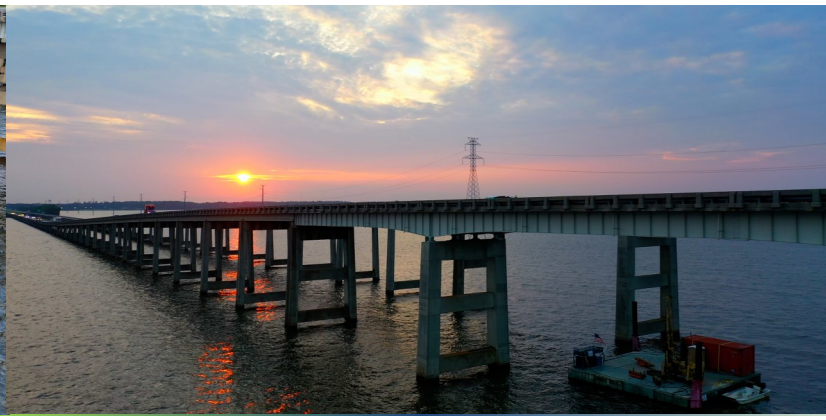
GEOTECHNICAL BASELINE REPORT

I-95 Bridge Replacement(s) over Lake Marion
Clarendon/Orangeburg County, South Carolina



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SCDOT Project ID: P041130
FME Project No.: G6744.00

September 30, 2024

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Mr. John Hartland, PE
TranSystems
12802 Tampa Oaks Boulevard, Suite 330
Tampa, Florida 33637

Re: Geotechnical Baseline Report
I-95 Bridge Replacement(s) over Lake Marion
Clarendon/Orangeburg County, South Carolina
SCDOT Project ID: P041130
FME Project No.: G6744.00

Mr. Hartland:

Submitted herein is F&ME Consultants, Inc's (FME) Geotechnical Baseline Report for the I-95 Bridge Replacement(s) over Lake Marion. Included is a summary of the subsurface data, the subsurface findings, the soil laboratory test results, and our conceptual geotechnical assessment of the assumed bridge foundation systems and bridge/roadway embankments.

Please notify us if there are any questions or if we can be of further assistance.

Sincerely,

F&ME CONSULTANTS

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 30374 JOHN FRANCIS HAMILTON

Digitally signed by John Hamilton
Date: 2024.09.30 10:15:44-04'00'

SOUTH CAROLINA F&ME CONSULTANTS, INC. No. 4891 CERTIFICATE OF AUTHORIZATION

John F. Hamilton, PE
Geotechnical Design Manager

Attachments

JFH/rl:jfh

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APPENDIX

1. PROJECT DESCRIPTION

The project site is located on Interstate 95 (I-95) over Lake Marion on the border of Clarendon County and Orangeburg County in South Carolina. A site location plan is presented in the Appendix as Figure 1.

The project consists of demolishing the existing I-95 Northbound and Southbound bridges and replacing them with a single structure that accommodates both travel directions. Both the main span bridges and overflow bridges are designated for replacement. The new bridges will provide an additional future travel lane in each direction compared to the existing bridges.

We assume that the proposed bridge substructure elements will consist of driven pile foundations at the end bents and drilled shaft foundations at the interior bents. Foundation sizes typical for SCDOT bridge structures of this magnitude are expected.

The geotechnical subsurface investigation was performed in general accordance with the 2022 SCDOT Geotechnical Design Manual (GDM). The conceptual bridge foundation analyses and the development of conceptual design recommendations, provided herein, were performed in general accordance with the GDM and/or the AASHTO LRFD Bridge Design Specifications.

2. SUBSURFACE EXPLORATION

From January 10, 2023 through June 29, 2023, seventy-six (76) Soil Test Borings (STBs), one (1) Auger Probe Boring, four (4) Electro-Piezocone Soundings (CPT), four (4) Dilatometer Soundings, and six (6) Bulk Samples were performed at the site. The soils were visually classified in the field based upon the Unified Soil Classification System (USCS) in general accordance with ASTM D2488.

A Boring Location Plan (Figure 2 through Figure 13) displaying the test locations performed during the subsurface exploration is provided in Section 2 of the Appendix. A generalized Subsurface Profile is presented in Section 3 of the Appendix.

STBs were performed with either a CME 45B barge mounted drill rig or a CME 550X ATV mounted drill rig. Rotary wash drilling techniques were used to maintain a stable borehole. Standard Penetration Testing (SPTs) were continuously sampled in the top ten (10) feet. In soil borings B-2 and B-47, SPTs were continuously sampled in the top fifty (50) feet to calibrate the adjacent CPT to the site soils. Following the continuous sampling, SPTs were performed on standard five (5) foot intervals, thereafter, to the boring termination depths. SPTs were performed in general accordance with ASTM D1586 to determine the relative densities and consistencies of the subsurface soils and to collect subsurface soil samples. An automatic hammer with a calibrated Energy Transfer Ratio was used to perform the SPTs. Each boring's calibrated Energy Transfer Ratio value is provided on the boring logs provided in Section 4 of the Appendix.

Four (4) Electro-Piezocone Sounding Tests (designated as CPT-1 through CPT-4) were also performed at the site. A CME 550X drill rig was used to advance the CPT equipment. CPT tests were generally performed at 5-centimeter intervals. The Electro-Piezocone Sounding Logs are provided in Section 4D of the Appendix.

Four (4) Dilatometer Soundings (designated as DMT-1 through DMT-4) were collected from the bridge embankments. Dilatometer Soundings were advanced using a CME 550X ATV mounted rig. Dilatometer recordings were generally performed on one-foot intervals. These soundings extended to refusal conditions at each test location. The Dilatometer Sounding Logs are provided in Section 4E of the Appendix.

A piston sampler was utilized to collect one (1) intact Shelby tube sample within Auger Boring B-52U. The Auger Probe Boring was offset approximately five (5) feet from its corresponding Soil Test Boring. The sample was collected in a (3) inch diameter, thirty (30) inch long Shelby tube. A copy of the Auger Probe boring Log is provided in Section 4B of the Appendix.

Six (6) Bulk Soil Samples (designated as BS-1 through BS-6) were collected with Manual Auger Boring equipment from the soil material comprising the bridge embankments. The Manual Auger Boring Logs are provided in Section 4C of the Appendix.

Due to the quantity of information generated, we have placed the field investigation summary table in Section 4 of the Appendix.

3. LABORATORY TESTING SUMMARY

Following completion of the subsurface investigation, soil samples were selected by FME personnel for laboratory testing. The tests were conducted in an AASHTO certified laboratory in accordance with applicable ASTM/AASHTO standards.

The laboratory testing performed on the soil samples collected from the Soil Test Borings is summarized in the table below. Data sheets containing the results from this testing are provided in Section 5A in the Appendix.

Laboratory Testing Summary Table – Soil Test Boring (Split-Spoon Samples)

Type of Test	Quantity	Procedure
Moisture Content	378	AASHTO T265 (ASTM D2216)
Atterberg Limits	381	AASHTO T89/T90 (ASTM D4318)
Wash 200 Grain Size	78	AASHTO T11 (ASTM D1140)
Grain-Size Distribution w/ Wash 200	247	ASTM D6913/AASHTO T11 (ASTM D1140)
Hydrometer and Grain Size	55	ASTM D7928/D6913
Unconfined Compressive Strength of Cohesive Soil	114	AASHTO T208 (ASTM (D2166)
Compressive Strength of Rock Cores	30	ASTM D7012
pH	4	AASHTO T289/ASTM G51
Resistivity	4	AASHTO T288
Chloride	4	AASHTO T291
Sulfate	4	AASHTO T290 (ASTM C1580)

The laboratory testing performed on the Bulk Soil Samples are summarized in the table below. The data sheets containing the results from this testing are provided in Section 5C of the Appendix.

Laboratory Testing Summary Table – Bulk Soil Samples

Type of Test	Quantity	Procedure
Moisture Content	6	AASHTO T265 (ASTM D2216)
Atterberg Limits	6	AASHTO T89/T90 (ASTM D4318)
Grain-size Distribution w/ Wash 200	6	ASTM D6913/AASHTO T11 (ASTM D1140)
Direct Shear	3	AASHTO T236 (ASTM D3080)
Consolidated-Undrained Triaxial	1	AASHTO T297 (ASTM D4767)
California Bearing Ratio	2	AASHTO T193 (ASTM D1883)
pH	2	AASHTO T289/ASTM G51
Resistivity	2	AASHTO T288
Chloride Content	2	AASHTO T291
Sulfate	2	AASHTO T290 (ASTM C1580)

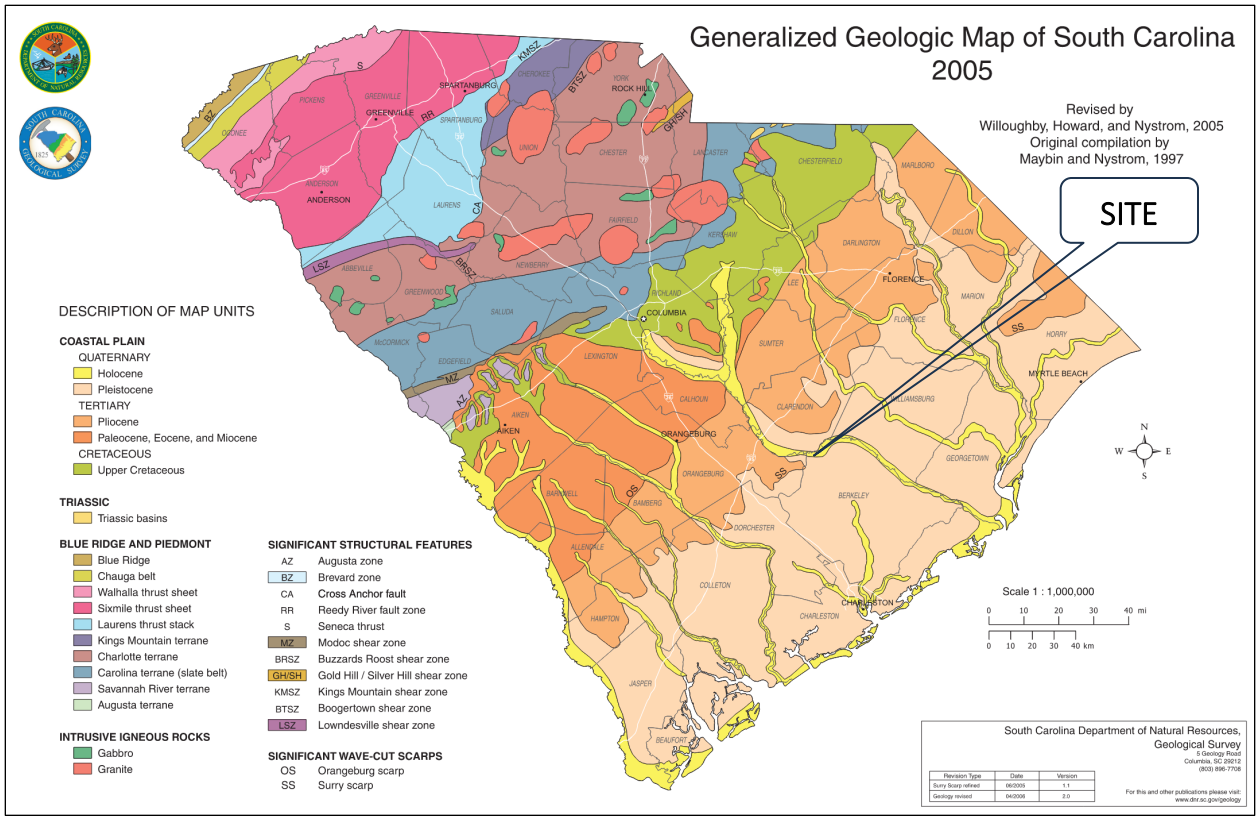
The material extracted from the UD sample was not deemed appropriate for triaxial or consolidation testing. As such, no laboratory testing was performed on UD samples.

4. SUBSURFACE CONDITIONS

4.1. SITE GEOLOGY

The bridge site is located near the contact of the Lower and Middle Coastal Plain geologic units of South Carolina. This contact is considered the location of the Surry Scarp. The Coastal Plain unit has a gently dipping topography towards the ocean and is comprised of several geologic formations, which represent sedimentary sequences believed to have been formed during periods of eustatic sea level rise/fall or tectonic uplift/subsidence over geologic time.

The following figure displays the location of the site relative to the Generalized Geologic Map of South Carolina. The boring locations were overlaid on the quadrangle maps developed by the South Carolina Geologic Survey. This figure is provided in the Appendix, and the quadrangle maps can be accessed at the following links (Vance Quadrangle & Saint Paul Quadrangle).



The following geologic strata were encountered in the subsurface investigation. The strata are presented in descending order relative to their age (youngest to oldest).

- Existing Embankment Fill
- Alluvium (Holocene)
- Marrietta Unit (Pliocene)
- Santee Limestone (Eocene)
- Undifferentiated Eocene
- Williamsburg Formation (Paleocene)

On the southwestern end of the site and below the embankment fill, the geologic mapping indicates that the near surface soils consist of Marrietta unit material on eastern side of the interstate and Duplin Formation material on the western side of the interstate. Both of these deposits are of Pliocene age. From the subsurface data collected, we interpret the material collected in the soil borings to be Marietta Unit deposits. We do not believe to have sampled the Duplin Formation soils.

The soil composition of the Marietta Unit generally consists of low to high plasticity clay and non-plastic to medium plasticity sands. The SPT blow counts in the Marietta Unit generally suggest stiff to very stiff clays and medium dense sands.

The surficial soils at the bottom of the lake consist of Holocene-aged alluvium. The soil composition of the Alluvium is variable and generally consists of medium to high plasticity clays and non-plastic to medium plasticity sands. The SPT blow counts in the Alluvium generally suggest very soft to soft clays and very loose to loose sands.

Below the alluvium, the Pliocene-aged soils, and the Pleistocene-aged soils, Santee Limestone was encountered. The soil composition of the limestone generally consists of non-plastic to medium plasticity sands. The field HCl testing generally indicated a strong reactivity. A majority of the SPT blow counts performed in the limestone were 100+ bpf, although there were areas where the blow counts were less than 50 bpf.

Below the Santee Limestone, Undifferentiated Eocene-age deposits were encountered. Within the Eocene deposits, the relative densities are lower than that of the overlying limestone, and conventional soil drilling with SPT testing was performed. The Eocene deposits are predominantly sandy with some interbedded clay layers. The SPT blow counts in the Eocene deposits generally suggest hard clays and medium dense to very dense sands.

Below the Eocene deposits, the Paleocene-aged Williamsburg Formation was encountered. The distinguishing characteristics of the Williamsburg Formation is waxy, black, high plasticity silt or clay layer at the top contact. Below this silt/clay layer, the Williamsburg Formation is predominantly sandy. The SPT blow counts in the Williamsburg Formation generally suggest hard silts and clays and medium dense to very dense sands.

4.2. SOIL STRATIGAPHY

The soil test borings indicate six (6) geologic strata at the site. The following table summarizes the geologic stratigraphy.

Soil Stratification Table

Geology	[1]Elevation of Top of Layer (ft-MSL)	USCS Soil Type	SPT N-Values (bpf)	Average CPT Tip Resistance (tsf)
Existing Fill	+120	SP, SM, SC, SP-SM, CL	4 to 55	80
Marrietta Unit (Pliocene)	+100	SM, SC, SC-SM, CL, CH	8 to 73	60
Alluvium (Holocene)	+57 to +40	SP, SM, SC, SP-SM, SP-SC, SW-SM, ML, CL, CL-ML, CH	0 to 34	30
Santee Limestone (Eocene)	+36	GM, SP, SM, ML, CL	2 to 100+	N/A
Undifferentiated Eocene	+5	SP, SM, SC, CL	1 to 100+	N/A
Williamsburg Formation (Paleocene)	-11	GP, SP, SM, SC, SP-SM, SP-SC, ML, CL, MH, CH	6 to 100+	N/A

[1] Elevations are generalized from the totality of subsurface information collected

4.3. LIMESTONE CONDITIONS

Within the limestone material, coring operations were conducted when an SPT blow count of 50 blows for less than two (2) inches of penetration was observed. The core lengths generally ranged from twenty (20) feet to sixty (60) feet. NQ sized rock coring equipment was used to recover the core samples. Although the soil boring logs show zones where "no recovery" was retrieved from the split-spoon sampler or the soil coring operation, this result should not be interpreted as voids within the limestone mass. Furthermore, there was no indication from the drilling operation (ie. fluid loss) to indicate karst conditions within the limestone mass.

The material recovered from the coring operation is considered 'limestone', which is a common geologic term used in this region of the South Carolina coastal plain. The term 'limestone' is somewhat of a misnomer, given that the material is not a true rock formation. In the coastal plain of South Carolina, limestone is considered a soil deposit with varying degrees of cementation. The cementation gives a resemblance to weak bedrock characteristics.

Laboratory unconfined compression tests were performed on the recovered core samples in the limestone. Based on this testing, the strength of the limestone is classified as extremely weak to strong with unconfined compressive strengths generally ranging from 50 psi to 8,000 psi. The core recovery (REC) ranges from zero percent (0%) to one hundred percent (100%), and the rock-quality designation (RQD) for the lengths recovered ranges from zero percent (0%) to one hundred percent (100%).

The laboratory data sheets from the rock core compressive strength testing are provided in Section 5 of the Appendix. In addition, photos of the limestone material recovered from the coring operation are also provided in Section 5 of the Appendix.

4.4. GROUNDWATER

Groundwater tables measurements were recorded immediately following completion of the borings/soundings and/or 24-hours following completion of the boring/sounding. The groundwater table was encountered near elevation +75 ft-MSL, which generally matches the surface water elevation of Lake Marion at the time of the subsurface investigation. In general, we would anticipate that ground water table elevation would approximate the Lake Marion stage elevation and would fluctuate accordingly.

5. REGIONAL SEISMICITY

Most of the seismic research and discussion in the United States is confined to the western part of the country, but there are historical records that indicate major seismic events have occurred in the Central and Eastern United States (CEUS). In 1886, the largest historic seismic event in the southeastern United States occurred near Charleston, South Carolina. This event had an estimated moment magnitude (M_w) of 7.3. This seismic event has dominated the development of the design seismic accelerations in South Carolina. The following sections globally discuss the field investigation procedures used to aid in the development of the design seismic accelerations and the resulting estimated seismic hazard potential at the project site.

5.1. SUBSURFACE SHEAR WAVE VELOCITY

Based on the relative proximity of the project site to the I-95 and US 301 interchange, where a 500 foot deep geophysical test was performed, the DB Prep Team and SCDOT elected not to acquire additional geophysical test data at the project site. The geophysical test results from the I-95 and US 301 project are located on SCDOT's website, under the Deep Geophysical Testing Data tab.

5.2. ACCELERATION DESIGN RESPONSE SPECTRA

The following table summarizes the seismic design accelerations from the ADRS curves that were selected for this project. The ADRS curves were developed by SCDOT using their proprietary software.

Acceleration Design Response Spectra			
Design Event	PGA	S_{DS}	S_{D1}
FEE	0.21	0.35	0.11
SEE	0.53	0.99	0.42

5.3. GEOTECHNICAL SEISMIC HAZARD POTENTIAL

Geotechnical seismic hazards consist of a loss in a soil's shear strength through cyclic ground motions induced by earthquakes. The GDM classifies this phenomenon with the term Soil Shear Strength Loss (SSL). Liquefaction is the traditional term used to describe SSL in sand-like soils. Cyclic-softening is the typical terminology for clay-like soils. Liquefaction and cyclic softening are considered the most devastating seismically induced geotechnical hazards.

Liquefaction is the loss of a soil's shear strength due to a rapid increase in pore water pressure resulting from seismic shaking. The seismic shaking causes the soil particles to dilate within the soil matrix. The result is that the soil particles are suspended in the groundwater and the relative strength of the soil is greatly reduced. Soils most susceptible to liquefaction generally consist of saturated, loose sands.

Cyclic softening from seismic shaking occurs in clay-like soils. The softening effect occurs when seismic-induced shear stresses exceed the soil's cyclic shear resistance, which causes an accumulation of micro-deformations and, thus, strain softening. Soils most susceptible to strain softening generally consists of saturated, sensitive, moderate to high plasticity silts and clays.

Screening for potential SSL soils was performed based on the results from the soil borings, CPTs, and laboratory test results. The SSL screening process was performed in accordance with the GDM. Based on the SSL screening process, a majority of the Holocene-aged soils and Pleistocene-aged soils below the groundwater table are considered susceptible for SSL, and a full SSL analysis is required. Both sand-like and clay-like SSL is anticipated. The effects of the predicted sand-like liquefaction and clay-like softening are globally discussed in the proceeding sections of the report.

6. CONCEPTUAL GEOTECHNICAL ASSESSMENT FOR BRIDGE & ROADWAY DESIGN

Based on our understanding of the project, the elements considered for the conceptual geotechnical design consist of the following:

- Earthen embankments;
- Earth Retaining Structures (ERS);
- Bridge foundations; and,
- Miscellaneous structures (ie. overhead sign foundations and light pole foundations)

A global discussion of the conceptual geotechnical design of the elements noted above is provided in the proceeding sections. Other elements such as earth retaining structures, drainage structures (ie. pipe culverts greater than 48 inch diameter and box culverts), and sound barrier walls are not expected to be included with this project and are not discussed, herein.

6.1. EMBANKMENTS

The GDM separates embankments into two (2) categories: bridge embankments and roadway embankments. The GDM defines the bridge embankments as *"The portion of the approach embankment that requires an Extreme Event limit state global stability check, unless indicated otherwise within the GDM. The longitudinal length of Bridge Embankment shall be based on the specified mitigation method (either geotechnical or structural) that is required to achieve satisfactory global stability for the Extreme Event limit state check."* At a minimum, the bridge embankment consists of the front slope and extends to 3.25 times the height of the abutment, measured from the end of the approach slab (refer to Figure 2-1 & 2-2 of the GDM).

The GDM defines the roadway embankments as *"The portion of the embankment that extends beyond the bridge embankment and extends between the toes of the slopes on either side"*.

In general, the GDM requires a static and seismic evaluation of the bridge embankments. Only a static evaluation is required for the roadway embankments. As such, static and seismic settlement analyses and static and seismic slope stability analyses should be performed for the bridge embankments. Static settlement and static slope stability analyses should be performed for the roadway embankments. Each of these analyses is globally discussed in the following sections.

6.1.1. EMBANKMENT SETTLEMENT

Bridge and roadway embankment settlements are separated into two (2) categories: static settlement as a result of fill placement and seismic settlement as a result of redistribution effects following liquefaction of sand-like soils. Each of these conditions is globally discussed in the following sections.

6.1.1.1. STATIC SETTLEMENT

Based on the conceptual plans, fill heights on the order of eight (8) feet relative to the roadway centerline are expected. Larger fills are expected at the widened embankment side slope locations.

The proposed bridge and roadway embankment subgrade soils consist of a predominant loose, sand-like soils with some interbedded, relatively thin (< 10 feet) layers of soft to stiff silty/clay. Any fill placement at this site will result in deformation of these subgrade soils. The majority of the deformation would occur in the sand-like, cohesionless soils and would take place rapidly with new fill placement. We anticipate that some consolidation settlements in clay-like soils would be expected, but this settlement is expected to complete during construction and without ground improvement.

We do not anticipate that in-situ ground improvement, such as wick drains, or soil surcharges would be required to expedite static settlements for this project.

6.1.1.2. SEISMIC SETTLEMENT

For the assumed SSL conditions, a subsequent deformation analysis was qualitatively performed to estimate the vertical settlement from the sand-like soil's redistribution effects. Seismic settlement is generally confined to only sand-like soils.

Based on the conceptual SSL screening, the seismic induced deformations are anticipated to meet the GDM performance limits and performance objectives without ground improvement. The seismic settlement may induce downdrag loadings on the foundations, which should be accounted for in the geotechnical design of the bridge foundations.

6.1.2. EMBANKMENT SLOPE STABILITY

Static and seismic slope stability analyses should be performed on the bridge embankments. Only static slope stability analyses are required for the roadway embankments. The GDM requires that Spencer's method of slope stability be used for determining stability. The conceptual static and seismic slope stability analyses are qualitatively discussed in the following sections.

6.1.2.1. STATIC

From reviewing the boring logs, we anticipate that the static slope stability analyses under non-scoured conditions will generate resistance factors that meet the GDM criteria without ground improvement. For the bridge embankment front slopes, the 100-yr and 500-yr scour profiles should also be included in the static slope stability analyses. Typically, soil reinforcement is required to generate the resistance needed to meet the GDM geotechnical resistance factor for the 100-year scour condition. The static slope stability analyses for the non-scoured and 100-year scour conditions are governed by the Strength Limit State, and the static slope stability analyses for the 500-year scour conditions are governed by the Extreme Event limit state.

6.1.2.2. SEISMIC

The GDM requires that pseudo-static, limit equilibrium slope stability analyses be performed at bridge embankments. The inertial driving forces from the design seismic event in addition to the inclusion of the residual soil strength parameters shall be included in the seismic slope stability analyses. In accordance with the GDM, the seismic slope stability analyses should also include both circular and non-circular surfaces.

From the SSL screening process, SSL is predicted at the site, within a majority of the sand-like alluvium. We would expect SSL would occur for both the FEE and SEE events, with the SEE event having more appreciable SSL layer thickness. The residual soil strength parameters determined from the SSL calculations should be applied in the seismic slope stability analyses. For the estimated SSL conditions, we would expect the slope stability resistance factors would be in excess of 1.00. For conditions where greater than 1.00 resistance factors are observed, a Newmark displacement analysis should be performed in accordance with the GDM. The calculated Newmark displacements should be included in the lateral bridge foundation analyses to determine compliance in accordance with the GDM Performance Objectives.

The GEOR and SEOR shall determine if geotechnical mitigation (ie. ground improvement) or structural mitigation is needed at the site. We note that the GDM performance objective for bridge embankments under the Extreme Event I limit state is that the bridge embankment does not adversely affect the bridge structure. As such, there are no performance limits provided, and the bridge embankments are allowed to move so long as the bridge design includes sufficient structural mitigation to resist the movements relative to the Performance Objectives of the bridge.

6.1.3. GROUND IMPROVEMENT

Seismic induced SSL was identified at this site, and both geotechnical mitigation and structural mitigation appear feasible. Geotechnical mitigation may consist of in-situ ground improvements, additional embankment excavation, and/or embankment reinforcement. Structural mitigation may consist of structure excavation and/or larger bridge foundations.

6.2. EARTH RETAINING STRUCTURES

Earth Retaining Structures (ERS) are planned for two (2) of the alternatives that are being considered. The ERS's are located along the sides of the proposed interstate, near the edge of water. The Mechanically Stabilized Earth (MSE) wall technology (or a similar technology) is typically preferred for fill walls, but an MSE wall may not be appropriate for these site conditions. Given the proximity of the water to the MSE wall, the MSE wall design should consider scour and potential inundation, in addition to the normal static and seismic bearing, sliding, eccentricity, settlement, and global stability checks. An ERS technology that utilizes deep foundations may be more practical to meet the GDM design requirements and to minimize future maintenance concerns.

6.3. BRIDGE FOUNDATIONS

Deep foundations are anticipated for support of the new bridge structure. We assume typical, steel HP pile foundations will be used at the end bents and drilled shaft foundations will be used at the interior bents. The conceptual geotechnical assessment of these foundation elements is globally discussed in the following sections.

6.3.1. SUBSURFACE STEEL CORROSION & CONCRETE DETERIORATION

In accordance with AASHTO LRFD Bridge Design Specifications, the following soil or site conditions are considered indicative of a potential for steel and/or concrete deterioration or corrosion.

- Resistivity less than 2,000 ohm-cm;
- pH less than 5.5;
- Chloride concentrations greater than 500 mg/kg;
- Sulfate concentrations greater than 1,000 mg/kg;

The results from the performed corrosion series laboratory testing are summarized in the following table.

Corrosion Series Laboratory Test Result Summary

Test ID	Depth (ft)	Resistivity (ohm-cm)	pH	Chloride (mg/kg)	Sulfate (mg/kg)
B-2	16-20	69,092	5.5	17	55
B-44	6-10	27,324	8.4	10	55
B-47	6-10	15,272	9.2	9	55
B-51	4-8	36,248	8.4	9	52

The corrosion series laboratory testing results are provided in Section 7 of the Appendix. Based on the lab test results, subsurface steel corrosion is not expected at the site. In addition, subsurface sulfate attack on concrete elements is not expected at the site. We note that additional corrosion series laboratory testing is recommended for the final bridge design.

6.3.2. DRIVEN PILE FOUNDATIONS

Driven piles are anticipated for support of the bridge end bents. Specific driven pile design issues are discussed in the following sections.

6.3.2.1. AXIAL RESISTANCE

The Strength limit state axial loading conditions are expected to govern the geotechnical driven pile design. Driven piles are expected to develop the required driving resistance through predominantly skin friction in the Coastal Plain soils below the existing embankment fill. If a large pile hammer is needed to mobilize the required driving resistance, these hammers may more easily penetrate the cemented sands that form the Limestone, and a lower resistance than predicted may be observed. As is typical with driving piles in the coastal plain, the required driving resistance will likely not be observed during the initial pile driving. A prescribed wait period may be required for development of pile freeze following the initial pile driving.

6.3.2.2. LATERAL RESISTANCE

For the Strength limit state, the driven piles will develop the required lateral stability in the soils above limestone. We do not anticipate that pre-drilling operations will be required to extend the pile foundations to the minimum tip elevation required for lateral stability under Strength limit state loadings.

For the Extreme Event I limit state, the driven piles will also develop the required lateral stability in the embankment fill and the upper Pleistocene soils. In accordance with the GDM, the available bridge abutment backwall passive pressure is on the order of 1.0 ksf for a 5.5 foot high backwall and an assumed sandy, cohesionless backfill material. The remaining lateral resistance, following use of the bridge abutment backwall resistance, will have to be carried by the piles. If the bridge design is such that the end bents are responsible for absorbing a significant amount of the lateral loads, then we anticipate that large piles and/or multiple rows of piles may be required.

6.3.2.3. DRIVABILITY

The driven piles will likely use a diesel pile hammer. We anticipate that the pile lengths will extend into the limestone formation. Based on the anticipated pile length and the assumed construction logistics, we expect that the piles may be driven in at least two (2) sequences to allow for pile splices. For the assumed pile length, we anticipate that a relatively large pile hammer will be required to effectively mobilize the required driving resistance. Based on the soils conditions encountered and assuming a non-displacement pile, we anticipate that the required driving resistance will not be observed during the initial pile driving. Allowing time for pile freeze to develop, the required driving resistance is typically observed.

In general, we do not anticipate any pile driving issues for successful installation of the driven piles. Pile driving compressive and tensile stresses are expected to conform to the SCDOT criteria.

6.3.3. DRILLED SHAFT FOUNDATIONS

Drilled shafts are anticipated for support of the bridge interior bents. We anticipate that drilled shaft sizes could range from 60 inch to 108 inch diameter shafts. Specific drilled shaft design issues are discussed in the following sections.

6.3.3.1. AXIAL RESISTANCE

The Strength limit state axial loading conditions are expected to govern the geotechnical drilled shaft designs. We anticipate the drilled shafts will develop the required axial resistance through skin friction and tip resistance in the coastal plain soils. If the required axial resistance cannot be developed in the limestone, then the drilled shafts will extend into lower strength Eocene and Williamsburg Formation soils. Permanent construction casing is required for the drilled shaft construction on SCDOT projects. We expect the construction casing would extend to the top of the limestone formation. The wet method for drilled shaft construction should be utilized to maintain a stable excavation. A polymer slurry or a mineral slurry is recommended. Hard drilling in the limestone is expected, and rock excavation equipment may be needed to penetrate the limestone.

6.3.3.2. LATERAL RESISTANCE

For the Strength limit state and Extreme Event I limit state, we expect the drilled shafts will develop the required lateral stability within the limestone. If the shafts need to extend below the limestone for lateral stability, then a significant reduction in tip resistance is expected in the looser/softer soils. Given the long unsupported drilled shaft lengths following scour, we anticipate that the drilled shaft diameters will be large to accommodate the structural bridge design while conforming to the GDM performance limits for bridge foundations.

6.4. MISCELLANEOUS STRUCTURES

Based on our understanding of the project, miscellaneous structures such as overhead signs and light poles will be a function of the final design for this project. The foundations for these structures will likely utilize drilled shafts. We expect that these foundations will develop the required axial and lateral resist in the soils above the limestone. Based on the soils encountered, we anticipate no constructability issues for the drilled shafts at this site that will support overhead signs and light poles.

7. EXISTING PAVEMENT

Twenty-four (24) shallow soil test borings were performed either at the existing interstate paved shoulders or the existing interstate grassed median adjacent to the paved shoulder. Within the STBs', thirteen (13) asphalt cores of the existing interstate paved shoulder were collected. The core thicknesses generally range from three (3) inches to seven (7) inches.

From the soil test borings and subsequent CBR testing, we note that the quality of the subgrade material below the existing paved shoulders is considered satisfactory relative to interstate pavements. The following table summarizes the conditions at the existing interstate paved shoulders.

Existing Interstate Paved Shoulder Data

Boring ID	Pavement Thickness (in)	CBR @ 95% Compaction
P-1	7.0	N/A
P-3	7.0	N/A
P-5	7.0	N/A
P-7	5.5	N/A
P-8/BS-5	N/A	11.6
P-9	6.0	N/A
P-11	6.0	N/A
P-13	6.0	N/A
P-15	3.0	N/A
P-16	5.0	N/A
P-17	5.0	N/A
P-19/BS-6	N/A	17.1
P-20	4.0	N/A
P-21	5.0	N/A
P-22	5.5	N/A

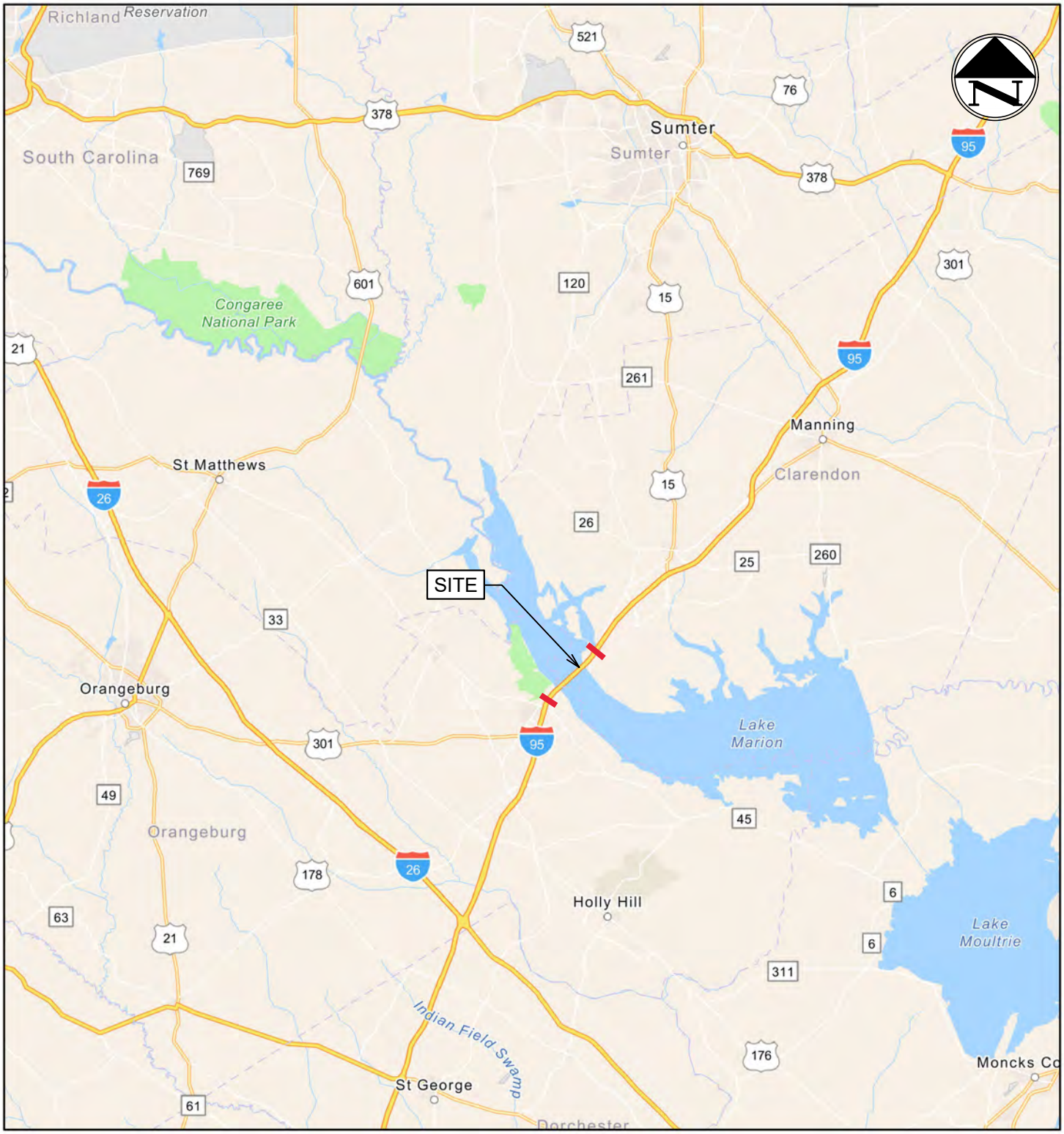
8. LIMITATIONS OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to the referenced bridge project. The conclusions and recommendations contained herein are based upon the provided test borings and test result data, contained within, and applicable standards in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

APPENDIX

APPENDIX

SECTION 1 SITE LOCATION PLAN



1:577,791

0 4 8 16 mi

0 5 10 20 km

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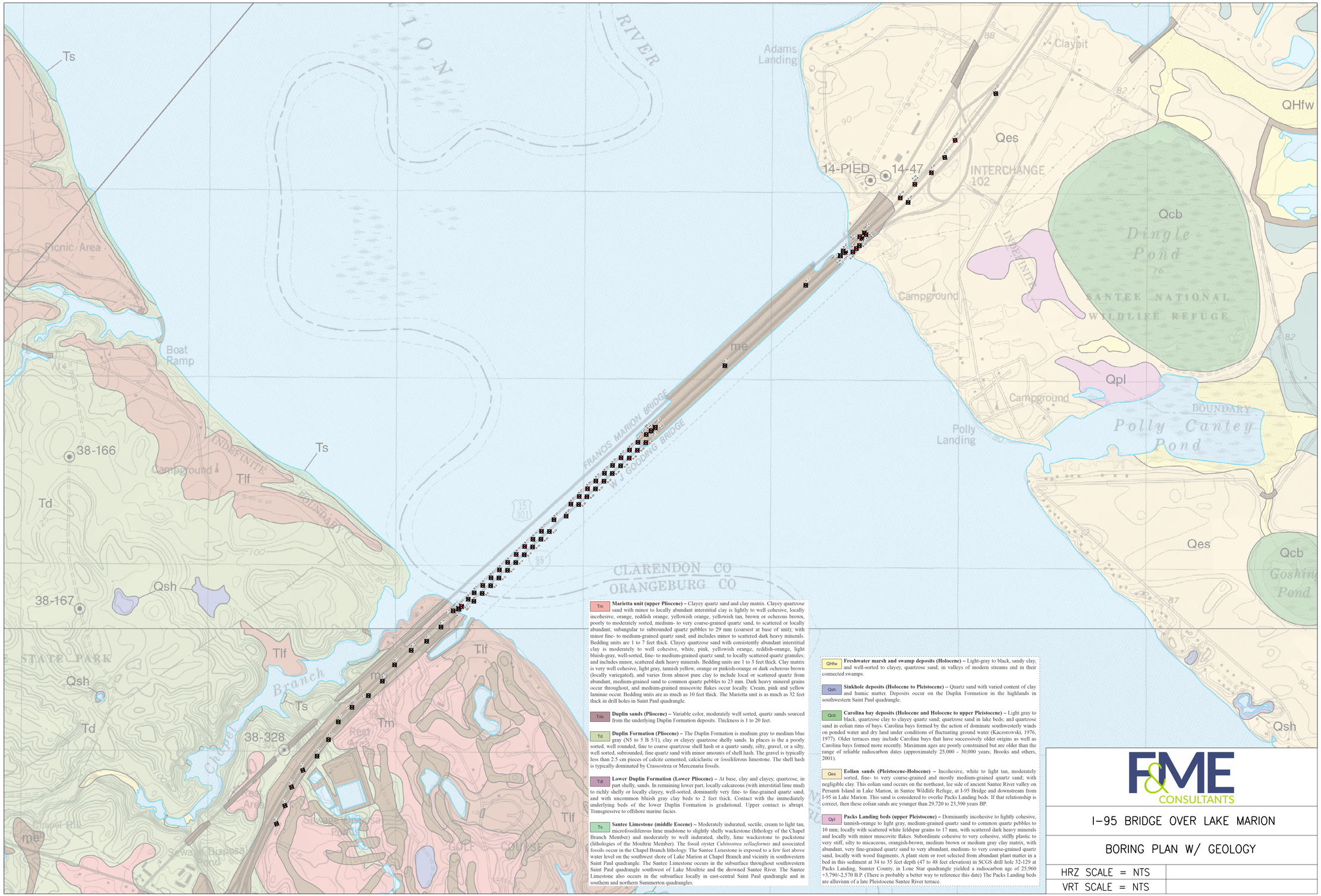
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SITE LOCATION PLAN

SCALE: AS NOTED | FIGURE 1

APPENDIX

SECTION 2 TESTING LOCATION PLAN



Tm **Marietta unit (upper Pliocene) –** Clayey quartz sand and clay matrix. Clayey quartzose sand with minor to locally abundant interstitial clay is lightly to well cohesive, locally incohesive, orange, reddish orange, yellowish orange, yellowish tan, brown or ochreous brown, poorly to moderately sorted, medium- to very coarse-grained quartz sand, to scattered or locally abundant, subangular to subrounded quartz pebbles to 29 mm (coarsest at base of unit); with minor fine- to medium-grained quartz sand; and includes minor to scattered dark heavy minerals. Bedding units are 1 to 7 feet thick. Clayey quartzose sand with consistently abundant interstitial clay is moderately to well cohesive, white, pink, yellowish orange, reddish-orange, light bluish-gray, well-sorted, fine- to medium-grained quartz sand; to locally scattered quartz granules; and includes minor, scattered dark heavy minerals. Bedding units are 1 to 3 feet thick. Clay matrix is very well cohesive, light gray, tannish yellow, orange or pinkish-orange or dark ochreous brown (locally variegated), and varies from almost pure clay to include local or scattered quartz from abundant, medium-grained sand to common quartz pebbles to 23 mm. Dark heavy mineral grains occur throughout, and medium-grained muscovite flakes occur locally. Cream, pink and yellow laminae occur. Bedding units are as much as 10 feet thick. The Marietta unit is as much as 32 feet thick in drill holes in Saint Paul quadrangle.

Tds **Duplin sands (Pliocene) –** Variable color, moderately well sorted, quartz sands sourced from the underlying Duplin Formation deposits. Thickness is 1 to 20 feet.

Td **Duplin Formation (Pliocene) –** The Duplin Formation is medium gray to medium blue gray (N5 to 5 B 5/1), clay or clayey quartzose shelly sands. In places is the a poorly sorted, well rounded, fine to coarse quartzose shell hash or a quartz sandy, silty, gravel, or a silty, well sorted, subrounded, fine quartz sand with minor amounts of shell hash. The gravel is typically less than 2.5 cm pieces of calcite cemented, calciclastic or fossiliferous limestone. The shell hash is typically dominated by Crassostrea or Mercenaria fossils.

Tdl **Lower Duplin Formation (Lower Pliocene) –** At base, clay and clayey, quartzose, in part shelly, sands. In remaining lower part, locally calcareous (with interstitial lime mud) to richly shelly or locally clayey, well-sorted, dominantly very fine- to fine-grained quartz sand, and with uncommon bluish gray clay beds to 2 feet thick. Contact with the immediately underlying beds of the lower Duplin Formation is gradational. Upper contact is abrupt. Transgressive to offshore marine facies.

Ts **Santee Limestone (middle Eocene) –** Moderately indurated, sectile, cream to light tan, microfossiliferous lime mudstone to slightly shelly wackestone (lithology of the Chapel Branch Member) and moderately to well indurated, shelly, lime wackestone to packstone (lithologies of the Moultrie Member). The fossil oyster *Cubitostrea sellaeformis* and associated fossils occur in the Chapel Branch lithology. The Santee Limestone is exposed to a few feet above water level on the southwest shore of Lake Marion at Chapel Branch and vicinity in southwestern Saint Paul quadrangle. The Santee Limestone occurs in the subsurface throughout southwestern Saint Paul quadrangle southwest of Lake Moultrie and the drowned Santee River. The Santee Limestone also occurs in the subsurface locally in east-central Saint Paul quadrangle and in southern and northern Summerton quadrangles.

QHfw **Freshwater marsh and swamp deposits (Holocene) –** Light-gray to black, sandy clay, and well-sorted to clayey, quartzose sand; in valleys of modern streams and in their connected swamps.

Qsh **Sinkhole deposits (Holocene to Pleistocene) –** Quartz sand with varied content of clay and humic matter. Deposits occur on the Duplin Formation in the highlands in southwestern Saint Paul quadrangle.

Qcb **Carolina bay deposits (Holocene and Holocene to upper Pleistocene) –** Light gray to black, quartzose clay to clayey quartz sand; quartzose sand in lake beds; and quartzose sand in eolian rims of bays. Carolina bays formed by the action of dominate southwesterly winds on ponded water and dry land under conditions of fluctuating ground water (Kaczorovski, 1976, 1977). Older terraces may include Carolina bays that have successively older origins as well as Carolina bays formed more recently. Maximum ages are poorly constrained but are older than the range of reliable radiocarbon dates (approximately 25,000 - 30,000 years; Brooks and others, 2001).

Qes **Eolian sands (Pleistocene-Holocene) –** Incohesive, white to light tan, moderately sorted, fine- to very coarse-grained and mostly medium-grained quartz sand; with negligible clay. This eolian sand occurs on the northeast, lee side of ancient Santee River valley on Persanti Island in Lake Marion, in Santee Wildlife Refuge, at I-95 Bridge and downstream from I-95 in Lake Marion. This sand is considered to overlie Packs Landing beds. If that relationship is correct, then these eolian sands are younger than 29,720 to 23,390 years BP.

Qpl **Packs Landing beds (upper Pleistocene) –** Dominantly incohesive to lightly cohesive, tannish-orange to light gray, medium-grained quartz sand to common quartz pebbles to 10 mm; locally with scattered white feldspar grains to 17 mm, with scattered dark heavy minerals and locally with minor muscovite flakes. Subordinate cohesive to very cohesive, stiffly plastic to very stiff, silty to micaceous, orangish-brown, medium brown or medium gray clay matrix, with abundant, very fine-grained quartz sand to very abundant, medium- to very coarse-grained quartz sand, locally with wood fragments. A plant stem or root selected from abundant plant matter in a bed in this sediment at 34 to 35 feet depth (47 to 48 feet elevation) in SCGS drill hole 32-129 at Packs Landing, Sumter County, in Lone Star quadrangle yielded a radiocarbon age of 25,960 +3,790/-2,570 B.P. (There is probably a better way to reference this date) The Packs Landing beds are alluvium of a late Pleistocene Santee River terrace.

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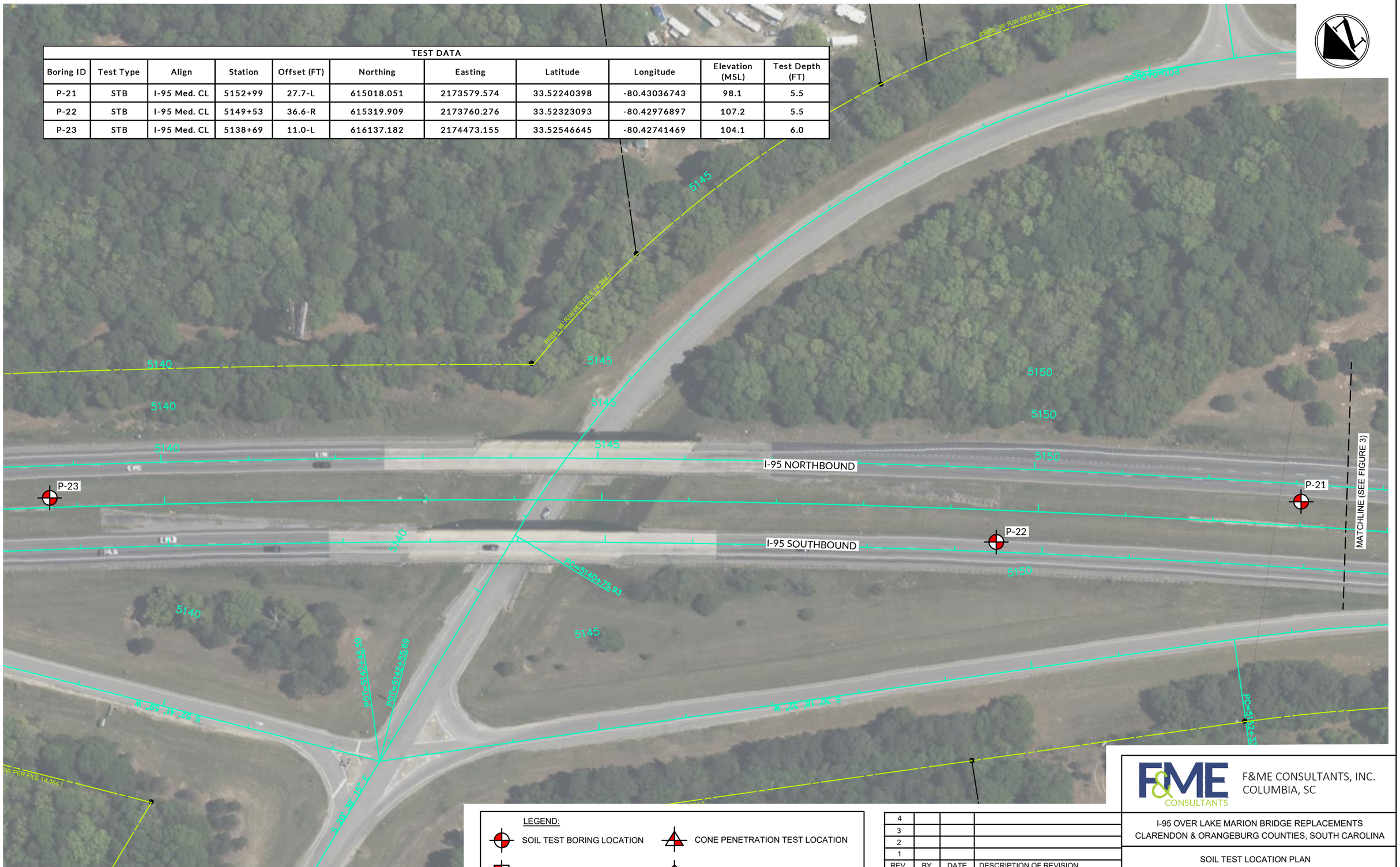
I-95 BRIDGE OVER LAKE MARION

BORING PLAN W/ GEOLOGY

HRZ SCALE = NTS	
VRT SCALE = NTS	

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-21	STB	I-95 Med. CL	5152+99	27.7-L	615018.051	2173579.574	33.52240398	-80.43036743	98.1	5.5
P-22	STB	I-95 Med. CL	5149+53	36.6-R	615319.909	2173760.276	33.52323093	-80.42976897	107.2	5.5
P-23	STB	I-95 Med. CL	5138+69	11.0-L	616137.182	2174473.155	33.52546645	-80.42741469	104.1	6.0



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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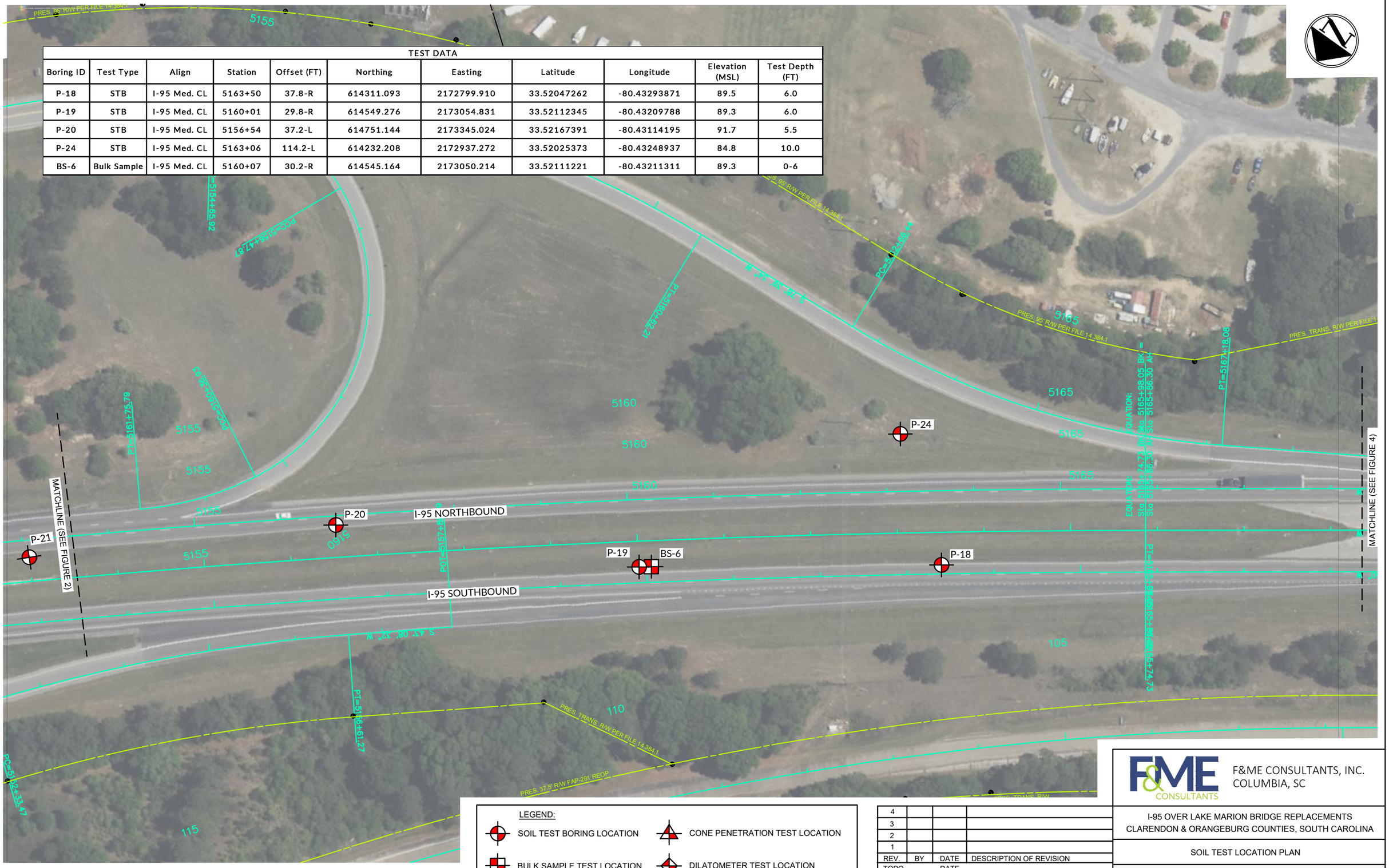
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 2

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-18	STB	I-95 Med. CL	5163+50	37.8-R	614311.093	2172799.910	33.52047262	-80.43293871	89.5	6.0
P-19	STB	I-95 Med. CL	5160+01	29.8-R	614549.276	2173054.831	33.52112345	-80.43209788	89.3	6.0
P-20	STB	I-95 Med. CL	5156+54	37.2-L	614751.144	2173345.024	33.52167391	-80.43114195	91.7	5.5
P-24	STB	I-95 Med. CL	5163+06	114.2-L	614232.208	2172937.272	33.52025373	-80.43248937	84.8	10.0
BS-6	Bulk Sample	I-95 Med. CL	5160+07	30.2-R	614545.164	2173050.214	33.52111221	-80.43211311	89.3	0-6



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100'

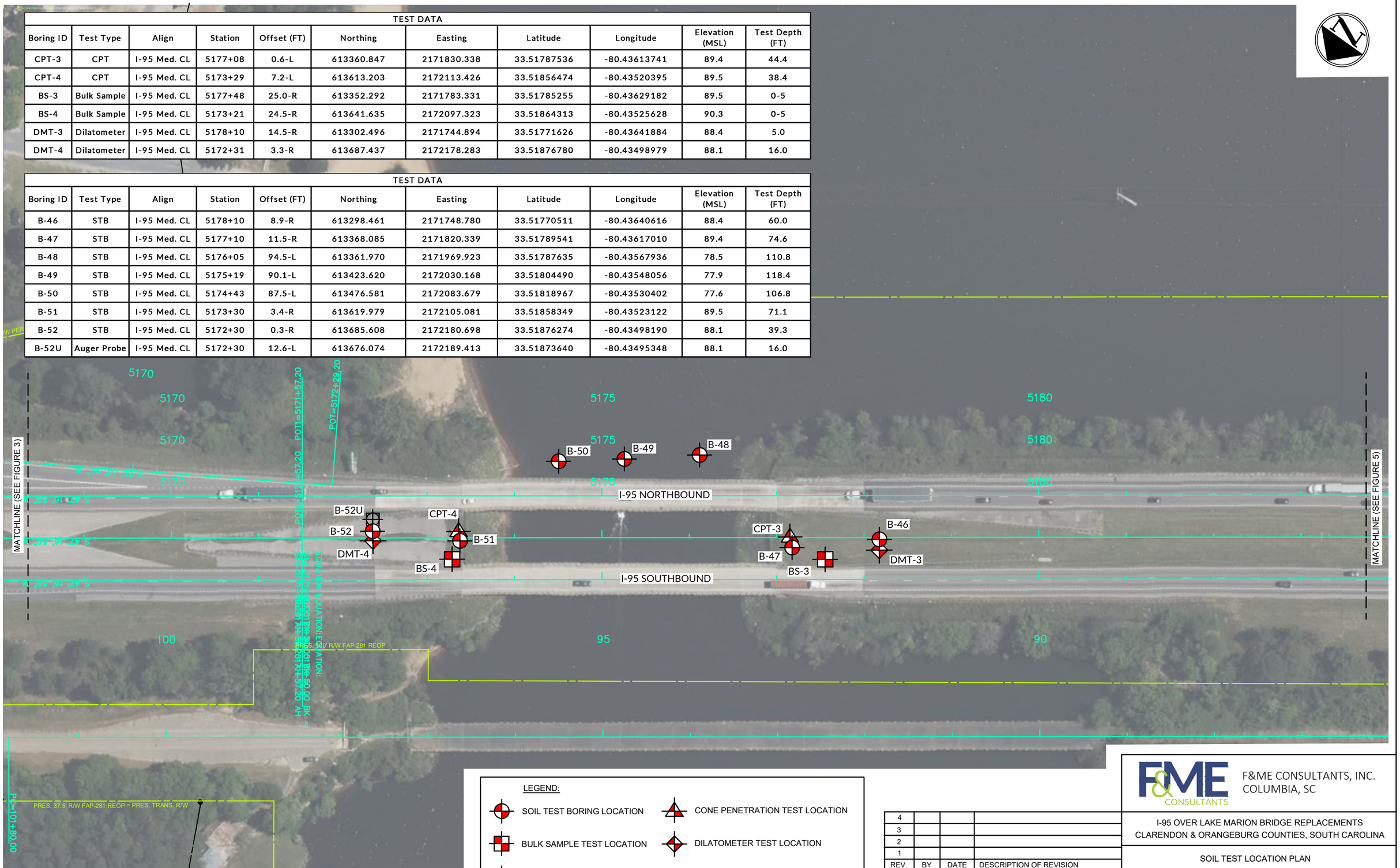
FIGURE 3

TEST DATA

Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
CPT-3	CPT	I-95 Med. CL	5177+08	0.6-L	613360.847	2171830.338	33.51787536	-80.43613741	89.4	44.4
CPT-4	CPT	I-95 Med. CL	5173+29	7.2-L	613613.203	2172113.426	33.51856474	-80.43520395	89.5	38.4
BS-3	Bulk Sample	I-95 Med. CL	5177+48	25.0-R	613352.292	2171783.331	33.51785255	-80.43629182	89.5	0-5
BS-4	Bulk Sample	I-95 Med. CL	5173+21	24.5-R	613641.635	2172097.323	33.51864313	-80.43525628	90.3	0-5
DMT-3	Dilatometer	I-95 Med. CL	5178+10	14.5-R	613302.496	2171744.894	33.51771626	-80.43641884	88.4	5.0
DMT-4	Dilatometer	I-95 Med. CL	5172+31	3.3-R	613687.437	2172178.283	33.51876780	-80.43498979	88.1	16.0

TEST DATA

Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
B-46	STB	I-95 Med. CL	5178+10	8.9-R	613298.461	2171748.780	33.51770511	-80.43640616	88.4	60.0
B-47	STB	I-95 Med. CL	5177+10	11.5-R	613368.085	2171820.339	33.51789541	-80.43617010	89.4	74.6
B-48	STB	I-95 Med. CL	5176+05	94.5-L	613361.970	2171969.923	33.51787635	-80.43567936	78.5	110.8
B-49	STB	I-95 Med. CL	5175+19	90.1-L	613423.620	2172030.168	33.51804490	-80.43548056	77.9	118.4
B-50	STB	I-95 Med. CL	5174+43	87.5-L	613476.581	2172083.679	33.51818967	-80.43530402	77.6	106.8
B-51	STB	I-95 Med. CL	5173+30	3.4-R	613619.979	2172105.081	33.51858349	-80.43523122	89.5	71.1
B-52	STB	I-95 Med. CL	5172+30	0.3-R	613685.608	2172180.698	33.51876274	-80.43498190	88.1	39.3
B-52U	Auger Probe	I-95 Med. CL	5172+30	12.6-L	613676.074	2172189.413	33.51873640	-80.43495348	88.1	16.0



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION
- AUGER PROBE TEST LOCATION

