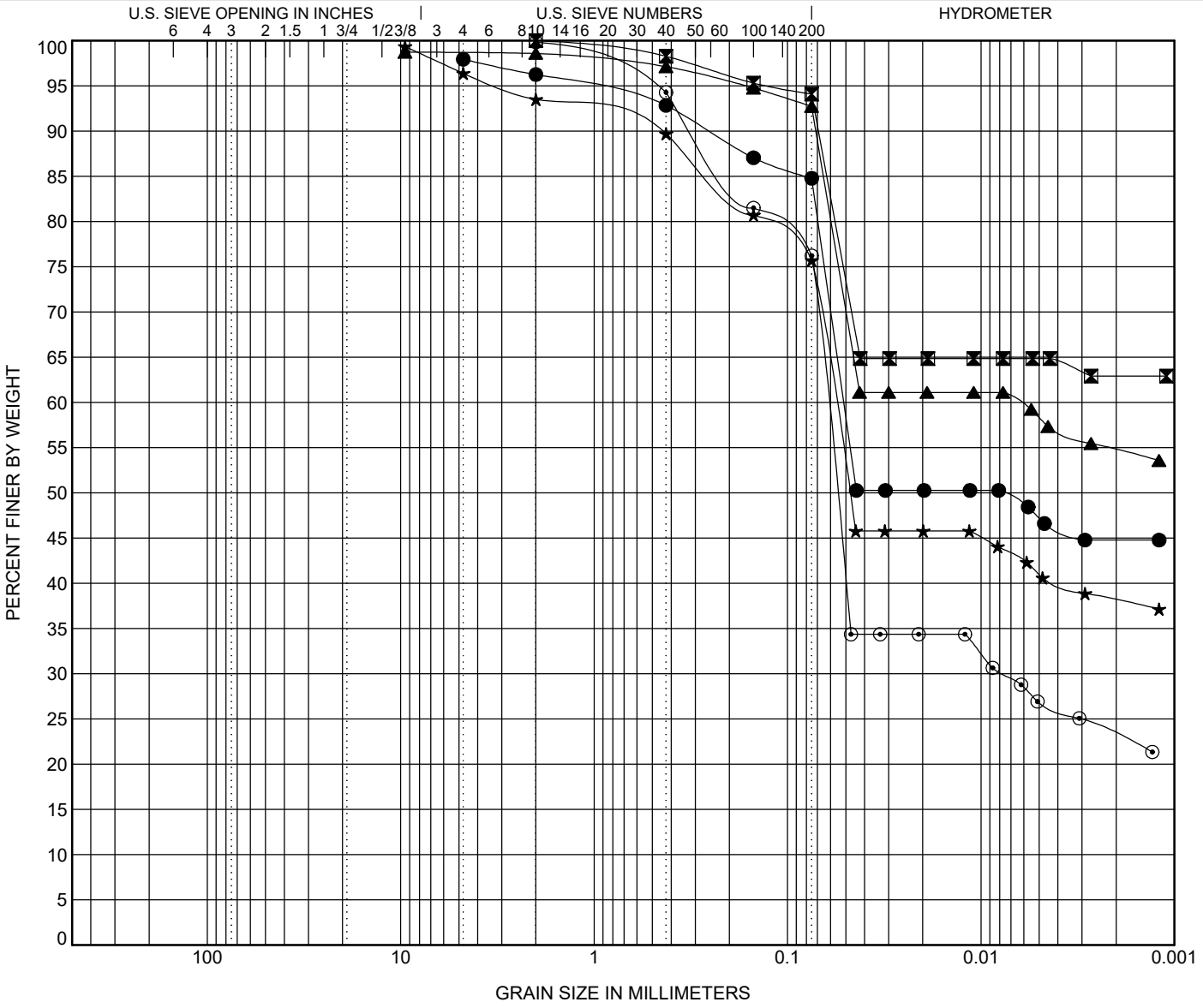

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	101	13.5	ELASTIC SILT with SAND(MH) A-7-5	66	38	28		
⊠	101	23.5	FAT CLAY(CH) A-7-5	88	38	50		
▲	101	25.5	FAT CLAY(CH) A-7-5	74	34	40		
★	101	38.5	LEAN CLAY with SAND(CL) A-7-6	49	23	26		
⊙	102	4.5	LEAN CLAY with SAND(CL) A-6	38	20	18		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	101	13.5	4.75	0.051				13.2	37.6	47.2
⊠	101	23.5	2					5.9	29.2	64.9
▲	101	25.5	9.5	0.006			0.1	5.9	34.4	58.3
★	101	38.5	9.5	0.057			3.0	20.7	34.7	41.0
⊙	102	4.5	2	0.063	0.008			23.6	49.4	26.9

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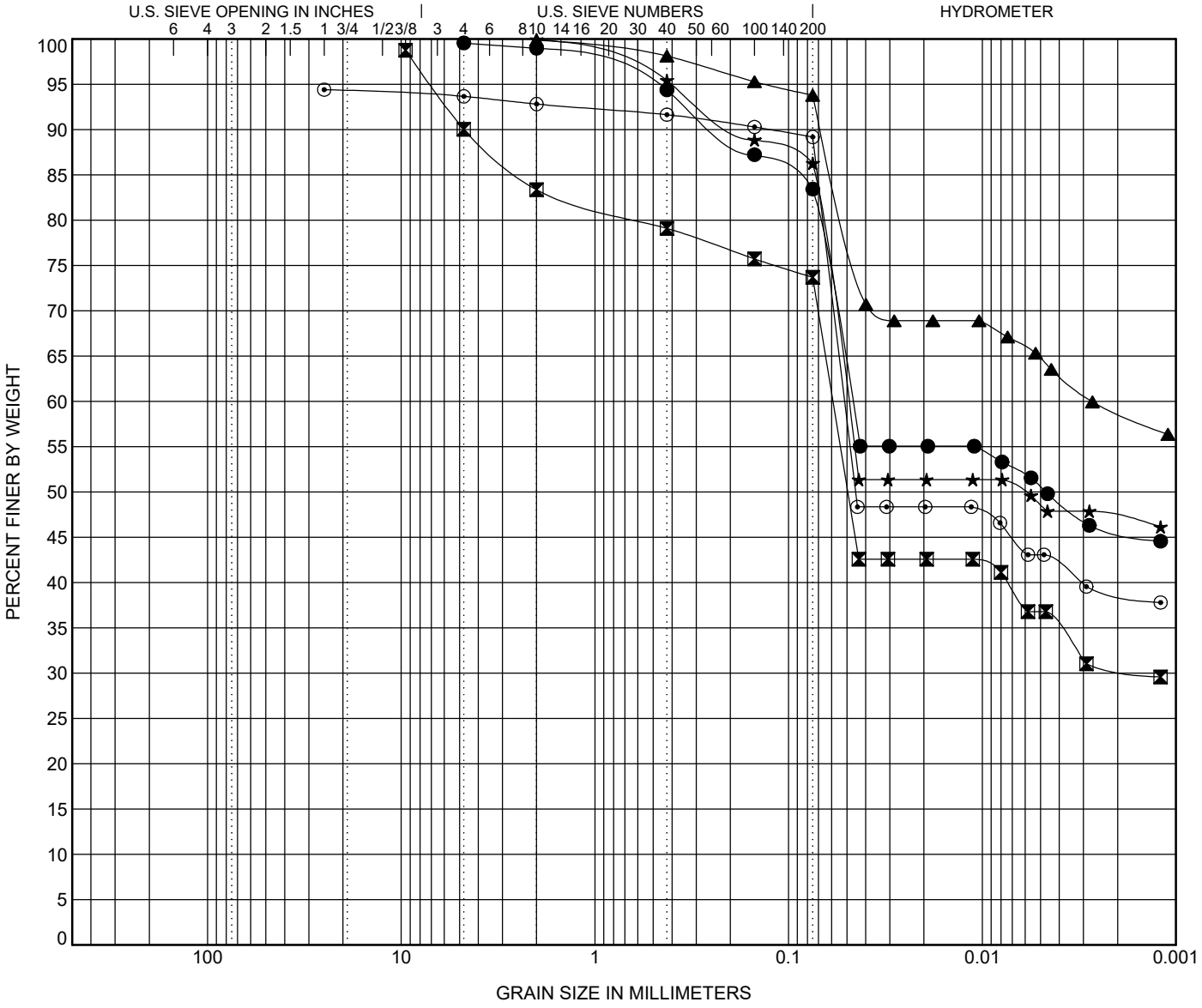

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	102	13.5	ELASTIC SILT with SAND(MH) A-7-5	55	31	24		
⊠	102	23.5	FAT CLAY with SAND(CH) A-7-6	58	26	32		
▲	103	2.0	ELASTIC SILT(MH) A-7-5	66	36	30		
★	103	4.5	ELASTIC SILT(MH) A-7-5	55	38	17		
⊙	103	18.5	FAT CLAY(CH) A-7-6	55	28	27		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	102	13.5	4.75	0.047				16.1	32.9	50.5
⊠	102	23.5	9.5	0.059	0.002		8.7	16.3	36.9	36.8
▲	103	2.0	2	0.003				6.1	29.0	64.8
★	103	4.5	2	0.05				13.6	37.7	48.6
⊙	103	18.5	25	0.051			0.7	4.5	46.1	43.1

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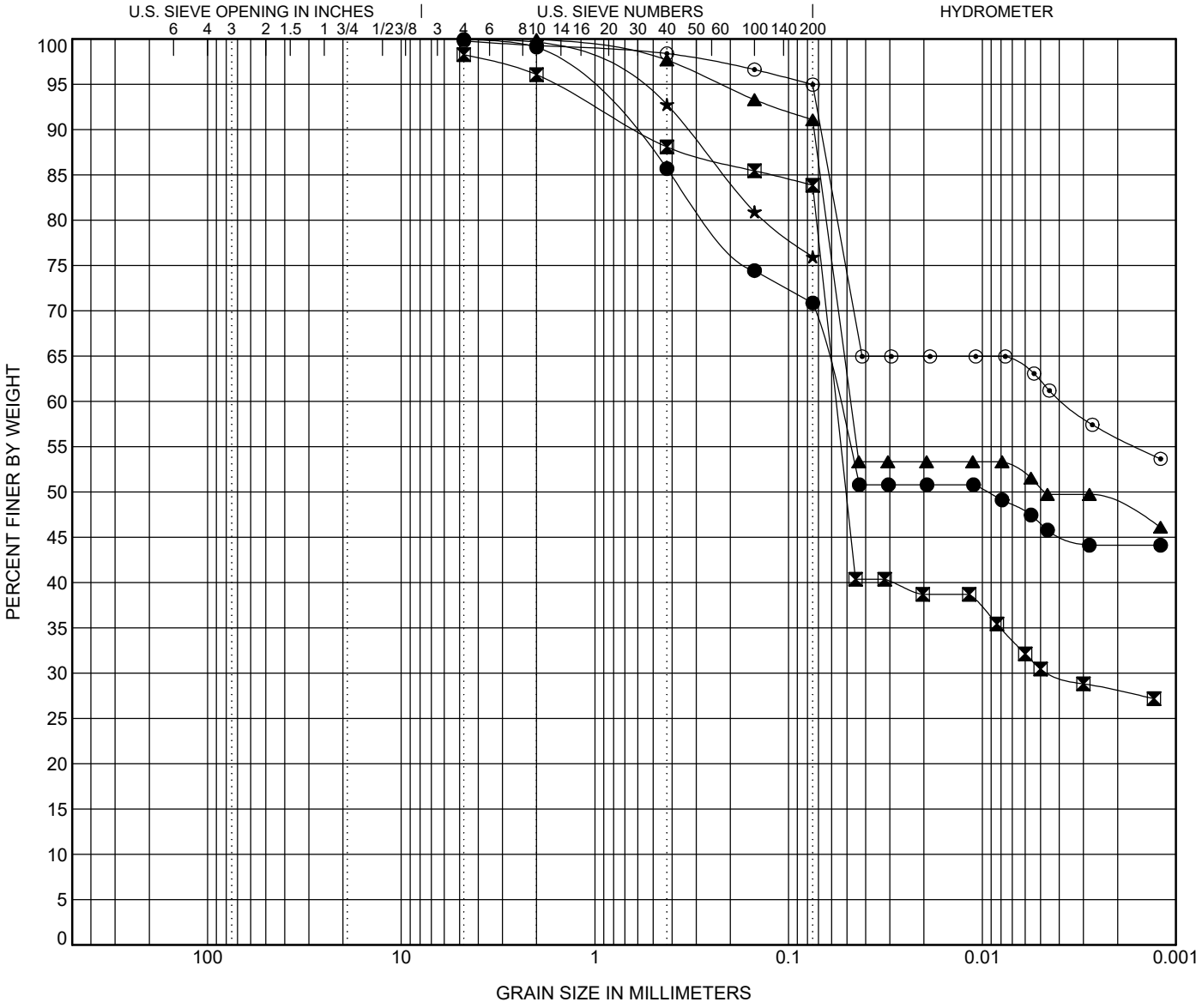

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	103	23.5	FAT CLAY with SAND(CH) A-7-5	64	30	34		
⊠	103	38.5	ELASTIC SILT with SAND(MH) A-7-5	57	31	26		
▲	104	1.5	FAT CLAY(CH) A-7-6	55	25	30		
★	104	4.5						
⊙	104	13.5	ELASTIC SILT(MH) A-7-5	74	40	34		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	103	23.5	4.75	0.056				29.1	24.4	46.5
⊠	103	38.5	4.75	0.057	0.004			14.4	53.4	30.5
▲	104	1.5	2	0.048				8.9	40.6	50.5
★	104	4.5	4.75					24.0	75.9	
⊙	104	13.5	4.75	0.004				4.8	32.7	62.3

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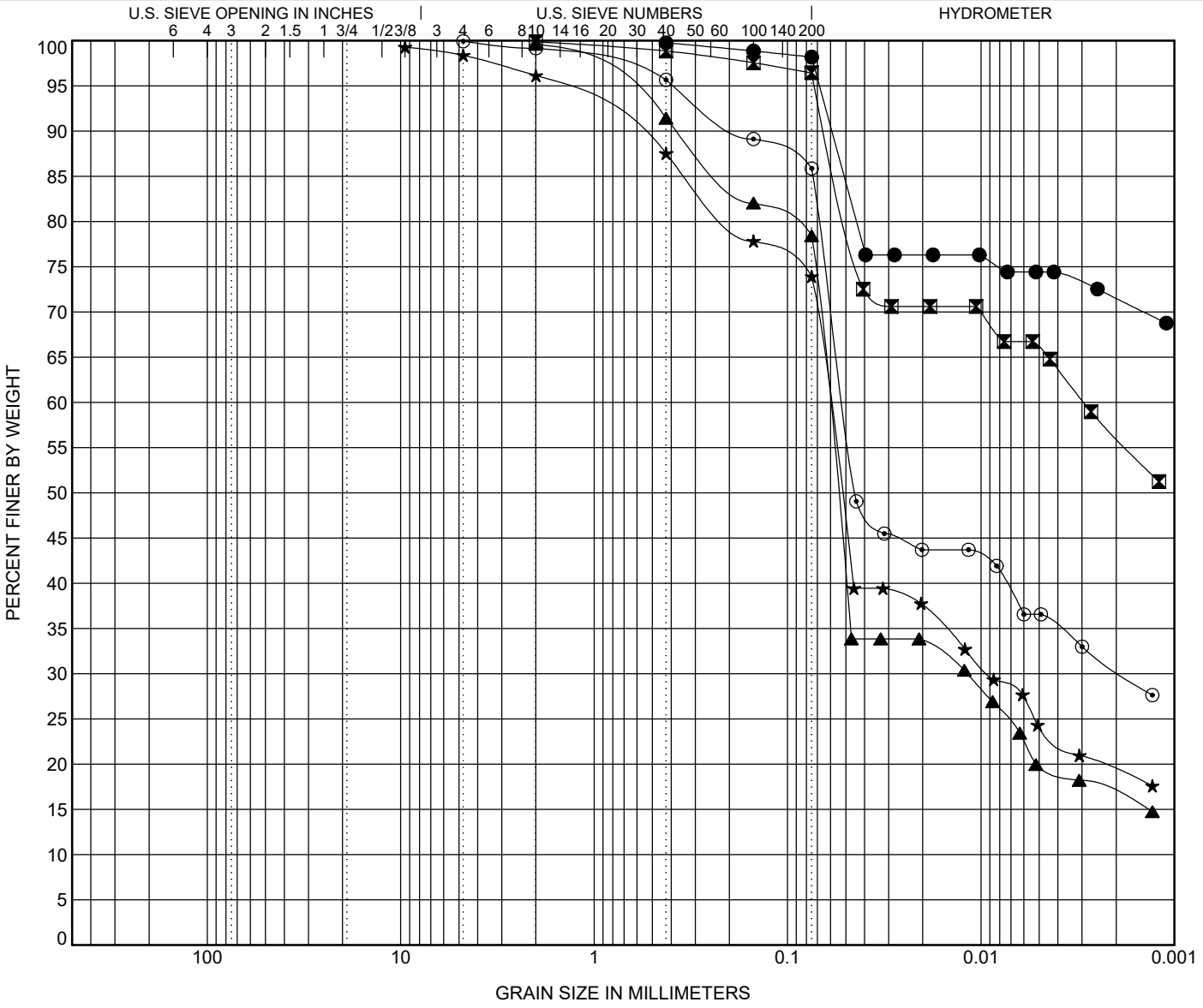

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	104	28.5	FAT CLAY(CH) A-7-5	88	35	53		
⊠	104	33.5	FAT CLAY(CH) A-7-5	79	31	48		
▲	105	2.0	LEAN CLAY with SAND(CL) A-6	32	17	15		
★	105	4.5	LEAN CLAY with SAND(CL) A-6	35	19	16		
⊙	105	8.0	LEAN CLAY(CL) A-6	40	23	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	104	28.5	0.425					1.6	23.8	74.4
⊠	104	33.5	2	0.003				3.4	30.4	66.0
▲	105	2.0	2	0.062	0.012			21.2	58.6	19.8
★	105	4.5	9.5	0.061	0.009		0.9	24.4	49.7	24.2
⊙	105	8.0	4.75	0.052	0.002			14.1	49.3	36.6

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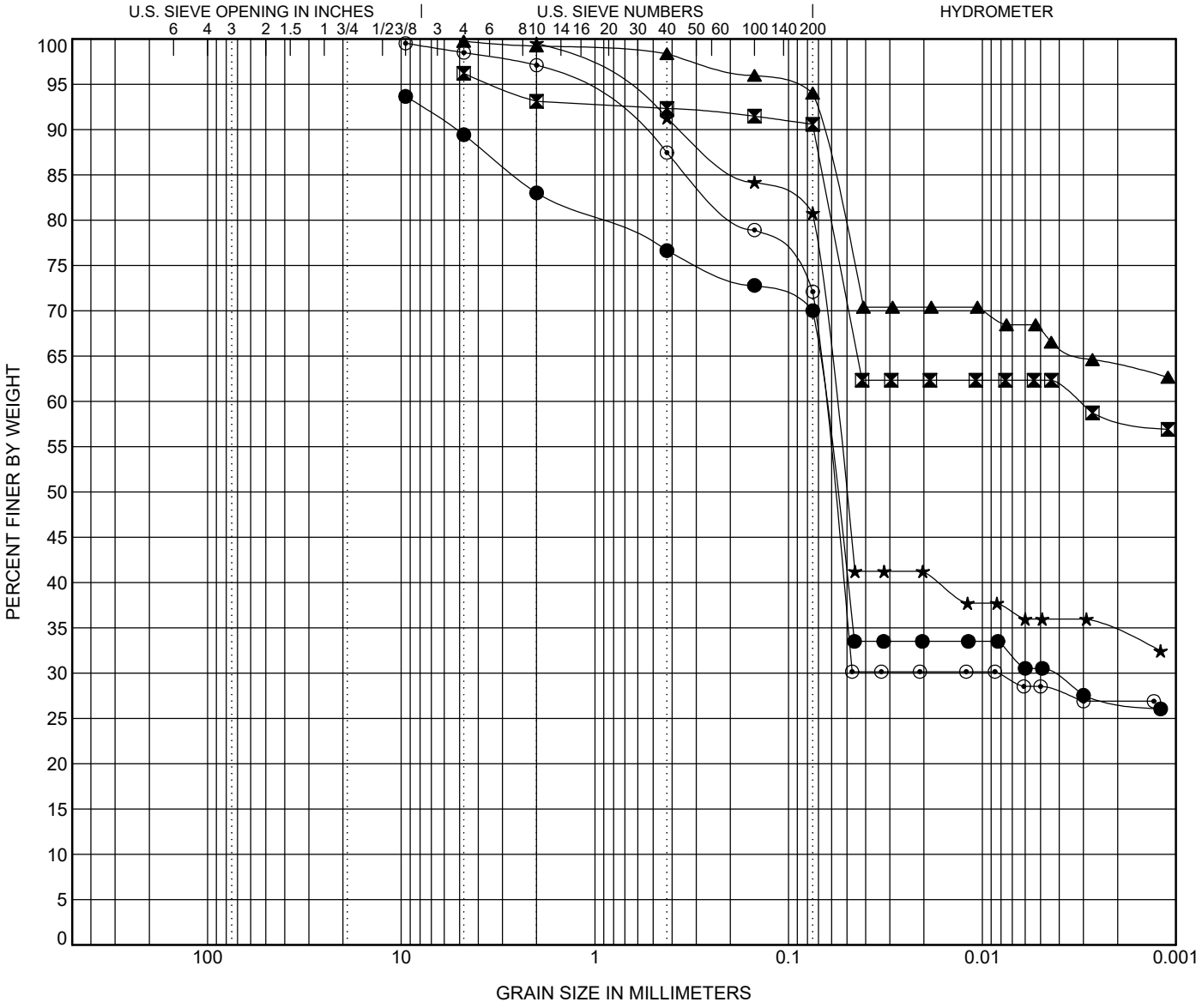

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	105	13.5	ELASTIC SILT with SAND(MH) A-7-5	64	34	30		
⊠	105	23.5	FAT CLAY(CH) A-7-5	85	36	49		
▲	105	28.5	FAT CLAY(CH) A-7-5	88	33	55		
★	106	6.5	ELASTIC SILT with SAND(MH) A-7-5	56	31	25		
⊙	106	8.5	FAT CLAY with SAND(CH) A-7-6	52	27	25		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	105	13.5	9.5	0.065	0.004		4.2	19.4	39.5	30.5
⊠	105	23.5	4.75	0.003				5.6	28.2	62.3
▲	105	28.5	4.75					5.7	26.2	67.9
★	106	6.5	2	0.058				18.8	44.8	36.0
⊙	106	8.5	9.5	0.066	0.008		1.0	26.4	43.6	28.5

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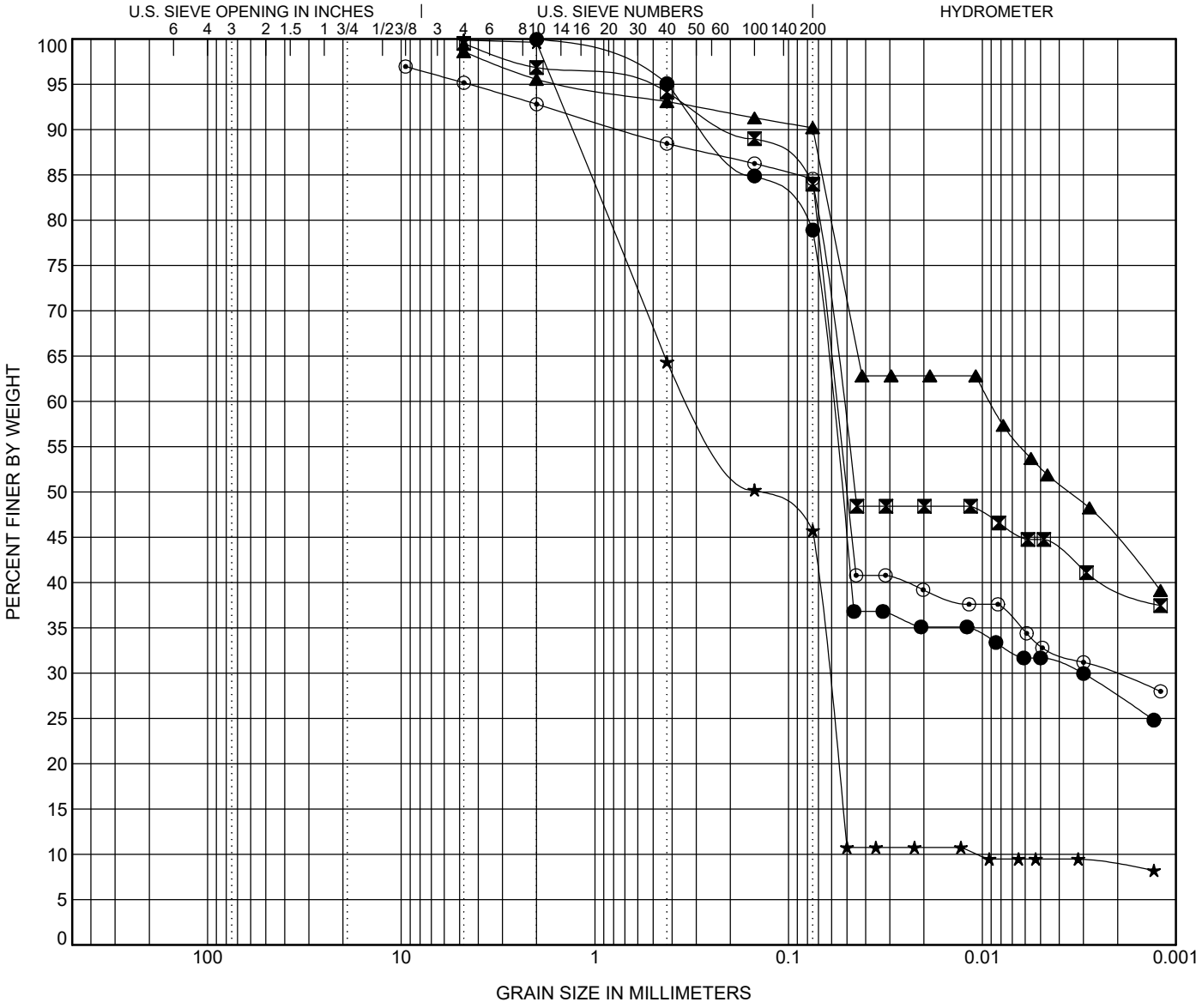

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	106	18.5	LEAN CLAY with SAND(CL) A-7-6	47	20	27		
⊠	106	23.5	FAT CLAY with SAND(CH) A-7-6	59	26	33		
▲	106	28.5	FAT CLAY(CH) A-7-6	54	25	29		
★	106	38.5	CLAYEY SAND(SC) A-6	39	19	20	1.20	29.25
⊙	106	43.5	LEAN CLAY with SAND(CL) A-7-6	47	22	25		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	106	18.5	2	0.06	0.003			21.1	47.2	31.7
⊠	106	23.5	4.75	0.053				15.5	39.2	44.8
▲	106	28.5	4.75	0.009				8.4	37.6	52.7
★	106	38.5	4.75	0.308	0.062	0.011		54.1	36.3	9.5
⊙	106	43.5	9.5	0.056	0.002		1.8	10.6	51.6	33.0

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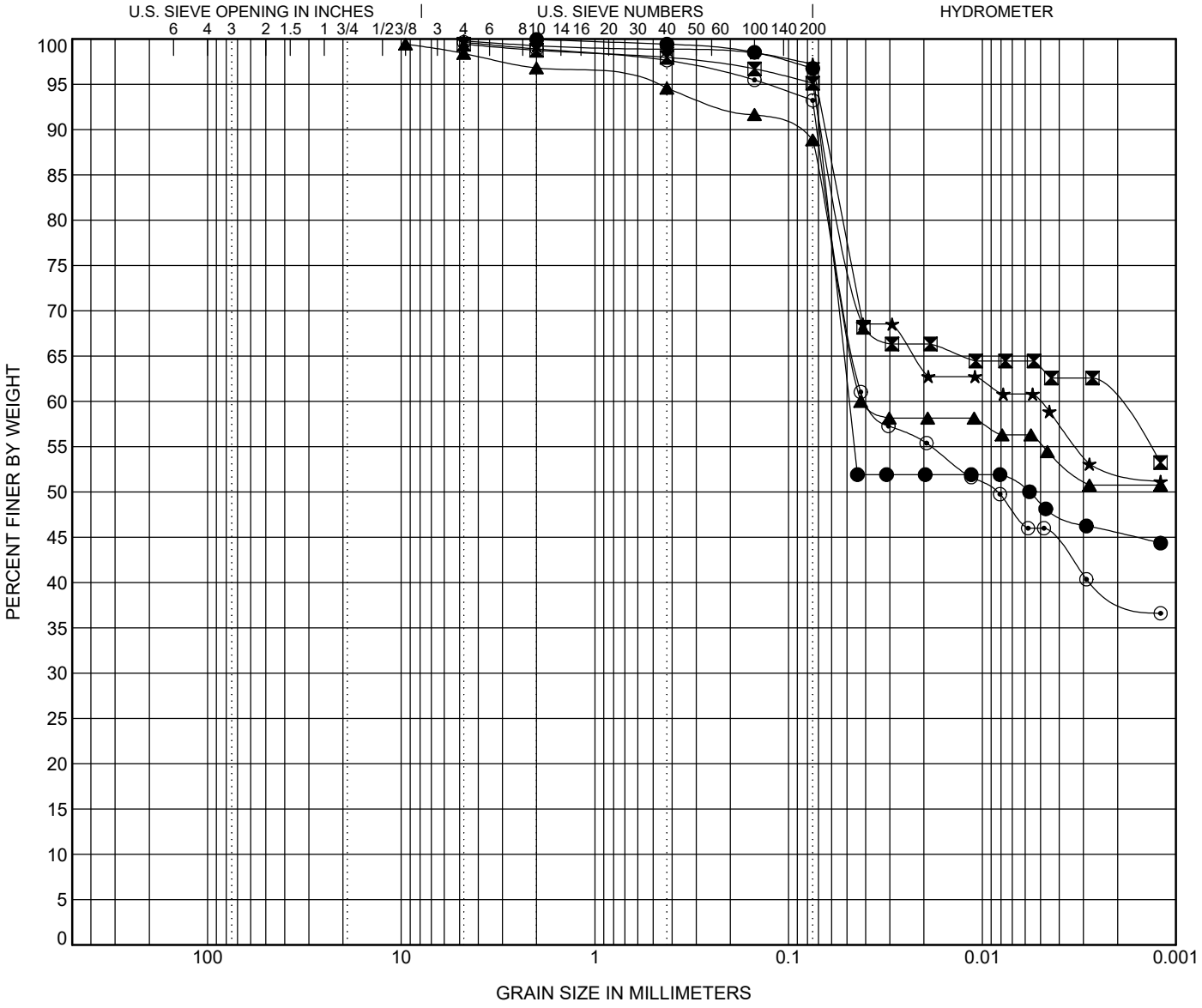

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	107	4.5	ELASTIC SILT(MH) A-7-5	58	34	24		
⊠	107	8.5	ELASTIC SILT(MH) A-7-5	77	41	36		
▲	107	13.5	FAT CLAY(CH) A-7-5	63	31	32		
★	107	23.5	FAT CLAY(CH) A-7-6	65	24	41		
⊙	107	28.5	LEAN CLAY(CL) A-7-6	47	21	26		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	107	4.5	2	0.049				3.2	48.0	48.7
⊠	107	8.5	4.75	0.002				4.3	31.4	63.8
▲	107	13.5	9.5	0.042			1.0	9.5	33.6	55.2
★	107	23.5	4.75	0.005				2.6	37.3	59.9
⊙	107	28.5	4.75	0.039				6.4	47.2	46.0

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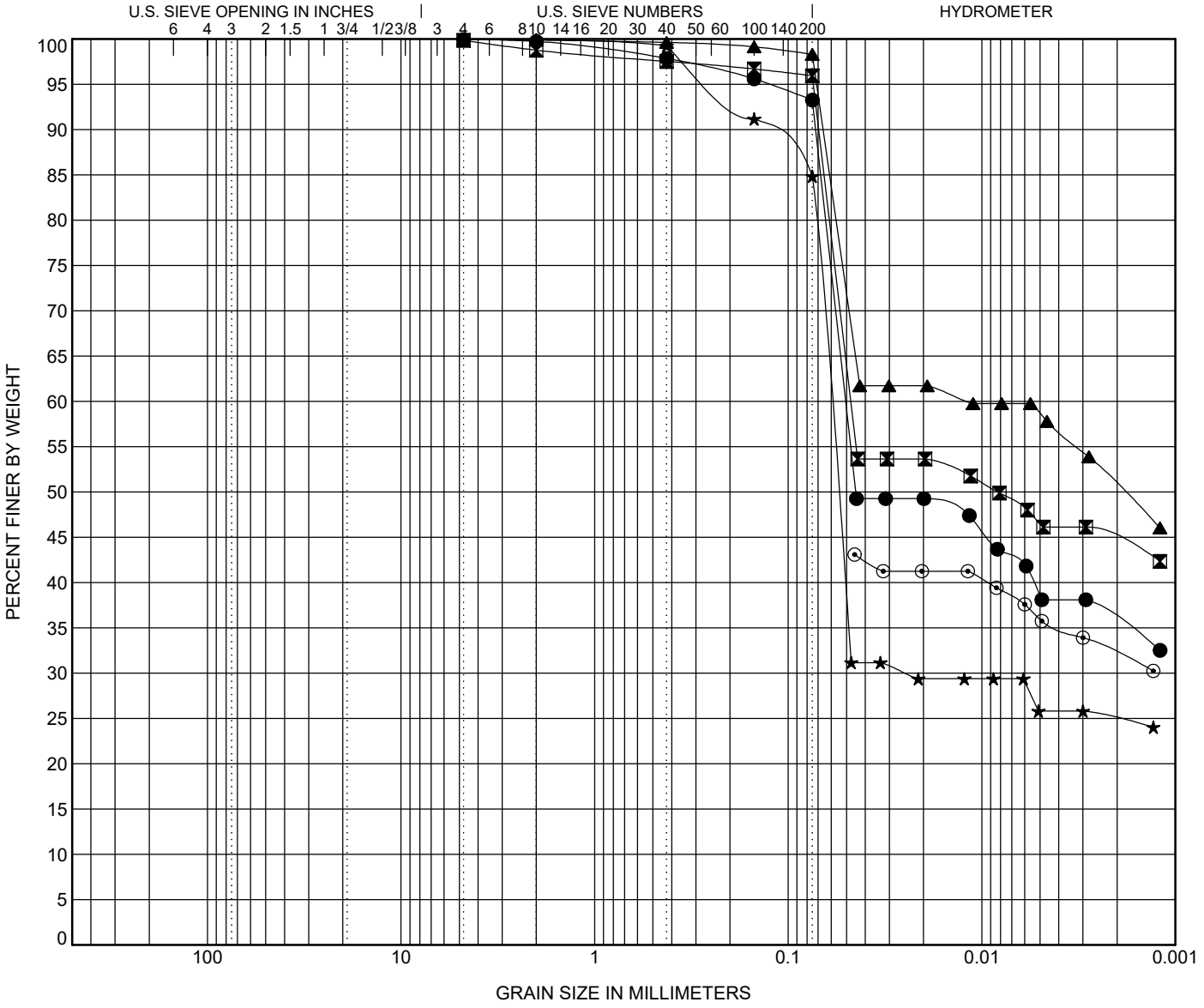

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 107	38.5	LEAN CLAY(CL) A-7-6	45	20	25		
⊠ 108	4.5	FAT CLAY(CH) A-7-5	80	32	48		
▲ 108	13.5	FAT CLAY(CH) A-7-6	67	28	39		
★ 108	23.5	SILT with SAND(ML) A-4	NP	NP	NP		
⊙ 109	4.5		44	31	13		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 107	38.5	4.75	0.05				6.7	54.8	38.5
⊠ 108	4.5	4.75	0.047				3.9	49.4	46.5
▲ 108	13.5	4.75	0.012				1.7	39.7	58.6
★ 108	23.5	2	0.061	0.025			15.1	59.0	25.8
⊙ 109	4.5								35.9

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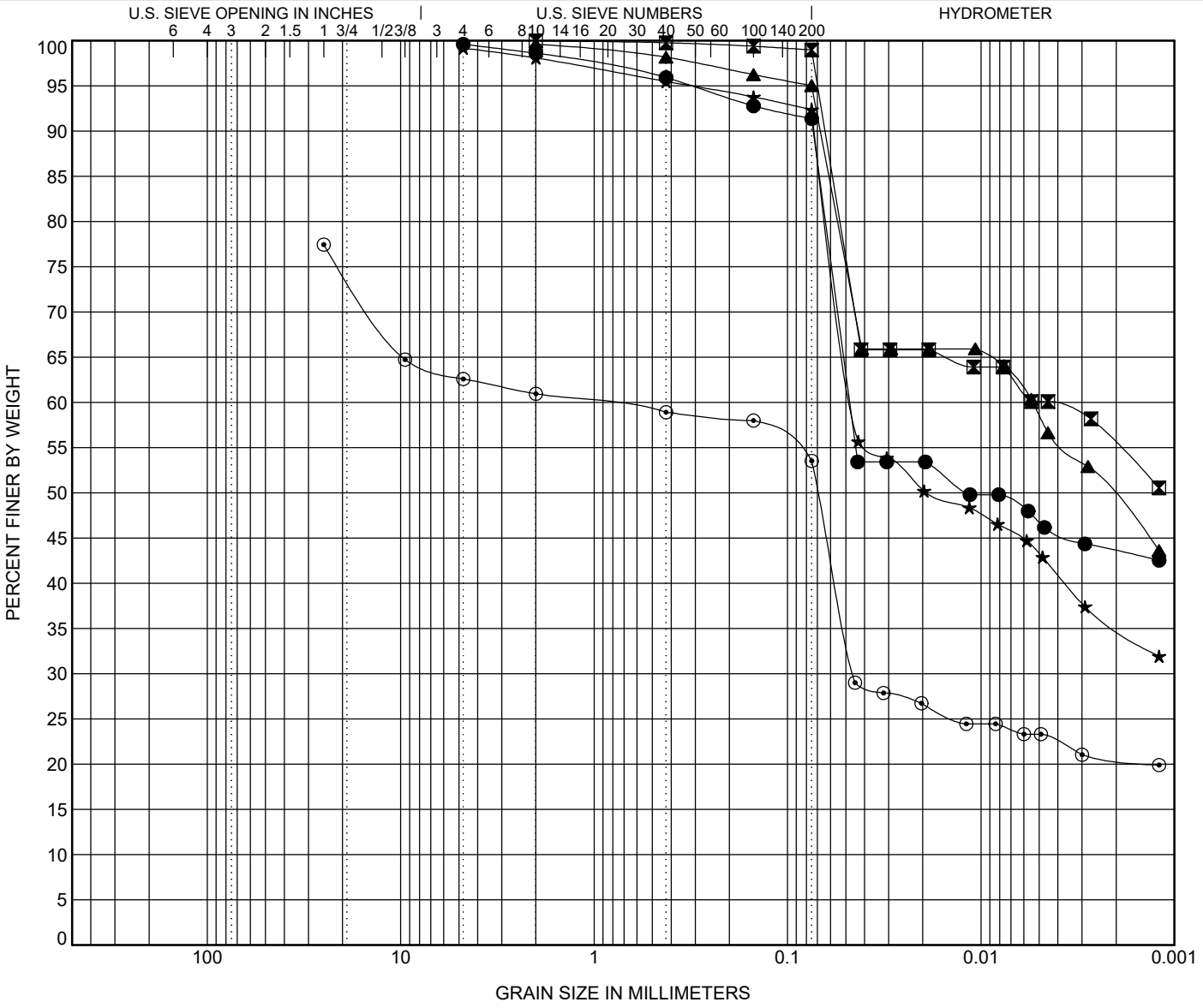
CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	109	6.5	FAT CLAY(CH) A-7-6	67	28	39		
⊠	109	8.5	FAT CLAY(CH) A-7-5	76	35	41		
▲	109	18.5	FAT CLAY(CH) A-7-6	53	23	30		
★	109	23.5	LEAN CLAY(CL) A-7-6	48	23	25		
⊙	109	28.5	GRAVELLY SILT(ML) A-7-6	48	28	20		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	109	6.5	4.75	0.048				8.2	44.6	46.8
⊠	109	8.5	2	0.004				1.0	38.9	60.1
▲	109	18.5	2	0.005				4.6	36.4	58.6
★	109	23.5	4.75	0.046				6.8	49.1	43.3
⊙	109	28.5	25	0.974	0.046		14.9	9.1	30.2	23.3

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Bacon Farmer Workman Engineering and Testing Inc.
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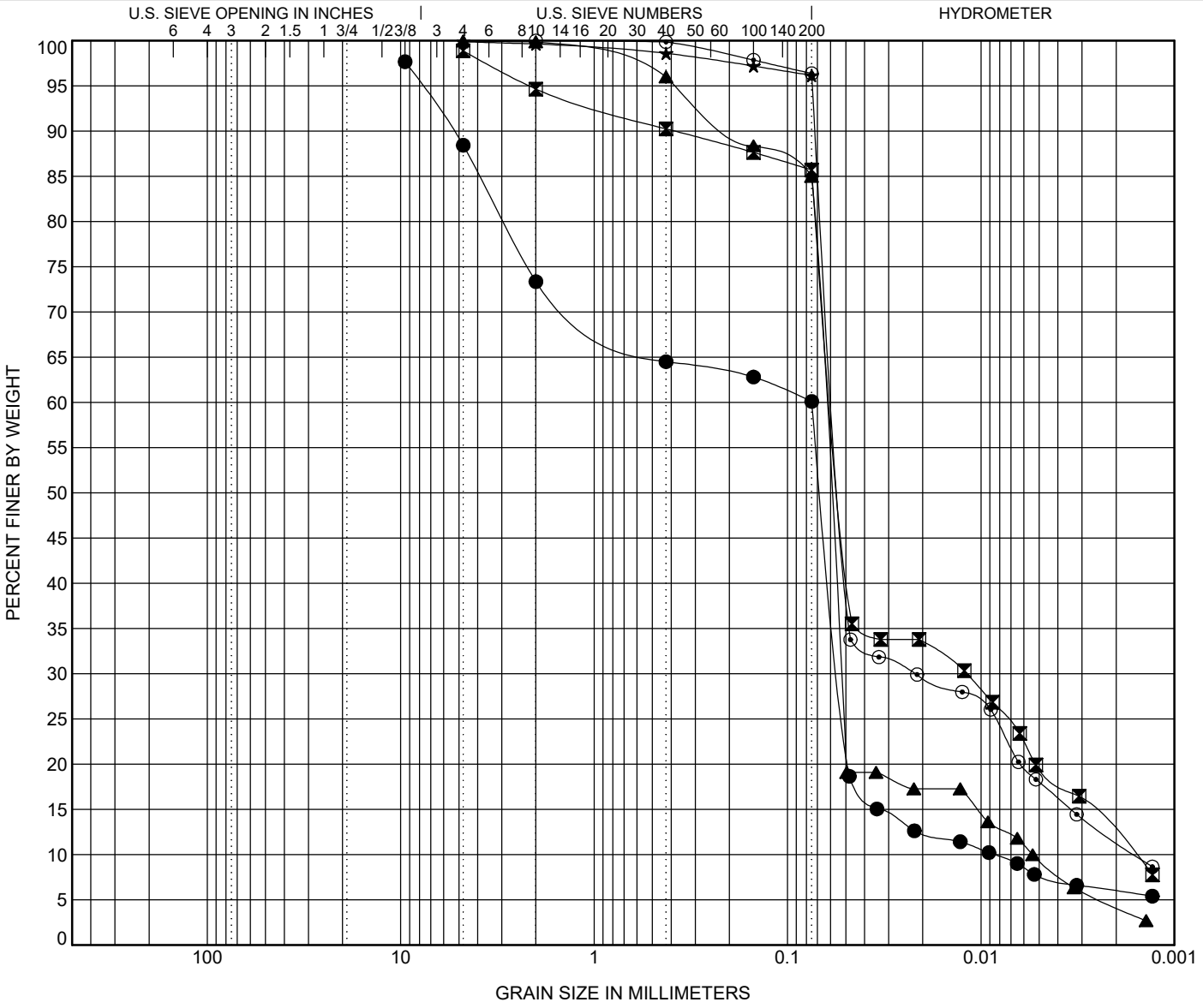

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	109	33.5	SANDY SILT(ML) A-4	NP	NP	NP	4.57	8.75
⊠	110	4.5	SILT(ML) A-5	43	34	9	1.47	36.08
▲	110	13.5	SILT with SAND(ML) A-4	NP	NP	NP	8.09	11.83
★	111	4.5	SILT(ML) A-7-5	44	33	11		
⊙	111	13.5	SILT(ML) A-6	38	27	11	5.20	35.80

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	109	33.5	9.5	0.075	0.054	0.009	9.2	28.3	52.4	7.7
⊠	110	4.5	4.75	0.059	0.012	0.002		13.2	66.1	19.6
▲	110	13.5	4.75	0.064	0.053	0.005		15.0	75.6	9.4
★	111	4.5	4.75					3.7	96.2	
⊙	111	13.5	2	0.057	0.022	0.002		3.6	78.4	18.0

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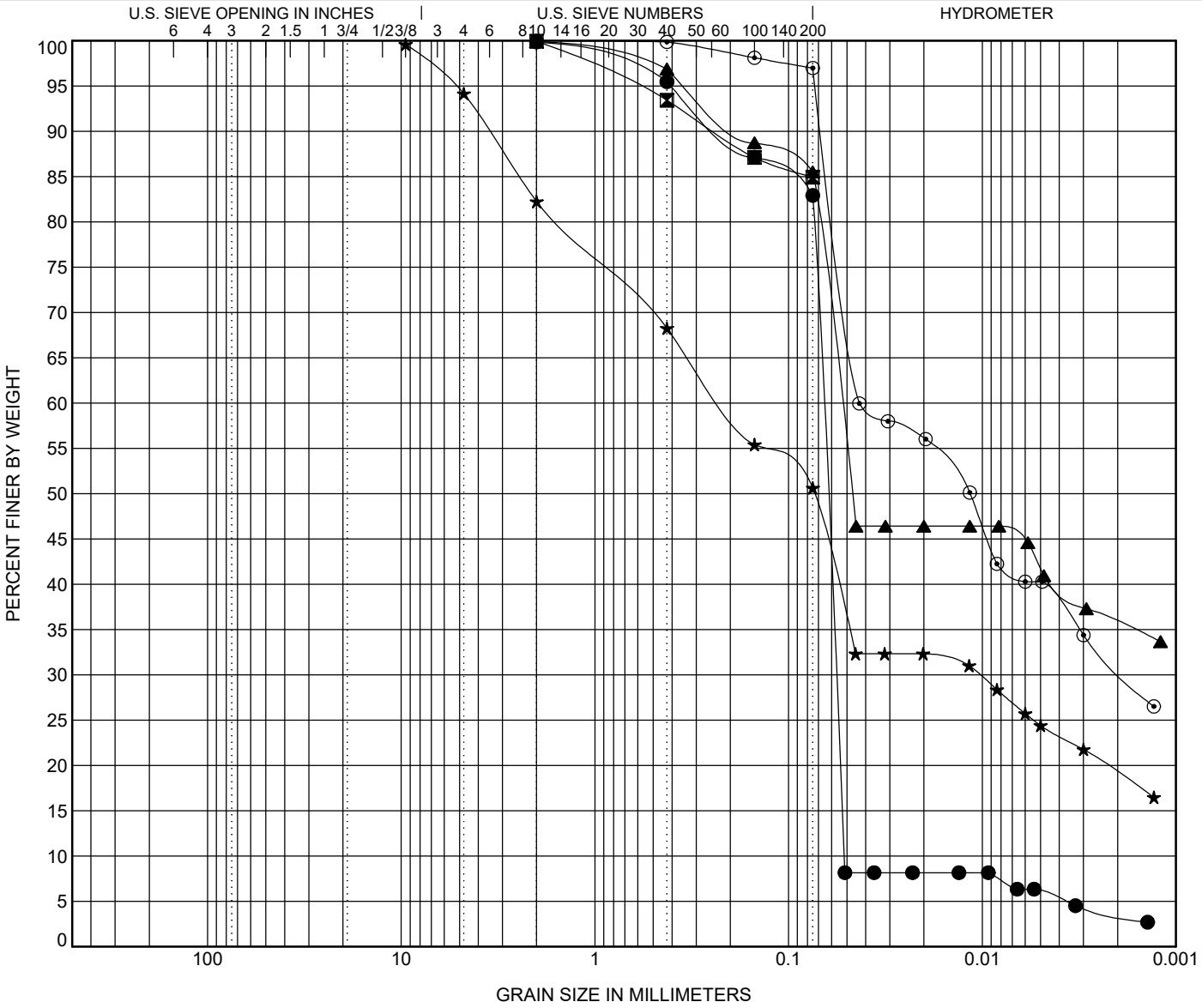

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	111	18.5	SILT with SAND(ML) A-4	34	28	6	0.95	1.29
⊠	111	23.5	SILTY CLAY with SAND(CL-ML) A-4	29	22	7		
▲	112	4.5	ELASTIC SILT(MH) A-7-5	51	37	14		
★	112	13.5	SANDY SILT(ML) A-7-6	42	28	14		
⊙	113	4.5	ELASTIC SILT(MH) A-7-5	61	49	12		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	111	18.5	2	0.067	0.057	0.052		16.9	76.9	6.1
⊠	111	23.5	2					15.0	84.9	
▲	112	4.5	2	0.054				14.4	43.8	41.7
★	112	13.5	9.5	0.217	0.01		5.4	43.5	26.2	24.4
⊙	113	4.5	2	0.043	0.002			3.0	56.7	40.3

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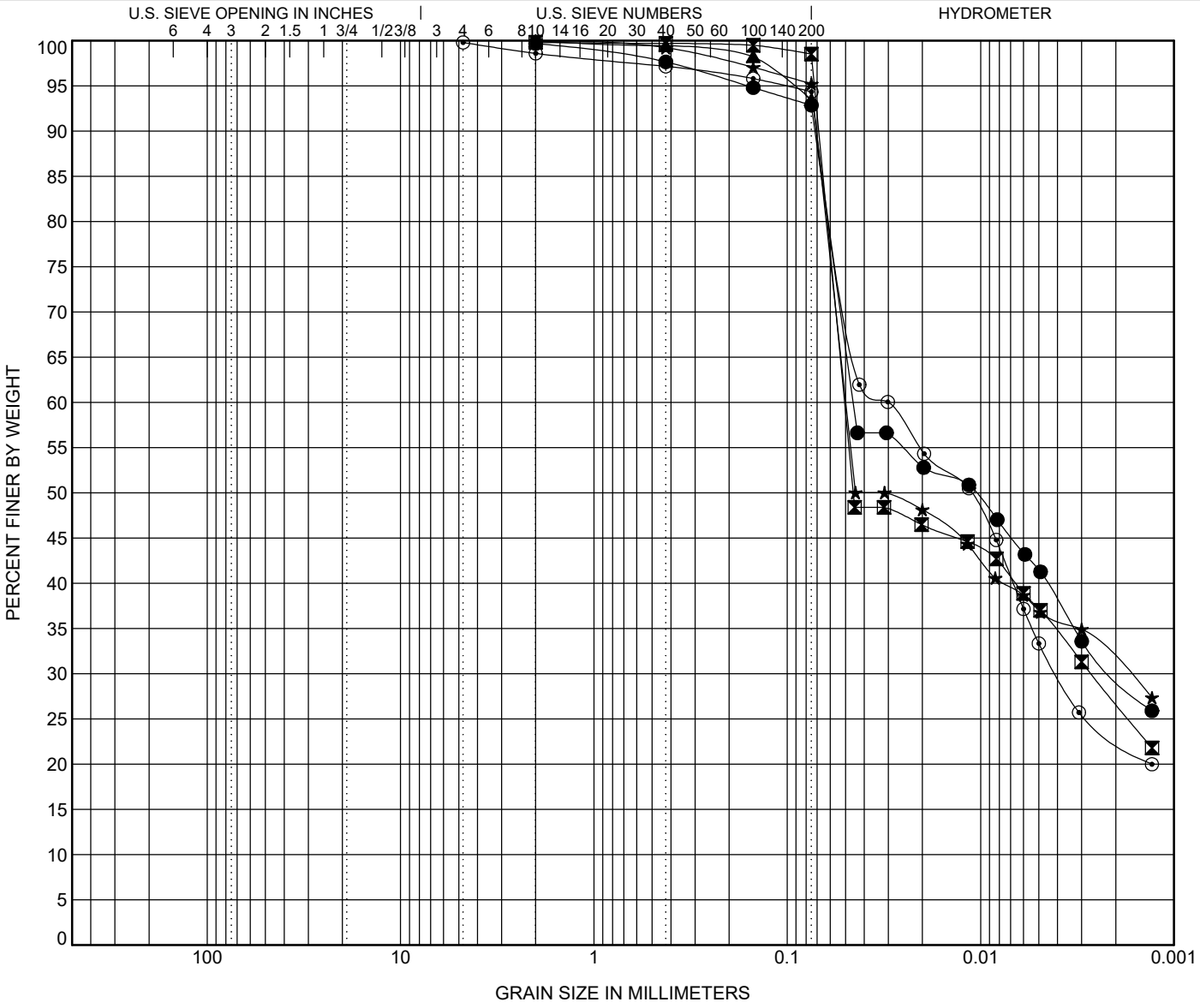

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	114	4.5	SILT(ML) A-7-5	46	32	14		
⊠	114	13.5	SILT(ML) A-7-5	44	32	12		
▲	114	23.5	SILT(ML) A-6	37	26	11		
★	115	1.5	ELASTIC SILT(MH) A-7-5	60	39	21		
⊙	115	13.5	ELASTIC SILT(MH) A-7-5	57	44	13		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	114	4.5	2	0.046	0.002			6.8	51.4	41.5
⊠	114	13.5	2	0.05	0.003			1.3	61.3	37.2
▲	114	23.5	2					6.5	93.5	
★	115	1.5	2	0.05	0.002			4.7	58.2	37.0
⊙	115	13.5	4.75	0.03	0.004			5.5	61.0	33.3

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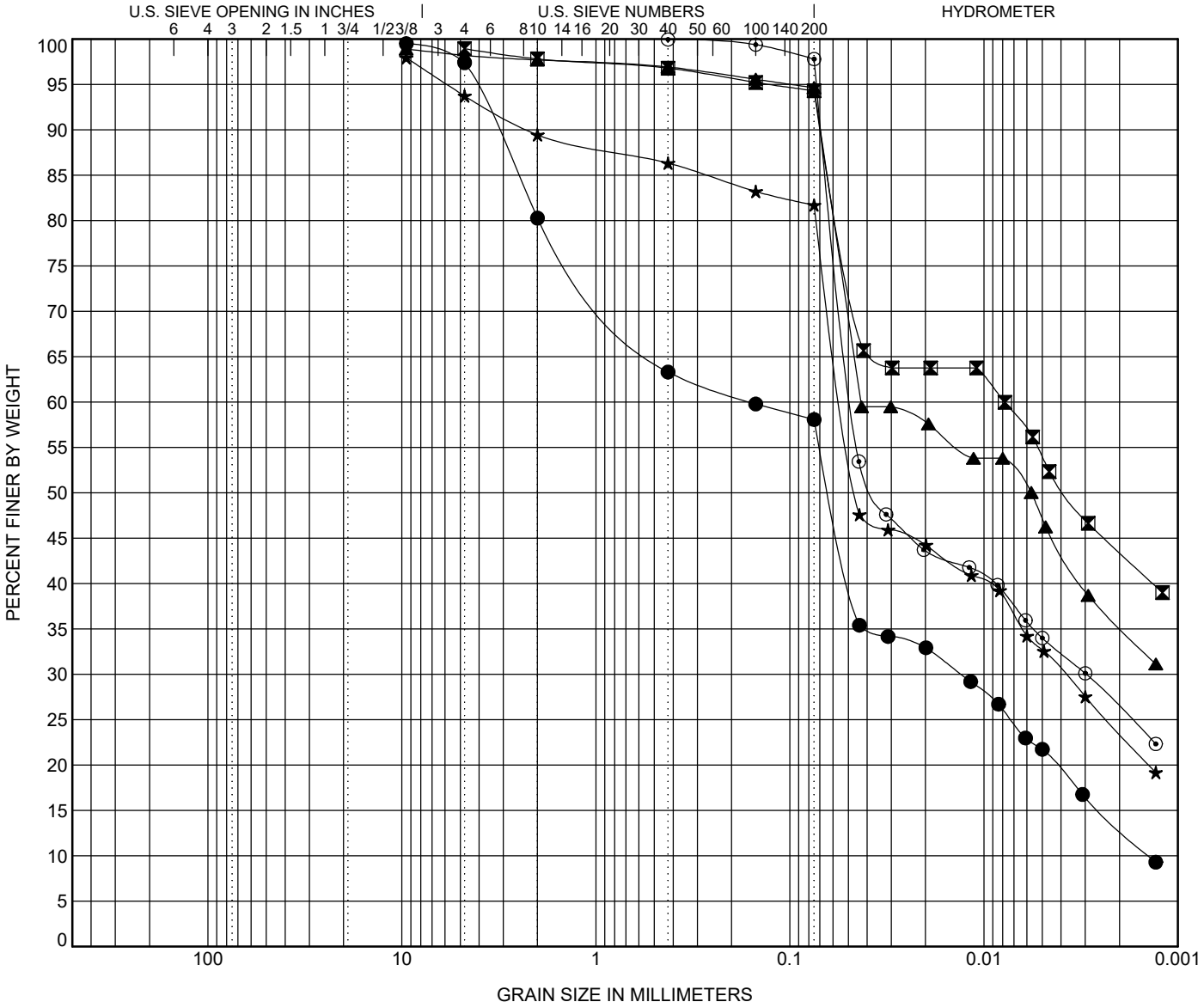

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	115	23.5	SANDY SILT(ML) A-7-5	41	30	11	0.76	113.33
⊠	116	4.5	FAT CLAY(CH) A-7-6	54	29	25		
▲	116	13.5	ELASTIC SILT(MH) A-7-5	54	36	18		
★	116	23.5	LEAN CLAY with SAND(CL) A-6	40	24	16		
⊙	116	28.5	SILT(ML) A-6	38	27	11		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	115	23.5	9.5	0.16	0.013	0.001	2.1	39.3	36.3	21.7
⊠	116	4.5	4.75	0.008				4.6	40.3	54.0
▲	116	13.5	9.5	0.043			0.7	3.6	47.5	47.1
★	116	23.5	9.5	0.053	0.004		4.2	12.0	49.0	32.7
⊙	116	28.5	0.425	0.048	0.003			2.2	63.8	34.0

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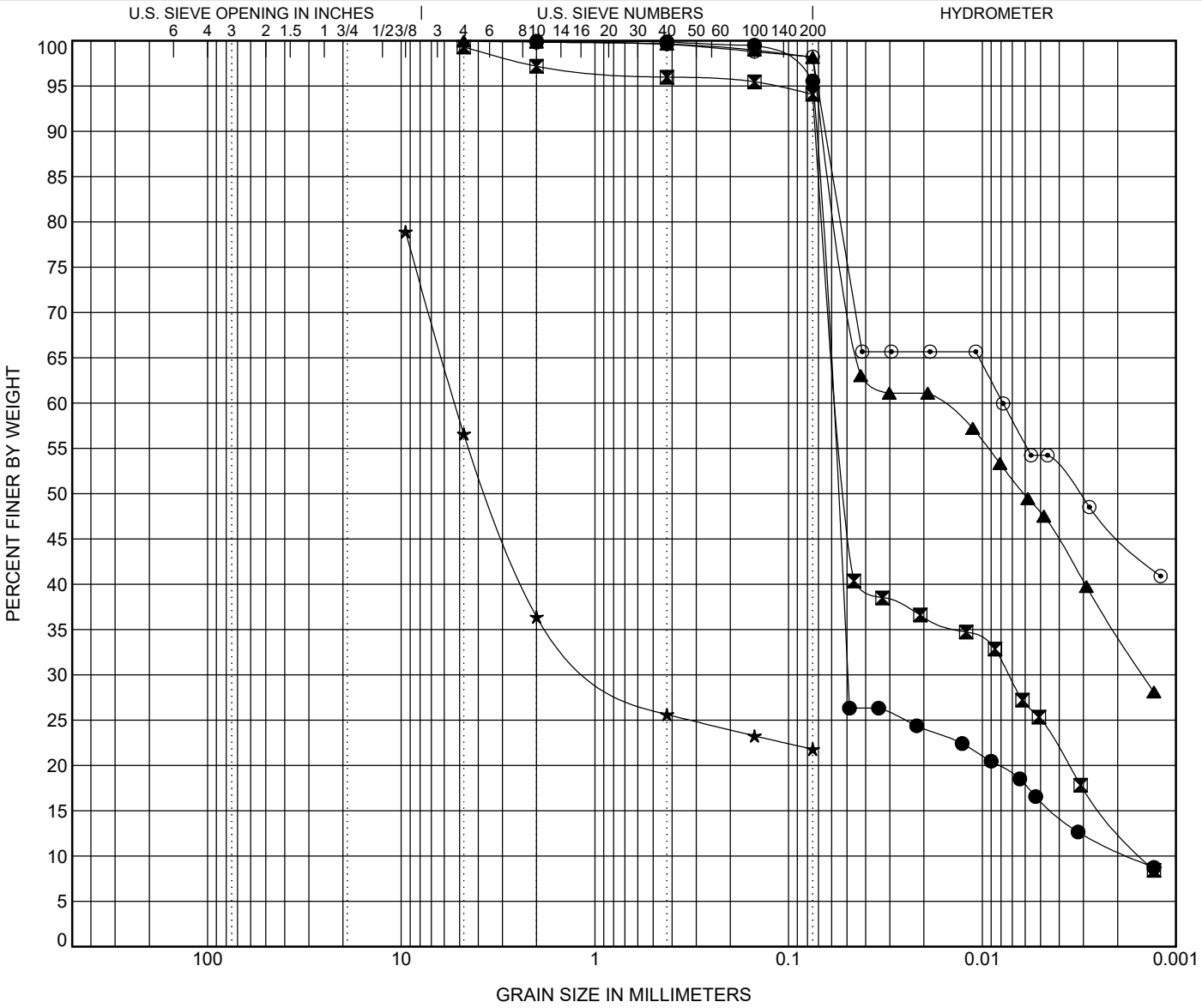

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	116	33.5	SILT(ML) A-4	29	26	3	23.68	34.55
⊠	116	48.5	SILT(ML) A-4	38	32	6	0.64	36.55
▲	116	50.0	SILT(ML) A-7-5	48	31	17		
★	116	58.5	CLAYEY GRAVEL with SAND(GC) A-2-4	32	23	9		
⊙	117	4.5	ELASTIC SILT(MH) A-7-5	52	37	15		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	116	33.5	2	0.06	0.05	0.002		4.4	79.4	16.1
⊠	116	48.5	4.75	0.055	0.007	0.002		5.2	69.0	25.0
▲	116	50.0	4.75	0.016	0.001			1.8	50.2	47.9
★	116	58.5	9.5	5.281	0.798		22.3	34.8	21.8	
⊙	117	4.5	2	0.008				1.6	44.0	54.2

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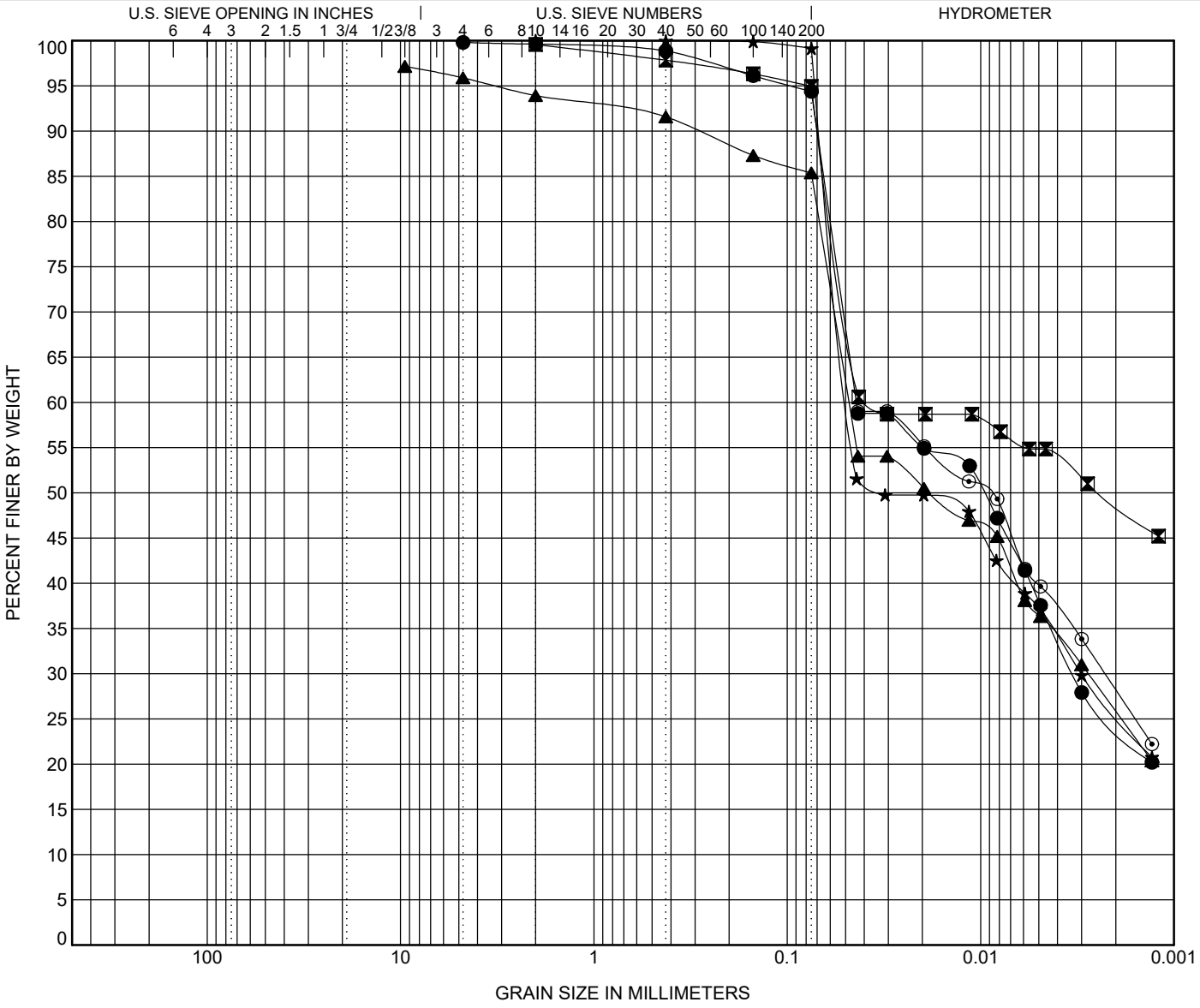

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 117	13.5						
⊠ 117	18.5	**ELASTIC SILT(MH) A-7-5**	**63**	**34**	**29**		
▲ 117	23.5	**LEAN CLAY(CL) A-7-6**	**43**	**23**	**20**		
★ 117	33.5	**SILT(ML) A-6**	**39**	**27**	**12**		
⊙ 117	38.5						

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 117	13.5	**4.75**	**0.044**	**0.003**			**5.4**	**56.4**	**38.0**
⊠ 117	18.5	**2**	**0.038**				**4.6**	**40.1**	**54.8**
▲ 117	23.5	**9.5**	**0.048**	**0.003**		**1.3**	**10.5**	**48.9**	**36.5**
★ 117	33.5	**2**	**0.048**	**0.003**			**0.8**	**61.9**	**37.3**
⊙ 117	38.5			**0.002**					**39.9**

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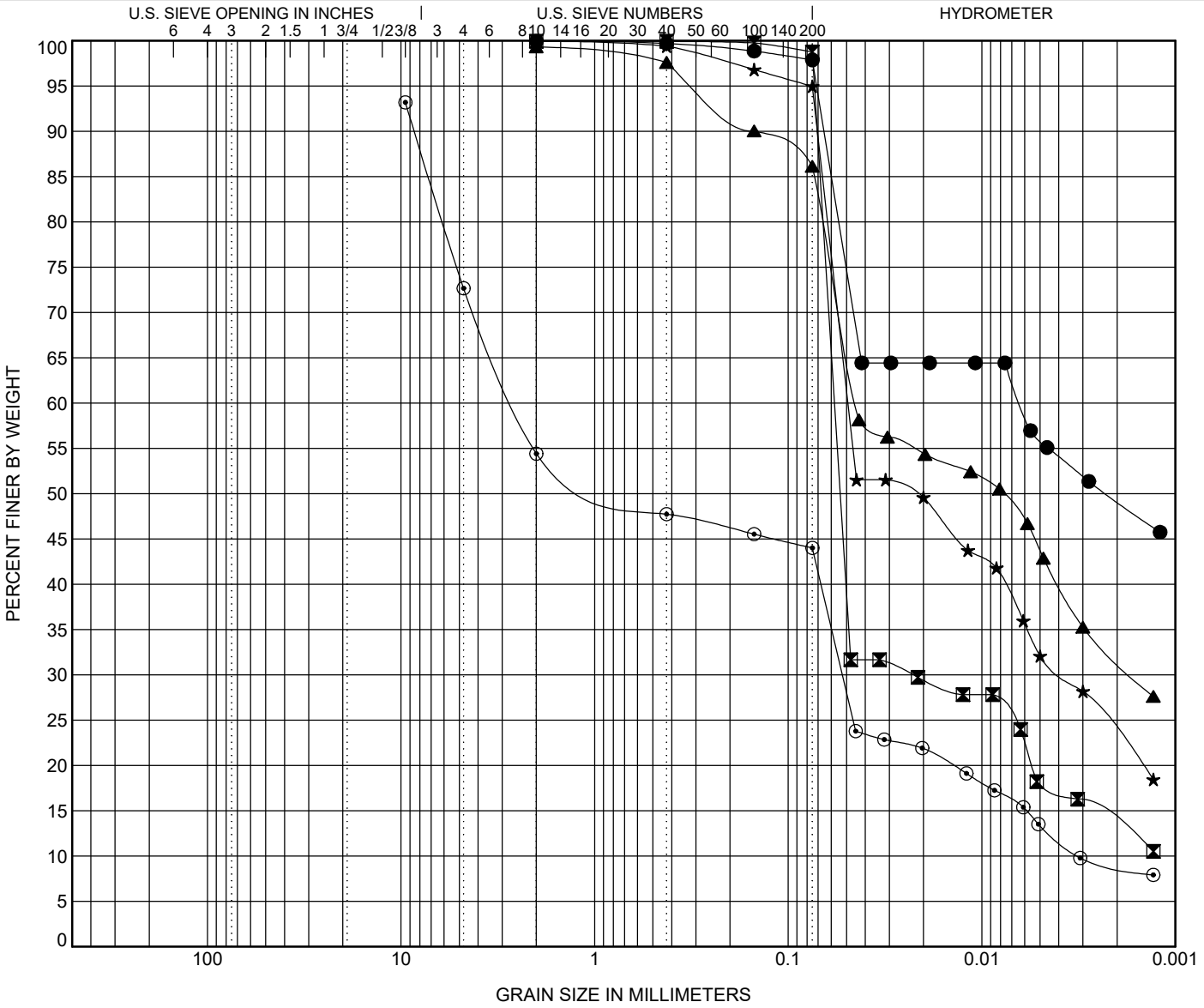

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	118	4.5	ELASTIC SILT(MH) A-7-5	63	39	24		
⊠	118	13.5	ELASTIC SILT(MH) A-7-5	51	37	14		
▲	118	23.5						
★	118	33.5	ELASTIC SILT(MH) A-5	53	43	10		
⊙	119	3.5	CLAYEY SAND with GRAVEL(SC) A-6	36	22	14	0.33	816.80

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	118	4.5	2	0.006				2.1	42.0	55.9
⊠	118	13.5	2	0.058	0.023			1.2	80.7	18.1
▲	118	23.5	2	0.045	0.002			13.2	42.4	43.7
★	118	33.5	2	0.049	0.004			5.0	62.9	32.1
⊙	119	3.5	9.5	2.606	0.052	0.003	20.5	28.7	30.6	13.4

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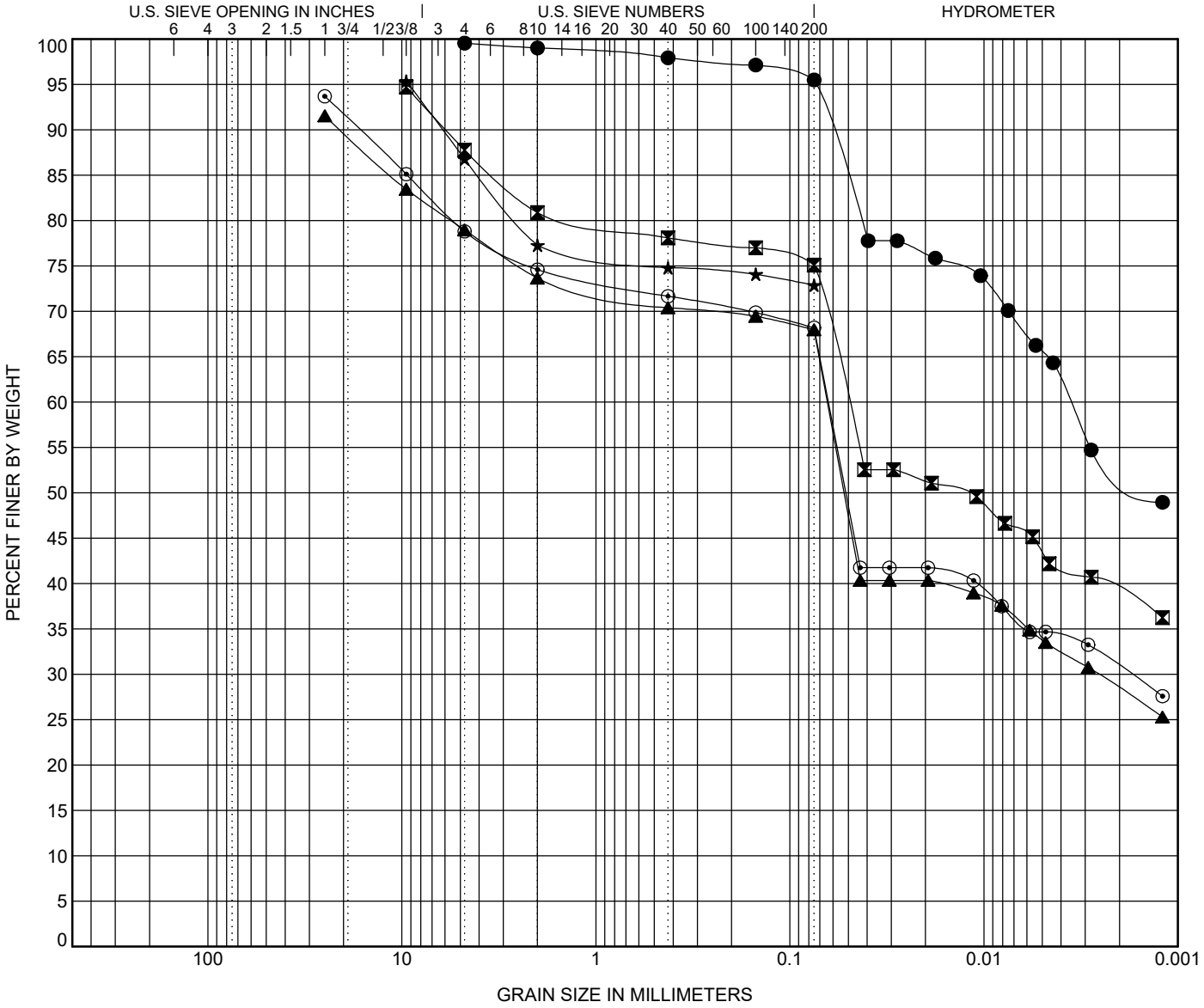

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	119	8.0	ELASTIC SILT(MH) A-7-5	61	34	27		
⊠	119	13.5	FAT CLAY with SAND(CH) A-7-5	72	33	39		
▲	119	18.0	GRAVELLY ELASTIC SILT(MH) A-7-5	60	32	28		
★	119	23.5	FAT CLAY with SAND(CH) A-7-5	64	30	34		
⊙	119	33.5	GRAVELLY FAT CLAY(CH) A-7-6	50	25	25		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	119	8.0	4.75	0.004				4.1	30.0	65.5
⊠	119	13.5	9.5	0.05			6.9	12.7	31.7	43.4
▲	119	18.0	25	0.064	0.003		12.6	11.0	34.2	33.8
★	119	23.5	9.5				8.6	13.9	72.9	
⊙	119	33.5	25	0.063	0.002		14.9	10.6	33.5	34.7

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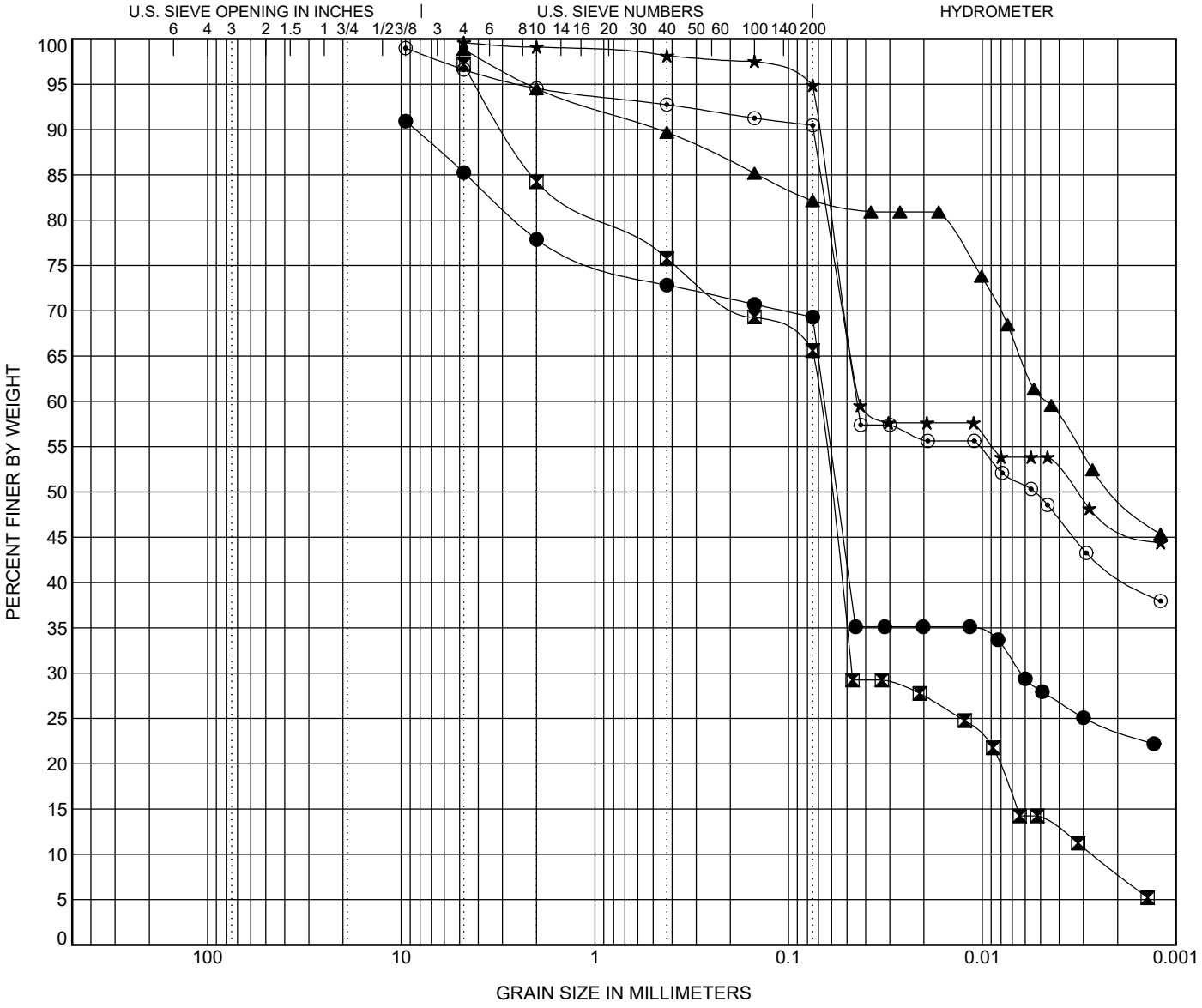

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	119	43.5	SANDY FAT CLAY(CH) A-7-6	56	25	31		
⊠	120	0.0	SANDY LEAN CLAY(CL) A-4	24	15	9	11.81	25.81
▲	120	3.5	LEAN CLAY with SAND(CL) A-7-6	41	22	19		
★	120	8.0	ELASTIC SILT(MH) A-7-5	70	37	33		
⊙	120	18.0	ELASTIC SILT(MH) A-7-5	68	40	28		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	119	43.5	9.5	0.065	0.006		5.7	15.9	41.2	28.1
⊠	120	0.0	4.75	0.07	0.047	0.003		31.6	51.6	14.0
▲	120	3.5	4.75	0.005				16.7	21.5	60.7
★	120	8.0	4.75	0.043				4.7	41.0	53.9
⊙	120	18.0	9.5	0.044			2.4	6.1	41.2	49.3

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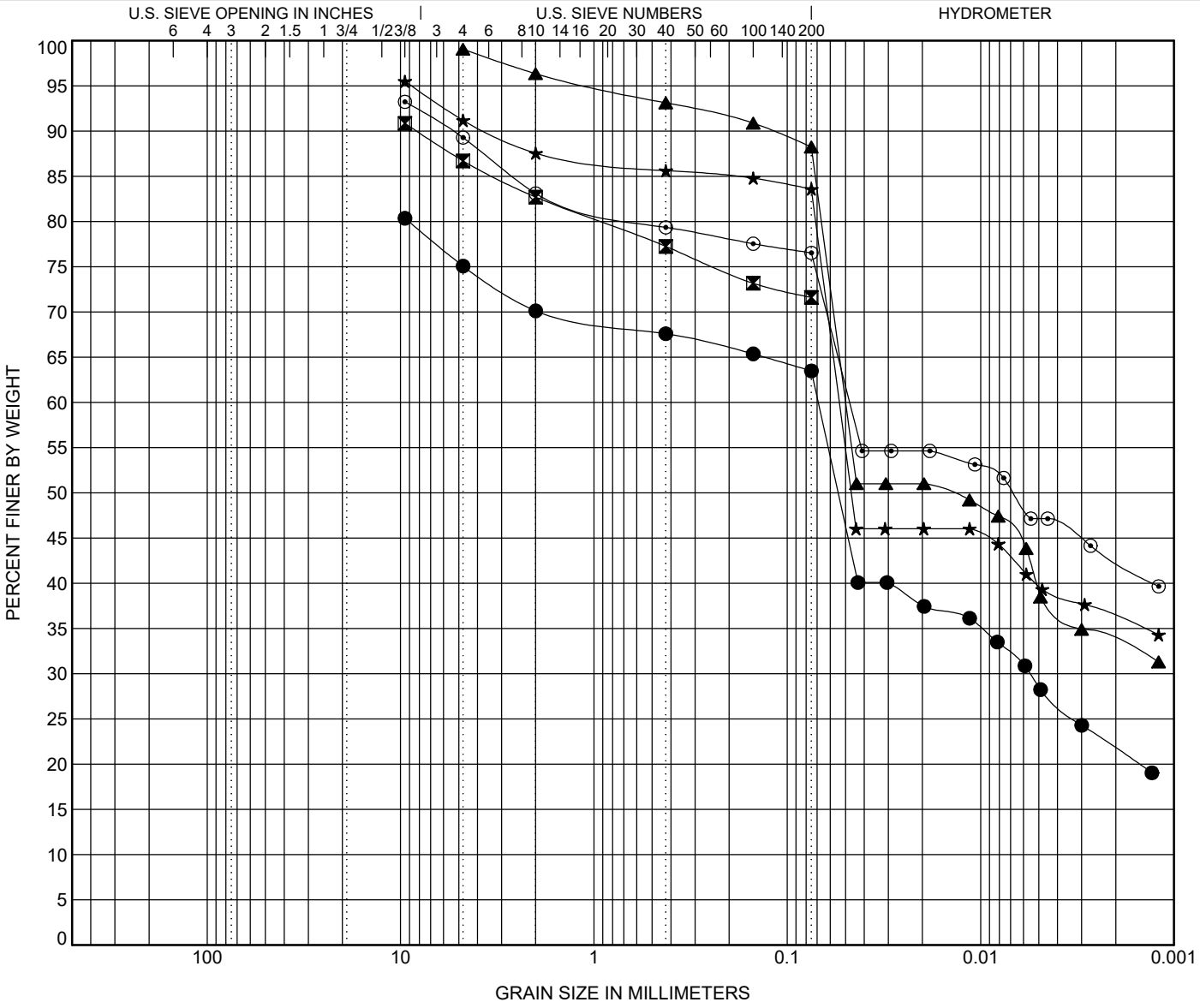

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	120	23.5	GRAVELLY FAT CLAY(CH) A-7-5	62	31	31		
⊠	120	33.5	ELASTIC SILT with SAND(MH) A-7-5	69	42	27		
▲	121	3.5	SILT(ML) A-7-5	47	32	15		
★	121	8.0	ELASTIC SILT with GRAVEL(MH) A-7-5	55	36	19		
⊙	121	13.5	ELASTIC SILT with SAND(MH) A-7-5	64	43	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	120	23.5	9.5	0.069	0.006		5.3	11.6	34.9	28.5
⊠	120	33.5	9.5				4.1	15.1	71.6	
▲	121	3.5	4.75	0.05				10.8	49.1	39.1
★	121	8.0	9.5	0.054			4.3	7.6	43.9	39.7
⊙	121	13.5	9.5	0.048			4.0	12.7	29.4	47.1

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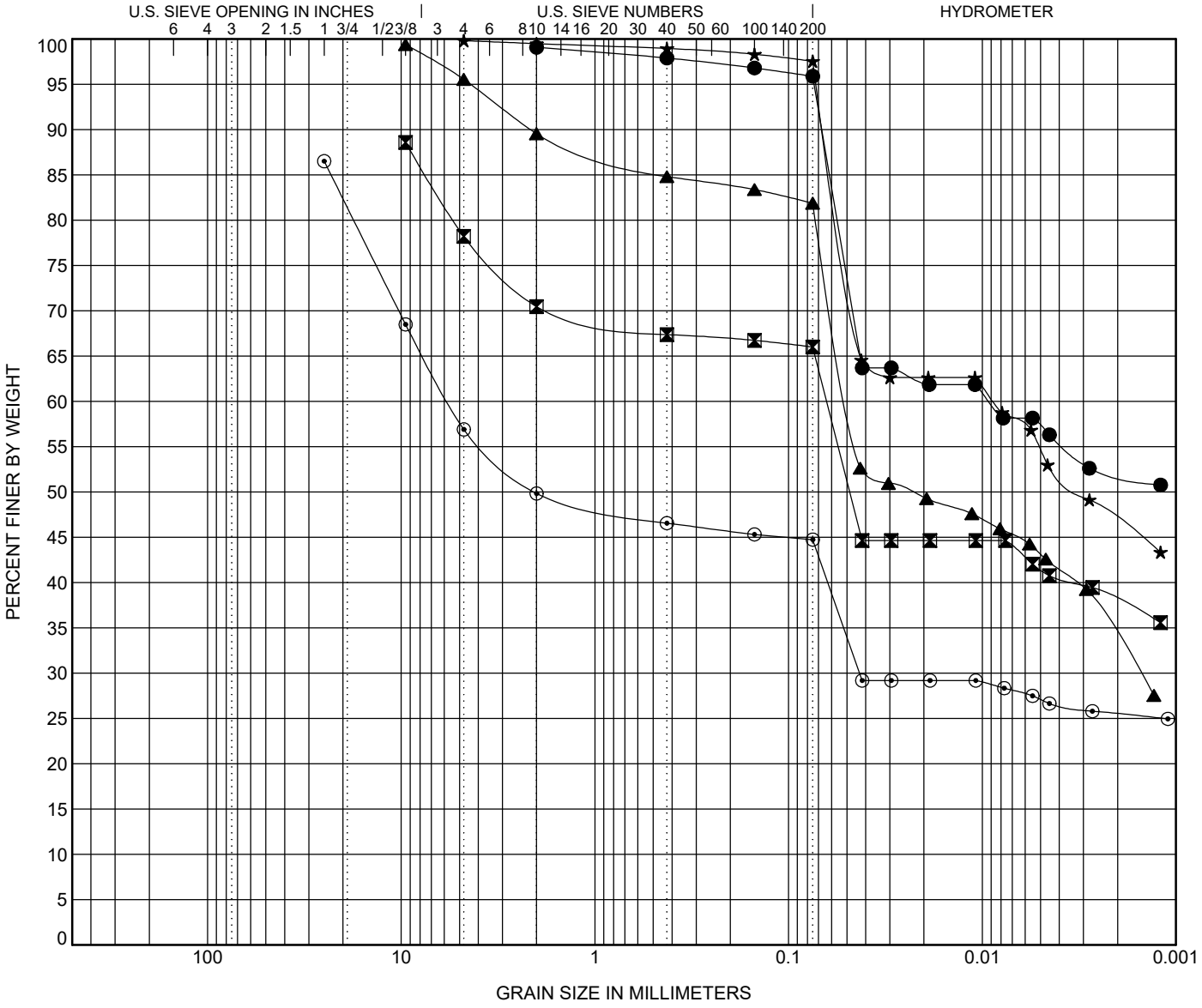

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	121	18.0	ELASTIC SILT(MH) A-7-5	81	38	43		
⊠	121	23.5	GRAVELLY FAT CLAY(CH) A-7-6	64	13	51		
▲	121	33.5	FAT CLAY with SAND(CH) A-7-6	53	22	31		
★	122	3.5	ELASTIC SILT(MH) A-7-5	54	36	18		
⊙	122	8.0						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	121	18.0	2	0.009				3.2	38.6	57.3
⊠	121	23.5	9.5	0.064			10.4	12.2	24.6	41.4
▲	121	33.5	9.5	0.049	0.002		3.8	13.7	38.7	43.1
★	122	3.5	4.75	0.009				2.3	42.9	54.6
⊙	122	8.0	25	5.716	0.043		29.6	12.2	17.7	27.1

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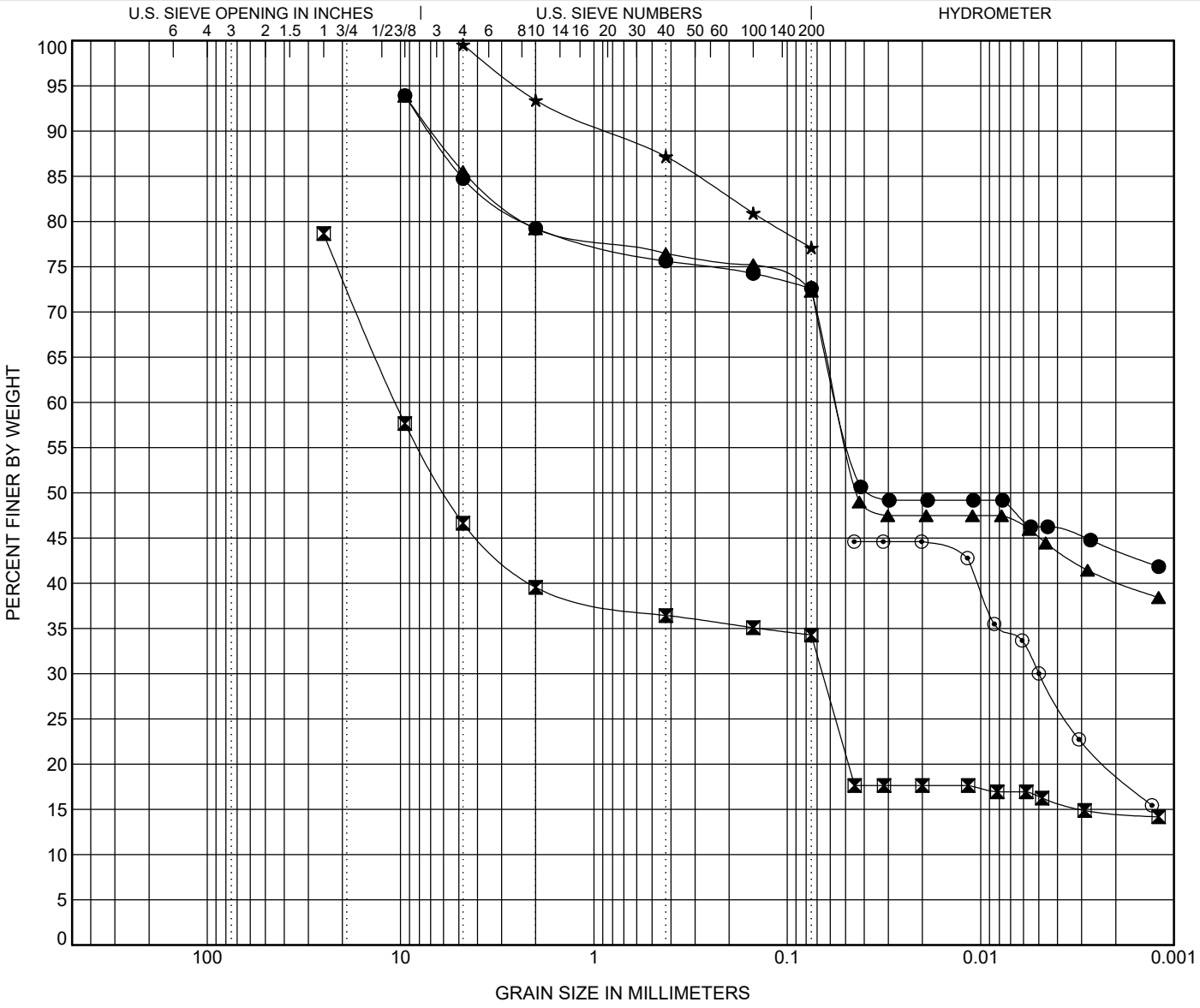

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	122	13.5						
⊠	122	18.0						
▲	122	23.5						
★	123	1.5	**LEAN CLAY with SAND(CL) A-6**	**31**	**18**	**13**		
⊙	123	4.5						

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	122	13.5	9.5	0.054			9.2	12.1	26.4	46.2
⊠	122	18.0	25	10.58	0.066		32.0	12.3	17.9	16.4
▲	122	23.5	9.5	0.056			8.4	13.2	27.2	45.1
★	123	1.5	4.75					22.5	77.1	
⊙	123	4.5			0.005					30.0

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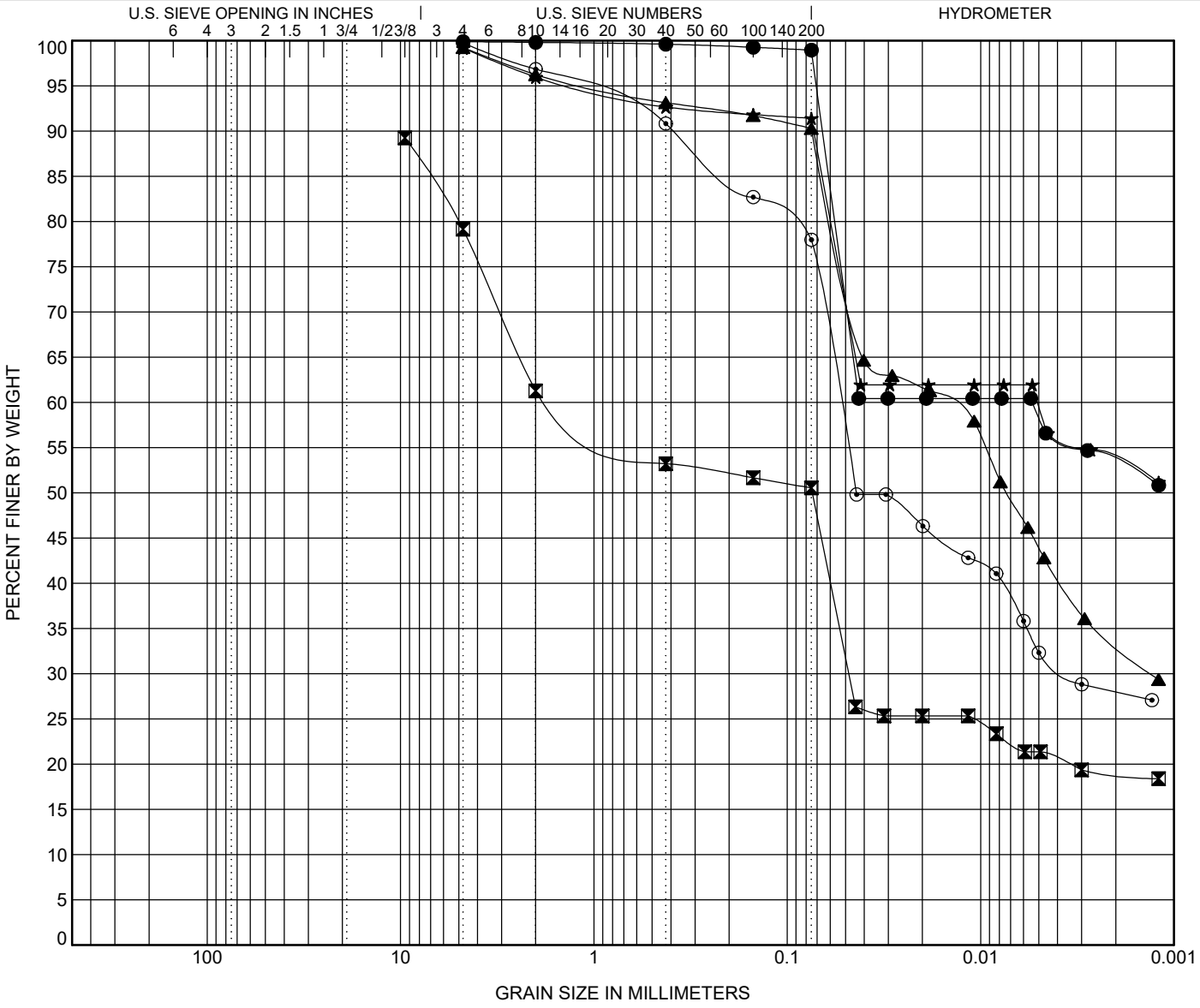

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	123	13.5	ELASTIC SILT(MH) A-7-5	86	38	48		
⊠	123	23.5	SANDY FAT CLAY with GRAVEL(CH) A-7-6	58	25	33		
▲	123	33.5	SILT(ML) A-7-6	48	28	20		
★	124	3.5	ELASTIC SILT(MH) A-7-5	70	37	33		
⊙	125	3.5	LEAN CLAY with SAND(CL) A-6	36	19	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	123	13.5	4.75	0.005				0.9	40.6	58.4
⊠	123	23.5	9.5	1.566	0.048		10.1	28.6	29.2	21.4
▲	123	33.5	4.75	0.015	0.001			8.9	46.4	43.9
★	124	3.5	4.75	0.005				7.8	31.7	59.7
⊙	125	3.5	4.75	0.053	0.004			21.7	45.7	32.3

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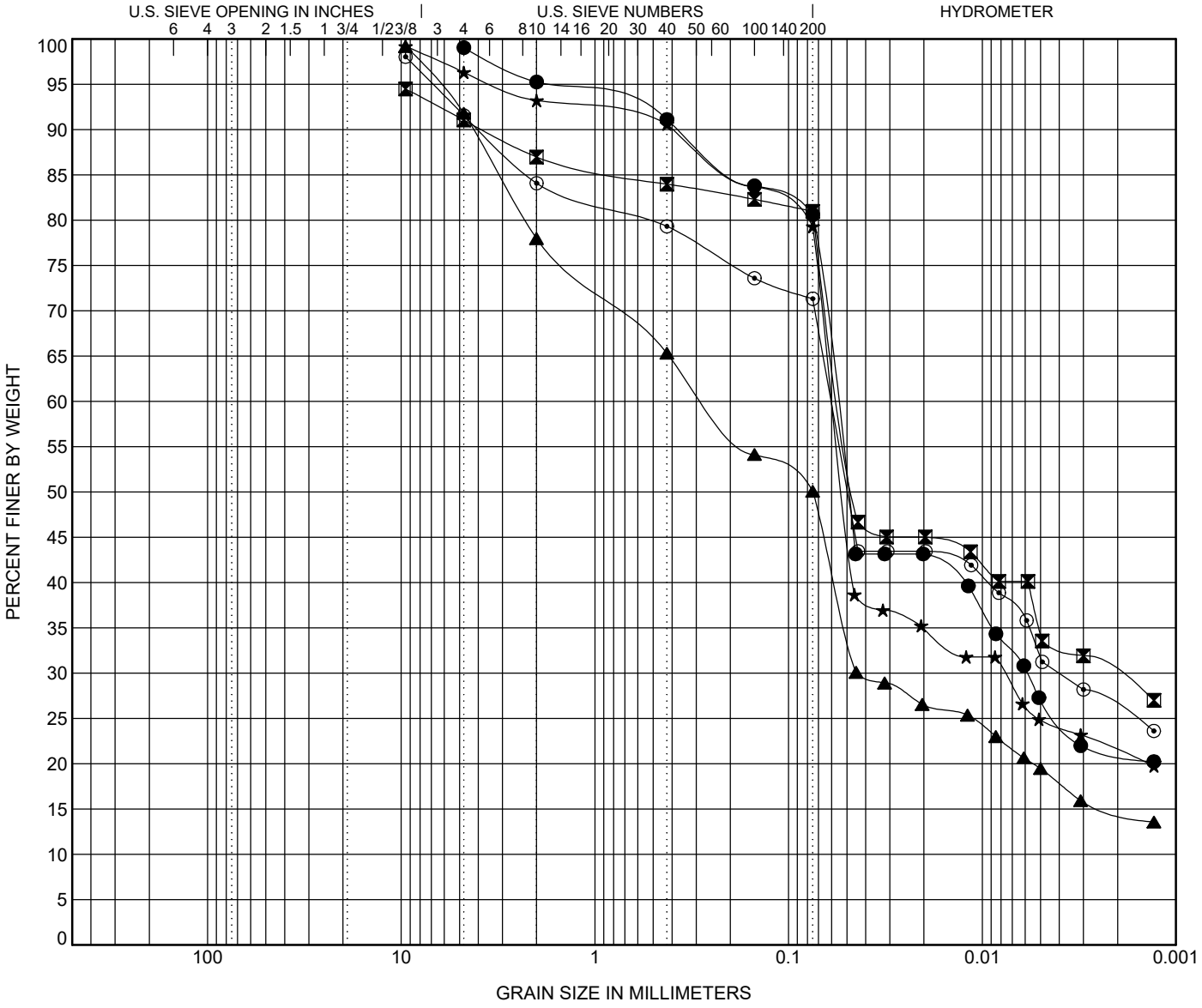

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	126	8.5						
⊠	127	8.5	SILT with SAND(ML) A-7-5	45	32	13		
▲	128	1.0	SANDY LEAN CLAY(CL) A-6	33	18	15		
★	128	1.5	LEAN CLAY with SAND(CL) A-6	33	20	13		
⊙	128	4.5	LEAN CLAY with SAND(CL) A-7-6	42	25	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	126	8.5	4.75	0.057	0.006			18.4	53.5	27.1
⊠	127	8.5	9.5	0.054	0.002		3.4	10.1	46.6	34.3
▲	128	1.0	9.5	0.259	0.044		7.4	41.7	30.6	19.5
★	128	1.5	9.5	0.059	0.008		2.9	17.0	54.5	24.8
⊙	128	4.5	9.5	0.06	0.004		6.5	20.2	39.6	31.7

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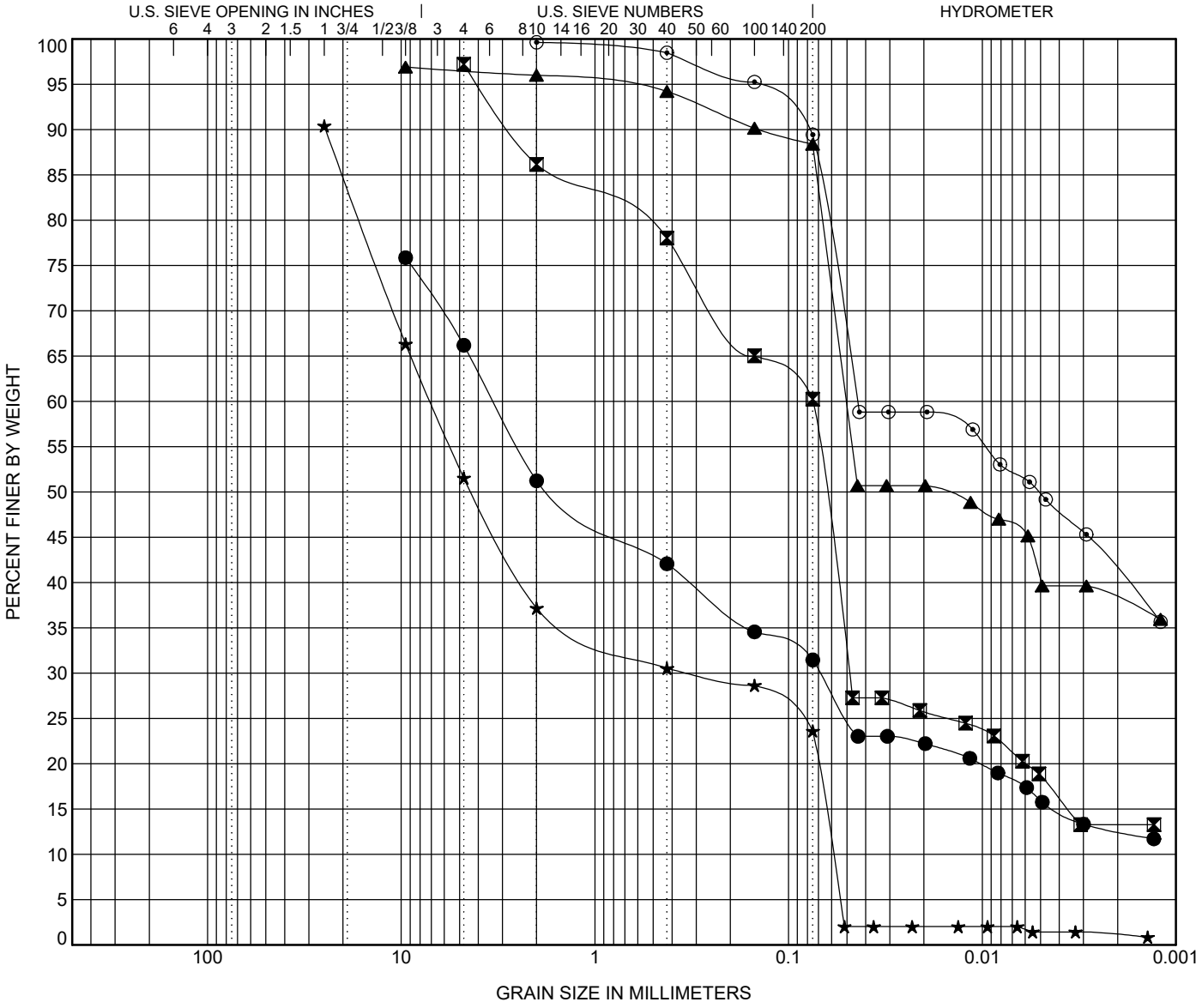

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	129	6.5						
⊠	130	1.5	SANDY LEAN CLAY(CL) A-6	29	18	11		
▲	130	4.5						
★	130	6.5	SILTY GRAVEL with SAND(GM) A-1-b	NP	NP	NP	0.24	119.29
⊙	131	3.5	ELASTIC SILT(MH) A-7-5	58	37	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	129	6.5	9.5	3.321	0.068		9.7	34.7	15.5	15.9
⊠	130	1.5	4.75	0.075	0.049			37.0	41.6	18.6
▲	130	4.5	9.5	0.05			0.4	8.1	48.1	40.3
★	130	6.5	25	7.059	0.316	0.059	38.9	27.9	22.2	1.4
⊙	131	3.5	2	0.044				10.2	39.6	49.8

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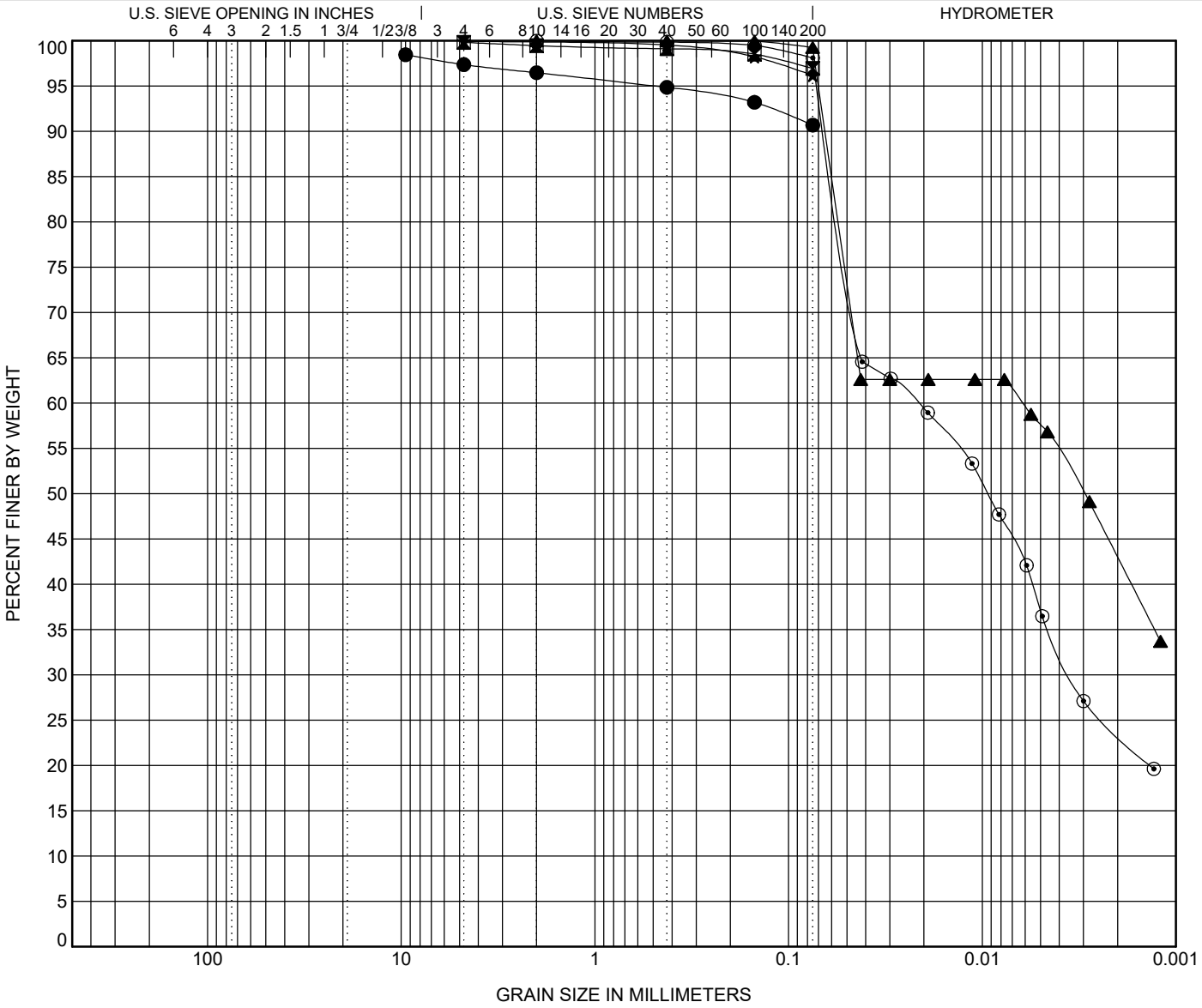

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	131	10.0	ELASTIC SILT(MH) A-7-5	58	38	20		
⊠	131	13.5	ELASTIC SILT(MH) A-7-5	64	35	29		
▲	131	23.5	LEAN CLAY(CL) A-7-6	47	25	22		
★	131	33.5	FAT CLAY(CH) A-7-6	52	28	24		
⊙	131	40.0	FAT CLAY(CH) A-7-6	56	24	32		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	131	10.0	9.5				1.1	6.7	90.7	
⊠	131	13.5	4.75					2.9	96.9	
▲	131	23.5	2	0.006				0.7	41.6	57.6
★	131	33.5	4.75					3.8	96.2	
⊙	131	40.0	2	0.022	0.003			1.9	61.0	37.1

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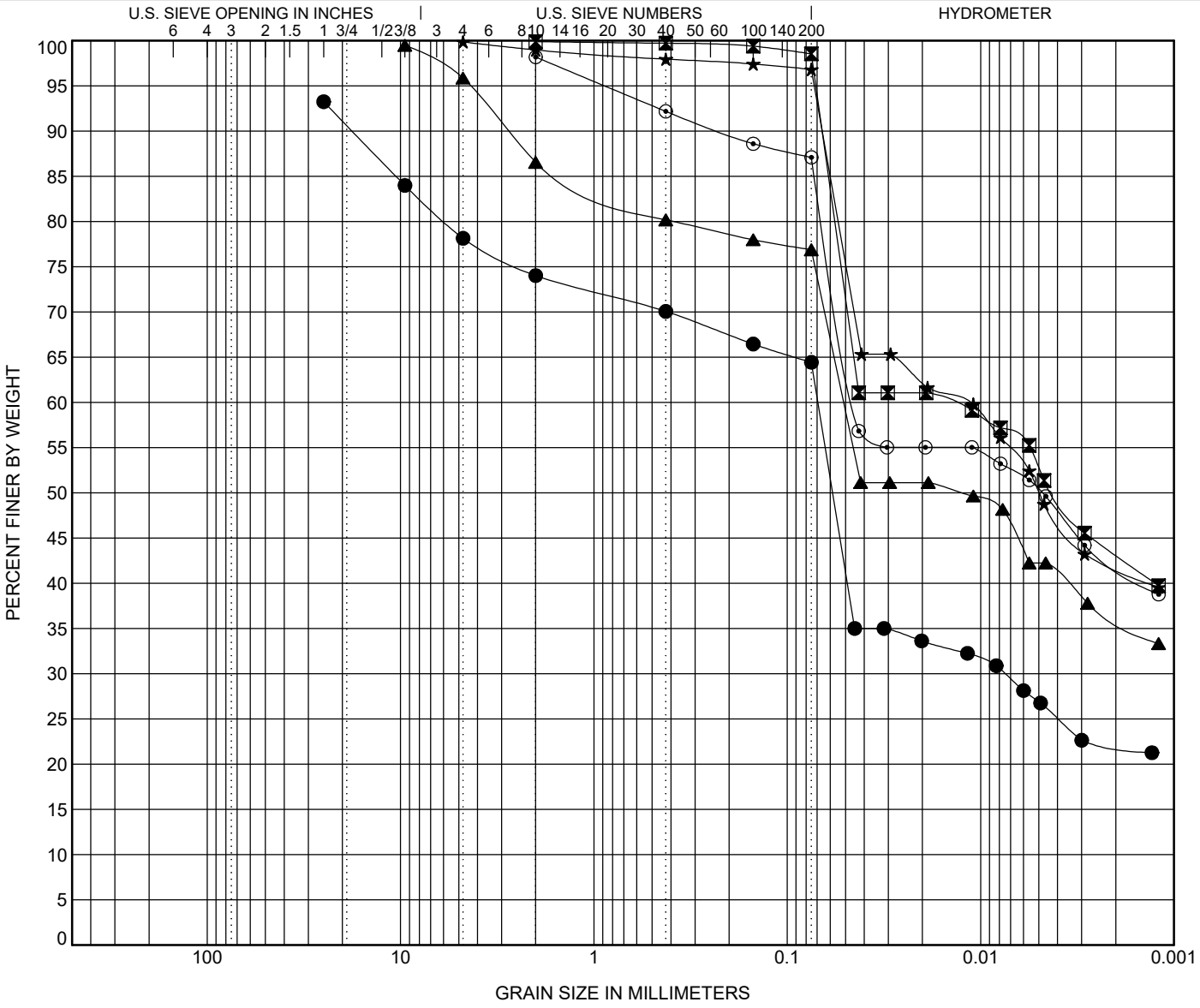

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	132	1.5	**GRAVELLY LEAN CLAY(CL) A-7-6**	47	23	24		
⊠	132	3.5	**FAT CLAY(CH) A-7-6**	60	27	33		
▲	132	8.0	**ELASTIC SILT with SAND(MH) A-7-5**	67	36	31		
★	132	13.5	**ELASTIC SILT(MH) A-7-5**	57	38	19		
⊙	132	14.0	**ELASTIC SILT(MH) A-7-5**	55	34	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	132	1.5	25	0.069	0.007		15.1	13.7	37.5	26.9
⊠	132	3.5	2	0.014				1.4	45.8	52.7
▲	132	8.0	9.5	0.051			3.6	19.0	34.6	42.2
★	132	13.5	4.75	0.012				3.0	46.8	50.1
⊙	132	14.0	2	0.045				11.1	36.7	50.4

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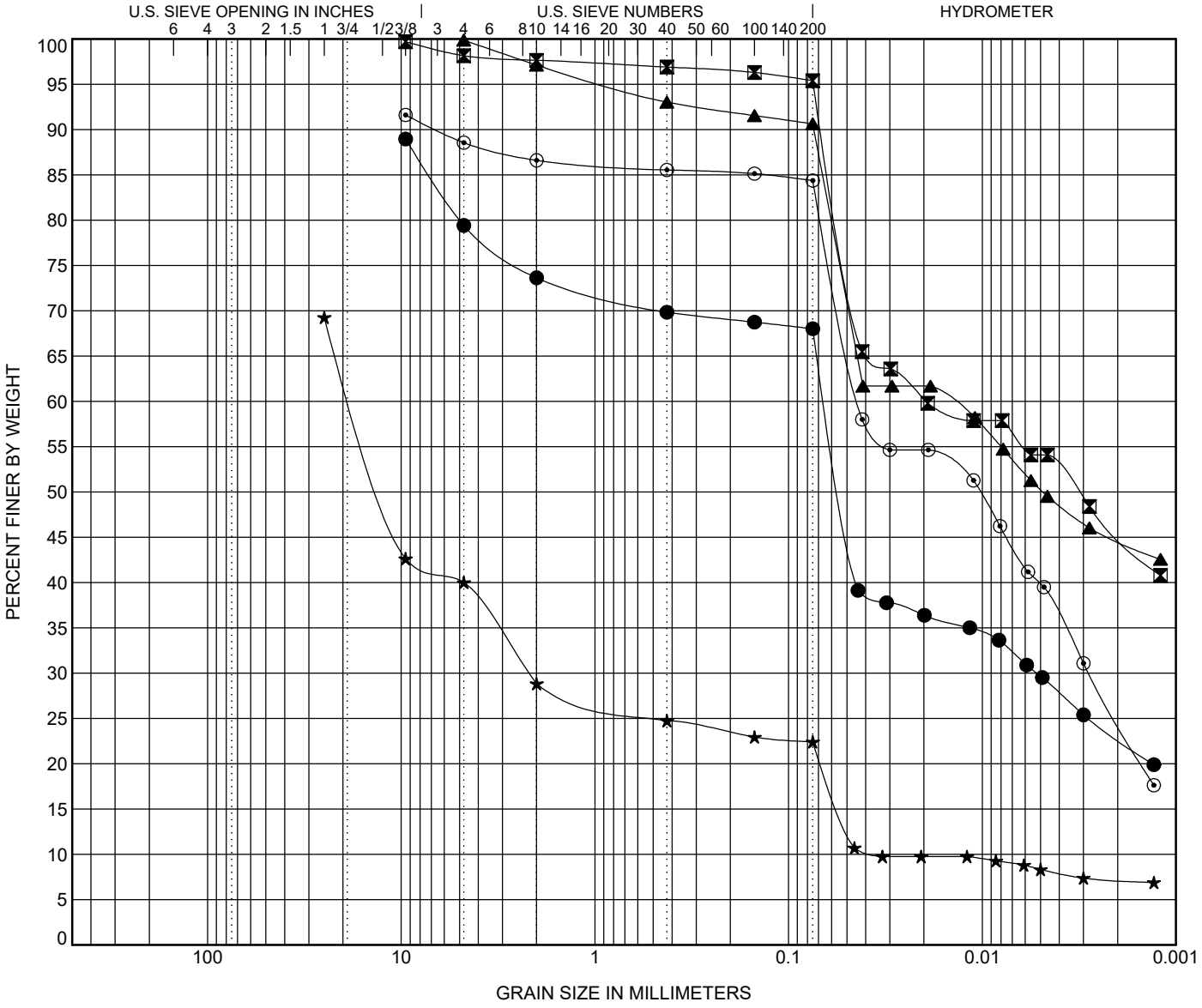

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	132	23.5	GRAVELLY ELASTIC SILT(MH) A-7-5	60	38	22		
⊠	132	28.0						
▲	133	3.5						
★	133	13.5	SILTY GRAVEL with SAND(GM) A-2-7	55	30	25	7.53	500.50
⊙	133	23.5	LEAN CLAY with GRAVEL(CL) A-7-6	44	23	21		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	132	23.5	9.5	0.065	0.005		9.5	11.4	38.3	29.7
⊠	132	28.0	9.5	0.02			1.5	2.8	41.3	54.1
▲	133	3.5	4.75	0.014				9.2	40.4	50.3
★	133	13.5	25	17.849	2.189	0.036	29.3	17.6	14.1	8.3
⊙	133	23.5	9.5	0.044	0.003		3.1	4.2	44.5	39.9

