GEOTECHNOLOGY

GEOTECHNICAL DATA REPORT
SR-222 FROM NEAR SR-468 TO NEAR CAMPGROUND RD
HAYWOOD COUNTY, TENNESSEE

TDOT PROJECT NO. R4S222-S1-002
TDOT PIN NO. 132709.00
TDOT GES NO. 3805723

Prepared for:

FISHER ARNOLD, INC.
MEMPHIS, TENNESSEE

Prepared by:

GEOTECHNOLOGY, LLC
MEMPHIS, TENNESSEE

Date:

MARCH 9, 2023

Geotechnology Project No.:

J042140.01

SAFETY
QUALITY
INTEGRITY
PARTNERSHIP
OPPORTUNITY
RESPONSIVENESS

GEOTECHNOLOGY
A Universal Engineering Sciences Company

March 9, 2023

Mr. John Pankey, P.E.
Fisher Arnold, Inc.
9180 Crestwyn Hills Drive
Memphis, Tennessee 38125

Re: Geotechnical Data Report
SR-222 From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
Geotechnology Project No. J042140.01
TDOT Project No. R4S222-S1-002
TDOT Pin No. 132709.00
TDOT GES No. 3805723

Dear Mr. Pankey:

Presented in this report are the results of the geotechnical exploration performed by Geotechnology, LLC for the referenced project. The report includes our understanding of the project, observed site conditions, and support data as listed in the Table of Contents.

We appreciate the opportunity to provide geotechnical services for this project. If you have any questions regarding this report, or if we can be of any additional service to you, please do not hesitate to contact us.

Respectfully submitted,

GEOTECHNOLOGY, LLC

Amber Meadows
Project Engineer

Ashraf S. Elsayed, Ph.D., P.E.
Chief Engineer – South Region

ABM/ASE:abm

Copies submitted: Client (email)

TABLE OF CONTENTS

LIST OF TABLES

Geotechnical Data Report
SR-222 From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

March 9, 2023 | Geotechnology Project No. J042140.01

1.0 SCOPE OF SERVICES

Presented in this report are the results of the geotechnical exploration for the proposed improvements and widening of SR-222. The project location is shown on Figure 1 included in Appendix B.

A total of 48 borings were performed in the vicinity of the site as shown on Figures 2 through 12 included in Appendix B. The boring logs, along with field and laboratory test results, are enclosed. Unless noted otherwise, all dimensions, measurements, depths, and locations in this report should be considered approximate. Important information prepared by the Geotechnical Business Council (GBC) of the Geoprofessional Business Association for studies of this type is presented in Appendix A for your review.

2.0 GENERAL INFORMATION

Planned Modifications

The project extends along SR-222 from approximately two miles north of its intersection with I-40 to ¼-mile north of its intersection with Campground Road.

Geology

The site is located in Haywood County in southwestern Tennessee on the Gulf Coastal Plain. The Coastal Plain in the project area is characterized by flat to hilly topography and many rivers and creeks. Approximately 200 feet of relief occur across the county.

Geologically, the site is near the north-central part of the Mississippi Embayment, a trough-like depression plunging southward along an axis approximating the present course of the Mississippi River. Sediment depth in the project area is approximately 2,900 feet. The unconsolidated sediments consist of clay, silt (aeolian, alluvial and marine), sand, gravel and lignite. Except for some local beds of ferruginous and calcareous sandstone, there is no well-consolidated rock above the Paleozoic Formation, which forms the rock below the sediments.

The uppermost formation over most of Haywood County is Pleistocene Epoch Loess, which consists of clayey silts and silty clays. Loess is predominantly silt, but with varying amounts of clay, and is generally buff-colored and uniform in texture. The thickness of the loess is usually about 20 to 30 feet, but typically is greater than 60 feet along the Mississippi River. The loess cap thins to the east, commonly terminating at the Mississippi Embayment boundary.

The next formation in succession is a discontinuous series of alluvial deposits referred to as the Terrace Deposits. The terrace deposits are tertiary period in age, thin gradually eastward, and are absent in many places as a result of erosion or non-deposition. The alluvial deposits are composed mostly of coarse-grained quartz sand, fine-grained iron-stained quartz and chert gravel. Lenses of yellowish-brown clay are frequently present locally in the lower part of the deposits. These materials are typically red or brown, dense and well graded, and the thickness ranges from 0 to 200 feet. They generally occur 35 to 50 feet below the ground surface.

Underlying the terrace deposits is the Tertiary Period Claiborne/Wilcox Formation, which is characterized as sand layers interbedded with gray to white clay, silty clay, lignitic clay, and lignite. The Claiborne/Wilcox Formation is typically more than 400 feet thick.

Sediments deposited by streams along the channels and on the flood plains during flood periods are referred to as Alluvium. These materials are from the Holocene Period, and are composed of clay, silt, sand, and gravel. The alluvium in the Memphis area is generally confined to strips along the Mississippi River and its tributaries, and it is frequently subjected to flooding and reworking. Lignite, peat, and carbonaceous materials are distributed irregularly throughout the upper level. Alluvial sands are usually white or gray, loose to medium dense, and poorly graded. The loose and poorly graded alluvial sands can be susceptible to liquefaction during seismic events.

3.0 GEOTECHNICAL EXPLORATION

The geotechnical exploration consisted of 58 borings, designated as Borings BR-1, -2, W-1A, -1B, -2, -3A, -3B, -4 through -21, E-1 through -16, CON-1 through -7, and SP-1 through -10. The borings were drilled along the edge of the pavement and in the shoulders of the existing roadway in the project area between December 13, 2022 and January 26, 2023. Borings CON-1 through -7 were drilled along the edge of the pavement of Stanton-Somerville Road. Borings SP-1 through -10 were drilled for the signal poles at the planned BO entrances and improved Stanton-Somerville intersection. Approximate locations of the borings are shown on Figures 2 through 12 in Appendix B and summarized in Table 1. The coordinates and depth of each boring location are also summarized in Appendix B.

Table 1. Boring Locations.

Number of Borings	Boring Location
24	SR 222 Westbound Shoulder
15	SR 222 Eastbound Shoulder
2	Box Culvert
2	Blue Oval 1 Intersection
2	Blue Oval 2 Intersection
3	Stanton-Somerville Southbound Shoulder
4	Signal Poles - SR 222 Westbound Shoulder
6	Signal Poles - SR 222 Eastbound Shoulder

The borings were drilled with track- and ATV-mounted rotary drill rigs using hollow stem auger and rotary wash drilling methods to a maximum depth of 80 feet. Sampling procedures included Standard Penetration Test (SPT) and thin-walled (Shelby) tube methods. SPT's were conducted at 2.5- and 5-foot depth intervals using an automatic hammer to obtain the standard penetration resistance, or N-values[1], of the sampled material. Pavement cores were also obtained at selected locations along SR 222. Samples collected by Geotechnology were visually examined by a geologist and transported to our laboratory for further evaluation and testing. The samples were examined in the laboratory by a geotechnical professional who prepared descriptive logs of the materials encountered. Logs of the borings are presented in Appendix C. An explanation of the terms and symbols used on the boring logs is also provided in Appendix C. Listed in Table 2 are in situ tests and measurements made as part of the fieldwork and recorded on the boring logs. Descriptions and photographs of the pavement cores are provided in Section 5.0 and Appendix E, respectively.

Table 2. Field Tests and Measurements.

Item	Test Method
Soil Classification	ASTM D 2488/ D 3282
Standard Penetration Test (SPT)	ASTM D 1586/ AASHTO T206
Thin-Walled (Shelby) Tube Sampling	ASTM D 1587/ AASHTO T207
Phreatic Surface Level Measurement in Boring	ASTM D 4750

The boring logs and related information depict subsurface conditions only at the specific locations and times where sampling was conducted. The passage of time could result in changes in conditions, interpreted to exist, at or between the locations where sampling was conducted.

4.0 LABORATORY REVIEW AND TESTING

Laboratory testing was performed on soil samples to assess engineering and index properties. Moisture contents, Atterberg limits, percent fines, pH, resistivity, and UU test results are presented on the boring logs in Appendix C. Laboratory test results for Atterberg, grain size (sieve) analysis, resistivity, moisture-density (proctor), CBR, and unconsolidated-undrained triaxial compression (UU), are presented in Appendix D. Laboratory tests and corresponding test method standards are listed in Table 3.

[1] The standard penetration resistance, or N-value, is defined as the number of blows required to drive the split-spoon sampler 12 inches with a 140-pound hammer falling 30 inches. Since the split spoon sampler is driven 18 inches or until refusal, the blows for the first 6 inches are for seating the sampler, and the number of blows for the final 12 inches is the N-value. Additionally, "refusal" of the split-spoon sampler occurs when the sampler is driven less than 6 inches with 50 blows of the hammer.

Table 3. Summary of Laboratory Tests and Methods.

Laboratory Test	ASTM	AASHTO
Moisture Content	D 2216	T 265
Atterberg Limits	D 4318	T 98
Grain Size Analysis by Sieving	D 6913	T 88
Unconsolidated-Undrained Triaxial Compression (UU)	D 2850	T 296
Soil Electrical Resistivity	G 57	T 288
Soil pH	D 4972	T 289
Moisture-Density (Standard Effort)	D 698	T 99
California Bearing Ratio (CBR)	D 1883	T 193

The boring logs were prepared from field logs, visual classification of the soil samples, and laboratory test results. Terms and symbols used on the boring logs are presented on the Boring Log: Terms and Symbols in Appendix C. Stratification lines on the boring logs indicate approximate changes in strata. The transition between materials could be gradual or could occur between recovered samples. The stratification given on the boring logs, or described herein, is for use by Geotechnology in its analyses and should not be used as the basis of design or construction cost estimates without realizing that there can be variation from that shown or described.

5.0 EXPLORATION RESULTS

Pavement Information

Core samples were collected from the existing SR-222 pavement near the locations of Borings E-1, E-7, W-5, W-10, and W-21. Borings E-12, E-14, W-16, W-19, and W-20 were drilled in the existing pavement along SR-222 and CON-5 through -7 were drilled in the existing pavement along Stanton-Somerville Road. The approximate thickness of asphalt measured from the pavement cores and in the borings are shown in Table 4. Photographs of the pavement cores are provided in Appendix E.

Table 4. Approximate Asphaltic Material Thicknesses.

Boring	Location	SR-222 Station (feet)	Total Asphalt Thickness (inches)
E-1[a]	SR-222	3042+05	4½
E-7[a]		3095+69	4¼
E-12		3117+50	10
E-14		3131+30	10
W-5[a]		3072+59	4¾
W-10[a]		3093+08	5
W-16		3118+83	10
W-19		3136+45	6
W-20		3139+48	10
W-21[a]		3143+30	17
CON-5	Stanton-Somerville Road	3118+52	10
CON-6		3118+28	6
CON-7		3118+09	10

[a] Pavement core

General Stratigraphy

The stratigraphy encountered in the borings generally consisted of intermixed layers of predominantly fine-grained soils classified as clayey silt (ML), lean clay (CL), fat clay (CH), and sandy clay (CL/CH) and predominantly coarse-grained soils classified as clayey sand (SC), sand with clay (SP-SC), and silty sand (SM). In some areas the stratigraphy encountered in the borings consisted of predominantly fine-grained soils and fine-grained soils underlain by predominantly coarse-grained soils. Detailed descriptions of the stratigraphy encountered are presented on the boring logs Appendix C.

Groundwater

Groundwater was encountered during drilling at approximate depths of 6, 10, and 23 feet (El 313 to El 285) in Borings SP-8, SP-5, and BR-1, respectively. Groundwater levels vary over time due to seasonal variation in precipitation, recharge, or other factors not evident at the time of exploration.

6.0 LIMITATIONS

This report has been prepared on behalf of, and for the exclusive use of, the client for specific application to the named project as described herein. If this report is provided to other parties, it should be provided in its entirety with all supplementary information. In addition, the client should make it clear the information is provided for factual data only, and not as a warranty of subsurface conditions presented in this report.

Geotechnology has attempted to conduct the services reported herein in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently

practicing in the same locality and under similar conditions. The report is not a bidding document and should not be used for that purpose.

Our scope for this phase of the project did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors noted or unusual or suspicious items or conditions observed are strictly for the information of our client. Our scope did not include an assessment of the effects of flooding and erosion of creeks or rivers adjacent to or on the project site.

Our scope did not include: any services to investigate or detect the presence of mold or any other biological contaminants (such as spores, fungus, bacteria, viruses, and the by-products of such organisms) on and around the site; or any services, designed or intended, to prevent or lower the risk of the occurrence of an infestation of mold or other biological contaminants.

The information contained in this report is based on the data obtained from the geotechnical exploration. The field exploration methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Consequently, subsurface conditions could vary gradually, abruptly, and/or nonlinearly between sample locations and/or intervals.

The information presented in this report should not be used without Geotechnology's review and assessment if the nature, design, or location of the facilities is changed, if there is a lapse in time between the submittal of this report and the start of work at the site, or if there is a substantial interruption or delay during work at the site. If changes are contemplated or delays occur, Geotechnology must be allowed to review them to assess their impact on the findings given in this report. Geotechnology will not be responsible for any claims, damages, or liability associated with any other party's interpretations of the subsurface data or with reuse of the subsurface data in this report.

Appendix A

IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL-ENGINEERING REPORT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

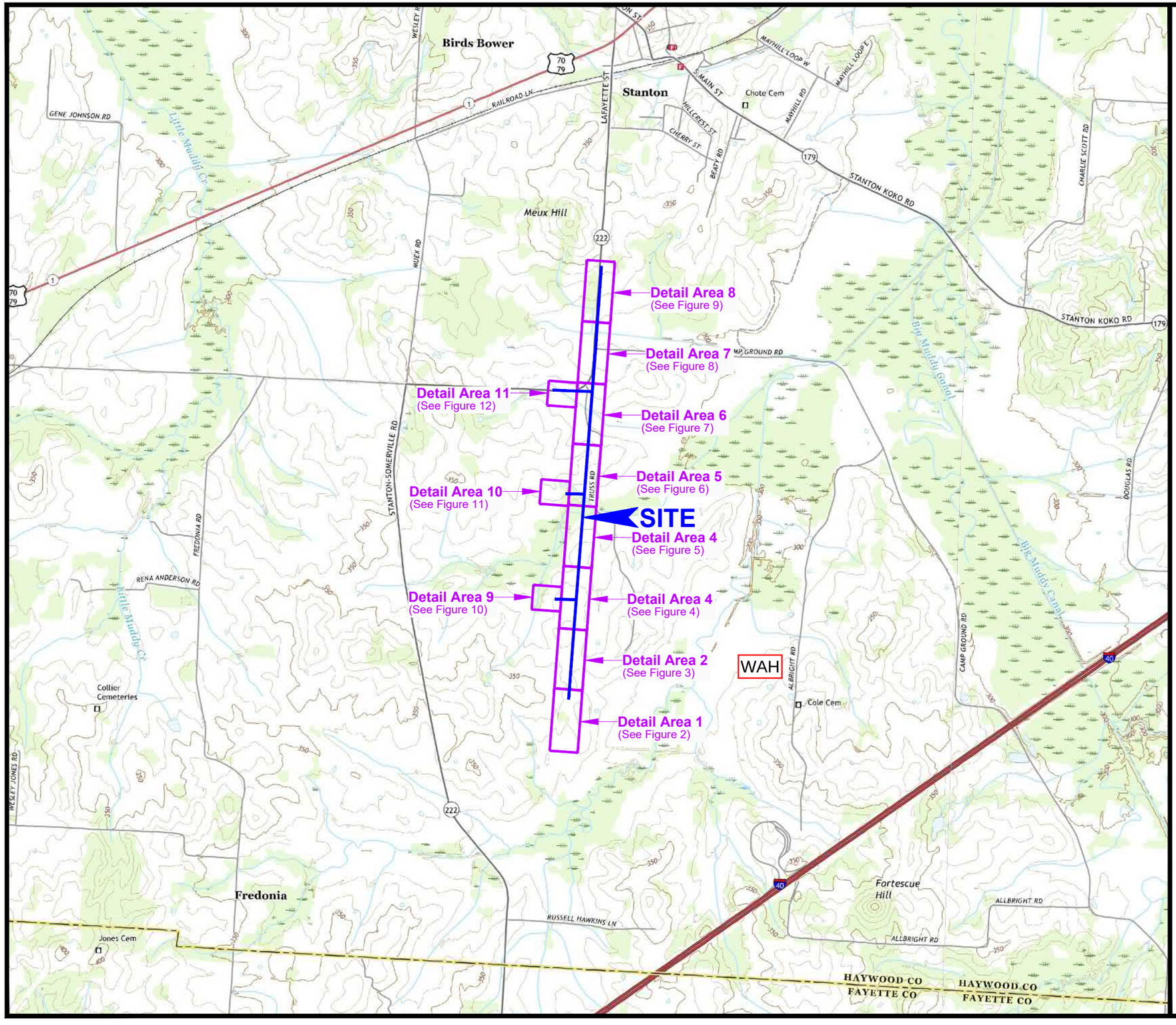
Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Appendix B
FIGURES AND BORING LOCATION SUMMARY



NOTES

1. Plan adapted from 7.5 minute U.S.G.S. maps for Stanton and Dancyville, Tennessee quadrangles, last revised in 2019.

N

0 2,500 5,000

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

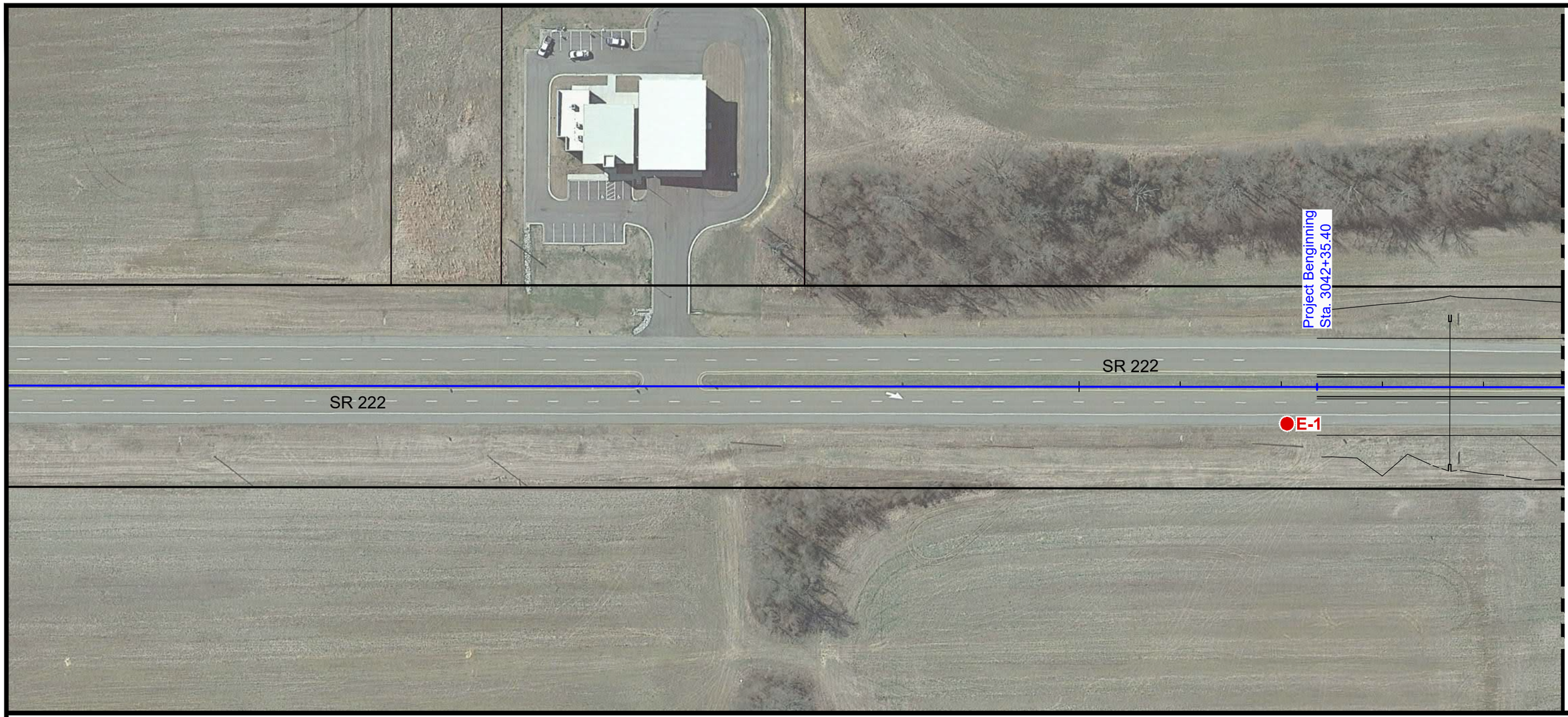
GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

SITE LOCATION AND TOPOGRAPHY

Project Number
J042140.01

FIGURE 1



NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

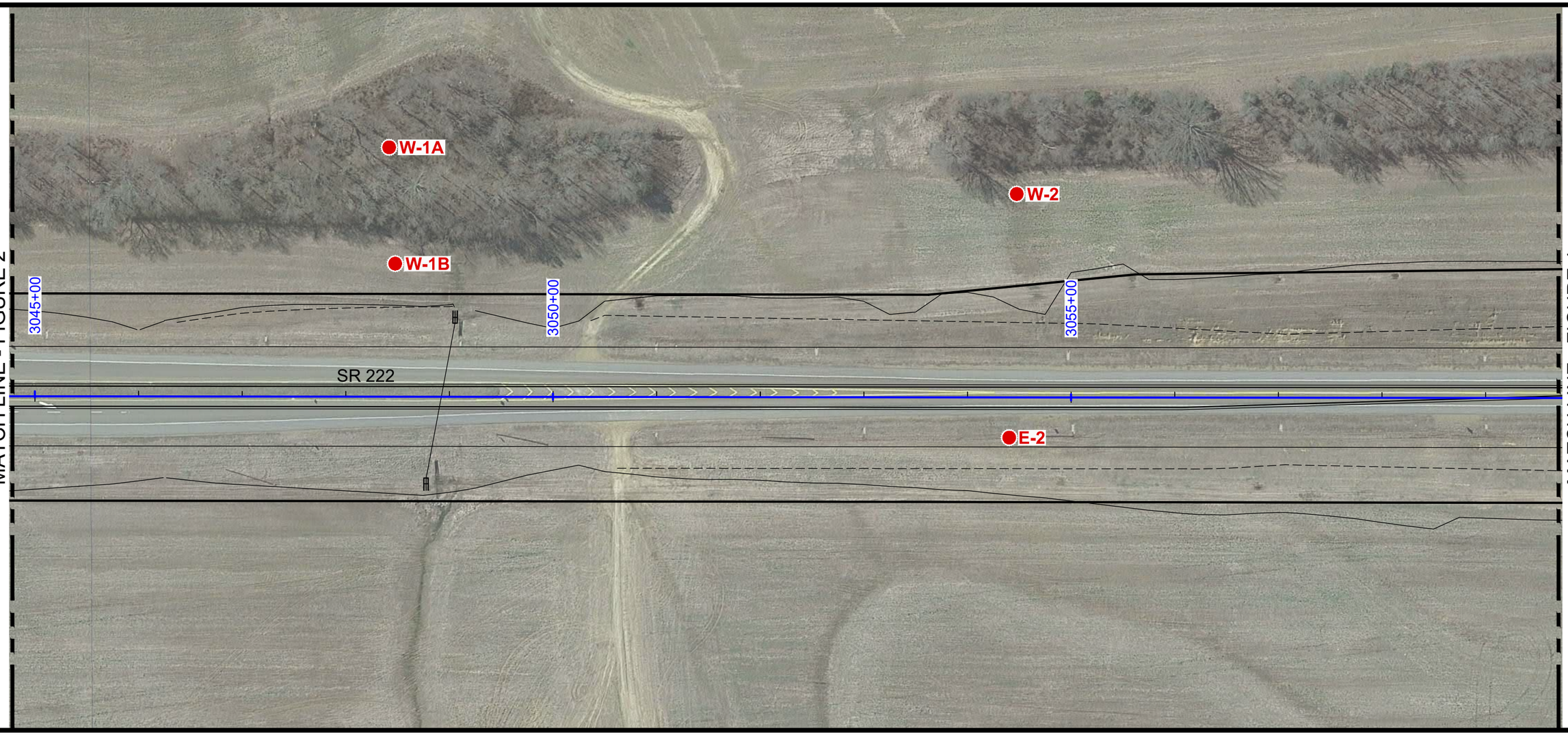
GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 1 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 2



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LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 2 AND BORING LOCATIONS

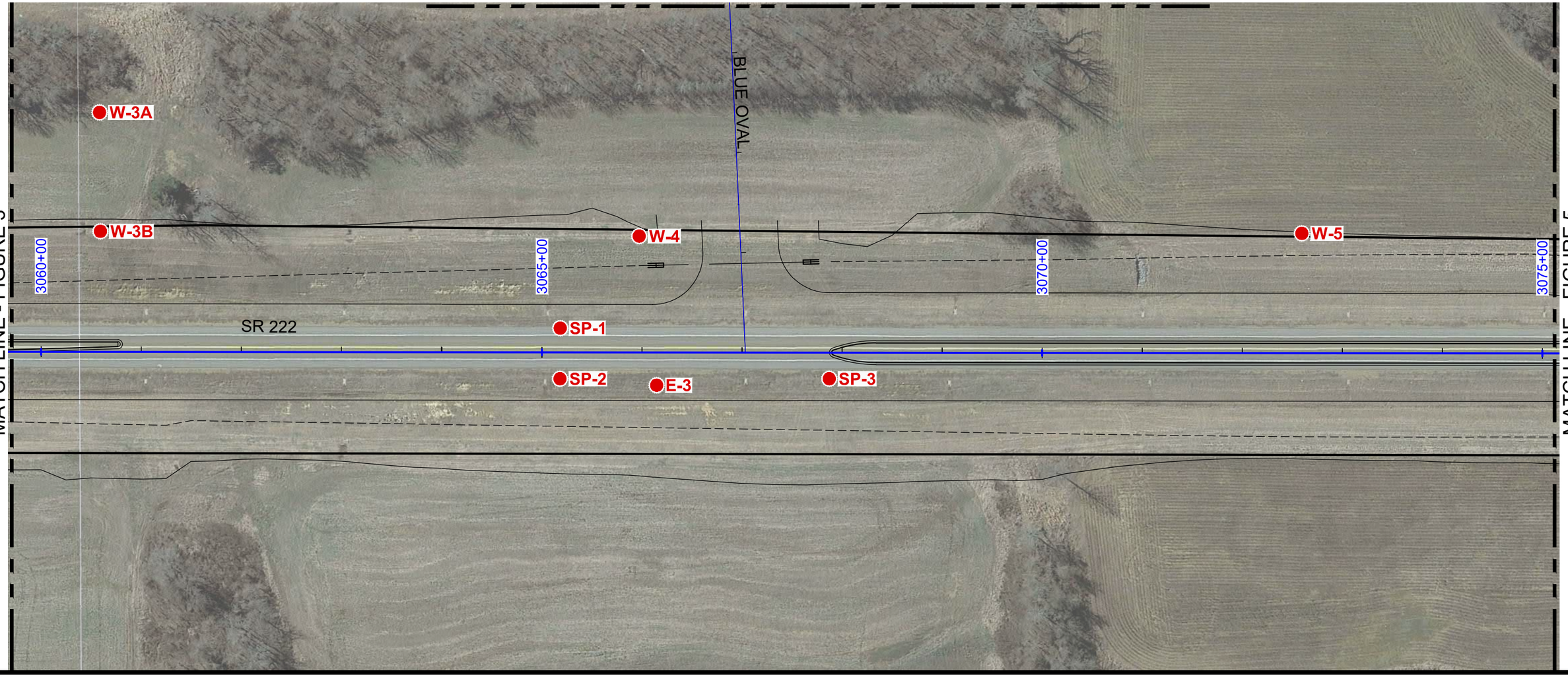
Project Number
J042140.01

FIGURE 3

MATCH LINE - FIGURE 10

MATCH LINE - FIGURE 3

MATCH LINE - FIGURE 5



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2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

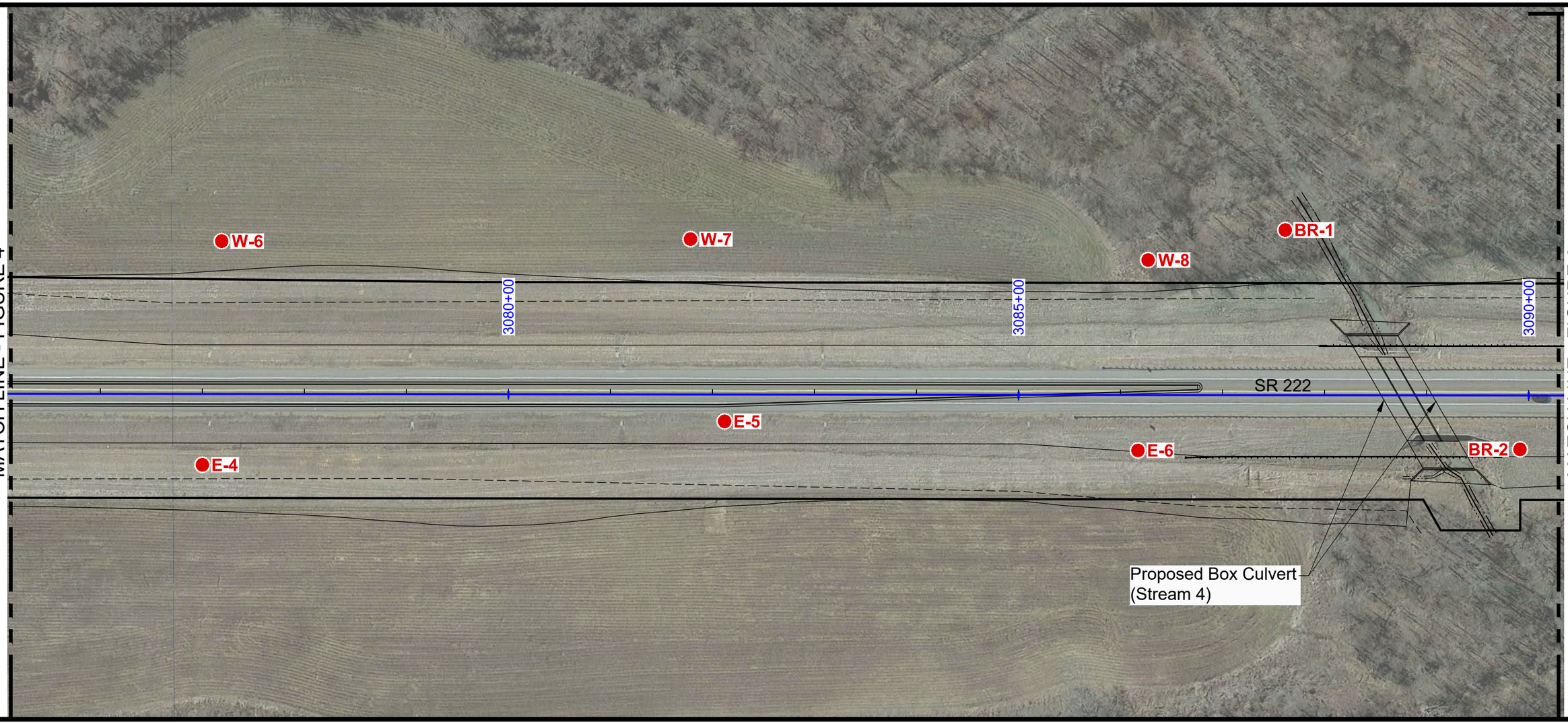
GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 3 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 4