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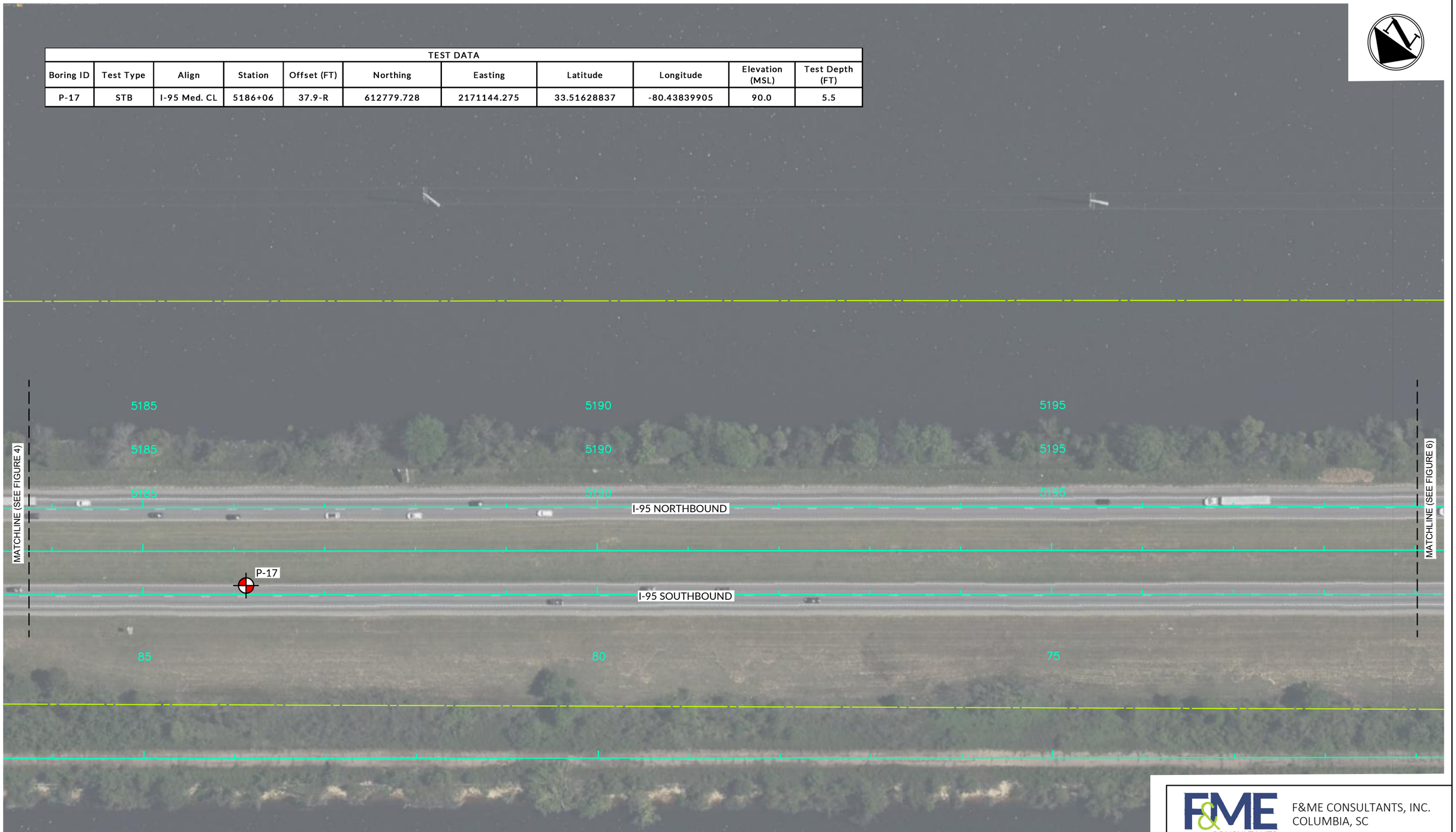
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 4

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-17	STB	I-95 Med. CL	5186+06	37.9-R	612779.728	2171144.275	33.51628837	-80.43839905	90.0	5.5



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- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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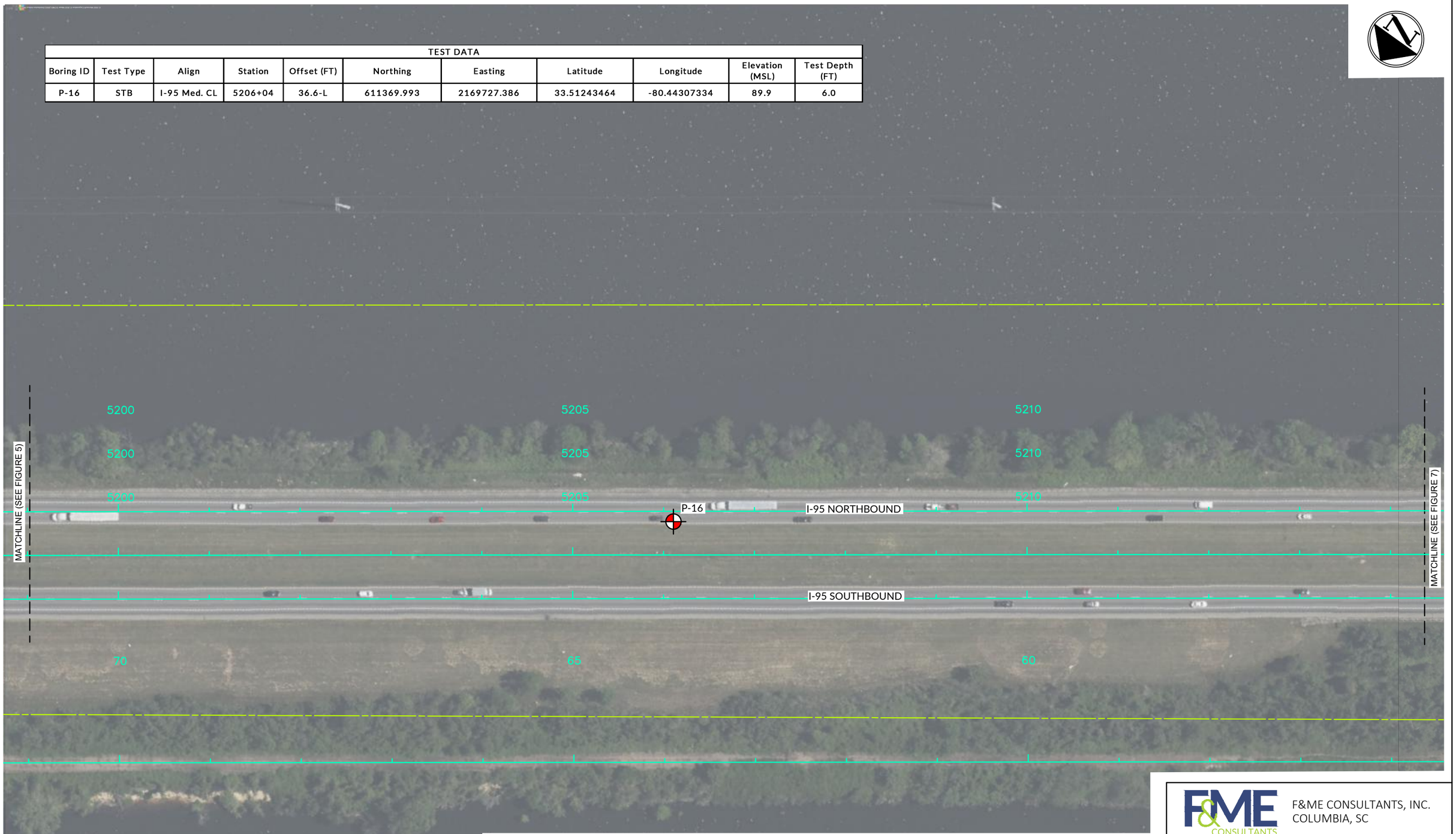
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 5

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-16	STB	I-95 Med. CL	5206+04	36.6-L	611369.993	2169727.386	33.51243464	-80.44307334	89.9	6.0



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- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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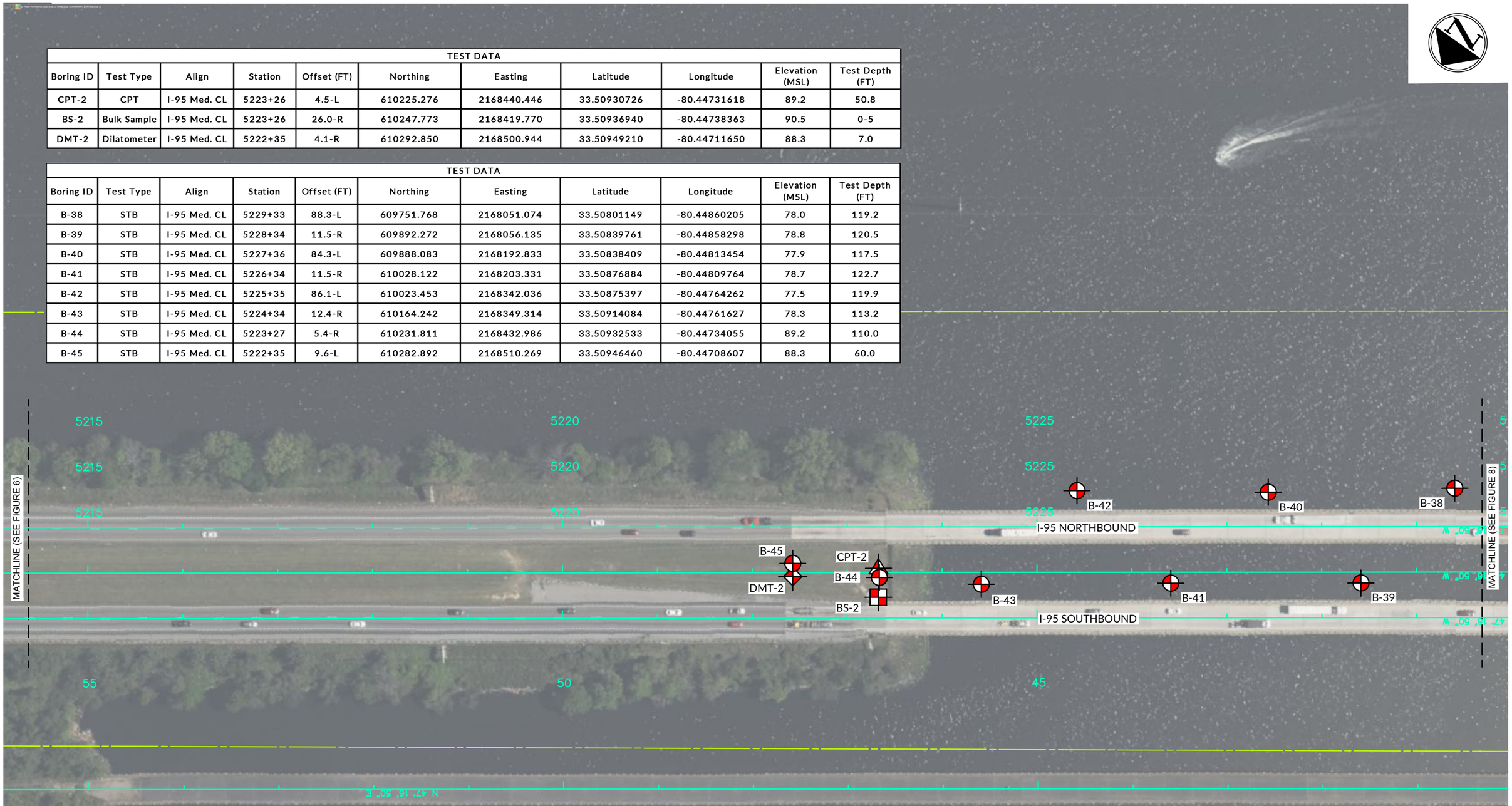
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 6

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
CPT-2	CPT	I-95 Med. CL	5223+26	4.5-L	610225.276	2168440.446	33.50930726	-80.44731618	89.2	50.8
BS-2	Bulk Sample	I-95 Med. CL	5223+26	26.0-R	610247.773	2168419.770	33.50936940	-80.44738363	90.5	0-5
DMT-2	Dilatometer	I-95 Med. CL	5222+35	4.1-R	610292.850	2168500.944	33.50949210	-80.44711650	88.3	7.0

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
B-38	STB	I-95 Med. CL	5229+33	88.3-L	609751.768	2168051.074	33.50801149	-80.44860205	78.0	119.2
B-39	STB	I-95 Med. CL	5228+34	11.5-R	609892.272	2168056.135	33.50839761	-80.44858298	78.8	120.5
B-40	STB	I-95 Med. CL	5227+36	84.3-L	609888.083	2168192.833	33.50838409	-80.44813454	77.9	117.5
B-41	STB	I-95 Med. CL	5226+34	11.5-R	610028.122	2168203.331	33.50876884	-80.44809764	78.7	122.7
B-42	STB	I-95 Med. CL	5225+35	86.1-L	610023.453	2168342.036	33.50875397	-80.44764262	77.5	119.9
B-43	STB	I-95 Med. CL	5224+34	12.4-R	610164.242	2168349.314	33.50914084	-80.44761627	78.3	113.2
B-44	STB	I-95 Med. CL	5223+27	5.4-R	610231.811	2168432.986	33.50932533	-80.44734055	89.2	110.0
B-45	STB	I-95 Med. CL	5222+35	9.6-L	610282.892	2168510.269	33.50946460	-80.44708607	88.3	60.0



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- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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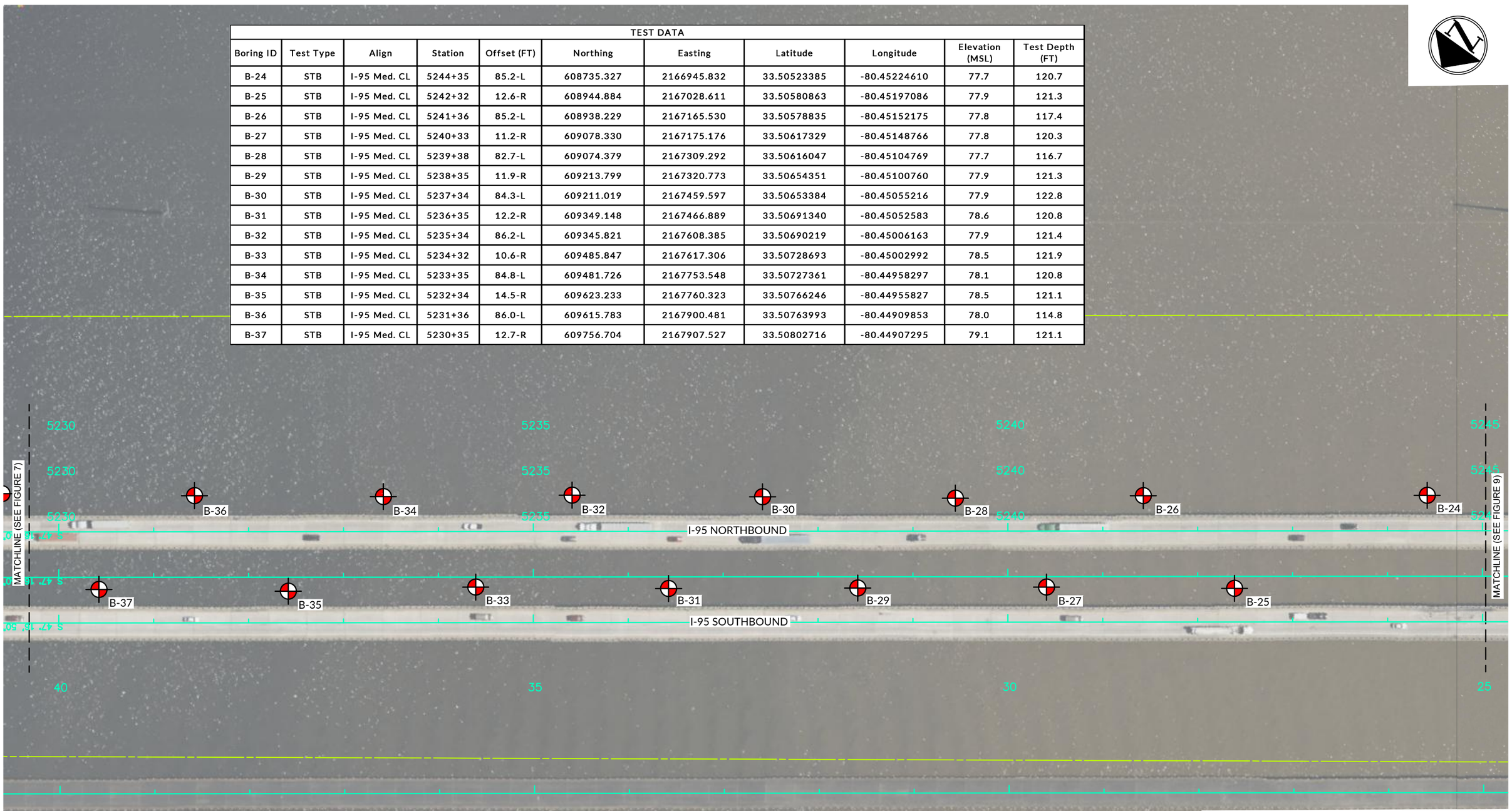
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 7

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
B-24	STB	I-95 Med. CL	5244+35	85.2-L	608735.327	2166945.832	33.50523385	-80.45224610	77.7	120.7
B-25	STB	I-95 Med. CL	5242+32	12.6-R	608944.884	2167028.611	33.50580863	-80.45197086	77.9	121.3
B-26	STB	I-95 Med. CL	5241+36	85.2-L	608938.229	2167165.530	33.50578835	-80.45152175	77.8	117.4
B-27	STB	I-95 Med. CL	5240+33	11.2-R	609078.330	2167175.176	33.50617329	-80.45148766	77.8	120.3
B-28	STB	I-95 Med. CL	5239+38	82.7-L	609074.379	2167309.292	33.50616047	-80.45104769	77.7	116.7
B-29	STB	I-95 Med. CL	5238+35	11.9-R	609213.799	2167320.773	33.50654351	-80.45100760	77.9	121.3
B-30	STB	I-95 Med. CL	5237+34	84.3-L	609211.019	2167459.597	33.50653384	-80.45055216	77.9	122.8
B-31	STB	I-95 Med. CL	5236+35	12.2-R	609349.148	2167466.889	33.50691340	-80.45052583	78.6	120.8
B-32	STB	I-95 Med. CL	5235+34	86.2-L	609345.821	2167608.385	33.50690219	-80.45006163	77.9	121.4
B-33	STB	I-95 Med. CL	5234+32	10.6-R	609485.847	2167617.306	33.50728693	-80.45002992	78.5	121.9
B-34	STB	I-95 Med. CL	5233+35	84.8-L	609481.726	2167753.548	33.50727361	-80.44958297	78.1	120.8
B-35	STB	I-95 Med. CL	5232+34	14.5-R	609623.233	2167760.323	33.50766246	-80.44955827	78.5	121.1
B-36	STB	I-95 Med. CL	5231+36	86.0-L	609615.783	2167900.481	33.50763993	-80.44909853	78.0	114.8
B-37	STB	I-95 Med. CL	5230+35	12.7-R	609756.704	2167907.527	33.50802716	-80.44907295	79.1	121.1



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

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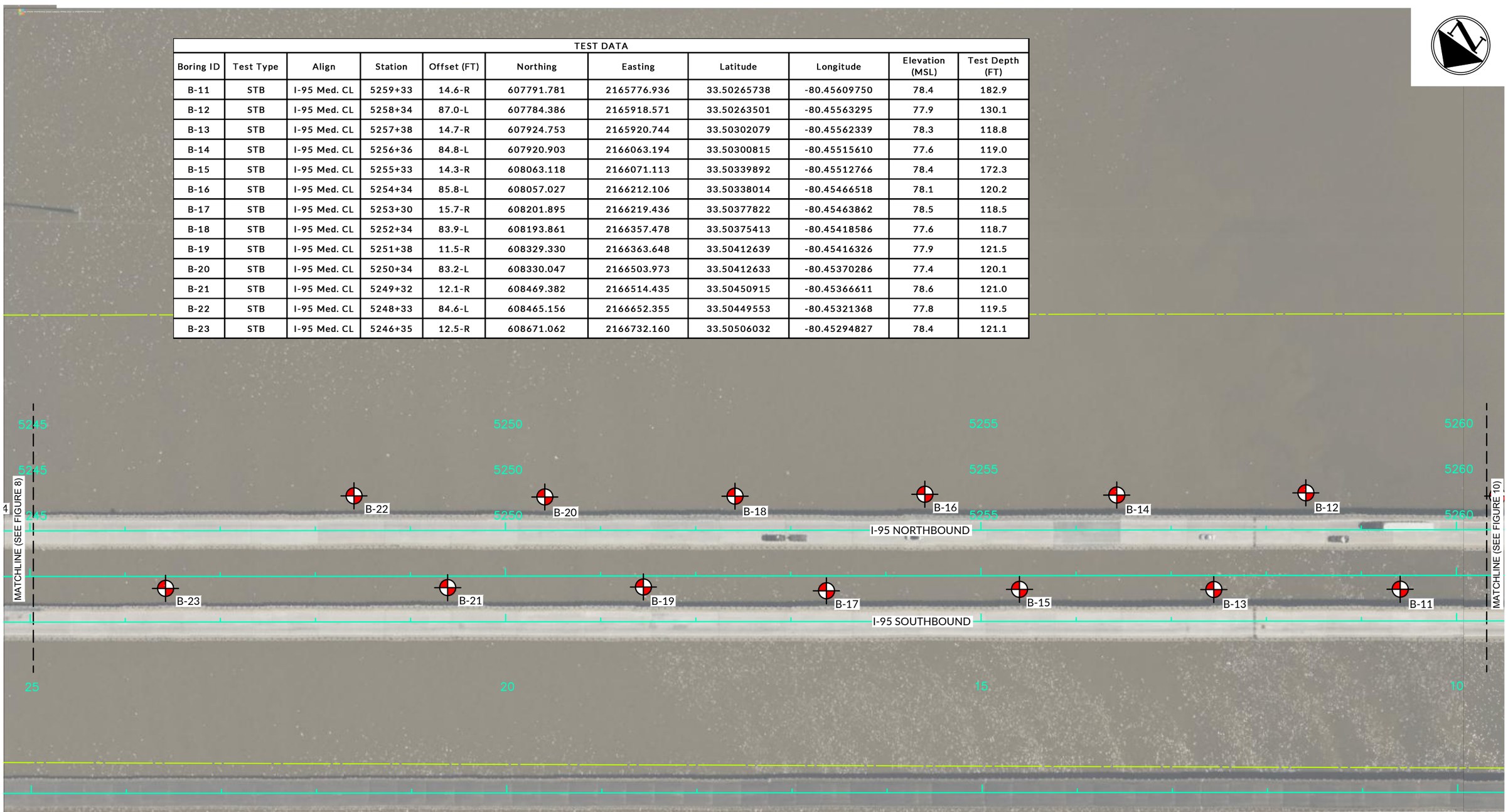
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100'

FIGURE 8

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
B-11	STB	I-95 Med. CL	5259+33	14.6-R	607791.781	2165776.936	33.50265738	-80.45609750	78.4	182.9
B-12	STB	I-95 Med. CL	5258+34	87.0-L	607784.386	2165918.571	33.50263501	-80.45563295	77.9	130.1
B-13	STB	I-95 Med. CL	5257+38	14.7-R	607924.753	2165920.744	33.50302079	-80.45562339	78.3	118.8
B-14	STB	I-95 Med. CL	5256+36	84.8-L	607920.903	2166063.194	33.50300815	-80.45515610	77.6	119.0
B-15	STB	I-95 Med. CL	5255+33	14.3-R	608063.118	2166071.113	33.50339892	-80.45512766	78.4	172.3
B-16	STB	I-95 Med. CL	5254+34	85.8-L	608057.027	2166212.106	33.50338014	-80.45466518	78.1	120.2
B-17	STB	I-95 Med. CL	5253+30	15.7-R	608201.895	2166219.436	33.50377822	-80.45463862	78.5	118.5
B-18	STB	I-95 Med. CL	5252+34	83.9-L	608193.861	2166357.478	33.50375413	-80.45418586	77.6	118.7
B-19	STB	I-95 Med. CL	5251+38	11.5-R	608329.330	2166363.648	33.50412639	-80.45416326	77.9	121.5
B-20	STB	I-95 Med. CL	5250+34	83.2-L	608330.047	2166503.973	33.50412633	-80.45370286	77.4	120.1
B-21	STB	I-95 Med. CL	5249+32	12.1-R	608469.382	2166514.435	33.50450915	-80.45366611	78.6	121.0
B-22	STB	I-95 Med. CL	5248+33	84.6-L	608465.156	2166652.355	33.50449553	-80.45321368	77.8	119.5
B-23	STB	I-95 Med. CL	5246+35	12.5-R	608671.062	2166732.160	33.50506032	-80.45294827	78.4	121.1



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
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2			
1			

TOPO. ____ DATE ____
DWG. CTC DATE 9.8.23 GROUP ____ – ____
R/W ____ DATE ____

F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

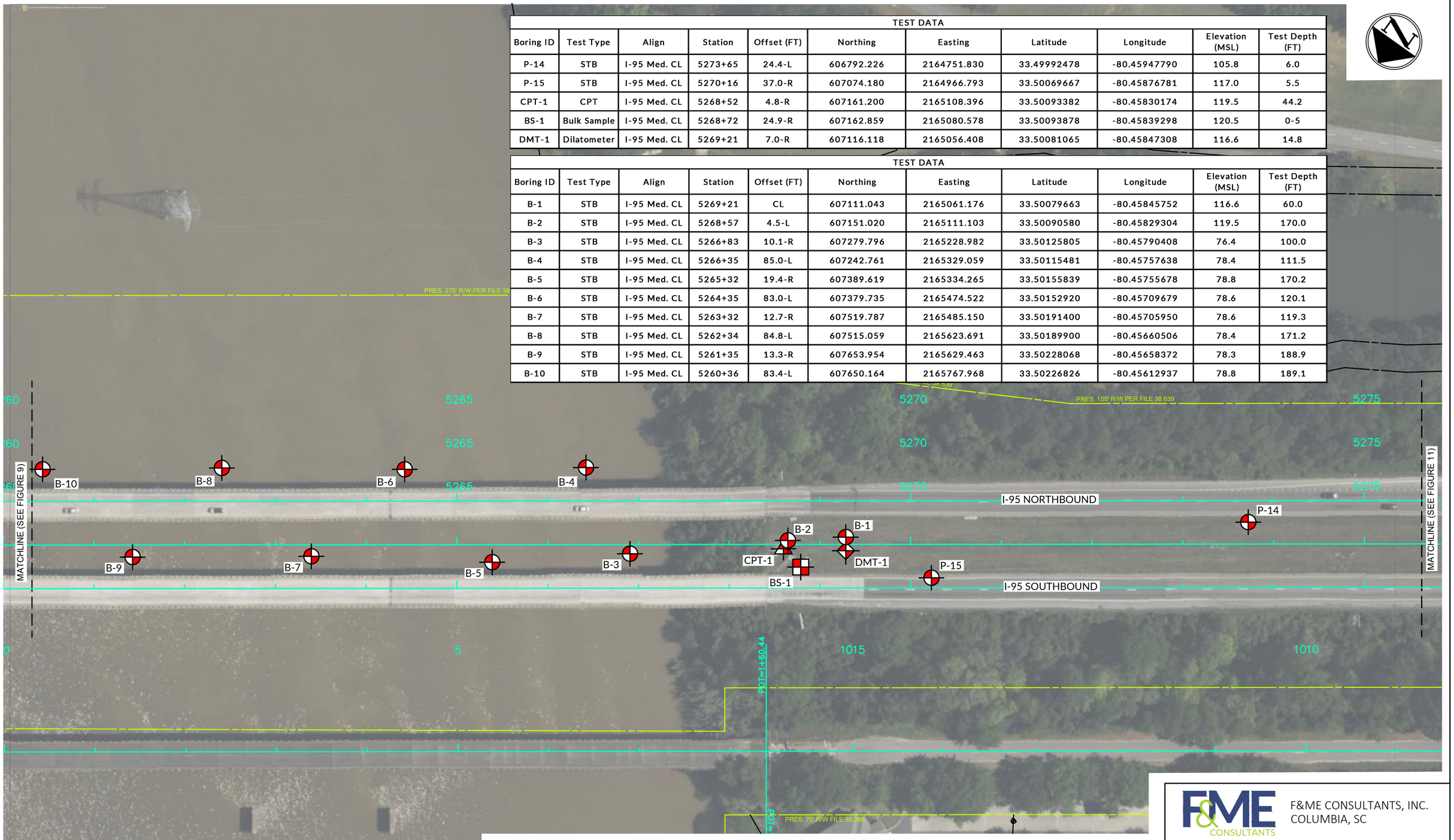
SCALE: 1"=100' | FIGURE 9

TEST DATA

Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-14	STB	I-95 Med. CL	5273+65	24.4-L	606792.226	2164751.830	33.49992478	-80.45947790	105.8	6.0
P-15	STB	I-95 Med. CL	5270+16	37.0-R	607074.180	2164966.793	33.50069667	-80.45876781	117.0	5.5
CPT-1	CPT	I-95 Med. CL	5268+52	4.8-R	607161.200	2165108.396	33.50093382	-80.45830174	119.5	44.2
BS-1	Bulk Sample	I-95 Med. CL	5268+72	24.9-R	607162.859	2165080.578	33.50093878	-80.45839298	120.5	0-5
DMT-1	Dilatometer	I-95 Med. CL	5269+21	7.0-R	607116.118	2165056.408	33.50081065	-80.45847308	116.6	14.8

TEST DATA

Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
B-1	STB	I-95 Med. CL	5269+21	CL	607111.043	2165061.176	33.50079663	-80.45845752	116.6	60.0
B-2	STB	I-95 Med. CL	5268+57	4.5-L	607151.020	2165111.103	33.50090580	-80.45829304	119.5	170.0
B-3	STB	I-95 Med. CL	5266+83	10.1-R	607279.796	2165228.982	33.50125805	-80.45790408	76.4	100.0
B-4	STB	I-95 Med. CL	5266+35	85.0-L	607242.761	2165329.059	33.50115481	-80.45757638	78.4	111.5
B-5	STB	I-95 Med. CL	5265+32	19.4-R	607389.619	2165334.265	33.50155839	-80.45755678	78.8	170.2
B-6	STB	I-95 Med. CL	5264+35	83.0-L	607379.735	2165474.522	33.50152920	-80.45709679	78.6	120.1
B-7	STB	I-95 Med. CL	5263+32	12.7-R	607519.787	2165485.150	33.50191400	-80.45705950	78.6	119.3
B-8	STB	I-95 Med. CL	5262+34	84.8-L	607515.059	2165623.691	33.50189900	-80.45660506	78.4	171.2
B-9	STB	I-95 Med. CL	5261+35	13.3-R	607653.954	2165629.463	33.50228068	-80.45658372	78.3	188.9
B-10	STB	I-95 Med. CL	5260+36	83.4-L	607650.164	2165767.968	33.50226826	-80.45612937	78.8	189.1



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
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TOPO. _____ DATE _____
DWG. CTC DATE 9.8.23 GROUP ____ – ____
R/W _____ DATE _____

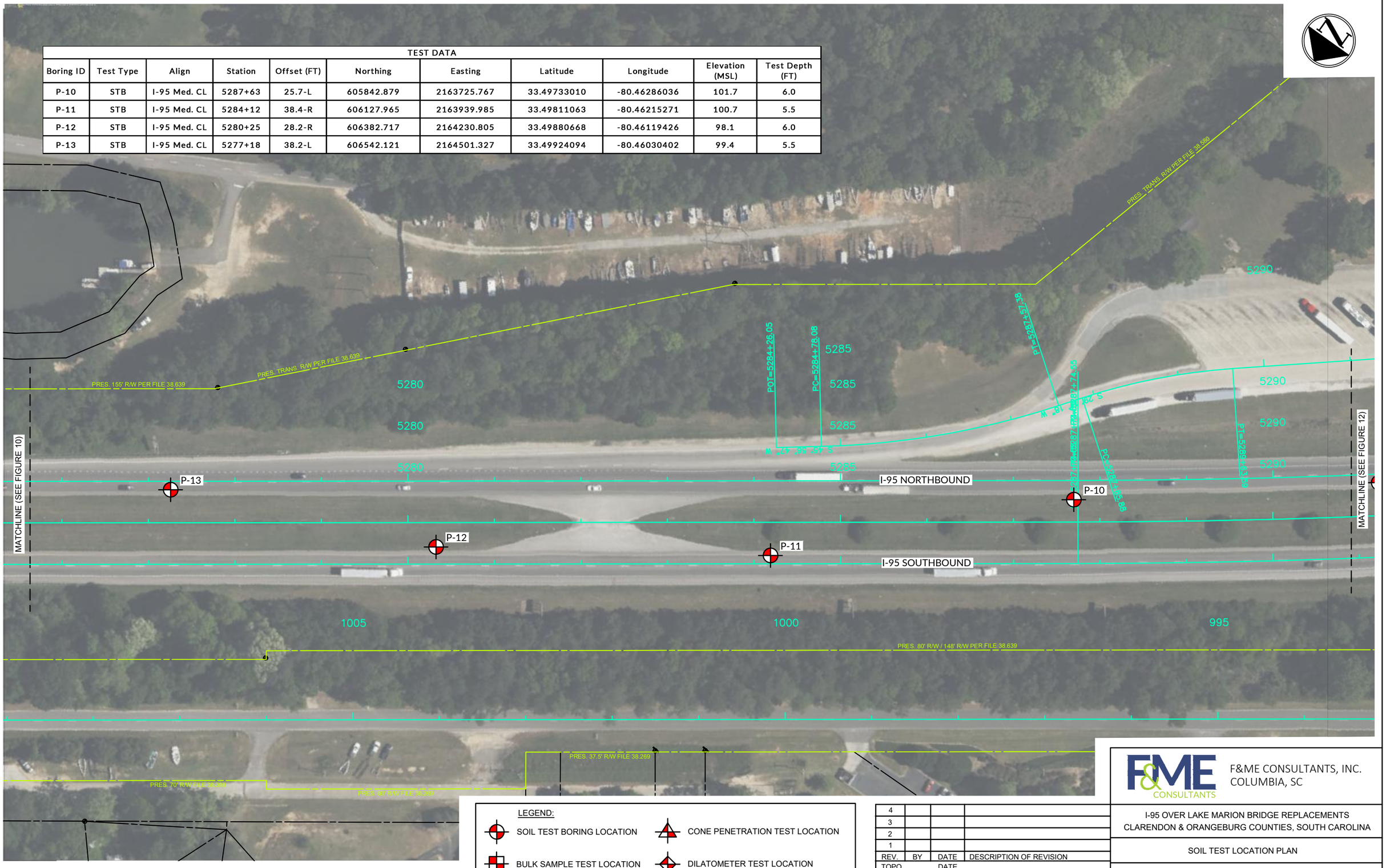
F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100' | FIGURE 10

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-10	STB	I-95 Med. CL	5287+63	25.7-L	605842.879	2163725.767	33.49733010	-80.46286036	101.7	6.0
P-11	STB	I-95 Med. CL	5284+12	38.4-R	606127.965	2163939.985	33.49811063	-80.46215271	100.7	5.5
P-12	STB	I-95 Med. CL	5280+25	28.2-R	606382.717	2164230.805	33.49880668	-80.46119426	98.1	6.0
P-13	STB	I-95 Med. CL	5277+18	38.2-L	606542.121	2164501.327	33.49924094	-80.46030402	99.4	5.5



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
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TOPO. _____ DATE _____
DWG. CTC DATE 9.8.23 GROUP ____ – _____
R/W _____ DATE _____

F&ME CONSULTANTS, INC.
COLUMBIA, SC

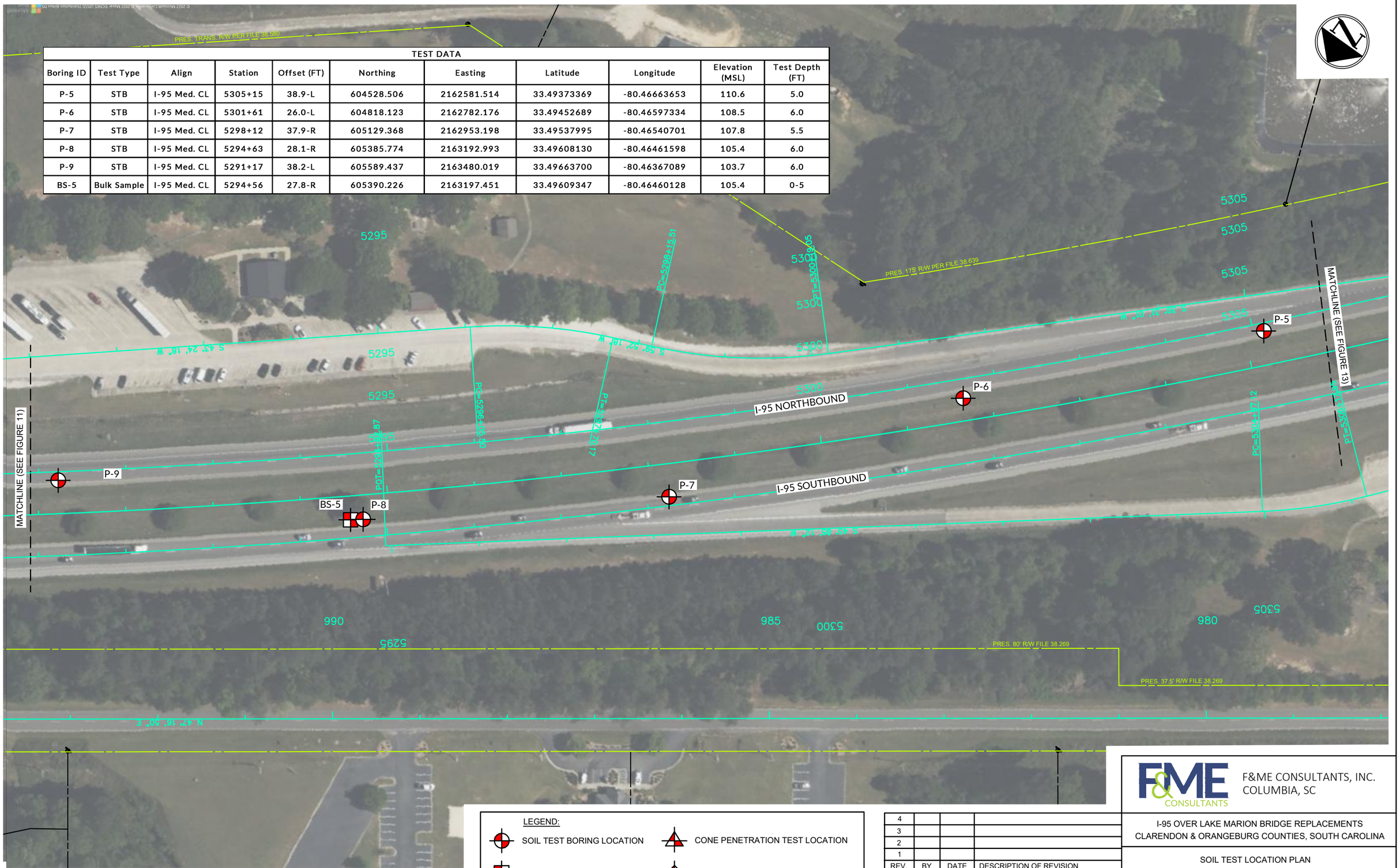
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100'

FIGURE 11

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-5	STB	I-95 Med. CL	5305+15	38.9-L	604528.506	2162581.514	33.49373369	-80.46663653	110.6	5.0
P-6	STB	I-95 Med. CL	5301+61	26.0-L	604818.123	2162782.176	33.49452689	-80.46597334	108.5	6.0
P-7	STB	I-95 Med. CL	5298+12	37.9-R	605129.368	2162953.198	33.49537995	-80.46540701	107.8	5.5
P-8	STB	I-95 Med. CL	5294+63	28.1-R	605385.774	2163192.993	33.49608130	-80.46461598	105.4	6.0
P-9	STB	I-95 Med. CL	5291+17	38.2-L	605589.437	2163480.019	33.49663700	-80.46367089	103.7	6.0
BS-5	Bulk Sample	I-95 Med. CL	5294+56	27.8-R	605390.226	2163197.451	33.49609347	-80.46460128	105.4	0-5



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
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TOPO. ____ DATE ____
DWG. CTC DATE 9.8.23 GROUP ____ – ____
R/W ____ DATE ____

F&ME CONSULTANTS, INC.
COLUMBIA, SC

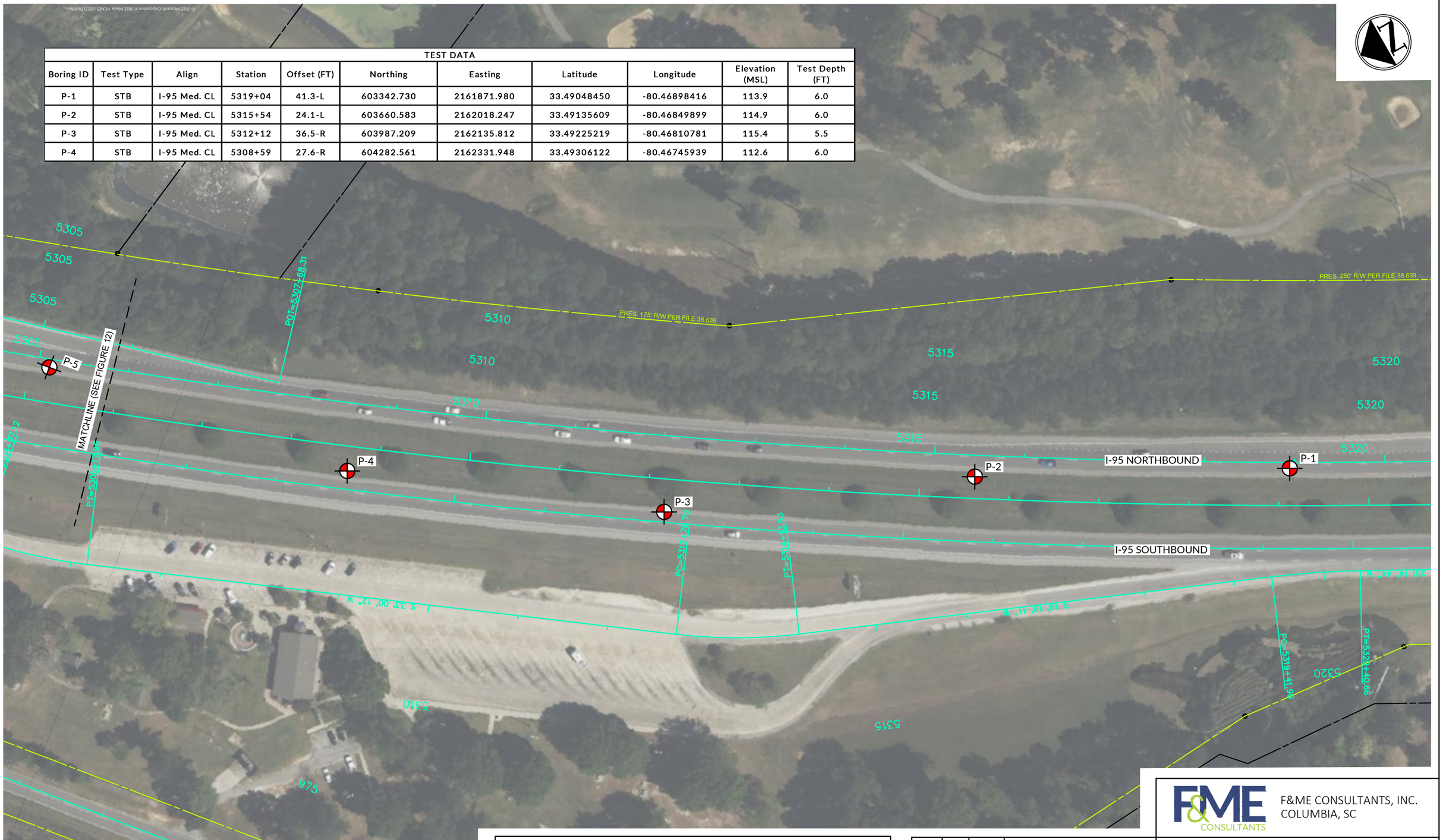
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SOIL TEST LOCATION PLAN

SCALE: 1"=100'

FIGURE 12

TEST DATA										
Boring ID	Test Type	Align	Station	Offset (FT)	Northing	Easting	Latitude	Longitude	Elevation (MSL)	Test Depth (FT)
P-1	STB	I-95 Med. CL	5319+04	41.3-L	603342.730	2161871.980	33.49048450	-80.46898416	113.9	6.0
P-2	STB	I-95 Med. CL	5315+54	24.1-L	603660.583	2162018.247	33.49135609	-80.46849899	114.9	6.0
P-3	STB	I-95 Med. CL	5312+12	36.5-R	603987.209	2162135.812	33.49225219	-80.46810781	115.4	5.5
P-4	STB	I-95 Med. CL	5308+59	27.6-R	604282.561	2162331.948	33.49306122	-80.46745939	112.6	6.0



LEGEND:

- SOIL TEST BORING LOCATION
- CONE PENETRATION TEST LOCATION
- BULK SAMPLE TEST LOCATION
- DILATOMETER TEST LOCATION

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
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TOPO. _____ DATE _____
DWG. CTC DATE 9.8.23 GROUP ____ – ____
R/W _____ DATE _____

F&ME CONSULTANTS, INC.
COLUMBIA, SC

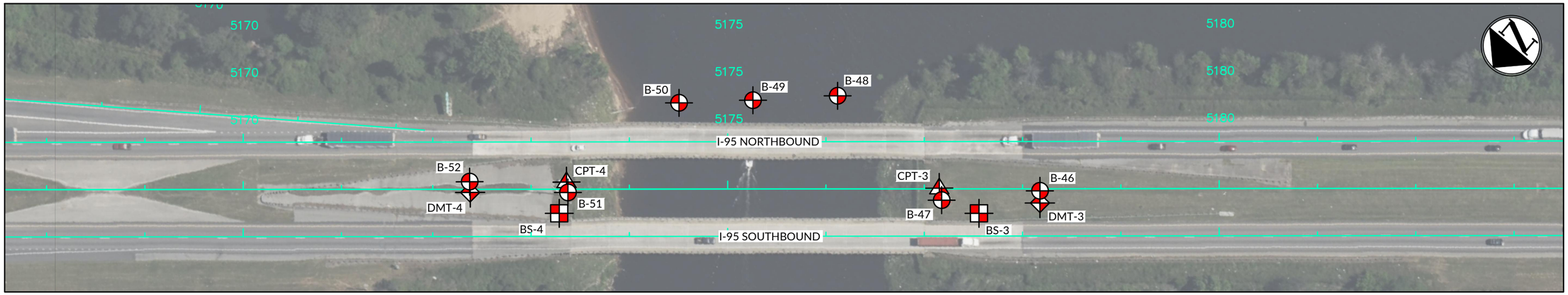
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

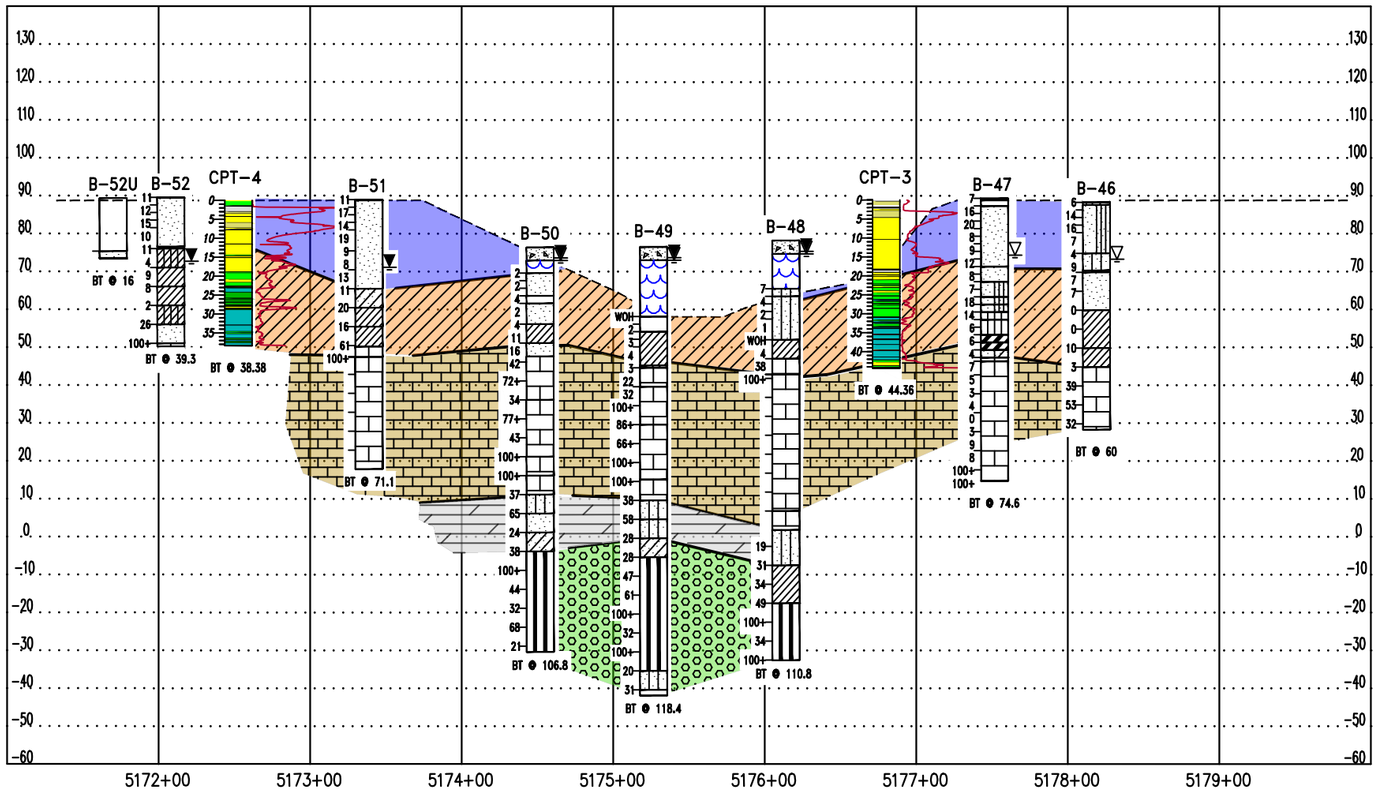
SOIL TEST LOCATION PLAN

SCALE: 1"=200' | FIGURE 13

APPENDIX

SECTION 3 GENERALIZED SUBSURFACE PROFILE





LEGEND:

- FILL
- MARIETTA FORMATION
- ALLUVIUM
- SANTEE LIMESTONE
- UNDIFFERENTIATED EOCENE
- WILLIAMSBURG FORMATION (PALEOCENE)

THE GEOLOGIC BOUNDARIES SHOWN ON THE SUBSURFACE PROFILE ARE F&ME'S INTERPRETATION OF THE DEPOSITIONAL CHARACTERISTICS OF THE VARIOUS GEOLOGIES ENCOUNTERED AT THE SITE. THESE GEOLOGIC BOUNDARIES WERE DETERMINED BY F&ME ENGINEERS AND GEOLOGISTS.

REV.	BY	DATE	DESCRIPTION OF REVISION
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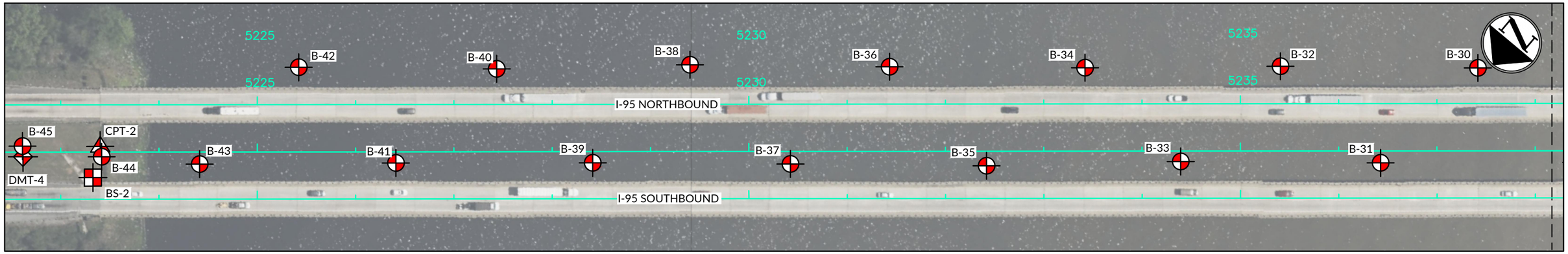
TOPO. ____ DATE ____
DWG. CTC DATE 8.2.23 GROUP ____ – ____
R/W ____ DATE ____

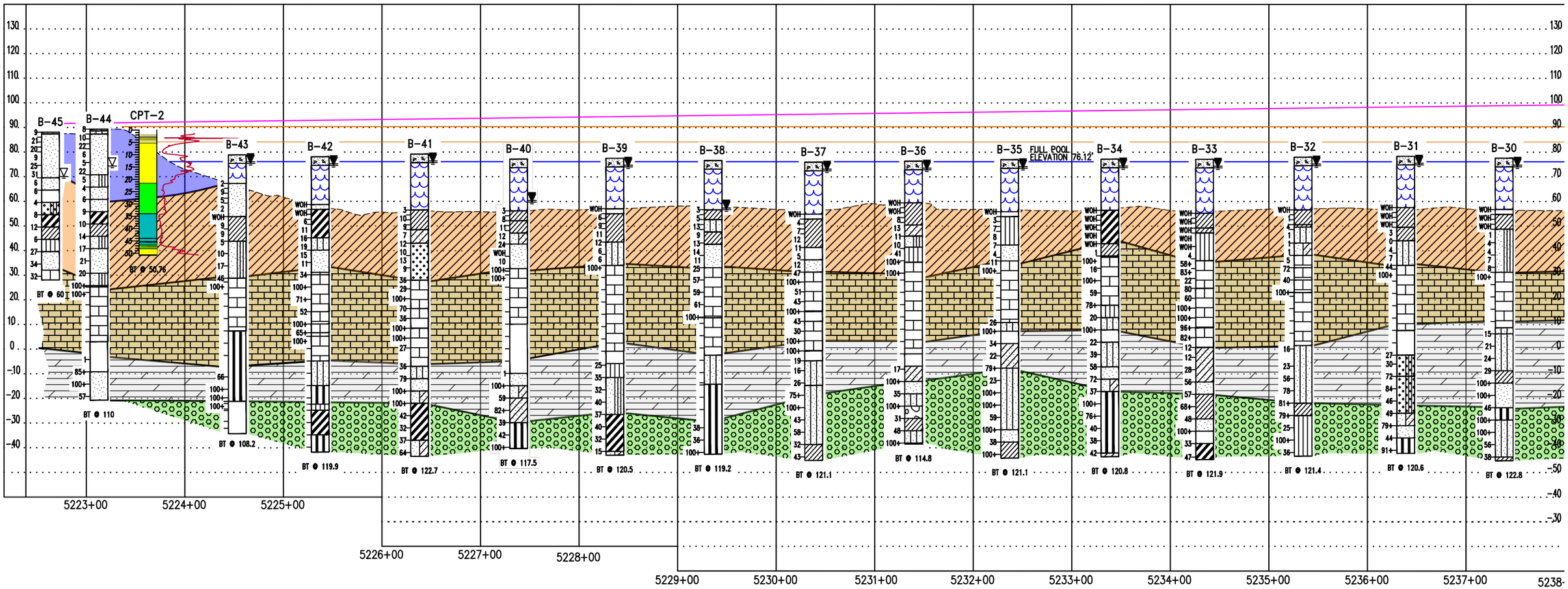
F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SUBSURFACE PROFILE - OVERFLOW BRIDGE

SCALE: 1"=100' | FIGURE 1





LEGEND:

- FILL
- MARIETTA FORMATION
- ALLUVIUM
- SANTEE LIMESTONE
- UNDIFFERENTIATED EOCENE
- WILLIAMSBURG FORMATION (PALEOCENE)

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REV.	BY	DATE	DESCRIPTION OF REVISION
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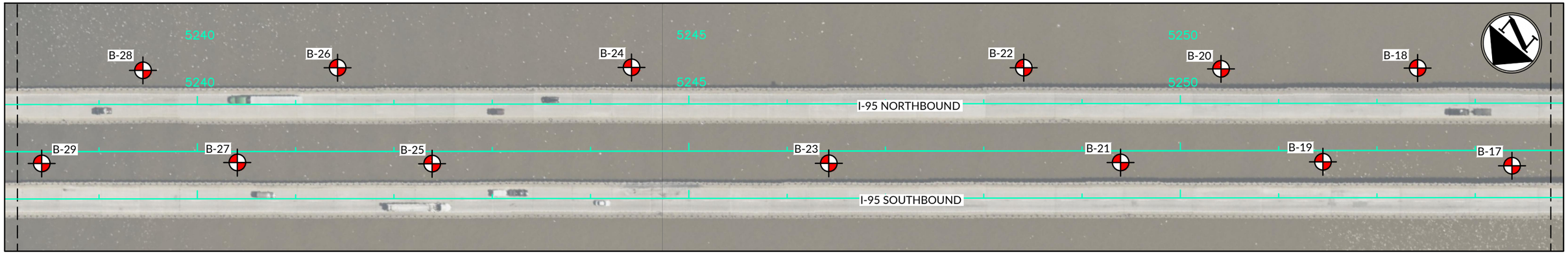
TOPO. _____ DATE _____
DWG. CTC DATE 8.2.23 GROUP ____ – _____
R/W _____ DATE _____

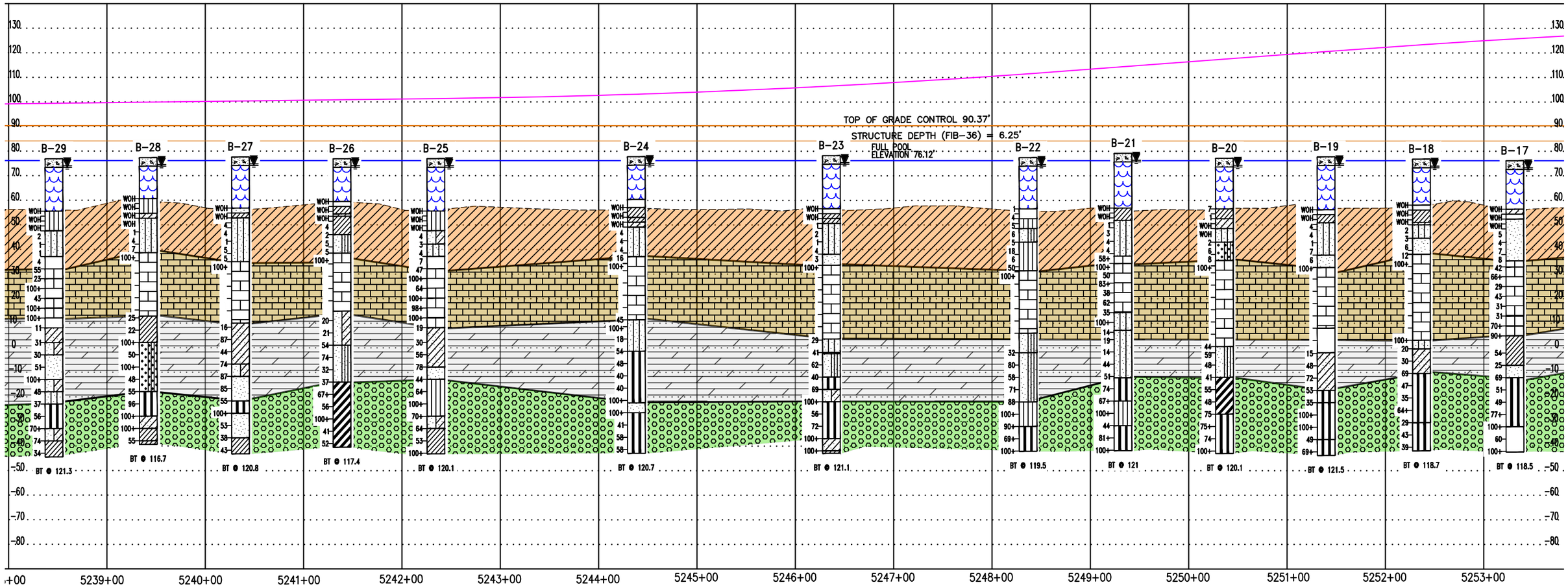
F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SUBSURFACE PROFILE - MAIN BRIDGE

SCALE: 1"=100' | FIGURE 2





LEGEND:

- FILL
- MARIETTA FORMATION
- ALLUVIUM
- SANTEE LIMESTONE
- UNDIFFERENTIATED EOCENE
- WILLIAMSBURG FORMATION (PALEOCENE)

THE GEOLOGIC BOUNDARIES SHOWN ON THE SUBSURFACE PROFILE ARE F&ME'S INTERPRETATION OF THE DEPOSITIONAL CHARACTERISTICS OF THE VARIOUS GEOLOGIES ENCOUNTERED AT THE SITE. THESE GEOLOGIC BOUNDARIES WERE DETERMINED BY F&ME ENGINEERS AND GEOLOGISTS.