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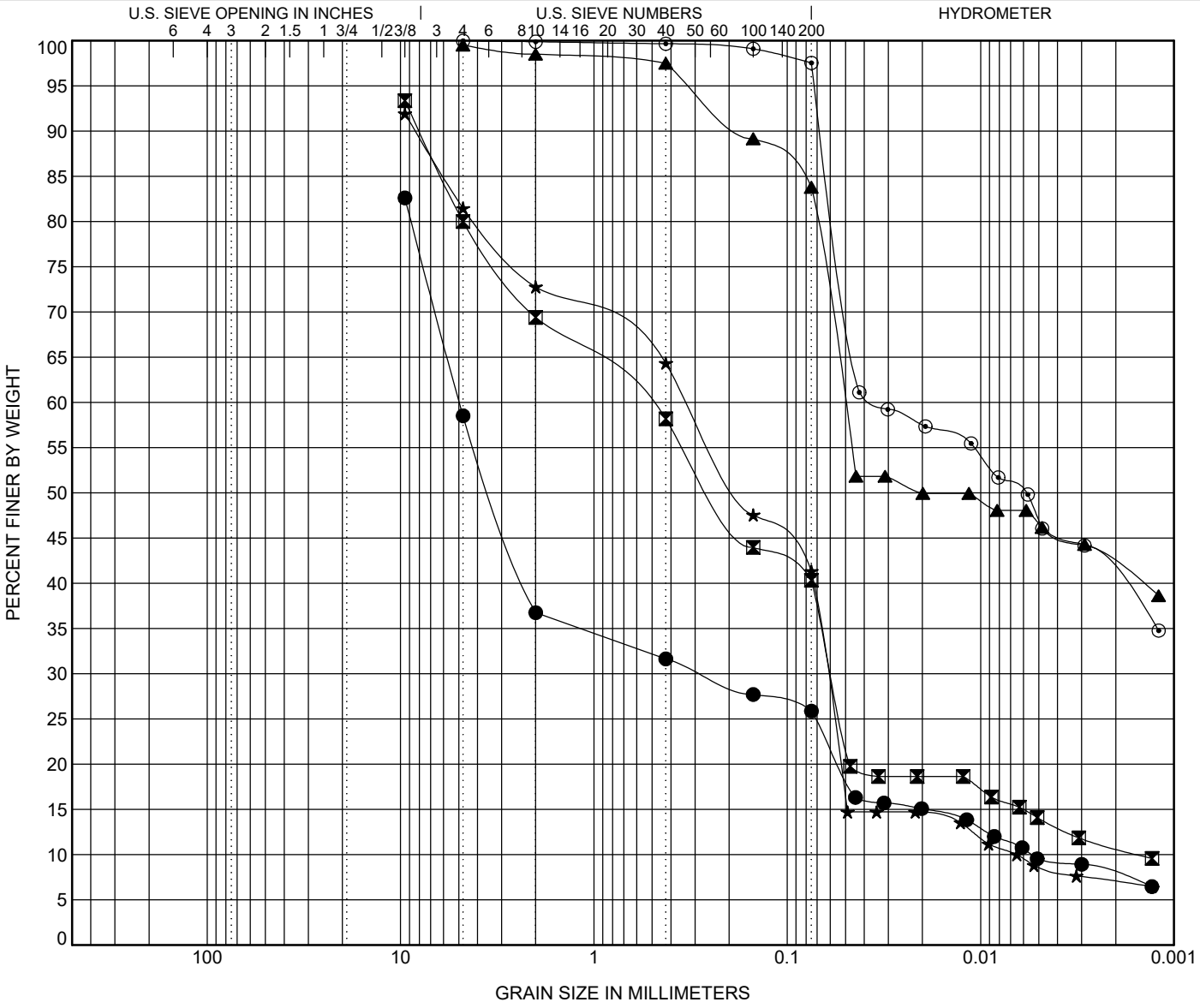

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
● 133	35.0					2.81	908.96
⊠ 134	3.5	CLAYEY SAND with GRAVEL(SC) A-4	30	20	10	4.24	357.92
▲ 135	8.5	LEAN CLAY with SAND(CL) A-7-6	46	22	24		
★ 136	3.5	CLAYEY SAND with GRAVEL(SC) A-4	24	16	8	1.85	49.95
⊙ 136	13.5	FAT CLAY(CH) A-7-6	51	23	28		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 133	35.0	9.5	4.957	0.276	0.005	24.1	32.6	16.4	9.5
⊠ 134	3.5	9.5	0.547	0.06	0.002	13.4	39.7	26.3	14.0
▲ 135	8.5	4.75	0.051				15.7	37.2	46.6
★ 136	3.5	9.5	0.325	0.062	0.006	10.5	40.1	32.7	8.7
⊙ 136	13.5	4.75	0.035				2.4	50.6	46.9

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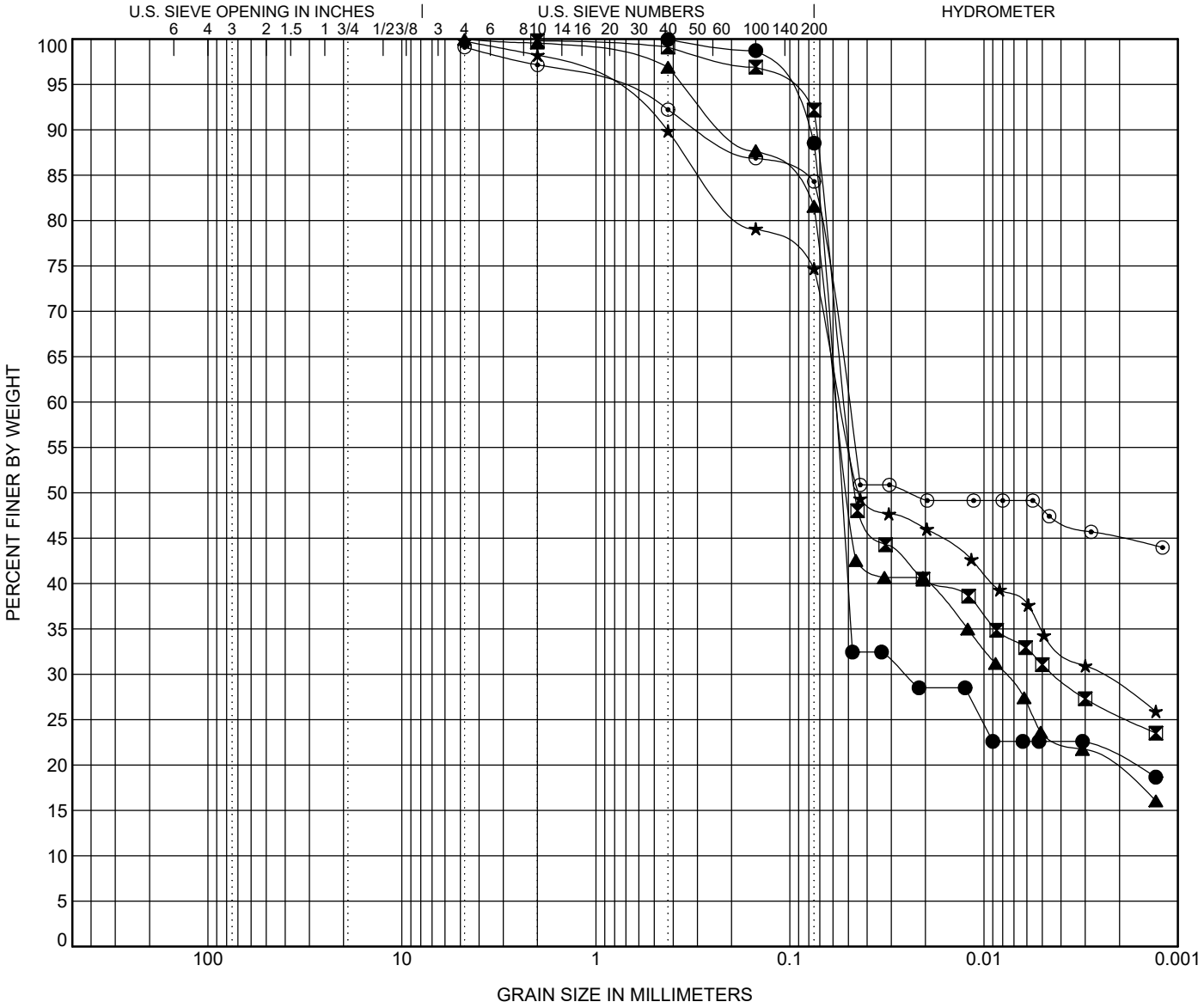

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification (USCS / AASHTO)	LL	PL	PI	Cc	Cu
●	137	4.0	LEAN CLAY(CL) A-6	35	16	19		
⊠	137	13.5	LEAN CLAY(CL) A-6	31	15	16		
▲	138	3.5	LEAN CLAY with SAND(CL) A-6	28	15	13		
★	139	3.5	LEAN CLAY with SAND(CL) A-7-6	41	22	19		
⊙	139	13.5	ELASTIC SILT with SAND(MH) A-7-5	71	40	31		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	137	4.0	0.425	0.06	0.026			11.4	65.9	22.6
⊠	137	13.5	2	0.052	0.004			7.6	61.1	31.1
▲	138	3.5	4.75	0.057	0.008			18.4	58.0	23.5
★	139	3.5	4.75	0.055	0.003			25.1	40.1	34.6
⊙	139	13.5	4.75	0.05				14.8	36.2	48.2

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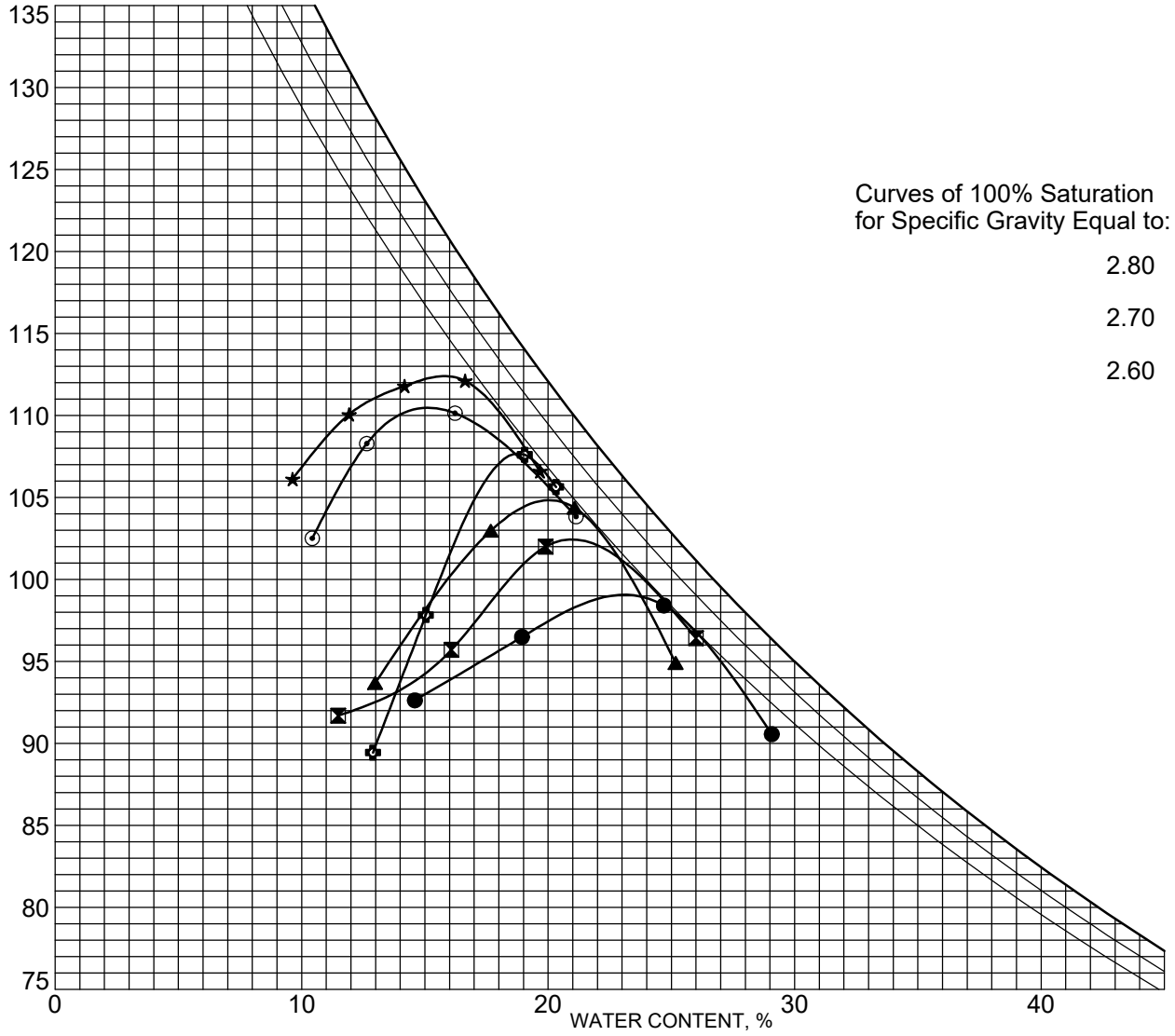
MOISTURE-DENSITY RELATIONSHIP

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Description of Materials
●	1	0.5	**LEAN CLAY(CL)**
⊠	6	1.3	**FAT CLAY(CH)**
▲	8	0.5	
★	9	0.5	**LEAN CLAY with SAND(CL)**
⊙	9	17.2	**LEAN CLAY with SAND(CL)**
✿	12	0.5	

	BOREHOLE	DEPTH	Test Method	LL	PL	PI	Max DD	Optimum WC
●	1	0.5	ASTM D698 Method A	44	22	22	99.1 PCF	23.2 %
⊠	6	1.3	ASTM D698 Method A	52	23	29	102.4 PCF	20.9 %
▲	8	0.5	ASTM D698 Method A	43	21	22	104.8 PCF	20.0 %
★	9	0.5	ASTM D698 Method A	33	21	12	112.4 PCF	15.9 %
⊙	9	17.2	ASTM D698 Method A	36	21	15	110.5 PCF	15.1 %
✿	12	0.5	ASTM D698 Method A				107.7 PCF	18.8 %

COMPACTION (MULTIPLE CURVES) - GINT STD US LAB.GDT - 8/11/20 09:12 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

COMPACTION (MULTIPLE CURVES) - GINT STD US LAB.GDT - 8/11/20 09:12 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering and Testing Inc.
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Paducah, KY 42003
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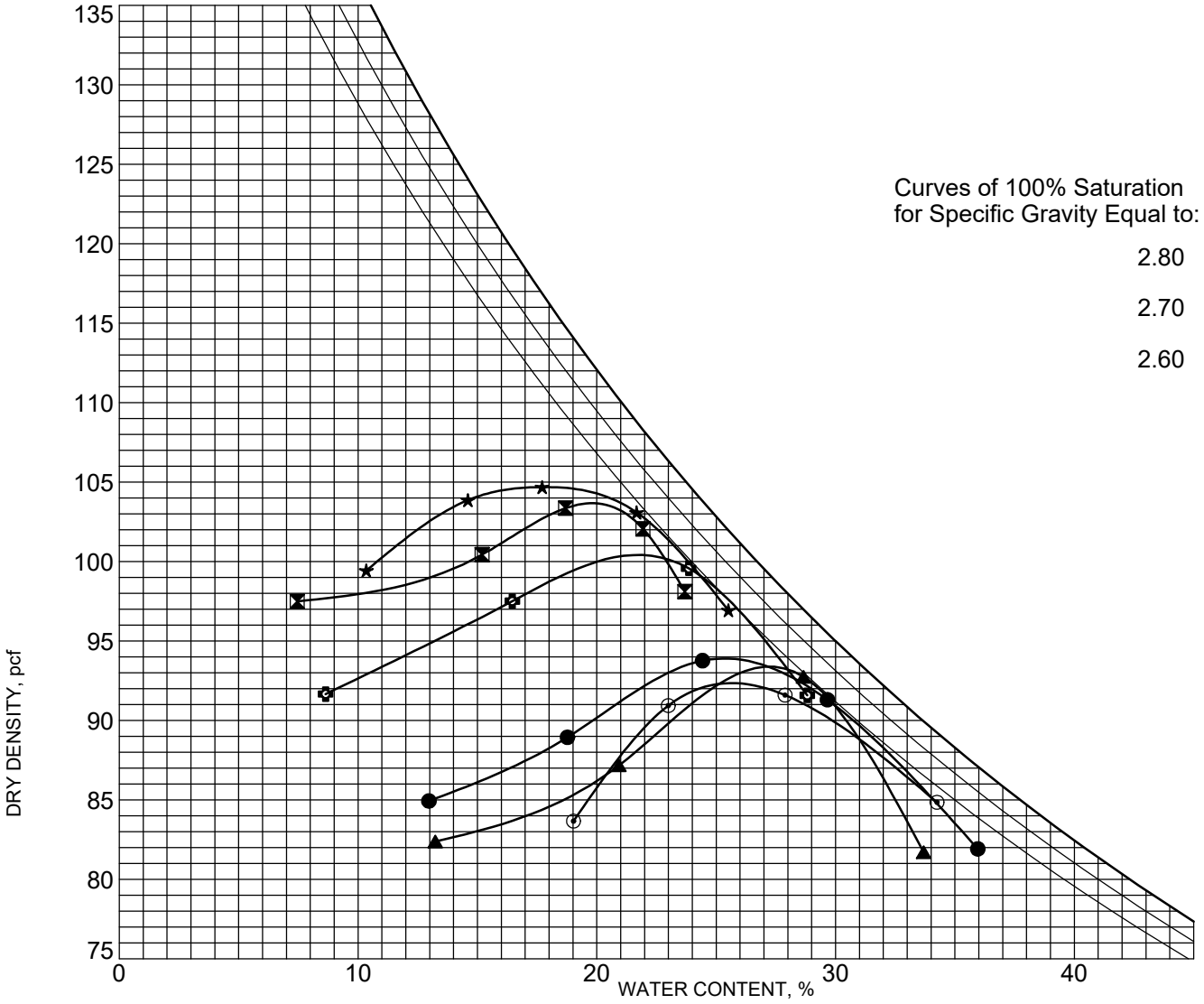
MOISTURE-DENSITY RELATIONSHIP

CLIENT Tennessee Department of Transportation
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Description of Materials
●	17	0.5	FAT CLAY(CH)
⊠	22	2.5	LEAN CLAY with SAND(CL)
▲	24	0.5	FAT CLAY(CH)
★	28	0.5	CLAYEY SAND with GRAVEL(SC)
⊙	29	0.5	ELASTIC SILT with SAND(MH)
✿	29	7.5	

	BOREHOLE	DEPTH	Test Method	LL	PL	PI	Max DD	Optimum WC
●	17	0.5	ASTM D698 Method A	52	28	24	93.9 PCF	25.3 %
⊠	22	2.5	ASTM D698 Method A	40	20	20	103.7 PCF	19.9 %
▲	24	0.5	ASTM D698 Method A	61	22	39	93.4 PCF	27.0 %
★	28	0.5	ASTM D698 Method A	50	24	26	104.7 PCF	17.9 %
⊙	29	0.5	ASTM D698 Method A	57	33	24	92.4 PCF	25.6 %
✿	29	7.5	ASTM D698 Method A	45	26	19	100.4 PCF	21.9 %

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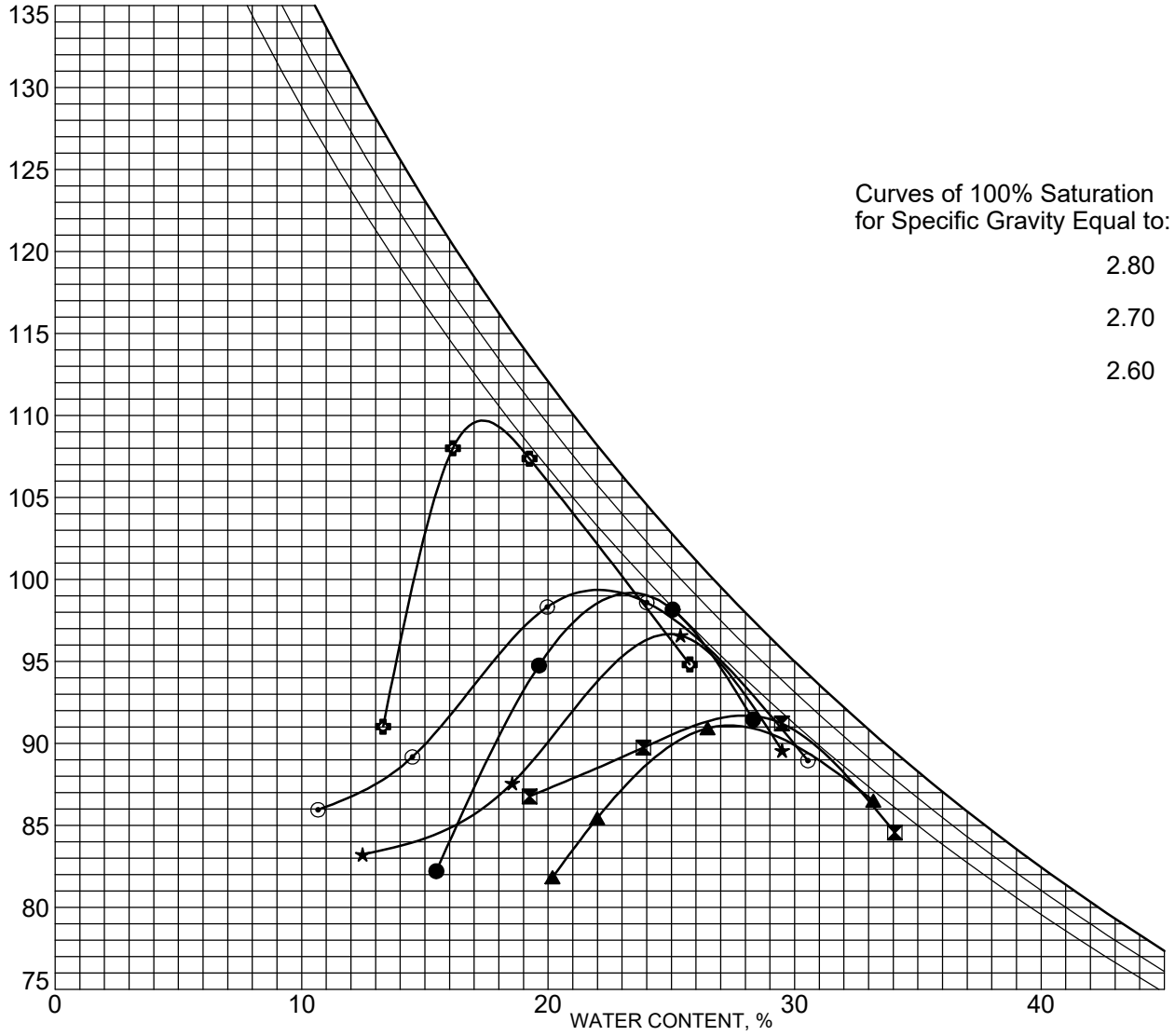
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Description of Materials
●	46	0.5	LEAN CLAY(CL)
⧓	46	28.0	FAT CLAY with SAND(CH)
▲	48	0.5	FAT CLAY(CH)
★	51	15.0	ELASTIC SILT with SAND(MH)
⊙	59	1.0	LEAN CLAY with SAND(CL)
✿	61	1.0	SILT with SAND(ML)

	BOREHOLE	DEPTH	Test Method	LL	PL	PI	Max DD	Optimum WC
●	46	0.5	ASTM D698 Method A	43	24	19	99.2 PCF	23.3 %
⧓	46	28.0	ASTM D698 Method A	65	31	34	91.7 PCF	28.0 %
▲	48	0.5	ASTM D698 Method A	57	28	29	91.1 PCF	27.5 %
★	51	15.0	ASTM D698 Method A	60	31	29	96.7 PCF	25.0 %
⊙	59	1.0	ASTM D698 Method A	46	25	21	99.4 PCF	22.1 %
✿	61	1.0	ASTM D698 Method A	NP	NP	NP	109.7 PCF	17.3 %

COMPACTION (MULTIPLE CURVES) - GINT STD US LAB.GDT - 8/11/20 09:12 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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MOISTURE-DENSITY RELATIONSHIP

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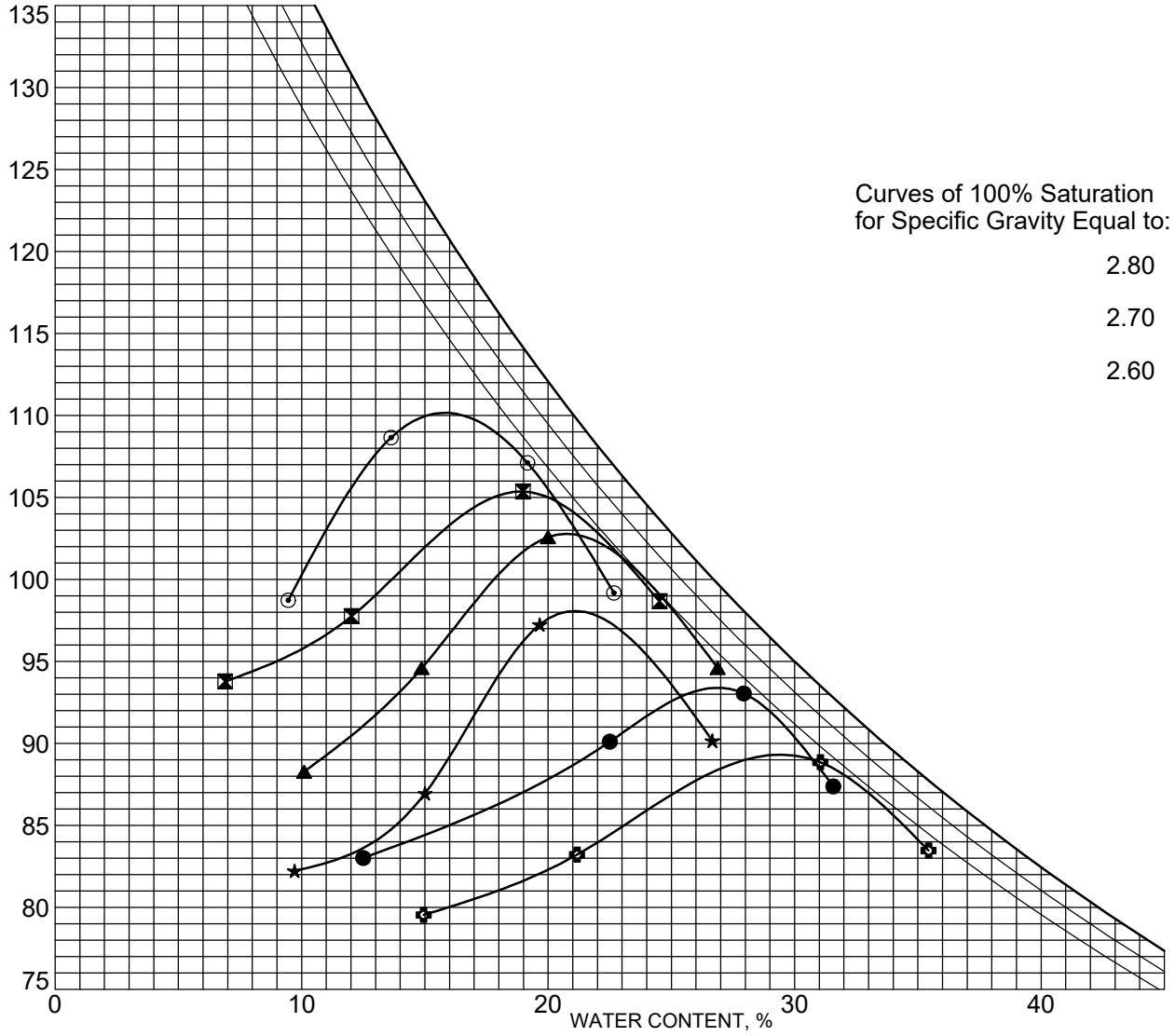
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Description of Materials
●	66	1.0	ELASTIC SILT(MH)
⧓	75	1.0	LEAN CLAY with SAND(CL)
▲	87	13.5	
★	93	1.0	
⊙	105	2.0	LEAN CLAY with SAND(CL)
✿	113	0.5	

	BOREHOLE	DEPTH	Test Method	LL	PL	PI	Max DD	Optimum WC
●	66	1.0	ASTM D698 Method A	55	32	23	93.4 PCF	26.8 %
⧓	75	1.0	ASTM D698 Method A	35	19	16	105.4 PCF	19.0 %
▲	87	13.5	ASTM D698 Method A				102.8 PCF	20.7 %
★	93	1.0	ASTM D698 Method A				98.1 PCF	21.1 %
⊙	105	2.0	ASTM D698 Method A	32	17	15	110.2 PCF	16.0 %
✿	113	0.5	ASTM D698 Method A				89.3 PCF	29.5 %

COMPACTION (MULTIPLE CURVES) - GINT STD US LAB.GDT - 8/11/20 09:12 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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MOISTURE-DENSITY RELATIONSHIP

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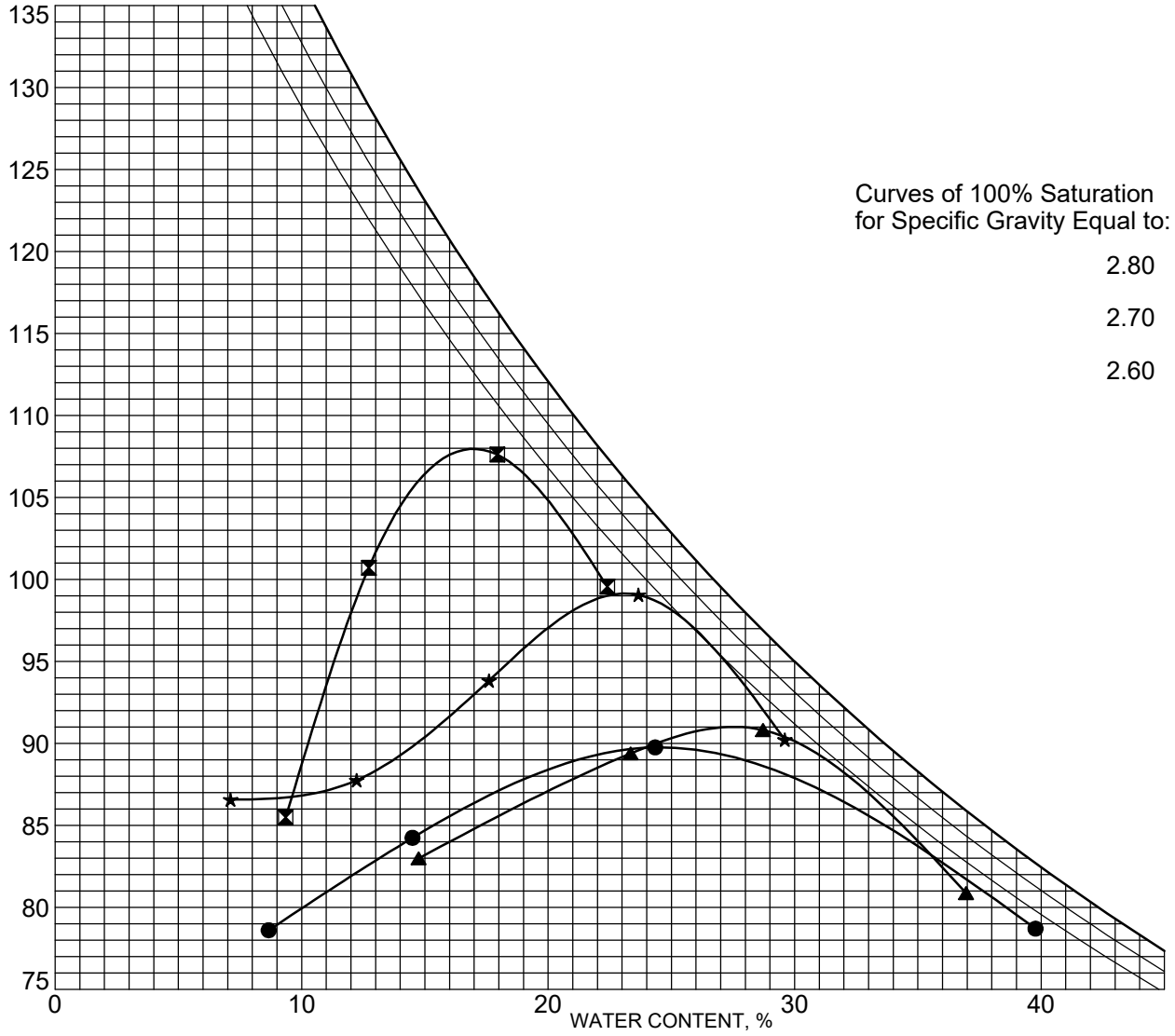
PROJECT NAME SR 163 (Pellissippi Parkway) Extension
PROJECT NUMBER 20033
PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Description of Materials
●	**122**	**24.0**	
⊠	**126**	**8.0**	
▲	**131**	**8.0**	
★	**133**	**0.5**	

	BOREHOLE	DEPTH	Test Method	LL	PL	PI	Max DD	Optimum WC
●	**122**	**24.0**	**ASTM D698 Method A**				**89.8 PCF**	**24.3 %**
⊠	**126**	**8.0**	**ASTM D698 Method A**				**108.0 PCF**	**16.8 %**
▲	**131**	**8.0**	**ASTM D698 Method A**				**91.0 PCF**	**27.6 %**
★	**133**	**0.5**	**ASTM D698 Method A**				**99.1 PCF**	**23.0 %**

COMPACTION (MULTIPLE CURVES) - GINT STD US LAB.GDT - 8/11/20 09:12 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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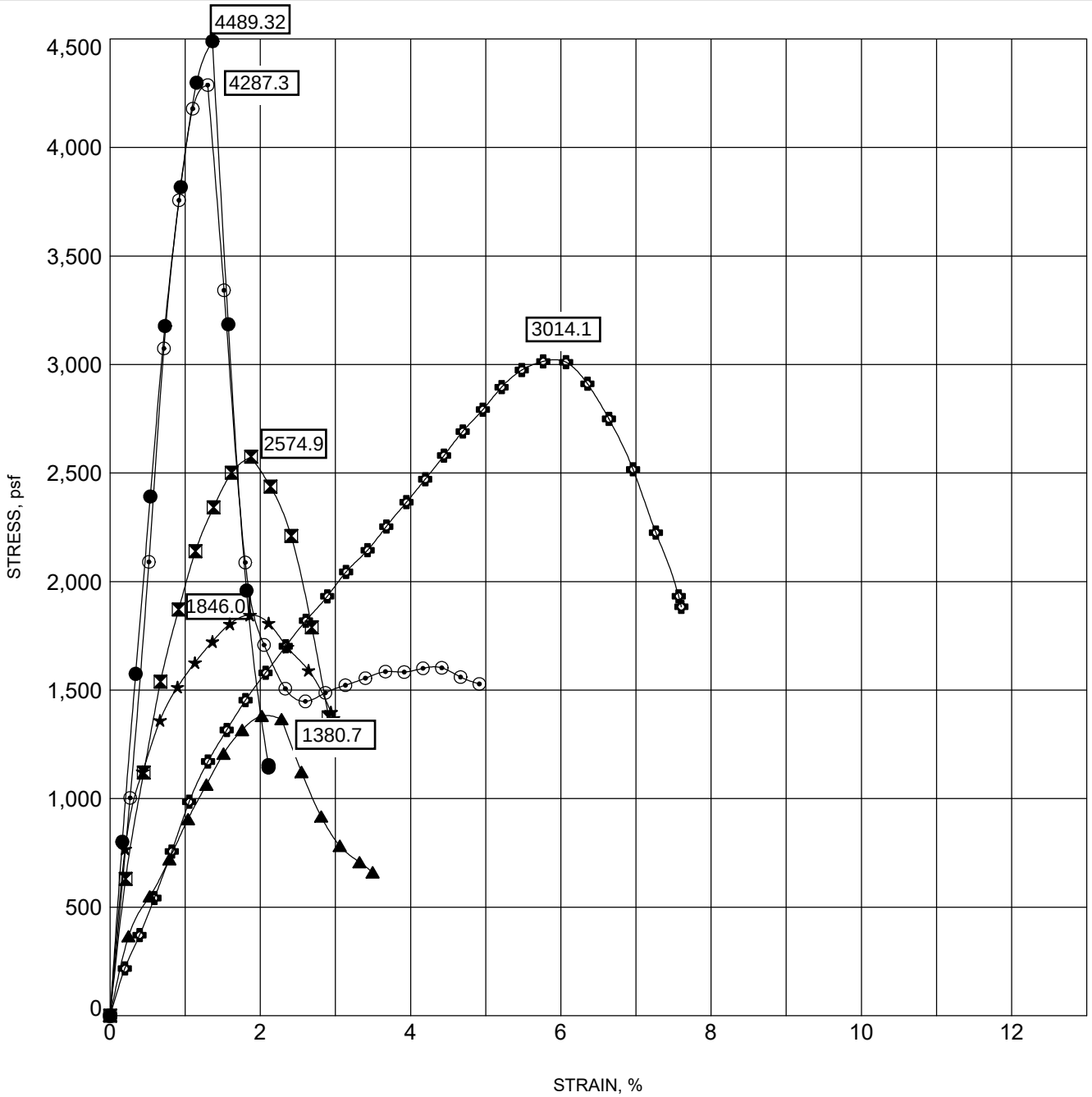
UNCONFINED COMPRESSION TEST

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County



	BOREHOLE	DEPTH	Classification	γ_d	MC%
●	3	8.5	FAT CLAY(CH)	98	23
⊠	7	8.5	ELASTIC SILT(MH)	98	22
▲	19	6.5	LEAN CLAY(CL)	109	15
★	24	10.0		91	26
⊙	26	10.0	ELASTIC SILT(MH)	96	25
✿	50	13.5	FAT CLAY(CH)	86	33

UNCONFINED - GINT STD US LAB.GDT - 8/11/20 10:35 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS7556020033 - TDOT - BLOUNT CO.GPJ

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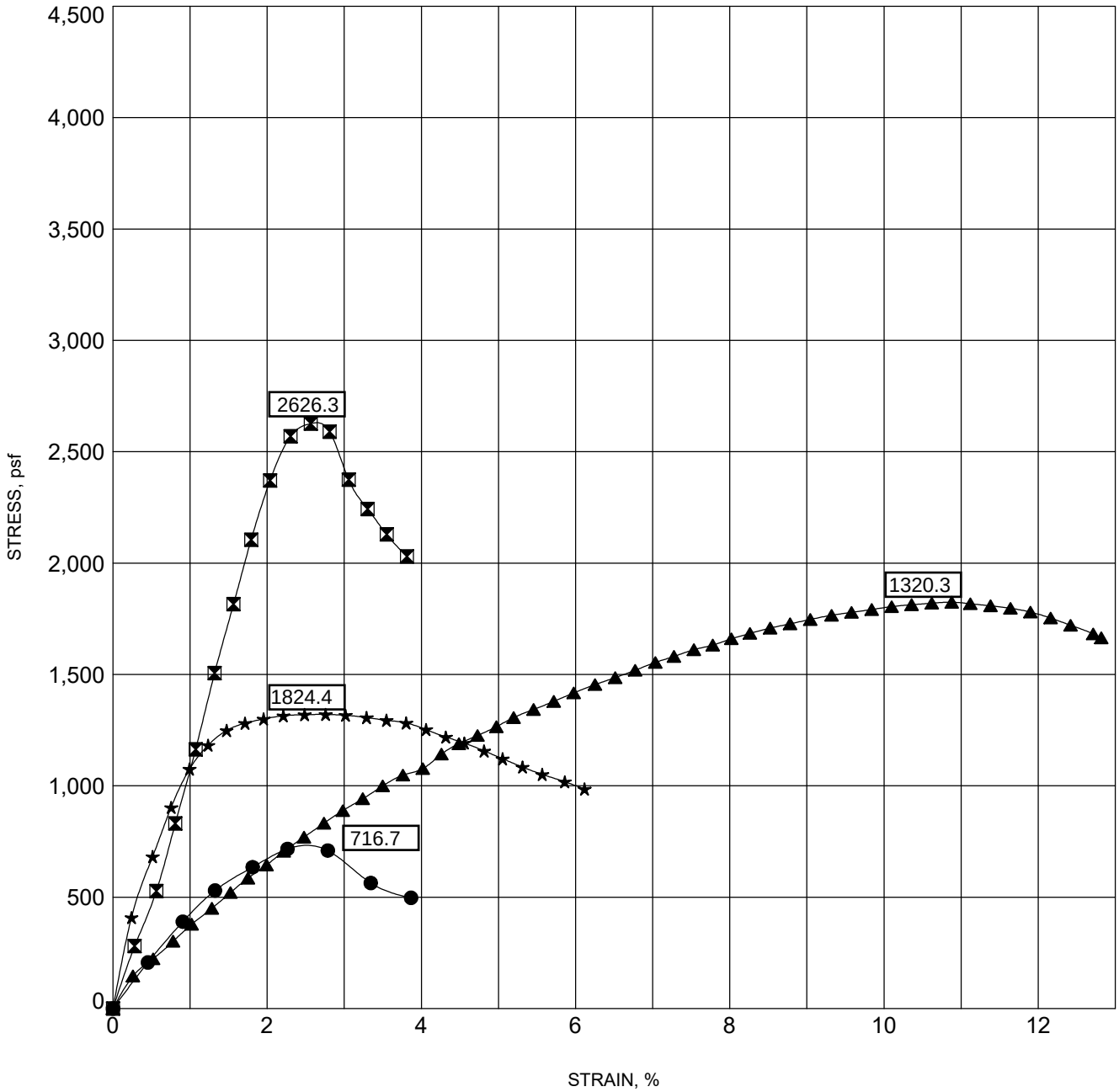
UNCONFINED COMPRESSION TEST

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

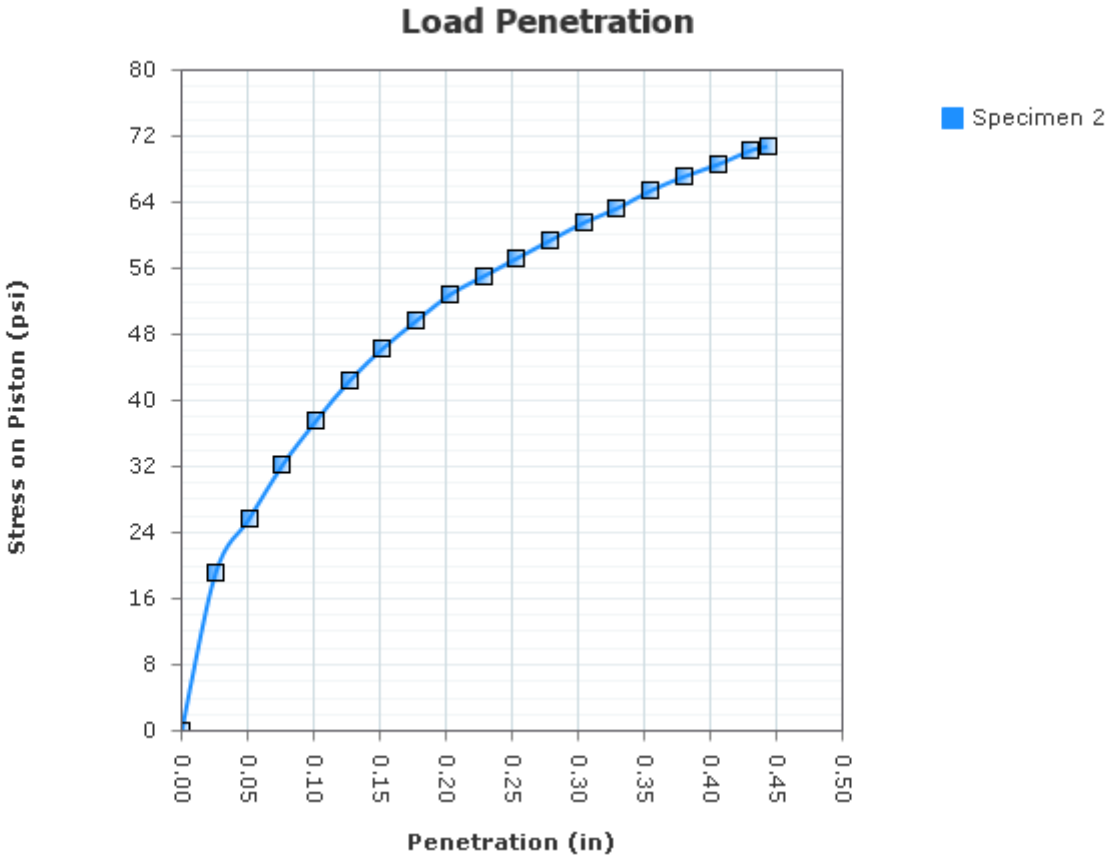


BOREHOLE		DEPTH	Classification	γ_d	MC%
●	54	8.5	ELASTIC SILT(MH)	43	33
⊠	73	8.5	LEAN CLAY(CL)	104	21
▲	126	4.0		107	20
★	137	4.0	LEAN CLAY(CL)	100	24

UNCONFINED - GINT STD US LAB.GDT - 8/11/20 10:35 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS7556020033 - TDOT - BLOUNT CO.GPJ

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)		3.8						
CBR @ 0.20 (in)		3.5						

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	
Sample Depth:	0.5-15.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

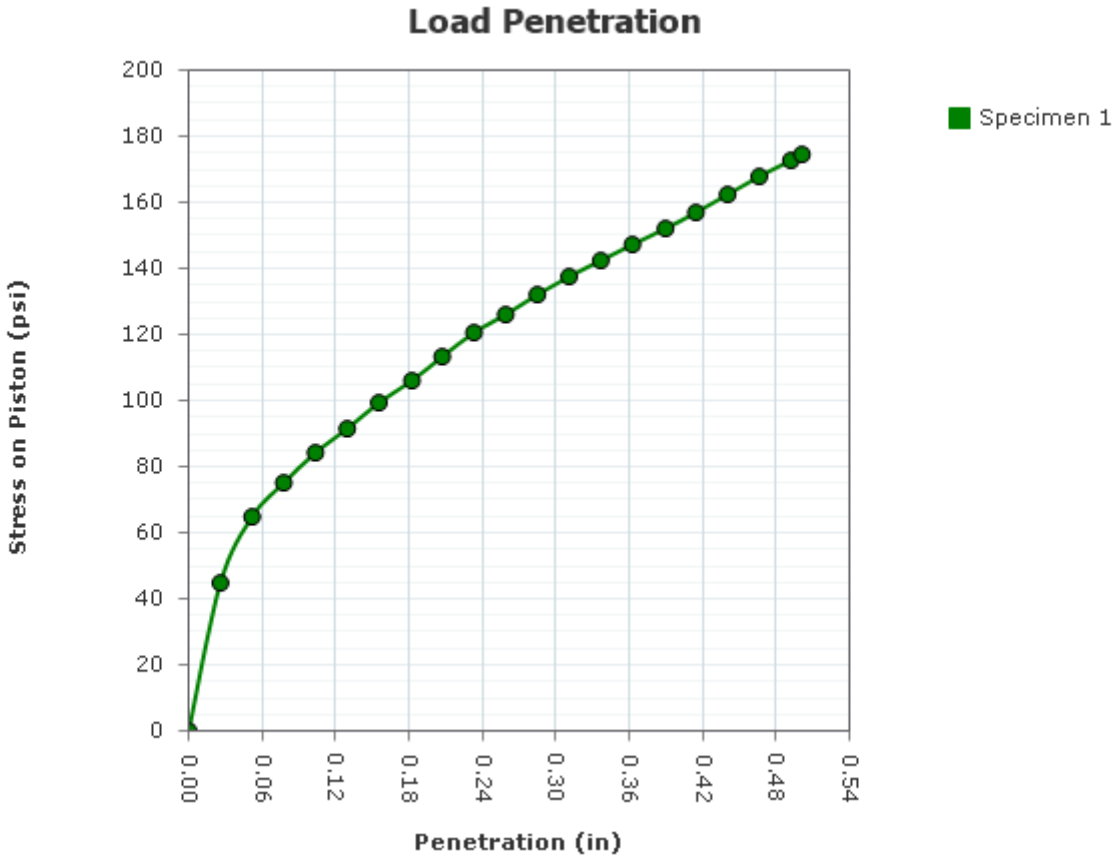
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity		2.72						
Liquid Limit		61						
Plastic Limit		22						
Surcharge Weight (lb)		10.00						
Number of Blows		56						
Maximum Dry Density (pcf)		99.3						
Optimum Moisture Content (%)		23.2						
Mold ID		GET-368						
Mold Diameter (in)		6.000						
Mold Weight (g)		7166.2						
Sample Height (in)		4.590						
Mold Volume (in^3)		129.78						
Moisture Content (%)		23.7						
Weight of Mold + Soil (g)		11156.7						
Weight of Soil (g)		3990.5						
Dry Density (pcf)		94.7						
Wet Density (pcf)		117.1						
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)		4.597						
Soaked Time (Hr)		96.000						
Swell (%)		0.2						
Moisture Content (%)		34.0						
Weight of Mold + Soil (g)		11360.9						
Weight After Soaking (g)		4194.7						
Dry Density (pcf)		91.9						
Wet Density (pcf)		123.1						

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	8.4							
CBR @ 0.20 (in)	7.6							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B8
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

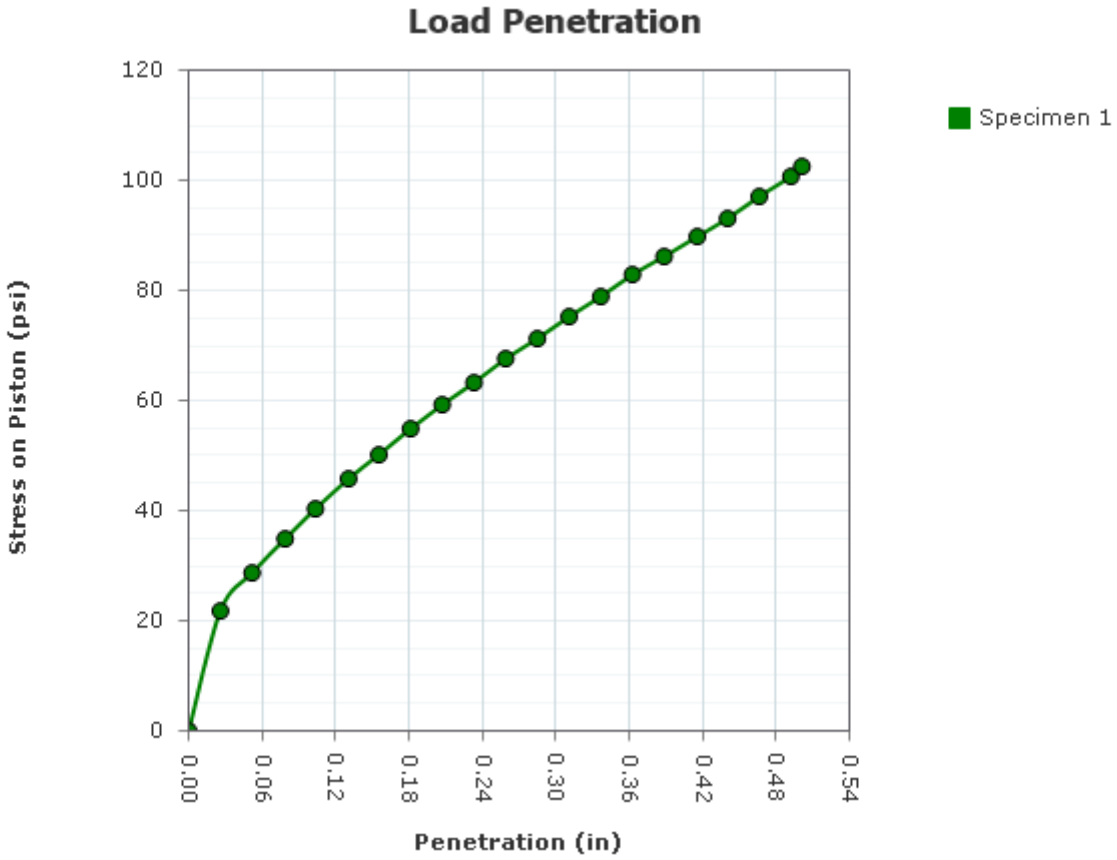
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	43							
Plastic Limit	21							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	104.8							
Optimum Moisture Content (%)	20.0							
Mold ID	GET - 023							
Mold Diameter (in)	6.000							
Mold Weight (g)	7262.3							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	20.1							
Weight of Mold + Soil (g)	11418.9							
Weight of Soil (g)	4156.6							
Dry Density (pcf)	101.6							
Wet Density (pcf)	122.0							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.600							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	22.9							
Weight of Mold + Soil (g)	11546.1							
Weight After Soaking (g)	4283.8							
Dry Density (pcf)	102.3							
Wet Density (pcf)	125.7							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	4.0							
CBR @ 0.20 (in)	4.0							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B9
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

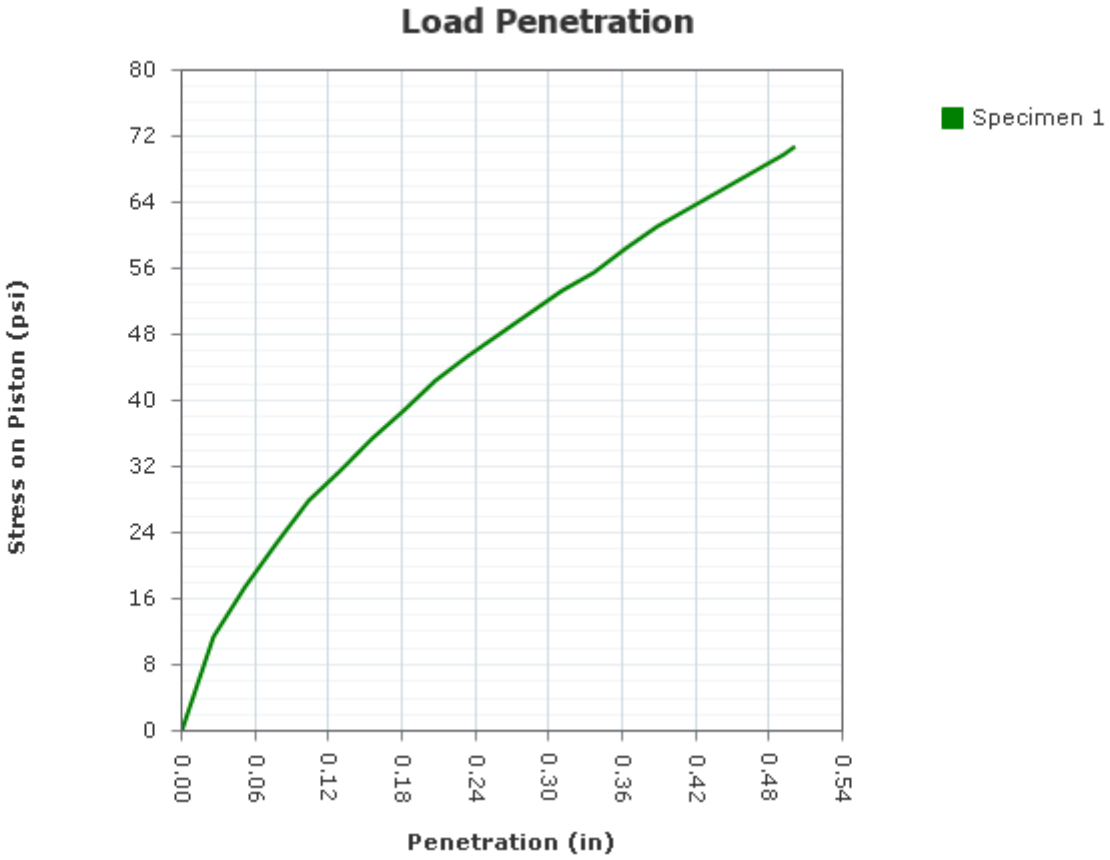
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	33							
Plastic Limit	21							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	112.4							
Optimum Moisture Content (%)	16.9							
Mold ID	GET - 368							
Mold Diameter (in)	6.000							
Mold Weight (g)	7161.0							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	16.5							
Weight of Mold + Soil (g)	11571.5							
Weight of Soil (g)	4410.5							
Dry Density (pcf)	111.1							
Wet Density (pcf)	129.5							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.685							
Soaked Time (Hr)	96.000							
Swell (%)	2.1							
Moisture Content (%)	23.5							
Weight of Mold + Soil (g)	11741.1							
Weight After Soaking (g)	4580.1							
Dry Density (pcf)	108.9							
Wet Density (pcf)	134.4							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	2.8							
CBR @ 0.20 (in)	2.8							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B9
Sample Depth:	17.2 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

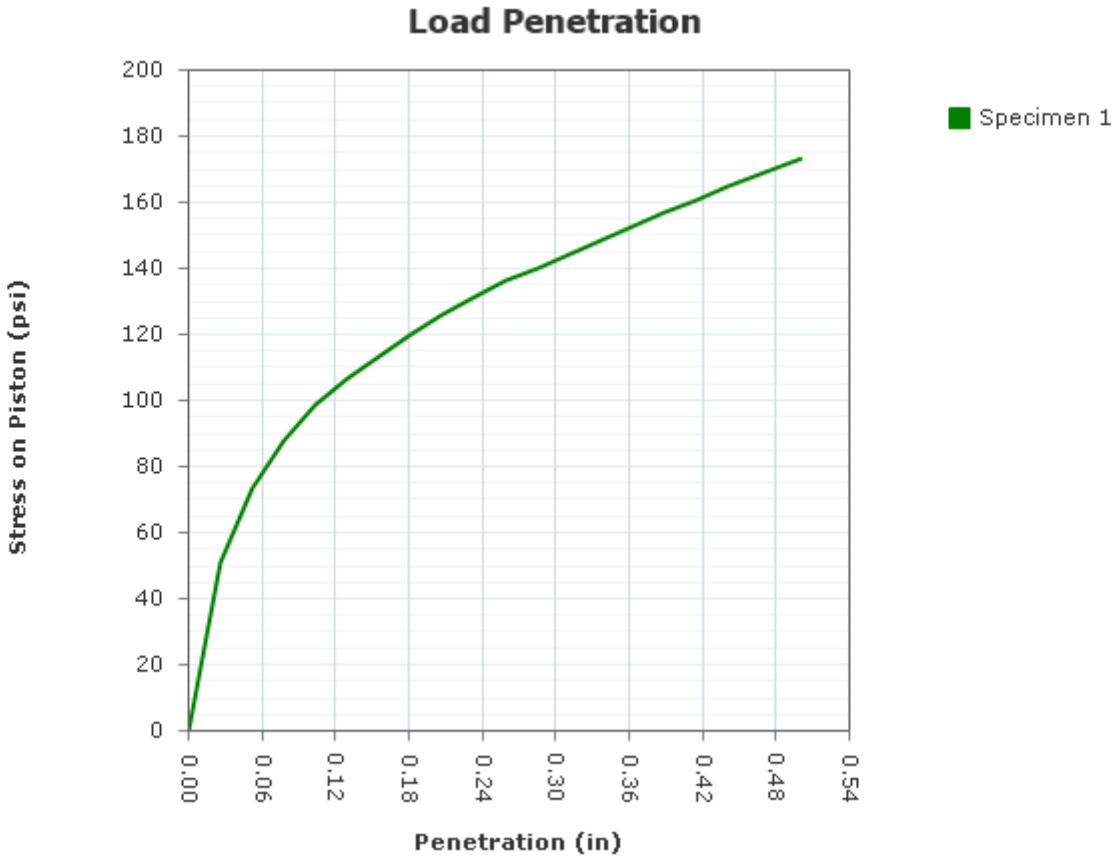
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	36							
Plastic Limit	21							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	110.5							
Optimum Moisture Content (%)	15.1							
Mold ID	GET - 371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7161.0							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	15.3							
Weight of Mold + Soil (g)	11480.4							
Weight of Soil (g)	4319.4							
Dry Density (pcf)	110.0							
Wet Density (pcf)	126.8							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.820							
Soaked Time (Hr)	96.000							
Swell (%)	5.0							
Moisture Content (%)	23.4							
Weight of Mold + Soil (g)	11704.0							
Weight After Soaking (g)	4543.0							
Dry Density (pcf)	108.0							
Wet Density (pcf)	133.4							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	9.9							
CBR @ 0.20 (in)	8.4							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B12
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

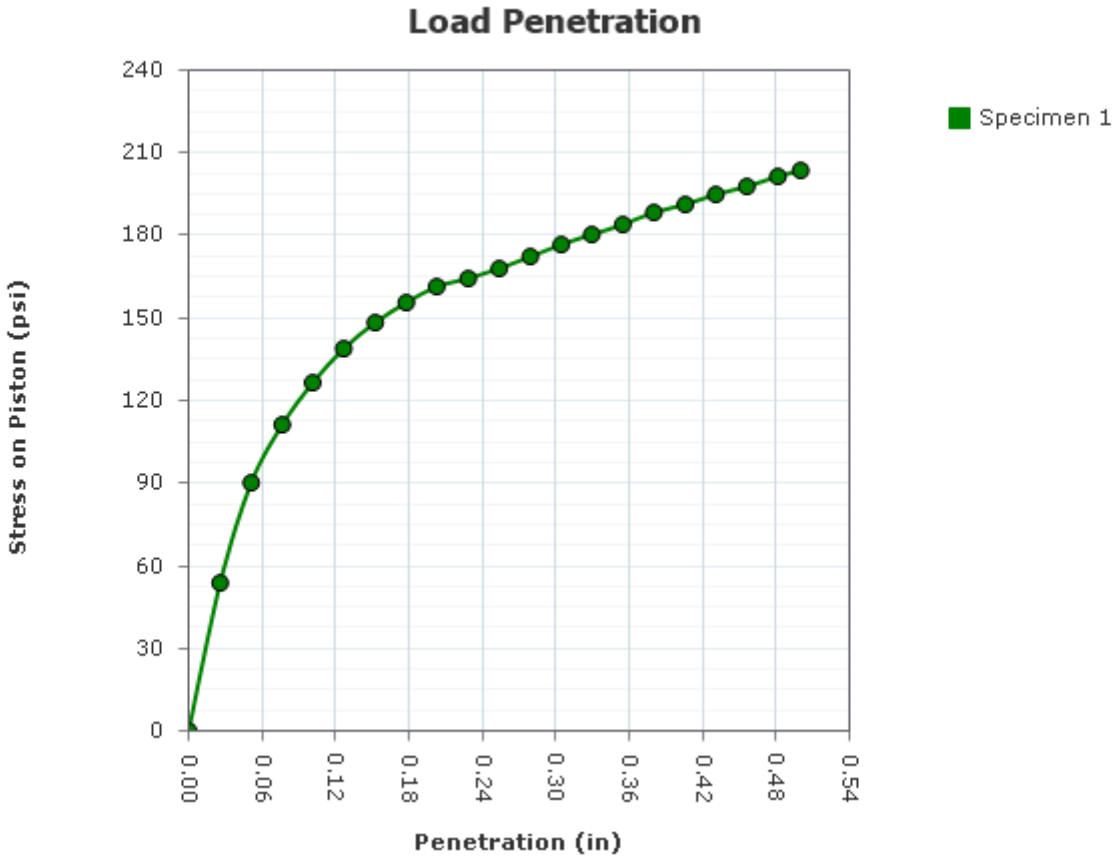
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	107.7							
Optimum Moisture Content (%)	18.8							
Mold ID	GET - 370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7165.7							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	19.2							
Weight of Mold + Soil (g)	11323.5							
Weight of Soil (g)	4157.8							
Dry Density (pcf)	102.4							
Wet Density (pcf)	122.0							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.599							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	21.0							
Weight of Mold + Soil (g)	11428.0							
Weight After Soaking (g)	4262.3							
Dry Density (pcf)	103.4							
Wet Density (pcf)	125.1							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	12.7							
CBR @ 0.20 (in)	10.8							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B17
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

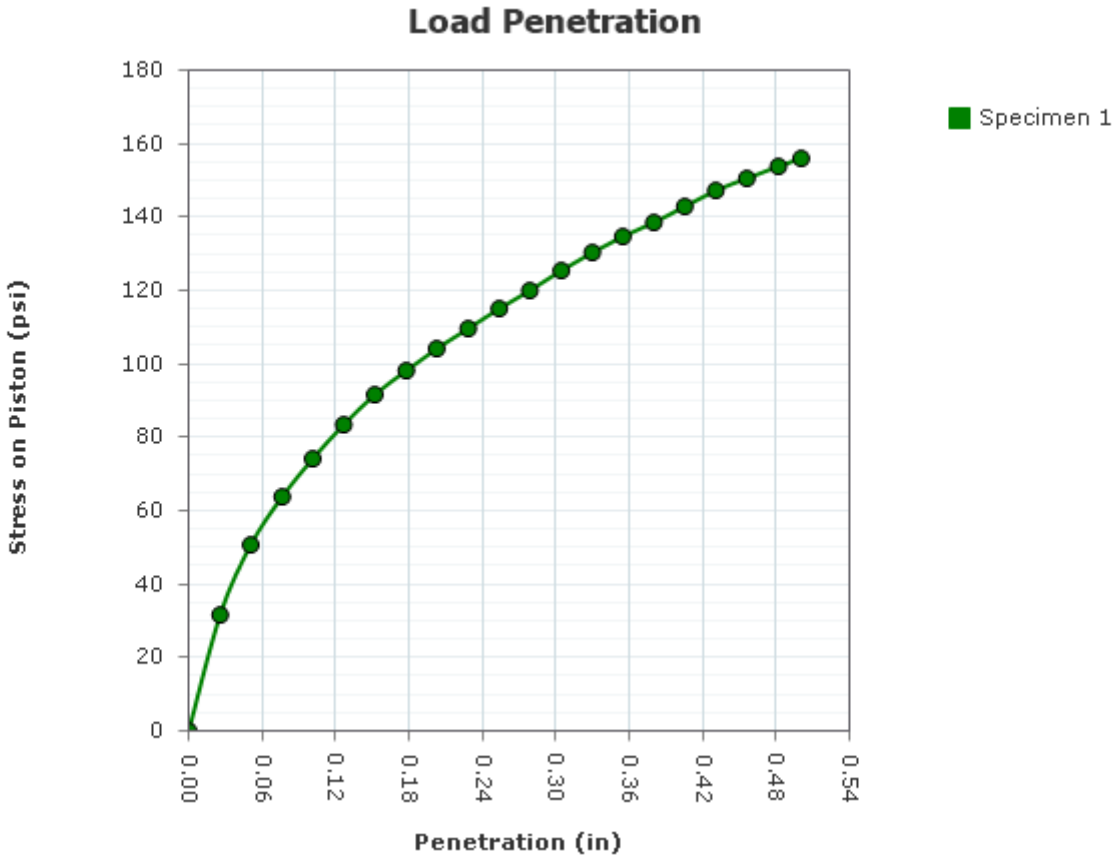
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	52							
Plastic Limit	24							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	93.9							
Optimum Moisture Content (%)	25.3							
Mold ID	GET-371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7161.7							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	25.3							
Weight of Mold + Soil (g)	11221.6							
Weight of Soil (g)	4059.9							
Dry Density (pcf)	95.1							
Wet Density (pcf)	119.2							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.636							
Soaked Time (Hr)	96.000							
Swell (%)	1.0							
Moisture Content (%)	28.7							
Weight of Mold + Soil (g)	11318.4							
Weight After Soaking (g)	4156.7							
Dry Density (pcf)	94.8							
Wet Density (pcf)	122.0							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	7.4							
CBR @ 0.20 (in)	6.9							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B22
Sample Depth:	25 ft
Location:	See Logs
Client Name:	
Remarks:	

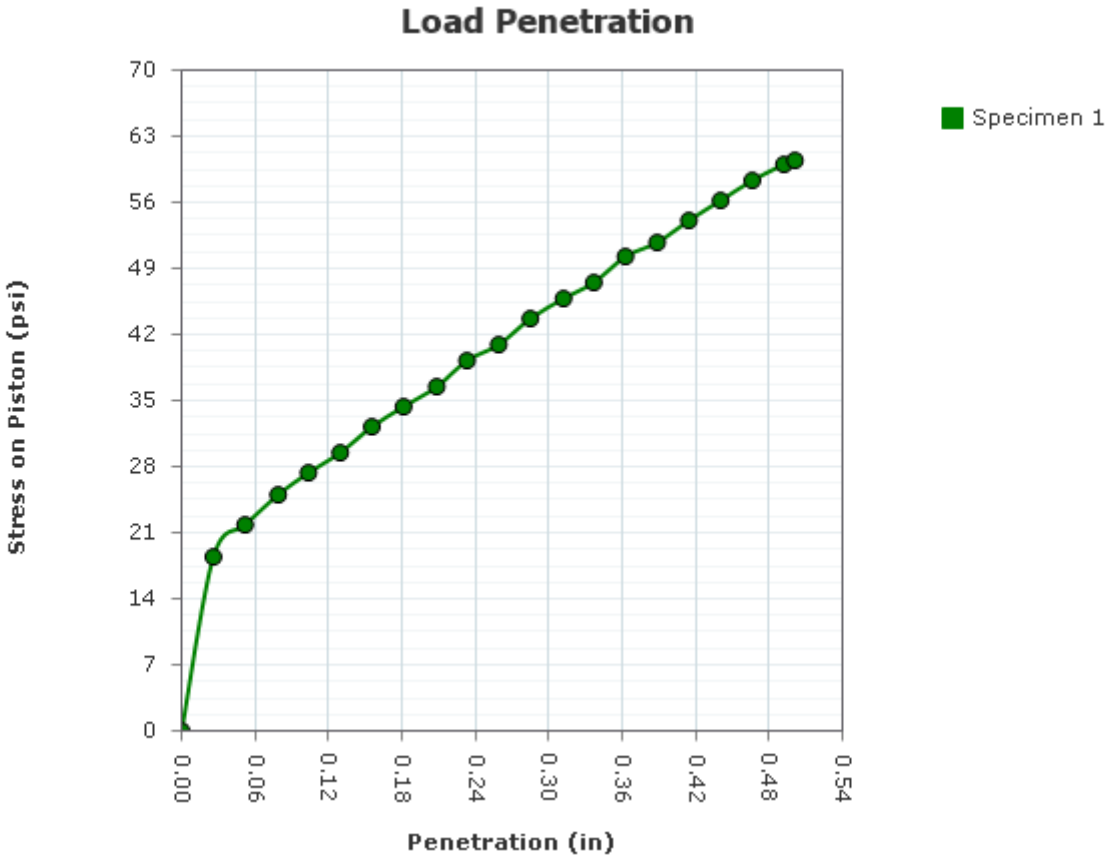
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	40							
Plastic Limit	20							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	106.4							
Optimum Moisture Content (%)	18.6							
Mold ID	GET-370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7162.0							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	19.1							
Weight of Mold + Soil (g)	11445.0							
Weight of Soil (g)	4283.0							
Dry Density (pcf)	105.6							
Wet Density (pcf)	125.7							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.634							
Soaked Time (Hr)	96.000							
Swell (%)	1.0							
Moisture Content (%)	23.0							
Weight of Mold + Soil (g)	11568.6							
Weight After Soaking (g)	4406.6							
Dry Density (pcf)	105.2							
Wet Density (pcf)	129.4							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	2.7							
CBR @ 0.20 (in)	2.4							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B24
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

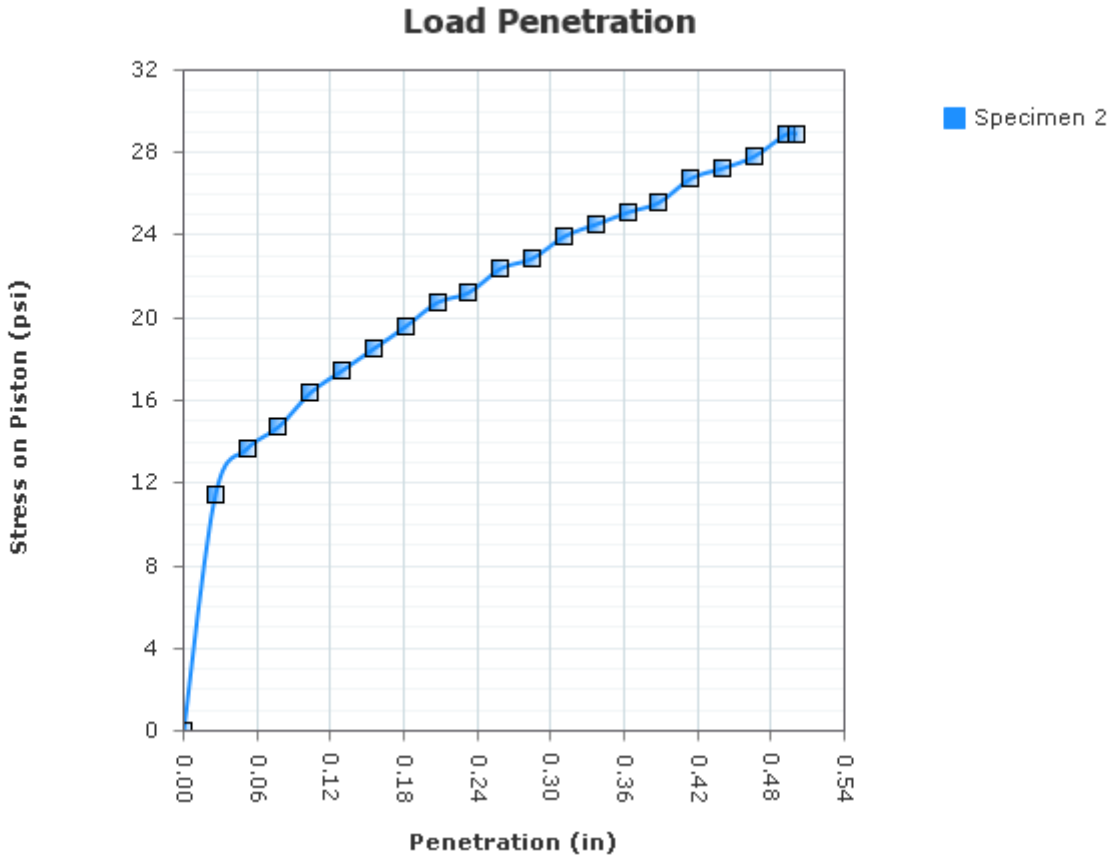
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	61							
Plastic Limit	22							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	93.4							
Optimum Moisture Content (%)	27.0							
Mold ID	GET 021							
Mold Diameter (in)	6.000							
Mold Weight (g)	7132.6							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	27.0							
Weight of Mold + Soil (g)	11150.9							
Weight of Soil (g)	4018.3							
Dry Density (pcf)	92.8							
Wet Density (pcf)	118.0							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.599							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	33.8							
Weight of Mold + Soil (g)	11337.0							
Weight After Soaking (g)	4204.4							
Dry Density (pcf)	92.2							
Wet Density (pcf)	123.4							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)		1.6						
CBR @ 0.20 (in)		1.4						

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B28
Sample Depth:	0.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

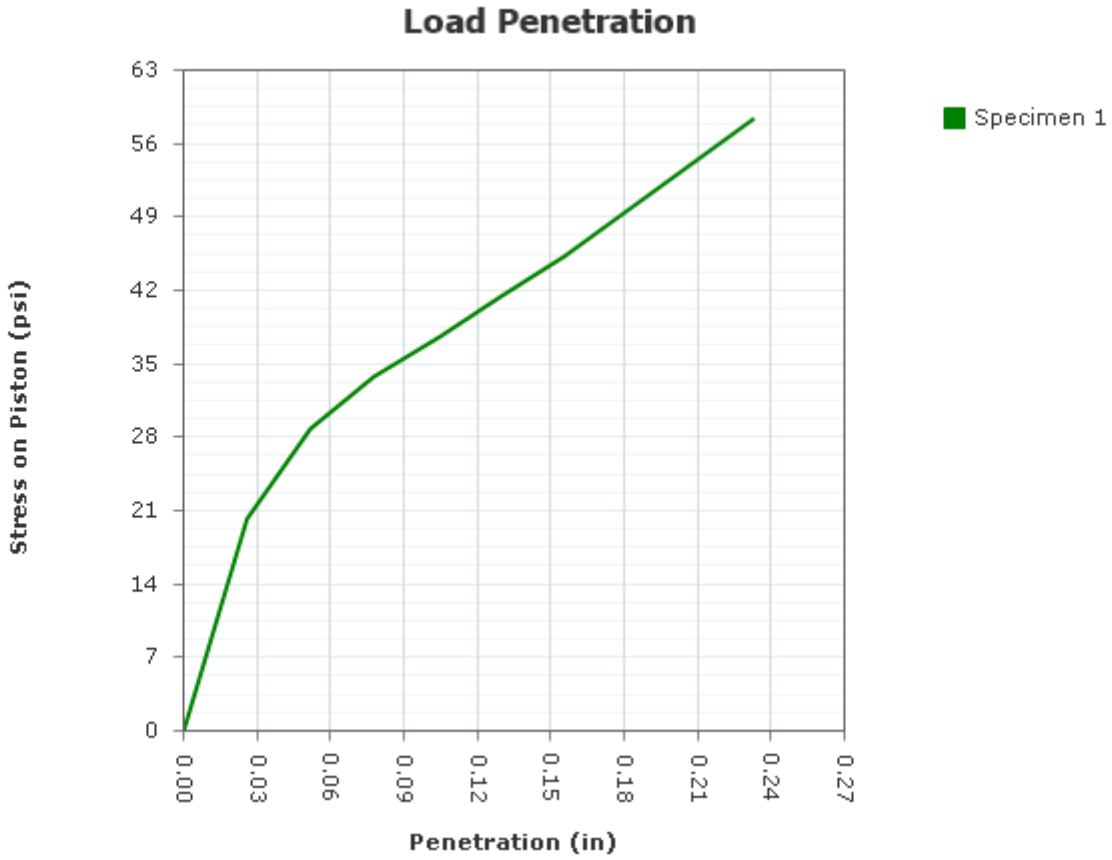
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity		2.72						
Liquid Limit		50						
Plastic Limit		24						
Surcharge Weight (lb)		10.00						
Number of Blows		56						
Maximum Dry Density (pcf)		104.7						
Optimum Moisture Content (%)		17.9						
Mold ID		GET - 022						
Mold Diameter (in)		6.000						
Mold Weight (g)		7288.5						
Sample Height (in)		4.590						
Mold Volume (in^3)		129.78						
Moisture Content (%)		16.5						
Weight of Mold + Soil (g)		11136.7						
Weight of Soil (g)		3848.2						
Dry Density (pcf)		96.9						
Wet Density (pcf)		113.0						
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)		4.786						
Soaked Time (Hr)		96.000						
Swell (%)		4.3						
Moisture Content (%)		24.9						
Weight of Mold + Soil (g)		11529.7						
Weight After Soaking (g)		4241.2						
Dry Density (pcf)		99.7						
Wet Density (pcf)		124.5						

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	3.8							
CBR @ 0.20 (in)	3.6							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B29
Sample Depth:	.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

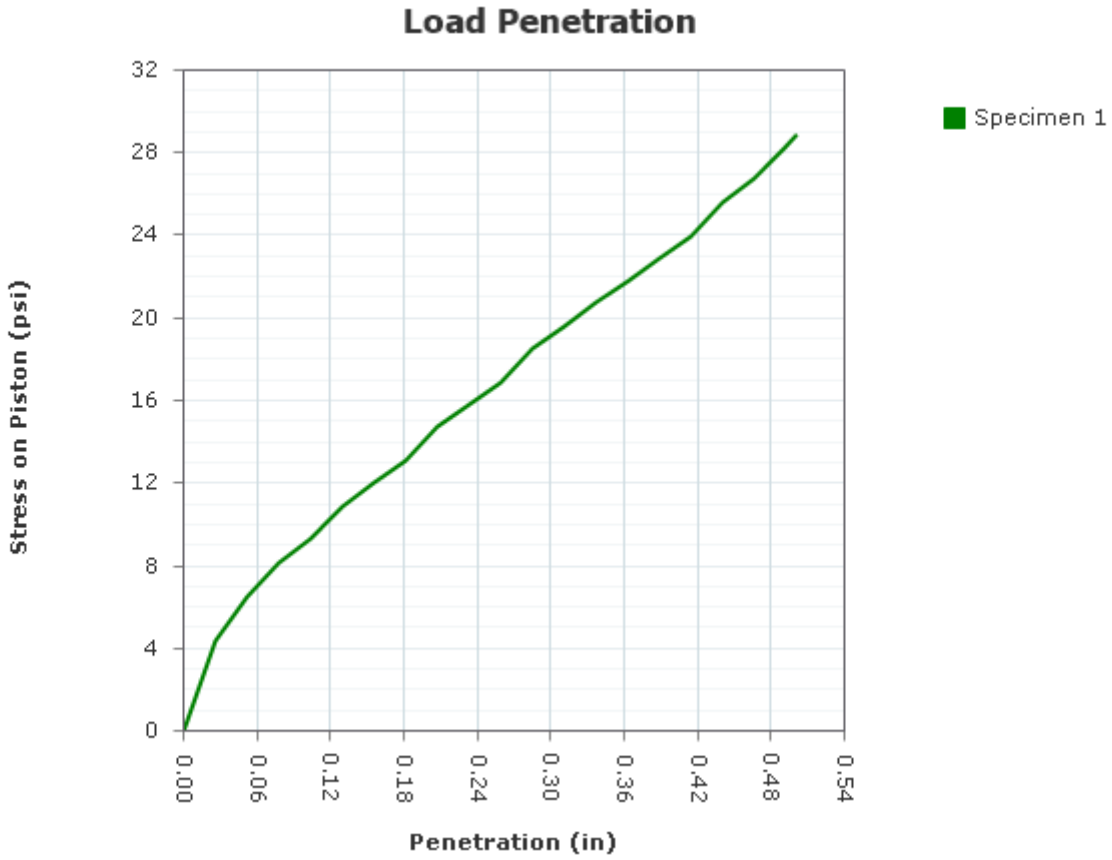
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	57							
Plastic Limit	33							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	92.4							
Optimum Moisture Content (%)	25.6							
Mold ID	GET-370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7155.7							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	26.0							
Weight of Mold + Soil (g)	10884.1							
Weight of Soil (g)	3728.4							
Dry Density (pcf)	87.0							
Wet Density (pcf)	109.7							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.601							
Soaked Time (Hr)	96.000							
Swell (%)	0.5							
Moisture Content (%)	32.2							
Weight of Mold + Soil (g)	11210.3							
Weight After Soaking (g)	4054.6							
Dry Density (pcf)	90.2							
Wet Density (pcf)	119.3							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	0.9							
CBR @ 0.20 (in)	1.0							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B29
Sample Depth:	7.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

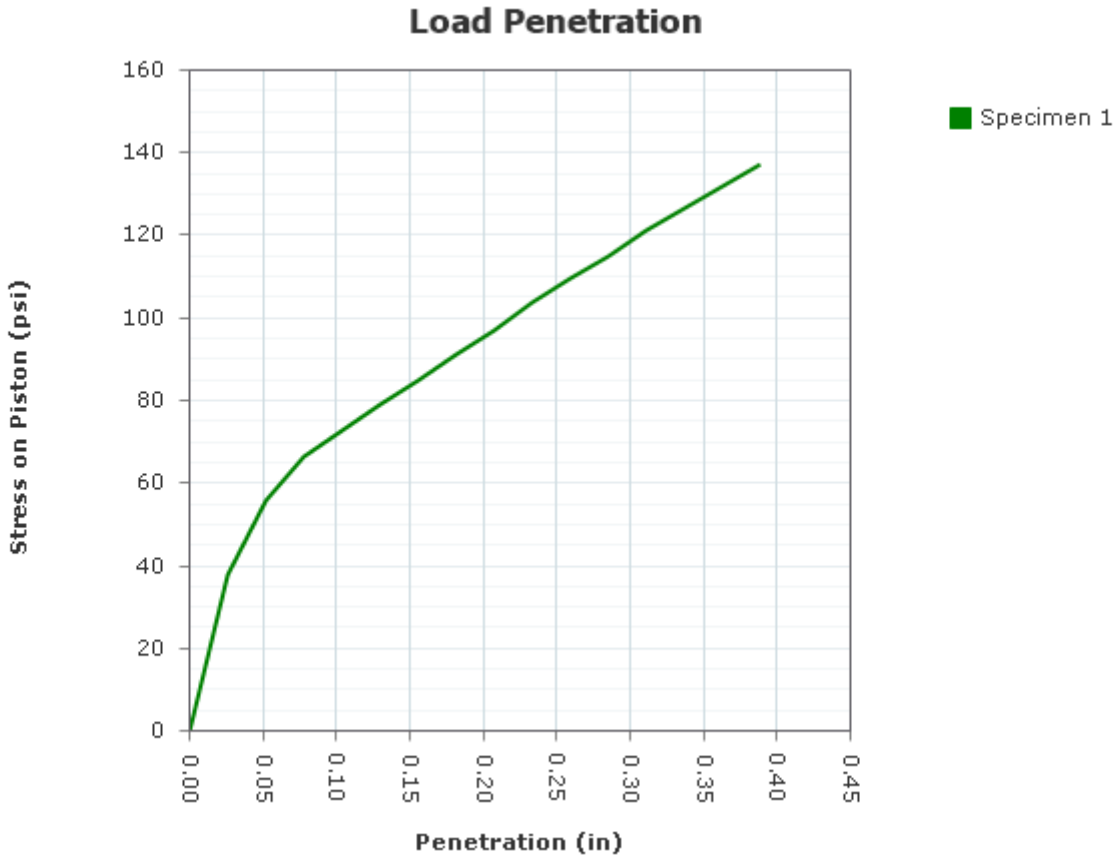
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	45							
Plastic Limit	26							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	100.4							
Optimum Moisture Content (%)	21.9							
Mold ID	GET-371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7150.2							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	22.5							
Weight of Mold + Soil (g)	11177.5							
Weight of Soil (g)	4027.3							
Dry Density (pcf)	96.5							
Wet Density (pcf)	118.2							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.637							
Soaked Time (Hr)	96.000							
Swell (%)	1.0							
Moisture Content (%)	33.8							
Weight of Mold + Soil (g)	11341.6							
Weight After Soaking (g)	4191.4							
Dry Density (pcf)	91.9							
Wet Density (pcf)	123.0							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	7.3							
CBR @ 0.20 (in)	6.5							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B46
Sample Depth:	.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

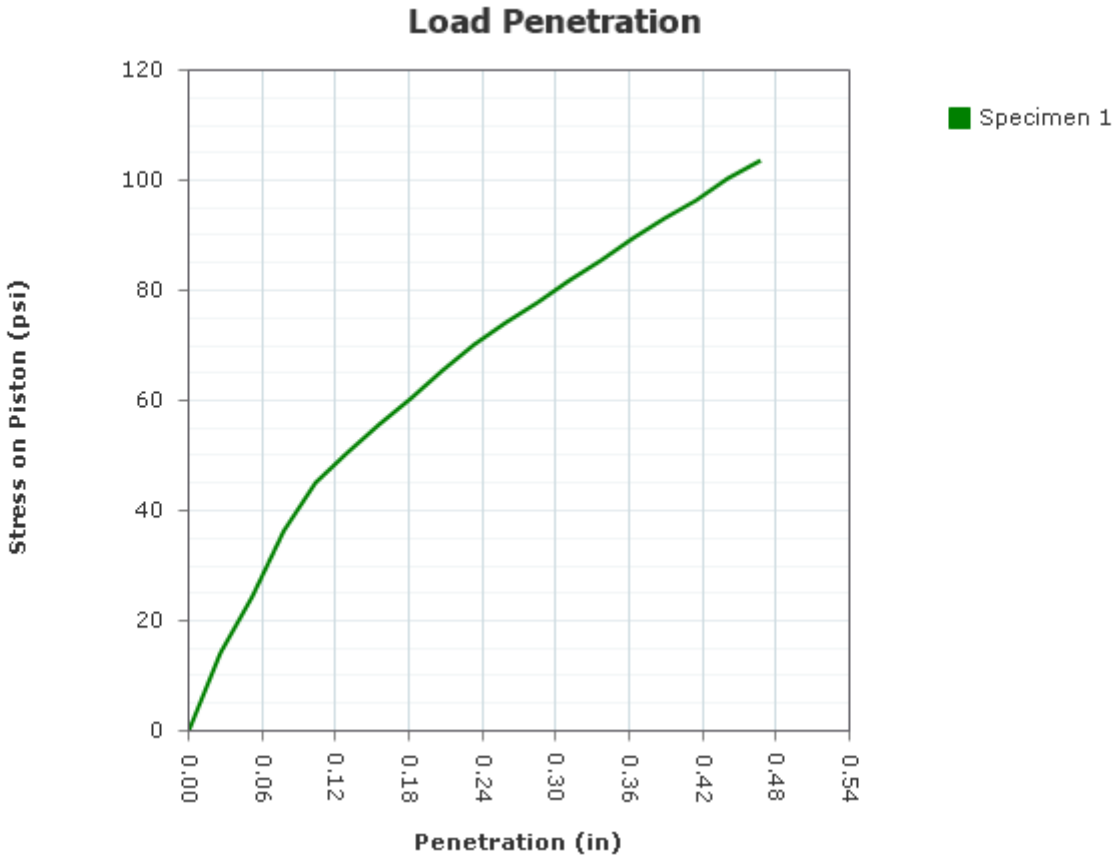
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	43							
Plastic Limit	24							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	99.2							
Optimum Moisture Content (%)	23.3							
Mold ID	GET-22							
Mold Diameter (in)	6.000							
Mold Weight (g)	7277.6							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	23.2							
Weight of Mold + Soil (g)	11349.8							
Weight of Soil (g)	4072.2							
Dry Density (pcf)	97.2							
Wet Density (pcf)	119.8							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.700							
Soaked Time (Hr)	96.000							
Swell (%)	2.6							
Moisture Content (%)	28.8							
Weight of Mold + Soil (g)	11437.7							
Weight After Soaking (g)	4160.1							
Dry Density (pcf)	95.1							
Wet Density (pcf)	122.4							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	4.5							
CBR @ 0.20 (in)	4.4							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B46
Sample Depth:	28 ft
Location:	
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

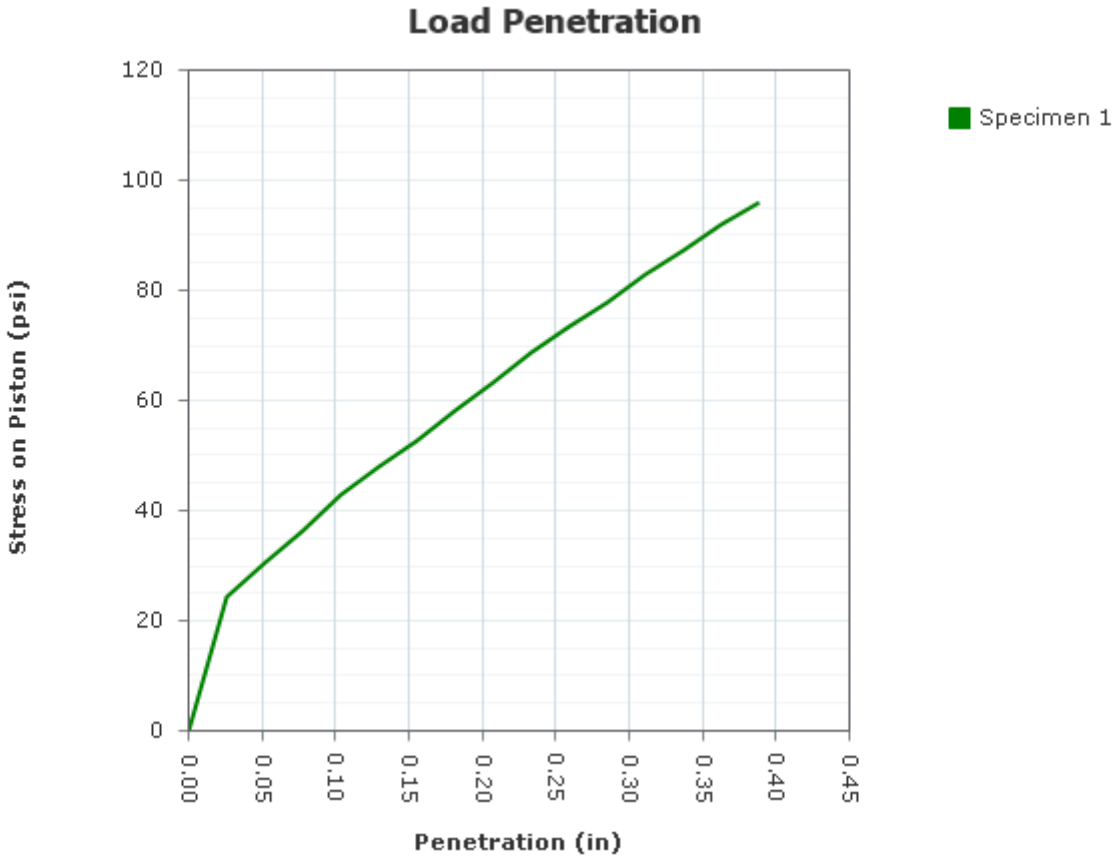
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	65							
Plastic Limit	31							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	91.7							
Optimum Moisture Content (%)	28.0							
Mold ID	GET - 023							
Mold Diameter (in)	6.000							
Mold Weight (g)	7269.2							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	27.9							
Weight of Mold + Soil (g)	11165.4							
Weight of Soil (g)	3896.2							
Dry Density (pcf)	89.6							
Wet Density (pcf)	114.6							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.590							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	32.1							
Weight of Mold + Soil (g)	11244.2							
Weight After Soaking (g)	3975.0							
Dry Density (pcf)	88.5							
Wet Density (pcf)	116.9							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	4.3							
CBR @ 0.20 (in)	4.2							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B48
Sample Depth:	.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

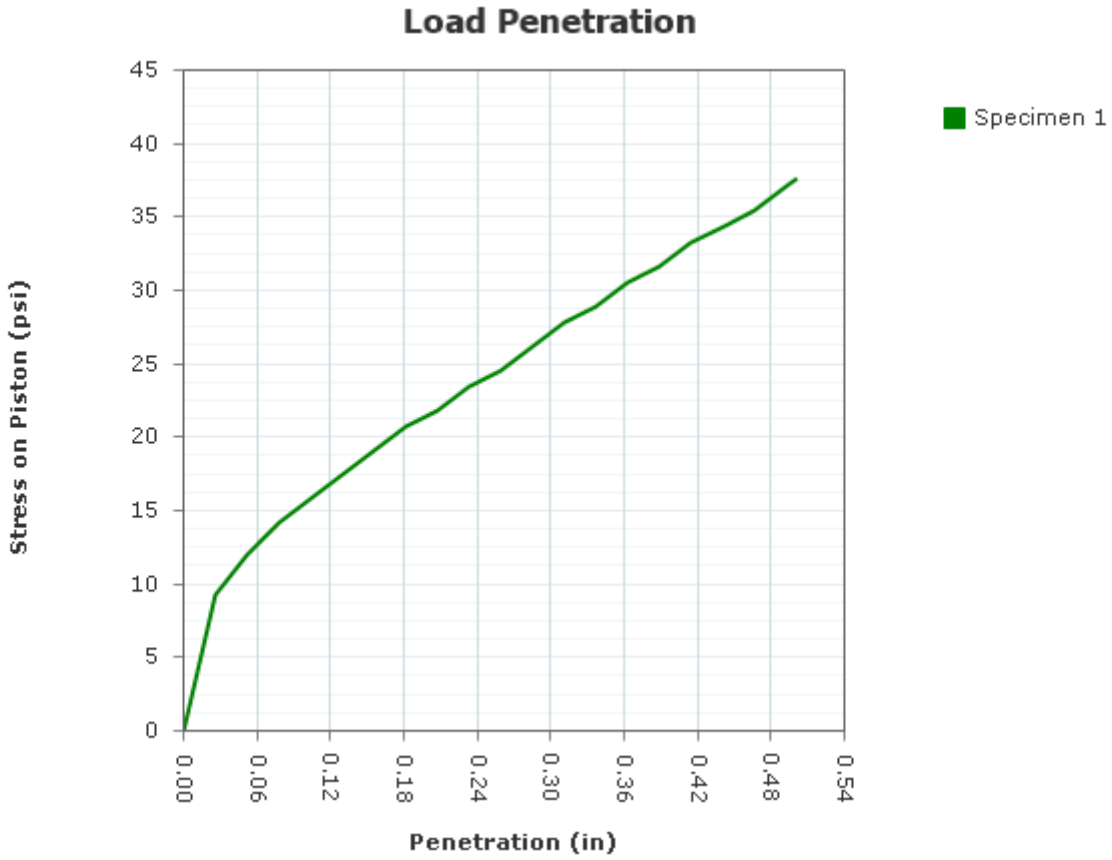
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	57							
Plastic Limit	28							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	91.1							
Optimum Moisture Content (%)	27.5							
Mold ID	GET-024							
Mold Diameter (in)	6.000							
Mold Weight (g)	7279.0							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	27.1							
Weight of Mold + Soil (g)	11131.9							
Weight of Soil (g)	3852.9							
Dry Density (pcf)	89.2							
Wet Density (pcf)	113.3							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.590							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	34.2							
Weight of Mold + Soil (g)	11249.6							
Weight After Soaking (g)	3970.6							
Dry Density (pcf)	87.0							
Wet Density (pcf)	116.8							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	1.6							
CBR @ 0.20 (in)	1.5							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B51
Sample Depth:	15 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

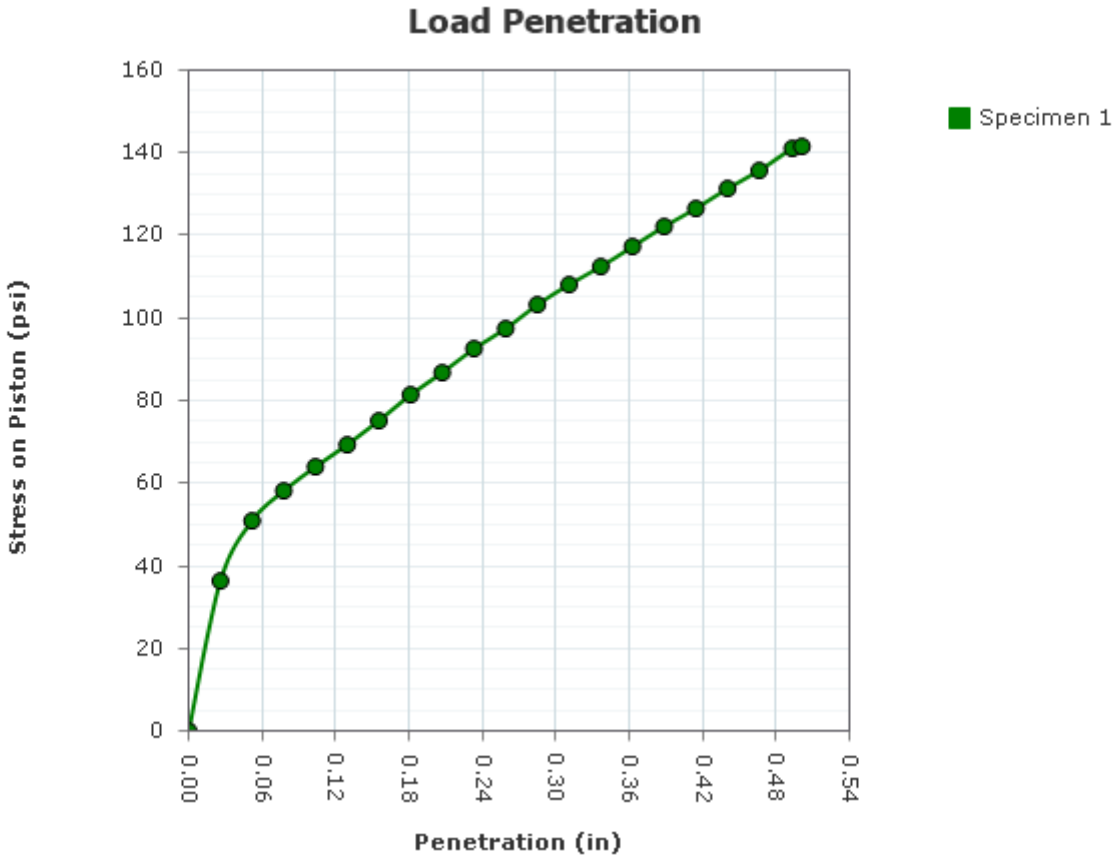
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	60							
Plastic Limit	31							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	96.7							
Optimum Moisture Content (%)	6.0							
Mold ID	GET - 371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7149.7							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	25.0							
Weight of Mold + Soil (g)	11115.9							
Weight of Soil (g)	3966.2							
Dry Density (pcf)	93.3							
Wet Density (pcf)	116.7							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.601							
Soaked Time (Hr)	96.000							
Swell (%)	0.5							
Moisture Content (%)	38.6							
Weight of Mold + Soil (g)	11161.6							
Weight After Soaking (g)	4011.9							
Dry Density (pcf)	85.2							
Wet Density (pcf)	118.0							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	6.4							
CBR @ 0.20 (in)	5.8							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B59
Sample Depth:	1 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

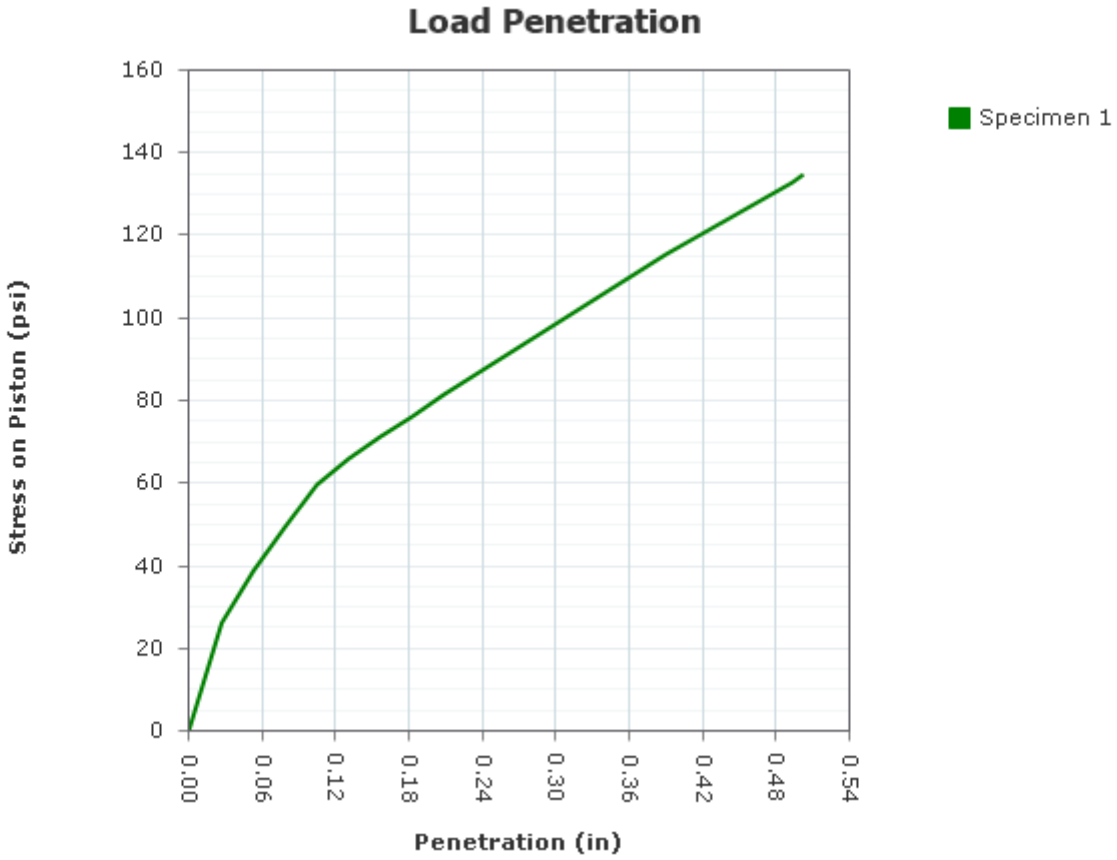
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	46							
Plastic Limit	24							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	99.4							
Optimum Moisture Content (%)	22.1							
Mold ID	GET - 370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7165.1							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	22.5							
Weight of Mold + Soil (g)	1138.9							
Weight of Soil (g)	-6026.2							
Dry Density (pcf)	-144.4							
Wet Density (pcf)	-176.9							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.594							
Soaked Time (Hr)	96.000							
Swell (%)	0.1							
Moisture Content (%)	25.5							
Weight of Mold + Soil (g)	11379.1							
Weight After Soaking (g)	4214.0							
Dry Density (pcf)	98.6							
Wet Density (pcf)	123.7							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	5.9							
CBR @ 0.20 (in)	5.4							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B61
Sample Depth:	1 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

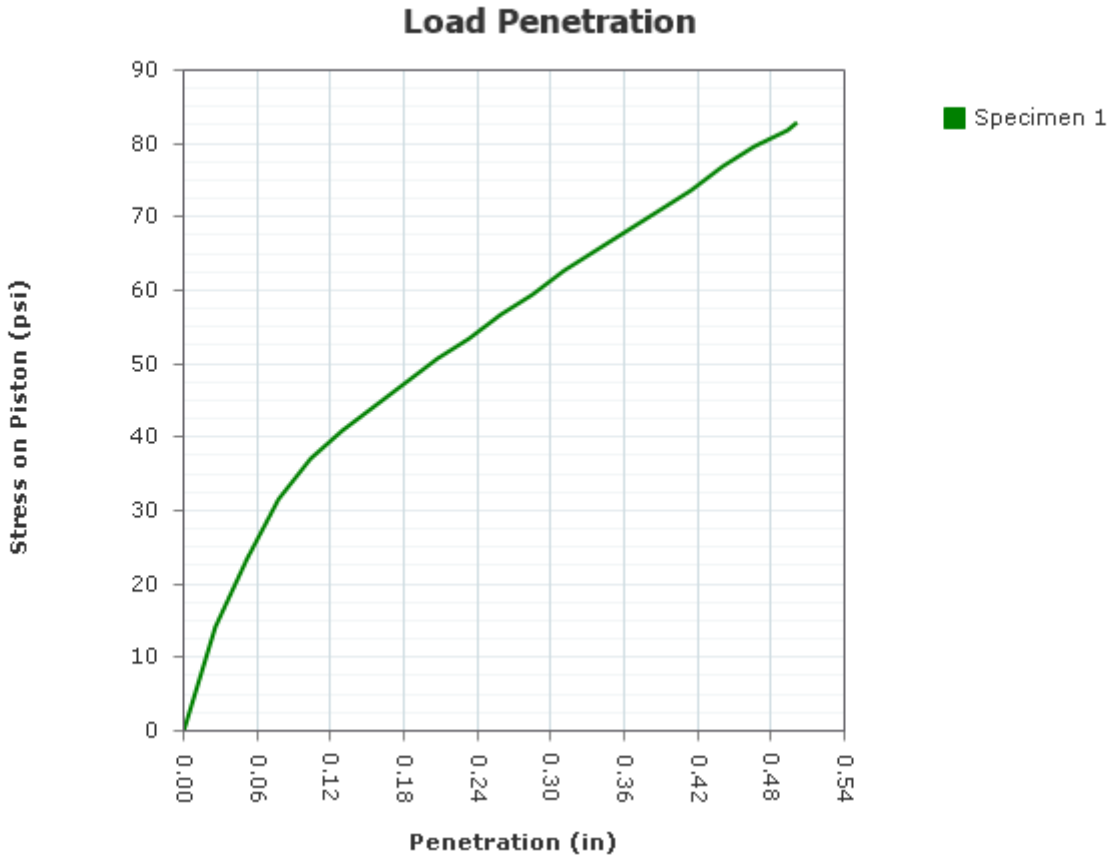
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	109.7							
Optimum Moisture Content (%)	17.3							
Mold ID	GET - 368							
Mold Diameter (in)	6.000							
Mold Weight (g)	7143.6							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	16.9							
Weight of Mold + Soil (g)	11309.7							
Weight of Soil (g)	4166.1							
Dry Density (pcf)	104.6							
Wet Density (pcf)	122.3							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.601							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	23.8							
Weight of Mold + Soil (g)	11428.2							
Weight After Soaking (g)	4284.6							
Dry Density (pcf)	101.6							
Wet Density (pcf)	125.8							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	3.7							
CBR @ 0.20 (in)	3.4							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B66
Sample Depth:	1 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

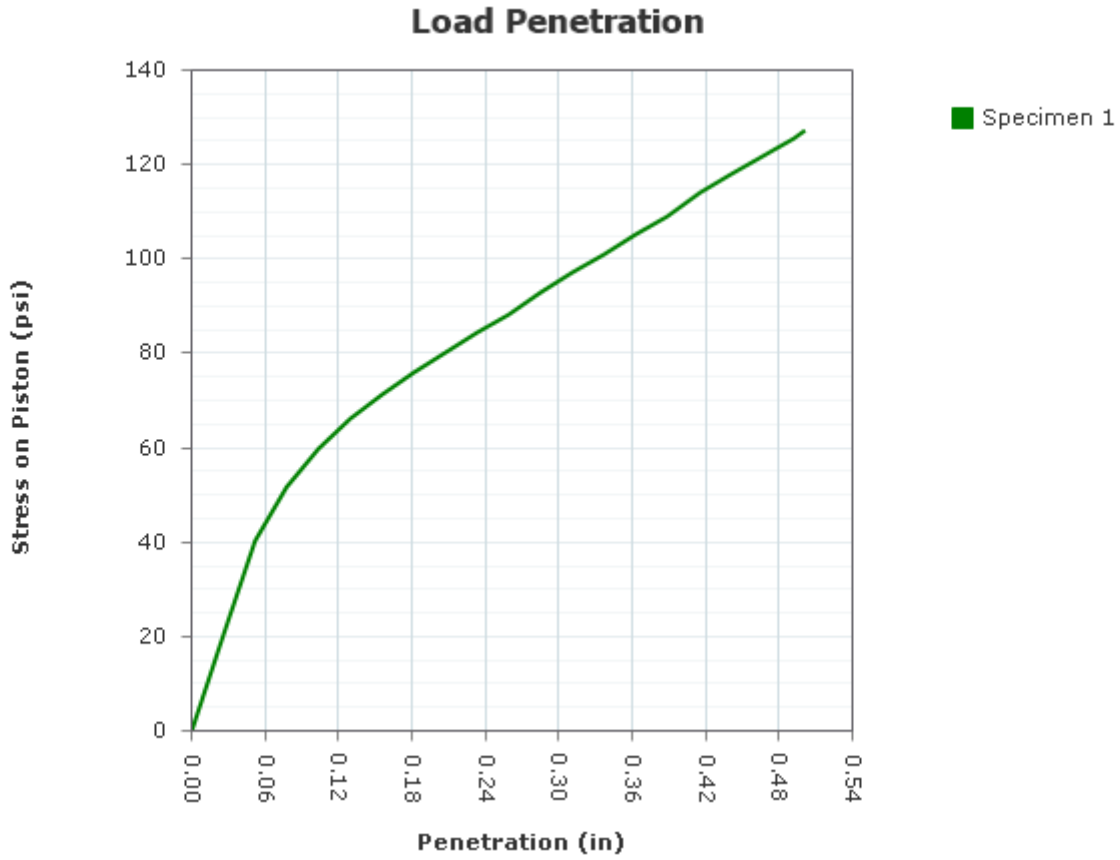
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	55							
Plastic Limit	32							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	93.4							
Optimum Moisture Content (%)	26.8							
Mold ID	GET - 371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7160.0							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	27.1							
Weight of Mold + Soil (g)	10983.3							
Weight of Soil (g)	3823.3							
Dry Density (pcf)	88.3							
Wet Density (pcf)	112.2							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.603							
Soaked Time (Hr)	96.000							
Swell (%)	0.3							
Moisture Content (%)	37.3							
Weight of Mold + Soil (g)	11097.2							
Weight After Soaking (g)	3937.2							
Dry Density (pcf)	84.2							
Wet Density (pcf)	115.6							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	6.0							
CBR @ 0.20 (in)	5.3							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B75
Sample Depth:	1 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

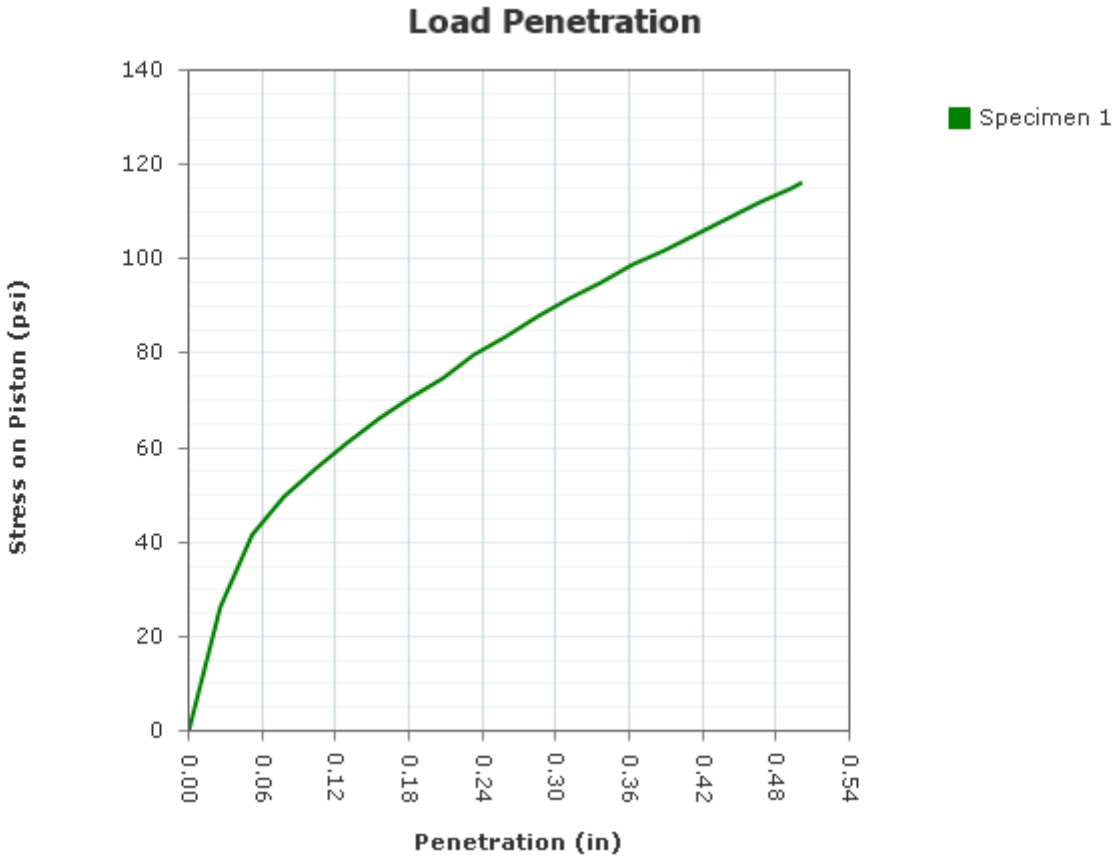
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	35							
Plastic Limit	19							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	105.4							
Optimum Moisture Content (%)	19.0							
Mold ID	GET - 370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7165.8							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	19.6							
Weight of Mold + Soil (g)	11465.8							
Weight of Soil (g)	4300.0							
Dry Density (pcf)	105.8							
Wet Density (pcf)	126.5							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.585							
Soaked Time (Hr)	96.000							
Swell (%)	0.1							
Moisture Content (%)	23.8							
Weight of Mold + Soil (g)	11514.4							
Weight After Soaking (g)	4348.6							
Dry Density (pcf)	103.3							
Wet Density (pcf)	127.9							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	5.6							
CBR @ 0.20 (in)	5.0							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B87
Sample Depth:	13.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

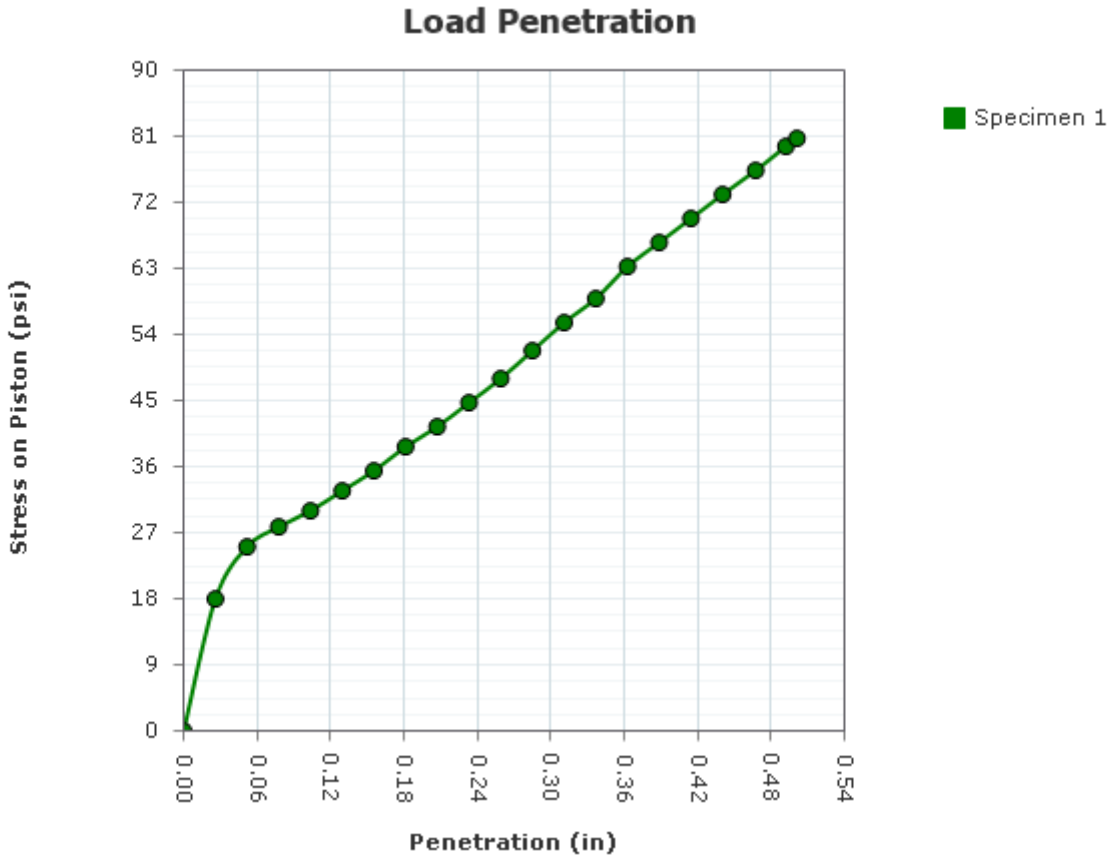
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	102.8							
Optimum Moisture Content (%)	20.7							
Mold ID	GET - 368							
Mold Diameter (in)	6.000							
Mold Weight (g)	7155.0							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	27.4							
Weight of Mold + Soil (g)	11219.0							
Weight of Soil (g)	4064.0							
Dry Density (pcf)	93.6							
Wet Density (pcf)	119.3							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.625							
Soaked Time (Hr)	96.000							
Swell (%)	0.8							
Moisture Content (%)	25.3							
Weight of Mold + Soil (g)	11305.2							
Weight After Soaking (g)	4150.2							
Dry Density (pcf)	97.2							
Wet Density (pcf)	121.8							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	3.0							
CBR @ 0.20 (in)	2.8							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B93
Sample Depth:	1 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

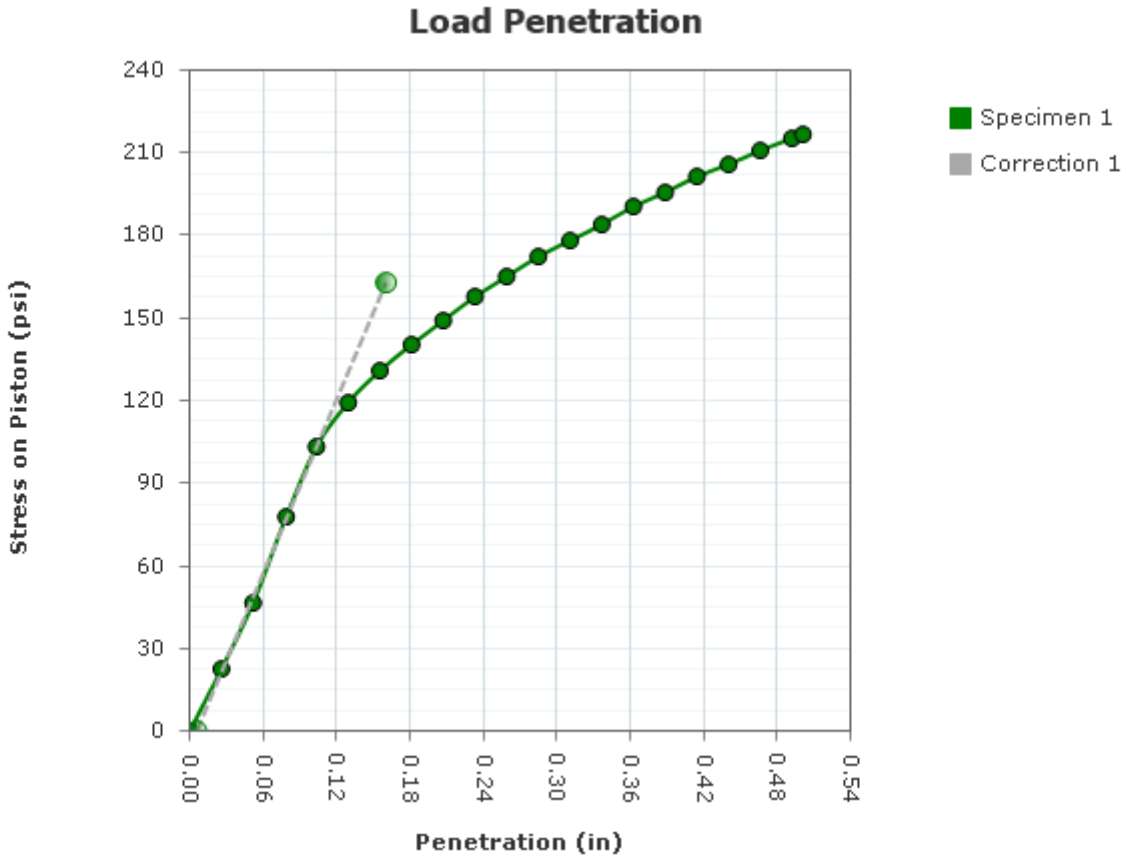
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	98.1							
Optimum Moisture Content (%)	21.1							
Mold ID	GET - 371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7170.1							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	21.5							
Weight of Mold + Soil (g)	10973.6							
Weight of Soil (g)	3803.5							
Dry Density (pcf)	91.9							
Wet Density (pcf)	111.6							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.616							
Soaked Time (Hr)	96.000							
Swell (%)	0.6							
Moisture Content (%)	0.0							
Weight of Mold + Soil (g)	11220.9							
Weight After Soaking (g)	4050.8							
Dry Density (pcf)	118.9							
Wet Density (pcf)	118.9							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	10.7							
CBR @ 0.20 (in)	10.1							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B105
Sample Depth:	2 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