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LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 4 AND BORING LOCATIONS

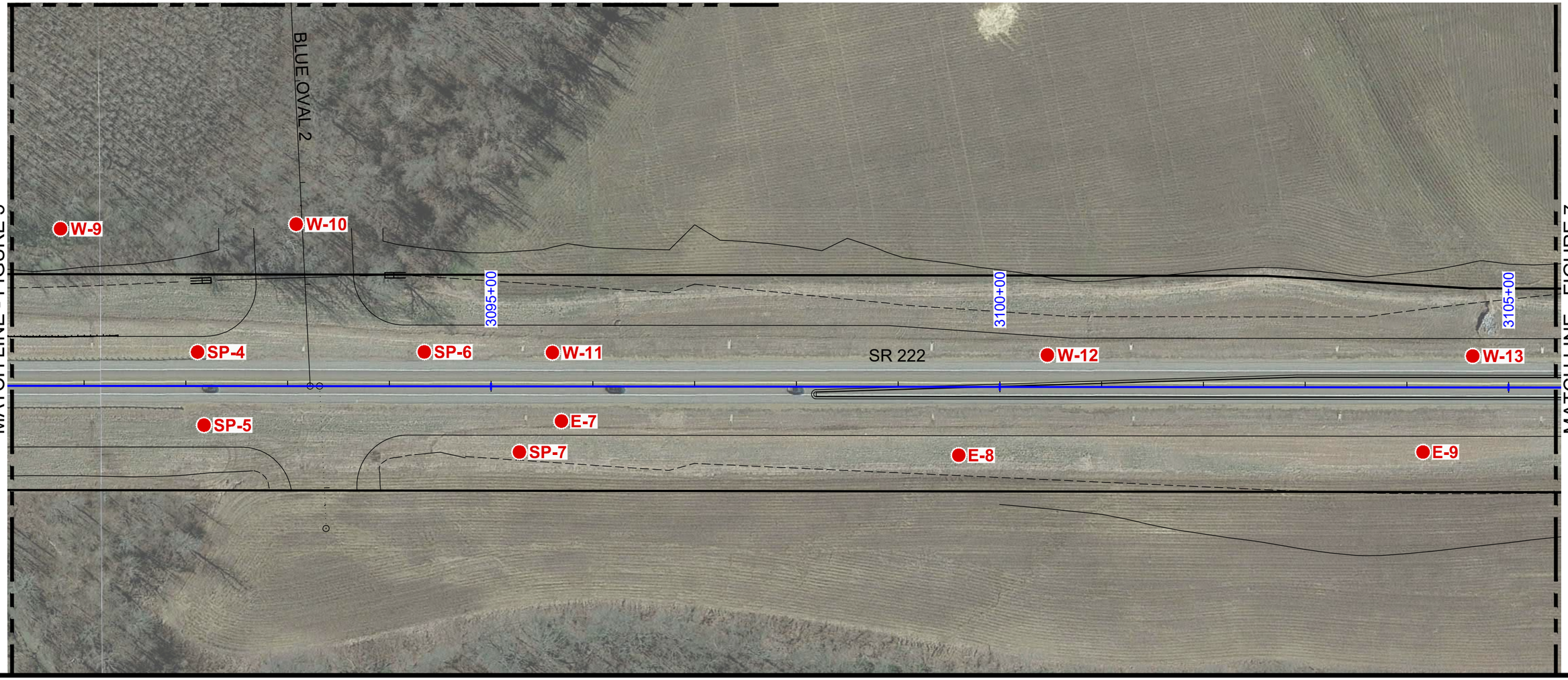
Project Number
J042140.01

FIGURE 5

MATCH LINE - FIGURE 11

MATCH LINE - FIGURE 5

MATCH LINE - FIGURE 7



NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 5 AND BORING LOCATIONS

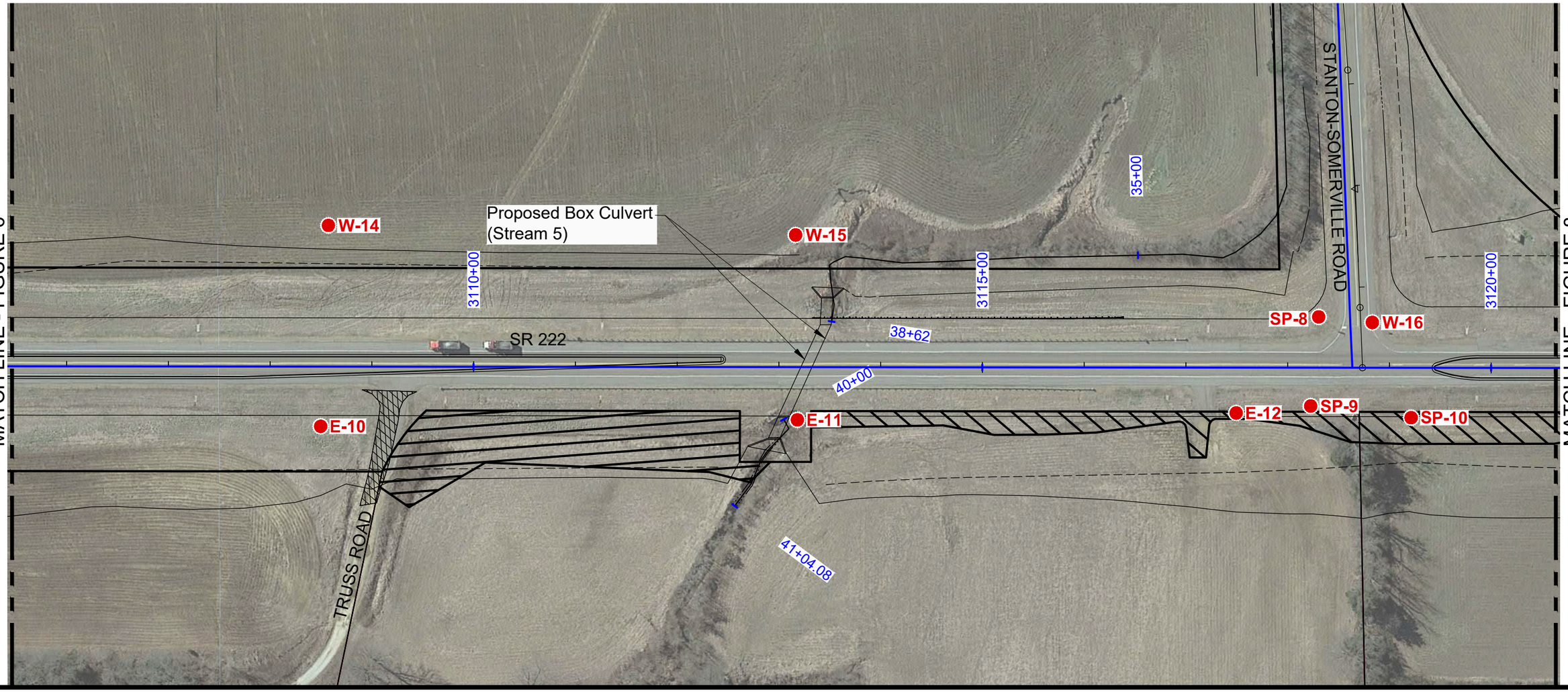
Project Number
J042140.01

FIGURE 6

MATCH LINE - FIGURE 10

MATCH LINE - FIGURE 6

MATCH LINE - FIGURE 8



NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

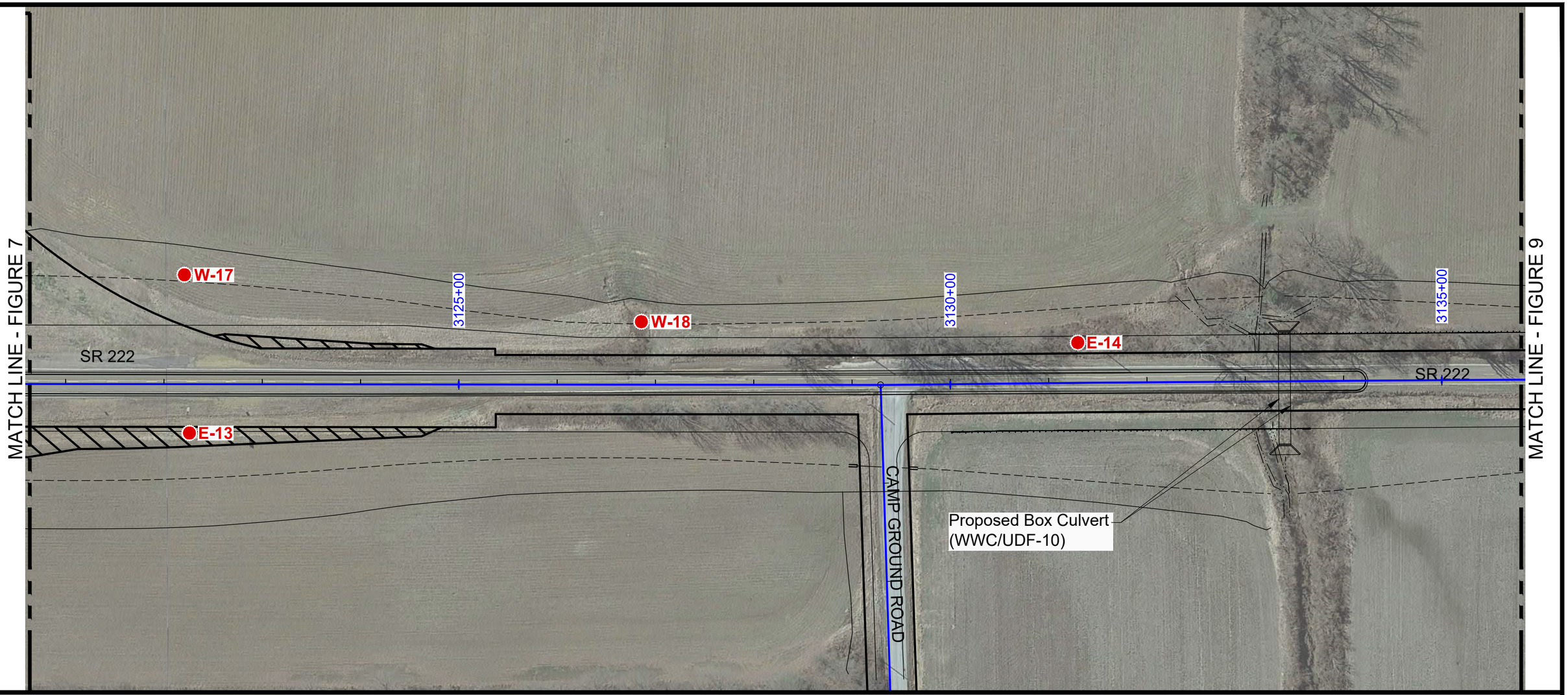
GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 6 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 7



NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 7 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 8

NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

N

0 100 200

SCALE IN FEET

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 8 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 9

MATCH LINE - FIGURE 4

NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

0 100 200

SCALE IN FEET

N

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 9 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 10

MATCH LINE - FIGURE 6

NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

Boring Location

0 100 200

SCALE IN FEET

N

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
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SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 10 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 11

MATCH LINE - FIGURE 7

NOTES

1. Plan adapted from a February 2022 aerial photograph courtesy of Google Earth and drawings dated February 9, 2023, titled "Proposed Layout", prepared by State of Tennessee Department of Transportation.

2. Borings were located in the field by the project surveyor.

LEGEND

● Boring Location

0 100 200

SCALE IN FEET

N

Drawn By: WAH	Ck'd By: ABM	App'vd By: DBA
Date: 2-20-23	Date: 2-22-23	Date: 2-22-23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222 from Near SR-468
to Near Campground Road
Haywood County, Tennessee

AERIAL PHOTOGRAPH OF DETAIL AREA 11 AND BORING LOCATIONS

Project Number
J042140.01

FIGURE 12

Boring No.	Location				Elevation (feet)	Termination Depth (feet)
	SR-222 Station	Offset	Northing	Easting		
E-1	3042+05.23	36.35	412743.98	953613.52	340.4	15
W-1A	3048+41.09	-240.63	413399.22	953386.17	340.7	30
W-1B	3048+47.07	-128.4	413396.57	953498.53	333.5	15
E-2	3054+39.80	38.79	413974.72	953710.73	329.2	15
W-2	3054+46.81	-196.29	413999.75	953476.88	337.4	30
W-3A	3060+57.54	-239.43	414611.99	953480.75	342.4	30
W-3B	3060+58.57	-120.55	414603.89	953599.36	342.7	15
SP-2	3065+18.09	26.38	415050.77	953781.13	326.0	25
SP-1	3065+18.28	-24.23	415054.85	953730.69	326.0	25
W-4	3065+97.13	-116.34	415140.54	953644.90	329.3	15
CON-2	3066+00.74	-610.05	415182.04	953152.93	326.5	15
E-3	3066+14.72	32.75	415146.63	953794.90	324.7	15
CON-1	3067+61.44	-405.91	415326.59	953368.80	331.8	15
SP-3	3067+87.25	26.1	415319.16	953801.51	325.5	25
W-5	3072+59.43	-119.81	415801.15	953692.29	323.6	15
E-4	3077+00.09	69.38	416225.99	953914.75	317.8	15
W-6	3077+18.72	-149.75	416261.38	953697.70	322.1	15
W-7	3081+78.25	-152.27	416719.75	953730.45	313.4	15
E-5	3082+11.87	26.23	416739.57	953911.01	319.6	15
E-6	3086+17.06	54.29	417141.41	953970.10	311.9	15
W-8	3086+26.83	-132.23	417165.47	953784.87	309.1	15
BR-1	3087+61.24	-161.79	417301.75	953765.72	308.7	75*
BR-2	3089+91.55	52.8	417514.91	953997.36	309.7	80
W-9	3090+76.81	-154.16	417615.81	953797.55	309.1	15
SP-4	3092+11.61	-33.33	417740.93	953928.37	314.2	25
SP-5	3092+18.06	38.45	417741.86	954000.44	314.1	25
CON-4	3092+85.00	-842.93	417876.25	953126.80	326.8	15
W-10	3093+08.42	-158.95	417847.10	953810.56	320.0	15
CON-3	3093+17.49	-477.24	417880.57	953493.91	321.8	15
SP-6	3094+34.48	-33.69	417963.17	953945.12	316.2	25
SP-7	3095+28.03	64.48	418048.91	954050.19	316.0	25
W-11	3095+60.34	-33.22	418088.63	953955.26	316.2	25
E-7	3095+69.27	34.1	418092.36	954023.06	317.4	15
E-8	3099+59.81	67.19	418479.21	954086.03	321.2	15
W-12	3100+46.79	-31.29	418573.49	953994.52	319.5	15
E-9	3104+16.03	63.52	418934.37	954117.40	325.3	15
W-13	3104+64.77	-30.81	418990.20	954027.09	321.0	15
E-10	3108+49.86	58.63	419367.29	954145.83	315.1	15
W-14	3108+57.23	-138.86	419389.80	953949.49	314.2	15
W-15	3113+16.42	-129.95	419846.95	953993.62	311.6	15
E-11	3113+18.31	51.77	419834.88	954174.95	311.5	15
E-12	3117+49.53	44.55	420265.39	954200.85	317.3	15
CON-7	3118+08.95	-1055.54	420409.08	953108.57	318.3	15
SP-9	3118+22.73	37.63	420338.90	954199.58	320.0	25
CON-6	3118+28.13	-734.39	420403.55	953430.25	319.3	15
SP-8	3118+30.52	-49.98	420353.39	954112.82	319.8	25
CON-5	3118+52.27	-435.47	420404.67	953730.14	320.3	15
W-16	3118+83.21	-44.6	420405.52	954122.23	321.1	15

*Refusal encountered

Boring No.	Location				Elevation (feet)	Termination Depth (feet)
	SR-222 Station	Offset	Northing	Easting		
SP-10	3119+21.47	48.98	420436.47	954218.47	319.0	25
W-17	3122+20.82	-111.34	420747.25	954081.60	320.9	15
E-13	3122+26.10	49.68	420740.15	954242.55	319.2	15
W-18	3126+85.69	-64.07	421207.12	954164.42	315.7	15
E-14	3131+29.98	-40.95	421648.15	954219.17	311.7	15
W-19	3136+44.65	-71.41	422163.77	954224.16	313.2	15
E-15	3139+41.54	24.49	422453.10	954340.86	314.9	15
W-20	3139+47.51	-82.06	422467.08	954235.06	315.9	15
W-21	3143+29.78	-83.69	422848.38	954262.24	326.5	15
E-16	3143+37.91	20.32	422848.66	954366.57	318.1	15

Appendix C
BORING INFORMATION

Surface Elevation: 340.4
Datum NAD83
Completion Date: 12/13/22
Station: 3042+05.2
Offset: 36.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 5 inches of gravel			
		Very stiff to medium stiff, brown and gray, silty, LEAN CLAY - (CL) 95% passing No. 200 sieve		1-9-10	SS1
		trace organics		7-13-10	SS2
5	335			4-4-10	SS3
				106	ST4
10	330				
				2-4-4	SS5
15	325	Boring terminated at 15 feet.			
20	320				
25	315				
30	310				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 1

Project No. J042140.01

Surface Elevation: 340.7
Datum NAD83
Completion Date: 12/27/23
Station: 3048+41.1
Offset: -240.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff to stiff, gray, silty, LEAN CLAY - CL		2-3-4	SS1
				3-4-5	SS2
5	336				
		Medium stiff to stiff, gray, FAT CLAY - (CH)		2-3-3	SS3
				102	ST4
10	331				
		Medium stiff to stiff, brown and gray, sandy, LEAN CLAY, trace organic - (CL)		2-3-4	SS5
15	326				
				4-3-5	SS6
20	321				
		69% passing No. 200 sieve		2-2-3	SS7
25	316				
				3-5-6	SS8
30	311	Boring terminated at 30 feet.			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: NMRG	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 1A

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 333.5
Datum NAD83
Completion Date: 12/22/22
Station: 3048+47.1
Offset: -128.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Medium stiff to hard, brown, LEAN CLAY - (CL)		6-3-3	SS1
		97% passing No. 200 sieve		118	ST2
5	329				
		Medium stiff to stiff, brown to gray, clayey SILT - ML		5-4-4	SS3
				4-5-9	SS4
10	324				
		Stiff, gray to brown, silty, LEAN CLAY - CL		3-4-5	SS5
15	319	Boring terminated at 15 feet.			
20	314				
25	309				
30	304				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 1B

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 329.3
Datum NAD83
Completion Date: 12/13/22
Station: 3054+39.8
Offset: 38.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Stiff, brown and gray, silty, LEAN CLAY, trace organics - CL		3-5-6	SS1
				3-6-8	SS2
5	324				
		trace gravel		3-4-6	SS3
				2-4-6	SS4
10	319				
		Medium stiff, tan, gray and brown, FAT CLAY, little organics - CH		3-3-4	SS5
15	314	Boring terminated at 15 feet.			
20	309				
25	304				
30	299				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 2

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 337.4
Datum NAD83
Completion Date: 12/27/23
Station: 3054+46.8
Offset: -196.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Medium stiff to stiff, brown and gray, silty, LEAN CLAY - (CL)		2-2-4	SS1
				2-2-4	SS2
5	332			2-3-4	SS3
				2-3-3	SS4
10	327			2-4-4	SS5
				98	ST6
15	322			4-4-4	SS7
20	317			4-6-4	SS8
25	312	Medium stiff to stiff, gray and brown, sandy, LEAN CLAY - CL			
30	307	Boring terminated at 30 feet.			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 2

Project No. J042140.01

Surface Elevation: 342.4
Datum NAD83
Completion Date: 1/5/23
Station: 3060+57.5
Offset: -239.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff, brown and orange, silty, LEAN CLAY, trace organics and sand- CL		3-4-4	SS1
		Stiff, brown and red, sandy, LEAN CLAY - CL		2-5-7	SS2
5	337				
		Medium dense, brown, gray and white, SILTY SAND - (SM)		3-8-9	SS3
		18% passing No. 200 sieve		3-7-8	SS4
10	332				
				3-8-11	SS5
15	327				
		Stiff, tan and gray, LEAN CLAY, little sand - (CL)		2-5-6	SS6
		81% passing No. 200 sieve			
20	322				
		Stiff, gray, sandy, FAT CLAY - (CH)		84	ST7
		52% passing No. 200 sieve			
25	317				
		trace gravel		3-4-6	SS8
30	312	Boring terminated at 30 feet.			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

79 >>

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 3A

Project No. J042140.01

Surface Elevation: 342.7
Datum NAD83
Completion Date: 12/22/22
Station: 3060+58.6
Offset: -120.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff, brown and red, sandy, LEAN CLAY - CL	4-4-5	SS1
5	338		3-4-7	SS2
		Stiff, gray, brown and red, sandy, FAT CLAY - (CH) 60% passing No. 200 sieve	106	ST3
		Medium dense, white and red, CLAYEY SAND - SC	5-7-9	SS4
10	333			
			6-7-9	SS5
15	328	Boring terminated at 15 feet.		
20	323			
25	318			
30	313			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

63 >>

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 3B

Project No. J042140.01

Surface Elevation: 326.0
Datum NAD83
Completion Date: 1/26/23
Station: 3065+18.1
Offset: 26.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff, brown to tan, silty, LEAN CLAY, trace organics - CL	3-4-7	SS1
		trace metal	2-4-9	SS2
5	321			
		FAT CLAY, some sand - (CH) 77% passing No. 200 sieve		ST3
		Medium dense, tan to red SAND, trace clay - (SP-SC) 10% passing No. 200 sieve	4-7-8	SS4
10	316			
		Stiff, tan and red to gray, sandy, LEAN CLAY, trace organics - CL	3-4-5	SS5
15	311			
			4-3-5	SS6
20	306	Gray, FAT CLAY, trace sand - CH		
		Gray and tan, sandy, LEAN CLAY - CL	4-7-8	SS7
25	301	Gray and tan, FAT CLAY, trace organics - CH Boring terminated at 25 feet.		
30	296			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS: Boring terminated at initial location at 5 feet due to auger refusal; boring was offset 2 feet west and sampling resumed at 8.5 feet.

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 2

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 326.0
Datum NAD83
Completion Date: 1/26/23
Station: 3065+18.3
Offset: -24.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff, tan and red, sandy, LEAN CLAY - CL	3-5-8	SS1
5	321	Very stiff, tan and red, sandy, FAT CLAY - (CH)	107	ST2
		Medium dense, white and pink, CLAYEY SAND - (SC)	4-6-9	SS3
		22% passing No. 200 sieve	4-6-6	SS4
10	316			
		Medium stiff to stiff, tan to white, sandy, LEAN CLAY - CL	3-3-4	SS5
15	311	trace organics		
			5-5-5	SS6
20	306			
		Medium dense, orange and gray, CLAYEY SAND, trace organics - SC	5-11-13	SS7
25	301	Boring terminated at 25 feet.		
30	296			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 1

Project No. J042140.01

Surface Elevation: 329.3
Datum NAD83
Completion Date: 12/22/22
Station: 3065+97.1
Offset: -116.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Stiff, brown and red, sandy, FAT CLAY - CH		5-6-9	SS1
				5-7-4	SS2
5	324				
		Medium dense, red, CLAYEY SAND - (SC)		7-7-9	SS3
		49% passing No. 200 sieve			ST4
10	319				
		Medium stiff, red and gray, sandy, FAT CLAY - CH		3-3-5	SS5
15	314	Boring terminated at 15 feet.			
20	309				
25	304				
30	299				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 4

Project No. J042140.01

Surface Elevation: 326.5
Datum NAD83
Completion Date: 1/5/23
Station: 3066+00.7
Offset: -610.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 5 inches		
		Medium stiff to stiff, brown, silty, LEAN CLAY - CL	2-4-4	SS1
			2-5-6	SS2
5	322		3-5-6	SS3
			3-5-8	SS4
10	317			
		Stiff, brown, sandy, LEAN CLAY - CL	3-5-6	SS5
15	312	Boring terminated at 15 feet.		
20	307			
25	302			
30	297			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-2

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

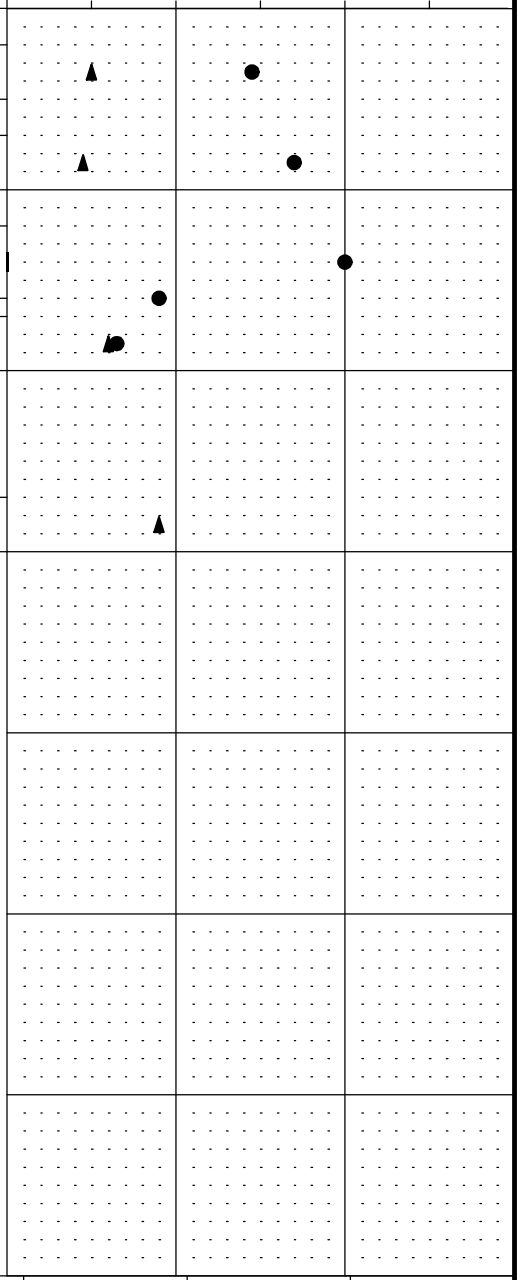
Surface Elevation: 324.7
Datum NAD83
Completion Date: 12/13/22
Station: 3066+14.7
Offset: 32.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Loose, gray and red, CLAYEY SAND - SC		2-3-7	SS1
		Stiff, tan, gray and red, sandy, FAT CLAY, little organics - CH		2-3-6	SS2
5	320				
		Medium dense, tan to gray and red, CLAYEY SAND - SC little organics 35% passing No. 200 sieve			ST3
				4-4-8	SS4
10	315				
		Medium dense, tan, gray and red SAND, trace clay - SP		3-9-9	SS5
15	310	Boring terminated at 15 feet.			
20	305				
25	300				
30	295				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL



GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 3

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 331.8
Datum NAD83
Completion Date: 1/5/23
Station: 3067+61.4
Offset: -405.9

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 5 inches		
		Very stiff to hard, brown and tan, clayey SILT - ML	4-9-13	SS1
5	327		5-14-18	SS2
		Very stiff to hard, brown, tan and red, sandy SILT - ML	5-11-15	SS3
10	322		8-20-23	SS4
		Medium dense, brown and red, CLAYEY SAND - SC	4-7-11	SS5
15	317	Boring terminated at 15 feet.		
20	312			
25	307			
30	302			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-1

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 325.5
Datum NAD83
Completion Date: 1/26/23
Station: 3067+87.3
Offset: 26.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff to very stiff, brown and red to gray, sandy, LEAN CLAY - (CL) 58% passing No. 200 sieve	3-4-7	SS1
			2-7-7	SS2
5	321		3-5-6	SS3
			99	ST4
10	316			
		trace organics	3-9-8	SS5
15	311			
		Stiff, gray, FAT CLAY - CH	3-4-6	SS6
20	306			
		Very stiff, gray and tan, sandy, LEAN CLAY - CL	3-6-12	SS7
25	301	Boring terminated at 25 feet.		
30	296			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS: ST4 too disturbed for shear strength testing.