REV.	BY	DATE	DESCRIPTION OF REVISION
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1			

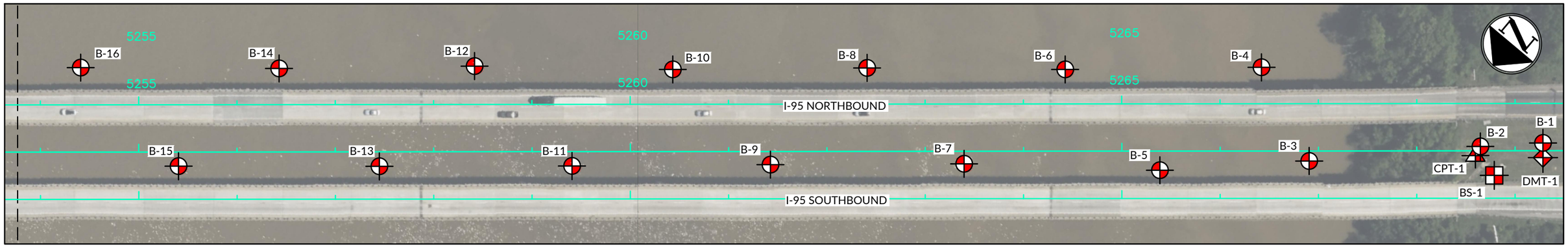
TOPO. _____ DATE _____
DWG. CTC DATE 8.2.23 GROUP ____ – _____
R/W _____ DATE _____

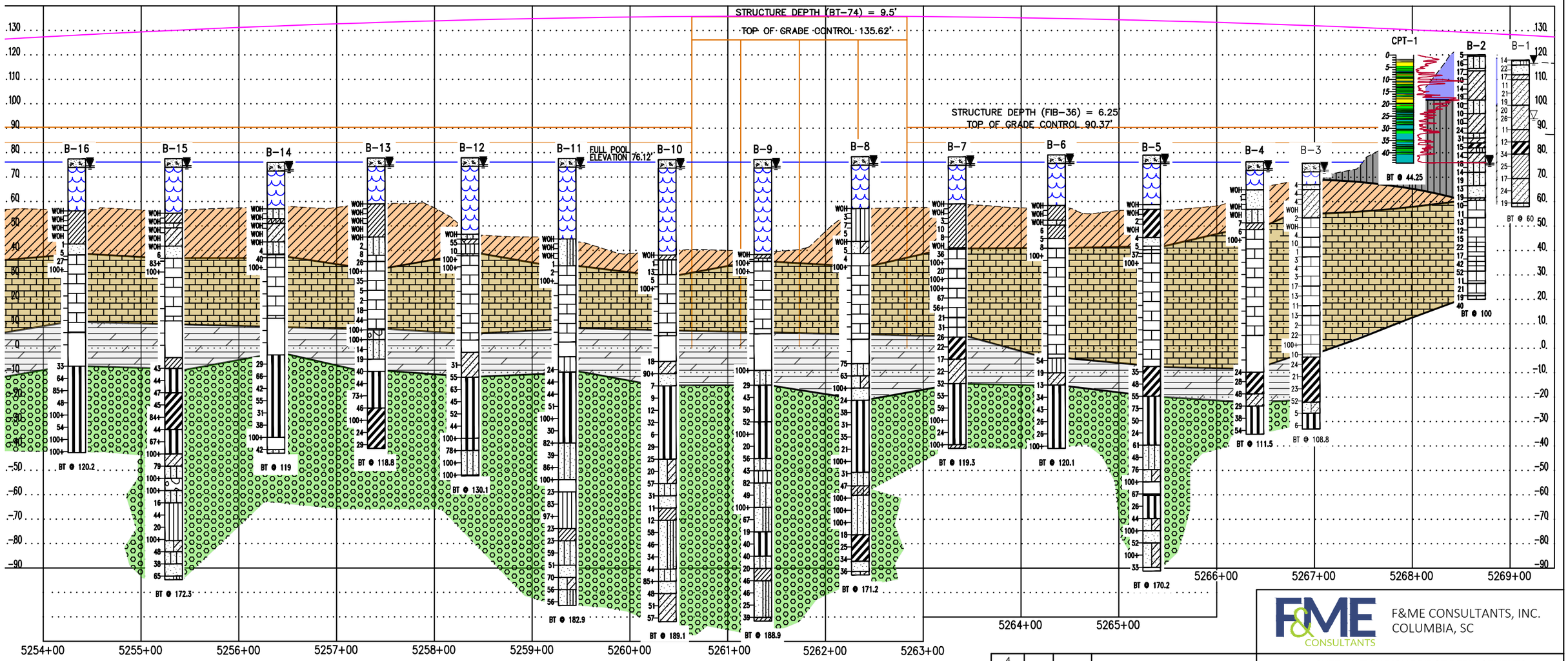
F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SUBSURFACE PROFILE - MAIN BRIDGE

SCALE: 1"=100' | FIGURE 3





LEGEND:

- FILL
- MARIETTA FORMATION
- SANTEE LIMESTONE
- ALLUVIUM
- UNDIFFERENTIATED EOCENE
- WILLIAMSBURG FORMATION (PALEOCENE)

THE GEOLOGIC BOUNDARIES SHOWN ON THE SUBSURFACE PROFILE ARE F&ME'S INTERPRETATION OF THE DEPOSITIONAL CHARACTERISTICS OF THE VARIOUS GEOLOGIES ENCOUNTERED AT THE SITE. THESE GEOLOGIC BOUNDARIES WERE DETERMINED BY F&ME ENGINEERS AND GEOLOGISTS.

REV.	BY	DATE	DESCRIPTION OF REVISION
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TOPO. _____ DATE _____
DWG. CTC DATE 8.2.23 GROUP ____ – _____
R/W _____ DATE _____

F&ME CONSULTANTS, INC.
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SUBSURFACE PROFILE - MAIN BRIDGE

SCALE: 1"=100'

FIGURE 4

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

I-95 Bridge(s) over Lake Marion
Field Investigation Summary - Bridges
Clarendon/Orangeburg County, South Carolina

Test ID	Test Hole Locale	Alignment	Station	Offset from CL	Northing	Easting	Latitude	Longitude	Elevation	Depth
				ft	*ft*	*ft*			*ft-MSL*	*ft*
B-1	Bridge Embankment	I-95 Median CL	5269+21	CL	607111.0	2165061.2	33.50079663	-80.45845752	116.6	60
B-2	Bridge End Bent	I-95 Median CL	5268+57	4.5-L	607151.0	2165111.1	33.5009058	-80.45829304	119.5	100
B-3	Bridge Interior Bent	I-95 Median CL	5266+83	10.1-R	607279.8	2165229.0	33.50125805	-80.45790408	76.4	108.8
B-4	Bridge Interior Bent	I-95 Median CL	5266+35	85.0-L	607242.8	2165329.1	33.50115481	-80.45757638	78.4	111.5
B-5	Bridge Interior Bent	I-95 Median CL	5265+32	19.4-R	607389.6	2165334.3	33.50155839	-80.45755678	78.8	170.2
B-6	Bridge Interior Bent	I-95 Median CL	5264+35	83.0-L	607379.7	2165474.5	33.5015292	-80.45709679	78.6	120.1
B-7	Bridge Interior Bent	I-95 Median CL	5263+32	12.7-R	607519.8	2165485.2	33.501914	-80.4570595	78.6	119.3
B-8	Bridge Interior Bent	I-95 Median CL	5262+34	84.8-L	607515.1	2165623.7	33.501899	-80.45660506	78.4	171.2
B-9	Bridge Interior Bent	I-95 Median CL	5261+35	13.3-R	607652.8	2165630.5	33.50228068	-80.45658372	78.3	188.9
B-10	Bridge Interior Bent	I-95 Median CL	5260+36	83.4-L	607650.2	2165768.0	33.50226826	-80.45612937	78.8	189.1
B-11	Bridge Interior Bent	I-95 Median CL	5259+33	14.6-R	607791.8	2165776.9	33.50265738	-80.4560975	78.4	182.9
B-12	Bridge Interior Bent	I-95 Median CL	5258+34	87.0-L	607784.4	2165918.6	33.50263501	-80.45563295	77.9	130.1
B-13	Bridge Interior Bent	I-95 Median CL	5257+38	14.7-R	607924.8	2165920.7	33.50302079	-80.45562339	78.3	118.8
B-14	Bridge Interior Bent	I-95 Median CL	5256+36	84.8-L	607920.9	2166063.2	33.50300815	-80.4551561	77.6	119
B-15	Bridge Interior Bent	I-95 Median CL	5255+33	14.3-R	608063.1	2166071.1	33.50339892	-80.45512766	78.4	172.3
B-16	Bridge Interior Bent	I-95 Median CL	5254+34	85.8-L	608057.0	2166212.1	33.50338014	-80.45466518	78.1	120.2
B-17	Bridge Interior Bent	I-95 Median CL	5253+30	15.7-R	608201.9	2166219.4	33.50377822	-80.45463862	78.5	118.5
B-18	Bridge Interior Bent	I-95 Median CL	5252+34	83.9-L	608193.9	2166357.5	33.50375413	-80.45418586	77.6	118.7
B-19	Bridge Interior Bent	I-95 Median CL	5251+38	11.5-R	608329.3	2166363.6	33.50412639	-80.45416326	77.9	121.5
B-20	Bridge Interior Bent	I-95 Median CL	5250+34	83.2-L	608330.0	2166504.0	33.50412633	-80.45370286	77.4	120.1
B-21	Bridge Interior Bent	I-95 Median CL	5249+32	12.1-R	608469.4	2166514.4	33.50450915	-80.45366611	78.6	121
B-22	Bridge Interior Bent	I-95 Median CL	5248+33	84.6-L	608465.2	2166652.4	33.50449553	-80.45321368	77.8	119.5
B-23	Bridge Interior Bent	I-95 Median CL	5246+35	12.5-R	608671.1	2166732.2	33.50506032	-80.45294827	78.4	121.1
B-24	Bridge Interior Bent	I-95 Median CL	5244+35	85.2-L	608735.3	2166945.8	33.50523385	-80.4522461	77.7	120.7
B-25	Bridge Interior Bent	I-95 Median CL	5242+32	12.6-R	608944.9	2167028.6	33.50580863	-80.45197086	77.9	120.1
B-26	Bridge Interior Bent	I-95 Median CL	5241+36	85.2-L	608938.2	2167165.5	33.50578835	-80.45152175	77.8	117.4
B-27	Bridge Interior Bent	I-95 Median CL	5240+33	11.2-R	609078.3	2167175.2	33.50617329	-80.45148766	77.8	120.8
B-28	Bridge Interior Bent	I-95 Median CL	5239+38	82.7-L	609074.4	2167309.3	33.50616047	-80.45104769	77.7	116.7
B-29	Bridge Interior Bent	I-95 Median CL	5238+35	11.9-R	609213.8	2167320.8	33.50654351	-80.4510076	77.9	121.3
B-30	Bridge Interior Bent	I-95 Median CL	5237+34	84.3-L	609211.0	2167459.6	33.50653384	-80.45055216	77.9	122.8
B-31	Bridge Interior Bent	I-95 Median CL	5236+35	12.2-R	609349.1	2167466.9	33.5069134	-80.45052583	78.6	120.6
B-32	Bridge Interior Bent	I-95 Median CL	5235+34	86.2-L	609345.8	2167608.4	33.50690219	-80.45006163	77.9	121.4
B-33	Bridge Interior Bent	I-95 Median CL	5234+32	10.6-R	609485.8	2167617.3	33.50728693	-80.45002992	78.5	121.9
B-34	Bridge Interior Bent	I-95 Median CL	5233+35	84.8-L	609481.7	2167753.5	33.50727361	-80.44958297	78.1	120.8
B-35	Bridge Interior Bent	I-95 Median CL	5232+34	14.5-R	609623.2	2167760.3	33.50766246	-80.44955827	78.5	121.1
B-36	Bridge Interior Bent	I-95 Median CL	5231+36	86.0-L	609615.8	2167900.5	33.50763993	-80.44909853	78	114.8
B-37	Bridge Interior Bent	I-95 Median CL	5230+35	12.7-R	609756.7	2167907.5	33.50802716	-80.44907295	79.1	121.1
B-38	Bridge Interior Bent	I-95 Median CL	5229+33	88.3-L	609751.8	2168051.1	33.50801149	-80.44860205	78	119.2
B-39	Bridge Interior Bent	I-95 Median CL	5228+34	11.5-R	609892.3	2168056.1	33.50839761	-80.44858298	78.8	120.5
B-40	Bridge Interior Bent	I-95 Median CL	5227+36	84.3-L	609888.1	2168192.8	33.50838409	-80.44813454	77.9	117.5
B-41	Bridge Interior Bent	I-95 Median CL	5226+34	11.5-R	610028.1	2168203.3	33.50876884	-80.44809764	78.7	122.7
B-42	Bridge Interior Bent	I-95 Median CL	5225+35	86.1-L	610023.5	2168342.0	33.50875397	-80.44764262	77.5	119.9
B-43	Bridge Interior Bent	I-95 Median CL	5224+34	12.4-R	610164.2	2168349.3	33.50914084	-80.44761627	78.3	108.2
B-44	Bridge End Bent	I-95 Median CL	5223+27	5.4-R	610231.8	2168433.0	33.50932533	-80.44734055	89.2	110
B-45	Bridge Embankment	I-95 Median CL	5222+35	9.6-L	610282.9	2168510.3	33.5094646	-80.44708607	88.3	60
B-46	Bridge Embankment	I-95 Median CL	5178+10	8.9-R	613298.5	2171748.8	33.51770511	-80.43640616	88.4	60
B-47	Bridge End Bent	I-95 Median CL	5177+10	11.5-R	613368.1	2171820.3	33.51789541	-80.4361701	89.4	74.6
B-48	Bridge Interior Bent	I-95 Median CL	5176+05	94.5-L	613362.0	2171969.9	33.51787635	-80.43567936	78.5	110.8
B-49	Bridge Interior Bent	I-95 Median CL	5175+19	90.1-L	613423.6	2172030.2	33.5180449	-80.43548056	77.9	118.4
B-50	Bridge Interior Bent	I-95 Median CL	5174+43	87.5-L	613476.6	2172083.7	33.51818967	-80.43530402	77.6	106.8
B-51	Bridge End Bent	I-95 Median CL	5173+30	3.4-R	613620.0	2172105.1	33.51858349	-80.43523122	89.5	71.1
B-52	Bridge Embankment	I-95 Median CL	5172+30	0.3-R	613685.6	2172180.7	33.51876274	-80.4349819	88.1	39.3
B-52U	Bridge Embankment	I-95 Median CL	5172+30	12.6-L	613674.8	2172185.1	33.5187364	-80.43495348	88.1	16

CPT-1	Bridge End Bent	I-95 Median CL	5268+52	4.8-R	607151.0	2165111.1	33.5009058	-80.458293	119.5	44.25
CPT-2	Bridge End Bent	I-95 Median CL	5223+26	4.5-L	610231.8	2168433.0	33.5093253	-80.4473405	89.2	50.76
CPT-3	Bridge End Bent	I-95 Median CL	5177+08	0.6-L	613368.1	2171820.3	33.5178954	-80.4361701	89.4	44.36
CPT-4	Bridge End Bent	I-95 Median CL	5173+29	7.2-L	613620.0	2172105.1	33.5185835	-80.4352312	89.5	38.38

DMT-1	Bridge Embankment	I-95 Median CL	5269+21	7.0-R	607111.0	2165061.2	33.50081065	-80.45847308	116.6	14.8
DMT-2	Bridge Embankment	I-95 Median CL	5222+35	4.1-R	610282.9	2168510.3	33.5094921	-80.4471165	88.3	7
DMT-3	Bridge Embankment	I-95 Median CL	5178+10	14.5-R	613298.5	2171748.8	33.51771626	-80.43641884	88.4	3.2
DMT-4	Bridge Embankment	I-95 Median CL	5172+31	3.3-R	613685.6	2172180.7	33.5187678	-80.43498979	88.1	16

I-95 Bridge(s) over Lake Marion
Field Investigation Summary - Pavements
Clarendon/Orangeburg County, South Carolina

Test ID	Test Hole Locale	Alignment	Station	Offset from CL	Northing	Easting	Latitude	Longitude	Elevation	Depth
				ft	*ft*	*ft*			*ft-MSL*	*ft*
P-1	Rdwy Embankment	I-95 Median CL	5319+04	41.3-L	603343	2161872	33.49048450	-80.46898416	113.9	5
P-2	Rdwy Embankment	I-95 Median CL	5315+54	24.1-L	603661	2162018	33.49135609	-80.46849899	114.9	6
P-3	Rdwy Embankment	I-95 Median CL	5312+12	36.5-R	603987	2162136	33.49225219	-80.46810781	115.4	6
P-4	Rdwy Embankment	I-95 Median CL	5308+59	27.6-R	604283	2162332	33.49306122	-80.46745939	112.6	6
P-5	Rdwy Embankment	I-95 Median CL	5305+15	38.9-L	604529	2162582	33.49373369	-80.46663653	110.6	5
P-6	Rdwy Embankment	I-95 Median CL	5301+61	26.0-L	604818	2162782	33.49452689	-80.46597334	108.5	6
P-7	Rdwy Embankment	I-95 Median CL	5298+12	37.9-R	605129	2162953	33.49537995	-80.46540701	107.8	6
P-8	Rdwy Embankment	I-95 Median CL	5294+63	28.1-R	605386	2163193	33.49608130	-80.46461598	105.4	6
P-9	Rdwy Embankment	I-95 Median CL	5291+17	38.2-L	605589	2163480	33.49663700	-80.46367089	103.7	5
P-10	Rdwy Embankment	I-95 Median CL	5287+63	25.7-L	605843	2163726	33.49733010	-80.46286036	101.7	6
P-11	Rdwy Embankment	I-95 Median CL	5284+12	38.4-R	606128	2163940	33.49811063	-80.46215271	100.7	6
P-12	Rdwy Embankment	I-95 Median CL	5280+25	28.2-R	606383	2164231	33.49880668	-80.46119426	98.1	6
P-13	Rdwy Embankment	I-95 Median CL	5277+18	38.2-L	606542	2164501	33.49924094	-80.46030402	99.4	6
P-14	Rdwy Embankment	I-95 Median CL	5273+65	24.4-L	606792	2164752	33.49992478	-80.45947790	105.8	6
P-15	Rdwy Embankment	I-95 Median CL	5270+16	37.0-R	607074	2164967	33.50069667	-80.45876781	117.0	6
P-16	Rdwy Embankment	I-95 Median CL	5206+04	36.6-L	611370	2169727	33.51243464	-80.44307334	89.9	5
P-17	Rdwy Embankment	I-95 Median CL	5186+06	37.9-R	612780	2171144	33.51628837	-80.43839905	90.0	6
P-18	Rdwy Embankment	I-95 Median CL	5163+50	37.8-R	614311	2172800	33.52047262	-80.43293871	89.5	6
P-19	Rdwy Embankment	I-95 Median CL	5160+01	29.8-R	614549	2173055	33.52112345	-80.43209788	89.3	6
P-20	Rdwy Embankment	I-95 Median CL	5156+54	37.2-L	614751	2173345	33.52167391	-80.43114195	91.7	6
P-21	Rdwy Embankment	I-95 Median CL	5152+99	27.7-L	615018	2173580	33.52240398	-80.43036743	98.1	6
P-22	Rdwy Embankment	I-95 Median CL	5149+53	36.6-R	615320	2173760	33.52323093	-80.42976897	107.2	6
P-23	Rdwy Embankment	I-95 Median CL	5138+69	11.0-L	616137	2174473	33.52546645	-80.42741469	104.1	6
P-24	Rdwy Embankment	I-95 Median CL	5163+06	114.2-L	614232	2172937	33.52025373	-80.43248937	84.8	10

I-95 Bridge(s) over Lake Marion
Field Investigation Summary - Bulk Samples
Clarendon/Orangeburg County, South Carolina

Test ID	Test Hole Locale	Alignment	Station	Offset from CL	Northing	Easting	Latitude	Longitude	Elevation	Depth
				ft	*ft*	*ft*			*ft-MSL*	*ft*
BS-1	Roadway Embankment	I-95 Median CL	5268+72	24.9-R	607162.9	2165080.6	33.50093878	-80.45839298	120.5	5
BS-2	Roadway Embankment	I-95 Median CL	5223+26	26.0-R	610247.8	2168419.8	33.5093694	-80.44738363	90.5	5
BS-3	Roadway Embankment	I-95 Median CL	5177+48	25.0-R	613352.3	2171783.3	33.51785255	-80.43629182	89.5	5
BS-4	Roadway Embankment	I-95 Median CL	5173+21	24.5-R	613641.6	2172097.3	33.51864313	-80.43525628	90.3	5
BS-5	Roadway Embankment	I-95 Median CL	5294+56	27.8-R	605385.8	2163193.0	33.49609347	-80.46460128	105.4	5
BS-6	Roadway Embankment	I-95 Median CL	5160+07	30.2-R	614549.3	2173054.8	33.52111221	-80.43211311	89.3	5

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

SECTION 4A SOIL TEST BORING (STB) LOGS

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-1
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5269+21	**Offset:**	CL	**Alignment:**	I-95 Med. CL
Elev.:	116.6 ft	**Latitude:**	33.50079663	**Longitude:**	-80.45845752	**Date Started:**	1/9/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 24 (Cave@27)	**24HR**	2(Cave@7)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0			0.0						
	0.3	TOPSOIL (4.0-in.)								
	2.0	**EXISTING FILL** Medium Dense, Moist, Reddish Brown, Non-Plastic to Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt & Trace of Organics (Wood), 5YR 5/4		2.0	SS-1	3	9	5	4	14
111.6				4.0	SS-2	5	8	14	12	22
	6.0	Medium Dense, Moist, Yellowish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 5/6		6.0	SS-3	8	7	10	13	17
	8.0	Stiff, Moist, Reddish Brown, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), 5YR 5/4		8.0	SS-4	4	5	6	7	11
106.6		Medium Dense, Wet, Yellowish Brown, Medium Plasticity to High Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), 10YR 5/6 LL=36, PL=18, PI=18, NMC=17.3%, %200=19.4			SS-5	7	7	14	18	21
				13.5	SS-6	5	7	12		19
101.6										
	18.5	**MARIETTA UNIT (PLIOCENE)** Medium Dense, Moist, Yellowish Red, Clayey Fine to Medium SAND (SC/A-2-6), 5YR 5/8 LL=34, PL=22, PI=12, NMC=17.4%, %200=25.1		18.5	SS-7	7	8	12		20
96.6		▽ @SS-8: (SC/A-2-7) LL=61, PL=29, PI=32, NMC=15.2%, %200=26.5		23.5	SS-8	6	10	16		26
91.6										
	28.5	Stiff, Moist, Yellowish Red/Gray, High Plasticity, Sandy Lean CLAY (CL/A-7-6), 5YR 4/6 & 5YR 6/1 LL=46, PL=25, PI=21, NMC=23.6%, %200=56.5		28.5	SS-9	4	6	5		11
86.6										

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

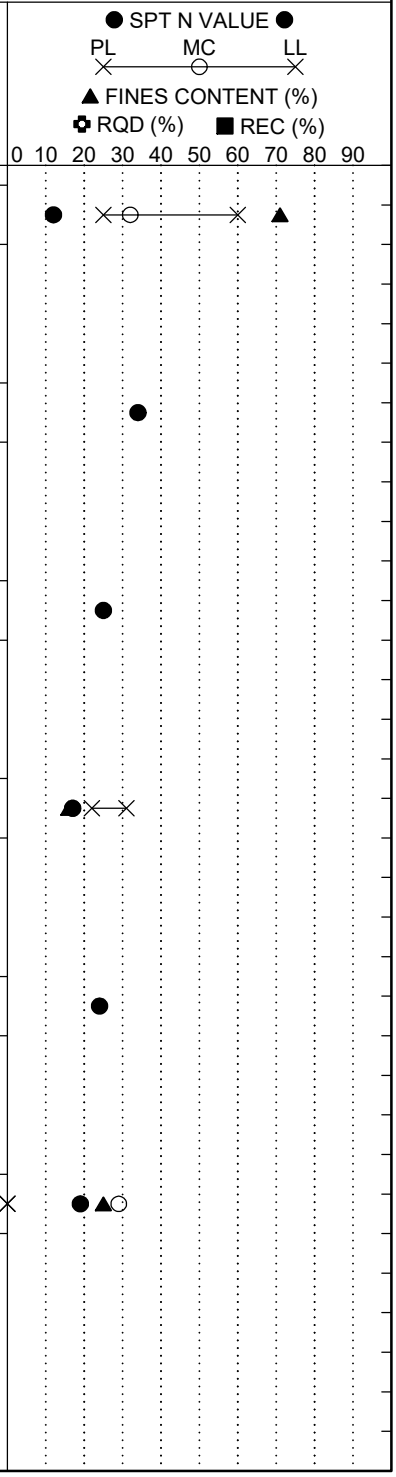
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-1
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5269+21	**Offset:**	CL	**Alignment:**	I-95 Med. CL
Elev.:	116.6 ft	**Latitude:**	33.50079663	**Longitude:**	-80.45845752	**Date Started:**	1/9/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 24 (Cave@27)	**24HR**	2(Cave@7)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	33.5			33.5						
		Stiff, Moist, Dark Gray, High Plasticity, Fat CLAY (CH/A-7-6) with Sand, 5YR 3/1			SS-10	2	4	8		12
81.6		LL=60, PL=25, PI=35, NMC=31.5%, %200=70.6								
	38.5			38.5						
		Hard to Very Stiff, Moist, Yellowish Red, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 5YR 5/8			SS-11	10	18	16		34
76.6										
				43.5						
		@SS-12: Reddish Yellow, 5YR 6/6			SS-12	5	11	14		25
71.6										
	48.5			48.5						
		Medium Dense, Wet, Yellow, Low Plasticity, Clayey SAND (SC/A-2-4), 10YR 7/8			SS-13	7	8	9		17
66.6		LL=31, PL=22, PI=9, NMC=17.4%, %200=15.5								
				53.5						
					SS-14	12	12	12		24
61.6										
	58.5			58.5						
		Medium Dense, Wet, Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 10YR 7/8			SS-15	7	9	10		19
56.6	60.0	LL=NP, PL=NP, PI=NP, NMC=29.0%, %200=25.4								
		Boring Terminated at 60.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								
51.6										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.5	TOPSOIL (6.0-in.)		0.0						
		EXISTING FILL Loose to Medium Dense, Moist, Yellowish Red, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), with Layer of Bitumen/Asphalt Shingles, 5YR 5/6			SS-1	2	2	3	5	5
				2.0						
					SS-2	6	8	8	9	16
				4.0						
114.5					SS-3	7	7	10	13	17
	5.5									
		Medium Dense to Loose, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3) with Trace of Wood Fragments, 7.5YR 6/1		6.0						
	6.5				SS-4	4	3	7	12	10
		Loose to Medium Dense, Moist, Gray, Low Plasticity to Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), 7.5YR 6/1		8.0						
		@SS-5: Brown/Dark Gray, with Trace of Organics (Wood Fragments), 10YR 5/3 & 10YR 4/1			SS-5	3	5	9	8	14
109.5				10.0						
		@SS-6: Light Yellowish Brown, with Decreased Presence of Organics, 10YR 6/4			SS-6	2	8	11	16	19
				12.0						
		@SS-7: Yellowish Brown/Gray, 10YR 5/4 & 10YR 5/1			SS-7	4	3	7	10	10
				14.0						
104.5					SS-8	3	4	6	7	10
				16.0						
		@SS-9: Light Brownish Gray, 10YR 6/2			SS-9	3	4	6	10	10
				18.0						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	18.5	**MARIETTA UNIT (PLIOCENE)**								
		Medium Dense to Dense, Moist, Red, Medium Plasticity, Silty Fine to Medium SAND (SM/A-2-4), 2.5YR 5/6		20.0	SS-10	4	11	13	14	24
99.5		@SS-11: Reddish Yellow/Red, 5YR 7/8 & 2.5YR 5/6			SS-11	12	15	16	16	31
		@SS-12: Light Brown/Red, 7.5YR 6/3 & 2.5YR 5/6, LL=36, PL=25, PI=11, NMC=16.5%, %200=24.0		22.0	SS-12	14	7	8	10	15
	24.0	Medium Dense, Moist, Light Brown/Red, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-6), 7.5YR 6/3 & 2.5YR 5/6		24.0	SS-13	5	7	7	9	14
94.5		@SS-13: LL=35, PL=19, PI=16, NMC=17.7%, %200=39.7		26.0	SS-14	7	9	9	10	18
		@SS-15: Yellowish Red/Yellow, 5YR 5/6 & 10YR 8/8		28.0	SS-15	7	7	7	7	14
		LL=35, PL=22, PI=13, NMC=19.6%, %200=41.8								
89.5		@SS-16: Pale Brown, Sand in Tip, 10YR 7/3		30.0	SS-16	7	8	11	14	19
	32.0	Medium Dense, Moist, Reddish Brown/Reddish Yellow, High Plasticity, Silty Fine to Medium SAND (SM/A-2-7), 5YR 5/4 & 5YR 6/8		32.0	SS-17	8	8	5	7	13
	34.0	@SS-17: LL=57, PL=36, PI=21, NMC=16.7%, %200=29.8		34.0	SS-18	2	9	10	10	19
84.5		Medium Dense, Moist, Light Grayish Brown, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-4), 10YR 6/2								
	36.0	@SS-18: LL=27, PL=18, PI=9,		36.0						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		NMC=15.6%, %200=26.9								
		Stiff, Moist, White/Weak Red, Very Plastic, Sandy Fat CLAY (CH/A-7-5) (Kaolin), 10R 8/1 & 10R 5/4			SS-19	3	4	6	11	10
	38.0	@SS-19: LL=81, PL=36, PI=45, NMC=22.3%, %200=53.3		38.0						
		@37.5-ft.: Light Brownish Gray, 10YR 6/2			SS-20	3	4	7	9	11
79.5	40.0	Medium Dense, Moist, Light Brownish Gray, Low Plasticity, Silty Clayey SAND (SC-SM/A-4), 10YR 6/2		40.0						
		@SS-20: LL=25, PL=20, PI=5, NMC=17.4%, %200=36.3			SS-21	5	6	7	10	13
		@39.5-ft.: 2.0-in. Organic Seam								
		Medium Dense, Moist, Light Brownish Gray/Yellow, High Plasticity, Clayey Fine to Medium SAND (SC/A-6), No HCl Reaction, 10YR 6/2 & 10YR 7/8		42.0						
		@SS-21: LL=38, PL=17, PI=21, NMC=17.8%, %200=47.9			SS-22	3	6	6	7	12
	44.0	@44-ft.: Light Olive Brown/Gray, (SC/A-7-6), No HCl Reaction, 2.5Y 5/6 & 2.5Y 6/1		44.0						
74.5		@SS-22: LL=48, PL=25, PI=23, NMC=20.1%, %200=41.3			SS-23	5	8	7	11	15
		Medium Dense, Moist, Light Olive Brown/Gray, High Plasticity, Silty Fine to Medium SAND (SM/A-2-7), No HCl Reaction, 2.5Y 5/6 & 2.5Y 6/1		46.0						
					SS-24	7	8	14	18	22
	48.0	@SS-23: LL=52, PL=29, PI=23, NMC=16.7%, %200=30.4		48.0						
		@SS-24: LL=46, PL=23, PI=23, NMC=20.6%, %200=47.4			SS-25	9	9	8	15	17
69.5		@46.5-ft.: Light Bluish Gray/Strong Brown, No HCl Reaction, GLEY2 8/1 & 7.5YR 5/4								
		Medium Dense, Moist, Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, 10YR 7/6								
		@SS-25: LL=NP, PL=NP, PI=NP, NMC=16.9%, %200=20.3								
		@49.5-ft.: with Trace Gravel (6.0-in.)								
	53.5			53.5						
		Dense, Moist to Wet, Yellow, Non-Plastic,								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
64.5		Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 10YR 7/8			SS-26	14	18	24		42
	58.5			58.5						
	59.5	Hard, Moist to Wet, Brown/Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), Strong HCl Reaction, 10YR 6/3 & 10YR 5/1			SS-27	9	10	42		52
59.5		**SANTEE LIMESTONE (EOCENE)** Very Dense, Moist to Wet, White, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM) with Trace of Gravel, Strong HCl Reaction, 7.5YR 9.5/1 @NQ-1: %REC=76, %RQD-23, 1.4 min/ft. @NQ-2: %REC=68, %RQD-23, 2.6 min/ft.		60.0	NQ-1					
54.5				61.6	NQ-2					
	66.6			66.6						
49.5		Very Dense, Moist to Wet, White,Low Plasticity, SILT (ML) with Sand, Strong HCl Reaction, 7.5YR 9.5/1 @NQ-3: %REC=43, %RQD-25, qu=6.9 psi, 1.0 min/ft. LL=28, PL=27, PI=1, NMC=5.7%, %200=82.6 @NQ-4: %REC=60, %RQD-23, 1.0 min/ft.			NQ-3					
				71.6						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
					NQ-4					
44.5										
	76.6	Medium Dense, Wet, White, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM), 7.5YR 9.5/1								
39.5										
				83.5	SS-28	9	7	4		11
34.5										
	88.5	Very Stiff, Wet, White, Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, 7.5YR 9.5/1 & 7.5YR 8/2		88.5	SS-29	14	2	19		21

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5268+57	**Offset:**	4.5-L	**Alignment:**	I-95 Med. CL
Elev.:	119.5 ft	**Latitude:**	33.5009058	**Longitude:**	-80.45829304	**Date Started:**	1/16/2023
Total Depth:	100 ft	**Soil Depth:**	82.9 ft	**Core Depth:**	17.1 ft	**Date Completed:**	1/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 45 ft	**24HR**	45(Cave@80)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	93.5	Medium Dense to Dense, Moist to Wet, Pale Brown, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4) 2.5Y 7/3		93.5	SS-30	7	9	10		19
24.5		@95.5-ft.: Hard Drilling								
	98.5	Hard, Moist to Wet, Very Pale Brown, Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4), 10YR 8/2		98.5	SS-31	12	13	27		40
19.5	100.0	Boring Terminated at 100.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								
14.5										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

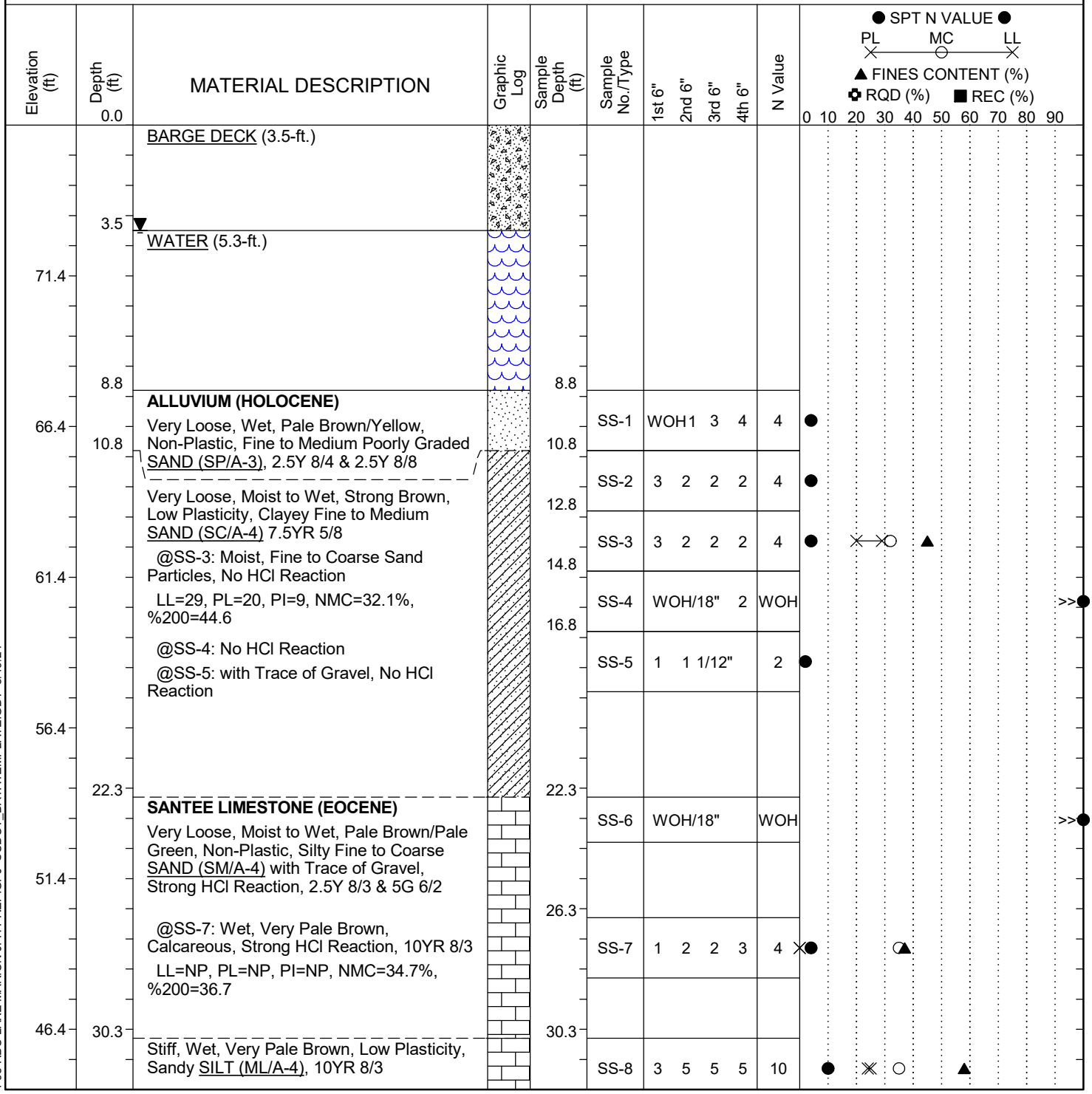
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5266+83	**Offset:**	10.1-R	**Alignment:**	I-95 Med. CL
Elev.:	76.4 ft	**Latitude:**	33.50125805	**Longitude:**	-80.45790408	**Date Started:**	6/2/2023
Total Depth:	108.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	6/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (5.3-ft.)							
71.4	8.8	**ALLUVIUM (HOLOCENE)** Very Loose, Wet, Pale Brown/Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y 8/4 & 2.5Y 8/8	8.8	SS-1	WOH	1	3	4	4
66.4	10.8	Very Loose, Moist to Wet, Strong Brown, Low Plasticity, Clayey Fine to Medium SAND (SC/A-4) 7.5YR 5/8	10.8	SS-2	3	2	2	2	4
		@SS-3: Moist, Fine to Coarse Sand Particles, No HCl Reaction	12.8	SS-3	3	2	2	2	4
61.4		LL=29, PL=20, PI=9, NMC=32.1%, %200=44.6	14.8	SS-4	WOH/18"		2		WOH
		@SS-4: No HCl Reaction	16.8	SS-5	1	1	1/12"		2
		@SS-5: with Trace of Gravel, No HCl Reaction							
56.4	22.3	**SANTEE LIMESTONE (EOCENE)** Very Loose, Moist to Wet, Pale Brown/Pale Green, Non-Plastic, Silty Fine to Coarse SAND (SM/A-4) with Trace of Gravel, Strong HCl Reaction, 2.5Y 8/3 & 5G 6/2	22.3	SS-6	WOH/18"				WOH
51.4		@SS-7: Wet, Very Pale Brown, Calcareous, Strong HCl Reaction, 10YR 8/3	26.3	SS-7	1	2	2	3	4
		LL=NP, PL=NP, PI=NP, NMC=34.7%, %200=36.7							
46.4	30.3	Stiff, Wet, Very Pale Brown, Low Plasticity, Sandy SILT (ML/A-4), 10YR 8/3	30.3	SS-8	3	5	5	5	10



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5266+83	**Offset:**	10.1-R	**Alignment:**	I-95 Med. CL
Elev.:	76.4 ft	**Latitude:**	33.50125805	**Longitude:**	-80.45790408	**Date Started:**	6/2/2023
Total Depth:	108.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	6/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		LL=25, PL=24, PI=1, NMC=35.3%, %200=57.5								
	34.3			34.3						
41.4		@SS-9: No Recovery			SS-9	WOH/12"		1	1	1
	38.3			38.3						
		Soft, Wet, Pale Olive, Low Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction			SS-10	1	1	2	2	3
36.4		@SS-10: LL=29, PL=28, PI=1, NMC=48.2%, %200=56.0								
		@SS-11: with Cemented Lenses		42.3	SS-11	1	2	2	1	4
31.4										
				46.3	SS-12	1	2	1	2	3
26.4	50.3			50.3						
		Medium Dense, Moist, Greenish Gray, Silty Fine to Medium SAND (SM/A-2-4) with Cemented Nodules, 10Y 6/1			SS-13	6	8	9	28	17
		@SS-13: LL=NP, PL=NP, PI=NP, NMC=28.6%, %200=40.6		54.3	SS-14	8	9	4	2	13
21.4		@SS-14: Wet								
	58.3			58.3						
		Stiff, Wet, Greenish Gray, Low Plasticity, Sandy Lean CLAY (CL/A-4), 10Y 6/1			SS-15	4	6	5	11	11
16.4		@SS-15: LL=30, PL=22, PI=8, NMC=30.7%, %200=60.1								
	62.3			62.3						
		Medium Dense, Moist to Wet, Pale Olive, Non-Plastic, Silty Fine to Coarse SAND			SS-16	5	5	8	10	13

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5266+83	**Offset:**	10.1-R	**Alignment:**	I-95 Med. CL
Elev.:	76.4 ft	**Latitude:**	33.50125805	**Longitude:**	-80.45790408	**Date Started:**	6/2/2023
Total Depth:	108.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	6/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
11.4		(SM/A-4) with Cemented Nodules, Strong HCl Reaction, 5Y 6/3								
		@SS-17: Very Loose, Wet		66.3	SS-17	1	1	1	26	2
6.4		@SS-18: Medium Dense, Greenish Gray, 10Y 6/1 LL=NP, PL=NP, PI=NP, NMC=24.4%, %20=41.2		70.3	SS-18	6	11	11	50/3.5"	22
		@71.8-ft.: with Trace of Gravel		74.3						
1.4		@SS-19: Very Dense, Light Bluish Gray, Moderately to Strongly Cemented, with Phosphate Grains, Strong HCl Reaction, 5PB 7/1			SS-19	10			50/3"	100+
		@SS-20: Loose, Moist to Wet		78.3	SS-20	10	5	5	26	10
	79.3	**UNDIFFERENTIATED EOCENE**								
-3.6		Very Stiff to Hard, Moist to Wet, Very Dark Greenish Gray, Very Plastic, Fat CLAY (CH/A-7-6), Micaceous, Laminated, No HCl Reaction, 10Y 3/1		82.3	SS-21	4	9	15	18	24
		@SS-21: LL=73, PL=21, PI=52, NMC=42.3%, %200=86.8								
-8.6				87.3	SS-22	6	9	12		21
-13.6				92.3						
		@SS-23: (CH/A-7-5), with Organic Lenses LL=83, PL=36, PI=47, NMC=53.7%, %200=92.2			SS-23	7	10	13		23
-18.6										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5266+83	**Offset:**	10.1-R	**Alignment:**	I-95 Med. CL
Elev.:	76.4 ft	**Latitude:**	33.50125805	**Longitude:**	-80.45790408	**Date Started:**	6/2/2023
Total Depth:	108.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	6/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	97.8	**WILLIAMSBURG FORMATION (PALEOCENE)** Very Dense, Moist, Dark Gray/White, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, Micaceous, Laminated, No HCl Reaction, 2.5Y 4/1 & 2.5Y 8/1		97.3	SS-24	7	18	34		52
-23.6	102.3	Firm, Moist to Wet, Dark Olive Gray, Very Plastic, Elastic SILT (MH/A-7-5), Thinly Bedded to Massive, No HCl Reaction, 5Y 3/2		102.3	SS-25	2	2	3		5
-28.6				107.3						
	108.8	@SS-26: Moist, Black, Massive, No HCl Reaction LL=108, PL=45, PI=63, NMC=107.3%, %200=97.9			SS-26	2	3	3		6
-33.6		Boring Terminated at 108.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-38.6										
-43.6										
-48.6										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-4		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5266+35	**Offset:**	85.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50115481	**Longitude:**	-80.45757638	**Date Started:**	4/11/2023
Total Depth:	111.5 ft	**Soil Depth:**	41.7 ft	**Core Depth:**	58.3 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (8.0-ft.)							
73.4									
68.4									
	11.5	**ALLUVIUM (HOLOCENE)** Very Loose to Loose, Moist to Wet, Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reactivity, 5Y 4/2	11.5	SS-1	WOH/24"				WOH
		@SS-2: Wet, No HCl Reactivity	13.5	SS-2	WOH/12"	1	1		1
63.4		@SS-3: No HCl Reactivity	15.5	SS-3	WOH/24"				WOH
		@SS-4: No HCl Reactivity	17.5	SS-4	WOH/24"				WOH
	19.5	Loose, Wet, Olive Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, 5Y 4/2	19.5	SS-5	2	4	3	4	7
58.4		@SS-5: LL=NP, PL=NP, PI=NP, NMC=18.6%, %200=25.2							
	25.0	Firm, Moist, Light Brownish Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reactivity. 2.5Y 6/2	25.0	SS-6	4	3	3		6
53.4	27.8	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Pale Brown, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 2.5Y 8/2	27.8	~~SS-7~~	~~50/0.5"~~				~~100+~~
		%REC=10, %RQD=0, 3.0 min/ft.	27.8	NQ-1					
48.4			31.1						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-4
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5266+35	**Offset:**	85.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50115481	**Longitude:**	-80.45757638	**Date Started:**	4/11/2023
Total Depth:	111.5 ft	**Soil Depth:**	41.7 ft	**Core Depth:**	58.3 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
		@NQ-2: Strong HCl Reactivity %REC=80, %RQD=61, qu=550 psi, 1.8 min/ft.			NQ-2		
43.4				36.1			
		@NQ-3: Strong HCl Reactivity %REC=100, %RQD=68, 1.4 min/ft.			NQ-3		
38.4							
	41.1	Very Dense, Moist, Pale Yellow, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Strong HCL Reaction, 5Y8/2 @NQ-4: %REC=70, %RQD=31, 0.6 min/ft.		41.1	NQ-4		
33.4				46.1			
		@NQ-5: Strong HCl Reaction %REC=100, %RQD=80, qu=310 psi, 1.4 min/ft. @47.8-ft.: Light Gray, 2.5Y 7/1			NQ-5		
28.4							
	51.1	Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Weak HCl Reaction, 2.5Y 7/1 @NQ-6: %REC=100, %RQD=95, qu=340 psi, 2.4 min/ft.		51.1	NQ-6		
23.4				56.1			
		@NQ-7: Weak HCl Reaction %REC=96, %RQD=63, 1.0 min/ft.			NQ-7		
18.4				61.1			
		@NQ-8: Weak HCl Reaction %REC=31, %RQD=6, 0.8 min/ft.			NQ-8		

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

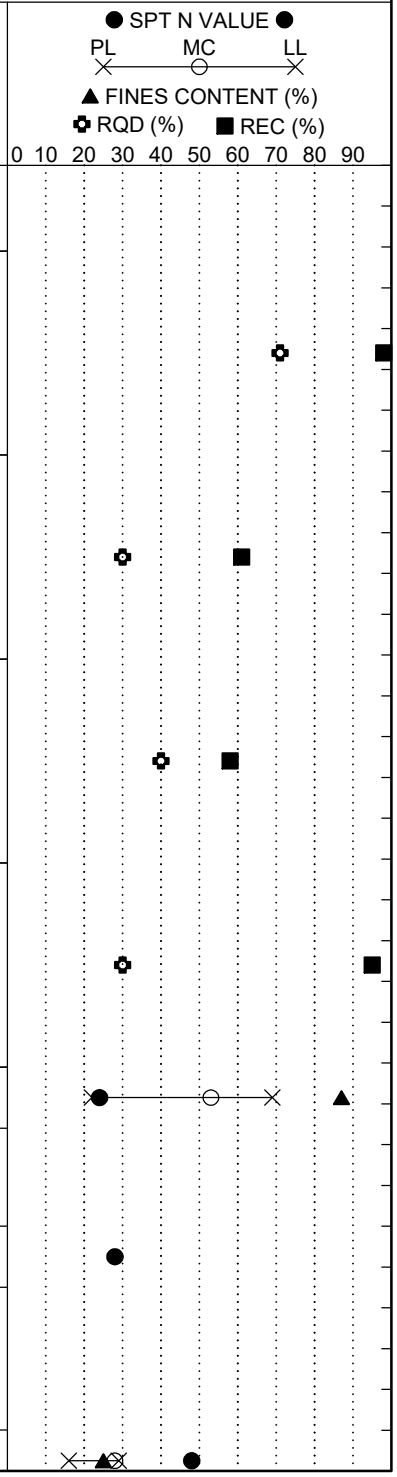
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-4		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5266+35	**Offset:**	85.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50115481	**Longitude:**	-80.45757638	**Date Started:**	4/11/2023
Total Depth:	111.5 ft	**Soil Depth:**	41.7 ft	**Core Depth:**	58.3 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.4										
		@NQ-9: Strong HCl Reaction %REC=98, %RQD=71, qu=1,150 psi, 2.0 min/ft.		66.1	NQ-9					
8.4	71.1	**UNDIFFERENTIATED EOCENE**		71.1						
		Hard, Moist, Greenish Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Weak HCl Reaction, 10Y6/2 @ NQ-11: %REC=61, %RQD=30, 3.0 min/ft.			NQ-10					
3.4				76.1						
		@NQ-11: Greenish Gray, Strong HCl Reaction, GLEY1 6/10Y %REC=58, %RQD=40, qu=1,365 psi, 2.6 min/ft.			NQ-11					
-1.6				81.1						
		@NQ-12: Very Dark Gray, Weak HCl Reaction, GLEY1 3/N %REC=95, %RQD=30, qu=160 psi, 2.0 min/ft.			NQ-12					
-6.6	86.1			86.1						
		Very Stiff, Moist, Very Dark Gray, Very Plastic, Fat CLAY (CH/A-7-6), Weak HCl Reaction, GLEY1 3/N @SS-8: LL=69, PL=22, PI=47, NMC=52.6%, %200=87.3			SS-8	8	10	14		24
-11.6		@SS-9: with Sand		90.0	SS-9	7	10	18		28
	95.0			95.0						
-16.6		**WILLIAMSBURG FORMATION**			SS-10	15	23	25		48



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-4		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5266+35	**Offset:**	85.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50115481	**Longitude:**	-80.45757638	**Date Started:**	4/11/2023
Total Depth:	111.5 ft	**Soil Depth:**	41.7 ft	**Core Depth:**	58.3 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		(PALEOCENE)								
		Dense, Moist, Light Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), GLEY1 7/1								
		@SS-10: LL=29, PL=16, PI=13, NMC=28.0%, %200=24.6								
-21.6	100.0			100.0	SS-11	9	9	20		29
		Very Stiff to Hard, Moist, Very Dark Gray, Very Plastic, Elastic SILT (MH/A-7-5), No HCl Reaction, GLEY1 3/N								
				105.0						
-26.6		@SS-12: LL=102, PL=49, PI=53, NMC=66.3%, %200=98.0			SS-12	8	19	19		38
				110.0						
-31.6					SS-13	17	26	28		54
	111.5	Boring Terminated at 111.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-36.6										
-41.6										
-46.6										

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (16.7-ft.)				
73.8						
68.8						
63.8						
58.8	20.2	**ALLUVIUM (HOLOCENE)**	20.2	SS-1	WOH/24"	WOH
		@SS-1: No Recovery				
	22.2	Very Soft to Soft, Moist to Wet, Light Brownish Gray, High Plasticity, Fat CLAY (CH/A-7-6), 2.5Y 6/2	22.2	SS-2	WOH/24"	WOH
		@SS-3: Light Brownish Gray/Light Bluish Gray, 2.5Y 6/2 & 10B 7/1	24.2	SS-3	WOH 1 1 1	2
53.8		LL=69, PL=29, PI=40, NMC=55.6%, %200=89.3	26.2	SS-4	WOH/24"	WOH
		@SS-4: Light Bluish Gray, 10B 7/1	28.2	SS-5	WOH 2 2 2	4
48.8						

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

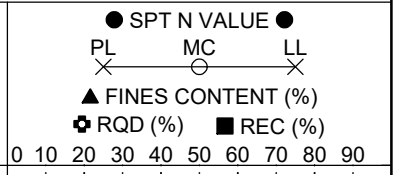
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	33.7			33.7						
43.8		Loose, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y 5/1			SS-6	2	3	2		5
	37.2	**SANTEE LIMESTONE (EOCENE)**								
	38.7	Loose, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y 5/1		38.7	SS-7	5	8	29		37
38.8	40.2	Hard, Moist to Wet, Pale Yellow, Low Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, 5Y 8/3		40.2	~~SS-8~~	~~50/0.5"~~				~~100+~~
		@SS-7: LL=31, PL=29, PI=2, NMC=38.6%, %200=54.6			NQ-1					
		@NQ-1: %REC=88, %RQD=56, 2.3 min/ft.		41.5						
33.8		@NQ-2: Possible Void, Strong HCl Reaction, %REC=17, %RQD=0, 0.6 min/ft.			NQ-2					
		@NQ-3: Olive Gray, Sandy, Strong HCl Reaction, %REC=90, %RQD=50, qu=555 psi, 1.8 min/ft.		46.5						
28.8					NQ-3					
		@NQ-4: Strong HCl Reaction, %REC=100, %RQD=68, qu=440 psi, 1.6 min/ft.		51.5						
23.8					NQ-4					
		@NQ-5: %REC=92, %RQD=48, qu=390 psi, 1.2 min/ft.		56.5						
18.8					NQ-5					
		@NQ-6: Light Gray, Sandy with Phosphate Grains, %REC=98, %RQD=75, 0.8 min/ft.		61.5						



LEGEND

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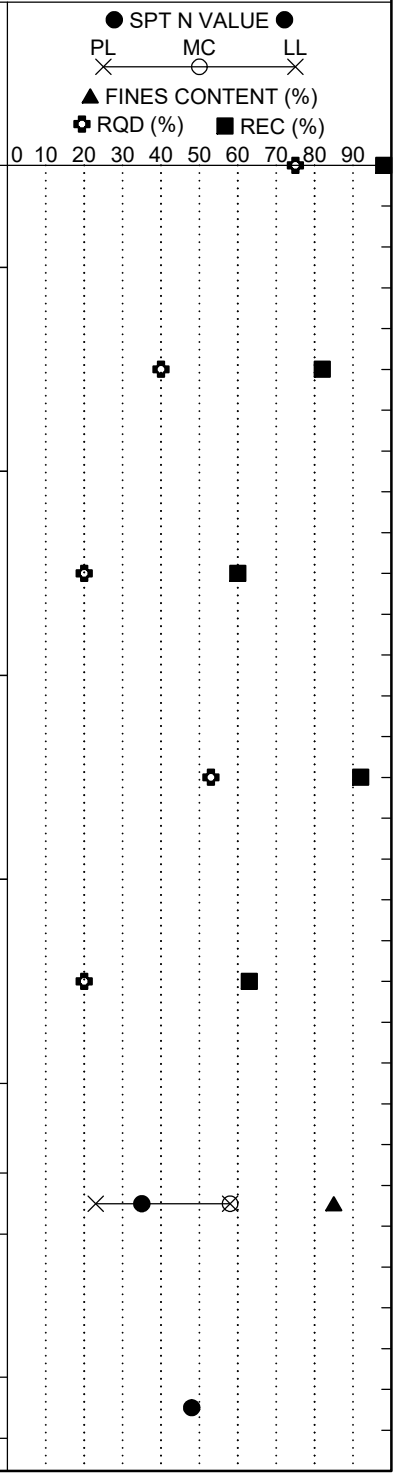
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.8				66.5	NQ-6					
		@NQ-7: Increased Phosphate Grains, %REC=82, %RQD=40, qu=575, 1.0 min/ft.			NQ-7					
8.8				71.5						
		@NQ-8: REC=62, %RQD=20, 3.2 min/ft.			NQ-8					
3.8		@74.2-ft.: Vuggy, with Macrofossils, Strong HCl Reaction		76.5						
		@NQ-9: %REC=92, %RQD=53, qu=605 psi, 2.0 min/ft.			NQ-9					
-1.2		@79.2 ft: Grayish Green, Glauconitic, No HCl Reaction		81.5						
		@NQ-10: No HCl Reaction, %REC=63, %RQD=20, 2.0 min/ft.			NQ-10					
-6.2		@85.2-ft.: No HCl Reaction								
	86.5	**UNDIFFERENTIATED EOCENE**		88.7						
		Hard, Moist, Dark Greenish Gray, Medium Plasticity, Fat CLAY (CH/A-7-6), Laminated, No HCl Reaction, 5GY 3/1			SS-9	8	9	26		35
-11.2		@SS-9: No HCl Reaction								
		LL=58, PL=23, PI=35, NMC=57.5%, %200=85.2		93.7						
					SS-10	12	21	27		48
-16.2										



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	98.7			98.7						
-21.2		**WILLIAMSBURG FORMATION (PALEOCENE)** Hard to Very Stiff, Moist, Dark Greenish Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, Blocky Fracture, No HCl Reaction, 5GY 3/1 @SS-11: LL=111, PL=83, PI=28, NMC=68.6%, %200=73.6			SS-11	19	23	32		55
				103.7						
-26.2		@SS-12: Moist to Dry, Greenish Black, No HCl Reaction, 10Y 2.5/1			SS-12	17	23	50		73
				108.7						
-31.2		@SS-13: Moist, with Decreased Sand Content LL=103, PL=53, PI=50, NMC=66.7%, %200=97.7			SS-13	21	21	29		50
				113.7						
-36.2		@SS-14: Black, Laminated, Slight HCl Reaction, 5Y 2.5/1			SS-14	9	12	12		24
	118.7			118.7						
-41.2		Very Dense to Dense, Moist to Wet, Light Gray/Black, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-4), Marl, with Cemented Lenses, with Trace of Shell Fragments, Strong HCl Reaction, 5YR 7/1 & 5YR 2.5/1			SS-15	37	25	36		61
				123.7						
-46.2		@SS-16: Non-Plastic, Fine to Medium Sand Particles, LL=NP, PL=NP, PI=NP, NMC=44.4%, %200=45.3			SS-16	13	21	27		48

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	128.7			128.7						
-51.2		Very Dense, Moist to Wet, Greenish Gray/Black, Low Plastiicty to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay & Cemented Lenses, Weak HCl Reaction, 10Y 3/1 & 5Y 2.5/1			SS-17	19	36	40		76
	133.7			133.7	SS-18	50/4.5"				100+
		@SS-18: No Recovery								
-56.2										
	138.7			138.7						
	139.2	Very Dense, Moist to Dry, Greenish Gray/Black, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC) with Clay & Cemented Lenses & Shell Fragments, Weak HCl Reaction, 10Y 3/1 & 5Y 2.5/1			SS-19	31	33	34		67
-61.2										
		Hard to Very Stiff, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5), Laminated, Weak HCl Reaction, 5Y 2.5/1		143.7						
-66.2		@SS-20: LL=97, PL=41, PI=56, NMC=54.0%, %200=98.5			SS-20	6	12	14		26
	148.7			148.7						
		Dense, Moist to Wet, Very Dark Gray, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, 5Y 3/1			SS-21	4	17	27		44
-71.2										
	153.7			153.7						
		Very Dense, Wet, Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), Thinly Bedded, N6/1			SS-22	38	50/4.5"			100+
-76.2										
	158.7			158.7						
		Very Dense, Moist to Wet, Gray/White, Low Plasticity to Medium Plasticity, Fine to			SS-23	6	19	33		52

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-5
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5265+32	**Offset:**	19.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50155839	**Longitude:**	-80.45755678	**Date Started:**	5/30/2023
Total Depth:	170.2 ft	**Soil Depth:**	103.7 ft	**Core Depth:**	46.3 ft	**Date Completed:**	6/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	L. Guempel	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay & Trace of Organics, Thinly Bedded, No HCl Reaction, 2.5Y 5/1 & 2.5Y 8/1		163.7	SS-24	50/5.5"				100+
-86.2										
	168.7	@SS-25: No Recovery		168.7	SS-25	9	16	17		33
-91.2	170.2	Boring Terminated at 170.2-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-96.2										
-101.2										
-106.2										
-111.2										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

>>

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-6		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5264+35	**Offset:**	83.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5015292	**Longitude:**	-80.45709679	**Date Started:**	4/10/2023
Total Depth:	120.1 ft	**Soil Depth:**	54 ft	**Core Depth:**	46 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.2-ft.)							
73.6									
68.6									
63.6									
58.6	20.7	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 5YR4/1	20.7	SS-1	WOH/24"				WOH
		@SS-2: With Sand, No HCl Reaction	22.7	SS-2	WOH/24"				WOH
53.6		@SS-3: with Organics (Wood), No HCl Reaction	24.7	SS-3	WOH/18"	1			WOH
	26.7	Loose, Moist, Greenish Gray, Non-Plastic to Low Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, GLEY1 4/10Y	26.7	SS-4	3	3	3	3	6
	28.7		28.7	SS-5	3	2	3	3	5
48.6		Firm, Moist, Dark Greenish Gray, Medium Plasticity, Sandy Lean CLAY (CL/A-6), No HCl Reaction, GLEY1 4/10Y							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

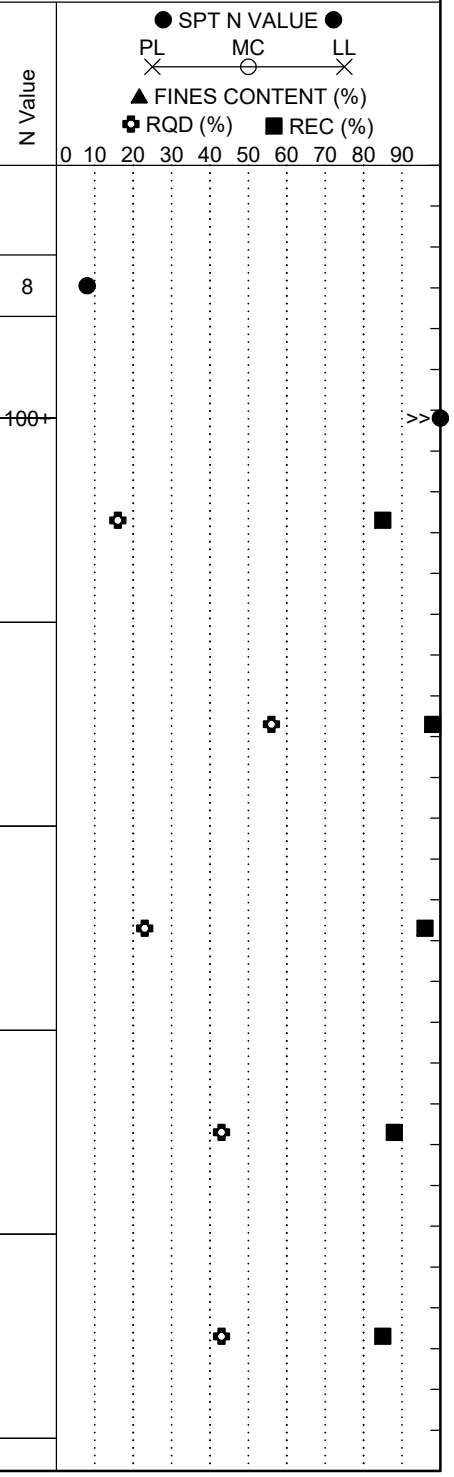
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-6		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5264+35	**Offset:**	83.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5015292	**Longitude:**	-80.45709679	**Date Started:**	4/10/2023
Total Depth:	120.1 ft	**Soil Depth:**	54 ft	**Core Depth:**	46 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-7: LL=29, PL=18, PI=11, NMC=38.6%, %200=53.4								
	34.2			34.2						
43.6		@SS-6: No Recovery			SS-6	2	3	5		8
	38.2			38.2	~~SS-7~~	~~50/0.5"~~				~~100+~~
		SANTEE LIMESTONE (EOCENE)		38.2						
38.6		Hard, Moist, Pale Yellow, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y7/3			NQ-1					
		NQ-1: %REC=85, %RQD=16, 1.4 min/ft.								
				43.2						
		@NQ-2: Greenish Gray, Strong HCl Reaction								
33.6		%REC=98, %RQD=56, qu=395 psi, 0.8 min/ft.			NQ-2					
				48.2						
		@NQ-3: Strong HCl Reaction								
28.6		%REC=96, %RQD=23, 2.0 min/ft.			NQ-3					
				53.2						
		@NQ-4: Strong HCl Reaction								
23.6		%REC=88, %RQD=43, qu=560 psi, 1.4 min/ft.			NQ-4					
				58.2						
		@NQ-5: Strong HCl Reaction								
18.6		%REC=85, %RQD=43, 1.0 min/ft.			NQ-5					
				63.2						
		@NQ-6: Light Greenish Gray, Strong HCl								