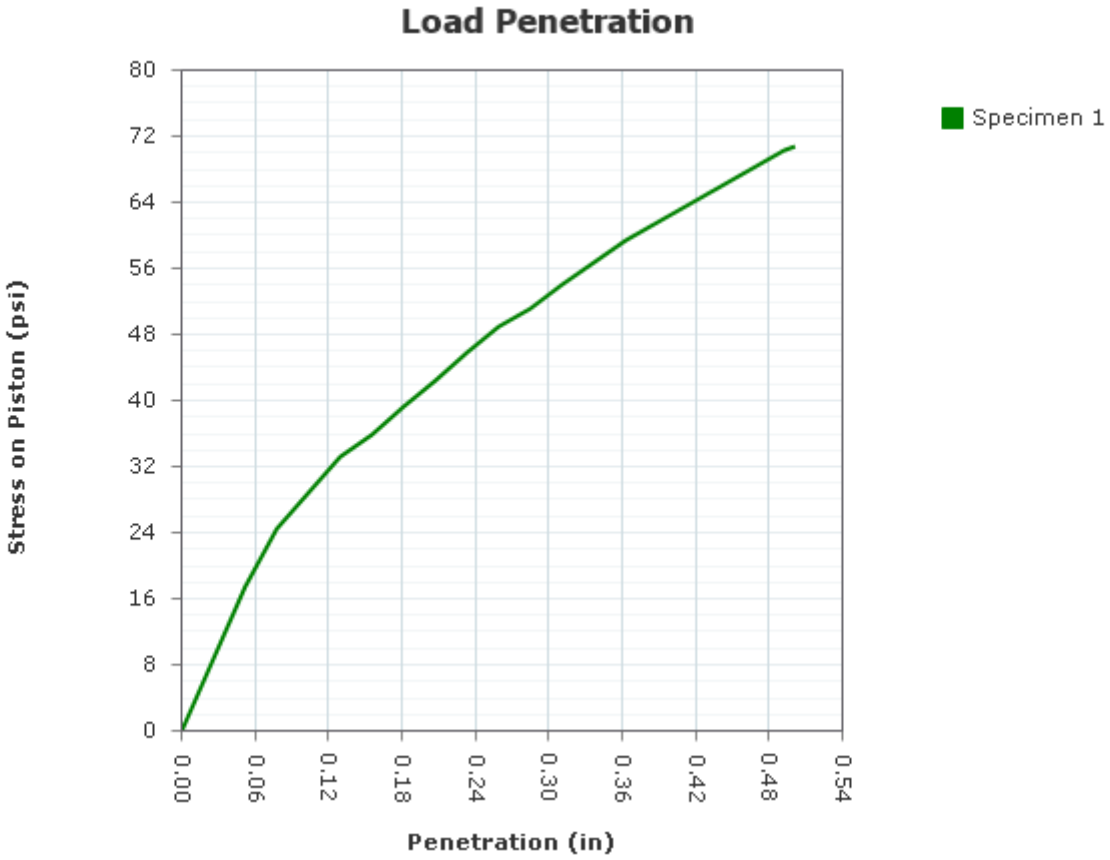
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	32							
Plastic Limit	17							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	110.2							
Optimum Moisture Content (%)	16.0							
Mold ID	GET-022							
Mold Diameter (in)	6.000							
Mold Weight (g)	7278.5							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	16.4							
Weight of Mold + Soil (g)	11623.6							
Weight of Soil (g)	4345.1							
Dry Density (pcf)	109.6							
Wet Density (pcf)	127.5							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.603							
Soaked Time (Hr)	96.000							
Swell (%)	0.3							
Moisture Content (%)	18.8							
Weight of Mold + Soil (g)	11704.1							
Weight After Soaking (g)	4425.6							
Dry Density (pcf)	109.3							
Wet Density (pcf)	129.9							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	2.9							
CBR @ 0.20 (in)	2.8							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B113
Sample Depth:	.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

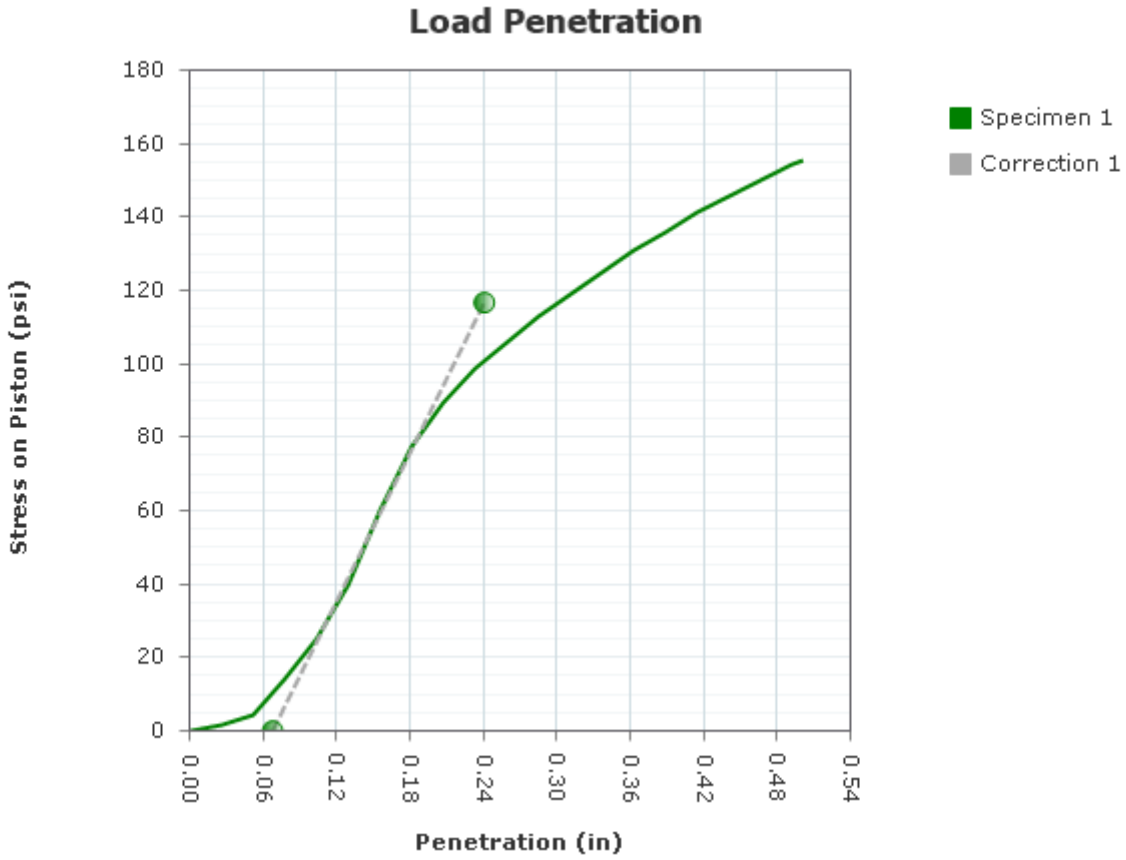
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	89.3							
Optimum Moisture Content (%)	29.5							
Mold ID	GET-024							
Mold Diameter (in)	6.000							
Mold Weight (g)	7097.8							
Sample Height (in)	4.500							
Mold Volume (in^3)	127.23							
Moisture Content (%)	29.2							
Weight of Mold + Soil (g)	10645.3							
Weight of Soil (g)	3547.5							
Dry Density (pcf)	82.2							
Wet Density (pcf)	106.2							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.550							
Soaked Time (Hr)	96.000							
Swell (%)	1.1							
Moisture Content (%)	37.9							
Weight of Mold + Soil (g)	10977.7							
Weight After Soaking (g)	3879.9							
Dry Density (pcf)	84.2							
Wet Density (pcf)	116.2							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	7.1							
CBR @ 0.20 (in)	7.3							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B122
Sample Depth:	24 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

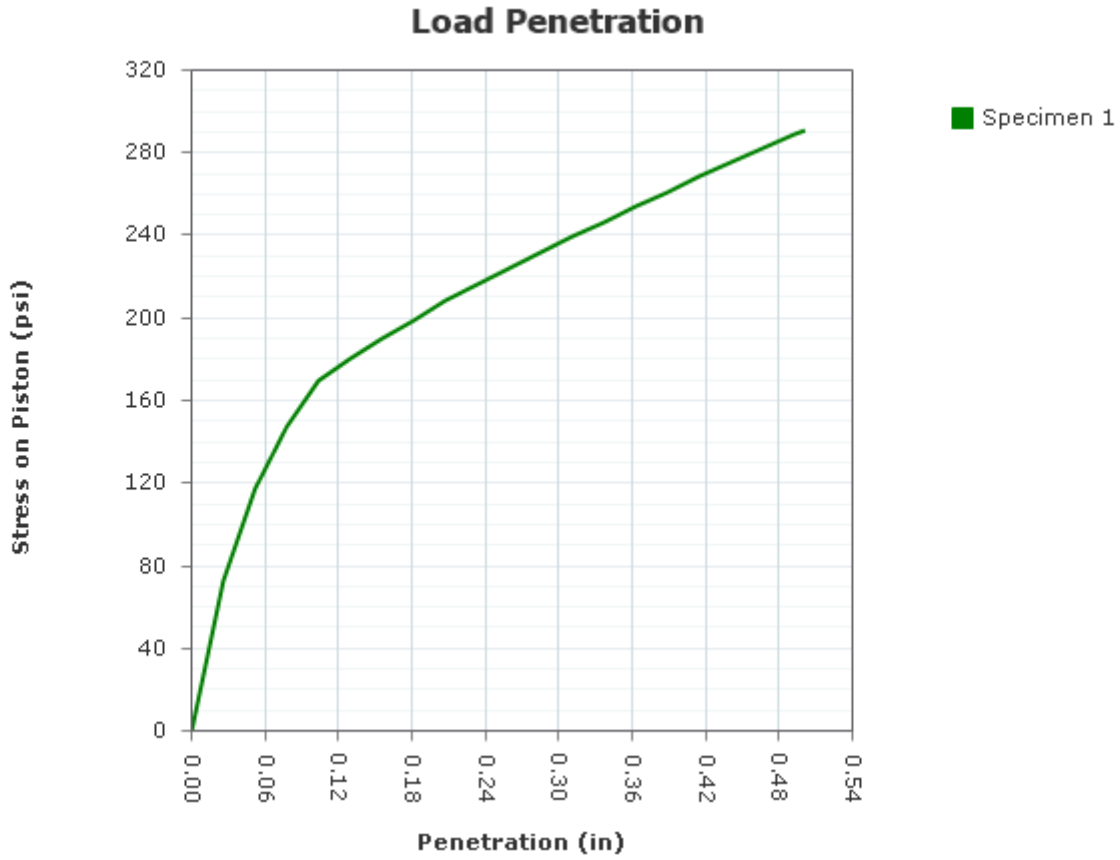
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	89.8							
Optimum Moisture Content (%)	24.3							
Mold ID	GET - 024							
Mold Diameter (in)	6.000							
Mold Weight (g)	7170.6							
Sample Height (in)	4.580							
Mold Volume (in^3)	129.50							
Moisture Content (%)	24.7							
Weight of Mold + Soil (g)	11127.6							
Weight of Soil (g)	3957.0							
Dry Density (pcf)	93.4							
Wet Density (pcf)	116.4							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.590							
Soaked Time (Hr)	96.000							
Swell (%)	0.2							
Moisture Content (%)	0.0							
Weight of Mold + Soil (g)	11273.5							
Weight After Soaking (g)	4102.9							
Dry Density (pcf)	120.7							
Wet Density (pcf)	120.7							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	17.0							
CBR @ 0.20 (in)	13.9							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B126
Sample Depth:	8 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

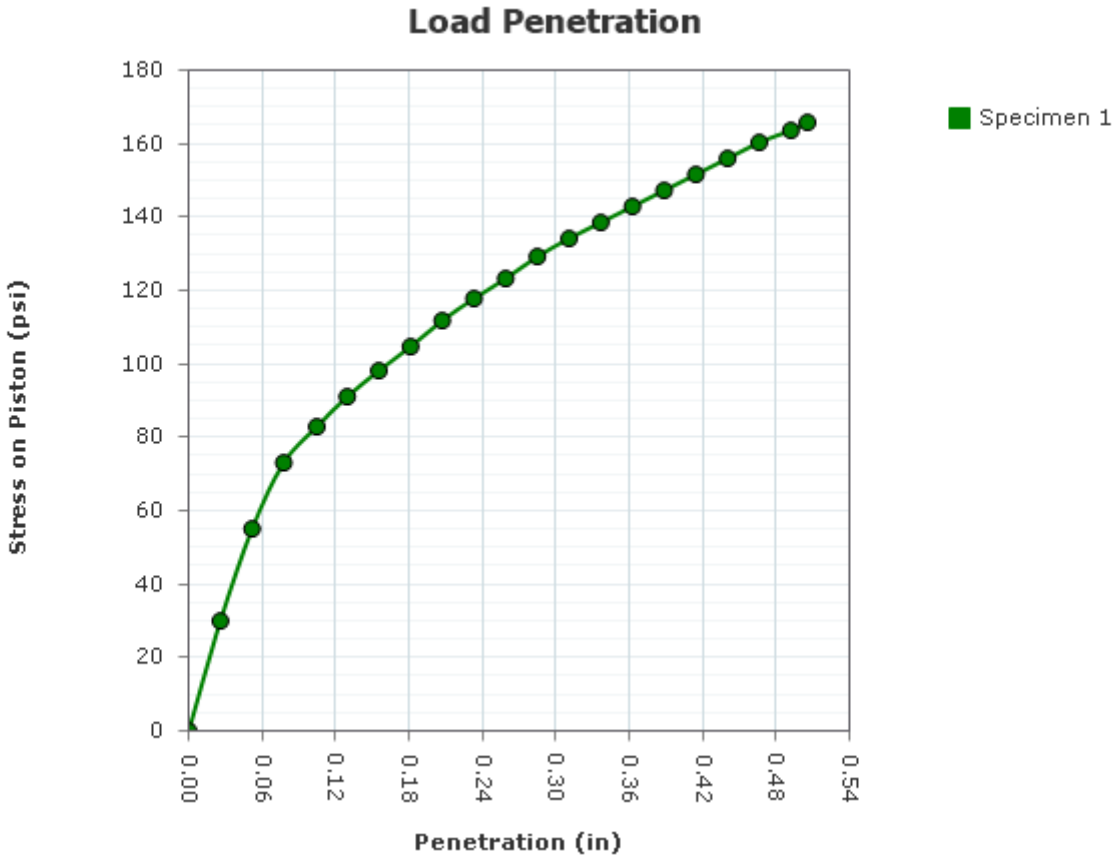
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	108.0							
Optimum Moisture Content (%)	16.8							
Mold ID	GET-22							
Mold Diameter (in)	6.000							
Mold Weight (g)	7279.5							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	16.9							
Weight of Mold + Soil (g)	11532.5							
Weight of Soil (g)	4253.0							
Dry Density (pcf)	106.8							
Wet Density (pcf)	124.8							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.712							
Soaked Time (Hr)	96.000							
Swell (%)	2.7							
Moisture Content (%)	0.0							
Weight of Mold + Soil (g)	11644.1							
Weight After Soaking (g)	4364.6							
Dry Density (pcf)	128.1							
Wet Density (pcf)	128.1							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	1	2	3	4	5	6	7	8
CBR @ 0.10 (in)	8.3							
CBR @ 0.20 (in)	7.5							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B131
Sample Depth:	8 ft
Location:	See Logs
Client Name:	
Remarks:	

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

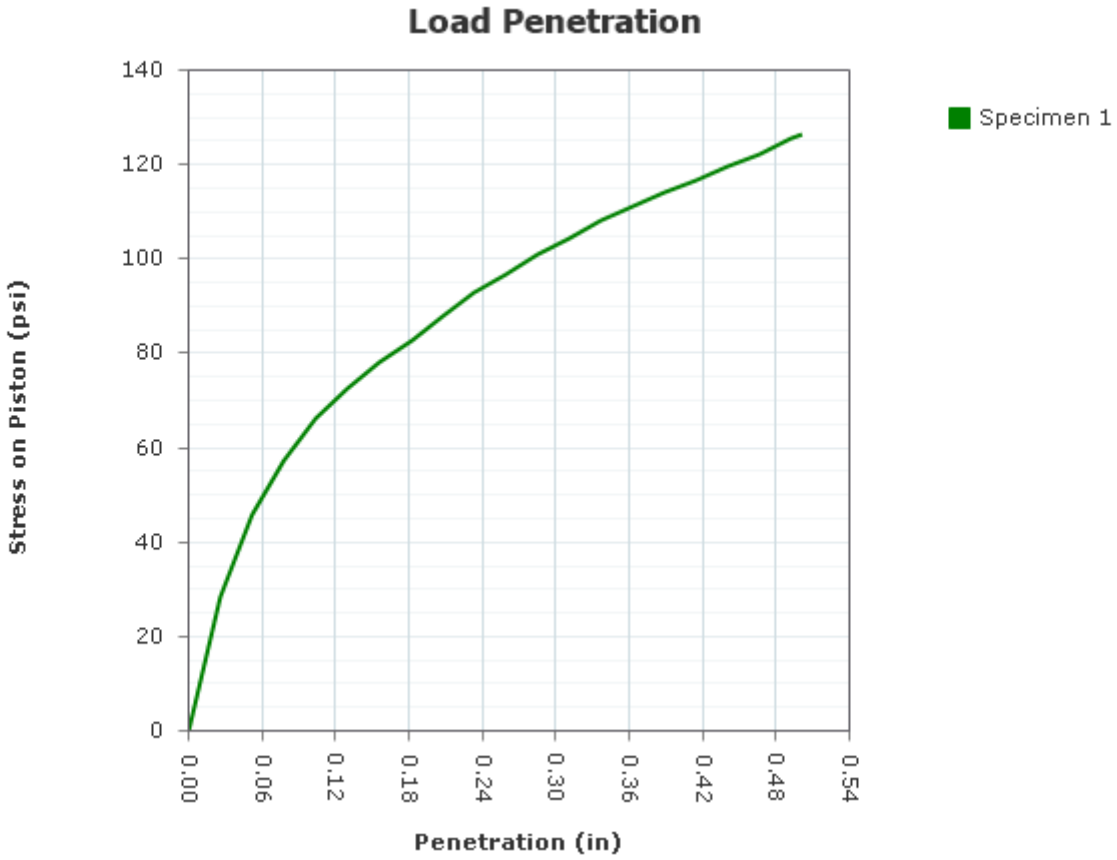
CBR Test

ASTM (D1883) / AASHTO (T193)

Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	91.0							
Optimum Moisture Content (%)	27.6							
Mold ID	GET - 370							
Mold Diameter (in)	6.000							
Mold Weight (g)	7104.8							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	27.0							
Weight of Mold + Soil (g)	1093.9							
Weight of Soil (g)	-6010.9							
Dry Density (pcf)	-138.9							
Wet Density (pcf)	-176.4							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.630							
Soaked Time (Hr)	96.000							
Swell (%)	0.9							
Moisture Content (%)	0.0							
Weight of Mold + Soil (g)	11286.6							
Weight After Soaking (g)	4181.8							
Dry Density (pcf)	122.8							
Wet Density (pcf)	122.8							

CBR Test Results

ASTM (D1883) / AASHTO (T193)



CBR Results								
Results	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CBR @ 0.10 (in)	6.6							
CBR @ 0.20 (in)	5.9							

Project Information	
Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B133
Sample Depth:	.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Tested By: _____ Date: _____ Checked By: _____ Date: _____

CBR Test

ASTM (D1883) / AASHTO (T193)

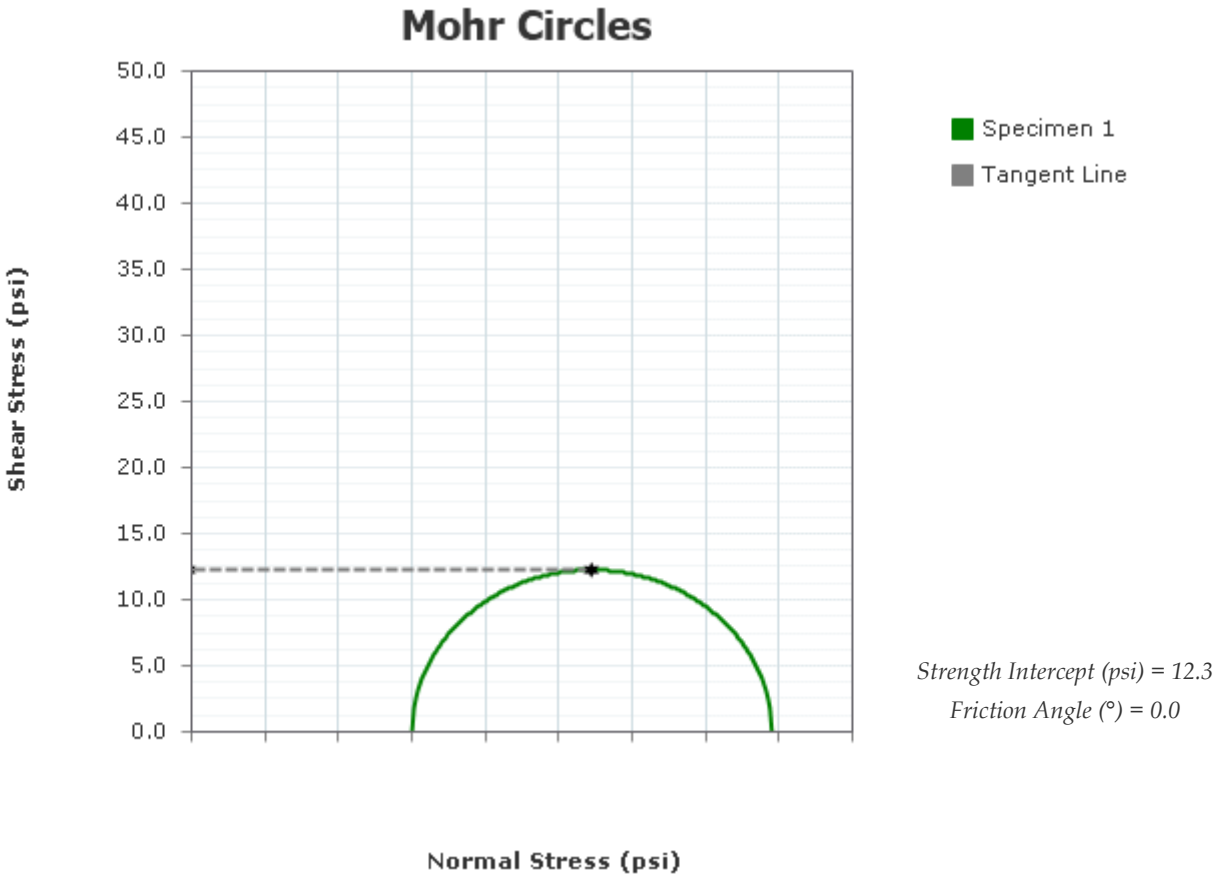
Before Soaking	Specimen Number 1	2	3	4	5	6	7	8
Specific Gravity	2.72							
Liquid Limit	0							
Plastic Limit	0							
Surcharge Weight (lb)	10.00							
Number of Blows	56							
Maximum Dry Density (pcf)	99.1							
Optimum Moisture Content (%)	23.0							
Mold ID	GET - 371							
Mold Diameter (in)	6.000							
Mold Weight (g)	7114.9							
Sample Height (in)	4.590							
Mold Volume (in^3)	129.78							
Moisture Content (%)	22.9							
Weight of Mold + Soil (g)	11107.0							
Weight of Soil (g)	3992.1							
Dry Density (pcf)	95.3							
Wet Density (pcf)	117.2							
After Soaking	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Soaked Sample Height (in)	4.648							
Soaked Time (Hr)	96.000							
Swell (%)	1.3							
Moisture Content (%)	31.1							
Weight of Mold + Soil (g)	11137.6							
Weight After Soaking (g)	4022.7							
Dry Density (pcf)	90.1							
Wet Density (pcf)	118.1							

Project Name: TDOT Project Number: 20033

Tested By: _____ Date: _____ Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 12.3
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B1
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.012							
Initial Cell Pressure (psi)	15.0							
Height (in)	5.585							
Diameter (in)	2.855							
Water Content (%)	47.2							
Wet Density (Units)	107.7							
Dry Density (pcf)	73.1							
Degree of Saturation (%)	97.2							
Void Ratio	1.322							
Height To Diameter Ratio	1.956							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	24.5							
σ1 at Failure (psi)	39.5							
σ3 at Failure (psi)	15.0							
Rate of Strain (in/min)	0.055845							
Axial Strain at Failure (%)	-4.2							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	44.9							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B1
Sample Depth:	18.5 ft
Location:	See Logs
Location:	B1
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
N/A							

Unconsolidated Undrained Test

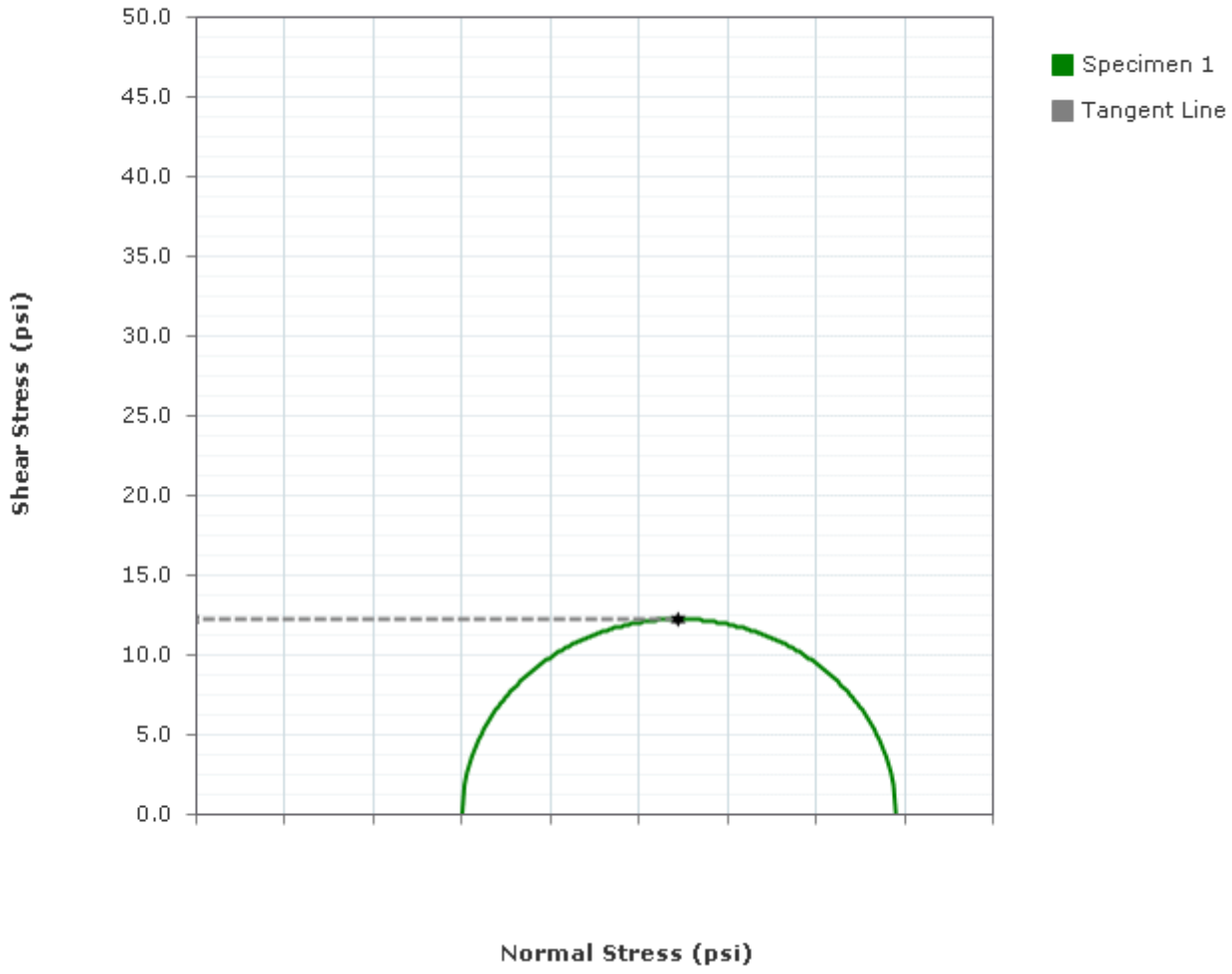
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	7/6/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	0	Liquid Limit:	0
Height (in):	5.585	Diameter (in):	2.855
Area (in^2):	6.400	Volume (in^3):	35.74
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1010.0		
Test Remarks:			

Mohr Circles (Total Stress) Graph

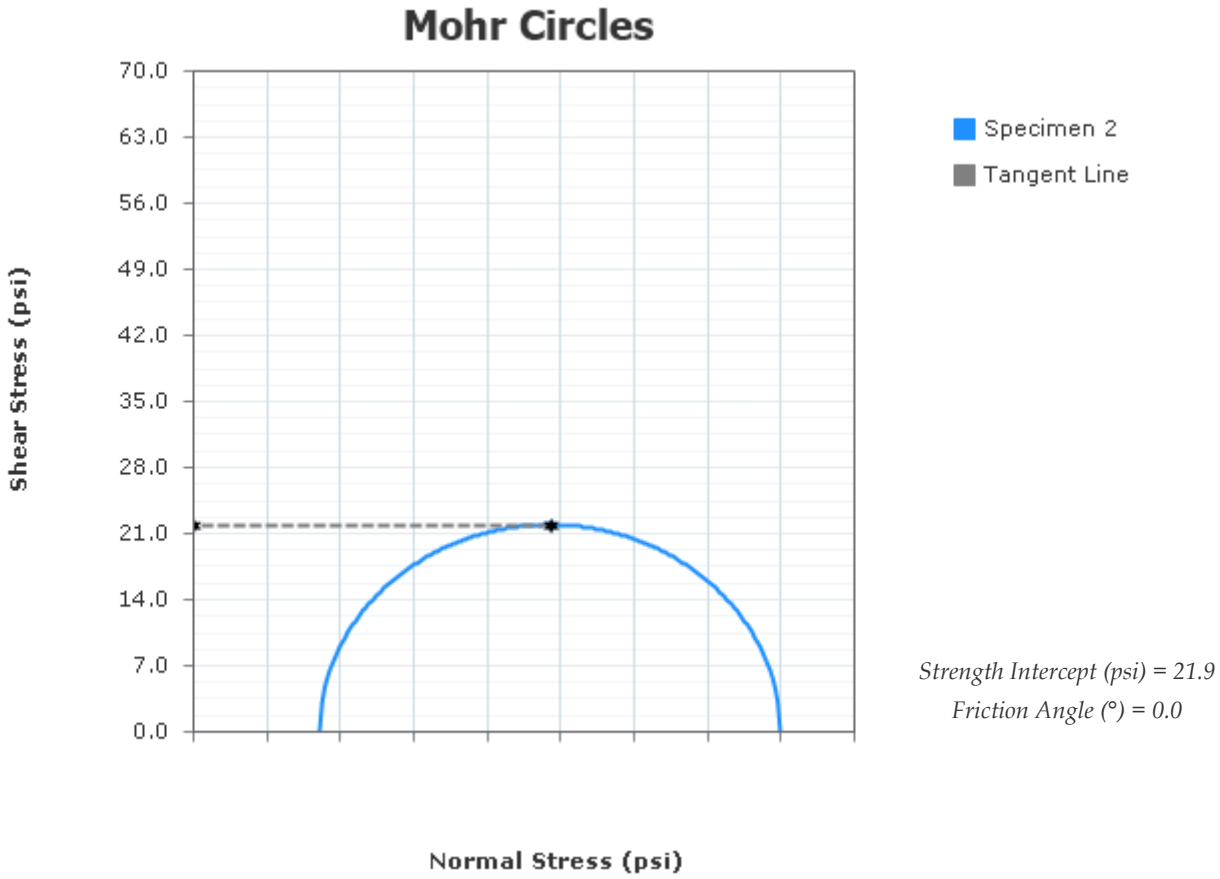
ASTM D2850



Tangent Results	
Strength Intercept (psi)	12.3
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 21.9
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B2
Sample Depth:	11' ft
Location:	See Logs
Client Name:	
Remarks:	

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850

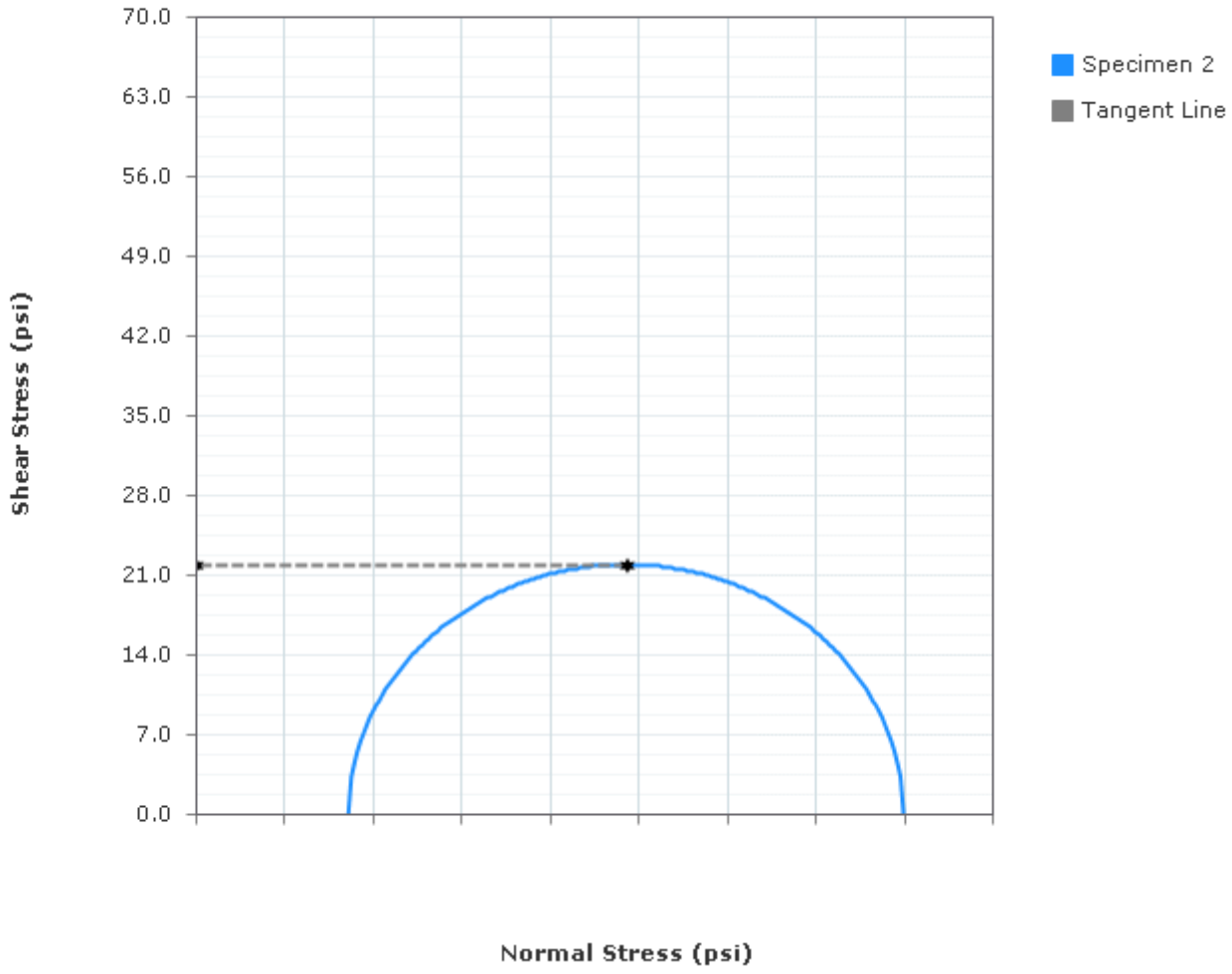
Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)		0.120						
Initial Cell Pressure (psi)		12.0						
Height (in)		5.842						
Diameter (in)		2.860						
Water Content (%)		22.5						
Wet Density (Units)		118.3						
Dry Density (pcf)		96.6						
Degree of Saturation (%)		80.7						
Void Ratio		0.757						
Height To Diameter Ratio		2.043						
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)		42.3						
σ1 at Failure (psi)		54.3						
σ3 at Failure (psi)		12.0						
Rate of Strain (in/min)		0.058422						
Axial Strain at Failure (%)		8.3						
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)		28.9						

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B2
Sample Depth:	11' ft
Location:	See Logs
Location:	B2
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Mohr Circles (Total Stress) Graph

ASTM D2850



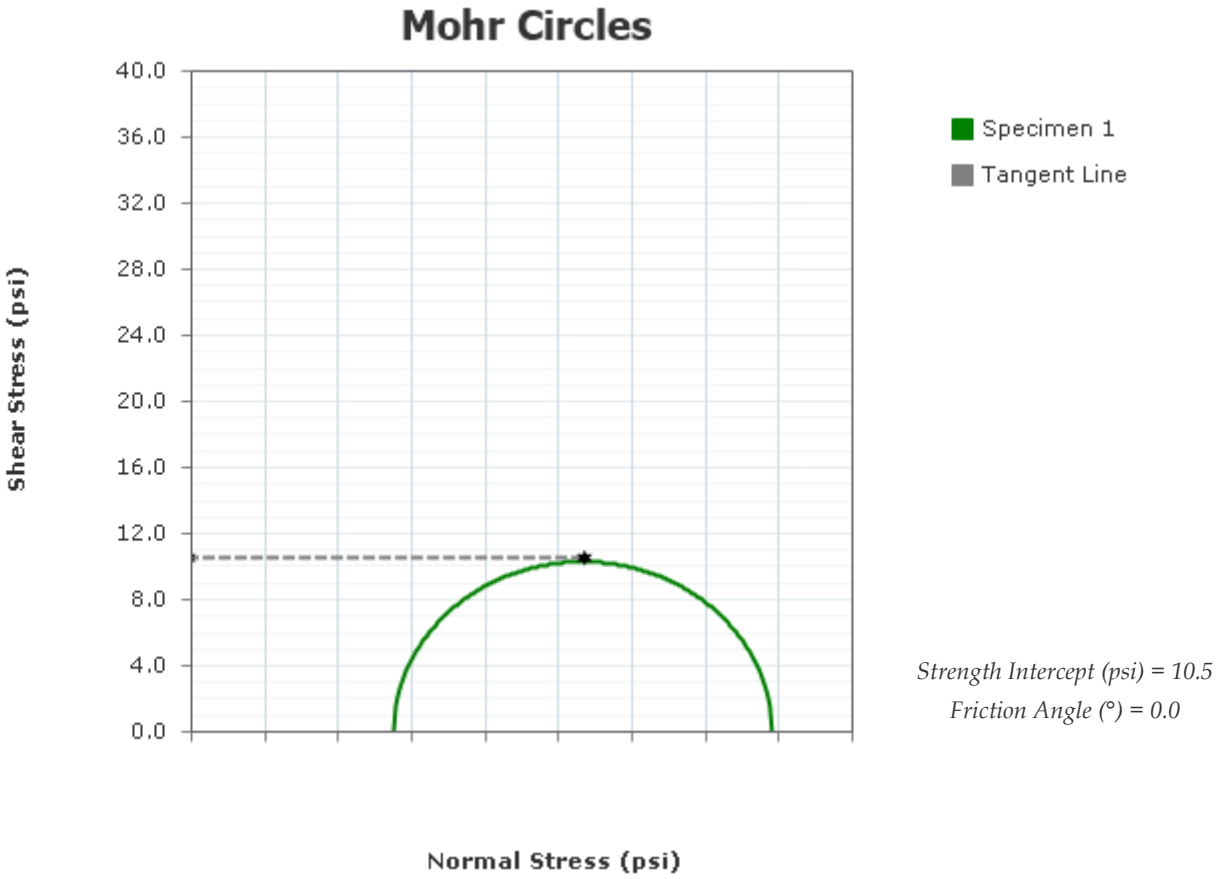
Tangent Results	
Strength Intercept (psi)	21.9
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B2
Sample Depth:	15' ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	11.0							
Height (in)	5.944							
Diameter (in)	2.861							
Water Content (%)	0.0							
Wet Density (Units)	0.0							
Dry Density (pcf)	0.0							
Degree of Saturation (%)	0.0							
Void Ratio	0.000							
Height To Diameter Ratio	2.077							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	20.6							
σ1 at Failure (psi)	31.6							
σ3 at Failure (psi)	11.0							
Rate of Strain (in/min)	0.059440							
Axial Strain at Failure (%)	6.0							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	0.0							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	
Sample Depth:	15' ft
Location:	See Logs
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

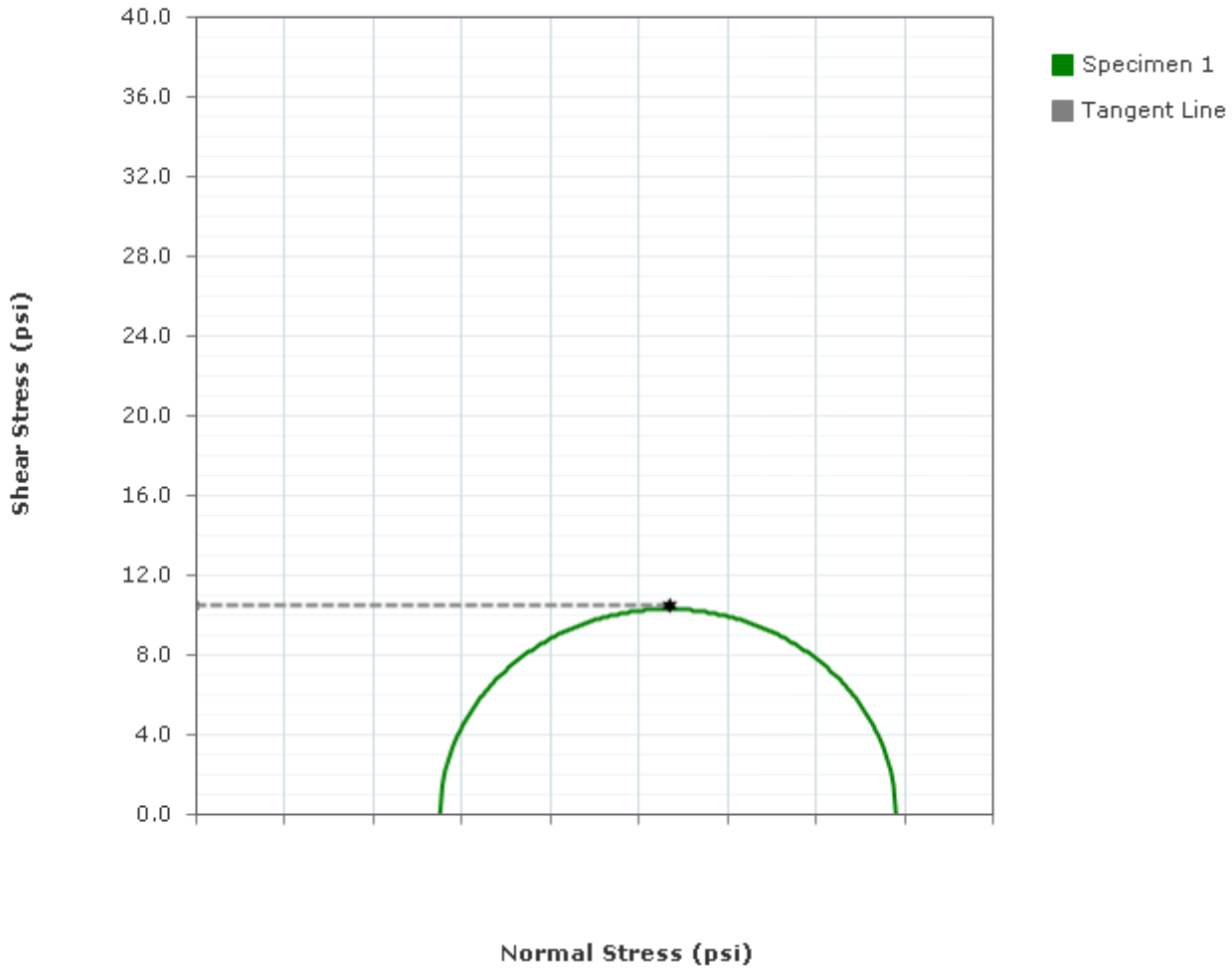
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:	Humboldt Masterloader		
Test Specification:			
Test Time:	4/1/2020		
Technician:	CT/JA	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	0	Liquid Limit:	0
Height (in):	5.944	Diameter (in):	2.861
Area (in^2):	6.430	Volume (in^3):	38.22
Large Particle:			
Moisture Material:			
Moist Weight (g):	0.0		
Test Remarks:			

Mohr Circles (Total Stress) Graph

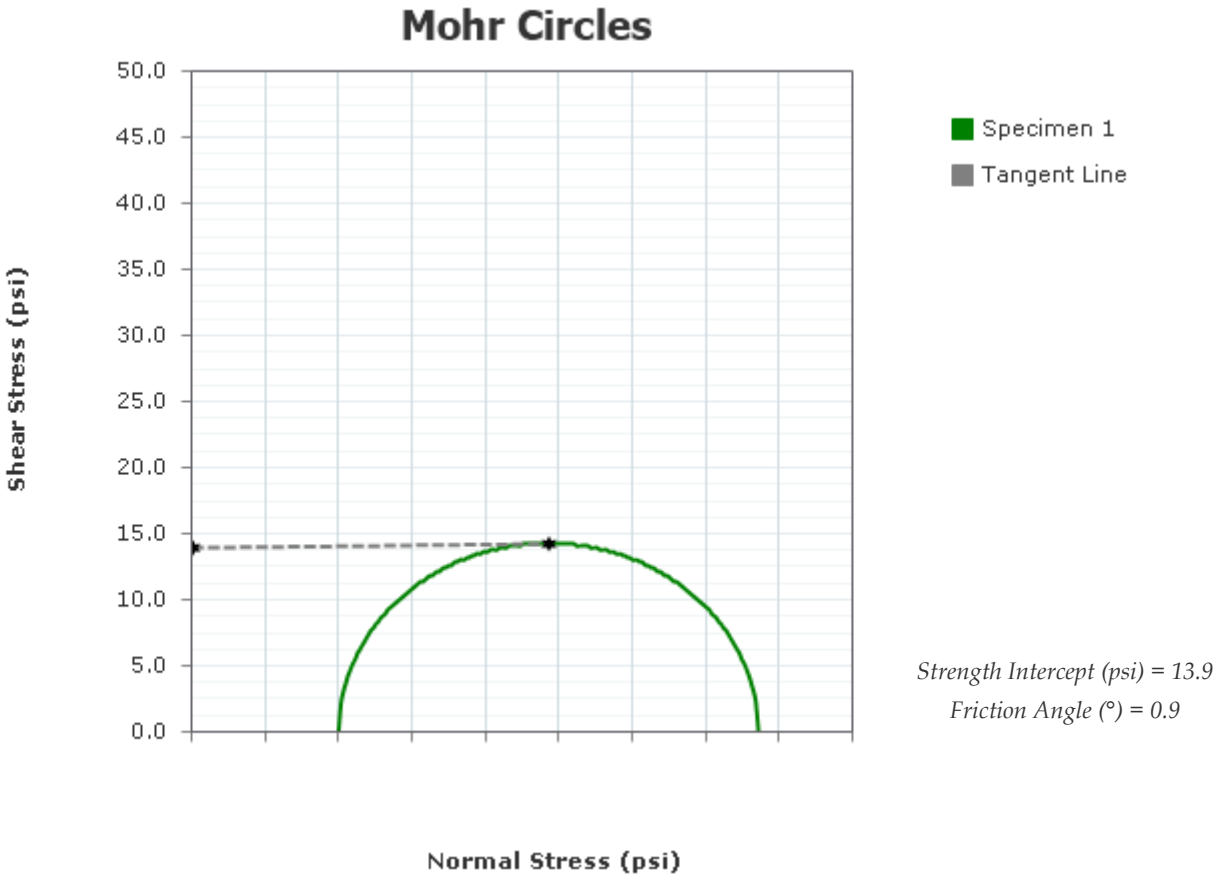
ASTM D2850



Tangent Results	
Strength Intercept (psi)	10.5
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 13.9
Friction Angle (°) = 0.9

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B5
Sample Depth:	13.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	10.0							
Height (in)	5.833							
Diameter (in)	2.877							
Water Content (%)	0.0							
Wet Density (Units)	110.0							
Dry Density (pcf)	110.0							
Degree of Saturation (%)	0.0							
Void Ratio	0.544							
Height To Diameter Ratio	2.027							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	25.1							
σ1 at Failure (psi)	35.1							
σ3 at Failure (psi)	10.0							
Rate of Strain (in/min)	0.058328							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	24.4							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B5
Sample Depth:	13.5 ft
Location:	See Logs
Location:	B5
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

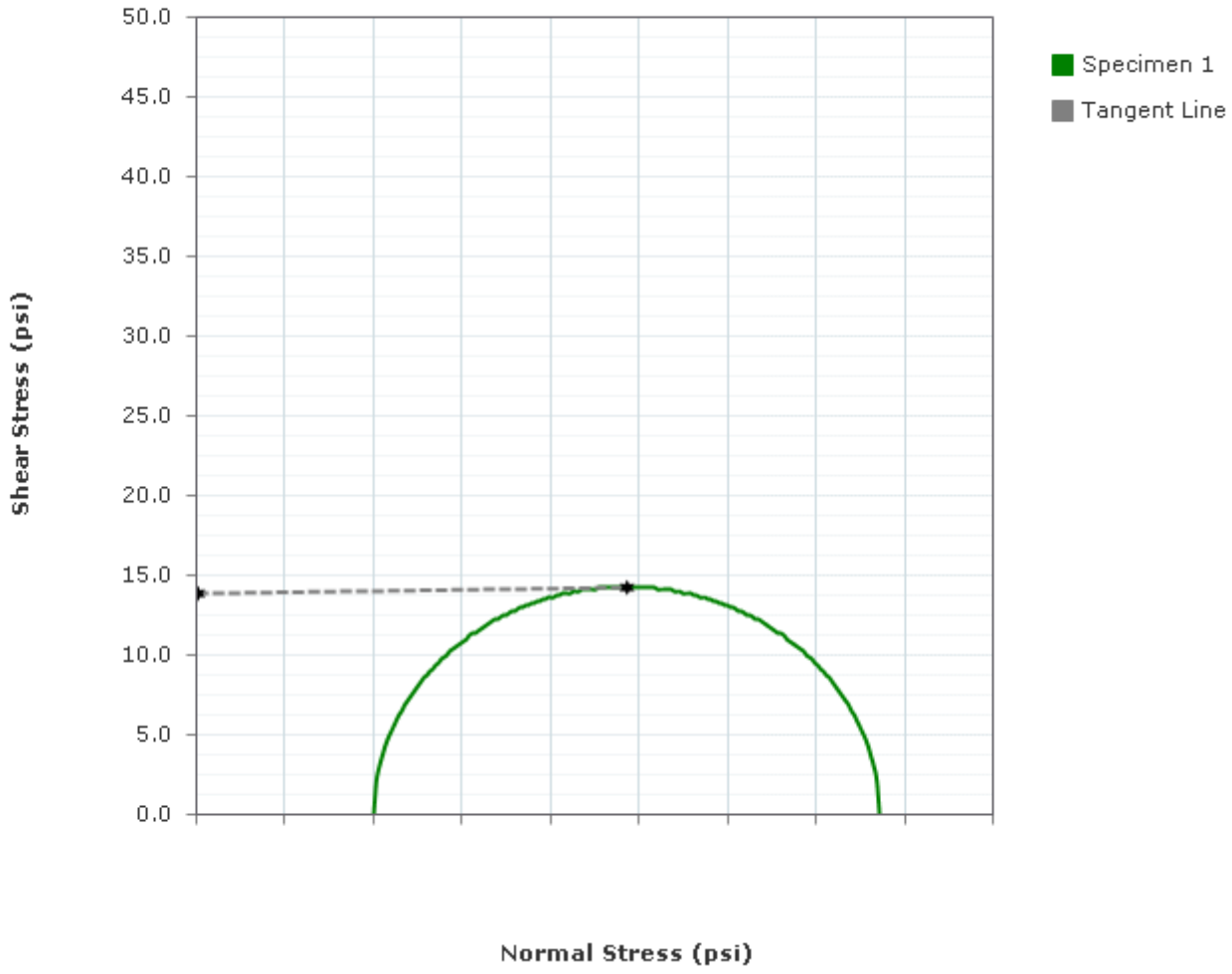
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	4/13/2020		
Technician:	CT/JA	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	33	Liquid Limit:	81
Height (in):	5.833	Diameter (in):	2.877
Area (in^2):	6.501	Volume (in^3):	37.92
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1094.4		
Test Remarks:			

Mohr Circles (Total Stress) Graph

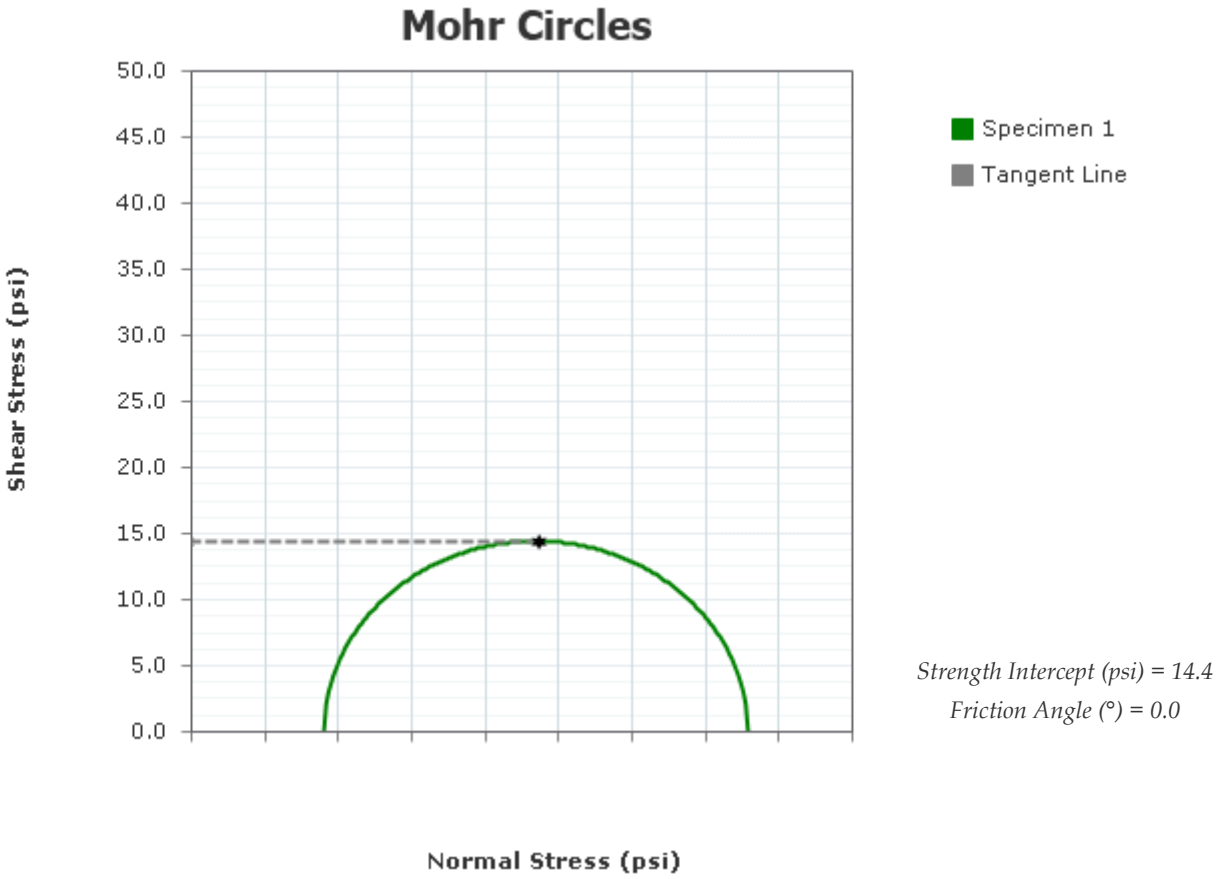
ASTM D2850



Tangent Results	
Strength Intercept (psi)	13.9
Friction Angle (°)	0.9

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 14.4
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B12
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	9.0							
Height (in)	5.607							
Diameter (in)	2.893							
Water Content (%)	30.4							
Wet Density (Units)	116.6							
Dry Density (pcf)	89.4							
Degree of Saturation (%)	92.1							
Void Ratio	0.899							
Height To Diameter Ratio	1.938							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	28.9							
σ1 at Failure (psi)	37.9							
σ3 at Failure (psi)	9.0							
Rate of Strain (in/min)	0.056073							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	30.7							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B12
Sample Depth:	18.5 ft
Location:	See Logs
Location:	B12
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch

Specimen 2 Failure Sketch

Specimen 3 Failure Sketch

Specimen 4 Failure Sketch

Specimen 5 Failure Sketch

Specimen 6 Failure Sketch

Specimen 7 Failure Sketch

Specimen 8 Failure Sketch

Unconsolidated Undrained Test

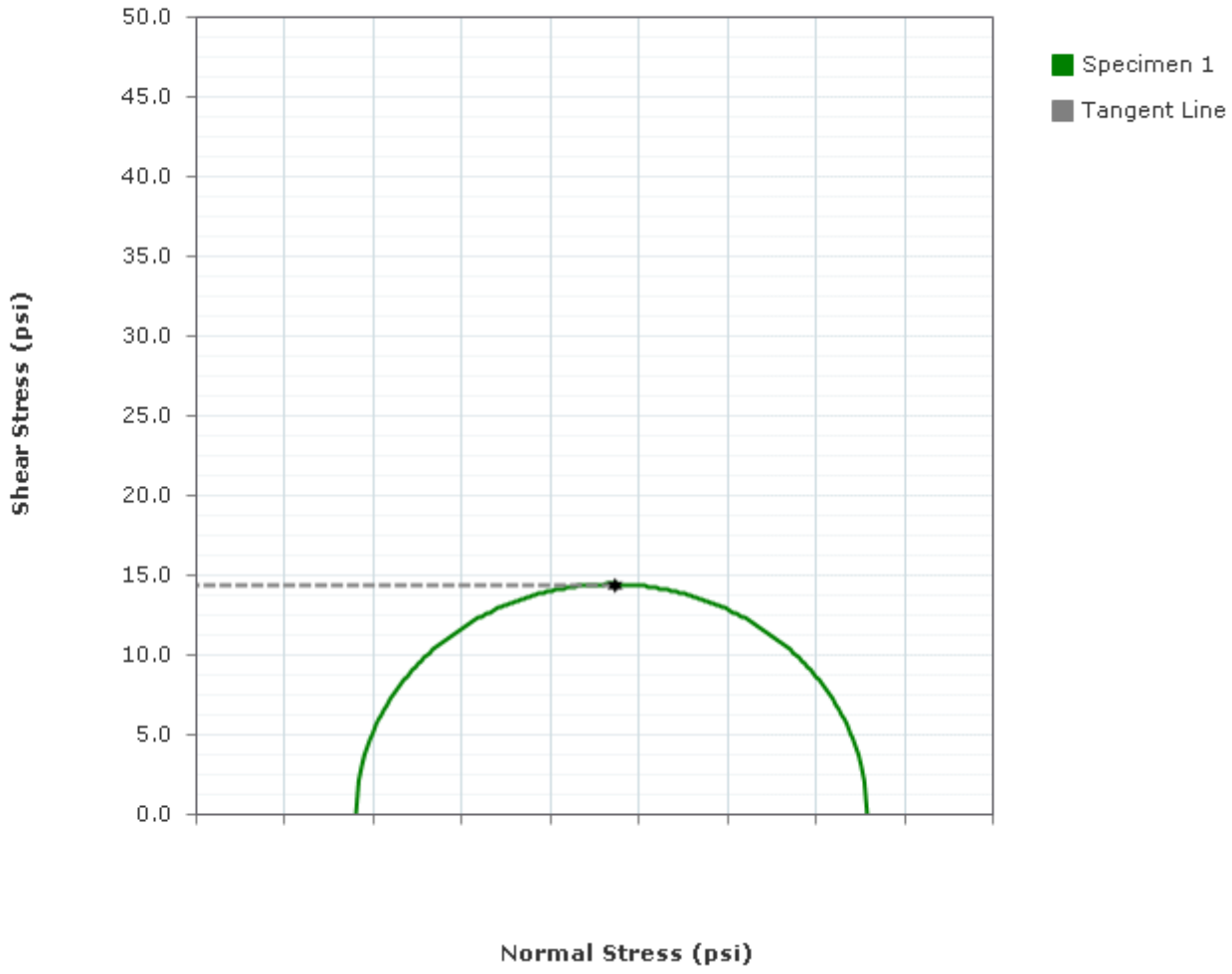
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/28/2020		
Technician:	CT/JA	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	28	Liquid Limit:	62
Height (in):	5.607	Diameter (in):	2.893
Area (in^2):	6.575	Volume (in^3):	36.87
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1128.7		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



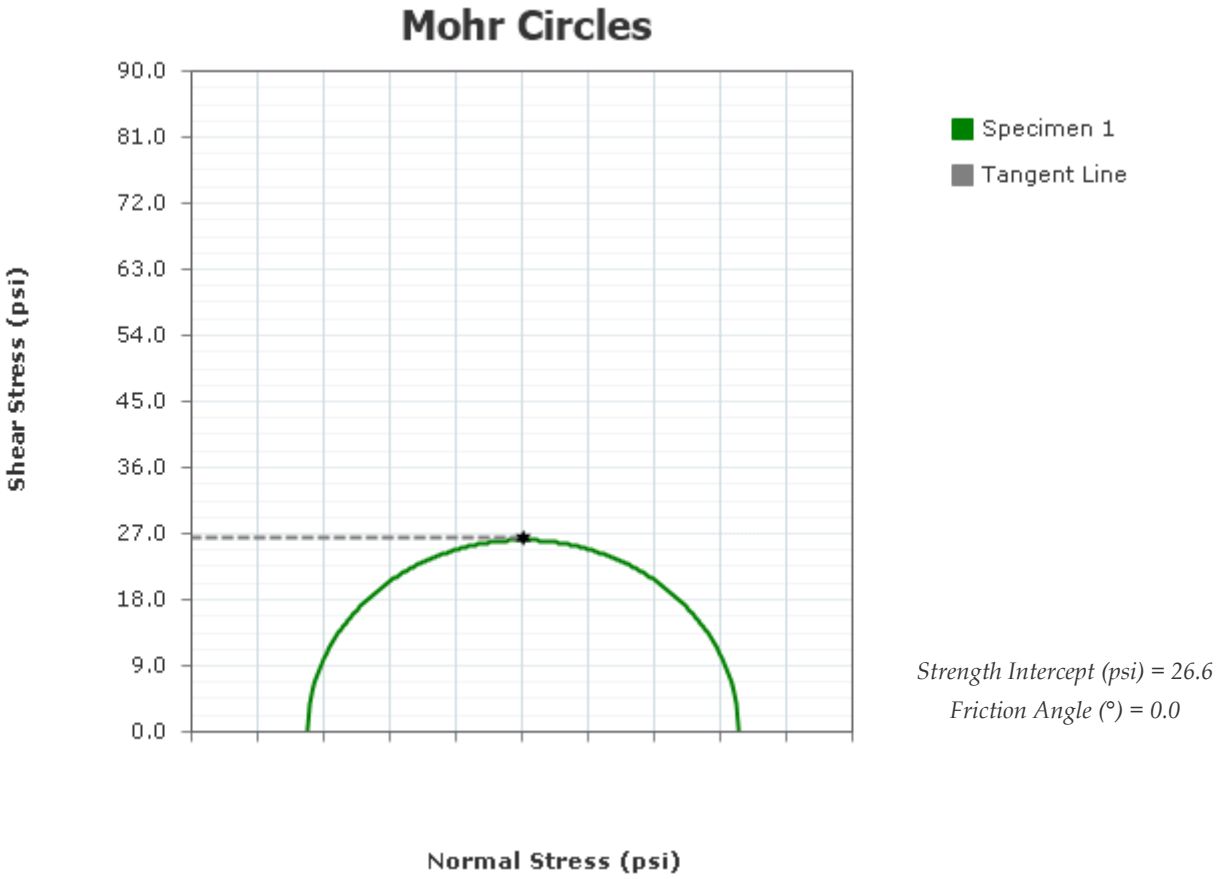
Tangent Results	
Strength Intercept (psi)	14.4
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 26.6
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B20
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	14.0							
Height (in)	5.825							
Diameter (in)	2.873							
Water Content (%)	27.8							
Wet Density (Units)	119.7							
Dry Density (pcf)	93.7							
Degree of Saturation (%)	93.0							
Void Ratio	0.812							
Height To Diameter Ratio	2.028							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	51.8							
σ1 at Failure (psi)	65.8							
σ3 at Failure (psi)	14.0							
Rate of Strain (in/min)	0.058245							
Axial Strain at Failure (%)	15.4							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	26.0							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

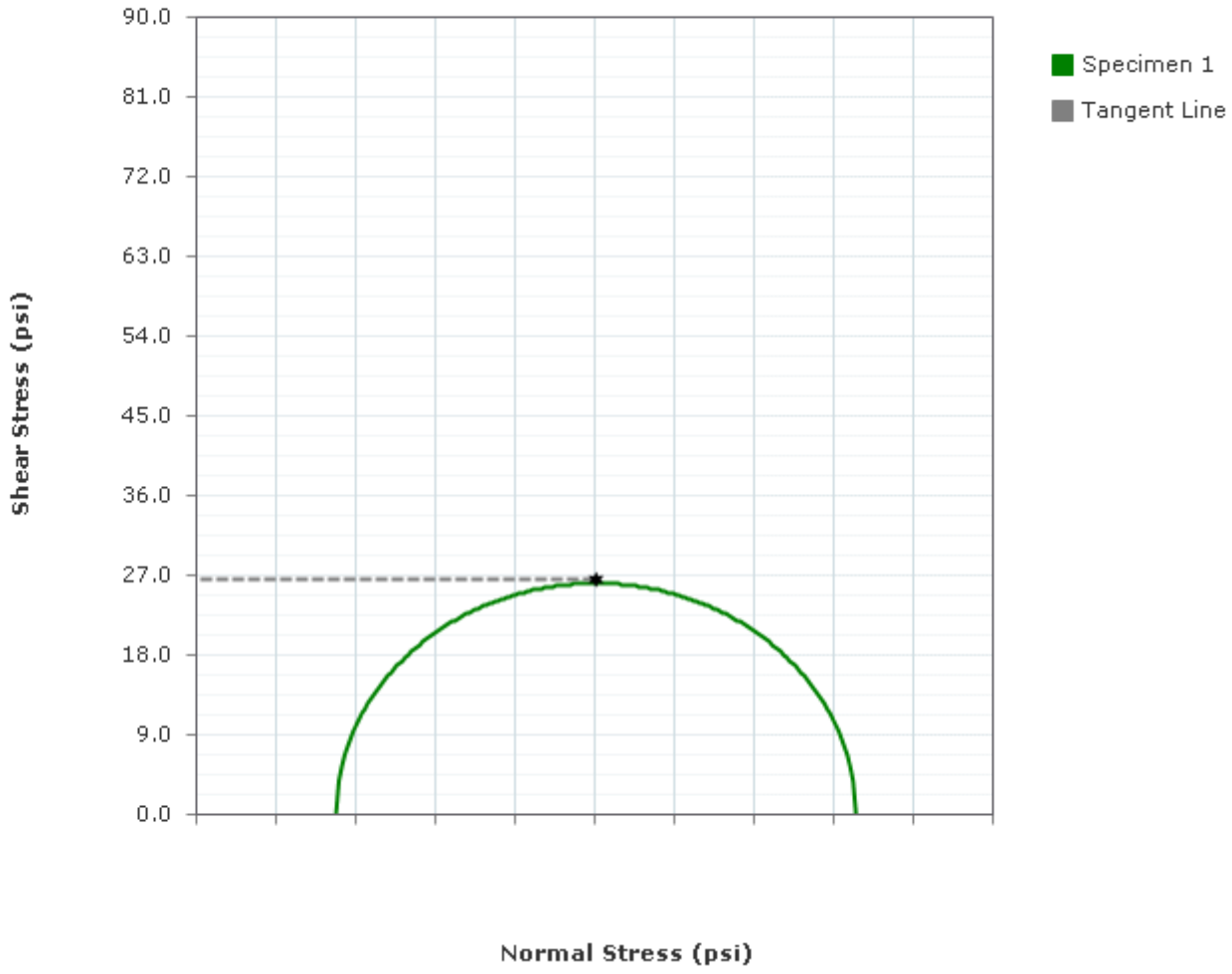
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	4/2/2020		
Technician:	CT/JA	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	31	Liquid Limit:	61
Height (in):	5.825	Diameter (in):	2.873
Area (in^2):	6.481	Volume (in^3):	37.75
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1186.4		
Test Remarks:			

Mohr Circles (Total Stress) Graph

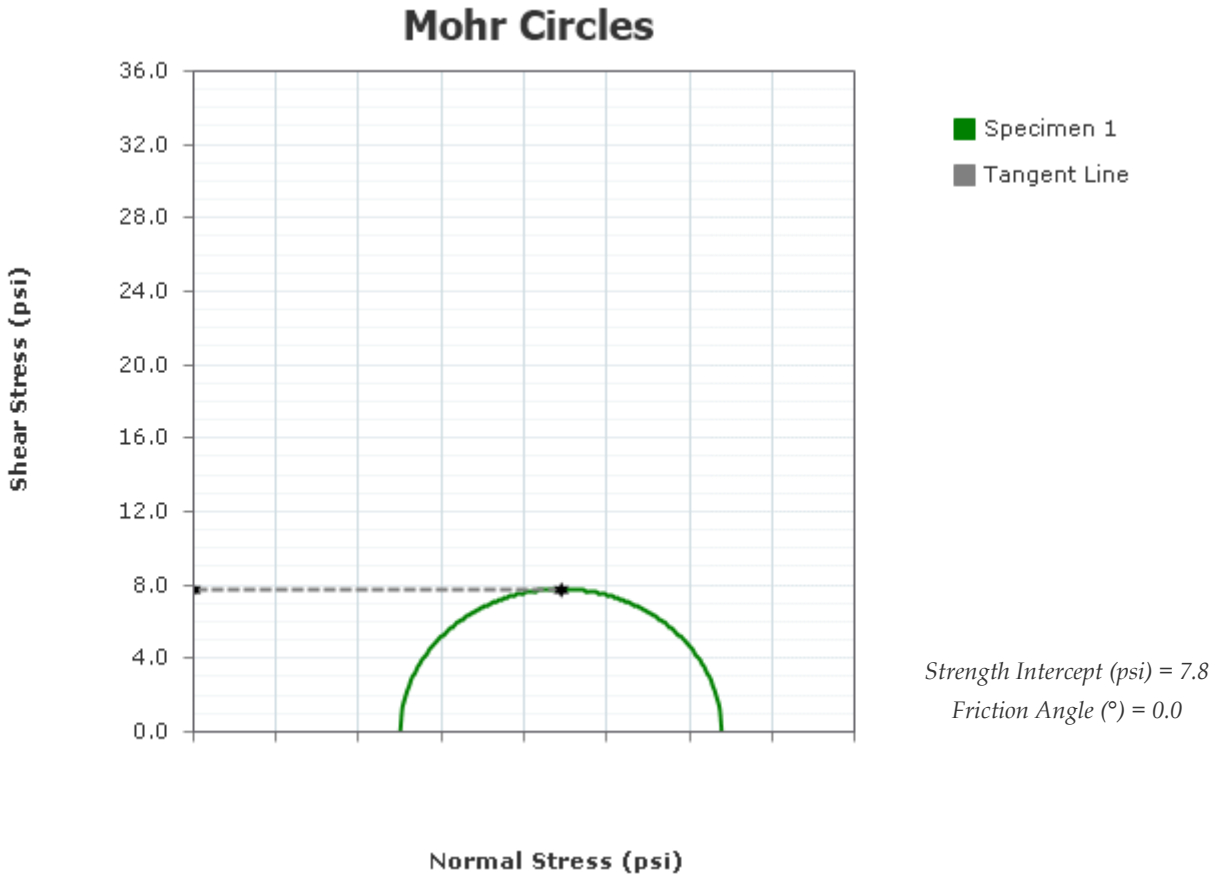
ASTM D2850



Tangent Results	
Strength Intercept (psi)	26.6
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 7.8
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B31
Sample Depth:	13.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	10.0							
Height (in)	5.597							
Diameter (in)	2.881							
Water Content (%)	43.3							
Wet Density (Units)	105.9							
Dry Density (pcf)	73.9							
Degree of Saturation (%)	90.8							
Void Ratio	1.299							
Height To Diameter Ratio	1.943							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	15.5							
σ1 at Failure (psi)	25.5							
σ3 at Failure (psi)	10.0							
Rate of Strain (in/min)	0.055972							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	37.5							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B31
Sample Depth:	13.5 ft
Location:	See Logs
Location:	B31
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
N/A							

Unconsolidated Undrained Test

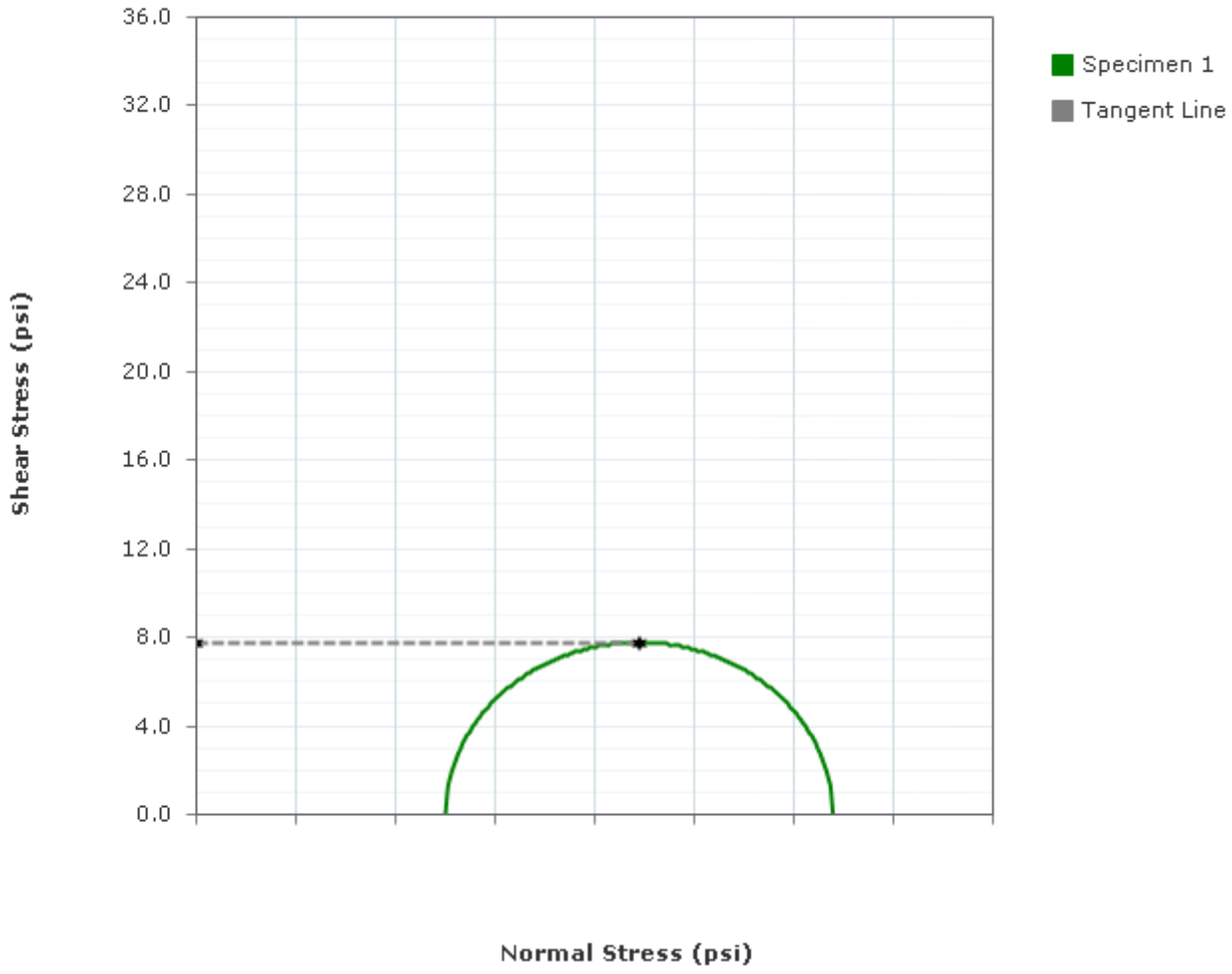
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/27/2020		
Technician:	CT/JA	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	40	Liquid Limit:	80
Height (in):	5.597	Diameter (in):	2.881
Area (in^2):	6.519	Volume (in^3):	36.49
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1014.1		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



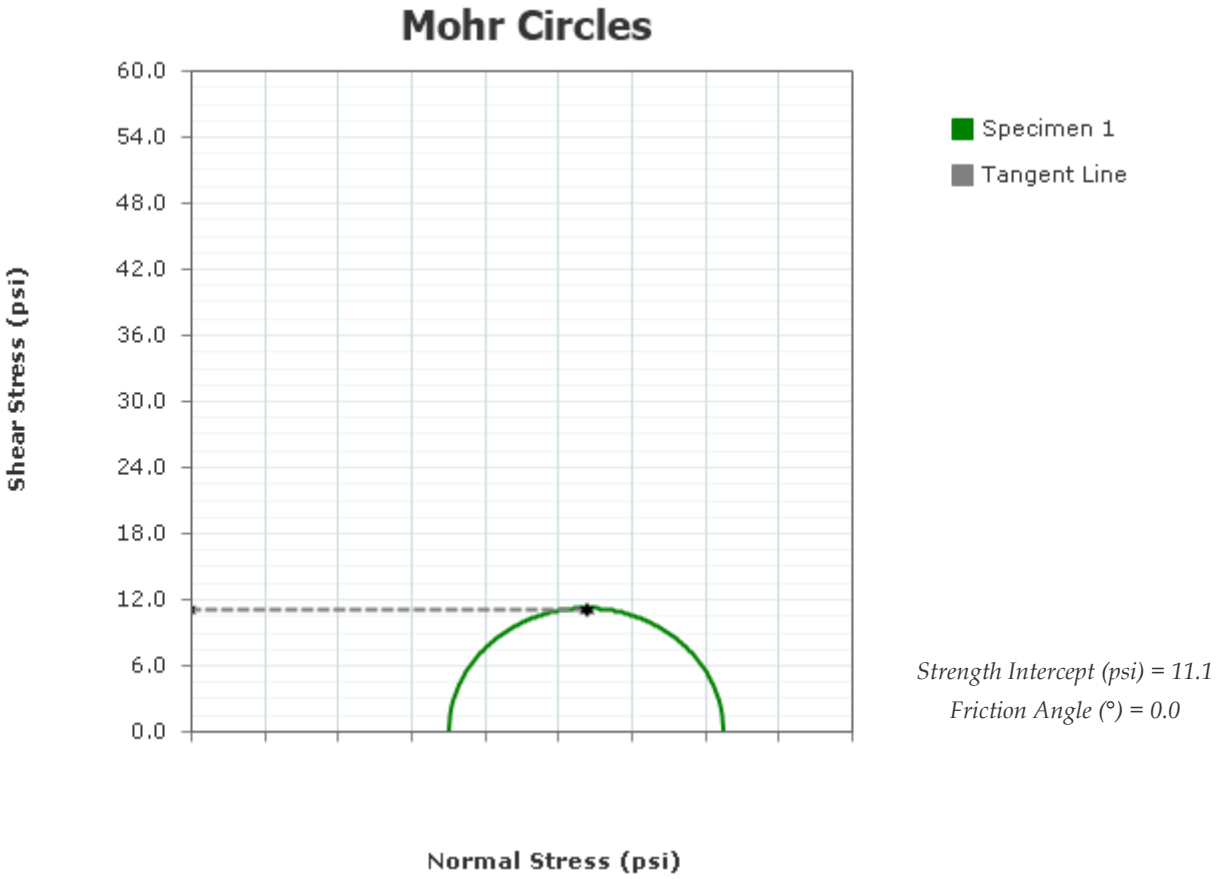
Tangent Results	
Strength Intercept (psi)	7.8
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 11.1
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B50
Sample Depth:	27.5 ft
Location:	See Log
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	21.0							
Height (in)	5.744							
Diameter (in)	2.843							
Water Content (%)	22.7							
Wet Density (Units)	114.1							
Dry Density (pcf)	93.0							
Degree of Saturation (%)	74.7							
Void Ratio	0.827							
Height To Diameter Ratio	2.021							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	19.4							
σ1 at Failure (psi)	40.4							
σ3 at Failure (psi)	21.0							
Rate of Strain (in/min)	0.057437							
Axial Strain at Failure (%)	15.4							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	37.4							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B50
Sample Depth:	27.5 ft
Location:	See Log
Location:	B50
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

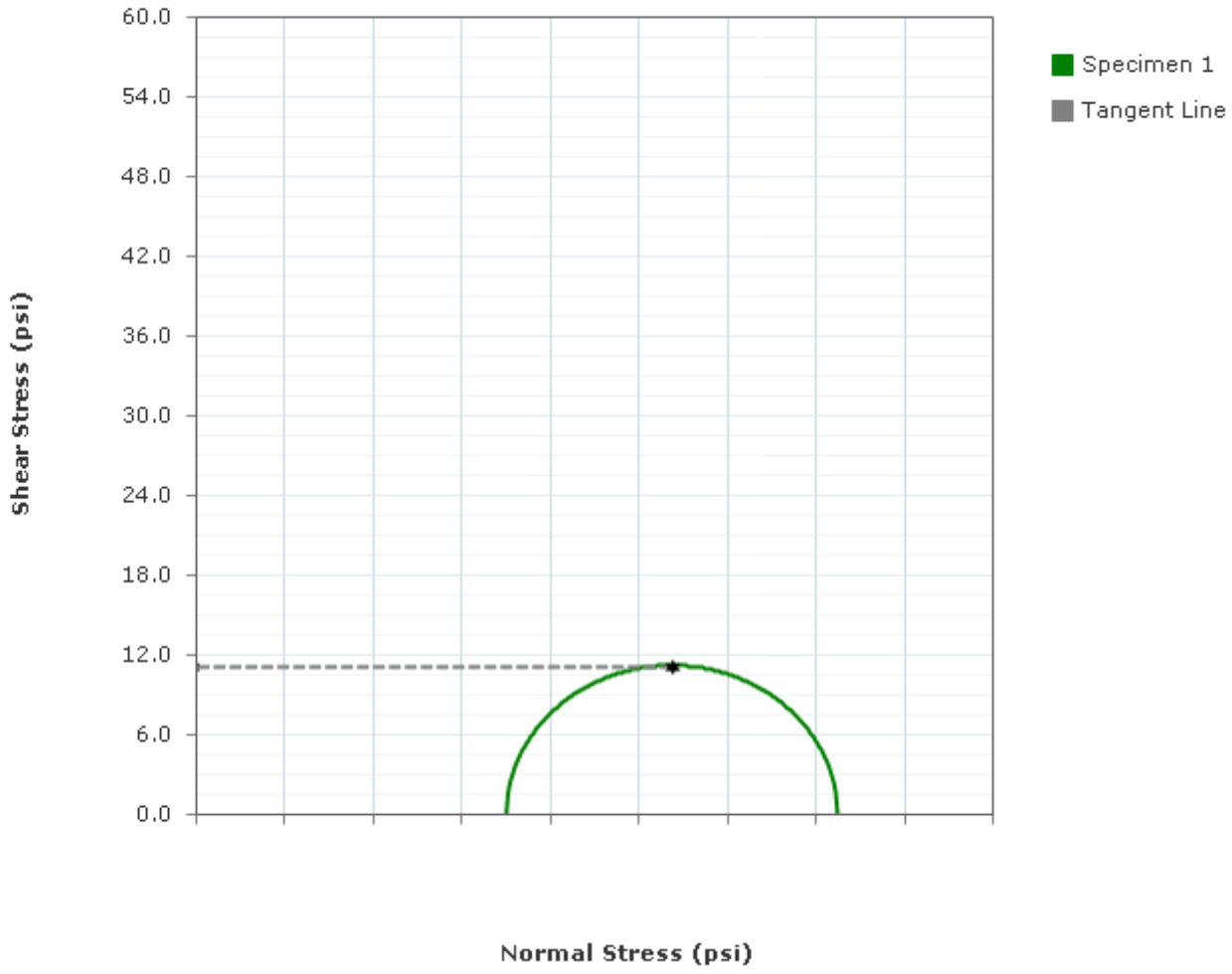
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/29/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	24	Liquid Limit:	71
Height (in):	5.744	Diameter (in):	2.843
Area (in^2):	6.346	Volume (in^3):	36.45
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1091.4		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



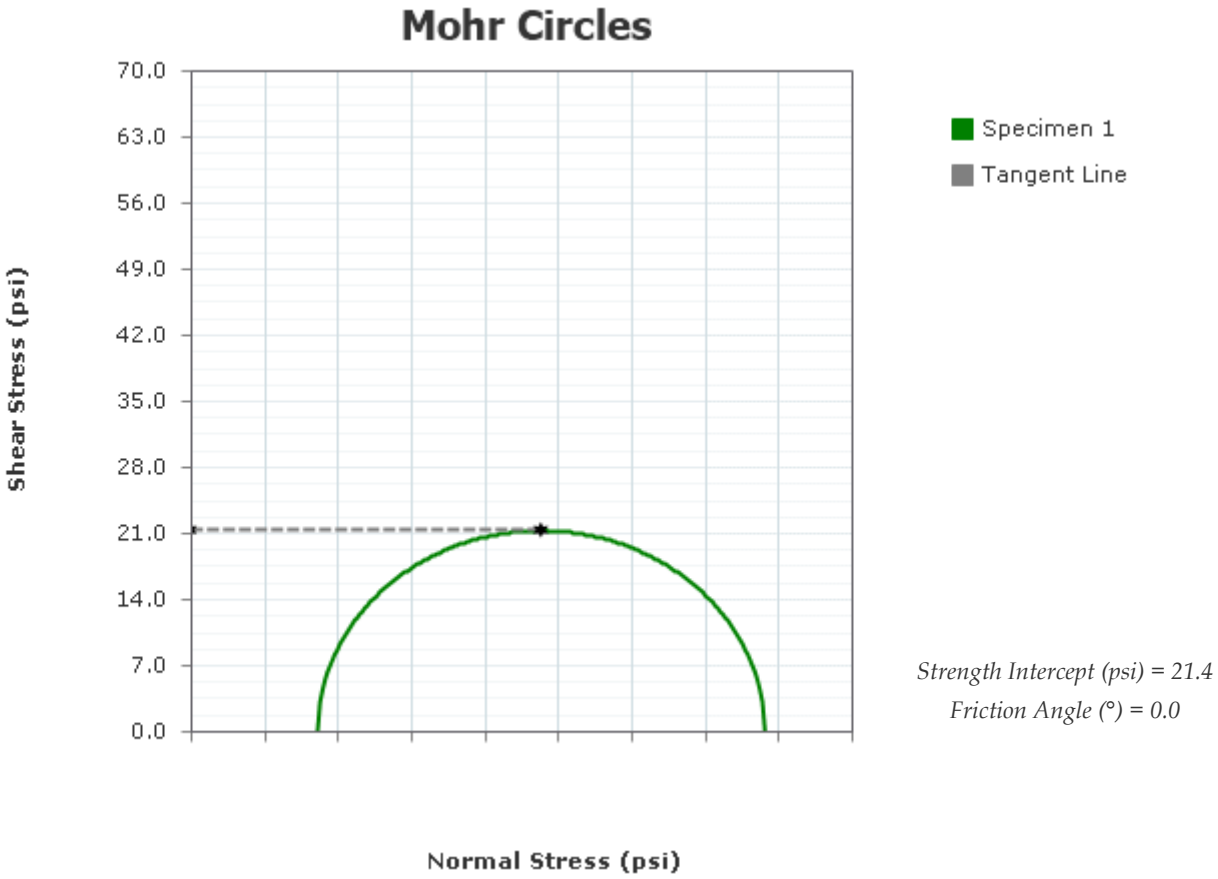
Tangent Results	
Strength Intercept (psi)	11.1
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 21.4
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B63
Sample Depth:	13.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.012							
Initial Cell Pressure (psi)	12.0							
Height (in)	5.829							
Diameter (in)	2.845							
Water Content (%)	40.2							
Wet Density (Units)	114.2							
Dry Density (pcf)	81.5							
Degree of Saturation (%)	100.8							
Void Ratio	1.084							
Height To Diameter Ratio	2.049							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	42.6							
σ1 at Failure (psi)	54.6							
σ3 at Failure (psi)	12.0							
Rate of Strain (in/min)	0.058287							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	0.0							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B63
Sample Depth:	13.5 ft
Location:	See Logs
Location:	B63
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch

Specimen 2 Failure Sketch

Specimen 3 Failure Sketch

Specimen 4 Failure Sketch

Specimen 5 Failure Sketch

Specimen 6 Failure Sketch

Specimen 7 Failure Sketch

Specimen 8 Failure Sketch

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

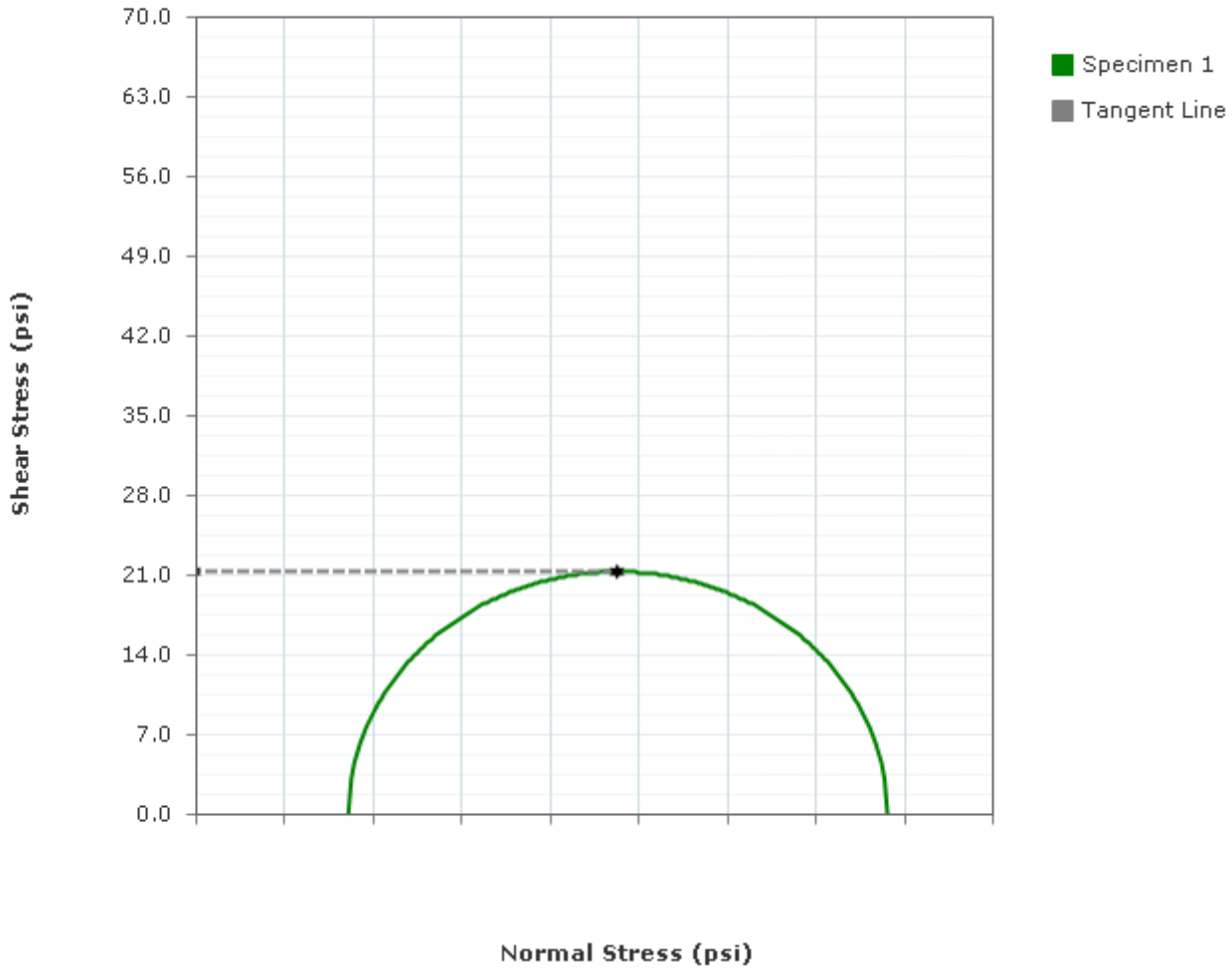
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	7/9/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	27	Liquid Limit:	55
Height (in):	5.829	Diameter (in):	2.845
Area (in^2):	6.359	Volume (in^3):	37.06
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1111.0		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

ASTM D2850



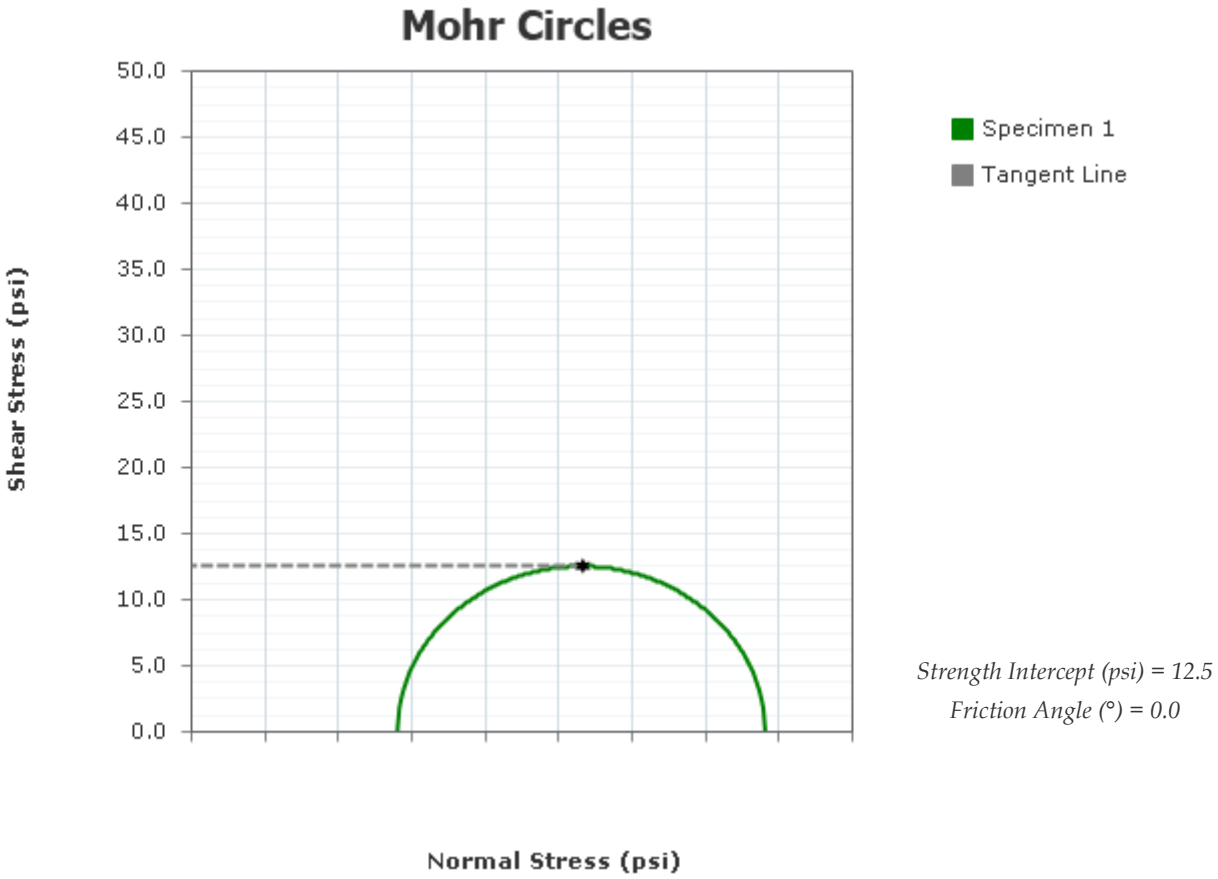
Tangent Results	
Strength Intercept (psi)	21.4
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 12.5
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B67
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	14.0							
Height (in)	5.747							
Diameter (in)	2.849							
Water Content (%)	0.0							
Wet Density (Units)	113.9							
Dry Density (pcf)	113.9							
Degree of Saturation (%)	0.0							
Void Ratio	0.491							
Height To Diameter Ratio	2.017							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	22.2							
σ1 at Failure (psi)	36.2							
σ3 at Failure (psi)	14.0							
Rate of Strain (in/min)	0.057465							
Axial Strain at Failure (%)	15.2							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	41.4							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B67
Sample Depth:	18.5 ft
Location:	See Logs
Location:	B67
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

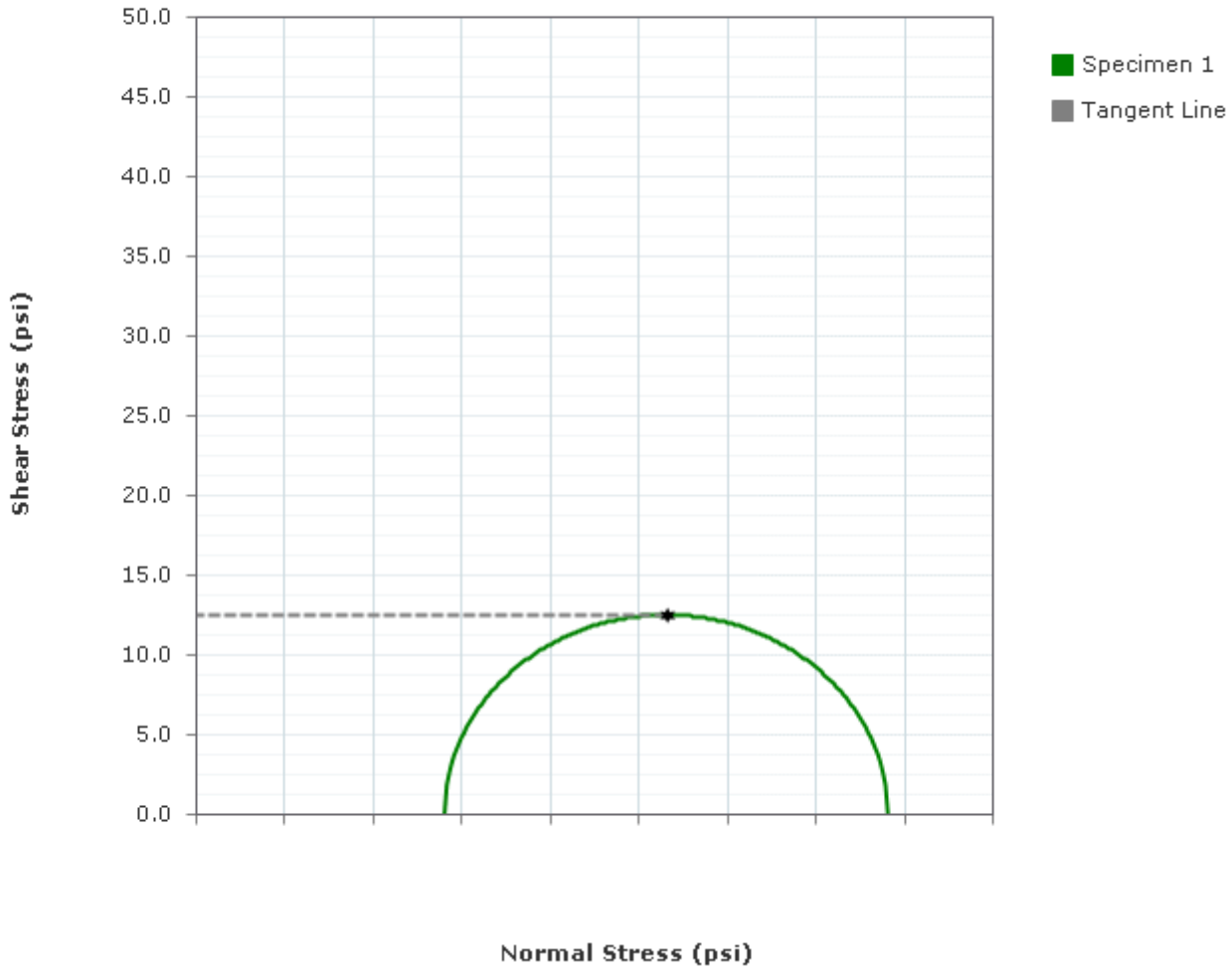
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/21/2020		
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	38	Liquid Limit:	67
Height (in):	5.747	Diameter (in):	2.849
Area (in^2):	6.376	Volume (in^3):	36.64
Large Particle:			
Moisture Material:			
Moist Weight (g):	1095.8		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

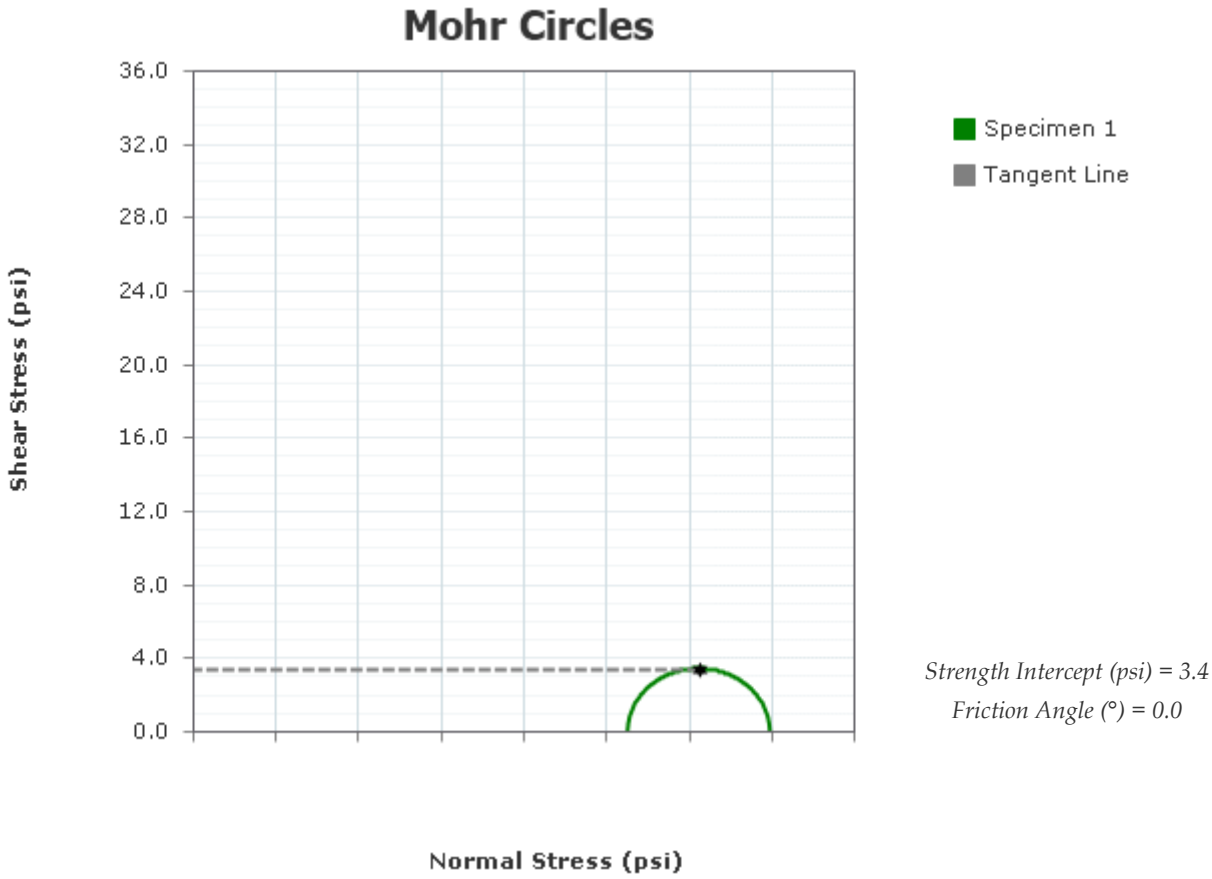
ASTM D2850



Tangent Results	
Strength Intercept (psi)	12.5
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 3.4
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B71
Sample Depth:	28.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	21.0							
Height (in)	5.584							
Diameter (in)	2.861							
Water Content (%)	49.7							
Wet Density (Units)	107.8							
Dry Density (pcf)	72.0							
Degree of Saturation (%)	99.7							
Void Ratio	1.358							
Height To Diameter Ratio	1.952							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	4.6							
σ1 at Failure (psi)	25.6							
σ3 at Failure (psi)	21.0							
Rate of Strain (in/min)	0.055843							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	51.7							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B71
Sample Depth:	28.5 ft
Location:	See Logs
Location:	B71
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

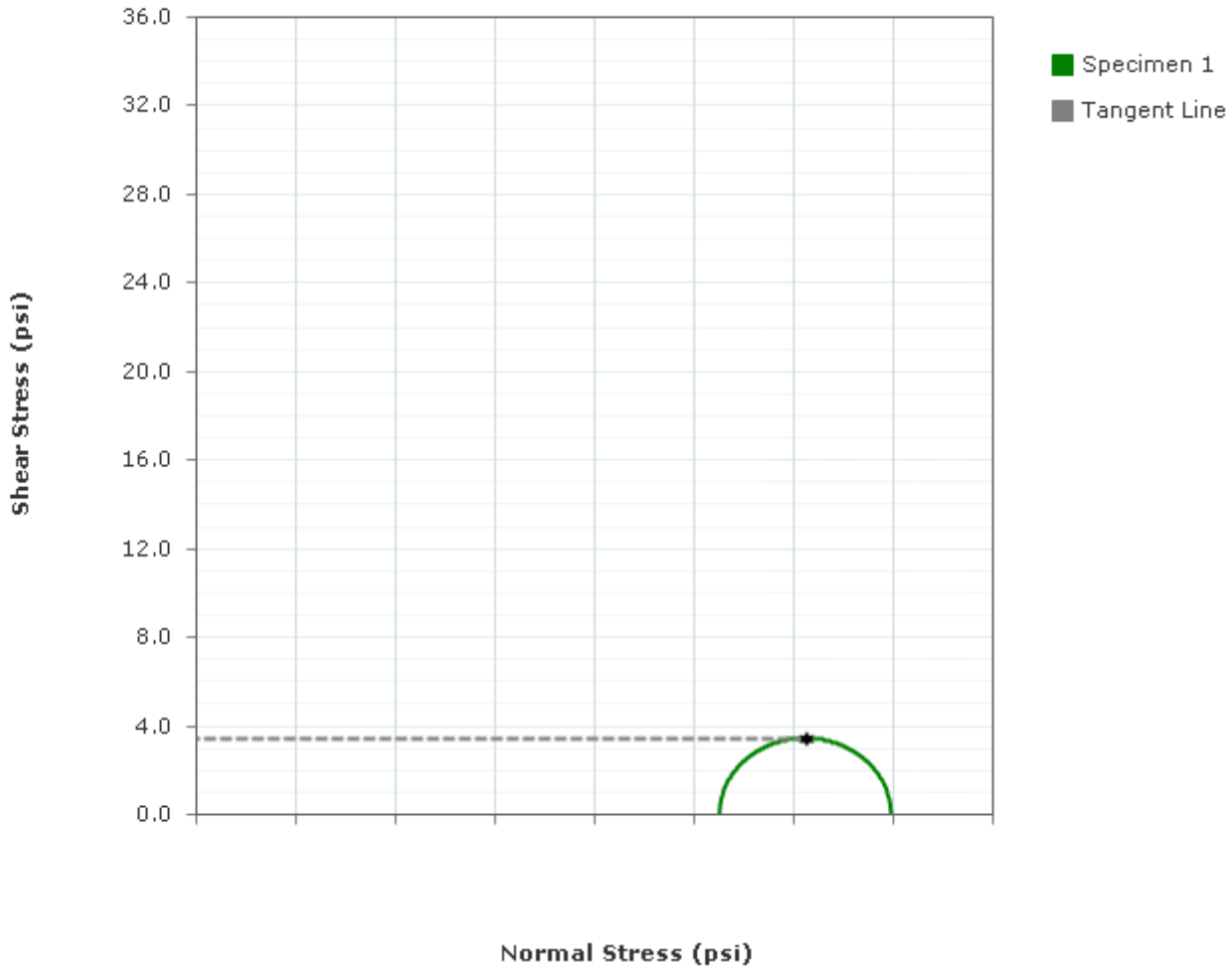
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	6/1/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	38	Liquid Limit:	67
Height (in):	5.584	Diameter (in):	2.861
Area (in^2):	6.430	Volume (in^3):	35.91
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1016.6		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



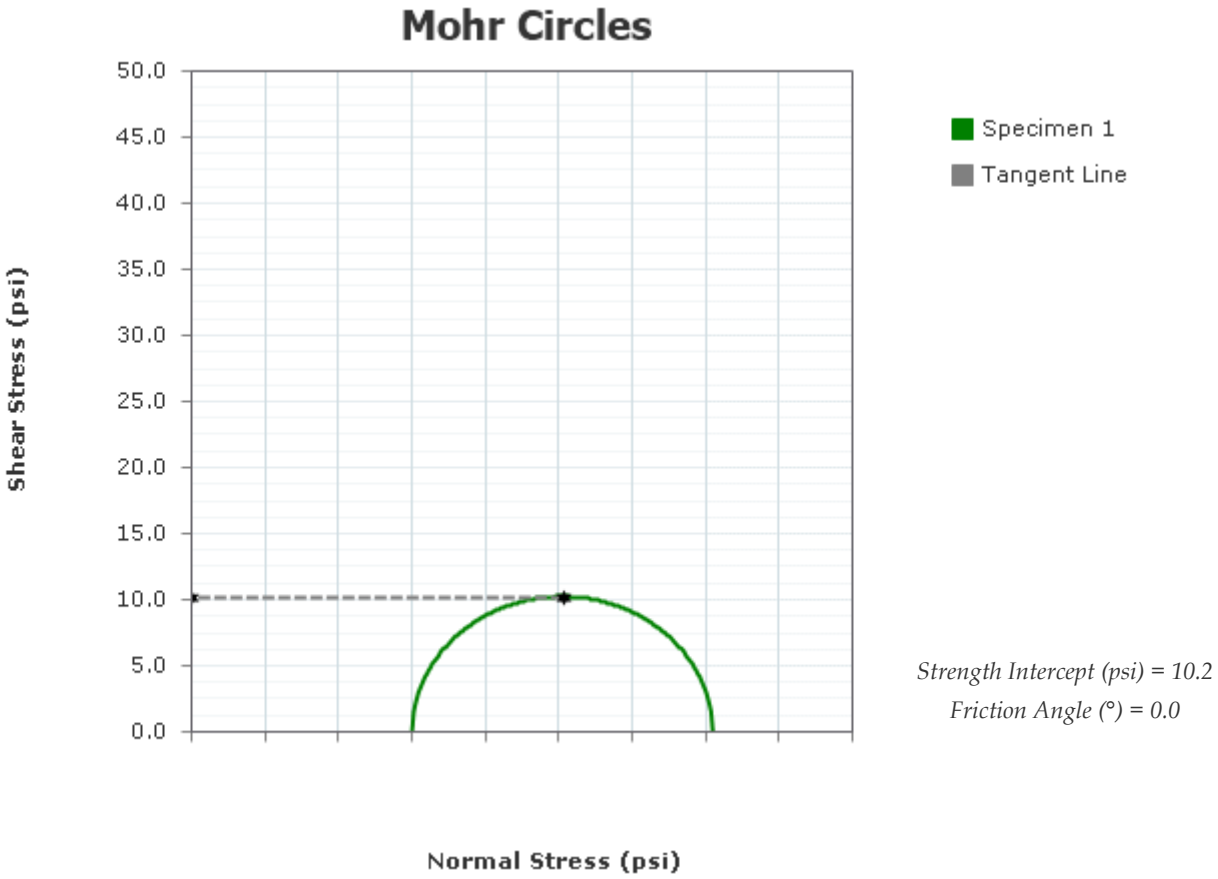
Tangent Results	
Strength Intercept (psi)	3.4
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 10.2
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B75
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	15.0							
Height (in)	5.599							
Diameter (in)	2.876							
Water Content (%)	0.0							
Wet Density (Units)	124.9							
Dry Density (pcf)	124.9							
Degree of Saturation (%)	0.0							
Void Ratio	0.359							
Height To Diameter Ratio	1.947							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	20.1							
σ1 at Failure (psi)	35.1							
σ3 at Failure (psi)	15.0							
Rate of Strain (in/min)	0.055992							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	38.6							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B75
Sample Depth:	18.5 ft
Location:	See Logs
Location:	B75
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

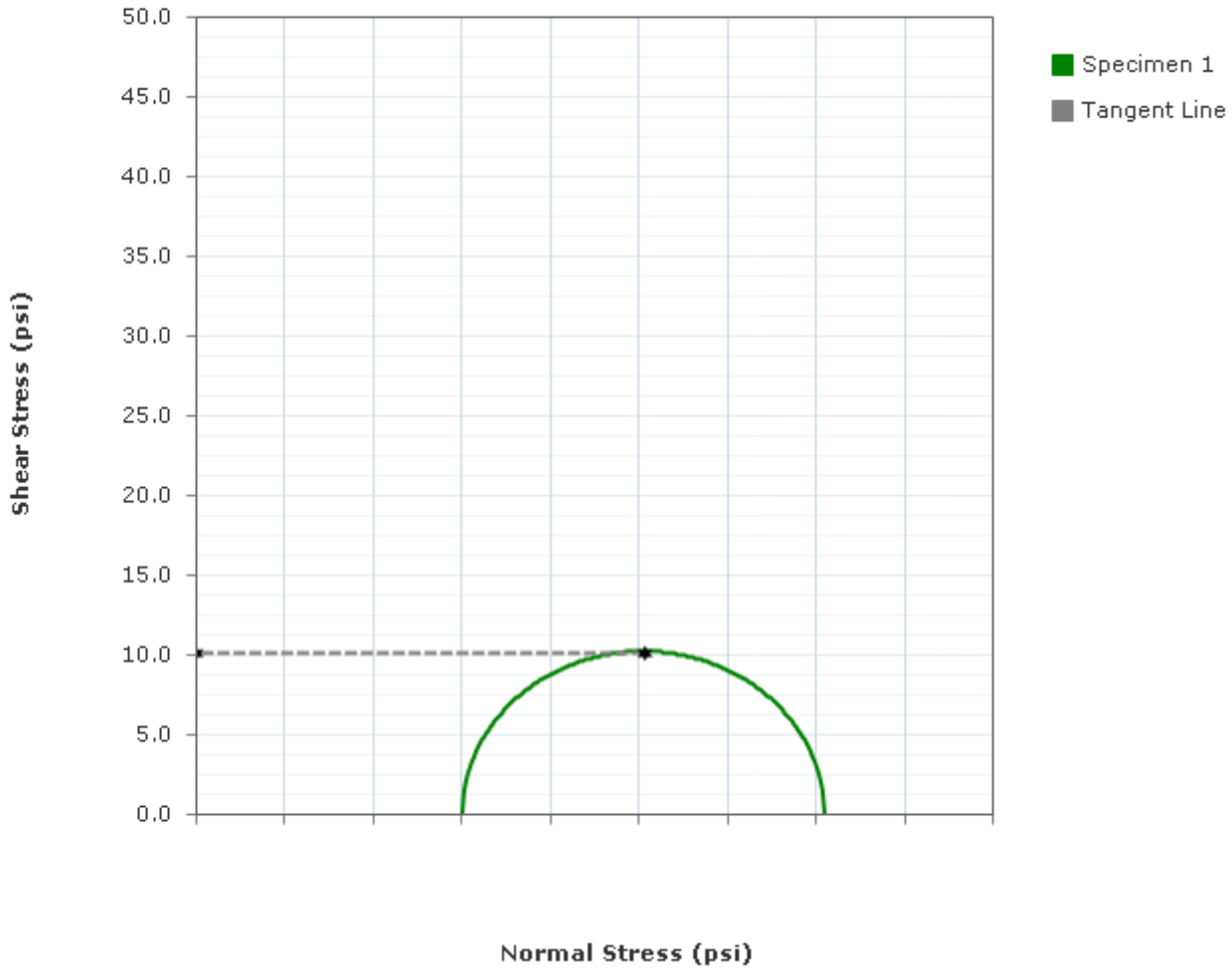
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	6/3/2020		
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	0	Liquid Limit:	0
Height (in):	5.599	Diameter (in):	2.876
Area (in^2):	6.495	Volume (in^3):	36.37
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1192.7		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



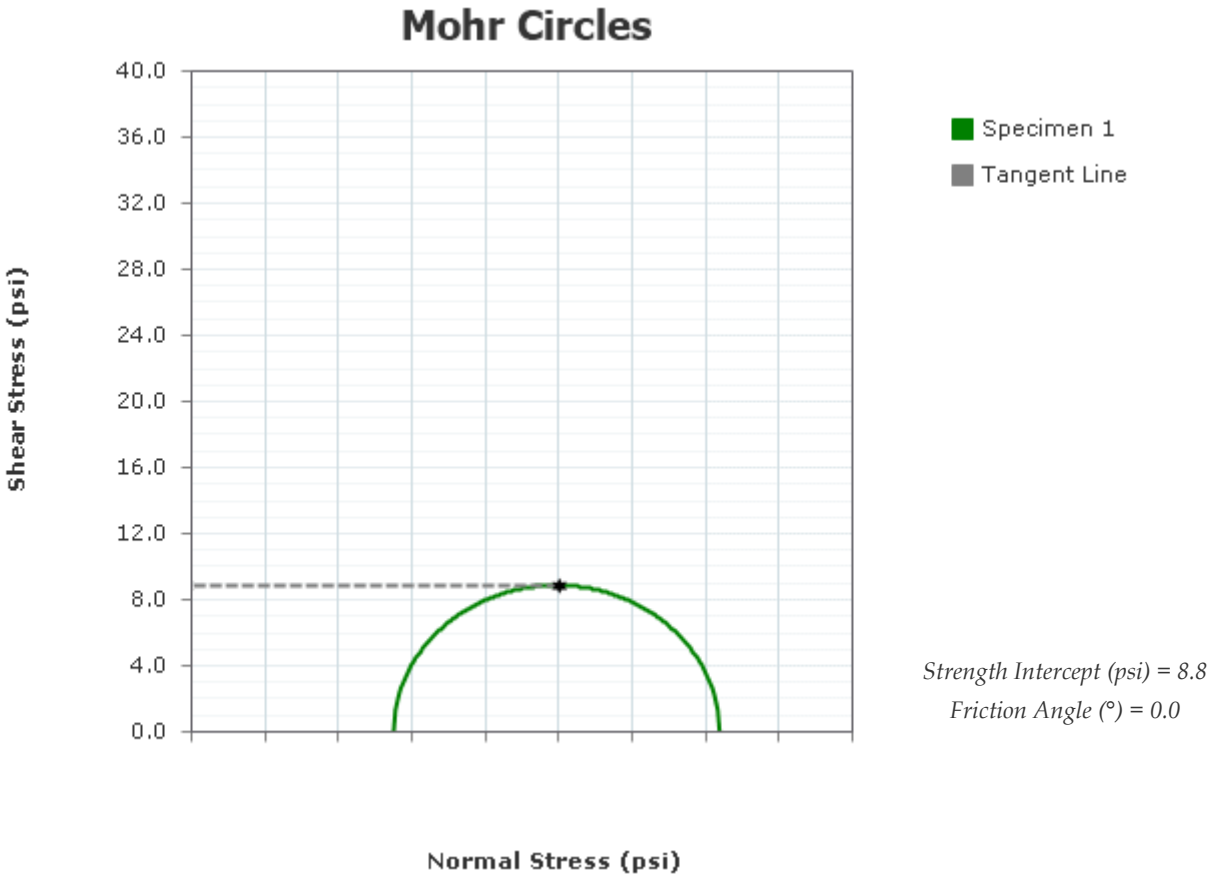
Tangent Results	
Strength Intercept (psi)	10.2
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 8.8
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B82
Sample Depth:	13.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	11.0							
Height (in)	5.872							
Diameter (in)	2.884							
Water Content (%)	39.0							
Wet Density (Units)	112.0							
Dry Density (pcf)	80.5							
Degree of Saturation (%)	95.8							
Void Ratio	1.109							
Height To Diameter Ratio	2.036							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	17.7							
σ1 at Failure (psi)	28.7							
σ3 at Failure (psi)	11.0							
Rate of Strain (in/min)	0.058720							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	28.8							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B82
Sample Depth:	13.5 ft
Location:	See Logs
Location:	B82
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

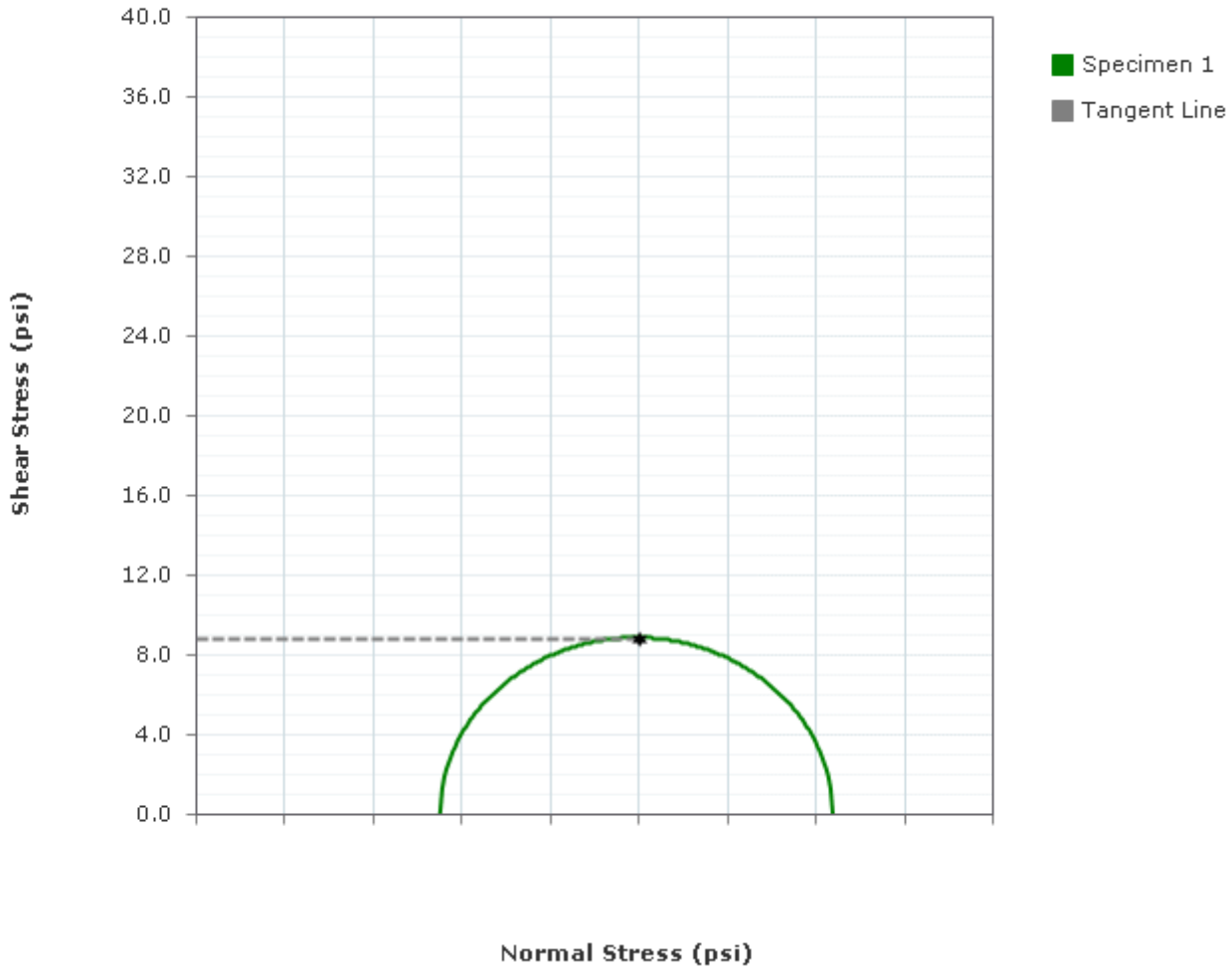
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	6/2/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	31	Liquid Limit:	65
Height (in):	5.872	Diameter (in):	2.884
Area (in^2):	6.533	Volume (in^3):	38.36
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1127.4		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