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 3

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 323.6
Datum NAD83
Completion Date: 12/21/22
Station: 3072+59.4
Offset: -119.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Medium stiff, brown, red and gray, sandy, LEAN CLAY - CL		3-3-5	SS1
				3-3-4	SS2
5	319			4-4-5	SS3
		Stiff, brown to red, silty, LEAN CLAY - CL		3-5-7	SS4
10	314			2-4-6	SS5
15	309	Boring terminated at 15 feet.			
20	304				
25	299				
30	294				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/2/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JJA LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/13/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 5

Project No. J042140.01

Surface Elevation: 317.8
Datum NAD83
Completion Date: 12/13/22
Station: 3077+00.1
Offset: 69.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel and straw			
		Very stiff, red-brown, clayey SILT, little sand - ML		3-7-12	SS1
5	313	Stiff to very stiff, red and brown, sandy, LEAN CLAY - CL		5-7-8	SS2
				4-9-11	SS3
10	308	Medium dense, red, brown and gray, CLAYEY SAND - SC		6-12-12	SS4
				4-12-13	SS5
15	303	Boring terminated at 15 feet.			
20	298				
25	293				
30	288				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 4

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 322.1
Datum NAD83
Completion Date: 12/21/22
Station: 3077+18.7
Offset: -149.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Medium stiff to very stiff, brown, tan and gray, silty, LEAN CLAY - CL	3-2-4	SS1
			3-4-5	SS2
5	317		3-4-5	SS3
			3-4-6	SS4
10	312			
		trace sand	3-7-10	SS5
15	307	Boring terminated at 15 feet.		
20	302			
25	297			
30	292			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JJA LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/13/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 6

Project No. J042140.01

Surface Elevation: 313.4
Datum NAD83
Completion Date: 1/3/23
Station: 3081+78.3
Offset: -152.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Stiff, brown and gray, clayey SILT - ML		3-6-7	SS1
		Stiff, brown and gray, silty, LEAN CLAY - CL		3-6-8	SS2
5	308			3-4-6	SS3
				2-5-7	SS4
10	303				
				2-3-6	SS5
15	298	Boring terminated at 15 feet.			
20	293				
25	288				
30	283				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JJA LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 7

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 319.6
Datum NAD83
Completion Date: 12/15/22
Station: 3082+11.9
Offset: 26.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 5 inches of gravel and straw			
		Stiff, brown and gray, silty, LEAN CLAY - (CL) trace organics		2-6-7	SS1
				11-6-7	SS2
5	315			2-4-6	SS3
				99	ST4
10	310				
		Stiff, red and brown, silty, sandy, LEAN CLAY - CL		2-5-6	SS5
15	305	Boring terminated at 15 feet.			
20	300				
25	295				
30	290				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 5

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 311.9
Datum NAD83
Completion Date: 12/21/22
Station: 3086+17.1
Offset: 54.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel and straw			
		Medium stiff, brown, clayey SILT - ML		8-4-4	SS1
				1-3-5	SS2
5	307				
		trace gravel		5-3-3	SS3
		Very stiff to stiff, brown and gray, silty, LEAN CLAY - CL		6-12-11	SS4
10	302				
				4-5-7	SS5
15	297	Boring terminated at 15 feet.			
20	292				
25	287				
30	282				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JJA LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/13/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 6

Project No. J042140.01

Surface Elevation: 309.1
Datum NAD83
Completion Date: 12/16/22
Station: 3086+26.8
Offset: -132.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff, brown, sandy SILT - ML		3-4-3	SS1
5	304	Stiff, brown SILT - ML		3-6-7	SS2
		Soft to very stiff, brown and gray, silty, LEAN CLAY - (CL)		2-2-2	SS3
				104	ST4
10	299				
				3-3-5	SS5
15	294	Boring terminated at 15 feet.			
20	289				
25	284				
30	279				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 8

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 308.5
Datum NAD83
Completion Date: 12/29/22
Station: 3088+65.6
Offset: -123.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 5 inches		
		Soft to stiff, brown and gray, LEAN CLAY - (CL)	2-2-2	SS1
		94% passing No. 200 sieve	2-2-4	SS2
5	304		3-5-5	SS3
			3-3-5	SS4
10	299			
		pH = 7.8	2-2-3	SS5
15	294			
		Brown, CLAYEY SAND - (SC)		ST6
20	289	17% passing No. 200 sieve		
		Soft to stiff, brown, sandy, FAT CLAY - (CH)	1-2-2	SS7
25	284			
		pH = 8.2	3-4-4	SS8
30	279			
		Very stiff to stiff, gray, FAT CLAY, little sand, trace organics - CH	5-7-9	SS9
35	274			
		pH = 8.0	7-9-11	SS10
40	269	resistivity = 969 ohms-cm		
			7-9-11	SS11
45	264			
			4-6-5	SS12
50	259			
			3-4-5	SS13
55	254			
			5-6-9	SS14
60	249			
		Stiff, gray, LEAN CLAY, little sand - (CL)	5-5-7	SS15
65	244			
		Very dense, white and brown, CLAYEY SAND - SC	17-50/3"	SS16
70	239			3"
		Hard, white and brown, sandy, FAT CLAY - CH	50/3"	SS17
75	234	Boring terminated at 75 feet due to split-spoon refusal.		S-3"
80	229			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

ENCOUNTERED AT 23.5 FEET ▽

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 23.5 FEET
KJB DRILLER NMRG LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: NMRG	Checked by: ABM	App'vd. by: DBA
Date: 1/3/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: BR-1

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 309.7
Datum NAD83
Completion Date: 12/28/22
Station: 3089+91.6
Offset: 52.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	SAMPLES	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD
		Topsoil: 4 inches		
		Stiff to medium stiff, tan to brown, sandy SILT - ML	SS1	2-5-6
			SS2	2-2-3
5	305	Medium stiff, brown to gray, clayey SILT - ML	SS3	2-3-3
			*ST4	
10	300			
		resistivity = 2,109 ohms-cm	SS5	2-2-4
15	295			
		Medium stiff, brown, silty, LEAN CLAY - CL	SS6	2-3-3
20	290	pH = 7.6		
		Soft to very stiff, brown, sandy, LEAN CLAY - (CL)	SS7	2-1-3
25	285	restivity = 1,824 ohms-cm		
			SS8	1-1-2
30	280			
		61% passing No. 200 sieve	SS9	4-6-6
35	275	pH = 6.7		
		66% passing No. 200 sieve	SS10	7-9-10
40	270			
		Very stiff, brown to gray, LEAN CLAY - (CL)	SS11	5-7-10
45	265	pH = 8.1		
			SS12	5-9-12
50	260			
		Very stiff to stiff, brown to gray, sandy, LEAN CLAY - CL	SS13	8-12-16
55	255			
		pH = 7.9	SS14	7-8-10
60	250			
			SS15	5-7-10
65	245			
			SS16	5-7-9
70	240			
			SS17	3-4-8
75	235			
			SS18	3-7-11
80	230	Boring terminated at 80 feet.		

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 20 FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS: *No recovery

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: BR-2

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 309.1
Datum NAD83
Completion Date: 12/15/22
Station: 3090+76.8
Offset: -154.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Medium stiff, brown and gray, clayey SILT, little organics, trace sand - ML		5-4-4	SS1
		Medium stiff to soft, gray and brown to gray, silty, LEAN CLAY - CL		1-1-1	SS2
5	304	trace gravel and organics 93% passing No. 200 sieve		3-3-3	SS3
				2-2-2	SS4
10	299				
		trace gravel		2-2-2	SS5
15	294	Boring terminated at 15 feet.			
20	289				
25	284				
30	279				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W- 9

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 314.2
Datum NAD83
Completion Date: 1/26/23
Station: 3092+11.6
Offset: -33.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 4 inches		
		Medium stiff to stiff, brown SILT - (ML) trace organics	2-5-3	SS1
			105	ST2
5	309			
		Very soft to medium stiff, brown and gray to brown, silty, LEAN CLAY - CL	WH/18"	*SS3
		trace organics	1-2-3	SS4
10	304			
		trace organics	2-3-3	SS5
15	299			
		trace sand	2-3-3	SS6
20	294			
		trace sand	2-3-5	SS7
25	289	Boring terminated at 25 feet.		
30	284			

GRAPHIC LOG

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 4

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 314.1
Datum NAD83
Completion Date: 1/25/23
Station: 3092+18.6
Offset: 38.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 3 inches		
		Very soft to stiff, brown and gray to tan and gray, silty, LEAN CLAY - (CL) trace organics	3-4-4	SS1
		trace organics		
			1-1-0	SS2
5	309			
			99	ST3
			1-2-1	SS4
10	304			
		trace organics	0-2-2	SS5
15	299			
		trace organics	3-4-4	SS6
20	294			
			2-4-5	SS7
25	289	Boring terminated at 25 feet.		
30	284			

GRAPHIC LOG

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

ENCOUNTERED AT 10 FEET ▽

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: LLP	Checked by: ABM	App'vd. by: DBA
Date: 1/26/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 5

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 326.8
Datum NAD83
Completion Date: 1/4/23
Station: 3092+85
Offset: -842.9

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Stiff, brown, silty, LEAN CLAY - CL trace sand		3-4-6	SS1
				3-5-6	SS2
5	322				
		Stiff, red and brown, FAT CLAY, little sand - (CH)		2-6-6	SS3
				107	ST4
10	317				
		Stiff, gray and brown, sandy, FAT CLAY, trace organics - CH		3-4-5	SS5
15	312	Boring terminated at 15 feet.			
20	307				
25	302				
30	297				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

78 >>

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: LLP	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-4

Project No. J042140.01

Surface Elevation: 320.0
Datum NAD83
Completion Date: 1/4/23
Station: 3093+08.4
Offset: -159.0

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel		
		Stiff, brown, clayey SILT - ML	3-6-6	SS1
		Very stiff to medium stiff, brown, silty, LEAN CLAY - (CL)	107	ST2
5	315		3-3-4	SS3
			2-3-4	SS4
10	310	trace gravel		
			1-3-4	SS5
15	305	Boring terminated at 15 feet.		
20	300			
25	295			
30	290			

GRAPHIC LOG

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-10

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 321.8
Datum NAD83
Completion Date: 1/4/23
Station: 3093+17.5
Offset: -477.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Medium stiff, brown, silty, LEAN CLAY, trace organics, gravel and sand - CL		2-3-4	SS1
5	317			3-3-3	SS2
		Stiff, red and brown, FAT CLAY, little sand - CH		2-5-5	SS3
10	312			3-6-8	SS4
		Medium stiff, orange and gray, sandy, LEAN CLAY - CL		2-4-4	SS5
15	307	Boring terminated at 15 feet.			
20	302				
25	297				
30	292				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: LLP	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-3

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 316.2
Datum NAD83
Completion Date: 1/25/23
Station: 3094+34.5
Offset: -33.7

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 3 inches		
		Soft, brown, LEAN CLAY - (CL) 91% passing No. 200 sieve	3-2-2	SS1
		Soft to stiff, brown SILT - (ML)	98	ST2
5	311			
		Soft to medium stiff, brown and gray, silty, LEAN CLAY - CL trace organics	2-2-3	SS3
			1-1-2	SS4
10	306			
		trace gravel and organics	1-3-4	SS5
15	301			
		Stiff, gray and red to gray, FAT CLAY - CH trace gravel and organics	2-4-5	SS6
20	296			
			2-5-6	SS7
25	291	Boring terminated at 25 feet.		
30	286			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER SEM LOGGER
Geoprobe 7822 DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/26/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 6

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 316.1
Datum NAD83
Completion Date: 1/25/23
Station: 3095+28.0
Offset: 64.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 4 inches		
		Soft to stiff, brown SILT - (ML) little organics	1-1-3	SS1
			98	ST2
5	311			
		Medium stiff to stiff, brown and gray to tan and gray, silty, LEAN CLAY - CL trace organics	2-3-5	SS3
		trace organics	5-5-4	SS4
10	306			
			3-4-5	SS5
15	301			
		Stiff, brown, gray and tan, FAT CLAY - CH	2-4-6	SS6
20	296			
			2-4-5	SS7
25	291	Boring terminated at 25 feet.		
30	286			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER SEM LOGGER
Geoprobe 7822 DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/26/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 7

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 316.2
Datum NAD83
Completion Date: 12/16/22
Station: 3095+60.3
Offset: -33.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Medium stiff to stiff, brown to brown and gray, silty, LEAN CLAY, trace organics - CL	1-3-4	SS1
			2-3-5	SS2
5	311			
		trace sand	2-4-5	SS3
		Stiff, brown and red, FAT CLAY, trace sand and organics - (CH)	3-5-7	SS4
10	306			
		Stiff, gray and red, sandy, LEAN CLAY, trace organics - CL	3-5-4	SS5
15	301	Boring terminated at 15 feet.		
20	296			
25	291			
30	286			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

64 >>

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-11

Project No. J042140.01

Surface Elevation: 317.4
Datum NAD83
Completion Date: 12/15/22
Station: 3095+69.3
Offset: 34.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 5 inches		
		Medium stiff, brown and gray, silty, LEAN CLAY - (CL) 95% passing No. 200 sieve	1-2-3	SS1
			2-2-4	SS2
5	312		1-3-4	SS3
		trace organics	2-3-5	SS4
10	307			
		Stiff, red, brown and gray, sandy, FAT CLAY - CH	2-4-6	SS5
15	302	Boring terminated at 15 feet.		
20	297			
25	292			
30	287			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 7

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 321.2
Datum NAD83
Completion Date: 12/15/22
Station: 3099+59.8
Offset: 67.2

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff to stiff, brown and gray, silty, LEAN CLAY, trace organics - (CL)		3-4-3	SS1
		trace gravel			
				101	ST2
5	316				
				1-2-4	SS3
		trace sand			
				1-2-4	SS4
10	311				
				2-3-4	SS5
15	306	Boring terminated at 15 feet.			
20	301				
25	296				
30	291				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/4/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 8

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 319.5
Datum NAD83
Completion Date: 12/16/22
Station: 3100+46.8
Offset: -31.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Medium stiff, gray, silty, LEAN CLAY - CL	2-3-4	SS1
			1-3-3	SS2
5	315		2-2-3	SS3
			1-2-3	SS4
10	310			
			3-3-5	SS5
15	305	Boring terminated at 15 feet.		
20	300			
25	295			
30	290			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: NMRG	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-12

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 325.3
Datum NAD83
Completion Date: 12/15/22
Station: 3104+16.0
Offset: 63.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel and straw			
		Medium stiff, brown, silty, LEAN CLAY, trace organics - CL		1-3-4	SS1
		Medium stiff, red and brown, FAT CLAY, trace organics - CH		2-3-5	SS2
5	320	95% passing No. 200 sieve			
		Medium stiff to stiff, red, brown and gray to gray, silty, LEAN CLAY - CL		1-3-4	SS3
		trace organics		2-3-5	SS4
10	315				
		trace sand		2-5-6	SS5
15	310	Boring terminated at 15 feet.			
20	305				
25	300				
30	295				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E- 9

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 321.0
Datum NAD83
Completion Date: 12/16/22
Station: 3104+64.8
Offset: -30.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff, gray, silty, LEAN CLAY - CL	2-5-7	SS1
			3-4-5	SS2
5	316			
		Medium stiff, gray, FAT CLAY - CH	2-3-5	SS3
		Stiff, gray, sandy, FAT CLAY - CH	2-4-5	SS4
10	311			
			2-5-6	SS5
15	306	Boring terminated at 15 feet.		
20	301			
25	296			
30	291			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: NMRG	Checked by: ABM	App'vd. by: DBA
Date: 1/5/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-13

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 315.1
Datum NAD83
Completion Date: 12/15/22
Station: 3108+49.9
Offset: 58.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel and straw			
		Very stiff to medium stiff, brown and gray, clayey SILT - ML		4-7-6	SS1
				3-5-9	SS2
5	310			3-8-8	SS3
				1-2-2	SS4
10	305				
				1-2-4	SS5
15	300	Boring terminated at 15 feet.			
20	295				
25	290				
30	285				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/15/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-10

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 314.2
Datum NAD83
Completion Date: 12/15/22
Station: 3108+57.2
Offset: -138.9

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Stiff to medium stiff, brown and gray, silty, LEAN CLAY - CL	2-4-5	SS1
5	309		3-3-5	SS2
		Soft, brown, FAT CLAY, trace organics - (CH)	1-1-1	SS3
		Medium stiff to stiff, brown and gray, silty, LEAN CLAY - (CL)	2-2-3	SS4
10	304		101	ST5
			1-2-4	SS6
15	299	Boring terminated at 15 feet.		
20	294			
25	289			
30	284			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 12/21/22	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-14

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 311.6
Datum NAD83
Completion Date: 1/4/23
Station: 3113+16.4
Offset: -130.0

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Very soft to medium stiff, brown and gray, silty, LEAN CLAY - (CL)	WOH/12" -1	*SS1
5	307		WOH/18"	SS2
		some sand 75% passing No. 200 sieve	WOH/18"	SS3
10	302		1-1-2	SS4
15	297		1-3-3	SS5
		Boring terminated at 15 feet.		
20	292			
25	287			
30	282			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS: *No recovery

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-15

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 311.5
Datum NAD83
Completion Date: 12/20/22
Station: 3113+18.3
Offset: 51.8

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Gravel: 6 inches		
		Stiff to soft, gray and brown, silty, LEAN CLAY, trace organics - CL	4-5-6	SS1
			3-4-6	SS2
5	307		5-4-5	SS3
			2-2-2	SS4
10	302			
			2-3-3	SS5
15	297	Boring terminated at 15 feet.		
20	292			
25	287			
30	282			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/4/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-11

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 317.3
Datum NAD83
Completion Date: 12/20/22
Station: 3117+49.5
Offset: 44.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches		
		Stiff to medium stiff, brown and gray, silty, LEAN CLAY - (CL)	6-5-6	SS1
		trace organics	2-3-2	SS2
5	312		3-3-3	SS3
			102	ST4
10	307			
		trace organics	3-3-5	SS5
15	302	Boring terminated at 15 feet.		
20	297			
25	292			
30	287			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/4/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-12

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 318.3
Datum NAD83
Completion Date: 12/20/22
Station: 3118+09.0
Offset: -1055.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches		
		Stiff, brown and gray, clayey SILT - ML	7-5-4	SS1
		Stiff to soft, gray and brown, silty, LEAN CLAY - (CL) trace gravel	3-10-0	SS2
5	313			
		trace sand 93% passing No. 200 sieve	5-2-2	SS3
			3-2-3	SS4
10	308			
		trace organics	2-3-4	SS5
15	303	Boring terminated at 15 feet.		
20	298			
25	293			
30	288			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-7

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 320.0
Datum NAD83
Completion Date: 1/26/23
Station: 3118+22.7
Offset: 37.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 3 inches		
		Medium stiff, brown and gray to tan, silty, LEAN CLAY, trace organics - (CL)	1-2-3	SS1
			100	ST2
5	315		2-3-5	SS3
			1-3-5	SS4
10	310			
		Medium stiff to stiff, brown and red to gray, sandy, LEAN CLAY - (CL)	2-4-6	SS5
15	305	trace organics		
		55% passing No. 200 sieve	2-2-3	SS6
20	300			
			3-5-6	SS7
25	295	Boring terminated at 25 feet.		
30	290			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 9

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 319.3
Datum NAD83
Completion Date: 12/20/22
Station: 3118+28.1
Offset: -734.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 6 inches		
		Very stiff to stiff, gray, clayey SILT - ML	5-5-9	SS1
			11-10-10	SS2
5	314		7-4-5	SS3
		Medium stiff, gray and brown, silty, LEAN CLAY - CL	4-3-2	SS4
10	309			
		trace organics	3-3-3	SS5
15	304	Boring terminated at 15 feet.		
20	299			
25	294			
30	289			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/2/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-6

Project No. J042140.01

Surface Elevation: 319.8
Datum NAD83
Completion Date: 1/26/23
Station: 3118+30.5
Offset: -50.0

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 4 inches		
		Soft to very stiff, brown and gray, silty, LEAN CLAY - (CL)	1-1-1	SS1
		trace organics and roots	1-1-2	SS2
5	315		104	ST3
		trace sand and organics	2-2-4	SS4
10	310			
		trace gravel and organics	3-5-7	SS5
15	305			
		Stiff to medium stiff, gray and red to brown, sandy, LEAN CLAY - CL	3-3-6	SS6
20	300			
			1-2-4	SS7
25	295	Boring terminated at 25 feet.		
30	290			

GRAPHIC LOG

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

ENCOUNTERED AT 6.5 FEET ▽

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: JSH	Checked by: ABM	App'vd. by: DBA
Date: 1/30/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP- 8

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 320.3
Datum NAD83
Completion Date: 12/14/22
Station: 3118+52.3
Offset: -435.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches			
		Medium stiff, brown and red, gravelly SILT - ML		7-4-3	SS1
5	315	Soft to medium stiff, brown and tan, silty, LEAN CLAY - (CL) little sand 89% passing No. 200 sieve trace organics and sand		1-2-2	SS2
				2-1-3	SS3
10	310			1-2-4	SS4
				2-3-4	SS5
15	305	Boring terminated at 15 feet.			
20	300				
25	295				
30	290				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: CON-5

Project No. J042140.01

Surface Elevation: 321.1
Datum NAD83
Completion Date: 12/19/22
Station: 3118+83.2
Offset: -44.6

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches			
		Stiff, brown to brown and red, silty, LEAN CLAY - (CL)		4-6-7	SS1
				4-4-5	SS2
5	316			3-4-5	SS3
		trace organics		3-4-5	SS4
10	311				
		Stiff, brown, red and gray, sandy, LEAN CLAY, trace organics - CL		3-4-5	SS5
15	306	Boring terminated at 15 feet.			
20	301				
25	296				
30	291				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-16

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 319.0
Datum NAD83
Completion Date: 1/23/23
Station: 3119+21.5
Offset: 49.0

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 3 inches		
		Medium stiff, brown, silty, LEAN CLAY - (CL) trace roots and organics 93% passing No. 200 sieve	3-3-4	SS1
		Stiff to medium stiff, gray, red and brown, FAT CLAY - (CH)	107	ST2
5	314			
		trace organics	3-4-7	SS3
		trace sand	3-3-5	SS4
10	309			
		Stiff to very stiff, gray and tan, silty, LEAN CLAY, trace sand - CL	5-6-7	SS5
15	304	trace organics		
			5-6-10	SS6
20	299			
		Very stiff, gray, sandy, LEAN CLAY - CL	5-7-9	SS7
25	294	Boring terminated at 25 feet.		
30	289			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

65 >>

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 1/4" HOLLOW STEM
WASHBORING FROM ___ FEET
JCG DRILLER SEM LOGGER
Geoprobe 7822 DRILL RIG
HAMMER TYPE Auto

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/23/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: SP-10

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 319.2
Datum NAD83
Completion Date: 1/3/23
Station: 3122+26.1
Offset: 49.7

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff to stiff, gray to brown, clayey SILT - ML		3-3-4	SS1
				2-3-5	SS2
5	314			2-3-6	SS3
				2-5-5	SS4
10	309				
		Stiff, gray to red, silty, LEAN CLAY - CL		3-4-5	SS5
15	304	Boring terminated at 15 feet.			
20	299				
25	294				
30	289				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/10/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-13

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 320.9
Datum NAD83
Completion Date: 1/3/23
Station: 3122+26.1
Offset: 49.7

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches			
		Medium stiff, brown and gray, silty, LEAN CLAY - CL		3-2-4	SS1
				2-2-3	SS2
5	316			2-4-4	SS3
				2-2-3	SS4
10	311			1-3-3	SS5
15	306	Boring terminated at 15 feet.			
20	301				
25	296				
30	291				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JJA LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-17

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 315.7
Datum NAD83
Completion Date: 12/20/22
Station: 3126+85.7
Offset: -64.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Fill: 6 inches of gravel			
		Soft to stiff, brown to red and brown, LEAN CLAY - (CL) some organics, little sand 89% passing No. 200 sieve		3-2-2	SS1
				2-2-3	SS2
5	311			2-3-3	SS3
				2-3-3	SS4
10	306				
				4-5-7	SS5
15	301	Boring terminated at 15 feet.			
20	296				
25	291				
30	286				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-18

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 311.7
Datum NAD83
Completion Date: 12/19/22
Station: 3131+30.0
Offset: -41.0

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches			
		Medium stiff to stiff, gray and brown, silty, LEAN CLAY, trace organics - (CL)		5-4-4	SS1
		some sand, little gravel			
		68% passing No. 5 sieve		3-2-4	SS2
5	307				
				4-5-6	SS3
				3-4-6	SS4
10	302				
				4-4-6	SS5
15	297	Boring terminated at 15 feet.			
20	292				
25	287				
30	282				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/4/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-14

Project No. J042140.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 313.2
Datum NAD83
Completion Date: 12/20/22
Station: 3136+44.7
Offset: -71.4

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 6 inches		
		Stiff to medium stiff, gray, clayey SILT, trace organics - ML	6-7-4	SS1
		trace organics		
		trace organics	4-3-4	SS2
5	308			
			3-4-5	SS3
			4-3-5	SS4
10	303			
			3-3-5	SS5
15	298	Boring terminated at 15 feet.		
20	293			
25	288			
30	283			

GRAPHIC LOG

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-19

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 314.9
Datum NAD83
Completion Date: 1/4/23
Station: 3139+41.5
Offset: 24.5

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 6 inches		
		Soft to medium stiff, brown to gray, silty, LEAN CLAY - (CL) trace organics	0-1-1	SS1
		88% passing No. 200 sieve	2-2-4	SS2
5	310		2-3-4	SS3
			1-2-3	SS4
10	305			
			2-2-4	SS5
15	300	Boring terminated at 15 feet.		
20	295			
25	290			
30	285			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: E-15

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 315.9
Datum NAD83
Completion Date: 12/20/22
Station: 3139+47.5
Offset: -82.1

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 10 inches			
		Very stiff, brown SILT, little gravel - ML		7-15-10	SS1
		Soft to medium stiff, brown, silty, LEAN CLAY - (CL) 87% passing No. 200 sieve		2-2-1	SS2
5	311			1-2-2	SS3
				1-2-2	SS4
10	306				
				2-2-4	SS5
15	301	Boring terminated at 15 feet.			
20	296				
25	291				
30	286				

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
WEC DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: RSP	Checked by: ABM	App'vd. by: DBA
Date: 1/4/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-20

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 326.5
Datum NAD83
Completion Date: 12/20/22
Station: 3143+29.8
Offset: 20.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Asphalt: 17 inches		
		Stiff, red and brown, silty, LEAN CLAY, trace sand - CL	5-4-5	SS1
5	322	Medium dense, red and brown, CLAYEY SAND - (SC) 32% passing No. 200 sieve	5-7-8	SS2
		Stiff, red, brown and gray, sandy, LEAN CLAY - CL	3-4-5	SS3
10	317		3-5-6	SS4
		Stiff, gray, LEAN CLAY - CL	3-4-5	SS5
15	312	Boring terminated at 15 feet.		
20	307			
25	302			
30	297			

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER JWD LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: SEM	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

LOG OF BORING: W-21

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

Surface Elevation: 318.1
Datum NAD83
Completion Date: 1/4/23
Station: 3143+37.9
Offset: 20.3

DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
		Topsoil: 4 inches		
		Medium stiff to very stiff, brown to red, silty, LEAN CLAY - (CL)	2-4-4	SS1
			2-3-4	SS2
5	313		108	ST3
			2-5-6	SS4
10	308			
		Stiff, brown to gray, sandy, LEAN CLAY - CL	3-5-6	SS5
15	303	Boring terminated at 15 feet.		
20	298			
25	293			
30	288			

SHEAR STRENGTH, tsf
△ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
(ASTM D 1586)
▲ N-VALUE (BLOWS PER FOOT)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
KJB DRILLER GBB LOGGER
CME 750X DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 84 %

REMARKS:

Drawn by: GBB	Checked by: ABM	App'vd. by: DBA
Date: 1/9/23	Date: 2/20/23	Date: 2/20/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee

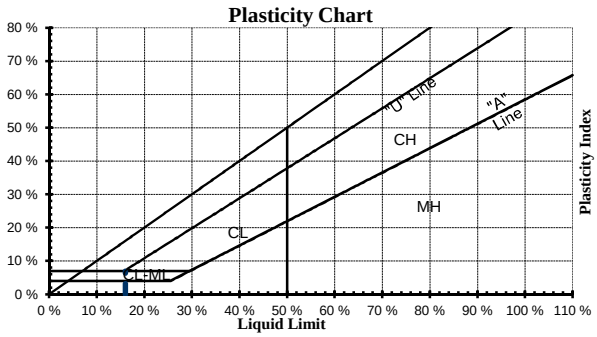
LOG OF BORING: E-16

Project No. J042140.01

LOG OF BORING 2020.JDM - ELEVATIONS J042140.01 GINT.GPJ GTINC 0638301.GPJ 2/20/23

BORING LOG: TERMS AND SYMBOLS

LEGEND	
CS	Continuous Sampler
GB	Grab Sample
NQ	NQ Rock Core
PST	Three-Inch Diameter Piston Tube Sample
SS	Split-Spoon Sample (Standard Penetration Test)
ST	Three-Inch Diameter Shelby Tube Sample
*	Sample Not Recovered
PL	Plastic Limit (ASTM D4318)
LL	Liquid Limit (ASTM D4318)
SV	Shear Strength from Field Vane (ASTM D2573)
UU	Shear Strength from Unconsolidated-Undrained Triaxial Compression Test (ASTM D2850)
QU	Shear Strength from Unconfined Compression Test (ASTM D2166)



SOIL GRAIN SIZE

US STANDARD SIEVE

12"	3"	3/4"	4	10	40	200

BOULDERS	COBBLES	GRAVEL		SAND			SILT	CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE		

300	76.2	19.1	4.76	2.00	0.42	0.074	0.005

SOIL GRAIN SIZE IN MILLIMETERS

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions			Symbol	Description
Coarse-Grained Soils (More than 50% Larger than No. 200 Sieve Size)	Gravel and Gravelly Soil	Clean Gravels Little or no Fines	GW	Well-Graded Gravel, Gravel- Sand Mixture
			GP	Poorly-Graded Gravel, Gravel-Sand Mixture
		Gravels with Appreciable Fines	GM	Silty Gravel, Gravel-Sand-Silt Mixture
			GC	Clayey-Gravel, Gravel-Sand-Clay Mixture
	Sand and Sandy Soils	Clean Sands Little or no Fines	SW	Well-Graded Sand, Gravelly Sand
			SP	Poorly-Graded Sand, Gravelly Sand
		Sands with Appreciable Fines	SM	Silty Sand, Sand-Silt Mixture
			SC	Clayey-Sand, Sand-Clay Mixture
Fine-Grained Soils (More than 50% Smaller than No. 200 Sieve Size)	Silts and Clays	Liquid Limit Less Than 50	ML	Silt, Sandy Silt, Clayey Silt, Slight Plasticity
			CL	Lean Clay, Sandy Clay, Silty Clay, Low to Medium Plasticity
			OL	Organic Silts or Lean Clays, Low Plasticity
	Silts and Clays	Liquid Limit Greater Than 50	MH	Silt, High Plasticity
			CH	Fat Clay, High Plasticity
			OH	Organic Clay, Medium to High Plasticity
	Highly Organic Soils		PT	Peat, Humus, Swamp Soil

STRENGTH OF COHESIVE SOILS

Consistency	Undrained Shear Strength (tsf)	Unconfined Comp. Strength (tsf)
Very Soft	less than 0.125	less then 0.25
Soft	0.125 to 0.25	0.25 to 0.5
Medium Stiff	0.25 to 0.5	0.5 to 1.0
Stiff	0.5 to 1.0	1.0 to 2.0
Very Stiff	1.0 to 2.0	2.0 to 3.0
Hard	greater than 2.0	greater than 4.0

DENSITY OF GRANULAR SOILS

Descriptive Term	Approximate N_{60}-Value Range
Very Loose	0 to 4
Loose	5 to 10
Medium Dense	11 to 30
Dense	31 to 50
Very Dense	>50

N-Value (Blow Count) is the last two, 6-inch drive increments (i.e. 4/7/9, N = 7 + 9 = 16). Values are shown as a summation on the grid plot and shown in the Unit Dry Weight/SPT column.