LEGEND

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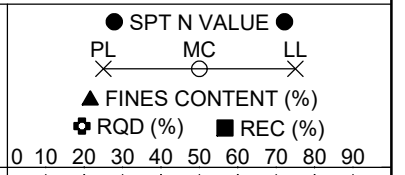
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-6		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5264+35	**Offset:**	83.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5015292	**Longitude:**	-80.45709679	**Date Started:**	4/10/2023
Total Depth:	120.1 ft	**Soil Depth:**	54 ft	**Core Depth:**	46 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.6		Reaction %REC=100, %RQD=85, qu=410 psi, 1.6 min/ft.			NQ-6					
	68.2			68.2						
8.6		Very Dense, Moist, Light Gray, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4), Strong HCL Reaction, 5Y 7/1 NQ-7: %REC=48, %RQD=48, 3.0 min/ft.			NQ-7					
				73.2						
3.6		@NQ-8: Greenish Gray, Weak HCl Reaction %REC=85, %RQD=55, qu=2,790 psi, 3.0 min/ft.			NQ-8					
				78.2						
-1.4		@NQ-9: Dark Greenish Gray, Strong HCl Reaction %REC=90, %RQD=61, qu=135 psi, 2.2 min/ft.			NQ-9					
	83.2									
-6.4		**UNDIFFERENTIATED EOCENE** Hard, Moist, Dark Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), GLEY1 4/10GY @SS-8: Weak HCl Reaction LL=NP, PL=NP, PI=NP, NMC=24.1%, %200=54.1		84.2	SS-8	6	20	34		54
	89.2			89.2						
-11.4		Medium Dense, Moist, Dark Greenish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), No HCl Reaction, GLEY1 4/10GY @SS-9: LL=37, PL=20, PI=17, NMC=30.1%, %200=23.0			SS-9	6	8	11		19
	94.2			94.2						
-16.4		**WILLIAMSBURG FORMATION (PALEOCENE)**			SS-10	7	6	7		13



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-6
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5264+35	**Offset:**	83.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5015292	**Longitude:**	-80.45709679	**Date Started:**	4/10/2023
Total Depth:	120.1 ft	**Soil Depth:**	54 ft	**Core Depth:**	46 ft	**Date Completed:**	4/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Stiff, Moist, Very Dark Gray, Very Plastic, Elastic SILT (MH/A-7-5) with Sand, GLEY1 3/N								
				99.2						
-21.4		@SS-11: Hard to Very Stiff, No HCl Reaction LL=120, PL=54, PI=66, NMC=73.3%, %200=83.0			SS-11	11	16	18		34
				104.2						
-26.4		@SS-12: No HCl Reaction LL=90, PL=49, PI=41, NMC=74.4%, %200=92.8			SS-12	13	25	18		43
				109.2						
-31.4		@SS-13: No HCl Reaction			SS-13	8	10	16		26
				114.2						
-36.4					SS-14	8	12	14		26
				119.2						
-41.4	120.1	@SS-15: with Trace of Gravel			SS-15	35	50/2"			100+
		Boring Terminated at 120.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.4										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-7
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5263+32	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.501914	**Longitude:**	-80.4570595	**Date Started:**	5/25/2023
Total Depth:	119.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (15.8-ft.)							
73.6									
68.6									
63.6									
	19.3	**ALLUVIUM (HOLOCENE)**	19.3						
58.6		Very Soft to Soft, Wet, Light Brownish Gray, Medium Plasticity, Lean CLAY (CL/A-6), 2.5Y 6/2		SS-1	WOH/18"		4		WOH
			21.3	SS-2	WOH/24"				WOH
		@SS-2: Bluish Gray, 5PB 6/1	23.3	SS-3	WOH	1	2	3	3
53.6		@24.8-ft.: Bluish Gray/Strong Brown, Micaceous, 5PB 6/1 & 7.5YR 5/8	25.3	SS-4	4	4	6	5	10
		@SS-4: Moist	27.3	SS-5	5	4	4	3	8
		LL=39, PL=22, PI=17, NMC=32.0%, %200=93.1							
48.6									

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-7
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5263+32	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.501914	**Longitude:**	-80.4570595	**Date Started:**	5/25/2023
Total Depth:	119.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" 2nd 6" 3rd 6" 4th 6"	N Value
		@SS-6: Wet, Dark Bluish Gray, 5B 4/1	32.8	SS-6	WOH/18"	WOH
43.6						
	37.3					
	37.8	**SANTEE LIMESTONE (EOCENE)**	37.8	SS-7	13 15 21	36
38.6		Very Soft, Wet, Dark Bluish Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), 5B 4/1				
		Hard, Moist to Wet, Light Gray, Low Plasticity, SILT (ML/A-4) with Sand, Calcareous, Strong HCl Reaction, 2.5Y 7/1	41.8	SS-8	27 50/5"	100+
		@SS-7: LL=34, PL=31, PI=3, NMC=33.8%, %200=70.1				
		@SS-8: with Trace of Gravel, Variably Cemented				
33.6	45.8		45.8			
		Medium Dense, Moist, Greenish Gray, Low Plasticity, Silty Fine to Medium SAND (SM/A-4) with Trace of Shells, Strong HCl Reaction, 10Y 6/1		SS-9	8 11 9 50/5"	20
		@SS-9: LL=25, PL=24, PI=1, NMC=26.6%, %200=45.7				
	49.8		49.8	SS-10	50/2.5"	100+
28.6		@SS-10: No Recovery				
	53.8		53.8			
		Hard, Moist, Light Olive Gray, Low Plasticity, Sandy SILT (ML/A-4), Variable Cemented, Strong HCl Reaction, 5Y 6/2		SS-11	11 27 50/3.5"	100+
23.6						
		@SS-12: LL=31, PL=28, PI=3, NMC=30.4%, %200=53.8	57.8	SS-12	12 17 50/6"	67
18.6						
		@SS-13: Wet to Moist	61.8	SS-13	1 6 50/5.5"	56+

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-7
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5263+32	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.501914	**Longitude:**	-80.4570595	**Date Started:**	5/25/2023
Total Depth:	119.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.6	65.8		65.8						
		Medium Dense, Moist, Light Greenish Gray, Low Plasticity, Silty Clayey Fine to Coarse SAND (SC-SM/A-4), Strong HCl Reaction, 5GY 7/1		SS-14	10	9	12	40	21
		@SS-14: LL=25, PL=21, PI=4, NMC=24.0%, %200=41.8							
	69.8		69.8						
8.6		Dense, Moist to Wet, Gray/ Light Bluish Gray, Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4), Strongly Cemented, 5Y 6/1 & 5PB 7/1		SS-15	45	13	18	50/5"	31
		@SS-15: LL=25, PL=23, PI=2, NMC=24.6%, %200=30.3							
	73.8		73.8						
3.6		**UNDIFFERENTIATED EOCENE** Very Stiff, Moist, Greenish Gray, High Plasticity, Fat CLAY (CH/A-7-6), Strong HCl Reaction, 5GY 5/1		SS-16	18	9	17	21	26
			77.8						
		@SS-17: Dark Grayish Green, No HCl Reaction, 5GY 4/2		SS-17	7	9	13	19	22
-1.4		LL=53, PL=21, PI=32, NMC=45.3%, %200=89.9							
	82.8		82.8						
		Medium Dense, Moist to Wet, Dark Greenish Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-4), 5GY 4/2		SS-18	5	7	10		17
-6.4		@SS-18: LL=30, PL=21, PI=9, NMC=25.7%, %200=26.9							
			87.8						
		@SS-19: White/Black, with Trace of Organics, 5YR 8/1 & 5YR 2.5/1		SS-19	5	7	15		22
-11.4									
	92.8		92.8						
		WILLIAMSBURG FORMATION (PALEOCENE) Hard to Very Stiff, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5),		SS-20	7	13	19		32
-16.4									

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-7
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5263+32	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.501914	**Longitude:**	-80.4570595	**Date Started:**	5/25/2023
Total Depth:	119.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Laminated, No HCl Reaction, 5Y 2.5/1								
		@SS-20: LL=109, PL=49, PI=60, NMC=80.8%, %200=94.8		97.8						
					SS-21	21	25	28		53
-21.4										
				102.8						
		@SS-22: No HCl Reaction			SS-22	13	24	35		59
-26.4										
				107.8						
		@SS-23: No HCl Reaction			SS-23	14	20	50/5"		100+
		LL=102, PL=61, PI=41, NMC=68.2%, %200=95.0								
-31.4										
				112.8						
		@SS-24: No HCl Reaction			SS-24	8	11	13		24
-36.4										
	117.8			117.8						
		Hard, Moist, Black, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6)			SS-25	36	22	50/4.5"		100+
	119.3	with Trace of Shell Fragments, Cemented, Weak HCl Reaction, 5Y 2.5/1								
-41.4		Boring Terminated at 119.3-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.4										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

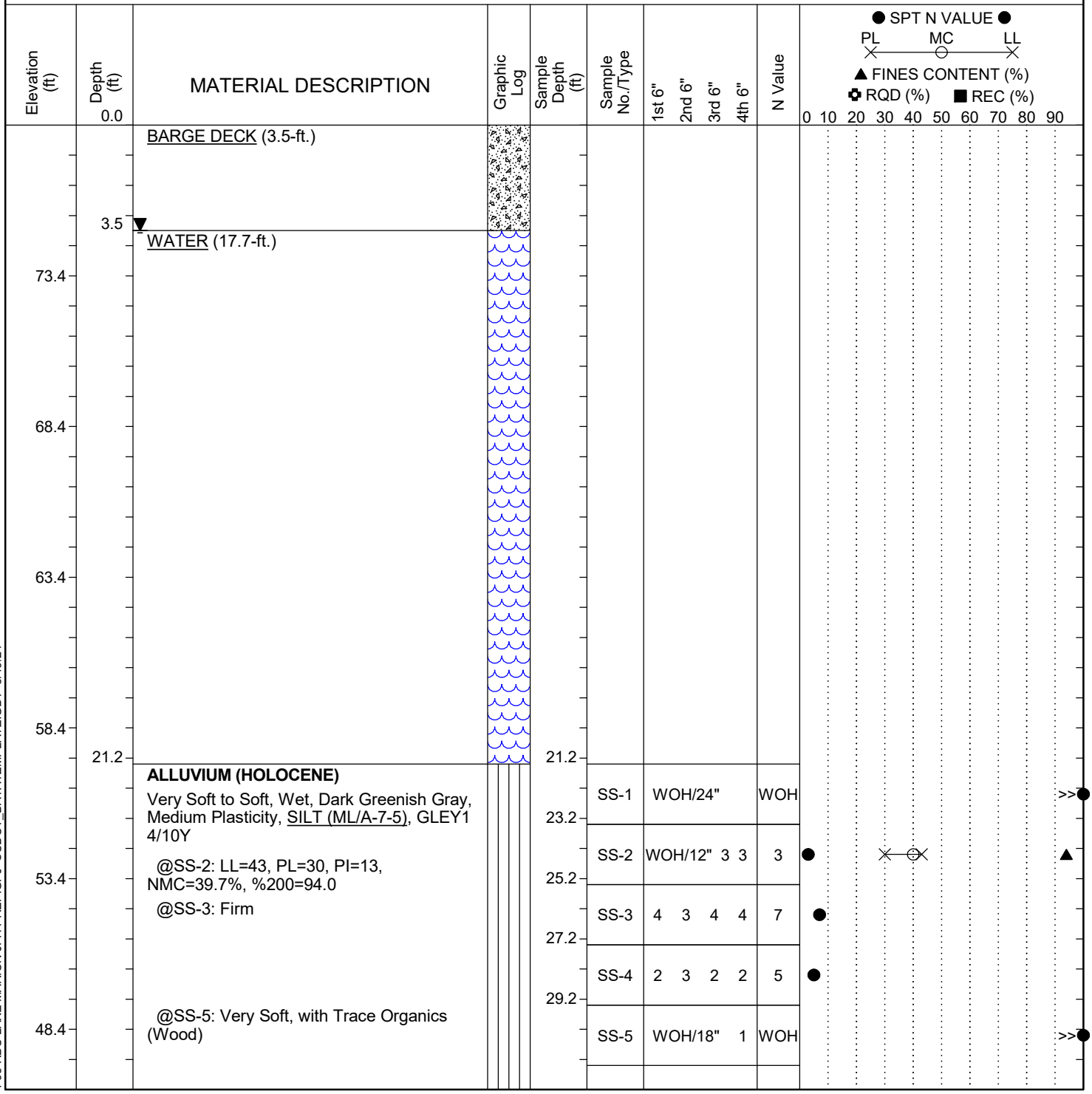
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.7-ft.)							
73.4									
68.4									
63.4									
58.4									
	21.2	**ALLUVIUM (HOLOCENE)** Very Soft to Soft, Wet, Dark Greenish Gray, Medium Plasticity, SILT (ML/A-7-5), GLEY1 4/10Y	21.2	SS-1	WOH/24"				WOH
			23.2	SS-2	WOH/12"	3	3		3
53.4		@SS-2: LL=43, PL=30, PI=13, NMC=39.7%, %200=94.0	25.2	SS-3	4	3	4	4	7
		@SS-3: Firm	27.2	SS-4	2	3	2	2	5
			29.2						
48.4		@SS-5: Very Soft, with Trace Organics (Wood)		SS-5	WOH/18"		1		WOH



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	34.7		34.7			
43.4		Very Loose, Wet, Dark Greenish Gray, Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, GLEY1 4/10Y		SS-6	WOH/12" 5	5
			39.7			
38.4		@SS-7: Very Loose		SS-7	3 3 1	4
	44.7		44.7	SS-8	50/0.5"	100+
33.4		**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y7/2 %REC=91, %RQD=61, qu=350 psi, 1.6 min/ft.	44.7	NQ-1		
			49.7			
28.4		@NQ-2: Greenish Gray, Strong HCl Reactivity, %REC=96, %RQD=83, qu=3,310 psi, 1.8 min/ft.		NQ-2		
			54.7			
23.4		@NQ-3: Strong HCl Reactivity, %REC=100, %RQD=70, qu=360 psi, 1.8 min/ft.		NQ-3		
			59.7			
18.4		@NQ-4: Weak HCl Reaction, %REC=93, %RQD=71, 1.0 min/ft.		NQ-4		

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.4		@NQ-5: Light Greenish Gray, Weak HCl Reaction, %REC=68, %RQD=51, 0.6 min/ft.		64.7						
					NQ-5					
8.4		@NQ-6: Strong HCl Reaction, %REC=86, %RQD=60, qu=300 psi, 2.0 min/ft.		69.7						
					NQ-6					
	74.7			74.7						
3.4		**UNDIFFERENTIATED EOCENE** Hard, Moist, White, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Weak HCL Reaction to Strong HCL Reaction, 5Y8/1 NQ-7: %REC=83, %RQD=53, 1.6 min/ft.			NQ-7					
-1.6		@NQ-8: Greenish Gray, GLEY1 6/5GY, %REC=86, %RQD=40, qu=360 psi, 2.4 min/ft.		79.7						
					NQ-8					
	84.7			84.7						
-6.6		Very Dense, Moist, Dark Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), GLEY1 4/N @SS-9: LL=NP, PL=NP, PI=NP, NMC=25.6%, %200=25.2			SS-9	40	33	42		75
	89.7			89.7						
-11.6		Very Dense, Moist, Dark Gray, Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, GLEY1 4/N			SS-10	21	30	33		63
	94.7			94.7						
-16.6		Very Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3),			SS-11	24		50/5"		100+

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

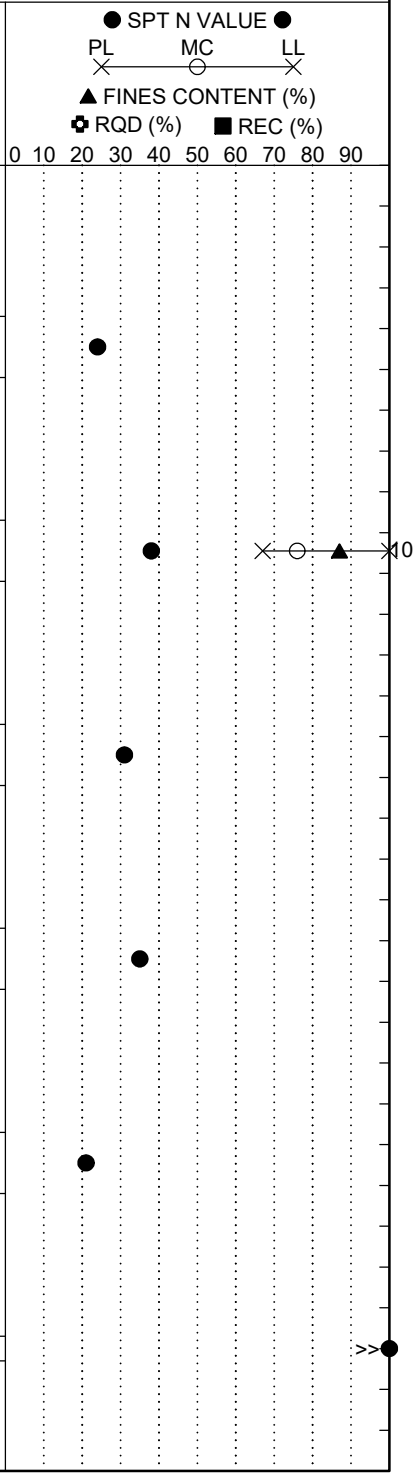
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		GLEY1 6/N								
	99.7			99.7						
-21.6		**WILLIAMSBURG FORMATION (PALEOCENE)** Very Stiff to Hard, Moist, Gray, High Plasticity, Elastic SILT (MH/A-7-5), 5Y 3/1			SS-12	10	11	13		24
				104.7						
-26.6		@SS-13: LL=101, PL=67, PI=34, NMC=76.1% %200=86.6			SS-13	12	15	23		38
				109.7						
-31.6		@SS-14: Very Dark Gray, 5Y 3/1			SS-14	12	14	17		31
				114.7						
-36.6					SS-15	10	14	21		35
				119.7						
-41.6					SS-16	9	9	12		21
				124.7						
-46.6					SS-17	33	50/1"			100+



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	129.2									
-51.6		Dense, Moist, Pale Yellow, Non-Plastic, Silty Fine to Coarse SAND (SM/A-2-4) with Gravel, 5Y 8/2		129.7	SS-18	6	14	17		31
		@SS-18: LL=NP, PL=NP, PI=NP, NMC=24.1%, %200=18.7								
	134.7			134.7						
-56.6		Hard, Moist, Very Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Trace of Gravel, 5Y 3/1			SS-19	13	13	34		47
	135.8	Dense to Very Dense, Moist, Pale Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5Y 8/2								
-61.6		@SS-20: Very Dark Grayish Olive, Fine Sand Particles, 10Y-5GY 3/2		139.7	SS-20	50/2"				100+
				144.7						
-66.6		@SS-21: LL=NP, PL=NP, PI=NP, NMC=35.4%, %200=12.6			SS-21	38	50/5"			100+
				149.7						
-71.6		@SS-22: Greenish Gray, GLEY1 5/N			SS-22	50/4"				100+
	154.7			154.7						
-76.6		Very Stiff to Hard, Moist, Very Dark Gray, Very Plastic, Fat CLAY (CH/A-7-6) with Sand, GLEY1 3/N			SS-23	6	8	10		18
				159.7						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

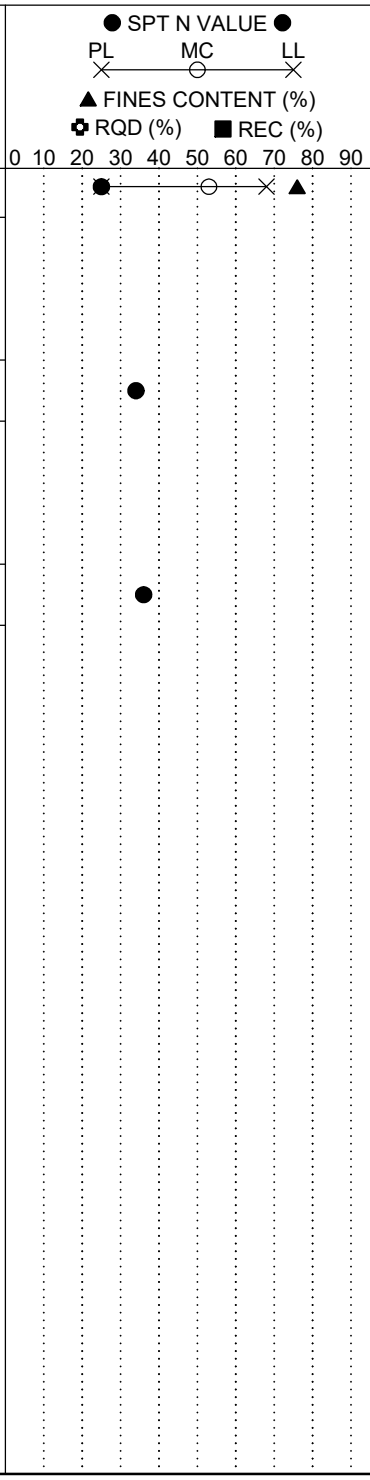
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-8
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5262+34	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.501899	**Longitude:**	-80.45660506	**Date Started:**	4/5/2023
Total Depth:	171.2 ft	**Soil Depth:**	110 ft	**Core Depth:**	40 ft	**Date Completed:**	4/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-24: LL=68, PL=25, PI=43, NMC=52.6%, %200=76.3			SS-24	8	8	17		25
-86.6	165.6	Dense, Moist, Very Dark Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), GLEY1 3/N		164.7	SS-25	7	12	22		34
-91.6	169.7	Dense, Moist, Very Dark Gray, Low Plasticity, Fine to Coarse Poorly Graded SAND (SP-SC/A-2-4) with Clay, GLEY1 3/N		169.7	SS-26	10	12	24		36
-96.6	171.2	Boring Terminated at 171.2-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-101.6										
-106.6										
-111.6										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)					
	3.5	WATER (35.4-ft.)					
73.3							
68.3							
63.3							
58.3							
53.3							
48.3							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
43.3						
	38.9	Very Soft, Wet, Olive Brown, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), 2.5Y 4/3	38.9	SS-1	WOH/18" 8	WOH
38.3	40.4		40.9	SS-2	31 50/2.5"	100+
	41.7	**SANTEE LIMESTONE (EOCENE)**	41.7	SS-3	50/0.5"	100+
		Very Soft, Wet, Light Gray, Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4) with Trace of Gravel, Strong HCl Reaction, 5Y 7/1	41.7	NQ-1		
33.3		@SS-2: Hard, Moist to Wet				
		Olive Gray, Variably Cemented, Strong HCl Reaction,	46.3	NQ-2		
		@NQ-1: %REC=75, %RQD=38, qu=310 psi, 1.1 min/ft.				
		@NQ-2: %REC=92, %RQD=60, 1.4 min/ft.				
28.3			51.3	NQ-3		
		@NQ-3: %REC=98, %RQD=57, qu=480 psi, 1.4 min/ft.				
23.3			56.3	NQ-4		
		@NQ-4: %REC=90, %RQD=63, qu=305 psi, 1.4 min/ft.				
18.3			61.3	NQ-5		
		@NQ-5: Sandy, with Phosphate Grains, %REC=87, %RQD=58, qu=370 psi, 0.4 min/ft.				

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.3			66.3						
		@NQ-6: %REC=80, %RQD=18, 1.4 min/ft.		NQ-6					
8.3									
	71.3	@70.7-ft.: Light Bluish Gray, Strongly Cemented	71.3						
		UNDIFFERENTIATED EOCENE							
		Very Dense, Moist, Olive Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), Strong HCL Reaction, 5Y 5/2		NQ-7					
3.3		NQ-7: %REC=73, %RQD=43, qu=2,020 psi, 2.6 min/f	76.3						
		@NQ-8: Greenish Gray, Ultra #8 Bit, No HCl Reaction, %REC=98, %RQD=68, qu=1,100 psi, 2.2 min/ft.		NQ-8					
-1.7			81.3						
		@NQ-9: Bluish Gray/Black, Micaceous, No HCl Reaction, %REC=50, %RQD=7, 0.8 min/ft.		NQ-9					
-6.7									
	86.3	Very Dense, Moist, Gray/Black, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) with Trace of Organic Lenses, Thinly Bedded, Slightly Cemented, No HCl Reaction, 2.5Y 5/1 & 2.5Y 2.5/1	86.3	SS-4	20	35	50/4.5"		100+
-11.7		@SS-4: LL=NP, PL=NP, PI=NP, NMC=35.8%, %200=22.4							
	92.4	**WILLIAMSBURG FORMATION (PALEOCENE)**	92.4	SS-5	9	11	18		29
-16.7		Very Stiff to Hard, Moist, Very Dark Gray, Very Plastic, Sandy Elastic SILT (MH/A-7-5), Laminated, No HCl Reaction,							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		5Y 3/1		97.4						
		@SS-5: LL=102, PL=49, PI=53, NMC=74.1%, %200=64.5			SS-6	13	16	27		43
		@SS-6: Moist to Dry, with Trace of Gravel, Waxy, No HCl Reaction								
-21.7				102.4						
		@SS-7: No HCl Reaction			SS-7	9	18	32		50
-26.7										
	107.4			107.4						
		Hard to Very Stiff, Moist to Dry, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), 5Y 3/1			SS-8	15	18	34		52
		@SS-8: LL=97, PL=63, PI=34, NMC=76.2%, %200=95.6								
-31.7				112.4						
		@SS-9: Moist, Shaley, No HCl Reaction			SS-9	50/5"				100+
-36.7										
				117.4						
					SS-10	5	8	12		20
-41.7										
		@120.9: Hard Drilling								
	122.4			122.4						
		Very Dense, Moist, Dark Gray/White, Non-Plastic, Silty Fine to Coarse SAND (SM/A-2-4), with Trace of Shells, Strong HCl Reaction, 2.5Y 4/1 & 2.5Y 8/1			SS-11	14	13	43		56
-46.7		@SS-11: LL=NP, PL=NP, PI=NP, %200=24.6%, %200=22.1								
	127.4			127.4						
		Hard, Moist, Light Gray/Very Dark Gray,								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4) with Trace of Gravel & Cemented Shells, Coquina, Strong HCl Reaction, 2.5Y 7/1 & 2.5Y 3/1			SS-12	11	20	23		43
-51.7										
	132.4			132.4						
		Very Dense to Dense, Wet, Light Gray/Very Dark Gray, Low Plasticity to Medium Plasticity, Silty Fine to Medium SAND (SM/A-2-4) with Trace Gravel & Silica Cemented Shells, Coquina, Strong HCl Reaction, 2.5Y 7/1 & 2.5Y 3/1			SS-13	21	40	42		82
-56.7										
		@SS-14: Gray, Decreased Silica Cementation, Strong HCl Reaction, 5Y 5/1		137.4	SS-14	17	30	19		49
-61.7										
	142.4			142.4						
		Very Dense, Wet, Grayish Green, Non-Plastic, Fine Poorly Graded SAND (SP-SM/A-3) with Silt, Glauconitic, Weak HCl Reaction, 5G 4/2			SS-15	27	50/4.5"			100+
-66.7										
		@SS-16: Dark Greenish Gray/Black, Laminated to Thinly Bedded, No HCl Reaction, 10Y 4/1 & 5Y 2.5/1		147.4	SS-16	11	25	42		67
-71.7		LL=NP, PL=NP, PI=NP, NMC=28.5%, %200=9.3								
	152.4			152.4						
		Very Stiff to Hard, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5), Laminated, No HCl Reaction, 5Y2.5/1			SS-17	6	8	11		19
-76.7		@SS-17: LL=106, PL=52, PI=54, NMC=56.5%, %200=91.5								
				157.4	SS-18	x	15	25		40

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

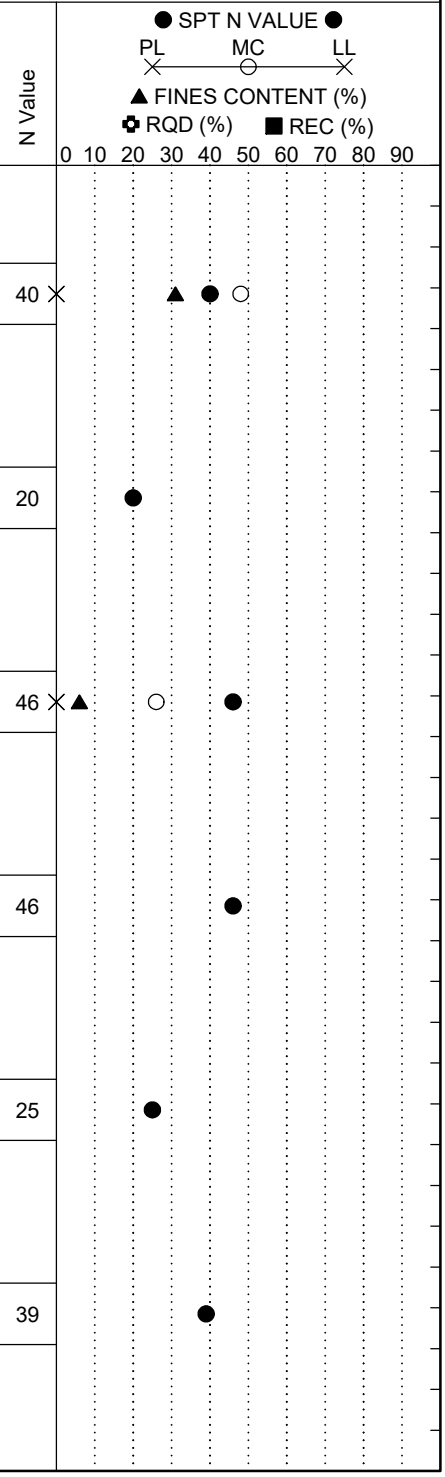
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5261+35	**Offset:**	13.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50228068	**Longitude:**	-80.45658372	**Date Started:**	5/23/2023
Total Depth:	188.9 ft	**Soil Depth:**	105.4 ft	**Core Depth:**	44.6 ft	**Date Completed:**	5/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	162.4			162.4						
		Dense, Wet, Dark Gray/Black, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Thinly Bedded, No HCl Reaction, 5Y 4/1 & 5Y 2.5/1			SS-19	11	14	26		40
-86.7		@SS-19: LL=NP, PL=NP, PI=NP, NMC=47.9%, %200=30.7								
	167.4			167.4						
		Very Stiff, Moist, Black/White, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, Laminated, 2.5Y 2.5/1 & 2.5Y 8/1			SS-20	7	8	12		20
-91.7										
	172.4			172.4						
		Dense to Medium Dense, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM) with Silt & Trace of Shell Fragments & Organic Lenses, Thinly Bedded, No HCl Reaction, 2.5Y 5/1			SS-21	11	20	26		46
-96.7		@SS-21: LL=NP, PL=NP, PI=NP, NMC=25.5%, %200=6.4								
		@SS-22: Moist to Wet, with Trace of Organics (Wood), No HCl Reaction, 5Y 7/1		177.4	SS-22	19	22	24		46
-101.7										
		@SS-23: Increased Organics Content, No HCl Reaction		182.4	SS-23	12	13	12		25
-106.7										
	187.4			187.4						
		Hard, Moist, Bluish Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 5B 5/1			SS-24	16	19	20		39
	188.9									
-111.7		Boring Terminated at 188.9-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value	SPT N VALUE / PL MC LL / FINES CONTENT (%) / RQD (%) / REC (%)
	0.0	BARGE DECK (3.5-ft.)						0 10 20 30 40 50 60 70 80 90
	3.5	WATER (35.6-ft.)						
73.8								
68.8								
63.8								
58.8								
53.8								
48.8								

LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
43.8									
	39.1	**ALLUVIUM (HOLOCENE)**	39.1						
38.8		Very Soft, Wet, Dark Yellowish Brown, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 10YR 3/6		SS-1	WOH/24"				WOH
	41.1	Very Soft, Wet, Brown, Non-Plastic, SILT (ML/A-4) with Sand, 10YR 5/3	41.1	SS-2	WOH/12"	1	1		1
		@SS-3: Stiff to Firm, Moist, Light Gray, 5Y 7/2	43.1	SS-3	2	8	5	10	13
33.8		LL=NP, PL=NP, PI=NP, NMC=26.4%, %200=72.0	45.1	SS-4	1	2	3	4	5
	47.1	**SANTEE LIMESTONE (EOCENE)**	47.1	~~SS-5~~	~~50/0.5"~~				~~100+~~
		Hard, Moist, Light Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, 5Y7/1	47.1	NQ-1					
28.8		%REC=76, %RQD=73, 1.0 min/ft.							
	52.1	Very Dense, Moist, Light Gray, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4), Strong HCl Reaction, 5Y7/2	52.1	NQ-2					
23.8		%REC=65, %RQD=15, qu=195 psi, 0.4 min/ft.							
		@NQ-3: Fine to Medium Sand Particles	57.1	NQ-3					
		%REC=63, %RQD=40, qu=220 psi, 1.4 min/ft.							
18.8			62.1						
		@NQ-4: Gray, Weak HCl Reactivity, 5 Y6/1, %REC=36, %RQD=8, 0.6 min/ft.							

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.8					NQ-4					
	67.1	Hard, Moist, Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y5/1		67.1						
		%REC=98, %RQD=86, qu=570 psi, 2.6 min/ft.			NQ-5					
8.8										
	72.1	**UNDIFFERENTIATED EOCENE**		72.1						
		Very Dense, Moist, Light Greenish Gray, Non-Plastic, Medium to Coarse Poorly Graded SAND (SP/A-3), GLEY1 4/N			NQ-6					
3.8		%REC=88, %RQD=55, qu=3,120 psi, 3.6 min/ft.								
				77.1						
		Very Dense, Moist, Dark Gray, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Weak HCl Reaction, GLEY1 4/N			NQ-7					
-1.2		%REC=86, %RQD=71, qu=400 psi, 2.4 min/ft.								
	82.6			82.6						
		Medium Dense, Wet, Very Dark Greenish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), GLEY1 3/5GY			SS-6	5	9	9		18
-6.2		@SS-6: LL=33, PL=22, PI=11, NMC=24.0%, %200=13.9								
	87.6			87.6						
		Very Dense, Moist, Greenish Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), GLEY1 5/10Y			SS-7	13	40	50/5"		90+
-11.2										
	92.6			92.6						
		WILLIAMSBURG FORMATION (PALEOCENE)			SS-8	3	3	4		7
		Firm to Stiff, Wet, Black, High Plasticity, Elastic SILT (MH/A-7-5), GLEY1 2.5/N								
-16.2										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-8: LL=83, PL=48, PI=35, NMC=137.7%, %200=94.6		97.6						
		@SS-9: Very Dark Gray, GLEY1 3/N			SS-9	WOH	5	4		9
-21.2				102.6						
					SS-10	3	4	8		12
-26.2				107.6						
		@SS-11: Hard, with Sand LL=106, PL=54, PI=52, NMC=70.1%, %200=79.6			SS-11	9	5	27		32
-31.2				112.6						
		@SS-12: Firm			SS-12	WOH	3	3		6
-36.2				117.6						
		@SS-13: Very Stiff			SS-13	11	11	18		29
-41.2										
	122.6			122.6						
		Medium Dense, Moist, Greenish Gray, Low Plasticity, Fine to Coarse Poorly Graded SAND (SP-SC/A-2-4) with Clay, GLEY1 6/N			SS-14	11	11	14		25
-46.2				127.6						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
					SS-15	10	10	10		20
-51.2										
	132.6			132.6						
		Very Dense, Moist, Very Dark Grayish Brown, Non-Plastic, Silty SAND (SM/A-1-b), 2.5Y 3/2			SS-16	20	44	13		57
-56.2		@SS-16: LL=NP, PL=NP, PI=NP, NMC=48.8%, %200=17.7								
	137.6			137.6						
		Dense, Moist, Dark Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), GLEY1 4/10Y			SS-17	4	15	16		31
-61.2										
	142.6			142.6						
		Stiff, Moist, Black, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, GLEY1 2.5/N			SS-18	4	4	7		11
-66.2										
	147.6			147.6						
		Medium Dense, Moist, Very Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-2-4) with Silt, 5Y 3/1			SS-19	8	4	8		12
-71.2										
				152.6						
		@SS-20: Very Dense to Dense, Dark Gray, 5Y 4/1			SS-20	8	24	34		58
		LL=NP, PL=NP, PI=NP, NMC=31.8%, %200=11.9								
-76.2										
				157.6						
					SS-21	14	19	27		46

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-10
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5260+36	**Offset:**	83.4-L	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50226826	**Longitude:**	-80.45612937	**Date Started:**	3/30/2023
Total Depth:	189.1 ft	**Soil Depth:**	115 ft	**Core Depth:**	35 ft	**Date Completed:**	3/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
			162.6						
				SS-22	10	15	19		34
-86.2									
	167.6	Dense, Moist, Very Dark Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-1-b), 5Y 3/1	167.6						
		@SS-23: LL=NP, PL=NP, PI=NP, NMC=27.7%, %200=18.1		SS-23	11	17	27		44
-91.2									
	172.6	Very Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5Y 5/1	172.6						
				SS-24	25	35	50/6"		85+
-96.2									
	177.6	Dense to Very Dense, Moist, Greenish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), GLEY1 6/5G	177.6						
				SS-25	14	20	28		48
-101.2									
		@SS-26: LL=35, PL=21, PI=14, NMC=19.4%, %200=24.6	182.6						
				SS-26	17	21	30		51
-106.2									
			187.6						
				SS-27	12	14	43		57
	189.1	Boring Terminated at 189.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.							
-111.2									

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

>>

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value	SPT N VALUE / PL MC LL / FINES CONTENT (%) / RQD (%) / REC (%)
	0.0	BARGE DECK (3.5-ft.)						0 10 20 30 40 50 60 70 80 90
	3.5	WATER (29.4-ft.)						
73.4								
68.4								
63.4								
58.4								
53.4								
48.4								

LEGEND

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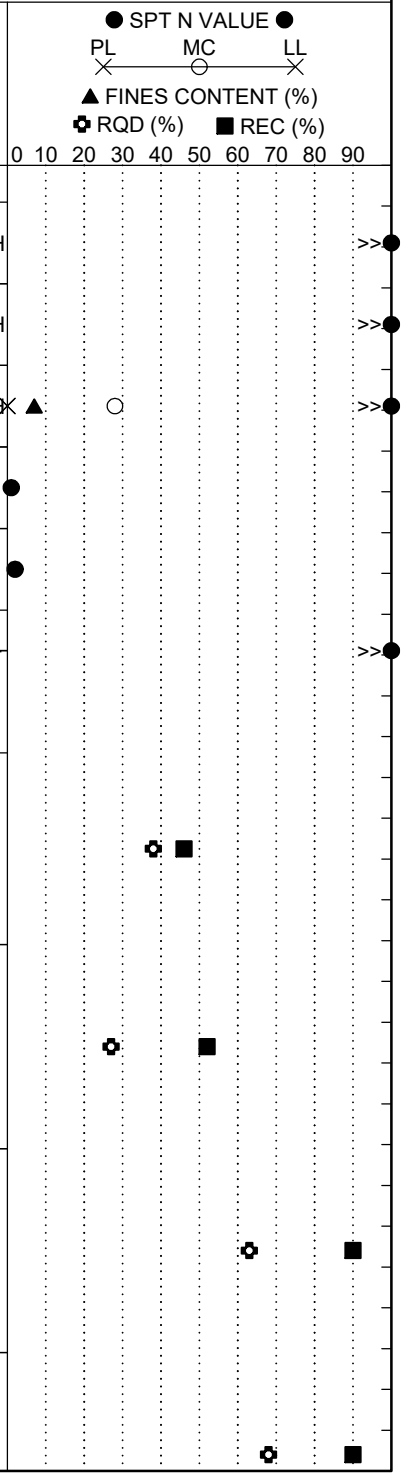
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	32.9			32.9						
		ALLUVIUM (HOLOCENE) Very Loose, Wet, Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 5Y 4/2			SS-1	WOH/24"				WOH
43.4		@SS-2: Olive Gray/Brown, 5Y 4/2 & 10YR 5/3		34.9	SS-2	WOH/24"				WOH
		@SS-3: LL=NP, PL=NP, PI=NP, NMC=27.9%, %200=7.0		36.9	SS-3	WOH/18"		1		WOH
		@38.4-ft.: Grayish Brown, Micaceous, 2.5Y 5/2		38.9	SS-4	1/12"	1	1		1
38.4		@SS-4: Olive Gray, 5Y 4/2		40.9	SS-5	2	1	1	2	2
		@SS-5: with Trace of Organics (Wood)								
	43.9			43.9	~~SS-6~~	~~50/0.5"~~				~~100+~~
		SANTEE LIMESTONE (EOCENE) Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/2		46.4						
33.4		@NQ-1: Light Gray, Calcilutite/Calcarenite, Strong HCl Reaction, %REC=46, %RQD=38, 0.6 min/ft.			NQ-1					
		@48.9-ft.: Core Barrel Dropped 2.0-ft (Potential Void)		51.1						
28.4		@NQ-2: Potential Void (2.8-ft.), %REC=52, %RQD=27, qu=380 psi, 0.4 min/ft.			NQ-2					
				56.1						
23.4		@NQ-3: Gray, with Phosphate Grains, %REC=90, %RQD=63, qu=290 psi, 0.4 min/ft.			NQ-3					
18.4										
	61.1			61.1						
		Very Dense, Moist, Light Gray, Non-Plastic to Low Plasticity, Silty Coarse SAND (SM/A-2-4), Strong HCL Reaction, 5Y7/2								
		@NQ-4: %REC=90, %RQD=68, qu=380			NQ-4					



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		psi, 0.6 min/ft.							
13.4		@NQ-5: %REC=73, %RQD=55, qu=390 psi, 1.8 min/ft.	66.1	NQ-5					
8.4		@69.9-ft.: Light Bluish Gray, Vuggy with Phosphate Nodules @NQ-6: %REC=40, %RQD=20, 1.6 min/ft.	71.1	NQ-6					
3.4	76.1	**UNDIFFERENTIATED EOCENE** Very Dense, Moist, Grayish Olive, Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, Glauconitic, Weak HCl Reaction, 10Y5/2	76.1	NQ-7					
-1.6	81.1	@NQ-7: No HCl Reaction, %REC=87, %RQD=63, qu=195 psi, 1.2 min/ft. @81.1: Switched Back to SPT Drilling & Sampling							
-6.6		Medium Dense, Moist, Very Dark Greenish Gray/Pale Brown, Low Plasticity to Medium Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Glauconitic, GLEY 1 3/10GY & GLEY 1 6/5G/1	86.4	SS-7	7	12	12		24
-11.6	87.4	**WILLIAMSBURG FORMATION (PALEOCENE)** Very Stiff to Hard, Moist, Very Dark Greenish Gray, Very Plastic, Elastic SILT (MH/A-7-5) with Sand, No HCl Reaction, GLEY 1 3/10GY	91.4	SS-8	14	18	26		44
-16.6		@SS-8: Very Dark Greenish Gray/Pale Gray/Gray, with Sand Seams, GLEY 1 3/10GY & GLEY 1 6/5G/1 & GLEY 1 6/N LL=95, PL=51, PI=44, NMC=68.3%, %200=84.3							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-9: No HCl Reaction		96.4	SS-9	10	17	27		44
-21.6				101.4	SS-10	13	20	31		51
-26.6				106.4	SS-11	19		50/2"		100+
		@SS-11: Slightly Cemented at Bottom of Spoon, No HCl Reaction								
-31.6				111.4	SS-12	11	13	17		30
		@SS-12: Very Dark Greenish Gray, with Decreased Sand content, GLEY 1 3/10GY LL=103, PL=54, PI=49, NMC=73.6%, %200=99.3								
-36.6	116.4			116.4	SS-13	45	32	50/2.5"		82+
		Very Dense to Dense, Moist, Greenish Gray/Very Dark Greenish Gray/Light Gray, Non-Plastic,Silty Fine to Coarse SAND (SM/A-1-b) with Trace of Gravel, Cemented, Strong HCl Reaction, GLEY 1 6/5GY & GLEY 1 3/10GY & GLEY 1 5/5G/1								
-41.6				121.4	SS-14	17	18	21		39
		@SS-14: Wet, Greenish Gray/Light Gray, Weak to Strong HCl Reaction, GLEY 1 5/5G/1 & GLEY 1 7/N LL=NP, PL=NP, PI=NP, NMC=16.1%, %200=19.6								
-46.6				126.4	SS-15	11	36	50/5"		86+
		@SS-15: Greenish Gray/Light Gray/Black, Weak to Strong HCl Reaction, GLEY 1								

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		5/5G/1 & GLEY 1 7/N & GLEY 1 2.5/N								
-51.6	131.4	@SS-16: No Recovery		131.4	SS-16	50/4"				100+
-56.6	136.4	Very Stiff to Hard, Moist, Dark Greenish Gray/Black, Non-Plastic, Sandy SILT (ML/A-4), Laminated, Glaucenitic, Weak HCl Reaction, 10Y 4/1 & 5Y 2.5/1		136.4	SS-17	6	11	12		23
-61.6		@SS-17: LL=NP, PL=NP, PI=NP, NMC=47.0%, %200=53.6								
		@SS-18: Moist to Wet, Dark Greenish Gray, Thinly Bedded, No HCl Reaction, 10Y 4/1		141.4	SS-18	29	43	40		83
-66.6										
-71.6	151.4	@SS-19: Gray/Black, No HCl Reaction, 2.5Y 6/1 & 2.5Y 2.5/1		146.4	SS-19	35	47	50/3.5"		97+
-76.6	156.4	Very Stiff, Wet, Black/Gray, Very Plastic, Lean CLAY (CL) with Sand, Laminated, No HCl Reaction, 2.5Y 2.5/1 & 2.5Y 6/1		151.4	SS-20	8	11	12		23
		Medium Dense, Moist to Wet, Very Dark Gray, Non-Plastic, Silty SAND (SM/A-2-4) with Trace of Shells, Weak HCl Reaction, 5Y 3/1		156.4	SS-21	8	11	12		23
		@SS-21: LL=NP, PL=NP, PI=NP,								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-11
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5259+33	**Offset:**	14.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50265738	**Longitude:**	-80.4560975	**Date Started:**	5/17/2023
Total Depth:	182.9 ft	**Soil Depth:**	115.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		NMC=29.1%, %200=32.1		161.4						
		@SS-22: Very Dense, Wet, with Trace of Organic Lenses, No HCl Reaction			SS-22	20	29	30		59
-86.6	166.4			166.4						
		Very Dense, Wet, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3) with Trace of Organic Lenses, No HCl Reaction, 5Y 4/1			SS-23	10	19	32		51
-91.6	171.4			171.4						
		Very Dense, Wet, Dark Gray, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay Lenses, Thinly Bedded, No HCl Reaction. 5Y 4/1			SS-24	5	20	50		70
-96.6	176.4			176.4						
		Very Dense, Moist to Wet, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, No HCl Reaction, 5Y 4/1			SS-25	13	22	34		56
-101.6		@SS-24: LL=NP, PL=NP, PI=NP, NMC=24.1%, %200=7.2		181.4						
		@SS-26: No HCl Reaction			SS-26	17	22	34		56
	182.9	Boring Terminated at 182.9-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-106.6										
-111.6										

SPT N VALUE: PL, MC, LL; ▲ FINES CONTENT (%); ✿ RQD (%); ■ REC (%); 0 10 20 30 40 50 60 70 80 90

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-12
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5258+34	**Offset:**	87.0-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50263501	**Longitude:**	-80.45563295	**Date Started:**	3/29/2023
Total Depth:	130.1 ft	**Soil Depth:**	59.4 ft	**Core Depth:**	39.5 ft	**Date Completed:**	3/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)					
	3.5	WATER (27.8-ft.)					
72.9							
67.9							
62.9							
57.9							
52.9							
47.9							
	31.3	**ALLUVIUM (HOLOCENE)**		31.3			

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-12		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5258+34	**Offset:**	87.0-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50263501	**Longitude:**	-80.45563295	**Date Started:**	3/29/2023
Total Depth:	130.1 ft	**Soil Depth:**	59.4 ft	**Core Depth:**	39.5 ft	**Date Completed:**	3/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Very Loose, Wet, Dark Olive Brown, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), 2.5Y 3/8		SS-1	WOH/24"				WOH
42.9	33.3	@SS-2: Wood Debris	33.3	SS-2	WOH	6	49	7	55
	35.3	Stiff, Wet, Dark Olive Brown, Non-Plastic, SILT (ML/A-4) with Trace Organics (Wood), 2.5Y 3/8	35.3	SS-3	4	4	6	4	10
		LL=NP, PL=NP, PI=NP, NMC=94.5%, %200=91.8							
37.9	39.3	@37.3-ft.: Sample was Omitted Due to Process of Pushing Casing Through Wood Debris	39.3	SS-4	4	50/4"			100+
	40.1	Very Dense, Wet, Olive, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), 5Y 4/3	40.1	SS-5	50/0.5"				100+
		SANTEE LIMESTONE (EOCENE)		NQ-1					
32.9		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y 7/2	44.6						
		%REC=98, %RQD=98, qu=835 psi, 1.5 min/ft.		NQ-2					
		@NQ-2: %REC=100, %RQD=98, 2.2 min/ft.							
27.9		@NQ-3: %REC=56, %RQD=53, qu=330 psi, 1.0 min/ft.	49.6	NQ-3					
22.9		@NQ-4: %REC=73, %RQD=68, 1.0 min/ft.	54.6	NQ-4					
	59.6		59.6						
17.9		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y 7/2		NQ-5					
		@NQ-5: %REC=70, %RQD=40, 1.6 min/ft.							

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-12
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5258+34	**Offset:**	87.0-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50263501	**Longitude:**	-80.45563295	**Date Started:**	3/29/2023
Total Depth:	130.1 ft	**Soil Depth:**	59.4 ft	**Core Depth:**	39.5 ft	**Date Completed:**	3/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9		@NQ-6: Light Gray, Strong HCl Reaction, %REC=86, %RQD=65, 3.6 min/ft.	64.6						
				NQ-6					
	69.6		69.6						
7.9		Very Dense, Moist, Light Gray, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Strong HCl Reaction, 5Y 7/2							
		@NQ-7: %REC=51, %RQD=43, qu=3,010 psi, 6.6 min/ft.		NQ-7					
	74.6		74.6						
2.9		**UNDIFFERENTIATED EOCENE** Dark Grayish Green, Weak HCl Reaction							
		@NQ-8: %REC=95, %RQD=83, qu=925 psi, 1.2 min/ft.		NQ-8					
	79.6								
-2.1		Dense, Moist, Dark Greenish Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-4), GLEY1 4/5GY							
			84.8						
-7.1		@SS-6: LL=30, PL=22, PI=8, NMC=22.6%, %200=31.0		SS-6	8	12	19		31
	89.8		89.8						
-12.1		**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Greenish Black, Very Plastic, Elastic SILT (MH/A-7-5), GLEY1 2.5/10Y		SS-7	12	15	40		55
			94.8						
-17.1		@SS-8: LL=102, PL=60, PI=42, NMC=75.7%, %200=97.6		SS-8	13	23	40		63

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

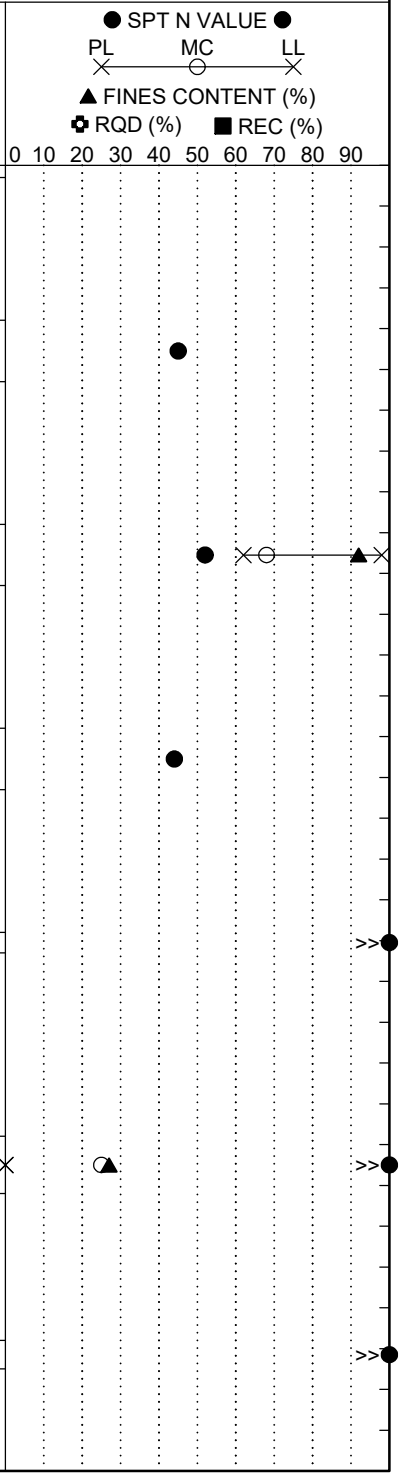
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-12
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5258+34	**Offset:**	87.0-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50263501	**Longitude:**	-80.45563295	**Date Started:**	3/29/2023
Total Depth:	130.1 ft	**Soil Depth:**	59.4 ft	**Core Depth:**	39.5 ft	**Date Completed:**	3/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
-22.1		@SS-9: Black, GLEY1 2.5/N		99.8	SS-9	10	19	26		45
-27.1		@SS-10: LL=98, PL=62, PI=36, NMC=68.1%, %200=92.4		104.8	SS-10	14	25	27		52
-32.1				109.8	SS-11	14	19	25		44
-37.1	114.8	Hard, Moist, Very Dark Gray, Very Plastic, Elastic SILT (MH/A-7-5) with Sand, GLEY1 3/N		114.8	SS-12	50/5.5"				100+
-42.1	119.8	Very Dense, Moist, Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) with Shells, 5Y 6/1 LL=NP, PL=NP, PI=NP, NMC=25.4%, %200=27.0		119.8	SS-13	17	28	50/4.5"		78+
-47.1				124.8	SS-14	21		50/2.5"		100+



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-12
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5258+34	**Offset:**	87.0-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50263501	**Longitude:**	-80.45563295	**Date Started:**	3/29/2023
Total Depth:	130.1 ft	**Soil Depth:**	59.4 ft	**Core Depth:**	39.5 ft	**Date Completed:**	3/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	129.8			129.8			
-52.1	130.1	Very Dense, Moist, Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3) with Shells, 5Y 5/1			SS-15	5/4"	100+
		Boring Terminated at 130.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.					
-57.1							
-62.1							
-67.1							
-72.1							
-77.1							

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-13
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5257+38	**Offset:**	14.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50302079	**Longitude:**	-80.45562339	**Date Started:**	5/16/2023
Total Depth:	118.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (15.5-ft.)				
73.3						
68.3						
63.3						
	18.8	**ALLUVIUM (HOLOCENE)**	18.8			
58.3		Very Soft, Wet, Grayish Brown, High Plasticity, Lean CLAY (CL/A-6), Micaceous, 2.5Y 5/2	20.8	SS-1	WOH/24"	WOH
			22.8	SS-2	WOH/24"	WOH
		@SS-3: LL=44, PL=23, PI=21, NMC=43.2%, %200=94.9	24.8	SS-3	WOH/24"	WOH
53.3		@SS-4: Olive Brown, 2.5Y 4/3	26.8	SS-4	WOH/24"	WOH
				SS-5	WOH/24"	WOH
48.3						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-13
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5257+38	**Offset:**	14.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50302079	**Longitude:**	-80.45562339	**Date Started:**	5/16/2023
Total Depth:	118.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	32.3	Very Loose to Loose, Wet, Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), Micaceous, 2.5Y 5/1		32.3	SS-6	2	1	1		2
43.3		LL=NP, PL=NP, PI=NP, NMC=31.8%, %200=34.5								
				37.3	SS-7	11	4	4		8
38.3	39.8	**SANTEE LIMESTONE (EOCENE)** Very Loose to Loose, Wet, Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), Micaceous, 2.5Y 5/1								
	42.3	Medium Dense, Moist, Greenish Gray, Non-Plastic, Silty Fine SAND (SM/A-4), Variably Cemented, Strong HCl Reaction, 10Y 6/1		42.3	SS-8	9	9	17	50/5"	26
33.3		LL=NP, PL=NP, PI=NP, NMC=25.4%, %200=44.0		46.3	~~SS-9~~	~~50/0.5"~~				~~100+~~
		@SS-9: Very Dense to Dense								
28.3				50.3	SS-10	13	13	22	50/4"	35
				54.3						
23.3		@SS-11: Loose to Very Loose, Moist to Wet, Light Olive Gray, Strong HCl Reaction, 5Y 6/2			SS-11	3	2	3	26	5
		LL=NP, PL=NP, PI=NP, NMC=37.6%, %200=48.9		58.3						
		@SS-12: Wet, Fine to Coarse Sand Particles			SS-12	8	1	1	7	2
18.3				62.3						
		@SS-13: Medium Dense to Dense, Moist to Wet, Olive Gray, Strong HCl Reaction,			SS-13	2	7	11	21	18

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-13
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5257+38	**Offset:**	14.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50302079	**Longitude:**	-80.45562339	**Date Started:**	5/16/2023
Total Depth:	118.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.3		5Y 6/2 LL=NP, PL=NP, PI=NP, NMC=26.8%, %200=37.9 @SS-14: Greenish Gray, Fine to Medium Sand Particles, with Phosphate Grains, 10Y 6/1	66.3	SS-14	25	12	32	50/4"	44
8.3	70.3	**UNDIFFERENTIATED EOCENE** Very Dense, Moist to Wet, Light Bluish Gray, Non-Plastic, Silty GRAVEL (GM/A-2-4) with Sand, Strong HCl Reaction, 5B 7/1	70.3	SS-15	34		50/4.5"		100+
	74.3		74.3	SS-16	8		50/3"		100+
3.3		Very Dense, Moist to Wet, Greenish Gray, Medium Plasticity, Silty Fine SAND (SM/A-7-5) with Phosphate Grains, Glauconitic, Mild to Strong HCl Reaction, 5G 5/1 @SS-17: Moist, No HCl Reaction LL=48, PL=30, PI=18, NMC=29.4%, %200=45.4	78.3	SS-17	6	6	8	15	14
-1.7	82.3	@SS-18: No Recovery	82.3	SS-18	7	10	9		19
-6.7	87.3	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard to Very Stiff, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), Laminated, No HCl Reaction, 5Y 3/1 LL=86, PL=50, PI=36, NMC=74.0%, %200=91.2	87.3	SS-19	11	16	24		40
-11.7		@SS-20: Moist to Dry, No HCl Reaction	92.3	SS-20	12	17	27		44
-16.7									