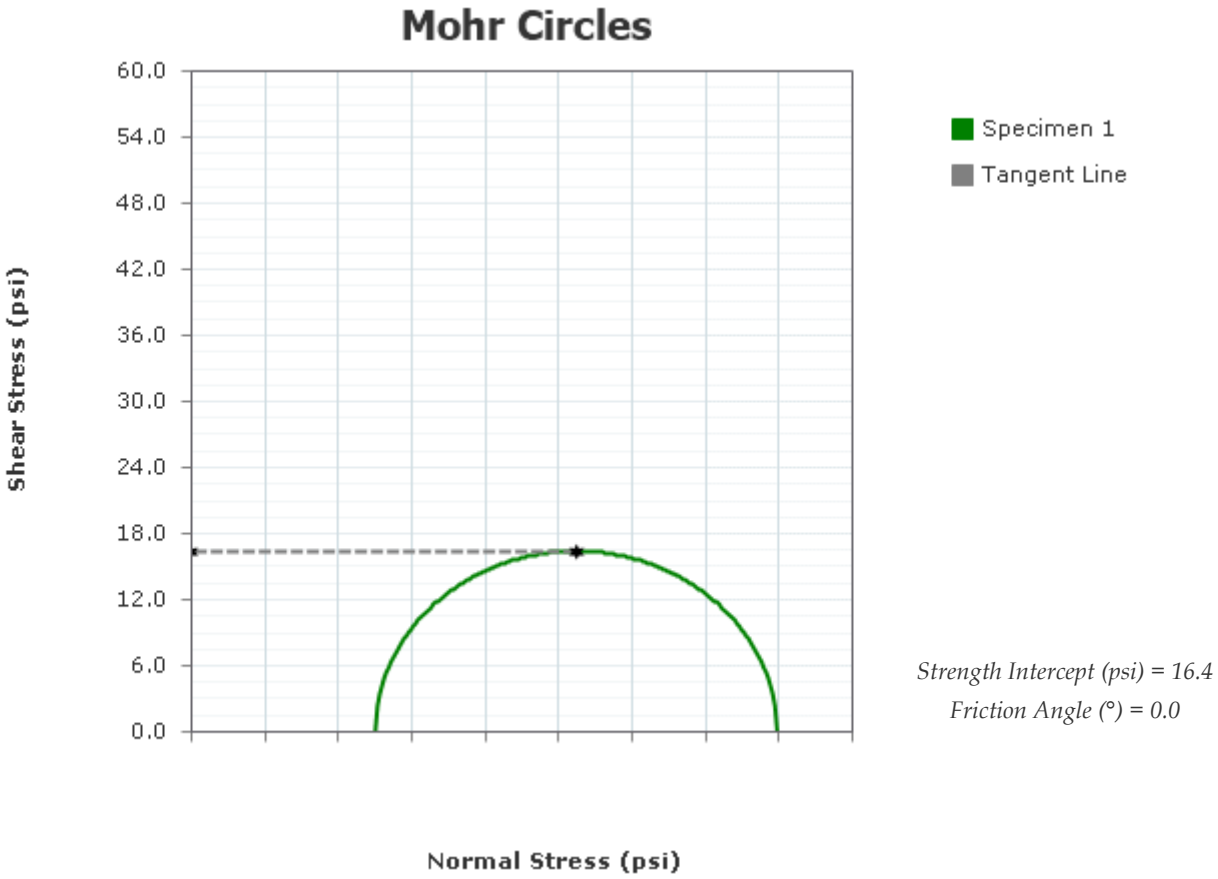
ASTM D2850



Tangent Results	
Strength Intercept (psi)	8.8
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 16.4
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B86
Sample Depth:	17.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.012							
Initial Cell Pressure (psi)	15.0							
Height (in)	5.597							
Diameter (in)	2.866							
Water Content (%)	44.9							
Wet Density (Units)	111.1							
Dry Density (pcf)	76.7							
Degree of Saturation (%)	100.6							
Void Ratio	1.214							
Height To Diameter Ratio	1.953							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	32.8							
σ1 at Failure (psi)	47.8							
σ3 at Failure (psi)	15.0							
Rate of Strain (in/min)	0.055965							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	0.0							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B86
Sample Depth:	17.5 ft
Location:	See Logs
Location:	B86
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

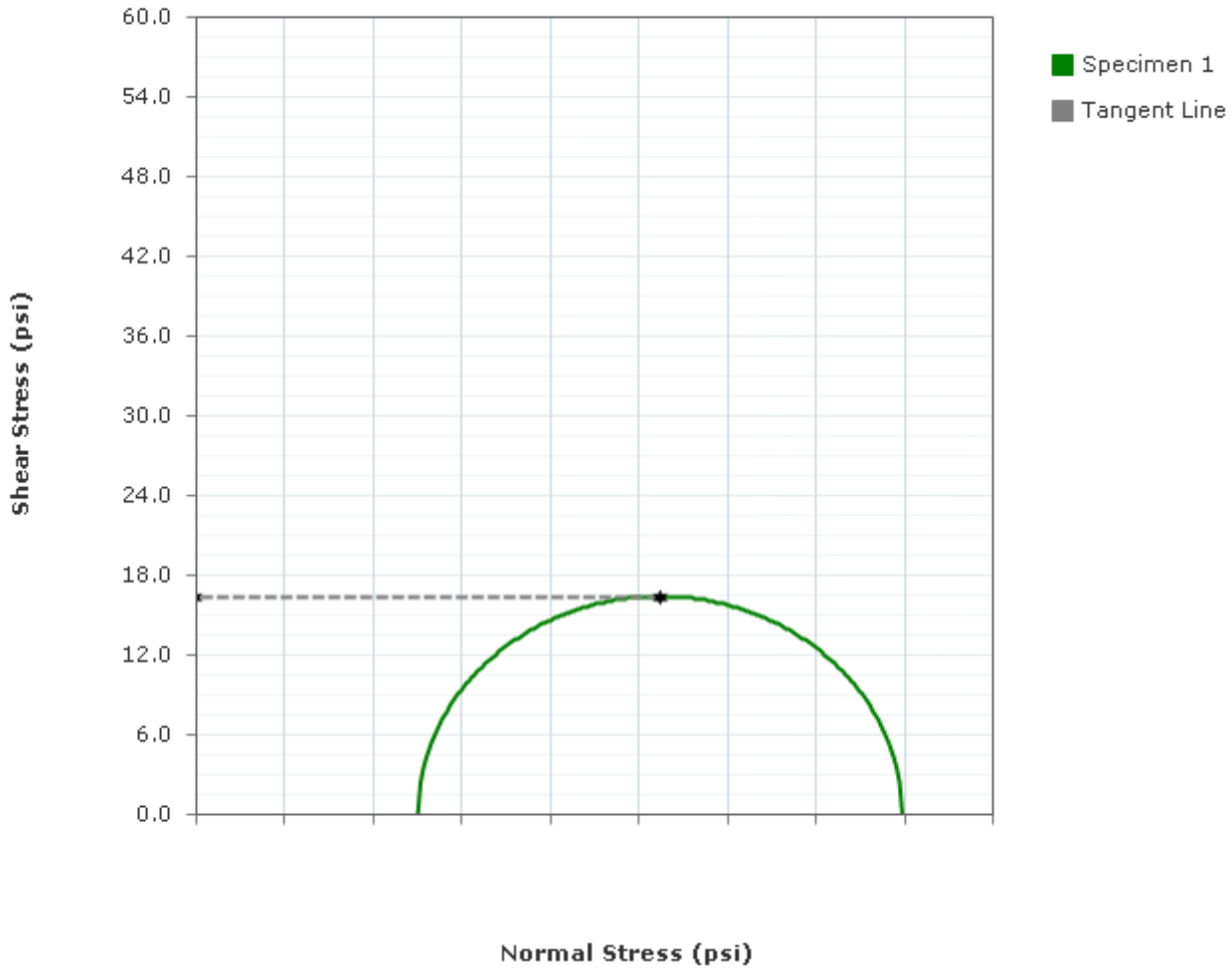
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	7/9/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	38	Liquid Limit:	69
Height (in):	5.597	Diameter (in):	2.866
Area (in^2):	6.450	Volume (in^3):	36.10
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1052.9		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

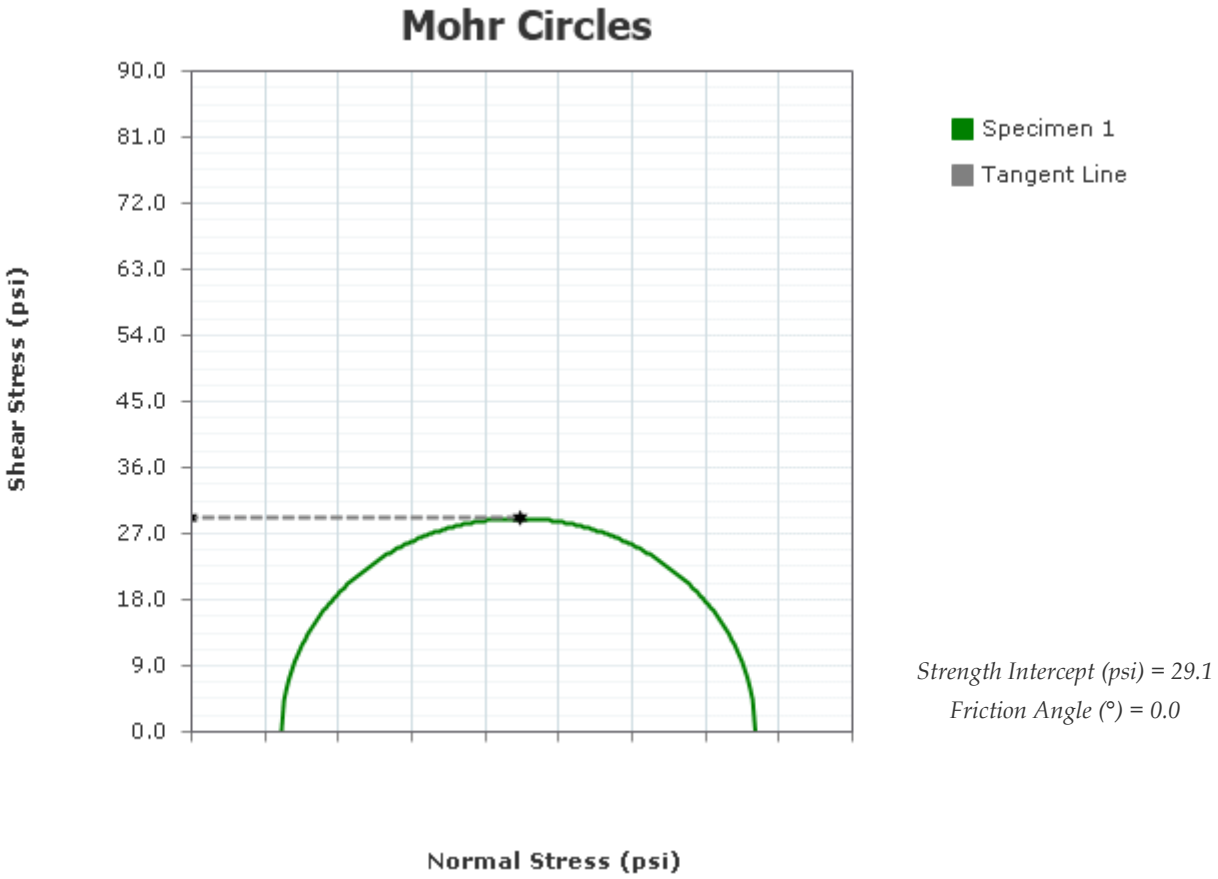
ASTM D2850



Tangent Results	
Strength Intercept (psi)	16.4
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 29.1
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B117
Sample Depth:	18.5 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	11.0							
Height (in)	5.793							
Diameter (in)	2.880							
Water Content (%)	31.6							
Wet Density (Units)	115.1							
Dry Density (pcf)	87.4							
Degree of Saturation (%)	91.3							
Void Ratio	0.942							
Height To Diameter Ratio	2.012							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	58.1							
σ1 at Failure (psi)	69.1							
σ3 at Failure (psi)	11.0							
Rate of Strain (in/min)	0.057932							
Axial Strain at Failure (%)	-13.4							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	37.1							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B117
Sample Depth:	18.5 ft
Location:	See Logs
Location:	B117
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

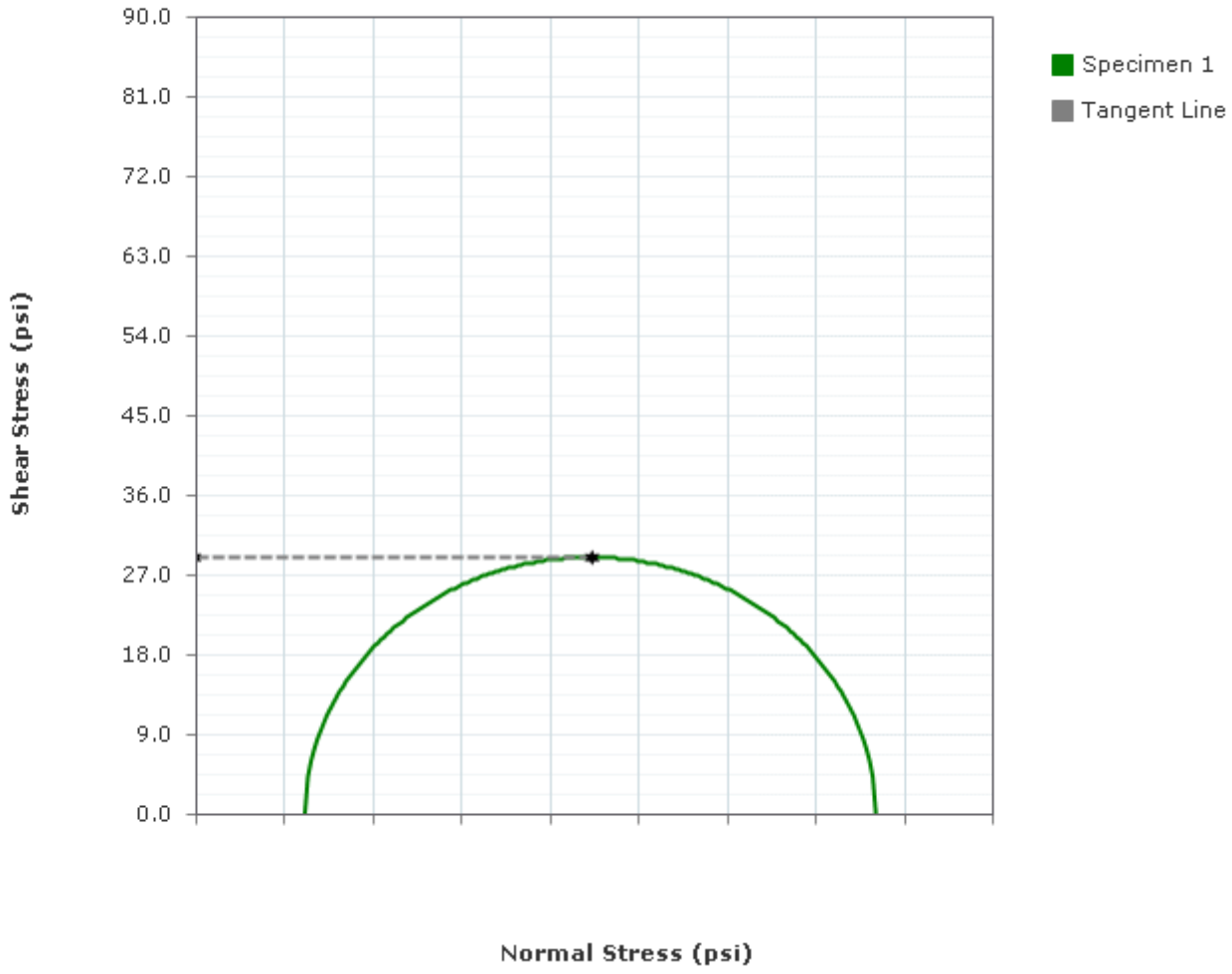
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	6/17/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	34	Liquid Limit:	63
Height (in):	5.793	Diameter (in):	2.880
Area (in^2):	6.514	Volume (in^3):	37.73
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1139.8		
Test Remarks:			

Mohr Circles (Total Stress) Graph

ASTM D2850



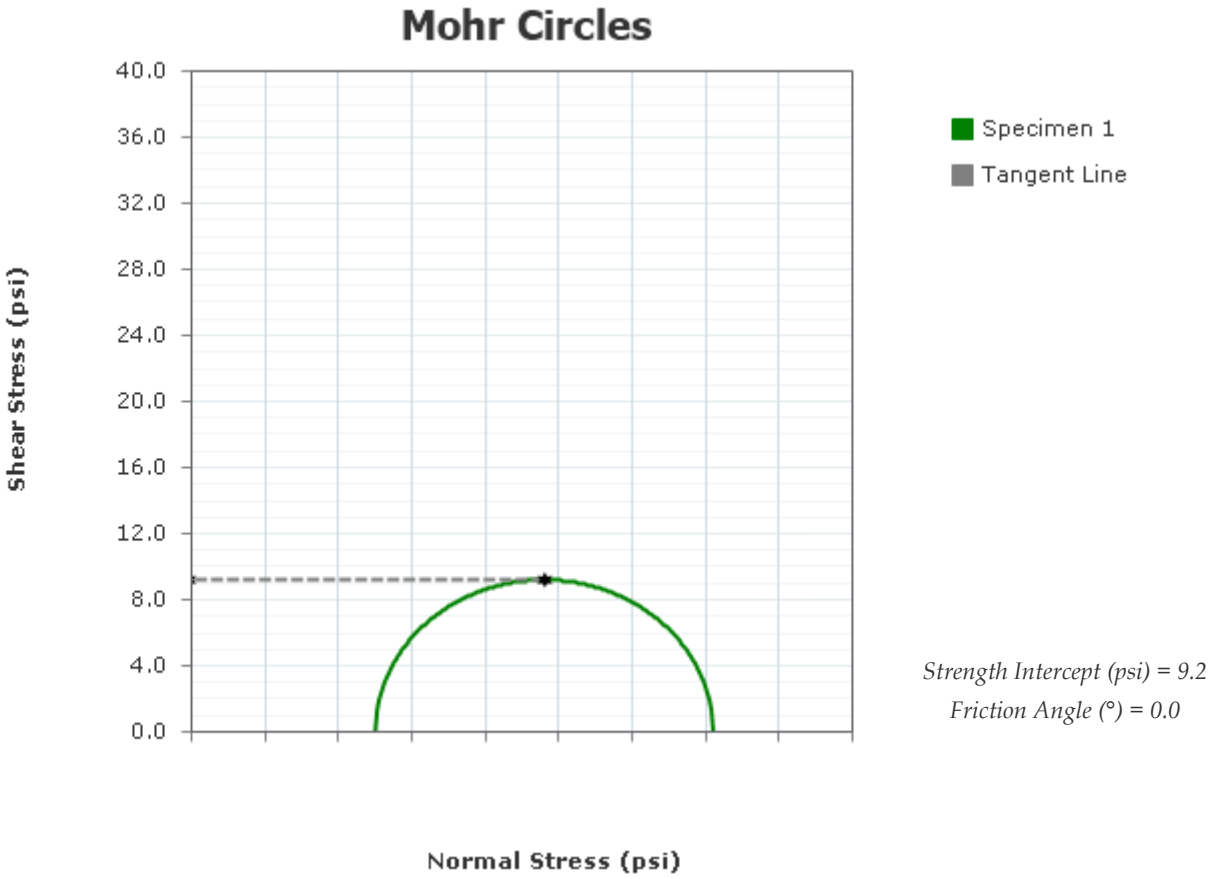
Tangent Results	
Strength Intercept (psi)	29.1
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 9.2
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B119
Sample Depth:	8 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	10.0							
Height (in)	5.594							
Diameter (in)	2.883							
Water Content (%)	0.0							
Wet Density (Units)	112.1							
Dry Density (pcf)	112.1							
Degree of Saturation (%)	0.0							
Void Ratio	0.514							
Height To Diameter Ratio	1.940							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	18.4							
σ1 at Failure (psi)	28.4							
σ3 at Failure (psi)	10.0							
Rate of Strain (in/min)	0.055943							
Axial Strain at Failure (%)	15.3							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	40.1							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B119
Sample Depth:	8 ft
Location:	See Logs
Location:	B119
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

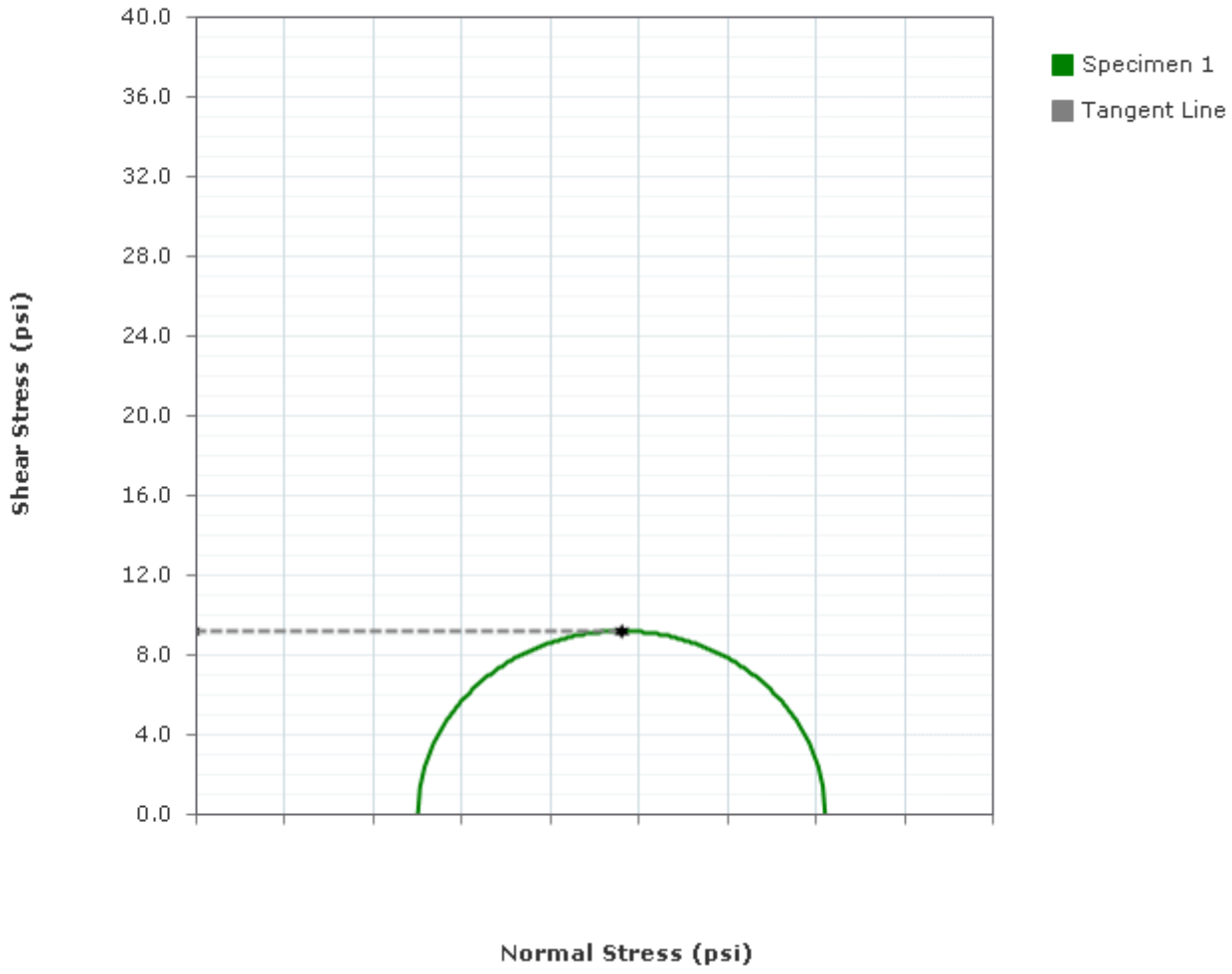
ASTM D2850

Specimen 1

Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/29/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	34	Liquid Limit:	61
Height (in):	5.594	Diameter (in):	2.883
Area (in^2):	6.529	Volume (in^3):	36.52
Large Particle:			
Moisture Material:			
Moist Weight (g):	1074.9		
Test Remarks:			

Mohr Circles (Total Stress) Graph

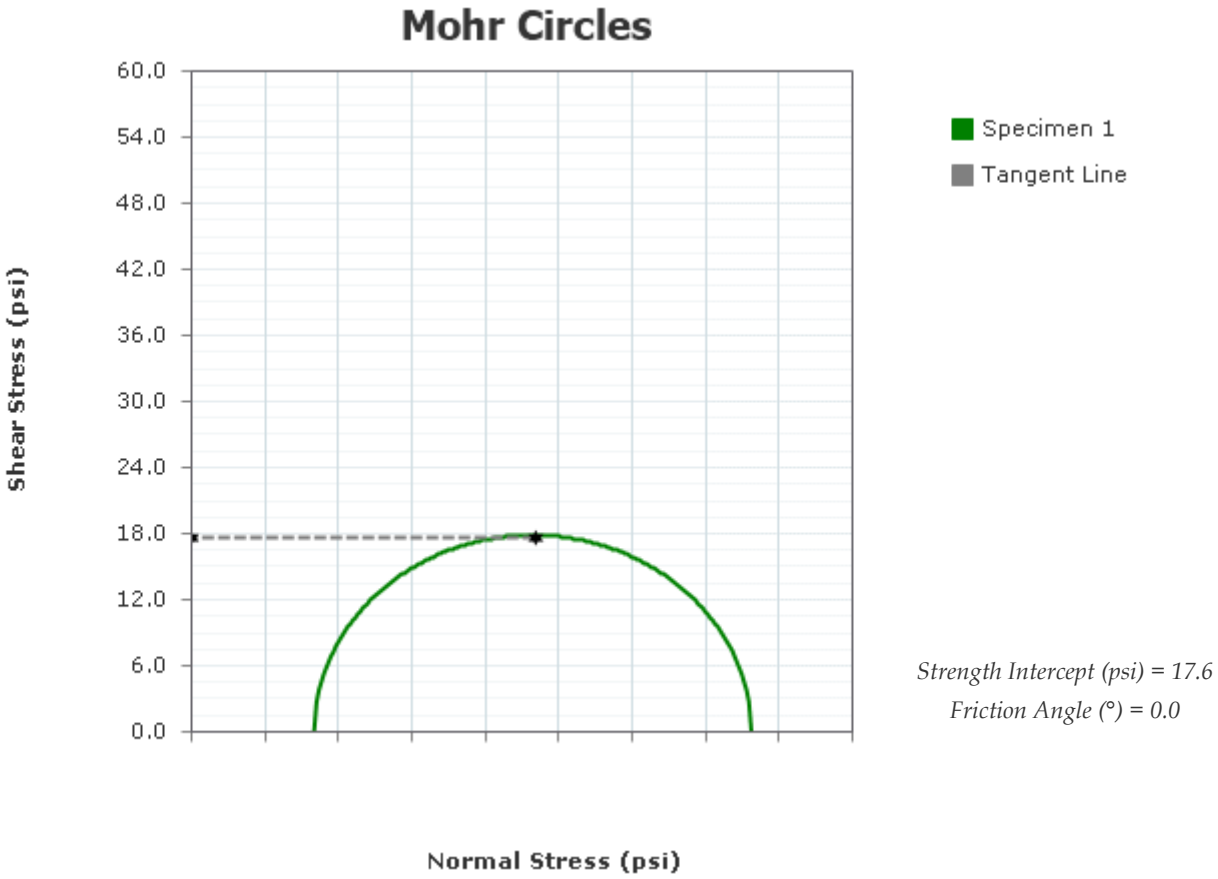
ASTM D2850



Tangent Results	
Strength Intercept (psi)	9.2
Friction Angle (°)	0.0

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 17.6
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B121
Sample Depth:	8 ft
Location:	See Logs
Client Name:	
Remarks:	

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	10.0							
Height (in)	5.663							
Diameter (in)	2.880							
Water Content (%)	31.7							
Wet Density (Units)	117.0							
Dry Density (pcf)	88.8							
Degree of Saturation (%)	94.6							
Void Ratio	0.912							
Height To Diameter Ratio	1.966							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	35.3							
σ1 at Failure (psi)	45.3							
σ3 at Failure (psi)	10.0							
Rate of Strain (in/min)	0.056625							
Axial Strain at Failure (%)	15.4							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	33.5							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B121
Sample Depth:	8 ft
Location:	See Logs
Location:	B121
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

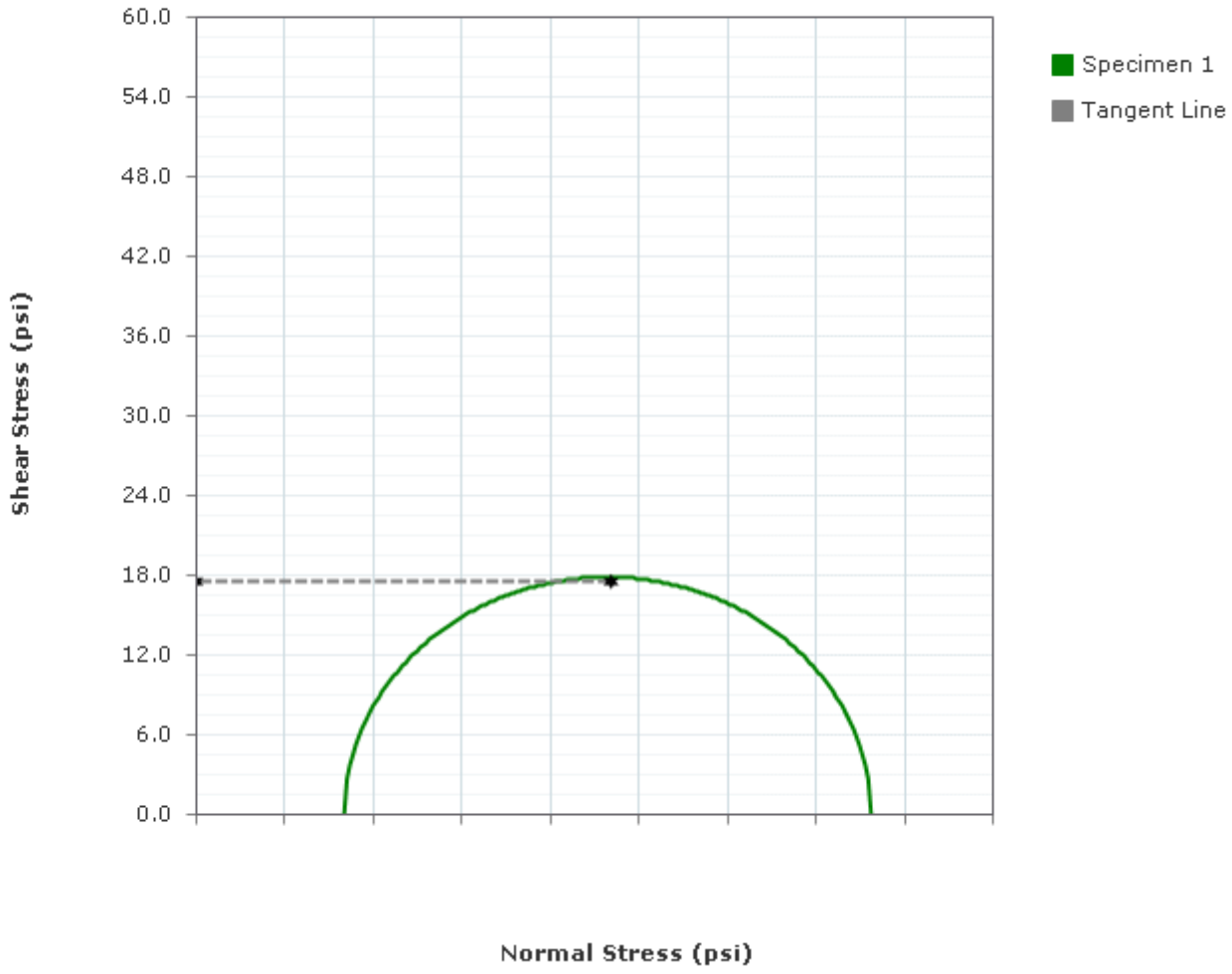
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	5/29/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	36	Liquid Limit:	55
Height (in):	5.663	Diameter (in):	2.880
Area (in^2):	6.516	Volume (in^3):	36.90
Large Particle:			
Moisture Material:			
Moist Weight (g):	1133.1		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

ASTM D2850



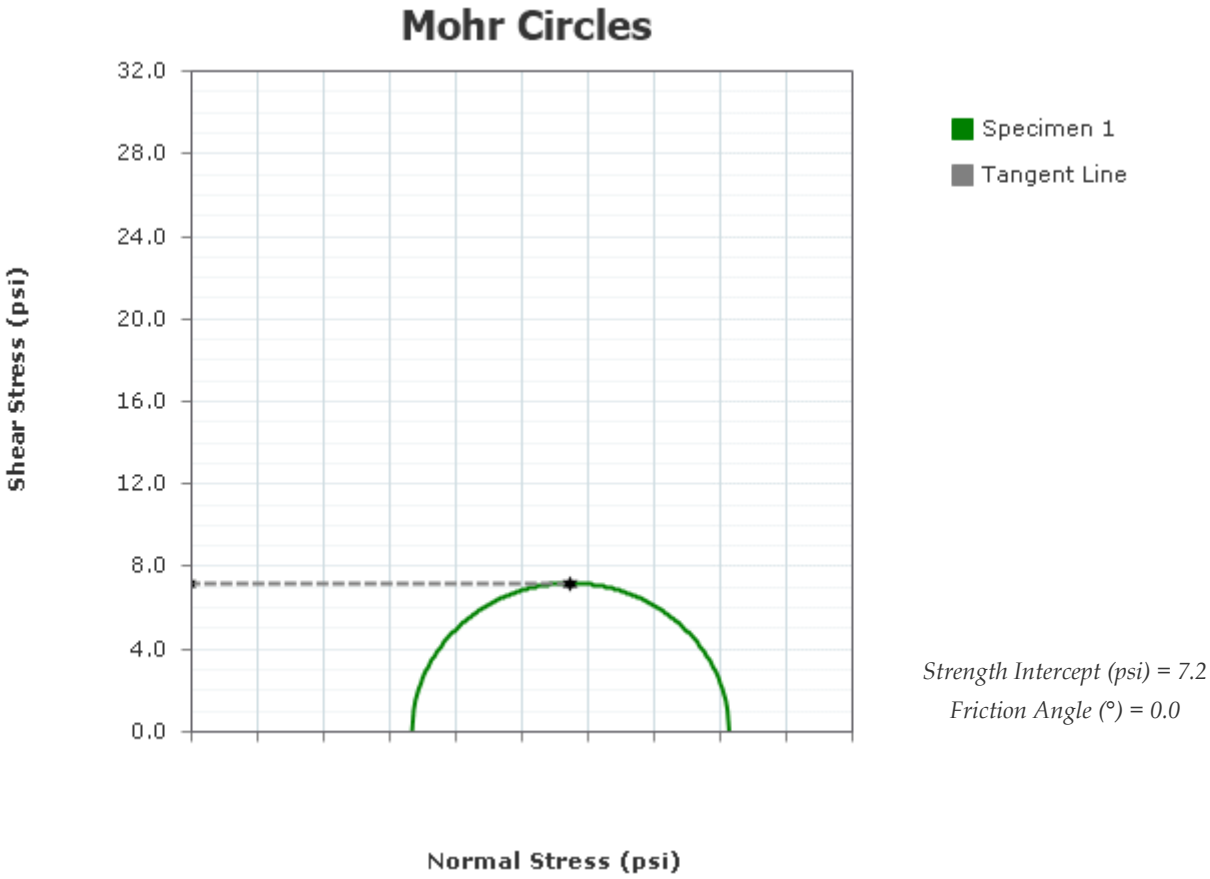
Tangent Results	
Strength Intercept (psi)	17.6
Friction Angle (°)	0.0

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Unconsolidated Undrained Test

ASTM D2850



Strength Intercept (psi) = 7.2
Friction Angle (°) = 0.0

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B131
Sample Depth:	10 ft
Location:	See Logs
Client Name:	
Remarks:	

Unconsolidated Undrained Test

ASTM D2850

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Membrane Thickness (in)	0.120							
Initial Cell Pressure (psi)	10.0							
Height (in)	5.923							
Diameter (in)	2.885							
Water Content (%)	35.0							
Wet Density (Units)	111.1							
Dry Density (pcf)	82.4							
Degree of Saturation (%)	89.6							
Void Ratio	1.062							
Height To Diameter Ratio	2.053							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	14.4							
σ1 at Failure (psi)	24.4							
σ3 at Failure (psi)	10.0							
Rate of Strain (in/min)	0.059227							
Axial Strain at Failure (%)	1.4							
After Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Final Water Content (%)	39.1							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B131
Sample Depth:	10 ft
Location:	See Logs
Location:	B131
Client Name:	
Project Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
N/A							

Unconsolidated Undrained Test

ASTM D2850

Specimen 1

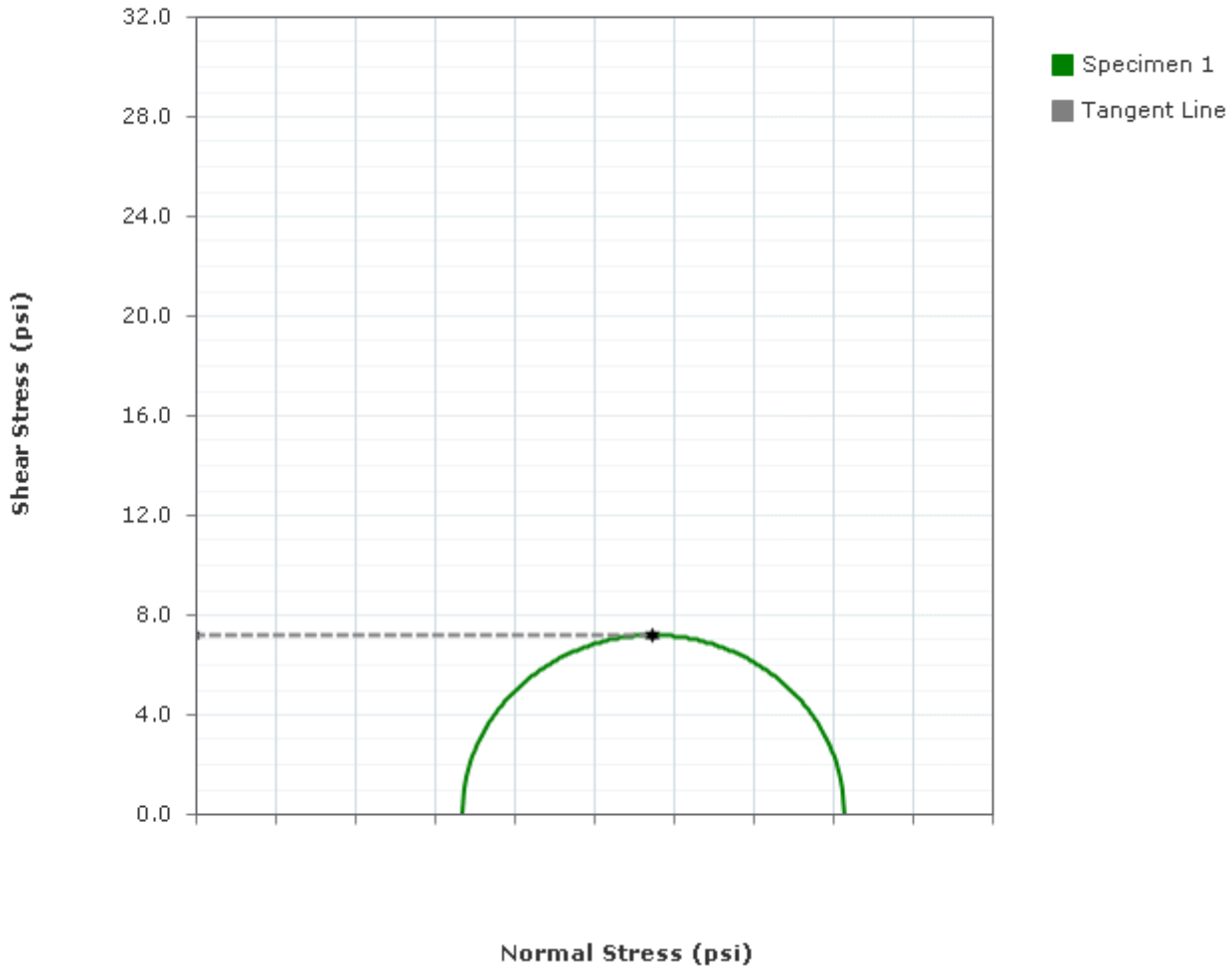
Test Description:	Standard UU		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:	6/1/2020		
Technician:	CT	Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.720		
Plastic Limit:	38	Liquid Limit:	58
Height (in):	5.923	Diameter (in):	2.885
Area (in^2):	6.538	Volume (in^3):	38.72
Large Particle:			
Moisture Material:	Trimmings		
Moist Weight (g):	1129.7		
Test Remarks:			

Project Name: TDOT Project Number: 20033

Checked By: _____ Date: _____

Mohr Circles (Total Stress) Graph

ASTM D2850

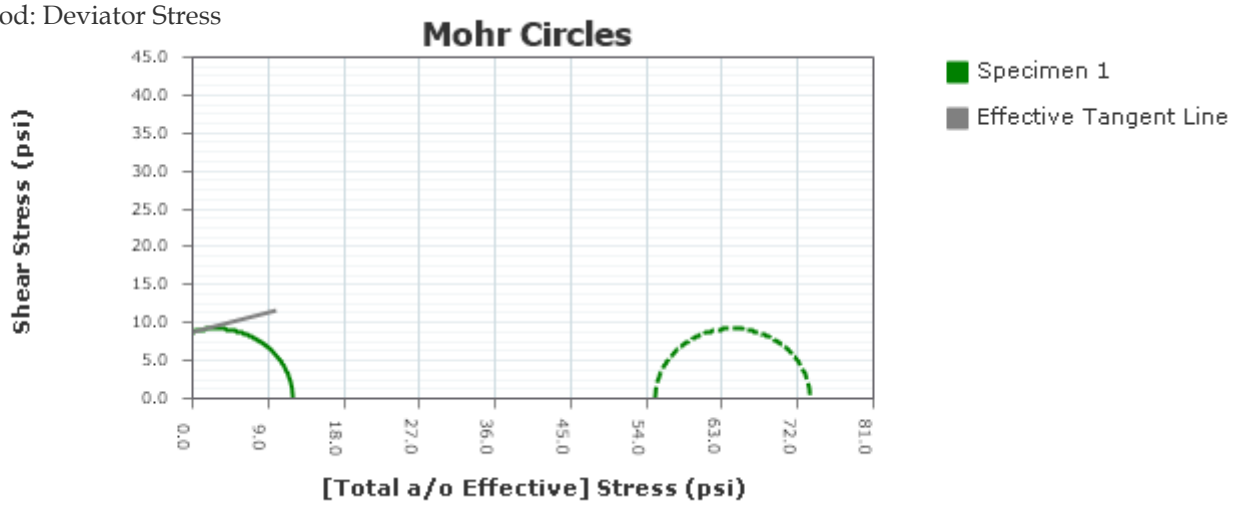


Tangent Results	
Strength Intercept (psi)	7.2
Friction Angle (°)	0.0

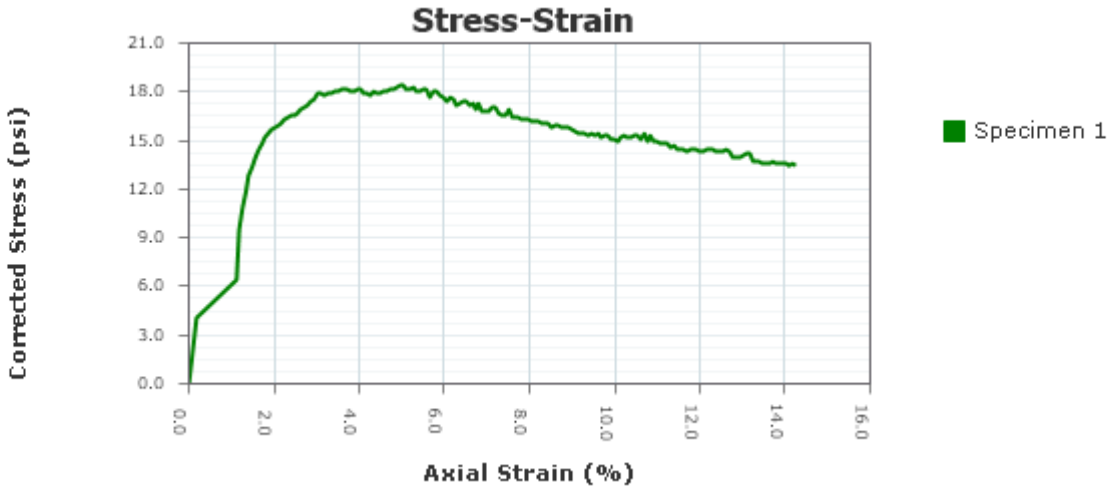
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	NA	Effective Strength Intercept (psi):	8.8
Total Friction Angle (°):	NA	Effective Friction Angle (°):	16.1



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	11.9							
σ'3 at Failure (psi)	-6.5							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B-5
Sample Depth:	23.5'
Location:	
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	50.3							
Moisture Material	Trimmings							
Dry Density (pcf)	78.4							
Saturation (%)	117.3							
Void Ratio	1.167							
Height (in)	5.6345							
Diameter (in)	2.8733							
Test Temperature (°F)	68.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.6345							
Area (in²)	6.484							
Volume (in³)	36.5357							
B-Value	0.950							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	55.0							
Back Pressure (psi)	40.0							
Effective Pressure (psi)	15.0							
Height (in)	5.6345							
Area (in²)	6.368							
Volume (in³)	35.8785							
Dry Density (pcf)	79.8							
Saturation (%)	121.3							
Void Ratio	1.128							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	24.4							
Dry Density (pcf)	93.9							
Void Ratio	0.809							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	18.5							
σ'1 at Failure (psi)	11.9							
σ'3 at Failure (psi)	-6.5							
Rate of Strain (%/Hr)	2.3							
Rate of Strain (in/min)	0.002162							
Axial Strain at Failure (%)	5.0							

Project Name: Project Number:

Report Created: 8/13/2020

Checked By: _____ Date: _____

Consolidated Undrained Test

ASTM D4767

Project:	
Project Number:	
Sampling Date:	
Sample Number:	
Sample Depth:	
Location:	
Boring Number:	
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
N/A							

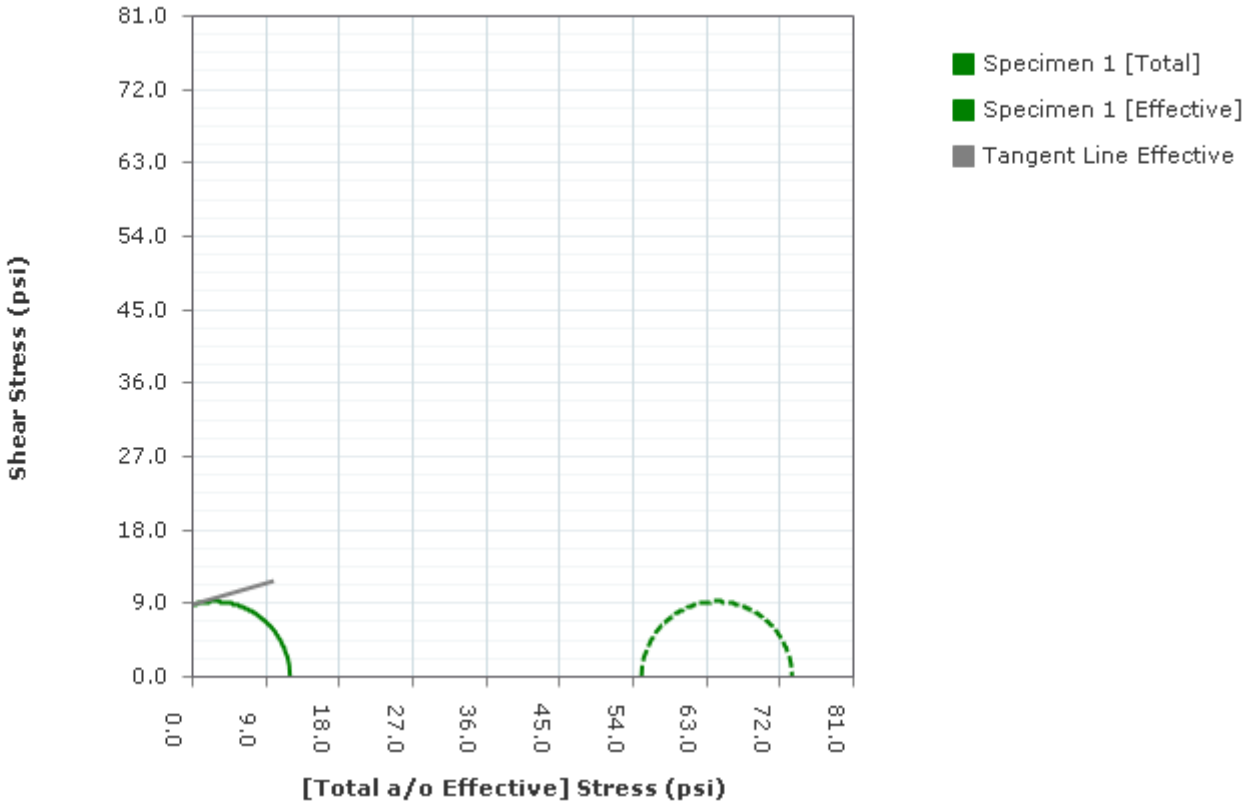
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	81	Liquid Limit:	33
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1129.6		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

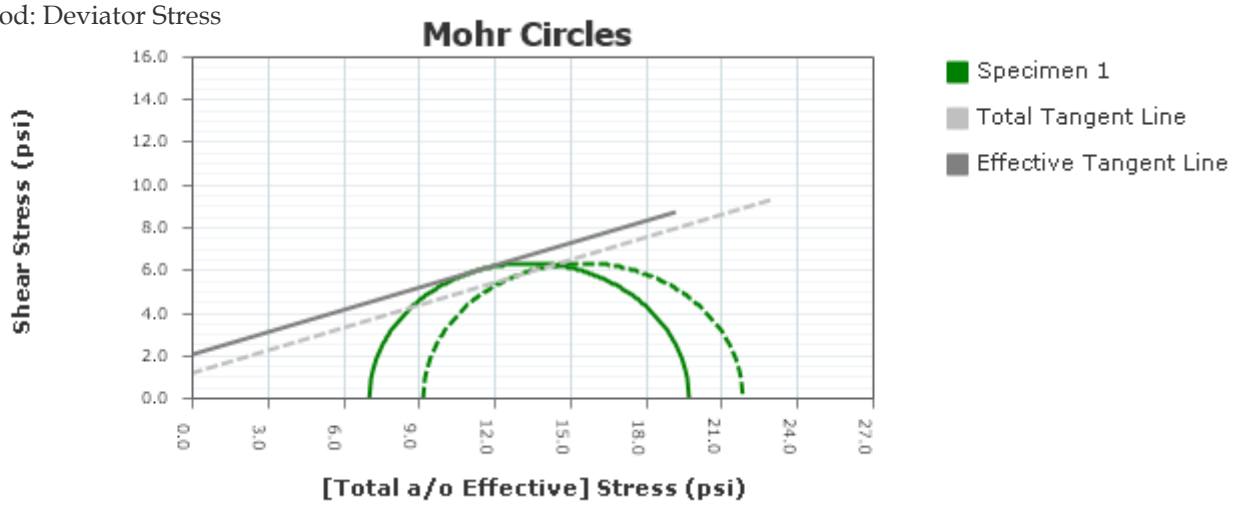


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	NA	8.8
Friction Angle (°)	NA	16.141
Calculation Method: Deviator Stress		

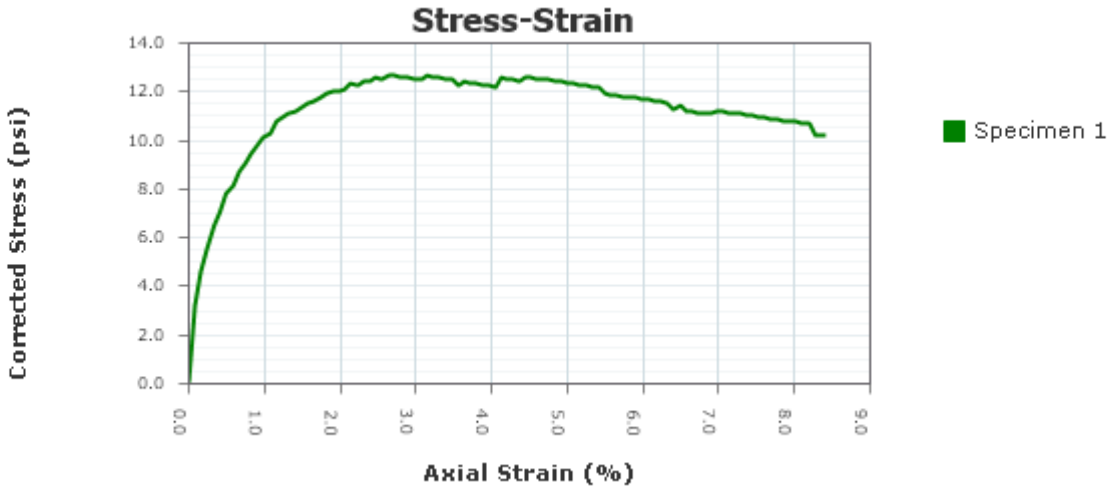
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	1.2	Effective Strength Intercept (psi):	2.1
Total Friction Angle (°):	19.6	Effective Friction Angle (°):	19.2



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	19.7							
σ'3 at Failure (psi)	7.0							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	16
Sample Depth:	18.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	40.9							
Moisture Material	Trimmings							
Dry Density (pcf)	77.8							
Saturation (%)	94.2							
Void Ratio	1.182							
Height (in)	5.7562							
Diameter (in)	2.8440							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.7562							
Area (in²)	6.353							
Volume (in³)	36.5664							
B-Value	1.000							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	67.0							
Back Pressure (psi)	53.5							
Effective Pressure (psi)	13.5							
Height (in)	5.7562							
Area (in²)	6.347							
Volume (in³)	36.5342							
Dry Density (pcf)	77.9							
Saturation (%)	94.3							
Void Ratio	1.180							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	50.9							
Dry Density (pcf)	72.9							
Void Ratio	1.328							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	12.7							
σ'1 at Failure (psi)	19.7							
σ'3 at Failure (psi)	7.0							
Rate of Strain (%/Hr)	2.4							
Rate of Strain (in/min)	0.002344							
Axial Strain at Failure (%)	2.6							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	16
Sample Depth:	18.5 ft
Location:	See Logs
Boring Number:	16
Client Name:	TDOT
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

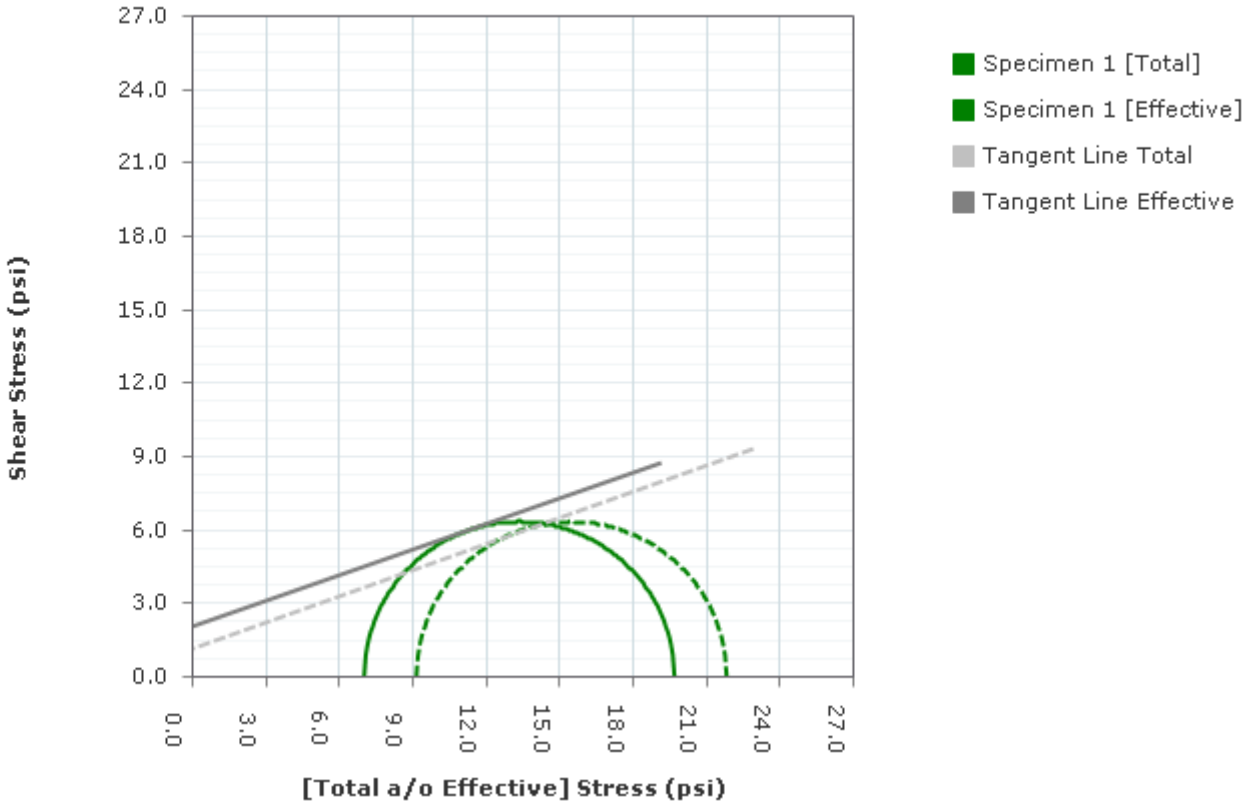
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:	Humboldt		
Test Specification:			
Test Time:			
Technician:		Sampling Method:	Undisturbed
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	33	Liquid Limit:	80
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1052.7		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

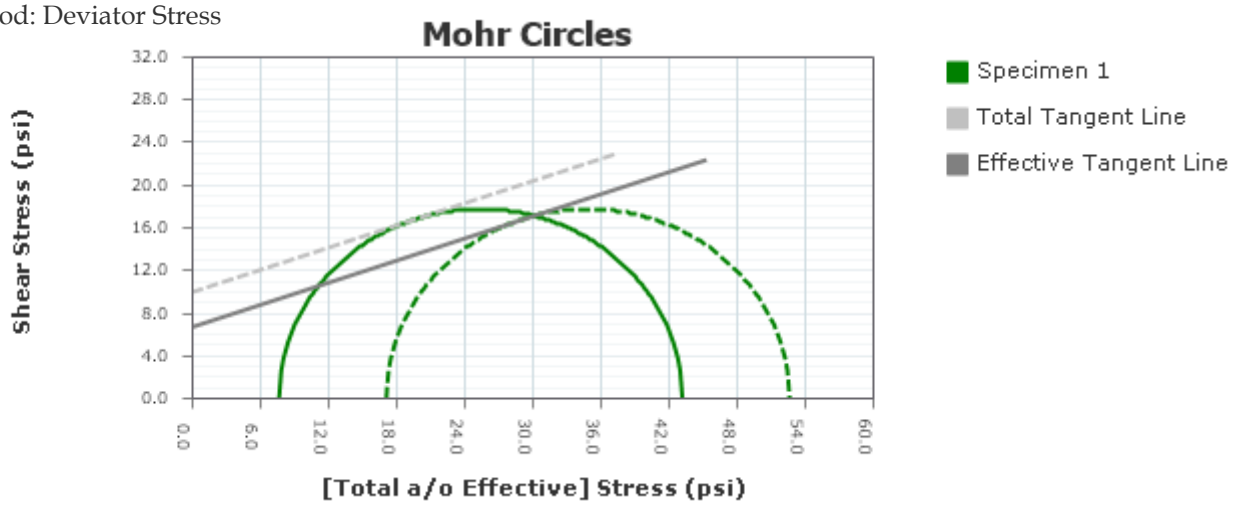


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	1.2	2.1
Friction Angle (°)	19.615	19.225
Calculation Method: Deviator Stress		

Consolidated Undrained Test

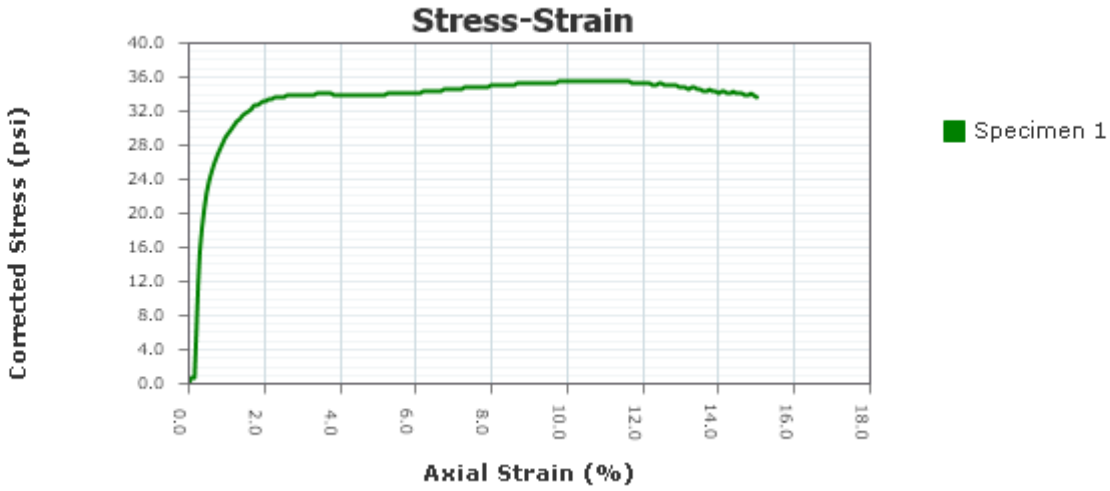
ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	10.0
Total Friction Angle (°):	19.2

Effective Strength Intercept (psi):	6.8
Effective Friction Angle (°):	19.1



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	43.2							
σ'3 at Failure (psi)	7.6							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B46
Sample Depth:	38.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	0.0							
Moisture Material								
Dry Density (pcf)	114.6							
Saturation (%)	0.0							
Void Ratio	0.481							
Height (in)	5.6682							
Diameter (in)	2.8457							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.6682							
Area (in²)	6.360							
Volume (in³)	36.0496							
B-Value	0.000							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	48.0							
Back Pressure (psi)	28.0							
Effective Pressure (psi)	20.0							
Height (in)	5.6682							
Area (in²)	6.320							
Volume (in³)	35.8227							
Dry Density (pcf)	115.4							
Saturation (%)	0.0							
Void Ratio	0.472							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	37.6							
Dry Density (pcf)	85.3							
Void Ratio	0.991							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	35.6							
σ'1 at Failure (psi)	43.2							
σ'3 at Failure (psi)	7.6							
Rate of Strain (%/Hr)	2.3							
Rate of Strain (in/min)	0.002215							
Axial Strain at Failure (%)	10.6							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B46
Sample Depth:	38.5 ft
Location:	See Logs
Boring Number:	B46
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

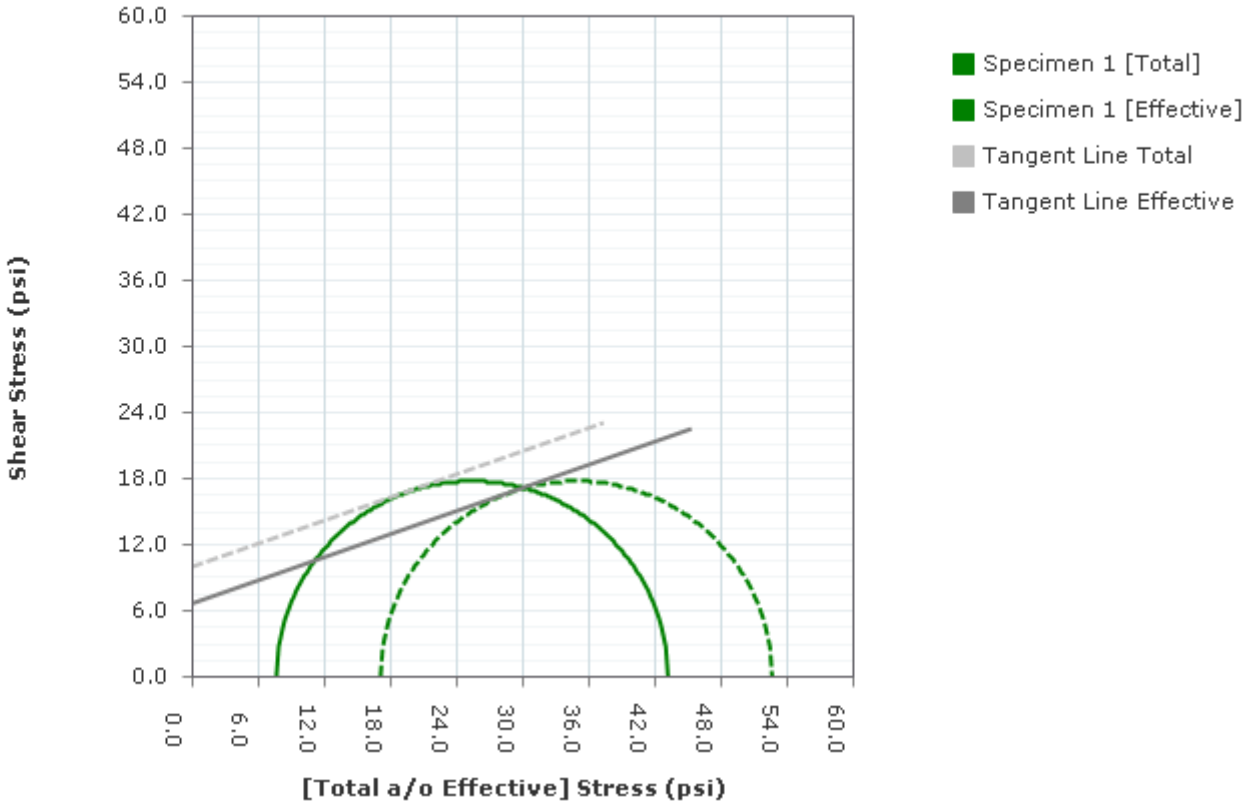
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	29	Liquid Limit:	68
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1084.9		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

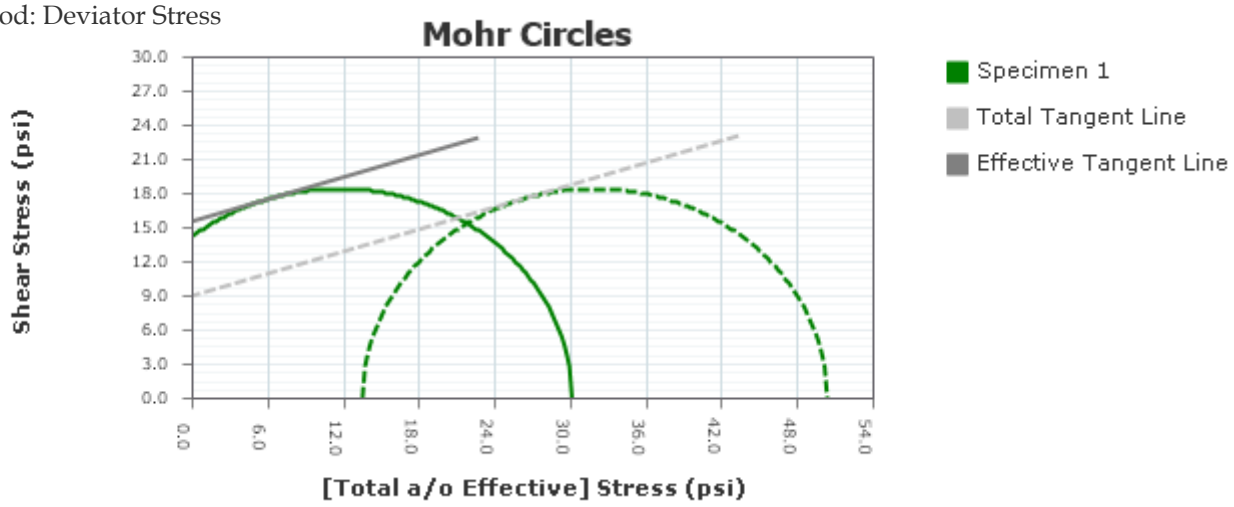


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	10.0	6.8
Friction Angle (°)	19.206	19.108
Calculation Method: Deviator Stress		

Consolidated Undrained Test

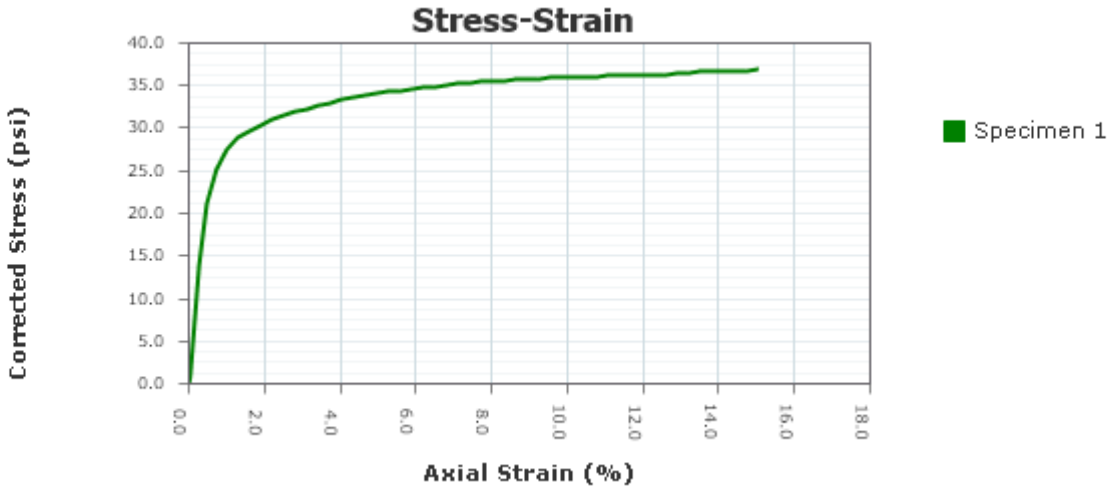
ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	9.1
Total Friction Angle (°):	17.9

Effective Strength Intercept (psi):	15.6
Effective Friction Angle (°):	17.9



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	30.1							
σ'3 at Failure (psi)	-6.8							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	58
Sample Depth:	28.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	25.8							
Moisture Material	Trimmings							
Dry Density (pcf)	97.2							
Saturation (%)	93.8							
Void Ratio	0.747							
Height (in)	5.9043							
Diameter (in)	2.8702							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.0120							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.9043							
Area (in²)	6.470							
Volume (in³)	38.2010							
B-Value	0.990							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	56.0							
Back Pressure (psi)	40.0							
Effective Pressure (psi)	16.0							
Height (in)	5.9043							
Area (in²)	6.443							
Volume (in³)	38.0406							
Dry Density (pcf)	97.6							
Saturation (%)	94.7							
Void Ratio	0.740							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	28.3							
Dry Density (pcf)	96.2							
Void Ratio	0.766							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	36.9							
σ'1 at Failure (psi)	30.1							
σ'3 at Failure (psi)	-6.8							
Rate of Strain (%/Hr)	9.2	5.3						
Rate of Strain (in/min)	0.009040	0.005341						
Axial Strain at Failure (%)	15.1							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	58
Sample Depth:	28.5 ft
Location:	See Logs
Boring Number:	58
Client Name:	TDOT
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

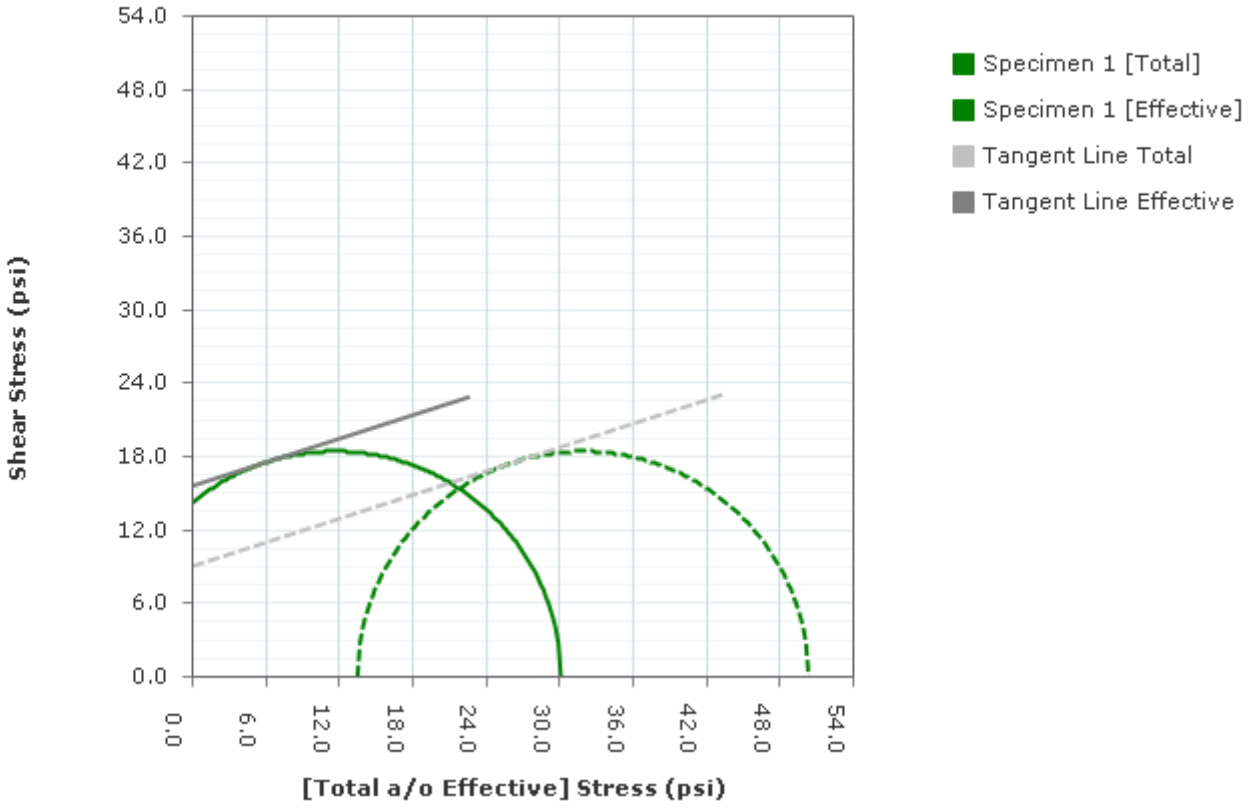
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	Undisturbed
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	24	Liquid Limit:	48
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Large Particle:			
Initial Moist Weight (g):	1225.5		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

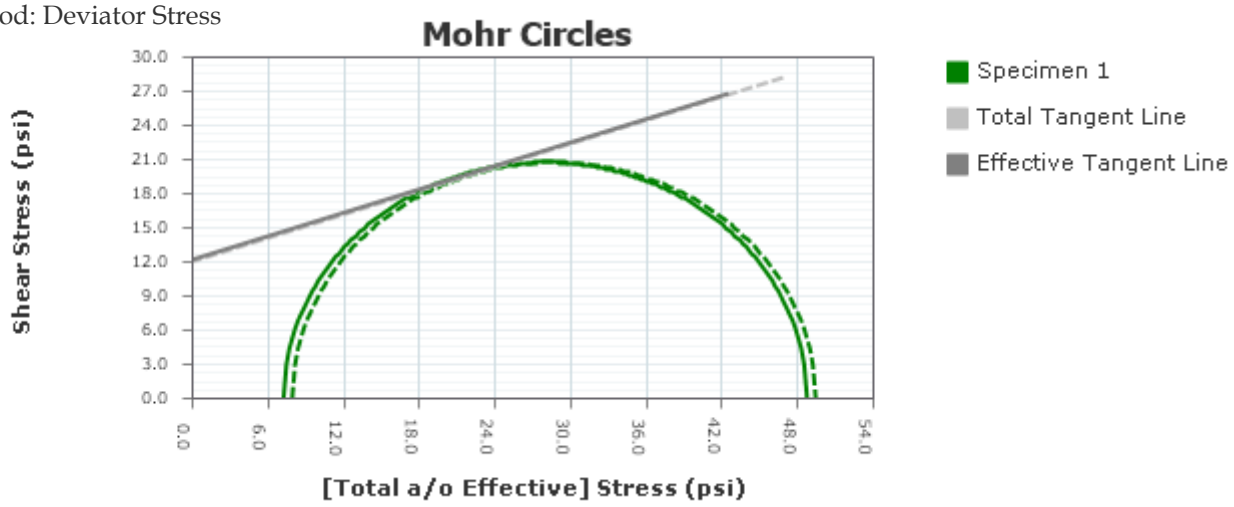


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	9.1	15.6
Friction Angle (°)	17.914	17.928
Calculation Method: Deviator Stress		

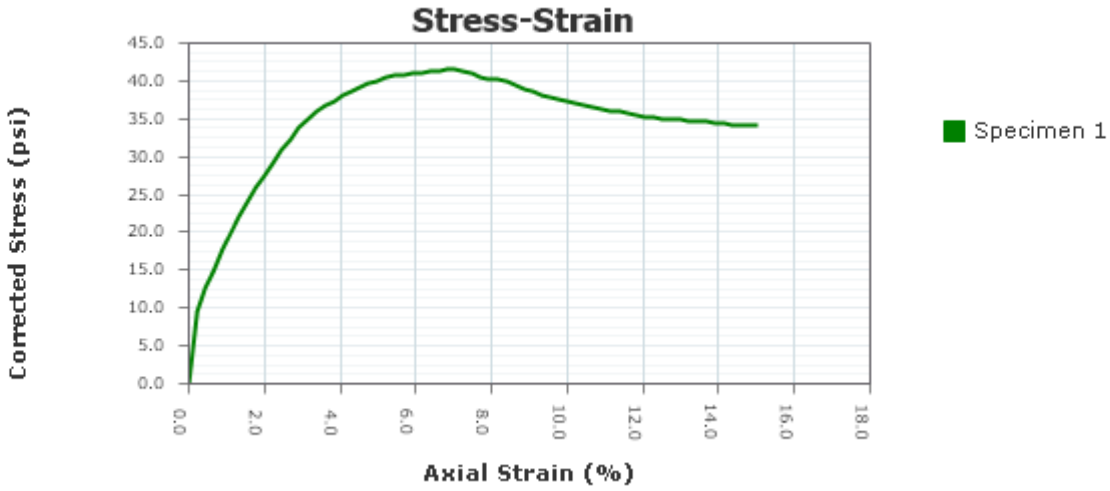
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	12.1	Effective Strength Intercept (psi):	12.3
Total Friction Angle (°):	19.0	Effective Friction Angle (°):	19.0



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	48.7							
σ'3 at Failure (psi)	7.2							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B70
Sample Depth:	13.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	36.9							
Moisture Material	Trimmings							
Dry Density (pcf)	85.1							
Saturation (%)	100.8							
Void Ratio	0.994							
Height (in)	5.7463							
Diameter (in)	2.8635							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.7463							
Area (in²)	6.440							
Volume (in³)	37.0062							
B-Value	0.950							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	37.0							
Back Pressure (psi)	28.0							
Effective Pressure (psi)	9.0							
Height (in)	5.7463							
Area (in²)	6.428							
Volume (in³)	36.9381							
Dry Density (pcf)	85.3							
Saturation (%)	101.2							
Void Ratio	0.991							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	38.3							
Dry Density (pcf)	85.5							
Void Ratio	0.985							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	41.5							
σ'1 at Failure (psi)	48.7							
σ'3 at Failure (psi)	7.2							
Rate of Strain (%/Hr)	6.9							
Rate of Strain (in/min)	0.006562							
Axial Strain at Failure (%)	7.0							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B70
Sample Depth:	13.5 ft
Location:	See Logs
Boring Number:	B70
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

Consolidated Undrained Test

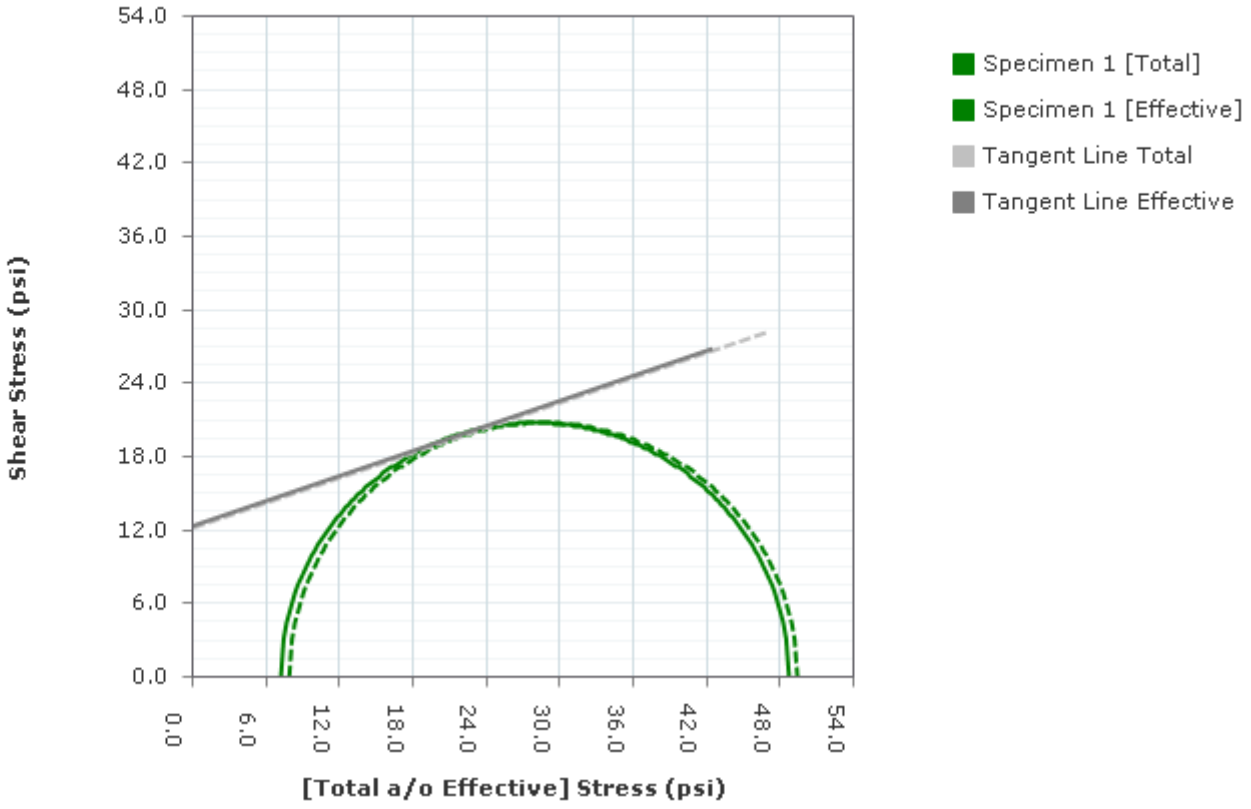
ASTM D4767

Specimen 1

Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	0	Liquid Limit:	0
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1131.9		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

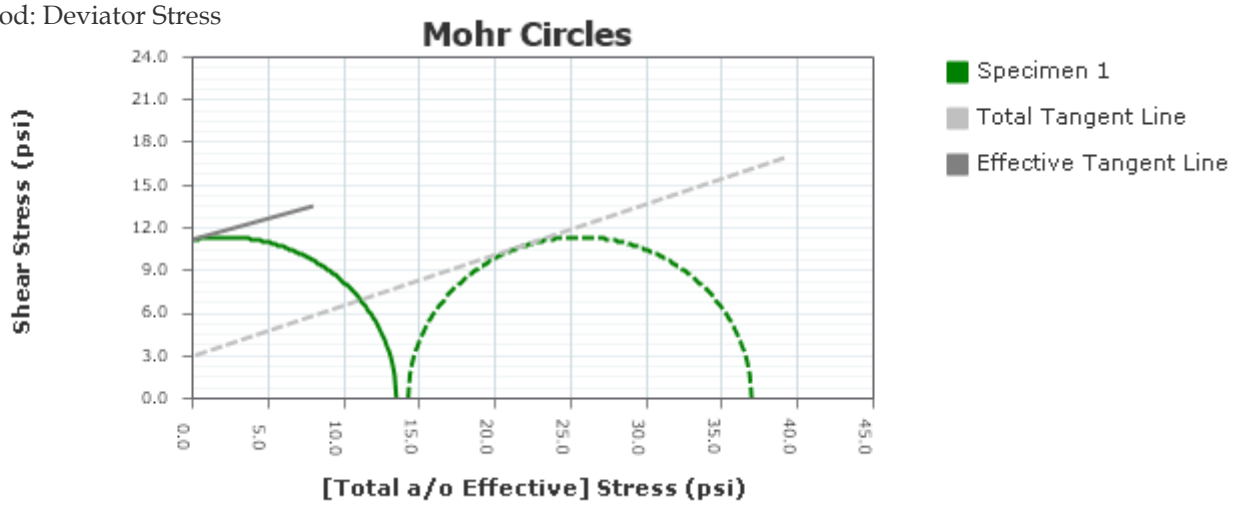


Tangent Line Results		
	TOTAL	EFFECTIVE
Strength Intercept (psi)	12.1	12.3
Friction Angle (°)	18.988	18.997
Calculation Method: Deviator Stress		

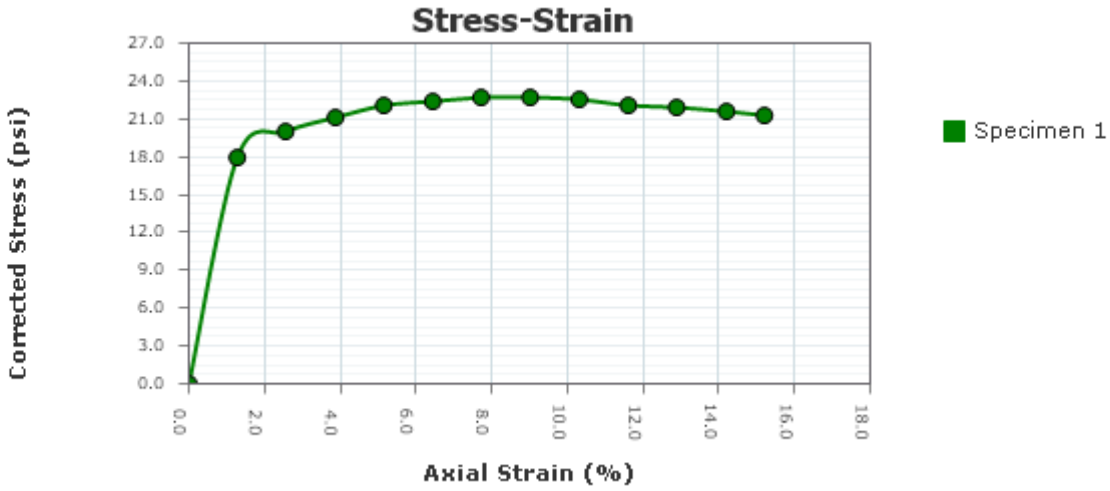
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	3.0	Effective Strength Intercept (psi):	11.2
Total Friction Angle (°):	19.6	Effective Friction Angle (°):	16.8



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	13.5							
σ'3 at Failure (psi)	-9.2							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B75
Sample Depth:	38.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	48.3							
Moisture Material	Trimmings							
Dry Density (pcf)	76.0							
Saturation (%)	106.3							
Void Ratio	1.236							
Height (in)	5.7340							
Diameter (in)	2.8358							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.7340							
Area (in²)	6.316							
Volume (in³)	36.2167							
B-Value	0.950							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	40.0							
Back Pressure (psi)	17.0							
Effective Pressure (psi)	23.0							
Height (in)	5.7340							
Area (in²)	6.179							
Volume (in³)	35.4327							
Dry Density (pcf)	77.6							
Saturation (%)	110.6							
Void Ratio	1.187							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	0.0							
Dry Density (pcf)	0.0							
Void Ratio	0.000							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	22.7							
σ'1 at Failure (psi)	13.5							
σ'3 at Failure (psi)	-9.2							
Rate of Strain (%/Hr)	38.6							
Rate of Strain (in/min)	0.036890							
Axial Strain at Failure (%)	9.0							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B75
Sample Depth:	38.5 ft
Location:	See Logs
Boring Number:	B75
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

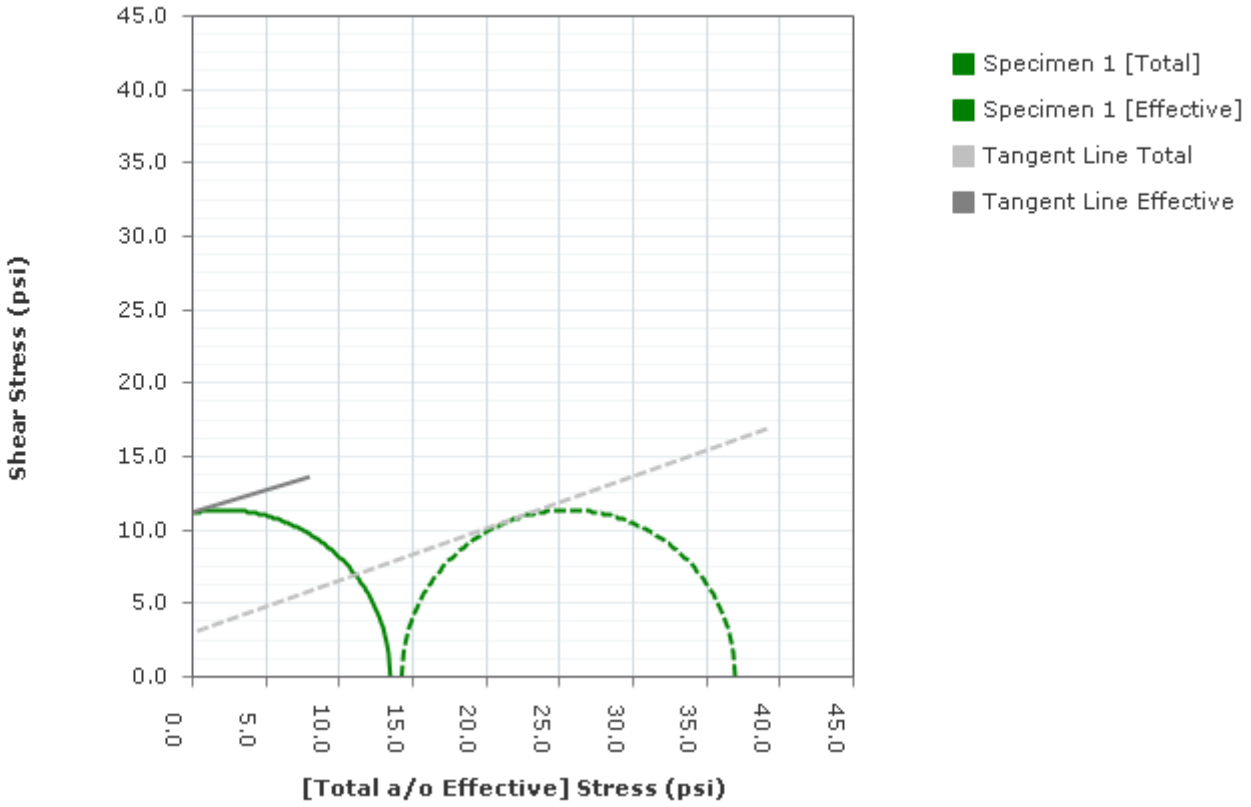
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	0	Liquid Limit:	0
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1070.7		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

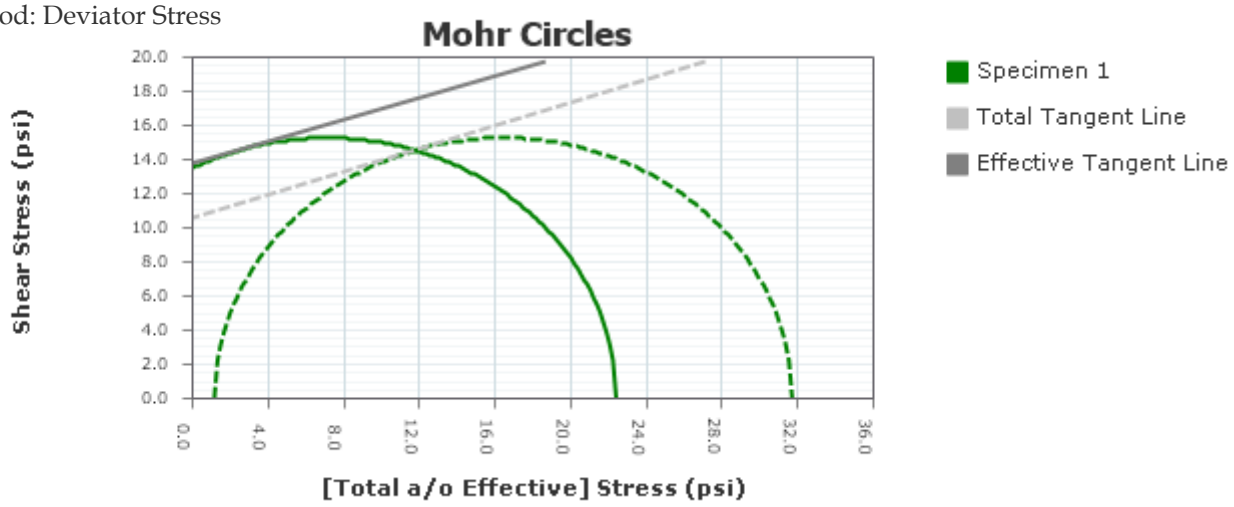


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	3.0	11.2
Friction Angle (°)	19.646	16.777
Calculation Method: Deviator Stress		

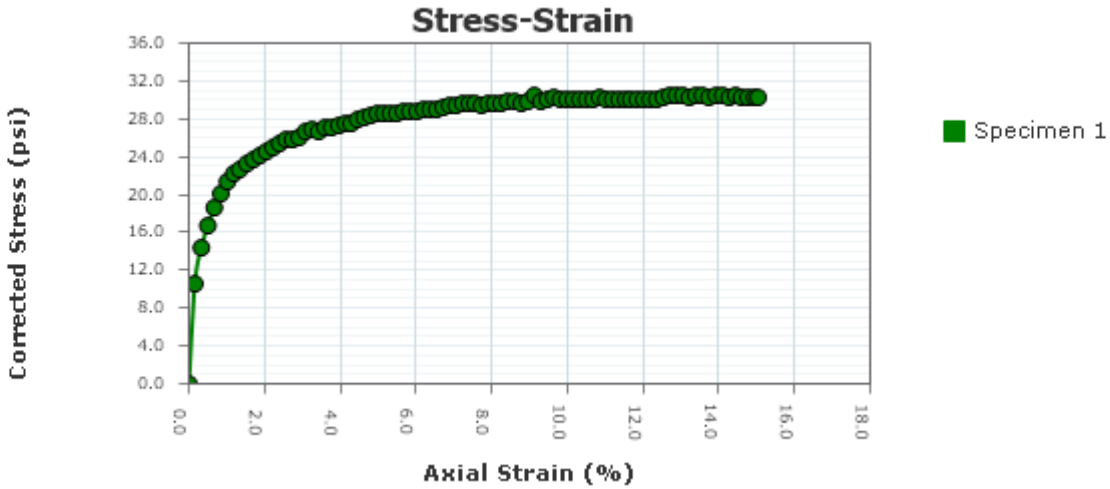
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	10.6	Effective Strength Intercept (psi):	13.8
Total Friction Angle (°):	18.7	Effective Friction Angle (°):	17.7



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	22.4							
σ'3 at Failure (psi)	-8.2							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B84
Sample Depth:	28.5 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	39.6							
Moisture Material	Trimmings							
Dry Density (pcf)	83.8							
Saturation (%)	105.0							
Void Ratio	1.026							
Height (in)	5.8873							
Diameter (in)	2.8637							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.8873							
Area (in²)	6.441							
Volume (in³)	37.9187							
B-Value	0.950							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	46.0							
Back Pressure (psi)	30.0							
Effective Pressure (psi)	16.0							
Height (in)	5.8873							
Area (in²)	6.407							
Volume (in³)	37.7174							
Dry Density (pcf)	84.3							
Saturation (%)	106.1							
Void Ratio	1.015							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	34.5							
Dry Density (pcf)	88.3							
Void Ratio	0.922							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	30.6							
σ'1 at Failure (psi)	22.4							
σ'3 at Failure (psi)	-8.2							
Rate of Strain (%/Hr)	5.1	58.0						
Rate of Strain (in/min)	0.005051	0.055980						
Axial Strain at Failure (%)	12.7							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B84
Sample Depth:	28.5 ft
Location:	See Logs
Boring Number:	B84
Client Name:	TDOT
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

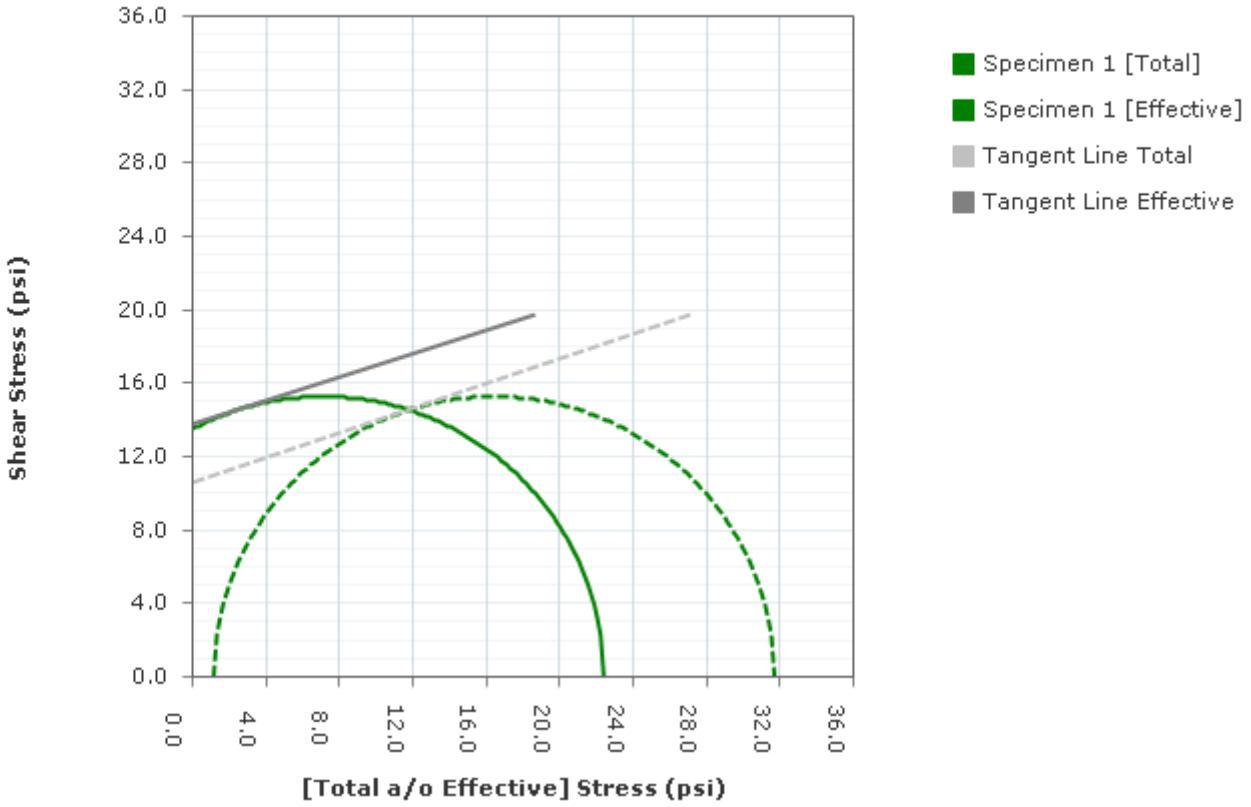
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	Undisturbed
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	28	Liquid Limit:	60
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1164.7		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

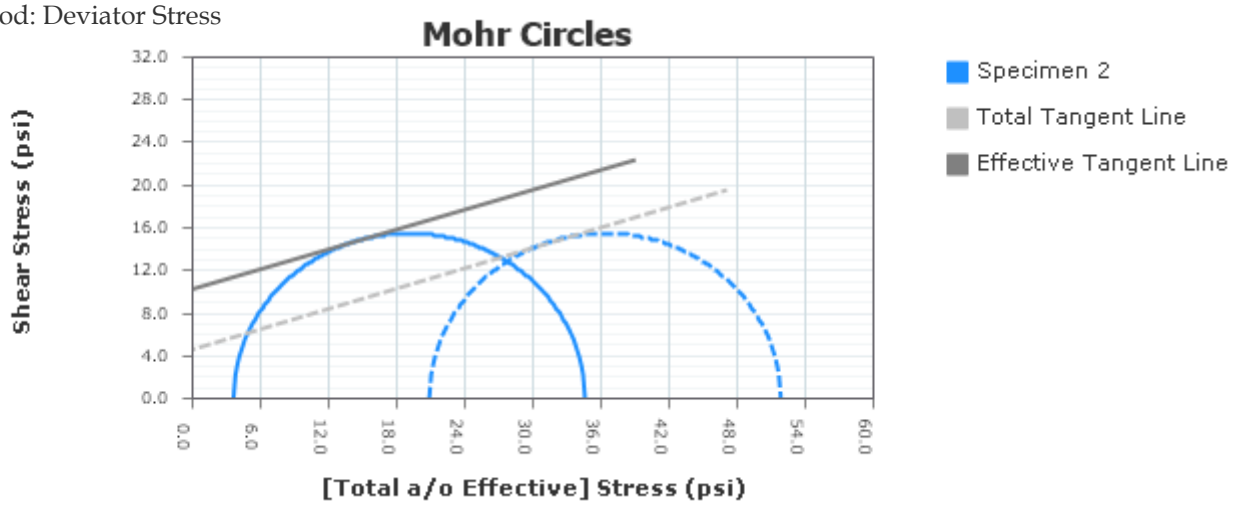


Tangent Line Results	TOTAL	EFFECTIVE
Strength Intercept (psi)	10.6	13.8
Friction Angle (°)	18.687	17.706
Calculation Method: Deviator Stress		

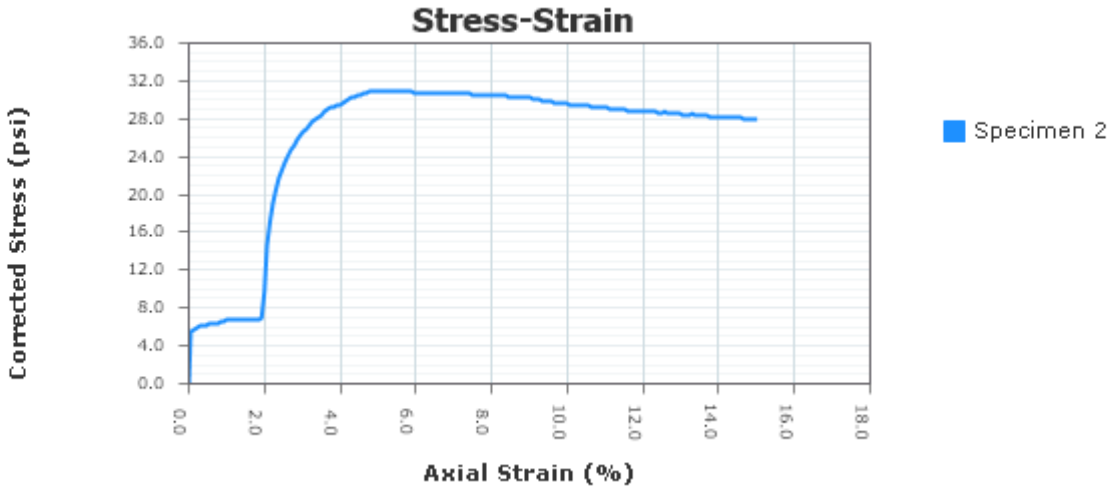
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	4.6	Effective Strength Intercept (psi):	10.3
Total Friction Angle (°):	17.7	Effective Friction Angle (°):	17.2



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)		34.6						
σ'3 at Failure (psi)		3.6						

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B120
Sample Depth:	18 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)		0.0						
Moisture Material		Trimmings						
Dry Density (pcf)		110.4						
Saturation (%)		0.0						
Void Ratio		0.538						
Height (in)		5.5868						
Diameter (in)		2.8732						
Test Temperature (°F)		68.0						
Membrane Thickness (in)		0.1200						
Filter Paper Strips		Used						
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)		5.5868						
Area (in²)		6.484						
Volume (in³)		36.2224						
B-Value		0.950						
Method Used		Wet						
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)		45.0						
Back Pressure (psi)		24.0						
Effective Pressure (psi)		21.0						
Height (in)		5.5868						
Area (in²)		6.482						
Volume (in³)		36.2113						
Dry Density (pcf)		110.4						
Saturation (%)		0.0						
Void Ratio		0.538						
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)		0.0						
Dry Density (pcf)		0.0						
Void Ratio		0.000						
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)		31.0						
σ'1 at Failure (psi)		34.6						
σ'3 at Failure (psi)		3.6						
Rate of Strain (%/Hr)	2.4	2.4						
Rate of Strain (in/min)	0.002227	0.002235						
Axial Strain at Failure (%)		5.2						

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	B120
Sample Depth:	18 ft
Location:	See Logs
Boring Number:	B120
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

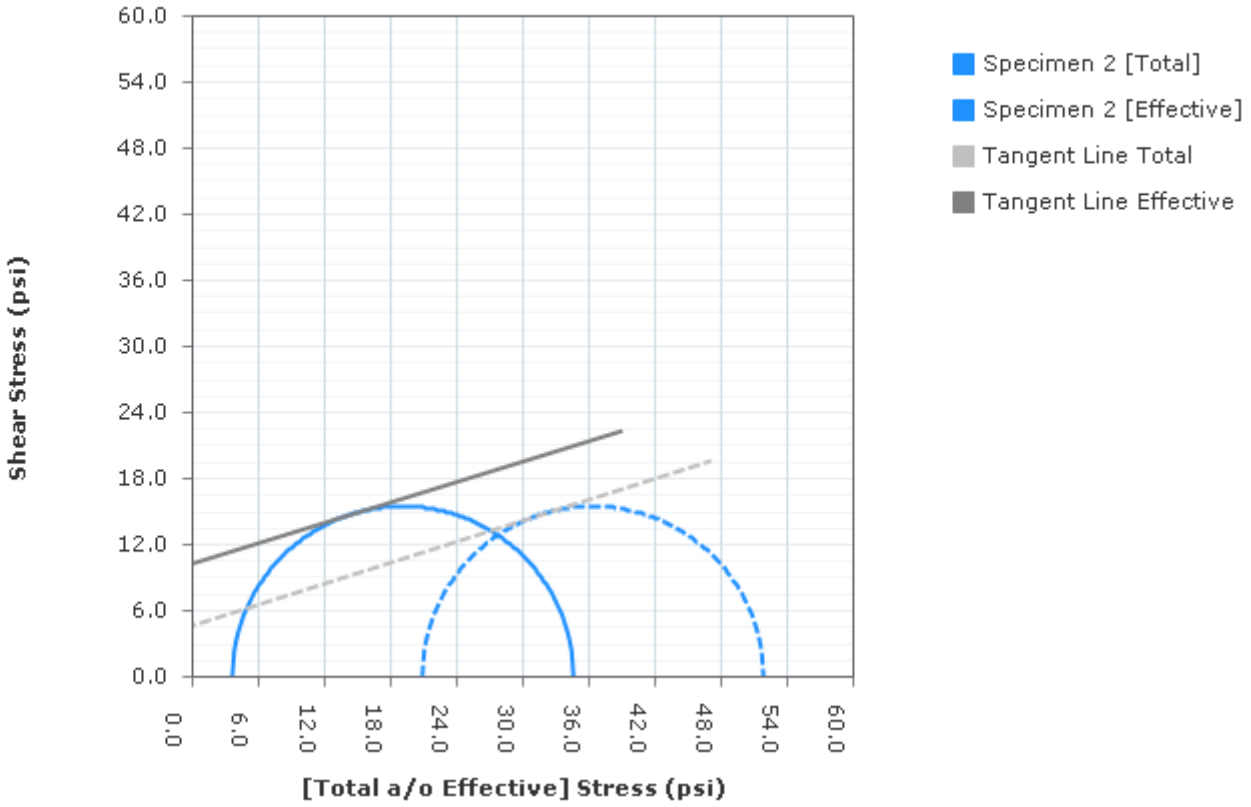
Consolidated Undrained Test

ASTM D4767

Specimen 2			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:			
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	0	Liquid Limit:	0
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1049.6		
Test Remarks:			

Graph - Mohr Circle

ASTM D4767

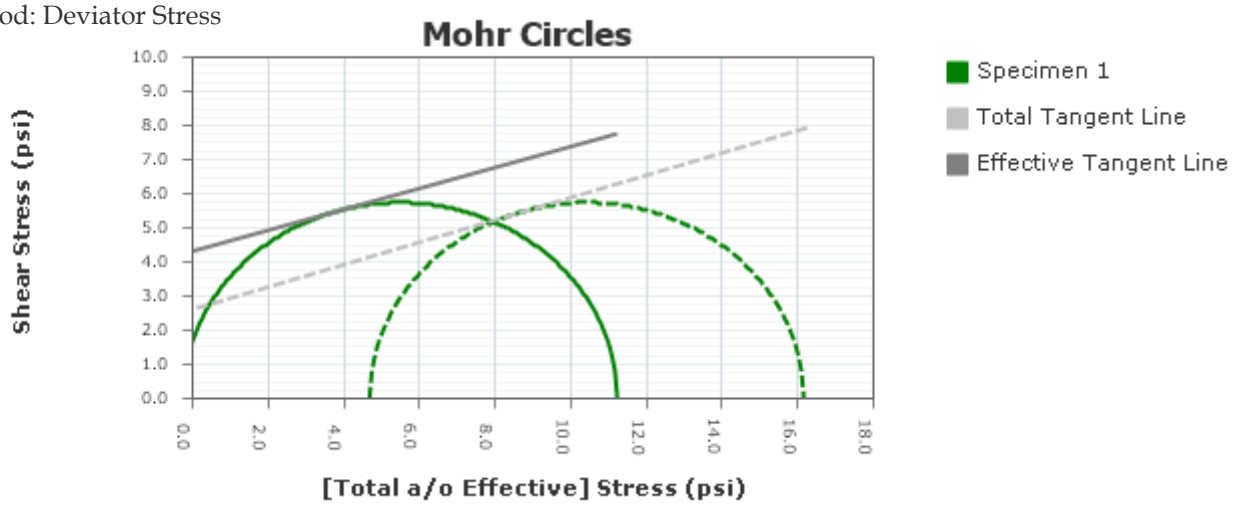


Tangent Line Results		
	TOTAL	EFFECTIVE
Strength Intercept (psi)	4.6	10.3
Friction Angle (°)	17.726	17.186
Calculation Method: Deviator Stress		

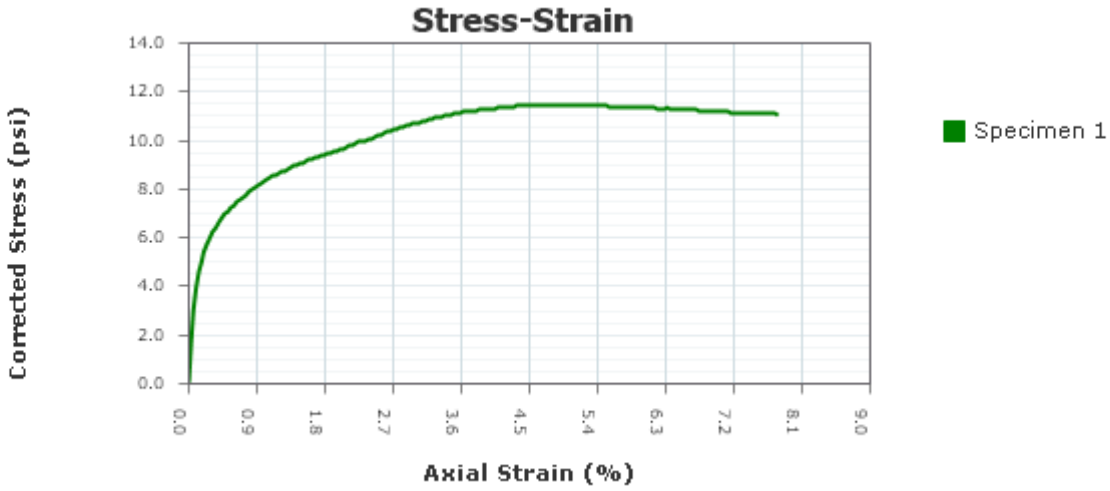
Consolidated Undrained Test

ASTM D4767

Calculation Method: Deviator Stress



Total Strength Intercept (psi):	2.6	Effective Strength Intercept (psi):	4.3
Total Friction Angle (°):	18.3	Effective Friction Angle (°):	17.2



After Shear	Specimen Number 1	2	3	4	5	6	7	8
σ'1 at Failure (psi)	11.2							
σ'3 at Failure (psi)	-0.3							

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	132
Sample Depth:	28 ft
Location:	See Logs
Remarks:	

Consolidated Undrained Test

ASTM D4767

Initial Parameters	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%)	47.0							
Moisture Material	Trimmings							
Dry Density (pcf)	75.9							
Saturation (%)	103.3							
Void Ratio	1.238							
Height (in)	5.7270							
Diameter (in)	2.8305							
Test Temperature (°F)	0.0							
Membrane Thickness (in)	0.1200							
Filter Paper Strips	Used							
Saturation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Height (in)	5.7270							
Area (in²)	6.292							
Volume (in³)	36.0366							
B-Value	0.950							
Method Used	Wet							
Consolidation Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cell Pressure (psi)	54.0							
Back Pressure (psi)	38.0							
Effective Pressure (psi)	16.0							
Height (in)	5.7270							
Area (in²)	6.292							
Volume (in³)	36.0347							
Dry Density (pcf)	75.9							
Saturation (%)	103.3							
Void Ratio	1.238							
Final Parameters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%)	42.7							
Dry Density (pcf)	78.5							
Void Ratio	1.164							
Failure Angle (°):								
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Comp. Strength at Failure (psi)	11.5							
σ'1 at Failure (psi)	11.2							
σ'3 at Failure (psi)	-0.3							
Rate of Strain (%/Hr)	1.2							
Rate of Strain (in/min)	0.001192							
Axial Strain at Failure (%)	5.0							

Consolidated Undrained Test

ASTM D4767

Project:	TDOT
Project Number:	20033
Sampling Date:	
Sample Number:	132
Sample Depth:	28 ft
Location:	See Logs
Boring Number:	B132
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch

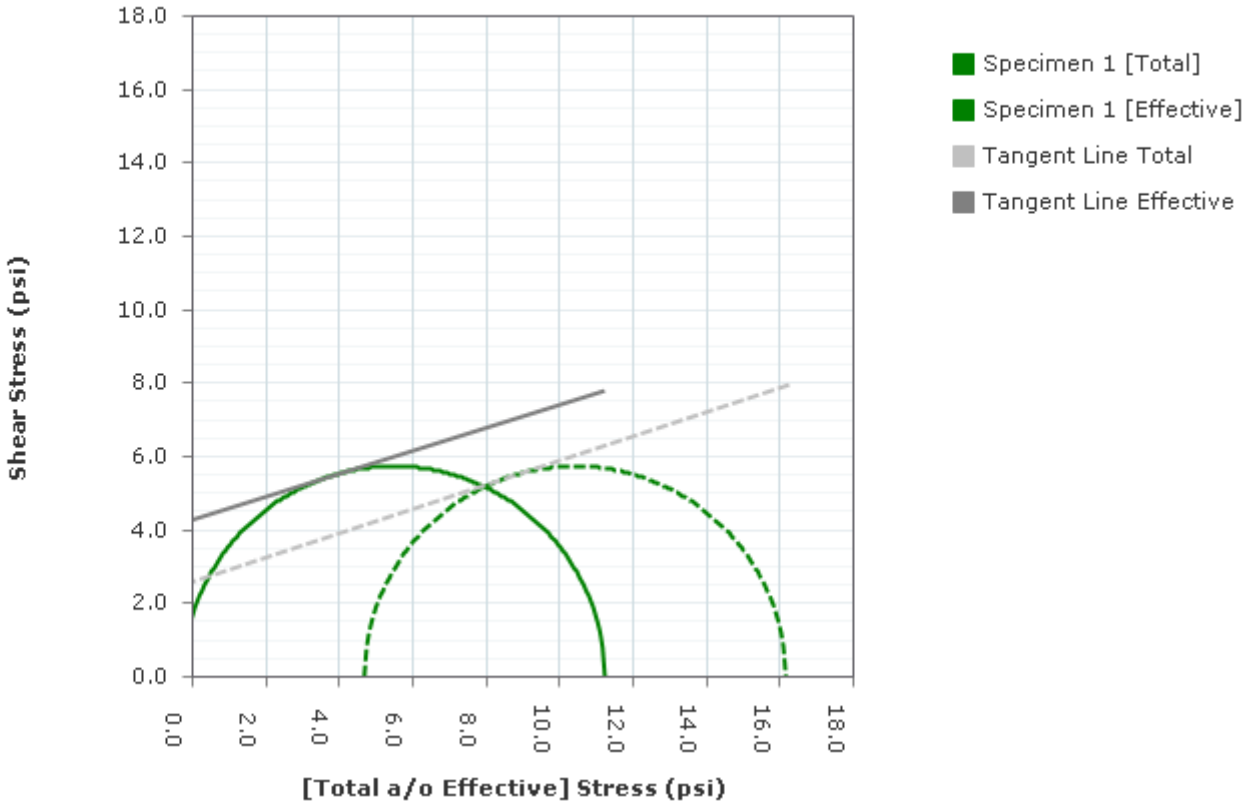
Consolidated Undrained Test

ASTM D4767

Specimen 1			
Test Description:	C.U.		
Other Associated Tests:			
Device Details:			
Test Specification:			
Test Time:			
Technician:		Sampling Method:	
Specimen Code:		Specimen Lab #:	
Specimen Description:	See Logs		
Specific Gravity:	2.72 (Assumed)		
Plastic Limit:	0	Liquid Limit:	0
Filter Paper Correction:	Yes	Membrane Correction:	Yes
Failure Criteria:	15% Strain		
Initial Moist Weight (g):	1055.1		
Test Remarks:			

Graph - Mohr Circle

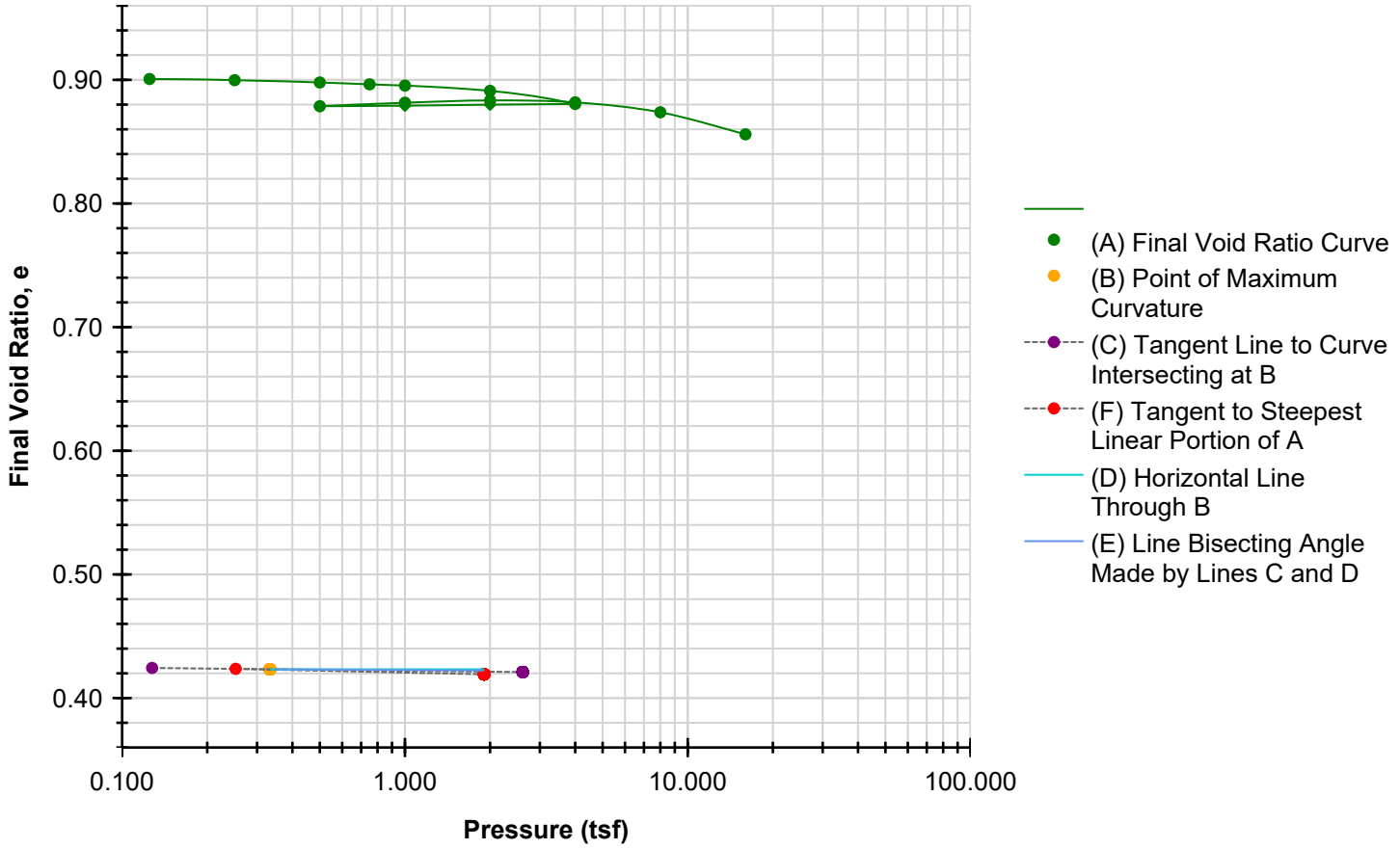
ASTM D4767



Tangent Line Results		
	TOTAL	EFFECTIVE
Strength Intercept (psi)	2.6	4.3
Friction Angle (°)	18.258	17.233
Calculation Method: Deviator Stress		

Final Voids [Log]