RELATIVE COMPOSITION

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

OTHER TERMS

Layer - Inclusion greater than 3 inches thick.

Seam - Inclusion 1/8-inch to 3 inches thick

Parting - Inclusion less than 1/8-inch thick

Pocket - Inclusion of material that is smaller than sample diameter

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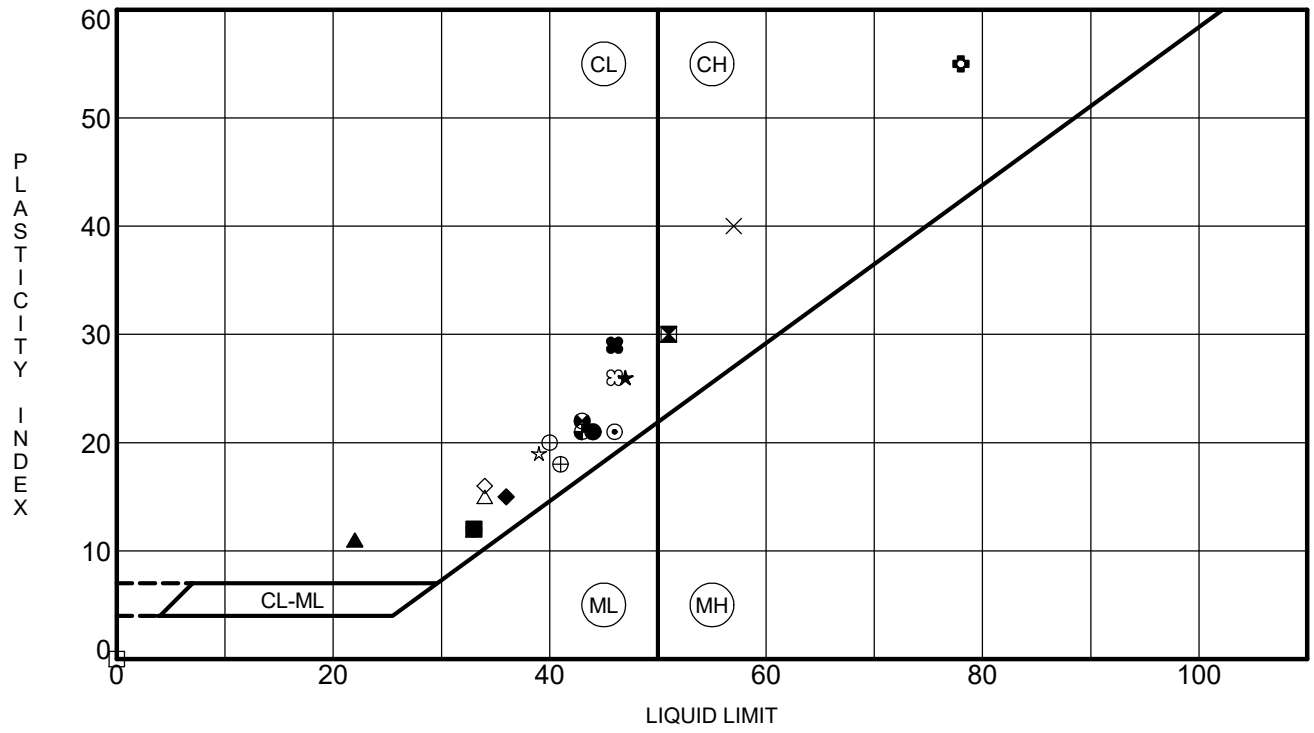
Relative composition and Unified Soil Classification System (USCS) designations are based on visual descriptions and are approximate only. If laboratory tests were performed to classify the soil, the USCS designation is shown in parenthesis.

Appendix D
LABORATORY TEST DATA



Specimen Identification			LL	PL	PI	Fines	Classification
●	BR-1	1.0	44	23	21	94	LEAN CLAY(CL), A-7-6 (22)
⊠	BR-1	23.5	51	21	30		SANDY FAT CLAY(CH), A-7-6
▲	BR-1	63.5	22	11	11		LEAN CLAY(CL), A-6
★	BR-2	33.5	47	21	26	61	SANDY LEAN CLAY(CL), A-7-6 (14)
⊙	BR-2	48.5	46	25	21		LEAN CLAY(CL), A-7-6
✿	CON-4	8.0	78	23	55		FAT CLAY(CH), A-7-6
○	CON-5	3.5	40	20	20	89	LEAN CLAY(CL), A-6 (18)
△	CON-7	6.0	34	19	15	93	LEAN CLAY(CL), A-6 (14)
⊗	E- 1	1.0	33	21	12	95	LEAN CLAY(CL), A-6 (12)
⊕	E- 1	8.0	41	23	18		LEAN CLAY(CL), A-7-6
□	E- 3	6.0	NP	NP	NP	35	SANDY SILT(ML), A-4
❁	E- 5	8.0	43	21	22		LEAN CLAY(CL), A-7-6
◕	E- 7	1.0	43	22	21	95	LEAN CLAY(CL), A-7-6 (22)
☆	E- 8	3.0	39	20	19		LEAN CLAY(CL), A-6
⊠	E-12	8.0	46	20	26		LEAN CLAY(CL), A-7-6
■	E-14	1.0	33	21	12	68	SANDY LEAN CLAY(CL), A-6 (7)
◆	E-15	3.5	36	21	15	88	LEAN CLAY(CL), A-6 (13)
◇	E-16	6.0	34	18	16		LEAN CLAY(CL), A-6
×	SP- 1	3.0	57	17	40		SANDY FAT CLAY(CH), A-7-6
✖	SP- 1	8.5	46	17	29	22	CLAYEY SAND(SC), A-2-7 (1)

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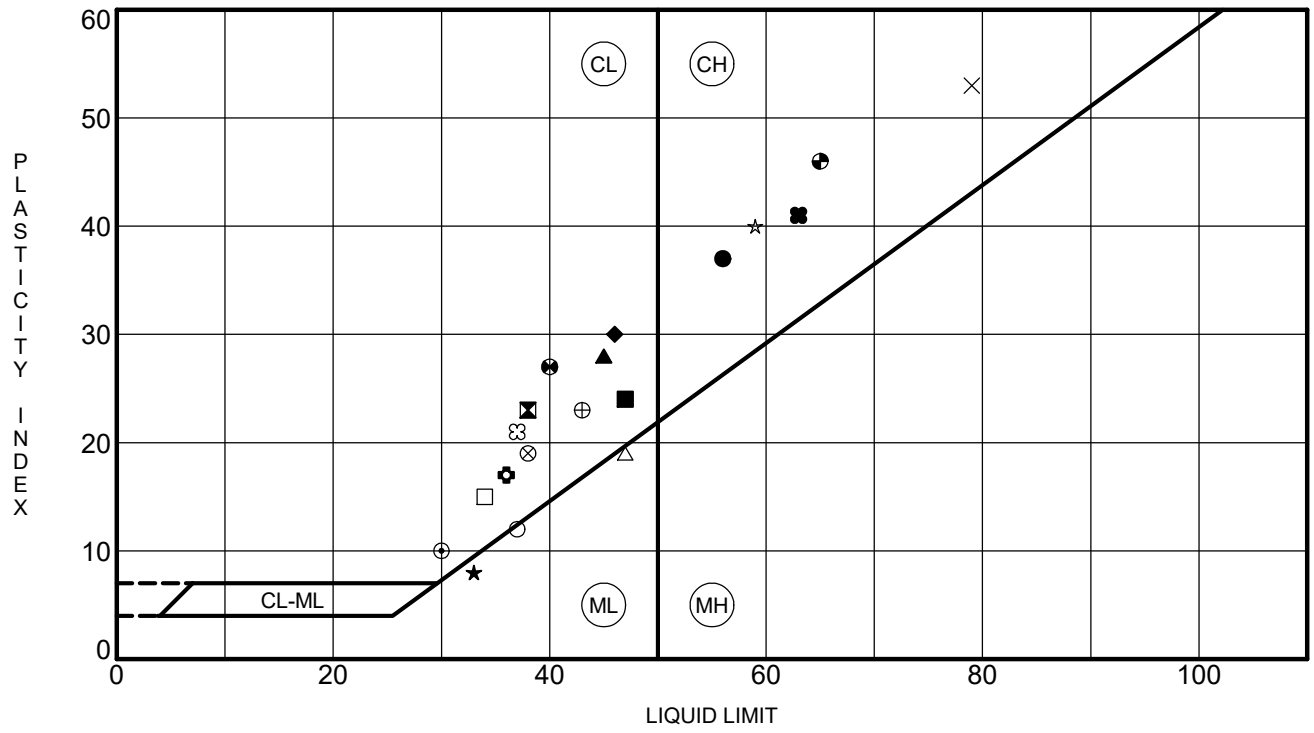
ATTERBERG LIMITS RESULTS

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US_ATTERBERG_LIMITS J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



	Specimen Identification		LL	PL	PI	Fines	Classification
●	SP- 2	6.0	56	19	37	77	FAT CLAY with SAND(CH), A-7-6 (29)
⊠	SP- 3	1.0	38	15	23	58	SANDY LEAN CLAY(CL), A-6 (10)
▲	SP- 3	8.0	45	17	28		SANDY LEAN CLAY(CL), A-7-6
★	SP- 4	3.0	33	25	8		SILT(ML), A-4
⊙	SP- 5	6.0	30	20	10		LEAN CLAY(CL), A-4
✿	SP- 6	1.0	36	19	17	91	LEAN CLAY(CL), A-6 (15)
○	SP- 6	3.0	37	25	12		SILT(ML), A-6
△	SP- 7	3.0	47	28	19		SILT(ML), A-6
⊗	SP- 8	6.0	38	19	19		LEAN CLAY(CL), A-6
⊕	SP- 9	3.0	43	20	23		LEAN CLAY(CL), A-7-6
□	SP- 9	18.5	34	19	15	55	SANDY LEAN CLAY(CL), A-6 (5)
⊛	SP-10	1.0	40	13	27	93	LEAN CLAY(CL), A-6 (25)
◕	SP-10	3.0	65	19	46		FAT CLAY(CH), A-7-6
☆	W- 1A	8.0	59	19	40		FAT CLAY(CH), A-7-6
⊠	W- 1A	23.5	37	16	21	69	SANDY LEAN CLAY(CL), A-6 (12)
■	W- 1B	3.0	47	23	24	97	LEAN CLAY(CL), A-7-6 (26)
◆	W- 2	18.0	46	16	30		LEAN CLAY(CL), A-7-6
◇	W- 3A	18.5	36	19	17	81	LEAN CLAY with SAND(CL), A-6 (13)
×	W- 3A	23.0	79	26	53	52	SANDY FAT CLAY(CH), A-7-6 (23)
✖	W- 3B	6.0	63	22	41	60	SANDY FAT CLAY(CH), A-7-6 (22)

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ATTERBERG LIMITS RESULTS

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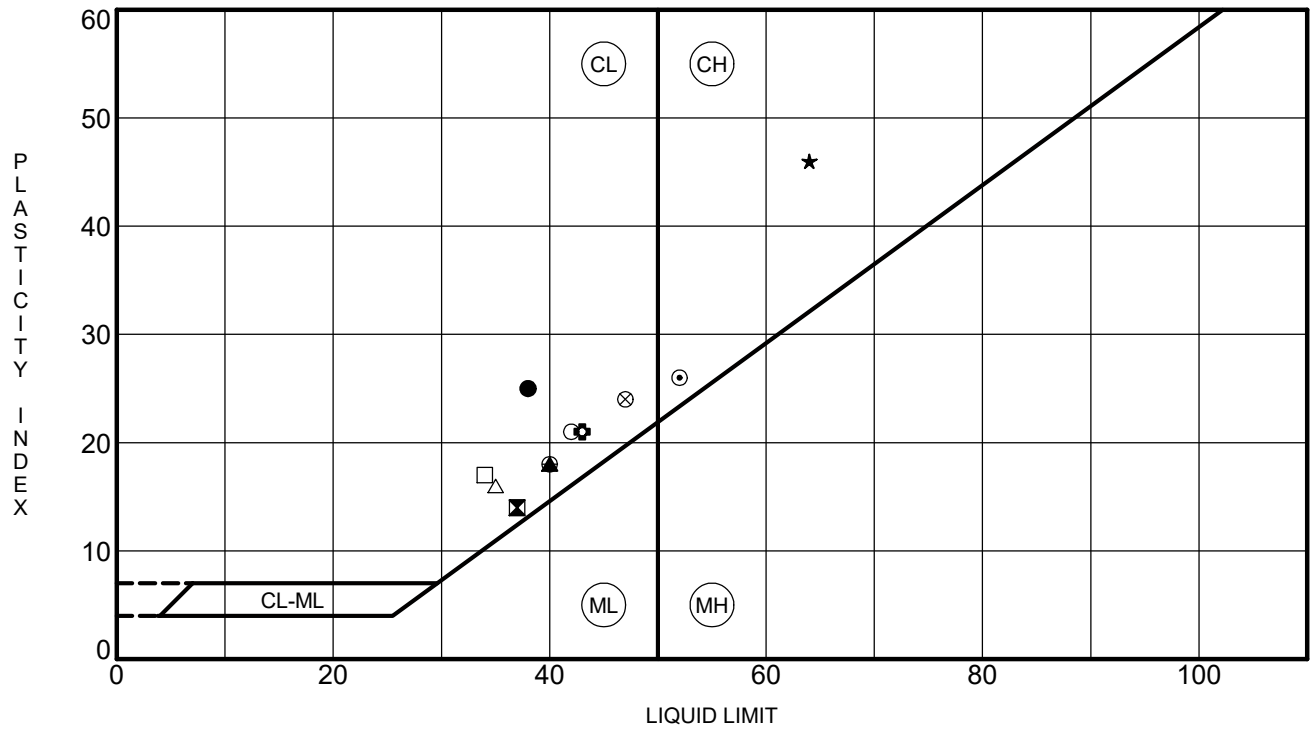
Haywood County, Tennessee
J042140.01

US_ATTERBERG_LIMITS J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



	Specimen Identification		LL	PL	PI	Fines	Classification
●	W- 4	8.0	38	13	25	49	CLAYEY SAND(SC), A-6 (8)
⊠	W- 8	8.0	37	23	14		LEAN CLAY(CL), A-6
▲	W-10	3.0	40	22	18		LEAN CLAY(CL), A-6
★	W-11	8.5	64	18	46		FAT CLAY(CH), A-7-6
⊙	W-14	6.0	52	26	26		FAT CLAY(CH), A-7-6
✿	W-14	10.0	43	22	21		LEAN CLAY(CL), A-7-6
○	W-15	3.5	42	21	21		LEAN CLAY(CL), A-7-6
△	W-15	6.0	35	19	16	75	LEAN CLAY with SAND(CL), A-6 (11)
⊗	W-16	3.5	47	23	24		LEAN CLAY(CL), A-7-6
⊕	W-18	1.0	40	22	18	89	LEAN CLAY(CL), A-6 (17)
□	W-20	3.5	34	17	17	87	LEAN CLAY(CL), A-6 (14)

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ATTERBERG LIMITS RESULTS

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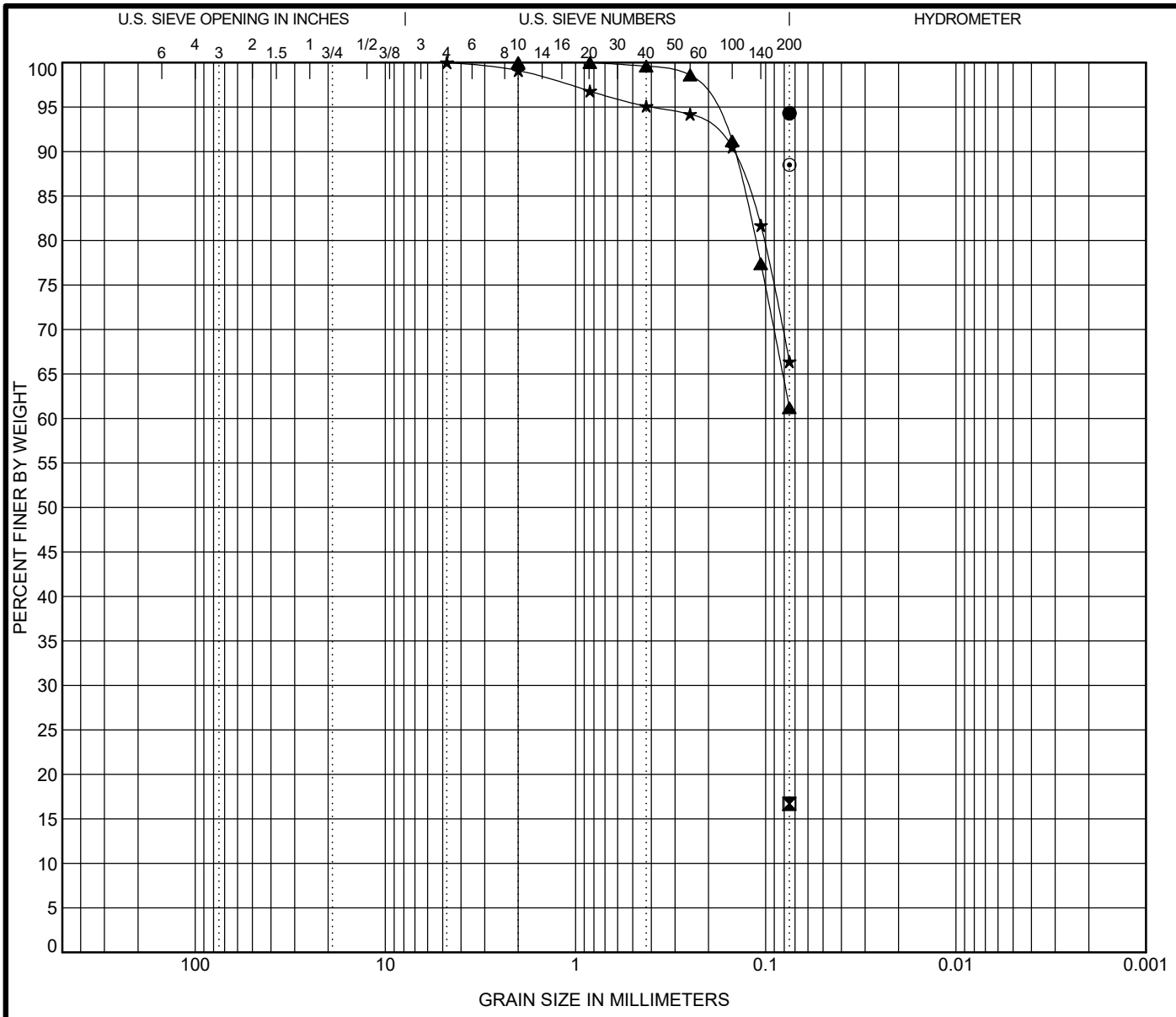
J042140.01

US_ATTERBERG_LIMITS J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	BR-1	1.0	LEAN CLAY(CL), A-7-6 (22)	44	23	21		
⊠	BR-1	18.0	CLAYEY SAND(SC), A-2-6					
▲	BR-2	33.5	SANDY LEAN CLAY(CL), A-7-6 (14)	47	21	26		
★	BR-2	38.5	SANDY LEAN CLAY(CL), A-7-6					
⊙	CON-5	3.5	LEAN CLAY(CL), A-6 (18)	40	20	20		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BR-1	1.0	0.075				0.0	0.0	94.3	
⊠	BR-1	18.0	0.075				0.0	0.0	16.7	
▲	BR-2	33.5	2				0.0	38.8	61.2	
★	BR-2	38.5	4.75				0.0	33.6	66.4	
⊙	CON-5	3.5	0.075				0.0	0.0	88.5	

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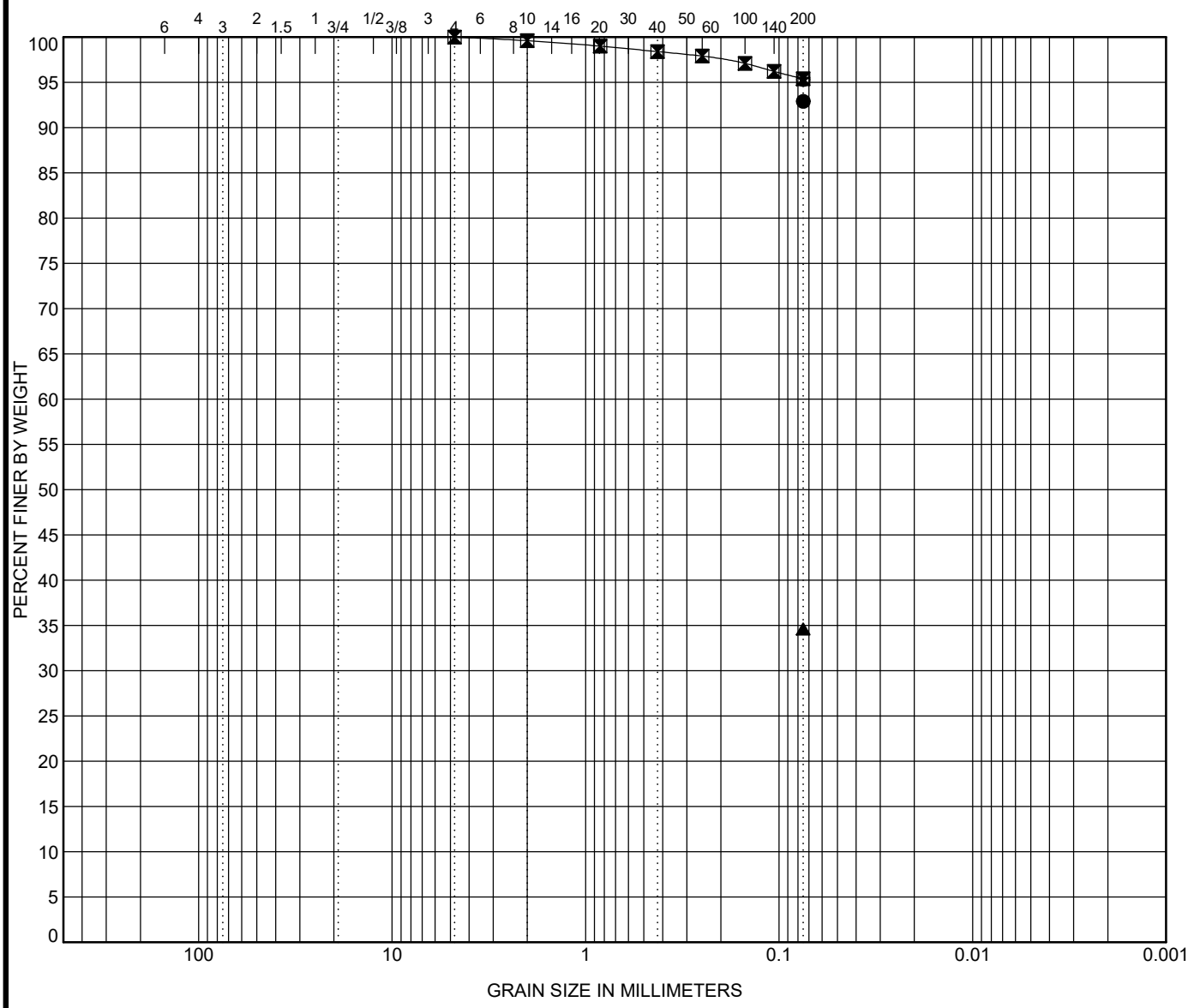
A Universal Engineering Sciences Company

GRAIN SIZE DISTRIBUTION

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	CON-7	6.0	LEAN CLAY(CL), A-6 (14)	34	19	15		
⊠	E- 1	1.0	LEAN CLAY(CL), A-6 (12)	33	21	12		
▲	E- 3	6.0	SANDY SILT(ML), A-4	NP	NP	NP		
★	E- 7	1.0	LEAN CLAY(CL), A-7-6 (22)	43	22	21		
⊙	E- 9	3.5	FAT CLAY(CH), A-7-6					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	CON-7	6.0	0.075				0.0	0.0	92.9	
⊠	E- 1	1.0	4.75				0.0	4.6	95.4	
▲	E- 3	6.0	0.075				0.0	0.0	34.6	
★	E- 7	1.0	0.075				0.0	0.0	95.4	
⊙	E- 9	3.5	0.075				0.0	0.0	95.3	

GEOTECHNOLOGY
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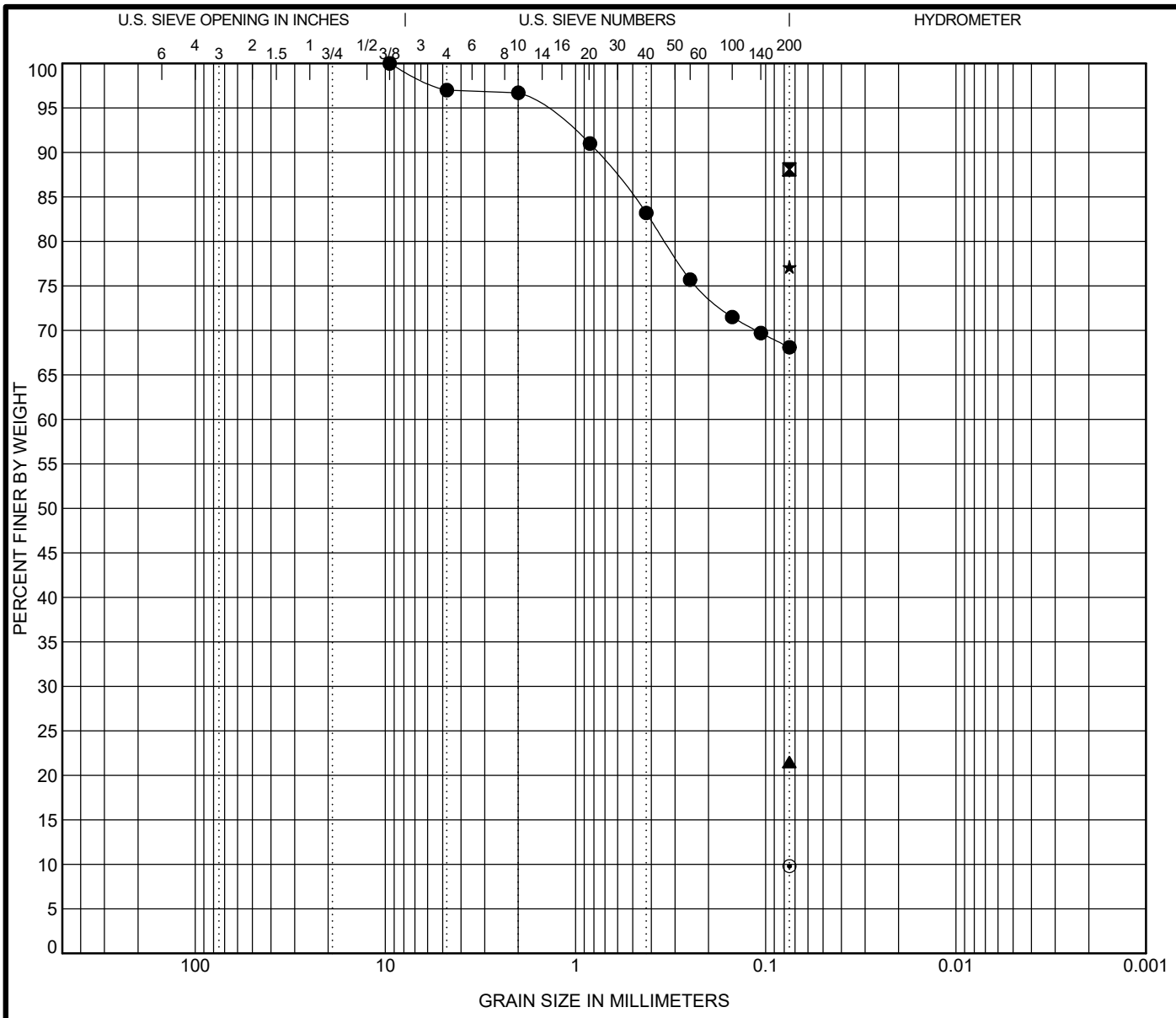
GRAIN SIZE DISTRIBUTION

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	E-14	1.0	SANDY LEAN CLAY(CL), A-6 (7)	33	21	12		
⊠	E-15	3.5	LEAN CLAY(CL), A-6 (13)	36	21	15		
▲	SP- 1	8.5	CLAYEY SAND(SC), A-2-7 (1)	46	17	29		
★	SP- 2	6.0	FAT CLAY with SAND(CH), A-7-6 (29)	56	19	37		
⊙	SP- 2	7.0	POORLY GRADED SAND with CLAY(SP-SC), A-2-7					