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

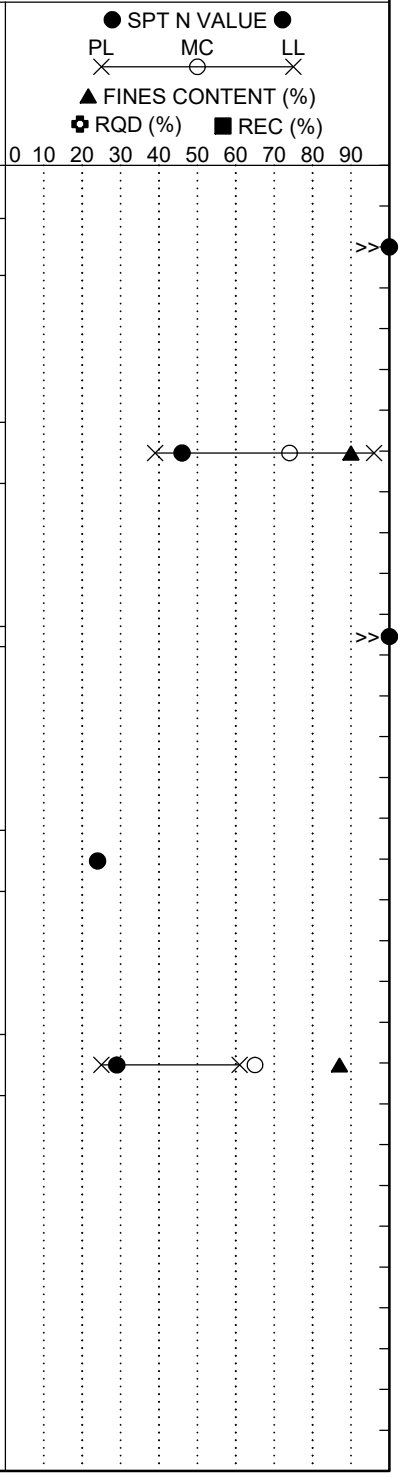
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-13
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5257+38	**Offset:**	14.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50302079	**Longitude:**	-80.45562339	**Date Started:**	5/16/2023
Total Depth:	118.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				97.3						
		@SS-21: Blocky Fracture, No HCl Reaction			SS-21	14	23	50/5.5"		73+
-21.7										
	102.3			102.3						
		Hard to Very Stiff, Moist to Dry, Black, Very Plastic, Fat CLAY (CH/A-7-5), No HCl Reaction, 5Y 2.5/1			SS-22	10	20	26		46
-26.7		LL=96, PL=39, PI=57, NMC=73.6%, %200=89.8								
				107.3						
		@SS-23: No HCl Reaction			SS-23	50/6"				100+
-31.7										
				112.3						
		@SS-24: Moist, No HCl Reaction			SS-24	8	11	13		24
-36.7										
				117.3						
		@SS-25: (CH/A-7-6), No HCl Reaction			SS-25	6	8	21		29
	118.8	LL=61, PL=25, PI=36, NMC=65.0%, %200=87.2								
-41.7		Boring Terminated at 118.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.7										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-14		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5256+36	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50300815	**Longitude:**	-80.4551561	**Date Started:**	3/28/2023
Total Depth:	119 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (15.5-ft.)				
72.6						
67.6						
62.6						
	19.0	**ALLUVIUM (HOLOCENE)**	19.0			
57.6		Very Loose, Moist, Brown, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), 7.5YR5/2		SS-1	WOH/24"	WOH
	23.0		21.0	SS-2	WOH/24"	WOH
		Very Soft, Moist, Brown, Low Plasticity, Silty CLAY (CL-ML/A-4), 7.5YR 5/2	23.0	SS-3	WOH/24"	WOH
52.6	25.0		25.0			
		Very Loose, Moist, Dark Gray, High Plasticity, Clayey Fine to Medium SAND (SC/A-7-6), 7.5YR 4/1		SS-4	WOH/24"	WOH
		LL=48, PL=25, PI=23, NMC=45.7%, %200=39.2	27.0	SS-5	WOH/24"	WOH
47.6						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-14
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5256+36	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50300815	**Longitude:**	-80.4551561	**Date Started:**	3/28/2023
Total Depth:	119 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	32.5	Very Loose, Wet, Dark Grayish Brown, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), 2.5YR 4/2		32.5	SS-6	2	2	2		4
42.6										
	37.5			37.5						
	37.8	Dense, Moist, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y 4/1			SS-7	4	11	29		40
	39.0			39.0	~~SS-8~~	~~50/0.5"~~				~~100+~~
37.6		Dense, Moist, White, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), 5Y 8/1		39.0	NQ-1					
		SANTEE LIMESTONE (EOCENE) Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y7/1 %REC=96, %RQD=78, 0.8 min/ft.		43.8						
32.6		@NQ-2: Strong HCl Reaction, %REC=100, %RQD=96, 0.8 min/ft.			NQ-2					
		@NQ-3: Weak HCl Reaction, %REC=100, %RQD=91, 1.8 min/ft.		48.8	NQ-3					
27.6				53.8						
		@NQ-4: Weak HCl Reaction, %REC=90, %RQD=85, 1.4 min/ft.			NQ-4					
22.6				58.8						
		@NQ-5: Weak HCl Reaction, %REC=76, %RQD=61, 1.0 min/ft.			NQ-5					
17.6										
	63.8			63.8						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-14
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5256+36	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50300815	**Longitude:**	-80.4551561	**Date Started:**	3/28/2023
Total Depth:	119 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.6		**UNDIFFERENTIATED EOCENE** Very Dense, Moist, White, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Strong HCl Reaction, 5Y8/1 @NQ-6: %REC=98, %RQD=78, 1.6 min/ft.			NQ-6					
				68.8						
7.6		@NQ-7: Greenish Gray, Weak HCl Reaction, %REC=96, %RQD=85, 2.6 min/ft.			NQ-7					
				73.8						
2.6		@NQ-8: Greenish Gray, Weak HCl Reaction, %REC=91, %RQD=91, 1.2 min/ft.			NQ-8					
	78.8									
-2.4		**WILLIAMSBURG FORMATION (PALEOCENE)** Very Stiff to Hard, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5), No HCl Reaction, 5Y 2.5/1 @SS-9: LL=98, PL=43, PI=55, NMC=68.4%, %200=92.0		82.5	SS-9	8	12	17		29
-7.4				87.5	SS-10	14	22	44		66
-12.4				92.5	SS-11	19	18	24		42
-17.4										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-14		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5256+36	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50300815	**Longitude:**	-80.4551561	**Date Started:**	3/28/2023
Total Depth:	119 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-12: Very Dark Gray, 5Y 3/1	97.5	SS-12	15	24	31		55
-22.4									
		@SS-13: LL=118, PI=59, PL=59, NMC=75.2%, %200=95.9	102.5	SS-13	11	11	20		31
-27.4									
		@SS-14: Black, 5Y 2.5/1	107.5	SS-14	14	16	22		38
-32.4									
	112.5	@SS-15: No Recovery	112.5	~~SS-15~~	~~50/0.5"~~				~~100+~~
-37.4									
	117.5	Dense, Moist, Gray, Non-Plastic, Silty Fine to Coarse SAND (SM/A-1-b) with Traces of Gravel & Traces of Shells, Strong HCl Reactivity, 5Y 6/1	117.5	SS-16	15	20	22		42
	119.0	@S-16: LL=NP, PL=NP, PI=NP, NMC=16.6%, %200=16.8							
-42.4		Boring Terminated at 119.0-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.							
-47.4									

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/14/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (18.8-ft.)				
73.4						
68.4						
63.4						
58.4						
	22.3	**ALLUVIUM (HOLOCENE)**	22.3	SS-1	WOH/24"	WOH
		Very Soft, Wet, Olive Gray, Strong Plasticity, Lean CLAY (CL/A-7-6) with Trace of Organics, 5Y 5/2	24.3	SS-2	WOH/24"	WOH
53.4		@SS-2: Grayish Brown, with Decreased Presence of Organics, 2.5Y 5/2	26.3	SS-3	WOH/24"	WOH
	26.3	LL=45, PL=24, PI=21, NMC=71.5%, %200=96.3	28.3	SS-4	WOH/24"	WOH
	28.3	Very Loose, Wet, Dark Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, 5Y 4/1	30.3	SS-5	WOH/18" 2	WOH
48.4		Very Loose, Wet, Dark Gray, Medium Plasticity to High Plasticity, Clayey Fine				

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

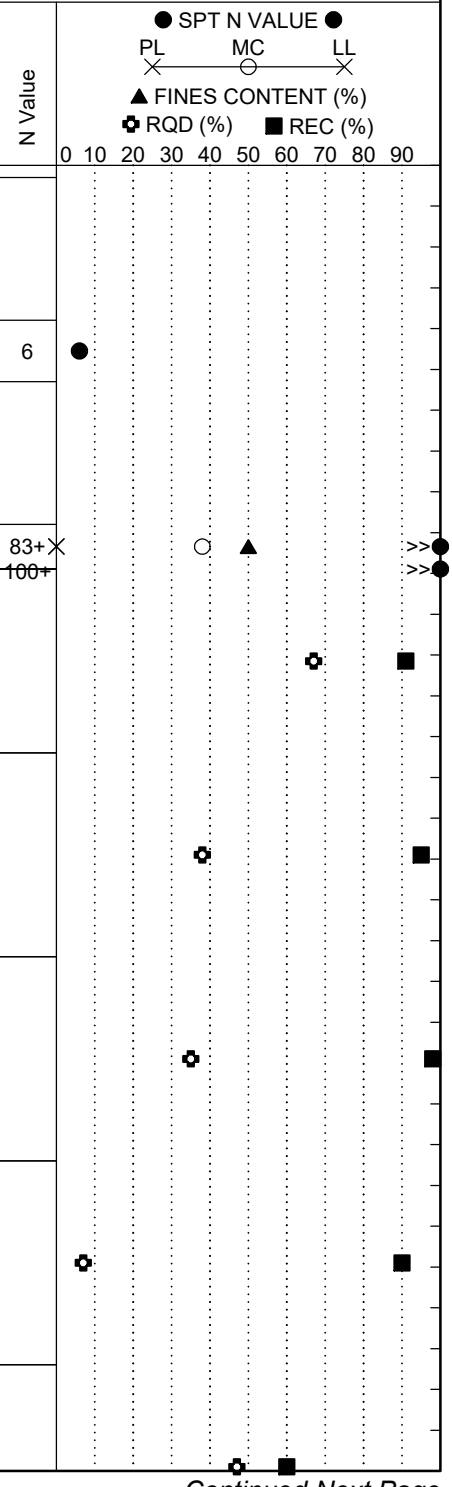
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		SAND (SC/A-2-6), Micaceous, 5Y 4/1								
		@SS-5: Bluish Gray, 5PB 5/1								
43.4	35.8	Loose, Wet, Grayish Brown, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), 2.5Y 5/2		35.8	SS-6	5	3	3		6
38.4	40.8	**SANTEE LIMESTONE (EOCENE)**		40.8	SS-7	39	3350/1"			83+
		Hard, Moist, Light Gray/White, Non-Plastic, Sandy SILT (ML/A-4) with Scattered Phosphate Grains, Strong HCl Reaction, 5Y 7/2 & 5Y 8/1		41.9	~~SS-8~~	~~50/0.5"~~				~~100+~~
		LL=NP, PL=NP, PI=NP, NMC=38.3%, %200=50.4		41.9	NQ-1					
33.4		@NQ-1: %REC=91, %RQD=67, 0.7 min/ft.		46.4						
		@NQ-2: Strong HCl Reaction, %REC=95, %RQD=38, qu=4,630 psi, 1.0 min/ft.			NQ-2					
28.4		@NQ-3: %REC=98, %RQD=35, qu=530 psi, 0.8 min/ft.		51.4						
					NQ-3					
23.4		@NQ-4: %REC=90, %RQD=7, 1.0 min/ft.		56.4						
					NQ-4					
18.4		@NQ-5: Strong HCl Reaction, %REC=60, %RQD=47, qu=460 psi, 0.4 min/ft.		61.4						



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.4	66.4			66.4	NQ-5					
		UNDIFFERENTIATED EOCENE Very Dense, Moist, Light Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Strong HCL Reaction, 5Y7/1 @NQ-6: %REC=93, %RQD=50, qu=380 psi, 1.0 min/ft.			NQ-6					
8.4		@70.3-ft.: Vuggy, with Phosphate Nodules @NQ-7: Light Bluish Gray, with Phosphate Nodules & Grains, Strong HCl Reaction, %REC=87, %RQD=67, qu=1,770 psi, 2.4 min/ft.		71.4	NQ-7					
3.4				76.4	NQ-8					
		@NQ-8: Very Dark Greenish Gray, Glauconitic, No HCl Reaction, 0.8 min/ft., %REC=88, %RQD=85, qu=120 psi, 0.8 min/ft.								
-1.6	81.4	Hard, Moist, Very Dark Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand, Thinly Bedded, No HCl Reaction, 5Y 3/1								
-6.6	85.8	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), Thinly Bedded, No HCl Reaction, 5Y 3/1 LL=106, PL=71, PI=35, NMC=82.0%, %200=95.9		85.8	SS-9	12	18	25		43
-11.6				90.8	SS-10	11	17	27		44
-16.6	95.8			95.8						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Hard, Moist, Very Dark Gray, High Plasticity, Fat CLAY (CH/A-7-5) with Sand, Laminated, No HCl Reaction, 2.5Y 3/1			SS-11	14	19	28		47
		LL=61, PL=30, PI=31, NMC=64.1%, %200=79.2								
-21.6				100.8	SS-12	13	20	25		45
-26.6				105.8	SS-13	25	34	50/5.5"		84+
		@SS-13: Black, No HCl Reaction, 5Y 2.5/1								
-31.6	110.8			110.8						
		Hard, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5), No HCl Reaction, 5Y 2.5/1			SS-14	12	16	28		44
		LL=96, PL=51, PI=45, NMC=72.3%, %200=96.6								
-36.6				115.8						
		@SS-15: Strong HCl Reaction			SS-15	14	1750/2"			67+
-41.6	120.8			120.8						
		Very Dense, Moist, Gray, Low Plasticity to Medium Plasticity, Clayey Fine to Coarse SAND (SC/A-2-6), Strong HCl Reaction. 5Y 5/1			SS-16	16	50/1.5"			100+
		1.0-ft. of Casing Added to Compensate for Noticeable Loss of Water Circulation								
-46.6	125.8			125.8						
		Very Dense, Moist, Dark Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), Laminated, Strong HCl Reaction, 5Y 4/1			SS-17	26	32	47		79

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		LL=NP, PL=NP, PI=NP, NMC=30.1%, %200=21.3							
-51.6	130.8	Very Dense, Moist, Dark Gray/White, Non-Plastic, Poorly Graded GRAVEL (GP/A-1-b) with Sand, 5Y 4/1 & 5Y 8/1	130.8	~~SS-18~~	~~50/1"~~				~~100+~~
-56.6	135.8	Very Dense, Moist, Olive Gray/White, Non-Plastic, Silty Fine to Coarse SAND (SM/A-1-b) with Gravel & Trace of Shells, Variably Cemented, Strong HCl Reaction, 5Y 4/2 & 5Y 8/1	135.8	SS-19	34	50/2.5"			100+
		LL=NP, PL=NP, PI=NP, NMC=24.4%, %200=18.8							
-61.6	140.8	Very Stiff to Hard, Moist, Dark Olive Gray/Gray, Low Plasticity, Sandy SILT (ML/A-4), Laminated, No HCl Reaction, 5Y 3/2 & 5Y 6/1	140.8	SS-20	6	7	9		16
-66.6		@SS-21: Thickly Bedded, No HCl Reaction	145.8	SS-21	8	22	22		44
		LL=31, PL=27, PI=4, NMC=60.3%, %200=69.9							
-71.6		@SS-22: No HCl Reaction	150.8	SS-22	5	8	12		20
-76.6	156.3	@SS-23: Moist to Wet	155.8	SS-23	43	50/3.5"			100+
		Very Dense, Moist to Wet, Light Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, 5Y 7/1							

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5255+33	**Offset:**	14.3-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50339892	**Longitude:**	-80.45512766	**Date Started:**	5/11/2023
Total Depth:	172.3 ft	**Soil Depth:**	110.5 ft	**Core Depth:**	39.5 ft	**Date Completed:**	5/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	160.8			160.8						
		Dense, Wet, Dark Olive Gray/Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Massive, No HCl Reaction, 5Y 3/2 & 5Y 6/1			SS-24	33	22	26		48
		LL=NP, PL=NP, PI=NP, NMC=43.6%, %200=31.8								
-86.6	165.8			165.8						
		Dense, Wet, Very Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5Y 3/1			SS-25	11	16	22		38
-91.6	170.8			170.8						
		Very Dense, Wet, Very Dark Gray, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, Micaceous, 5Y 3/1			SS-26	14	27	38		65
	172.3									
		Boring Terminated at 172.3-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-96.6										
-101.6										
-106.6										
-111.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-16		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5254+34	**Offset:**	85.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50338014	**Longitude:**	-80.45466518	**Date Started:**	3/23/2023
Total Depth:	120.2 ft	**Soil Depth:**	59.1 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/24/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.8-ft.)							
73.1									
68.1									
63.1									
58.1									
	21.3	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Grayish Brown, Medium Plasticity, Lean CLAY (CL/A-7-6), 2.5Y 5/2	21.3	SS-1	WOH/24"				WOH
			23.3	SS-2	WOH/24"				WOH
53.1		@SS-3: Gray, with Taces of Organics, 2.5Y 5/1	25.3	SS-3	WOH/18"	2			WOH
		@SS-4: Gray, Micaceous, 2.5N 5/1 LL=41, PL=22, PI=19, NMC=51.5%, %200=89.8	27.3	SS-4	WOH/18"	1			WOH
48.1		@SS-5: Olive Gray, 5Y 5/2	29.3	SS-5	WOH/12"	1	2		1

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-16
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5254+34	**Offset:**	85.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50338014	**Longitude:**	-80.45466518	**Date Started:**	3/23/2023
Total Depth:	120.2 ft	**Soil Depth:**	59.1 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/24/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.8		34.8						
43.1		Loose, Wet, Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, 5Y 4/2		SS-6	2	2	3		5
	39.3		39.8						
38.1		**SANTEE LIMESTONE (EOCENE)** Medium Dense, Moist, Light Gray, Non-Plastic, Silty SAND (SM/A-2-4), Calcarenite/Calcilatite, Calcereous Strong HCl Reaction to Weak HCl Reaction, 5Y7/1 LL=NP, PL=NP, PI=NP, NMC=26.7%, %200=44.2		SS-7	7	13	14		27
			41.3	~~SS-8~~	~~50/0.5"~~				~~100+~~
			41.3	NQ-1					
33.1		@NQ-1: Fine Grained, Light Olive Gray, Hard to Soft, with Shells, Strong HCl Reaction, %REC=93, %RQD=75, qu=355 psi, 0.8 min/ft. @NQ-2: %REC=100, %RQD=85, 1.0 min/ft.	46.1	NQ-2					
28.1		@NQ-3: Sandy, %REC=100, %RQD=95, qu=555 psi, 1.0 min/ft.	51.1	NQ-3					
23.1		@NQ-4: %REC=90, %RQD=43, 1.0 min/ft.	56.1	NQ-4					
18.1		@NQ-5: Sandy, with Phosphate Grains, Becoming Vuggy, Slight HCl Reaction, %REC=98, %RQD=95, qu=495 psi, 1.4 min/ft.	61.1	NQ-5					

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

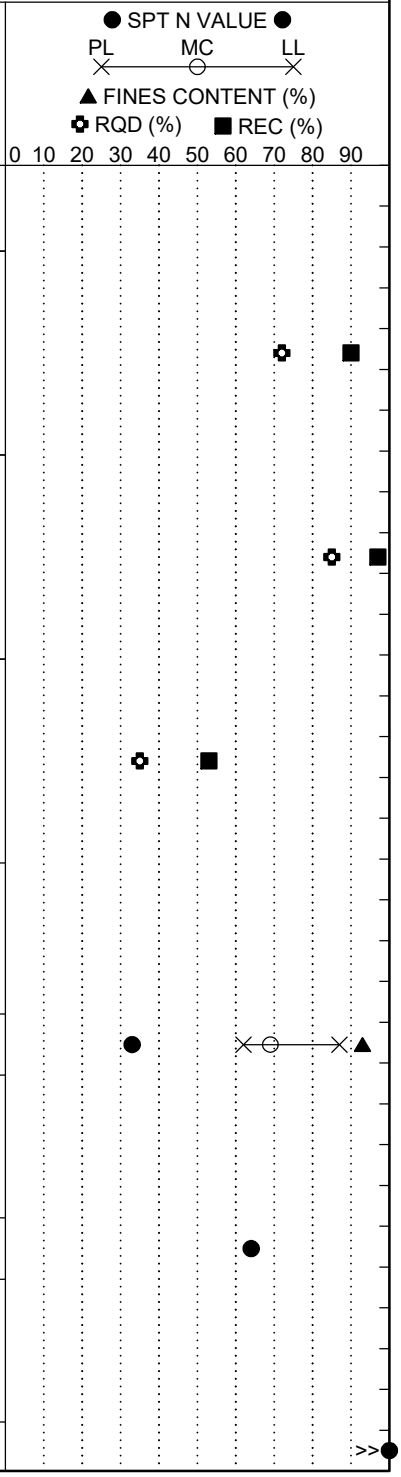
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-16
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5254+34	**Offset:**	85.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50338014	**Longitude:**	-80.45466518	**Date Started:**	3/23/2023
Total Depth:	120.2 ft	**Soil Depth:**	59.1 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/24/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
13.1		@NQ-6: with Phosphate Nodules, Vuggy, %REC=90, %RQD=72, qu=340 psi, 2.0 min/ft.	66.1	NQ-6		
8.1	71.1	**UNDIFFERENTIATED EOCENE** Very Dense, Moist, Gray, Silty Coarse SAND (SM/A-2-4), No HCl Reaction, 5Y5/1 %REC=97, %RQD=85, qu=90 psi, 1.2 min/ft.	71.1	NQ-7		
3.1		@NQ-8: %REC=53, %RQD=35, 0.4 min/ft.	76.1	NQ-8		
-1.9						
-6.9	84.8	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Black/Light Gray, High Plasticity to Very Plastic, Elastic SILT (MH/A-7-5), Micaceous, Thinly Bedded, No HCl Reaction, 5Y 2.5/2 & 5Y 7/1 @SS-9: LL=87, PL=62, PI=25, NMC=69.2%, %200=93.3	84.8	SS-9	7 13 20	33
-11.9			89.8	SS-10	17 28 36	64
-16.9		@SS-11: Black, with Occasional Shell Fragments, Laminated, No HCl Reaction,	94.8	SS-11	20 3550/5"	85+



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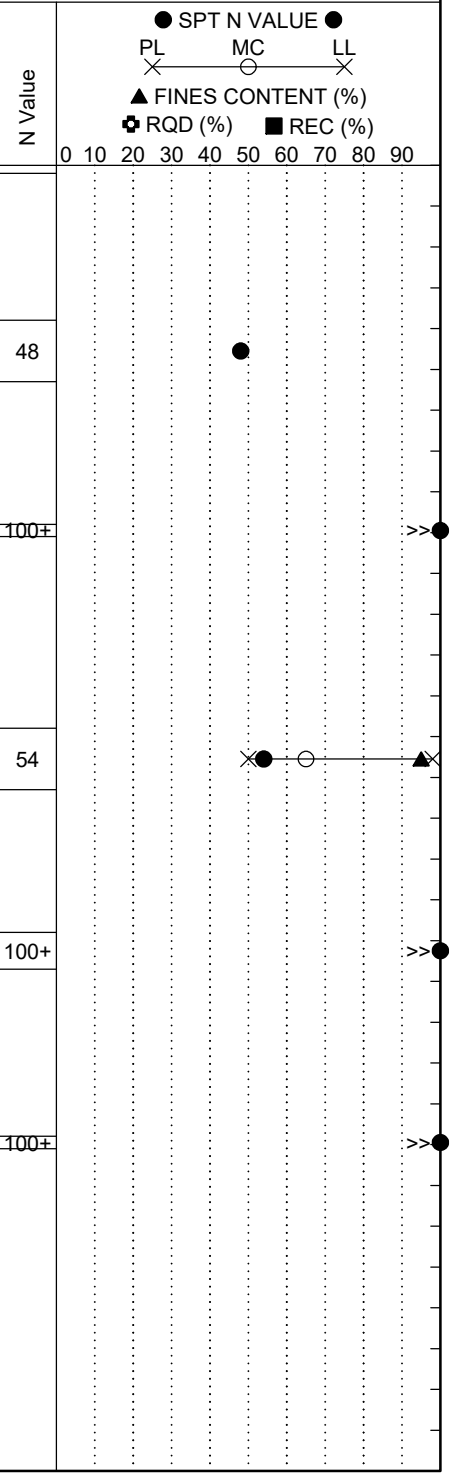
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-16
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5254+34	**Offset:**	85.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50338014	**Longitude:**	-80.45466518	**Date Started:**	3/23/2023
Total Depth:	120.2 ft	**Soil Depth:**	59.1 ft	**Core Depth:**	39.8 ft	**Date Completed:**	3/24/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		5Y 2.5/2								
-21.9				99.8	SS-12	11	17	31		48
-26.9		@SS-13: with Cemented Lenses, Becoming Indurated		104.8	SS-13	50/4"				100+
-31.9		@SS-14: Blocky Fracture, Weak HCl Reaction in Sand Seams LL=98, PL=50, PI=48, NMC=65.3%, %200=95.2		109.8	SS-14	12	23	31		54
-36.9		@SS-15: with Cemented Seams, Indurated		114.8	SS-15	23	50/5"			100+
-41.9	120.2	@SS-16: with Shell Fragments Boring Terminated at 120.2-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.		119.8	SS-16	50/4"				100+
-46.9										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-17
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5253+30	**Offset:**	15.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50377822	**Longitude:**	-80.45463862	**Date Started:**	5/10/2023
Total Depth:	118.5 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (16.2-ft.)							
73.5									
68.5									
63.5									
	19.7	**ALLUVIUM (HOLOCENE)**	19.7						
58.5		Very Loose, Wet, Greenish Gray, Low Plasticity to Medium Plasticity, Clayey Fine SAND (SC/A-2-6), 10Y 5/1		SS-1	WOH/24"				WOH
	21.7		21.7	SS-2	WOH/24"				WOH
	23.7	@SS-2: No Recovery	23.7	SS-3	WOH/24"				WOH
53.5		Very Loose to Loose, Wet, Greenish Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-1-b), Micaceous, 10Y 5/1	25.7	SS-4	2	3	2	2	5
		@SS-5: Strong Brown/Grayish Brown, 7.5YR 5/8 & 2.5Y 5/2	27.7	SS-5	1	2	2	1	4
48.5		@28.2-ft.: Strong Brown, 7.5YR 5/8							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-17		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5253+30	**Offset:**	15.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50377822	**Longitude:**	-80.45463862	**Date Started:**	5/10/2023
Total Depth:	118.5 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-6: Olive, Fine to Medium Sand Particles, 5Y 4/3		33.2	SS-6	3	3	4		7
43.5										
		@SS-7: Gray, No HCl Reaction, 5Y 5/1 LL=NP, PL=NP, PI=NP, NMC=17.9%, %200=2.1		38.2	SS-7	15	4	4		8
38.5	40.7	**SANTEE LIMESTONE (EOCENE)** Loose, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, No HCl Reaction, 5Y 5/1								
	43.2	Hard to Very Stiff, Moist, Gray, Low Plasticity to Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, 2.5Y 5/1		43.2	SS-8	12	23	19	28	42
33.5										
		@SS-9: Pale Olive, with Cemented Lenses, 5Y 6/3 LL=26, PL=22, PI=4, NMC=26.9%, %200=51.8		47.2	SS-9	9	16	50/5"		66+
28.5										
		@SS-10: Moist to Dry, Light Olive Gray, Strong HCl Reaction, 5Y 6/2		51.2	SS-10	8	12	17	50/5"	29
23.5										
		@SS-11: Moist, LL=NP, PL=NP, PI=NP, NMC=32.4%, %200=60.6		55.2	SS-11	14	17	26	50/3"	43
				59.2						
18.5		@SS-12: Strong HCl Reaction			SS-12	12	14	17	50/4"	31
	63.2	Dense, Moist, Greenish Gray, Non-Plastic,		63.2						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-17		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5253+30	**Offset:**	15.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50377822	**Longitude:**	-80.45463862	**Date Started:**	5/10/2023
Total Depth:	118.5 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.5		Silty Fine to Medium SAND (SM/A-4) with Phosphate Grains, Strong HCl Reaction, 10Y 6/1		SS-13	14	15	16	50/5"	31
		LL=NP, PL=NP, PI=NP, NMC=25.4%, %200=37.6							
	67.2		67.2						
		Very Dense, Moist, Greenish Gray, Non-Plastic, Silty GRAVEL (GM/A-2-5) with Sand, Strong HCl Reaction, 5GY 7/1		SS-14	39	20	50/3"		70+
8.5									
	71.2	**UNDIFFERENTIATED EOCENE**	71.2	SS-15	9	40	50/2"		90+
		Hard, Moist, Dark Greenish Gray, High Plasticity, Dark Greenish Gray, Sandy Lean CLAY (CL/A-7-6), Glaucenitic, Micaceous, Weak HCl Reaction, 10Y 4/1							
3.5									
			78.2	SS-16	10	14	40		54
		@SS-16: Moist to Dry, with Limestone Lenses, Strong HCl Reaction in Lenses							
-1.5		LL=44, PL=23, PI=21, NMC=32.1%, %200=69.0							
	83.2		83.2						
		Medium Dense, Moist, Very Dark Grayish Olive, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5GY3/2		SS-17	7	12	13		25
-6.5									
	88.2		88.2						
		WILLIAMSBURG FORMATION (PALEOCENE)		SS-18	12	32	37		69
-11.5		Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), 5Y 3/1							
		LL=94, PL=62, PI=32, NMC=71.2%, %200=88.8	93.2	SS-19	20	21	30		51
-16.5									

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

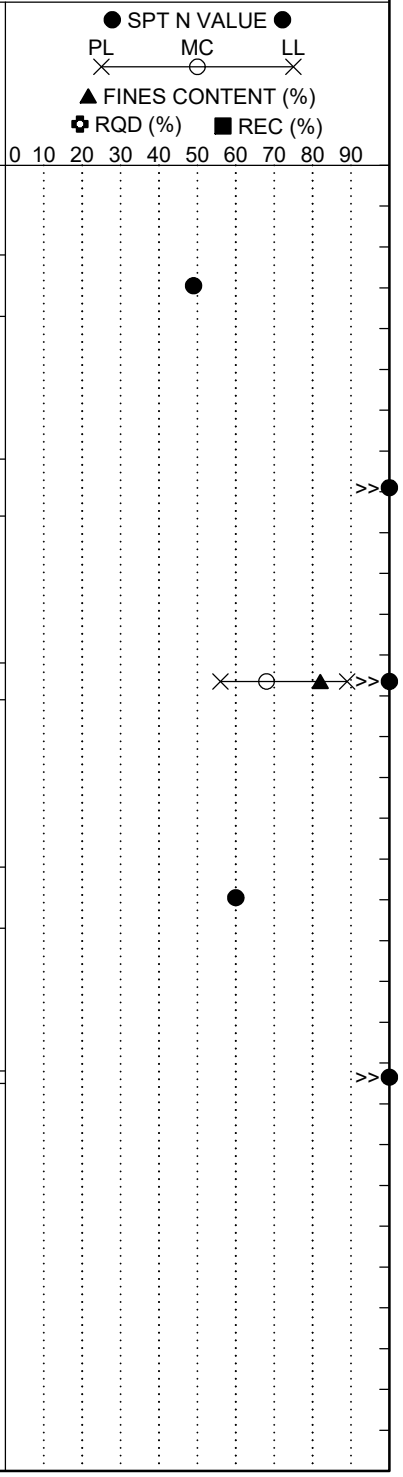
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-17
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5253+30	**Offset:**	15.7-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50377822	**Longitude:**	-80.45463862	**Date Started:**	5/10/2023
Total Depth:	118.5 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				98.2						
					SS-20	12	21	28		49
-21.5										
				103.2						
					SS-21	24	27	50/5"		77+
-26.5										
				108.2						
		Hard, Moist, Very Dark Gray, HIgh Plasticity, Elasticf SILT (MH/A-7-5) with Sand, 5Y3/1			SS-22	17		50/5"		100+
-31.5		LL=89, PL=56, PI=33, NMC=67.6%, %200=82.3								
		@SS-23: Black, with Sand, 5Y 2.5/1		113.2						
					SS-23	18	24	36		60
-36.5										
	118.5			118.2	SS-24			50/3"		100+
		Boring Terminated at 118.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-41.5										
-46.5										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-18		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5252+34	**Offset:**	83.9-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50375413	**Longitude:**	-80.45418586	**Date Started:**	3/22/2023
Total Depth:	118.7 ft	**Soil Depth:**	65 ft	**Core Depth:**	35 ft	**Date Completed:**	3/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (15.2-ft.)							
72.6									
67.6									
62.6									
	18.7	@SS-1: No Recovery	18.7	SS-1	WOH/24"				WOH
57.6	20.7	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Olive Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand, Micaceous, 5Y 5/2	20.7	SS-2	WOH/24"				WOH
		@SS-3: Greenish Gray, 5GY 5/1	22.7	SS-3	WOH/24"				WOH
52.6	25.7		24.7	SS-4	WOH/12"	2	1		2
	26.7	Very Loose, Wet, Greenish Gray/Strong Brown, Low Plasticity to Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Micaceous, 5GY 5/1 & 7.5YR 5/8	26.7	SS-5	2	1	2	3	3
47.6		Very Loose, Wet, Reddish Yellow/Strong Brown, Non-Plastic, Silty Fine SAND (SM/A-2-4), Thinly Bedded, 7.5YR 7/6 & 7.5YR 4/6 LL=NP, PL=NP, PI=NP, NMC=30.3%,							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

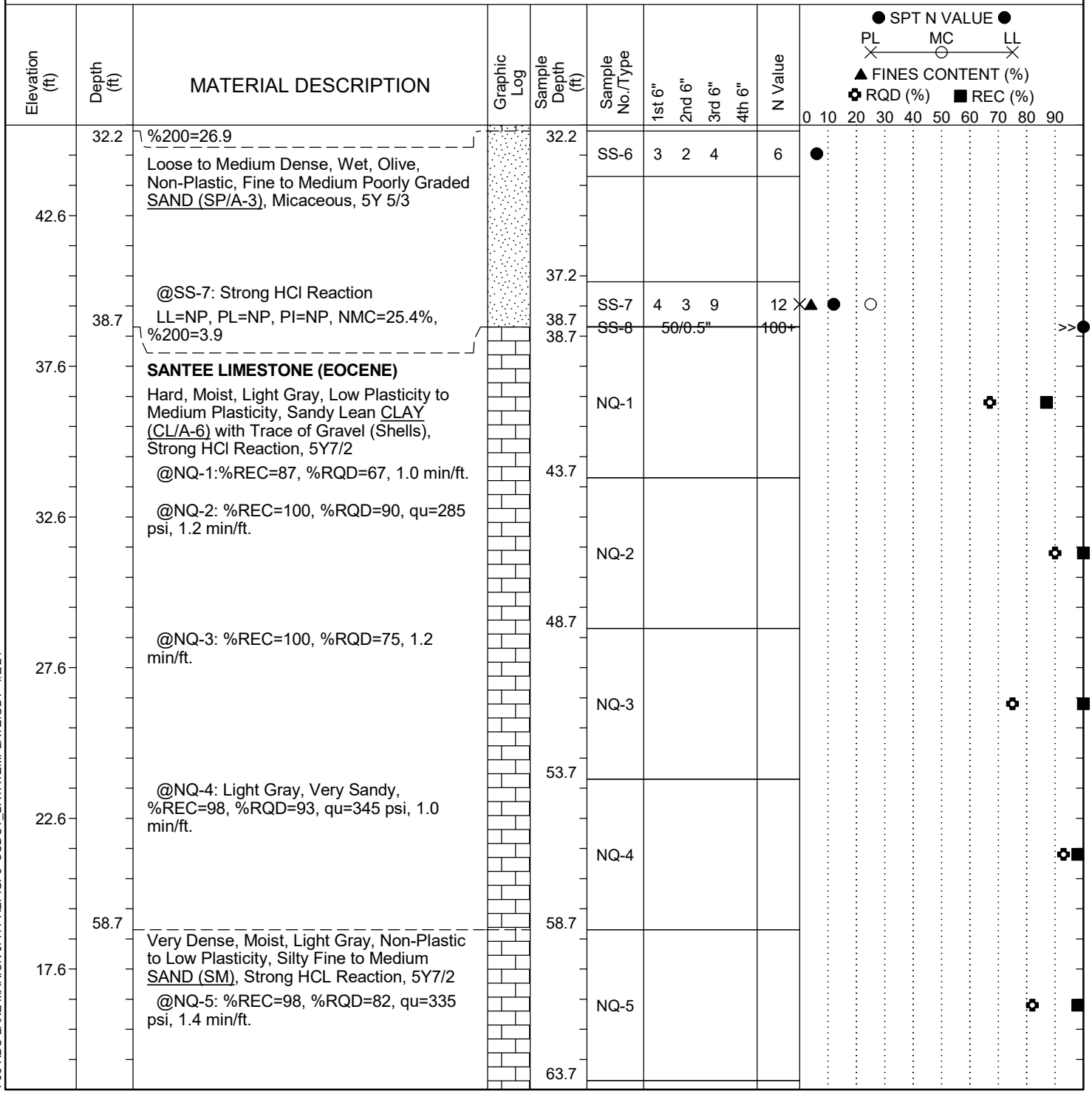
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-18
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5252+34	**Offset:**	83.9-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50375413	**Longitude:**	-80.45418586	**Date Started:**	3/22/2023
Total Depth:	118.7 ft	**Soil Depth:**	65 ft	**Core Depth:**	35 ft	**Date Completed:**	3/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	32.2	%200=26.9		32.2	SS-6	3	2	4		6
42.6		Loose to Medium Dense, Wet, Olive, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, 5Y 5/3		37.2						
		@SS-7: Strong HCl Reaction			SS-7	4	3	9		12
	38.7	LL=NP, PL=NP, PI=NP, NMC=25.4%, %200=3.9		38.7	SS-8	50/0.5"				100+
37.6		**SANTEE LIMESTONE (EOCENE)**		38.7						
		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6) with Trace of Gravel (Shells), Strong HCl Reaction, 5Y7/2			NQ-1					
		@NQ-1:%REC=87, %RQD=67, 1.0 min/ft.		43.7						
32.6		@NQ-2: %REC=100, %RQD=90, qu=285 psi, 1.2 min/ft.			NQ-2					
				48.7						
		@NQ-3: %REC=100, %RQD=75, 1.2 min/ft.			NQ-3					
27.6				53.7						
		@NQ-4: Light Gray, Very Sandy, %REC=98, %RQD=93, qu=345 psi, 1.0 min/ft.			NQ-4					
22.6										
	58.7			58.7						
		Very Dense, Moist, Light Gray, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM), Strong HCL Reaction, 5Y7/2								
17.6		@NQ-5: %REC=98, %RQD=82, qu=335 psi, 1.4 min/ft.			NQ-5					
				63.7						



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-18
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5252+34	**Offset:**	83.9-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50375413	**Longitude:**	-80.45418586	**Date Started:**	3/22/2023
Total Depth:	118.7 ft	**Soil Depth:**	65 ft	**Core Depth:**	35 ft	**Date Completed:**	3/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.6		@NQ-6: %REC=93, %RQD=83, qu=340 psi, 1.2 min/ft.			NQ-6					
		@66.7-ft.: Calcirudite, Becoming Vuggy		68.7						
7.6		@NQ-7: Vuggy with Phosphate Nodules & Fossil Material, Strong HCl Reaction, %REC=38, %RQD=22, 2.2 min/ft.			NQ-7					
	73.7	**UNDIFFERENTIATED EOCENE**		73.7	SS-9	55	50/5.5"			100+
2.6		Very Dense, Moist, Greenish Gray, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM), Micaceous, Glauconitic, Weak HCl Reaction, 7.5GY 5/1								
	77.2	Medium Dense, Moist, Greenish Gray, Medium Plasticity, Clayey Fine SAND (SC/A-6), Micaceous, No HCl Reaction, 5G 4/1		77.2	SS-10	7	8	12		20
-2.4		LL=40, PL=23, PI=17, NMC=30.1%, %200=44.8								
				82.2	SS-11	11	12	18		30
-7.4										
	87.2	**WILLIAMSBURG FORMATION (PALEOCENE)**		87.2	SS-12	13	19	50		69
-12.4		Hard to Very Stiff, Moist to Dry, Black, High Plasticity, Elastic SILT (MH/A-7-5) with Sand & Occasional Shells, Micaceous, Laminated, Occasionally Cemented, Weak HCl Reaction, 5Y 2.5/2								
		@SS-13: Moist		92.2	SS-13	12	19	28		47
-17.4										

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

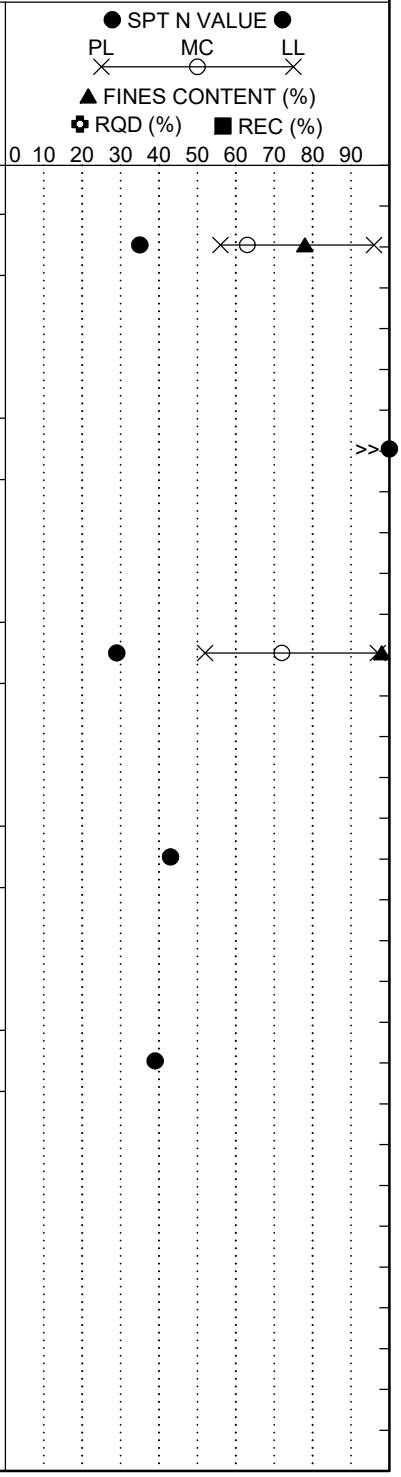
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-18		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5252+34	**Offset:**	83.9-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.50375413	**Longitude:**	-80.45418586	**Date Started:**	3/22/2023
Total Depth:	118.7 ft	**Soil Depth:**	65 ft	**Core Depth:**	35 ft	**Date Completed:**	3/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-14: Black, Decreased Shells & Cementation, No HCl Reaction, 5Y 2.5/1		97.2	SS-14	11	16	19		35
		LL=96, PL=56, PI=40, NMC=63.2, %200=78.2								
-22.4				102.2	SS-15	9	14	50/5.5"		64+
		@SS-15: with Occasional Cemented Sand Seams								
-27.4										
	107.2			107.2						
		Very Stiff to Hard, Black, Very Plastic, Elastic SILT (MH/A-7-5), No HCl Reaction, 5Y 2.5/2			SS-16	11	12	17		29
		LL=97, PL=52, PI=45, NMC=72.0%, %200=97.5								
-32.4										
		@SS-17:Weak HCl Reaction		112.2	SS-17	7	16	27		43
-37.4										
				117.2						
		@SS-18: with Cemented Lenses, Weak HCl Reaction			SS-18	12	12	27		39
	118.7									
		Boring Terminated at 118.7-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-42.4										
-47.4										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-19		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5251+38	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50412639	**Longitude:**	-80.45416326	**Date Started:**	5/9/2023
Total Depth:	121.5 ft	**Soil Depth:**	65.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (18.0-ft.)								
72.9										
67.9										
62.9										
57.9										
	21.5	@SS-1: No Recovery		21.5	SS-1	WOH/24"				WOH
	23.5	**ALLUVIUM (HOLOCENE)** Very Soft to Soft, Wet, Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 2.5Y 5/1		23.5	SS-2	WOH/24"				WOH
52.9				25.5	SS-3	WOH	6	2	2	4
	26.8	Very Loose to Loose, Wet, Dark Yellowish Brown, Non-Plastic, Silty Fine SAND (SM/A-2-4), No HCl Reaction, 10YR 4/6 @SS-4: No HCl Reaction LL=NP, PL=NP, PI=NP, NMC=28.6%, %200=14.7		27.5	SS-4	1	2	2	1	4
47.9				29.5	SS-5	1/12"		1	1	1

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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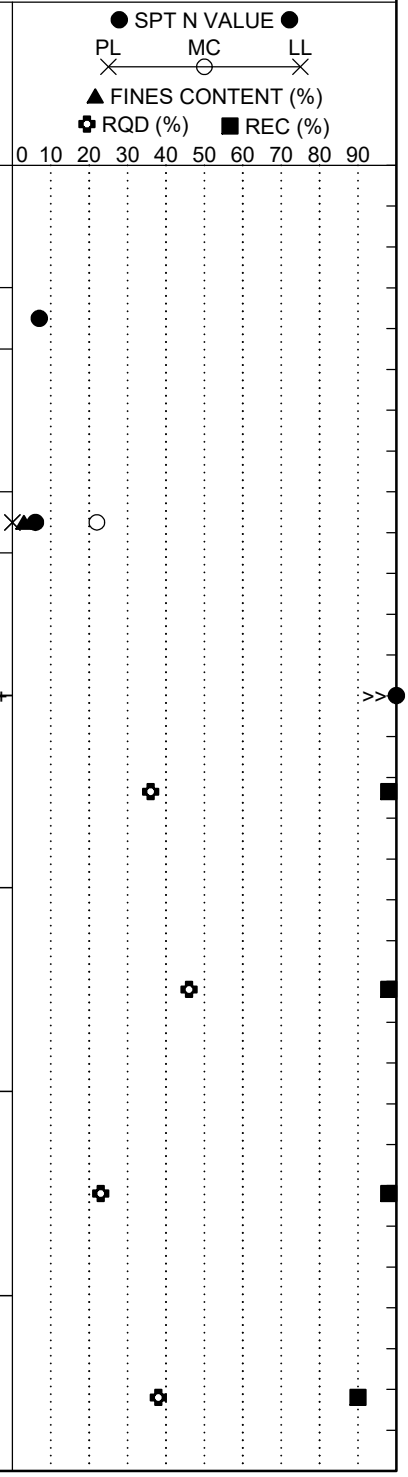
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-19
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5251+38	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50412639	**Longitude:**	-80.45416326	**Date Started:**	5/9/2023
Total Depth:	121.5 ft	**Soil Depth:**	65.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.9		@SS-6: Moist, Gray, No HCl Reaction, 2.5Y 5/1		35.0	SS-6	2	3	4		7
37.9	40.0	Loose, Moist, Light Brownish Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-1-b), No HCl Reaction, 2.5Y 6/2 LL=NP, PL=NP, PI=NP, NMC=22.2%, %200=2.9		40.0	SS-7	6	3	3		6
32.9	45.0	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Gray, Non-Plastic to Low Plasticity, SILT (ML/A-4), Weak HCl Reaction, 5Y7/1 %REC=98, %RQD=36, 2.3 min/ft.		45.0 45.0	~~SS-8~~ NQ-1	~~50/0.5"~~				~~100+~~
27.9		@NQ-2: Strong HCl Reaction, %REC=98, %RQD=46, qu=965 psi, 1.2 min/ft.		49.7 NQ-2						
22.9		@NQ-3: Strong HCl Reaction, %REC=98, %RQD=23, qu=555 psi, 1.8 min/ft.		54.7 NQ-3						
17.9		@NQ-4: Strong HCl Reaction, %REC=90, %RQD=38, 0.8 min/ft.		59.7 NQ-4						



LEGEND

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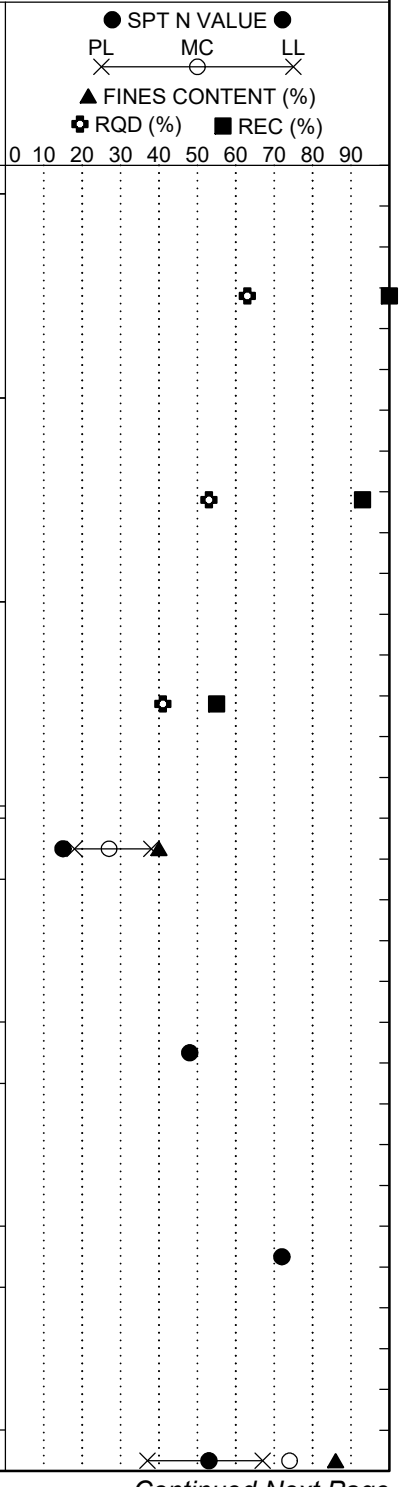
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-19		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5251+38	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50412639	**Longitude:**	-80.45416326	**Date Started:**	5/9/2023
Total Depth:	121.5 ft	**Soil Depth:**	65.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9		@NQ-5: Greenish Gray, Strong HCl Reaction, %REC=100, %RQD=63, qu=350 psi, 1.8 min/ft.		64.7						
					NQ-5					
	69.7			69.7						
7.9		**UNDIFFERENTIATED EOCENE**Hard, Moist, Light Olive Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4), Weak HCL Reaction to Strong HCL Reaction, 5Y6/2 @NQ-6: Weak HCl Reaction, %REC=93, %RQD=53, 1.8 min/ft.			NQ-6					
2.9		@NQ-7: Dark Greenish Gray, Weak HCl Reaction, %REC=55, %RQD=41, qu=725 psi, 1.2 min/ft.		74.7						
					NQ-7					
	79.7			80.0						
-2.1		Medium Dense to Dense, Moist, Dark Greenish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-6), GLEY1 4/5GY @SS-9: Stiff, Greenish Gray, Weak HCl Reaction, GLEY1 5/5G_1 LL=38, PL=18, PI=20, NMC=27.4%, %200=39.8			SS-9	7	7	8		15
-7.1		@SS-10: No HCl Reaction		85.0	SS-10	9	16	32		48
-12.1		@SS-11: Very Dense, Very Dark Gray, Decreased Sand Content, No HCl Reaction, GLEY1 3/1		90.0	SS-11	14	24	48		72
-17.1	95.0	**WILLIAMSBURG FORMATION**		95.0	SS-12	14	16	37		53



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-19
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5251+38	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50412639	**Longitude:**	-80.45416326	**Date Started:**	5/9/2023
Total Depth:	121.5 ft	**Soil Depth:**	65.3 ft	**Core Depth:**	34.7 ft	**Date Completed:**	5/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		(PALEOCENE)								
		Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), No HCl Reaction, GLEY1 3/1								
		LL=67, PL=37, PI=30, NMC=74.4%, %200=86.1								
-22.1	100.0			100.0						
					SS-13	14	13	22		35
		Hard, Moist, Very Plastic, Elastic SILT (MH/A-7-5) with Sand, No HCl Reaction								
		LL=91, PL=50, PI=41, NMC=81.1%, %200=83.3								
-27.1				105.0						
					SS-14	17	50/4"			100+
		@SS-14: Black, Laminated to Thinly Bedded, with Sand Seams, No HCl Reaction, 5YR 2.5/1								
-32.1				110.0						
					SS-15	42	46	50/3"		100+
-37.1	115.0			115.0						
		Hard, Moist to Dry, Very Dark Greenish Gray, Elastic SILT (MH/A-7-5), Weak HCl Reaction, 10Y 3/1								
		LL=98, PL=63, PI=35, NMC=65.5%, %200=91.0								
-42.1				120.0						
		@SS-17: Strong HCl Reaction			SS-17	16	19	50/5.5"		69+
	121.5									
		Boring Terminated at 121.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.1										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-20		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5250+34	**Offset:**	83.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.4 ft	**Latitude:**	33.50412633	**Longitude:**	-80.45370286	**Date Started:**	3/20/2023
Total Depth:	120.1 ft	**Soil Depth:**	66.2 ft	**Core Depth:**	32.8 ft	**Date Completed:**	3/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.1-ft.)							
72.4									
67.4									
62.4									
57.4	20.6	**ALLUVIUM (HOLOCENE)** Firm, Wet, Dark Grayish Brown, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), 2.5Y 4/2	20.6	SS-1	6	5	2	3	7
		@SS-2: Very Soft, Greenish Gray, 10Y 5/1	22.6	SS-2	WOH/12"		1	1	1
52.4	24.6	Very Loose, Wet, Gray/Strong Brown, Medium Plasticity to High Plasticity, Clayey Fine SAND (SC/A-2-6), Laminated, 2.5Y 6/1 & 7.5YR 5/6	24.6	SS-3					WOH
		@SS-4.: Gray, Micaceous, Decreased Lamination, 2.5Y 6/1	26.6	SS-4	WOH/24"				WOH
47.4	28.6	Very Loose, Wet, Gray, Non-Plastic, Silty Fine SAND (SM/A-4), Micaceous, 2.5Y 5/1 LL=NP, PL=NP, PI=NP, NMC=35.2%,	28.6	SS-5	WOH	1	1	1	2

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-20
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5250+34	**Offset:**	83.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.4 ft	**Latitude:**	33.50412633	**Longitude:**	-80.45370286	**Date Started:**	3/20/2023
Total Depth:	120.1 ft	**Soil Depth:**	66.2 ft	**Core Depth:**	32.8 ft	**Date Completed:**	3/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		%200=48.1							
	34.1		34.1						
42.4		Loose, Wet, Gray, Non-Plastic, Fine Well-Graded SAND (SW-SM/A-1-b) with Silt, Micaceous, 2.5Y 5/1		SS-6	3	3	3		6
			39.1						
37.4		@SS-7: Fine to Medium Sand Particles LL=NP, PL=NP, PI=NP, NMC=22.4%, %200=9.7		SS-7	16	5	3		8
	41.6								
		SANTEE LIMESTONE (EOCENE) Very Dense, Moist, Olive, Low Plasticity, Clayey Coarse SAND (SC/A-2-6) with Trace of Gravel (Shells), 5Y4/3	43.8	SS-8	50/0.5"				100+
32.4		@NQ-1: Strong HCl Reaction, %REC=100, %RQD=94, 1.8 min/ft.	43.8	NQ-1					
		@NQ-2: %REC=98, %RQD=77, qu=275 psi, 1.0 min/ft.	46.6	NQ-2					
27.4		@NQ-3: Grain Size Increasing, Strong HCl Reaction, %REC=100, %RQD=95, 1.0 min/ft.	51.6	NQ-3					
22.4		@NQ-4: with Phosphate Grains, %REC=97, %RQD=85, qu=440 psi, 1.0 min/ft.	56.6	NQ-4					
17.4		@NQ-5: Weak HCl Reaction, %REC=87, %RQD=82, 1.8 min/ft.	61.6						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-20
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5250+34	**Offset:**	83.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.4 ft	**Latitude:**	33.50412633	**Longitude:**	-80.45370286	**Date Started:**	3/20/2023
Total Depth:	120.1 ft	**Soil Depth:**	66.2 ft	**Core Depth:**	32.8 ft	**Date Completed:**	3/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.4		@65.6-ft.: Vuggy, Glauconitic, with Phosphate Nodules		66.6	NQ-5					
		@NQ-6: Weak HCl Reaction, %REC=78, %RQD=42, qu=1,800 psi, 2.0 min/ft.			NQ-6					
7.4		@70.6-ft.: Glauconitic, Sandy		71.6						
		@NQ-7: Dark Greenish Gray, No HCl Reaction, 10GY4/6, %REC=72, %RQD=43, qu=1,320 psi, 2.0 min/ft.			NQ-7					
2.4										
	76.6	**UNDIFFERENTIATED EOCENE**		76.6	SS-9	10	13	31		44
		Dense to Very Dense, Moist to Wet, Dark Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-1-b) with Silt, Glauconitic, 10GY 4/6		79.1						
-2.6		LL=NP, PL=NP, PI=NP, NMC=18.6%, %200=6.9			SS-10	22	27	32		59
		@SS-10: Wet, Light Gray, Micaceous, Less Glaucenitic, 5Y 7/1		84.1						
-7.6		@SS-11: Gray, with Occasional Cemented Lenses, 5Y 6/1			SS-11	14	18	30		48
	89.1	**WILLIAMSBURG FORMATION (PALEOCENE)**		89.1	SS-12	9	15	26		41
-12.6		Hard, Moist, Black, High Plasticity, Fat CLAY (CH/A7-6) with Sand (Seams), Micaceous, No HCl Reaction, 5Y 2.5/2								
		LL=53, PL=26, PI=27, NMC=65.4%, %200=76.2		94.1						
-17.6					SS-13	12	20	35		55

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-20
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5250+34	**Offset:**	83.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.4 ft	**Latitude:**	33.50412633	**Longitude:**	-80.45370286	**Date Started:**	3/20/2023
Total Depth:	120.1 ft	**Soil Depth:**	66.2 ft	**Core Depth:**	32.8 ft	**Date Completed:**	3/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				99.1						
-22.6		@SS-14: Black, Laminated, Occasionally Glaucenitic, No HCl Reaction, 5Y 2.5/1			SS-14	14	18	30		48
	104.1			104.1						
-27.6		Hard, Moist to Dry, Black, High Plasticity, Sandy Elastic SILT (MH/A-7-5), 5Y 2.5/1 LL=63, PL=40, PI=23, NMC=54.5%, %200=67.9			SS-15	11	32	43		75
				109.1						
-32.6		@SS-16: Blocky Fracture, with Occasional Cemented Lenses, Weak HCl Reaction			SS-16	22	25	50/4.5"		75+
				114.1						
-37.6		@SS-17: Moist			SS-17	16	24	50		74
				119.1						
-42.6	120.1	@SS-18: with Shell Fragments, Strong HCl Reaction			SS-18	10		50/5.5"		100+
		Boring Terminated at 120.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-21
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5249+32	**Offset:**	12.1-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.50450915	**Longitude:**	-80.45366611	**Date Started:**	5/8/2023
Total Depth:	121 ft	**Soil Depth:**	98.7 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (18.8-ft.)							
73.6									
68.6									
63.6									
58.6									
	22.3	**ALLUVIUM (HOLOCENE)** Very Soft, Moist to Wet, Greenish Gray, Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 5GY 5/1	22.3	SS-1	WOH/24"				WOH
			24.3	SS-2	WOH/24"				WOH
53.6		@SS-2: LL=35, PL=23, PI=12, NMC=38.5%, %200=81.5	26.3	SS-3	WOH/12"	1			1
	27.3	@SS-3: Wet Very Loose, Wet, Strong Brown/Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), Thinly Bedded, 7.5YR 5/8 & 7.5YR 6/1	28.3	SS-4	WOH	2	1	1	3
48.6		@SS-5: Gray, 5Y 6/1	30.3	SS-5	1	2	2	2	4

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-21
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5249+32	**Offset:**	12.1-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.50450915	**Longitude:**	-80.45366611	**Date Started:**	5/8/2023
Total Depth:	121 ft	**Soil Depth:**	98.7 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
43.6		@SS-6: Micaceous		35.8	SS-6	2	2	2		4
38.6	41.8	@SS-7: Very Dense, Moist to Wet, Grayish Brown, 2.5Y 5/2 LL=NP, PL=NP, PI=NP, NMC=20.1%, %200=19.0		40.8	SS-7	12	8	50/4"		58+
33.6	44.8	**SANTEE LIMESTONE (EOCENE)** Very Dense, Moist to Wet, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) with Phosphate Grains, Strong HCl Reaction, 10Y 6/1		44.8	SS-8	1	50/5.5"			100+
28.6		Hard, Moist, Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, 10Y 6/1		48.8	SS-9	8	10	40	50/4"	50
23.6		@SS-10: LL=NP, PL=NP, PI=NP, NMC=34.1%, %200=55.1		52.8	SS-10	10	33	50/1"		83+
18.6		@SS-11: Light Olive Gray, 5Y 6/2		56.8	SS-11	19	17	21	50/4"	38
		@SS-12: LL=NP, PL=NP, PI=NP, NMC=34.6%, %200=55.9		60.8	SS-12	30	36	26	50/5"	62

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-21
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5249+32	**Offset:**	12.1-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.50450915	**Longitude:**	-80.45366611	**Date Started:**	5/8/2023
Total Depth:	121 ft	**Soil Depth:**	98.7 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	64.8			64.8						
13.6		Dense to Very Dense, Moist to Wet, Light Greenish Gray, Low Plasticity to Medium Plasticity, Silty Fine to Medium SAND (SM/A-4), Strong HCl Reaction, 10Y 6/1			SS-13	30	17	18	50/5"	35
		@SS-14: Fine to Coarse Sand Particles with Traces of Gravel, Strong HCl Reaction		68.8	SS-14	11	50/1.5"			100+
8.6	72.0	**UNDIFFERENTIATED EOCENE**		72.8						
		Very Dense, Moist to Wet, Light Greenish Gray, Low Plasticity to Non-Plastic, Silty Fine to Medium SAND (SM/A-4), 10Y 6/1			SS-15	7	5	9	26	14
3.6		LL=34, PL=28, PI=6, NMC=32.3%, %200=37.8		75.8	SS-16	15	8	11		19
		@SS-15: Medium Dense to Dense, Dark Greenish Gray, Fine to Medium Sand Particles, Glauconitic, Weak HCl Reaction, 10Y 4/1								
-1.4		@SS-16: Dark Greenish Gray, Fine Sand Particles, Weak HCl Reaction, 5GY 4/1		80.8	SS-17	6	6	8		14
		@SS-17: Fine to Medium Sand Particles, No HCl Reaction								
-6.4		@SS-18: Gray, (SM/A-1-b), 5Y 5/1		85.8	SS-18	17	23	21		44
		LL=NP, PL=NP, PI=NP, NMC=31.5%, %200=22.0								
-11.4				90.8						
	91.3	@SS-19: Moist, Laminated to Thinly Bedded, No HCl reaction			SS-19	9	20	31		51
		WILLIAMSBURG FORMATION (PALEOCENE)								
-16.4		Hard, Moist to Wet, Gray, High Plasticity, Elastic SILT (MH/A-7-5), Thinly Bedded, No HCl Reaction, 5Y 5/1		95.8						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

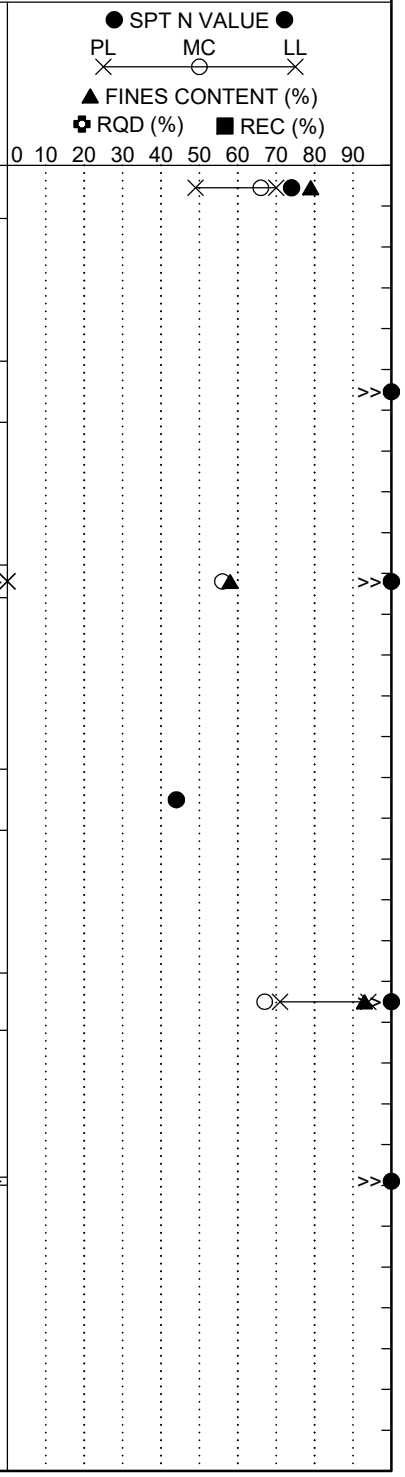
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-21
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5249+32	**Offset:**	12.1-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.50450915	**Longitude:**	-80.45366611	**Date Started:**	5/8/2023
Total Depth:	121 ft	**Soil Depth:**	98.7 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/9/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-20: Black, No HCl Reaction, 5Y 2.5/1 LL=70, PL=49, PI=21, NMC=65.8%, %200=78.7			SS-20	18	36	38		74
-21.4	100.8	Hard, Moist, Black, Non-Plastic, Sandy SILT (ML/A-4), Thinly Bedded, No HCl Reaction, 5Y2.5/1		100.8	SS-21	16	17	50/5.5"		67+
-26.4		@SS-22: No HCl Reaction LL=NP, PL=NP, PI=NP, NMC=55.7%, %200=58.0		105.8	SS-22	10	50/3"			100+
-31.4	110.8	Hard, Moist, Black, High Plasticity, Elastic SILT (MH/A-7-5), 2.5Y 2.5/1		110.8	SS-23	5	14	30		44
-36.4		@SS-24: LL=94, PL=71, PI=23, NMC=66.6%, %200=93.1		115.8	SS-24	15	31	50/5"		81+
-41.4	121.0	Boring Terminated at 121.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.		120.8	SS-25		50/2"			100+
-46.4										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-22
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5248+33	**Offset:**	84.6-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50449553	**Longitude:**	-80.45321368	**Date Started:**	3/17/2023
Total Depth:	119.5 ft	**Soil Depth:**	68.1 ft	**Core Depth:**	30.5 ft	**Date Completed:**	3/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.4-ft.)							
72.8									
67.8									
62.8									
57.8	20.9	@SS-1: No Recovery	20.9	SS-1	WOH/12"	1	2		1
		@SS-2: No Recovery	22.9	SS-2	1	2	2	3	4
52.8	24.9	**ALLUVIUM (HOLOCENE)** Firm, Wet, Olive Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4), 5Y 4/2	24.9	SS-3	2	3	2	1	5
		@SS-4: Strong Brown, 7.5YR 4/6 NMC=75.6%, %200=65.3	26.9	SS-4	4	4	2	2	6
47.8	28.9	Loose, Wet, Strong Brown, Non-Plastic to Low Plasticty, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt	28.9	SS-5	4	3	2	2	5

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

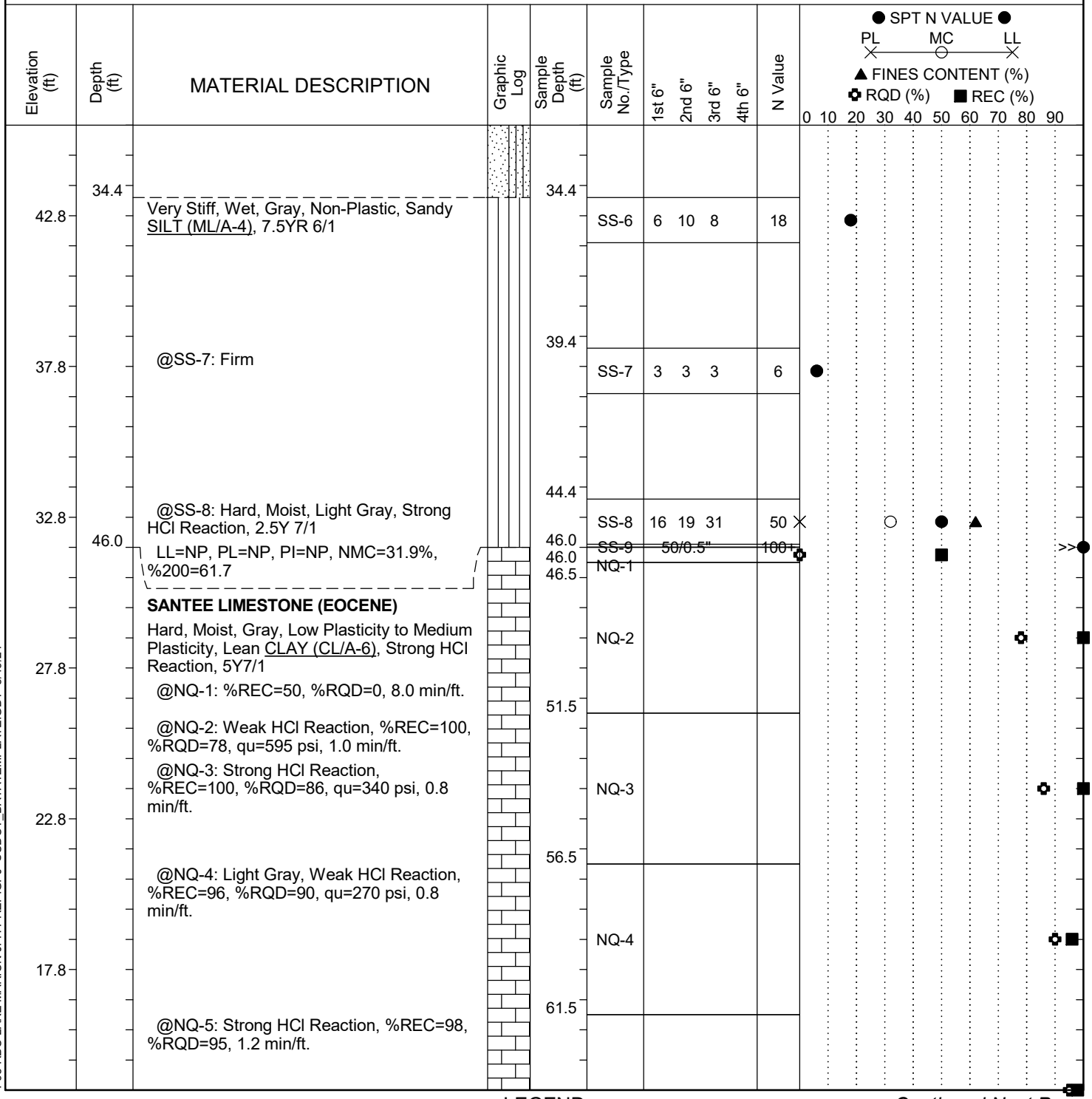
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-22
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5248+33	**Offset:**	84.6-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50449553	**Longitude:**	-80.45321368	**Date Started:**	3/17/2023
Total Depth:	119.5 ft	**Soil Depth:**	68.1 ft	**Core Depth:**	30.5 ft	**Date Completed:**	3/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.4		34.4						
42.8		Very Stiff, Wet, Gray, Non-Plastic, Sandy SILT (ML/A-4), 7.5YR 6/1		SS-6	6	10	8		18
		@SS-7: Firm	39.4	SS-7	3	3	3		6
37.8			44.4						
32.8		@SS-8: Hard, Moist, Light Gray, Strong HCl Reaction, 2.5Y 7/1		SS-8	16	19	31		50
	46.0	LL=NP, PL=NP, PI=NP, NMC=31.9%, %200=61.7	46.0	SS-9	50/0.5"				100+
		SANTEE LIMESTONE (EOCENE)	46.0	NQ-1					
		Hard, Moist, Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y7/1	46.5						
27.8		@NQ-1: %REC=50, %RQD=0, 8.0 min/ft.		NQ-2					
		@NQ-2: Weak HCl Reaction, %REC=100, %RQD=78, qu=595 psi, 1.0 min/ft.	51.5						
		@NQ-3: Strong HCl Reaction, %REC=100, %RQD=86, qu=340 psi, 0.8 min/ft.		NQ-3					
22.8			56.5						
		@NQ-4: Light Gray, Weak HCl Reaction, %REC=96, %RQD=90, qu=270 psi, 0.8 min/ft.		NQ-4					
17.8			61.5						
		@NQ-5: Strong HCl Reaction, %REC=98, %RQD=95, 1.2 min/ft.							