ASTM D2435



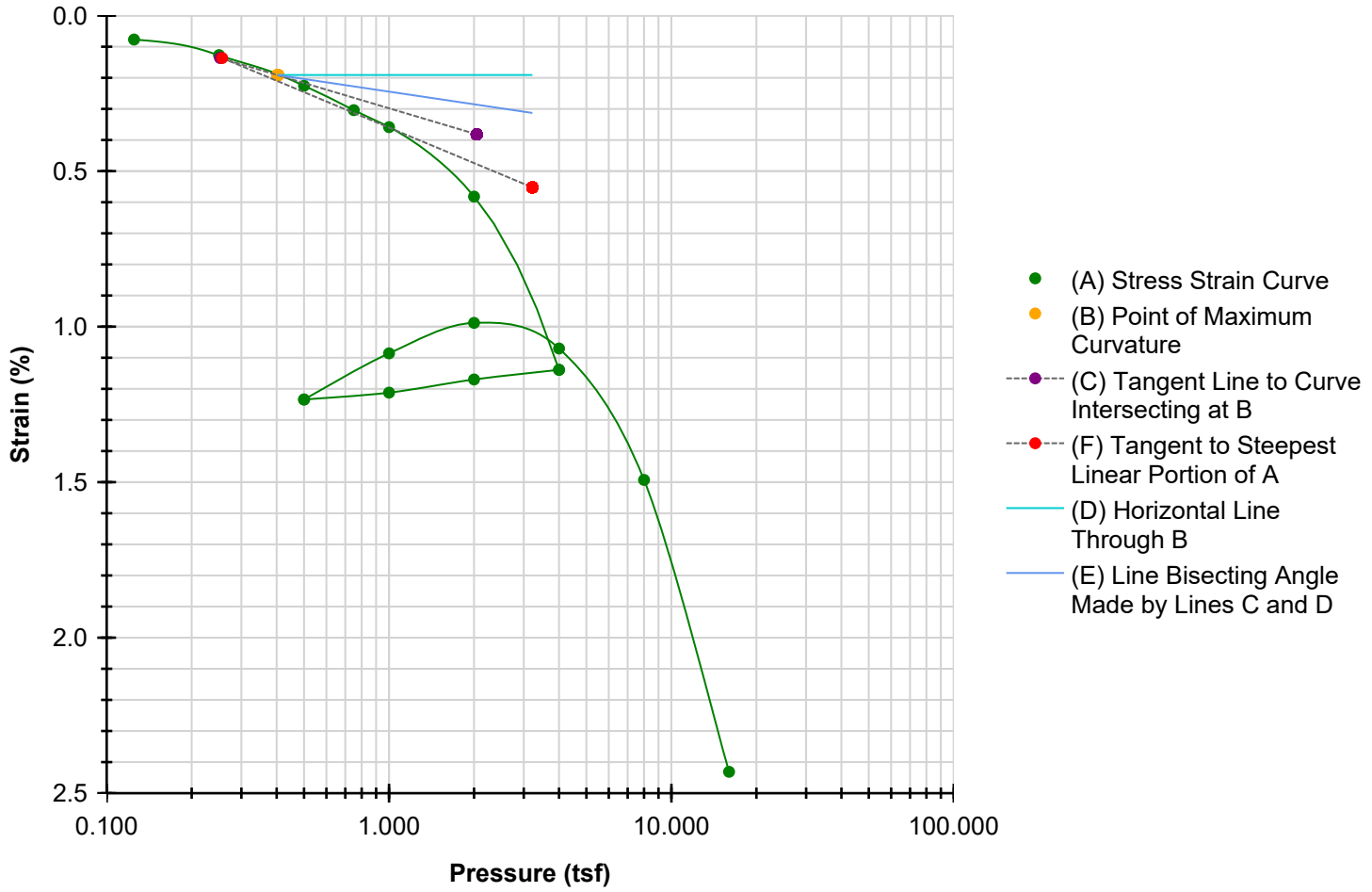
Preconsolidation Stress (tsf)	1.000	**Cc**	0.025	**Cr**	0.005

	BEFORE	AFTER			
			Liquid Limits	64	**Test Date** 5/13/2020
Moisture (%)	33.4	33.3	**Plastic Limits**	36	
Dry Density (pcf)	89.1	92.6			
Saturation (%)	100.4	108.7			
Void Ratio	0.91	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	8.5	**Remarks**
Sample Number	B7	**Boring Number**	B7	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain [Log]

ASTM D2435



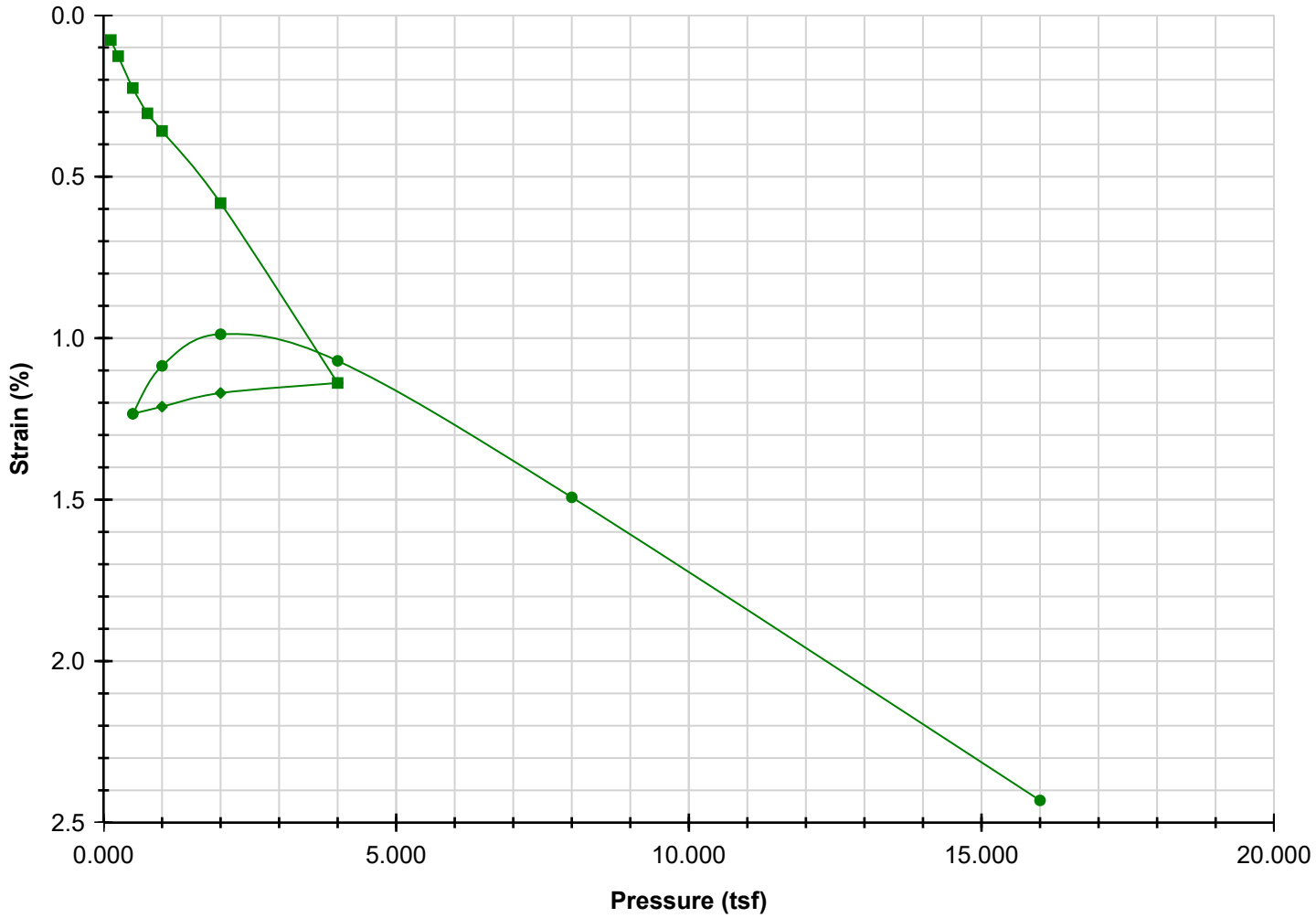
Preconsolidation Stress (tsf)	1.000	**Cc** NA	**Cr** NA

	BEFORE	AFTER			
			Liquid Limits	64	**Test Date** 5/13/2020
Moisture (%)	33.4	33.3	**Plastic Limits**	36	
Dry Density (pcf)	89.1	92.6			
Saturation (%)	100.4	108.7			
Void Ratio	0.91	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	8.5	**Remarks**
Sample Number	B7	**Boring Number**	B7	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain

ASTM D2435

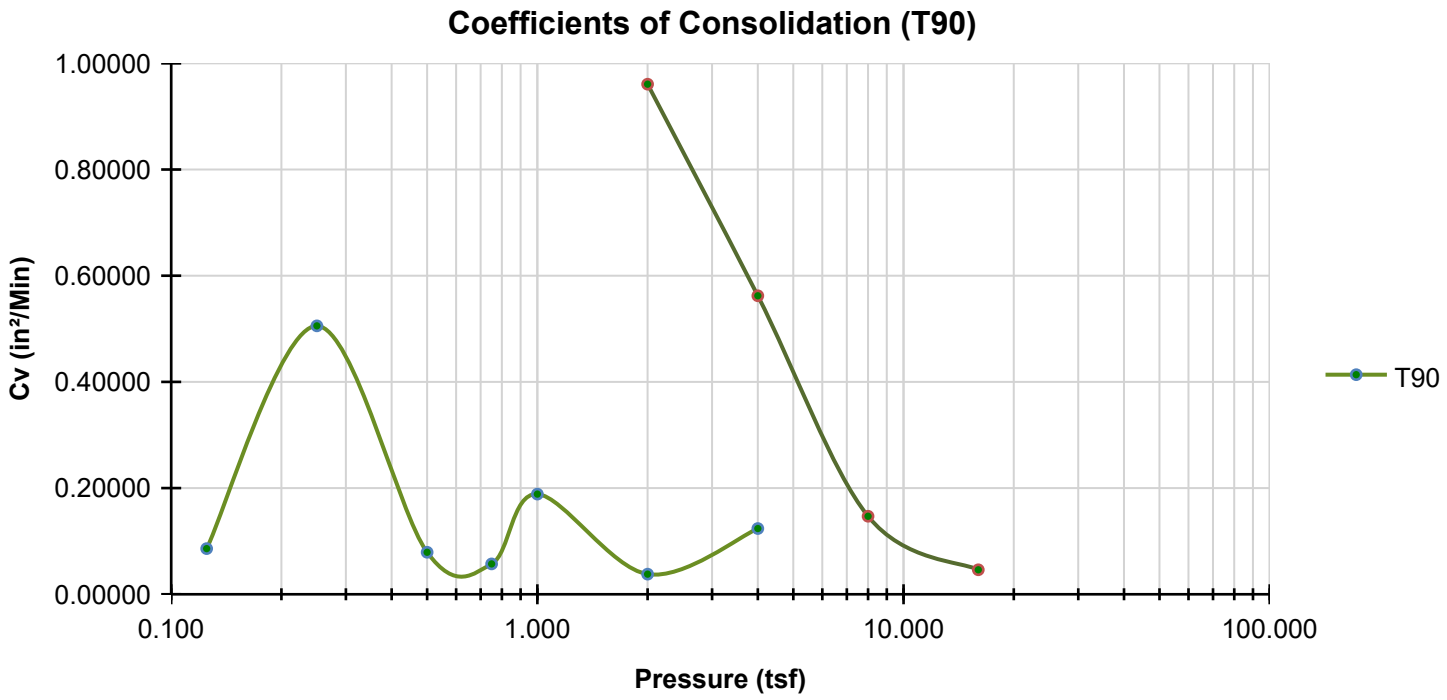


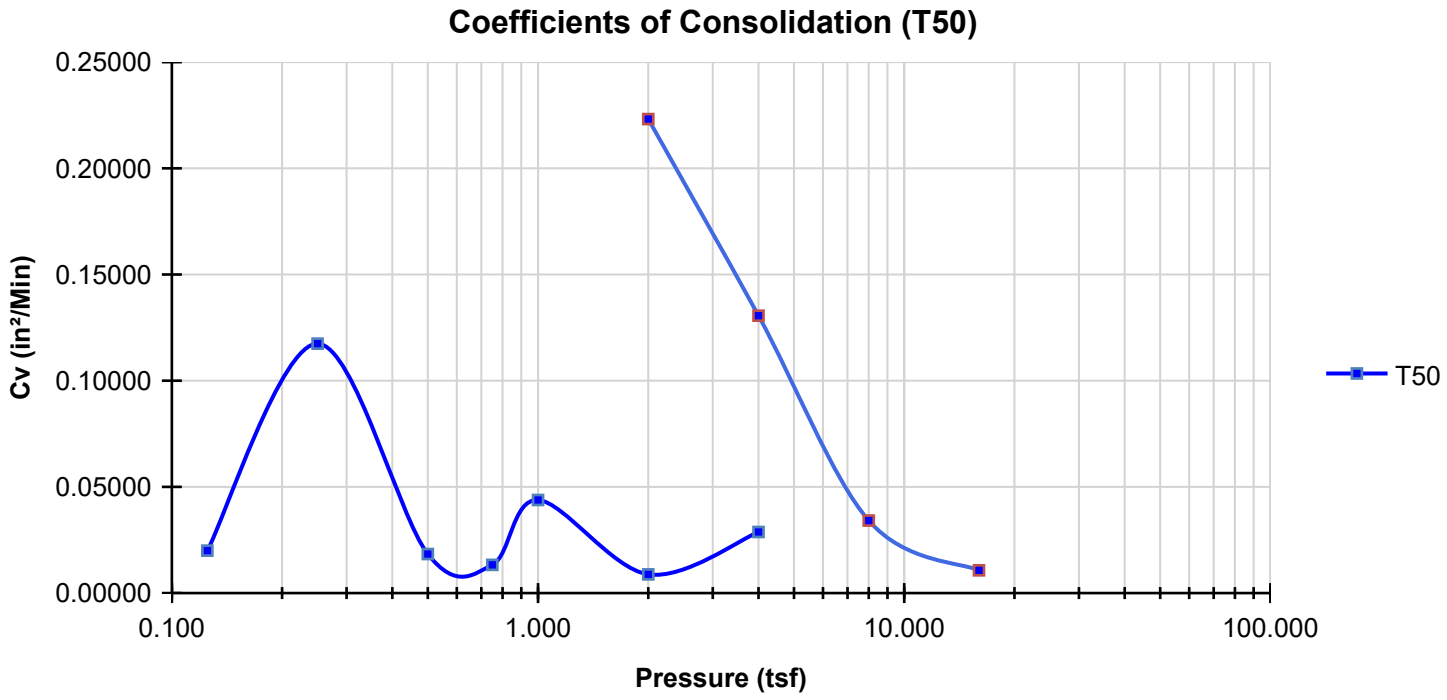
	BEFORE	AFTER			
			Liquid Limits	64	**Test Date** 5/13/2020
Moisture (%)	33.4	33.3	**Plastic Limits**	36	
Dry Density (pcf)	89.1	92.6			
Saturation (%)	100.4	108.7			
Void Ratio	0.91	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	8.5	**Remarks**
Sample Number	B7	**Boring Number**	B7	
Project	TDOT			
Client				
Location	See Logs			

Coefficients of Consolidation

ASTM D2435



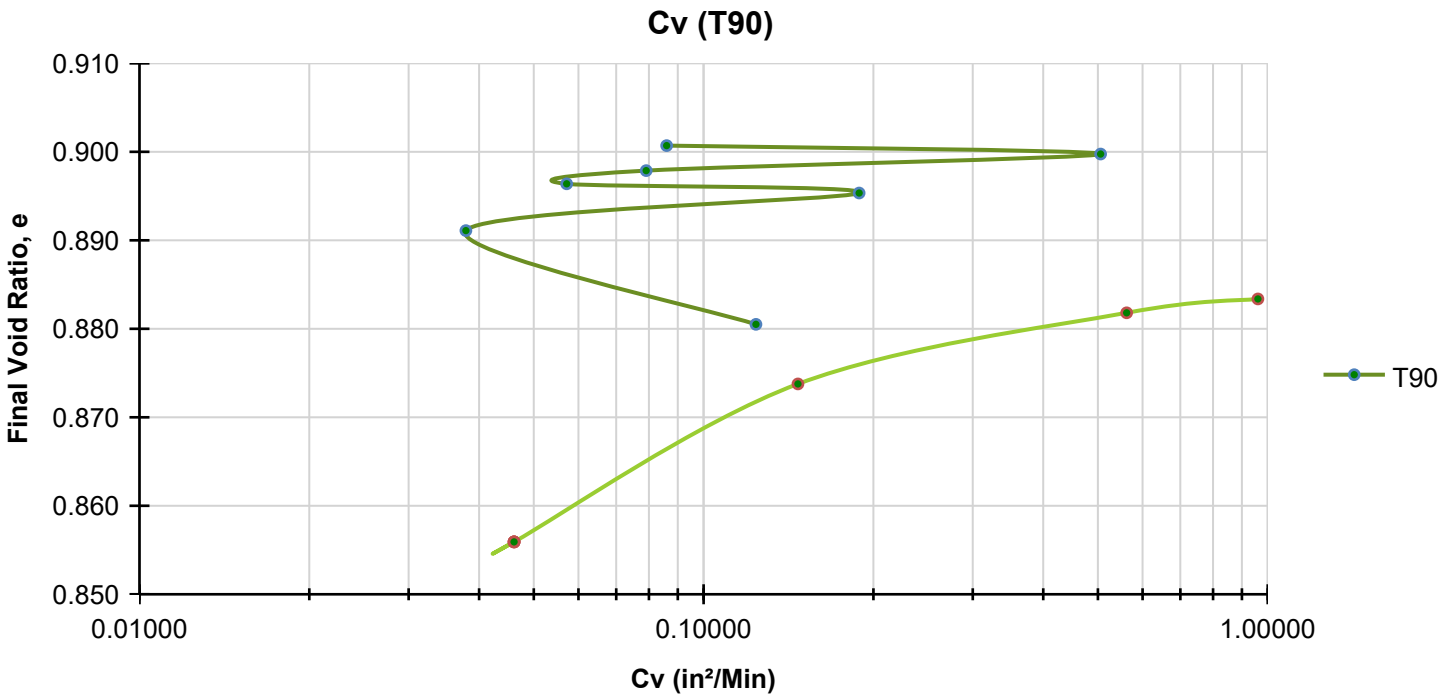


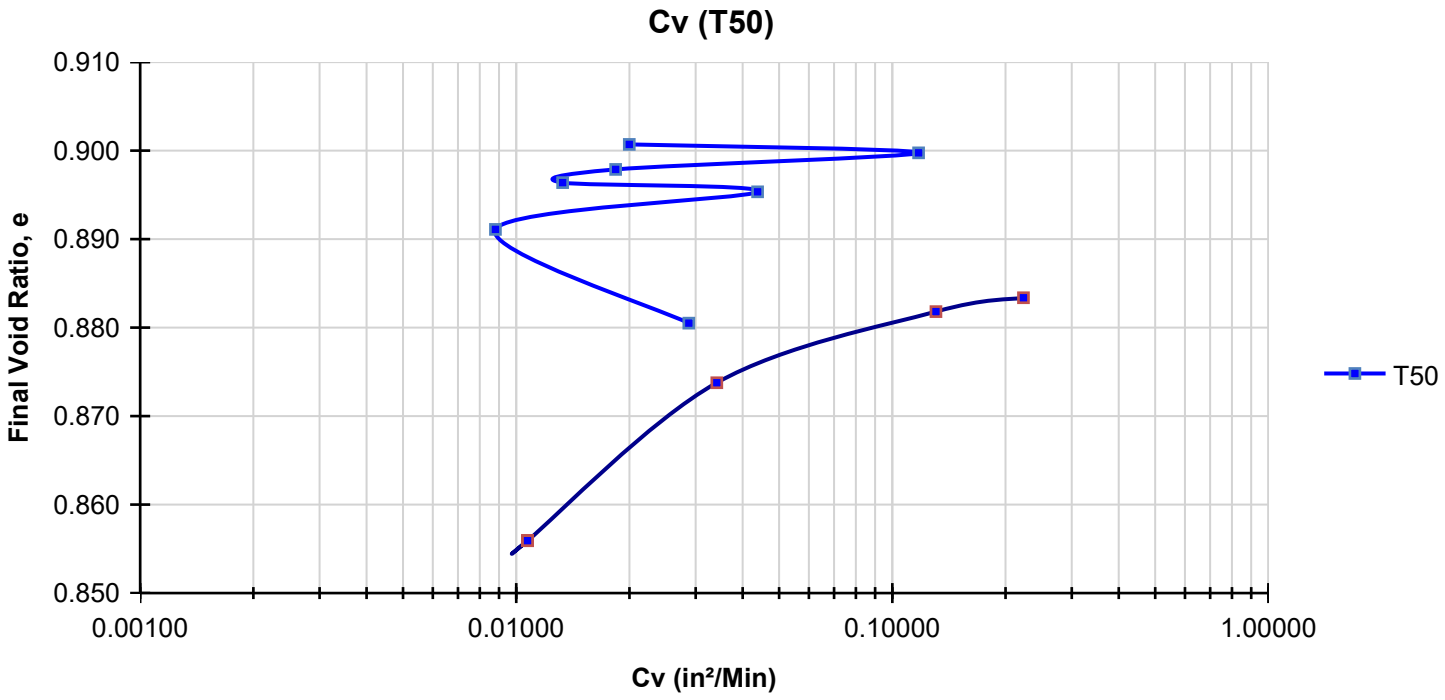
Project Name: TDOT Project Number: 20033

Technician: C. Tanner Test Date: 5/13/2020 Checked By: _____ Date: _____

Cv - Void Ratio

ASTM D2435



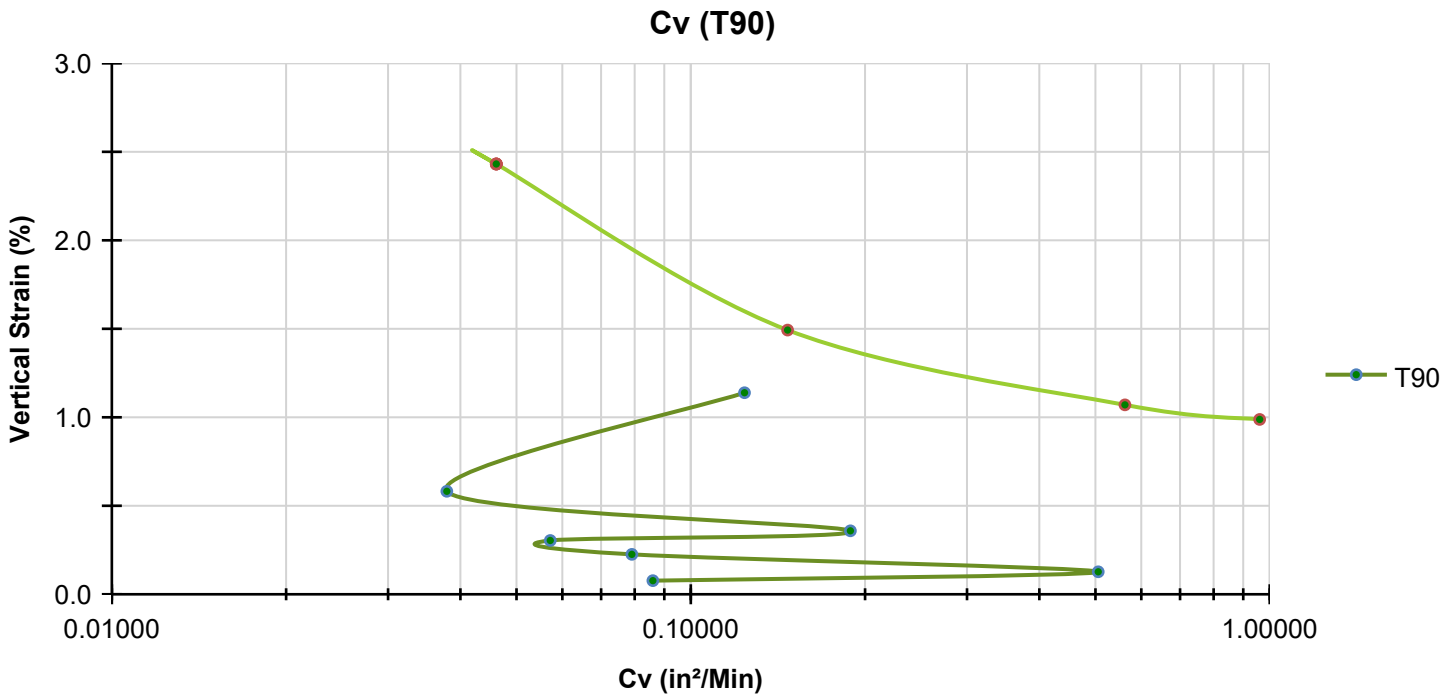


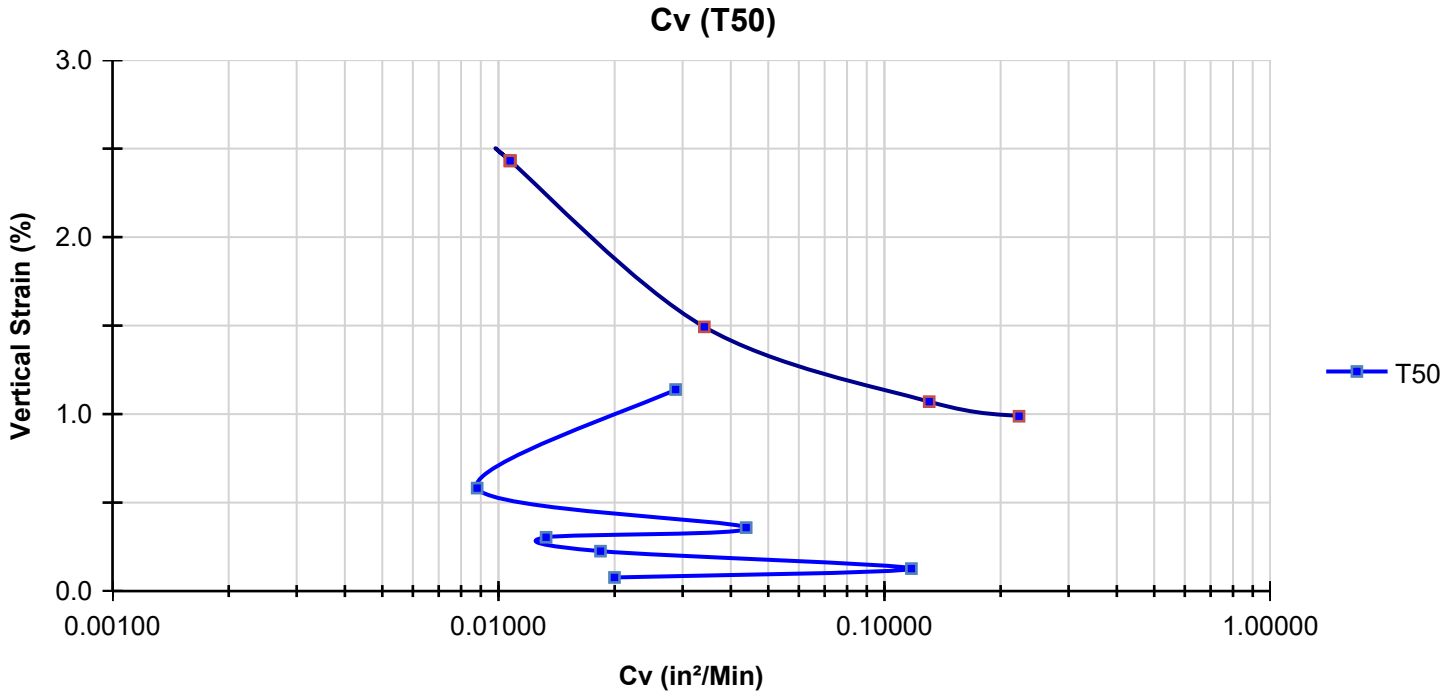
Project Name: TDOT Project Number: 20033

Technician: C. Tanner Test Date: 5/13/2020 Checked By: _____ Date: _____

Cv - Vertical Strain

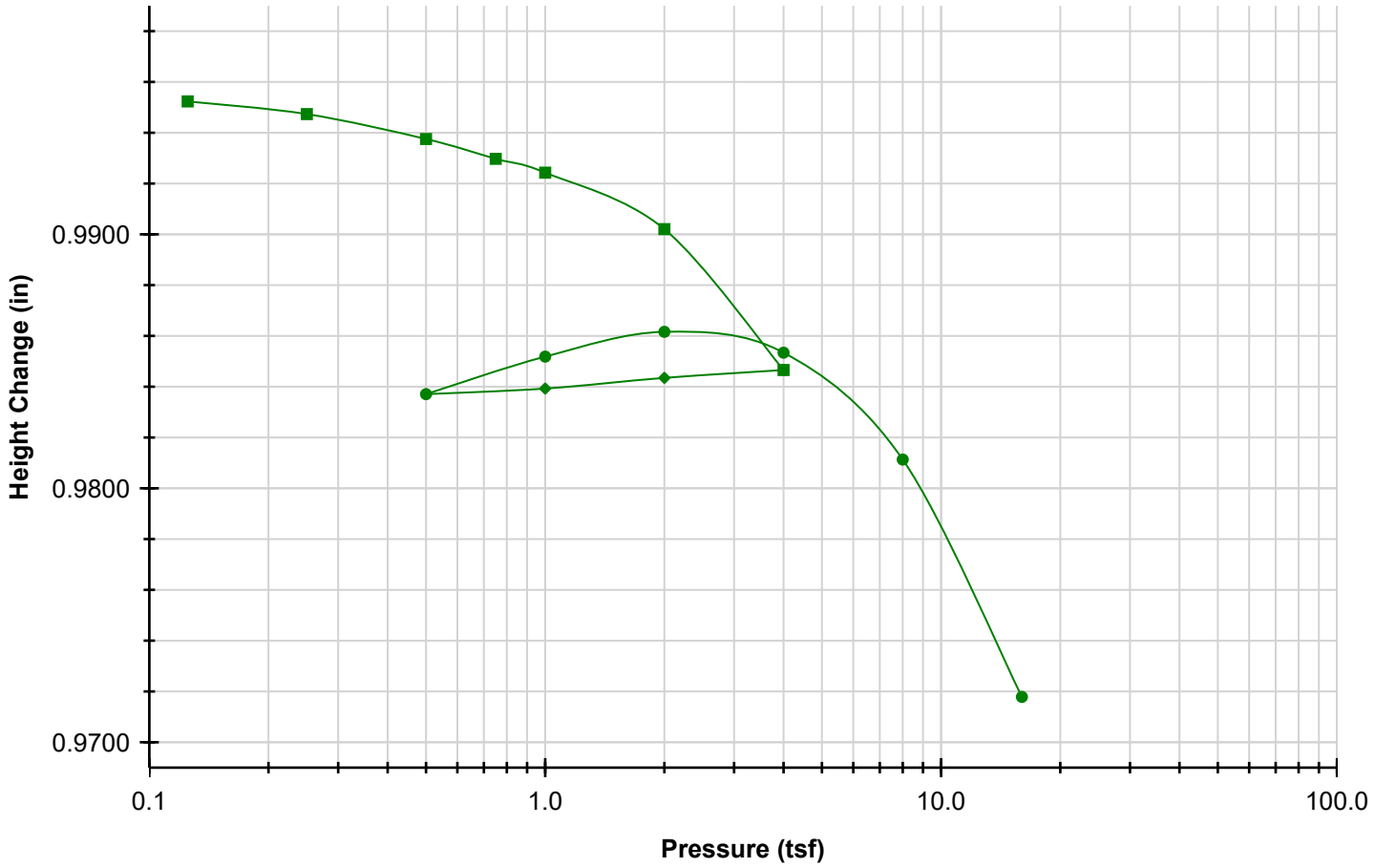
ASTM D2435





Height Change [Log]

ASTM D2435

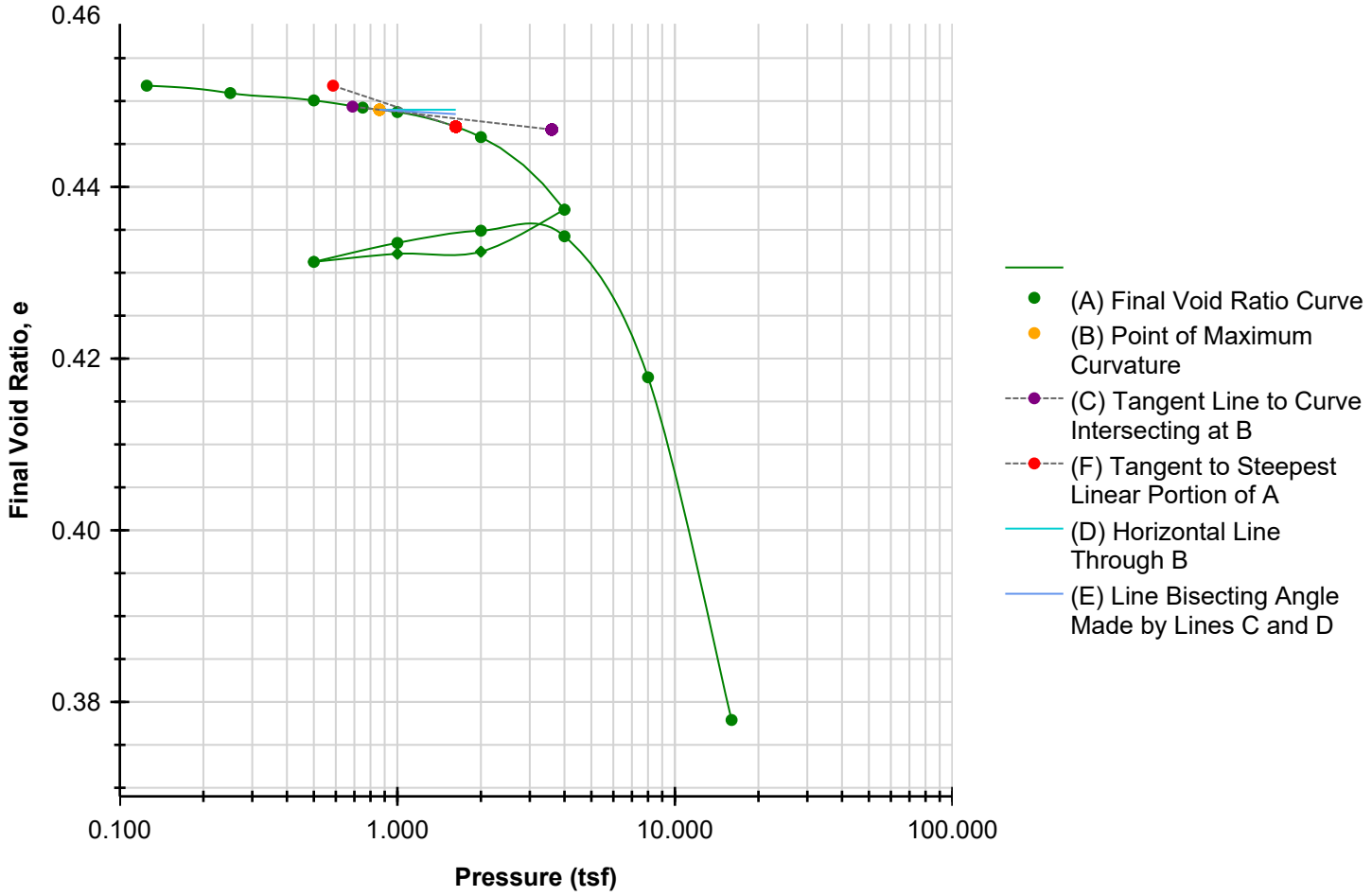


	BEFORE	AFTER			
			Liquid Limits	64	**Test Date** 5/13/2020
Moisture (%)	33.4	33.3	**Plastic Limits**	36	
Dry Density (pcf)	89.1	92.6			
Saturation (%)	100.4	108.7			
Void Ratio	0.91	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	8.5	**Remarks**
Sample Number	B7	**Boring Number**	B7	
Project	TDOT			
Client				
Location	See Logs			

Final Voids [Log]

ASTM D2435



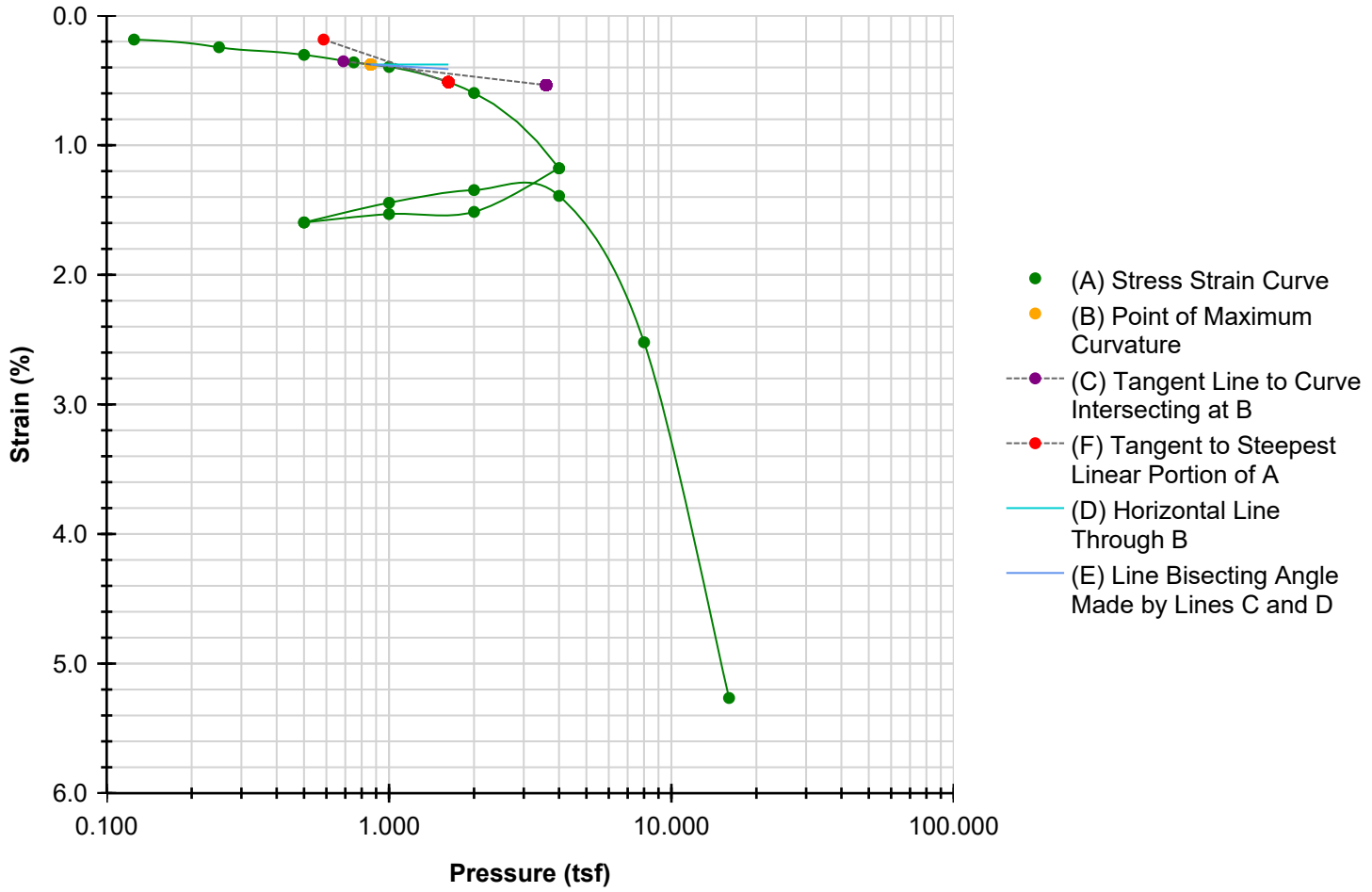
Preconsolidation Stress (tsf)	1.113	**Cc**	0.019	**Cr**	0.003

	BEFORE	AFTER			
			Liquid Limits	72	**Test Date** 5/6/2020
Moisture (%)	0.0	32.9	**Plastic Limits**	36	
Dry Density (pcf)	116.5	92.8			
Saturation (%)	0.0	107.7			
Void Ratio	0.46	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	18.5	**Remarks**
Sample Number	B12	**Boring Number**	B12	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain [Log]

ASTM D2435



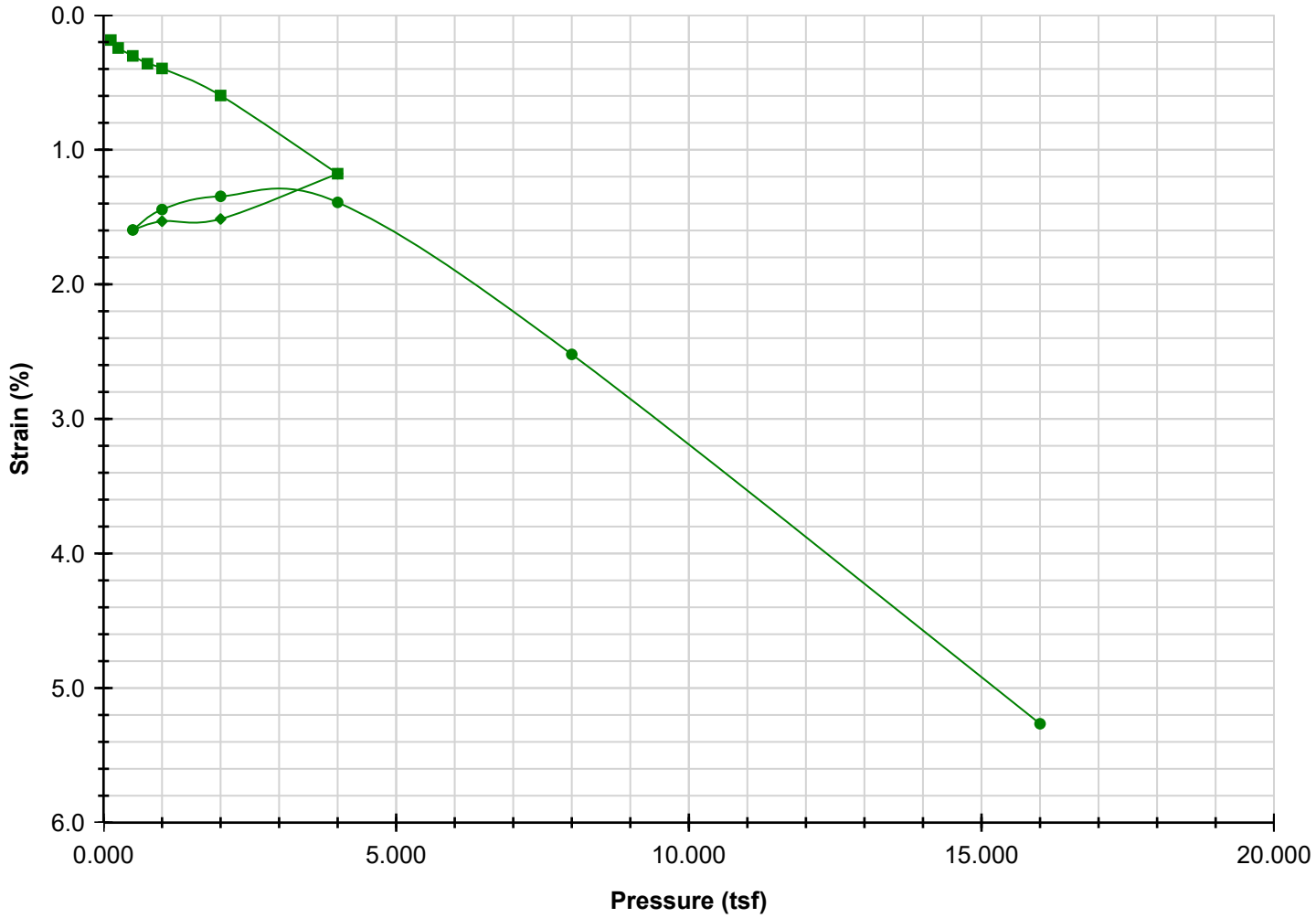
Preconsolidation Stress (tsf)	1.113	**Cc** NA	**Cr** NA

	BEFORE	AFTER			
			Liquid Limits	72	**Test Date** 5/6/2020
Moisture (%)	0.0	32.9	**Plastic Limits**	36	
Dry Density (pcf)	116.5	92.8			
Saturation (%)	0.0	107.7			
Void Ratio	0.46	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	18.5	**Remarks**
Sample Number	B12	**Boring Number**	B12	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain

ASTM D2435

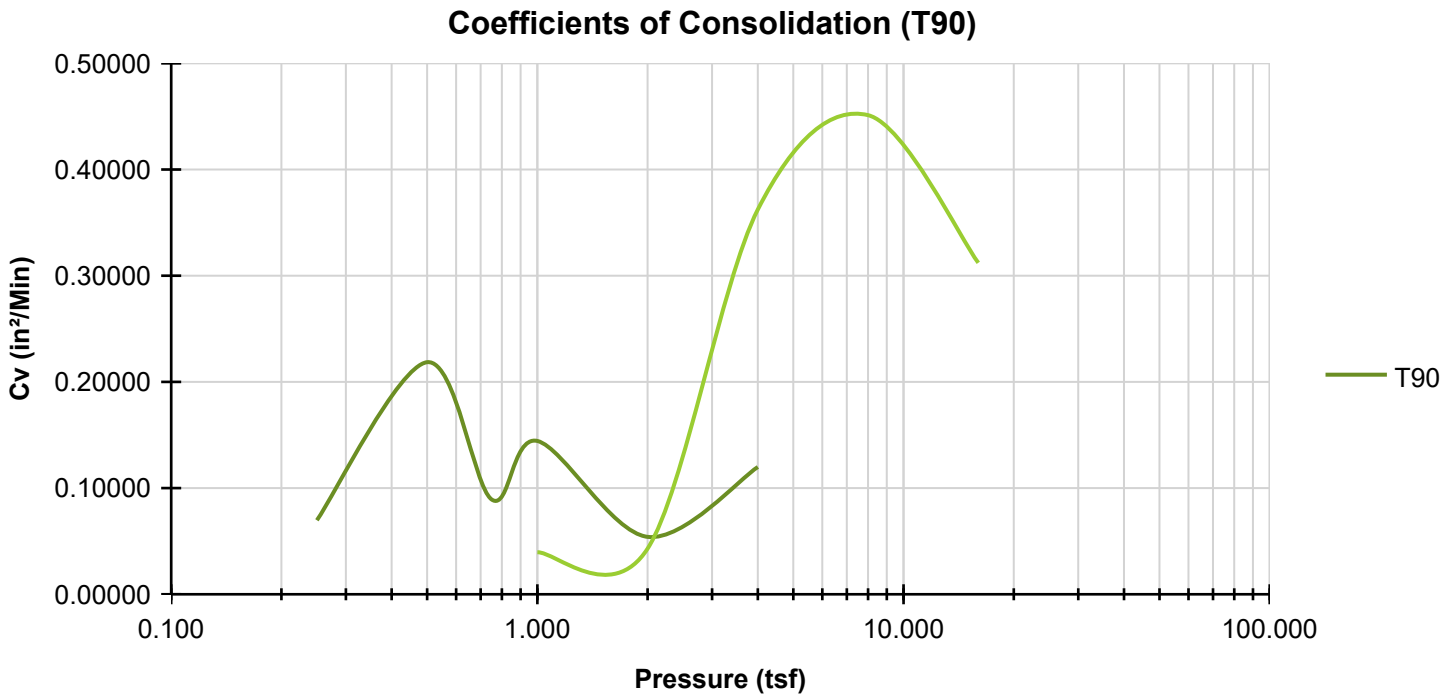


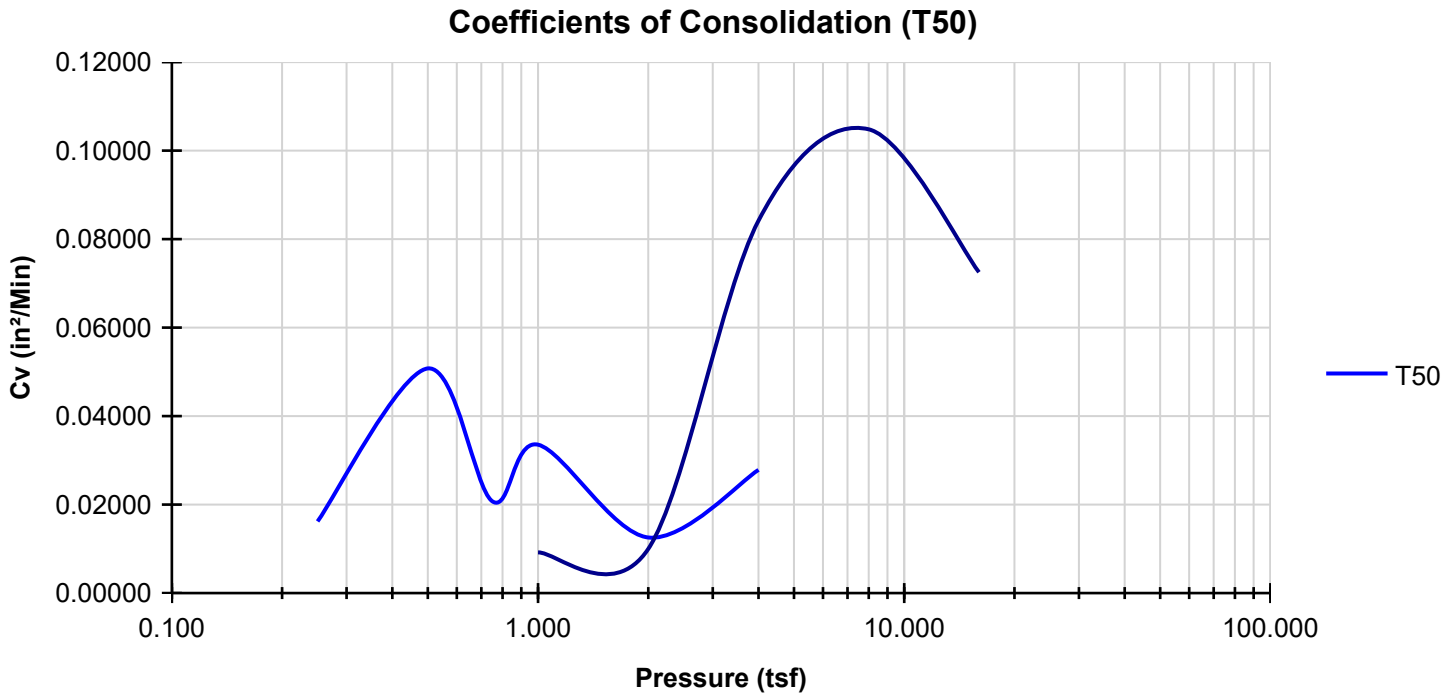
	BEFORE	AFTER			
			Liquid Limits	72	**Test Date** 5/6/2020
Moisture (%)	0.0	32.9	**Plastic Limits**	36	
Dry Density (pcf)	116.5	92.8			
Saturation (%)	0.0	107.7			
Void Ratio	0.46	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	18.5	**Remarks**
Sample Number	B12	**Boring Number**	B12	
Project	TDOT			
Client				
Location	See Logs			

Coefficients of Consolidation

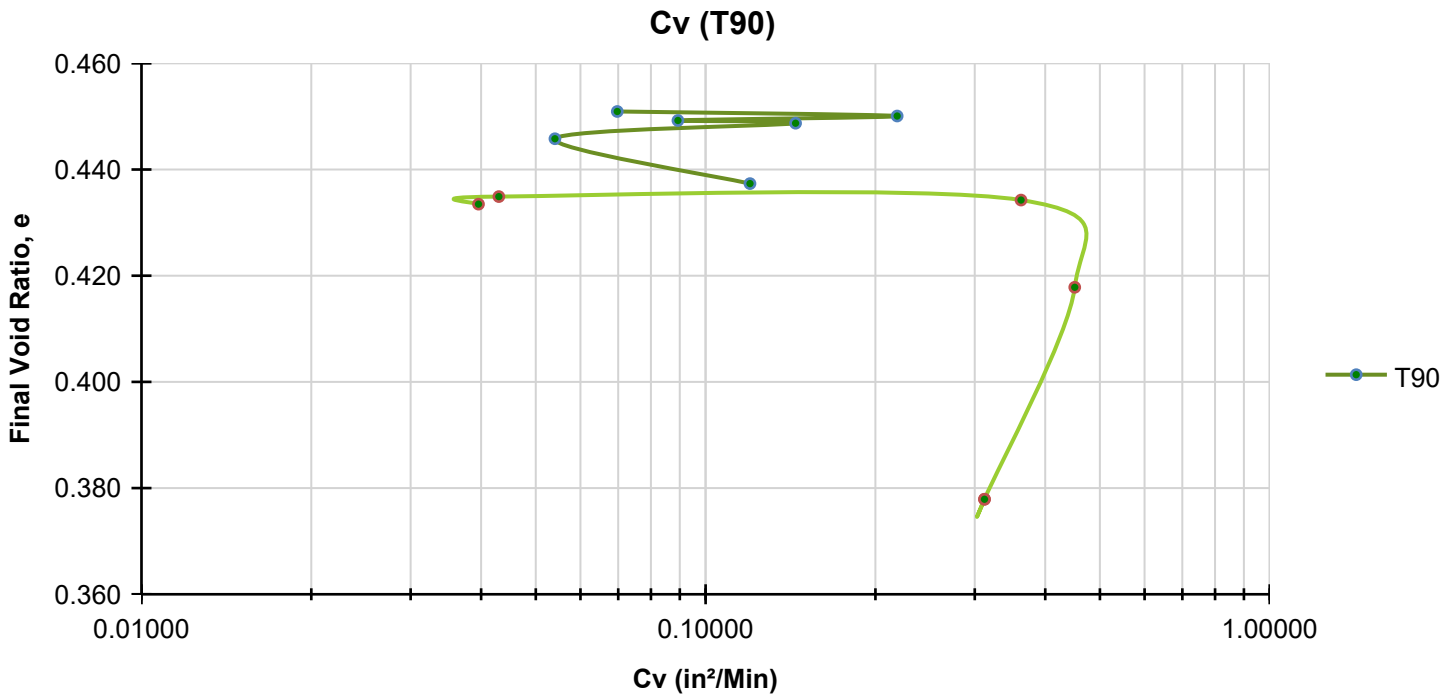
ASTM D2435

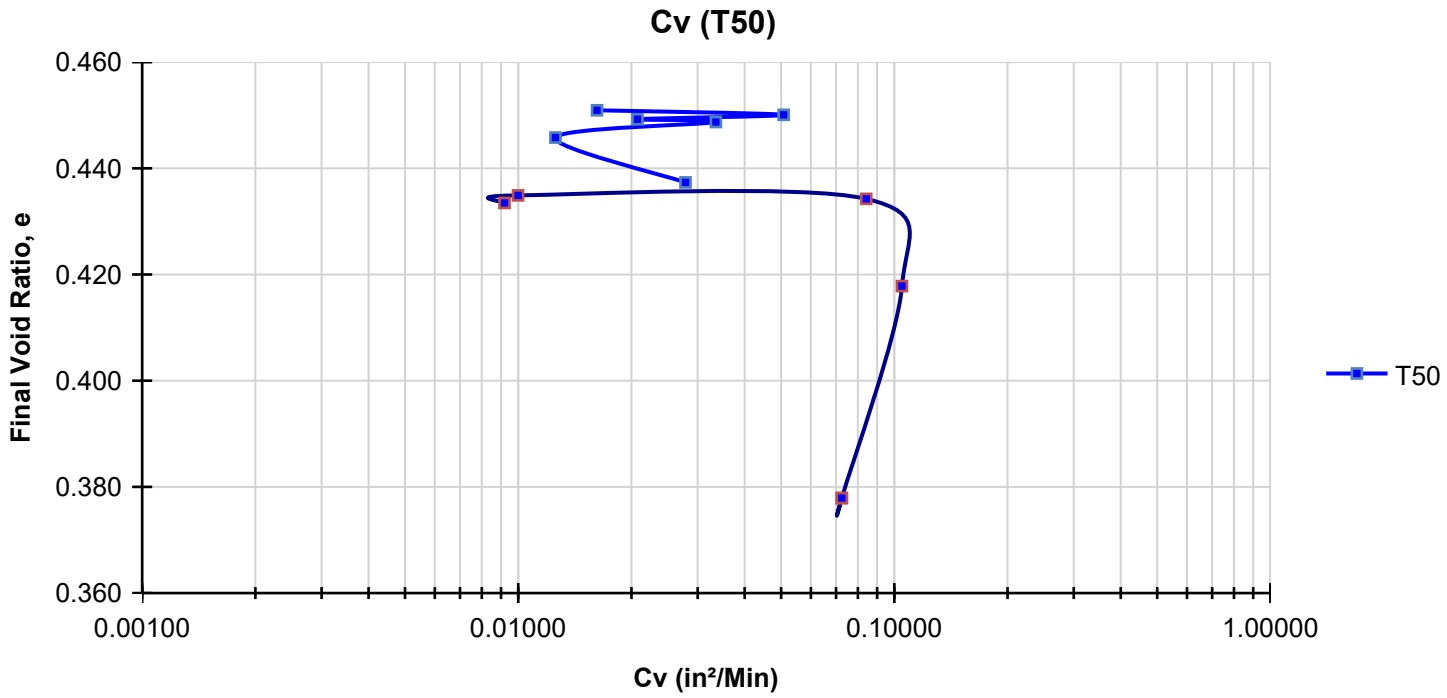




Cv - Void Ratio

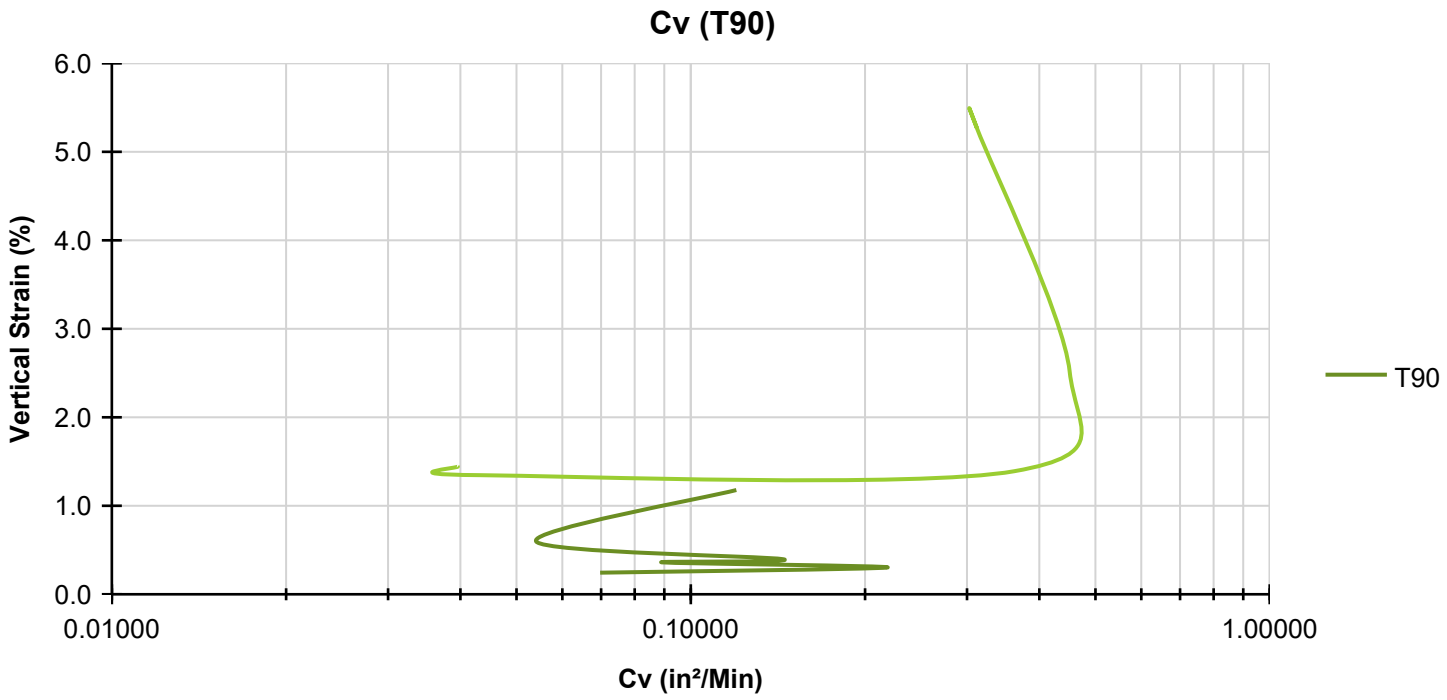
ASTM D2435

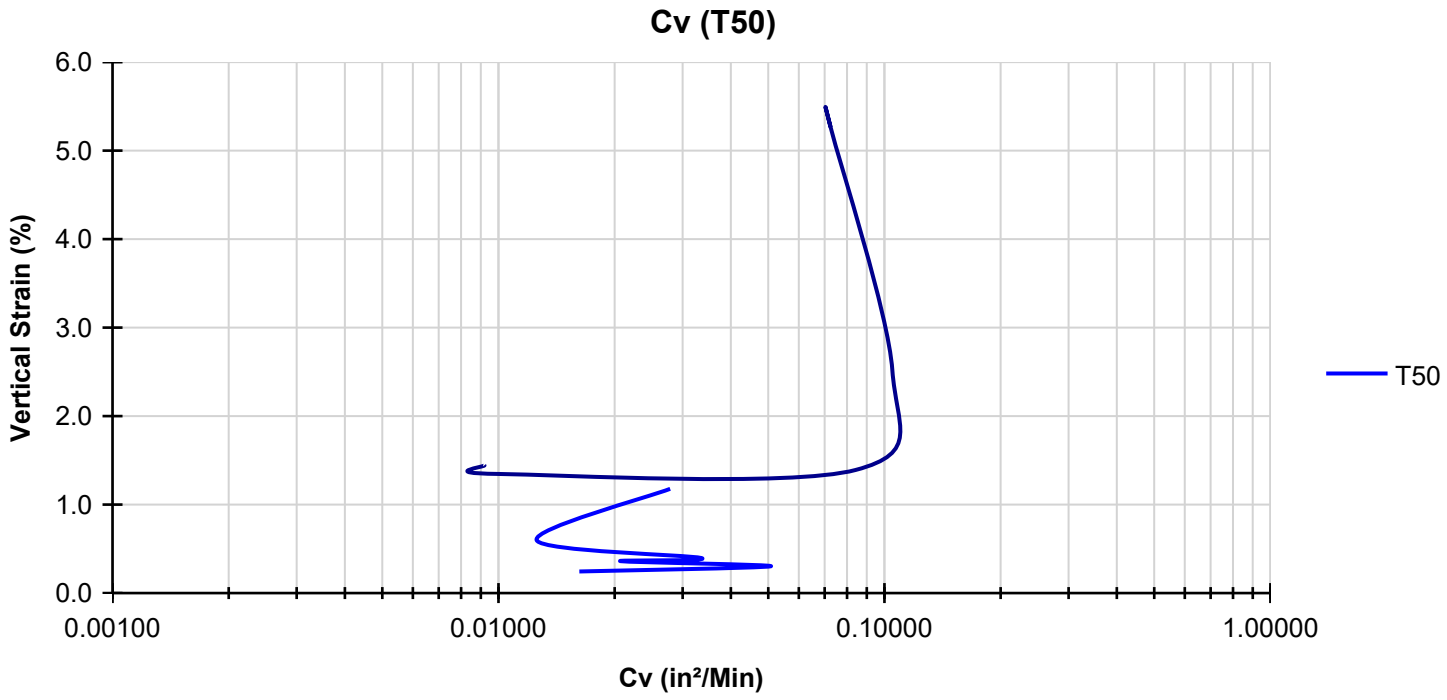




Cv - Vertical Strain

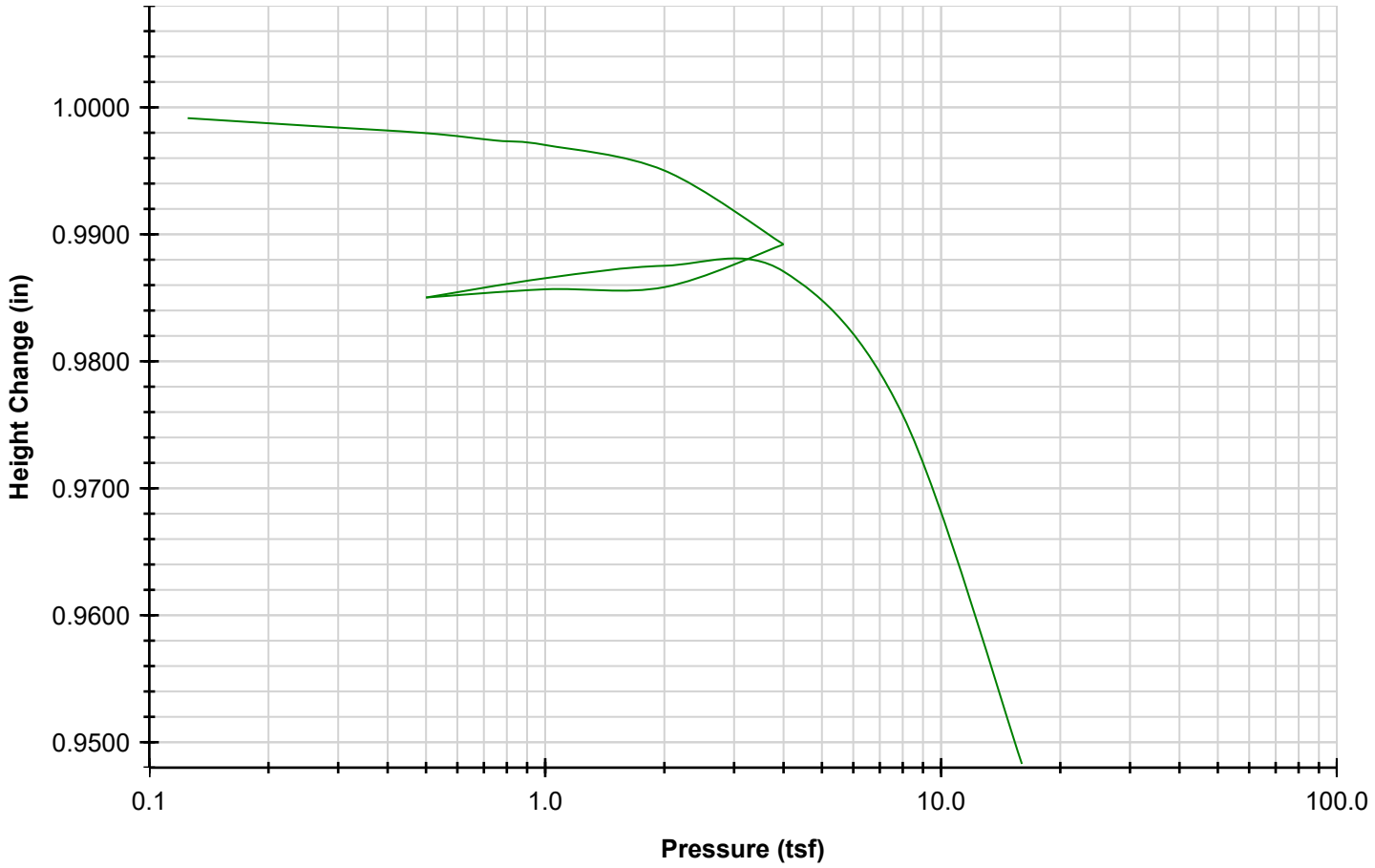
ASTM D2435





Height Change [Log]

ASTM D2435

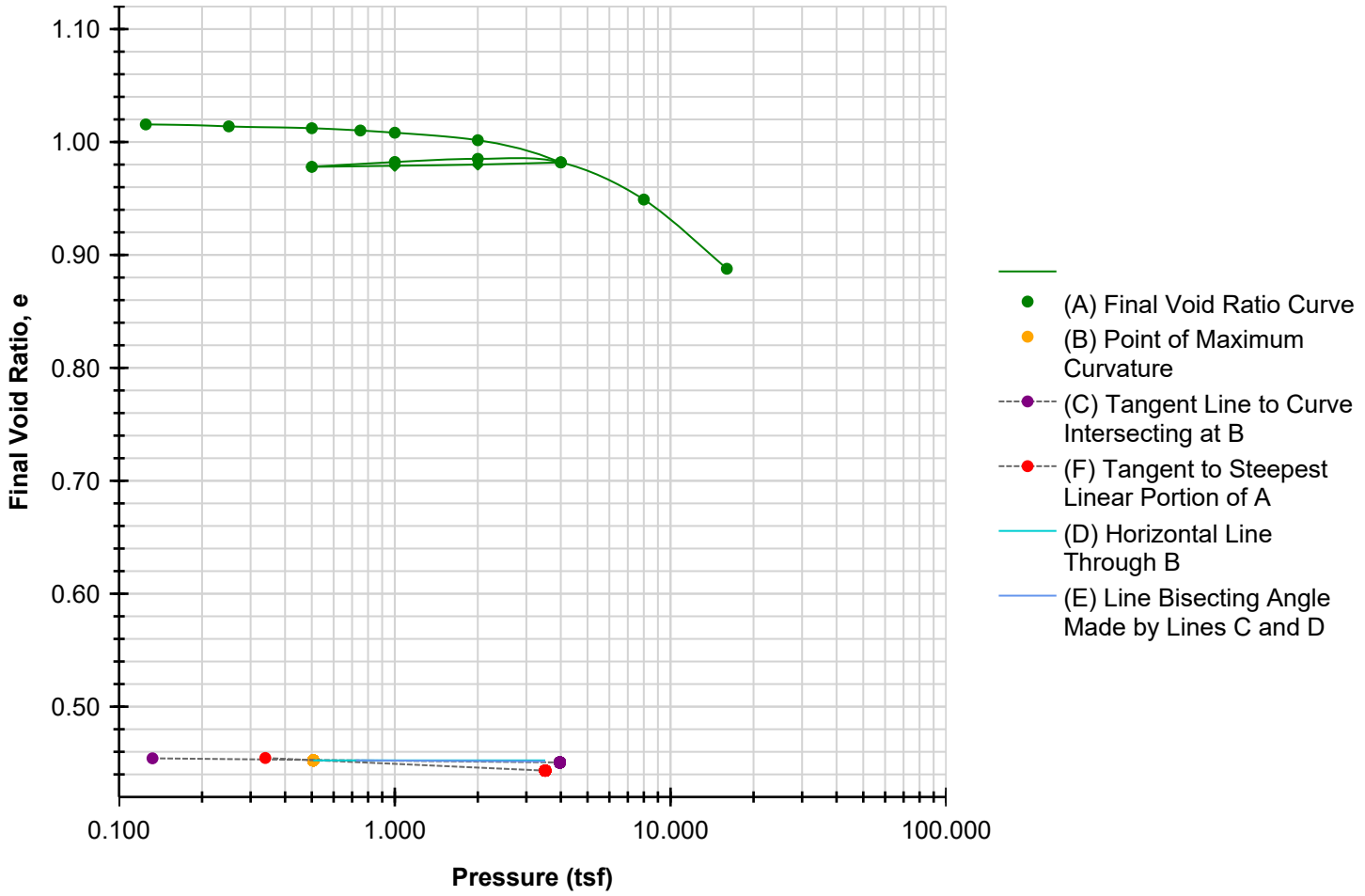


	BEFORE	AFTER			
			Liquid Limits	72	**Test Date** 5/6/2020
Moisture (%)	0.0	32.9	**Plastic Limits**	36	
Dry Density (pcf)	116.5	92.8			
Saturation (%)	0.0	107.7			
Void Ratio	0.46	0.83	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	18.5	**Remarks**
Sample Number	B12	**Boring Number**	B12	
Project	TDOT			
Client				
Location	See Logs			

Final Voids [Log]

ASTM D2435



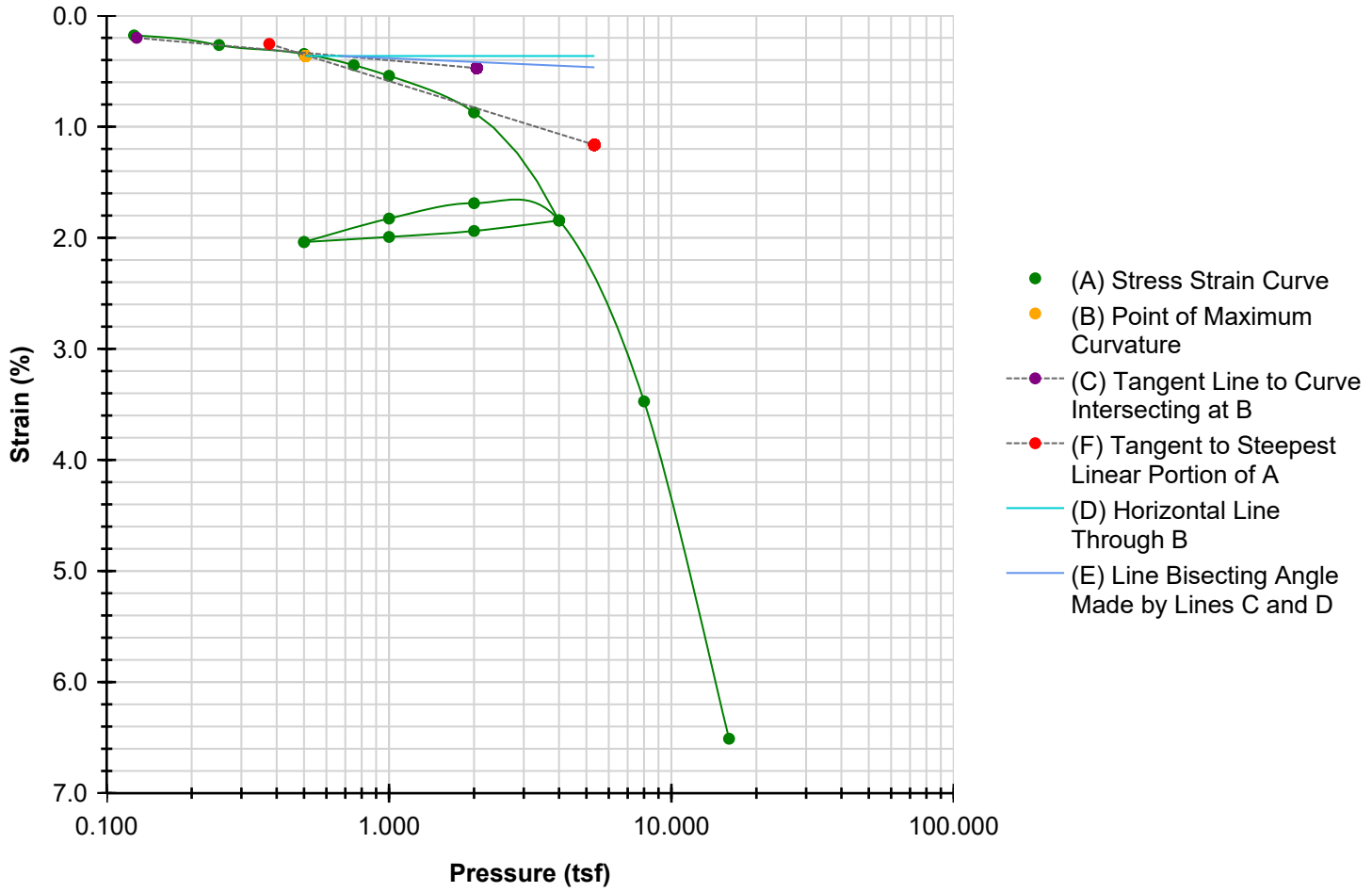
Preconsolidation Stress (tsf)	1.000	**Cc**	0.044	**Cr**	0.006

	BEFORE	AFTER			
			Liquid Limits	55	**Test Date** 5/27/2020
Moisture (%)	38.5	30.9	**Plastic Limits**	27	
Dry Density (pcf)	83.9	41.1			
Saturation (%)	102.4	26.9			
Void Ratio	1.02	3.13	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	13.5	**Remarks**
Sample Number	B63	**Boring Number**	B63	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain [Log]

ASTM D2435



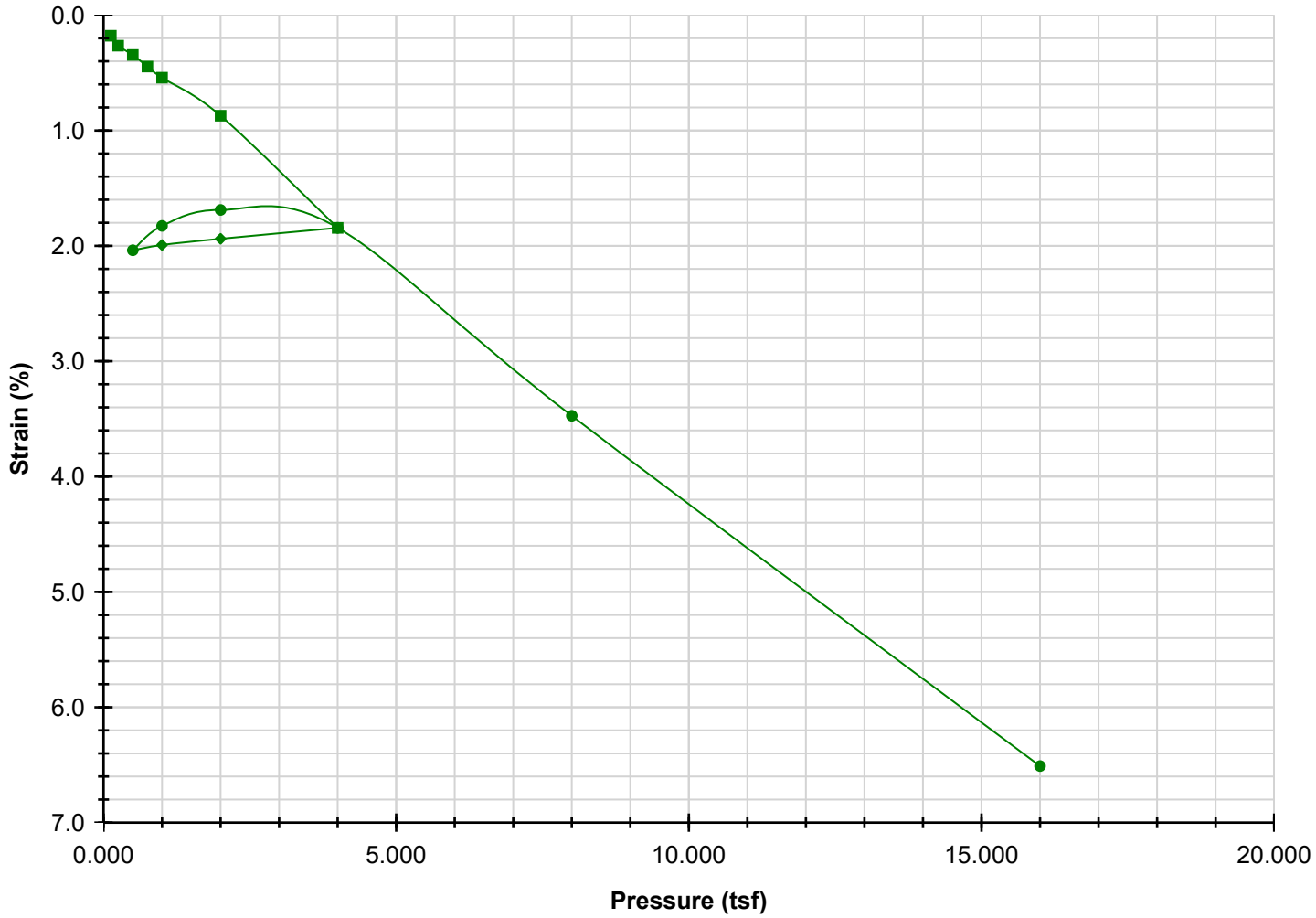
Preconsolidation Stress (tsf)	1.000	**Cc** NA	**Cr** NA

	BEFORE	AFTER			
			Liquid Limits	55	**Test Date** 5/27/2020
Moisture (%)	38.5	30.9	**Plastic Limits**	27	
Dry Density (pcf)	83.9	41.1			
Saturation (%)	102.4	26.9			
Void Ratio	1.02	3.13	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	13.5	**Remarks**
Sample Number	B63	**Boring Number**	B63	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain

ASTM D2435

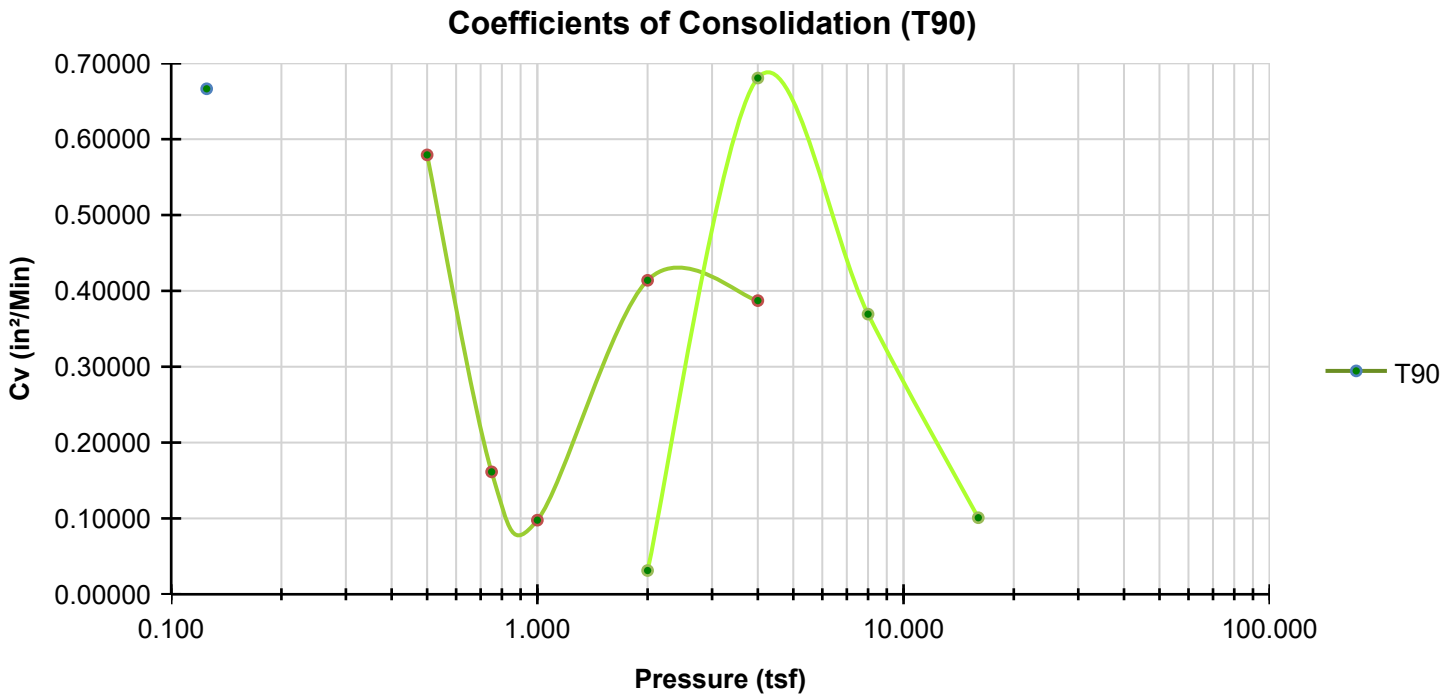


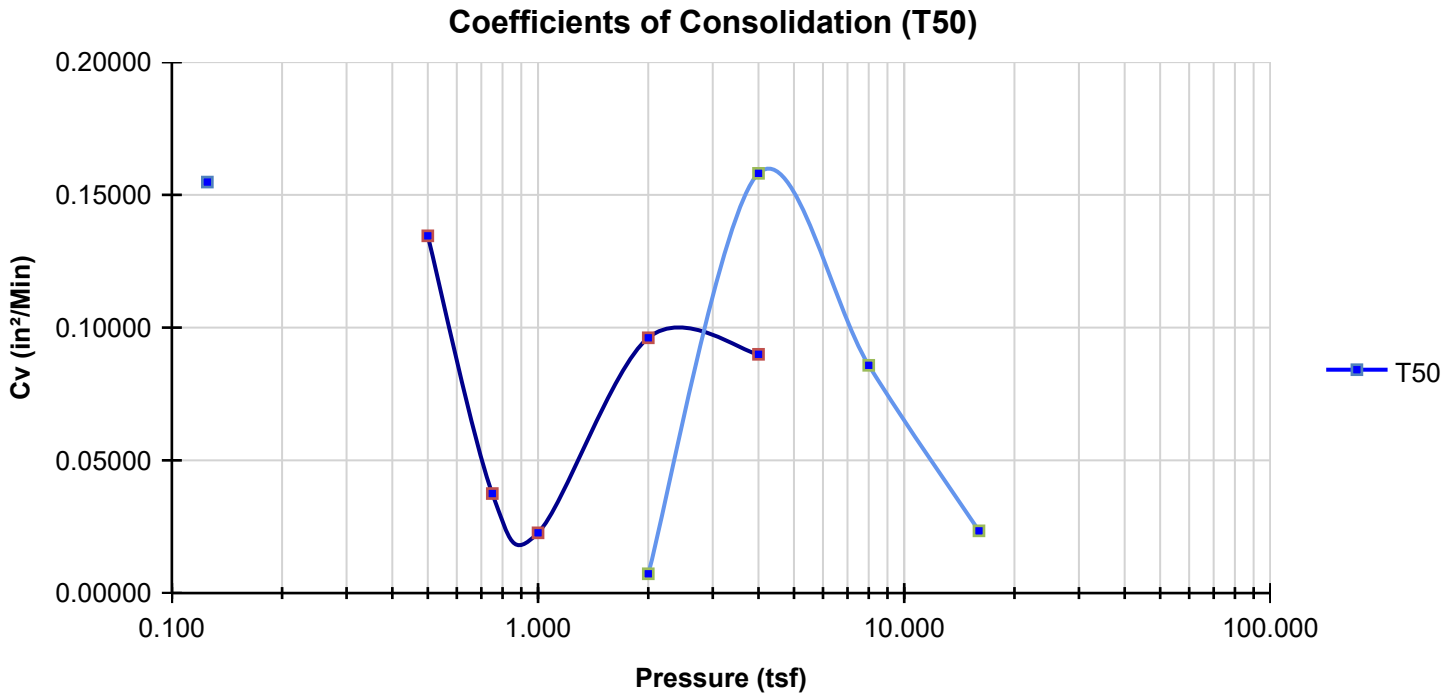
	BEFORE	AFTER			
			Liquid Limits	55	**Test Date** 5/27/2020
Moisture (%)	38.5	30.9	**Plastic Limits**	27	
Dry Density (pcf)	83.9	41.1			
Saturation (%)	102.4	26.9			
Void Ratio	1.02	3.13	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	13.5	**Remarks**
Sample Number	B63	**Boring Number**	B63	
Project	TDOT			
Client				
Location	See Logs			

Coefficients of Consolidation

ASTM D2435



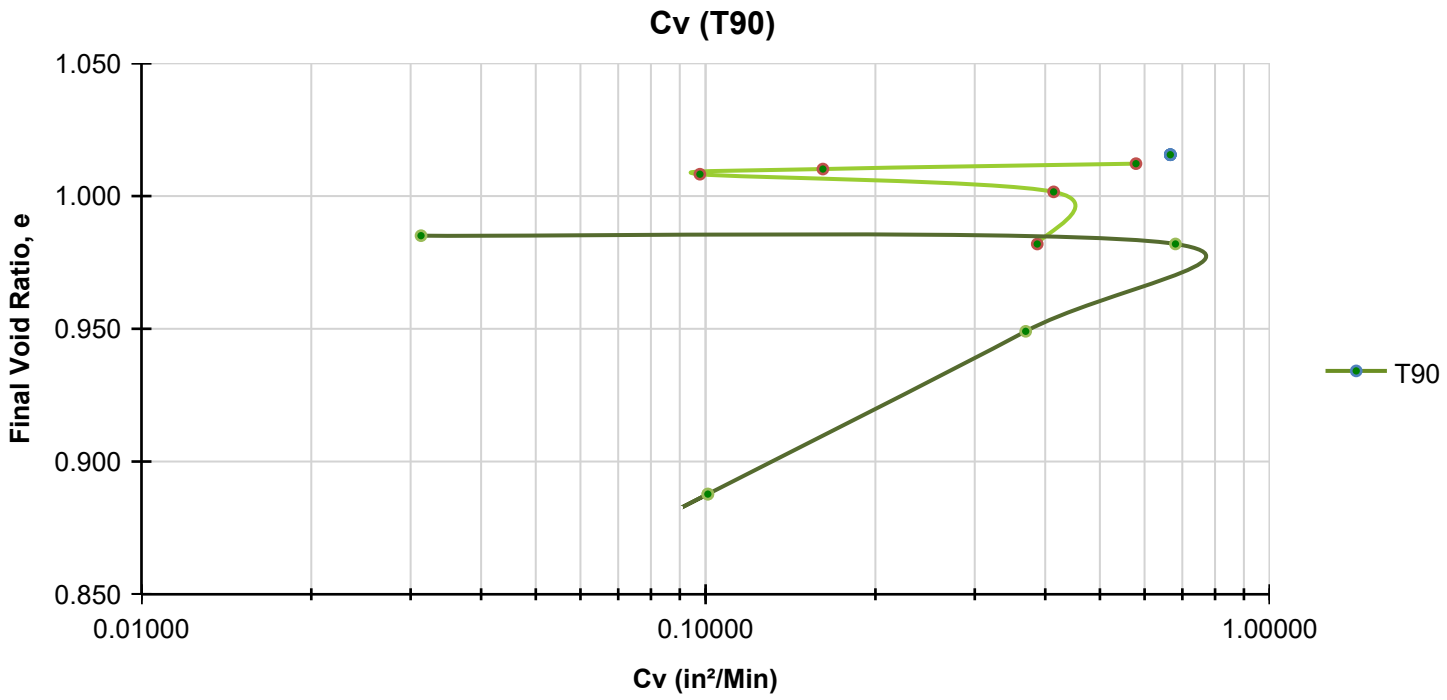


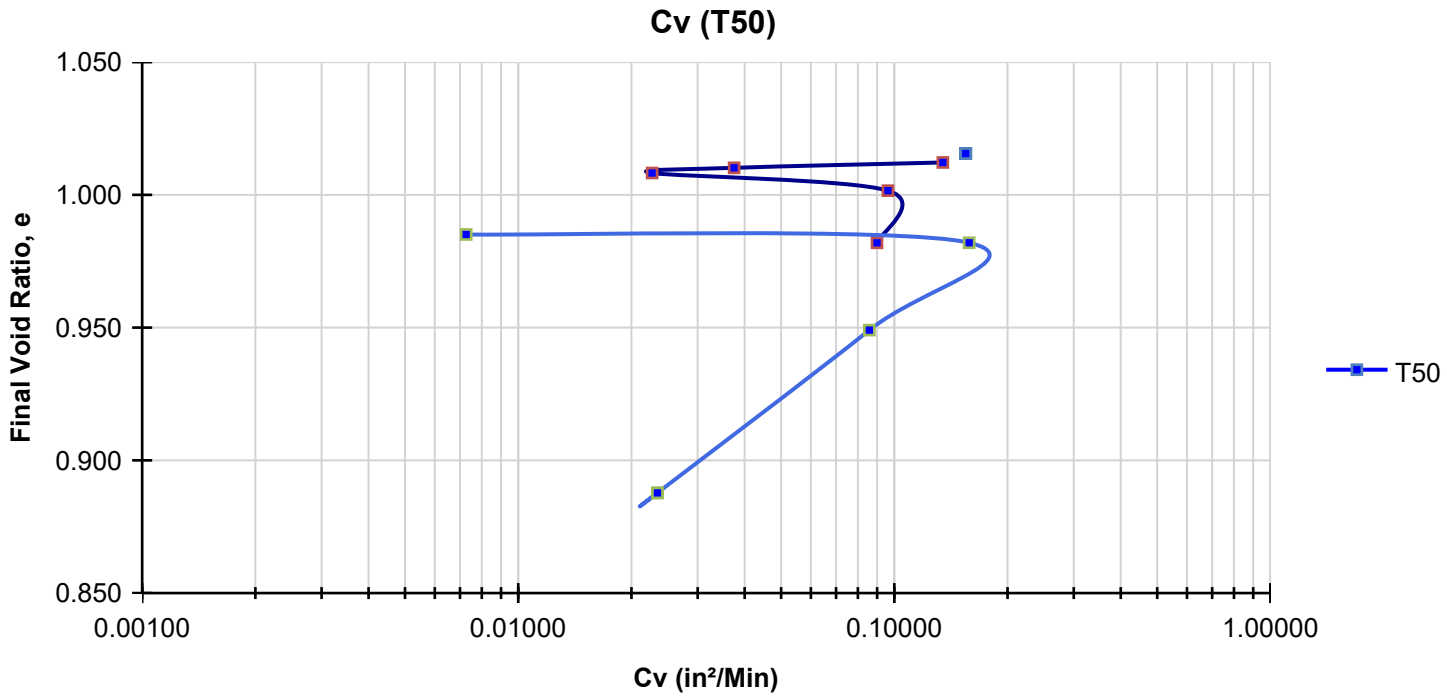
Project Name: TDOT Project Number: 20033

Technician: C. Tanner Test Date: 5/27/2020 Checked By: _____ Date: _____

Cv - Void Ratio

ASTM D2435



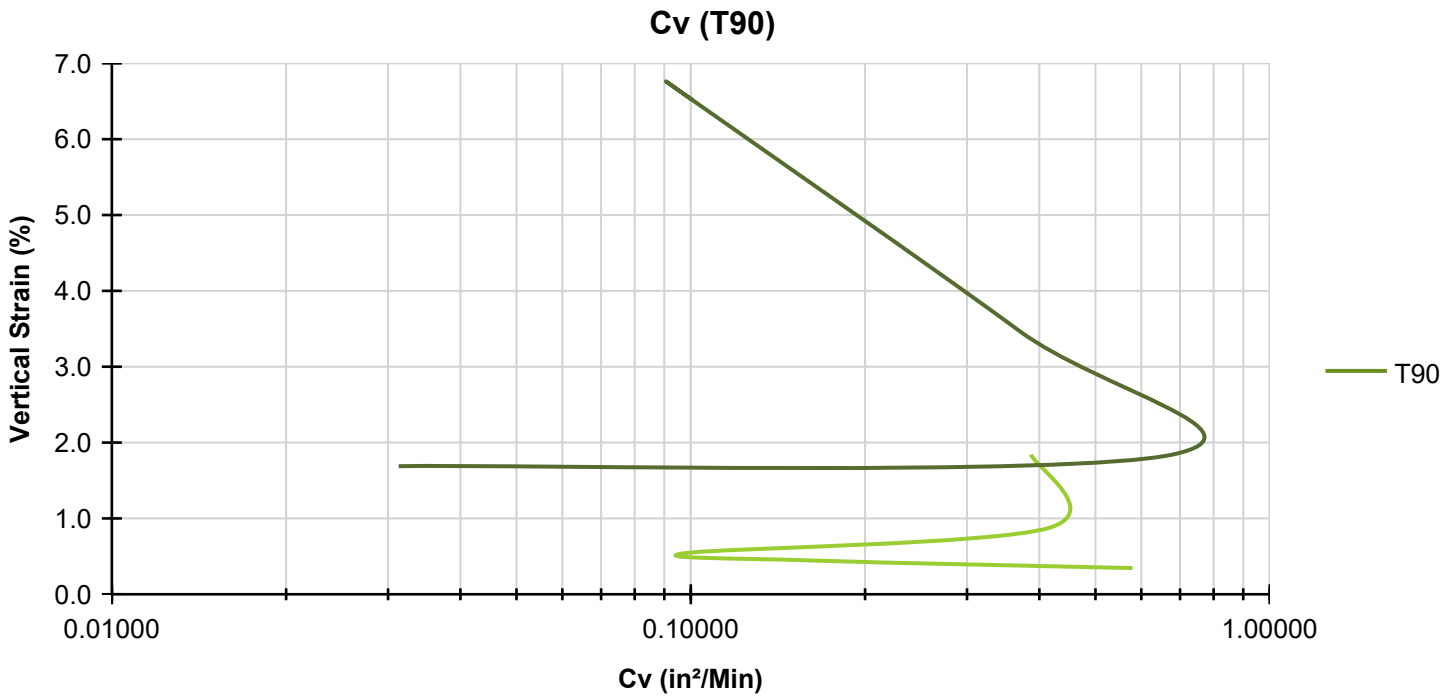


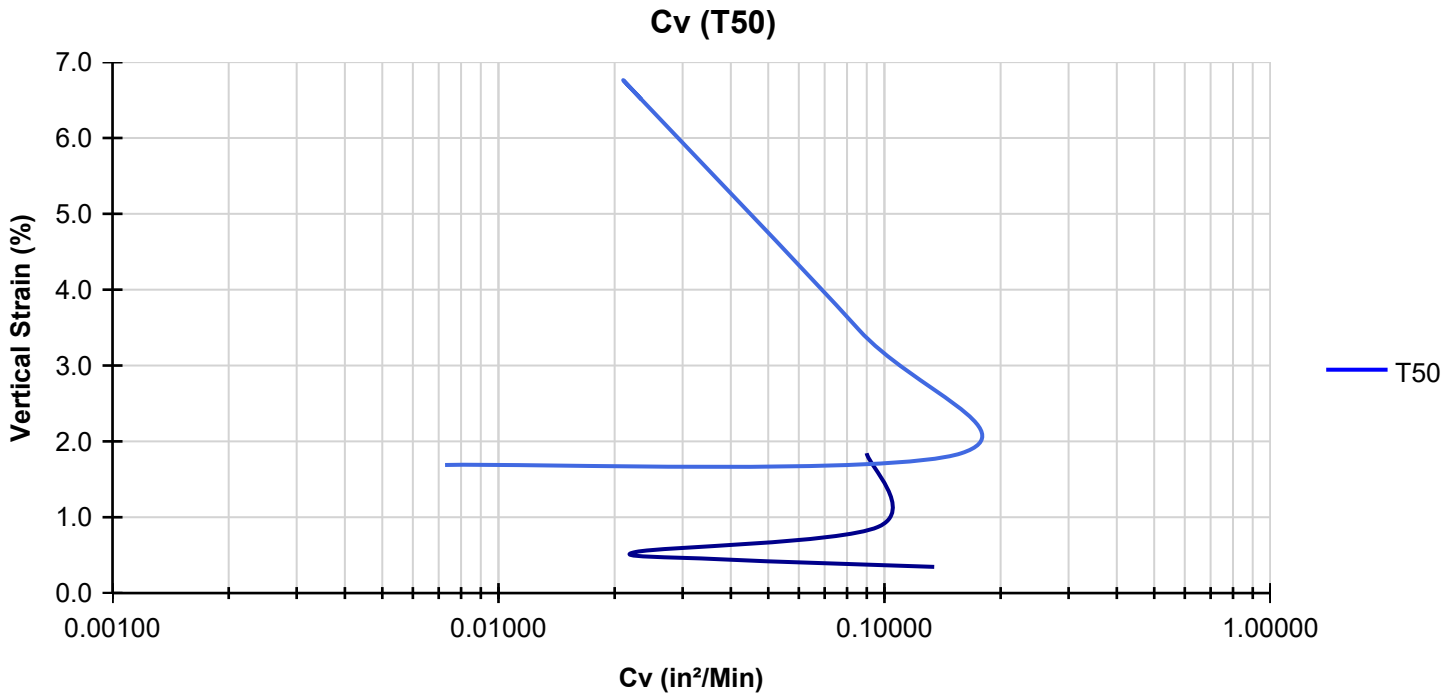
Project Name: TDOT Project Number: 20033

Technician: C. Tanner Test Date: 5/27/2020 Checked By: _____ Date: _____

Cv - Vertical Strain

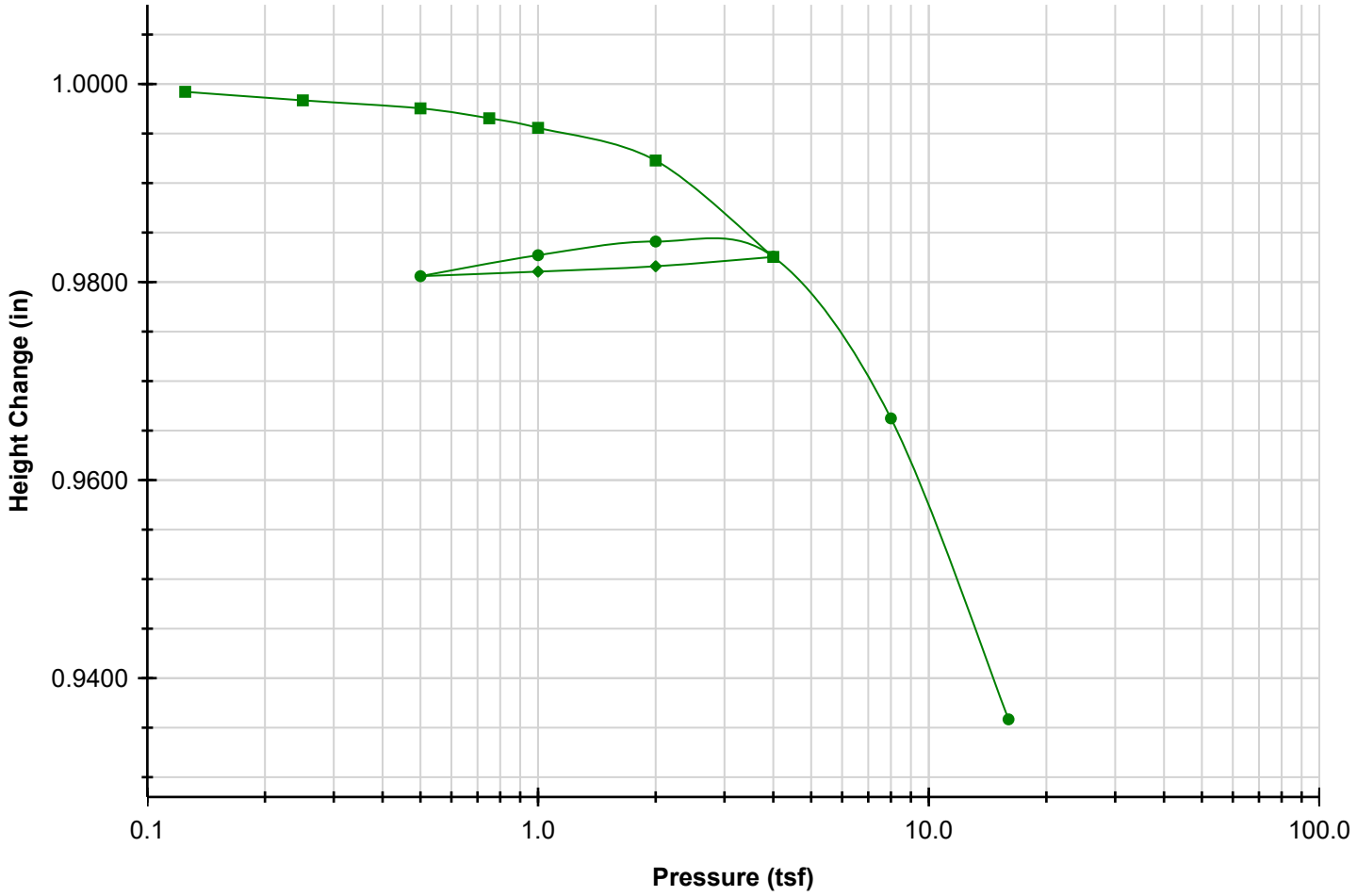
ASTM D2435





Height Change [Log]

ASTM D2435

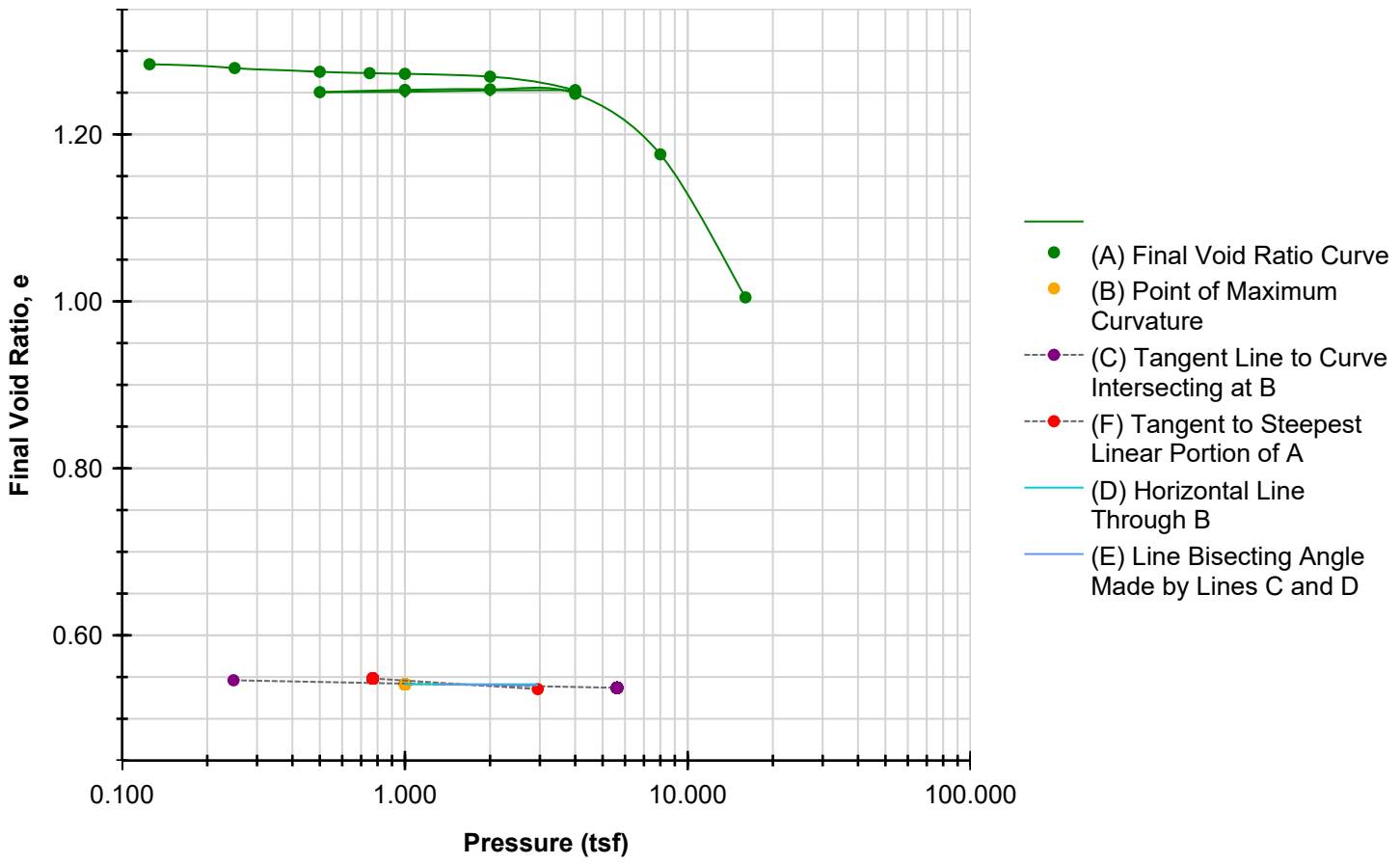


	BEFORE	AFTER			
			Liquid Limits	55	**Test Date** 5/27/2020
Moisture (%)	38.5	30.9	**Plastic Limits**	27	
Dry Density (pcf)	83.9	41.1			
Saturation (%)	102.4	26.9			
Void Ratio	1.02	3.13	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	13.5	**Remarks**
Sample Number	B63	**Boring Number**	B63	
Project	TDOT			
Client				
Location	See Logs			

Final Voids [Log]

C. Tanner



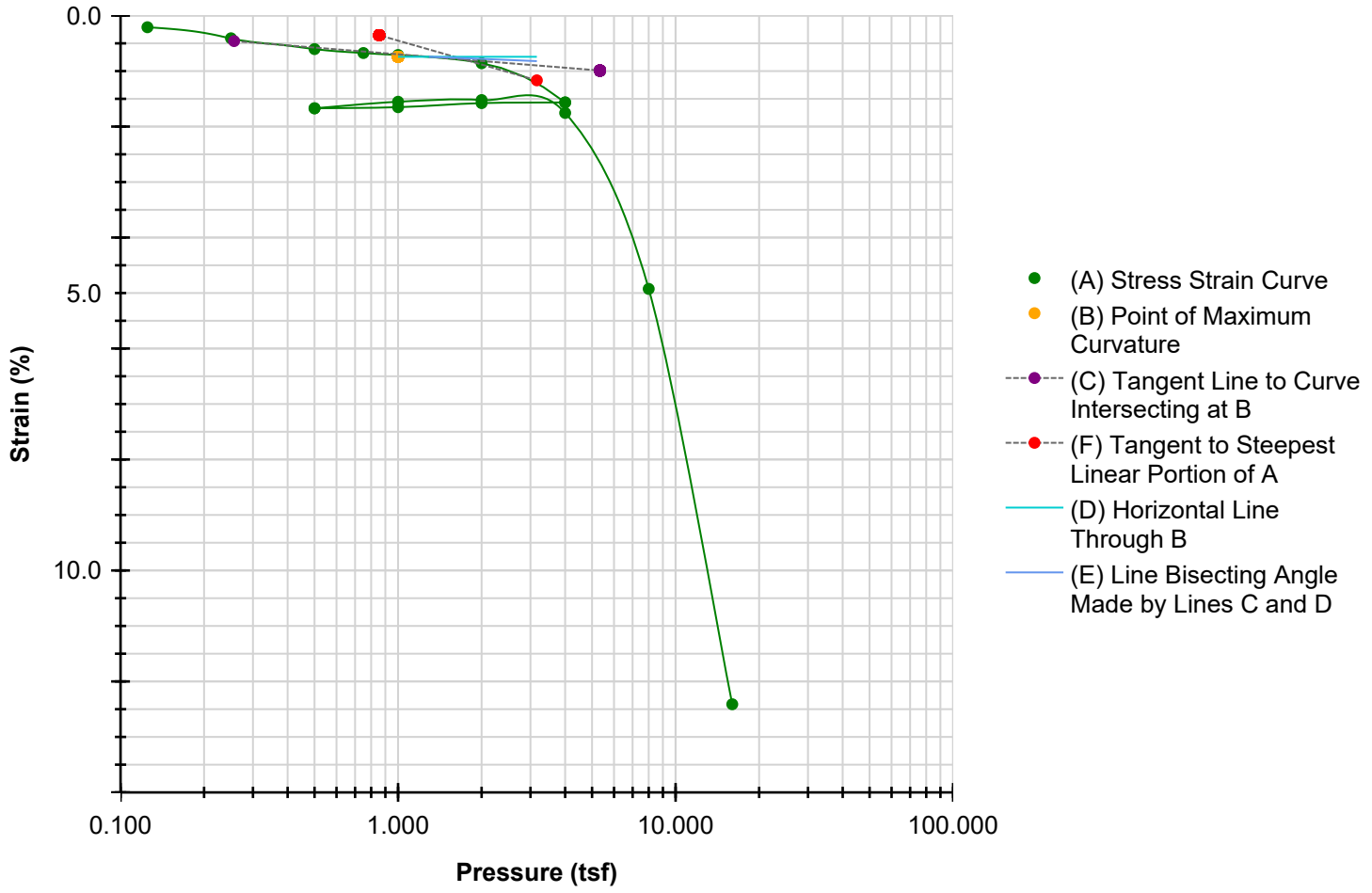
Preconsolidation Stress (tsf)	1.654	**Cc** 0.032	**Cr** 0.015

	BEFORE	AFTER			
			Liquid Limits	0	**Test Date** 6/4/2020
Moisture (%)	47.4	40.9	**Plastic Limits**	0	
Dry Density (pcf)	74.1	84.9			
Saturation (%)	99.7	111.1			
Void Ratio	1.29	1.00	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	28	**Remarks**
Sample Number	B132	**Boring Number**	B132	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain [Log]

C. Tanner



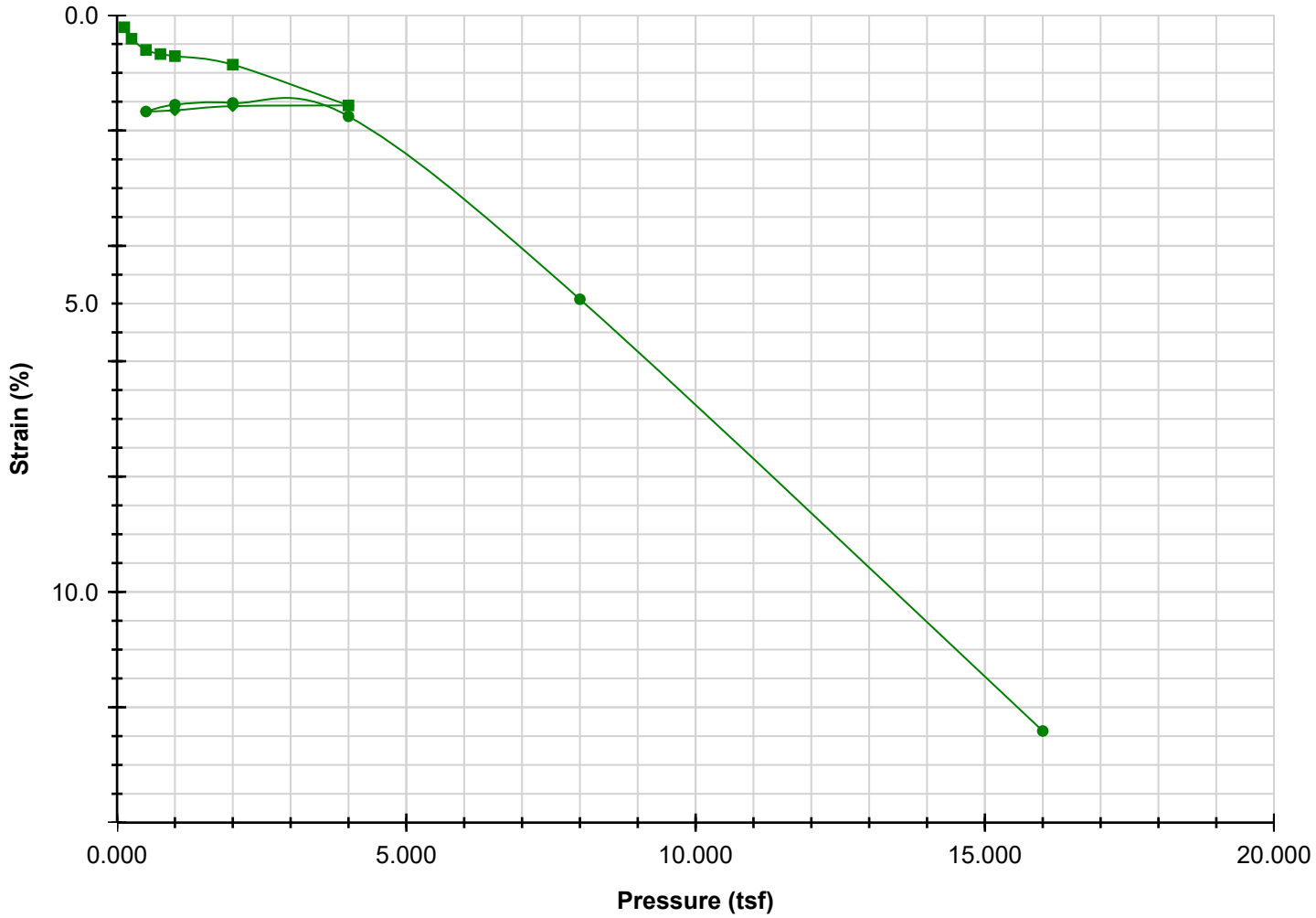
Preconsolidation Stress (tsf)	1.654	**Cc** NA	**Cr** NA

	BEFORE	AFTER			
			Liquid Limits	0	**Test Date** 6/4/2020
Moisture (%)	47.4	40.9	**Plastic Limits**	0	
Dry Density (pcf)	74.1	84.9			
Saturation (%)	99.7	111.1			
Void Ratio	1.29	1.00	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	28	**Remarks**
Sample Number	B132	**Boring Number**	B132	
Project	TDOT			
Client				
Location	See Logs			

Percent Strain

C. Tanner

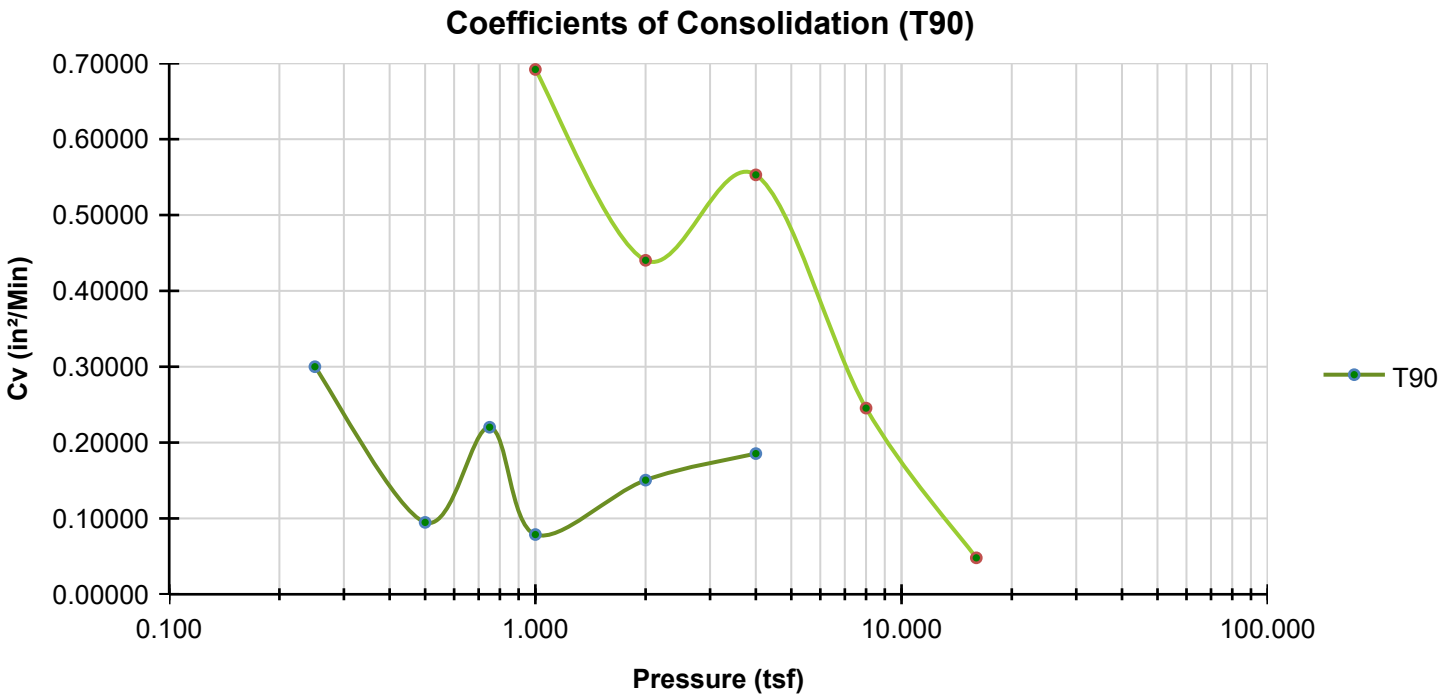


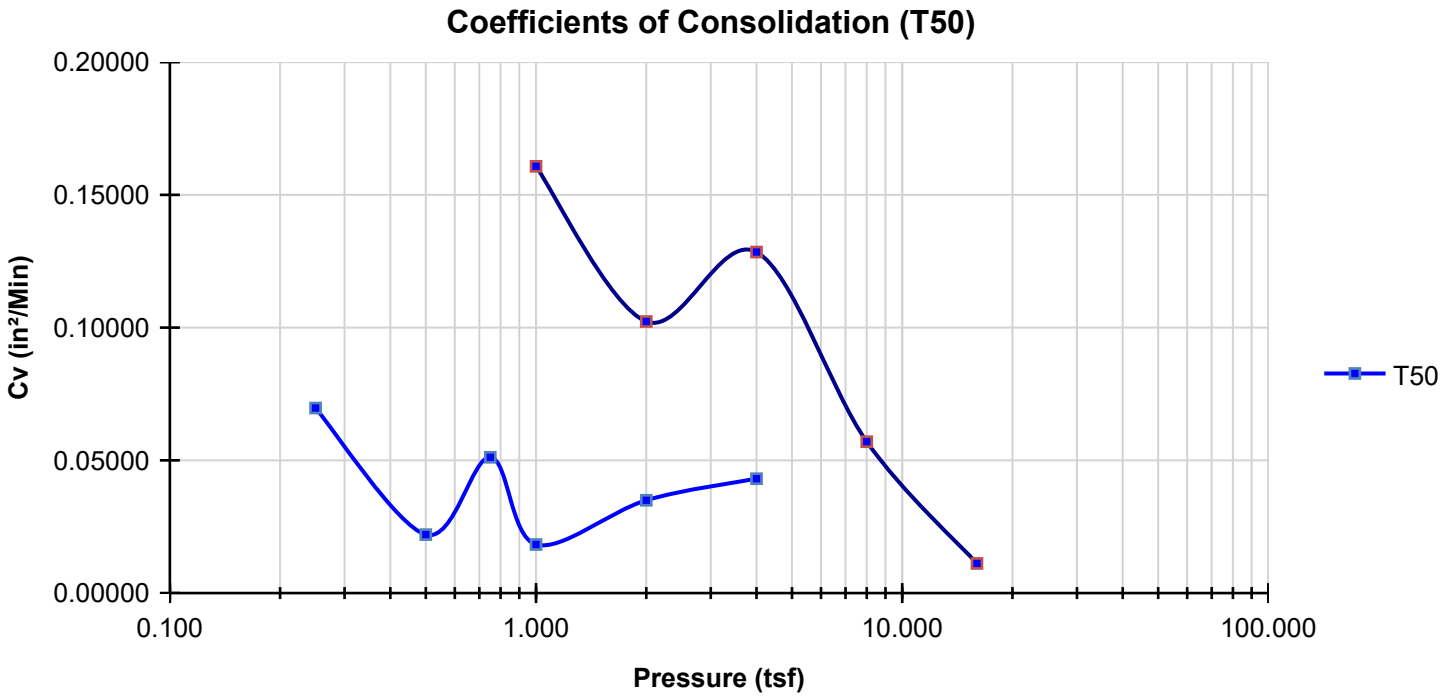
	BEFORE	AFTER			
			Liquid Limits	0	**Test Date** 6/4/2020
Moisture (%)	47.4	40.9	**Plastic Limits**	0	
Dry Density (pcf)	74.1	84.9			
Saturation (%)	99.7	111.1			
Void Ratio	1.29	1.00	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	28	**Remarks**
Sample Number	B132	**Boring Number**	B132	
Project	TDOT			
Client				
Location	See Logs			