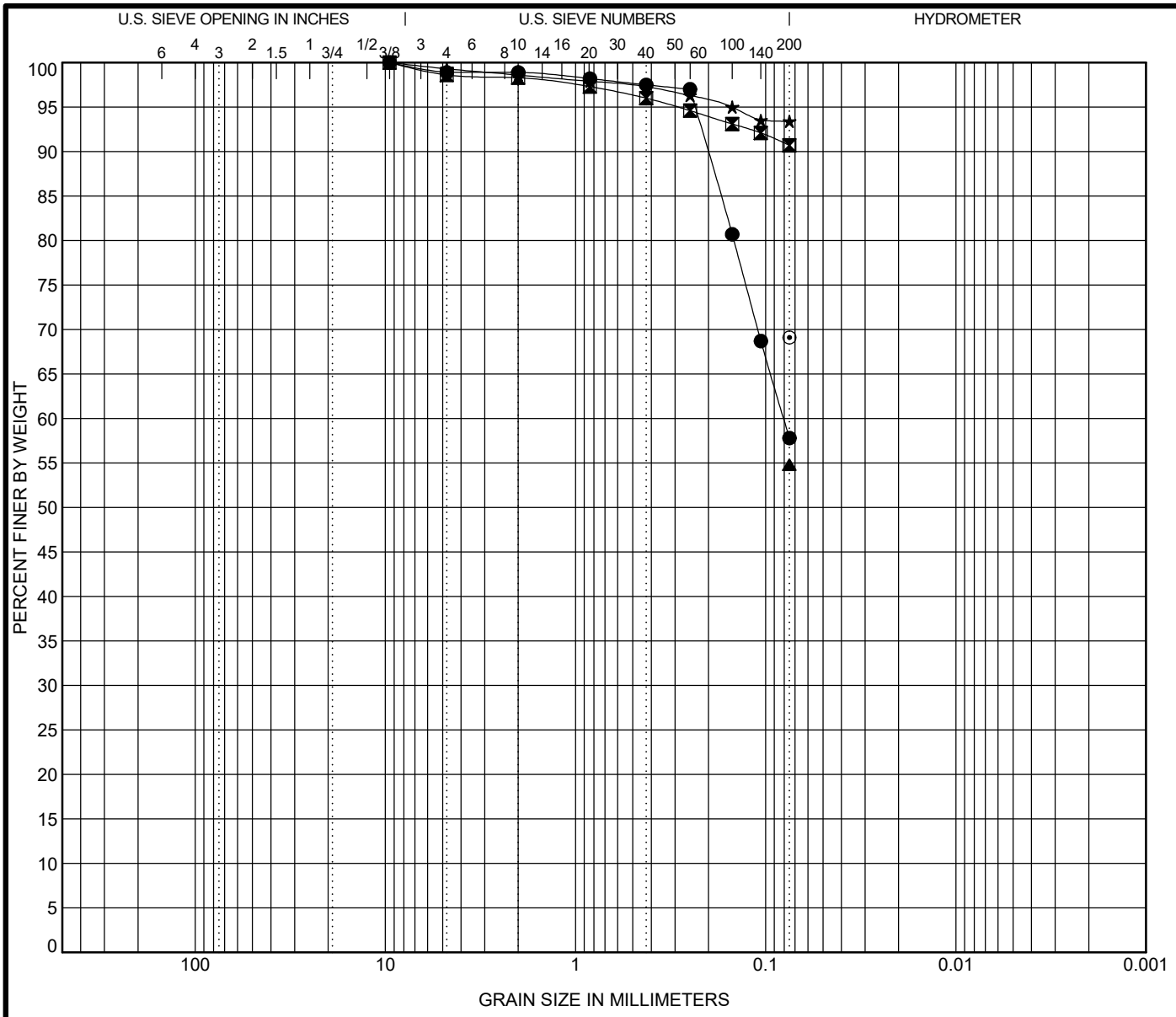
Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	E-14	1.0	9.5				3.0	28.9	68.1	
⊠	E-15	3.5	0.075				0.0	0.0	88.1	
▲	SP- 1	8.5	0.075				0.0	0.0	21.5	
★	SP- 2	6.0	0.075				0.0	0.0	77.1	
⊙	SP- 2	7.0	0.075				0.0	0.0	9.8	

GEOTECHNOLOGY
A Universal Engineering Sciences Company

GRAIN SIZE DISTRIBUTION

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	SP- 3	1.0	SANDY LEAN CLAY(CL), A-6 (10)	38	15	23		
⊠	SP- 6	1.0	LEAN CLAY(CL), A-6 (15)	36	19	17		
▲	SP- 9	18.5	SANDY LEAN CLAY(CL), A-6 (5)	34	19	15		
★	SP-10	1.0	LEAN CLAY(CL), A-6 (25)	40	13	27		
⊙	W- 1A	23.5	SANDY LEAN CLAY(CL), A-6 (12)	37	16	21		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	SP- 3	1.0	9.5	0.08			1.1	41.1	57.8	
⊠	SP- 6	1.0	9.5				1.4	7.9	90.7	
▲	SP- 9	18.5	0.075				0.0	0.0	54.8	
★	SP-10	1.0	9.5				0.7	5.9	93.4	
⊙	W- 1A	23.5	0.075				0.0	0.0	69.1	

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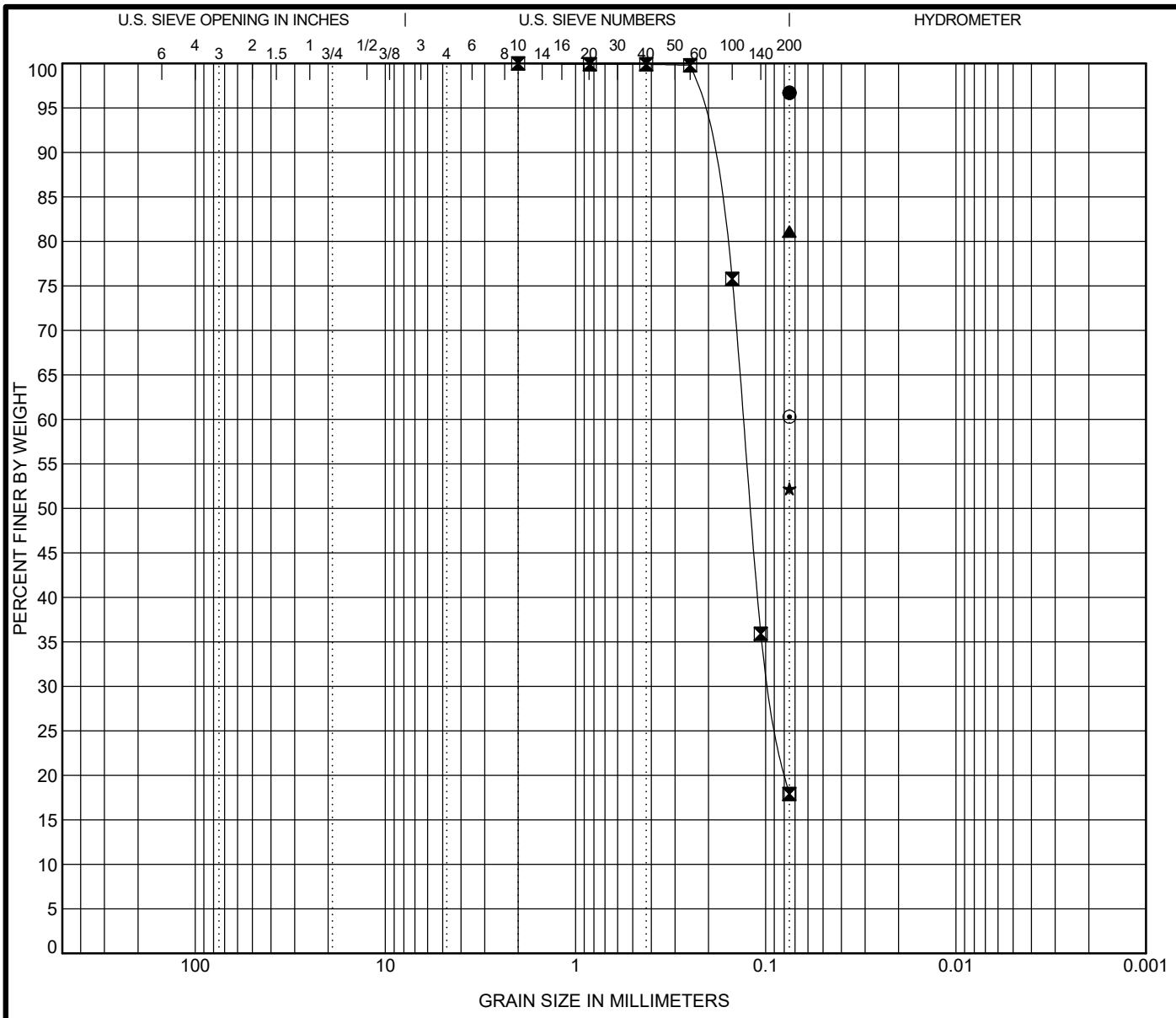
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	W- 1B	3.0	LEAN CLAY(CL), A-7-6 (26)	47	23	24		
⊠	W- 3A	8.5	SILTY SAND(SM), A-2-4 (0)					
▲	W- 3A	18.5	LEAN CLAY with SAND(CL), A-6 (13)	36	19	17		
★	W- 3A	23.0	SANDY FAT CLAY(CH), A-7-6 (23)	79	26	53		
⊙	W- 3B	6.0	SANDY FAT CLAY(CH), A-7-6 (22)	63	22	41		

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W- 1B	3.0	0.075				0.0	0.0	96.7	
⊠	W- 3A	8.5	2	0.131	0.095		0.0	82.1	17.9	
▲	W- 3A	18.5	0.075				0.0	0.0	81.1	
★	W- 3A	23.0	0.075				0.0	0.0	52.2	
⊙	W- 3B	6.0	0.075				0.0	0.0	60.3	

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GRAIN SIZE DISTRIBUTION

SR-222
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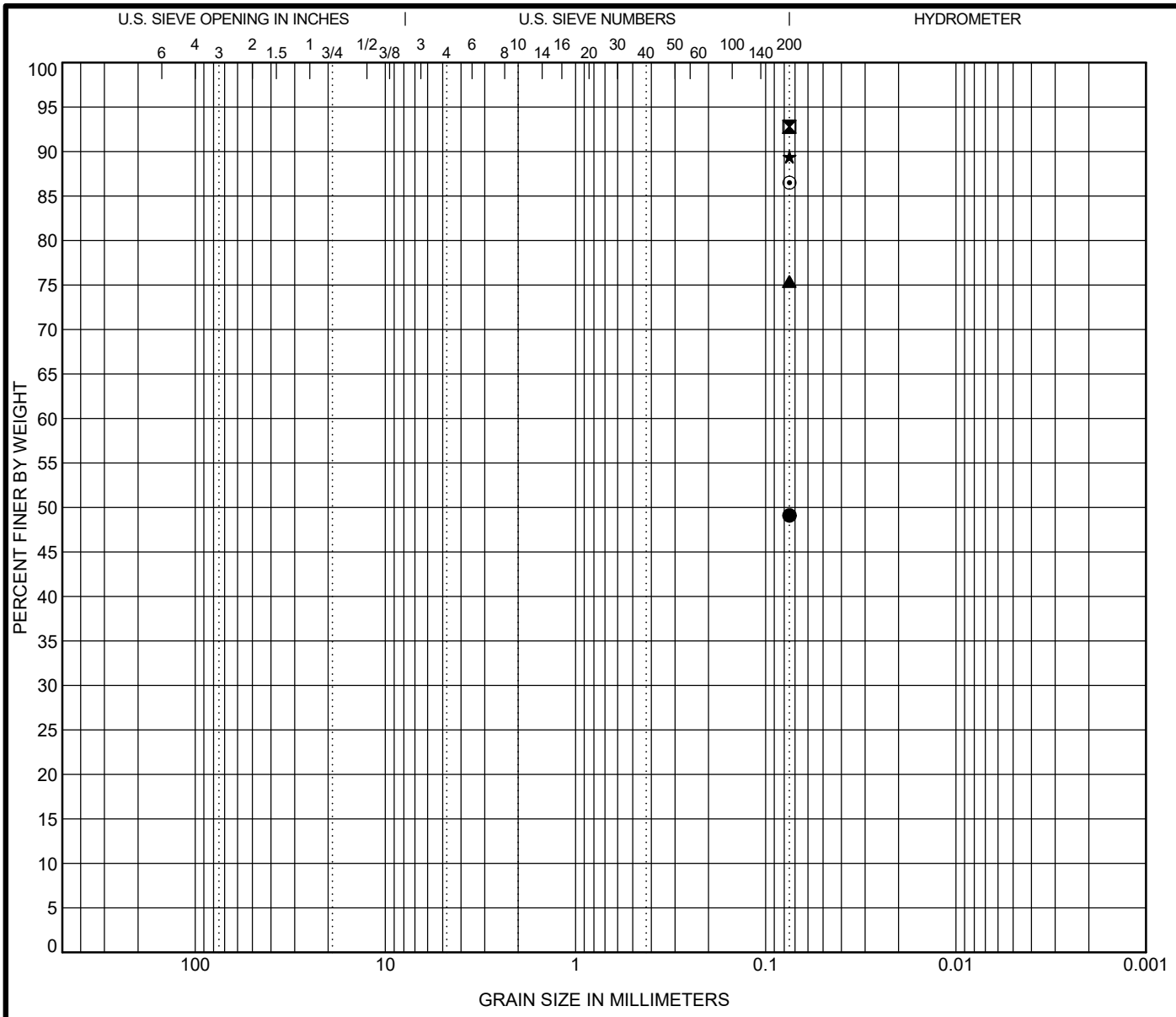
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	W- 4	8.0	CLAYEY SAND(SC), A-6 (8)	38	13	25		
⊠	W- 9	3.5	SILT(ML), A-6					
▲	W-15	6.0	LEAN CLAY with SAND(CL), A-6 (11)	35	19	16		
★	W-18	1.0	LEAN CLAY(CL), A-6 (17)	40	22	18		
⊙	W-20	3.5	LEAN CLAY(CL), A-6 (14)	34	17	17		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W- 4	8.0	0.075				0.0	0.0	49.1	
⊠	W- 9	3.5	0.075				0.0	0.0	92.8	
▲	W-15	6.0	0.075				0.0	0.0	75.4	
★	W-18	1.0	0.075				0.0	0.0	89.4	
⊙	W-20	3.5	0.075				0.0	0.0	86.5	

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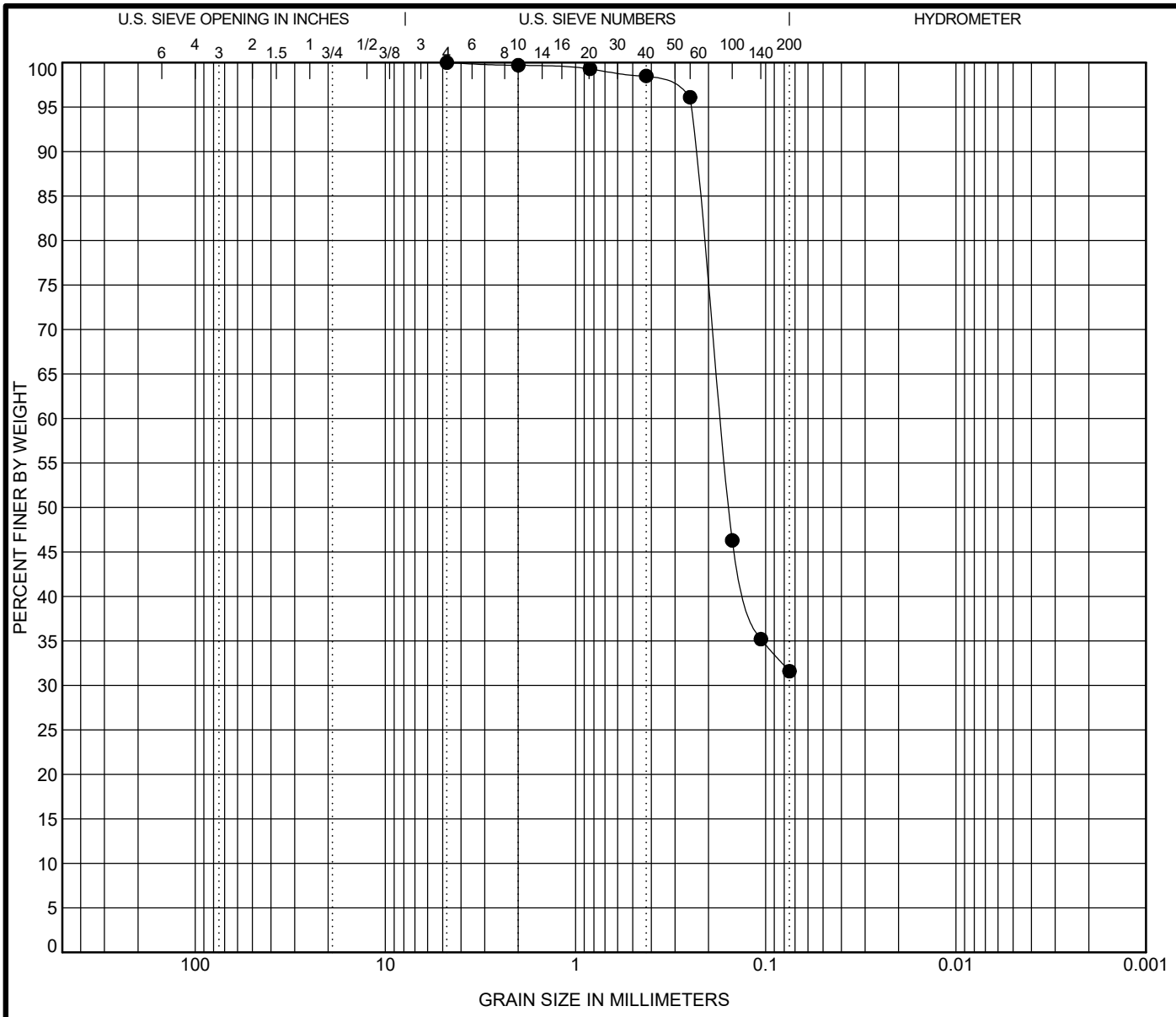
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	W-21	3.5	CLAYEY SAND(SC), A-2-6					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-21	3.5	4.75	0.173			0.0	68.4	31.6	

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GRAIN SIZE DISTRIBUTION

SR-222
From Near SR-468 To Near Campground Rd
Haywood County, Tennessee
J042140.01

US GRAIN SIZE J042140.01 GINT.GPJ US_LAB.GDT 2/23/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/26/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

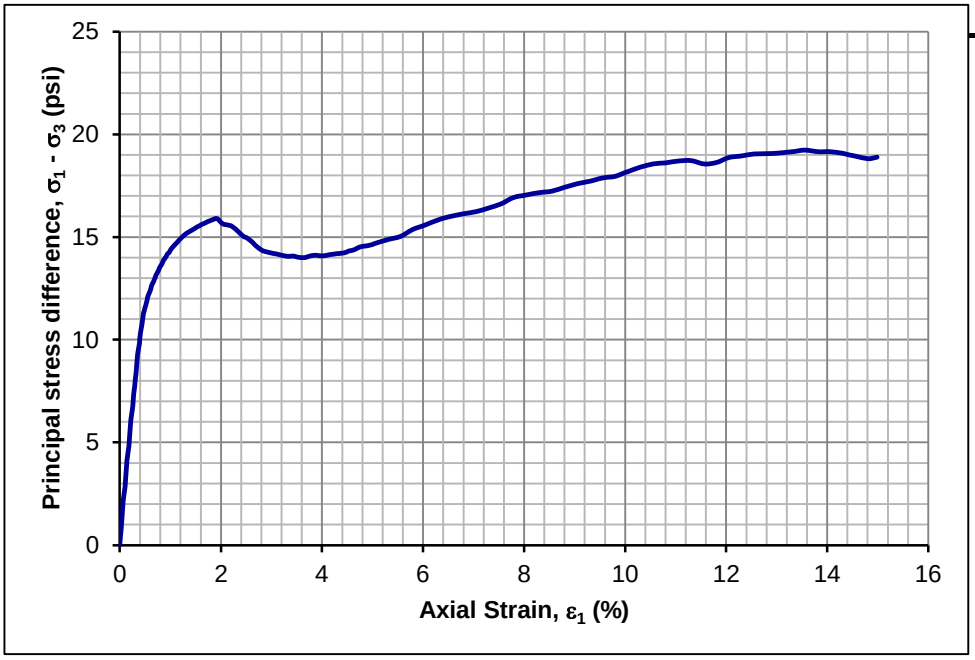
BORING NO.: CON-4
SAMPLE NO.: ST-4
DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, red and gray, FAT CLAY - (CH)

LIQUID LIMIT (%): 78
PLASTIC LIMIT (%): 23
PLASTICITY INDEX (%): 55
USCS: CH

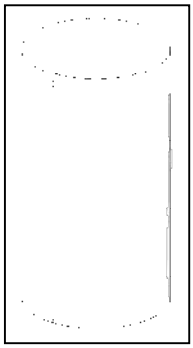
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.87
HEIGHT (in.):	6.07
HEIGHT TO DIAMETER RATIO:	2.11
WET UNIT WEIGHT (pcf):	129.5
DRY UNIT WEIGHT (pcf):	106.6
VOID RATIO:	0.61
MOISTURE CONTENT (%)*:	21.5
DEGREE OF SATURATION (%):	96.9

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**25.4**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**13.6**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**19.2**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**24.5**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**2,770**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,385**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**2,610**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/19/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

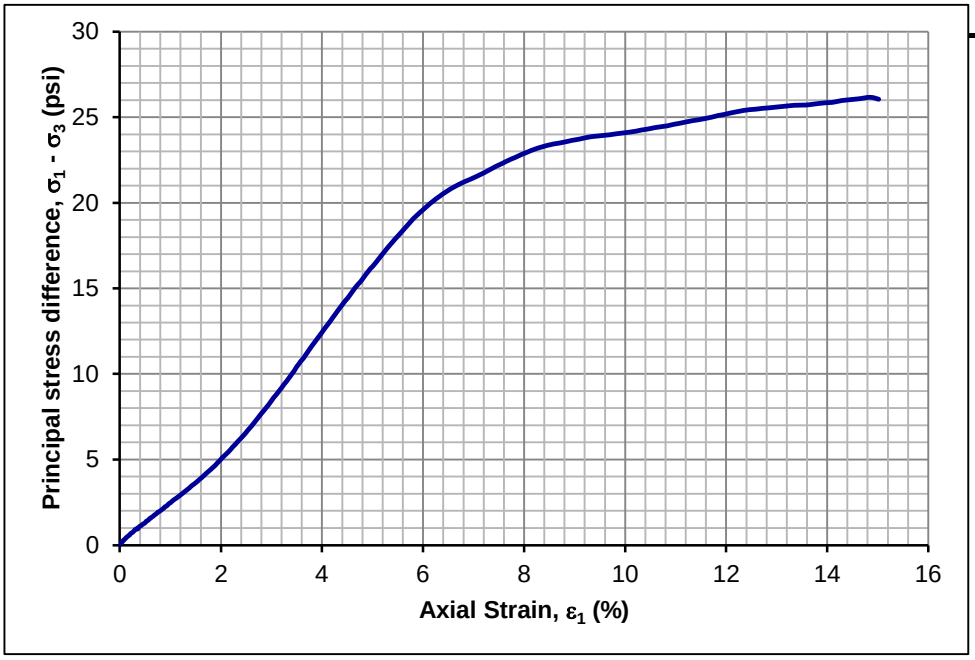
BORING NO.: E-1
SAMPLE NO.: ST-4
DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 41
PLASTIC LIMIT (%): 23
PLASTICITY INDEX (%): 18
USCS: CL

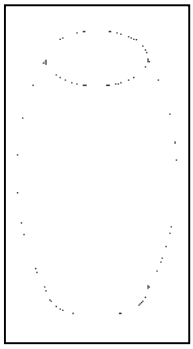
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.81
HEIGHT (in.):	5.86
HEIGHT TO DIAMETER RATIO:	2.08
WET UNIT WEIGHT (pcf):	130.0
DRY UNIT WEIGHT (pcf):	106.3
VOID RATIO:	0.61
MOISTURE CONTENT (%)*:	22.4
DEGREE OF SATURATION (%):	100.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**20.4**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**26.2**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**31.4**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,770**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,885**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,470**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/23/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

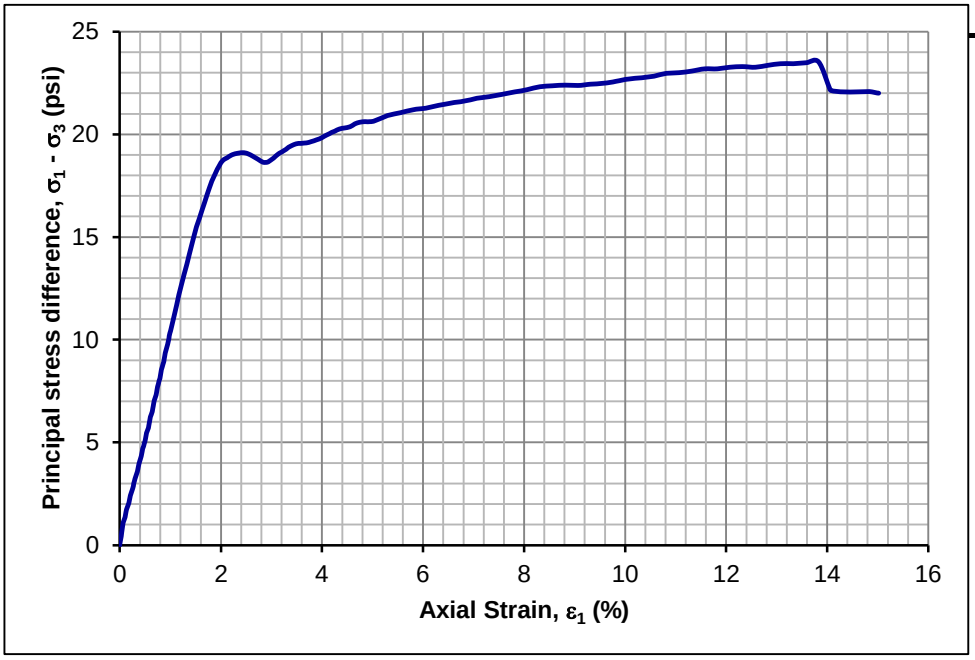
BORING NO.: E-5
SAMPLE NO.: ST-4
DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 43
PLASTIC LIMIT (%): 21
PLASTICITY INDEX (%): 22
USCS: CL

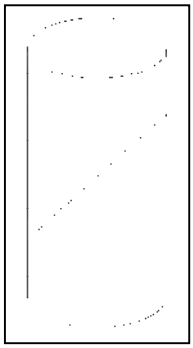
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.84
HEIGHT (in.):	5.57
HEIGHT TO DIAMETER RATIO:	1.96
WET UNIT WEIGHT (pcf):	123.2
DRY UNIT WEIGHT (pcf):	99.0
VOID RATIO:	0.73
MOISTURE CONTENT (%)*:	24.4
DEGREE OF SATURATION (%):	91.5

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**25.3**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**13.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**23.5**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**28.8**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,390**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,695**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,265**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/23/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

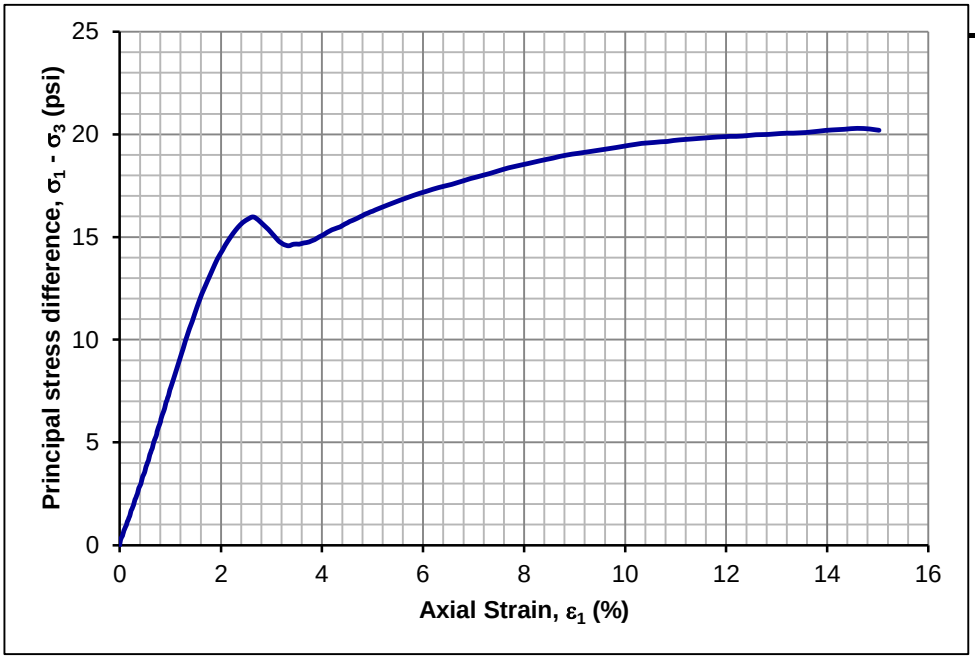
BORING NO.: E-8 SAMPLE NO.: ST-3 DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 39 PLASTIC LIMIT (%): 20 PLASTICITY INDEX (%): 19 USCS: CL

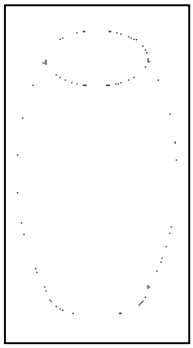
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.85
HEIGHT (in.):	5.58
HEIGHT TO DIAMETER RATIO:	1.96
WET UNIT WEIGHT (pcf):	124.2
DRY UNIT WEIGHT (pcf):	100.5
VOID RATIO:	0.71
MOISTURE CONTENT (%)*:	23.5
DEGREE OF SATURATION (%):	91.6

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**24.4**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.6**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**20.3**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**22.6**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**2,920**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,460**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**2,800**



FAILURE SHAPES



REMARKS :

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** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/24/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

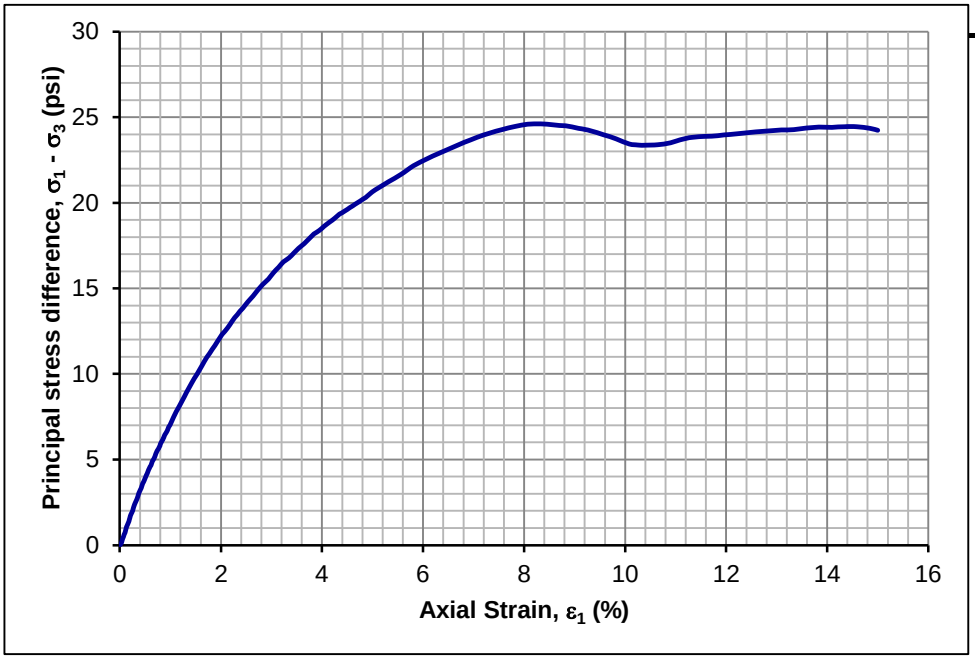
BORING NO.: E-12 SAMPLE NO.: ST-3 DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 46 PLASTIC LIMIT (%): 20 PLASTICITY INDEX (%): 26 USCS: CL