LEGEND

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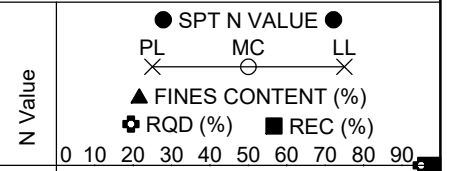
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-22
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5248+33	**Offset:**	84.6-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50449553	**Longitude:**	-80.45321368	**Date Started:**	3/17/2023
Total Depth:	119.5 ft	**Soil Depth:**	68.1 ft	**Core Depth:**	30.5 ft	**Date Completed:**	3/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.8			66.5	NQ-5					
		@NQ-6: Weak HCl Reaction, %REC=100, %RQD=83, qu=1,430 psi, 2.6 min/ft.							
7.8				NQ-6					
	71.5	**UNDIFFERENTIATED EOCENE**	71.5						
		Very Dark Grayish Olive, No HCl Reaction, %REC=65, %RQD=33, qu=65 psi, 1.0 min/ft.		NQ-7					
2.8									
	79.4		79.4						
-2.2		Dense to Very Dense, Wet, Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-2-4) with Silt, Glauconitic, No HCl Reaction, 5G 5/1		SS-10	5	14	18		32
		LL=NP, PL=NP, PI=NP, NMC=29.5%, %200=11.4							
			84.4						
-7.2		@SS-11: Moist to Wet, Gray, Increased Presence of Fine Sand Particles, Micaceous, Less Gluaconitic, 5G N6/1		SS-11	23	30	50		80
			89.4						
-12.2				SS-12	18	24	34		58
			94.4						
-17.2				SS-13	17	29	42		71



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-22
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5248+33	**Offset:**	84.6-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50449553	**Longitude:**	-80.45321368	**Date Started:**	3/17/2023
Total Depth:	119.5 ft	**Soil Depth:**	68.1 ft	**Core Depth:**	30.5 ft	**Date Completed:**	3/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	99.4			99.4						
-22.2		**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist to Wet, Dark Gray, Non-Plastic, Sandy SILT (ML/A-4), Micaceous, Laminated, 5H N4/1 LL=NP, PL=NP, PI=NP, NMC=45.2%, %200=61.6			SS-14	36	38	50		88
				104.4						
-27.2		@SS-15: Moist			SS-15	31		50/5"		100+
	109.4			109.4						
-32.2		Hard, Moist, Black, High Plasticity, Elastic SILT (MH/A-7-5), Micaceous, Laminated, No HCl Reaction, 2.5Y 2.5/1 LL=82, PL=47, PI=35, NMC=57.1%, %200=93.7			SS-16	38	35	50/4.5"		90+
				114.4						
-37.2					SS-17	11	19	50/1"		69+
	119.5			119.4						
-42.2		@SS-18: With Cemented Lenses, Hard Drilling Boring Terminated at 119.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.			SS-18	50/0.5"				100+
-47.2										

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-23
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5246+35	**Offset:**	12.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50506032	**Longitude:**	-80.45294827	**Date Started:**	5/4/2023
Total Depth:	121.1 ft	**Soil Depth:**	69.5 ft	**Core Depth:**	30 ft	**Date Completed:**	5/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (18.1-ft.)								
73.4										
68.4										
63.4										
58.4										
	21.6	@SS-1: No Recovery		21.6	SS-1	WOH/24"				WOH
	23.6	**ALLUVIUM (HOLOCENE)**		23.6	SS-2	WOH/24"				WOH
53.4	25.6	Very Soft, Moist to Wet, Greenish Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), 10Y 6/1		25.6	SS-3	WOH	1/12"	1		1
	27.6	Very Soft, Moist to Wet, Olive Gray, Medium Plasticity to High Plasticity, Sandy Lean CLAY (CL/A-6), 5Y 5/2		27.6	SS-4	1	1	1	1	2
48.4		Very Loose, Wet, Gray/Strong Brown, Non-Plastic, Silty Fine SAND (SM/A-4), Laminated, 7.5YR 6/1 & 7.5YR 5/8		29.6	SS-5	1/12"	1/12"			1
		@ SS-5: LL=NP, PL=NP, PI=NP,								

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

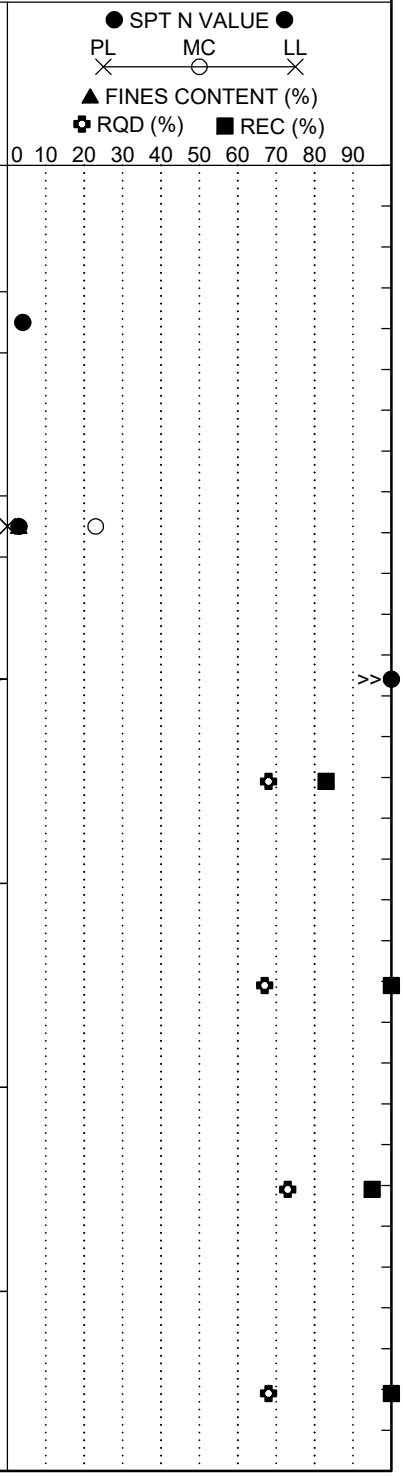
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-23
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5246+35	**Offset:**	12.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50506032	**Longitude:**	-80.45294827	**Date Started:**	5/4/2023
Total Depth:	121.1 ft	**Soil Depth:**	69.5 ft	**Core Depth:**	30 ft	**Date Completed:**	5/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		NMC=32.9%, %200=46.0							
		@30.6-ft.: Bluish Gray, Micaceous, 10PB 6/1							
43.4		@SS-6: Gray, Fine to Medium Sand Particles, No HCl content, 5Y 5/1	35.1	SS-6	1	2	2		4
38.4	40.1	Very Loose, Wet, Light Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-1-b), 5Y 6/2	40.1	SS-7	2	1	2		3
		@SS-7: LL=NP, PL=NP, PI=NP, NMC=23.2%, %200=2.6							
	44.6	**SANTEE LIMESTONE (EOCENE)**	44.6	SS-8	50/0.5"				100+
33.4		Very Dense, Moist, Light Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-6) with Trace of Gravel, Strong HCl Reaction, 5Y7/2	44.6	NQ-1					
		@NQ-1: %REC=83, %RQD=68, qu=360 psi, 2.4 min/ft.	49.6						
28.4		@NQ-2: %REC=100, %RQD=67, qu=575 psi, 1.4 min/ft.		NQ-2					
		@51.6-ft.: with Numerous Phosphate Grains (1.0-ft.)	54.6						
23.4		@NQ-3: Strong HCl Reaction, %REC=95, %RQD=73, 1.2 min/ft.		NQ-3					
			59.6						
18.4		@NQ-4: with Phosphate Grains, %REC=100, %RQD=68, qu=570 psi, 1.2 min/ft.		NQ-4					



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-23
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5246+35	**Offset:**	12.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50506032	**Longitude:**	-80.45294827	**Date Started:**	5/4/2023
Total Depth:	121.1 ft	**Soil Depth:**	69.5 ft	**Core Depth:**	30 ft	**Date Completed:**	5/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.4		@NQ-5: Light Bluish Gray, Glauconitic, with Phosphate Nodules, Vuggy, %REC=67, %RQD=7, 0.4 min/ft.		64.6	NQ-5					
8.4		@NQ-6: %REC=50, %RQD=0, 2.0 min/ft.		69.6	NQ-6					
		@72.1-ft.: Weak HCl Reaction								
	74.6									
3.4		**UNDIFFERENTIATED EOCENE** Medium Dense, Moist to Wet, Dark Greenish Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), Micaceous, 5GY 4/1		75.1	SS-9	10	11	18		29
-1.6	80.1			80.1	SS-10	10	18	23		41
	80.6	Dense, Wet, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-1-b) with Silt, No HCl Reaction, 2.5Y 4/1 @SS-10: LL=NP, PL=NP, PI=NP, NMC=24.1%, %200=11.0								
-6.6		Dense to Very Dense, Wet, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-1-b) with Silt, 2.5Y 4/1		85.1	SS-11	18	28	34		62
-11.6	90.1			90.1	SS-12	22	17	23		40
		Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, Micaceous, Laminated, 5Y 3/1 @SS-12: LL=77, PL=38, PI=39, NMC=68.9%, %200=74.7								
-16.6	95.1			95.1						
		Very Dense, Moist, Very Dark Gray, Low								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-23
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5246+35	**Offset:**	12.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.4 ft	**Latitude:**	33.50506032	**Longitude:**	-80.45294827	**Date Started:**	5/4/2023
Total Depth:	121.1 ft	**Soil Depth:**	69.5 ft	**Core Depth:**	30 ft	**Date Completed:**	5/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay (Thin Seams), No HCl Reaction, 5Y 3/1			SS-13	10	23	46		69
-21.6	100.1	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, Very Plastic, Elastic SILT (MH/A-7-5) with Sand, Micaceous, Laminated, Slightly Cemented, No HCl Reaction, 5Y 3/1		100.1	SS-14	50/5"				100+
-26.6		@SS-15: No HCl Reaction LL=97, PL=49, PI=48, NMC=64.3%, %200=81.0		105.1	SS-15	19	27	29		56
-31.6		@SS-16: Fine Sand Seams, No HCl Reaction		110.1	SS-16	16	34	38		72
-36.6	115.1	Very Dense, Moist, Dark Gray, Low Plasticity to Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6) with Shell Fragments, Strong HCl Reaction, 5Y 4/1		115.1	SS-17	50/1.5"				100+
-41.6	120.1			120.1	SS-18	36	50/5.5"			100+
	121.1	Hard, Moist to Dry, Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, Blocky Fracture, Weak HCl Reaction, 5Y 4/1								
-46.6		Boring Terminated at 121.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-24		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5244+35	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50523385	**Longitude:**	-80.4522461	**Date Started:**	3/15/2023
Total Depth:	120.7 ft	**Soil Depth:**	77.1 ft	**Core Depth:**	22.9 ft	**Date Completed:**	3/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.2-ft.)							
72.7									
67.7									
62.7									
	17.4	@SS-1: No Recovery							
57.7	20.7	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Olive Gray, High Plasticity, Lean CLAY (CL/A-7-6), 5Y 5/2	20.7	SS-1	WOH/24"				WOH
		@SS-2: LL=47, PL=21, PI=26, NMC=44.0%, %200=89.9	22.7	SS-2	WOH/24"				WOH
52.7	24.7	Very Soft, Wet, Olive Gray, High Plasticity, Lean CLAY (CL/A-7-6) with Sand, 5Y 5/2	24.7	SS-3	WOH/18"	2			WOH
	26.7	Very Loose, Wet, Gray/strong Brown, Medium Plasticity to High Plasticity, Clayey Fine SAND (SC/A-2-6), Micaceous, 5Y 6/1 & 7.5YR 5/6	26.7	SS-4	WOH	2	2	1	4
	28.7	Very Loose, Wet, Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), 5Y 6/1	28.7	SS-5	WOH	2	2	1	4
47.7		LL=NP, PL=NP, PI=NP, NMC=33.6%,							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-24
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5244+35	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50523385	**Longitude:**	-80.4522461	**Date Started:**	3/15/2023
Total Depth:	120.7 ft	**Soil Depth:**	77.1 ft	**Core Depth:**	22.9 ft	**Date Completed:**	3/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		%200=26.1								
42.7		@SS-6: Fine to Medium Sand Particles, (SM/A-4), 5Y 6/1 LL=NP, PL=NP, PI=NP, NMC=39.0%, %200=36.0		34.2	SS-6	1	2	2		4
37.7	40.7	@SS-7: Medium Dense		39.2	SS-7	9	11	5		16
		SANTEE LIMESTONE (EOCENE) Hard, Moist, Light Gray, Non-Plastic to Low Plasticity, SILT (ML/A-4) with Trace of Gravel (Shells), Strong HCl Reaction, 5Y7/2		43.5	~~SS-8~~	~~50/0.5"~~				~~100+~~
32.7		@NQ-1: Strong HCl Reaction, %REC=100, %RQD=100, qu=1,510 psi, 2.1 min/ft.		43.5 46.4	NQ-1					
27.7		@NQ-2: Gray, %REC=97, %RQD=75, qu=460 psi, 1.6 min/ft.			NQ-2					
22.7		@NQ-3: %REC=100, %RQD=95, 1.2 min/ft.		51.4	NQ-3					
17.7		@NQ-4: White, Strong HCl Reaction, %REC=100, %RQD=80, qu=880 psi, 1.2 min/ft.		56.4	NQ-4					
		@NQ-5: Vuggy, with Phosphate Nodules, Strong HCl Reaction, %REC=90, %RQD=70, qu=890 psi, 3.6 min/ft.		61.4						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

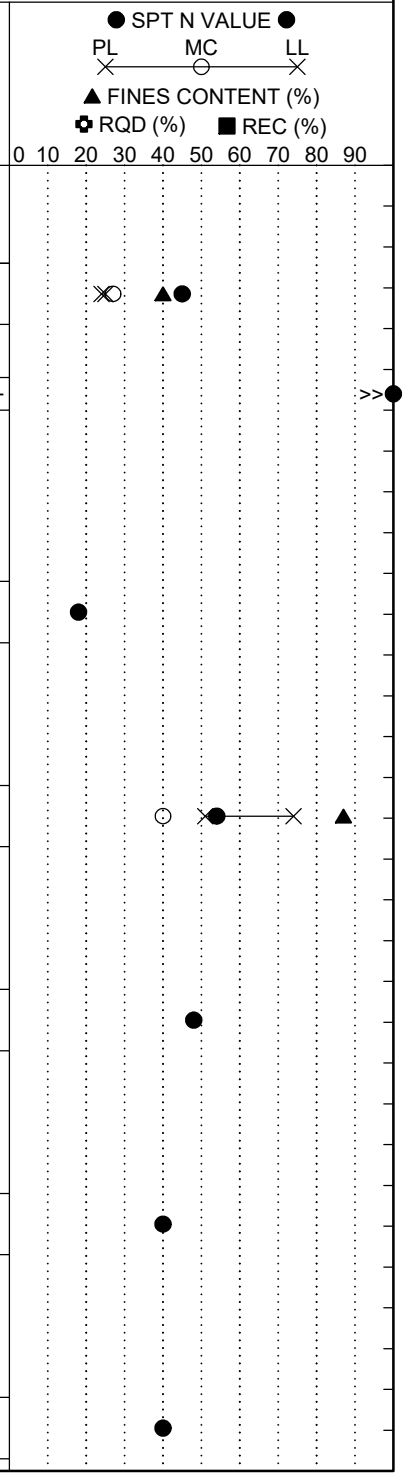
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-24		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5244+35	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50523385	**Longitude:**	-80.4522461	**Date Started:**	3/15/2023
Total Depth:	120.7 ft	**Soil Depth:**	77.1 ft	**Core Depth:**	22.9 ft	**Date Completed:**	3/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.7					NQ-5					
	66.4	**UNDIFFERENTIATED EOCENE**		66.4						
		Dense to Very Dense, Moist to Wet, Greenish Gray, Low Plasticity, Silty Fine to Medium SAND (SM/A-4), Glauconitic, Weak HCl Reaction, 10GY 6/1			SS-9	37	30	15		45
		LL=25, PL=24, PI=1, NMC=26.7%, %200=40.3		69.2						
7.7					SS-10	32		50/4"		100+
		@SS-10: Moist, Micaceous, Strong HCl Reaction								
				74.2						
2.7		@SS-11: Medium Dense, Moist to Wet, Grayish Green, Fine to Coarse Sand Particles, Glauconitic, Micaceous, No HCl Reaction, 5G 5/2			SS-11	5	7	11		18
	79.2			79.2						
-2.3		Hard, Moist, Dark Olive Gray, High Plasticity, Elastic SILT (MH/A-7-5), Micaceous, Laminated, 5Y 3/2			SS-12	16	26	28		54
		LL=74, PL=51, PI=23, NMC=40.4%, %200=87.3		84.2						
-7.3					SS-13	18	19	29		48
				89.2						
-12.3		@SS-14: Blocky Fracture			SS-14	8	17	23		40
				94.2						
-17.3					SS-15	11	17	23		40



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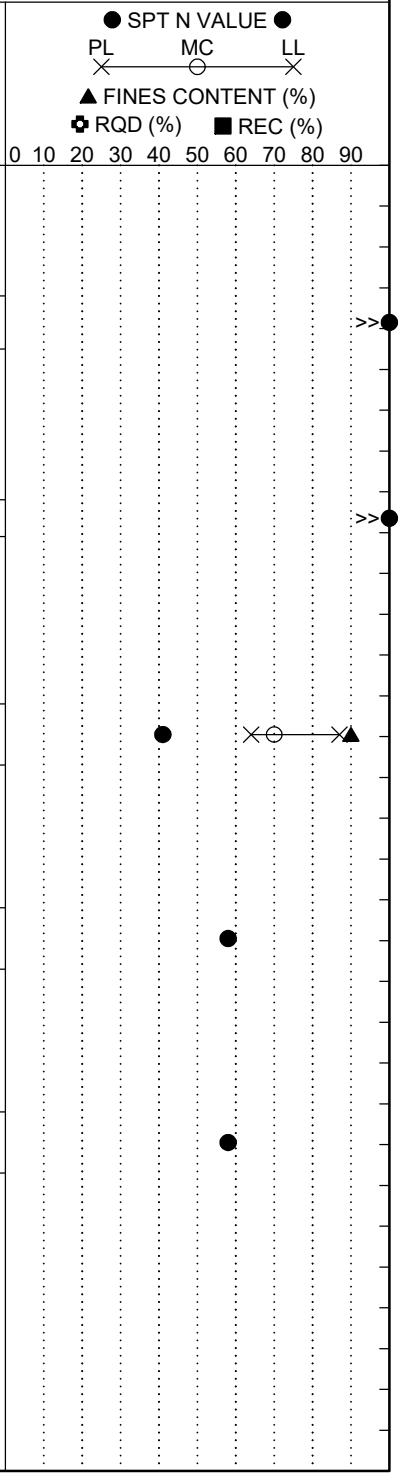
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-24		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5244+35	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50523385	**Longitude:**	-80.4522461	**Date Started:**	3/15/2023
Total Depth:	120.7 ft	**Soil Depth:**	77.1 ft	**Core Depth:**	22.9 ft	**Date Completed:**	3/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
			99.2						
-22.3	100.2	@SS-16: Black, with Decreased Sand Content, No HCl Reaction, 5Y 2.5/1		SS-16	10	31	50/3"		100+
		WILLIAMSBURG FORMATION (PALEOCENE) Very Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, 5Y 5/1							
	104.2		104.2						
-27.3		Hard, Moist, Black, High Plasticity, Elastic SILT (MH/A-7-5), Micaceous, Laminated, No HCl Reaction, 5Y 2.5/1		SS-17	27		50/5.5"		100+
			109.2						
-32.3		@SS-18: with Sand Seams LL=87, PL=64, PI=23, NMC=70.3%, %200=89.9		SS-18	18	16	25		41
			114.2						
-37.3				SS-19	10	45	13		58
			119.2						
-42.3				SS-20	9	19	39		58
	120.7	Boring Terminated at 120.7-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.							
-47.3									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-25		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5242+32	**Offset:**	12.6-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50580863	**Longitude:**	-80.45197086	**Date Started:**	5/2/2023
Total Depth:	120.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.8-ft.)							
72.9									
67.9									
62.9									
57.9									
	21.3	**ALLUVIUM (HOLOCENE)**	21.3	SS-1	WOH/24"				WOH
		Very Soft to Soft, Wet, Brown, Low Plasticity, SILT (ML/A-4), with Traces of Organics (Wood), No HCl Reaction, 10YR 5/3	23.3	SS-2	WOH/24"				WOH
52.9		@SS-2: No HCl Reaction	25.3	SS-3	WOH/24"				WOH
		@SS-3: No HCl Reaction, LL=25, PL=23, PI=3, NMC=56.7%, %200=91.2	27.3	SS-4	1	2	2	2	4
		@SS-4: No HCl Reaction							
	29.3		29.3	SS-5	2	2	1	1	3
47.9		Very Loose, Wet, Brown, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, 10YR 5/3							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-25
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5242+32	**Offset:**	12.6-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50580863	**Longitude:**	-80.45197086	**Date Started:**	5/2/2023
Total Depth:	120.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.9	34.8	Very Loose, Wet, Gray, Non-Plastic, Silty SAND (SM/A-4), 10YR 5/1	34.8	SS-6	2	2	2		4
		@SS-6: LL=NP, PL=NP, PI=NP, NMC=34.9%, %200=38.7							
37.9	39.8	@SS-7: No Recovery	39.8	SS-7	2	3	4		7
32.9	44.8	**SANTEE LIMESTONE (EOCENE)** Dense to Very Dense, Moist, Greenish Gray, Non Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, GLEY1 6/10Y	44.8	SS-8	8	10	37		47
		@SS-8: LL=NP, PL=NP, PI=NP, NMC=38.5%, %200=53.0	48.8	SS-9	50/4"				100+
27.9			52.8						
		@ SS-10: Strong HCl Reaction, LL=NP, PL=NP, PI=NP, NMC= 33.3%, %200-=55.7		SS-10	3	30	34	50	64
22.9	56.8	Very Dense, Moist, Greenish Gray, Non Plastic, Silty Fine to Coarse SAND (SM/A-1-b) with Gravel, Strong HCl Reaction, GLEY1 6/10Y	56.8	SS-11	6	50/3"			100+
17.9			60.8						
		@ SS-12: LL=NP, PL=NP, PI=NP, NMC=21.6%, %200=17.5		SS-12	42	48	50/5"		98+

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-25
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5242+32	**Offset:**	12.6-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50580863	**Longitude:**	-80.45197086	**Date Started:**	5/2/2023
Total Depth:	120.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9	64.8	Very Dense, Moist, Greenish Gray, Low Plasticity, Poorly Graded GRAVEL (GP-GC/A-1-a) with Clay, Sand & Phosphate Grains, Strong HCl Reaction, 10GY 6/1	64.8	SS-13	50/5.5"				100+
	68.8	@SS-13: Greenish Gray, Weak HCl Reaction, GLEY1 5/10Y	68.8						
7.9		**UNDIFFERENTIATED EOCENE**		SS-14	4	7	12	13	19
		Medium Dense, Wet, Dark Greenish Gray, High Plasticity to Very Plastic, Clayey Fine to Coarse SAND (SC/A-2-6), Glauconitic, No HCl Reaction, 5G 4/1							
		@SS-14: LL=40, PL=18, PI=22, NMC=23.2%, %200=14.3	74.8						
2.9		@SS-15: No HCl Reaction		SS-15	8	11	19		30
			79.8						
-2.1		@SS-16: Very Dense, Moist, (SC/A-2-7), No HCl Reaction		SS-16	17	25	31		56
		LL=95, PL=21, PI=74, NMC=24.4%, %200=12.0							
		@80.3-ft.: Gray, No HCl Reaction, 2.5Y 6/1							
-7.1	84.8	Very Dense, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, 5Y 6/1	84.8	SS-17	17	30	48		78
-12.1	89.8	**WILLIAMSBURG FORMATION (PALEOCENE)**	89.8	SS-18	20	22	22		44
		Hard, Moist, Very Dark Gray, Medium Plasticity, Sandy SILT (ML/A-7-5), Laminated, No HCl Reaction, 5Y 3/1							
		@SS-18: LL=48, PL=36, PI=12, NMC=51.9, %200=58.5	94.8						
-17.1				SS-19	14	20	44		64

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-25
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5242+32	**Offset:**	12.6-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50580863	**Longitude:**	-80.45197086	**Date Started:**	5/2/2023
Total Depth:	120.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	5/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" 2nd 6" 3rd 6" 4th 6"	N Value
-22.1		@SS-21: Variably Cemented, No HCl Reaction		99.8	SS-20	50/3.5"	100+
-27.1	104.8	Very Dense, Wet, Gray/Very Dark Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay (Occasional Seams), 5Y 6/1 & 5Y 3/1		104.8	SS-21	15 20 50/3"	70+
-32.1	109.8	Hard, Moist, Very Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand (Seams), Micaceous, No HCl Reaction, 5Y 3/1		109.8	SS-22	11 30 34	64
-37.1		@SS-24: Variably Cemented, Weak HCl Reaction		114.8	SS-23	12 16 37	53
-42.1	120.1	@SS-25: No HCl Reaction Boring Terminated at 120.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.		119.8	SS-24	50/3.5"	100+
-47.1							

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-26
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5241+36	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50578835	**Longitude:**	-80.45152175	**Date Started:**	3/14/2023
Total Depth:	117.4 ft	**Soil Depth:**	79 ft	**Core Depth:**	21 ft	**Date Completed:**	3/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (13.9-ft.)								
72.8										
67.8										
62.8										
	17.4	@SS-1: No Recovery		17.4	SS-1	WOH/24"				WOH
	19.4	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Olive Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), 5Y 5/2		19.4	SS-2	WOH/24"				WOH
57.8	22.4			21.4	SS-3	WOH/18"	2			WOH
	23.4	Very Loose, Wet, Grayish Brown, Low Plasticity to Medium Plasticity, Clayey Fine SAND (SC/A-2-6), Micaceous, 2.5Y 5/2		23.4	SS-4	2	2	2	1	4
52.8		Soft to Very Soft, Wet, Grayish Brown/Strong Brown, Medium Plasticity, Sandy Lean CLAY (CL/A-6), 2.5Y 5/2 & 7.5YR 3/6 LL=36, PL=19, PI=17, NMC=50.3%, %200=64.5 @24.9-ft.: Gray, 10YR 6/1		25.4	SS-5	2	1	1	2	2
47.8	30.9			30.9	SS-6	2	2	3		5
		Loose, Wet, Gray, Non-Plastic, Fine Poorly								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-26
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5241+36	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50578835	**Longitude:**	-80.45152175	**Date Started:**	3/14/2023
Total Depth:	117.4 ft	**Soil Depth:**	79 ft	**Core Depth:**	21 ft	**Date Completed:**	3/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Graded SAND (SP-SM/A-3) with Silt, Micaceous, 2.5YR 6/1							
42.8		@SS-7: LL=NP, PL=NP, PI=NP, NMC=32.0%, %200=5.2	35.9	SS-7	2	2	3		5
	38.4	**SANTEE LIMESTONE (EOCENE)**	38.4	SS-8	50/0.5"				100+
37.8		Hard, Moist, Light Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4) with Trace of Gravel (Shells), Strong HCl Reaction, 5Y7/2	38.4	NQ-1					
		@NQ-1: %REC=96, %RQD=96, qu=475 psi, 1.1 min/ft.	42.8						
32.8		@NQ-2: %REC=100, %RQD=75, 1.0 min/ft.		NQ-2					
		@NQ-3: Increasing Grain Size, with Phosphate Grains, %REC=98, %RQD=87, qu=580 psi, 1.0 min/ft.	47.8	NQ-3					
27.8		@NQ-4: %REC=98, %RQD=87, qu=410 psi, 7.4 min/ft.	52.8	NQ-4					
22.8		@53.2-ft.: Reddish Gray, Vuggy, with Phosphate Nodules, Strong HCl Reaction, 5BG8/1							
		@NQ-5: Glauconitic, %REC=57, %RQD=43, qu=1,250 psi, 1.6 min/ft.	57.8	NQ-5					
17.8		@60.9-ft.: Weak HCl Reaction							
	62.0	**UNDIFFERENTIATED EOCENE**							
		Medium Dense, Wet, Greenish Gray,							

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-26
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5241+36	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50578835	**Longitude:**	-80.45152175	**Date Started:**	3/14/2023
Total Depth:	117.4 ft	**Soil Depth:**	79 ft	**Core Depth:**	21 ft	**Date Completed:**	3/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.8		Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-6) with Clay, 10BG 5/1		65.9	SS-9	6	8	12		20
7.8		@SS-10: LL=34, PL=21, PI=13, NMC=22.7%, %200=11.7		70.9	SS-10	9	8	13		21
2.8	75.9	Very Dense to Dense, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-2-4), Micaceous, Thinly Bedded, No HCl Reaction, 5Y 5/1		75.9	SS-11	17	24	30		54
-2.2		@SS-12: LL=NP, PL=NP, PI=NP, NMC=23.4%, %200=11.5		80.9	SS-12	20	30	44		74
-7.2		@SS-13: Gray, No HCl Reaction, 5Y 5/1		85.9	SS-13	13	15	17		32
-12.2	90.9	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, High Plasticity, Sandy Fat CLAY (CH/A-7-6), Laminated, Micaceous, No HCl Reaction, 5Y 3/1		90.9	SS-14	11	15	22		37
-17.2				95.9						

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

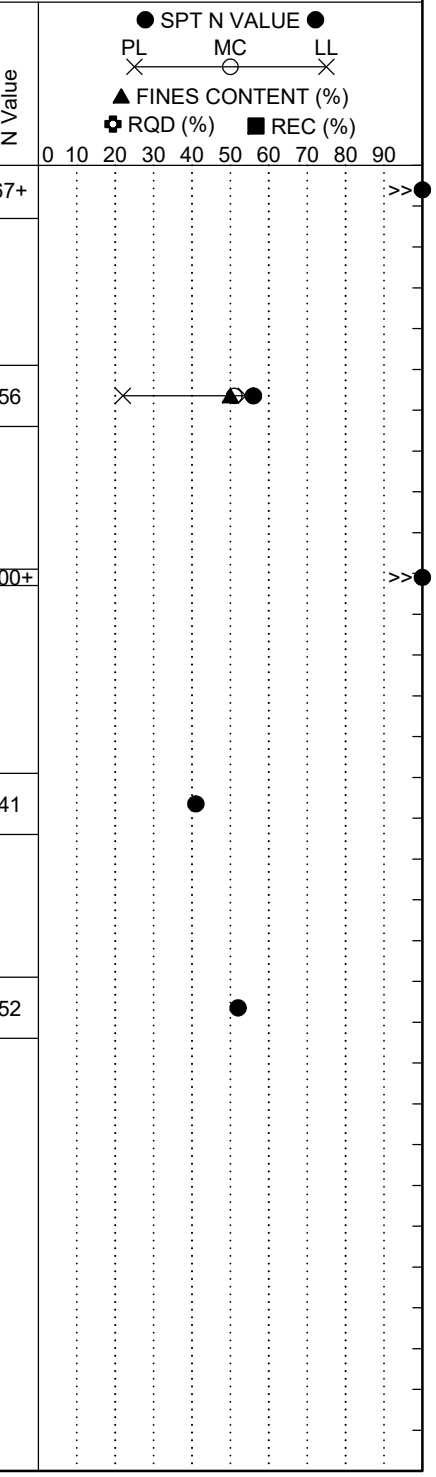
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-26
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5241+36	**Offset:**	85.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50578835	**Longitude:**	-80.45152175	**Date Started:**	3/14/2023
Total Depth:	117.4 ft	**Soil Depth:**	79 ft	**Core Depth:**	21 ft	**Date Completed:**	3/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" 2nd 6" 3rd 6" 4th 6"	N Value
					SS-15	11 17 50/5"	67+
-22.2		@SS-16: LL=54, PL=22, PI=32, NMC=50.6%, %200=50.4		100.9	SS-16	27 28 28	56
-27.2		@SS-17: Cemented Layers, No HCl Reaction		105.9	SS-17	50/5"	100+
-32.2		@SS-18: Black, Blocky Fracture, Weak HCl Reaction, 2.5Y 2.5/1		110.9	SS-18	12 19 22	41
-37.2				115.9	SS-19	11 23 29	52
	117.4	Boring Terminated at 117.4-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.					
-42.2							
-47.2							



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-27		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5240+33	**Offset:**	11.2-R	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50617329	**Longitude:**	-80.45148766	**Date Started:**	5/1/2023
Total Depth:	120.8 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	5/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.3-ft.)							
72.8									
67.8									
62.8									
57.8	20.8	**ALLUVIUM (HOLOCENE)** Very Loose, Wet, Dark Grayish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 10YR 4/2	20.8	SS-1	WOH/24"				WOH
	22.8		22.8	SS-2	WOH/18"		1		WOH
52.8	24.8	Very Soft, Wet, Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 10YR 4/1	24.8	SS-3	2	2	2	2	4
		Very Loose to Loose, Wet, Dark Yellowish Brown, Non-Plastic, Silty SAND (SM/A-2-4), No HCl Reaction, 10YR 4/6	26.8	SS-4	2	2	2	2	4
		@SS-4: LL=NP, PL=NP, PI=NP, NMC= 34.6%, %200=34.2	28.8	SS-5	WOH/12"		1	2	1
47.8		@SS-5: Gray, No HCl Reaction. 10YR 5/1							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-27
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5240+33	**Offset:**	11.2-R	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50617329	**Longitude:**	-80.45148766	**Date Started:**	5/1/2023
Total Depth:	120.8 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	5/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.8		@SS-6: No HCl Reaction LL=NP. PL=NP, PI=NP, NMC=33.8, %200=29.0	34.3	SS-6	2	2	3		5
37.8		@SS-7: No HCl Reaction	39.3	SS-7	13	3	2		5
	42.6	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Greenish Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Weak HCl Reaction, 5Y7/2	42.6	SS-8	50/0.5"				100+
32.8		@NQ-1:%REC=13, %RQD=0, 1.0 min/ft.	42.6	NQ-1					
		@NQ-2: Strong HCl Reaction, %REC=88, %RQD=55, qu=385 psi, 1.4 min/ft.	47.6	NQ-2					
27.8		@NQ-3: Greenish Gray, Strong HCl Reaction, %REC=91, %RQD=80, qu=510 psi, 1.4 min/ft.	52.6	NQ-3					
22.8		@NQ-4: Gray, Weak HCl Reaction, %REC=88, %RQD=48, qu=6,330 psi, 4.8 min/ft.	57.6	NQ-4					
17.8		@NQ-5: Light Gray/Dark Greenish Gray, Strong HCl Reaction, %REC=83,	62.6						

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

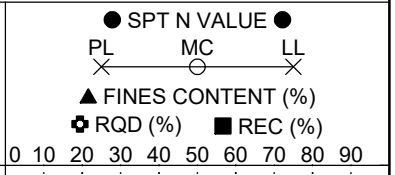
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-27		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5240+33	**Offset:**	11.2-R	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50617329	**Longitude:**	-80.45148766	**Date Started:**	5/1/2023
Total Depth:	120.8 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	5/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.8		%RQD=53, qu=730 psi, 2.8 min/ft.			NQ-5					
	67.6	**UNDIFFERENTIATED EOCENE**								
		Medium Dense, Moist, Dark Greenish Gray, Low Plasticity, Clayey SAND (SC/A-2-4) , No HCl Reaction, GLEY1 4/10Y		69.3						
7.8		@SS-9 : LL=30, PL=20, P=10, NMC=21.9, %200=15.7			SS-9	4	8	8		16
				74.3						
2.8		@SS-10: Very Dense to Dense, Light Gray, No HCl Reaction, 10YR 7/2			SS-10	31	38	49		87
				79.3						
-2.2		@SS-11: Brown, No HCl Reaction, 7.5YR 5/3			SS-11	10	12	32		44
	84.3			84.3						
-7.2		Hard, Moist, Gray/Brown, Non-Plastic, Sandy SILT (ML/A-4), No HCl Reaction, 7.5YR 5/1 & 7.5YR 4/2			SS-12	16	32	42		74
		@SS-12: LL=NP, PL=NP, PI=NP, NMC=32.4%, %200=50.5								
	89.3			89.3						
-12.2		Very Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 7.5YR 5/1			SS-13	20	37	50		87
				94.3						
-17.2		@SS-14: Dark Gray, No HCl Reaction, 7.5YR 4/1			SS-14	20	40	45		85



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-27
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5240+33	**Offset:**	11.2-R	**Alignment:**	I-95 Med. CL
Elev.:	77.8 ft	**Latitude:**	33.50617329	**Longitude:**	-80.45148766	**Date Started:**	5/1/2023
Total Depth:	120.8 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	5/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	99.3			99.3						
-22.2		**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, No HCl Reaction, 7.5YR 3/1 @SS-15: LL=69, PL=37, PI=32, NMC=75.1%, %200=79.9			SS-15	13	24	31		55
	104.3			104.3						
-27.2		Very Dense, Moist, Dark Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), No HCl Reaction, 7.5YR 4/1			SS-16	25	50/5"			100+
				109.3						
-32.2					SS-17	11	25	28		53
	114.3			114.3						
-37.2		Hard, Moist, Very Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 7.5YR 3/1			SS-18	10	16	22		38
				119.3						
-42.2		@SS-19: No HCl Reaction			SS-19	16	19	24		43
	120.8	Boring Terminated at 120.3-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.2										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-28
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5239+38	**Offset:**	82.7-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50616047	**Longitude:**	-80.45104769	**Date Started:**	3/13/2023
Total Depth:	116.7 ft	**Soil Depth:**	74.2 ft	**Core Depth:**	25.8 ft	**Date Completed:**	3/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (13.2-ft.)							
72.7									
67.7									
62.7									
	16.7	**ALLUVIUM (HOLOCENE)**	16.7						
		Very Soft, Moist to Wet, Bluish Gray, Low Plasticity, Sandy SILT (ML/A-4), 10B 6/1		SS-1	WOH/24"				WOH
			18.7	SS-2	WOH/24"				WOH
57.7			20.7						
		@SS-3: Olive Gray, Micaceous, 5Y 5/2 LL=32, PL=26, PI=6, NMC=34.1, %200=69.9		SS-3	WOH/18"	2			WOH
	22.7		22.7						
		Very Loose, Moist to Wet, Gray, Low Plasticity, Clayey Fine SAND (SC/A-2-6), Micaceous, 5Y 6/1		SS-4	WOH/18"	2			WOH
	24.7		24.7						
52.7		Very Loose to Loose, Wet, Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Micaceous, 5Y 6/1		SS-5	1/12"	1/12"			1
		@SS-5: LL=NP, PL=NP, PI=NP, NMC=37.3%, %200=28.5							
47.7			30.2						
				SS-6	1	2	2		4

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

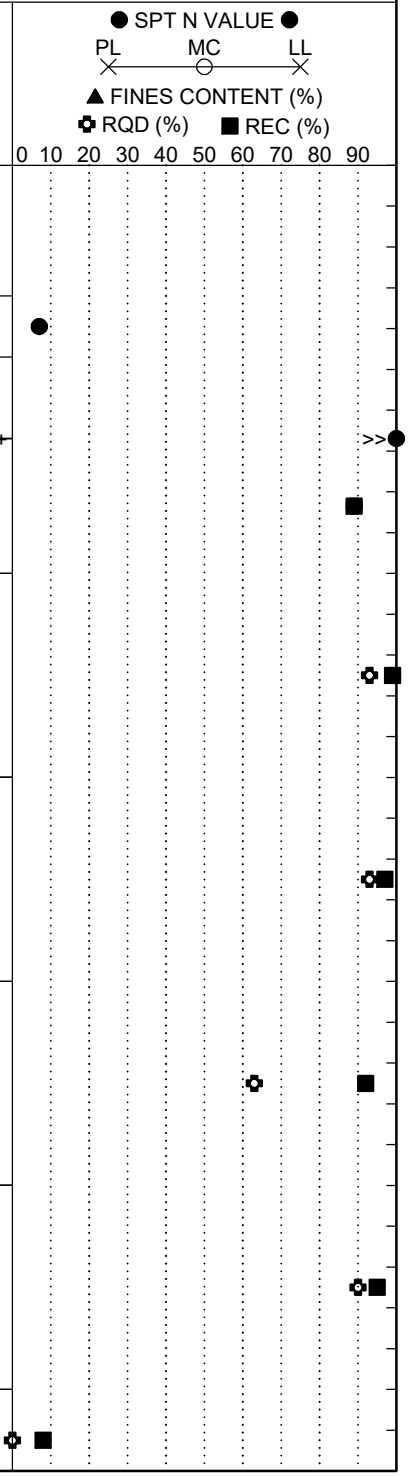
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-28
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5239+38	**Offset:**	82.7-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50616047	**Longitude:**	-80.45104769	**Date Started:**	3/13/2023
Total Depth:	116.7 ft	**Soil Depth:**	74.2 ft	**Core Depth:**	25.8 ft	**Date Completed:**	3/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.7		@SS-7: Gray, Fine to Medium Sand Particles, 5Y 6/1		35.2	SS-7	5	4	3		7
	38.7	**SANTEE LIMESTONE (EOCENE)**		38.7	SS-8	50/0.5"				100+
37.7		Very Dense, Moist, Light Olive Gray, Non-Plastic to Low Plasticity, Silty Medium to Coarse SAND (SM/A-2-4) with Trace of Gravel (Shells), Strong HCL Reaction, 5Y6/2		38.7	NQ-1					
		NQ-1: %REC=89, %RQD=89, with Shells, qu=300 psi, 1.2 min/ft.		42.0						
32.7		@NQ-2: %REC=99, %RQD=93, qu=475 psi, 2.0 min/ft.			NQ-2					
		@43.2-ft.: Sandy, with Bryozoans & Shells		47.0						
		@NQ-3: %REC=97, %RQD=93, qu=420 psi, 1.6 min/ft.			NQ-3					
27.7				52.0						
		@NQ-4: Vuggy, %REC=92, %RQD=63, qu=340 psi, 1.6 min/ft.			NQ-4					
22.7		@54.0-ft.: White/Dark Greenish Gray, with Phosphate Nodules, N 7/1 & 5G 4/1		57.0						
		@NQ-5: Glauconitic, Weak to Strong HCl Reaction, Dark Greenish Gray, 5G4/1, %REC=95, %RQD=90, qu=3,690 psi, 3.0 min/ft.			NQ-5					
17.7				62.0						
		@NQ-6: %REC=8, %RQD=0, 3.2 min/ft.			NQ-6					



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-28		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5239+38	**Offset:**	82.7-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50616047	**Longitude:**	-80.45104769	**Date Started:**	3/13/2023
Total Depth:	116.7 ft	**Soil Depth:**	74.2 ft	**Core Depth:**	25.8 ft	**Date Completed:**	3/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	64.5									
12.7		**UNDIFFERENTIATED EOCENE** Stiff, Moist to Wet, Dark Greenish Gray, High Plasticity, Sandy Lean CLAY (CL/A-7-6), No HCl Reaction, 5G 4/1 LL=41, PL=20, PI=21, NMC=33.0%, %200=56.4		65.2	SS-9	6	12	13		25
7.7		@SS-10: Wet, No HCl Reaction		70.2	SS-10	6	10	12		22
2.7	75.2	Very Dense to Dense, Moist, Gray, Non-Plastic, Fine to Medium Well-Graded SAND (SW-SM/A-1-b) with Silt, Quartz, Micaceous, Thinly Bedded, No HCl Reaction, 2.5Y 6/1		75.2	SS-11	28	50/5"			100+
-2.3		@SS-12: Moist to Wet, with Organics LL=NP, PL=NP, PI=NP, NMC=24.5%, %200=8.6		80.2	SS-12	10	21	29		50
-7.3		@SS-13: with Occasional Very Thin Organic Seams, No HCl Reaction		85.2	SS-13	26	45	50/4"		100+
-12.3		@S-14: Wet		90.2	SS-14	13	21	27		48
-17.3	95.2	**WILLIAMSBURG FORMATION**		95.2						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-28
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5239+38	**Offset:**	82.7-L	**Alignment:**	I-95 Med. CL
Elev.:	77.7 ft	**Latitude:**	33.50616047	**Longitude:**	-80.45104769	**Date Started:**	3/13/2023
Total Depth:	116.7 ft	**Soil Depth:**	74.2 ft	**Core Depth:**	25.8 ft	**Date Completed:**	3/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		(PALEOCENE)			SS-15	10	26	29		55
		Hard, Moist to Wet, Gray/Black, High Plasticity, Elastic SILT (MH/A-7-5), Micaceous, Thinly Bedded, Alternating Clay & Sand Seams, No HCl Reaction, 2.5Y 6/1 & 5Y 2.5/2								
-22.3				100.2						
		@SS-15: LL=72, PL=39, PI=33, NMC=71.5%, %200=90.4			SS-16	27	46	50		96
-27.3	105.2			105.2						
		Very Dense, Moist to Wet, Gray/Black, Medium Plasticity to High Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Micaceous, Thinly Bedded, No HCl Reaction, 2.5Y 6/1 & 5Y 2.5/2			SS-17	35		50/4"		100+
-32.3	110.2			110.2						
		Hard, Moist, Black, Medium Plasticity to High Plasticity, Sandy CLAY (CL/A-6), Micaceous, Blocky Fracture, No HCl Reaction, 2.5Y 2.5/1			SS-18	50/4.5"				100+
-37.3	115.2			115.2						
		Hard, Moist, Black, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand, Blocky Fracture, 2.5Y 2.5/1			SS-19	15	26	29		55
	116.7	Boring Terminated at 116.7-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-42.3										
-47.3										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-29		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5238+35	**Offset:**	11.9-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50654351	**Longitude:**	-80.4510076	**Date Started:**	4/27/2023
Total Depth:	121.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)					
	3.5	WATER (17.8-ft.)					
72.9							
67.9							
62.9							
57.9							
	21.3	**ALLUVIUM (HOLOCENE)**		21.3	SS-1	WOH/18" WOH	WOH
		Very Soft, Wet, Brown, Low Plasticity, SILT (ML/A-4) with Sand, No HCl Reaction, 10YR 5/3		23.3	SS-2	WOH/24"	WOH
52.9		@SS-2: No HCl Reaction		25.3	SS-3	WOH/24"	WOH
		@SS-3: No HCl Reaction		27.3	SS-4	WOH/12" 2 2	2
		@SS-4: No HCl Reaction					
	29.3	LL=27, PL=22, PI=5, NMC=53.4%, %200=77.0		29.3	SS-5	1/12" 1/12"	1
47.9		Very Loose, Wet, Brown, Non-Plastic, Silty Fine SAND (SM/A-2-4), 10YR 5/3					

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-29
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5238+35	**Offset:**	11.9-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50654351	**Longitude:**	-80.4510076	**Date Started:**	4/27/2023
Total Depth:	121.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.9		@SS-6: Dark Gray, No HCl Reaction, 10YR 4/1 NMC=28.6%, %200=18.6	34.8	SS-6	1/12"	1			1
37.9	39.8	@SS-7: No Recovery	39.8	SS-7	2	2	2		4
32.9	44.8	**SANTEE LIMESTONE (EOCENE)** Very Dense, Moist, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-4) with Trace of Gravel, Strong HCl Reaction, GLEY1 6/10Y	44.8	SS-8	21	25	30		55
	48.8	@SS-8: LL=NP, PL=NP, PI=NP, NMC=31.8%, %200=46.1	48.8						
27.9		Very Stiff to Hard, Moist, Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, GLEY1 6/10Y @SS-9: LL=NP, PL=NP, PI=NP, NMC=27.0%, %200=50.4		SS-9	8	12	11	24	23
			52.8	SS-10	16	50/4"			100+
22.9		@SS-10: Strong HCl Reaction							
	56.8	Dense, Moist, Greenish Gray, Non-Plastic, Silty Fine to Coarse SAND (SM/A-4), Weak HCl Reaction, GLEY1 6/10Y	56.8	SS-11	13	18	25	50/5"	43
17.9		@SS-11: LL=NP, PL=NP, PI=NP, NMC=27.9%, %200=42.8							
	60.8	Very Dense, Moist, Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Weak HCl Reaction, GLEY1 6/5GY	60.8	SS-12	50/4"				100+

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-29
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5238+35	**Offset:**	11.9-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50654351	**Longitude:**	-80.4510076	**Date Started:**	4/27/2023
Total Depth:	121.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9	64.8	**UNDIFFERENTIATED EOCENE** @SS-13: No Recovery		64.8	SS-13	50/3"				100+
7.9	68.8	Medium Dense, Moist, Dark Greenish Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-4), No HCl Reaction, GLEY1 4/5GY @SS-14: LL=29, PL=21, PI=8, NMC=25.1%, %200=39.3		68.8	SS-14	8	7	4	7	11
2.9	74.8	Dense, Moist, Dark Greenish Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC) with Clay, No HCl Reaction, GLEY1 4/5GY		74.8	SS-15	10	14	17		31
-2.1	79.8	Medium Dense, Moist, Dark Greenish Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-1-b), No HCl Reaction, GLEY1 4/5GY @SS-16: LL=NP, PL=NP, PI=NP, NMC=21.0%, %200=4.1		79.8	SS-16	11	11	19		30
-7.1		@SS-17: Very Dense, Dark Greenish Gray, No HCl Reaction, 5/5GY		84.8	SS-17	11	21	30		51
-12.1	89.8	Very Dense, Moist, Grayish Brown, Low Plasticity to Medium Plasticity, Fine to Coarse Poorly Graded SAND (SP-SC) with Clay, No HCl Reaction, 10YR 5/2		89.8	SS-18	24	50/5"			100+
-17.1	94.8	Dense, Moist, Gray, Non-Plastic to Low Plasticity, Fine to Medium Poorly Graded		94.8	SS-19	14	23	25		48

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-29
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5238+35	**Offset:**	11.9-R	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50654351	**Longitude:**	-80.4510076	**Date Started:**	4/27/2023
Total Depth:	121.3 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		SAND (SM/A-2-4), 10YR 6/1								
-22.1	99.8	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, High Plasticity, Sandy Elastic SILT (MH/A-7-5), No HCl Reaction, 10YR 3/1 @SS-20: LL=99, PL=59, PI=40, NMC=72.5%, %200=66.4		99.8	SS-20	10	16	21		37
-27.1		@SS-21: No HCl Reaction		104.8	SS-21	12	18	38		56
-32.1	109.8	Very Dense, Moist, Dark Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, 5Y 4/1		109.8	SS-22	14	20	50/4"		70+
-37.1	114.8	Hard, Moist, Very Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 5Y 4/1		114.8	SS-23	9	30	44		74
-42.1				119.8	SS-24	10	16	18		34
	121.3	Boring Terminated at 121.3-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.1										

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

SS-22 >>

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-30
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5237+34	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50653384	**Longitude:**	-80.45055216	**Date Started:**	3/8/2023
Total Depth:	122.8 ft	**Soil Depth:**	77 ft	**Core Depth:**	25 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.3-ft.)							
72.9									
67.9									
62.9									
57.9	20.8	**ALLUVIUM (HOLOCENE)**	20.8						
		@SS-1: No Recovery		SS-1	WOH/24"				WOH
	22.8	Very Soft, Wet, Olive Brown, Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 2.5Y 4/3	22.8	SS-2	WOH/24"				WOH
52.9		@SS-3: Moist to Wet, Micaceous	24.8	SS-3	WOH/24"				WOH
		@SS-4: LL=34, PL=23, PI=11, NMC=37.0%, %200=76.0	26.8	SS-4	WOH/12"	1	1		1
	28.8	Very Loose to Loose, Wet, Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-2-4) with Silt, Micaceous, 5Y 4/2	28.8	SS-5	1	3	1	1	4
47.9									

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

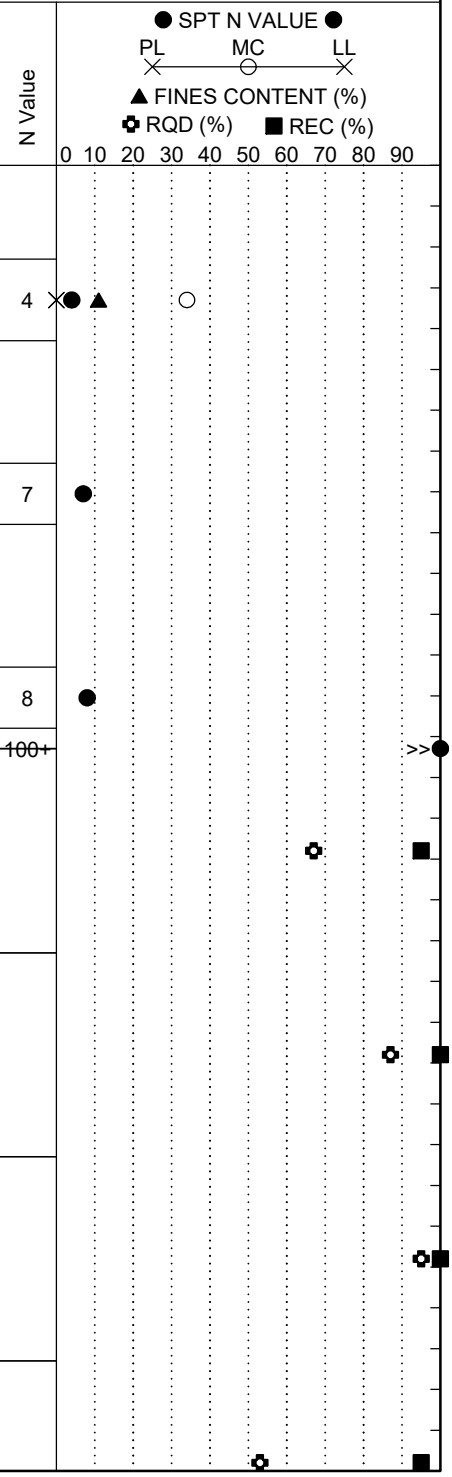
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-30
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5237+34	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50653384	**Longitude:**	-80.45055216	**Date Started:**	3/8/2023
Total Depth:	122.8 ft	**Soil Depth:**	77 ft	**Core Depth:**	25 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
42.9		@SS-6: Gray, Fine Sand Particles, 5Y 6/1 LL=NP, PL=NP, PI=NP, NMC=33.9, %200=10.9		34.3	SS-6	1	2	2	2	4
37.9				39.3	SS-7	2	3	4		7
32.9		@SS-8: Dark Gray, Fine to Coarse Sand Particles, Glauconitic at Tip of Spoon, 5Y 4/1		44.3	SS-8	3	3	5		8
	46.3			46.3	~~SS-9~~	~~50/0.5"~~				~~100+~~
		SANTEE LIMESTONE (EOCENE) Very Dense, Moist, Light Gray, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Moderately Cemented, Strong HCL Reaction, 5Y7/1 %REC=95, %RQD=67, 0.8 min/ft.		46.3	NQ-1					
27.9		@NQ-2: Moderately to Highly Cemented, Strong HCl Reaction, %REC=100, %RQD=87, qu=480 psi, 1.6 min/ft.		51.3	NQ-2					
22.9		@NQ-3: Light Gray, Increasing Grain Size, %REC=100, %RQD=95, qu=565 psi, 1.6 min/ft.		56.3	NQ-3					
17.9		@NQ-4: Light Gray, Vuggy, with Phosphate Nodules, Strong HCl Reaction, %REC=95, %RQD=53, qu=2,320 psi, 3.0 min/ft.		61.3	NQ-4					