Coefficients of Consolidation

C. Tanner



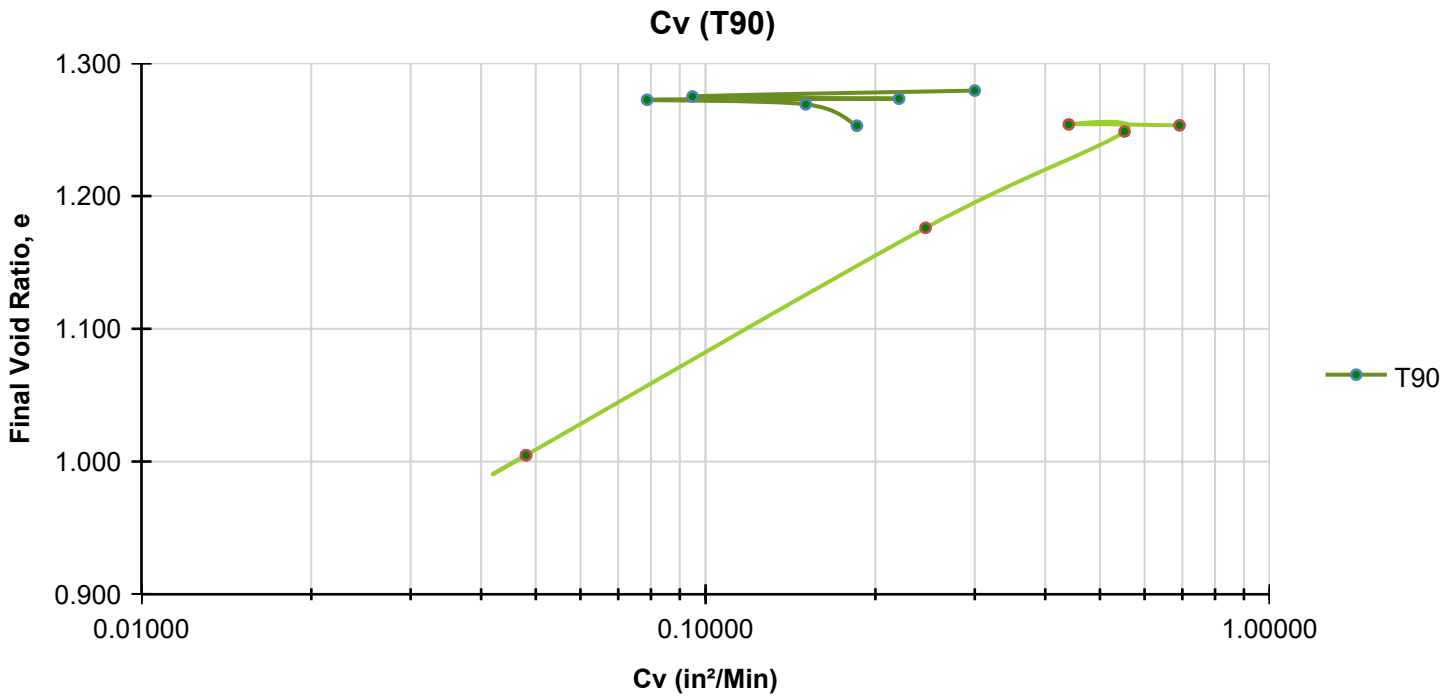


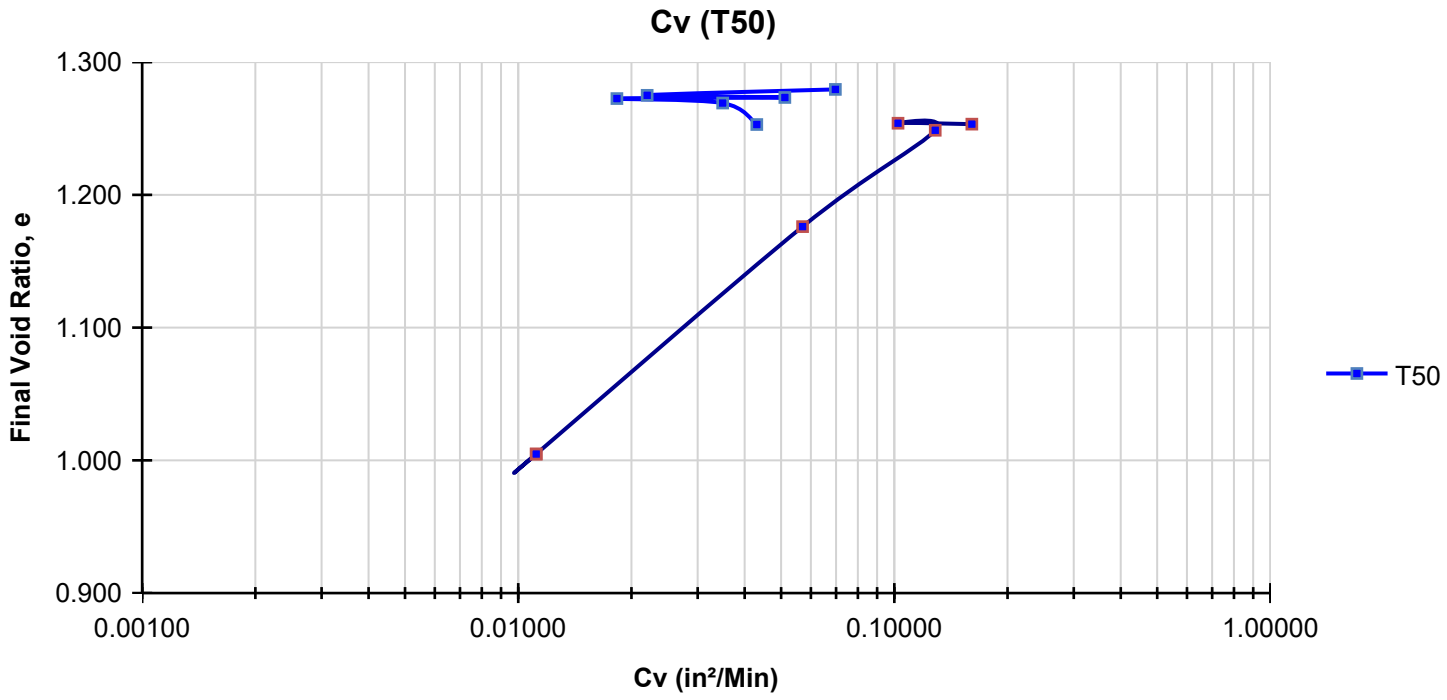
Project Name: TDOT Project Number: 20033

Technician: Test Date: 6/4/2020 Checked By: _____ Date: _____

Cv - Void Ratio

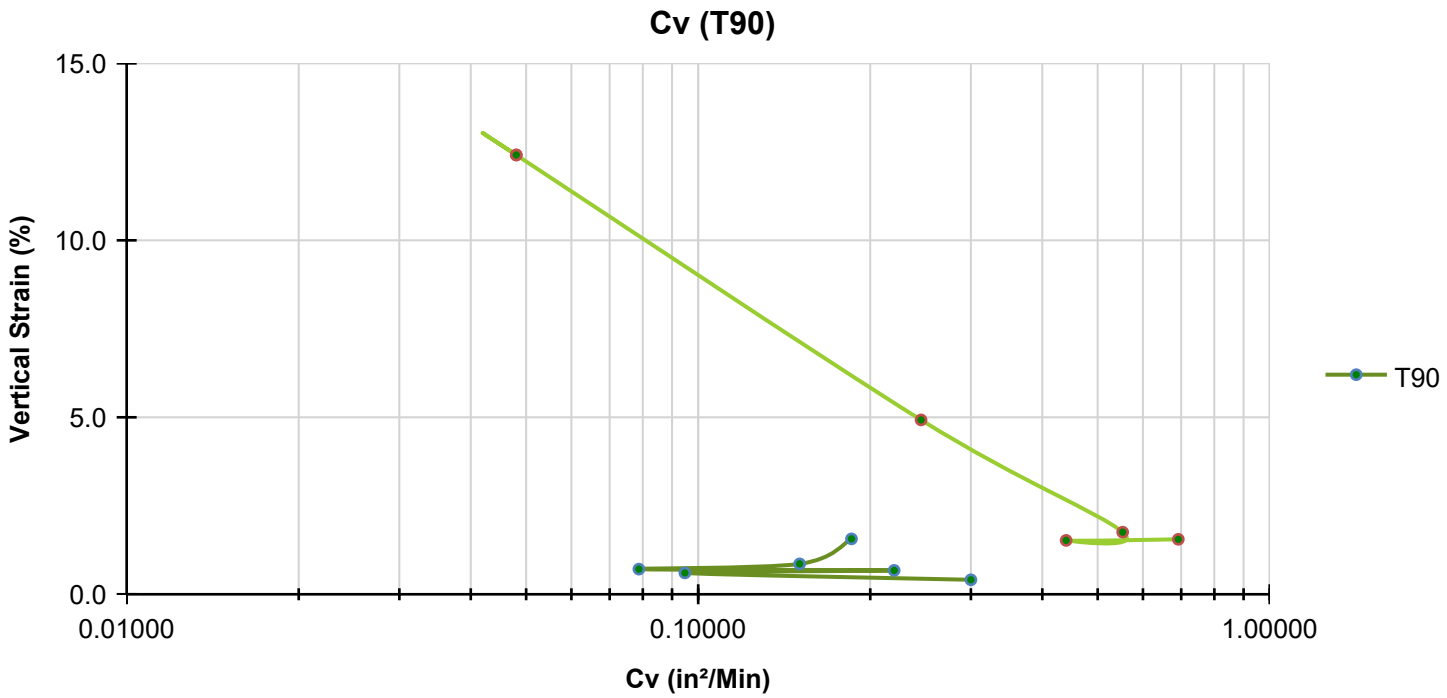
C. Tanner

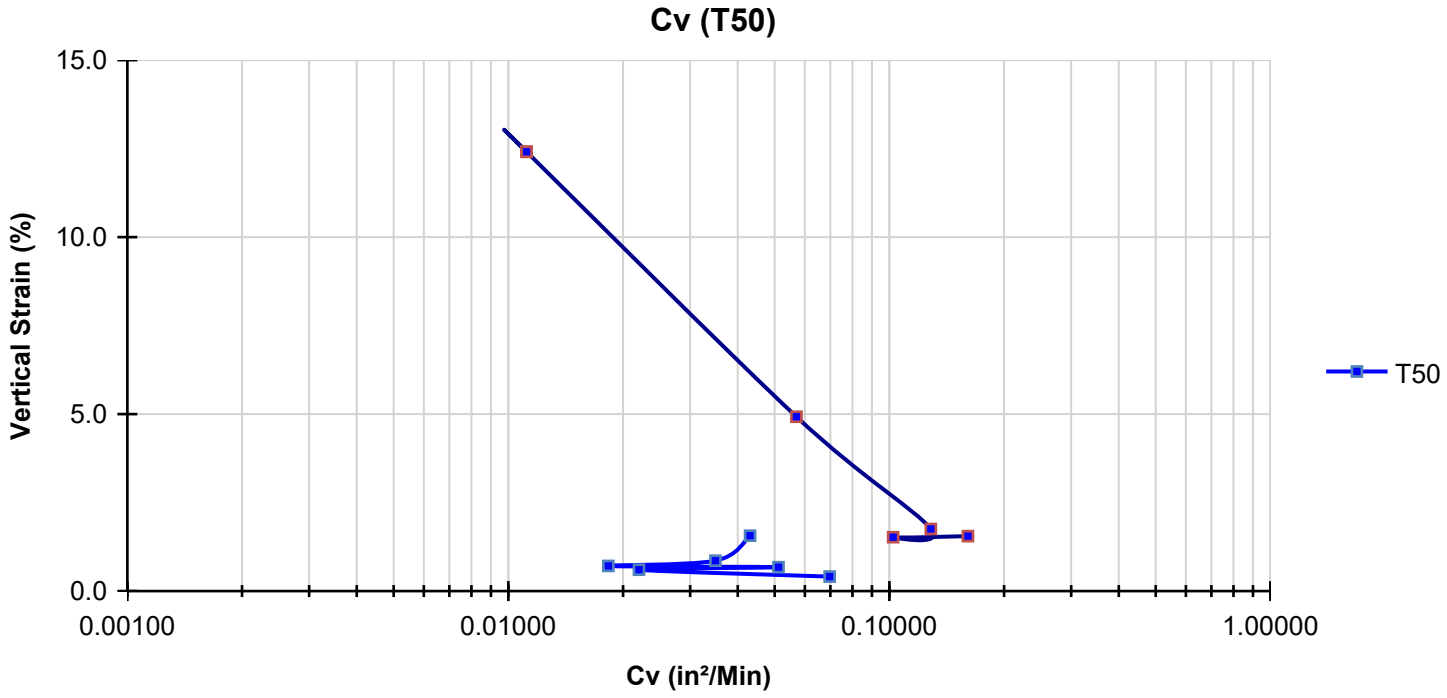




Cv - Vertical Strain

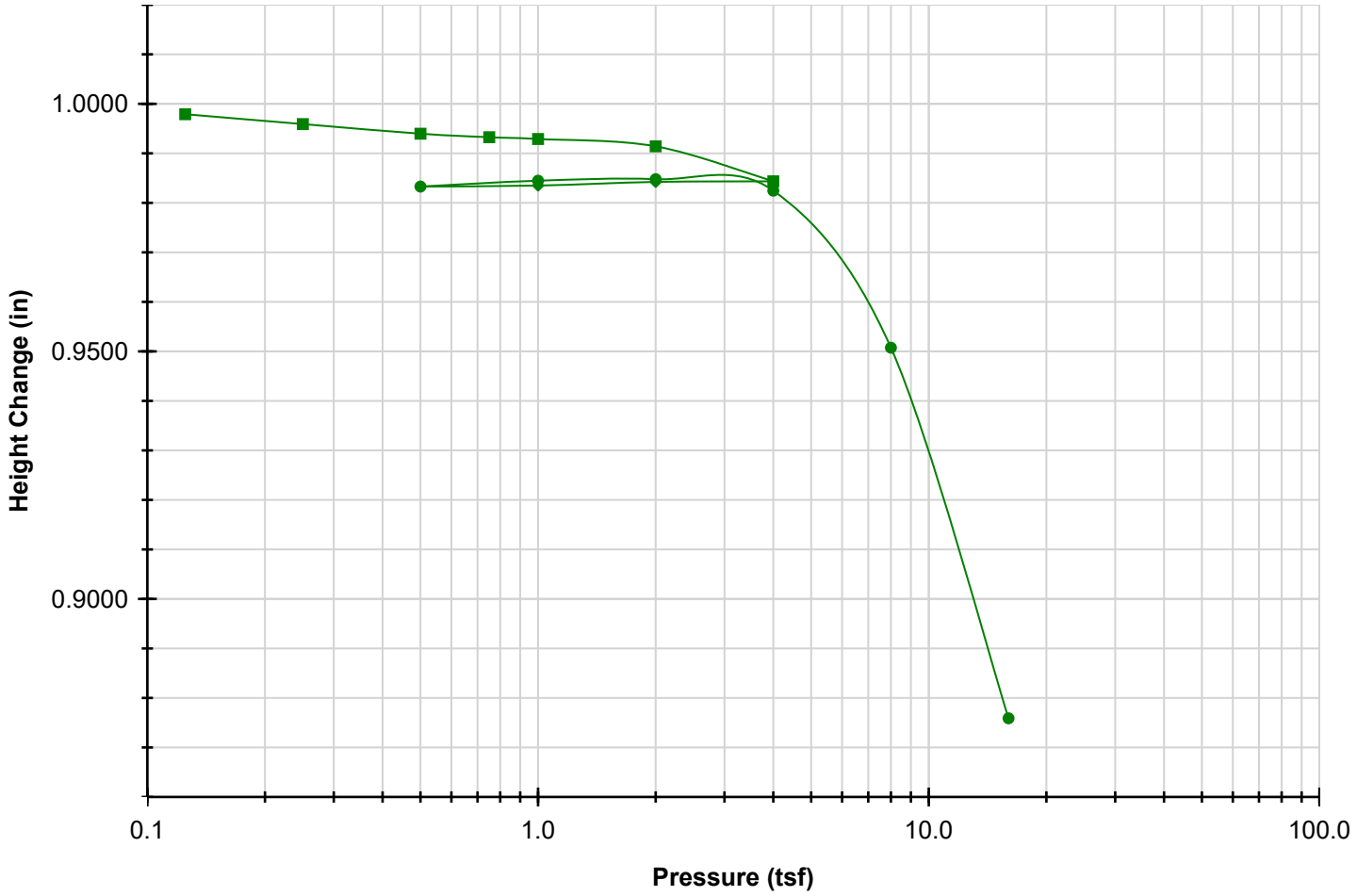
C. Tanner





Height Change [Log]

C. Tanner



	BEFORE	AFTER			
			Liquid Limits	0	**Test Date** 6/4/2020
Moisture (%)	47.4	40.9	**Plastic Limits**	0	
Dry Density (pcf)	74.1	84.9			
Saturation (%)	99.7	111.1			
Void Ratio	1.29	1.00	**Specific Gravity**	2.72	ASSUMED

Sample Description				
Project Number	20033	**Depth (ft)**	28	**Remarks**
Sample Number	B132	**Boring Number**	B132	
Project	TDOT			
Client				
Location	See Logs			

Bacon Farmer Workman Engineering and Testing Inc.
500 S 17th ST
Paducah, KY 42003
Telephone: 270-443-1995
Fax: 270-443-1904

SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
1	0.0	58	26	32	9.5	71	CH	21.2			
1	0.5	44	22	22	9.5	88	CL	29.6			
1	1.0							28.3			
1	2.5							29.1			
1	5.0	56	23	33	9.5	87	CH	28.2			
1	7.5							22.0			
1	14.0	56	28	28	4.75	94	CH	28.5			
1	18.5							47.2			
2	0.5							31.9			
2	2.0							27.9			
2	4.0	45	27	18	9.5	83	ML	26.6			
2	6.0	49	28	21	9.5	83	ML	37.4			
2	8.0							20.5			
2	11.0	71	33	38	0.425	97	CH	27.9			
2	15.0	70	33	37	2	96	CH	35.4			
3	0.5							36.6			
3	2.5							28.4	96.6		
3	4.5	50	23	27	4.75	93	CH	22.8	105.3		
3	6.5							26.2			
3	8.5	72	34	38	2	94	CH	28.2	97.7		
4	0.5							25.3			
4	2.5	32	24	8	2	90	ML	22.4			
4	4.5							37.1	84.1		
4	5.0							21.6			
4	6.5	67	31	36	2	99	CH	37.0			
4	8.5							41.1	80.3		
5	2.5							32.3			
5	4.5	49	27	22				23.1			
5	6.5							18.2			
5	8.5	59	30	29	2	91	CH	34.8			
5	13.5	81	33	48	4.75	96	CH	52.5			
5	18.5							48.8			
5	23.5							48.3			
5	25.5	76	25	51	2	98	CH	65.6			
6	1.3	52	23	29	2	96	CH	21.6			
6	2.5	37	25	12	4.75	94	ML	22.6			
6	4.5							30.7			
6	6.5	45	23	22	2	98	CL	23.7			
6	8.5							24.5			
6	13.5	66	27	39	2	98	CH	29.4			
6	18.5							39.7			
7	0.5							28.7			
7	2.5							34.3			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
7	4.5	38	25	13	4.75	92	ML	23.7			
7	6.5							28.1			
7	8.5	64	38	26	4.75	97	MH	32.3	90.0		
8	0.5	43	21	22				29.6			
8	1.0	38	21	17	4.75	70	CL	30.2			
8	8.5							32.0			
8	13.5	77	32	45	9.5	93	CH	31.9			
8	18.5							32.2			
8	23.5	33	27	6	9.5	74	ML	29.9			
8	28.5							38.5			
9	0.5	33	21	12	4.75	71	CL	12.4			
9	2.5							16.8			
9	4.5							10.5			
9	6.5							10.1			
9	8.5							11.7			
9	13.5							13.9			
9	17.2	36	21	15	4.75	79	CL	12.8			
9	18.5							14.2			
9	23.5							10.4			
9	28.5							6.6			
9	34.5							10.5			
10	0.5				19	50		25.8			
10	2.5	46	28	18	2	88	ML	26.1			
10	4.5							24.9			
10	5.0							25.5			
10	6.5	33	24	9	2	89	ML	25.0			
10	8.5							25.3			
10	13.5	47	28	19	2	96	ML	26.2			
10	18.5							39.9	39.6		
10	23.5	88	36	52	2	98	CH	37.9	41.7		
11	0.5							30.5			
11	2.5	NP	NP	NP	9.5	77	ML	22.7			
12	0.5							20.6			
12	2.5							23.9			
12	4.5	43	26	17	2	96	CL	23.4			
12	6.5							28.1			
12	8.5	64	30	34	2	99	CH	34.3			
12	13.5							39.2			
12	18.5	72	36	36	0.425	96	MH	29.9			
12	23.5							41.0			
13	2.5	41	23	18	0.425	94	CL	27.1			
13	4.5	41	20	21				26.6			
13	6.5	79	34	45	2	99	CH	40.5			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
13	8.5	66	32	34	2	99	CH	39.9			
13	13.5							40.3			
14	0.5							26.5			
14	2.5							25.6			
14	4.5	59	35	24	2	97	MH	38.5			
14	6.5							40.2	85.1		
14	8.5	66	32	34	0.425	99	CH	36.8	86.3		
14	13.5							38.7			
14	15.0							42.1			
14	18.5	74	35	39	2	96	MH	44.0			
15	0.5							20.8			
15	2.5	35	25	10	2	85	ML	21.7			
15	4.5							15.8			
15	6.5	29	22	7	2	78	CL-ML	16.1			
15	8.5							13.6			
15	13.5	29	22	7	4.75	54	CL-ML	15.0			
16	1.0							25.8			
16	2.5							27.0			
16	4.5	44	27	17	2	77	ML	22.0			
16	6.5							41.0	80.5		
16	8.5	78	35	43	2	96	CH	42.4	77.9		
16	9.0							39.1			
16	13.5							48.3			
16	18.5	80	33	47	4.75	98	CH	40.9			
16	23.5	57	28	29	2	95	CH	59.3			
17	0.5	52	28	24	2	97	CH	28.5			
17	1.0							28.5			
17	2.5	41	26	15	2	85	ML	33.5			
17	4.5							29.2	94.4		
17	6.5	63	31	32	4.75	97	CH	29.2			
17	8.5	70	33	37	2	99	CH	28.6			
17	13.5							32.0			
17	18.5	74	34	40	0.425	98	CH	41.0	82.9		
18	0.5							41.7			
18	2.5							40.6			
18	4.5	69	33	36	4.75	96	CH	32.5	87.2		
18	6.5							35.7			
18	8.5	69	32	37	0.425	99	CH	41.0	79.6		
18	13.5							42.1			
18	18.5	62	28	34	4.75	97	CH	38.2			
19	2.5	46	23	23	2	93	CL	24.7			
19	4.5							25.1			
19	6.5	41	25	16	2	94	CL	26.6	108.6		

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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Fax: 270-443-1904

SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
19	8.5	71	33	38	2	98	CH	28.6			
20	0.5							28.2			
20	2.5	49	22	27	9.5	63	CL	23.3			
20	4.5							27.0			
20	6.5	47	23	24	9.5	66	CL	34.5			
20	8.5							21.7			
20	9.0							30.9			
20	13.5	40	20	20	2	89	CL	24.3			
20	18.5	61	31	30	2	95	CH	27.8			
21	0.5							28.0			
21	2.5							30.6	92.3		
21	4.5	60	42	18	4.75	96	MH	33.4			
21	6.5							30.8	91.1		
21	8.5	62	31	31	0.425	96	CH	32.5	88.4		
21	13.5							41.3			
22	2.5	40	20	20	25	70	CL	23.1			
22	3.0							25.9			
22	4.5	41	19	22	9.5	84	CL	27.2			
22	6.5	50	25	25	9.5	91	CH	30.8			
23	0.5				9.5	88		26.7			
23	2.5							27.0			
23	4.5	44	22	22	4.75	94	CL	24.6	100.6		
23	6.5							26.1	97.3		
23	8.5	41	21	20	9.5	84	CL	32.9			
24	0.5	61	22	39	2	98	CH	32.0			
24	2.5	43	22	21	2	91	CL	26.2			
24	6.0	57	32	25				28.9			
24	6.5	77	33	44	2	94	CH	39.1			
24	8.5							39.0			
24	10.0							26.3	91.4		
25	0.5							36.8			
25	2.5	59	29	30	4.75	92	CH	32.4			
25	4.5	43	20	23	9.5	87	CL	32.9			
26	2.5							21.8			
26	4.5	69	36	33	2	97	MH	31.5			
26	6.5							32.2			
26	8.5	75	42	33	0.425	99	MH	36.3			
26	10.0	68	41	27	2	98	MH	36.0	95.6		
26	13.5	73	35	38	2	96	MH	35.4			
26	18.5							29.2			
26	23.5	83	33	50	4.75	97	CH	35.1			
26	28.5							36.0			
27	0.5				9.5	93		20.1			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
27	2.5							21.6			
27	4.5	31	23	8	2	82	ML	15.4			
27	6.5							14.2			
27	8.5	NP	NP	NP	2	77	ML	21.8			
27	13.5							19.8			
27	18.5							19.0			
27	23.5							25.6			
27	28.5	NP	NP	NP	4.75	82	ML	34.9			
27	33.5							10.9			
28	0.5	50	24	26	9.5	46	SC	18.4			
28	2.5							32.1			
28	4.5	40	20	20	9.5	73	CL	19.7			
28	6.5							32.5			
28	8.5	30	21	9				13.2			
29	0.5	57	33	24	4.75	79	MH	34.1			
29	2.5							39.3			
29	4.5	48	27	21	4.75	64	CL	36.2			
29	6.5							33.3			
29	7.5	45	26	19				25.7			
29	8.5	NP	NP	NP	9.5	26	SM	28.3			
29	13.5							10.8			
29	18.5				9.5	28		9.0			
30	0.5	37	20	17	9.5	37	SC	15.3			
30	2.5							13.6			
30	4.5	41	25	16	9.5	61	CL	22.9			
30	6.0							24.8			
30	8.5							27.9			
30	13.5							8.6			
31	2.5							41.2			
31	4.5	71	33	38	4.75	78	CH	41.3			
31	6.5							36.3			
31	8.5	55	26	29	4.75	65	CH	31.2			
31	13.5	80	40	40	2	92	MH	43.3			
31	18.5							20.3			
32	0.5	36	21	15				14.8			
32	2.5							12.9			
32	4.5	32	20	12	4.75	42	SC	12.3			
32	6.5							20.0			
32	8.5							15.7			
32	10.5	43	23	20				20.8			
32	13.5	44	25	19				22.3			
32	18.5							6.5			
32	23.5	NP	NP	NP	9.5	8	SP-SM	10.8			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
34	2.5							10.0			
34	4.5				9.5	7		5.6			
35	1.0	36	20	16	9.5	70	CL	26.9			
35	3.5	38	20	18				24.7			
35	4.5							24.4			
35	6.5							25.2			
37	2.5							33.5			
37	4.5	52	29	23	2	99	MH	36.1			
37	6.5							40.9			
37	8.5							37.7			
37	13.5	52	27	25	4.75	93	CH	44.7			
37	18.5							35.6			
37	23.5	51	28	23	9.5	81	CH	48.4			
37	28.5							39.9			
38	0.5	46	21	25	9.5	88	CL	25.9			
38	2.5							23.0			
38	4.5							30.2			
38	6.5	53	28	25	4.75	92	CH	34.4			
38	8.5							37.7			
38	13.5	47	22	25	0.425	89	CL	36.0			
38	18.5	40	19	21	4.75	93	CL	48.3			
38	23.5							42.7			
38	28.5	51	26	25	4.75	92	CH	55.3			
38	38.5							34.4			
39	0.5	52	24	28	4.75	90	CH	24.6			
39	2.5							32.3			
39	4.5	59	30	29	4.75	97	CH	30.6			
39	6.5							45.0			
39	8.5							38.2			
39	10.0	62	26	36	9.5	87	CH	31.7			
39	13.5	57	32	25	4.75	96	MH	50.1			
39	18.5							37.1			
39	23.5	52	23	29	2	73		31.6			
39	28.5	57	24	33	0.425	99	CH	41.4			
39	33.5							50.8			
39	38.5	30	14	16	4.75	72	CL	34.2			
39	43.5							41.2			
39	48.5	45	22	23	9.5	90	CL	37.4			
39	53.5	40	23	17	4.75	93	CL	29.2			
40	0.5	38	18	20	9.5	82	CL	22.3			
40	2.5							28.8			
40	4.5	56	27	29	9.5	86	CH	29.1			
40	6.5							34.4			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
40	8.5							33.5			
40	13.5	59	23	36	9.5	69	CH	27.3			
40	18.5							30.9			
41	0.5	40	19	21	9.5	89	CL	17.4			
41	2.5							20.3			
41	4.5	57	33	24	4.75	93	MH	25.5			
41	6.5							28.2			
41	8.5							32.0			
41	13.5	57	32	25	9.5	82	MH	37.3			
41	18.0							34.8			
41	18.5	61	28	33	4.75	91	CH	42.6			
41	23.5							35.4			
41	28.5	53	24	29	9.5	96	CH	43.1			
41	33.5							41.7			
41	38.5	49	21	28	4.75	85	CL	36.9			
42	2.5							12.6			
42	4.5							26.1			
42	6.5	57	33	24	4.75	96	MH	26.4			
42	8.5	57	28	29	4.75	92	CH	34.3			
42	9.5							31.0			
42	13.5							37.8			
42	18.5	63	30	33	4.75	48	SC	23.9			
42	23.5							47.9			
42	28.5	70	29	41	9.5	83	CH	36.2			
42	30.5	60	24	36	2	99	CH	40.6			
43	0.5	46	22	24	4.75	87	CL	22.8			
43	2.5							23.7			
43	4.5	54	32	22	9.5	89	MH				
43	6.5							24.8			
43	8.5							28.5			
43	13.5	69	34	35	4.75	98	MH	32.1			
43	18.5							4.0			
43	23.5	70	32	38				32.8			
43	28.5							43.9			
43	33.5	80	32	48	4.75	97	CH	41.1			
43	38.5							49.8			
43	43.5							27.0			
43	48.5	60	27	33	9.5	87	CH	33.2			
44	0.5	33	19	14	9.5	63	CL	17.5			
44	2.5							15.2			
44	4.5	64	29	35	9.5	72	CH	22.6			
44	6.5							20.2			
44	8.5							23.1			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
44	13.5	51	23	28	9.5	61	CH	21.3			
44	18.5							29.3			
44	23.5	73	28	45	4.75	97	CH	29.9			
44	28.5							33.7			
44	33.5	47	24	23	9.5	88	CL	32.1			
44	38.5							29.6			
45	28.5	67	30	37	25	91	CH	35.3			
46	0.5	43	24	19	4.75	92	CL	17.5			
46	2.5							22.6			
46	4.5	57	29	28	2	97	CH	26.6			
46	6.5							30.4			
46	8.5	64	31	33	9.5	93	CH	30.0			
46	13.5	70	44	26	4.75	79	MH	21.9			
46	18.5							34.8			
46	23.5	63	34	29	9.5	84	MH	35.0			
46	28.0	65	31	34	9.5	80	CH	41.0			
46	28.5							36.0			
46	33.5	62	29	33	25.4	83	CH	34.3			
46	38.5	68	29	39	4.75	93	CH	34.2			
47	2.5	37	19	18	9.5	70	CL	17.4			
47	4.5							22.7			
47	6.5	43	23	20	9.5	72	CL	19.5			
47	8.5	55	35	20	9.5	92	MH	24.4			
47	10.5	56	25	31	9.5	79	CH	26.5			
47	13.5							25.6			
47	18.5	57	31	26	9.5	81	MH	32.5			
48	0.5	57	28	29	9.5	91	CH	27.7			
48	2.5	57	30	27	4.75	90	MH	23.8			
48	4.5							35.9			
48	6.5	65	35	30	9.5	87	MH	31.7			
48	8.5	58	35	23	4.75	96	MH	35.4			
48	13.5	66	31	35	2	97	CH	32.6			
48	18.5				2	96		39.6			
48	23.5	62	35	27	25	92	MH	42.2			
48	28.5	50	26	24	2	96	CH	38.1			
48	33.5							40.2			
48	38.5	54	23	31	2	99	CH	28.4			
49	0.5	48	21	27	4.75	86	CL	23.8			
49	2.5							23.0			
49	4.5	65	29	36	4.75	88	CH	29.0			
49	6.5							31.3			
49	8.5							32.2			
49	13.5							35.6			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
49	18.5	72	28	44	9.5	61	CH	32.4			
49	23.5							26.7			
49	28.5	64	41	23	9.5	73	MH	34.4			
50	1.0	58	31	27	9.5	86	MH	28.4			
50	2.5							29.9			
50	4.5	73	32	41	9.5	86	CH	30.2			
50	6.5							29.4			
50	8.5	67	28	39	25.4	86	CH	31.7			
50	13.5	71	23	48	2	98	CH	32.5	86.2		
50	18.5							34.5			
50	23.5							42.2			
50	27.5	71	24	47	9.5	95	CH	42.3			
50	33.5	71	25	46	4.75	96	CH	42.5			
50	38.5							39.2			
51	1.0	45	27	18	9.5	69		20.4			
51	2.5							21.4			
51	4.5	51	31	20	4.75	87	MH	23.1			
51	6.5							22.7			
51	8.5	62	33	29	9.5	79	MH	27.3			
51	13.5							26.0			
51	15.0	60	31	29	9.5	84	MH	26.8			
51	18.5	71	37	34	9.5	78	MH	4.0			
51	23.5							27.9			
51	28.5	77	29	48	2	89	CH	35.8			
52	2.5	30	18	12	4.75	52	CL	22.5			
52	4.5							31.4			
52	6.5	60	27	33	9.5	68	CH	24.9			
52	8.5							31.2			
53	2.5							18.1			
53	4.5							24.6			
53	6.5				9.5	70		20.2			
53	8.5							24.6			
53	13.5	50	27	23	4.75	77	CH	26.4			
54	2.5	25	14	11	4.75	64	CL	20.9			
54	4.5							24.1			
54	6.5	42	18	24	2	81	CL	26.8			
54	8.5	57	31	26	9.5	95	MH	33.2	43.1		
54	13.5	83	27	56				30.0			
54	18.5							30.3			
55	2.5	38	18	20	4.75	69	CL	21.0			
55	4.5							23.5			
55	6.5	46	26	20	9.5	54	CL	23.8			
55	8.5							33.5			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
56	2.5				9.5	77		23.5			
56	4.5							32.3			
56	6.5	47	18	29	4.75	88	CL	31.2			
56	8.5							31.9			
56	13.5	53	28	25	25.4	71	CH	30.1			
56	18.5							30.8			
56	23.5	52	31	21	2	95	MH	47.1			
57	0.5	43	11	32	9.5	73	CL	25.3			
57	2.5	67	38	29	2	91	MH	31.9			
57	4.5							29.5			
57	6.5							35.1			
57	8.5							38.4			
57	11.5							29.4			
57	13.5	78	38	40	4.75	99	MH	42.0			
57	15.0	69	43	26	9.5	76	MH	41.6			
57	18.5	64	31	33	9.5	93	CH	46.0			
57	23.5	54	36	18	2	92	MH	57.2			
58	0.5	40	28	12	4.75	62	ML	24.7			
58	2.5	47	33	14	9.5	81	ML	25.2			
58	4.5							25.6			
58	6.5							29.1			
58	8.5							26.2			
58	13.5	47	34	13	2	76	ML	28.5			
58	18.5							28.1			
58	23.5	48	24	24	4.75	71	CL	24.7			
58	28.5	48	30	18	4.75	71	ML	26.4			
59	1.0	46	25	21	2	75	CL	24.1			
59	2.5	45	26	19	4.75	70	CL	23.3			
59	4.5							24.6			
59	6.5	58	33	25	2	78	MH	29.1			
59	8.5							30.9			
59	13.5	56	31	25	4.75	85	MH	32.6			
59	18.5							31.8			
59	23.5	47	25	22	4.75	74	CL	26.4			
59	28.5							25.3			
60	0.5	62	36	26	4.75	95	MH	23.2			
60	2.5							34.3			
60	4.5	69	41	28	2	98	MH	35.5			
60	6.5							41.2			
60	8.5							42.9			
60	13.5				9.5	84		40.8			
60	17.5	62	34	28	4.75	94	MH	38.4			
60	18.5							46.0			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
60	28.5	69	26	43	9.5	95	CH	41.4			
60	33.5							64.1			
60	38.5	50	24	26	9.5	90	CH	37.0			
60	43.5	45	21	24	9.5	85	CL	32.1			
60	48.5							33.5			
61	1.0	33	22	11	4.75	79	CL	21.9			
61	2.5	33	22	11	2	73	CL	19.7			
61	4.5	33	22	11	0.075	72	CL	19.4			
61	6.5							23.1			
61	8.5							38.2			
61	13.5							41.1			
61	18.5	67	37	30	2	98	MH	55.6			
61	23.5							44.6			
61	25.0	53	25	28	4.75	89	CH	53.8			
61	28.5	49	29	20	2	86	ML	41.0			
61	38.5	38	21	17	9.5	71	CL	39.7			
61	43.5	53	35	18	4.75	93	MH	45.4			
61	48.5	46	28	18	9.5	86	ML	40.6			
62	1.0	60	37	23	4.75	94	MH	27.6			
62	2.5							34.4			
62	4.5							36.8			
62	6.5							40.1			
62	8.5							47.2			
62	13.5							46.8			
62	18.5	60	42	18	2	94	MH	38.3			
62	23.5							49.7			
62	28.5	71	44	27				40.6			
62	33.5							38.6			
62	38.5							57.2			
63	2.5							25.2			
63	4.5							31.3			
63	6.5							31.8			
63	8.5							39.2			
63	13.5	57	29	28	9.5	90	CH	40.2			
63	18.5	55	27	28	25.4	82	CH	36.9			
64	0.5	40	18	22	9.5	71	CL	20.9			
64	2.5							29.4			
64	4.5	63	39	24	2	91	MH	28.1			
64	6.5							27.1			
64	8.5							34.5			
64	13.5	56	29	27	2	90	CH	41.9			
64	18.5	56	25	31	9.5	94	CH	31.2			
65	2.5							17.8			

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Bacon Farmer Workman Engineering and Testing Inc.
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Paducah, KY 42003
Telephone: 270-443-1995
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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
65	4.5	41	25	16	2	80	CL	22.1			
65	6.5							22.6			
65	8.5							21.5			
65	13.5							22.1			
65	18.5	50	34	16	4.75	72	MH	29.6			
65	23.5							39.1			
65	28.5	68	30	38	9.5	92	CH	35.8			
66	1.0	55	32	23	4.75	86	MH	30.5			
66	2.5	68	30	38	9.5	63	CH	27.8			
66	4.5				2	98		32.8			
66	6.5							31.9			
66	8.5							31.4			
66	13.5	73	34	39	9.5	92	CH	35.4			
66	18.5							35.8			
66	23.5	69	34	35	50	74	MH	34.5			
66	28.5							35.0			
67	2.5							20.0			
67	4.5	50	21	29	2	93	CH	22.5			
67	6.5							24.4			
67	8.5							40.1			
67	13.5	66	27	39	4.75	83	CH	35.2			
67	18.5	67	38	29	4.75	96	MH	41.9			
67	23.5							35.0			
67	28.5	75	34	41	9.5	94	CH	40.7			
67	33.5							42.1			
67	38.5	86	34	52	19	91	CH	44.2			
68	2.5							31.9			
68	4.5	67	33	34	4.75	93	MH	32.8			
68	6.5							32.9			
68	8.5							34.6			
68	13.5	62	30	32	25	80	CH	29.7			
68	18.5							30.8			
68	23.5	65	28	37	4.75	92	CH	33.6			
68	28.5	67	34	33	25	65	MH	31.4			
70	1.0	41	23	18	4.75	83	CL	22.0			
70	2.5							21.0			
70	4.5	51	33	18	2	88	MH	27.2			
70	6.5							31.1			
70	8.5							32.9			
70	13.5				4.75	99		36.9			
70	18.5							45.0			
70	23.5							48.3			
71	2.5							26.1			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
71	4.5	33	15	18	4.75	68	CL	30.0			
71	6.5							34.8			
71	8.5							34.2			
71	13.5	58	30	28	4.75	94	CH	41.0			
71	18.5							42.3			
71	23.5							50.7			
71	28.5	67	38	29	2	96	MH	49.7			
71	33.5							47.9			
72	2.5							21.9			
72	4.5	42	27	15	25.4	77	ML	19.9			
72	6.5							22.5			
72	8.5							23.1			
73	2.5							26.2			
73	4.5	33	21	12	9.5	90	CL	28.6			
73	6.5							23.7			
73	8.5	31	19	12	2	90	CL	38.3	104.2		
73	13.5							42.0			
73	18.5	68	44	24	9.5	98	MH	40.8			
74	1.0	59	29	30	2	93	CH	34.1			
74	2.5							23.1			
74	4.5							32.6			
74	6.5							34.4			
74	13.5							29.3			
74	18.5							43.5			
74	23.5							41.6			
74	28.5							43.4			
74	33.5	NP	NP	NP	4.75	99	ML	60.2			
75	1.0	35	19	16	4.75	79	CL	21.6			
75	2.5	39	19	20	4.75	74	CL	19.1			
75	4.5							21.9			
75	6.5							34.7			
75	8.5							37.8			
75	13.5	68	39	29	2	94	MH	41.8			
75	15.0	61	32	29	0.425	98	MH	42.6			
75	18.5				9.5	90		38.6			
75	23.5	65	31	34	4.75	96	CH	43.5			
75	28.5							48.1			
75	33.5	52	24	28	2	97	CH	47.6			
75	38.5				4.75	98		48.3			
75	43.5	50	28	22	4.75	99	CH	47.7			
75	48.5							46.0			
76	0.5	44	19	25	4.75	78	CL	23.1			
76	2.5							21.9			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
76	4.5							23.9			
76	6.5	39	21	18	4.75	62	CL	22.8			
76	8.5							32.8			
76	12.0	61	22	39	4.75	86	CH	25.9			
76	13.5							30.9			
76	18.5	55	24	31	2	95	CH	31.7			
77	1.0	51	25	26	2	91	CH	25.1			
77	2.5							24.3			
77	4.5	43	26	17	4.75	92	CL	17.1			
77	6.5							23.5			
77	8.5							23.6			
77	13.5	38	27	11	2	69	ML	38.5			
77	15.0	45	22	23	2	86	CL	19.5			
77	18.5	38	26	12	4.75	99	ML	20.9			
77	23.5				9.5	20		5.3			
82	0.5	31	18	13	4.75	84	CL	19.7			
82	1.5	65	34	31	4.75	94	MH	40.8			
82	2.5							23.2			
82	4.5	52	30	22				34.5			
82	6.5							32.7			
82	8.5	78	32	46	2	98	CH	35.9			
82	13.5	65	31	34	4.75	95	CH	39.0			
82	23.5							45.8			
82	28.5	49	25	24	4.75	92	CL	34.5			
83	0.5	29	16	13	4.75	68	CL	17.1			
83	2.5							21.9			
83	4.5	52	30	22	4.75	77	MH	24.9			
83	6.5							25.9			
83	8.5							35.5			
84	0.5	NP	NP	NP	2	83	ML	27.1			
84	2.5							27.0			
84	4.5	46	34	12	4.75	97	ML	27.4			
84	6.5							30.9			
84	8.5							30.2			
84	13.5	53	42	11	4.75	81	MH	32.9			
84	18.5							33.7			
84	23.5	63	37	26	4.75	83	MH	38.2			
84	28.5	60	28	32	2	79	CH	37.3			
85	0.5	37	22	15	2	72	CL	22.2			
85	2.5							21.7			
85	4.5	33	22	11	2	68	CL	20.3			
85	6.5							21.1			
85	8.5							21.6			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
85	12.0	58	35	23	2	92	MH	35.6			
85	13.5				0.425	97		41.2			
85	18.5							50.1			
85	23.5	71	40	31	4.75	55	MH	45.2			
85	28.5	59	28	31	9.5	92	CH	43.1			
86	1.0	35	21	14	2	60	CL	31.6			
86	2.5							22.3			
86	4.5	NP	NP	NP	4.75	52	ML	19.7			
86	6.5							20.2			
86	8.5							19.9			
86	13.5							38.5			
86	15.0	74	36	38	2	89	MH	39.2			
86	17.5	69	38	31	2	97	MH	44.9			
86	23.5							40.6			
86	28.5	64	30	34	9.5	81	CH	35.4			
86	33.5	60	27	33	4.75	80	CH	40.3			
86	38.5	67	34	33	2	80	MH	42.6			
86	43.5				2	86		37.1			
86	48.5	87	29	58	9.5	88	CH	37.0			
87	1.0	24	13	11	4.75	48	SC	14.9			
87	2.5	80	33	47	4.75	95	CH	24.0			
87	4.5	NP	NP	NP	2	45	SM	17.4			
87	6.5							18.2			
87	8.5	NP	NP	NP	0.425	33	SM	21.8			
87	8.6							14.4			
87	13.5				0.425	29		16.6			
87	18.5							20.5			
87	23.5	95	47	48	4.75	98	MH	51.3			
88	1.0	37	18	19	2	64	CL	19.5			
88	2.5							19.2			
88	4.5							17.1			
88	6.5	NP	NP	NP	2	39	SM	16.0			
88	7.2							29.4			
88	8.7							39.1			
88	13.5							40.9			
88	18.5				2	96		50.6			
89	1.0							22.2			
89	2.5							16.8			
89	4.5	42	29	13	4.75	69	ML	22.6			
89	6.5							30.8			
89	8.5							36.7			
89	13.5	68	26	42	4.75	84	CH	29.3			
89	14.0	58	28	30	4.75	57	CH	27.2			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
89	18.5							33.8			
89	23.5	NP	NP	NP	2	26	SM	17.1			
90	2.5							21.6			
90	4.5	NP	NP	NP	2	74	ML	25.0			
90	6.5							29.0			
90	8.5							29.7			
90	13.5	NP	NP	NP	2	76	ML	28.7			
91	2.5							27.6			
91	4.5	54	31	23	0.425	86	MH	31.4			
91	6.5							34.0			
91	8.5							36.5			
91	13.5	74	44	30	0.425	97	MH	47.2			
91	18.5							44.8			
91	23.5	73	33	40	4.75	98	CH	49.4			
91	28.5	43	20	23	4.75	53	CL	31.9			
92	2.5							35.1			
92	4.5	54	34	20	2	84	MH	32.1			
92	6.5							41.7			
92	8.5							44.6			
92	13.5	NP	NP	NP	2	56	ML	31.3			
92	18.5	60	41	19	2	98	MH	53.6			
93	1.0				2	93		24.7			
93	2.5							29.0			
93	4.5	43	25	18	4.75	88	CL	25.0			
93	6.5							28.2			
93	8.5							40.6			
94	1.0	37	20	17	2	82	CL	21.4			
94	2.5							19.1			
94	4.5	37	18	19	9.5	75	CL	21.3			
94	6.5							22.8			
94	8.5							38.5			
94	13.5	66	33	33	9.5	85	MH	34.2			
94	15.0	60	26	34	4.75	98	CH	28.7			
94	23.5	64	31	33	4.75	96	CH	42.9			
94	28.5	52	29	23				40.8			
95	2.5							25.0			
95	4.5							30.9			
95	6.5	50	37	13	2	83	MH	31.0			
95	8.5							32.1			
96	1.0	50	23	27	9.5	70	CH	23.8			
96	2.5							23.9			
96	4.5				9.5	66		1367.9			
96	6.5							35.0			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation **PROJECT NAME** SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033 **PROJECT LOCATION** Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
96	8.5							37.4			
96	13.5				9.5	64		29.1			
96	18.5							35.8			
97	2.5							28.8			
97	4.5	43	22	21	2	81	CL	24.9			
97	6.5							35.0			
97	8.5	76	32	44	2	94	CH	38.6			
97	13.5	64	35	29	2	99	MH	46.1			
97	18.5							46.9			
97	23.5							44.2			
97	28.5				4.75	95		41.1			
97	33.5							36.6			
97	38.5	40	20	20	0.425	99	CL	38.0			
97	43.5							32.1			
97	48.5	34	17	17	2	89	CL	48.8			
98	2.5							24.6			
98	4.5	31	16	15	4.75	73	CL	19.2			
98	6.5	42	20	22	4.75	89	CL	21.6			
98	8.5							18.3			
98	13.5	55	41	14	0.425	89	MH	38.8			
98	18.5							42.7			
99	1.0	53	31	22	2	88	MH	26.8			
99	2.5							28.2			
99	4.5	62	35	27	2	87	MH	30.0			
99	6.5							32.2			
99	8.5							37.8			
99	13.5	57	38	19	4.75	90	MH	38.4			
99	15.5	59	35	24	4.75	85	MH	41.8			
100	2.5							25.9			
100	4.5	47	22	25	4.75	75	CL	23.4			
100	6.5							24.6			
100	8.5							31.4			
100	13.5	68	36	32	4.75	86	MH	38.8			
100	18.5							47.1			
100	23.5							43.8			
101	2.5							23.5			
101	4.5	43	25	18	2	80	CL	25.0			
101	6.5							24.2			
101	8.5							30.1			
101	13.5	66	38	28	4.75	85	MH	35.4			
101	18.5							34.7			
101	23.5	88	38	50	2	94	CH	50.8			
101	25.5	74	34	40	9.5	93	CH	52.1			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
101	28.5							48.6			
101	33.5							34.1			
101	38.5	49	23	26	9.5	76	CL	49.3			
102	2.5							22.4			
102	4.5	38	20	18	2	76	CL	21.4			
102	6.5							27.9			
102	8.5							34.2			
102	13.5	55	31	24	4.75	83	MH	37.7			
102	18.5							38.7			
102	23.5	58	26	32	9.5	74	CH	34.1			
103	2.0	66	36	30	2	94	MH	27.6			
103	2.5							25.7			
103	4.5	55	38	17	2	86	MH	31.8			
103	6.5							34.8			
103	8.5							34.9			
103	13.5							38.7			
103	18.5	55	28	27	25	89	CH	40.2			
103	23.5	64	30	34	4.75	71	CH	38.0			
103	28.5							43.0			
103	38.5	57	31	26	4.75	84	MH	45.9			
104	1.5	55	25	30	2	91	CH	44.9			
104	2.5							26.5			
104	4.5				4.75	76		25.2			
104	6.5							34.4			
104	8.5							40.2			
104	13.5	74	40	34	4.75	95	MH	41.3			
104	18.5							40.5			
104	28.5	88	35	53	0.425	98	CH	52.3			
104	33.5	79	31	48	2	96	CH	50.3			
104	38.5							28.6			
105	2.0	32	17	15	2	78	CL	22.5			
105	2.5							23.3			
105	4.5	35	19	16	9.5	74	CL	21.3			
105	6.5							17.2			
105	8.0	40	23	17	4.75	86	CL	24.6			
105	8.5							34.5			
105	13.5	64	34	30	9.5	70	MH	30.7			
105	18.5							34.5			
105	23.5	85	36	49	4.75	91	CH	46.7			
105	28.5	88	33	55	4.75	94	CH	49.4			
106	2.5							18.3			
106	4.5							25.6			
106	6.5	56	31	25	2	81	MH	31.2			

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
106	8.5	52	27	25	9.5	72	CH	26.4			
106	13.5							35.6			
106	18.5	47	20	27	2	79	CL	29.6			
106	23.5	59	26	33	4.75	84	CH	41.9			
106	28.5	54	25	29	4.75	90	CH	44.0			
106	33.5							40.5			
106	38.5	39	19	20	4.75	46	SC	25.1			
106	43.5	47	22	25	9.5	85	CL	36.4			
107	2.5							33.4			
107	4.5	58	34	24	2	97	MH	37.6			
107	6.5							36.1			
107	8.5	77	41	36	4.75	95	MH	40.8			
107	13.5	63	31	32	9.5	89	CH	44.3			
107	18.5							46.4			
107	23.5	65	24	41	4.75	97	CH	41.7			
107	28.5	47	21	26	4.75	93	CL	31.4			
107	33.5							33.0			
107	38.5	45	20	25	4.75	93	CL	34.4			
108	2.5							36.4			
108	4.5	80	32	48	4.75	96	CH	38.2			
108	6.5							40.5			
108	13.5	67	28	39	4.75	98	CH	38.8			
108	18.5							31.4			
108	23.5	NP	NP	NP	2	85	ML	42.5			
109	2.5							24.1			
109	4.5	44	31	13				25.3			
109	6.5	67	28	39	4.75	91	CH	30.6			
109	8.5	76	35	41	2	99	CH	40.1			
109	13.5							35.4			
109	18.5	53	23	30	2	95	CH	31.3			
109	23.5	48	23	25	4.75	92	CL	38.6			
109	28.5	48	28	20	25	54	ML	44.9			
109	33.5	NP	NP	NP	9.5	60	ML	22.4			
110	2.5							32.1			
110	4.5	43	34	9	4.75	86	ML	27.9			
110	6.5							26.4			
110	8.5							28.3			
110	9.7							26.1			
110	13.5	NP	NP	NP	4.75	85	ML	21.5			
111	2.5							28.1			
111	4.5	44	33	11	4.75	96	ML	24.8			
111	6.5							27.0			
111	8.5							26.6			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Bacon Farmer Workman Engineering and Testing Inc.
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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
111	13.5	38	27	11	2	96	ML	24.2			
111	18.5	34	28	6	2	83	ML	22.6			
111	23.5	29	22	7	2	85	CL-ML	20.4			
112	2.5							25.6			
112	4.5	51	37	14	2	86	MH	27.5			
112	6.5							27.3			
112	8.5							24.8			
112	13.5	42	28	14	9.5	51	ML	24.8			
112	18.5							36.3			
113	0.5							37.9			
113	2.5							46.3			
113	4.5	61	49	12	2	97	MH	52.5			
113	6.5							50.6			
113	8.5							57.7			
113	13.5							47.4			
113	18.5							39.3			
114	2.5							41.0			
114	4.5	46	32	14	2	93	ML	37.6			
114	6.5							36.3			
114	8.5							38.8			
114	13.5	44	32	12	2	99	ML	39.7			
114	18.5							29.4			
114	23.5	37	26	11	2	93	ML	38.5			
115	1.5	60	39	21	2	95	MH	39.0			
115	2.5							37.0			
115	6.5							42.5			
115	8.5							34.4			
115	13.5	57	44	13	4.75	94	MH	63.5			
115	18.5							46.6			
115	23.5	41	30	11	9.5	58	ML	26.0			
115	28.5							25.6			
116	2.5							29.4			
116	4.5	54	29	25	4.75	94	CH	31.5			
116	6.5							30.2			
116	8.5							43.8			
116	13.5	54	36	18	9.5	95	MH	40.7			
116	18.5							35.5			
116	23.5	40	24	16	9.5	82	CL	29.6			
116	28.5	38	27	11	0.425	98	ML	38.0			
116	33.5	29	26	3	2	96	ML	35.1			
116	38.5							30.5			
116	48.5	38	32	6	4.75	94	ML	40.9			
116	50.0	48	31	17	4.75	98	ML	30.4			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
116	53.5							4.7			
116	58.5	32	23	9	9.5	22	GC	23.2			
117	2.5							35.3			
117	4.5	52	37	15	2	98	MH	35.7			
117	6.5							39.0			
117	8.5							36.6			
117	13.5				4.75	94		25.6			
117	18.5	63	34	29	2	95	MH	31.6			
117	23.5	43	23	20	9.5	85	CL	26.1			
117	28.5	78	43	35				36.7			
117	33.5	39	27	12	2	99	ML	43.3			
117	38.5							32.7			
118	2.5							29.3			
118	4.5	63	39	24	2	98	MH	35.2			
118	6.5							37.3			
118	8.5							46.2			
118	13.5	51	37	14	2	99	MH	57.6			
118	18.5							47.3			
118	23.5				2	86		37.2			
118	28.5							53.5			
118	33.5	53	43	10	2	95	MH	55.9			
118	38.5							57.8			
119	0.0							18.2			
119	1.5							20.7			
119	3.5	36	22	14	9.5	44	SC	18.0			
119	8.0	61	34	27	4.75	95	MH	24.1			
119	13.5	72	33	39	9.5	75	CH	33.8			
119	18.0	60	32	28	25	68	MH	34.3			
119	23.5	64	30	34	9.5	73	CH	38.5			
119	28.5							44.0			
119	33.5	50	25	25	25	68	CH	36.0			
119	38.5							27.6			
119	43.5	56	25	31	9.5	69	CH	32.1			
119	48.5							37.7			
120	0.0	24	15	9	4.75	66	CL	19.5			
120	1.5							45.3			
120	3.5	41	22	19	4.75	82	CL	27.5			
120	8.0	70	37	33	4.75	95	MH	39.4			
120	13.5							41.3			
120	18.0	68	40	28	9.5	90	MH	45.7			
120	23.5	62	31	31	9.5	63	CH	39.6			
120	28.5							38.2			
120	33.5	69	42	27	9.5	72	MH	30.8			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISEWORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation **PROJECT NAME** SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033 **PROJECT LOCATION** Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
120	38.5							33.1			
121	0.0							20.5			
121	1.5							18.0			
121	3.5	47	32	15	4.75	88	ML	28.2			
121	8.0	55	36	19	9.5	84	MH	39.4			
121	13.5	64	43	21	9.5	77	MH	33.8			
121	18.0	81	38	43	2	96	MH	49.3			
121	23.5	64	23	41	9.5	66	CH	39.1			
121	28.5							47.6			
121	33.5	53	22	31	9.5	82	CH	38.4			
121	38.5							34.8			
122	0.0							20.7			
122	1.5							22.0			
122	3.5	54	36	18	4.75	98	MH	33.6			
122	8.0				25	45		32.3			
122	13.5				9.5	73		40.3			
122	18.0				25	34		30.5			
122	23.5				9.5	72		35.3			
122	28.5							31.9			
123	0.0							23.5			
123	1.5	31	18	13	4.75	77	CL	18.6			
123	3.5							19.8			
123	8.5							35.1			
123	13.5	86	38	48	4.75	99	MH	36.8			
123	18.5							40.3			
123	23.5	58	25	33	9.5	51	CH	31.0			
123	28.5							39.5			
123	33.5	48	28	20	4.75	90	ML	37.6			
123	38.5							36.7			
124	0.0							27.6			
124	1.5							35.6			
124	3.5	70	37	33	4.75	91	MH	35.3			
124	8.5							44.2			
124	13.5							37.8			
125	0.0							19.0			
125	1.0							17.5			
125	1.5							18.3			
125	3.5	36	19	17	4.75	78	CL	20.0			
125	8.5							40.1			
126	0.0							22.8			
126	1.5							25.3			
126	4.0							20.1	107.4		
126	8.5				4.75	81		23.7			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
126	13.5							30.3			
127	0.0							26.0			
127	1.5							20.6			
127	3.5							20.7			
127	8.5	45	32	13	9.5	81	ML	30.3			
127	13.5							28.6			
128	1.0	33	18	15	9.5	50	CL	21.6			
128	1.5	33	20	13	9.5	79	CL	29.8			
128	3.5							21.0			
128	4.5	42	25	17	9.5	71	CL	27.3			
129	0.0							24.2			
129	2.5							16.0			
129	4.5							28.2			
129	6.5				9.5	31		35.1			
129	8.5							14.9			
130	0.0							17.8			
130	1.5	29	18	11	4.75	60	CL	24.2			
130	3.5							20.0			
130	4.5				9.5	88		27.8			
130	6.5	NP	NP	NP	25	24	GM	8.2			
131	0.0							38.2			
131	1.5							31.3			
131	3.5	58	37	21	2	89	MH	39.3			
131	8.0							31.9			
131	10.0	58	38	20	9.5	91	MH	35.0			
131	13.5	64	35	29	4.75	97	MH	43.6			
131	18.5							38.9			
131	23.5	47	25	22	2	99	CL	40.8			
131	25.5							36.8			
131	33.5	52	28	24	4.75	96	CH	55.7			
131	40.0	56	24	32	2	98	CH	65.4			
132	0.0							19.1			
132	1.5	47	23	24	25	64	CL	66.6			
132	3.5	60	27	33	2	99	CH	36.3			
132	8.0	67	36	31	9.5	77	MH	14.5			
132	13.5	57	38	19	4.75	97	MH	44.4			
132	14.0	55	34	21	2	87	MH	36.1			
132	18.5							50.1			
132	23.5	60	38	22	9.5	68	MH	43.9			
132	28.0				9.5	95		47.4			
133	0.0							24.0			
133	0.5							31.1			
133	1.5							24.5			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

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SUMMARY OF LABORATORY RESULTS

CLIENT Tennessee Department of Transportation

PROJECT NAME SR 163 (Pellissippi Parkway) Extension

PROJECT NUMBER 20033

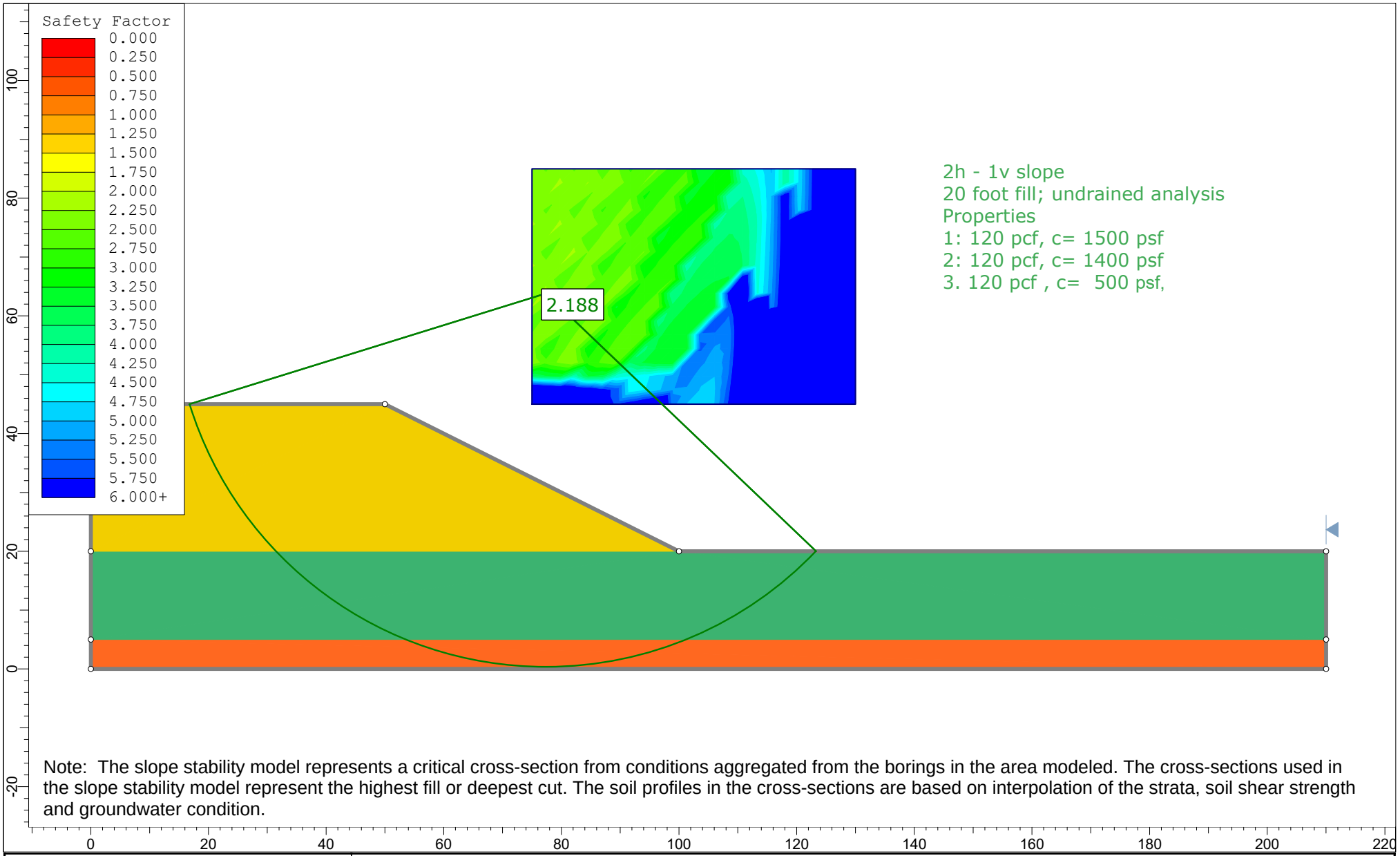
PROJECT LOCATION Maryville, Blount County

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
133	3.5				4.75	91		31.6			
133	4.5							52.5			
133	8.5							36.2			
133	13.5	55	30	25	25	22	GM	20.2			
133	18.5							41.0			
133	23.5	44	23	21	9.5	84	CL	32.7			
133	28.5							37.1			
133	35.0				9.5	26		17.3			
134	0.0							22.4			
134	1.5							20.6			
134	3.5	30	20	10	9.5	40	SC	14.7			
134	8.5							42.8			
134	13.5							54.8			
135	0.0							18.5			
135	1.5							45.3			
135	3.5							36.8			
135	8.5	46	22	24	4.75	84	CL	32.2			
136	0.0							22.2			
136	1.5							27.1			
136	3.5	24	16	8	9.5	41	SC	11.5			
136	8.5							38.2			
136	13.5	51	23	28	4.75	98	CH	41.0			
137	0.0							26.3			
137	1.5							25.1			
137	4.0	35	16	19	0.425	89	CL	24.4	100.3		
137	8.5							27.0			
137	13.5	31	15	16	2	92	CL	30.2			
138	0.0							28.5			
138	1.5							26.2			
138	3.5	28	15	13	4.75	82	CL	26.6			
139	0.0							19.5			
139	1.5							18.1			
139	3.5	41	22	19	4.75	75	CL	21.9			
139	8.5							30.0			
139	13.5	71	40	31	4.75	84	MH	35.5			

LAB SUMMARY - GINT STD US LAB.GDT - 8/13/20 15:01 - C:\USERS\CSMITH\APPDATA\LOCAL\BENTLEY\PROJECTWISE\WORKINGDIR\BFWME-PW.BENTLEY.COM_BFWME-PW-01\CAYENNE.SMITH\DMS75560\20033 - TDOT - BLOUNT CO.GPJ

Appendix D

Slope Stability Analysis Results



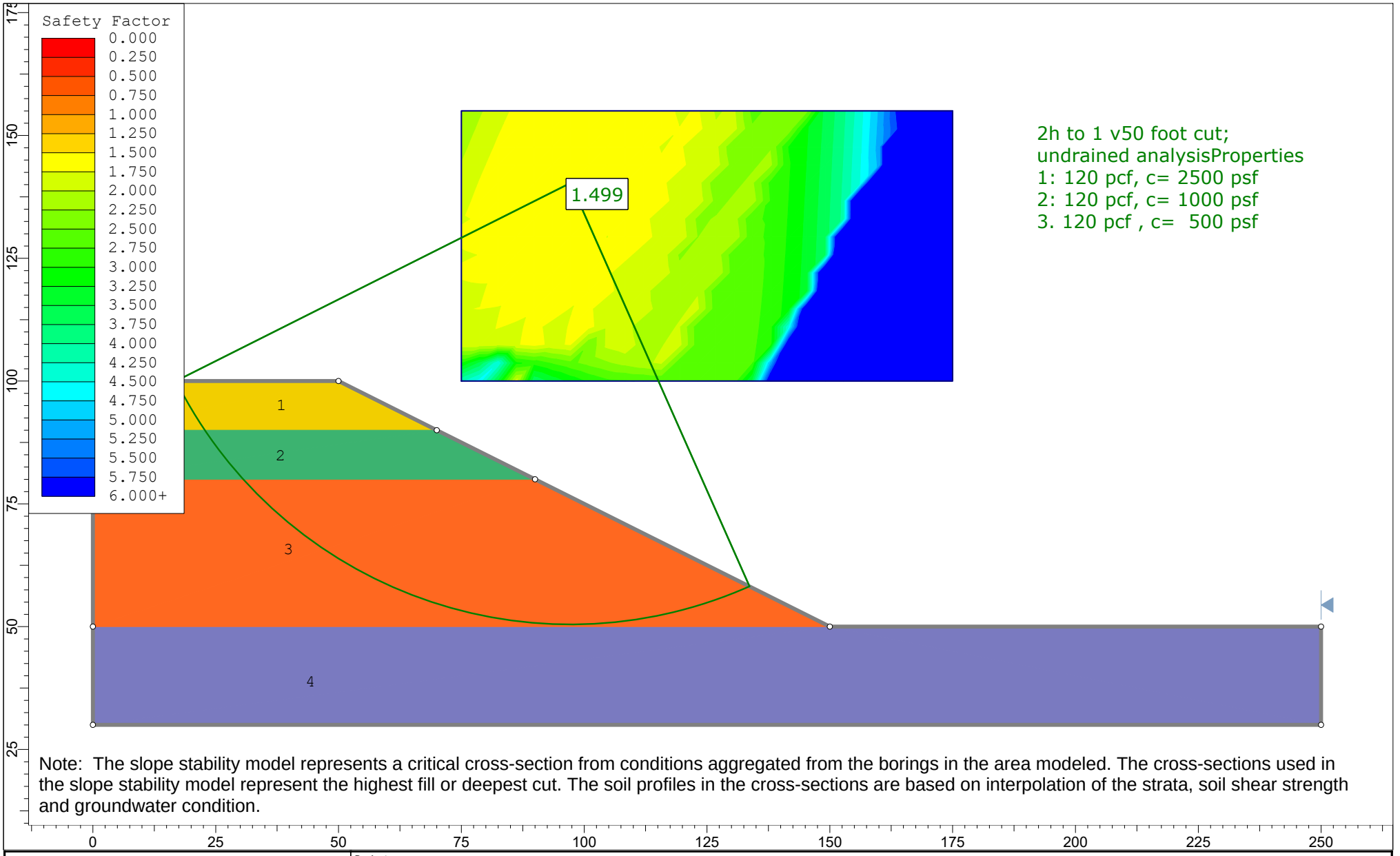
Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience

SLIDEINTERPRET 9.008

Project Pellisippi SR 162 Stations 100+00 to 145+00 and ramps

Date 8/2020

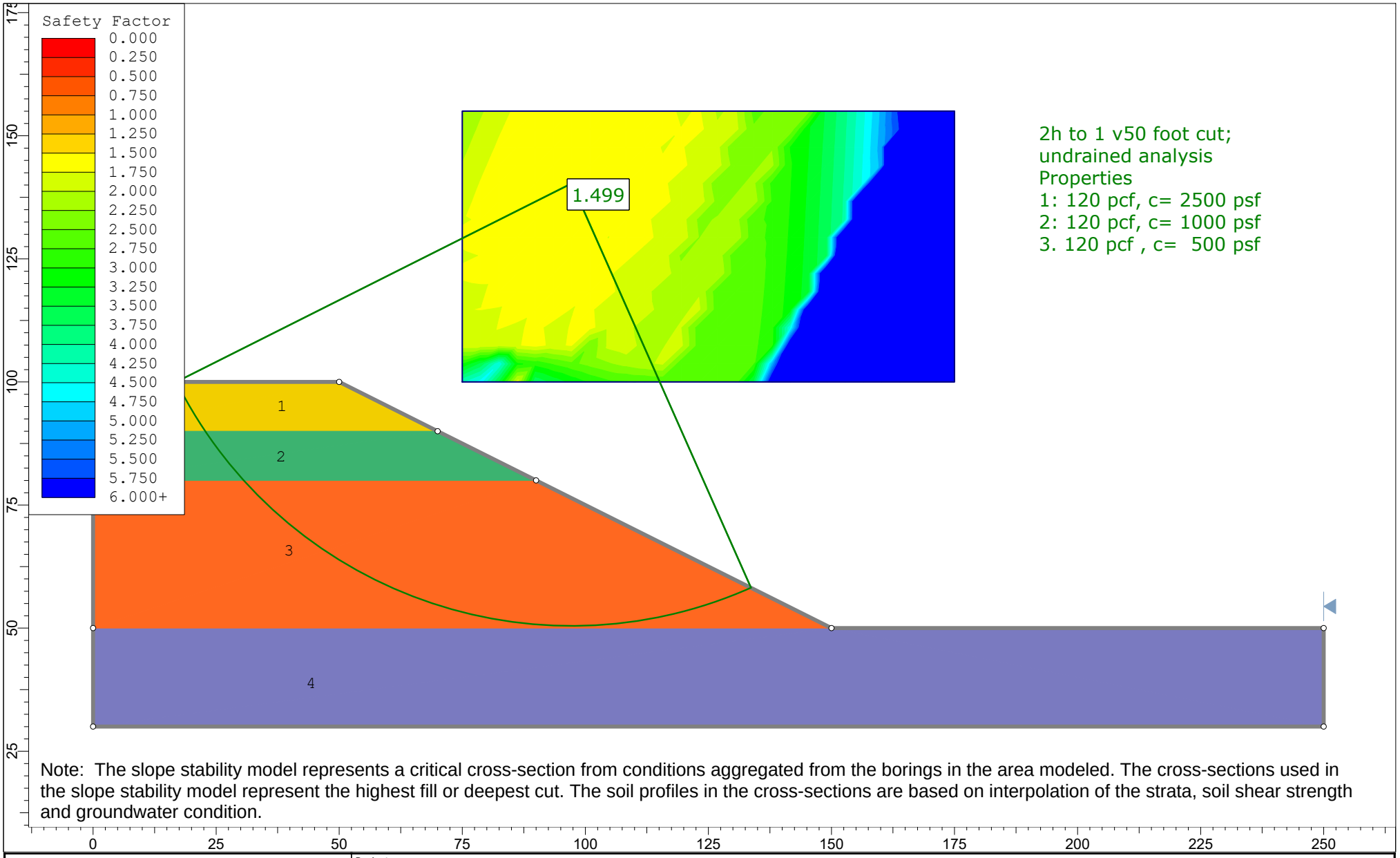


Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience

SLIDEINTERPRET 9.008

Project	Pellisippi SR 162 Stations 178+00 to 193+50 50 foot cut
Group	Scenario
Drawn By	Compan
Date	8/2020



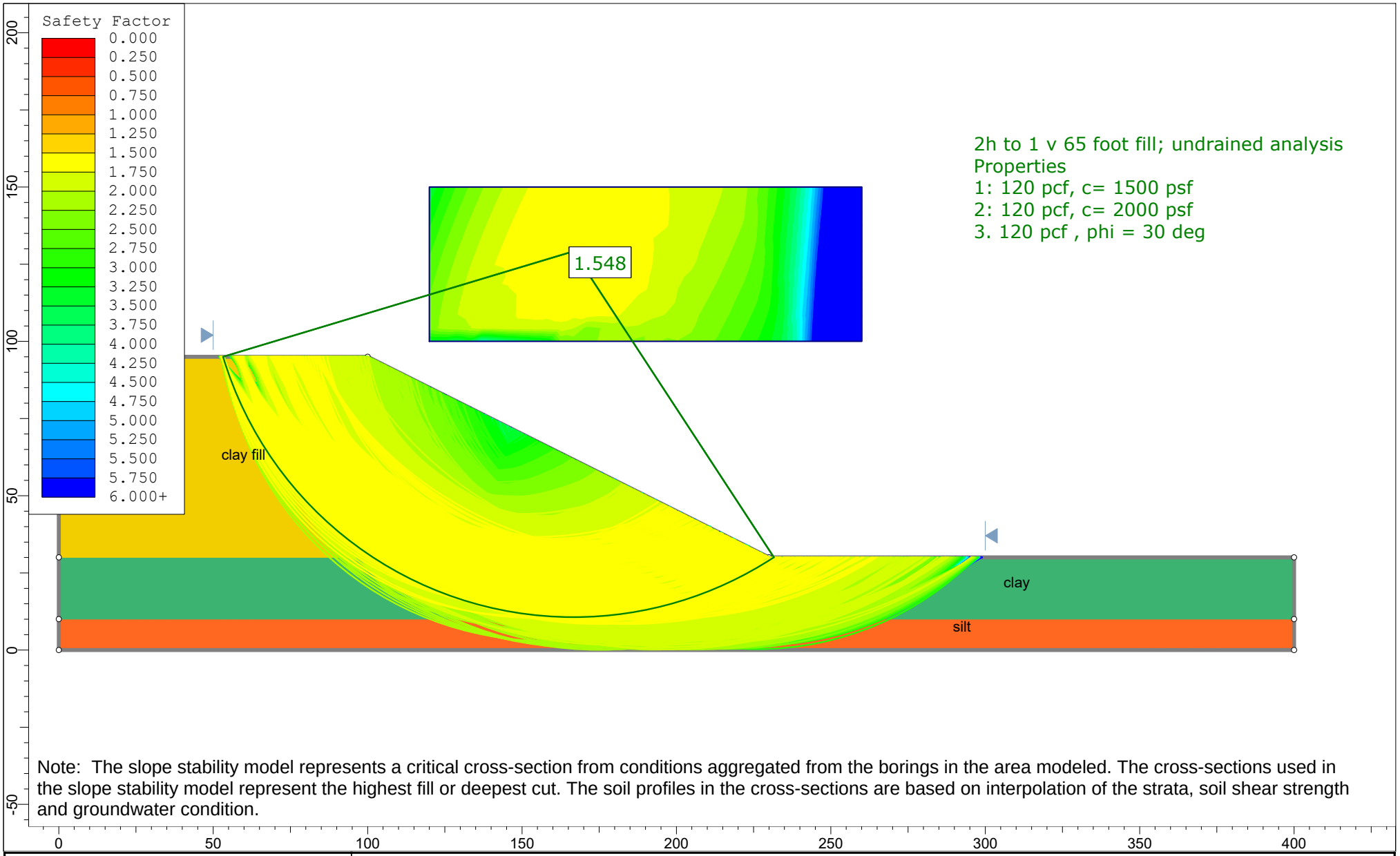
Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience

SLIDEINTERPRET 9.008

Project Pellisippi SR 162 Stations 178+00 to 193+50 50 foot cut

Date 8/2020



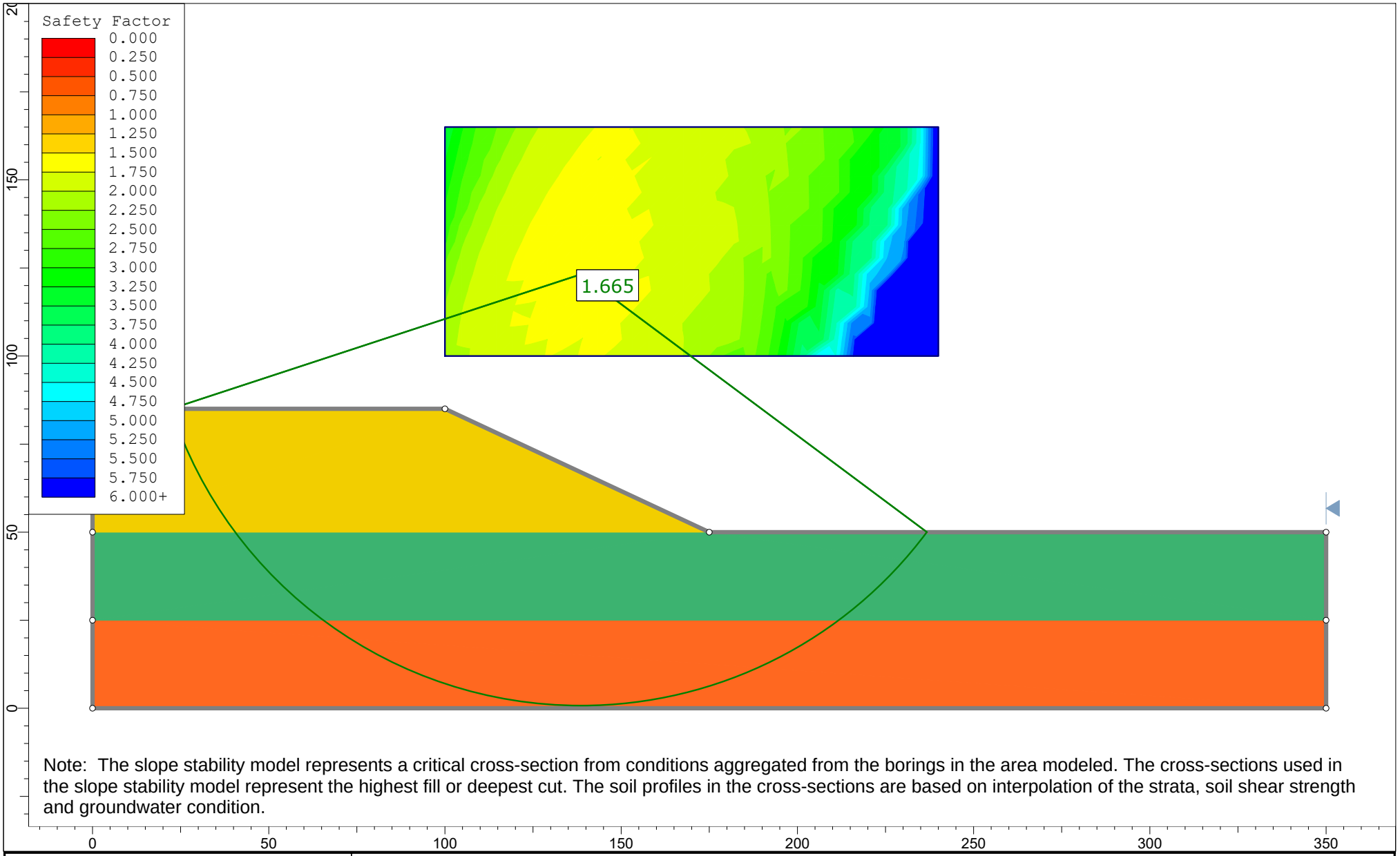
2h to 1 v 65 foot fill; undrained analysis
Properties
1: 120 pcf, c= 1500 psf
2: 120 pcf, c= 2000 psf
3. 120 pcf , phi = 30 deg

Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience

SLIDEINTERPRET 9.008

Project	SR 162 STATIONS 193+50 TO 255+40 Boring B-71
Date	8/20



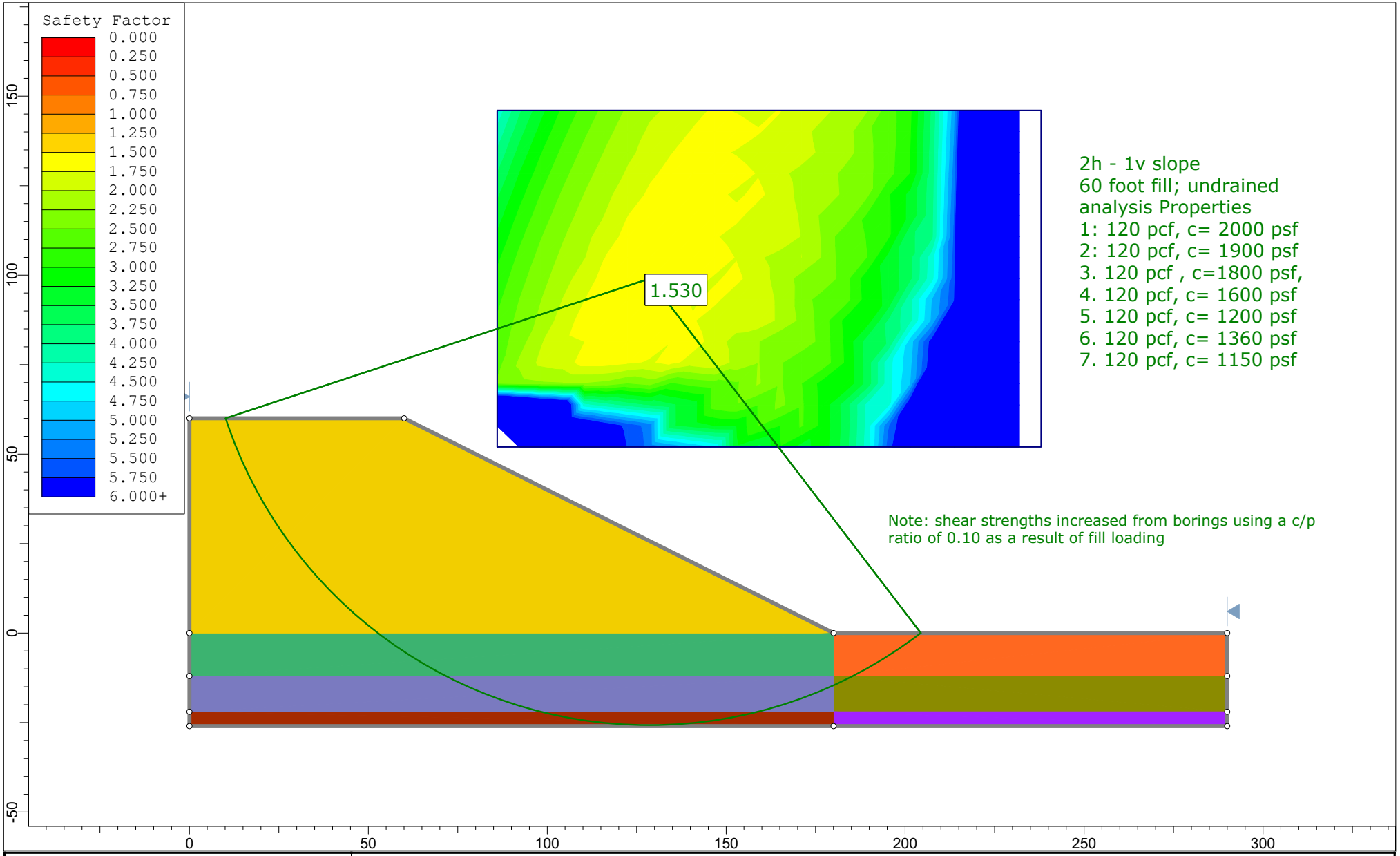
Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience

SLIDEINTERPRET 9.008

Project Pellisippi SR 162 STATIONS 193+50 TO 255+40 boring B 75

Date 8/20

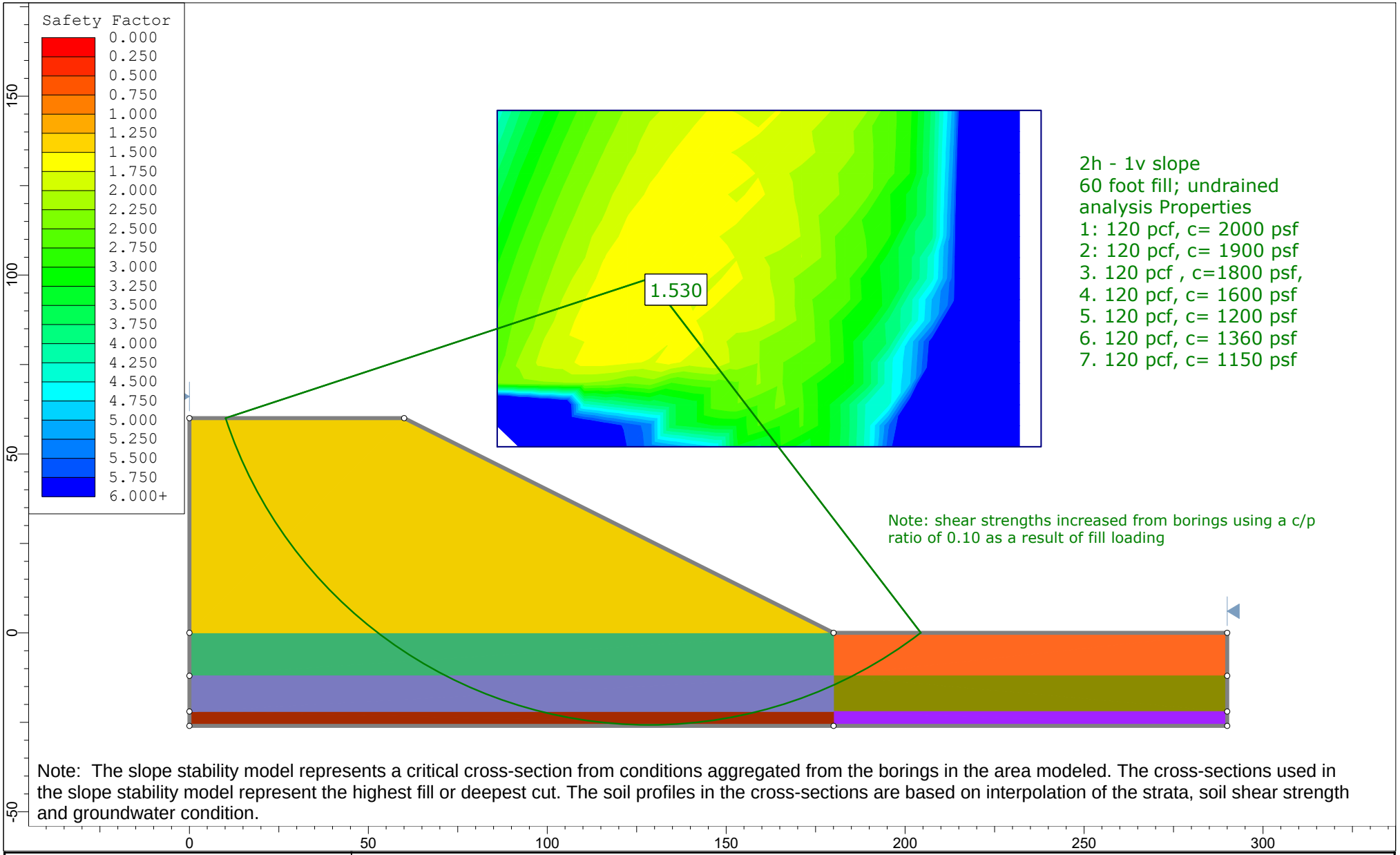


rocscience

SLIDEINTERPRET 9.008

Project

Pellisippi SR 162 STATIONS 255+40 to 295+75



Note: The slope stability model represents a critical cross-section from conditions aggregated from the borings in the area modeled. The cross-sections used in the slope stability model represent the highest fill or deepest cut. The soil profiles in the cross-sections are based on interpolation of the strata, soil shear strength and groundwater condition.

rocscience	Project	SLIDE - An Interactive Slope Stability Program	
	Group	Group 1	Scenario: Master Scenario
	Drawn By		Company
	Date	9/3/2020, 1:32:50 PM	File Name: Pellissippi Boring 110 2h 1 v c p.slmd

SLIDEINTERPRET 9.008

Appendix E

Soils Sheets

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G1

SR - 162 BLOUNT COUNTY

GEOTECHNICAL NOTES

SITE PREPARATION

1. PORTIONS OF PAVEMENTS, UTILITIES AND MISCELLANEOUS IMPROVEMENTS ALONG THE PROJECT ALIGNMENT WILL REQUIRE DEMOLITION AND /OR RELOCATION. ABANDONED UTILITY LINES SHALL BE REMOVED AND REPLACED WITH COMPACTED FILL.

2. IN AREAS LESS THAN 5 FEET BELOW SUBGRADE WHERE SOIL FILL WILL BE PLACED, PROOFROLLING OF THE EXPOSED SURFACE OF THE SUBGRADE SOILS SHALL BE PERFORMED AFTER COMPLETION OF STRIPPING IN AREAS TO RECEIVE FILL AND ONCE GRADE IS ACHIEVED IN CUT AREAS. PROOFROLLING SHALL BE PERFORMED USING A FULLY LOADED DUMP TRUCK OR OTHER HEAVY EQUIPMENT APPROVED BY THE CONSTRUCTION ENGINEER. THE PROOFROLLING OPERATION SHALL TRAFFIC THE CONSTRUCTION AREA WITH PARALLEL PASSES ON THE VEHICLE STARTING AT ONE SIDE OF THE AREA AND CONTINUING TO THE OTHER. EACH PASS SHALL OVERLAP THE PRECEDING PASS TO ENSURE COMPLETE COVERAGE . THE CONSTRUCTION ENGINEER SHALL BE PRESENT TO OBSERVE THE PROOFROLLING OPERATIONS AND TO PROVIDE RECOMMENDATIONS SHOULD UNSTABLE SOILS BE ENCOUNTERED.

3. ELASTIC SILTS AND HIGH PLASTICITY CLAYS WERE ENCOUNTERED ACROSS THE PROJECT AREAS. THESE SOILS HAVE THE POTENTIAL TO IMPEDE CONSTRUCTION DUE TO HIGH PLASTICITY AND HIGH MOISTURE CONTENTS. ROADWAY SECTIONS WITHIN THE DEEPER CUT AREAS WILL LIKELY REQUIRE UNDERCUT AND STABILIZATION WITH GRADED SOLID ROCK (GSR). A MINIMUM OF 3 FEET OF UNDERCUT WILL BE REQUIRED WHEN SOFT, HIGH MOISTURE, HIGH PLASTICITY OR OTHER POOR QUALITY SOILS ARE ENCOUNTERED AT THE FINAL SUBGRADE ELEVATION OR BEARING LAYERS. THIS UNDERCUT MATERIAL SHALL BE REPLACED WITH GRADED SOLID ROCK HAVING A MAXIMUM GRADATION SIZE OF 1 FOOT AND UNDERLAIN AND OVERLAID WITH TYPE IV GEOTEXTILE FABRIC PER T.D.O.T. SPECIFICATIONS IN THE FOLLOWING INTERVALS, AS DEPICTED ON THE SOILS SHEETS, AND AS DIRECTED AND MODIFIED BY THE ENGINEER.

MAINLINE
STATION 177+50+/- TO STATION 194+00+/-
STATION 194+00+/- TO STATION 196+00+/-
STATION 256+00+/- TO STATION 262+00+/-
STATION 264+00+/- TO STATION 270+00+/-
STATION 296+50+/- TO STATION 309+00+/-
STATION 327+25+/- TO STATION 333+00+/-

RAMP 1B
STATION 37+50+/- TO STATION 46+00+/-

RAMP 2B
STATION 40+00+/- TO STATION 44+60+/-
STATION 46+65+/- TO STATION 56+00+/-

GREENWAY ROAD
STATION 11+00+/- TO STATION 16+25+/-
STATION 19+00+/- TO STATION 21+00+/-
STATION 39+58+/- TO STATION 42+00+/-
STATION 58+90+/- TO STATION 62+85+/--
STATION 66+50+/- TO STATION 72+00+/--

RAMP 2A
STATION 34+50+/- TO STATION 40+85+/-
STATION 42+85+/- TO STATION 46+94+/-

4. SOILS NEAR STREAMS AND WET WEATHER CONVEYANCES HAVE THE POTENTIAL TO REQUIRE STABILIZATION DUE TO HIGH MOISTURE CONTENTS. SOIL STABILIZATION IN THESE AREAS MAY USE GRADED SOLID ROCK (GSR). A 3 FOOT BLANKET OF GRADED SOLID ROCK SHALL BE PLACED AT GRADE OR IN THE LOWER PORTIONS OF THE EMBANKMENT IN THE FOLLOWING INTERVALS, IN ACCORDANCE WITH T.D.O.T. SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS LAYER SHALL BE UNDERLAIN AND OVERLAID WITH TYPE IV GEOTEXTILE FABRIC AND WILL BE PLACED TO ALLOW CONSTRUCTION TO CONTINUE ACROSS WET AREAS, TO PROMOTE DRAINAGE OF ANY SEEPAGE, AND TO PROVIDE A WORKING PLATFORM FOR CONSTRUCTON ACTIVITIES.

MAINLINE
STATION 158+00+/- TO STATION 161+00+/-
STATION 164+00+/- TO STATION 167+00+/-
STATION 206+00+/- TO STATION 207+50+/-
STATION 250+00+/- TO STATION 251+50+/-
STATION 290+00+/- TO STATION 292+00+/-
STATION 310+00+/- TO STATION 315+00+/-
STATION 319+50+/- TO STATION 325+00+/-
STATION 336+00+/- TO STATION 340+00+/-

COMPACTED FILL

5. THE LABORATORY TEST DATA INDICATES SOILS ALONG THE PROJECT ALIGNMENT CONSIST PREDOMINATELY OF RESIDUAL SOILS. HIGH PLASTIC CLAYS MUST NOT BE PLACED WITHIN 3 FEET OF THE SUBGRADE UNLESS THEY ARE MODIFIED BY ADDING HYDRATED LIME OR OTHER ADMIXTURE TO REDUCE THE PLASTICITY INDEX TO LESS THAN 10 OR THROUGH SWELL TESTS TO A CONDITION WHERE THERE IS LESS THAN 1% SWELL. SHALE, SANDSTONE AND LIMESTONE USED AS FILL SHALL BE THOROUGHLY BROKEN-DOWN AND REDUCED TO NO LARGER THAN A 3 INCH MINUS TYPE GRADATION.

6. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT GRADING OPERATIONS TO HELP PREVENT EXCESSIVE WETTING OF SUBGRADES. THE SURFACE SHALL BE ROLLED SMOOTH TO ENHANCE DRAINAGE IF PRECIPITATION IS EXPECTED. THE ENGINEER SHALL PROVIDE RECOMMENDATIONS FOR TREATMENT IF THE SOILS BECOME EXCESSIVELY WET, DRY OR FROZEN.

GROUNDWATER

7. THE PROPOSED ROADWAY IMPROVEMENTS WILL CROSS STREAMS AND WET WEATHER CONVEYANCES. THE STREAMS AND WET WEATHER CONVEYANCES WILL BE ROUTED BENEATH THE ROADWAY THROUGH STORMWATER PIPES AND/OR BOX CULVERTS. THE CONTRACTOR SHALL BE PREPARED FOR SHALLOW GROUNDWATER IN THESE AREAS.

8. IN HILLY TERRAIN IT IS COMMON TO ENCOUNTER SPRINGS AND INTERMITTENT SEEPS. IF GROUNDWATER AND SEEPS ARE ENCOUNTERED IN CUT AREAS DURING CONSTRUCTION, THE PROJECT ENGINEER SHALL BE CONTACTED TO OBSERVE THE AREA AND PROVIDE RECOMMENDATIONS FOR CORRECTIVE MEASURES AT THE TIME OF CONSTRUCTION.

9. DURING PERIODS OF HEAVY RAIN, PERCHED GROUNDWATER CONDITIONS MAY OCCUR AT THE SITE. IF PERCHED OR SHALLOW GROUNDWATER IS ENCOUNTERED, THE CONTRACTOR SHALL PROVIDE ADEQUATE DEWATERING TO MAINTAIN THE GROUNDWATER LEVEL BELOW THE BOTTOM OF EXCAVATIONS BY HIS MEANS AND METHODS. DEWATERS SHALL BE DISCHARGED BEYOND THE CONSTRUCTION LIMITS.

10. ROCK OUTCROPS WERE OBSERVED IN EXISTING IN ROADSIDE CUTS IN SEVERAL AREAS ALONG THE PROJECT ALIGNMENT. IN ADDITION, A NUMBER OF BORINGS REFUSED AT RELATIVELY SHALLOW DEPTHS. THEREFORE, DIFFICULT/ROCK EXCAVATION WILL LIKELY BE REQUIRED ALONG PORTIONS OF THE PROJECT ALIGNMENT.

SLOPES

11. CONSTRUCTION MAY DISCLOSE THE PRESENCE OF GROUNDWATER SEEPS OR SPRINGS, SLICKENSIDED ZONES, OR DOWN-SLOPE DIPPING OF THE SOIL PROFILE. THESE CONDITIONS, IF PRESENT, WILL HAVE AN EFFECT ON SLOPE STABILITY. IF SEEPAGE OR OTHER UNFAVORABLE GEOLOGIC CONDITIONS ARE ENCOUNTERED IN CUT SLOPES AT THE TIME OF CONSTRUCTION, THE PROJECT ENGINEER SHALL BE CONTACTED TO OBSERVE THE SLOPE AND PROVIDE RECOMMENDATIONS FOR CORRECTIVE MEASURES.

12. VEGETATION SHALL BE ESTABLISHED AS QUICKLY AS POSSIBLE ON SLOPES TO PREVENT EROSION. EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH T.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION GUIDELINES.

13. SHOULD SHALLOW SLIDES OR SLUMPS OCCUR, THEY SHALL BE REPAIRED PROMPTLY TO PREVENT FURTHER SLOPE EROSION. REPAIR CAN TYPICALLY BE ACCOMPLISHED BY REMOVING THE SLIDE MATERIAL, EXCAVATING A BENCH WITHIN THE FAILURE ZONE AND BACKFILLING THE FAILURE ZONE WITH CLASS A-3 MACHINED RIP-RAP (T.D.O.T. ITEM NUMBER 709-05.05).

14. PREPARATION OF EMBANKMENT AREAS AND FORMATION OF EMBANKMENTS SHALL BE IN ACCORDANCE WITH SECTIONS 205.03 AND 205.04 OF T.D.O.T.'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2015 EDITION.

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DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G2

SR - 162 BLOUNT COUNTY

GEOTECHNICAL NOTES

DEFINITION OF TERMS USED FOR EARTHWORK GRADING CALCULATION (SECTION 4-203.02)

A. SOIL MATERIAL

SOIL MATERIAL IS MATERIAL THAT IS PREDOMINANTLY MADE UP OF NATURALLY OCCURRING MINERAL PARTICLES WHICH ARE FAIRLY READILY SEPARATED INTO RELATIVELY SMALL PIECES, AND IN WHICH THE MASS MAY CONTAIN AIR, WATER OR ORGANIC MATERIALS. THIS MATERIAL MAY CONTAIN ROCK PIECES IN THE FORM OF DISCONNECTED SLABS, LENSES, OR BOULDERS OF LESS THAN APPROXIMATELY 0.5 CUBIC YARDS. THE MAIN SOIL GROUPS CONSIST OF CLAY, SILT, SAND, GRAVEL, COBBLES, BOULDERS (LESS THAN 0.5 CUBIC YARD VOLUME) OR A COMBINATION OF ANY OF THE CONSTITUENTS. FOR CONSTRUCTION PURPOSES, THIS MATERIAL WOULD TYPICALLY BE CONSIDERED TO BE EXCAVATABLE BY CONVENTIONAL EXCAVATION MACHINERY SUCH AS PANS, TRACK HOES, OR FRONT END EXCAVATORS/LOADERS. THIS MATERIAL WOULD HAVE A SHRINK FACTOR AS GIVEN IN THE SHRINK FACTORS SHOWN IN SECTION 2-145.10 OF THE DESIGN GUIDELINES OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEERING SECTION OF THE MATERIALS AND TEST DIVISION.

B. SOLID ROCK MATERIAL

SOLID ROCK MATERIAL IS THAT NATURALLY OCCURRING MATERIAL COMPOSED OF MINERAL PARTICLES SO FIRMLY BONDED TOGETHER THAT RELATIVELY GREAT EFFORT IS REQUIRED TO SEPARATE THE PARTICLES (I.E. BLASTING OR HEAVY CRUSHING FORCES). FOR CONSTRUCTION PURPOSES, THIS MATERIAL WOULD TYPICALLY HAVE TO BE BLASTED TO SEPARATE INTO PIECES SMALL ENOUGH TO LOAD AND TRANSPORT ON EARTH MOVING TRUCKS AND WHICH WHEN SUBJECTED TO PROPER PRE-SPLIT PRODUCTION BLASTING WOULD RESULT IN A UNIFORM STABLE ROCK CUT FACE. NOTE THAT THIS MATERIAL WOULD NOT BY DEFINITION NECESSARILY BE A PROVEN SOURCE OF ANY ROCK TYPE AGGREGATE SUCH AS SOLID ROCK, GRADED SOLID ROCK, RIP-RAP, OR OTHER ROCK AGGREGATE CONSTRUCTION PRODUCTS. THIS MATERIAL WOULD HAVE A SIGNIFICANT SWELL FACTOR AS GIVEN IN SWELL FACTORS SHOWN IN SECTION 2-145.10 OF THE DESIGN GUIDELINES OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEERING SECTION OF THE MATERIALS AND TESTS DIVISION.

C. SOFT ROCK OR DEGRADABLE ROCK

THIS MATERIAL IS THAT NATURALLY OCCURRING MATERIAL COMPOSED OF MINERAL PARTICLES THAT ARE SO FIRMLY BONDED SUCH THAT THEY ARE NOT FAIRLY READILY SEPARATED INTO SMALL PIECES YET HAS SUCH RELATIVELY LOW BONDING STRENGTH THAT WOULD ALLOW FOR SEPARATING INTO SMALL PIECES THROUGH MODERATE TO HEAVY CRUSHING FORCES. FOR CONSTRUCTION PURPOSES THIS MATERIAL WOULD HAVE TO BE SUBJECTED TO RIPPING TYPE EQUIPMENT, HOE RAMS, OR RUGGED USE OF A LARGE BULLDOZER IN ORDER TO SEPARATE THE MATERIAL SUCH THAT IT CAN BE READILY LOADED INTO EARTH MOVING TRUCKS. THESE MATERIALS WOULD TYPICALLY BE SHALES, CLAYSTONES, SILTSTONES, WEATHERED SANDSTONES, WEATHERED SCHIST AND WEATHERED GNEISS. THIS MATERIAL WOULD HAVE A RELATIVELY SMALL SHRINK OR SWELL FACTOR DEPENDING ON THE TYPE MATERIAL AND THE DEGREE OF WEATHERING, DISINTEGRATION OR DEGRADATION.

D. TRANSITIONAL MATERIALS

THIS MATERIAL IS THAT MATERIAL COMPRISED OF A COMBINATION OF SOIL AND ROCK (MATERIALS A, B, AND C AS DEFINED IN SECTION 4-203.02) OCCURRING IN EITHER NON-UNIFORM INTERBEDDED LAYERS OF THE ABOVE MATERIALS (I.E. SHALE MATERIAL WITH RELATIVELY THIN LAYERS OF SOLID ROCK SUCH AS HARD LIMESTONE) OR ERRATIC LOCALIZED CHANGES OF MATERIAL TYPES BOTH LATERALLY AND WITH DEPTH (SUCH AS A GEOLOGIC FORMATION RESULTING IN PINNACLED ROCK COLUMNS, FLOATING BOULDERS OR LENSES INTERCALATED WITH CLAY SOIL, A COMMON OCCURRENCE IN CERTAIN REGIONS OF TENNESSEE). FOR CONSTRUCTION PURPOSES, THIS MATERIAL MAY HAVE TO BE EXCAVATED USING A COMBINATION OF EXCAVATION METHODS SUCH AS BLASTING OF ROCK PINNACLES, LAYERS OR BOULDERS ALONG WITH A RIPPING OF WEATHERED ROCK AND EXCAVATING OF SOIL WITH TRACK HOES OR LOADERS ALL WITHIN A LOCALIZED AREA. THIS MATERIAL WOULD NOT BE SUITABLE FOR THE USE OF EXCAVATING PAN TYPE EQUIPMENT.

ESTIMATED SOILS QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)(2)(3)	203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	319,775
(1)	203-05	UNDERCUTTING	C.Y.	142,393
(1)(2)(3)	740-10.04	GEOTEXTILE (TYPE IV) (STABILIZATION)	S.Y.	285,293

FOOTNOTES:

(1) THIS ITEM TO BE USED FOR STATION RANGES LISTED IN NOTE 3 OR OTHERWISE AS DIRECTED BY THE ENGINEER FOR THE STABILIZATION OF SUBGRADE.

(2) THIS ITEM TO BE USED FOR STATION RANGES LISTED IN NOTE 4 OR OTHERWISE AS DIRECTED BY THE ENGINEER FOR EMBANKMENT STABILIZATION.