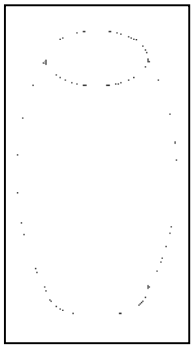
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.85
HEIGHT (in.):	6.12
HEIGHT TO DIAMETER RATIO:	2.15
WET UNIT WEIGHT (pcf):	127.6
DRY UNIT WEIGHT (pcf):	101.9
VOID RATIO:	0.68
MOISTURE CONTENT (%)*:	25.2
DEGREE OF SATURATION (%):	100.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**24.7**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**8.3**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**24.6**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**29.9**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,540**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,770**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**N/A**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/2/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

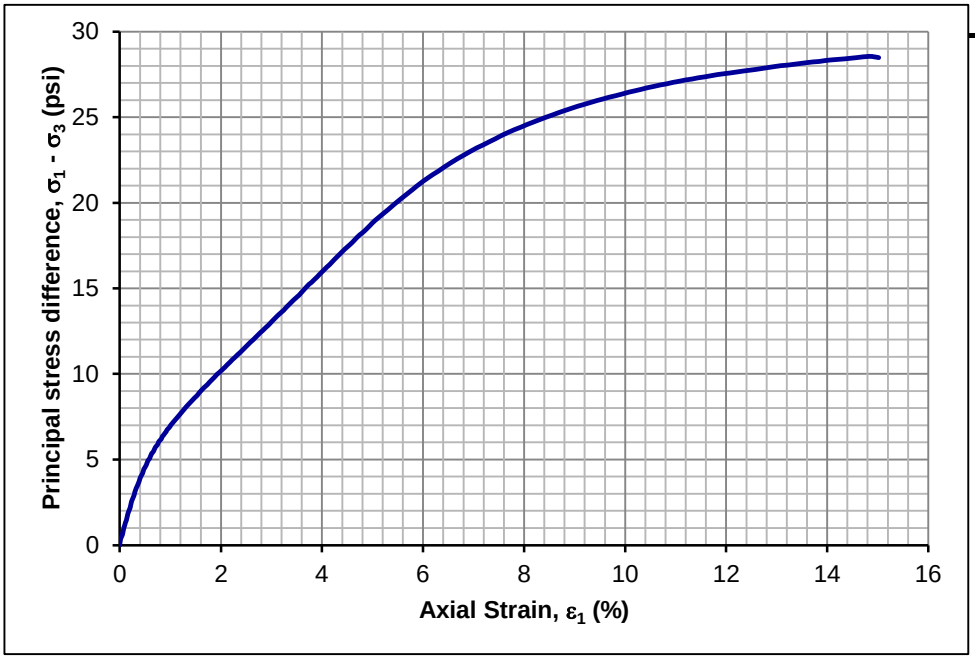
BORING NO.: SP-1
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Very stiff, gray, sandy, FAT CLAY - (CH)

LIQUID LIMIT (%): 57
PLASTIC LIMIT (%): 17
PLASTICITY INDEX (%): 40
USCS: CH

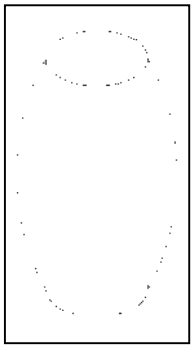
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.83
HEIGHT (in.):	5.68
HEIGHT TO DIAMETER RATIO:	2.01
WET UNIT WEIGHT (pcf):	129.2
DRY UNIT WEIGHT (pcf):	106.5
VOID RATIO:	0.61
MOISTURE CONTENT (%)*:	21.3
DEGREE OF SATURATION (%):	96.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**20.9**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**28.6**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**30.9**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**4,110**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**2,055**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,800**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/20/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

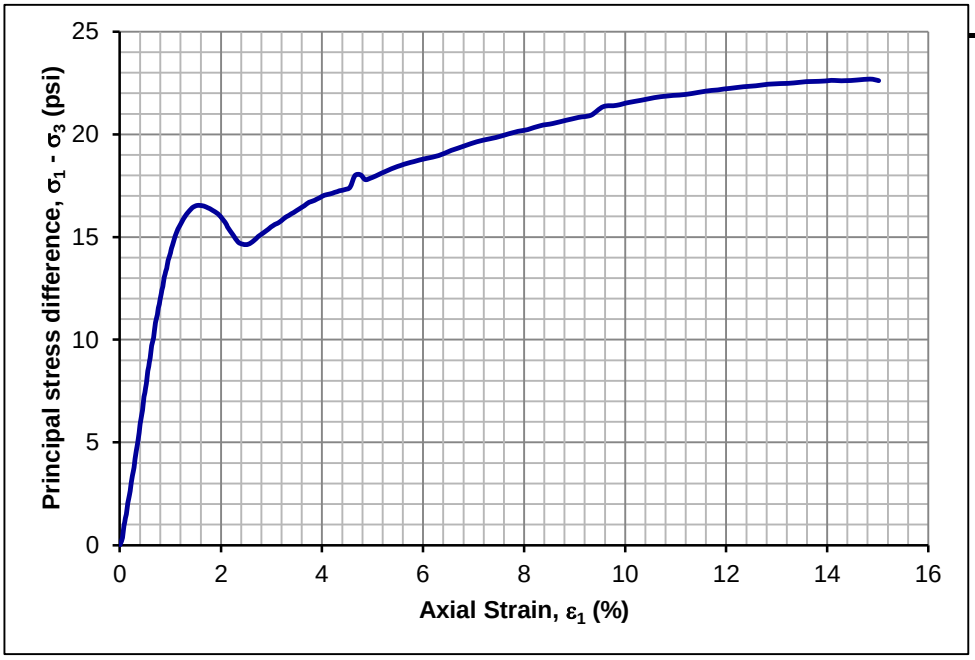
BORING NO.: SP-4
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown SILT - (ML)

LIQUID LIMIT (%): 33
PLASTIC LIMIT (%): 25
PLASTICITY INDEX (%): 8
USCS: ML

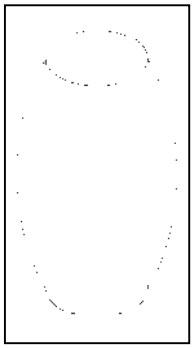
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.81
HEIGHT (in.):	5.60
HEIGHT TO DIAMETER RATIO:	1.99
WET UNIT WEIGHT (pcf):	127.8
DRY UNIT WEIGHT (pcf):	104.7
VOID RATIO:	0.64
MOISTURE CONTENT (%)*:	22.0
DEGREE OF SATURATION (%):	94.8

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**36.1**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**22.7**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**25.0**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,270**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,635**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,100**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/3/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

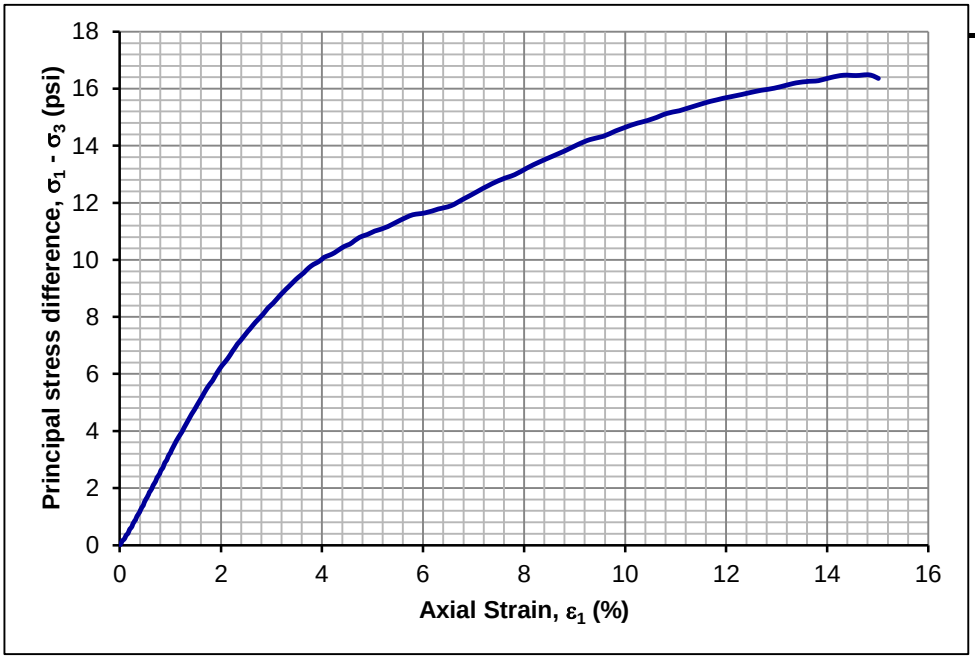
BORING NO.: SP-6
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown SILT - (ML)

LIQUID LIMIT (%): 37
PLASTIC LIMIT (%): 25
PLASTICITY INDEX (%): 12
USCS: ML

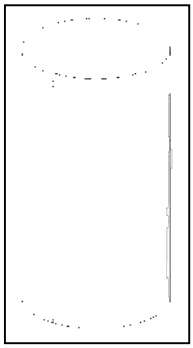
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.84
HEIGHT (in.):	6.00
HEIGHT TO DIAMETER RATIO:	2.11
WET UNIT WEIGHT (pcf):	124.9
DRY UNIT WEIGHT (pcf):	98.4
VOID RATIO:	0.74
MOISTURE CONTENT (%)*:	26.9
DEGREE OF SATURATION (%):	99.5

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**26.2**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**16.5**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**18.8**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**2,370**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,185**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**2,110**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/3/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

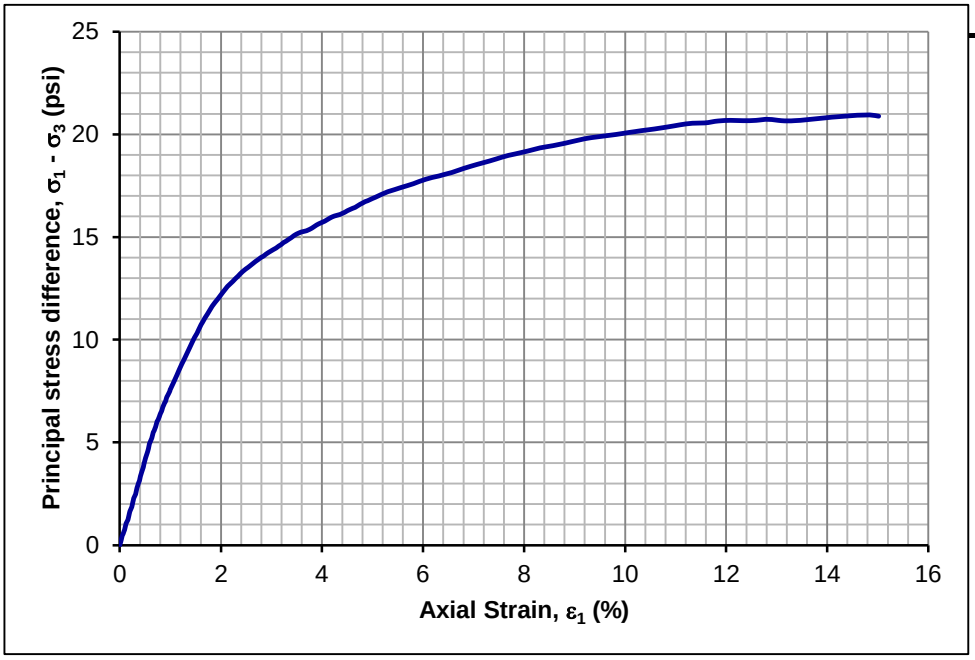
BORING NO.: SP-7
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown SILT - (ML)

LIQUID LIMIT (%): 47
PLASTIC LIMIT (%): 28
PLASTICITY INDEX (%): 19
USCS: ML

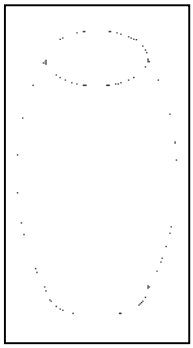
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.83
HEIGHT (in.):	6.17
HEIGHT TO DIAMETER RATIO:	2.18
WET UNIT WEIGHT (pcf):	123.2
DRY UNIT WEIGHT (pcf):	98.1
VOID RATIO:	0.75
MOISTURE CONTENT (%)*:	25.6
DEGREE OF SATURATION (%):	94.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**25.8**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**20.9**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**23.3**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,020**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,510**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**2,890**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/3/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

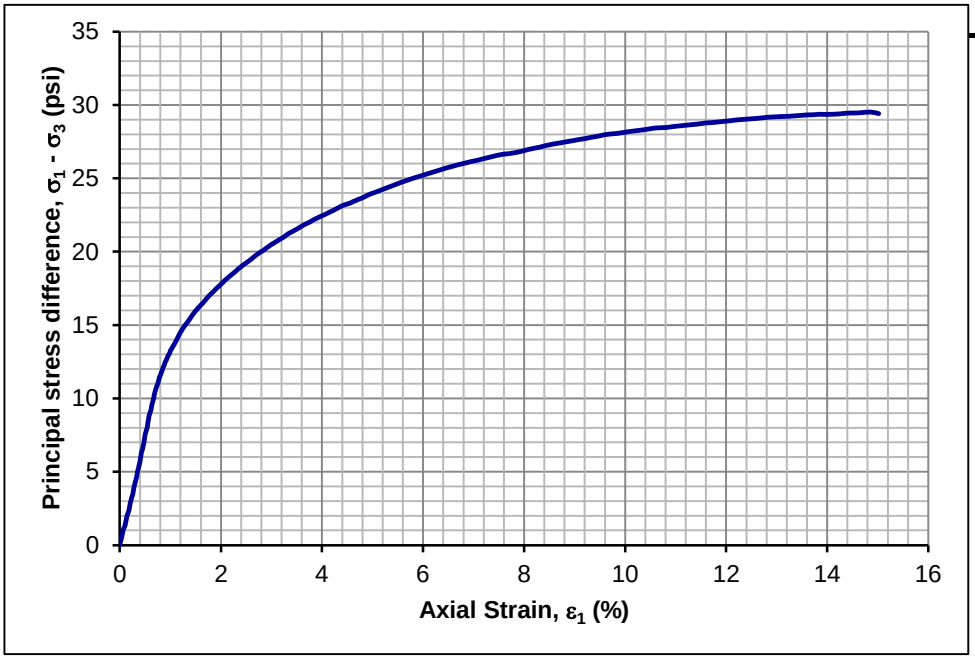
BORING NO.: SP-8 SAMPLE NO.: ST-3 DEPTH (ft.): 6.0-8.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Very stiff, tan, LEAN CLAY - (CL)

LIQUID LIMIT (%): 38 PLASTIC LIMIT (%): 19 PLASTICITY INDEX (%): 19 USCS: CL

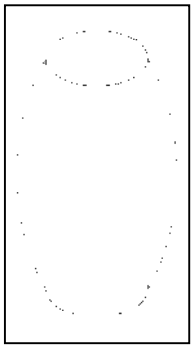
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.87
HEIGHT (in.):	6.07
HEIGHT TO DIAMETER RATIO:	2.11
WET UNIT WEIGHT (pcf):	127.2
DRY UNIT WEIGHT (pcf):	103.9
VOID RATIO:	0.65
MOISTURE CONTENT (%)*:	22.5
DEGREE OF SATURATION (%):	94.8

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**22.7**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.9**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**29.5**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**4.1**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**33.6**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**4,250**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**2,125**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**4,055**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/4/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

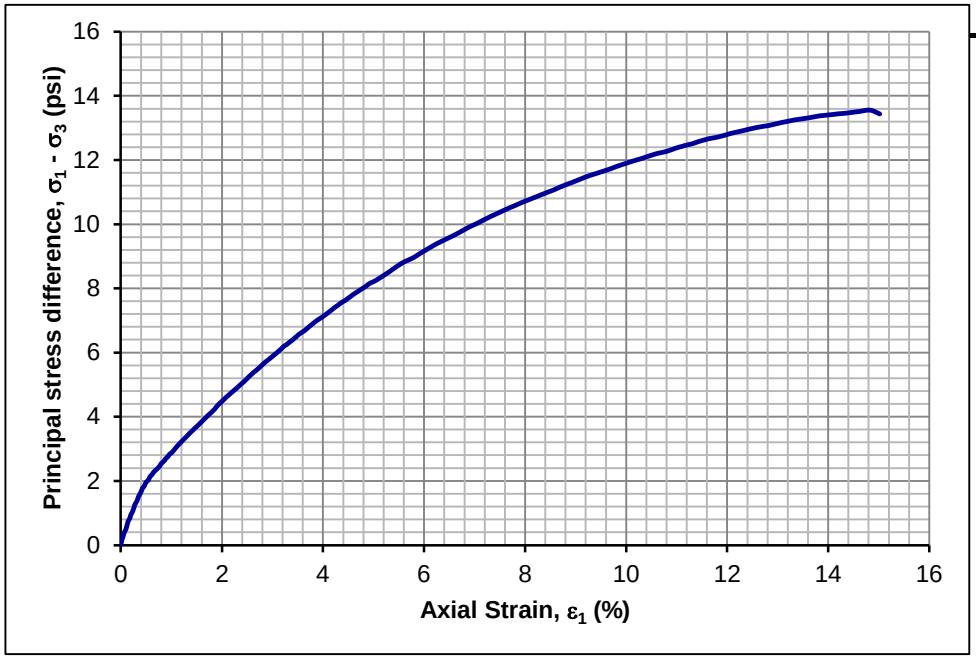
BORING NO.: SP-9 SAMPLE NO.: ST-2 DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Medium stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 43 PLASTIC LIMIT (%): 20 PLASTICITY INDEX (%): 23 USCS: CL

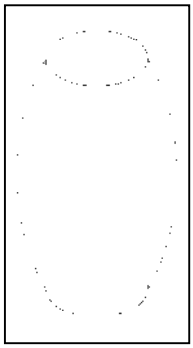
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.83
HEIGHT (in.):	6.12
HEIGHT TO DIAMETER RATIO:	2.16
WET UNIT WEIGHT (pcf):	124.8
DRY UNIT WEIGHT (pcf):	100.3
VOID RATIO:	0.71
MOISTURE CONTENT (%)*:	24.4
DEGREE OF SATURATION (%):	94.5

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**14.5**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**13.6**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**15.9**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**1,950**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**975**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**1,715**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/3/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

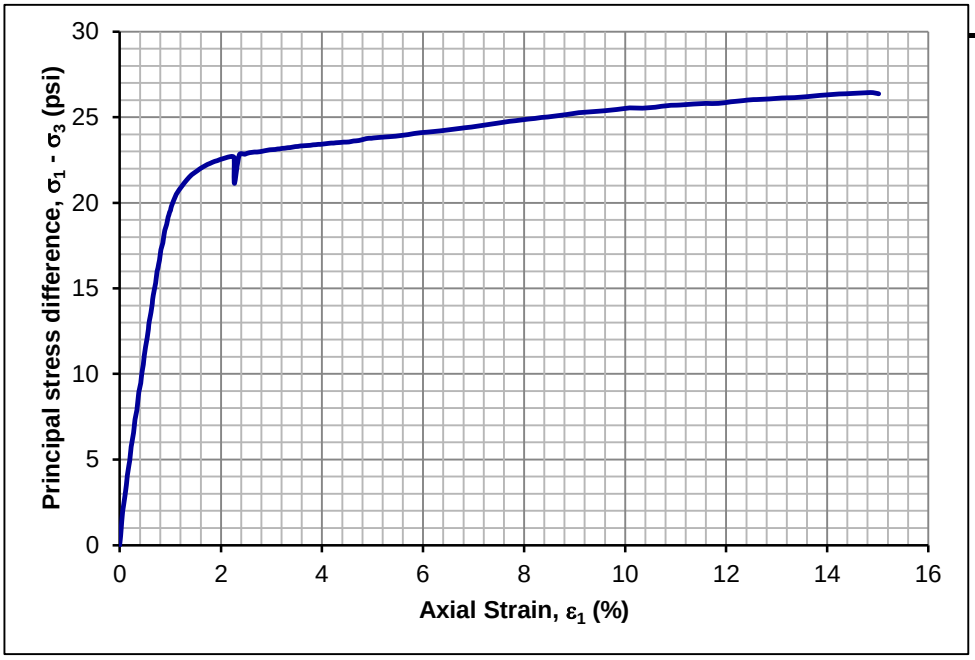
BORING NO.: SP-10
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, FAT CLAY - (CH)

LIQUID LIMIT (%): 65
PLASTIC LIMIT (%): 19
PLASTICITY INDEX (%): 46
USCS: CH

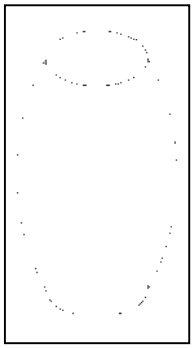
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.87
HEIGHT (in.):	5.93
HEIGHT TO DIAMETER RATIO:	2.07
WET UNIT WEIGHT (pcf):	130.3
DRY UNIT WEIGHT (pcf):	106.6
VOID RATIO:	0.61
MOISTURE CONTENT (%)*:	22.2
DEGREE OF SATURATION (%):	100.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**23.2**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.9**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**26.4**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**28.8**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,810**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,905**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,675**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/19/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

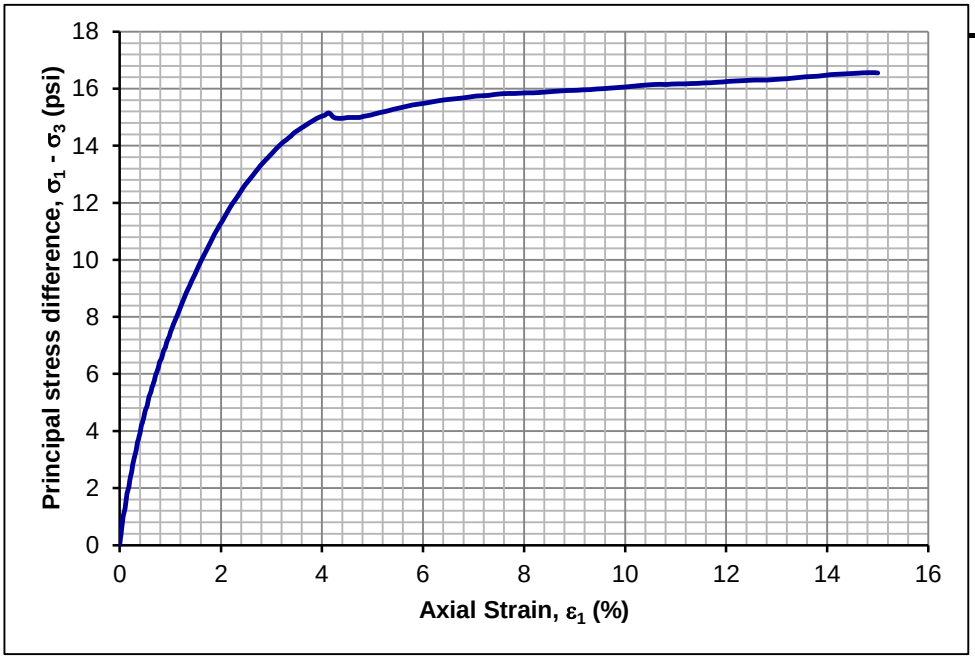
BORING NO.: W-1A
SAMPLE NO.: ST-4
DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, FAT CLAY - (CH)

LIQUID LIMIT (%): 59
PLASTIC LIMIT (%): 19
PLASTICITY INDEX (%): 40
USCS: CH

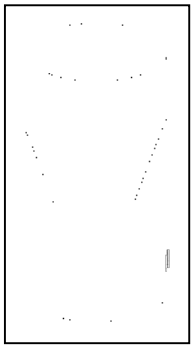
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.85
HEIGHT (in.):	6.00
HEIGHT TO DIAMETER RATIO:	2.11
WET UNIT WEIGHT (pcf):	125.4
DRY UNIT WEIGHT (pcf):	101.7
VOID RATIO:	0.69
MOISTURE CONTENT (%)*:	23.3
DEGREE OF SATURATION (%):	93.3

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**26.5**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**16.6**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**21.8**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**2,390**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,195**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**2,315**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/19/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

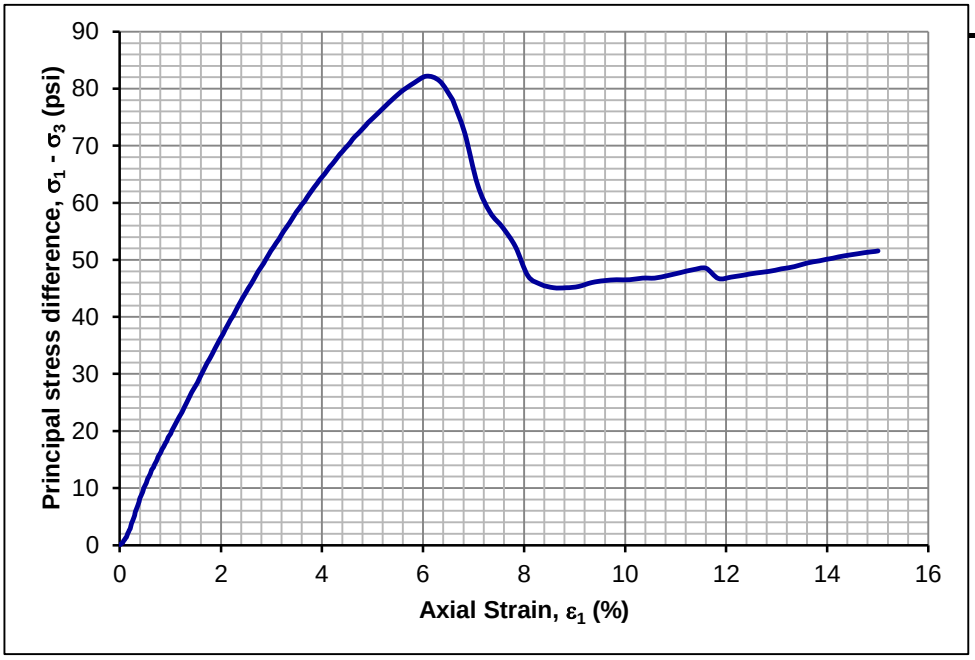
BORING NO.: W-1B
SAMPLE NO.: ST-2
DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Hard, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 47
PLASTIC LIMIT (%): 23
PLASTICITY INDEX (%): 24
USCS: CL

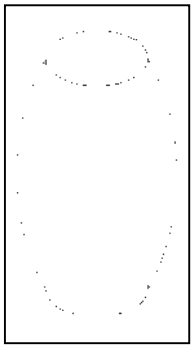
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.86
HEIGHT (in.):	5.65
HEIGHT TO DIAMETER RATIO:	1.97
WET UNIT WEIGHT (pcf):	129.2
DRY UNIT WEIGHT (pcf):	118.2
VOID RATIO:	0.45
MOISTURE CONTENT (%)*:	9.3
DEGREE OF SATURATION (%):	56.7

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**19.5**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**6.1**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**82.2**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**84.5**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**11,830**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**5,915**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**N/A**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/19/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

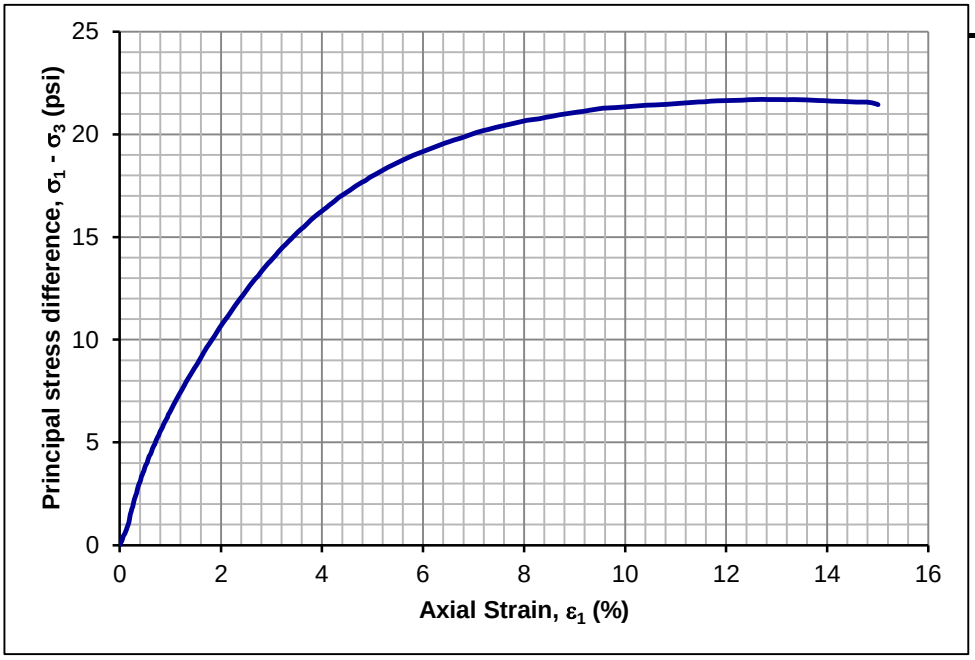
BORING NO.: W-2
SAMPLE NO.: ST-16
DEPTH (ft.): 18.0-20.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 46
PLASTIC LIMIT (%): 16
PLASTICITY INDEX (%): 30
USCS: CL

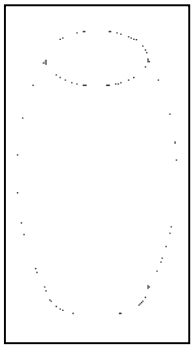
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.87
HEIGHT (in.):	5.62
HEIGHT TO DIAMETER RATIO:	1.96
WET UNIT WEIGHT (pcf):	120.0
DRY UNIT WEIGHT (pcf):	97.7
VOID RATIO:	0.76
MOISTURE CONTENT (%)*:	22.9
DEGREE OF SATURATION (%):	83.1

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**25.6**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**12.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**21.7**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**11.1**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**32.8**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,120**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,560**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,075**



FAILURE SHAPES



REMARKS :

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GEOTECHNOLOGY
A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/23/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