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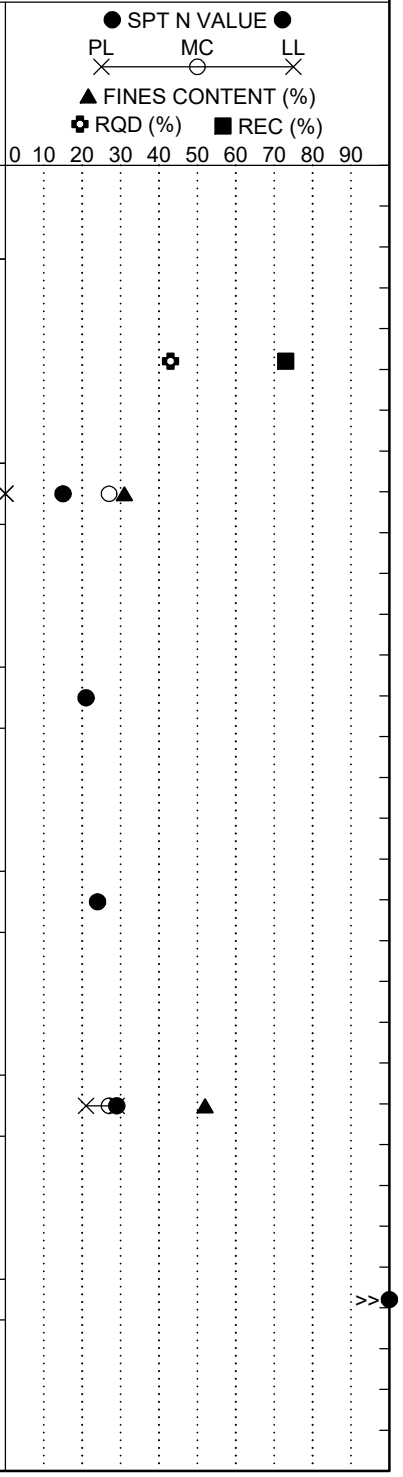
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-30
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5237+34	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50653384	**Longitude:**	-80.45055216	**Date Started:**	3/8/2023
Total Depth:	122.8 ft	**Soil Depth:**	77 ft	**Core Depth:**	25 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9		@NQ-5:%REC=73, %RQD=43, 2.6 min/ft.	66.3						
	68.8	**UNDIFFERENTIATED EOCENE**		NQ-5					
7.9		Very Dense, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/1	71.3						
	71.3	Medium Dense, Wet, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, 5G 5/1		SS-10	15	6	9		15
2.9		@SS-10: LL=NP, PL=NP, PI=NP, NMC=27.4%, %200=31.3	76.3						
		@SS-11: Glauconetic, Calcareous		SS-11	6	8	13		21
-2.1			81.3						
		@SS-12: Grayish Green, Micaceous, Less Calcereous, 5G 5/2		SS-12	7	11	13		24
-7.1									
	86.3	Very Stiff, Moist to Wet, Grayish Green, Low Plasticity, Sandy Lean CLAY (CL/A-4), 5G 5/2	86.3	SS-13	7	11	18		29
		@SS-13: LL=29, PL=21, PI=8, NMC=27.4%, %200=52.3							
-12.1									
	91.3	Very Dense, Moist to Wet, Dark Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Micaceous, 5Y 4/1	91.3	SS-14	22	50/6"			100+
-17.1									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-30
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5237+34	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50653384	**Longitude:**	-80.45055216	**Date Started:**	3/8/2023
Total Depth:	122.8 ft	**Soil Depth:**	77 ft	**Core Depth:**	25 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" 2nd 6" 3rd 6" 4th 6"	N Value
		@SS-15: Wet		96.3	SS-15	21 38 50/5"	100+
-22.1	101.3	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Black, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, No HCl Reaction, 5Y 2.5/2		101.3	SS-16	19 27 39	46
-27.1		@SS-16: LL=73, PL=43, PI=30, NMC=43.4%, %200=72.2					
	106.3	Very Dense, Moist, Very Dark Gray, Non-Plastic, Silty Fine to Coarse SAND (SM/A-2-4), 5Y 3/1		106.3	SS-17	10 50/1.5"	100+
-32.1				111.3	SS-18	36 50/4.5"	100+
		@SS-18: Moist to Wet, with Thinly Bedded Cemented Lenses, No HCl Reaction					
-37.1				116.3	SS-19	14 31 25	56
		@SS-19: LL=NP, PL=NP, PI=NP, NMC=44.1%, %200=32.8					
-42.1	121.3	Hard, Moist to Dry, Black, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), Micaceous, Weak HCl Reaction, 5Y 2.5/2		121.3	SS-20	11 16 22	38
	122.8	Boring Terminated at 122.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.					
-47.1							

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-31		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5236+35	**Offset:**	12.2-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5069134	**Longitude:**	-80.45052583	**Date Started:**	4/26/2023
Total Depth:	120.6 ft	**Soil Depth:**	65.1 ft	**Core Depth:**	34.9 ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (17.3-ft.)							
73.6									
68.6									
63.6									
58.6	20.8	**ALLUVIUM (HOLOCENE)** Very Soft to Soft, Wet, Brown, Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 10YR 4/3	20.8	SS-1	WOR/12"	WOH/12"			WOH
			22.8	SS-2	WOH/18"	1			WOH
53.6		@SS-3: Brown/Gray, 10YR 4/3 & 10YR 6/1	24.8	SS-3	WOH/24"				WOH
		@SS-4: No HCl reaction LL=36, PL=19, PI=17, NMC=32.7%, %200=93.2	26.8	SS-4	WOH	2	1	1	3
	28.8	Very Soft, Wet, Brown/Gray, Medium Plasticity, Lean CLAY (CL/A-6) With Sand, No HCl Reaction, 10YR 4/3 & 10YR 6/1	28.8	SS-5	WOH/18"	2			0
48.6									

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

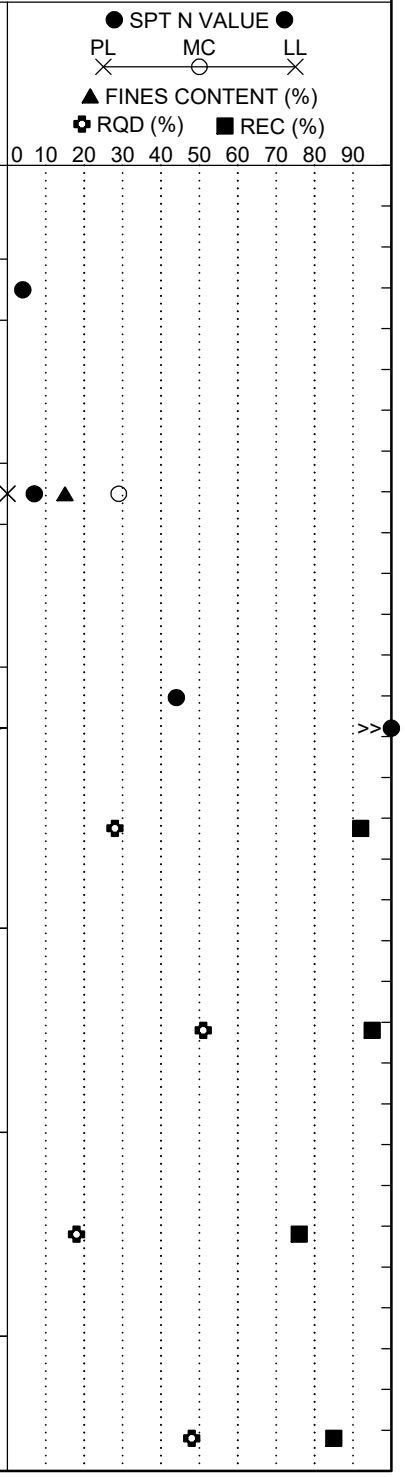
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-31
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5236+35	**Offset:**	12.2-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5069134	**Longitude:**	-80.45052583	**Date Started:**	4/26/2023
Total Depth:	120.6 ft	**Soil Depth:**	65.1 ft	**Core Depth:**	34.9 ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.3		34.3						
43.6		Very Loose to Loose, Moist, Gray, Non-Plastic, Silty Fine SAND (SM/A-2-4), 10YR 6/1		SS-6	2	2	2		4
			39.3						
38.6		@SS-7: LL=NP, PL=NP, PI=NP, NMC=28.6%, %200=15.2		SS-7	2	3	4		7
	44.3		44.3						
33.6		**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/2		SS-8	10	20	24		44
			45.8	~~SS-9~~	~~50/0.5"~~				~~100+~~
		@NQ-1: Strong HCl Reaction, %REC=92, %RQD=28, 1.4 min/ft.	45.8	NQ-1					
28.6			50.7						
		@NQ-2: Weak HCl Reaction %REC=95, %RQD=51, qu=410 psi, 1.0 min/ft.		NQ-2					
23.6			55.7						
		@NQ-3: Weak HCl Reaction, %REC=76, %RQD=18, qu=300 psi, 1.2 min/ft.		NQ-3					
18.6			60.7						
		@NQ-4: Greenish Gray, Strong HCl Reaction, GLEY1 6/10Y, %REC=85, %RQD=48, qu=1,785 psi, 2.0 min/ft.		NQ-4					



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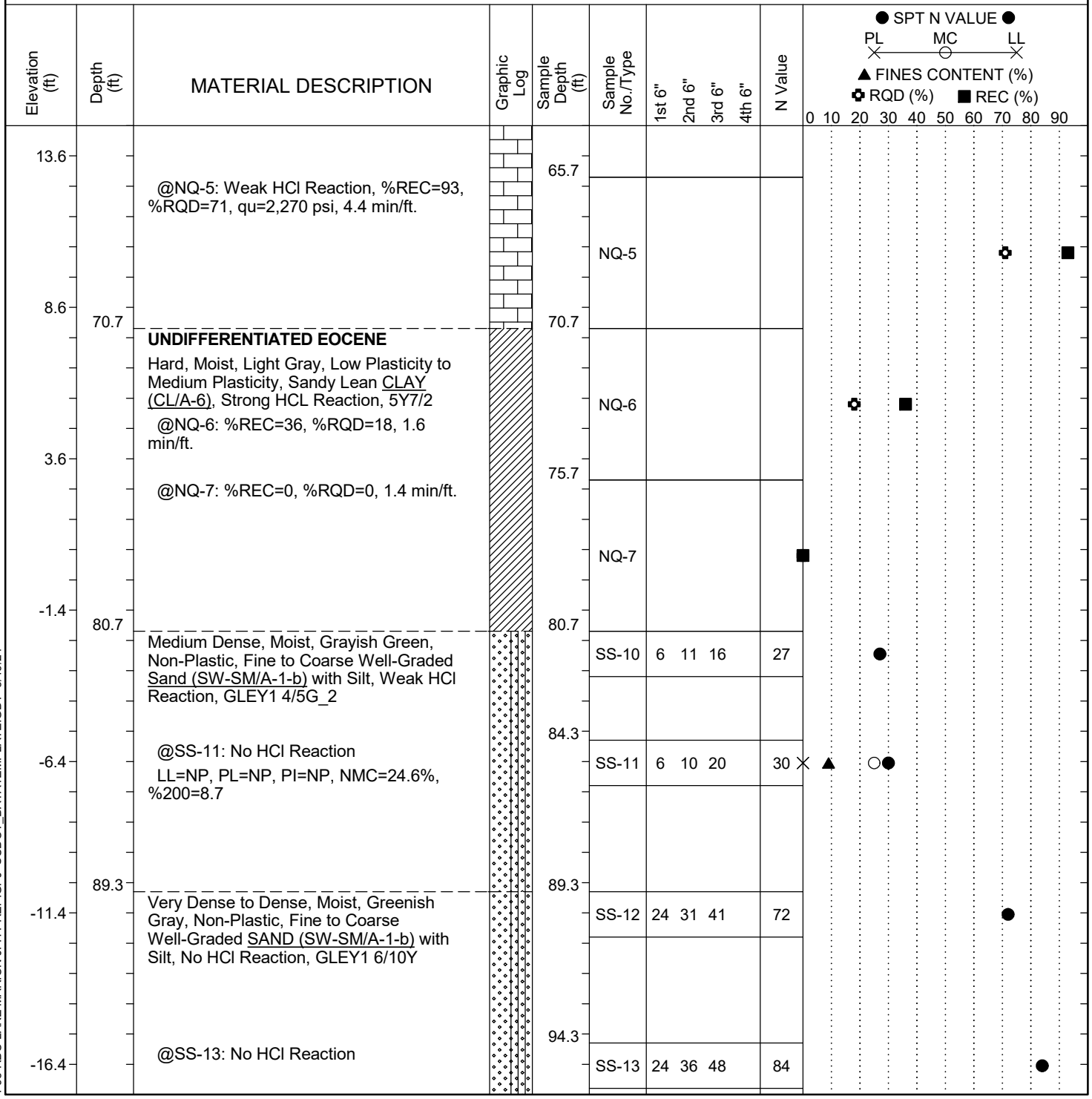
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-31		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5236+35	**Offset:**	12.2-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5069134	**Longitude:**	-80.45052583	**Date Started:**	4/26/2023
Total Depth:	120.6 ft	**Soil Depth:**	65.1 ft	**Core Depth:**	34.9 ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.6		@NQ-5: Weak HCl Reaction, %REC=93, %RQD=71, qu=2,270 psi, 4.4 min/ft.		65.7						
					NQ-5					
8.6	70.7	**UNDIFFERENTIATED EOCENE**		70.7						
		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/2			NQ-6					
		@NQ-6: %REC=36, %RQD=18, 1.6 min/ft.								
3.6		@NQ-7: %REC=0, %RQD=0, 1.4 min/ft.		75.7						
					NQ-7					
-1.4	80.7			80.7						
		Medium Dense, Moist, Grayish Green, Non-Plastic, Fine to Coarse Well-Graded Sand (SW-SM/A-1-b) with Silt, Weak HCl Reaction, GLEY1 4/5G_2			SS-10	6	11	16		27
		@SS-11: No HCl Reaction		84.3						
-6.4		LL=NP, PL=NP, PI=NP, NMC=24.6%, %200=8.7			SS-11	6	10	20		30
	89.3			89.3						
-11.4		Very Dense to Dense, Moist, Greenish Gray, Non-Plastic, Fine to Coarse Well-Graded SAND (SW-SM/A-1-b) with Silt, No HCl Reaction, GLEY1 6/10Y			SS-12	24	31	41		72
				94.3						
-16.4		@SS-13: No HCl Reaction			SS-13	24	36	48		84



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-31		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5236+35	**Offset:**	12.2-R	**Alignment:**	I-95 Med. CL
Elev.:	78.6 ft	**Latitude:**	33.5069134	**Longitude:**	-80.45052583	**Date Started:**	4/26/2023
Total Depth:	120.6 ft	**Soil Depth:**	65.1 ft	**Core Depth:**	34.9 ft	**Date Completed:**	4/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	TOB 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
-21.4		@SS-14: Dark Greenish Gray, Low Plasticity, No HCl Reaction, GLEY1 4/10Y, LL=28, PL=24, PI=4, NMC=21.5%, %200=7.8	99.3	SS-14	18	22	24		46
-26.4	104.3	**WILLIAMSBURG FORMATION (PALEOCENE)** Dense, Moist, Dark Greenish Gray/Very Dark Gray, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, GLEY1 4/10Y & GLEY1 3/N	104.3	SS-15	34	27	22		49
-31.4	109.3	Very Dense, Moist, Dark Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), No HCl Reaction, GLEY1 4/N	109.3	SS-16	22	29	50/1"		79+
-36.4	114.3	Very Dense, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, No HCl Reaction, GLEY1 3/N, LL=71, PL=49, PI=22, NMC=58.2%, %200=70.9	114.3	SS-17	10	17	27		44
-41.4		@SS-18: No HCl Reaction	119.3	SS-18	45	41	50/3"		91+
	120.6	Boring Terminated at 120.6-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.							
-46.4									

Plot legend: ● SPT N VALUE ●; PL — MC — LL; ▲ FINES CONTENT (%); ✿ RQD (%); ■ REC (%); scale 0 10 20 30 40 50 60 70 80 90; >> (off scale)

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-32
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5235+34	**Offset:**	86.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50690219	**Longitude:**	-80.45006163	**Date Started:**	3/7/2023
Total Depth:	121.4 ft	**Soil Depth:**	57.1 ft	**Core Depth:**	42.9 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (17.9-ft.)				
72.9						
67.9						
62.9						
57.9						
	21.4	**ALLUVIUM (HOLOCENE)** Very Soft to Soft, Moist to Wet, Olive Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand & Trace of Organics (Wood), 5Y 4/2	21.4	SS-1	3 WOH/12" 1	WOH
		@SS-2: Decreased Organic Content	23.4	SS-2	1/12" 1 1	1
52.9		@SS-3: Bluish Gray, 10B 5/1	25.4	SS-3	WOH 2 2 2	4
	27.4		27.4			
	28.4	Very Soft, Moist to Wet, Bluish Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), 10B 5/1	29.4	SS-4	WOH/12" 1 1	1
47.9		Very Loose, Moist to Wet, Bluish Gray, Non-Plastic, Silty Fine SAND (SM/A-4), Micaceous, 3PB 6/1		SS-5	1/12" 1 1	1

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-32
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5235+34	**Offset:**	86.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50690219	**Longitude:**	-80.45006163	**Date Started:**	3/7/2023
Total Depth:	121.4 ft	**Soil Depth:**	57.1 ft	**Core Depth:**	42.9 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-5: Wet, LL=NP, PL=NP, PI=NP, NMC=34.5%, %200=46.8							
42.9	34.9	Very Loose, Wet, Dark Olive Gray, Low Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, Micaceous, 5Y 3/2	34.9	SS-6	1/12"	1			1
37.9	39.9	**SANTEE LIMESTONE (EOCENE)** Loose, Wet, Dark Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, Micaceous, No HCl Reaction, 5Y 3/2 @SS-7: LL=NP, PL=NP, PI=NP, NMC=32.4%, %200=5.4	39.9	SS-7	2	2	3		5
32.9	44.9	Very Dense, Moist, Pale Olive, Non-Plastic, Silty Fine to Medium SAND (SM/A-4), Calcareous, Strong HCl Reaction, 5Y 6/3 @SS-8: LL=NP, PL=NP, PI=NP, NMC=32.4%, %200=49.6	44.9	SS-8	17	22	50		72
27.9	49.9	Hard, Moist, Pale Olive, Non-Plastic, Sandy SILT (ML/A-4), 5Y 6/3 @SS-9: LL=NP, PL=NP, PI=NP, NMC=43.1%, %200=51.0	49.9	SS-9	11	14	26		40
22.9	55.0	@ NQ-1: with Shell Fragments, Moderately Cemented, %REC=83, %RQD=69, 2.7 min/ft. @NQ-2: %REC=100, %RQD=100, qu=515 psi, 1.4 min/ft.	54.9	SS-10	50/1.5"				100+
			55.0	NQ-1					
			56.5	NQ-2					
17.9		@59.9-ft.: Vuggy for 1.0-ft. @NQ-3: Coarse Grained, with Phosphate Sand, Strong HCl Reaction, %REC=95, %RQD=98, qu=770 psi, 1.6 min/ft.	61.5						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-32
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5235+34	**Offset:**	86.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50690219	**Longitude:**	-80.45006163	**Date Started:**	3/7/2023
Total Depth:	121.4 ft	**Soil Depth:**	57.1 ft	**Core Depth:**	42.9 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9					NQ-3					
				66.5						
		@NQ-4: Very Vuggy, with Phosphate Nodules & Mammal Bones, %REC=68, %RQD=35, qu=550 psi, 2.0 min/ft.			NQ-4					
7.9										
				71.5						
		@NQ-5: Less Vuggy, with Sandy Seams, Weak HCl Reaction, %REC=43, %RQD=32, 2.6 min/ft.			NQ-5					
2.9										
	76.5	**UNDIFFERENTIATED EOCENE**								
		Medium Dense, Wet, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-1-b), No HCl Reaction, 5G 6/1		77.9	SS-11	6	8	8		16
-2.1										
				84.9						
-7.1		@SS-12: Decreased Silt Content LL=NP, PL=NP, PI=NP, NMC=20.9%, %200=18.9			SS-12	7	11	12		23
				89.9						
-12.1		@SS-13: Very Dense, Gray, 5Y 4/1			SS-13	17	23	33		56
				94.9						
-17.1		@SS-14: Micaceous, Slightly Cemented,			SS-14	19	37	41		78

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-32
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5235+34	**Offset:**	86.2-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50690219	**Longitude:**	-80.45006163	**Date Started:**	3/7/2023
Total Depth:	121.4 ft	**Soil Depth:**	57.1 ft	**Core Depth:**	42.9 ft	**Date Completed:**	3/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		No HCl Reaction LL=51, PL=29, PI=22, NMC=23.9%, %200=17.4								
-22.1	99.9	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Black, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand Seams, Laminated, No HCl Reaction, 5Y 2.5/2		99.9	SS-15	9	31	50/3"		81+
-27.1	104.9	Hard to Very Stiff, Moist to Wet, Gray, Medium Plasticity, Sandy SILT (ML/A-6), Micaceous, 5Y 6/1		104.9	SS-16	30	29	50/3.5"		79+
-32.1		@SS-17: Black, No HCl Reaction, 5Y 2.5/1 LL=40, PL=29, PI=11, NMC=44.7%, %200=53.4		109.9	SS-17	12	10	15		25
-37.1		@SS-18: Moist, with Sand Seams, Laminated, Cemented, Weak HCl Reaction		114.9	SS-18	50/5.5"				100+
-42.1		@SS-19: Cemented, Weak HCl Reaction		119.9	SS-19	11	16	20		36
	121.4	Boring Terminated at 121.4-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.1										

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-33		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5234+32	**Offset:**	10.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50728693	**Longitude:**	-80.45002992	**Date Started:**	4/24/2023
Total Depth:	121.9 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (18.4-ft.)				
73.5						
68.5						
63.5						
58.5						
	21.9	**ALLUVIUM (HOLOCENE)** Very Soft, Wet, Dark Grayish Brown, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reaction, 10YR 4/2	21.9	SS-1	WOR/12" WOH/12"	WOH
			23.9	SS-2	WOH/24"	WOH
53.5		@SS-2: No HCl Reaction @SS-3: No HCl Reaction	25.9	SS-3	WOH/24"	WOH
	27.9	Very Soft, Wet, Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 10YR 6/1	27.9	SS-4	WOH/24"	WOH
	29.9		29.9			
48.5		Very Soft to Soft, Wet, Gray, Low Plasticity, SILT (ML/A-4) with Sand, No HCl Reaction, 10YR 5/1		SS-5	WOH/24"	WOH

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-33
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5234+32	**Offset:**	10.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50728693	**Longitude:**	-80.45002992	**Date Started:**	4/24/2023
Total Depth:	121.9 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		SS-5: LL=26, PL=22, PI=4, NMC=67.6%, %200=79.1								
43.5		@SS-6: Grayish Brown, No HCl Reaction, 10YR 5/2		35.4	SS-6	1	1	3		4
38.5				40.4						
	41.2	@SS-7: Hard, No HCl Reaction			SS-7	5	8	50/1"		58+
		SANTEE LIMESTONE (EOCENE) Very Dense, Moist, Grayish Brown, Non-Plastic, Silty Fine SAND (SM/A-4), Strong HCL Reaction, 10YR 5/2		44.4						
33.5		@SS-8: Light Greenish Gray, Strong HCl Reaction, GLEY1 7/10Y, LL=NP, PL=NP, PI=NP, NMC=41.3%, %200=45.5			SS-8	32	43	50/4"		83+
28.5		@SS-9: Medium Dense, High HCl Reaction		48.4	SS-9	6	10	12	40	22
	52.4	Hard, Moist, Light Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, GLEY1 7/10Y		52.4	SS-10	30	43	37	39	80
23.5		@SS-10: LL=NP, PL=NP, PI=NP, NMC=31.8%, %200=55.7								
		@SS-11: Strong HCl Reaction		56.4	SS-11	30	24	36	50/5"	60
18.5		@SS-12: Weak HCl Reaction		60.4	SS-12			50/4"		100+

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-33
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5234+32	**Offset:**	10.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50728693	**Longitude:**	-80.45002992	**Date Started:**	4/24/2023
Total Depth:	121.9 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.5		@SS-13: Weak HCl Reaction		64.4	SS-13	23	50/5"			100+
	68.4	Very Dense, Moist, Light Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) with Gravel, Weak HCl Reaction, GLEY1 7/10Y		68.4	SS-14	20	46	50/3"		96+
8.5		@SS-14: LL=NP, PL=NP, PI=NP, NMC=26.3%, %200=28.9		72.4	SS-15	10	32	50/2"		82+
		@SS-15: Weak HCl Reaction								
3.5	76.4	**UNDIFFERENTIATED EOCENE**		76.4	SS-16	3	5	8	10	12
		Medium Dense, Moist, Greenish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6) with Trace Shells, Weak HCl Reaction, GLEY1 5/5GY,		80.4	SS-17	5	5	7		12
-1.5		@SS-16: LL=37, PL=21, PI=16, NMC=24.2%, %200=25.7								
-6.5		@SS-18: Greenish Gray, (SC/A-6), Weak HCl Reaction, GLEY 1 6/10Y		85.4	SS-18	7	10	18		28
		LL=40, PL=20, PI=20, NMC=28.9%, %200=36.8								
-11.5	90.4	Very Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, GLEY 1 6/N		90.4	SS-19	12	16	40		56
-16.5	95.4	**WILLIAMSBURG FORMATION**		95.4						

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-33
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5234+32	**Offset:**	10.6-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50728693	**Longitude:**	-80.45002992	**Date Started:**	4/24/2023
Total Depth:	121.9 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		(PALEOCENE)			SS-20	37	24	33		57
		Hard, Moist, Very Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reaction, GLEY1 3/N								
-21.5				100.4						
		@SS-21: Black/Gray, GLEY1 2.5/N & GLEY1 6/N			SS-21	11	18	50/5"		68+
-26.5	105.4			105.4						
		Dense, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, GLEY1 6/N			SS-22	8	21	27		48
-31.5	110.4			110.4						
		@SS-23: No Recovery			~~SS-23~~	~~50/2"~~				~~100+~~
-36.5	115.4			115.4						
		Hard, Moist, Black, Very Plastic, Fat CLAY (CH/A-7-5), No HCl Reaction, GLEY1 2.5/N			SS-24	12	14	19		33
		@SS-24: LL=87, PL=36, PI=51, NMC=60.5%, %200=92.2								
-41.5				120.9						
		@SS-25: No HCl Reaction								
	121.9				SS-25	7	18	29		47
		Boring Terminated at 121.9-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.5										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

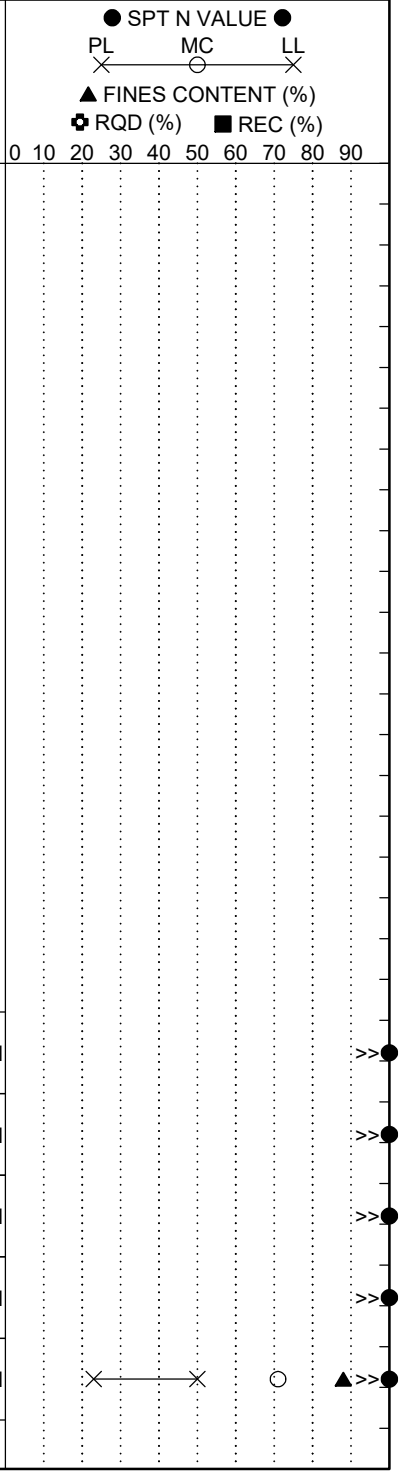
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-34		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5233+35	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50727361	**Longitude:**	-80.44958297	**Date Started:**	3/6/2023
Total Depth:	120.8 ft	**Soil Depth:**	120.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)				
	3.5	WATER (17.3-ft.)				
73.1						
68.1						
63.1						
58.1	20.8	**ALLUVIUM (HOLOCENE)**	20.8			
		Very Soft, Moist to Wet, Olive Gray, High Plasticity, Fat CLAY (CH/A-7-6), 5Y 5/2		SS-1	WOH/24"	WOH
		@SS-2: with Trace of Organics (Wood Fragments)	22.8	SS-2	WOH/24"	WOH
53.1			24.8	SS-3	WOH/24"	WOH
		@SS-4: Light Olive Gray, 5Y 6/2	26.8	SS-4	WOH/24"	WOH
		@SS-8: LL=50, PL=23, PI=27, NMC=70.5, %200=87.8	28.8	SS-5	WOH/24"	WOH
48.1						



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-34
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5233+35	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50727361	**Longitude:**	-80.44958297	**Date Started:**	3/6/2023
Total Depth:	120.8 ft	**Soil Depth:**	120.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.3			34.3						
43.1		Very Soft, Moist to Wet, Olive, Medium Plasticity, Lean CLAY (CL/A-7-6) with Sand, 5Y 4/3			SS-6	1/12"	1			1
		@SS-6: LL=43, PL=23, PI=20, NMC=66.7, %200=84.0								
	39.3			39.3						
	39.8	**SANTEE LIMESTONE (EOCENE)**								
38.1		Very Dense, Moist to Wet, Light Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5Y 7/1			SS-7	5	50/5.5"			100+
		Hard to Very Stiff, Moist to Wet, Pale Olive, Non-Plastic, Sandy SILT (ML/A-4), Calcareous, 5Y 6/3		44.3						
33.1		@SS-8: LL=NP, PL=NP, PI=NP, NMC=33.5%, %200=66.0			SS-8	6	6	10		16
				49.3						
28.1		@SS-9: Moist, with Trace of Gravel			SS-9	45	50/4"			100+
				54.3						
23.1		@54.3-ft.: Light Gray, Strong HCl Reaction, 5Y 7/1			SS-10	10	14	45		59
	59.3			59.3						
18.1		Hard, Moist, Light Greenish Gray, Non-Plastic, SILT (ML/A-4) with Sand, 10Y 8/1			SS-11	13	28	50/4"		78+
		@SS-11: LL=NP, PL=NP, PI=NP, NMC=46.0%, %200=72.4								

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-34
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5233+35	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50727361	**Longitude:**	-80.44958297	**Date Started:**	3/6/2023
Total Depth:	120.8 ft	**Soil Depth:**	120.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.1	64.3	Medium Dense, Moist, Light Greenish Gray, Non-Plastic, Silty SAND (SM/A-4), 10Y 8/1, Strong HCl Reaction @SS-12: LL=NP, PL=NP, PI=NP, NMC=27.6%, %200=44.3		64.3	SS-12	8	8	12		20
8.1	69.3	@SS-13: No Recovery		69.3	SS-13	50/2"				100+
3.1	74.3	**UNDIFFERENTIATED EOCENE** Medium Dense to Dense, Moist, Grayish Green, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4), No HCl Reaction, 5G 4/2		74.3	SS-14	6	9	13		22
-1.9	79.3	@SS-15: Moist to Wet, Dark Greenish Gray, with Trace of Organics (Lignite), Glauconitic, 5GY 4/1		79.3	SS-15	14	15	24		39
-6.9	84.3	Very Dense, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5Y 5/1		84.3	SS-16	16	24	34		58
-11.9	89.3	Very Dense, Moist to Wet, Gray, Non-Plastic to Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay Seams, 5Y 5/1		89.3	SS-17	44	42	30		72
-16.9	94.3	**WILLIAMSBURG FORMATION (PALEOCENE)**		94.3	SS-18	15	16	21		37

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-34
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5233+35	**Offset:**	84.8-L	**Alignment:**	I-95 Med. CL
Elev.:	78.1 ft	**Latitude:**	33.50727361	**Longitude:**	-80.44958297	**Date Started:**	3/6/2023
Total Depth:	120.8 ft	**Soil Depth:**	120.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Very Stiff to Hard, Moist, Black, Very Plastic, Elastic SILT/MH/A-7-5), Laminated, No HCl Reaction, 5Y 2.5/1								
		@SS-18: LL=92, PL=40, PI=52, NMC=76.0%, %200=96.1		99.3	SS-19	50/2"				100+
-21.9										
				104.3						
-26.9		@SS-20: Moist to Wet, Dark Gray, with Clay Seams & Silicified Seams, No HCl Reaction, 5Y 4/1			SS-20	18	26	50/5"		76+
				109.3						
-31.9		@SS-21: Decreased Silicified Seams, Non Reactive to Weak HCl Reaction in Clay Seams & No HCl Reaction in Sand Seams			SS-21	20	19	21		40
		LL=74, PL=44, PI=30, NMC=36.9%, %200=95.5								
				114.3						
-36.9					SS-22	12	17	21		38
	119.3			119.3						
-41.9	120.8	Dense, Moist, Very Dark Grayish Olive, Medium Plasticity to High Plasticity, Clayey Fine SAND (SC/A-2-6), Laminated, Weak HCl Reaction, 10Y 3/2			SS-23	20	16	26		42
		Boring Terminated at 120.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.9										

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-35		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5232+34	**Offset:**	14.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50766246	**Longitude:**	-80.44955827	**Date Started:**	4/20/2023
Total Depth:	121.1 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	4/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (17.6-ft.)								
73.5										
68.5										
63.5										
58.5										
	21.1	**ALLUVIUM (HOLOCENE)**		21.1						
		@SS-1: No Recovery			SS-1	WOH/24"				WOH
	23.1	Soft to Firm, Wet, Yellowish Brown/Gray, Medium Plasticity, SILT (ML/A-7-6), No HCl Reaction, 10YR 5/6 & 10YR 6/1		23.1	SS-2	WOH/12"	3	3		3
53.5		@SS-3: Moist, No HCl Reaction		25.1	SS-3	4	3	4	4	7
		@SS-4: No HCl Reaction		27.1	SS-4	4	4	4	4	8
		LL=42, PL=27, PI=15, NMC=26.1%, %200=91.6		29.1						
48.5		@SS-5: No HCl Reaction			SS-5	6	4	3	2	7

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-35
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5232+34	**Offset:**	14.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50766246	**Longitude:**	-80.44955827	**Date Started:**	4/20/2023
Total Depth:	121.1 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	4/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.6			34.6						
43.5		Loose to Medium Dense, Wet, Dark Grayish Brown, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), No HCl Reaction, 10YR 4/2			SS-6	WOH/12"	4			4
				39.6						
38.5					SS-7	2	3	8		11
	41.1			41.1	SS-8	50/0.5"				100+
		SANTEE LIMESTONE (EOCENE)		41.1						
		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/1			NQ-1					
33.5		@NQ-1: %REC=100, %RQD=90, qu=430 psi, 1.0 min/ft.		46.1						
		@NQ-2: Strong HCl Reaction, %REC=100, %RQD=88, qu=595 psi, 1.4 min/ft.			NQ-2					
28.5				51.1						
		@NQ-3: Weak HCl Reaction, %REC=0, %RQD=0, 0.8 min/ft.			NQ-3					
23.5				56.1						
		@NQ-4: %REC=0, %RQD=0, 2.6 min/ft.			NQ-4					
18.5				61.1						
		@NQ-5: %REC=0, %RQD=0, 1.8 min/ft.			NQ-5					

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-35		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5232+34	**Offset:**	14.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50766246	**Longitude:**	-80.44955827	**Date Started:**	4/20/2023
Total Depth:	121.1 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	4/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.5	66.1	**UNDIFFERENTIATED EOCENE** Medium Dense, Moist, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-4), Strong HCl Reaction, GLEY1 6/10Y		66.1	SS-9	10	11	15		26
8.5	69.6	@SS-9: LL=NP, PL=NP, PI=NP, NMC=23.7%, %200=43.7		69.6	SS-10	50/1"				100+
		@SS-10: No Recovery								
3.5	74.6	Dense to Medium Dense, Greenish Gray, Non-Plastic, Clayey Fine to Medium SAND (SC/A-2-6), Weak HCl Reaction, GLEY1 5/10GY		74.6	SS-11	20	18	16		34
		@SS-11: LL=37, PL=22, PI=15, NMC=20.9%, %200=21.9								
-1.5	79.6	@SS-12: Very Dark Gray, Fine to Coarse Sand Particles, No HCl Reaction, GLEY1 2.5/5H_2		79.6	SS-12	7	8	14		22
-6.5	84.6	**WILLIAMSBURG FORMATION (PALEOCENE)** Very Dense, Moist, Very Dark Gray, High Plasticity, Silty Fine to Medium SAND (SM/A-2-7), No HCl Reaction, GLEY1 3/N		84.6	SS-13	9	29	50/5"		79+
		@SS-13: LL=58, PL=34, PI=24, NMC=25.4%, %200=18.9								
-11.5	89.6	@SS-14: Medium Dense, No HCl Reaction		89.6	SS-14	5	8	15		23
-16.5	94.6	@SS-15: Very Dense, No HCl Reaction		94.6	SS-15	50/2"				100+

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-35
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5232+34	**Offset:**	14.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.50766246	**Longitude:**	-80.44955827	**Date Started:**	4/20/2023
Total Depth:	121.1 ft	**Soil Depth:**	75 ft	**Core Depth:**	25 ft	**Date Completed:**	4/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				99.6						
-21.5		@SS-16: No HCl Reaction			SS-16	20	50/5"			100+
				104.6						
-26.5		@SS-17: Dark Gray, Non-Plastic, (SM/A-4), GLEY1 4/N LL=NP, PL=NP, PI=NP, NMC=41.3%, %200=35.7			SS-17	16	28	31		59
	109.6			109.6						
-31.5		Very Dense, Moist, Light Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Weak HCl Reaction, GLEY1 7/1			SS-18		50/5"			100+
	114.6			114.6						
-36.5		Hard, Moist, Dark Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reaction, GLEY1 4/N			SS-19	12	14	24		38
				119.6						
-41.5					SS-20	14	50/5"			100+
	121.1	Boring Terminated at 121.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.5										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-36
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5231+36	**Offset:**	86.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50763993	**Longitude:**	-80.44909853	**Date Started:**	3/1/2023
Total Depth:	114.8 ft	**Soil Depth:**	65.6 ft	**Core Depth:**	32.3 ft	**Date Completed:**	3/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NW	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (13.4-ft.)								
73.0										
68.0										
63.0										
	16.9	**ALLUVIUM (HOLOCENE)**		16.9						
		Very Soft, Moist to Wet, Greenish Gray, High Plasticity, Lean CLAY (CL/A-6), 5G 5/1			SS-1	WOH/24"				WOH
		@SS-2: Olive, 5Y 4/3		18.9	SS-2	WOH/18"		2		WOH
58.0		@SS-3: Firm to Stiff, Moist,Strong Brown/Gray, 7.5YR 5/6 & 7.5YR 5/1		20.9	SS-3	1	2	6	6	8
		@SS-4: LL=39, PL=16, PI=23, NMC=29.5%, %200=85.9		22.9	SS-4	5	6	7	8	13
53.0	25.9	Medium Dense, Moist, Strong Brown/Gray, Medium Plasticity to High Plasticity, Clayey Fine SAND (SC/A-2-6), 7.5YR 5/6 & 7.5YR 5/1		24.9	SS-5	8	5	6	5	11
48.0	30.4	Loose, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3)		30.4	SS-6	3	5	5		10

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

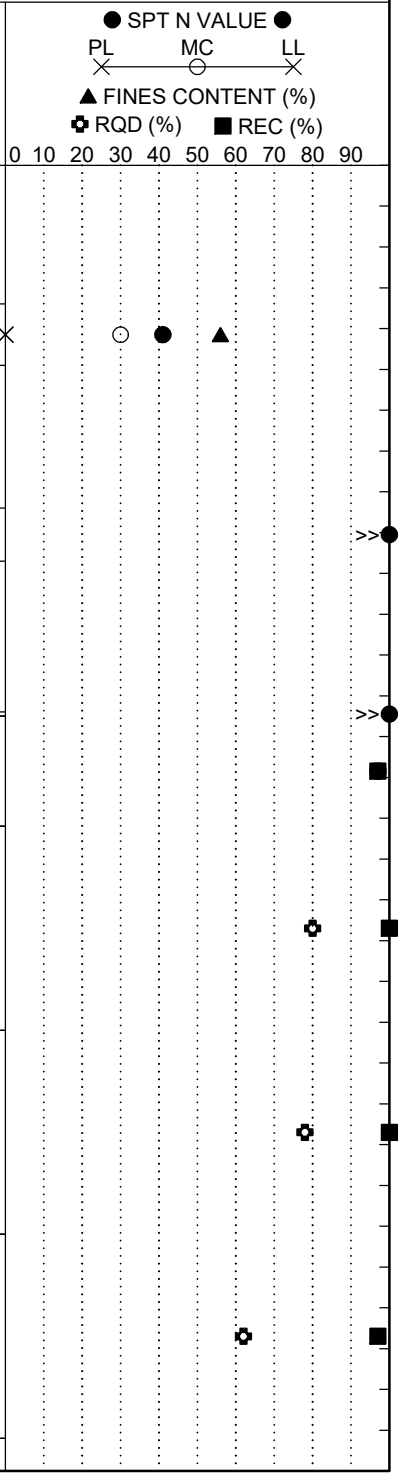
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-36
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5231+36	**Offset:**	86.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50763993	**Longitude:**	-80.44909853	**Date Started:**	3/1/2023
Total Depth:	114.8 ft	**Soil Depth:**	65.6 ft	**Core Depth:**	32.3 ft	**Date Completed:**	3/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NW	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		with Silt, 5Y 5/1								
		@SS-6: LL=NP, PL=NP, PI=NP, NMC=26.0%, %200=6.0								
43.0	34.9	Stiff, Wet, Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Calcareous, Strong HCl Reaction, 10Y 6/1		35.4	SS-7	18	17	24		41
38.0	41.0	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), with Trace of Gravel (Shells), Strong HCl Reaction, 5Y7/2		40.4	SS-8	7	6	50/3"		100+
33.0		@NQ-1: %REC=97, %RQD=97, qu=390 psi, 2.2 min/ft.		45.4	SS-9		50/1"			100+
				45.5	NQ-1					
		@NQ-2: Vuggy, %REC=100, %RQD=80, qu=375 psi, 0.8 min/ft.		48.2						
28.0					NQ-2					
		@NQ-3: Coarse Grained, Less Vuggy, Strong HCl Reaction, %REC=100, %RQD=78, 0.8 min/ft.		53.2						
23.0					NQ-3					
		@NQ-4: %REC=97, %REC=62, qu=450 psi, 1.4 min/ft.		58.2						
18.0					NQ-4					
		@NQ-5: Strong HCl Reaction, 2.5Y 7/1,		63.2						



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-36
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5231+36	**Offset:**	86.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50763993	**Longitude:**	-80.44909853	**Date Started:**	3/1/2023
Total Depth:	114.8 ft	**Soil Depth:**	65.6 ft	**Core Depth:**	32.3 ft	**Date Completed:**	3/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NW	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.0		%REC=100, %RQD=82, 0.8 min/ft.		NQ-5					
			68.2						
8.0		@NQ-6: Numerous Phosphate Grains & Nodules, %REC=95, %RQD=82, qu=220 psi, 1.6 min/ft. @70.9-ft.: Light Gray, 2.5Y 7/N		NQ-6					
			73.2						
3.0		@NQ-7: Vuggy, Phosphate Sand Matrix, %REC=33, %RQD=27, qu=510 psi, 1.2 min/ft.		NQ-7					
	75.9	**UNDIFFERENTIATED EOCENE** Dense, Moist to Wet, Light Olive Gray, Low Plasticity to Medium Plasticiy, Clayey Fine to Coarse SAND (SC/A-2-6), 5Y6/2, Strong HCl Reaction							
	78.2		78.2						
-2.0		@NQ-8: %REC=0, %RQD=0		NQ-8					
	83.2	Medium Dense, Moist to Wet, Dark Greenish Gray, High Plasticity, Clayey Fine to Medium SAND (SC/A-2-7), No HCl Reaction, 10GY 4/1 @SS-10: LL=43, PL=21, PI=22, NMC=28.5%, %200=21.2	84.4	SS-10	6	8	9		17
-7.0									
	89.4		89.4						
-12.0		**WILLIAMSBURG FORMATION (PALEOCENE)** Very Dense, Moist to Wet, White/Black, Non-Plastic to Low Plasticity, Fine to Medium Poorly Graded SAND (SP/A-3) with Organic Lenses & Trace of Gravel (Limestone), Weak to Strong HCl Reaction, 5Y 8/1 & 5Y 2.5/1		SS-11	23	50/5"			100+
	94.4		94.4						
-17.0		Dense, Moist, Very Dark Gray, Non-Plastic,		SS-12	10	11	24		35

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-36
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5231+36	**Offset:**	86.0-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50763993	**Longitude:**	-80.44909853	**Date Started:**	3/1/2023
Total Depth:	114.8 ft	**Soil Depth:**	65.6 ft	**Core Depth:**	32.3 ft	**Date Completed:**	3/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NW	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Silty Fine SAND (SM/A-2-4), Laminated, 5YR 3/11								
		@SS-12: LL=NP, PL=NP, PI=NP, NMC=45.1%, %200=21.0								
	99.4			99.4	SS-13	50/4"				100+
-22.0		Very Dense, Moist, Very Dark Gray, Non-Plastic, Poorly Graded GRAVEL (GP/A-1-a) with Sand, Cemented, Silicified, 5YR 3/1								
	104.4			104.4						
-27.0		Hard, Moist, Very Dark Greenish Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6) with Sand, Laminated, Weak HCl Reaction, 10Y 3/1			SS-14	14	9	22		31
	109.4			109.4						
-32.0		Dense, Moist, Greenish Gray, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4) with Trace of Gravel, Calcareous, Strong HCl Reaction, 10Y 5/1			SS-15	5	23	25		48
	114.4			114.4						
	114.8	Very Dense, Moist, Greenish Gray, Non-Plastic, Silty GRAVEL (GM/A-2-5) with Sand, Strong HCl Reaction, 10Y 5/1			SS-16	50/5"				100+
-37.0		Hard Drilling								
		Boring Terminated at 114.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-42.0										
-47.0										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-37
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5230+35	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	79.1 ft	**Latitude:**	33.50802716	**Longitude:**	-80.44907295	**Date Started:**	4/19/2023
Total Depth:	121.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (17.6-ft.)								
74.1										
69.1										
64.1										
59.1										
	21.1	@SS-1: No Recovery		21.1	SS-1	WOH/24"				WOH
	23.1	**ALLUVIUM (HOLOCENE)** Soft to Firm, Wet, Gray, Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 10YR 6/1 @SS-3: LL=36, PL=20, PI=16, NMC=29.9%, %200=93.8 @SS-4: Stiff, Gray/Yellowish Brown, 10YR 6/1 & 10YR 5/6		23.1	SS-2	WOH	1	3	3	4
54.1				25.1	SS-3	2	3	4	5	7
				27.1	SS-4	4	5	7	6	12
				29.1	SS-5	6	5	6	6	11
49.1										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-37
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5230+35	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	79.1 ft	**Latitude:**	33.50802716	**Longitude:**	-80.44907295	**Date Started:**	4/19/2023
Total Depth:	121.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.6		34.6						
44.1		@SS-6: No Recovery		SS-6	1	2	3		5
	39.6		39.6						
39.1		Medium Dense, Moist, Light Greenish Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), Low HCl Reaction, GLEY1 7/10Y		SS-7	4	4	8		12
	44.6		44.6						
34.1		**SANTEE LIMESTONE (EOCENE)** Dense to Very Dense, Moist, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-4), Strong HCl Reaction, GLEY1 7/10Y		SS-8	4	7	40		47
		@SS-8: LL=NP, PL=NP, PI=NP, NMC=25.5%, %200=41.7	48.6	SS-9	50/4"				100+
29.1		@SS-9: Wet							
			52.6						
		@SS-10: Moist, Strong HCl Reaction LL=NP, PL=NP, PI=NP, NMC=37.7%, %200=47.7		SS-10	13	19	32	50/5"	51
24.1									
			56.6						
		@SS-11: Strong HCl Reaction		SS-11	12	14	29	50/5"	43
19.1	60.6		60.6	SS-12	50/2"				100+
		@SS-12: No Recovery							

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-37
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5230+35	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	79.1 ft	**Latitude:**	33.50802716	**Longitude:**	-80.44907295	**Date Started:**	4/19/2023
Total Depth:	121.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	64.6			64.6						
14.1		Hard to Very Stiff, Moist, Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, GLEY1 6/10Y			SS-13	14	25	18	50/4"	43
		@SS-13: LL=NP, PL=NP, PI=NP, NMC=35.4%, %200=62.4%		68.6						
		@SS-14: Weak HCl Reaction			SS-14	9	16	14	43	30
9.1				72.6						
		@SS-15: Very Dense, With Shells, Weak HCl Reaction			SS-15	25		50/5"		100+
4.1										
	76.6			76.6	~~SS-16~~		~~50/1"~~			~~100+~~
		@SS-16: No Recovery								
-0.9	80.6			80.6						
		UNDIFFERENTIATED EOCENE								
		Medium Dense, Moist, Grayish Green, Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4), No HCl Reaction, GLEY1 4/5G/2			SS-17	6	9	10	13	19
		@SS-17: LL=34, PL=24, PI=10, NMC=24.8%, %200=14.0		84.6						
-5.9					SS-18	5	6	10		16
		@SS-18: No HCl Reaction								
				89.6						
-10.9		@SS-19: Fine to Medium Sand Particles,			SS-19	9	11	15		26
	90.6	No HCl Reaction								
		WILLIAMSBURG FORMATION (PALEOCENE)								
		Medium Dense, Moist, Black, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, GLEY1 2.5/N		94.6						
-15.9		@SS-20: Very Dense to Dense, No HCl Reaction			SS-20	10	25		50/1"	75+

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-37
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5230+35	**Offset:**	12.7-R	**Alignment:**	I-95 Med. CL
Elev.:	79.1 ft	**Latitude:**	33.50802716	**Longitude:**	-80.44907295	**Date Started:**	4/19/2023
Total Depth:	121.1 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" 2nd 6" 3rd 6" 4th 6"	N Value
		LL=NP, PL=NP, PI=NP, NMC=43.9%, %200=12.4					
				99.6			
-20.9		@SS-21: Dark Greenish Gray/Very Dark Gray, No HCl Reaction, GLEY1 4/5G_1 & GLEY1 3/N			SS-21	25 50/4"	100+
				104.6			
-25.9		@SS-22: No HCl Reaction LL=NP, PL=NP, PI=NP, NMC=25.6%, %200=14.0			SS-22	10 16 27	43
				109.6			
-30.9		@SS-23: Gray, Fine Sand Particles, GLEY1 5/N			SS-23	18 21 37	58
	114.6			114.6			
-35.9		Hard, Moist, Black, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Trace of Sand, No HCl Reaction, GLEY1 3/N			SS-24	12 14 18	32
				119.6			
-40.9		@SS-25: No HCl Reaction			SS-25	14 16 27	43
	121.1	Boring Terminated at 121.1-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.					
-45.9							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-38		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5229+33	**Offset:**	88.3-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50801149	**Longitude:**	-80.44860205	**Date Started:**	2/22/2023
Total Depth:	119.2 ft	**Soil Depth:**	56.9 ft	**Core Depth:**	42.3 ft	**Date Completed:**	2/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 20 ft	**24HR**	20 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (16.5-ft.)							
73.0									
68.0									
63.0									
58.0	20.0	**ALLUVIUM (HOLOCENE)** Soft to Firm, Moist to Wet, Gray/Light Olive Brown, Medium Plasticity, Lean CLAY (CL/A-6) with Sand, Micaceous, 2.5Y 6/1 & 2.5Y 5/3	20.0						
	24.0	@SS-2.: LL=37, PL=19, PI=18, NMC=29.3%, %200=83.8	22.0	SS-1	WOH/12"	3	2		3
53.0		Medium Dense to Loose, Moist to Wet, Strong Brown, Non-Plastic, Silty Fine SAND (SM/A-4), 7.5YR 5/6	24.0	SS-2	WOH	3	2	4	5
		@SS-4.: LL=NP, PL=NP, PI=NP, NMC=22.3%, %200=44.4		SS-3	6	6	7	8	13
	29.0	@28.0-ft.: Moist	26.0	SS-4	4	4	5	6	9
48.0		Stiff, Moist, Brownish Yellow/Gray, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6). 10YR 6/8 & 10YR 6/1	28.0	SS-5	5	5	8	8	13

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-38
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5229+33	**Offset:**	88.3-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50801149	**Longitude:**	-80.44860205	**Date Started:**	2/22/2023
Total Depth:	119.2 ft	**Soil Depth:**	56.9 ft	**Core Depth:**	42.3 ft	**Date Completed:**	2/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 20 ft	**24HR**	20 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.0	@33.5-ft.: Moist to Wet		33.5	SS-6	6	7	7		14
43.0		Medium Dense, Moist to Wet, Yellowish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 5/8								
		@SS-7: Wet, Very Pale Brown, Fine to Coarse Sand Particles, 10YR 8/3 LL=NP, PL=NP, PI=NP, NMC=20.1%, %200=2.6		38.5	SS-7	5	6	5		11
38.0	43.5	**SANTEE LIMESTONE (EOCENE)**		43.5	SS-8	7	11	14		25
33.0		Medium Dense, Wet, Light Olive Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Calcereous, 5Y 6/2								
		@48.5-ft.: Very Dense, Moist to Wet		48.5	SS-9	11	17	40		57
28.0										
		@SS-10: with Trace of Gravel LL=NP, PL=NP, PI=NP, NMC=41.4%, %200=33.6		53.5	SS-10	41	31	28		59
23.0										
				58.5	SS-11	24	16	45		61
18.0										
	63.8			63.6	SS-12	50/3"				100+

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90 >>

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-38
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5229+33	**Offset:**	88.3-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50801149	**Longitude:**	-80.44860205	**Date Started:**	2/22/2023
Total Depth:	119.2 ft	**Soil Depth:**	56.9 ft	**Core Depth:**	42.3 ft	**Date Completed:**	2/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 20 ft	**24HR**	20 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
13.0		@NQ-1: Light Greenish Gray, Low Plasticity to Medium Plasticity, Clayey Fine to Medium SAND (SM/A-2-6), 10Y7/1, Strong HCl Reaction, %REC=89, %RQD=89, qu=600 psi, 1.8 min/ft.		63.8	NQ-1		
		@NQ-2: with Phosphate Grains, %REC=98, %RQD=82, qu=460 psi, 1.2 min/ft.		66.1	NQ-2		
8.0		@NQ-3: with Phosphate Nodules, Vuggy, %REC=97, %RQD=68, qu=1,250 psi, 3.4 min/ft.		71.1	NQ-3		
3.0		@NQ-4: Dark Greenish Gray, 10GY4/1, No HCl Reaction, %REC=80, %RQD=42, qu=830 psi, 6.1 min/ft.		76.1	NQ-4		
	79.0	**UNDIFFERENTIATED EOCENE**					
-2.0		Dark Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, 10GY4/1		81.1	NQ-5		
		@NQ-5: Slight HCl Reaction, %REC=42, %RQD=0, 2.2 min/ft.					
-7.0		@NQ-6.1: Variably Cemented, Silicified in Last 4.0-in. of Sample, No HCl Reaction		86.1	NQ-6.1		
		LL=NP, PL=NP, PI=NP, NMC=41.5%, %200=29.7					
-12.0		%REC=40, %RQD=8, 2.2 min/ft.		90.2			
		@NQ-6.2: LL=NP, PL=NP, PI=NP, NMC=16.8%, %200=18.9		91.1	NQ-6.2		
		@NQ-7: No HCl Reaction, %REC=3, %RQD=3, 2.4 min/ft.			NQ-7		
-17.0							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-38
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5229+33	**Offset:**	88.3-L	**Alignment:**	I-95 Med. CL
Elev.:	78.0 ft	**Latitude:**	33.50801149	**Longitude:**	-80.44860205	**Date Started:**	2/22/2023
Total Depth:	119.2 ft	**Soil Depth:**	56.9 ft	**Core Depth:**	42.3 ft	**Date Completed:**	2/23/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 20 ft	**24HR**	20 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@NQ-8: Weak HCl Reaction, %REC=37, %RQD=8, 1.4 min/ft.		96.1	NQ-8					
-22.0	101.1	@NQ-9: %REC=0, %RQD=0, 0.4 min/ft.		101.1	NQ-9					
-27.0	106.1	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, Very Plastic, Sandy Elastic SILT (MH/A-7-5) with Occasional Shell Fragments, Laminated & Micaceous, Weak HCl Reaction, 5Y 3/1		108.5	SS-13	20	20	18		38
-32.0		@SS-14: LL=95, PL=47, PI=48, NMC=68.4%, %200=62.9		113.5	SS-14	13	15	21		36
-37.0	119.2	@118.5-ft.: with Occasional Fine Sand Seams		118.5	SS-15	9	50/1.5"			100+
-42.0		Boring Terminated at 119.2-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-47.0										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-39
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5228+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50839761	**Longitude:**	-80.44858298	**Date Started:**	4/18/2023
Total Depth:	120.5 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	4/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (17.0-ft.)								
73.8										
68.8										
63.8										
58.8	20.5	**ALLUVIUM (HOLOCENE)**		20.5						
		@SS-1: No Recovery			SS-1	WOH/24"				WOH
	22.5	Firm to Stiff, Moist, Strong Brown/Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reaction, 7.5YR 4/6 & 7.5YR 5/1		22.5	SS-2	1	2	4	5	6
53.8		@SS-3: No HCl Reaction		24.5	SS-3	6	4	5	6	9
		@SS-4: No HCl Reaction		26.5	SS-4	4	5	6	5	11
		@SS-5: No HCl Reaction		28.5	SS-5	4	6	6	5	12
48.8										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-39
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5228+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50839761	**Longitude:**	-80.44858298	**Date Started:**	4/18/2023
Total Depth:	120.5 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	4/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	34.0	Loose, Wet, Strong Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, 7.5YR 4/6	34.0	SS-6	3	3	3		6
43.8		@SS-6: LL=NP, PL=NP, PI=NP, NMC=23.7%, %200=25.0							
			39.0	SS-7	4	2	4		6
38.8									
	43.5	**SANTEE LIMESTONE (EOCENE)**	43.5	SS-8	50/0.5"				100+
		Hard, Moist, Light Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, 5Y7/1	43.5	NQ-1					
33.8		NQ-1: %REC=98, %RQD=91, qu=420 psi, 1.3 min/ft.							
		@NQ-2: Weak HCl Reaction, %REC=95, %RQD=83, 1.4 min/ft.	48.3	NQ-2					
28.8									
		@NQ-3: Strong HCl Reaction, %REC=95, %RQD=36, qu=325 psi, 1.4 min/ft.	53.3	NQ-3					
23.8									
		@NQ-4: Greenish Gray, Strong HCl Reaction, %REC=98, %RQD=70, 2.2 min/ft.	58.3	NQ-4					
18.8									
	63.3	Hard, Moist, Light Gray, Low Plasticity to	63.3						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-39
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5228+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50839761	**Longitude:**	-80.44858298	**Date Started:**	4/18/2023
Total Depth:	120.5 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	4/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.8		Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCl Reaction, 5Y7/2								
		@NQ-6: %REC=100, %RQD=61, qu=510 psi, 1.4 min/ft.			NQ-5					
				68.3						
		@NQ-6: Light Greenish Gray, Weak HCl Reaction, %REC=93, %RQD=48, 2.4 min/ft.								
8.8					NQ-6					
				73.3						
		@NQ-7: Greenish Gray, Strong HCl Reaction, %REC=88, %RQD=38, qu=890 psi, 2.0 min/ft.								
3.8					NQ-7					
	78.3			78.3						
		UNDIFFERENTIATED EOCENE								
-1.2		Hard, Moist, Light Olive Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, Weak HCl Reaction, 5Y6/2								
		%REC=43, %RQD=16, qu=80 psi, 2.0 min/ft.			NQ-8					
	83.3			84.0						
		Very Stiff, Moist, Dark Greenish Gray, Low Plasticity, Sandy SILT (ML/A-4), GLEY1 4/5GY			SS-9	7	10	15		25
-6.2		@SS-9: LL=29, PL=27, PI=2, NMC=31.6%, %200=63.5								
		@SS-9: No HCl Reaction								
	89.0			89.0						
		Dense, Moist, Dark Gray, Non-Plastic, Fine Poorly Graded SAND (SP-SM/A-2-4) with Silt, Non-Reactive to Weak HCl Reaction, GLEY1 4/N			SS-10	6	10	25		35
-11.2		@SS-10: LL=NP, PL=NP, PI=NP, NMC=27.4%, %200=10.9								
				94.0						
		@SS-11: No HCl Reaction			SS-11	5	12	20		32
-16.2										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-39
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5228+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.8 ft	**Latitude:**	33.50839761	**Longitude:**	-80.44858298	**Date Started:**	4/18/2023
Total Depth:	120.5 ft	**Soil Depth:**	60.2 ft	**Core Depth:**	39.8 ft	**Date Completed:**	4/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				99.0						
-21.2		@SS-12: Gray, with Shells, Weak HCl Reactivity, GLEY1 6/N LL=NP, PL=NP, PI=NP, NMC=23.1%, %200=23.1%, %200=11.3			SS-12	13	17	23		40
	104.0			104.0						
-26.2		**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Black, Very Plastic, Fat CLAY (CH/A-7-5), No HCL Reaction, GLEY1 2.5/N @SS-13: LL=73, PL=32, PI=41, NMC=56.5%, %200=85.1			SS-13	17	17	20		37
				109.0						
-31.2		@SS-14: Very Dark Gray, No HCl Reaction, GLEY1 3/N			SS-14	14	16	24		40
				114.0						
-36.2					SS-15	10	12	20		32
	119.0			119.0						
-41.2	120.5	Medium Dense, Moist, Black, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Some Clay & Shells, Non-Reactive to Weak HCl Reaction, GLEY1 2.5/N			SS-16	6	7	8		15
		Boring Terminated at 120.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.2										

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-40
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5227+36	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50838409	**Longitude:**	-80.44813454	**Date Started:**	2/21/2023
Total Depth:	117.5 ft	**Soil Depth:**	55 ft	**Core Depth:**	41.5 ft	**Date Completed:**	2/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 17.5 ft	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (17.5-ft.)								
72.9										
67.9										
62.9										
57.9	21.0	**ALLUVIUM (HOLOCENE)** Soft to Firm, Wet, Greenish Gray/Strong Brown, Medium Plasticity to High Plasticity, Lean CLAY (CL/A-6), 5GY 5/1 & 7.5YR 5/8		21.0	SS-1	WOH/12"	3	2		3
		SS-2: Moist to Wet, with Sand		23.0	SS-2	2	3	5	5	8
52.9	25.0	Stiff to Very Stiff, Moist, Strong Brown/Gray, Medium Plasticity, Sandy Lean CLAY (CL/A-6) with Sand, 7.5YR 5/6 & 7.5YR 6/1, LL=28, PL=13, PI=15, NMC=18.1%, %200=60.0		25.0	SS-3	4	5	6	8	11
		@SS-5: Moist to Wet		27.0	SS-4	2	6	6	9	12
47.9	30.0	Medium Dense, Moist to Wet, Strong Brown/Dark Gray, Low Plasticity, Fine to Medium Poorly Graded SAND		29.0	SS-5	11	13	11	13	24

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

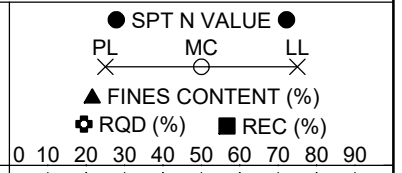
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-40
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5227+36	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50838409	**Longitude:**	-80.44813454	**Date Started:**	2/21/2023
Total Depth:	117.5 ft	**Soil Depth:**	55 ft	**Core Depth:**	41.5 ft	**Date Completed:**	2/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 17.5 ft	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		(SP-SC/A-2-4) with Clay, 7.5YR 4/6 & 7.5YR 4/1							
	34.5		34.5						
42.9		Very Loose to Loose, Wet, Light Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 7/2, LL=NP		SS-6	WOH/18"				WOH
		@SS-6: PL=NP, PI=NP, NMC=25.7%, %200=3.3							
			39.5						
37.9		@SS-7: Fine to Coarse Sand Particles with Trace of Gravel		SS-7	4	4	6		10
		LL=NP, PL=NP, PI=NP, NMC=24.1%, %200=3.4							
	44.5		44.5						
32.9		**SANTEE LIMESTONE (EOCENE)**		SS-8	5	50/5.5"			100+
		Hard, Moist, Greenish Gray, Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, 10Y 6/1	45.5	SS-9	50/0.5"				100+
		@NQ-1: %REC=67, %RQD=0, 2.0 min/ft.	45.5	NQ-1					
		@NQ-2: Strong HCl Reaction, Variably Cemented, 2.2 min/ft, %REC=98, %RQD=27, qu=270 psi	47.0	NQ-2					
27.9			52.0						
		@NQ-3: %REC=85, %RQD=8, 1.8 min/ft.		NQ-3					
22.9									
	57.0		57.0						
		Light Gray, Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-4), Pale Yellow, 5Y8/3, Hard Drilling,							
17.9		@NQ-4: %REC=90, %RQD=23, qu=270 psi, 2.8 min/ft.		NQ-4					
			62.0						
		@NQ-5: with Phosphate Sand, %REC=93, %RQD=15, 2.0 min/ft.							