(3) QUANTITIES ESTIMATED FOR POTENTIAL SINKHOLE REPAIR(S) AT THE FOLLOWING LOCATIONS:

SINKHOLE LOCATION	STATION	GSR (TON)	GEOTEXTILE (S.Y.)
MAINLINE	221+00 - (130' RT.)	7449	107
MAINLINE	262+50 - (100' RT.)	35,102	213
RAMP 2B	57+00 - (10' RT.)	26,099	187

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GEOTECHNICAL NOTES AND TABULATED QUANTITIES

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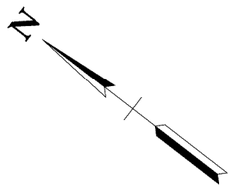
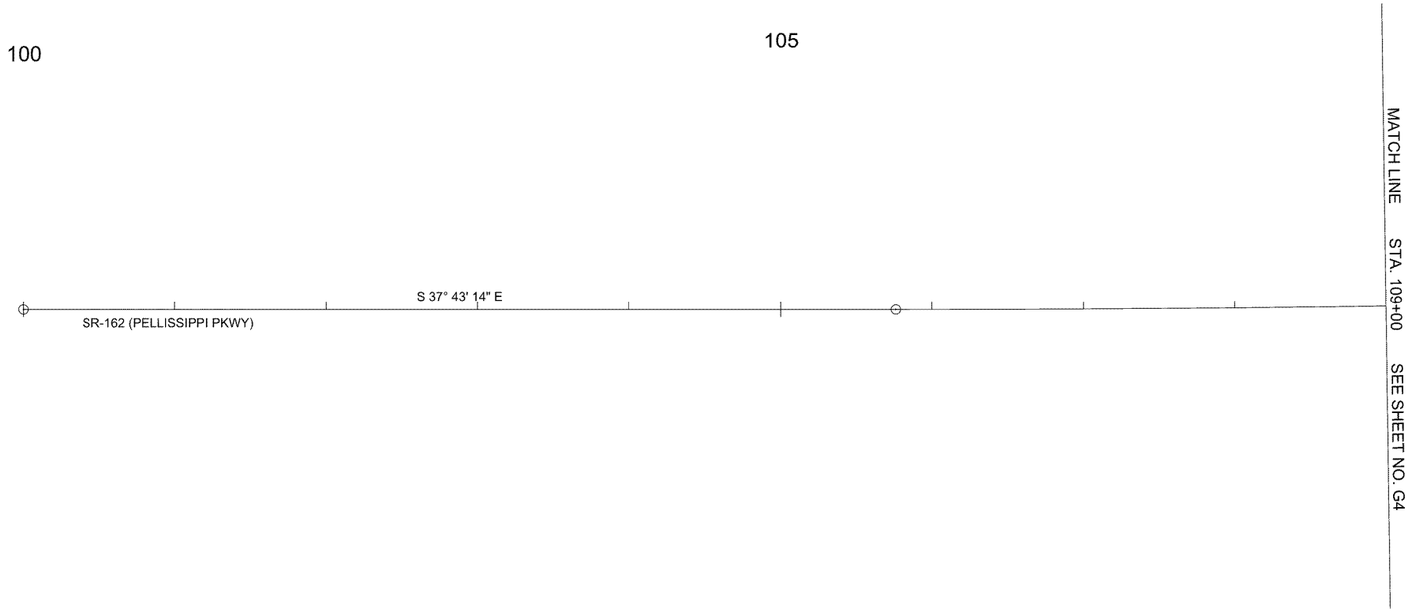
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G3

SR - 162 BLOUNT COUNTY





NOTE:
NO BORINGS ADVANCED ALONG THIS INTERVAL

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GEOTECHNICAL PLANS

STA. 100+00 TO STA. 109+00
SCALE: 1"= 50'

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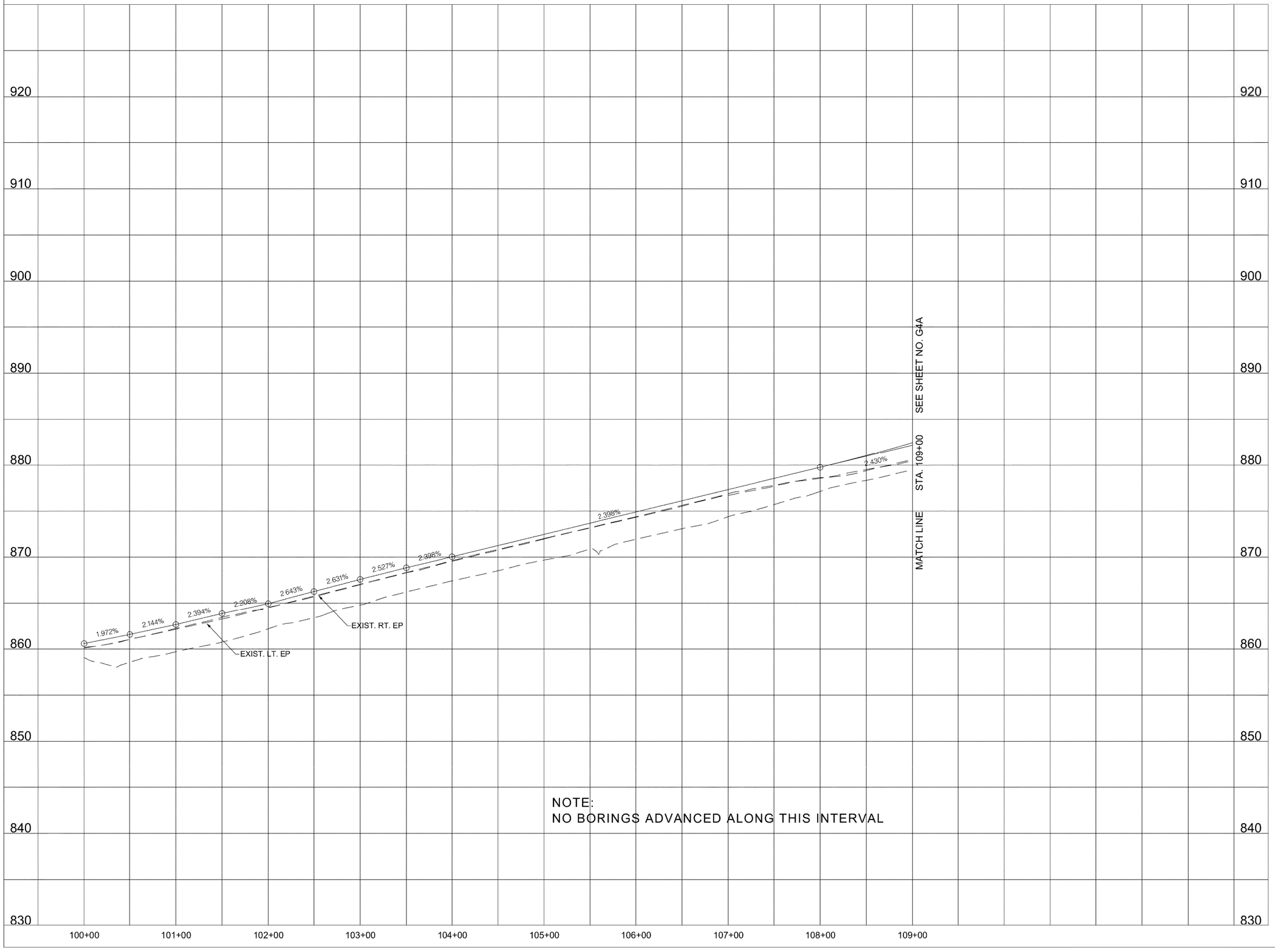
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G3A

SR - 162 BLOUNT COUNTY



NOTE:
NO BORINGS ADVANCED ALONG THIS INTERVAL

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GEOTECHNICAL PLANS

STA.100+00 TO STA.109+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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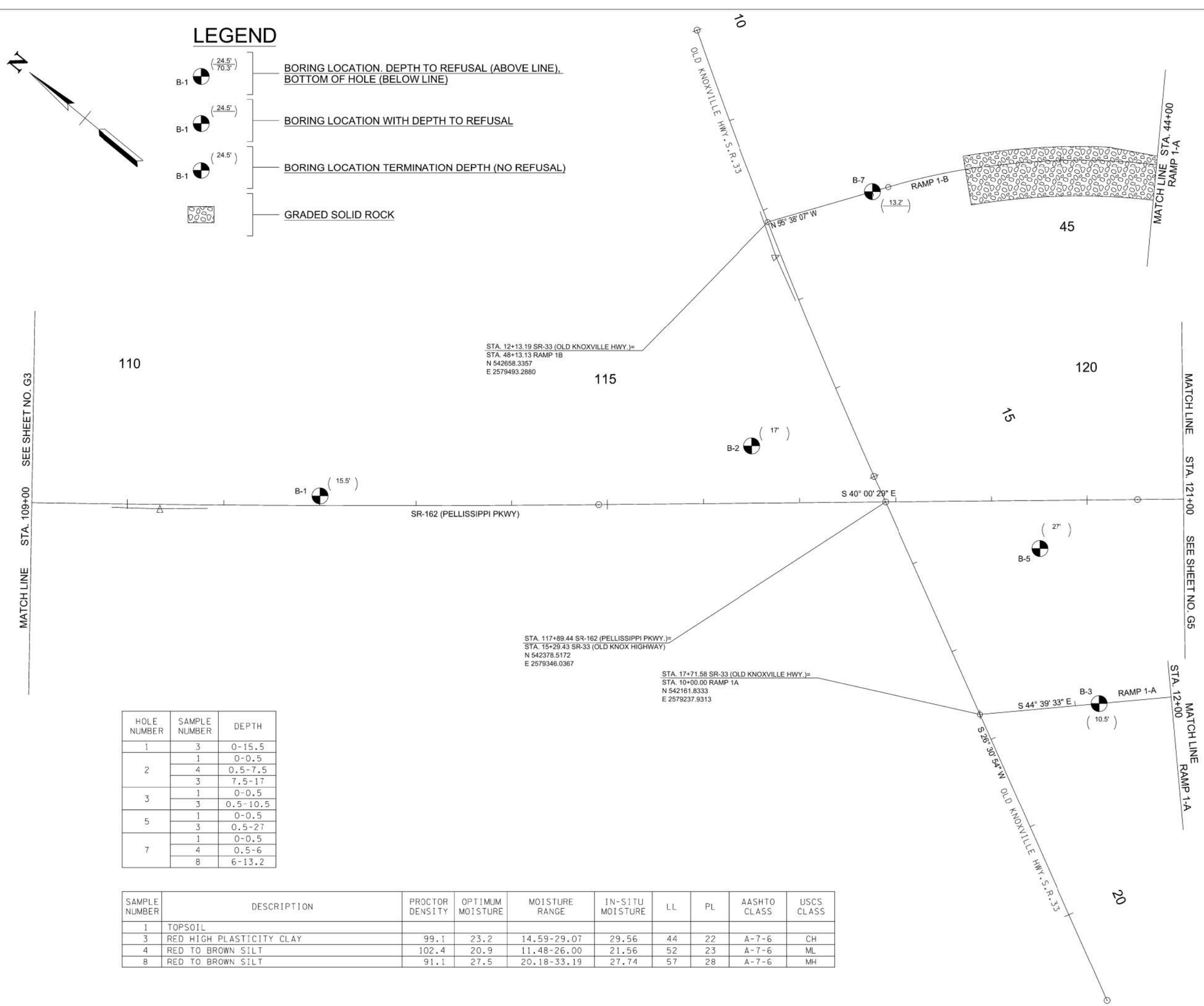
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G4

SR - 162 BLOUNT COUNTY

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK



HOLE NUMBER	SAMPLE NUMBER	DEPTH
1	3	0-15.5
2	1	0-0.5
	4	0.5-7.5
	3	7.5-17
3	1	0-0.5
	3	0.5-10.5
5	1	0-0.5
	3	0.5-27
7	1	0-0.5
	4	0.5-6
	8	6-13.2

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
3	RED HIGH PLASTICITY CLAY	99.1	23.2	14.59-29.07	29.56	44	22	A-7-6	CH
4	RED TO BROWN SILT	102.4	20.9	11.48-26.00	21.56	52	23	A-7-6	ML
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH

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GEOTECHNICAL PLANS

STA. 109+00 TO STA. 121+00
SCALE: 1"= 50'

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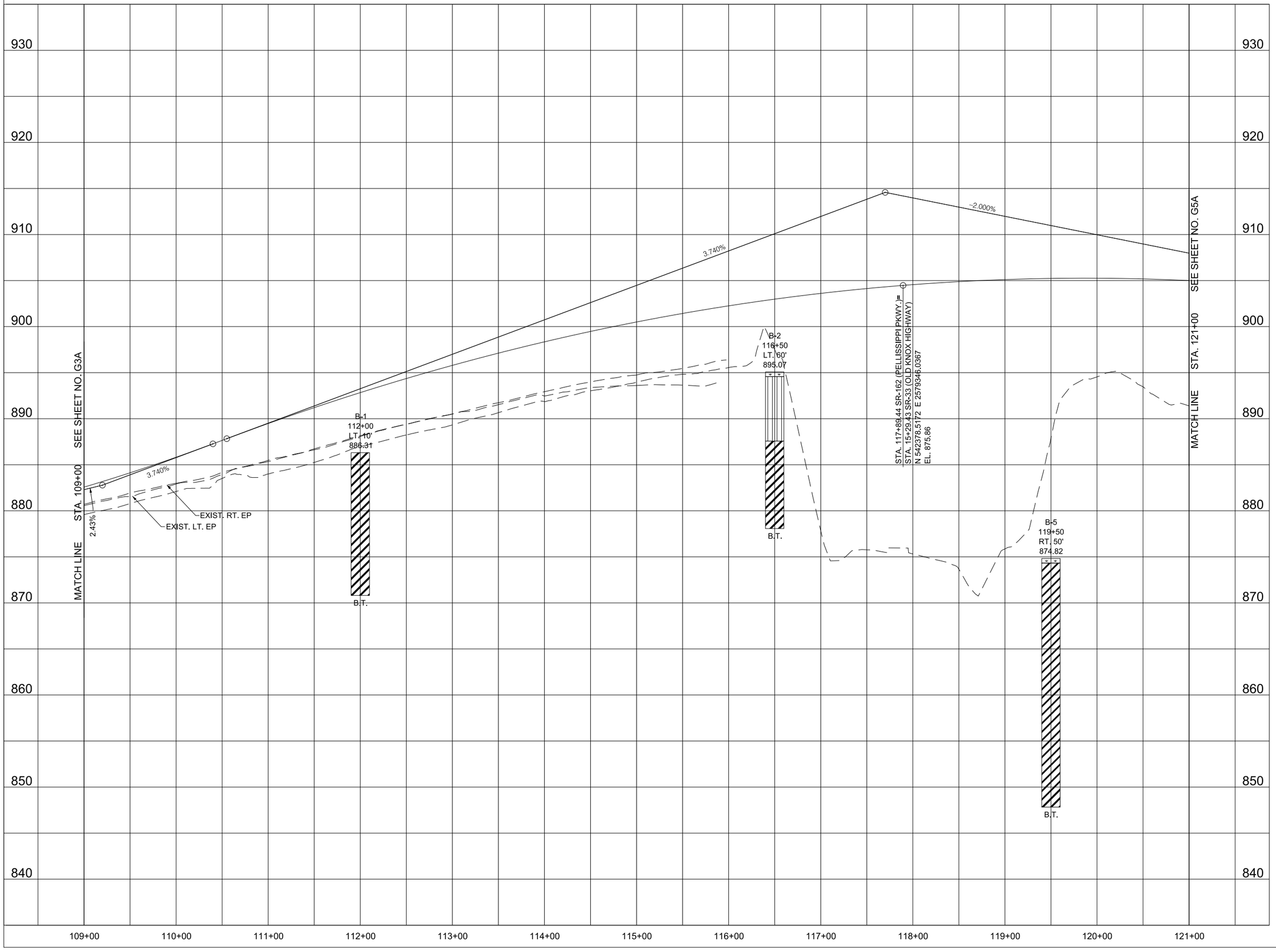
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G4A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

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GEOTECHNICAL PLANS PROFILE

STA.109+00 TO STA.121+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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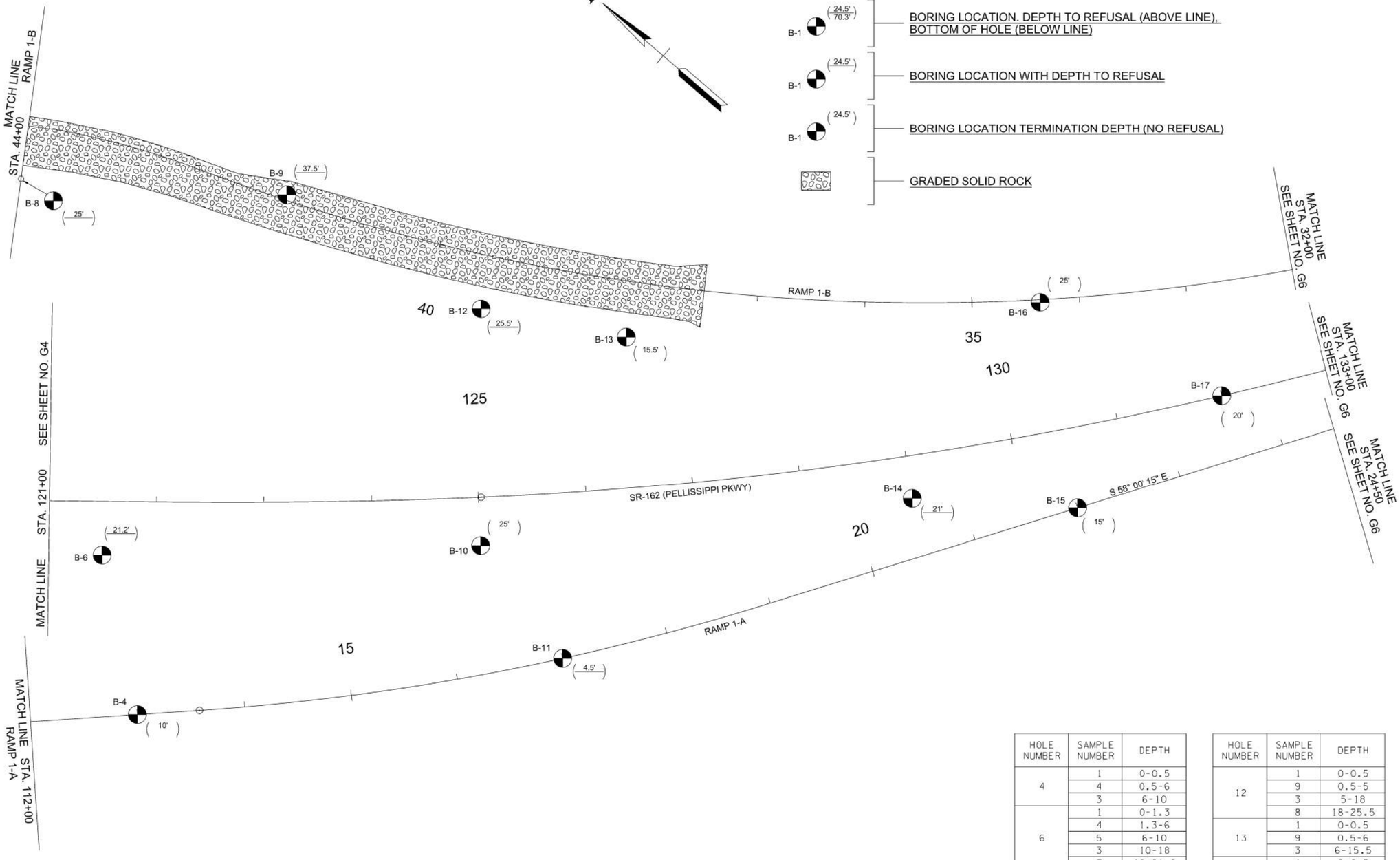
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G5

SR - 162 BLOUNT COUNTY

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK



SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
3	RED HIGH PLASTICITY CLAY	99.1	23.2	14.59-29.07	29.56	44	22	A-7-6	CH
4	RED TO BROWN SILT	102.4	20.9	11.48-26.00	21.56	52	23	A-7-6	ML
5	BROWN SANDY LOW PLASTICITY CLAY	104.8	20.0	12.99-25.17	29.56	43	21		CL
6	BROWN SANDY LOW PLASTICITY CLAY	112.4	15.9	9.63-19.67	12.40	33	21	A-6	CL
7	GRAY TO BROWN WEATHERED SHALE	110.5	15.1	10.43-21.13	12.82	36	21	A-6	CL
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH
9	BROWN SANDY LOW PLASTICITY CLAY	107.7	18.8	12.89-20.32	20.60				CL
10	RED TO BROWN SILT	93.9	25.3	12.97-35.96	28.50	52	28	A-7-6	ML

HOLE NUMBER	SAMPLE NUMBER	DEPTH
4	1	0-0.5
	4	0.5-6
	3	6-10
6	1	0-1.3
	4	1.3-6
	5	6-10
	3	10-18
	7	18-21.2
8	1	0-0.5
	6	0.5-8
	3	8-21
	4	21-25
9	1	0-0.5
	6	0.5-6
	7	6-37.5
10	1	0-0.5
	4	0.5-20
	3	20-25
11	1	0-0.5
	10	0.5-4.5

HOLE NUMBER	SAMPLE NUMBER	DEPTH
12	1	0-0.5
	9	0.5-5
	3	5-18
	8	18-25.5
13	1	0-0.5
	9	0.5-6
	3	6-15.5
14	1	0-0.5
	8	0.5-8
	3	8-17
	8	17-21
15	1	0-0.5
	10	0.5-6
	9	6-15
16	1	0-1
	10	1-6
	3	6-25
17	1	0-0.5
	10	0.5-4
	3	4-20

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GEOTECHNICAL PLANS

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SCALE: 1"= 50'

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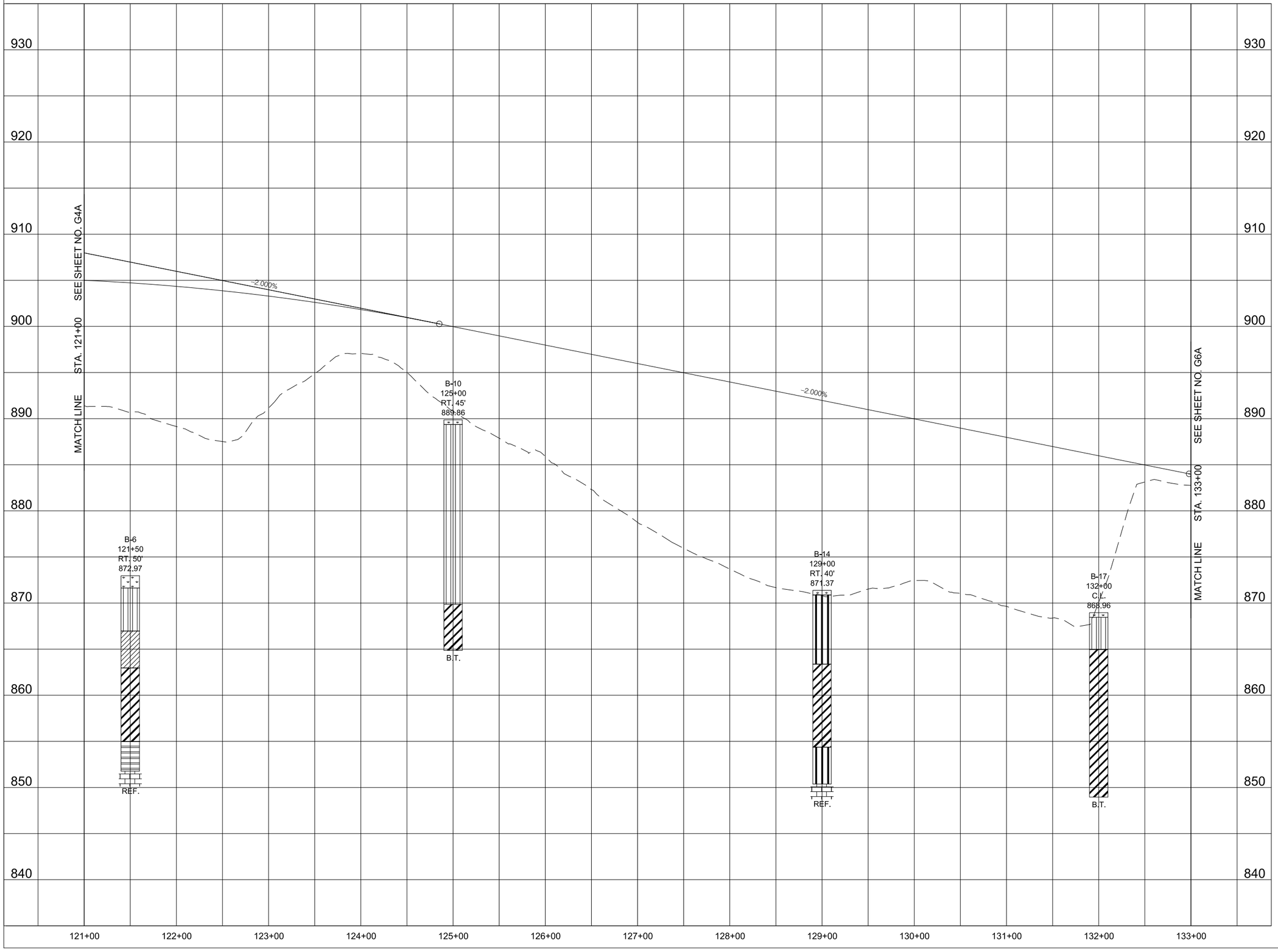
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G5A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

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GEOTECHNICAL PLANS PROFILE

STA.121+00 TO STA.133+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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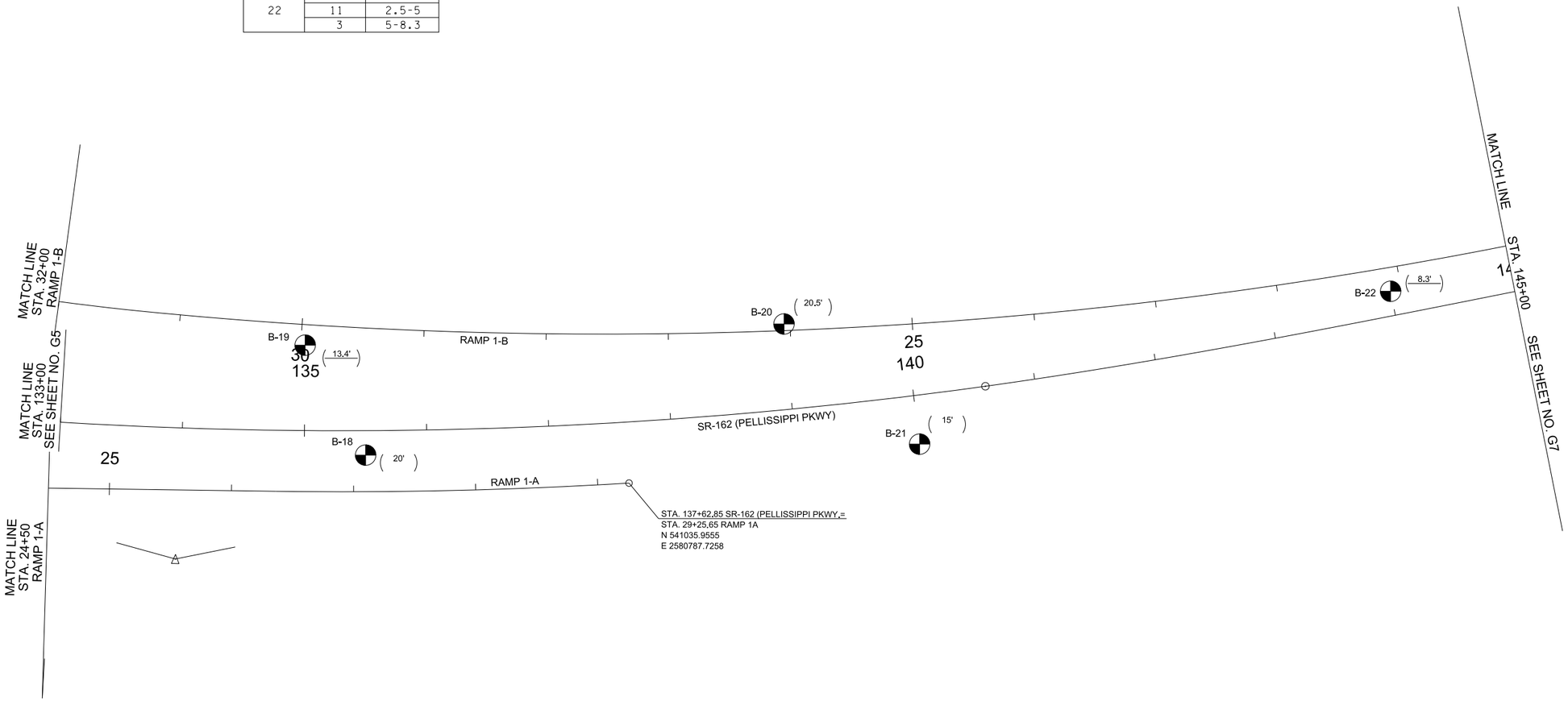
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G6

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
18	1	0-0.5
	3	0.5-20
19	1	0-0.5
	9	0.5-8
	3	8-13.4
20	1	0-0.5
	9	0.5-18
	3	18-20.5
21	1	0-0.5
	8	0.5-6
	3	6-15
22	2	0-2.5
	11	2.5-5
	3	5-8.3

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
2	DENSE GRAVEL AGGREGATE								
3	RED HIGH PLASTICITY CLAY	99.1	23.2	14.59-29.07	29.56	44	22	A-7-6	CH
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH
9	BROWN SANDY LOW PLASTICITY CLAY	107.7	18.8	12.89-20.32	20.60				CL
11	BROWN SANDY LOW PLASTICITY CLAY	103.7	19.9	7.45-23.69	23.09	40	20	A-6	CL



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

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GEOTECHNICAL PLANS

STA. 133+00 TO STA. 145+00
SCALE: 1"= 50'

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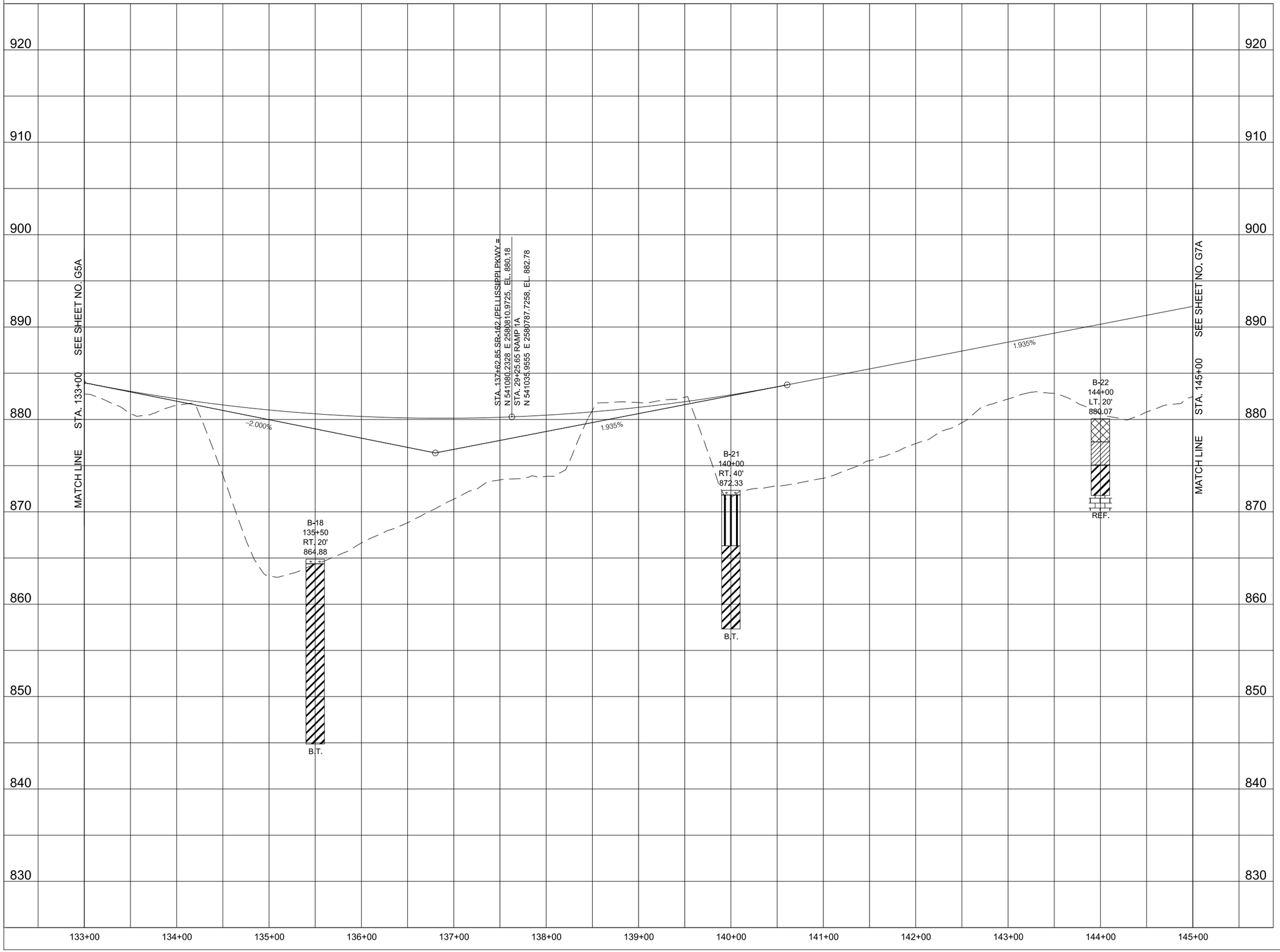
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G6A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.133+00 TO STA.145+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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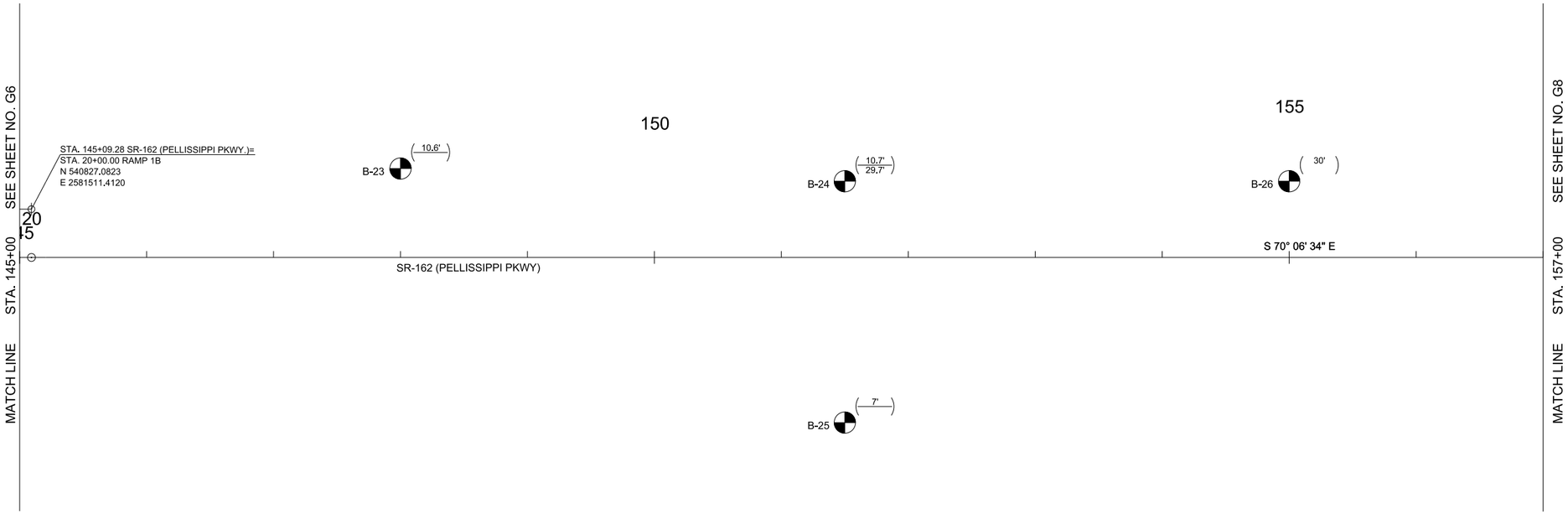
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G7

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
23	1	0-0.5
	11	0.5-10.6
24	1	0-0.5
	12	0.5-6
	3	6-10.7
	13	10.7-29.7
25	1	0-0.5
	14	0.5-4
	12	4-7
26	1	0-0.5
	8	0.5-15
	14	15-30

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH
11	BROWN SANDY LOW PLASTICITY CLAY	103.7	19.9	7.45-23.69	23.09	40	20	A-6	CL
12	BROWN SANDY LOW PLASTICITY CLAY	93.4	27.0	13.24-33.69	32.02	61	22	A-7-6	CL
13	LIMESTONE (MARYVILLE LIMESTONE)								
14	RED HIGH PLASTICITY CLAY	91.7	28.0	19.24-34.07	40.96	64	31	A-7-5	CH



LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 145+00 TO STA. 157+00
SCALE: 1"= 50'

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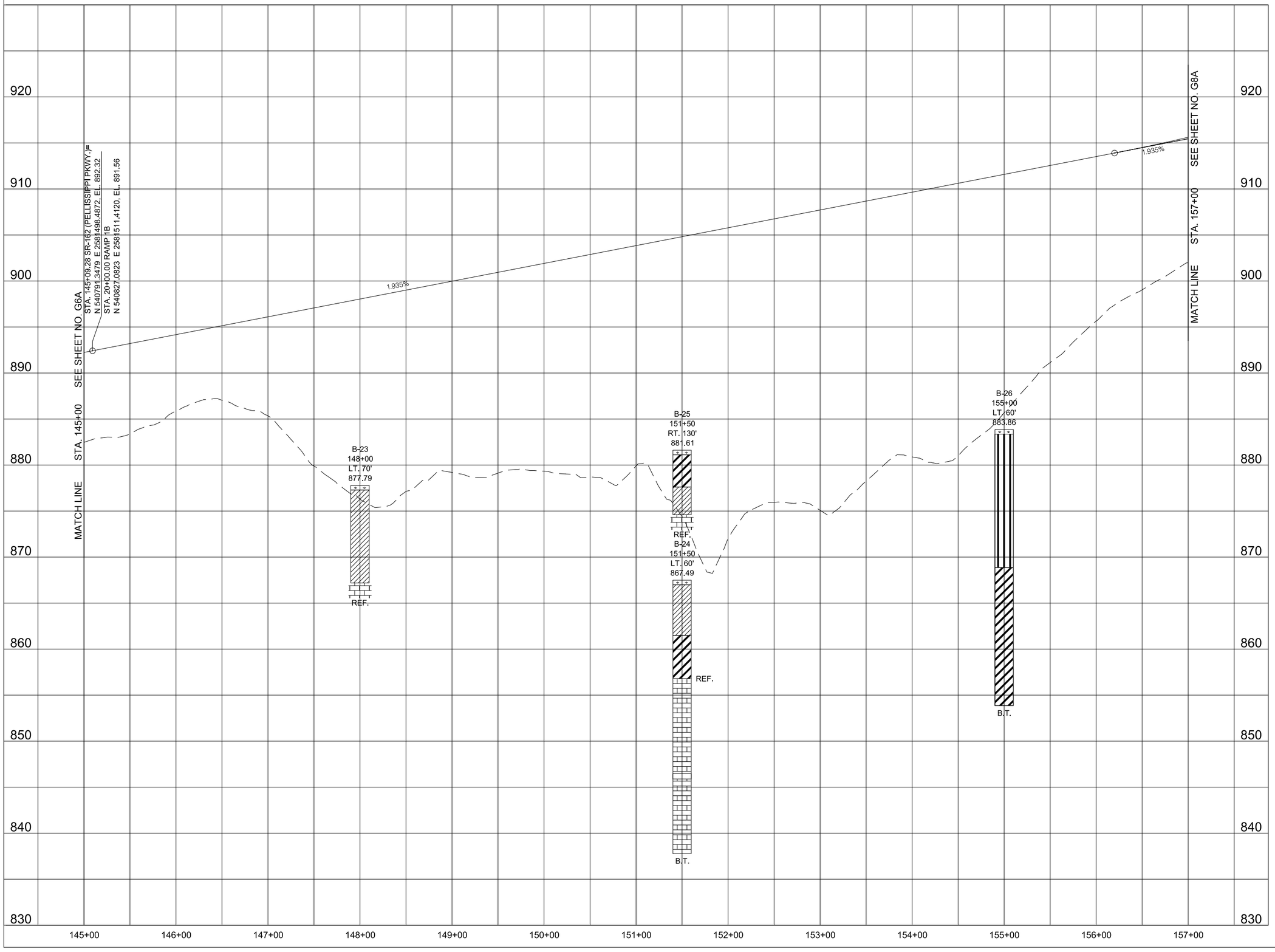
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G7A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.145+00 TO STA.157+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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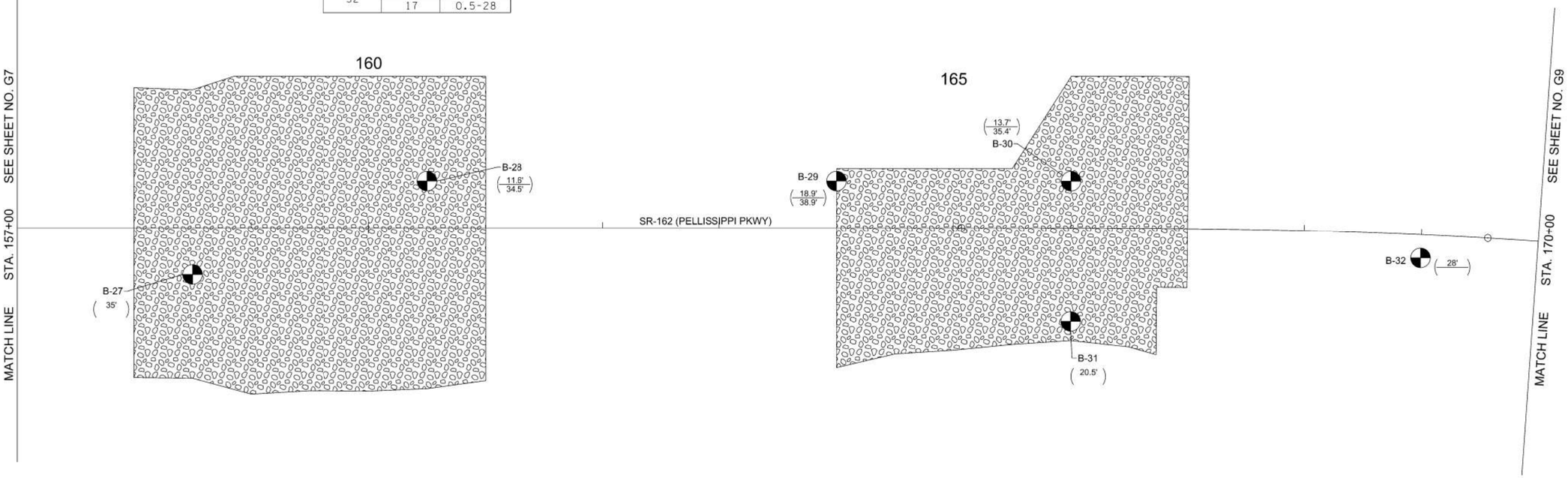
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G8

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
27	1	0-0.5
	10	0.5-30
	15	30-35
28	1	0-0.5
	16	0.5-11.6
	15	11.6-34.5
29	1	0-0.5
	17	0.5-7.5
	18	7.5-10
	7	10-18.9
	15	18.9-38.9
30	1	0-0.5
	17	0.5-13.7
	15	13.7-35.4
31	1	0-0.5
	14	0.5-12
	8	12-20.5
32	1	0-0.5
	17	0.5-28

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
7	GRAY TO BROWN WEATHERED SHALE	110.5	15.1	10.43-21.13	12.82	36	21	A-6	CL
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH
10	RED TO BROWN SILT	93.9	25.3	12.97-35.96	28.50	52	28	A-7-6	ML
14	RED HIGH PLASTICITY CLAY	91.7	28.0	19.24-34.07	40.96	64	31	A-7-5	CH
15	SHALE (NOLICHUCKY FORMATION)								
16	BROWN CLAYEY SAND, WITH GRAVEL	104.7	17.9	10.34-25.51	18.39	50	24	A-7-6	SC
17	BROWN SANDY LOW PLASTICITY CLAY	92.4	25.6	19.02-34.25	34.07	57	33	A-7-5	CL
18	BROWN SILTY SAND	100.4	21.9	8.64-28.81	25.67	45	26		SM



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 157+00 TO STA. 170+00
SCALE: 1"= 50'

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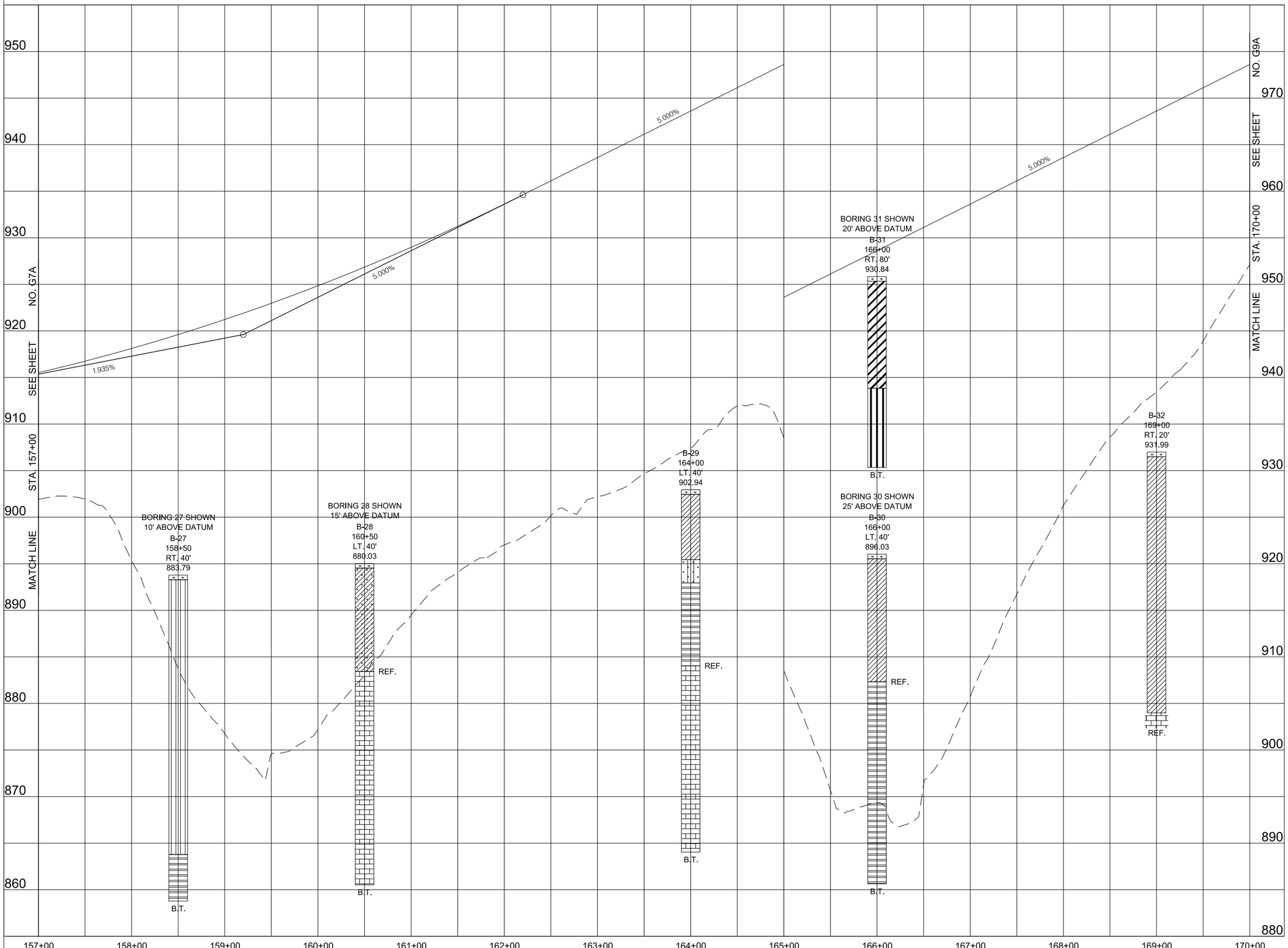
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G8A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.157+00 TO STA.170+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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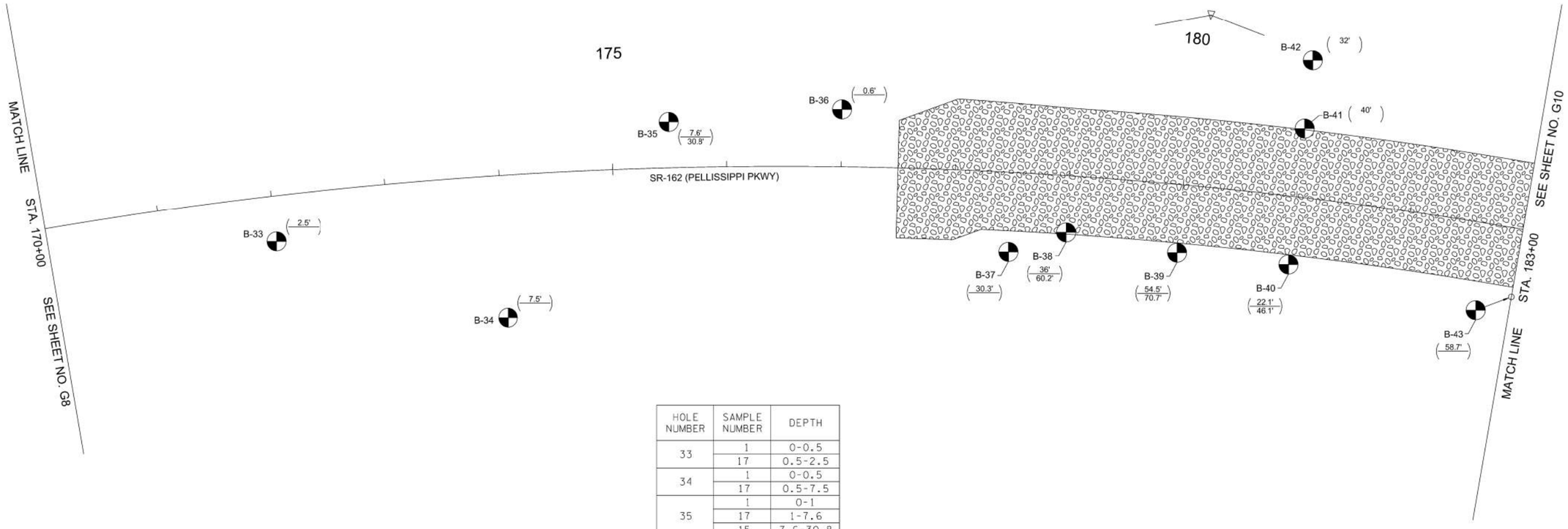
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G9

SR - 162 BLOUNT COUNTY

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
15	SHALE (NOLICHUCKY FORMATION)								
17	BROWN SANDY LOW PLASTICITY CLAY	92.4	25.6	19.02-34.25	34.07	57	33	A-7-5	CL
19	BROWN SANDY LOW PLASTICITY CLAY	99.2	23.3	15.46-28.31	17.52	43	24	A-7-6	CL
20	LIMESTONE (MAYNARDVILLE LIMESTONE)								
21	DOLOMITE (COPPER RIDGE DOLOMITE)								



HOLE NUMBER	SAMPLE NUMBER	DEPTH
33	1	0-0.5
	17	0.5-2.5
34	1	0-0.5
	17	0.5-7.5
35	1	0-1
	17	1-7.6
	15	7.6-30.8
36	1	0-0.6
37	1	0-0.5
	19	0.5-30.3
38	1	0-0.5
	19	0.5-36
	20	36-60.2
39	1	0-0.5
	19	0.5-54.5
	21	54.5-70.7
40	1	0-0.5
	19	0.5-22.1
	21	22.1-46.1
41	1	0-0.5
	19	0.5-40
42	1	0-0.5
	19	0.5-32
43	1	0-0.5
	19	0.5-58.7

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 170+00 TO STA. 183+00
SCALE: 1"= 50'

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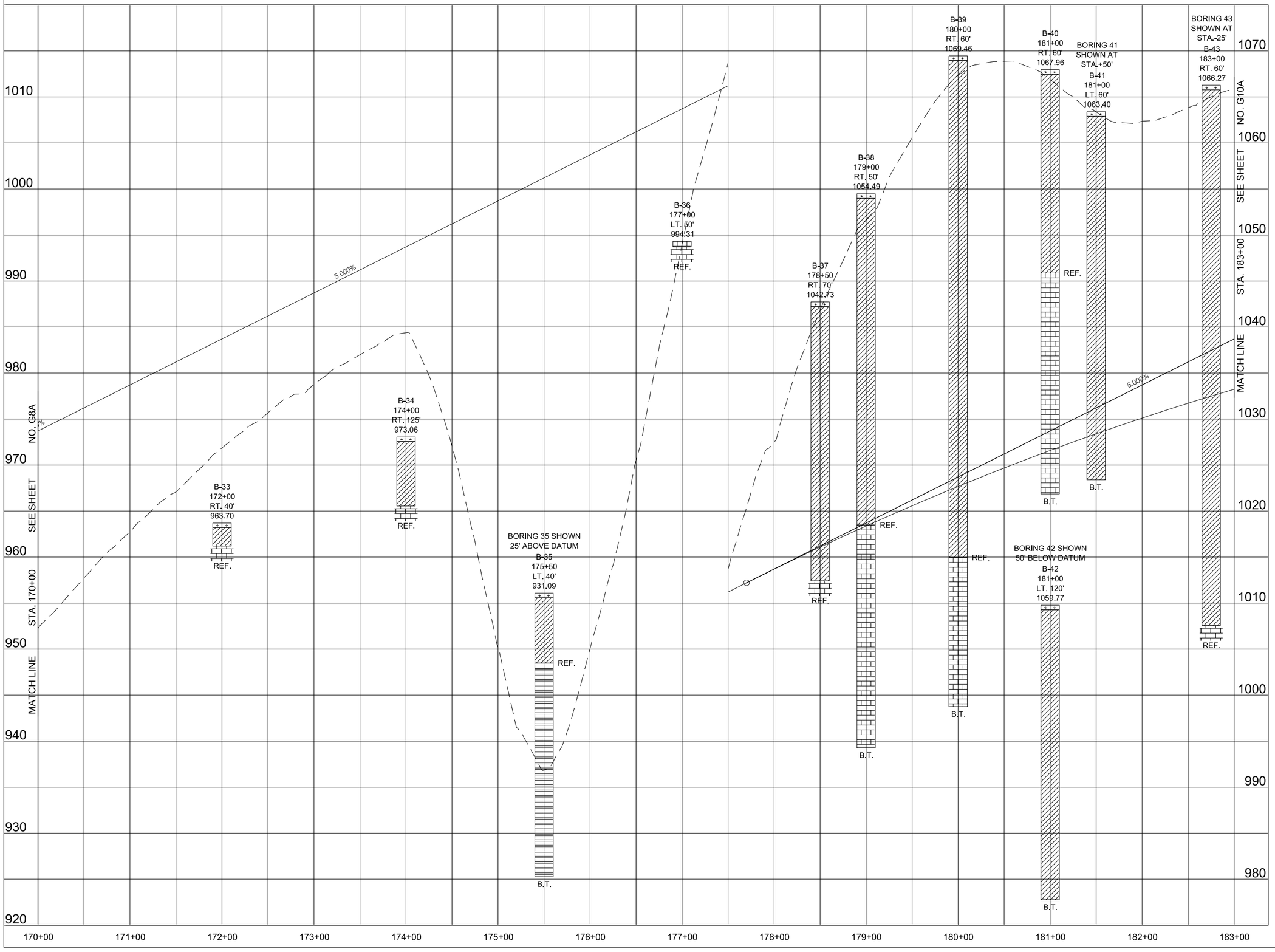
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G9A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.170+00 TO STA.183+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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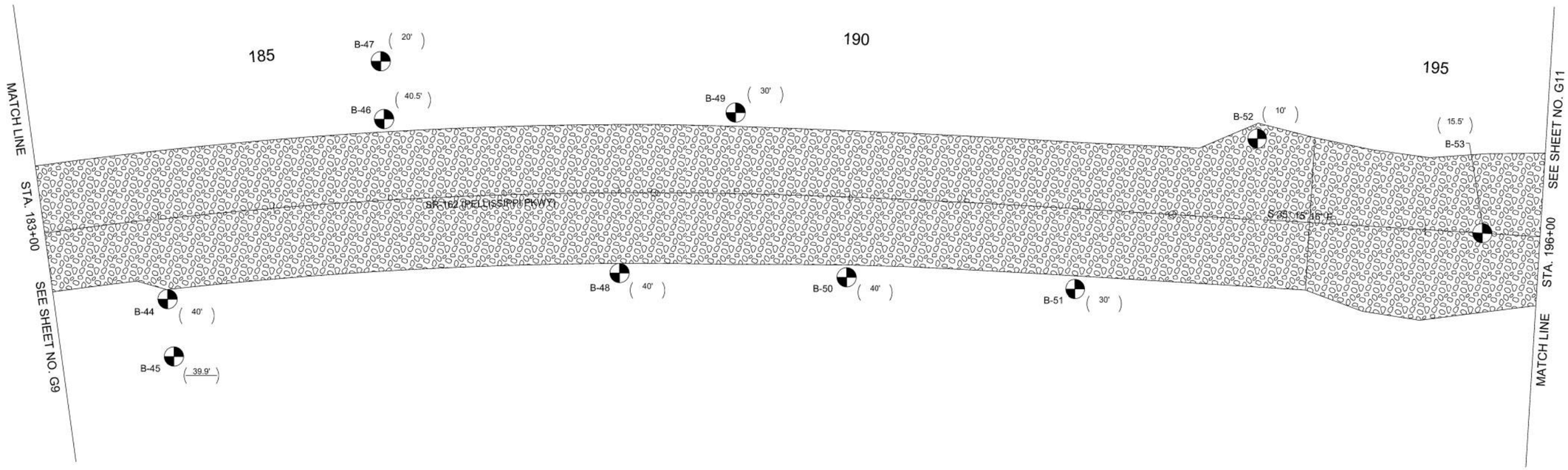
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G10

SR - 162 BLOUNT COUNTY

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
8	RED TO BROWN SILT	91.1	27.5	20.18-33.19	27.74	57	28	A-7-6	MH
14	RED HIGH PLASTICITY CLAY	91.7	28.0	19.24-34.07	40.96	64	31	A-7-5	CH
19	BROWN SANDY LOW PLASTICITY CLAY	99.2	23.3	15.46-28.31	17.52	43	24	A-7-6	CL
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
23	BROWN SANDY LOW PLASTICITY CLAY	99.4	22.1	10.67-30.54	24.07	46	25	A-7-6	CL



HOLE NUMBER	SAMPLE NUMBER	DEPTH
44	1	0-0.5
	19	0.5-40
45	1	0-0.5
	19	0.5-39.9
46	1	0-0.5
	19	0.5-5
	14	5-13
	8	13-28
	14	28-40.5
47	1	0-0.5
	19	0.5-8
	8	8-10
	14	10-16
	8	16-20
48	1	0-0.5
	8	0.5-11
	14	11-17
	8	17-25
	14	25-40

HOLE NUMBER	SAMPLE NUMBER	DEPTH
49	1	0-0.5
	14	0.5-21
	8	21-30
50	1	0-1
	22	1-3
	14	3-40
51	1	0-1
	22	1-21
	14	21-30
52	1	0-0.5
	23	0.5-4
	14	4-10
53	1	0-0.5
	23	0.5-13.5
	14	13.5-15.5

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 183+00 TO STA. 196+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G10A

SR - 162 BLOUNT COUNTY

B-44
184+00
RT. 70'
1059.67

BORING 45
SHOWN AT
STA. +50'

B-45
184+00
RT. 120'
1059.55

B-46
186+00
LT. 70'
1066.48

B-48
188+00
RT. 70'
1065.16

B-49
189+00
LT. 70'
1056.81

B-50
190+00
RT.
1061.57

B-51
192+00
RT. 70'
1059.74

B-52
193+50
LT. 70'
1033.67

B-53
195+50
C.L.
1033.34

5.000%

-1.620%

-1.620%

B.T.

REF.

B.T.

B.T.

B.T.

B.T.

B.T.

B.T.

B.T.

BORING 47 SHOWN
50' BELOW DATUM

B-47
186+00
LT. 120'
1066.28

B.T.

NO. G9A

SEE SHEET

MATCH LINE

STA. 183+00

NO. G11A

SEE SHEET

STA. 196+00

MATCH LINE

1080
1070
1060
1050
1040
1030
1020
1010
1000
990

183+00 184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00

LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.183+00 TO STA.196+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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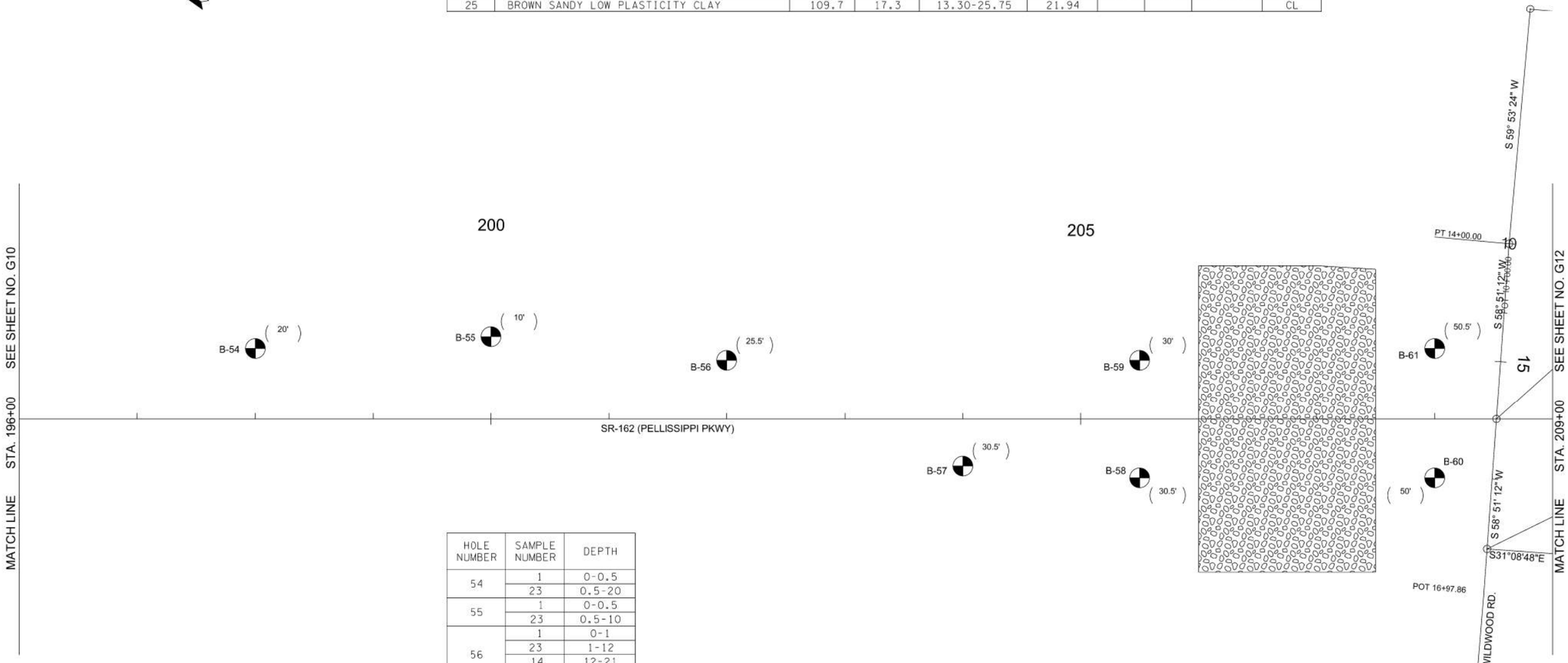
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G11

SR - 162 BLOUNT COUNTY

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
10	RED TO BROWN SILT	93.9	25.3	12.97-35.96	28.50	52	28	A-7-6	ML
14	RED HIGH PLASTICITY CLAY	91.7	28.0	19.24-34.07	40.96	64	31	A-7-5	CH
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
23	BROWN SANDY LOW PLASTICITY CLAY	99.4	22.1	10.67-30.54	24.07	46	25	A-7-6	CL
24	RED HIGH PLASTICITY CLAY	93.4	26.8	12.50-31.57	30.53	55	32	A-7-5	CH
25	BROWN SANDY LOW PLASTICITY CLAY	109.7	17.3	13.30-25.75	21.94				CL



HOLE NUMBER	SAMPLE NUMBER	DEPTH
54	1	0-0.5
	23	0.5-20
55	1	0-0.5
	23	0.5-10
56	1	0-1
	23	1-12
	14	12-21
	22	21-25.5
57	1	0-1
	22	1-17
	14	17-23
	22	23-30.5
58	1	0-0.5
	10	0.5-21
	23	21-25
	10	25-30.5
59	1	0-1
	23	1-6
	22	6-18
	23	18-30
60	1	0-0.5
	22	0.5-21
	24	21-41
	25	41-50
61	1	0-1
	25	1-16
	24	16-27
	10	27-40
	22	40-45
	10	45-50.5

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 196+00 TO STA. 209+00
SCALE: 1"= 50'

6/10/2022 9:57:12 AM
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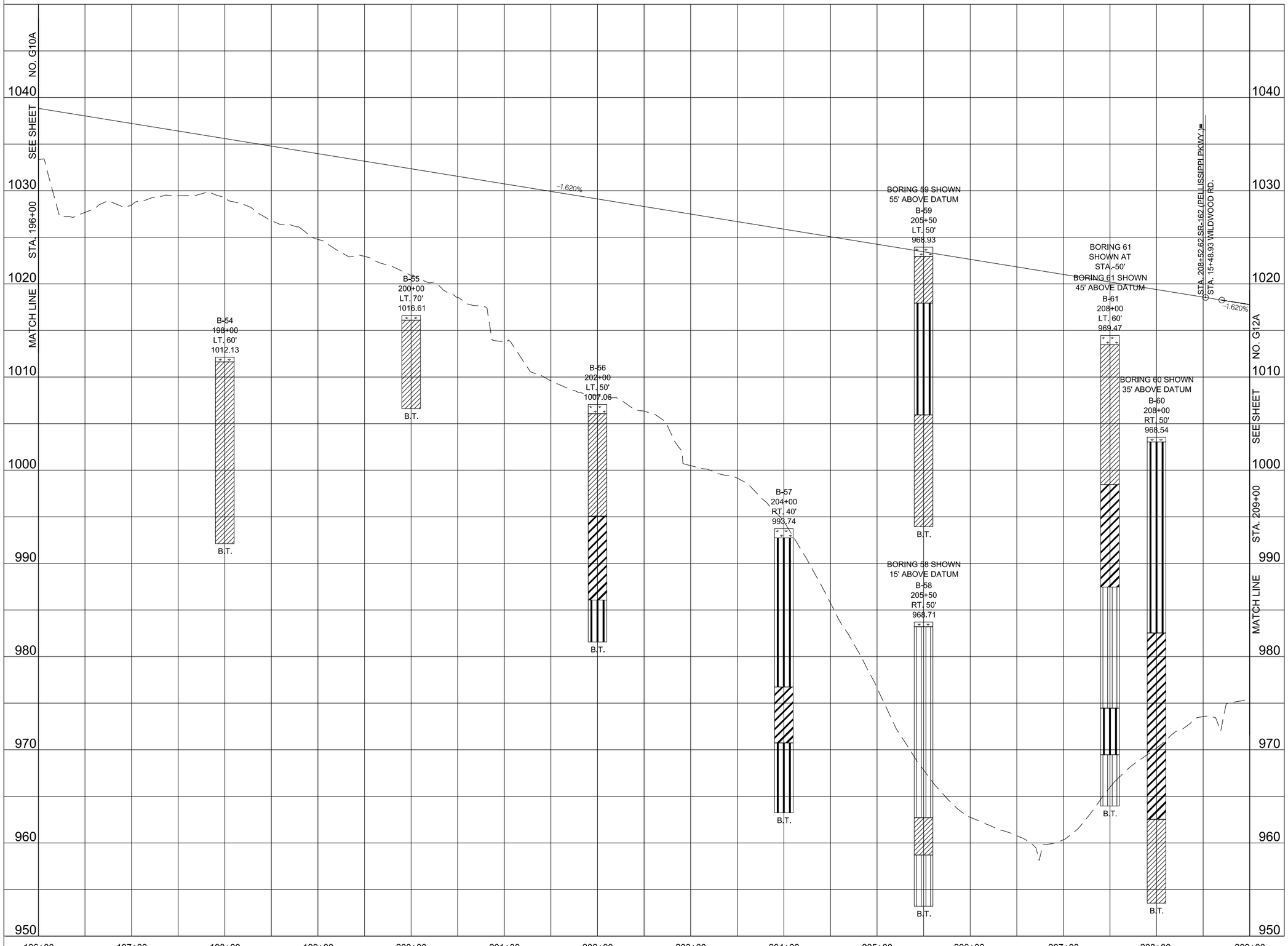
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G11A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.196+00 TO STA.209+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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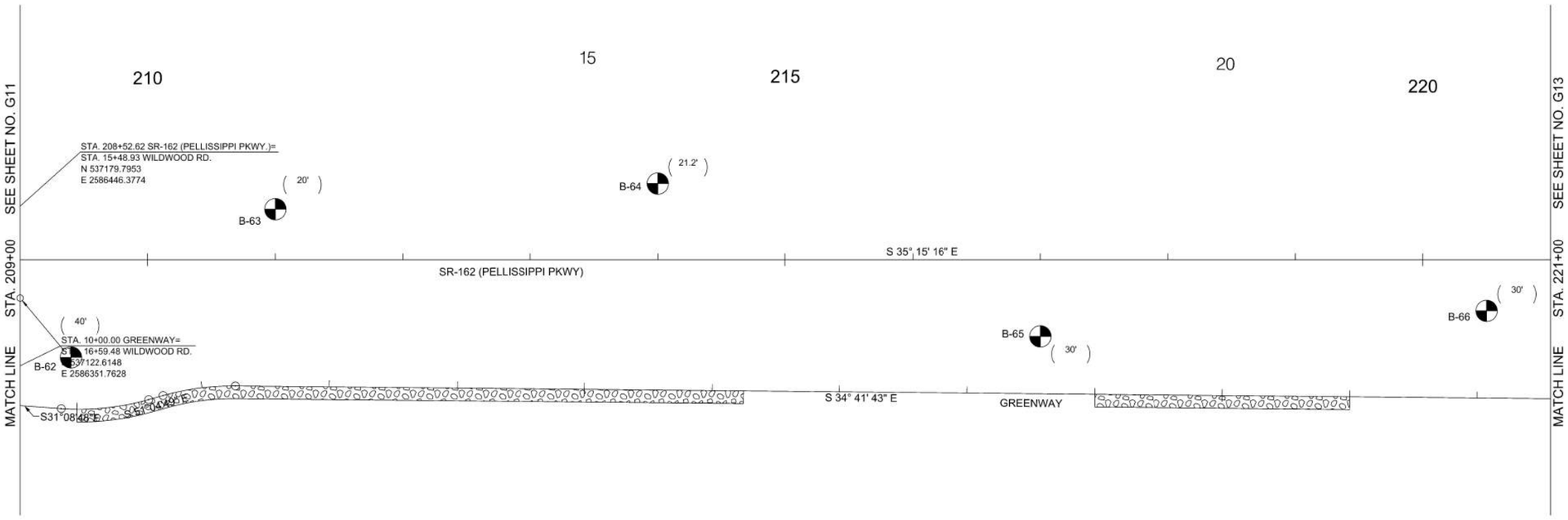
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G12

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
62	1	0-1
	22	1-40
63	1	0-0.5
	24	0.5-20
64	1	0-0.5
	22	0.5-10
	24	10-21.2
65	1	0-0.5
	25	0.5-15
	22	15-25
	24	25-30
66	1	0-1
	24	1-20
	22	20-30

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
24	RED HIGH PLASTICITY CLAY	93.4	26.8	12.50-31.57	30.53	55	32	A-7-5	CH
25	BROWN SANDY LOW PLASTICITY CLAY	109.7	17.3	13.30-25.75	21.94				CL



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 209+00 TO STA. 221+00
SCALE: 1"= 50'

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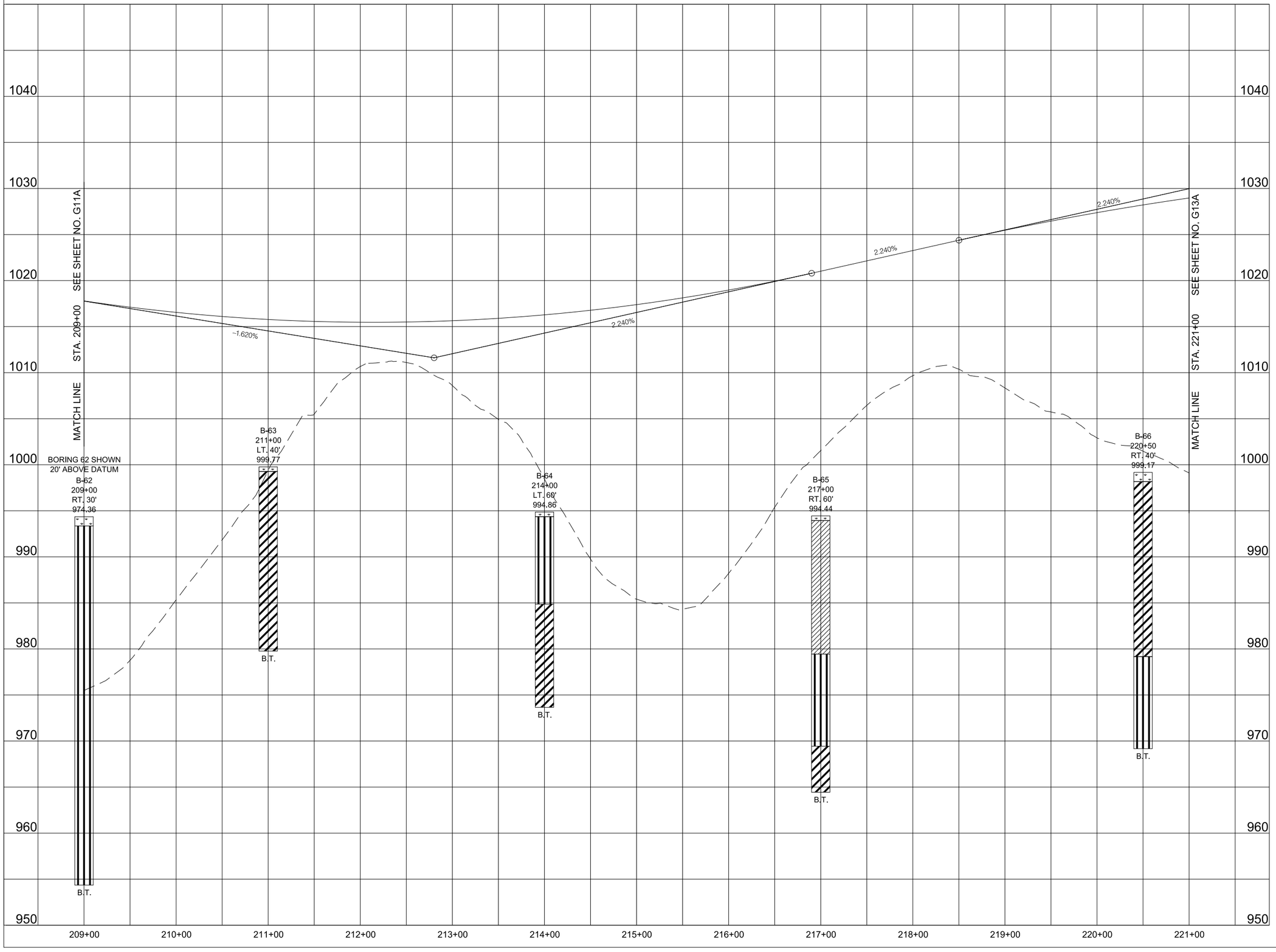
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G12A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GECTECHNICAL PLANS PROFILE

STA.209+00 TO STA.221+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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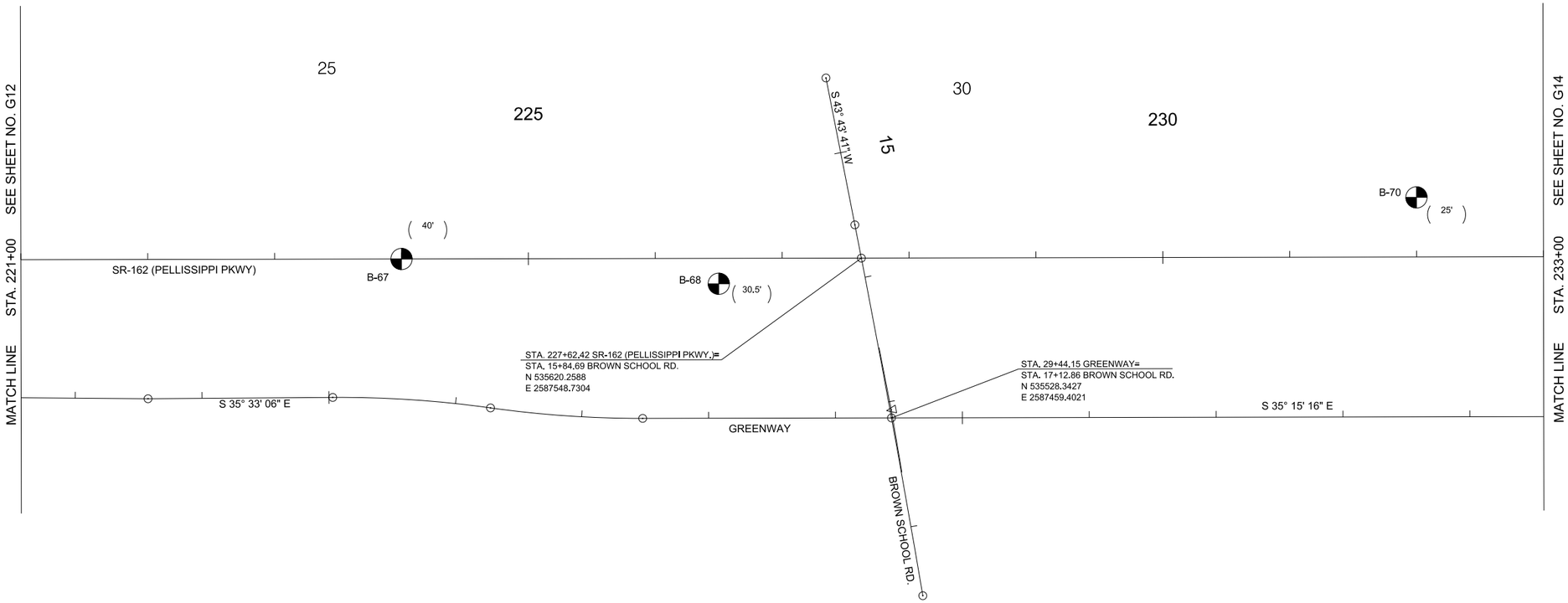
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G13

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
67	1	0-1
	24	1-15
	22	15-25
	24	25-40
68	1	0-1
	22	1-10
	24	10-25
	22	25-30.5
70	1	0-1
	26	1-4
	22	4-25

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
24	RED HIGH PLASTICITY CLAY	93.4	26.8	12.50-31.57	30.53	55	32	A-7-5	CH
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL



LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 221+00 TO STA. 233+00
SCALE: 1"= 50'

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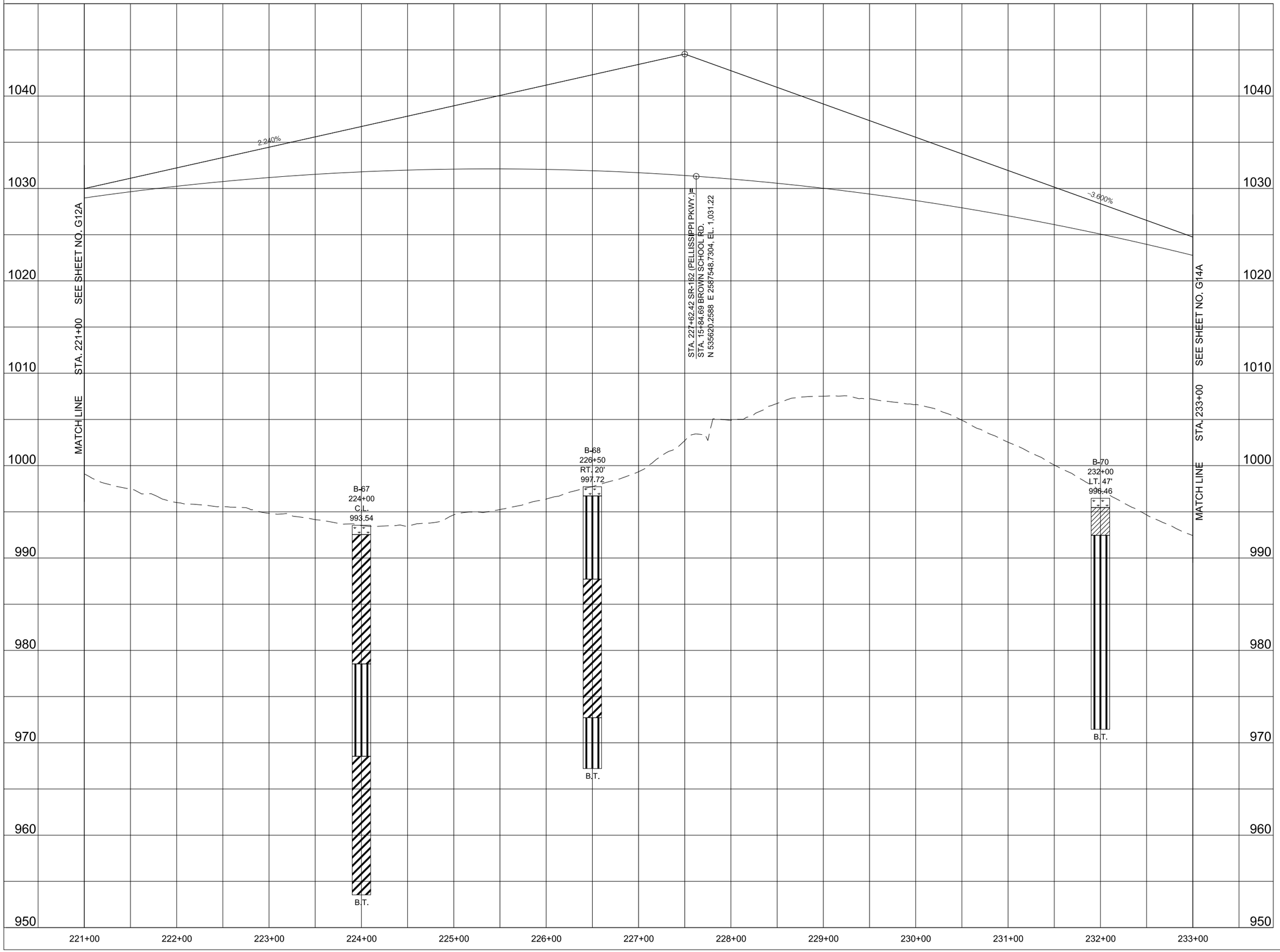
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G13A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.221+00 TO STA.233+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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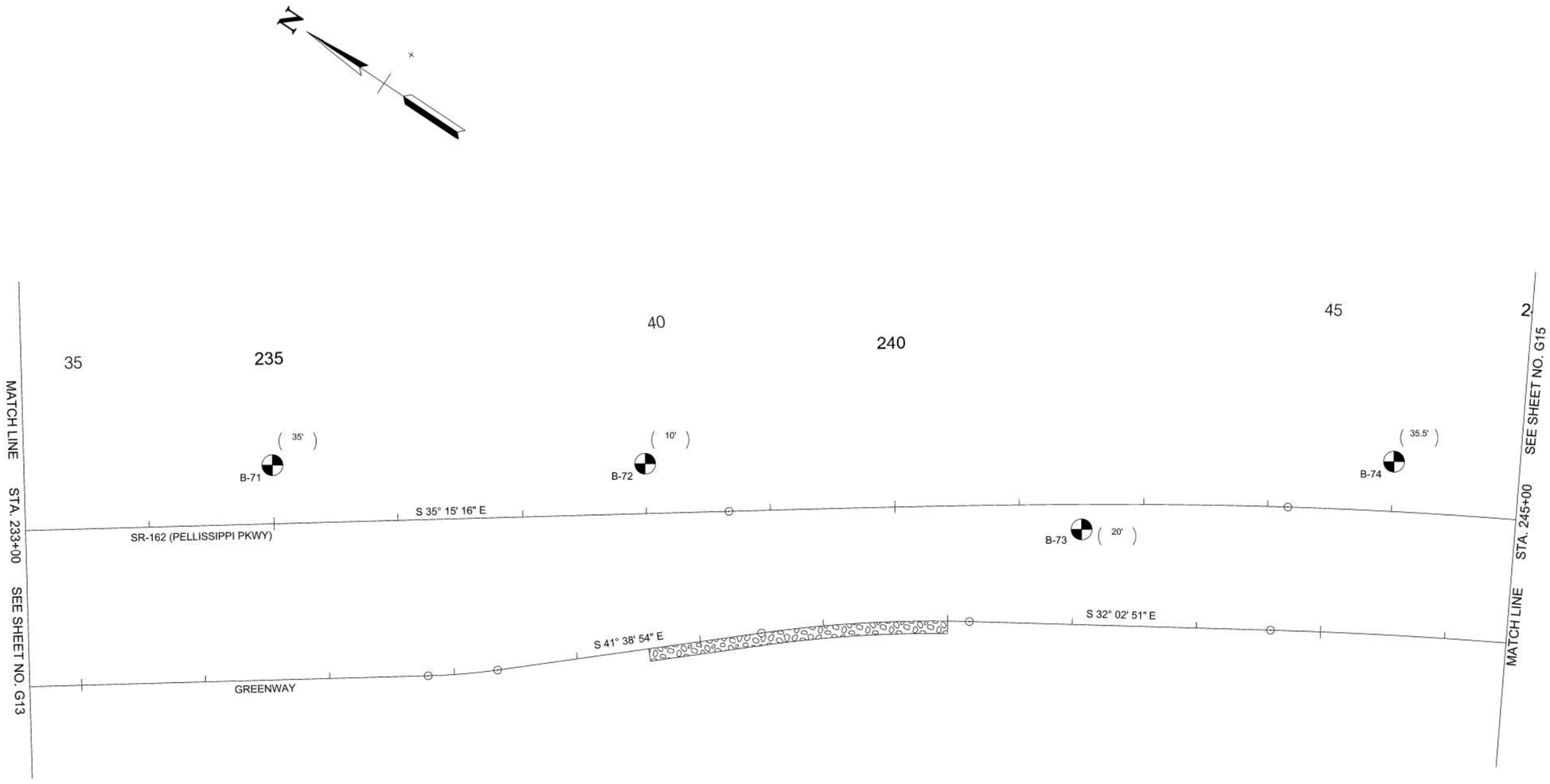
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G14

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
71	1	0-1
	26	1-10
	24	10-25
	22	25-35
72	1	0-1
	10	1-10
73	1	0-1
	26	1-10
	22	10-20
74	1	0-1
	24	1-15
	27	15-35.5

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
10	RED TO BROWN SILT	93.9	25.3	12.97-35.96	28.50	52	28	A-7-6	ML
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
24	RED HIGH PLASTICITY CLAY	93.4	26.8	12.50-31.57	30.53	55	32	A-7-5	CH
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML

LEGEND

B-1 (24.5'/70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 233+00 TO STA. 245+00
SCALE: 1"= 50'

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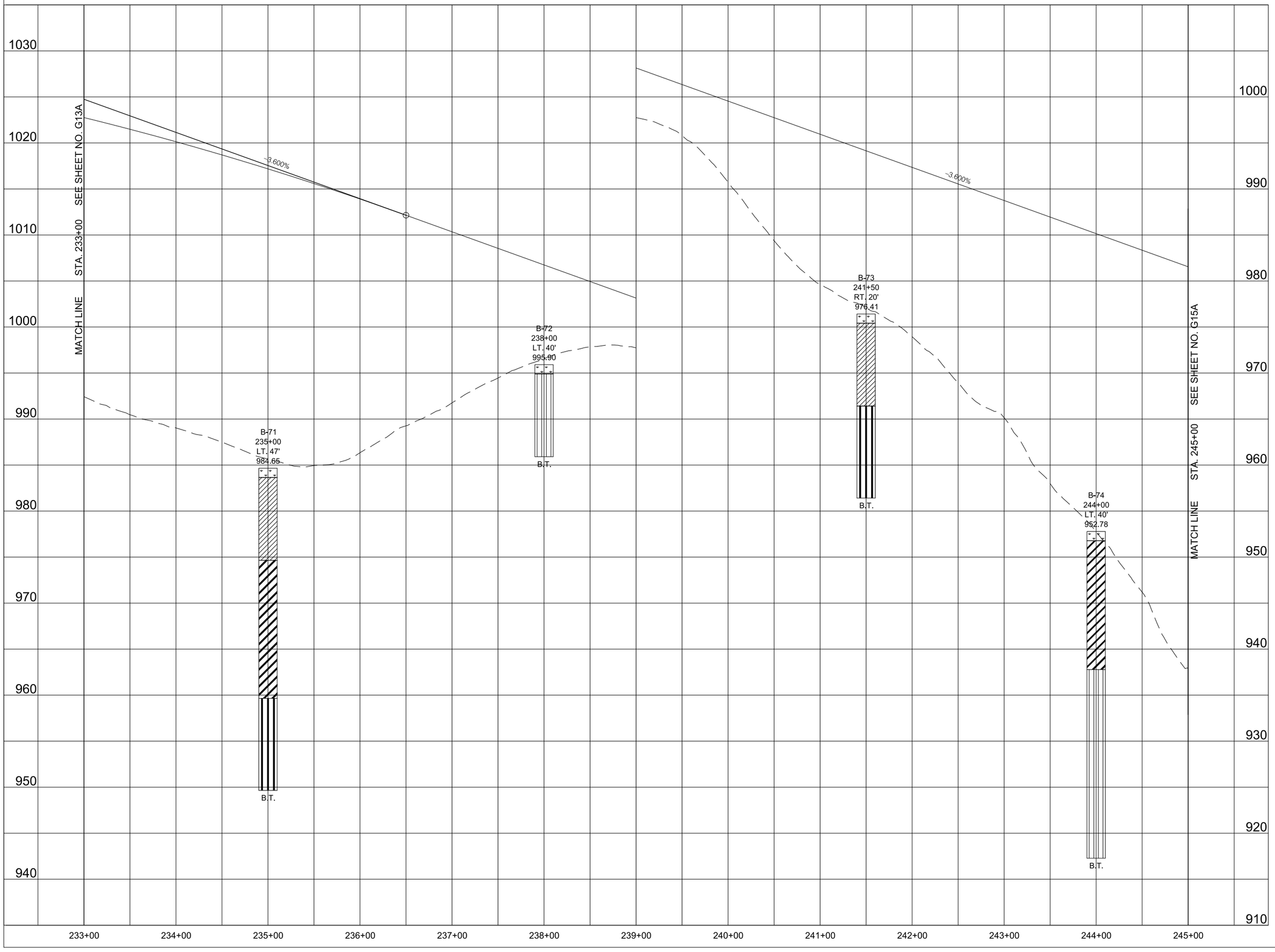
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G14A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.233+00 TO STA.245+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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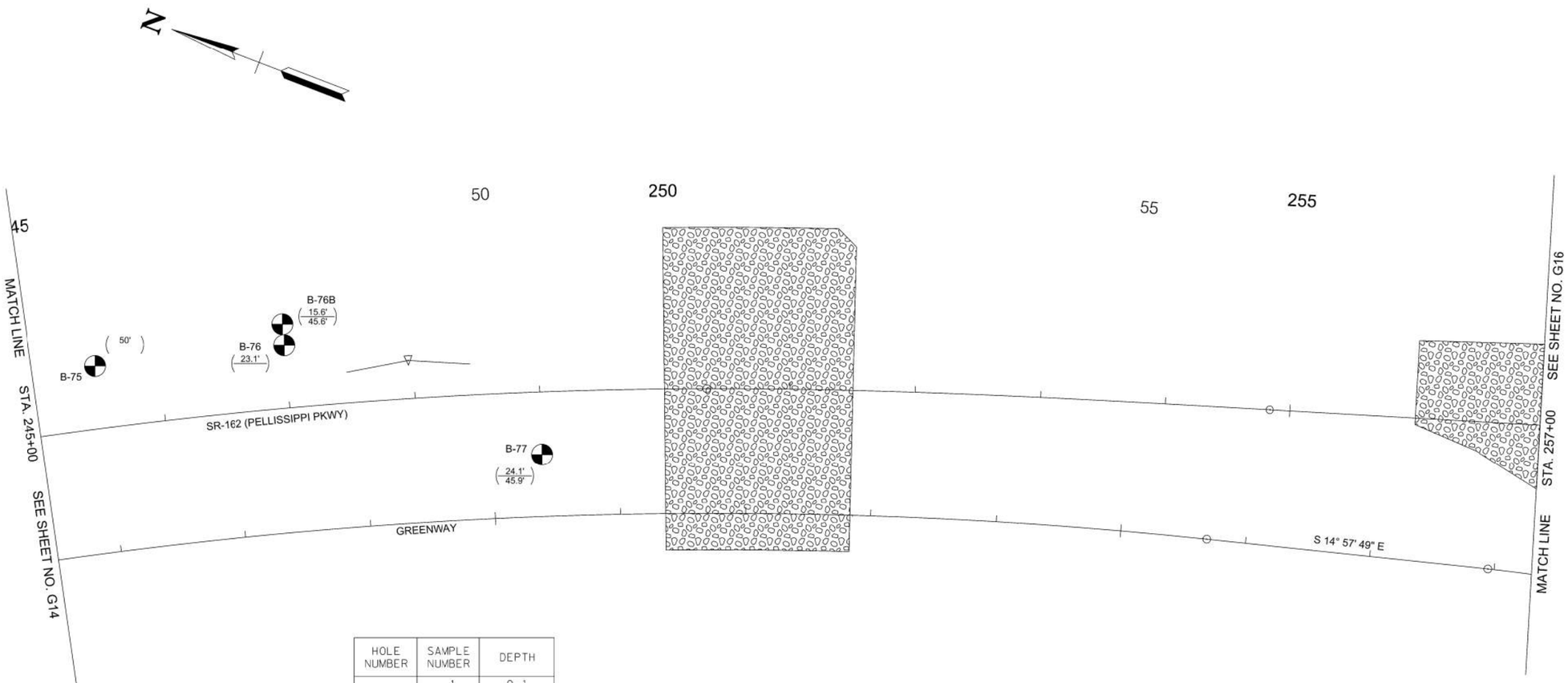
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G15

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
75	1	0-1
	26	1-10
	22	10-20
	24	20-50
76	1	0-0.5
	26	0.5-10
	24	10-23.1
76B	32	0-15.6
	33	15.6-45.6
77	1	0-1
	26	1-12
	27	12-15
	26	15-18
	27	18-24.1
	28	24.1-45.9

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
24	RED HIGH PLASTICITY CLAY	93.4	26.8	12.50-31.57	30.53	55	32	A-7-5	CH
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
28	SHALE (BLOCKHOUSE SHALE)								
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
33	LIMESTONE (NEWALA FORMATION)								

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 245+00 TO STA. 257+00
SCALE: 1"= 50'

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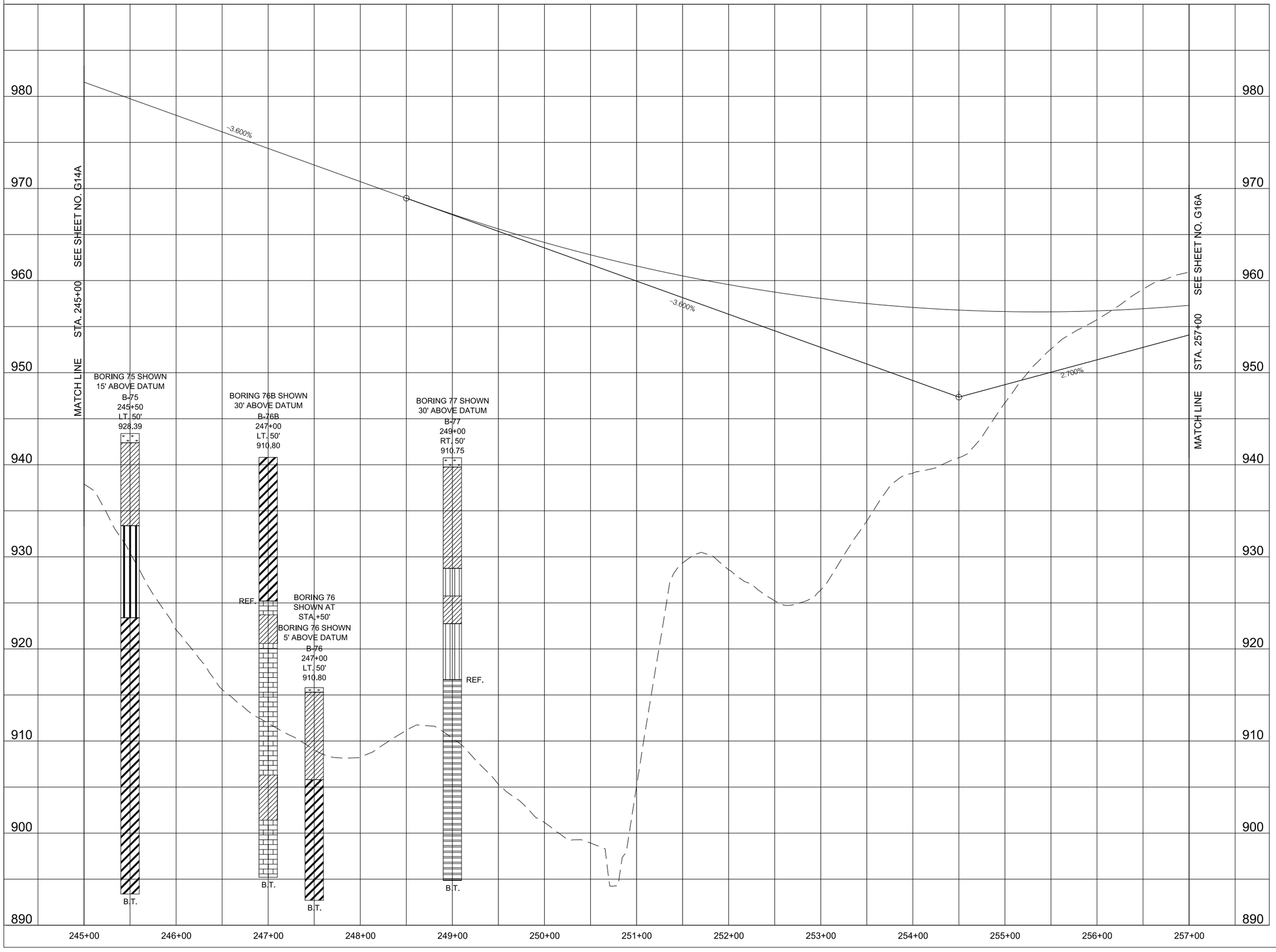
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G15A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.245+00 TO STA.257+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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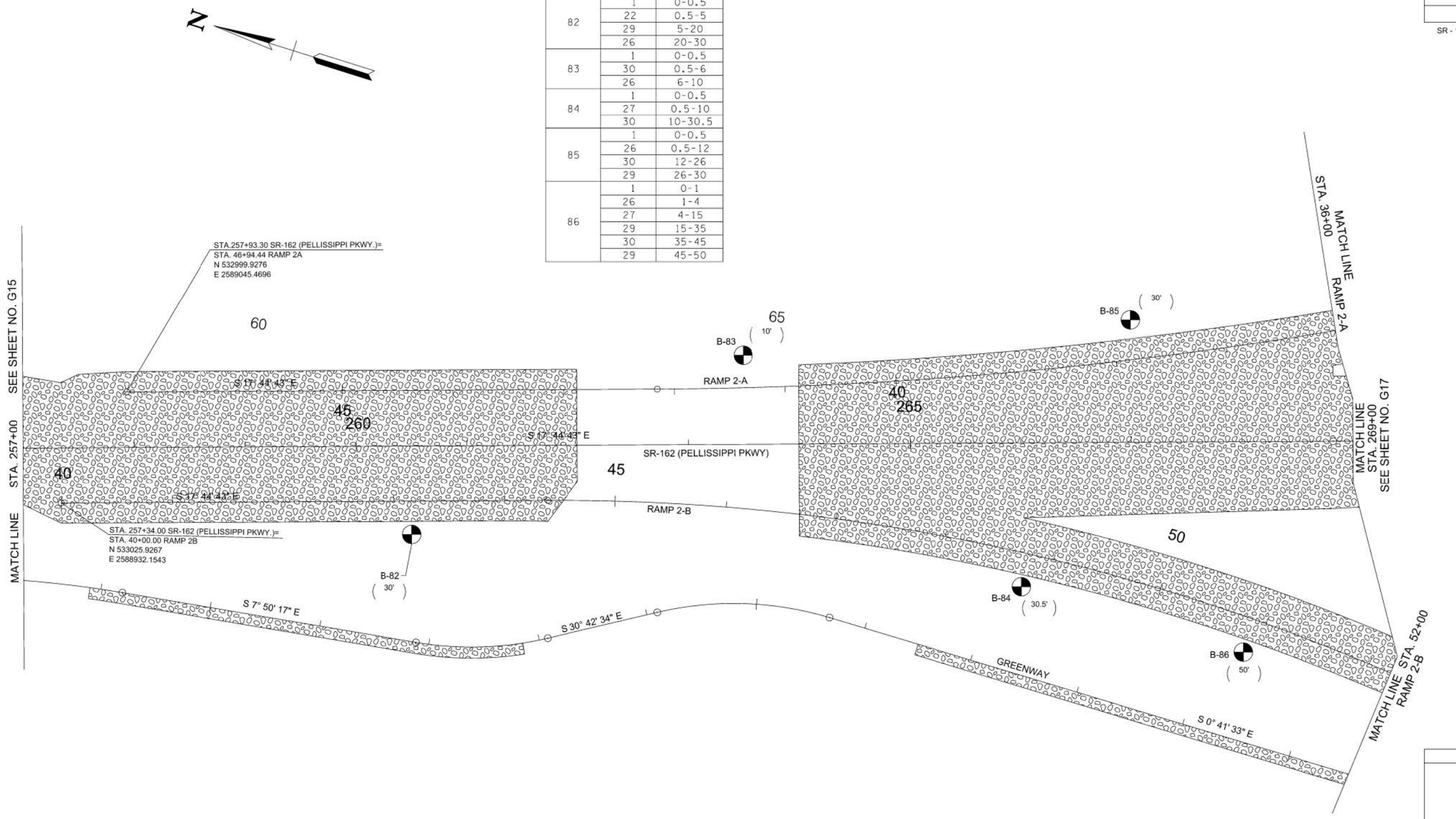
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G16

SR - 162 BLOUNT COUNTY

HOLE NUMBER	SAMPLE NUMBER	DEPTH
82	1	0-0.5
	22	0.5-5
	29	5-20
	26	20-30
83	1	0-0.5
	30	0.5-6
	26	6-10
84	1	0-0.5
	27	0.5-10
	30	10-30.5
85	1	0-0.5
	26	0.5-12
	30	12-26
	29	26-30
86	1	0-1
	26	1-4
	27	4-15
	29	15-35
	30	35-45
	29	45-50



SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
22	RED TO BROWN SILT	96.7	25.0	12.47-29.49	26.81	60	31	A-7-5	MH
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
29	RED HIGH PLASTICITY CLAY	98.1	21.1	9.71-26.66	24.67				CH
30	RED TO BROWN SILT	89.3	29.5	14.95-35.44	37.91				MH

LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 257+00 TO STA. 269+00
SCALE: 1"= 50'

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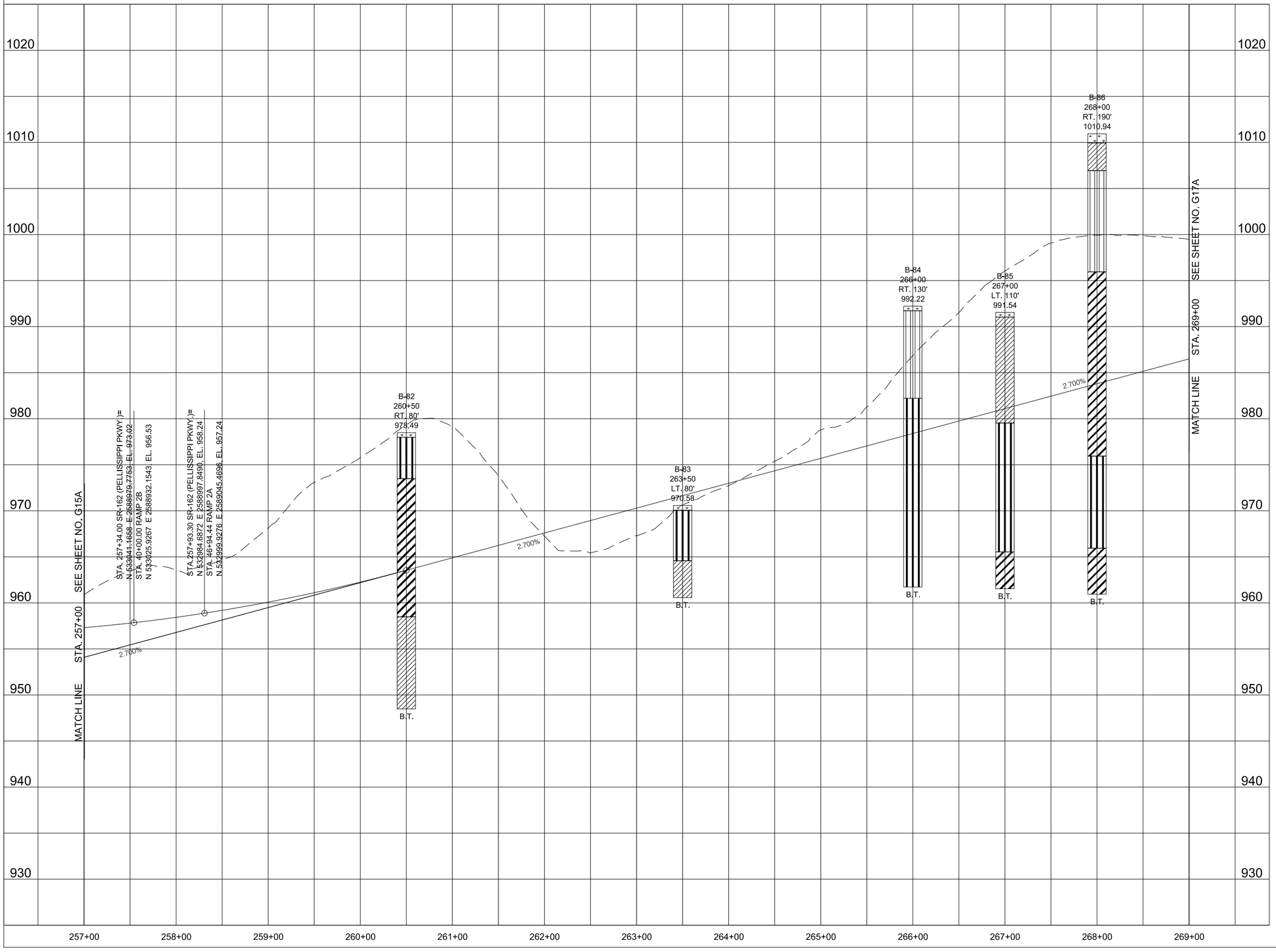
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G16A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.257+00 TO STA.269+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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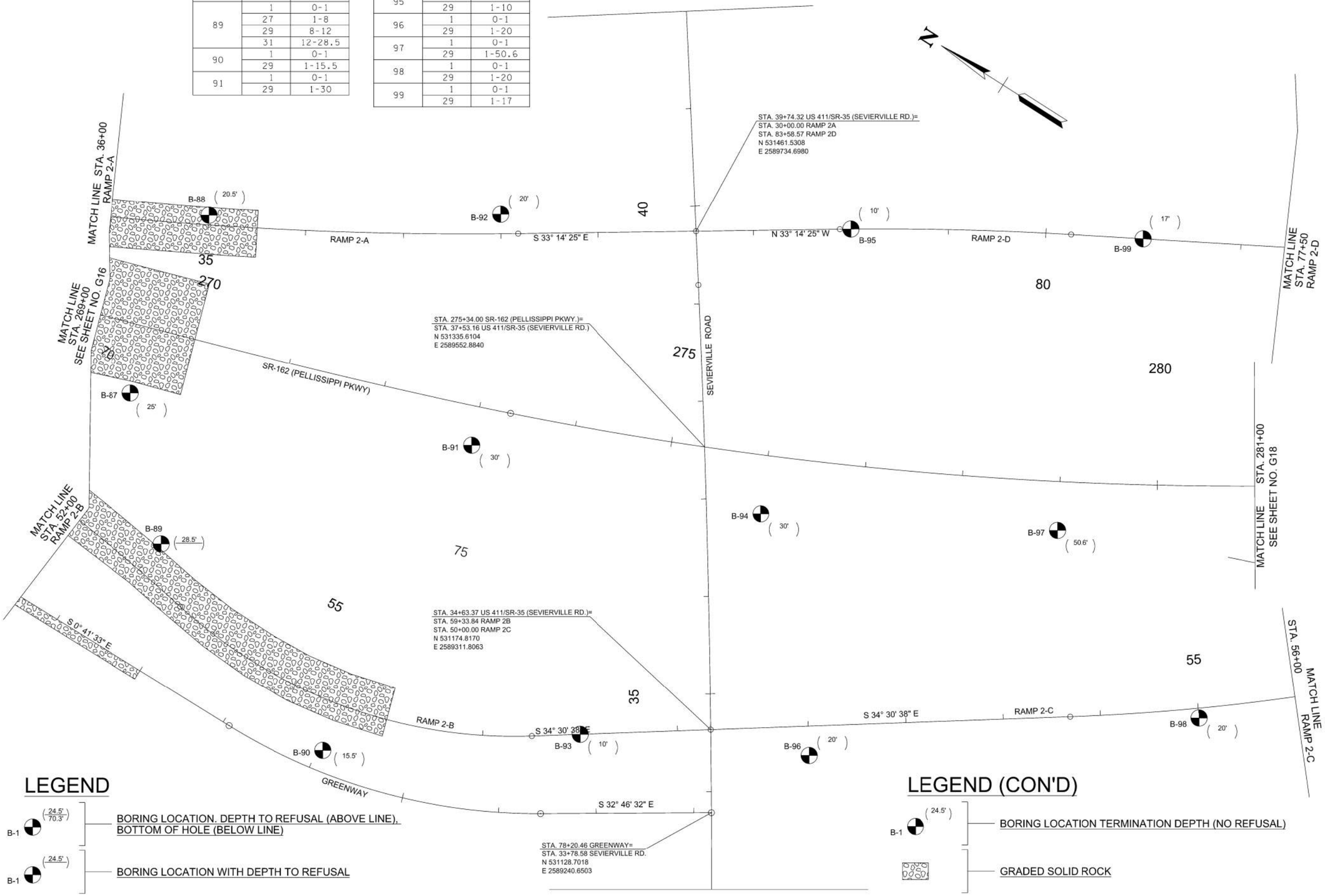
HOLE NUMBER	SAMPLE NUMBER	DEPTH
87	1	0-1
	29	1-4
	31	4-20
	30	20-25
88	1	0-1
	26	1-4
	31	4-20.5
89	1	0-1
	27	1-8
	29	8-12
	31	12-28.5
90	1	0-1
	29	1-15.5
91	1	0-1
	29	1-30

HOLE NUMBER	SAMPLE NUMBER	DEPTH
92	1	0-1
	29	1-20
93	1	0-1
	29	1-10
94	1	0-1
	29	1-30
95	1	0-1
	29	1-10
96	1	0-1
	29	1-20
97	1	0-1
	29	1-50.6
98	1	0-1
	29	1-20
99	1	0-1
	29	1-17

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
29	RED HIGH PLASTICITY CLAY	98.1	21.1	9.71-26.66	24.67				CH
30	RED TO BROWN SILT	89.3	29.5	14.95-35.44	37.91				MH
31	BROWN SILTY SAND	102.8	20.7	10.10-26.88	16.55				SM

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G17

SR - 162 BLOUNT COUNTY



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

LEGEND (CON'D)

- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 269+00 TO STA. 281+00
SCALE: 1"= 50'

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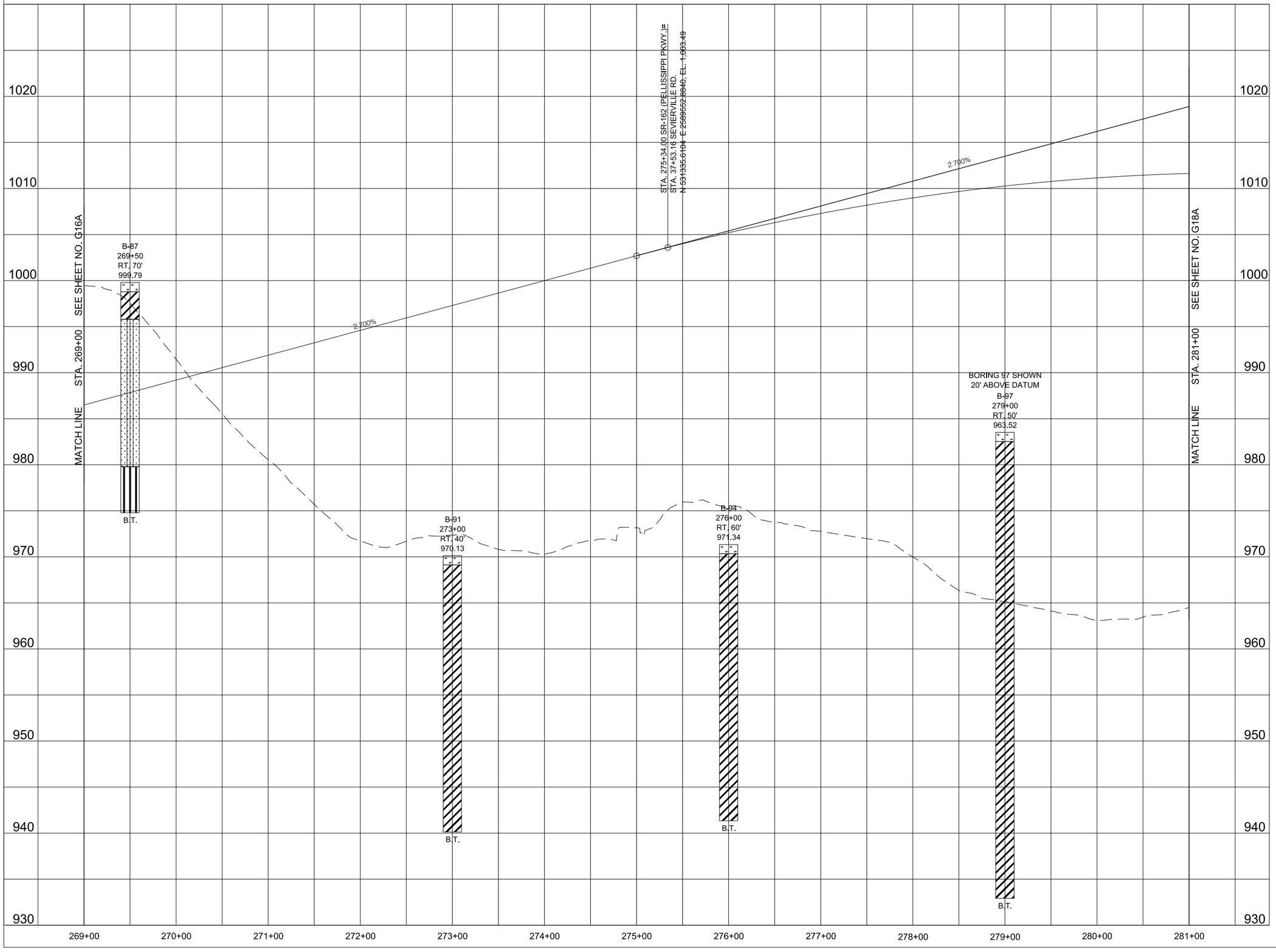
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G17A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.269+00 TO STA.281+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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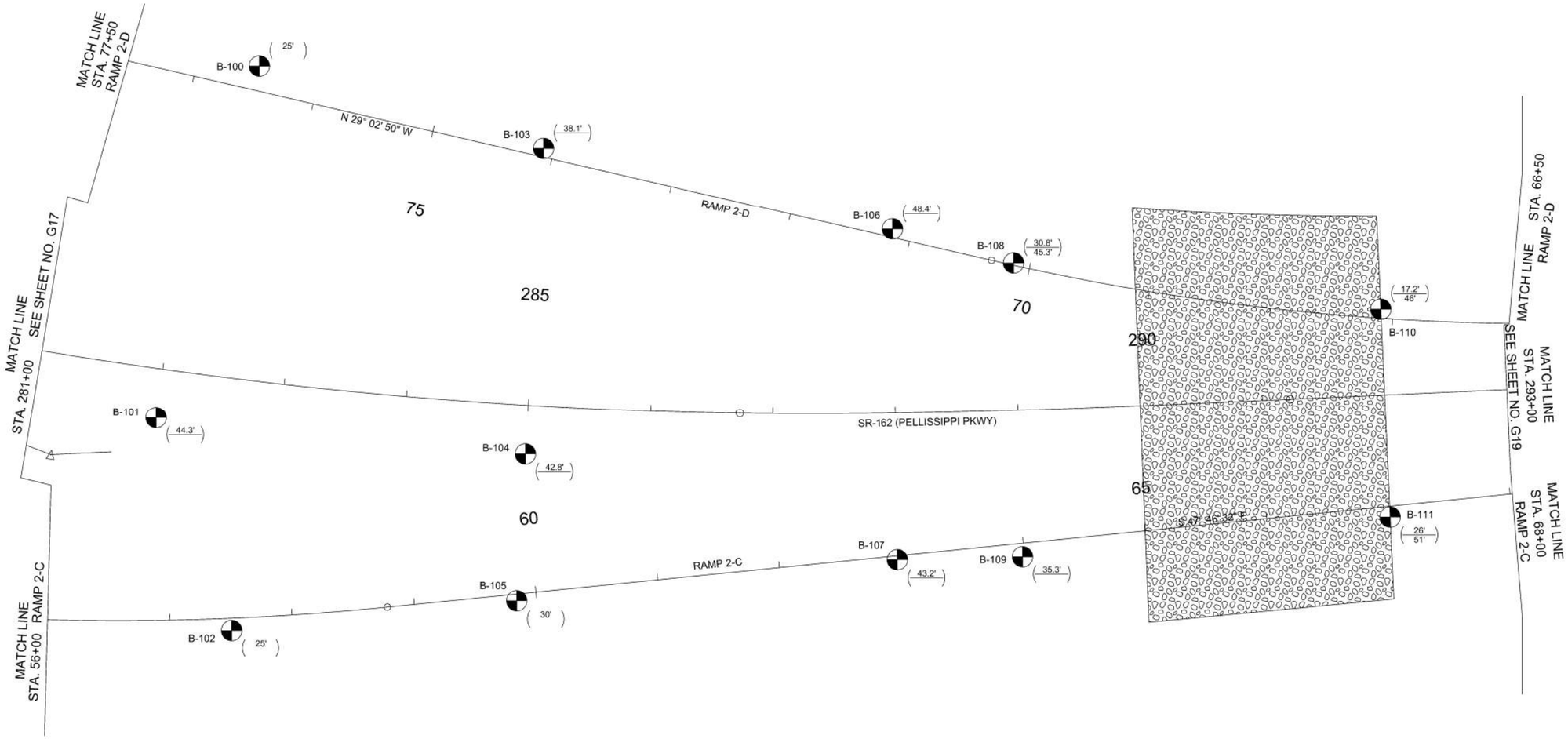
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G18

SR - 162 BLOUNT COUNTY

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
33	LIMESTONE (NEWALA FORMATION)								
34	REDDISH-BROWN SILTY CLAY				20.45	29	22	A-4	CL-ML



HOLE NUMBER	SAMPLE NUMBER	DEPTH
100	1	0-2
	32	2-25
101	1	0-2
	32	2-44.3
102	1	0-2
	32	2-25
103	1	0-2
	32	2-38.1
104	1	0-2
	32	2-42.8
105	1	0-2
	32	2-30
106	1	0-1
	32	1-48.4

HOLE NUMBER	SAMPLE NUMBER	DEPTH
107	1	0-1.5
	32	1.5-43.2
108	1	0-1.5
	32	1.5-30.8
	33	30.8-45.3
109	1	0-1.5
	32	1.5-35.3
110	1	0-1
	27	1-17.2
	33	17.2-46
111	1	0-1
	27	1-20
	34	20-26
	33	26-51

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 281+00 TO STA. 293+00
SCALE: 1"= 50'

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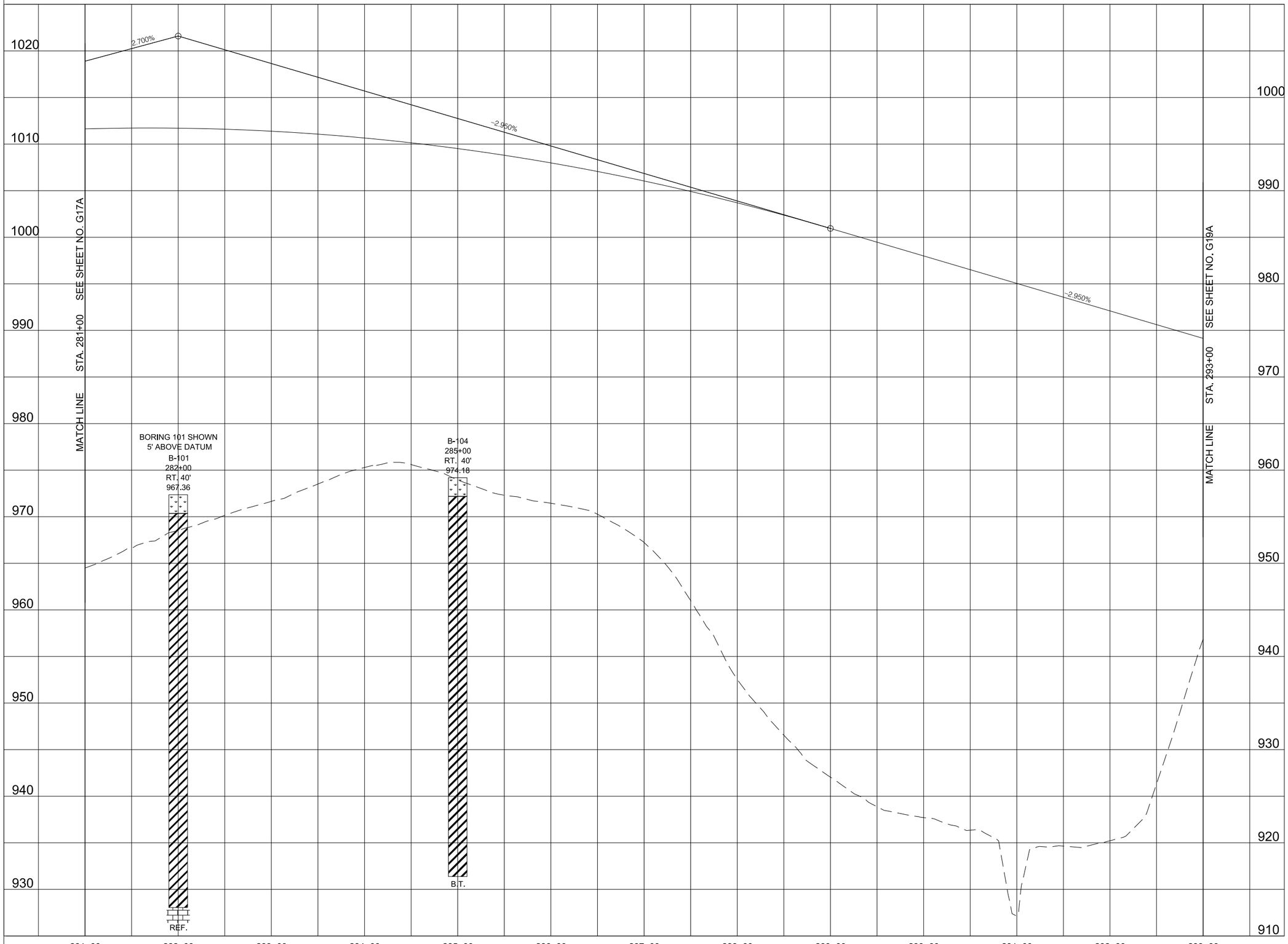
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G18A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.281+00 TO STA.293+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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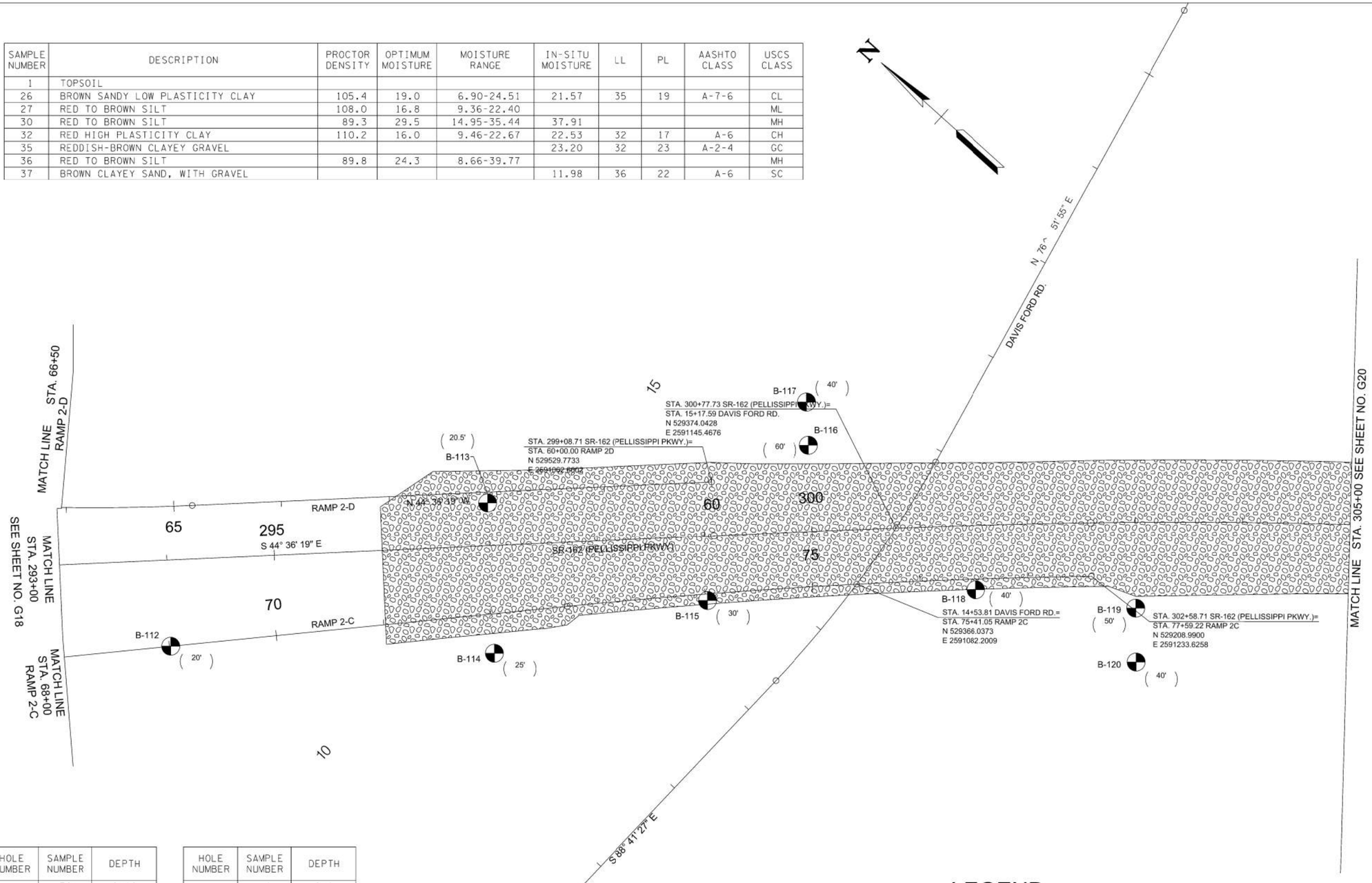
SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
30	RED TO BROWN SILT	89.3	29.5	14.95-35.44	37.91				MH
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
35	REDDISH-BROWN CLAYEY GRAVEL				23.20	32	23	A-2-4	GC
36	RED TO BROWN SILT	89.8	24.3	8.66-39.77					MH
37	BROWN CLAYEY SAND, WITH GRAVEL				11.98	36	22	A-6	SC

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G19

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
112	30	0-10
	27	10-20
113	1	0-0.5
	30	0.5-20.5
114	1	0-1
	27	1-25
115	1	0-1
	30	1-20
	27	20-30
116	1	0-1
	32	1-5
	30	5-15
	26	15-25
	27	25-52
	35	52-60

HOLE NUMBER	SAMPLE NUMBER	DEPTH
117	1	0-1
	30	1-20
	26	20-30
	27	30-40
118	1	0-1
	36	1-25
	27	25-40
119	1	0-1
	37	1-5
	36	5-10
	32	10-15
	36	15-20
	32	20-50
120	1	0-1
	26	1-5
	36	5-20
	32	20-40

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 293+00 TO STA. 305+00
SCALE: 1"= 50'

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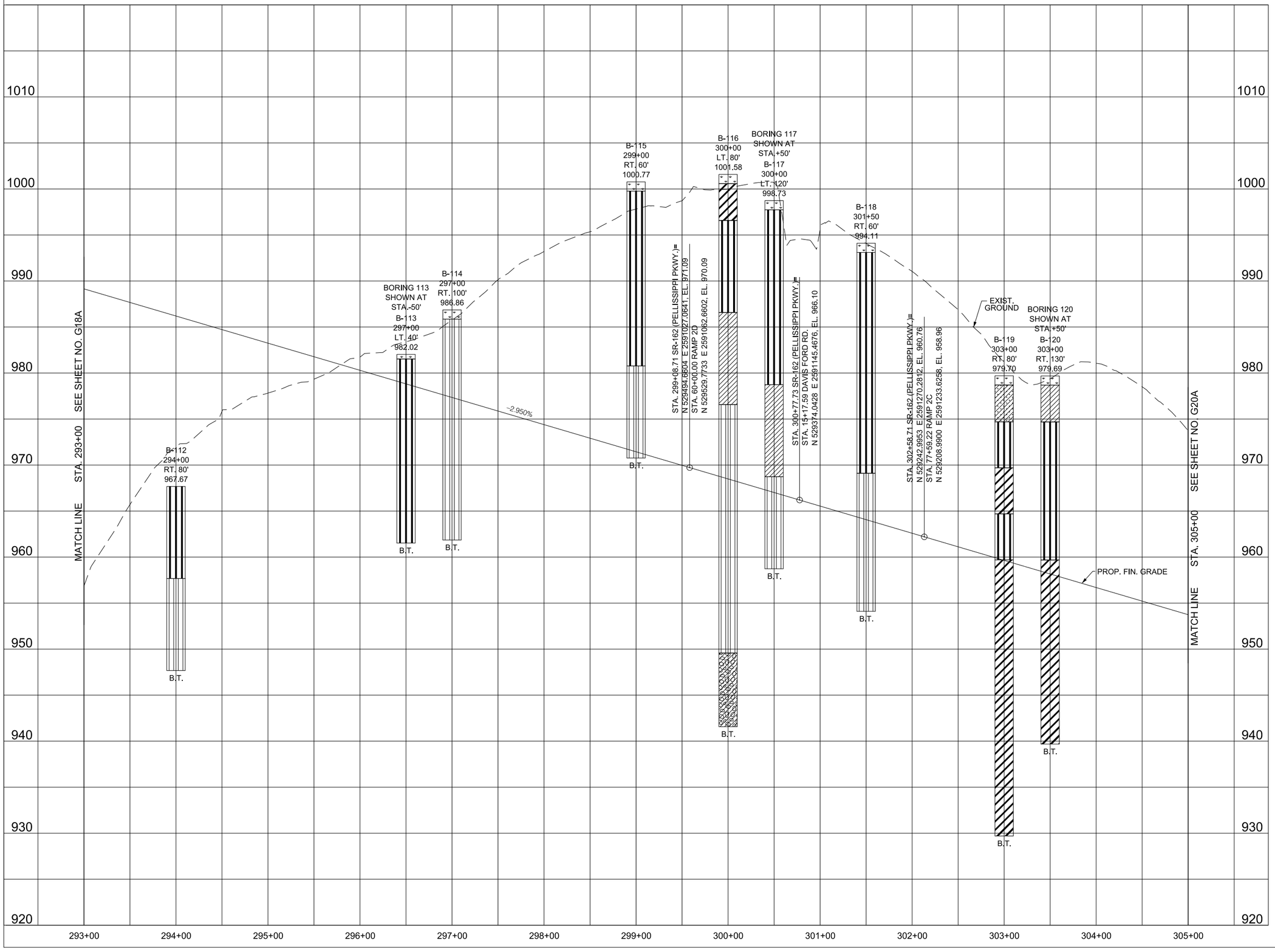
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G19A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.286+00 TO STA.305+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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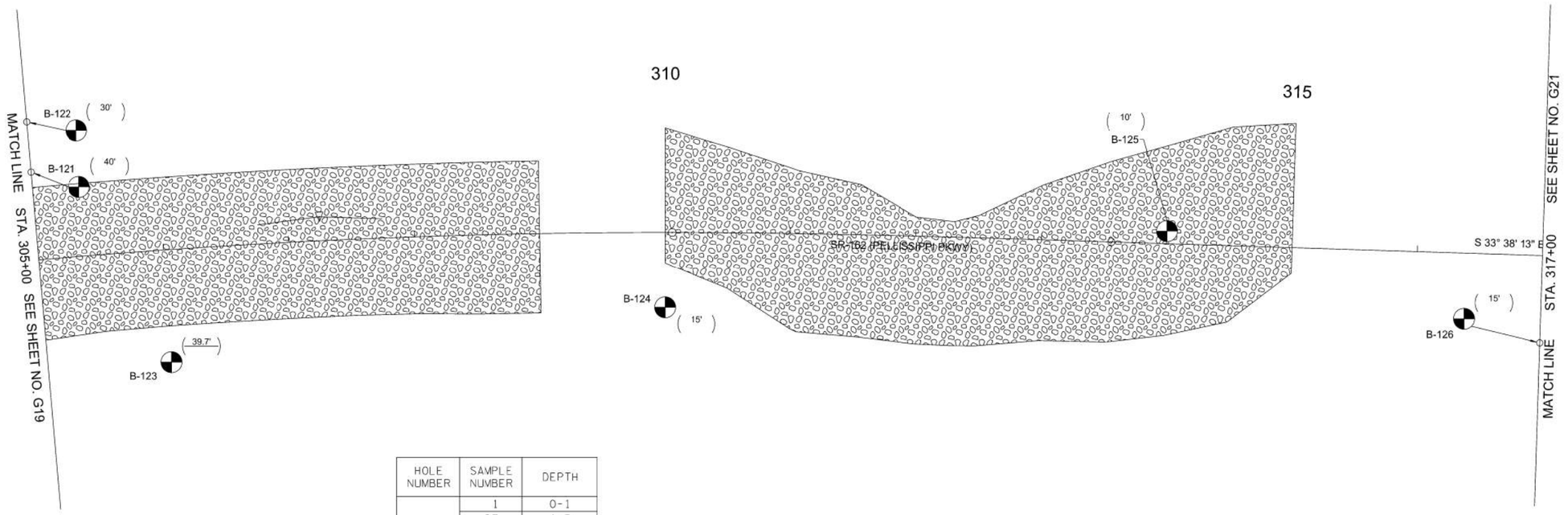
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G20

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
121	1	0-1
	27	1-5
	36	5-20
	32	20-40
122	1	0-1
	36	1-30
123	1	0-1
	26	1-5
	36	5-20
	32	20-25
	27	25-39.7
124	1	0-1
	36	1-15
125	1	0-1
	26	1-10
126	1	0-1
	27	1-15

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
36	RED TO BROWN SILT	89.8	24.3	8.66-39.77					MH

LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 305+00 TO STA. 317+00
SCALE: 1"= 50'