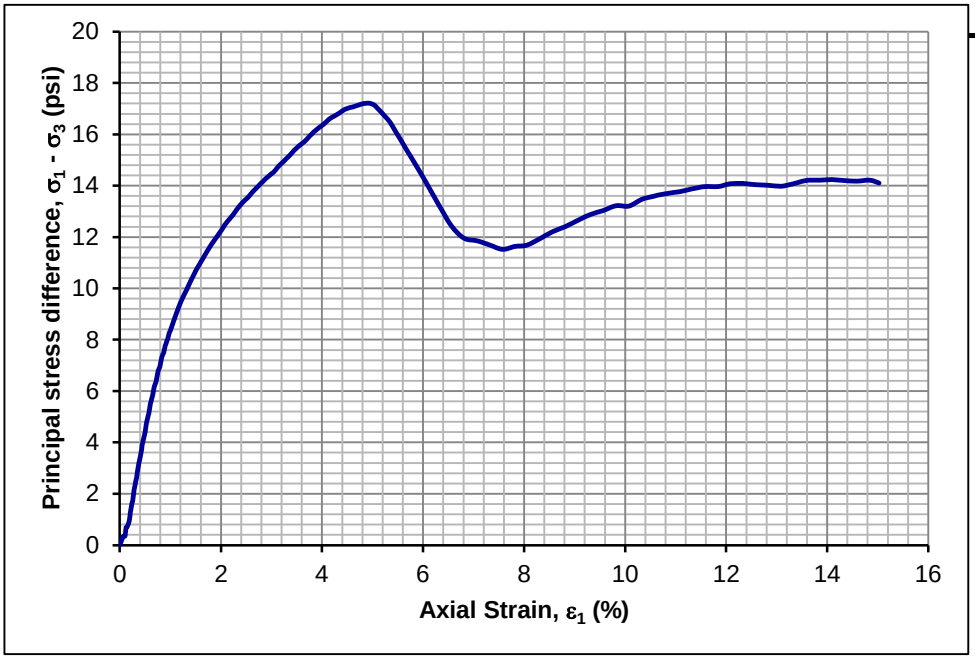
BORING NO.: W-3A
SAMPLE NO.: ST-7
DEPTH (ft.): 23.0-25.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, sandy, FAT CLAY - (CH)

LIQUID LIMIT (%): 79
PLASTIC LIMIT (%): 26
PLASTICITY INDEX (%): 53
USCS: CH

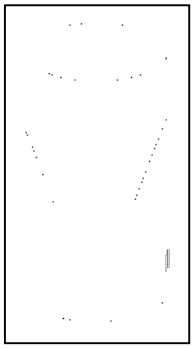
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.86
HEIGHT (in.):	5.87
HEIGHT TO DIAMETER RATIO:	2.05
WET UNIT WEIGHT (pcf):	111.3
DRY UNIT WEIGHT (pcf):	83.5
VOID RATIO:	1.05
MOISTURE CONTENT (%)*:	33.2
DEGREE OF SATURATION (%):	86.7

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**41.6**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**4.9**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**17.2**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**14.0**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**31.2**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**2,480**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,240**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**N/A**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

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A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/25/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

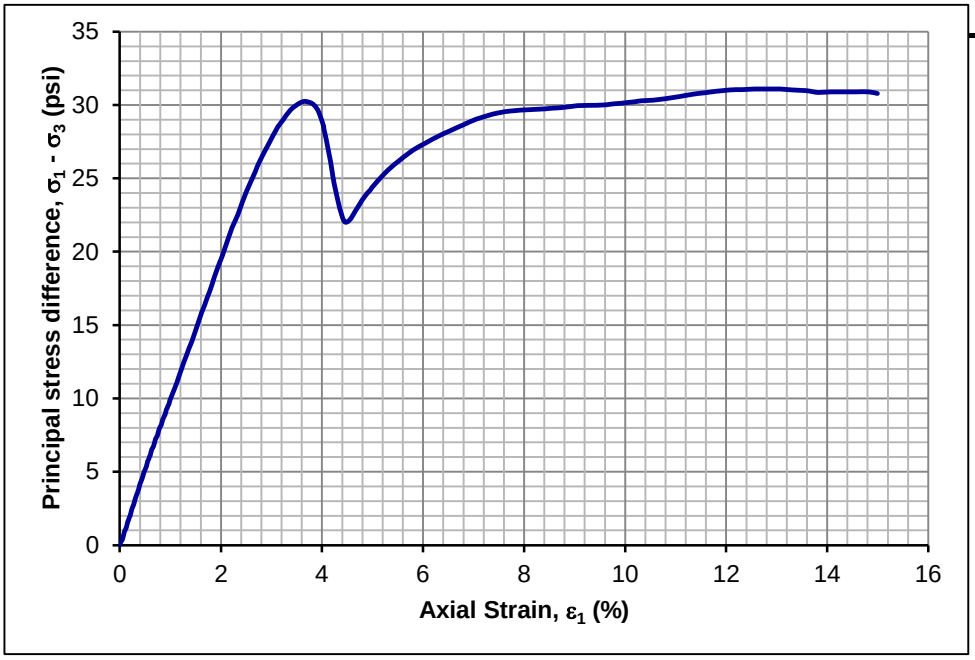
BORING NO.: W-8 SAMPLE NO.: ST-4 DEPTH (ft.): 8.0-10.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Very stiff, brown, LEAN CLAY- (CL)

LIQUID LIMIT (%): 37 PLASTIC LIMIT (%): 23 PLASTICITY INDEX (%): 14 USCS: CL

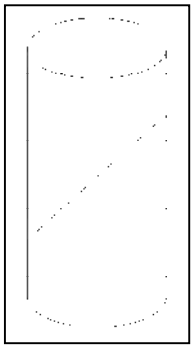
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.83
HEIGHT (in.):	6.16
HEIGHT TO DIAMETER RATIO:	2.18
WET UNIT WEIGHT (pcf):	127.4
DRY UNIT WEIGHT (pcf):	104.3
VOID RATIO:	0.65
MOISTURE CONTENT (%)*:	22.1
DEGREE OF SATURATION (%):	94.3

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**23.0**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**12.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**31.1**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**5.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**36.4**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**4,480**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**2,240**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**4,340**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

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A Universal Engineering Sciences Company

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 1/24/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

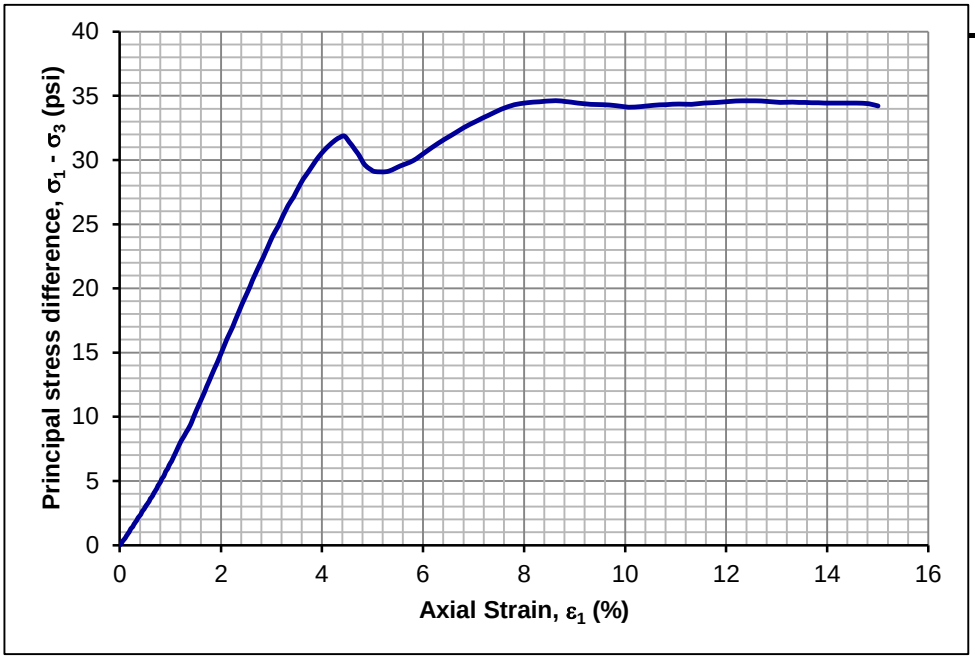
BORING NO.: W-10 SAMPLE NO.: ST-3 DEPTH (ft.): 3.0-5.0
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed
SAMPLE DESCRIPTION: Very stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 40 PLASTIC LIMIT (%): 22 PLASTICITY INDEX (%): 18 USCS: CL

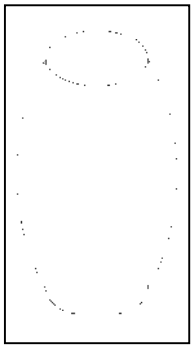
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.83
HEIGHT (in.):	6.19
HEIGHT TO DIAMETER RATIO:	2.18
WET UNIT WEIGHT (pcf):	131.6
DRY UNIT WEIGHT (pcf):	106.5
VOID RATIO:	0.61
MOISTURE CONTENT (%)*:	23.6
DEGREE OF SATURATION (%):	100.0

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**22.7**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**8.6**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**34.6**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**2.3**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**37.0**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**4,990**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**2,495**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**N/A**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

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UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS
ASTM D2850

CLIENT : Fisher Arnold
DATE: 2/20/2023
PROJECT NO.: J042140.01
PROJECT: SR-222 Widening
LOCATION: Haywood County, Tennessee

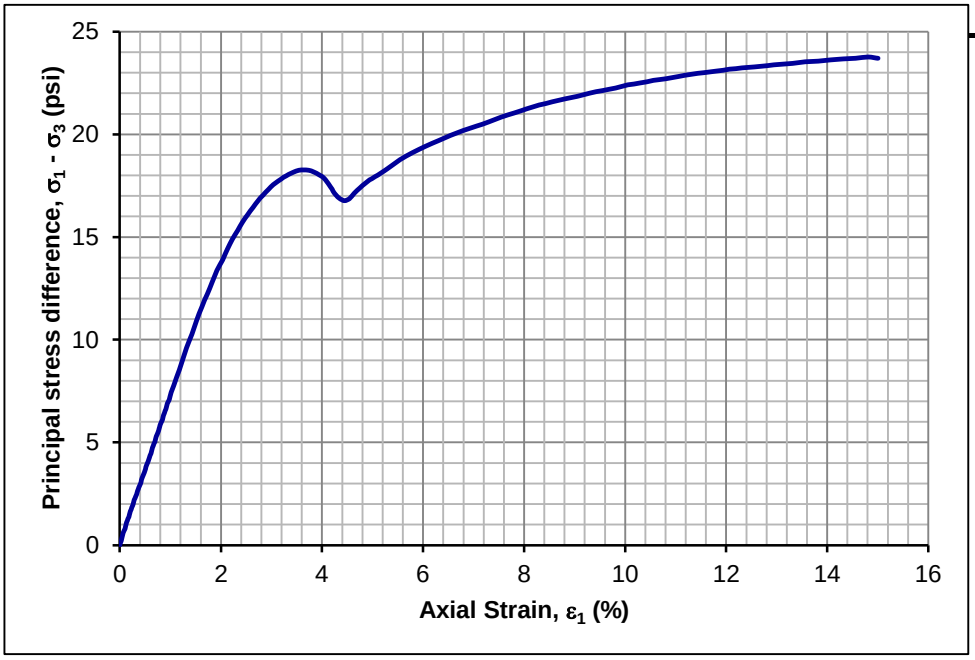
BORING NO.: W-14
SAMPLE NO.: ST-5
DEPTH (ft.): 10.0-12.0
SAMPLE OBTAINED BY: Shelby Tube
CONDITION: Undisturbed
SAMPLE DESCRIPTION: Stiff, brown, LEAN CLAY - (CL)

LIQUID LIMIT (%): 43
PLASTIC LIMIT (%): 22
PLASTICITY INDEX (%): 21
USCS: CL

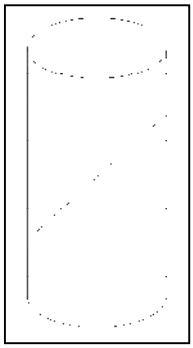
SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)
LOAD CELL NO.:

INITIAL SAMPLE DATA	
AVERAGE DIAMETER (in.):	2.85
HEIGHT (in.):	6.11
HEIGHT TO DIAMETER RATIO:	2.15
WET UNIT WEIGHT (pcf):	124.6
DRY UNIT WEIGHT (pcf):	100.5
VOID RATIO:	0.71
MOISTURE CONTENT (%)*:	24.0
DEGREE OF SATURATION (%):	93.3

FAILURE DATA***	
MOISTURE CONTENT AFTER FAILURE (%)**:	**25.5**
AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	**1.0**
AXIAL STRAIN AT FAILURE (%):	**14.8**
PRINCIPAL STRESS DIFFERENCE AT FAILURE, $\sigma_1 - \sigma_3$ (psi):	**23.8**
MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	**6.4**
MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	**30.2**
UNDRAINED COMPRESSIVE STRENGTH, U_u (psf):	**3,420**
UNDRAINED SHEAR STRENGTH, s_u (psf):	**1,710**
LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	**3,220**



FAILURE SHAPES



REMARKS :

* Initial moisture content determined from sample cuttings.
** Final moisture content determined from entire sample.
*** Failure stress values have been corrected for membrane effects.

TEST REPORT

Prepared For:
Fisher Arnold
9180 Crestwyn Hills Drive
Memphis, Tennessee 38125

Project No.:	**J042140.01**	**January 20, 2023**
Project Name:	**SR 222 Improvement**	**Page 1 of 1**
Boring Number:	**BR-1**	
Sample ID:	**SS-9**	
Depth (ft):	**38.5**	

MINIMUM LABORATORY SOIL RESISTIVITY
AASHTO T288

Reading	Resistance Measurement	Soil Box Factor (cm)	Soil Resistivity (ohms-cm)	Moisture Content (%)
#1	8,400	0.57	4,788.00	14.6
#2	3,400	0.57	1,938.00	21.9
#3	1,700	0.57	969.00	30.7

Minimum Soil Resistivity **969.00**

TEST REPORT

Prepared For:
Fisher Arnold
9180 Crestwyn Hills Drive
Memphis, Tennessee 38125

Project No.:	**J042140.01**	**January 20, 2023**
Project Name:	**SR 222 Improvement**	**Page 1 of 1**
Boring Number:	**BR-2**	
Sample ID:	**SS-5**	
Depth (ft):	**13.5**	

MINIMUM LABORATORY SOIL RESISTIVITY
AASHTO T288

Reading	Resistance Measurement	Soil Box Factor (cm)	Soil Resistivity (ohms-cm)	Moisture Content (%)
#1	6,900	0.57	3,933.00	11.4
#2	3,700	0.57	2,109.00	18.8
#3	3,900	0.57	2,223.00	26.9
#4	4,600	0.57	2,622.00	35.2

Minimum Soil Resistivity **2,109.00**

TEST REPORT

Prepared For:
Fisher Arnold
9180 Crestwyn Hills Drive
Memphis, Tennessee 38125

Project No.:	**J042140.01**	**January 20, 2023**
Project Name:	**SR 222 Improvement**	**Page 1 of 1**
Boring Number:	**BR-2**	
Sample ID:	**SS-7**	
Depth (ft):	**23.5**	

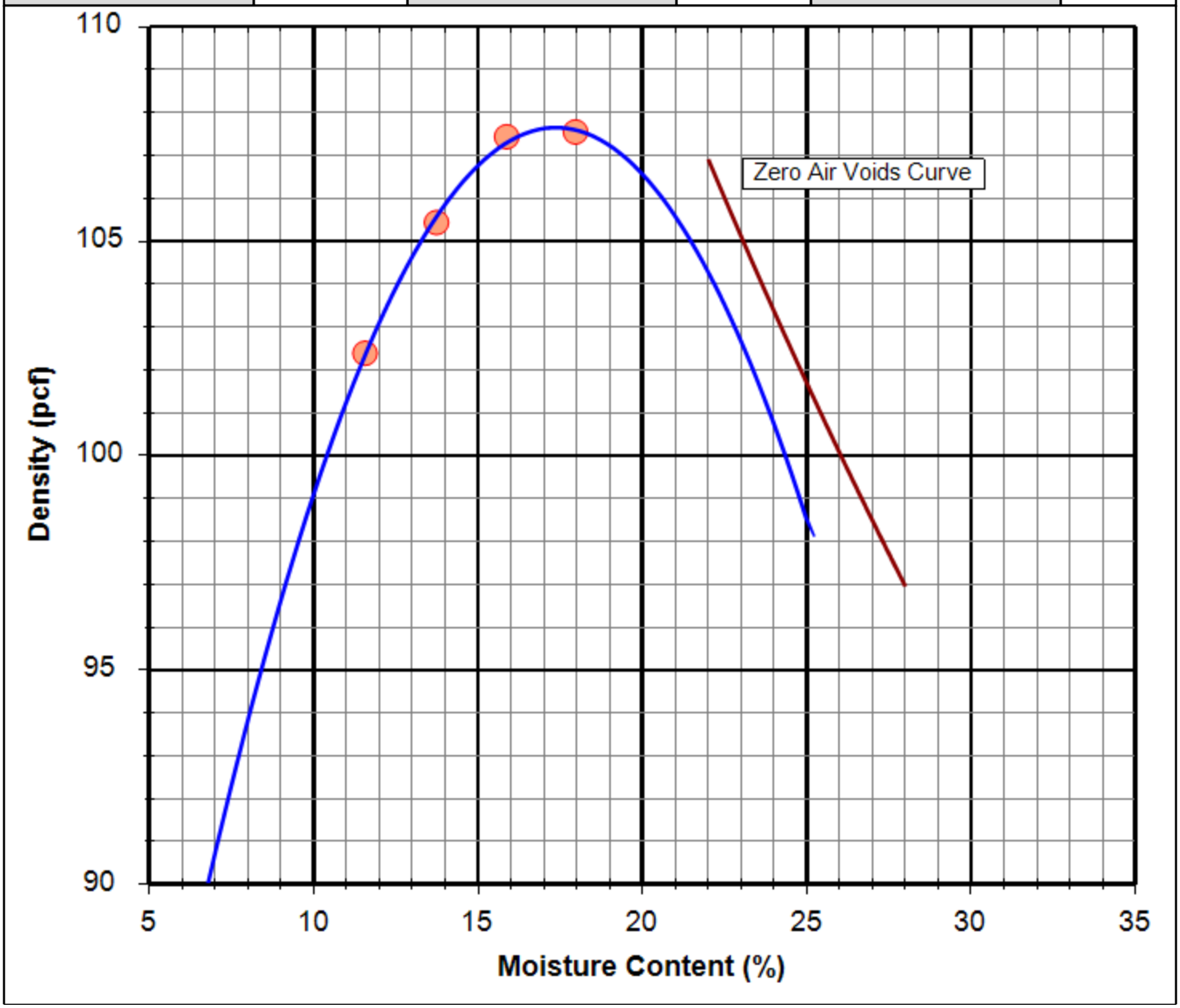
MINIMUM LABORATORY SOIL RESISTIVITY
AASHTO T288

Reading	Resistance Measurement	Soil Box Factor (cm)	Soil Resistivity (ohms-cm)	Moisture Content (%)
#1	4,300	0.57	2,451.00	11.2
#2	3,200	0.57	1,824.00	18.4
#3	3,600	0.57	2,052.00	25.3

Minimum Soil Resistivity **1,824.00**

STANDARD PROCTOR MOISTURE DENSITY TEST, ASTM D698, METHOD A

Client:	Fisher Arnold			**Project No.:**	J042140.01
Project:	SR-222 Widening, Haywood County, TN			**Date:**	2/16/2023
Sample Obtained From:	E-1			**Depth (ft.):**	1.0
Sample Description:	Brown, silty, LEAN CLAY, trace sand - (CL) AASHTO A-6 (12)	**LL**	**PL**	**PI**	**USCS**
		33	21	12	CL
Maximum Dry Density (pcf):	107.7	**Optimum Moisture Content:**	17.5%	**In Situ Moisture Content:**	-



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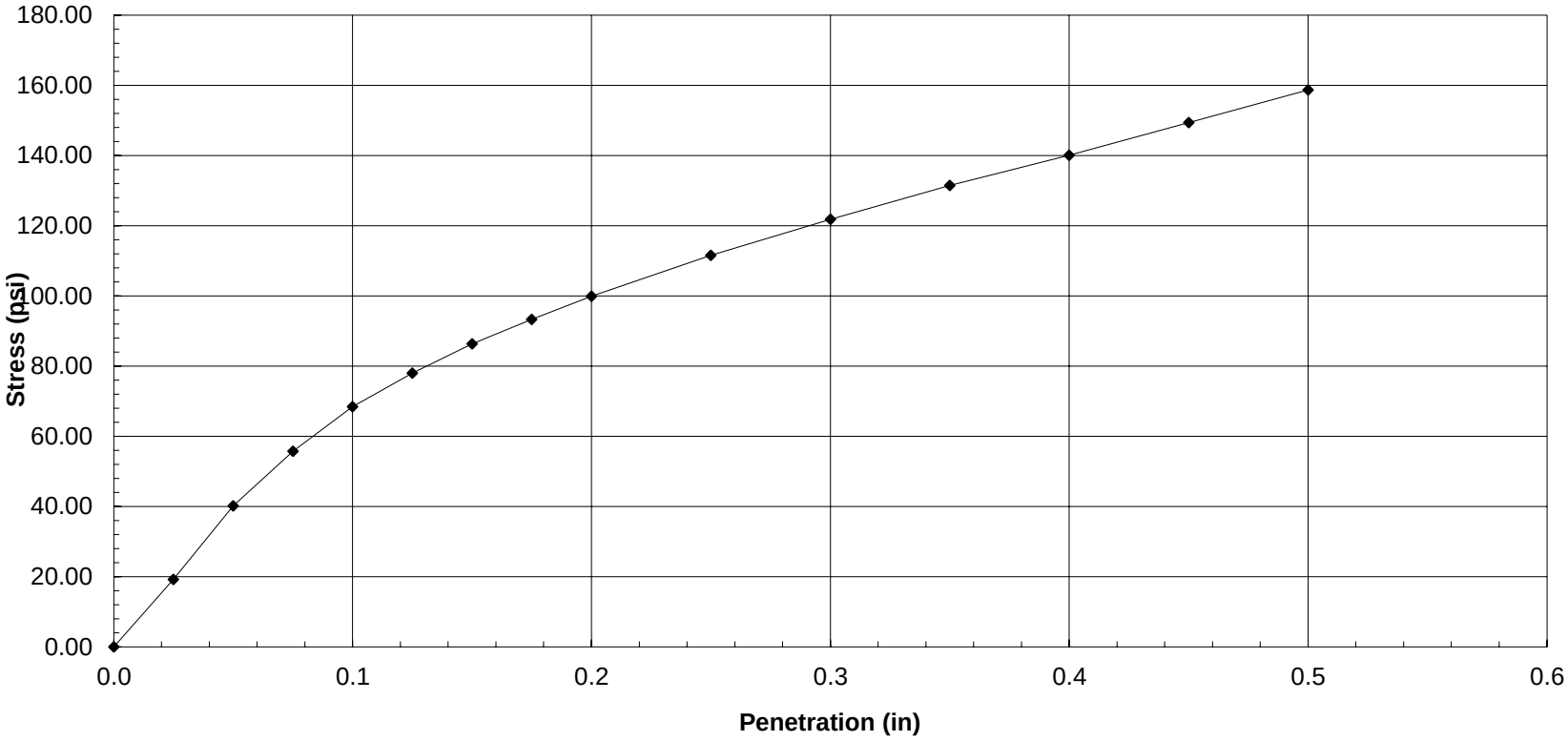

CALIFORNIA BEARING RATIO (CBR) TEST

ASTM D 1883

Project No.: J042140.01

Boring: E-1

Sample: 25 BLOWS - Depth: 1 ft.

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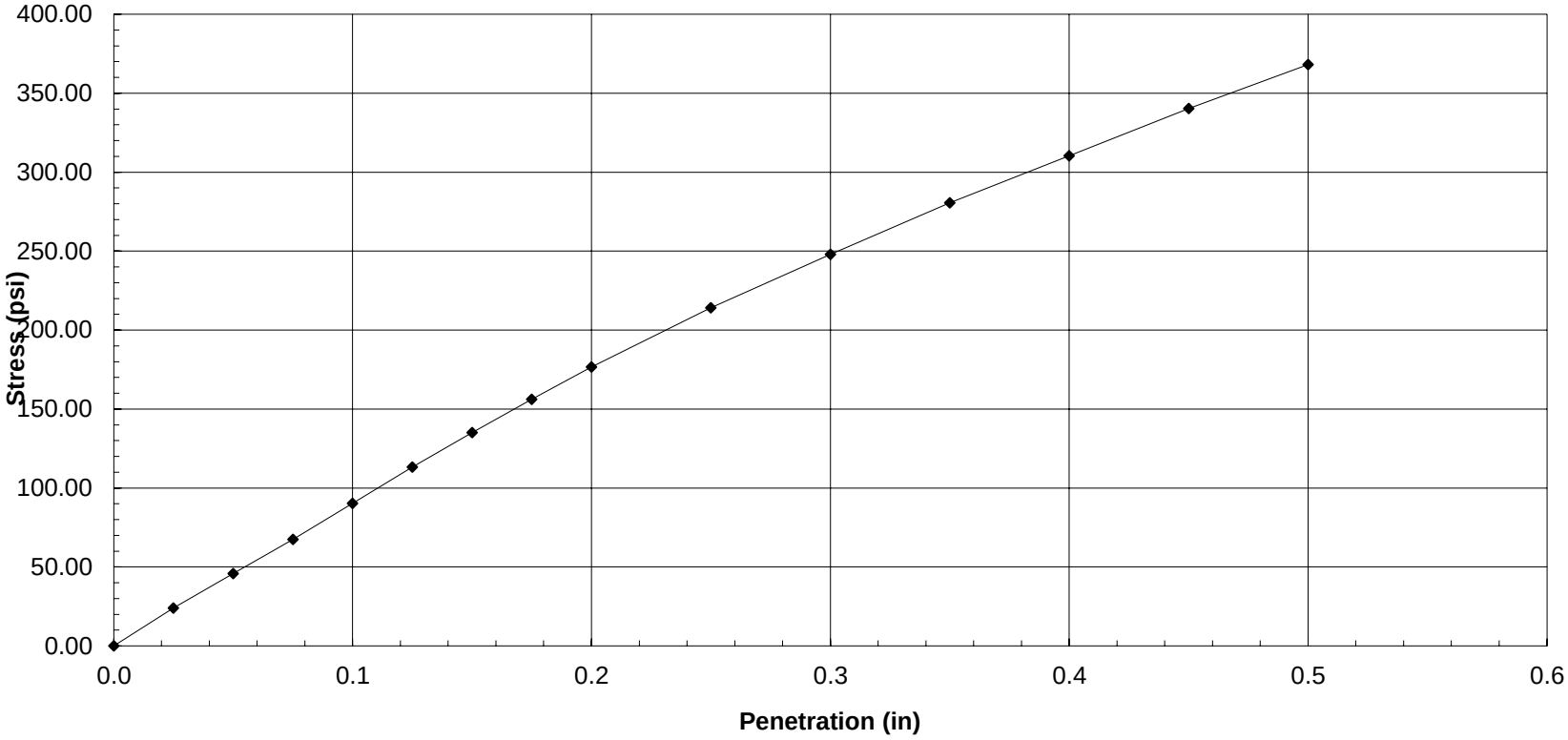


CALIFORNIA BEARING RATIO (CBR) TEST

ASTM D 1883

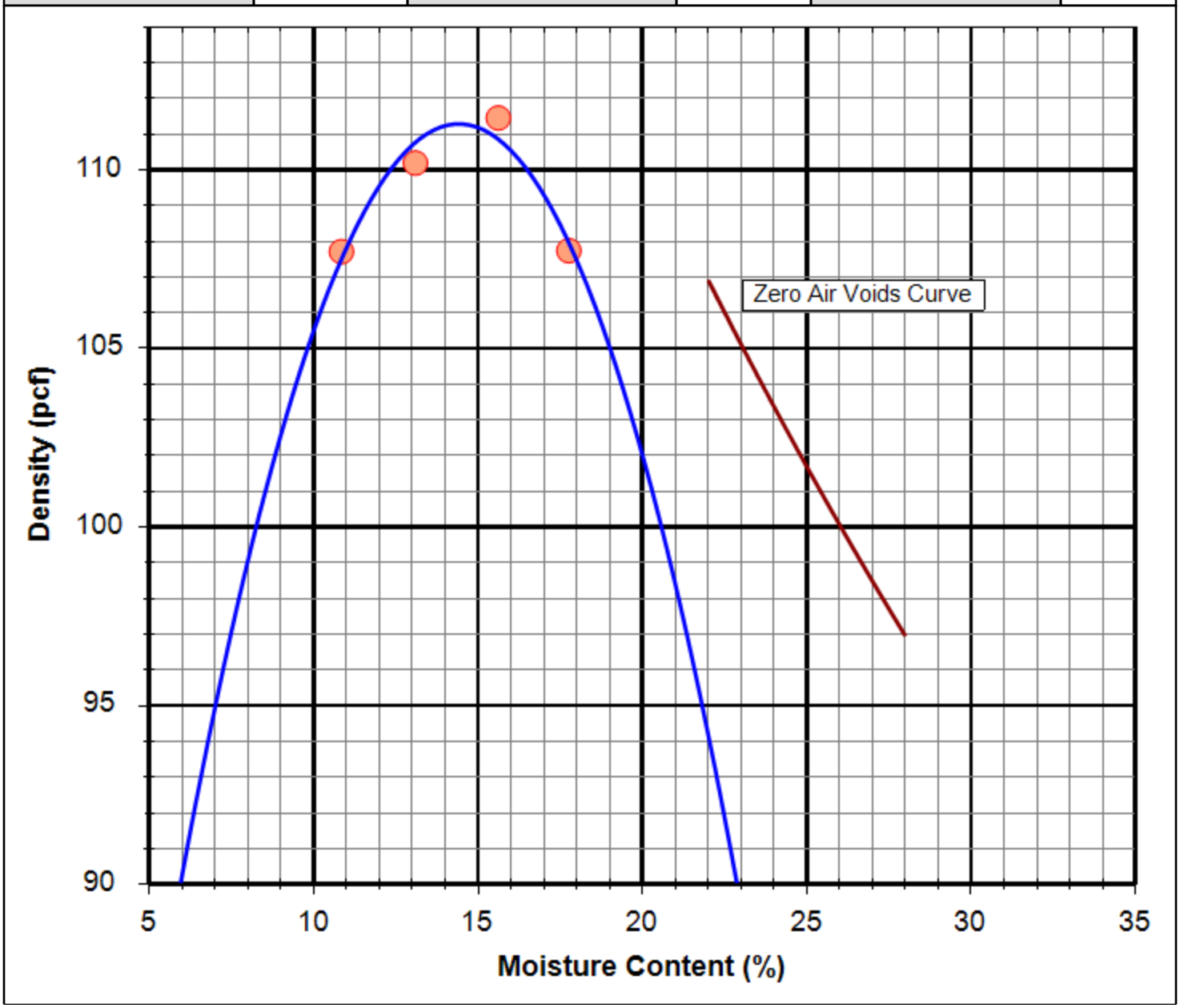
Project No.: J042140.01

Boring: E-1

Sample: 56 BLOWS - Depth: 1 ft.