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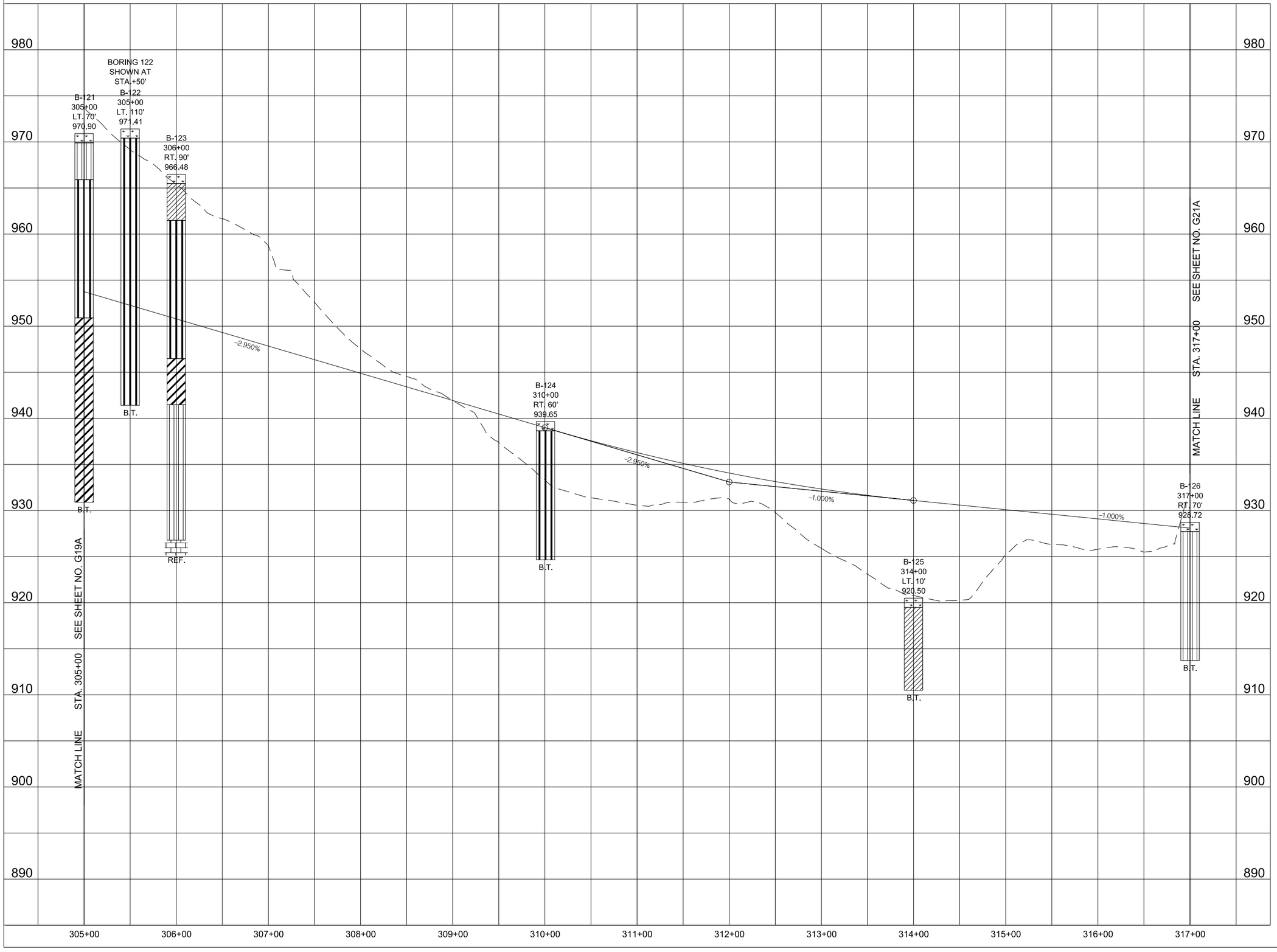
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G20A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.305+00 TO STA.317+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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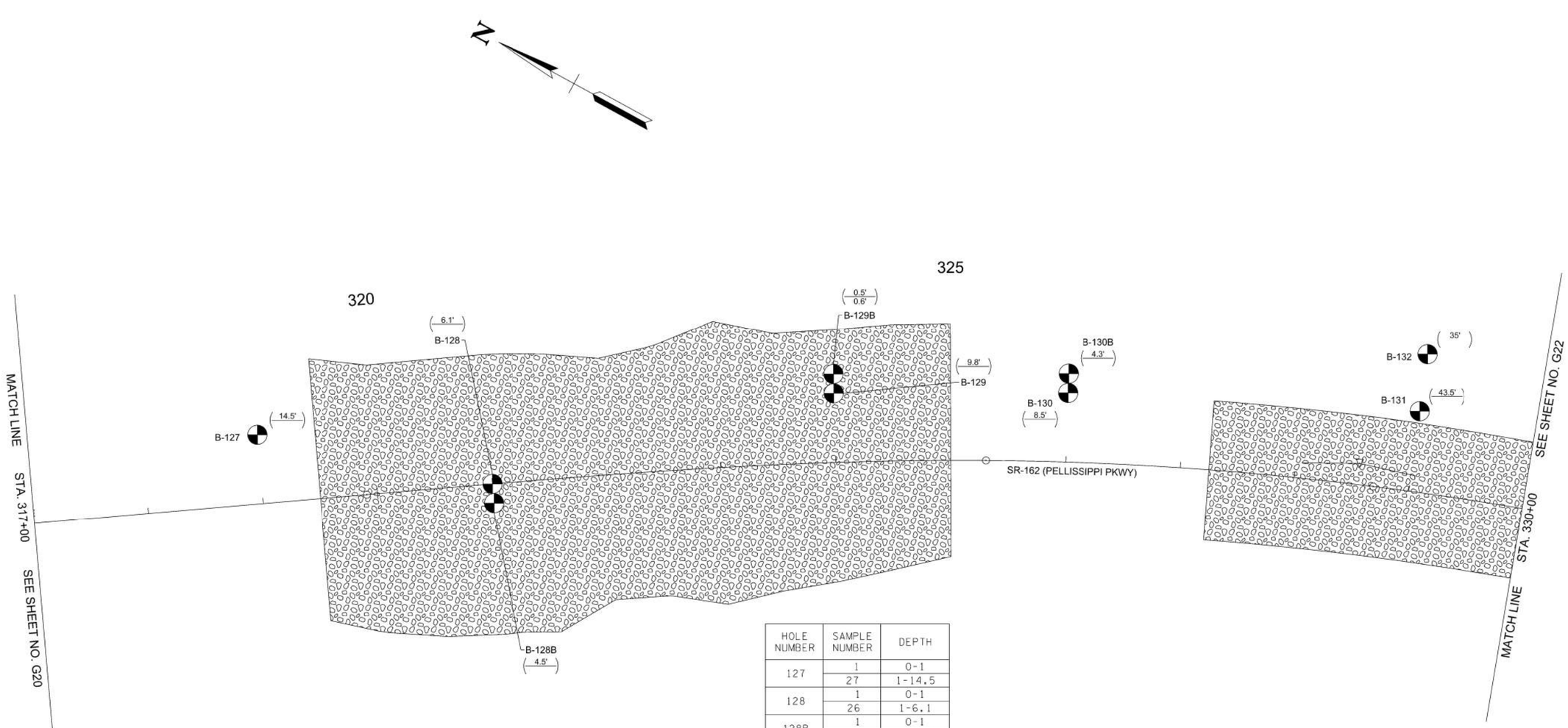
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G21

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
127	1	0-1
	27	1-14.5
128	1	0-1
	26	1-6.1
128B	1	0-1
	26	1-4.5
129	1	0-1
	26	1-9.8
129B	1	0-0.6
130	1	0-1
	26	1-6
	38	6-8.5
130B	1	0-1
	26	1-4.3
131	1	0-1
	38	1-20
	26	20-25
	32	25-43.5
132	1	0-1
	26	1-3
	32	3-6
	38	6-35

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
27	RED TO BROWN SILT	108.0	16.8	9.36-22.40					ML
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
39	BROWN SILTY GRAVEL	99.1	23.0	7.11-23.66	31.13				GM

LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 317+00 TO STA. 330+00
SCALE: 1"= 50'

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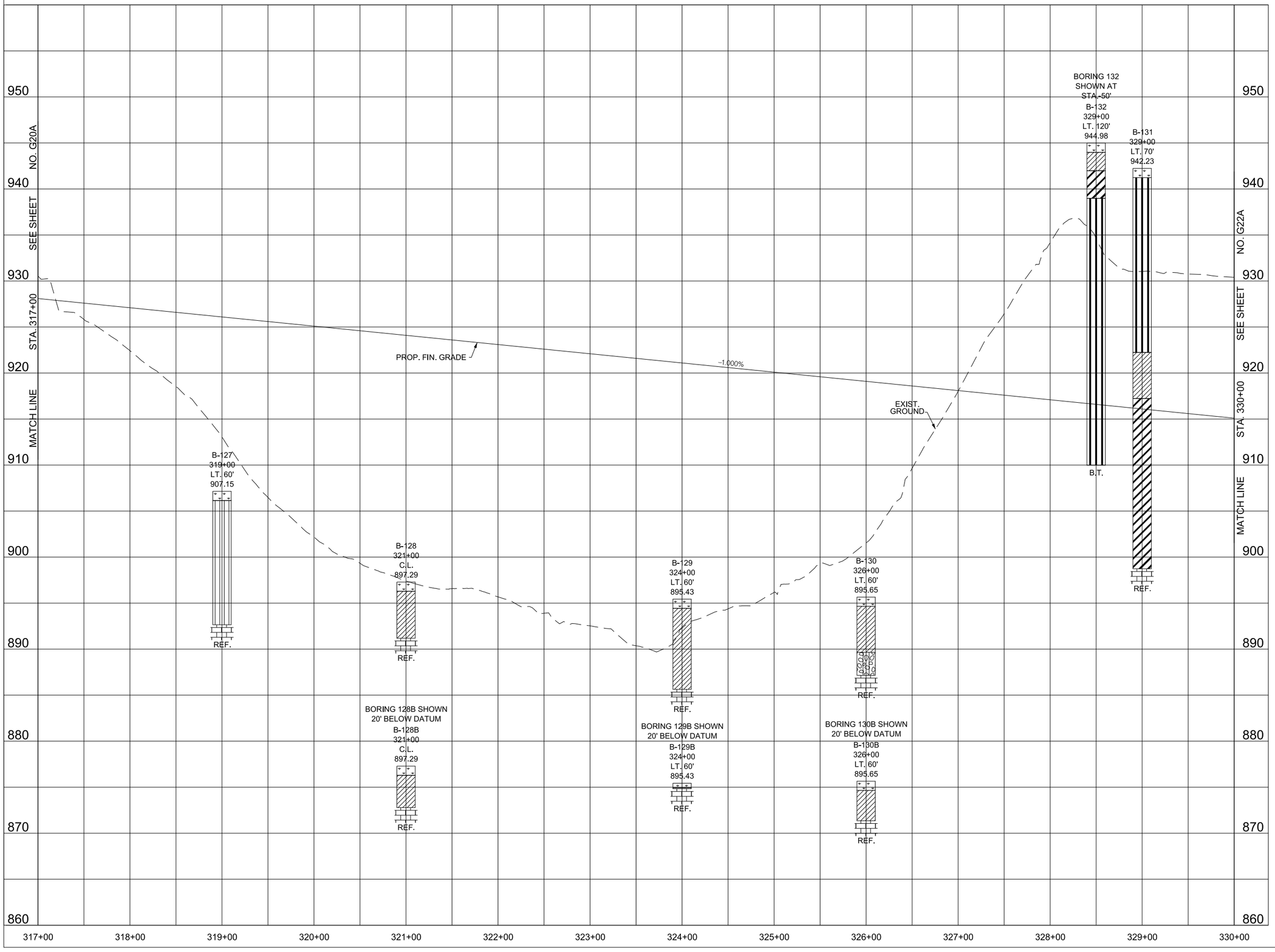
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G21A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.317+00 TO STA.330+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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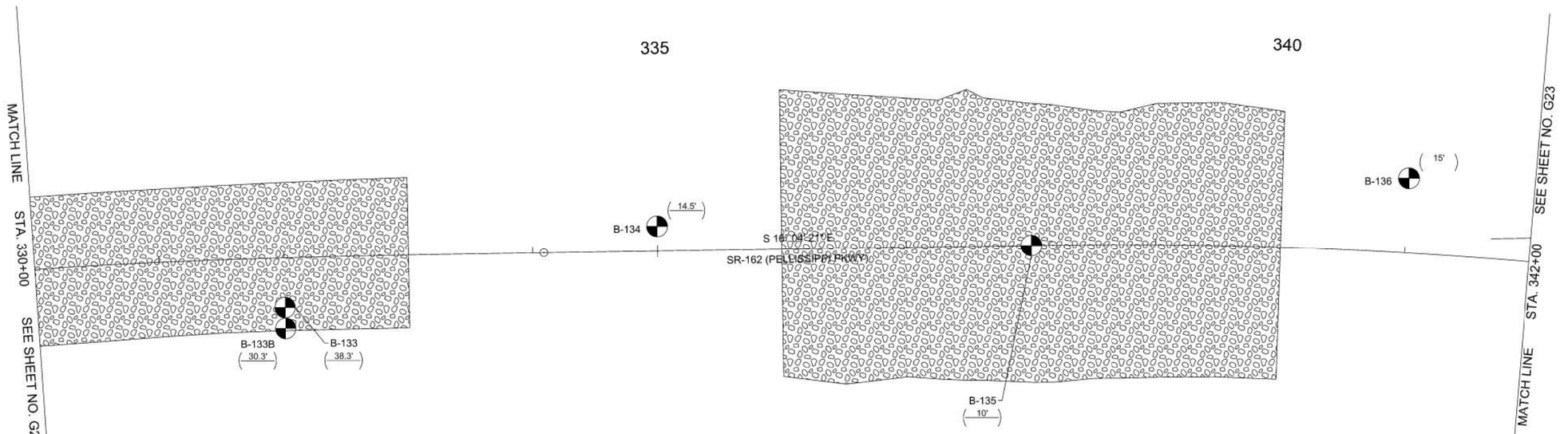
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G22

SR - 162 BLOUNT COUNTY



HOLE NUMBER	SAMPLE NUMBER	DEPTH
133	1	0-1
	39	1-15
	26	15-38.3
133B	1	0-1
	39	1-15
	26	15-30.3
134	1	0-1
	37	1-5
	32	5-14.5
135	1	0-1
	26	1-10
136	1	0-1
	37	1-5
	32	5-15

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
32	RED HIGH PLASTICITY CLAY	110.2	16.0	9.46-22.67	22.53	32	17	A-6	CH
37	BROWN CLAYEY SAND, WITH GRAVEL				11.98	36	22	A-6	SC
39	BROWN SILTY GRAVEL	99.1	23.0	7.11-23.66	31.13				GM

LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 330+00 TO STA. 342+00
SCALE: 1"= 50'

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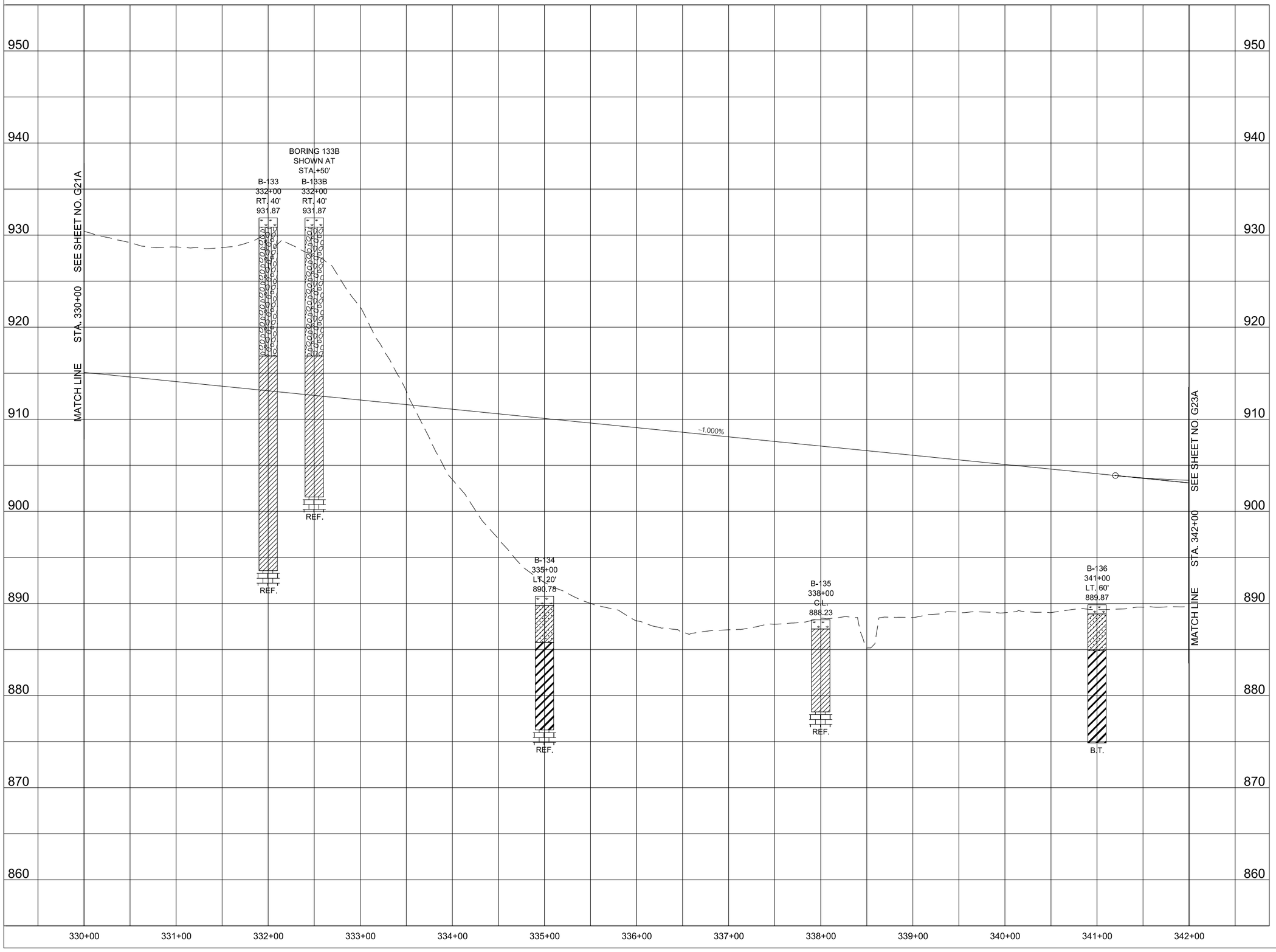
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G22A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.330+00 TO STA.342+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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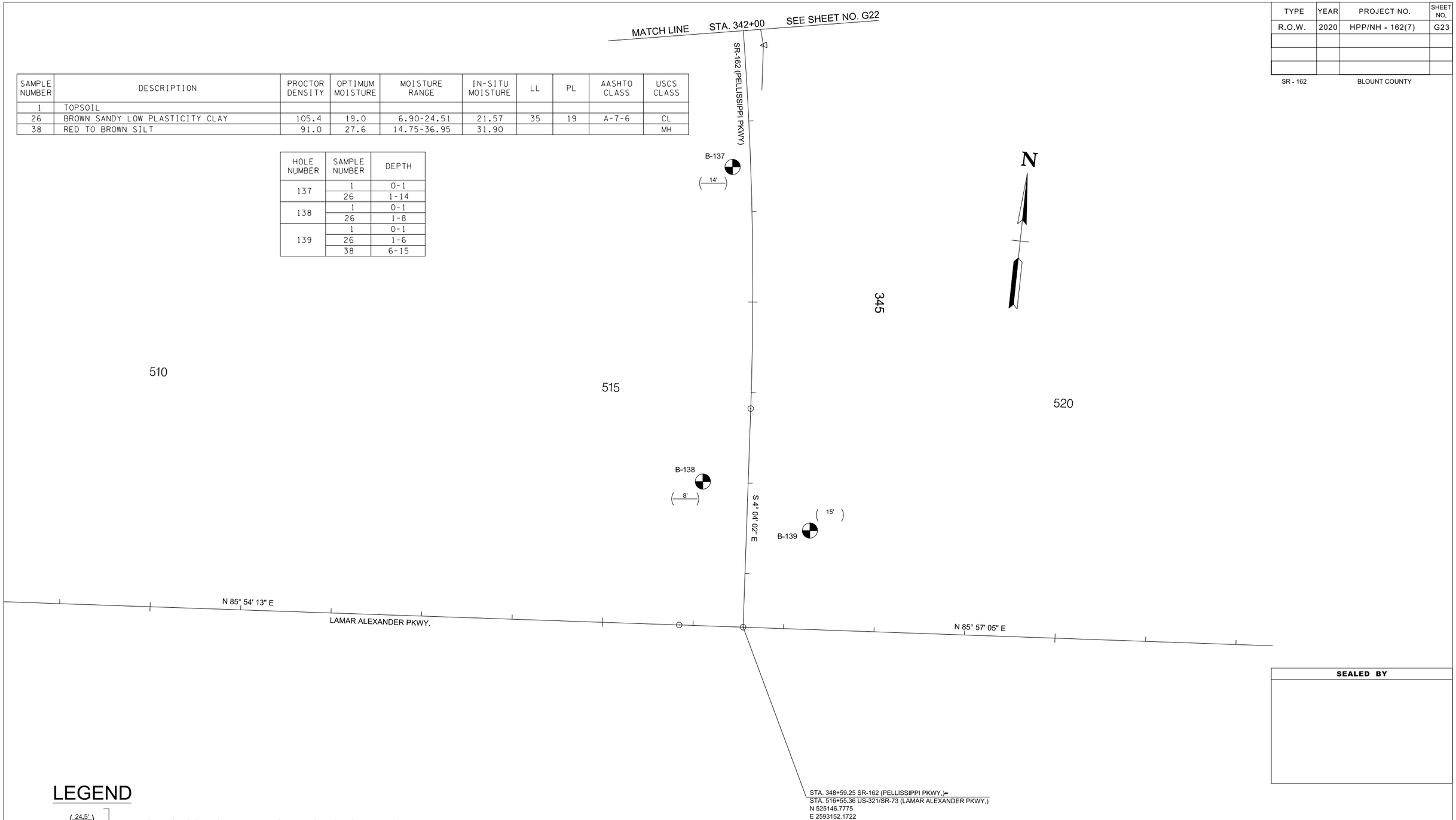
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G23

SR - 162 BLOUNT COUNTY

SAMPLE NUMBER	DESCRIPTION	PROCTOR DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
1	TOPSOIL								
26	BROWN SANDY LOW PLASTICITY CLAY	105.4	19.0	6.90-24.51	21.57	35	19	A-7-6	CL
38	RED TO BROWN SILT	91.0	27.6	14.75-36.95	31.90				MH

HOLE NUMBER	SAMPLE NUMBER	DEPTH
137	1	0-1
	26	1-14
138	1	0-1
	26	1-8
139	1	0-1
	26	1-6
	38	6-15



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- B-1 (24.5') — BORING LOCATION TERMINATION DEPTH (NO REFUSAL)

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS

STA. 342+00 TO END PROJ.
SCALE: 1"= 50'

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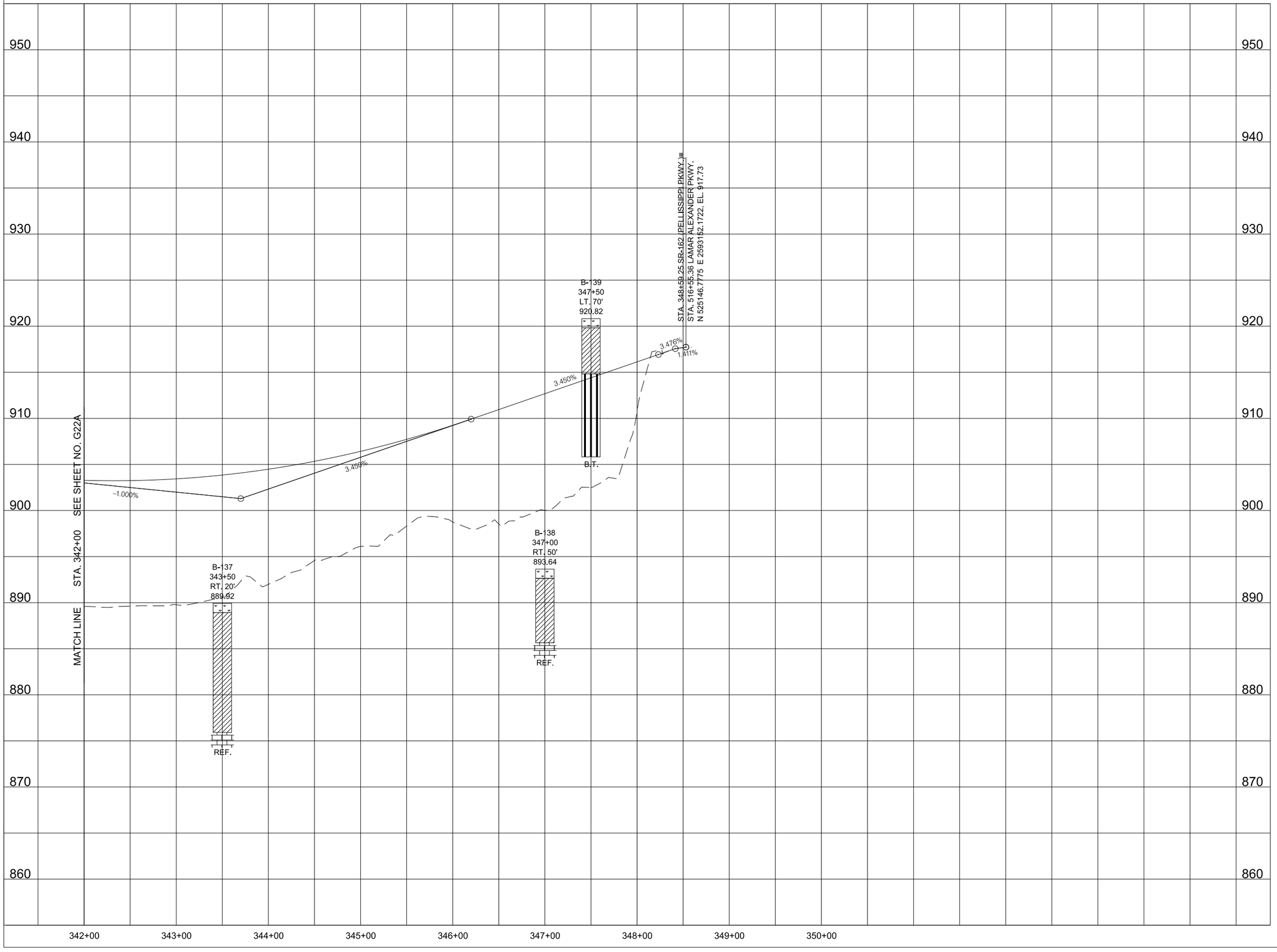
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G23A

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS PROFILE

STA.342+00 TO END PROJ.

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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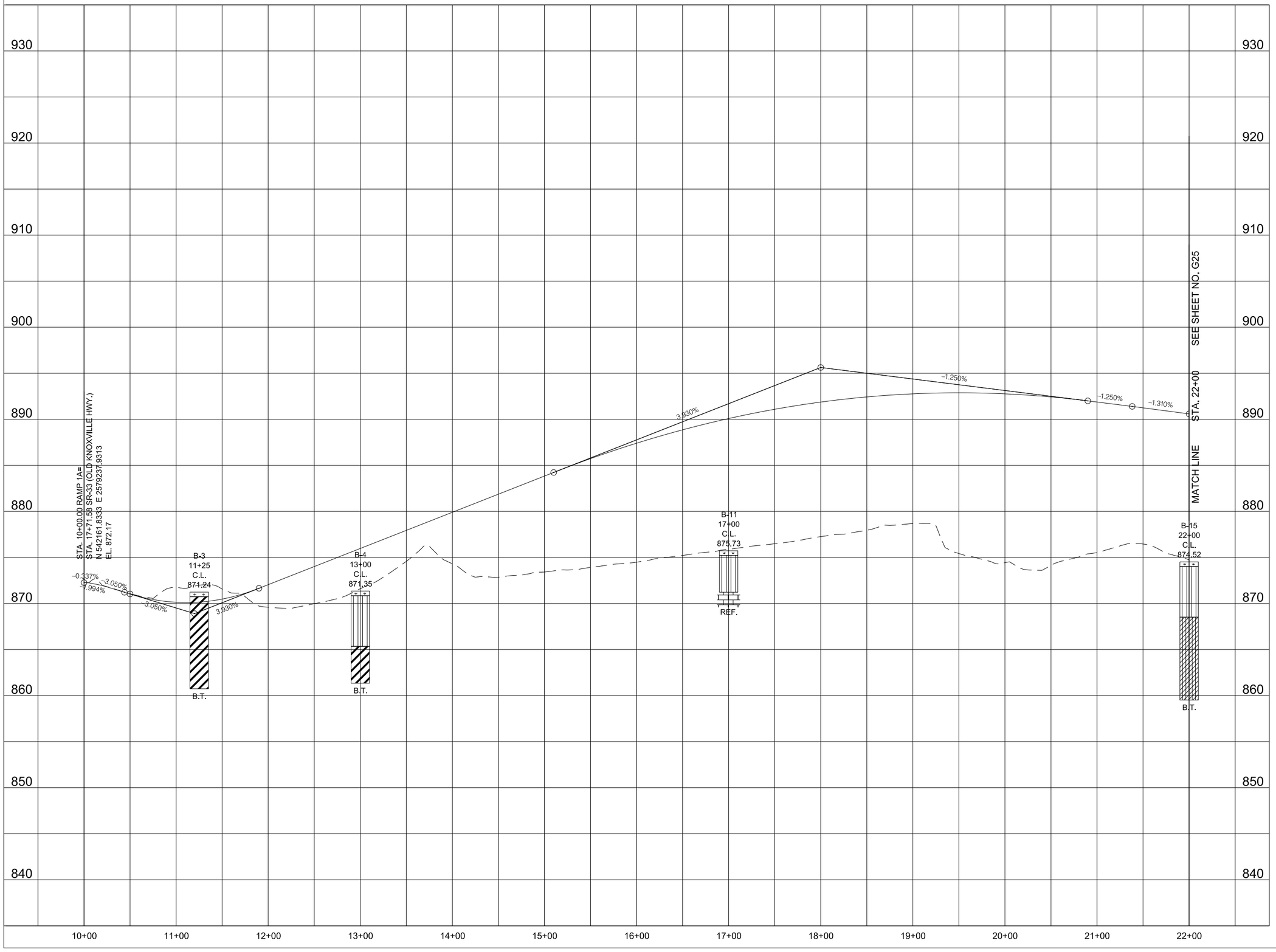
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G24

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 1A PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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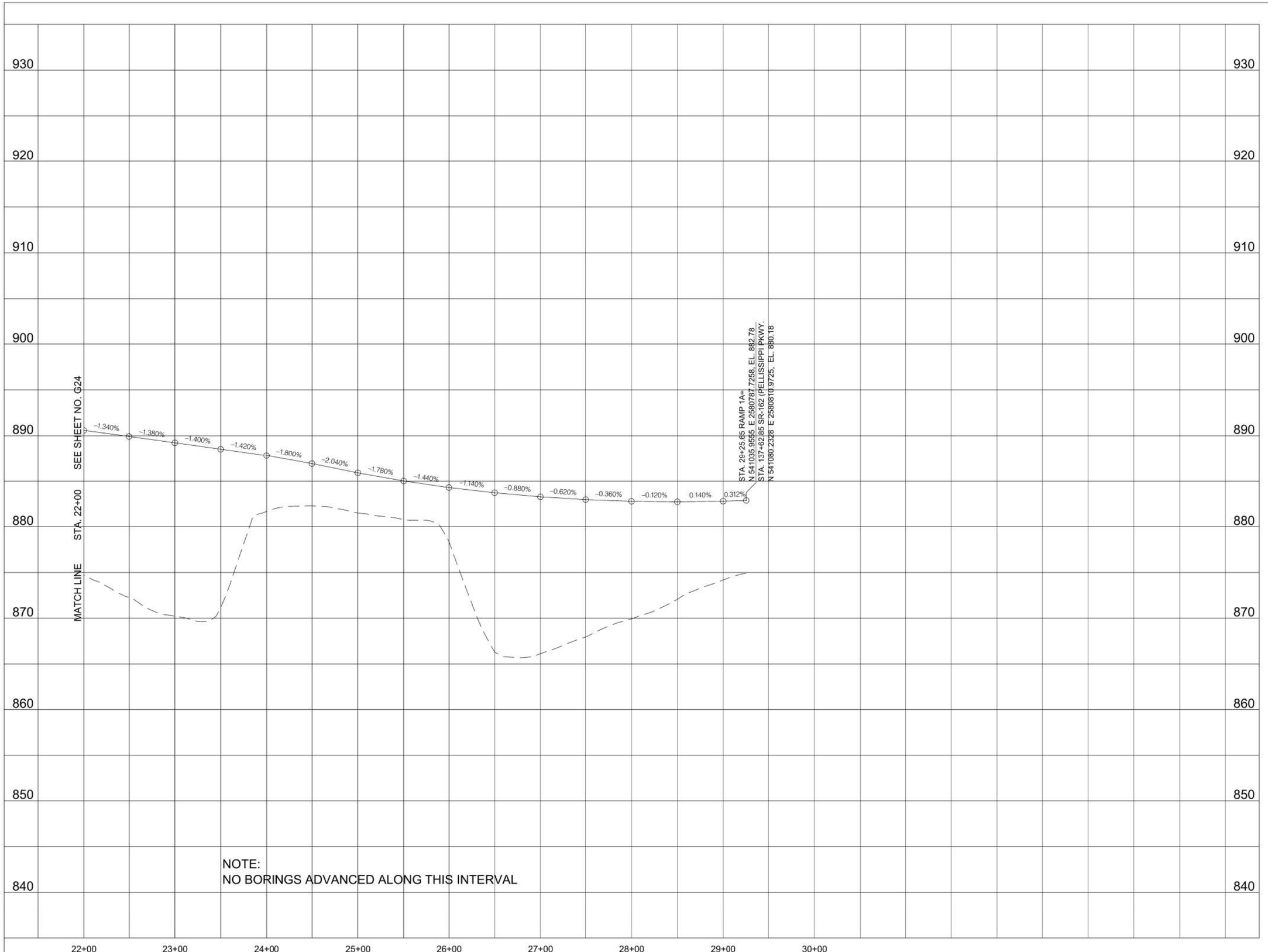
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G25

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 1A PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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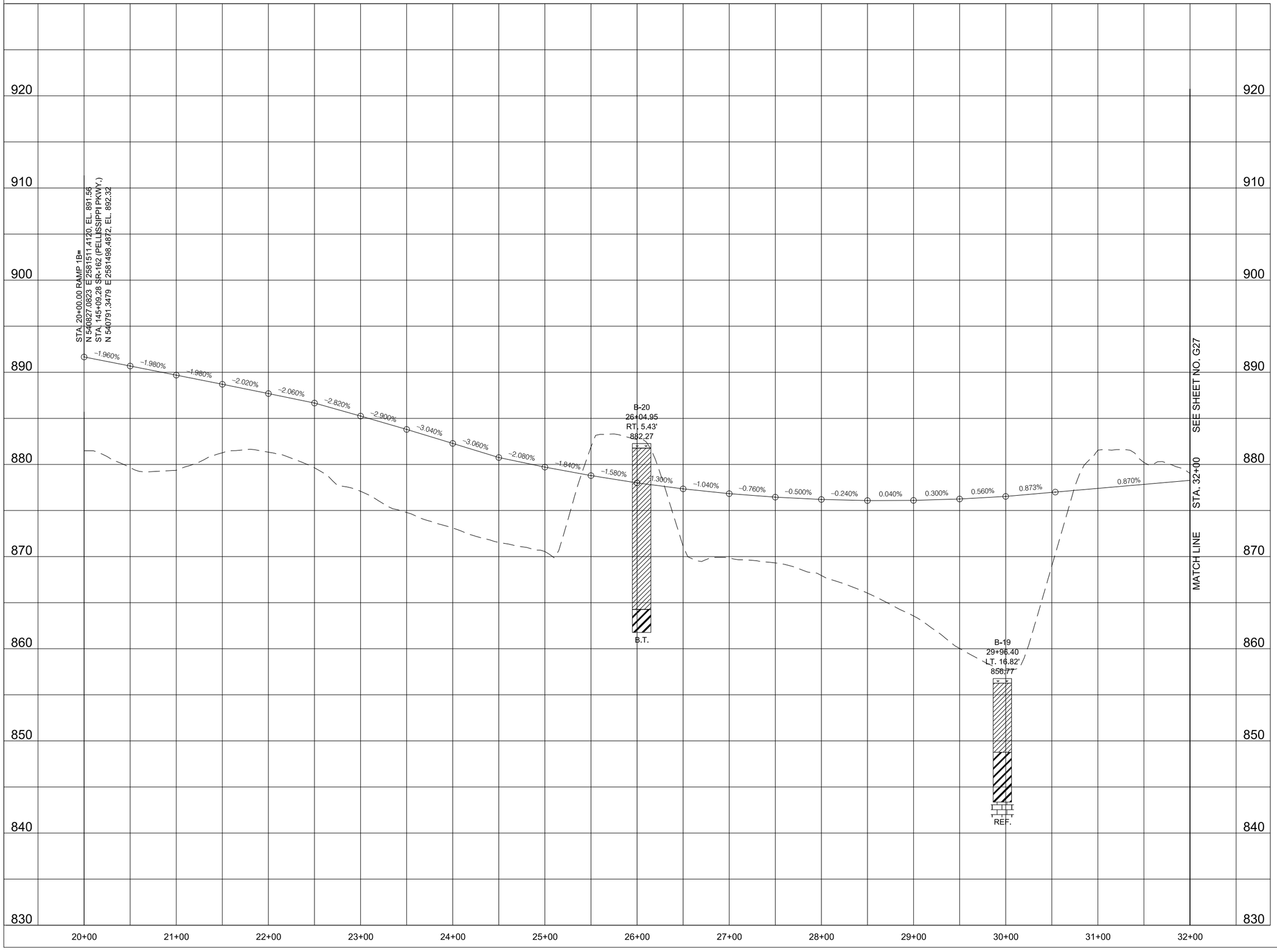
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G26

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 1B PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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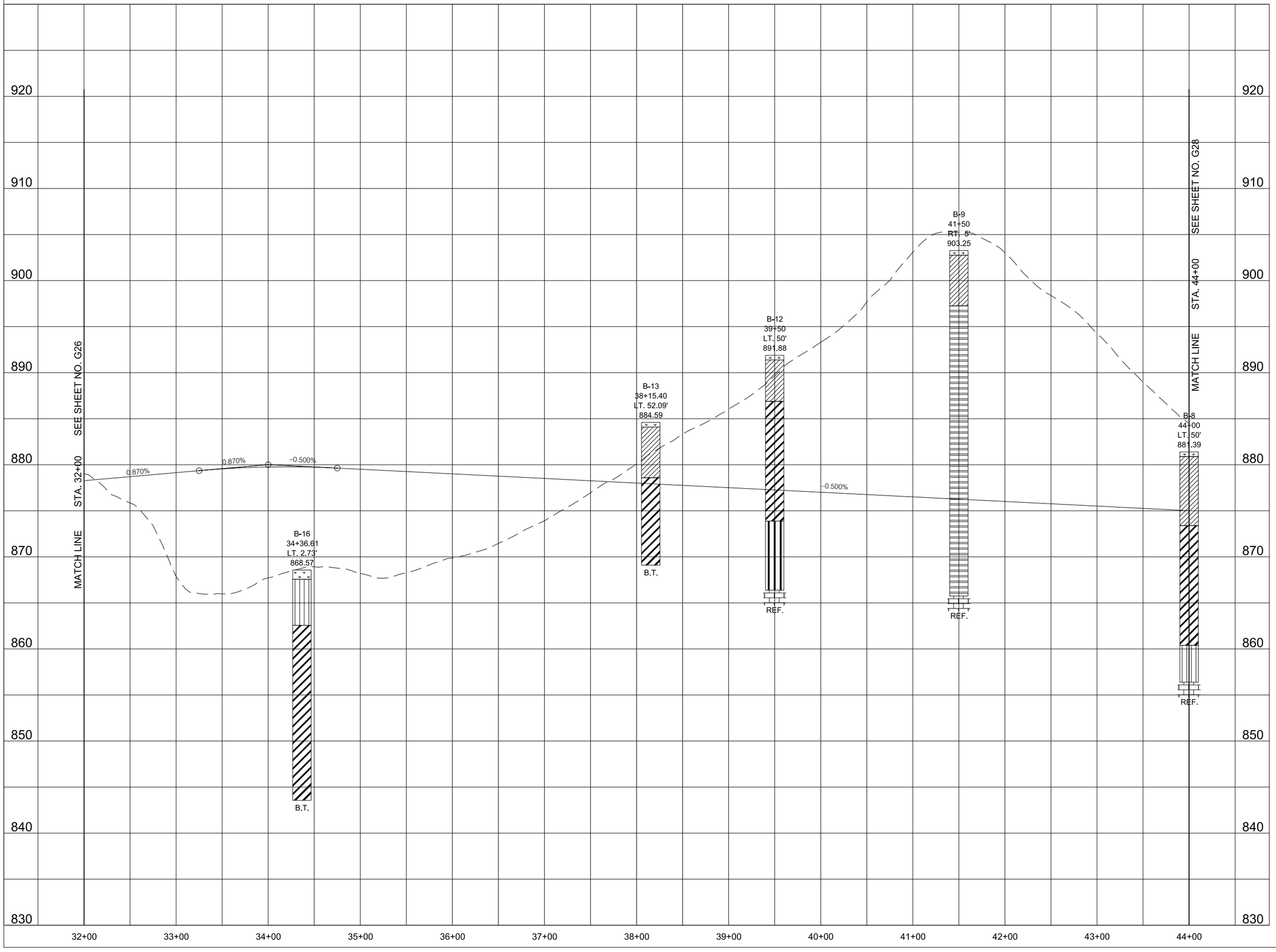
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G27

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 1B PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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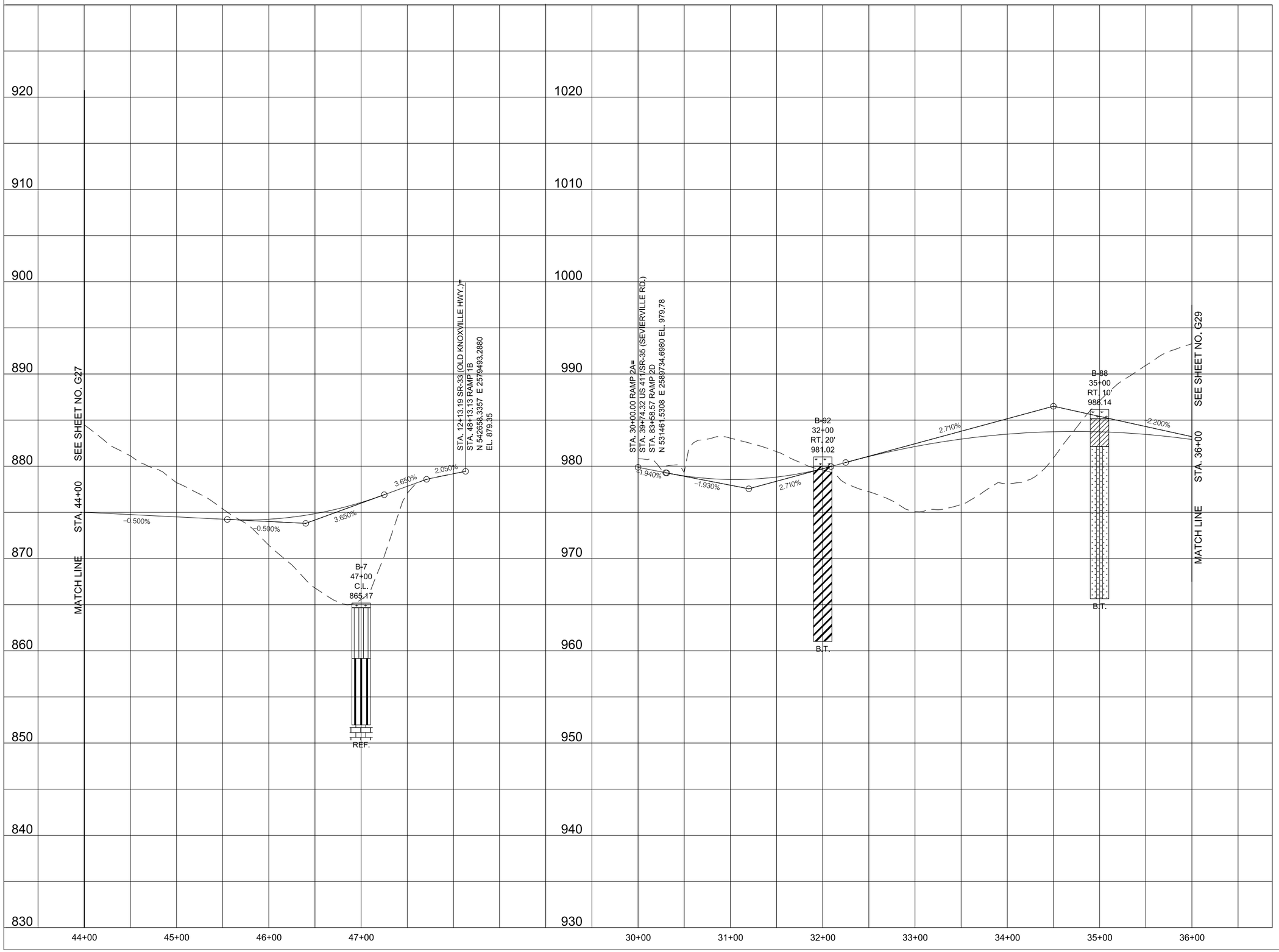
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G28

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 1B PROFILE
RAMP 2A PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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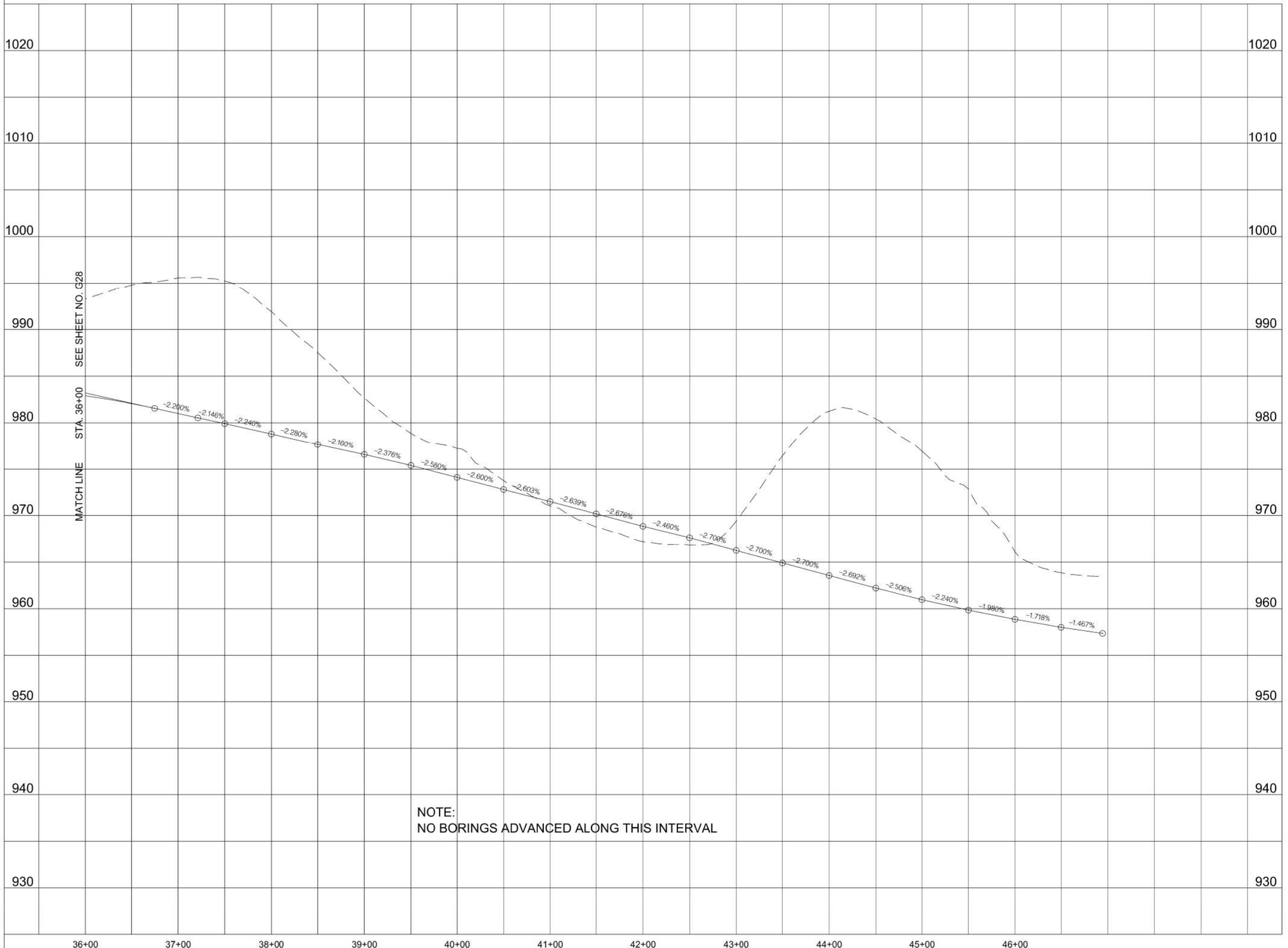
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G29

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2A PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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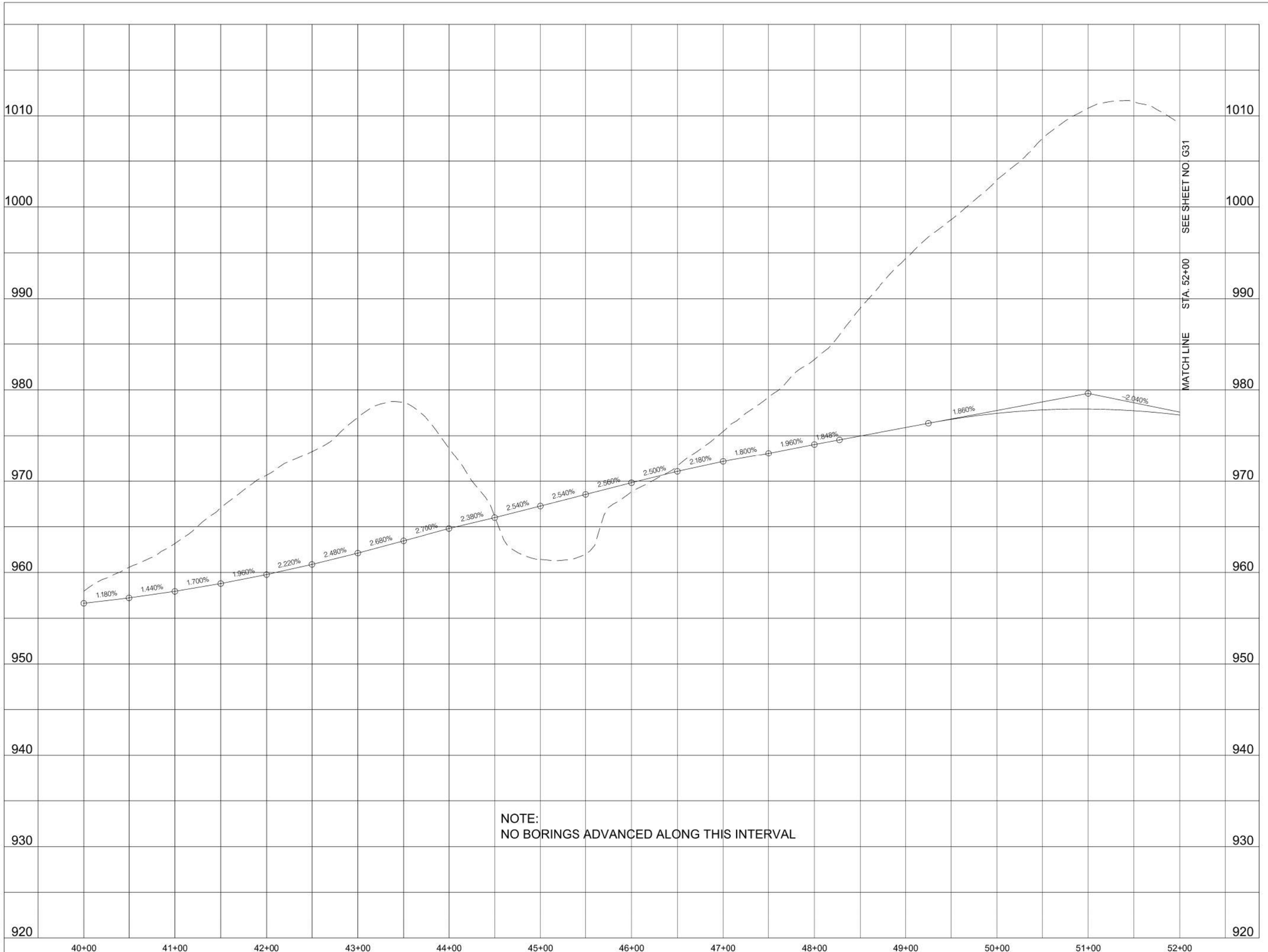
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G30

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2B PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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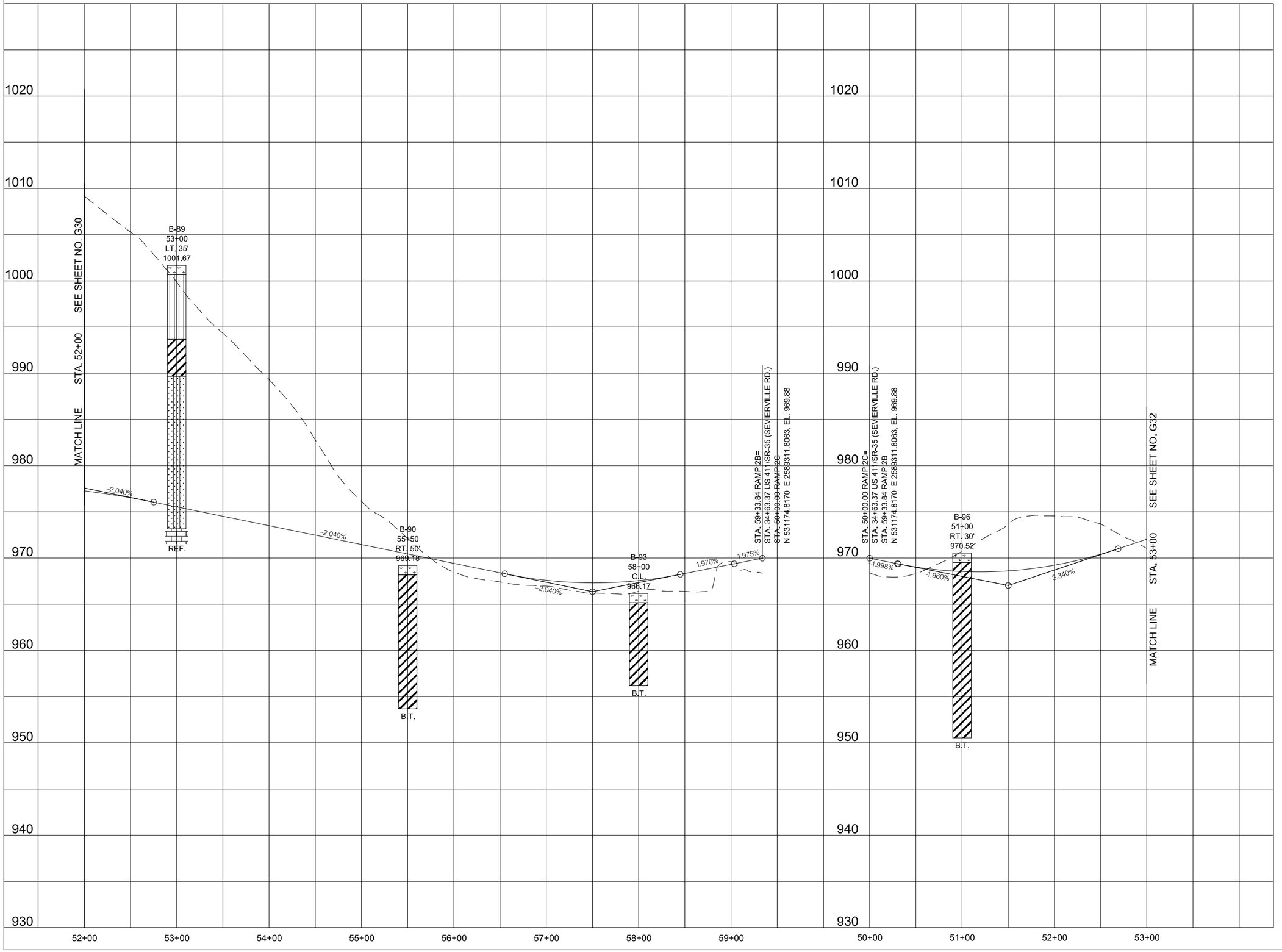
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G31

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2B PROFILE
RAMP 2C PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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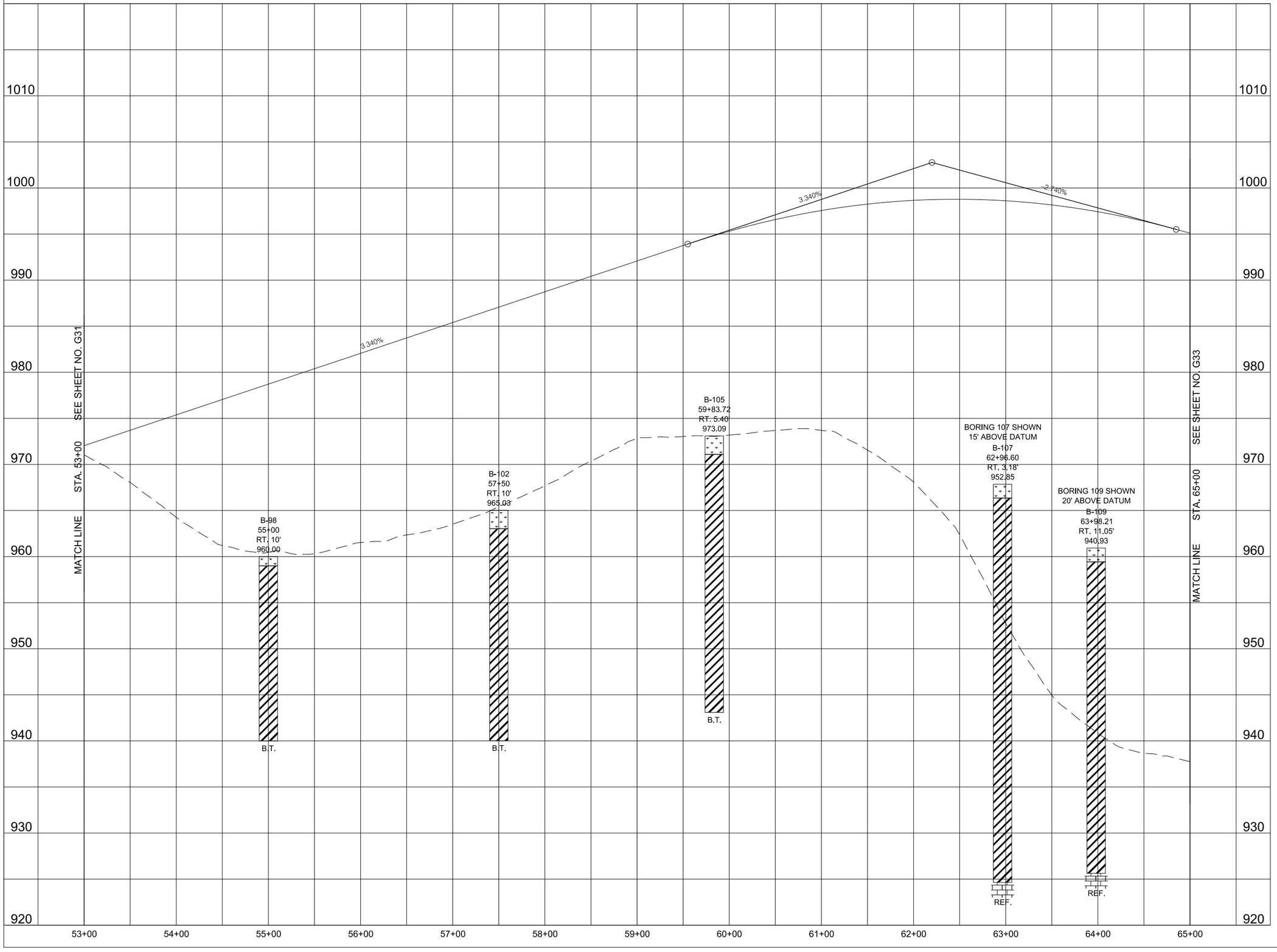
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G32

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2C PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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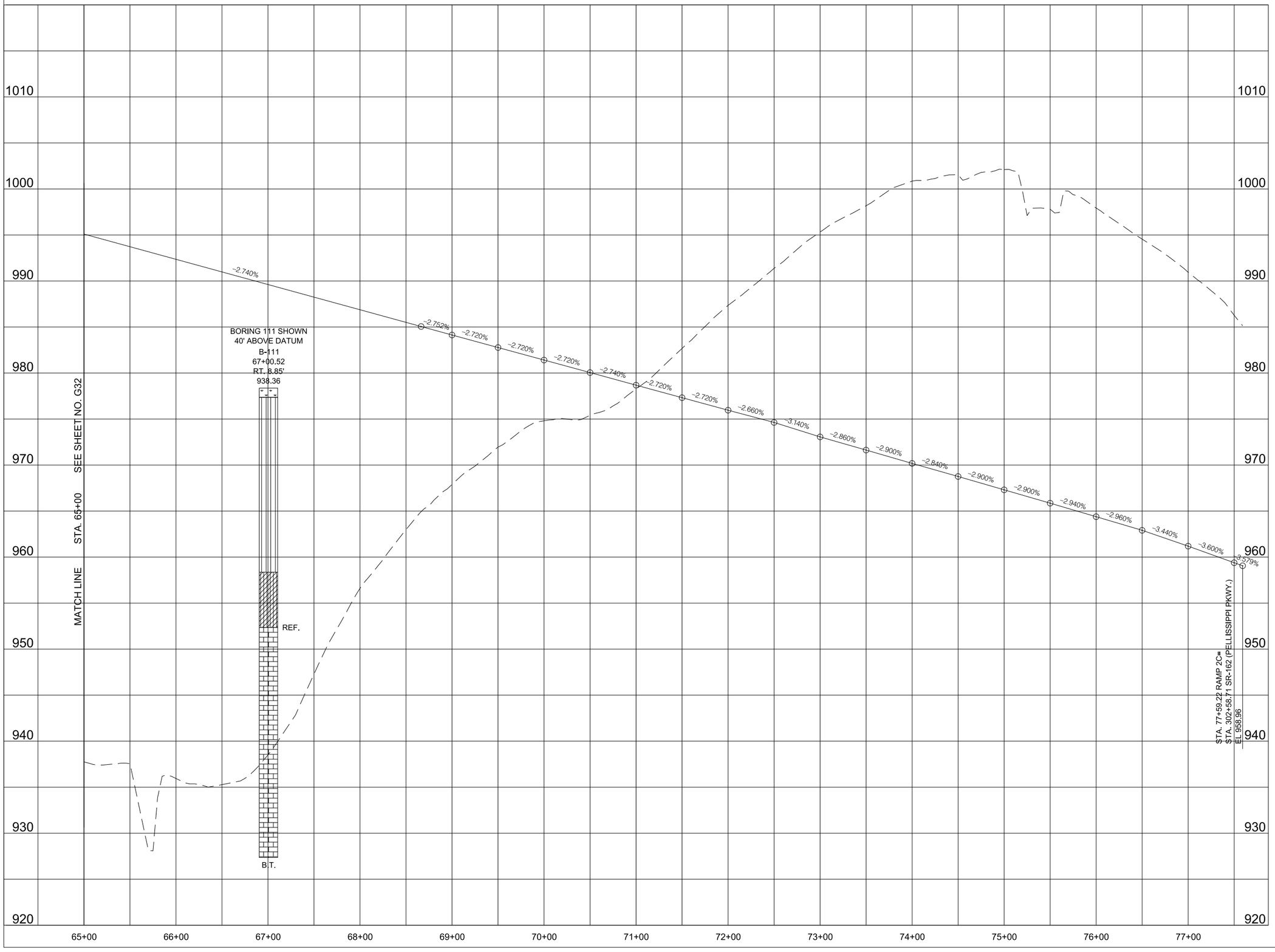
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G33

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2C PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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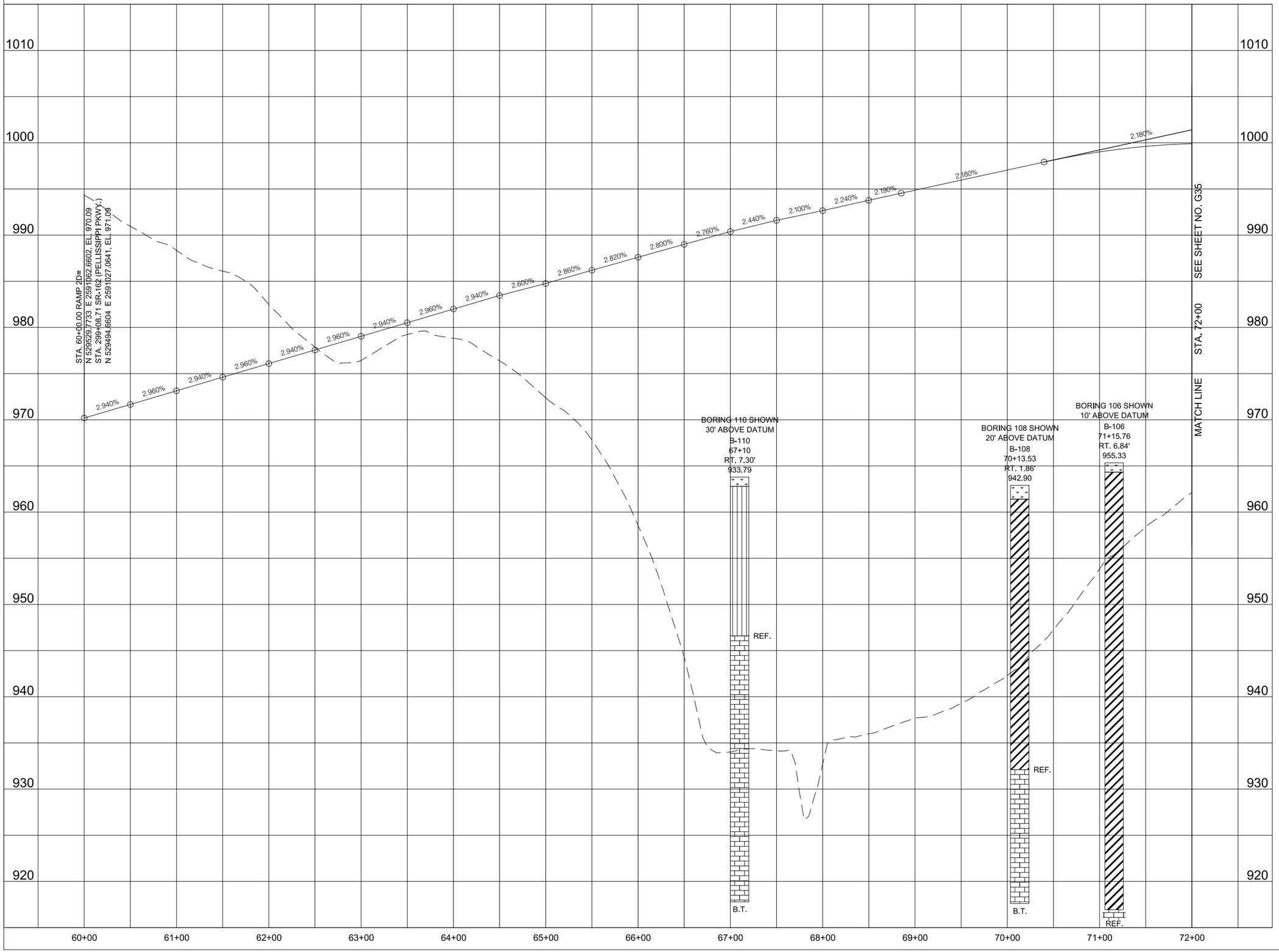
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G34

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2D PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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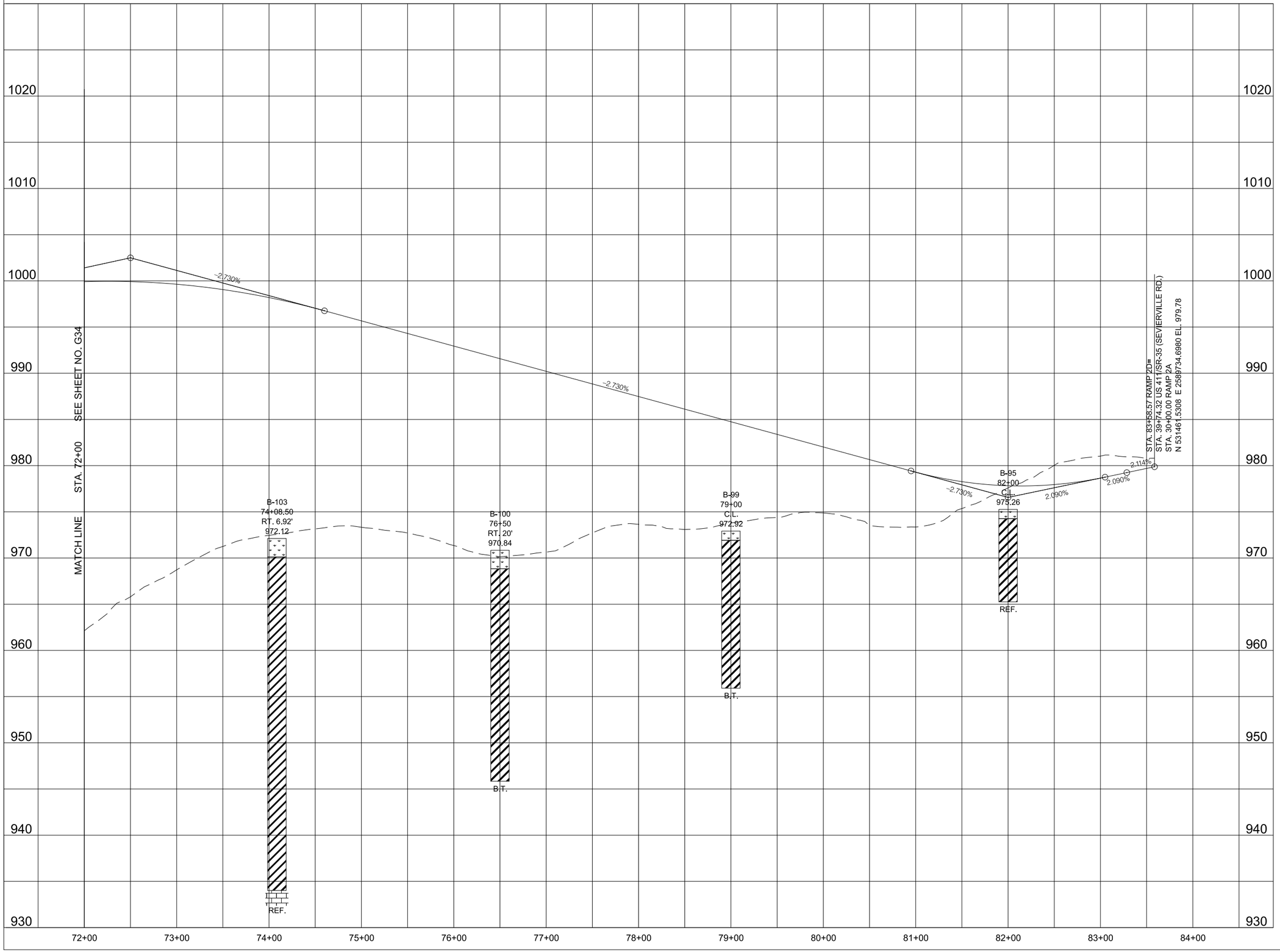
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G35

SR - 162 BLOUNT COUNTY



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND EST. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL PLANS
RAMP 2D PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

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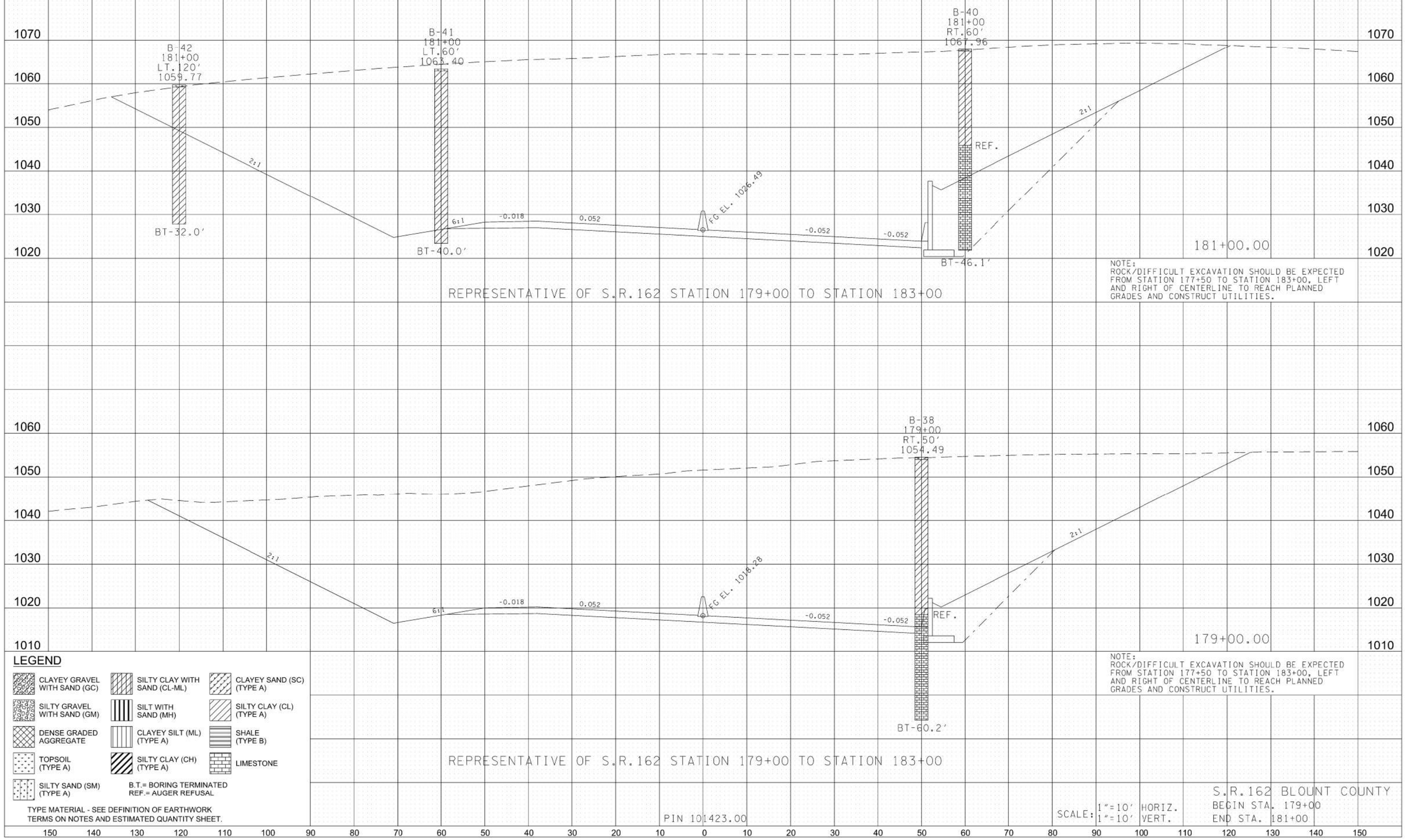
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G36



NOTE:
ROCK/DIFFICULT EXCAVATION SHOULD BE EXPECTED FROM STATION 177+50 TO STATION 183+00, LEFT AND RIGHT OF CENTERLINE TO REACH PLANNED GRADES AND CONSTRUCT UTILITIES.

REPRESENTATIVE OF S.R.162 STATION 179+00 TO STATION 183+00

LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 179+00
END STA. 181+00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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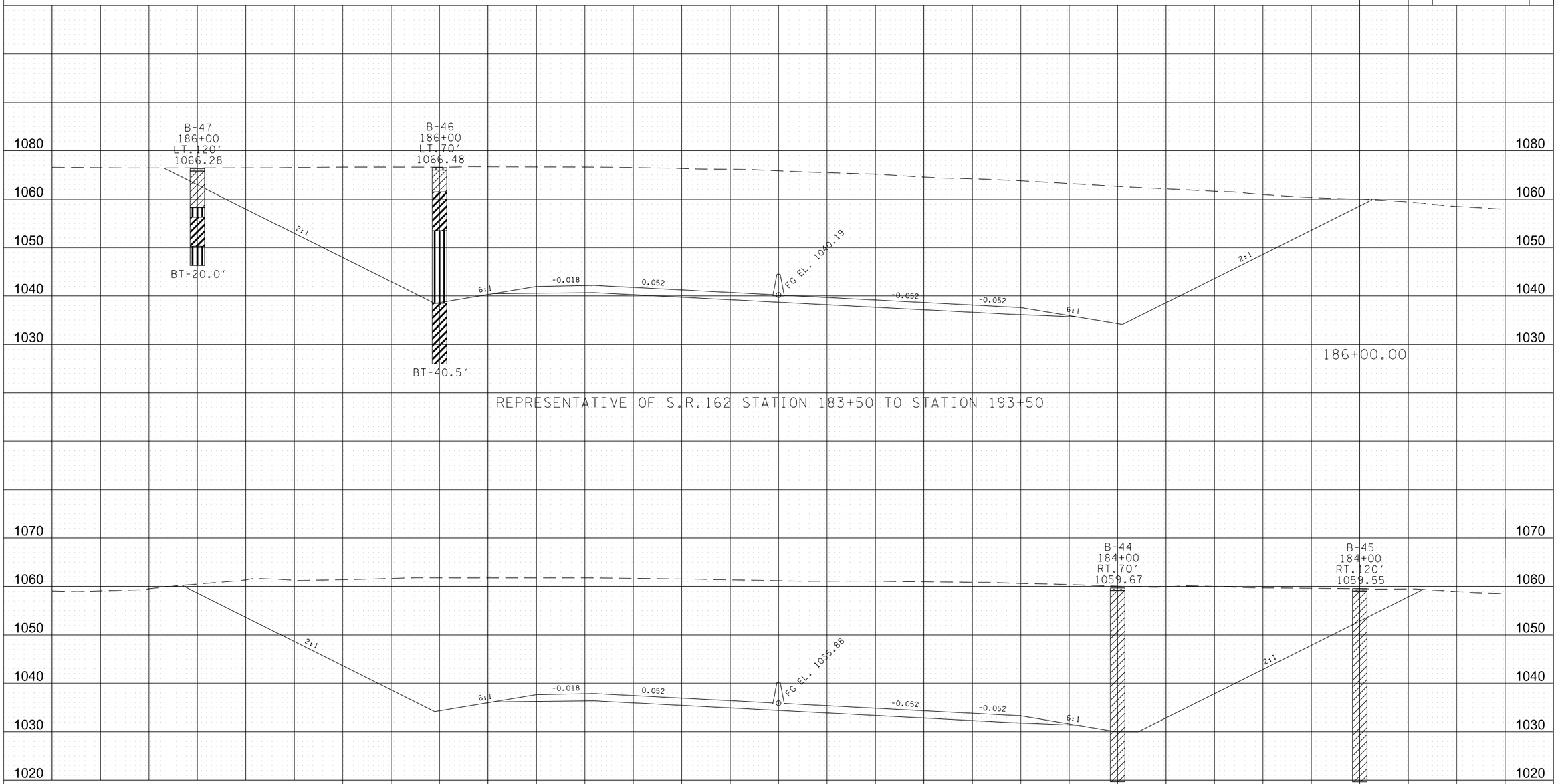
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G37



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 184+00
END STA. 186+00

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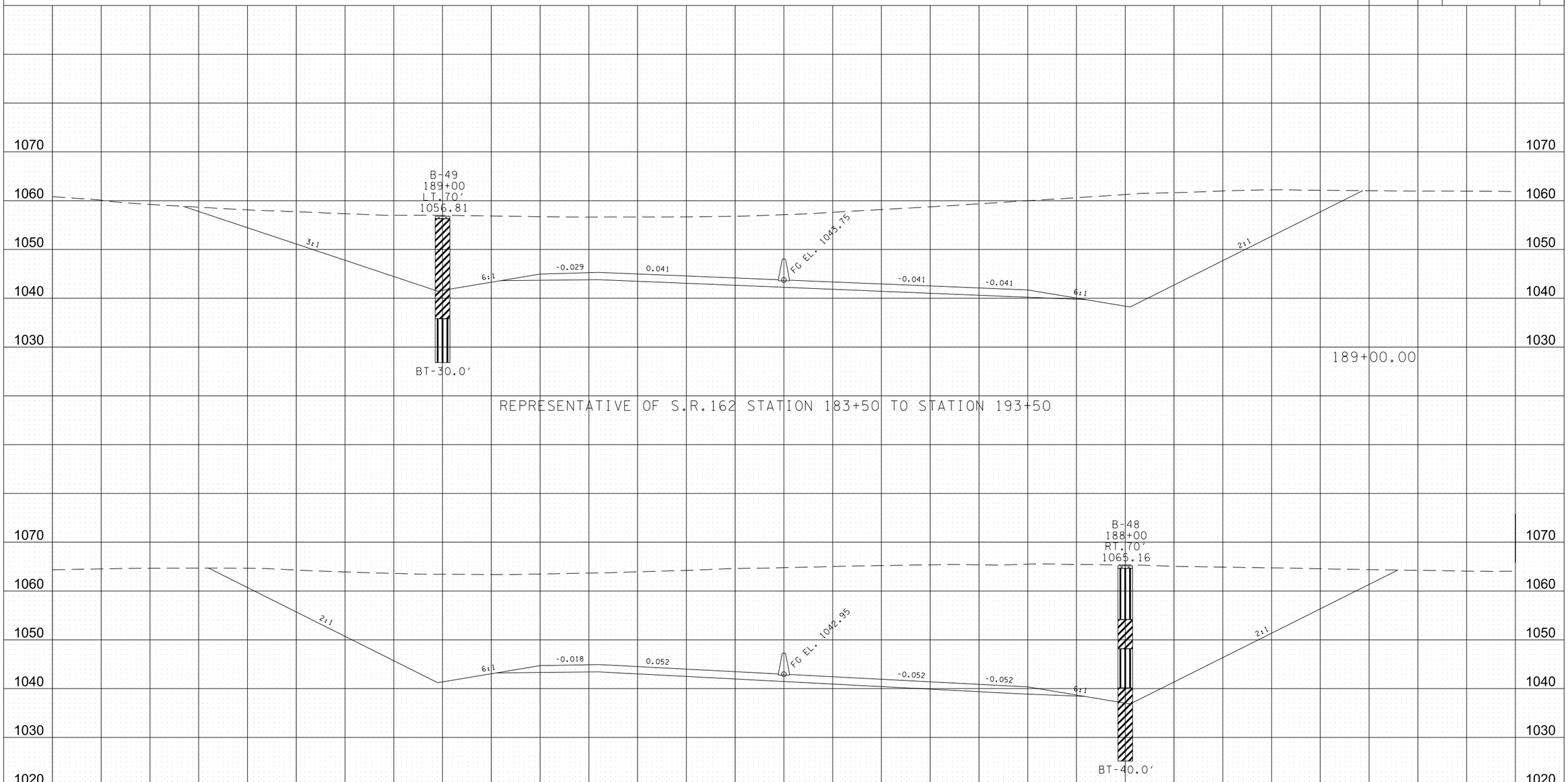
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G38



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 188+00
END STA. 189+00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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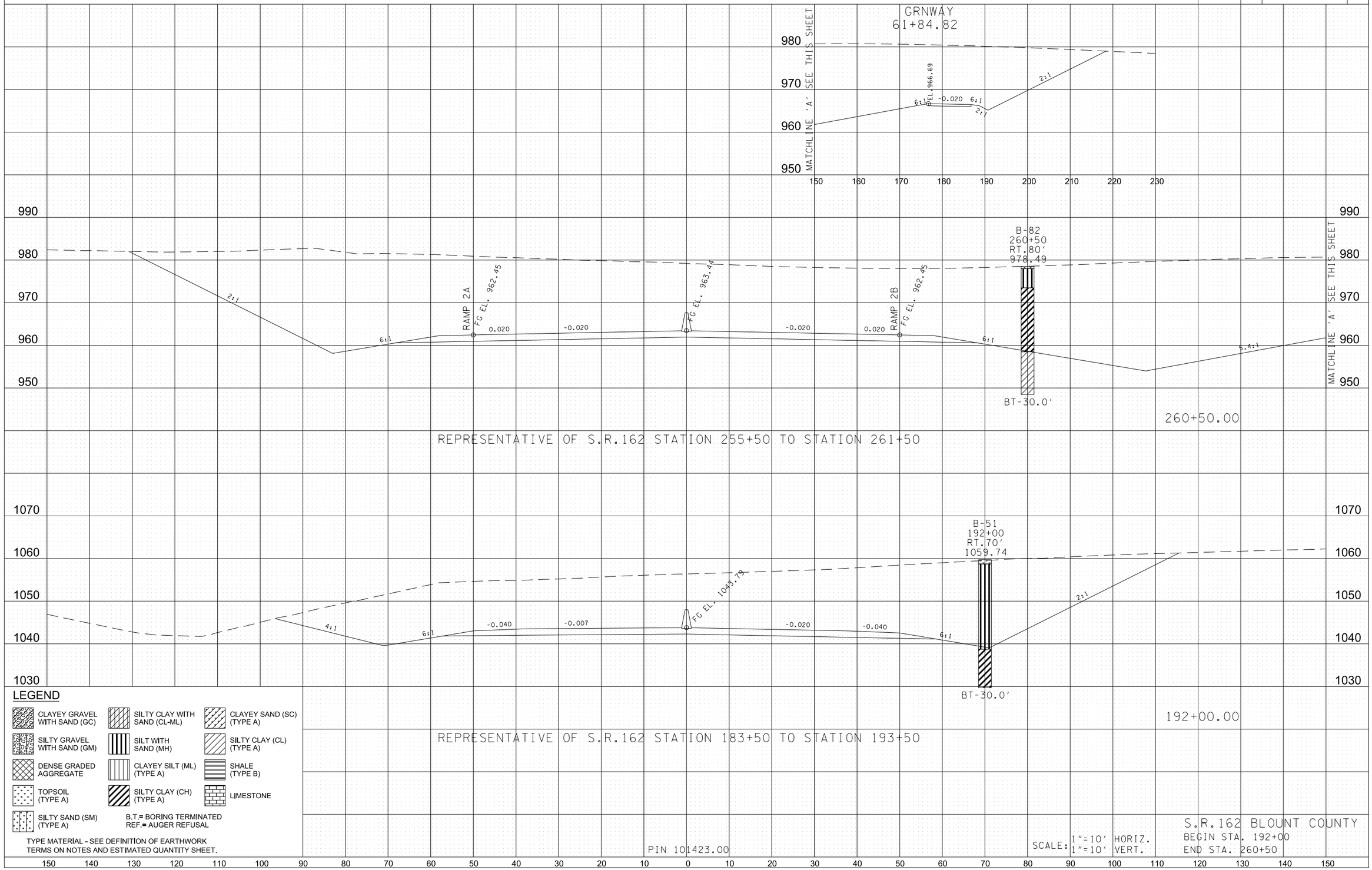
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G39



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 192+00
END STA. 260+50

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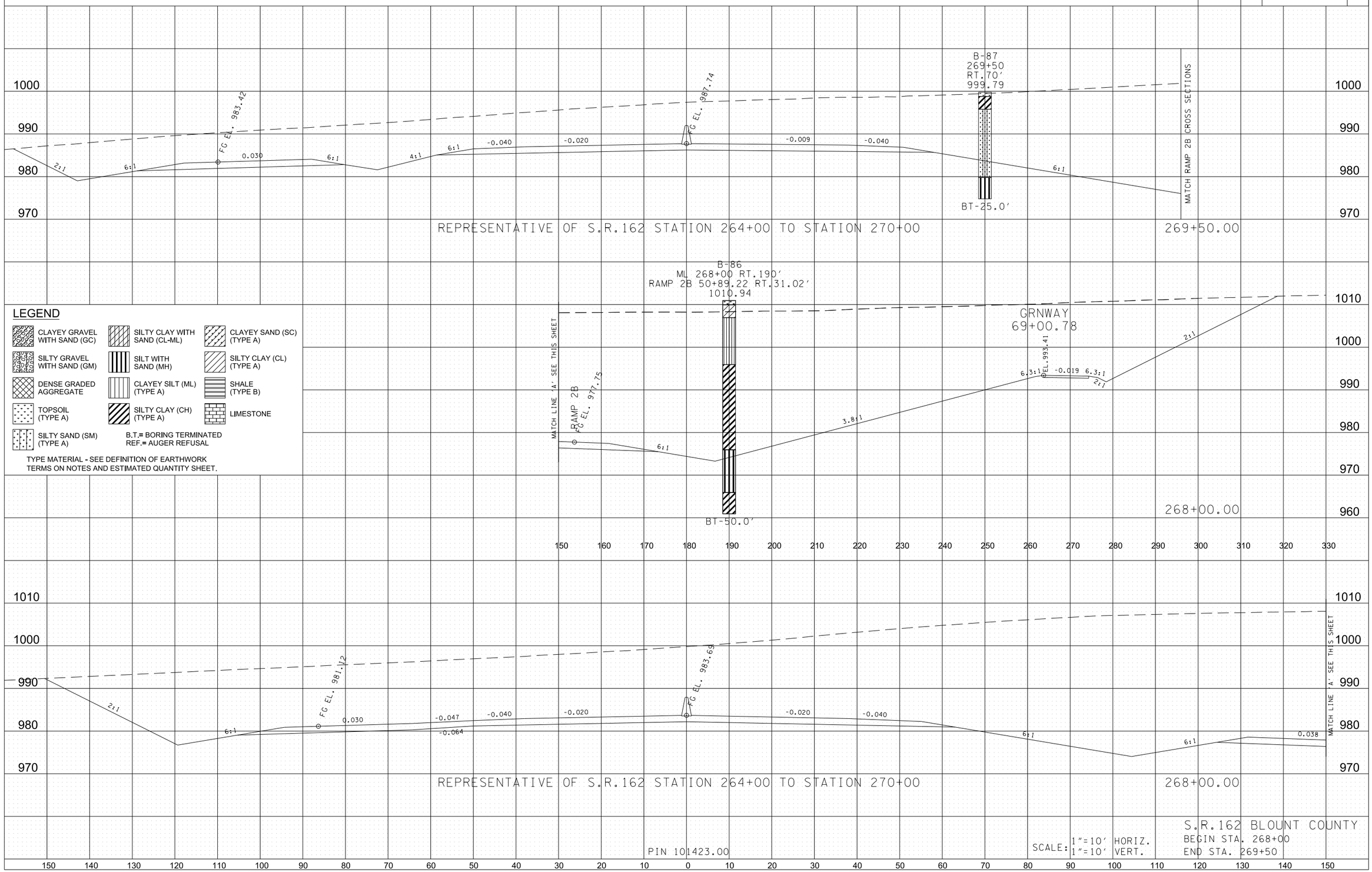
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G40



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 268+00
END STA. 269+50

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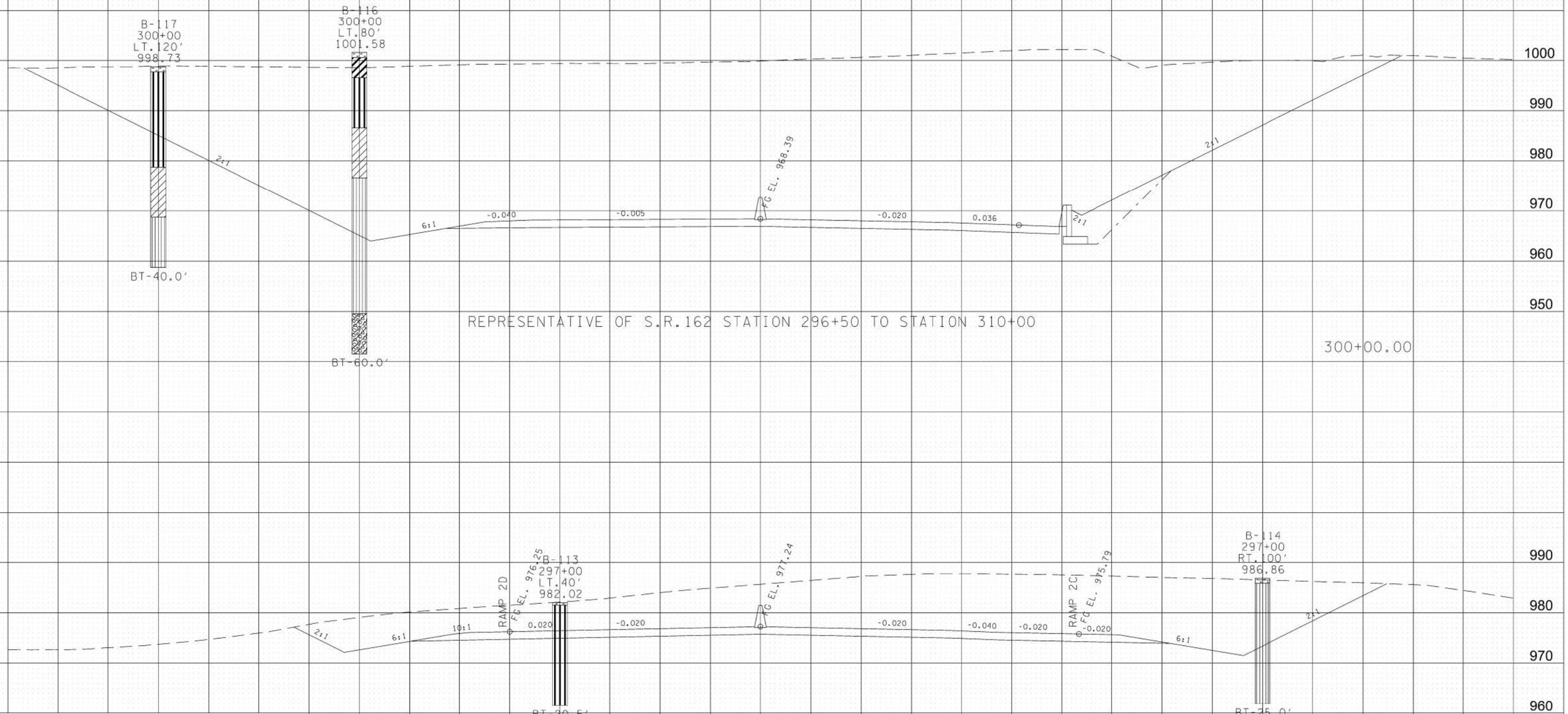
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G41



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 297+00
END STA. 300+00

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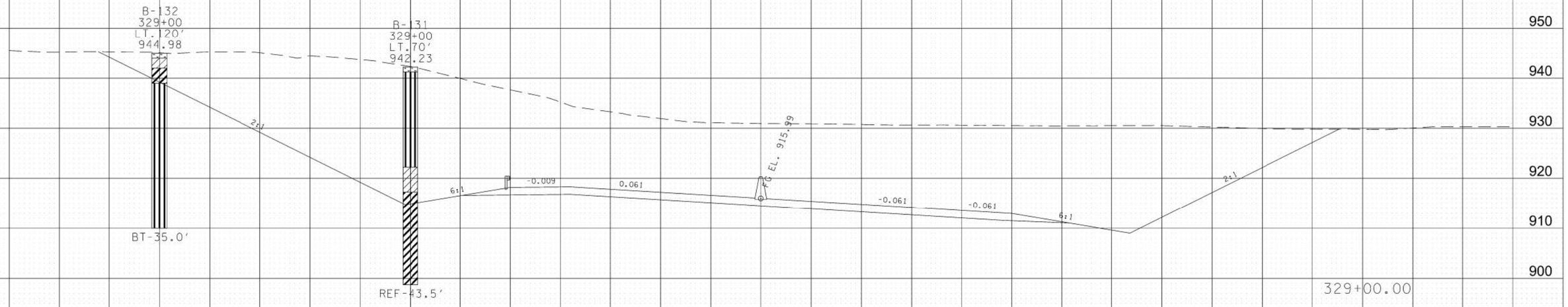
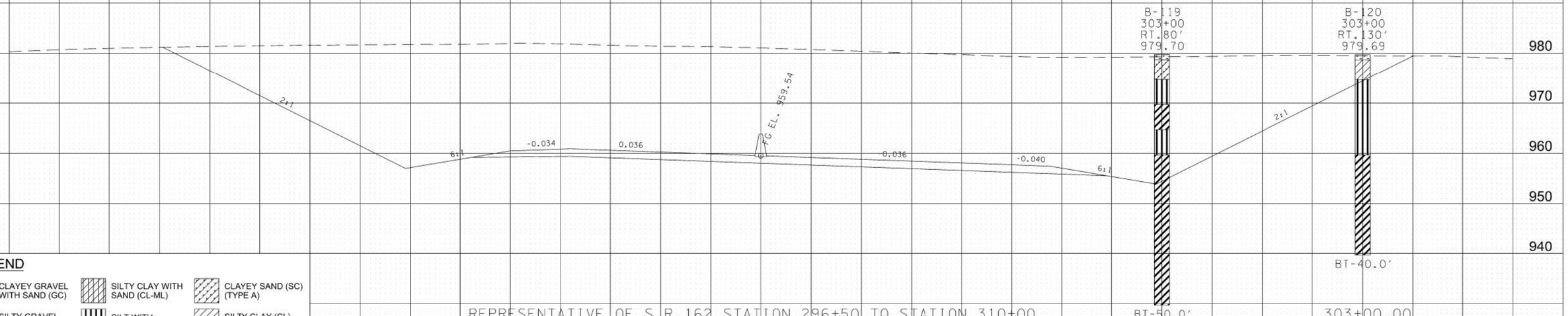
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G42



REPRESENTATIVE OF S.R.162 STATION 327+50 TO STATION 334+00



REPRESENTATIVE OF S.R.162 STATION 296+50 TO STATION 310+00

LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 303+00
END STA. 329+00

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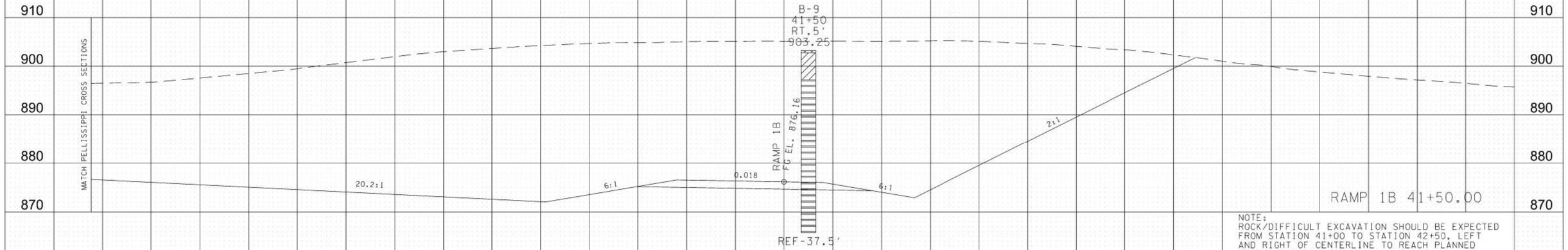
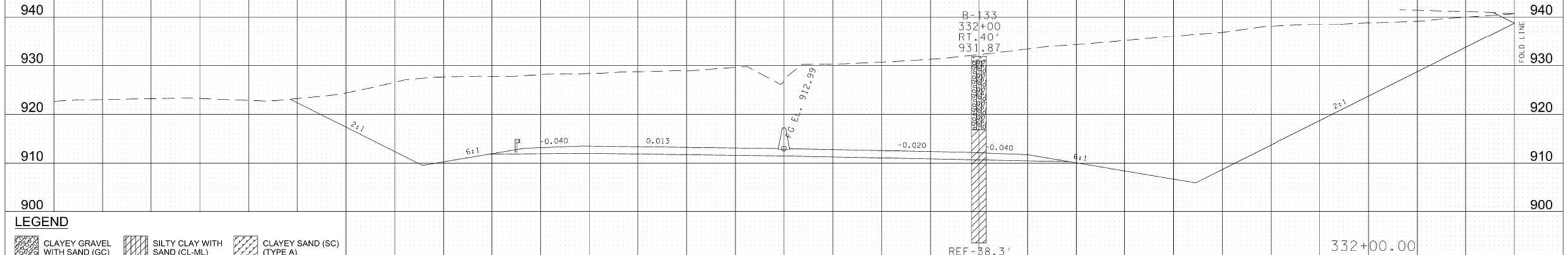
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G43



RAMP 1B 41+50.00

REPRESENTATIVE OF RAMP 1B STATION 40+50 TO STATION 42+50

NOTE:
ROCK/DIFFICULT EXCAVATION SHOULD BE EXPECTED FROM STATION 41+00 TO STATION 42+50, LEFT AND RIGHT OF CENTERLINE TO REACH PLANNED GRADES AND CONSTRUCT UTILITIES.



332+00.00

REPRESENTATIVE OF S.R.162 STATION 327+50 TO STATION 334+00

LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY CLAY WITH SAND (CL-ML)
- CLAYEY SAND (SC) (TYPE A)
- SILTY GRAVEL WITH SAND (GM)
- SILT WITH SAND (MH)
- SILTY CLAY (CL) (TYPE A)
- DENSE GRADED AGGREGATE
- CLAYEY SILT (ML) (TYPE A)
- SHALE (TYPE B)
- TOPSOIL (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- LIMESTONE
- SILTY SAND (SM) (TYPE A)

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. 332+00
END STA. RAMP 1B 41+50

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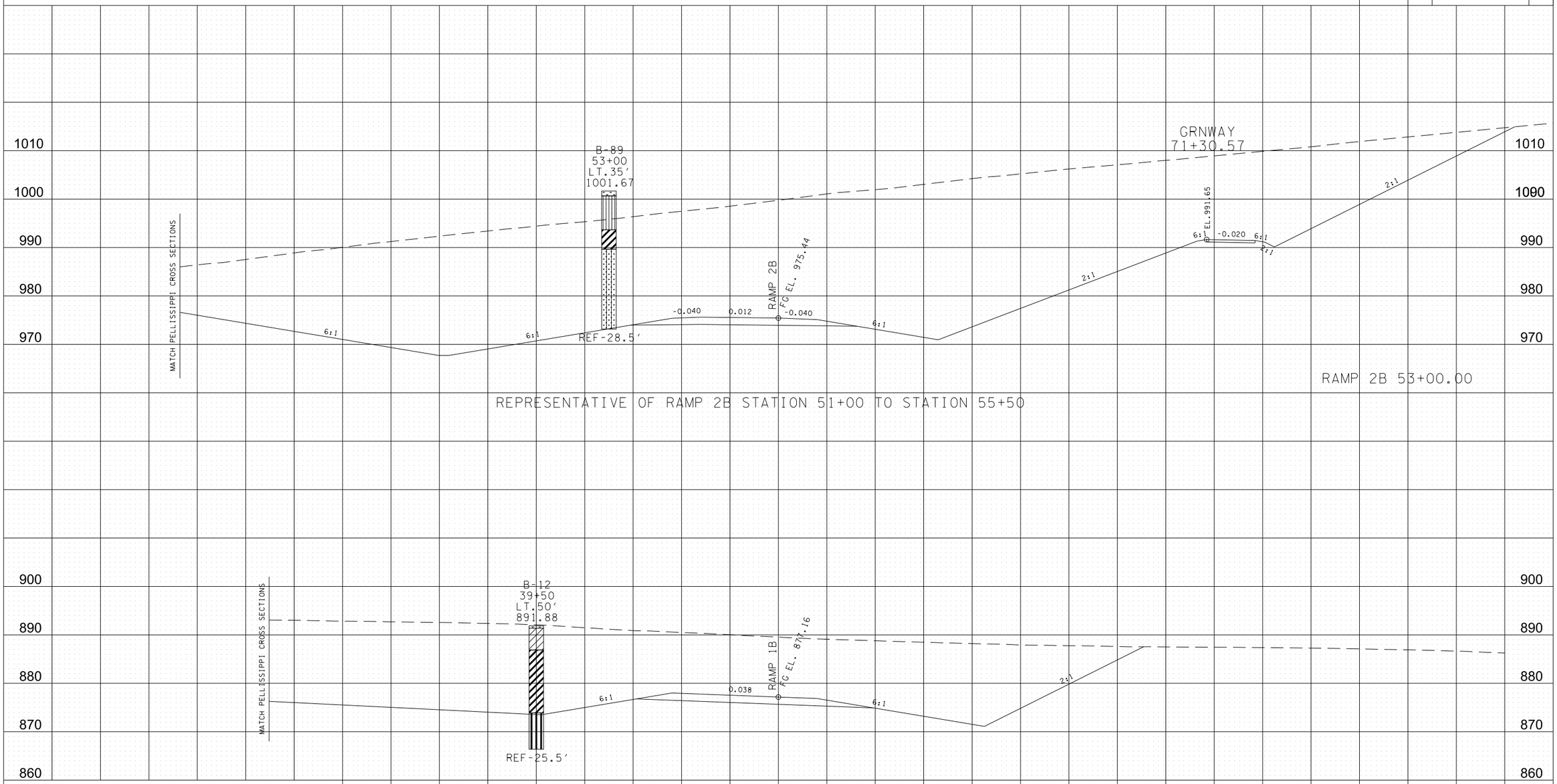
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	HPP/NH - 162(7)	G44



LEGEND

- CLAYEY GRAVEL WITH SAND (GC)
- SILTY GRAVEL WITH SAND (GM)
- DENSE GRADED AGGREGATE
- TOPSOIL (TYPE A)
- SILTY SAND (SM) (TYPE A)
- SILTY CLAY WITH SAND (CL-ML)
- SILT WITH SAND (MH)
- CLAYEY SILT (ML) (TYPE A)
- SILTY CLAY (CH) (TYPE A)
- CLAYEY SAND (SC) (TYPE A)
- SILTY CLAY (CL) (TYPE A)
- SHALE (TYPE B)
- LIMESTONE

B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

TYPE MATERIAL - SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND ESTIMATED QUANTITY SHEET.

PIN 101423.00

SCALE: 1"=10' HORIZ.
1"=10' VERT.

S.R.162 BLOUNT COUNTY
BEGIN STA. RAMP 1B 39+50
END STA. RAMP 2B 53+00

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TENNESSEE DEPARTMENT OF TRANSPORATION
DIVISION OF MATERIALS AND TESTS
GEOTECHNICAL ENGINEERING SECTION
NASHVILLE, TENNESSEE

SOIL AND SUBGRADE CONDITION AND EVALUATION REPORT

PROJECT NO.: 05097-1233-14 **COUNTY:** Blount **REGION:** 1

SR 162 EXT, (Pellissippi Parkway) From SR 33 to SR 73 (US 321)

					T-99: (Proctor	
Boring No., Location, Station Number, and Depth	**Percentage Passing No. 200**	**Predominant Soil Type**	**Group Index**	**CBR at 0.1 Inch Penetration**	**Max Dry Density (lb/ft^3)**	**Optimum Moisture (%)**
B-1, SR 162, 112+00 10L, 0.5'-15.5'	88	A-7-6	20	3.8	99.1	23.2
B-6, SR 162, 121+50 50R, 1.3'-21.2'	96	A-7-6	31	-	102.4	20.9
B-8, SR 162, 44+00 50L, 0.5'-25'	70	A-7-6	14	8.4	104.8	20.0
B-9, SR 162, 41+50 5R, 0.5'-17.2'	71	A-6	7	4.0	112.4	15.9
B-9, SR 162, 41+50 5R, 17.2'-37.5'	79	A-6	11	2.8	110.5	15.1
B-12, SR 162, 39+50 50L, 0.5'-25.5'	-	-	-	9.9	107.7	18.8
B-17, SR 162, 132+00 CL, 0.5'-20'	97	A-7-6	28	12.7	93.9	25.3
B-22, SR 162, 144+00 20L, 2.5'-8.3'	70	A-6	13	7.4	103.7	19.9
B-24, SR 162, 151+50 60L, 0.5'-29.7'	98	A-7-6	43	2.7	93.4	27.0
B-28, SR 162, 160+50 40L, 0.5'-34.5'	46	A-7-6	8	1.6	104.7	17.9
B-29, SR 162, 164+00 40L, 0.5'-7.5'	79	A-7-5	22	3.8	92.4	25.6
B-29, SR 162, 164+00 40L, 7.5'-38.9'	64	A-7-6	11	0.9	100.4	21.9
B-46, SR 162, 186+00 70L, 0.5'-28'	92	A-7-6	19	7.3	99.2	23.3
B-46, SR 162, 186+00 70L, 28'-40'	80	A-7-5	30	4.5	91.7	28.0
B-48, SR 162, 188+00 70R, 0.5'-40'	91	A-7-6	30	4.3	91.1	27.5
B-51, SR 162, 192+00 70R, 15'-30'	84	A-7-5	28	1.6	96.7	25.0

TENNESSEE DEPARTMENT OF TRANSPORATION
DIVISION OF MATERIALS AND TESTS
GEOTECHNICAL ENGINEERING SECTION
NASHVILLE, TENNESSEE

SOIL AND SUBGRADE CONDITION AND EVALUATION REPORT

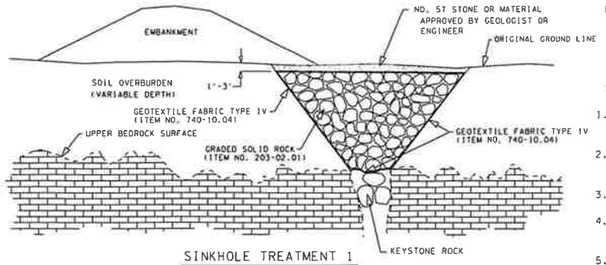
PROJECT NO.: 05097-1233-14 **COUNTY:** Blount **REGION:** 1

SR 162 EXT, (Pellissippi Parkway) From SR 33 to SR 73 (US 321)

					T-99: (Proctor	
Boring No., Location, Station Number, and Depth	**Percentage Passing No. 200**	**Predominant Soil Type**	**Group Index**	**CBR at 0.1 Inch Penetration**	**Max Dry Density (lb/ft^3)**	**Optimum Moisture (%)**
B-59, SR 162, 205+50 50L, 1'-30'	75	A-7-6	16	6.4	99.4	22.1
B-61, SR 162, 208+00 60L, 1'-25'	79	A-4	8	5.9	109.7	17.3
B-66, SR 162, 220+50 40R, 1'-30'	86	A-7-5	23	3.7	93.4	26.8
B-75, SR 162, 245+50 50L, 1'-15'	79	A-6	12	6.0	105.4	19.0
B-87, SR 162, 269+50 70R, 13.5'-25'	-	-	-	5.6	102.8	20.7
B-93, SR 162, 58+00 CL, 1'-10'	-	-	-	3.0	98.1	21.1
B-105, SR 162, 285+00 160R, 2'-8'	78	A-6	10	10.7	110.2	16.0
B-113, SR 162, 297+00 40L, 0.5'-20.5'	-	-	-	2.9	89.3	29.5
B-122, SR 162, 305+00 110L, 24'-30'	-	-	-	7.1	89.8	24.3
B-126, SR 162, 317+00 70R, 8'-15'	-	-	-	17.0	108.0	16.8
B-131, SR 162, 329+00 70L, 8'-43.5'	-	-	-	8.3	91.0	27.6
B-133, SR 162, 332+00 40R, 0.5'-38.3'	-	-	-	6.6	99.1	23.0

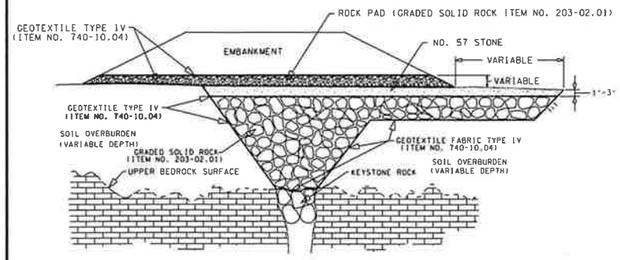
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.

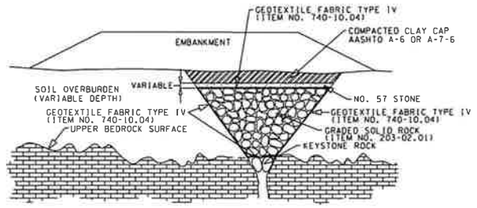


SINKHOLE TREATMENT 1

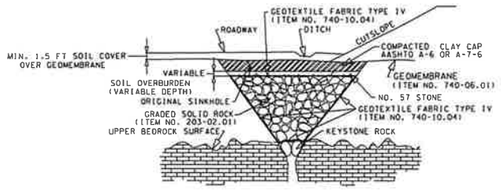
VARIABLE



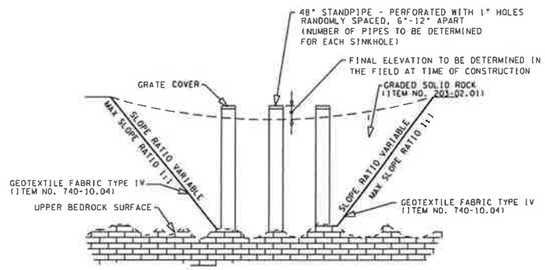
SINKHOLE TREATMENT 1A



SINKHOLE TREATMENT 2



SINKHOLE TREATMENT 2A



SINKHOLE TREATMENT 3

SINKHOLE TREATMENT 1, ACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. THE TOP 1-3 FT. OF MATERIAL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOIL AND DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE.
3. PLACE THE GEOTEXTILE FABRIC TYPE IV ON EXCAVATED SLOPES AND BASE OF SINKHOLE.
4. BACKFILL TO A MAXIMUM OF 1 FT. OF THE SPECIFIED GRADE WITH GRADED SOLID ROCK (CLASSIFICATION 203.02.01 BORROW EXCAVATION).
5. BACKFILL TO GRADE WITH A MINIMUM OF 1 FT. OF NO.57 STONE ON TOP OF THE GRADED SOLID ROCK AND GEOTEXTILE FABRIC TYPE IV.

SINKHOLE TREATMENT 1A ACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. THE TOP 1-3 FT. MATERIAL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOIL AND DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE.
3. PLACE THE GEOTEXTILE FABRIC TYPE IV ON EXCAVATED SLOPES AND BASE OF SINKHOLE.
4. BACKFILL TO WITHIN 1.5-3 FT.OF THE SPECIFIED GRADE WITH GRADED SOLID ROCK (CLASSIFICATION 203-02.01 BORROW EXCAVATION).
5. PLACE THE GEOTEXTILE FABRIC TYPE IV ON TOP OF GRADED SOLID ROCK.
6. BACKFILL TO GRADE WITH NO. 57 STONE.
7. CONSTRUCT EMBANKMENT INCLUDING ANY REQUIRED ROCK PAD IN ACCORDANCE WITH CONTRACT PLANS AND CROSS-SECTIONS.

SINKHOLE TREATMENT 2 AND 2A , INACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. ANY CHANGE IN THE NO. 57 STONE FILL OR THE CLAY CAP SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOIL AND DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE.
3. PLACE THE GEOTEXTILE FABRIC TYPE IV ON EXCAVATED SLOPES AND BASE OF SINKHOLE.
4. BACKFILL WITH GRADED SOLID ROCK (CLASSIFICATION 203-02.01 BORROW EXCAVATION) UP TO SPECIFIED GRADE.
5. PLACE GEOTEXTILE FABRIC TYPE IV ON TOP OF GRADED SOLID ROCK. PLACE NO. 57 STONE ON TOP OF GETEXTILE FABRIC.
6. CONSTRUCT COMPACTED CLAY CAP. SOIL SHOULD BE OF TYPE AASHTO A-6 OR A-7-6.

FOR 2A INACTIVE ONLY

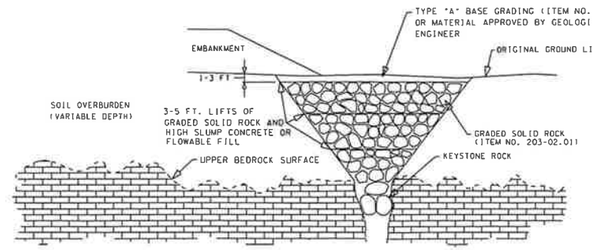
7. PLACE GEOMEMBRANE ON TOP OF SOIL CAP BEFORE CONSTRUCTION OF ANY OVERLYING STRUCTURES OR EMBANKMENTS. THERE SHOULD BE A MINIMUM OF 1.5 FT. OF SOIL PLACED OVER THE MEMBRANE.
8. DITCH SHOULD BE PAVED OR LINED WITH A GEOMEMBRANE.

SINKHOLE TREATMENT 3, ACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION

1. EXCAVATE SOIL DOWN TO BEDROCK OR TO LIMITS SPECIFIED BY THE ENGINEER OR GEOLOGIST.
2. LOCATE ALL OPENINGS WITHIN THE PITS, REMOVE ALL LOOSENED MATERIAL. ALL EXCAVATED MATERIALS SHALL BE REMOVED FROM THE BASIN.
3. INSTALL 48" DIAMETER VERTICAL STANDPIPES OVER THE LOCATED OPENINGS. THESE PIPES SHOULD BE PERFORATED FOR AT LEAST THE LOWER 5 FT. WITH 1" HOLES SPACED 6-12" APART.
4. PLACE GEOTEXTILE FABRIC TYPE IV AS SHOWN OR AS DIRECTED BY THE ENGINEER OR GEOLOGIST TO PREVENT THE LATERAL INFLOW OF FINES.
5. BACKFILL WITH A GRADED SOLID ROCK (203-20.01) TO A HEIGHT OF 3.5 FT. BELOW THE TOP OF THE STANDPIPE.
6. THE GRADED SOLID ROCK SHALL BE PLACED WITH A CLAMSHELL. NO END DUMPING WILL BE PERMITTED.



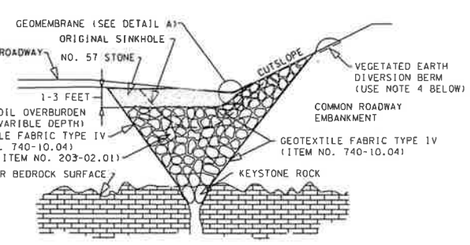
SINKHOLE TREATMENT 4, INACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. ANY CHANGE IN THE THE NO.57 STONE FILL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOIL DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE.
3. ALTERNATE LAYERS OF GRADED SOLID ROCK (CLASSIFICATION 203-02.01 BORROW EXCAVATION) 3-5 FT. IN DEPTH AND HIGH SLUMP CONCRETE (OR FLOWABLE FILL). HIGH SLUMP CONCRETE SHALL BE CONCRETE WITH A SLUMP OF 7-9".

   HIGH SLUMP CONCRETE OR FLOWABLE FILL SHALL BE APPLIED AFTER A LAYER OF GRADED SOLID ROCK UNTIL THE CONCRETE (OR FLOWABLE FILL) JUST COVERS THE GRADED ROCK LAYER. THE NEXT LAYER OF GRADED SOLID ROCK SHALL BE PLACED IMMEDIATELY AFTER THE PLACEMENT OF THE CONCRETE (OR FLOWABLE FILL). THE PURPOSE OF THIS IS TO INTERMIX THE MATERIALS. THE WORK SHALL NOT BE INTERRUPTED AFTER THE PLACEMENT OF CONCRETE (OR FLOWABLE FILL) EXCEPT FOR THE TOP LAYER. IF WORK CANNOT BE FINISHED IN A SPECIFIED INTERVAL, WORK MAY BE STOPPED ONLY AFTER A COMPLETE LAYER OF GRADED SOLID ROCK HAS BEEN PLACED.
4. AFTER THE FINAL LAYER OF CONCRETE (OR FLOWABLE FILL) HAS BEEN SET, BACKFILL TO GRADE WITH TYPE "A" BASE GRADING (ITEM NO. 303.01) OR OTHER MATERIAL APPROVED BY THE ENGINEER OR GEOLOGIST.



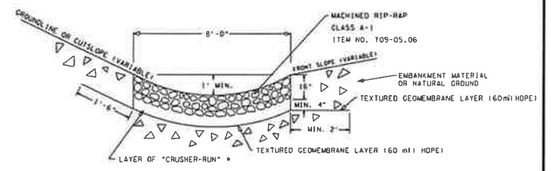
SINKHOLE TREATMENT 5 ACTIVE

NOTE: AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. ANY CHANGE IN THE NO. 57 STONE FILL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOIL AND DEBRIS. COVER ALL EXPOSED SOIL SURFACES WITH GEOTEXTILE FABRIC (ITEM NO. 740-10.04) PRIOR TO BACKFILLING.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE.
3. BACKFILL WITH GRADED SOLID ROCK (CLASSIFICATION 203.02.01 BORROW EXCAVATION) UP TO 1-3 FEET OF EXISTING DITCHLINE GRADE. CONTINUE FILLING THE EXCAVATION SLOPE WITH GRADED SOLID ROCK ABOVE THE PLANNED EDGE OF THE GEOMEMBRANE LINER EDGE, GRADING THE ROCK TO CONFORM WITH THE SLOPE PROFILE AS SHOWN IN THE ABOVE ILLUSTRATION.
4. WHEN THE GRADED SOILD ROCK PLACMENT IS COMPLETE, A SMALL DRAINAGE DIVERSION BERM OF COMPACTED SOIL SHALL BE CONSTRUCTED AROUND THE TOP OF THE EXCAVATION LIMITS TO TO DIVERT SURFACE RUNOFF AROUND THE REPAIR TO THE DITCH BELOW. THE BERM SHALL BE NO MORE THAN 3-FEET WIDE AT THE BASE AND 1 FOOT TALL ABOVE THE SURROUNDING SLOPE. THE BERM SHALL BE KEYED INTO THE SOIL APPROXIMATELY 0.5-FOOT AND NOT PLACED ON TOP OF THE EXISTING VEGETATION. AFTER CONSTRUCTION OF THE BERM IS COMPLETED, SEED AND STRAW WILL BE REQUIRED TO CONTROL EROSION.
5. PLACE GEOTEXTILE FABRIC TYPE IV ON TOP OF GRADED SOLID ROCK. PLACE NO.57 STONE ON TOP OF GEOTEXTILE FABRIC.
6. DITCH SHOULD BE LINED WITH A GEOMEMBRANE AND COVERED WITH A MINIMUM OF 16 INCHES OF MACHINED RIP-RAP (CLASS A-1) OR MATERIAL APPROVED BY HYDRAULIC DESIGN.

GEOMEMBRANE LINED RIP-RAP DITCH



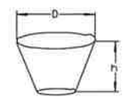
DETAIL A

ITEM NO. 203-02.01 GRADED SOLID ROCK (TONS)

BORROW EXCAVATION (GRADED SOLID ROCK) SHALL CONSIST OF THE REMOVAL AND SATISFACTORY PLACEMENT OF SOUND, NON-DEGRADABLE ROCK WITH A MAXIMUM SIZE OF 3 FT. (1 M). AT LEAST 50 PERCENT OF THE ROCK SHALL BE UNIFORMLY DISTRIBUTED BETWEEN 1 FT. (30 CM) AND 3 FT. (1 M) IN DIAMETER AND NO GREATER THAN 10 PERCENT SHALL BE LESS THAN 2 IN. (50 MM) IN DIAMETER. THE MATERIAL SHALL BE ROUGHLY EQUI-DIMENSIONAL IN SHAPE. THIN, SLABBY MATERIAL WITH AN ACCEPTABLE MECHANICAL SCREENING PROCESS THAT PRODUCES THE REQUIRED GRADATION. WHEN THE MATERIAL IS SUBJECTED TO FIVE ALTERATION OF THE SODIUM SULFATE SOUNDNESS TEST (AASHTO T 104), THE WEIGHTED PERCENTAGE OF LOSS SHALL BE NOT MORE THAN 12. THE MATERIAL SHALL BE APPROVED BY THE ENGINEER BEFORE USE.

EQUATION FOR ESTIMATING SINKHOLE VOLUME, WHERE THE SIDES OF THE SINKHOLE ARE AT 1:1 SLOPES.

$$\text{VOL. } 1{:}1 \approx 0.13D^3 - (0.5D - h)^3$$



FOR ESTIMATION PURPOSES, USE

$$1.7636 \ \frac{\text{TONS}}{\text{C.Y.}}$$

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SINKHOLE STANDARD DRAWINGS SINKHOLE TREATMENT ILLUSTRATIONS 1,1A,2,2A,3,4 AND 5

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