STANDARD PROCTOR MOISTURE DENSITY TEST, ASTM D698, METHOD A

Client:	Fisher Arnold			**Project No.:**	J042140.01
Project:	SR-222 Widening, Haywood County, TN			**Date:**	2/15/2023
Sample Obtained From:	E-14			**Depth (ft.):**	1.0
Sample Description:	Brown, sandy, LEAN CLAY - (CL) AASHTO A-6 (7)	**LL**	**PL**	**PI**	**USCS**
		33	21	12	CL
Maximum Dry Density (pcf):	111.3	**Optimum Moisture Content:**	14.5%	**In Situ Moisture Content:**	-



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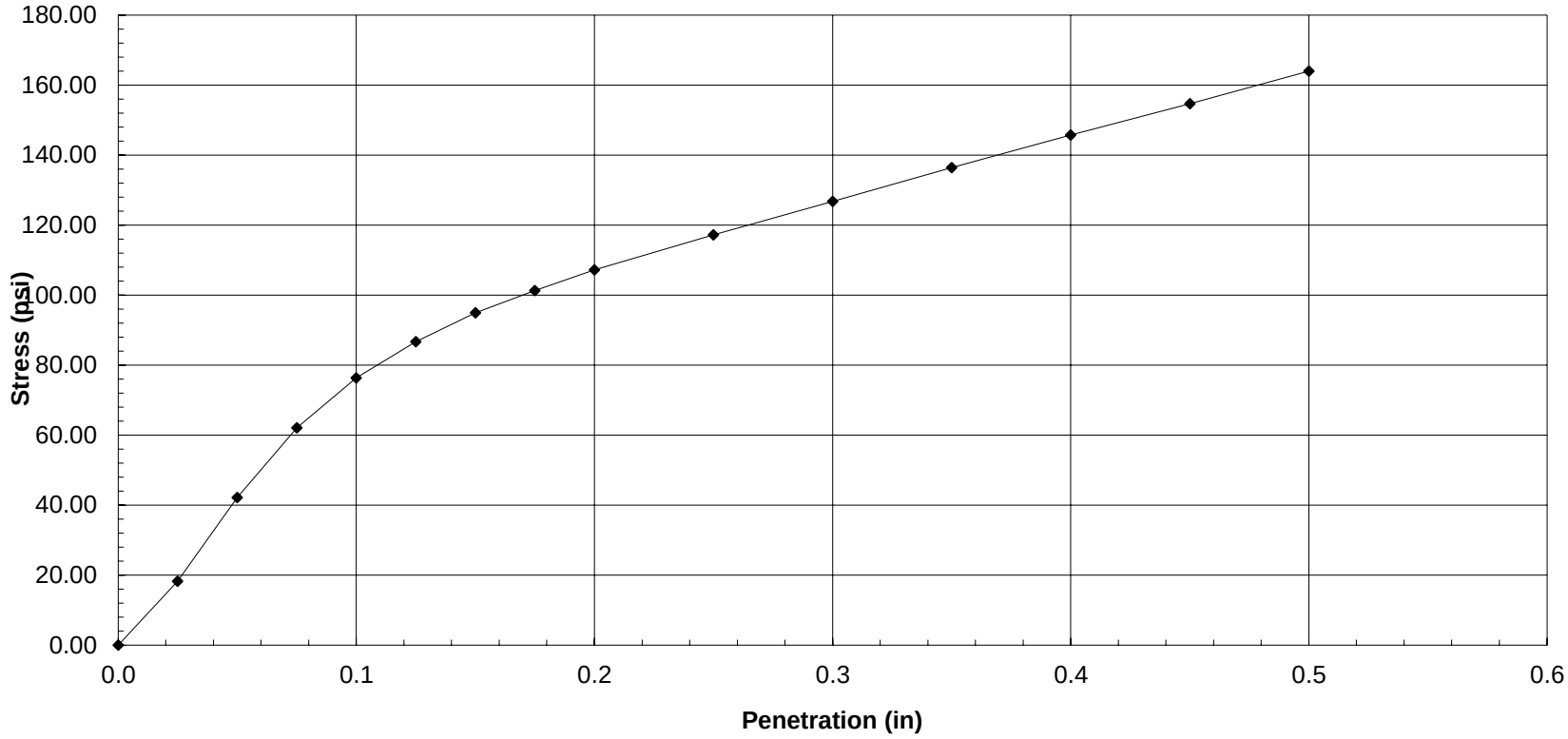


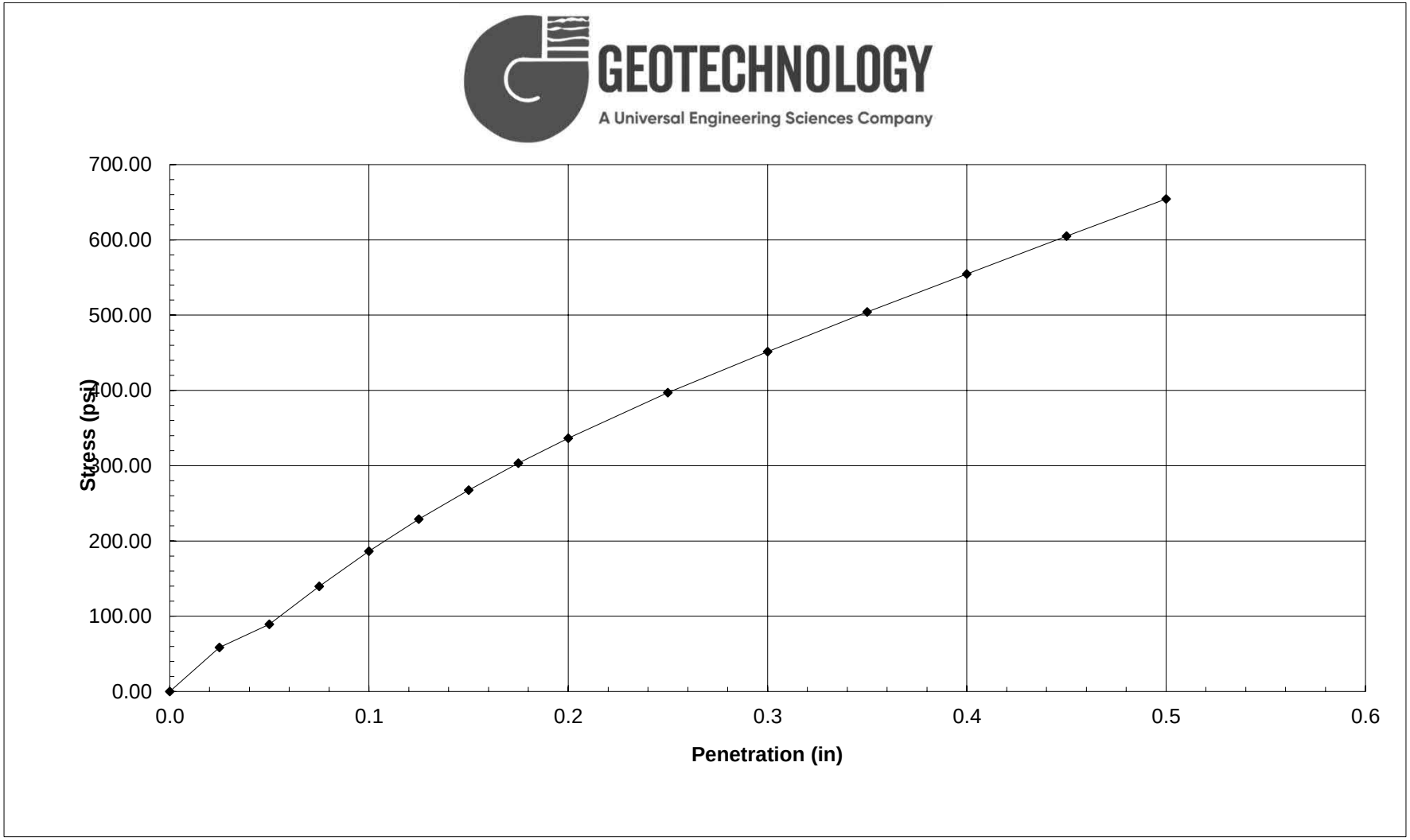
CALIFORNIA BEARING RATIO (CBR) TEST

ASTM D 1883

Project No.: J042140.01

Boring: E-14

Sample: 25 BLOWS - Depth: 1 ft.



CALIFORNIA BEARING RATIO (CBR) TEST

ASTM D 1883

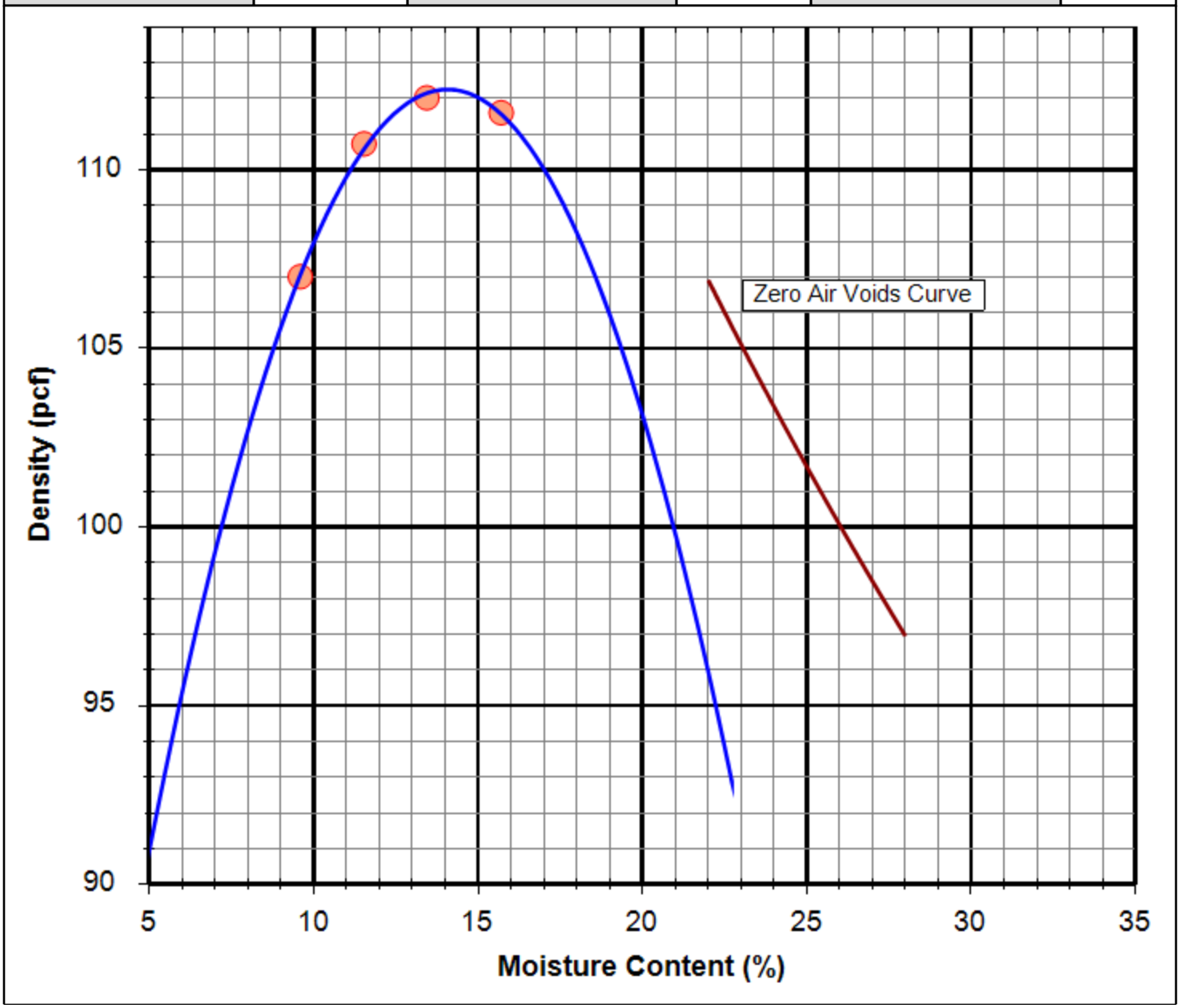
Project No.: J042140.01

Boring: E-14

Sample: 56 BLOWS - Depth: 1 ft.

STANDARD PROCTOR MOISTURE DENSITY TEST, ASTM D698, METHOD A

Client:	Fisher Arnold			**Project No.:**	J042140.01
Project:	SR-222 Widening, Haywood County, TN			**Date:**	2/22/2023
Sample Obtained From:	SP-3			**Depth (ft.):**	1.0
Sample Description:	Brown and red, sandy, LEAN CLAY - (CL) AASHTO A-6 (10)	**LL**	**PL**	**PI**	**USCS**
		38	15	23	CL
Maximum Dry Density (pcf):	112.3	**Optimum Moisture Content:**	14.1%	**In Situ Moisture Content:**	-



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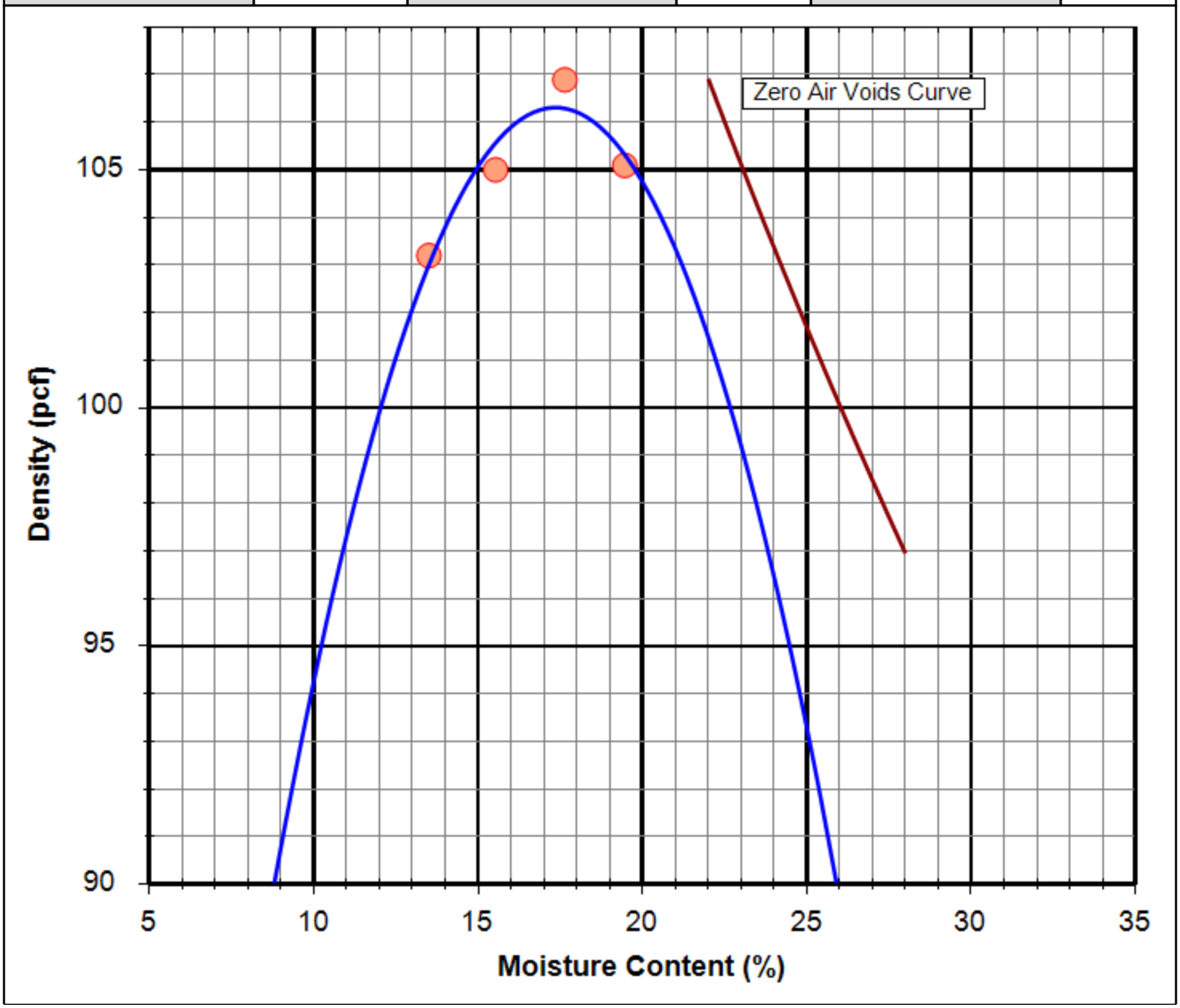
STANDARD PROCTOR MOISTURE DENSITY TEST, ASTM D698, METHOD A

Client:	Fisher Arnold			**Project No.:**	J042140.01
Project:	SR-222 Widening, Haywood County, TN			**Date:**	2/16/2023
Sample Obtained From:	SP-6			**Depth (ft.):**	1.0
Sample Description:	Brown, silty, LEAN CLAY - (CL) AASHTO A-6 (15)	**LL**	**PL**	**PI**	**USCS**
		36	19	17	CL
Maximum Dry Density (pcf):	106.3	**Optimum Moisture Content:**	17.3%	**In Situ Moisture Content:**	-



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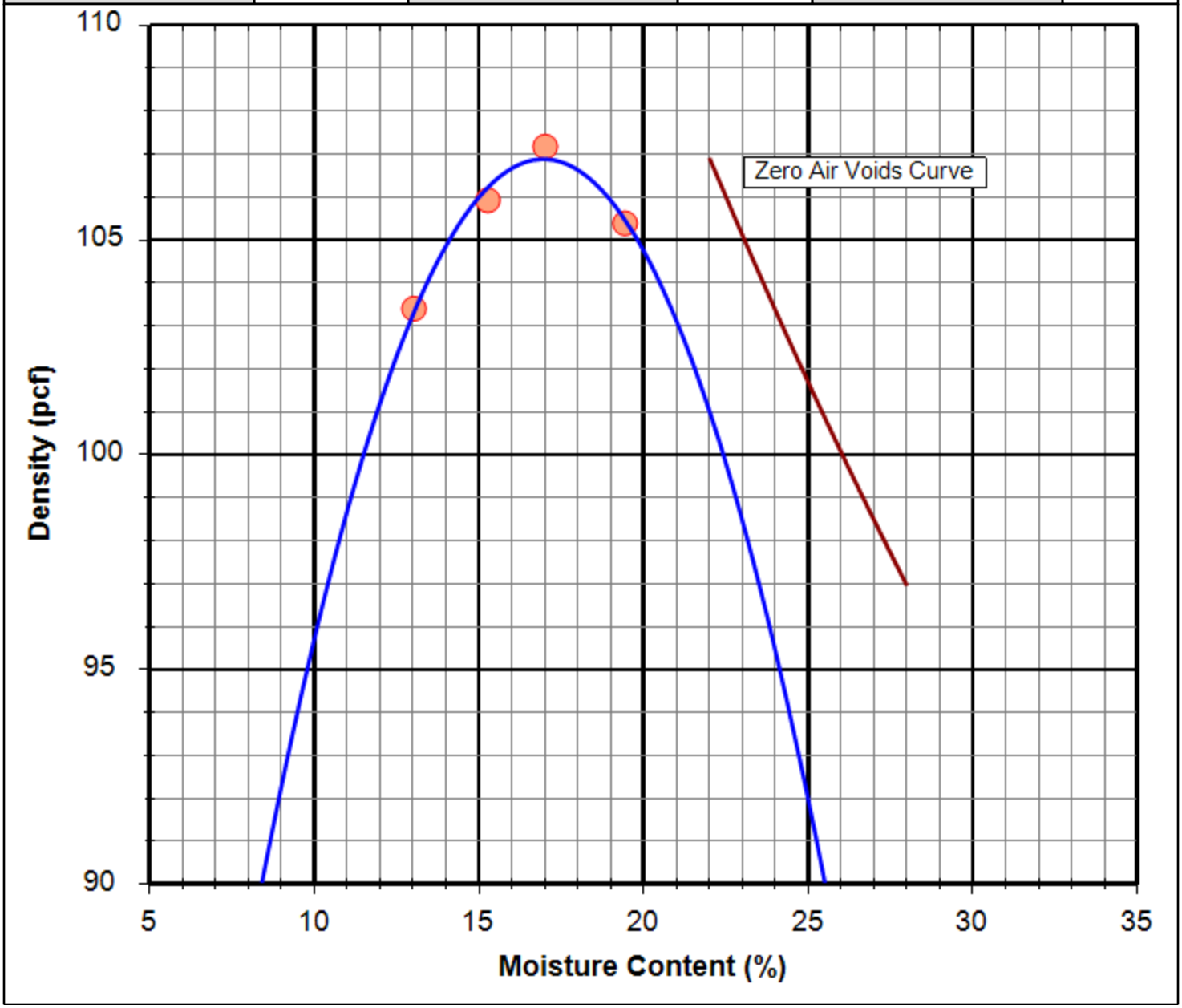
STANDARD PROCTOR MOISTURE DENSITY TEST, ASTM D698, METHOD A

Client:	Fisher Arnold			**Project No.:**	J042140.01
Project:	SR-222 Widening, Haywood County, TN			**Date:**	2/16/2023
Sample Obtained From:	SP-10			**Depth (ft.):**	1.0
Sample Description:	Brown, silty, LEAN CLAY - (CL) AASHTO A-6 (25)	**LL**	**PL**	**PI**	**USCS**
		40	13	27	CL
Maximum Dry Density (pcf):	106.9	**Optimum Moisture Content:**	16.9%	**In Situ Moisture Content:**	-



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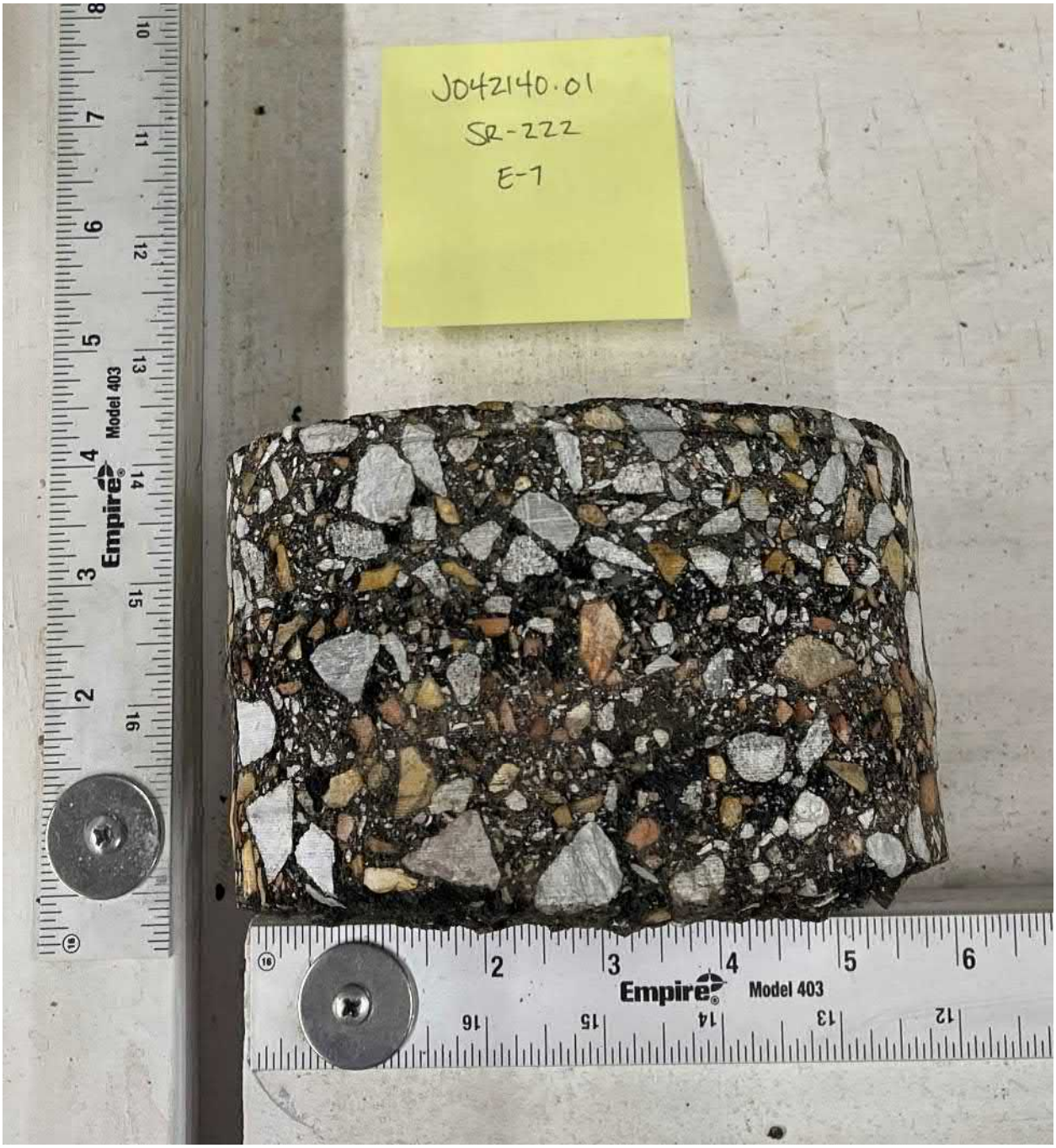
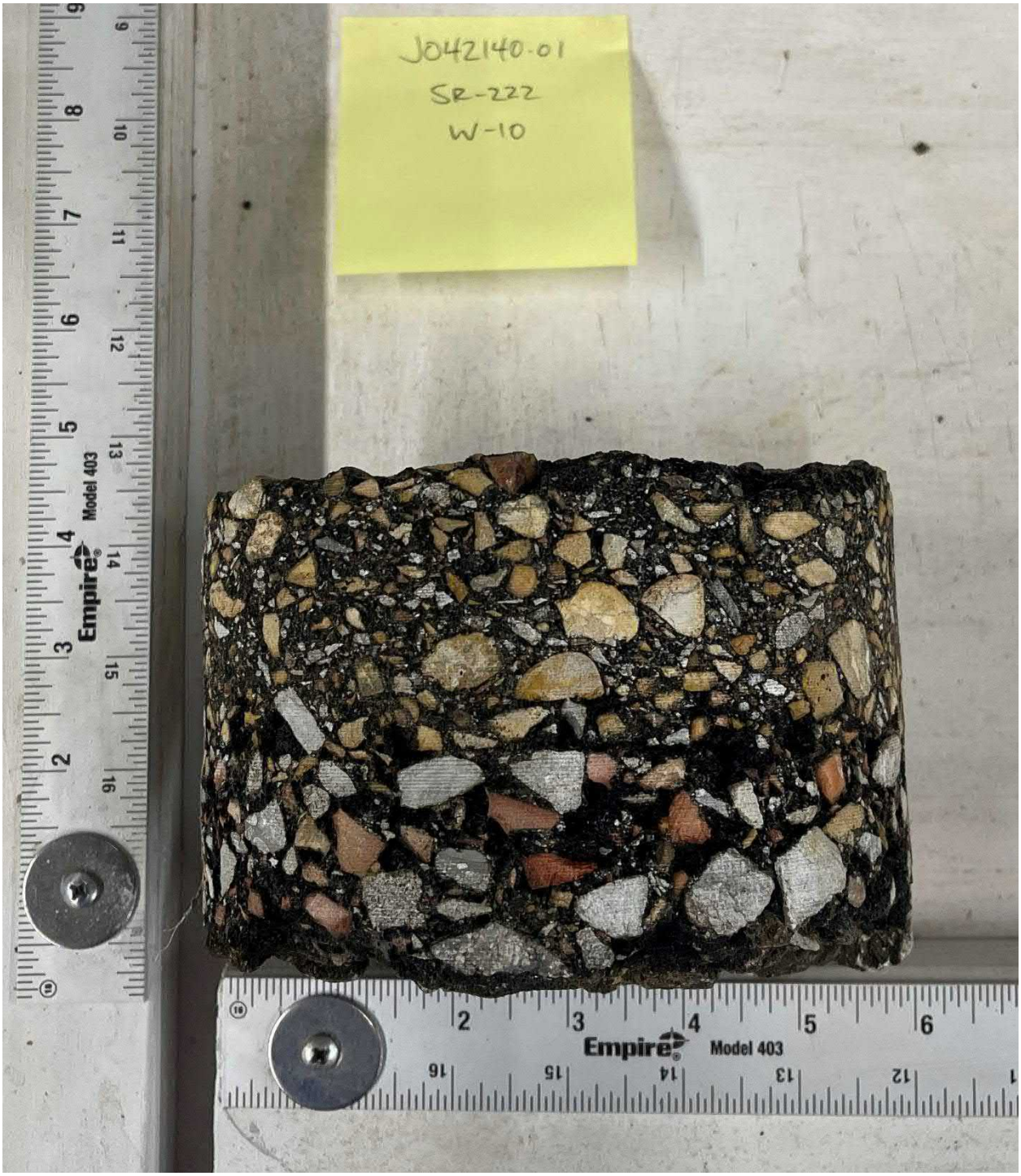
Appendix E
PAVEMENT CORE PHOTOGRAPHS

SR-222 From Near SR-468 to Near Campground Road	
Boring E-1	
J042140.01	Photograph 1
Description: 4½ inches of asphalt. Photograph taken on February 22, 2023.	



SR-222 From Near SR-468 to Near Campground Road	
Boring E-7	
J042140.01	Photograph 2
Description: 4¼ inches of asphalt. Photograph taken on February 22, 2023.	

SR-222 From Near SR-468 to Near Campground Road	
Boring W-5	
J042140.01	Photograph 3
Description: 4¾ inches of asphalt. Photograph taken on February 22, 2023.	



SR-222 From Near SR-468 to Near Campground Road	
Boring W-10	
J042140.01	Photograph 4
Description: 5 inches of asphalt. Photograph taken on February 22, 2023.	

SR-222 From Near SR-468 to Near Campground Road	
Boring W-21	
J042140.01	Photograph 5
Description: 17 inches of asphalt. Photograph taken on February 22, 2023.	