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-40
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5227+36	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50838409	**Longitude:**	-80.44813454	**Date Started:**	2/21/2023
Total Depth:	117.5 ft	**Soil Depth:**	55 ft	**Core Depth:**	41.5 ft	**Date Completed:**	2/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 17.5 ft	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
12.9				NQ-5		
	67.0	Light Gray, Non-Plastic to Low Plasticity, Sandy SILT (ML/A-4), Strong HCl Reaction, @NQ-6: %REC=93, %RQD=36, qu=1,390 psi, 2.6 min/ft.	67.0	NQ-6		
7.9						
		@NQ-7.: Non-Reactive to Weak HCl Reaction, %REC=68, %RQD=45, qu=1,370 psi, 2.2 min/ft.	72.0	NQ-7		
2.9						
	77.0	@NQ-8: %REC=85, %RQD=43, qu=145 psi, 2.0 min/ft, LL=NP, PL=NP, PI=NP, NMC=24.0%, %200=18.9	77.0	NQ-8		
-2.1						
	82.0	**UNDIFFERENTIATED EOCENE** Dark Gray, Non-Plastic, Poorly Graded Fine SAND (SP/A-3), No HCL Reaction, 7.5YR 4/1, @NQ-9: %REC=5, %RQD=0, 1.0 min/ft.	82.0	NQ-9		
-7.1						
	87.0	Very Loose, Wet, Dark Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10Y 4/1 @SS-10: LL=NP, PL=NP, PI=NP, NMC=27.4%, %200=1.0	87.0	SS-10	1 1/12"	1
-12.1						
	92.0	Very Dense, Wet, Dark Gray, Low Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay (Occasional Seams) & Trace of Gravel, No HCl Reaction, 2.5Y 4/1	92.0	SS-11	50/4.5"	100+
-17.1						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-40
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5227+36	**Offset:**	84.3-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.50838409	**Longitude:**	-80.44813454	**Date Started:**	2/21/2023
Total Depth:	117.5 ft	**Soil Depth:**	55 ft	**Core Depth:**	41.5 ft	**Date Completed:**	2/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 17.5 ft	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	97.0			97.0						
		Very Dense, Moist, Dark Gray, Non-Plastic to Low Plasticity, Clayey Fine SAND (SC/A-2-6) Laminated, 2.5Y 4/1, No HCl Reaction			SS-12	34	29	30		59
-22.1				102.0						
		@SS-13: Wet, Increased Clay Content, Weak HCl Reaction			SS-13	49	32	50/3"		82+
-27.1										
	107.0			107.0						
		WILLIAMSBURG FORMATION (PALEOCENE) Hard, Wet, Very Dark Gray, High Plasticity, Sandy Elastic SILT (MH/A-7-5), Laminated, 10YR 3/1			SS-14	13	16	23		39
-32.1		@SS-14: LL=69, PL=35, PI=34, NMC=59.7%, %200=61.2		112.0						
		@SS-15: Moist to Dry, with Trace of Shell Fragments, Weak HCl Reaction			SS-15	11	18	24		42
-37.1										
	117.5			117.0	SS-16	50/5"				100+
		Boring Terminated at 117.5-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-42.1										
-47.1										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-41		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5226+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.7 ft	**Latitude:**	33.50876884	**Longitude:**	-80.44809764	**Date Started:**	4/13/2023
Total Depth:	122.7 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (21.2-ft.)								
73.7										
68.7										
63.7										
58.7										
	22.7	**ALLUVIUM (HOLOCENE)**		22.7	SS-1	WOH/12"	3	3		3
53.7		Soft, Moist, Gray/Light Reddish Brown, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, No HCl Reaction, 5YR 6/1 & 5YR 6/4		24.7	SS-2	4	5	5	5	10
		@SS-2: Stiff to Firm		26.7	SS-3	6	4	5	4	9
		@SS-4: No HCl Reaction		28.7	SS-4	3	4	3	5	7
48.7	30.7	Medium Dense, Wet, Light Reddish Brown, Medium Plasticity, Clayey Fine to Medium		30.7	SS-5	5	6	6	4	12

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-41		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5226+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.7 ft	**Latitude:**	33.50876884	**Longitude:**	-80.44809764	**Date Started:**	4/13/2023
Total Depth:	122.7 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
43.7		SAND (SC/A-2-6), No HCl Reaction, 5YR 6/4								
		@SS-5: LL=28, PL=16, PI=12, NMC=20.5%, %200=21.8								
	36.2			36.2	SS-6	3	4	6		10
		Loose to Medium Dense, Moist, Light Gray, Non-Plastic, Fine to Medium Well-Graded SAND (SW/A-1-a) with Gravel, No HCl Reaction, 5Y 7/1								
38.7				41.2	SS-7	5	6	7		13
		@SS-7: Fine to Coarse Sand Particles, No HCl Reaction								
33.7				46.2	SS-8	4	5	4		9
		@SS-8: Light Gray, No HCl Reaction, 5Y 7/1								
		LL=NP, PL=NP, PI=NP, NMC=14.9%, %200=3.9								
28.7	51.2			51.2	SS-9	12	14	22		36
		SANTEE LIMESTONE (EOCENE)								
		Hard to Very Stiff, Moist, Light Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Weak HCl Reaction, GLEY1 8/10Y								
23.7		@SS-9: LL=NP, PL=NP, PI=NP, NMC=46.6%, %200=51.8		54.7	SS-10	9	9	20	50/4"	29
		@SS-10: Strong HCl Reaction								
		LL=NP, PL=NP, PI=NP, NMC=27.7%, %200=54.1								
18.7		@SS-11: Strong HCl Reaction		58.7	SS-11	50/6"				100+
	62.7			62.7	SS-12	18	32	38	50/4"	70
		Very Dense to Dense, Moist, Light Greenish Gray, Non-Plastic, Silty Fine to								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-41
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5226+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.7 ft	**Latitude:**	33.50876884	**Longitude:**	-80.44809764	**Date Started:**	4/13/2023
Total Depth:	122.7 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.7		Medium SAND (SM/A-4), Strong HCl Reaction, GLEY1 8/10Y								
		@SS-12: LL=NP, PL=NP, PI=NP, NMC=36.4%, %200=47.1		66.7						
		@SS-13: Low Plasticity, Strong HCl Reaction			SS-13	13	15	21	50/5"	36
		LL=27, PL=22, PI=5, NMC=24.2%, %200=42.7								
8.7	70.7			70.7	SS-14	50/5.5"				100+
		Very Dense, Moist, Light Greenish Gray, Low Plasticity, Silty Fine to Medium Poorly Graded SAND (SM/A-1-b), Weak HCl Reaction, GLEY1 8/10Y								
3.7		@SS-15: Weak HCl Reaction		74.7	SS-15	50/5"				100+
		@SS-16: Medium Dense, Greenish Gray, No HCl Reaction, GLEY1 4/5GY		78.7	SS-16	7	11	16	23	27
-1.3		LL=26, PL=23, PI=3, NMC=22.9%, %200=15.4								
-6.3	86.2	**UNDIFFERENTIATED EOCENE**		86.2	SS-17	8	14	22		36
		Dense, Moist, Black, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), No HCl Reaction, GLEY1 2.5/N								
-11.3		@SS-17: LL=NP, PL=NP, PI=NP, NMC=37.1%, %200=23.7								
	91.2			91.2						
		Very Dense, Moist, Black, Non-Plastic, fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, GLEY1 2.5/N			SS-18	20	30	49		79
-16.3										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-41
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5226+34	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	78.7 ft	**Latitude:**	33.50876884	**Longitude:**	-80.44809764	**Date Started:**	4/13/2023
Total Depth:	122.7 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	4/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	96.2	Very Dense, Moist, Black, Low Plasticity to Medium Plasticity, Fine Poorly Graded SAND (SP-SC/A-2-4) with Clay, No HCl Reaction, GLEY1 2.5/N		96.2	SS-19	19		50/5"		100+
-21.3	101.2	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Black, Very Plastic, Fat CLAY (CH/A-7-5) with Sand, No HCl Reaction, GLEY1 2.5/N @SS-20: LL=86, PL=31, PI=55, NMC=54.8%, %200=82.3		101.2	SS-20	13	15	50/6"		100+
-26.3				106.2	SS-21	14	16	26		42
-31.3		@SS-22: No HCl Reaction		111.2	SS-22	10	15	17		32
-36.3	116.2	Dense to Very Dense, Moist, Black, Low Plasticity to Medium Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, Strong HCl Reaction, GLEY1 2.5/N		116.2	SS-23	48	20	17		37
-41.3		@SS-24: Strong HCl Reaction		121.2	SS-24	10	14	50		64
	122.7	Boring Terminated at 122.7-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-46.3										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-42		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5225+35	**Offset:**	86.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.5 ft	**Latitude:**	33.50875397	**Longitude:**	-80.44764262	**Date Started:**	2/16/2023
Total Depth:	119.9 ft	**Soil Depth:**	53.5 ft	**Core Depth:**	47 ft	**Date Completed:**	2/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (15.9-ft.)							
72.5									
67.5									
62.5									
	19.4	**ALLUVIUM (HOLOCENE)**	19.4						
57.5		Very Loose, Wet, Olive, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3) with Clay Present in Tip of Sample, 5Y 4/3		SS-1	WOH/24"				WOH
	21.4		21.4	SS-2	WOH/18"		1		WOH
		Very Soft, Moist to Wet, Bluish Gray, High Plasticity, Fat CLAY (CH/A-7-6), 10B 5/1	23.4	SS-3	2	2	4	4	6
52.5		@SS-3: Firm to Stiff, Greenish Gray, 10Y 6/1	25.4	SS-4	4	7	4	5	11
		LL=59, PL=29, PI=30, NMC=30.0%, %200=93.2	27.4	SS-5	8	7	9	9	16
		@SS-4: Greenish Gray/Redish Yellow, Mottled, with Trace of Organics (Wood Fragments), 10Y 6/1 & 7.5YR 6/8							
47.5		@SS-5: Very Stiff							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-42
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5225+35	**Offset:**	86.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.5 ft	**Latitude:**	33.50875397	**Longitude:**	-80.44764262	**Date Started:**	2/16/2023
Total Depth:	119.9 ft	**Soil Depth:**	53.5 ft	**Core Depth:**	47 ft	**Date Completed:**	2/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	32.9			32.9						
		Medium Dense, Wet, Gray, Non-Plastic, Silty Fine to Coarse SAND (SM/A-2-4), 2.5Y 6/1			SS-6	2	8	11		19
42.5		@SS-6: LL=NP, PL=NP, PI=NP, NMC=20.8%, %200=21.8								
	37.9			37.9						
		Medium Dense, Wet, Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), 2.5Y 6/1			SS-7	5	8	7		15
37.5										
		@SS-8: Pale Brown, 2.5Y 8/2		42.9						
		LL=NP, PL=NP, PI=NP, NMC=17.0%, %200=2.2			SS-8	4	4	7		11
32.5										
	46.9									
	47.9	**SANTEE LIMESTONE (EOCENE)**		47.9						
		Medium Dense, Wet, Pale Brown, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3) with Trace of Gravel, 2.5Y 8/2			SS-9	12	12	22		34
27.5										
		Dense to Very Dense, Moist to Wet, Pale Olive, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Calcareous, Weak HCl Reaction, 5Y 6/3		52.9						
		@SS-10: Moist, with Cemented Lenses, Strong HCl Reaction			SS-10	32		50/4.5"		100+ >>
22.5										
		@SS-11: LL=NP, PL=NP, PI=NP, NMC=42.6%, %200=47.0		57.9						
					SS-11	16	21	50/5.5"		71+ >>
17.5										
	62.9			62.9						
		Very Dense, Moist, Greenish Gray,			SS-12	20	17	35		52

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-42
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5225+35	**Offset:**	86.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.5 ft	**Latitude:**	33.50875397	**Longitude:**	-80.44764262	**Date Started:**	2/16/2023
Total Depth:	119.9 ft	**Soil Depth:**	53.5 ft	**Core Depth:**	47 ft	**Date Completed:**	2/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
12.5		Non-Plastic to Low Plasticity, Silty Fine SAND (SM/A-2-4) with Phosphate Grains, Strong HCl Reaction, 10Y 6/1					
	67.9			67.9	SS-13	50/5.5"	100+
7.5		Very Dense, Moist, Very Dark Greenish Gray, Non-Plastic, Poorly Graded GRAVEL (GP/A-1-a) with Sand, 5GY 3/1					
	71.4			71.4			
	72.9	Very Dense, Moist, Dark Greenish Gray, Non-Plastic, Silty Fine to Coarse SAND (SM/A-2-4) with Black Phosphate Grains, 5GY 4/1			SS-14	17 15 50/3.5"	65+
		@SS-14: LL=NP, PL=NP, PI=NP, NMC=26.6%, %200=24.2		72.9	SS-15	50/0.5"	100+
2.5		@NQ-1: Dark Greenish Gray, Strong HCl Reaction, 5GY 4/1, %REC=18, %RQD=0, 2.2 min/ft.			NQ-1		
		@NQ-2: Very Dark Gray, Laminated, No HCl Reaction, 10YR 7/1, %REC=38, %RQD=18, 6.4 min/ft.		77.9	NQ-2		
-2.5	82.9	**UNDIFFERENTIATED EOCENE**		82.9			
		Very Dark Gray, Non-Plastic, Silty SAND (SM/A-2-4), No HCl Reaction, 10YR 7/1, %REC=82, %RQD=73, qu=265 psi, 2.2 min/ft.			NQ-3		
-7.5		@NQ-3: LL=NP, PL=NP, PI=NP, NMC=26.8%, %200=29.6		87.9			
		@NQ-4: %REC=65, %RQD=18, No HCl Reaction, 4.0 min/ft.			NQ-4		
-12.5	92.9	**WILLIAMSBURG FORMATION (PALEOCENE)**		92.9			
		Dark Gray, Medium Plasticity, Sandy Elastic SILT (MH/A-7-5), 10YR 7/2			NQ-5		
-17.5							

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

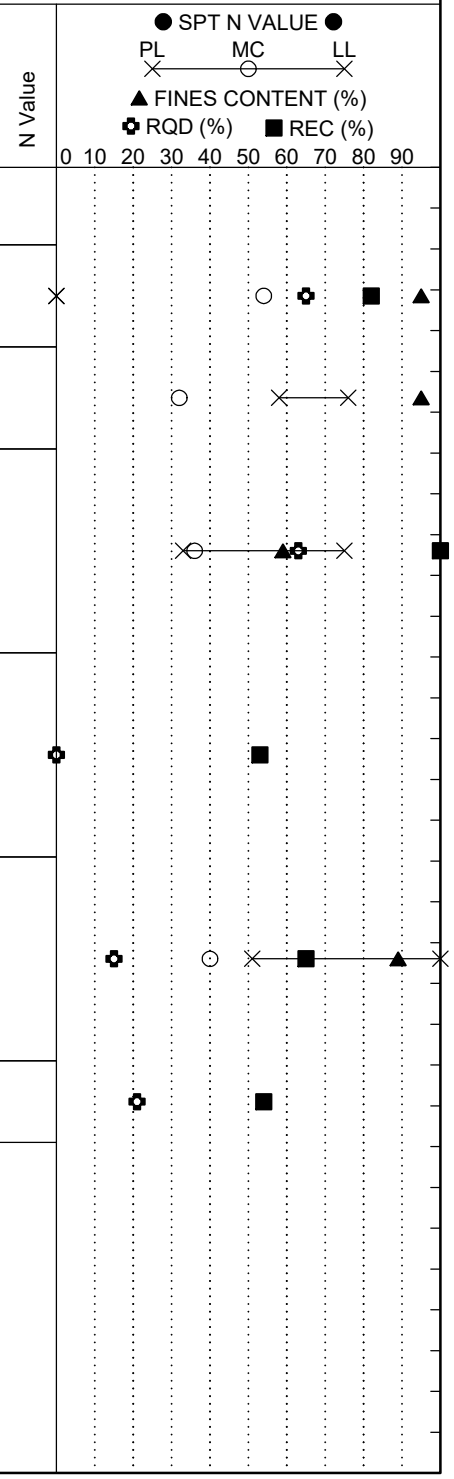
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-42
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5225+35	**Offset:**	86.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.5 ft	**Latitude:**	33.50875397	**Longitude:**	-80.44764262	**Date Started:**	2/16/2023
Total Depth:	119.9 ft	**Soil Depth:**	53.5 ft	**Core Depth:**	47 ft	**Date Completed:**	2/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	N Value
		@NQ-5: %REC=63, %RQD=17, qu=8,040 psi, 3.8 min/ft.	97.9		
-22.5	100.4	@NQ-6.1: Very Dark Gray, 10YR7/4, %REC=82, %RQD=65, qu=120 psi, 2.0 min/ft. LL=76, PL=58, PI=18, NMC=54.1%, %200=58.7	100.4	NQ-6.1	
	102.9	Dark Gray, Non-Plastic, SILT (ML/A-4), 10YR 7/2 @NQ-6.2: LL=NP, PL=NP, PI=NP, NMC=32.2%, %200=95.3	102.9	NQ-6.2	
-27.5		Dark Gray, Very Plastic, Sandy Fat CLAY (CH/A-7-5), 10YR 7/2 @NQ-7: %REC=100, %RQD=63, qu=185 psi, 2.4 min/ft. LL=75, PL=33, PI=42, NMC=36.2%, %200=59.3		NQ-7	
-32.5		@NQ-8: %REC=53, %RQD=0, 6.0 min/ft.	107.9	NQ-8	
	112.9	Dark Gray, Very Plastic, Elastic SILT (MH/A-7-5), 10YR 7/2 @NQ-9: with Carbonate Cemented Lenses, Weak HCl Reaction, %REC=65, %RQD=15, qu=150 psi, 2.4 min/ft. LL=100, PL=51, PI=49, %200=40.4%, %200=89.0	112.9	NQ-9	
-37.5			117.9	NQ-10	
	119.9	@NQ-10: Very Dark Gray, Weak HCl Reaction, 10YR 7/1, %REC=54, %RQD=21, 1.5 min/ft.			
-42.5		Boring Terminated at 119.9-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.			
-47.5					



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-43		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	C. Thomas	**Boring Location:**	5224+34	**Offset:**	12.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50914084	**Longitude:**	-80.44761627	**Date Started:**	4/12/2023
Total Depth:	108.2 ft	**Soil Depth:**	53.6 ft	**Core Depth:**	43 ft	**Date Completed:**	4/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)								
	3.5	WATER (8.1-ft.)								
73.3										
68.3										
	11.6	**ALLUVIUM (HOLOCENE)** Very Loose to Loose, Wet, Reddish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 5Y 4/3		11.6	SS-1	WOH/12"	2	4		2
		@SS-2: Dark Gray, No HCl Reaction, 5Y 4/1		13.6	SS-2	4	5	4	4	9
63.3		@SS-3: Yellowish Brown, No HCl Reaction, 10YR 6/4		15.6	SS-3	4	3	2	1	5
		@SS-4: No HCl Reaction LL=NP, PL=NP, PI=NP, NMC=22.0%, %200=4.8		17.6	SS-4	2	1	1	1	2
58.3		@SS-5: No HCl Reaction		19.6	SS-5	WOH/24"				WOH
53.3	25.1	Stiff, Moist, Gray/Reddish Yellow, Medium Plasticity, Lean CLAY (CL/A-6), No HCl Reaction, 7.5YR 6/1 & 7.5YR 6/6		25.1	SS-6	4	4	5		9
		@SS-6: LL=40, PL=22, PI=18, NMC=25.6%, %200=89.8								
48.3		@SS-7: No HCl Reaction		30.1	SS-7	3	4	5		9

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

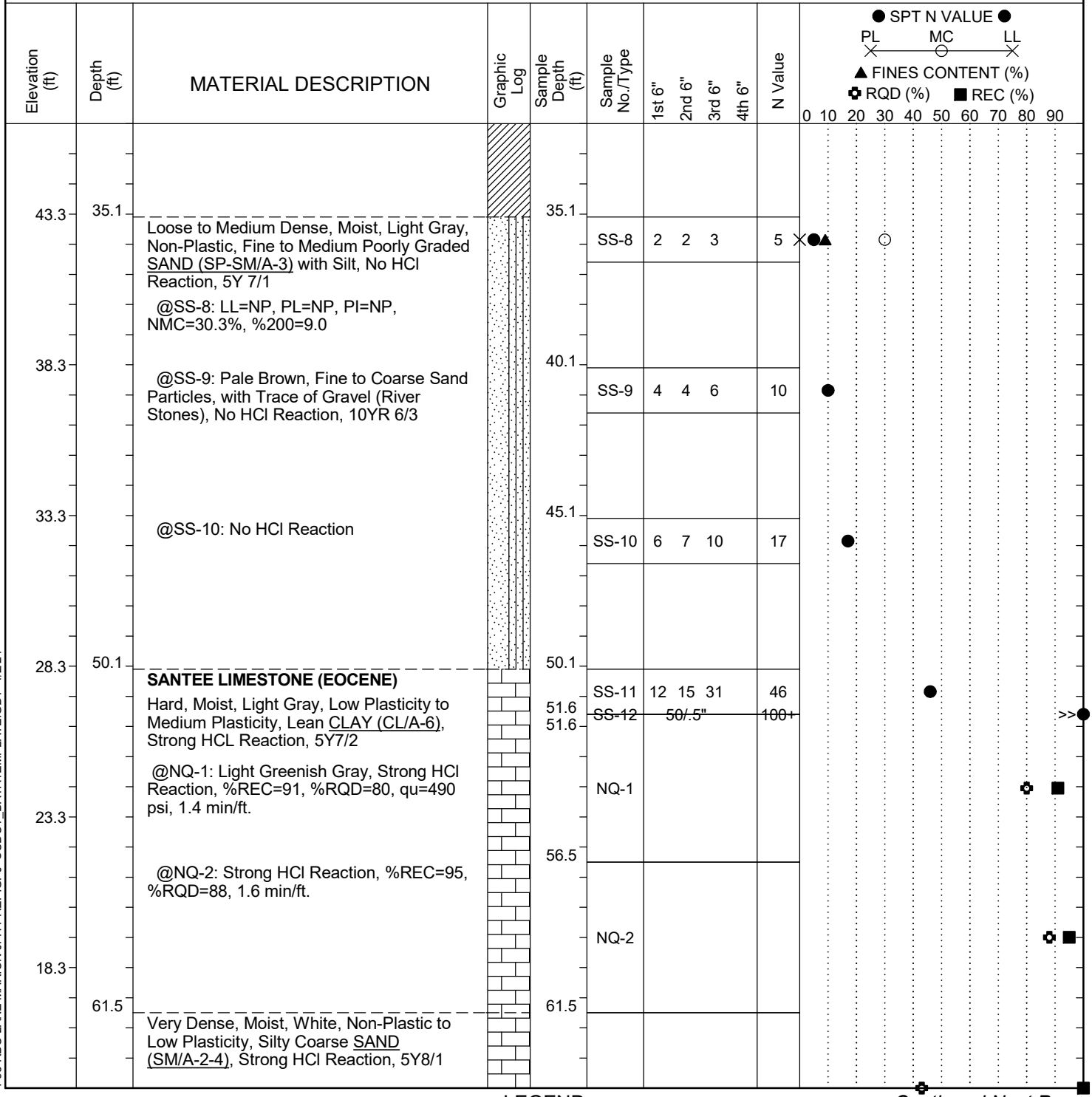
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-43
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5224+34	**Offset:**	12.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50914084	**Longitude:**	-80.44761627	**Date Started:**	4/12/2023
Total Depth:	108.2 ft	**Soil Depth:**	53.6 ft	**Core Depth:**	43 ft	**Date Completed:**	4/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
43.3	35.1	Loose to Medium Dense, Moist, Light Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, No HCl Reaction, 5Y 7/1 @SS-8: LL=NP, PL=NP, PI=NP, NMC=30.3%, %200=9.0	35.1	SS-8	2	2	3		5
38.3		@SS-9: Pale Brown, Fine to Coarse Sand Particles, with Trace of Gravel (River Stones), No HCl Reaction, 10YR 6/3	40.1	SS-9	4	4	6		10
33.3		@SS-10: No HCl Reaction	45.1	SS-10	6	7	10		17
28.3	50.1	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/2 @NQ-1: Light Greenish Gray, Strong HCl Reaction, %REC=91, %RQD=80, qu=490 psi, 1.4 min/ft.	50.1	SS-11	12	15	31		46
			51.6	~~SS-12~~	~~50/.5"~~				~~100+~~
23.3			51.6	NQ-1					
		@NQ-2: Strong HCl Reaction, %REC=95, %RQD=88, 1.6 min/ft.	56.5						
18.3				NQ-2					
	61.5	Very Dense, Moist, White, Non-Plastic to Low Plasticity, Silty Coarse SAND (SM/A-2-4), Strong HCl Reaction, 5Y8/1	61.5						



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-43
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5224+34	**Offset:**	12.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50914084	**Longitude:**	-80.44761627	**Date Started:**	4/12/2023
Total Depth:	108.2 ft	**Soil Depth:**	53.6 ft	**Core Depth:**	43 ft	**Date Completed:**	4/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.3		@NQ-3: %REC=100, %RQD=43, qu=450 psi, 1.0 min/ft.			NQ-3					
		@NQ-4: Weak HCl Reaction, %REC=93, %RQD=65, qu=915 psi, 2.8 min/ft.		66.5	NQ-4					
8.3	71.5			71.5						
		Very Dense, Moist, White, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Strong HCL Reaction, 5Y8/1								
		NQ-5: %REC=20, %RQD=0, 2.2 min/ft.			NQ-5					
3.3		@NQ-6: Strong HCl Reaction, %REC=26, %RQD=11, qu=2,640 psi, 0.6 min/ft.		76.5	NQ-6					
-1.7				81.5						
		@NQ-7: %REC=0, %RQD=0, 0.4 min/ft.			NQ-7					
-6.7	86.5									
		UNDIFFERENTIATED EOCENE Hard, Moist, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, GLEY1 3/N								
-11.7		@SS-13: No HCl Reaction, LL=80, PL=41, PI=39, NMC=65.0%, %200=85.0		90.1	SS-13	10	18	48		66
-16.7		SS-14: Black, GLEY1 2.5/N		95.1	SS-14	50/4"				100+

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

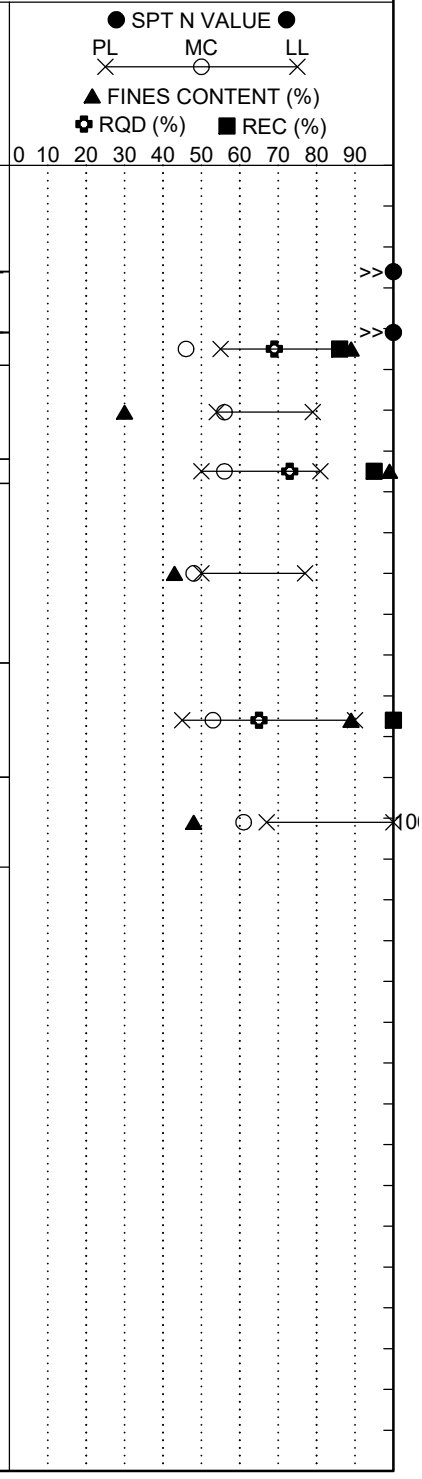
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-43
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5224+34	**Offset:**	12.4-R	**Alignment:**	I-95 Med. CL
Elev.:	78.3 ft	**Latitude:**	33.50914084	**Longitude:**	-80.44761627	**Date Started:**	4/12/2023
Total Depth:	108.2 ft	**Soil Depth:**	53.6 ft	**Core Depth:**	43 ft	**Date Completed:**	4/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				98.6	SS-15	50/0.5"				100+
-21.7	100.1			100.1	SS-16	50/0.5"				100+
	100.9	**WILLIAMSBURG FORMATION (PALEOCENE)**		100.1	NQ-8.1					
		Hard, Moist, Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5) with Sand, Weak HCl Reaction, 5Y4/1		100.9	NQ-8.2					
	103.2			103.2						
	103.8	NQ-8.1: %REC=86, %RQD=69, qu=315 psi, 4.5 min/ft., LL=86, PL=55, PI=31, NMC=46.3%, %200=88.8		103.8	NQ-9.1					
-26.7		@NQ-8.2: LL=79, PL=54, PI=25, NMC=55.5%, %200=30.1			NQ-9.2					
	108.2	@NQ-9.1: Weak HCl Reaction, %REC=95, %RQD=73, qu=260 psi, 3.0 min/ft. LL=81, PL=50, PI=31, NMC=56.0%, %200=99.1		108.2	NQ-10.1					
-31.7	111.0	@NQ-9.2: LL=77, PL=50, PI=27, NMC=47.5%, %200=43.2		111.0	NQ-10.2					
	113.2	@NQ-10.1: Weak HCl Reaction, %REC=100, %RQD=65, 2.8 min/ft. LL=90, PL=45, PI=45, NMC=53.2%, %200=89.2								
-36.7		@NQ-10.2: LL=106, PL=67, PI=39, NMC=61.3%, %200=47.5								
		Boring Terminated at 113.2-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-41.7										
-46.7										



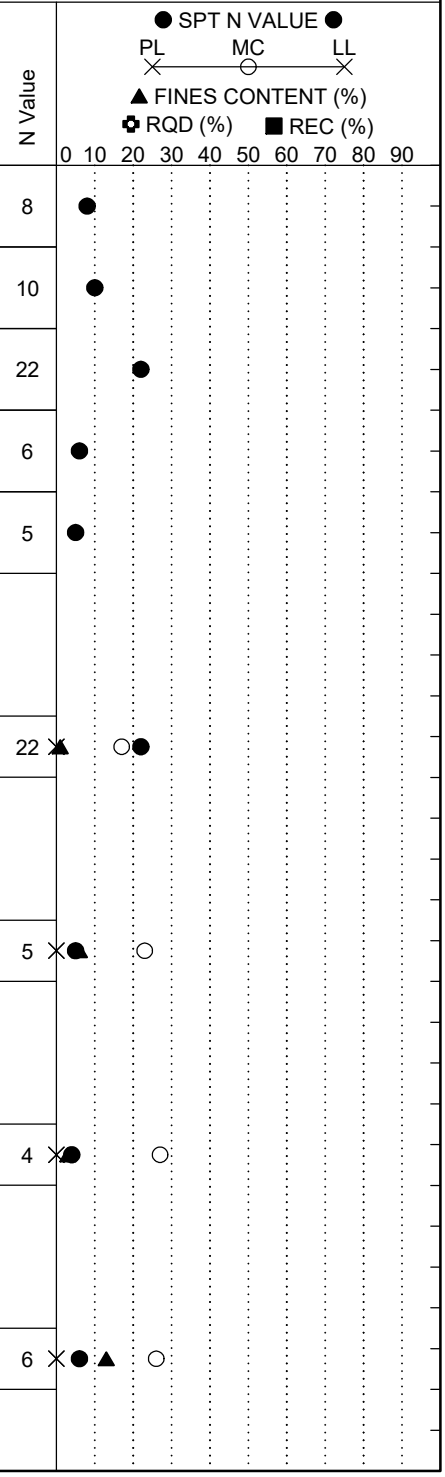
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-44
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5223+27	**Offset:**	5.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.2 ft	**Latitude:**	33.50932533	**Longitude:**	-80.44734055	**Date Started:**	1/19/2023
Total Depth:	110 ft	**Soil Depth:**	82.7 ft	**Core Depth:**	27.3 ft	**Date Completed:**	1/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@12

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0						
	0.7	TOPSOIL (8.0")							
	2.0	**FILL** Loose, Moist, Reddish Brown, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4) with Trace of Gravel, 5YR 4/4	2.0	SS-1	3	4	4	5	8
			4.0	SS-2	4	4	6	13	10
84.2		Loose to Medium Dense, Moist, Brownish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 6/4	6.0	SS-3	7	10	12	9	22
		@SS-4: Brown, 7.5YR 6/4	8.0	SS-4	2	3	3	4	6
79.2				SS-5	3	2	3	5	5
			13.5	SS-6	9	11	11		22
74.2		@SS-6: Brownish Yellow, Moist to Wet, 10YR 6/6 LL=NP, PL=NP, PI=NP, NMC=16.7%, %200=0.9							
	18.5	Loose, Wet, Light Brownish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 10YR 6/2	18.5	SS-7	3	2	3		5
69.2		@SS-7: LL=NP, PL=NP, PI=NP, NMC=23.3%, %200=5.6							
	23.5	Very Loose, Wet, Light Brownish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 6/2	23.5	SS-8	2	2	2		4
64.2		@SS-8: LL=NP, PL=NP, PI=NP, NMC=27.1%, %200=2.9							
	28.5	**ALLUVIUM (HOLOCENE)**	28.5	SS-9	2	3	3		6
59.2		Loose, Wet, Light Brownish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 2.5Y 6/2							



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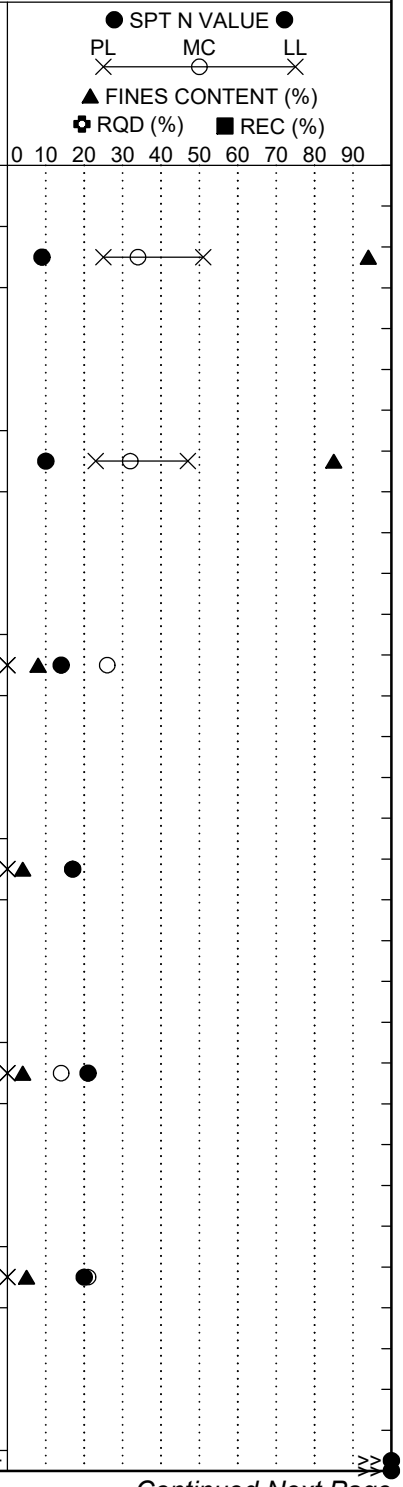
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-44		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5223+27	**Offset:**	5.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.2 ft	**Latitude:**	33.50932533	**Longitude:**	-80.44734055	**Date Started:**	1/19/2023
Total Depth:	110 ft	**Soil Depth:**	82.7 ft	**Core Depth:**	27.3 ft	**Date Completed:**	1/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@12

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		LL=NP, PL=NP, PI=NP, NMC=25.8%, %200=12.7								
	33.5			33.5						
54.2		Stiff, Moist, Bluish Gray, High Plasticity, Fat CLAY (CH/A-7-6), 10B 5/1 @SS-10: LL=51, PL=25, PI=26, NMC=34.4%, %200=94.1			SS-10	3	3	6		9
	38.5			38.5						
49.2		Stiff, Moist, Bluish Gray/Strong Brown, High Plasticity, Lean CLAY (CL/A-7-6) with Sand, 10B 5/1 & 7.5YR 5/6 @SS-11: LL=47, PL=23, PI=24, NMC=32.0%, %200=84.5			SS-11	3	4	6		10
	43.5			43.5						
44.2		Medium Dense, Wet, Light Brownish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 2.5Y 6/2 @SS-12: LL=NP, PL=NP, PI=NP, NMC=25.8%, %200=8.1			SS-12	4	5	9		14
	48.5			48.5						
39.2		Medium Dense, Wet, Grayish Brown, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-1-b) with Gravel, 10YR 5/2 @SS-13: LL=NP, PL=NP, PI=NP, NMC=16.8%, %200=4.0			SS-13	7	8	9		17
				53.5						
34.2		@SS-14: LL=NP, PL=NP, PI=NP, NMC=14.0%, %200=4.1			SS-14	12	12	9		21
	58.5			58.5						
29.2		Medium Dense, Wet, Light Brownish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-1-b) with Silt, 2.5Y 6/2 @SS-15: LL=NP, PL=NP, PI=NP, NMC=20.9%, %200=5.2			SS-15	10	9	11		20
	63.5			63.5						
					SS-16	24		50/3"		100+



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-44
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5223+27	**Offset:**	5.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.2 ft	**Latitude:**	33.50932533	**Longitude:**	-80.44734055	**Date Started:**	1/19/2023
Total Depth:	110 ft	**Soil Depth:**	82.7 ft	**Core Depth:**	27.3 ft	**Date Completed:**	1/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@12

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
24.2	64.0	Very Dense, Moist to Wet, Light Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) with Trace of Gravel (Limestone), 10Y 7/1		64.0	SS-17	50/0.5"	100+
				64.0	NQ-1		
				66.3			
		SANTEE LIMESTONE (EOCENE) Light Greenish Gray, Medium Plasticity to High Plasticity, Sandy Lean CLAY (CL), 10Y7/1, Strong HCl Reaction %REC=54, %RQD=14, 2.6 min/ft.			NQ-2		
19.2		@NQ-2: %REC=50, %RQD=0, 2.0 min/ft.		71.3			
		@NQ-3: with Phosphate Sand & Shells, %REC=93, %RQD=43, qu=410 psi, 1.4 min/ft.			NQ-3		
14.2							
	76.3	Light Gray, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4), 5Y 7/1		76.3			
		NQ-4: %REC=88, %RQD=78, 5.2 min/ft.			NQ-4		
9.2				81.3			
		@NQ-5: %REC=98, %RQD=52, qu=2,420 psi, qu=2,430 psi, 0.8 min/ft.			NQ-5		
4.2							
	86.3	@NQ-6: %REC=0, %RQD=0, 0.6 min/ft.		86.3			
					NQ-6		
-0.8							
				93.5			
		@SS-24: No Recovery			SS-18	WOH/12" 1	1
-5.8							

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-44
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5223+27	**Offset:**	5.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.2 ft	**Latitude:**	33.50932533	**Longitude:**	-80.44734055	**Date Started:**	1/19/2023
Total Depth:	110 ft	**Soil Depth:**	82.7 ft	**Core Depth:**	27.3 ft	**Date Completed:**	1/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@12

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	98.5			98.5						
		UNDIFFERENTIATED EOCENE			SS-19	8	35	50/5.0"		85+
-10.8		Very Dense, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 5Y 6/1								
				103.5	SS-20	36	50/5.5"			100+
-15.8										
				108.5						
		@SS-27: Light Gray, 5Y 7/1			SS-21	13	24	33		57
-20.8	110.0									
		Boring Terminated at 110.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								
-25.8										
-30.8										
-35.8										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 4/2/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-45
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5222+35	**Offset:**	9.6-L	**Alignment:**	I-95 Med. CL
Elev.:	88.3 ft	**Latitude:**	33.5094646	**Longitude:**	-80.44708607	**Date Started:**	1/19/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 18 ft	**24HR**	Cave@14.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.7	TOPSOIL (8.0-in.)		0.0	SS-1	2	3	6	10	9
		FILL Loose to Medium Dense, Moist, Brownish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR 6/6		2.0	SS-2	7	9	12	11	21
		@SS-3: Yellowish Brown, 10YR 5/8		4.0	SS-3	6	8	12	14	20
83.3				6.0	SS-4	3	3	6	9	9
		@SS-10: Yellow, 10YR 7/6		8.0	SS-5	9	11	14	15	25
78.3										
		@SS-6: Dense		13.5	SS-6	12	15	16		31
73.3										
	18.5	**ALLUVIUM (HOLOCENE)** Loose, Wet, Brownish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3) with Clayey Sand in Tip, 10YR 6/6		18.5	SS-7	3	3	3		6
68.3										
	23.5	@SS-8: No Recovery		23.5	SS-8	3	3	3		6
63.3										
	28.5	Very Loose, Wet, Grayish Brown, Non-Plastic, Fine to Medium Well-Graded SAND (SW-SM/A-1-b) with Silt, 2.5Y 5/2		28.5	SS-9	2	2	2		4
58.3		@SS-9: LL=NP, PL=NP, PI=NP, NMC=21.7%, %200=7.8								

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

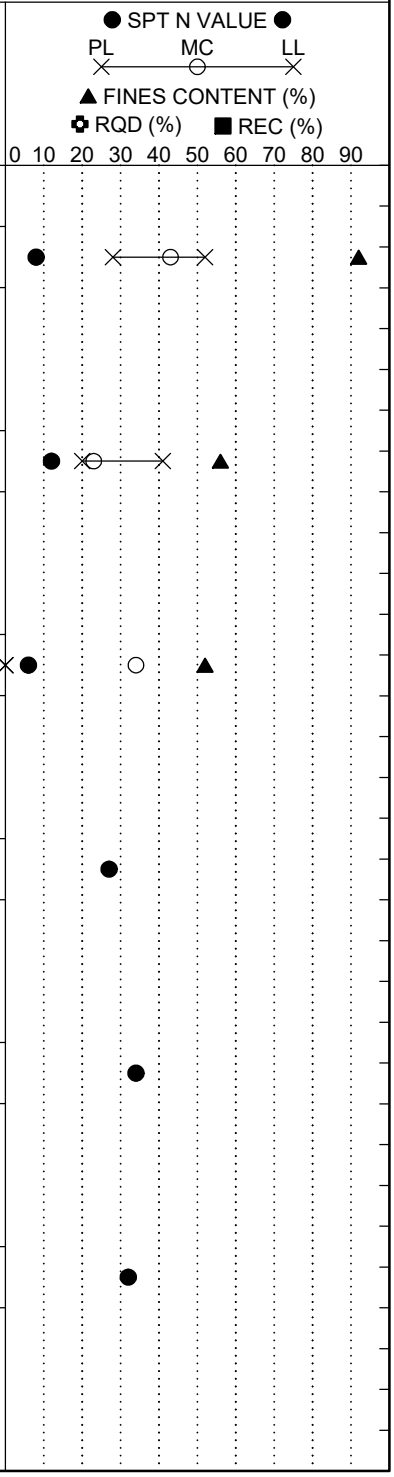
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-45
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5222+35	**Offset:**	9.6-L	**Alignment:**	I-95 Med. CL
Elev.:	88.3 ft	**Latitude:**	33.5094646	**Longitude:**	-80.44708607	**Date Started:**	1/19/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 18 ft	**24HR**	Cave@14.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	33.5			33.5						
53.3		Firm, Moist, Bluish Gray, High Plasticity, Fat CLAY (CH/A-7-6) with Trace of Organics (Wood Fragments), 10B 5/1 @SS-10: LL=52, PL=28, PI=24, NMC=43.0%, %200=92.5			SS-10	1	3	5		8
	38.5			38.5						
48.3		Stiff, Moist, Bluish Gray, High Plasticity, Sandy Lean CLAY (CL/A-7-6), 10B 5/1 @SS-11: LL=41, PL=20, PI=21, NMC=22.6%, %200=56.0			SS-11	4	5	7		12
	43.5			43.5						
43.3		Firm, Wet, Light Olive Brown, Non-Plastic, Sandy SILT (ML/A-4), 2.5Y 5/3 @SS-12: LL=NP, PL=NP, PI=NP, NMC=33.6%, %200=51.5			SS-12	2	2	4		6
	48.5			48.5						
38.3		Medium Dense to Dense, Wet, Pale Brown, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3) with Trace of Gravel, 10YR 6/3			SS-13	8	13	14		27
				53.5						
					SS-14	15	16	18		34
33.3	56.0	**SANTEE LIMESTONE (EOCENE)** Hard, Moist, Olive, Low Plasticity to Medium Plasticity, Sandy SILT (ML/A-4) with Traces of Shell Fragments, Strong HCl Reaction, 5Y 5/3		58.5						
					SS-15	3	7	25		32
28.3	60.0	Boring Terminated at 60.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-46
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5178+10	**Offset:**	8.9-R	**Alignment:**	I-95 Med. CL
Elev.:	88.4 ft	**Latitude:**	33.51770511	**Longitude:**	-80.43640616	**Date Started:**	1/30/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@17

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.7	TOPSOIL (8.0-in.)		0.0	SS-1	1	3	3	8	6
		FILL Loose to Medium Dense, Moist, Brownish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 10YR6/8		2.0	SS-2	7	7	7	7	14
83.4		@SS-3: Yellowish Brown, 10YR5/6		4.0	SS-3	4	7	9	10	16
				6.0	SS-4	2	3	4	4	7
		@SS-5: Very Loose LL=NP, PL=NP, PI=NP, NMC=22.0%, %200=5.7		8.0	SS-5	2	2	2	2	4
78.4										
	13.5			13.5						
		Loose, Moist to Wet, Light Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) (with 1" Clay Lens), 7.5YR6/3			SS-6	2	2	7		9
73.4		@SS-6: LL=NP, PL=NP, PI=NP, NMC=18.8%, %200=18.0								
	18.0									
	18.5	**ALLUVIUM (HOLOCENE)** Loose, Moist, Light Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 7.5YR6/3		18.5	SS-7	3	3	4		7
68.4		Loose, Wet, Pale Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y7/3								
		@SS-7: LL=NP, PL=NP, PI=NP, NMC=23.9%, %200=2.6		23.5	SS-8	2	3	4		7
63.4		@SS-8: Light Yellowish Brown, 2.5Y6/3 LL=NP, PL=NP, PI=NP, NMC=28.0%, %200=3.2								
	28.5			28.5						
		Very Soft, Wet, Light Greenish Gray, High Plasticity, Lean CLAY (CL/A-6), 10GY7/1			SS-9	WOH/18"				0
58.4		@SS-9: LL=43, PL=22, PI=21								

SPT N VALUE ● PL × MC ○ LL ×
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-46
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5178+10	**Offset:**	8.9-R	**Alignment:**	I-95 Med. CL
Elev.:	88.4 ft	**Latitude:**	33.51770511	**Longitude:**	-80.43640616	**Date Started:**	1/30/2023
Total Depth:	60 ft	**Soil Depth:**	60 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@17

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
53.4		@SS-10: Moist to Wet, Olive Gray, 5Y4/2 LL=49, PL=25, PI=24, NMC=49.7%, %200=97.1		33.5	SS-10	WOH/18"				0
	38.5			38.5						
48.4		Stiff, Moist, Very Dark Greenish Gray, Medium Plasticity, Sandy Lean CLAY (CL/A-6), 10Y3/1 @SS-11: LL=37, PL=18, PI=19, NMC=32.9%, %200=62.8			SS-11	4	4	6		10
	43.5			43.5						
43.4		**SANTEE LIMESTONE (EOCENE)** Soft, Wet, Light Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, 10Y7/1 @SS-12: LL=NP, PL=NP, PI=NP, NMC=36.7%, %200=69.7			SS-12	3	1	2		3
		@SS-13: Hard, Moist to Wet, Fine Sand Particles, with Cemented Lenses		48.5	SS-13	14	17	22		39
38.4										
		@SS-14: Light Olive Gray, 5Y6/2		53.5	SS-14	20	21	32		53
33.4										
				58.5	SS-15	6	8	24		32
28.4	60.0	Boring Terminated at 60.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-47
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	RW/ CT	**Boring Location:**	5177+10	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	89.4 ft	**Latitude:**	33.51789541	**Longitude:**	-80.4361701	**Date Started:**	1/31/2023
Total Depth:	74.6 ft	**Soil Depth:**	43 ft	**Core Depth:**	31.6 ft	**Date Completed:**	2/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@15.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.5	TOPSOIL (6.0-in.)		0.0						
		@SS-1: No Recovery			SS-1	2	3	4	7	7
	2.0	**FILL**		2.0						
		Medium Dense to Loose, Moist, Reddish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 5YR6/6			SS-2	5	7	9	13	16
				4.0						
84.4					SS-3	9	9	11	11	20
				6.0						
					SS-4	3	4	4	5	8
				8.0						
					SS-5	4	5	4	6	9
79.4		@SS-6: Light Reddish Brown, 5YR6/4		10.0						
					SS-6	5	6	6	5	12
				12.0						
					SS-7	3	4	4	3	8
				14.0						
74.4		▽			SS-8	2	3	4	10	7
				16.0						
		@SS-9: LL=NP, PL=NP, PI=NP, NMC=19.5%, %200=5.2			SS-9	7	8	10	11	18
	18.0			18.0						
		ALLUVIUM (HOLOCENE)			SS-10	8	7	7	5	14
		Medium Dense to Loose, Moist to Wet, Reddish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-1-b), 5YR6/6								
69.4				20.0						
		@SS-10: LL=NP, PL=NP, PI=NP,								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

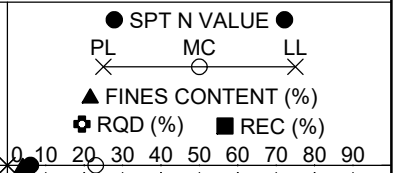
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-47		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	RW/ CT	**Boring Location:**	5177+10	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	89.4 ft	**Latitude:**	33.51789541	**Longitude:**	-80.4361701	**Date Started:**	1/31/2023
Total Depth:	74.6 ft	**Soil Depth:**	43 ft	**Core Depth:**	31.6 ft	**Date Completed:**	2/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@15.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		NMC=21.5%, %200=0.9		SS-11	4	3	3	5	6
	22.0	@SS-11: (SP/A-3)	22.0						
		LL=NP, PL=NP, PI=NP, NMC=23.0%, %200=4.0		SS-12	3	3	3	4	6
		Loose to Very Loose, Moist, Reddish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 5YR6/6, LL=NP, PL=NP, PI=NP, NMC=22.9%, %200=6.2	24.0						
64.4				SS-13	3	2	2	2	4
		@SS-13: Reddish Light Brown, 5YR6/3							
	26.0	LL=NP, PL=NP, PI=NP, NMC=24.3%, %200=5.1	26.0						
		Loose, Wet, Reddish Light Brown/Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/3 & 5YR6/1		SS-14	3	3	4	4	7
	28.0	@SS-13: LL=NP, PL=NP, PI=NP, NMC=23.6%, %200=12.5	28.0						
		Loose, Moist, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-2-4) with Silt, 5YR6/1		SS-15	4	3	2	2	5
59.4	30.0	@SS-15: LL=NP, PL=NP, PI=NP, NMC=27.5%, %200=11.5	30.0						
				SS-16	2	2	1	2	3
	32.0	Soft, Wet, Olive Gray, Non-Plastic,Sandy SILT (ML/A-4), 5Y4/2	32.0						
		@SS-16: LL=NP, PL=NP, PI=NP, NMC=32.8%, %200=57.7		SS-17	1	2	2	1	4
		Soft to Very Soft, Wet, Olive Gray, Non-Plastic, SILT (ML/A-4), 5Y4/2	34.0						
54.4		@SS-17: LL=NP, PL=NP, PI=NP, NMC=45.5%, %200=88.4		SS-18	WOH/24"				0
	36.0	@SS-18: Moist to Wet, Medium Plasticity, Dark Gray, (ML/A-7-6) with Occasional Sand Seams, 5Y4/1	36.0						
		LL=47, PL=29, PI=18, NMC=53.4%, %200=97.9		SS-19	1	2	1	4	3
	38.0	Soft, Moist to Wet, Dark Gray, High Plasticity, Fat CLAY (CH/A-7-6), 5Y7/1	38.0						
		@SS-19: LL=56, PL=28, PI=28, NMC=51.9%, %200=95.0		SS-20	WOH	4	5	6	9
49.4	40.0	Stiff, Moist to Wet, Dark Gray, Fat Clay (CH/A-7-6) with Sand & Trace of Organics (Wood Fragments), 5Y4/1	40.0						
				SS-21	2	3	5	6	8
	42.0		42.0						



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-47
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	RW/ CT	**Boring Location:**	5177+10	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	89.4 ft	**Latitude:**	33.51789541	**Longitude:**	-80.4361701	**Date Started:**	1/31/2023
Total Depth:	74.6 ft	**Soil Depth:**	43 ft	**Core Depth:**	31.6 ft	**Date Completed:**	2/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@15.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	43.0	@SS-20: LL=61, PL=26, PI=35, NMC=34.5%, %200=83.0		43.0	SS-22	9 50/4"	100+
		Firm, Moist to Wet, Dark Gray, High Plasticity, Fine to Medium Poorly Graded SAND (SP-SC/A-2-4) with Clay, 1" Limestone in Tip, Strong HCl Reaction, 5Y4/1		43.0	~~SS-23~~	~~50/0.5"~~	~~100+~~
44.4		@SS-21: %200=62.9			NQ-1		
		SANTEE LIMESTONE (EOCENE) Hard, Moist to Wet, Light Gray, Low Plasticity to Medium Plasticity, Sandy SILT (ML) with Shell Fragments, 5Y7/1		46.6			
		Pale Olive, Medium Plasticity to High Plasticity, Fine Sandy CLAY (CL/A-6), Stong HCl Reaction, 5Y6/3			NQ-2		
39.4		NQ-1: %REC=99, %RQD=40, qu=470 psi, 1.1 min/ft.					
		@NQ-2: %REC=77, %RQD=42, 1.0 min/ft.		51.6			
		@NQ-3: %REC=77, %RQD=31, 1.4 min/ft.			NQ-3		
34.4							
		@NQ-4: %REC=80, %RQD=80, qu=580 psi, 1.6 min/ft.		56.6			
					NQ-4		
29.4							
		@NQ-5: %REC=97, %RQD=97, 1.6 min/ft.		61.6			

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

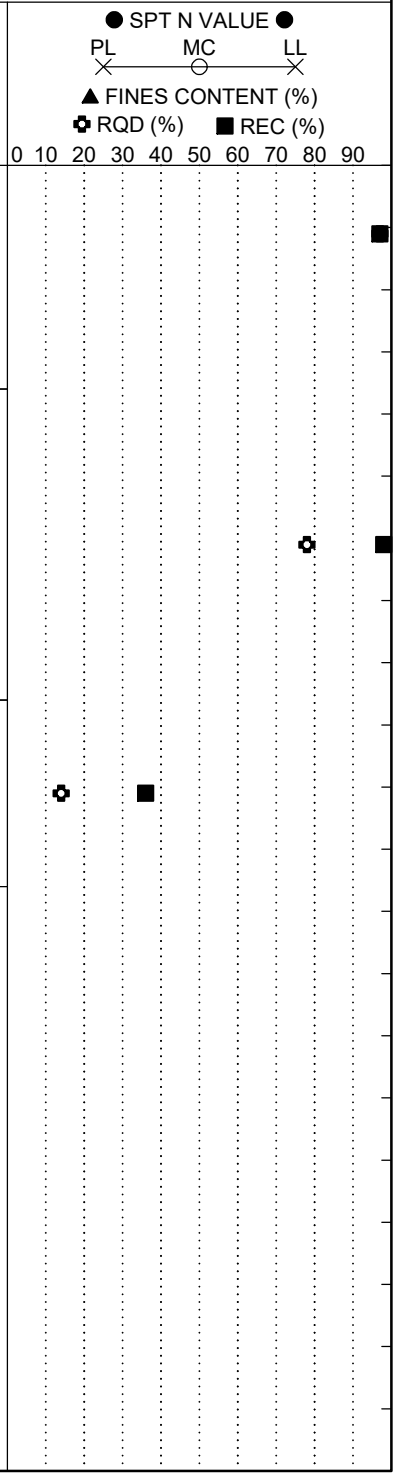
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-47
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	RW/ CT	**Boring Location:**	5177+10	**Offset:**	11.5-R	**Alignment:**	I-95 Med. CL
Elev.:	89.4 ft	**Latitude:**	33.51789541	**Longitude:**	-80.4361701	**Date Started:**	1/31/2023
Total Depth:	74.6 ft	**Soil Depth:**	43 ft	**Core Depth:**	31.6 ft	**Date Completed:**	2/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** 15 ft	**24HR**	Cave@15.5

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
24.4				66.6	NQ-5		
		@NQ-6: %REC=98, %RQD=78, 1.6 min/ft.			NQ-6		
19.4				71.6			
		@NQ-7: %REC=36, %RQD=14, 1.7 min/ft.			NQ-7		
	74.6						
14.4		Boring Terminated at 74.6-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.					
9.4							



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-48
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5176+05	**Offset:**	94.5-L	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.51787635	**Longitude:**	-80.43567936	**Date Started:**	2/24/2023
Total Depth:	110.8 ft	**Soil Depth:**	57 ft	**Core Depth:**	41.1 ft	**Date Completed:**	2/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (9.2-ft.)							
73.5									
68.5									
	12.7	**ALLUVIUM (HOLOCENE)**	12.7						
	14.7	Loose, Wet, Olive Gray, Non-Plastic to Low Plasticity, Silty Fine to Coarse SAND (SM/A-2-4) with Trace of Gravel, 5Y4/2	14.7	SS-1	30	6	1	1	7
63.5		Very Loose, Wet, Olive, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5Y5/3	16.7	SS-2	4	2	2	1	4
		@SS-2: LL=NP, PL=NP, PI=NP, NMC=23.3%, %200=20.0	18.7	SS-3	1	1	1 1/12"		2
		@SS-3: Blue Clay in Tip		SS-4	1	1/12"	1		1
58.5		@SS-4: Light Brownish Gray, 2.5Y6/2	20.7						
		@SS-5: LL=NP, PL=NP, PI=NP, NMC=35.4%, %200=41.4		SS-5	WOH/24"				WOH
		@22.2-ft.: Light Brownish Gray, 2.5Y6/2							
53.5									
	26.2	Soft, Moist, Dark Greenish Gray, Medium Plasticity, Sandy Lean CLAY (CL/A-6), 10Y4/1	26.2	SS-6	2	2	2		4
		@SS-6: LL=33, PL=15, PI=18, NMC=32.4%, %200=65.1							
48.5									
	31.2	Dense, Moist, Light Olive Gray, Non-Plastic	31.2						

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

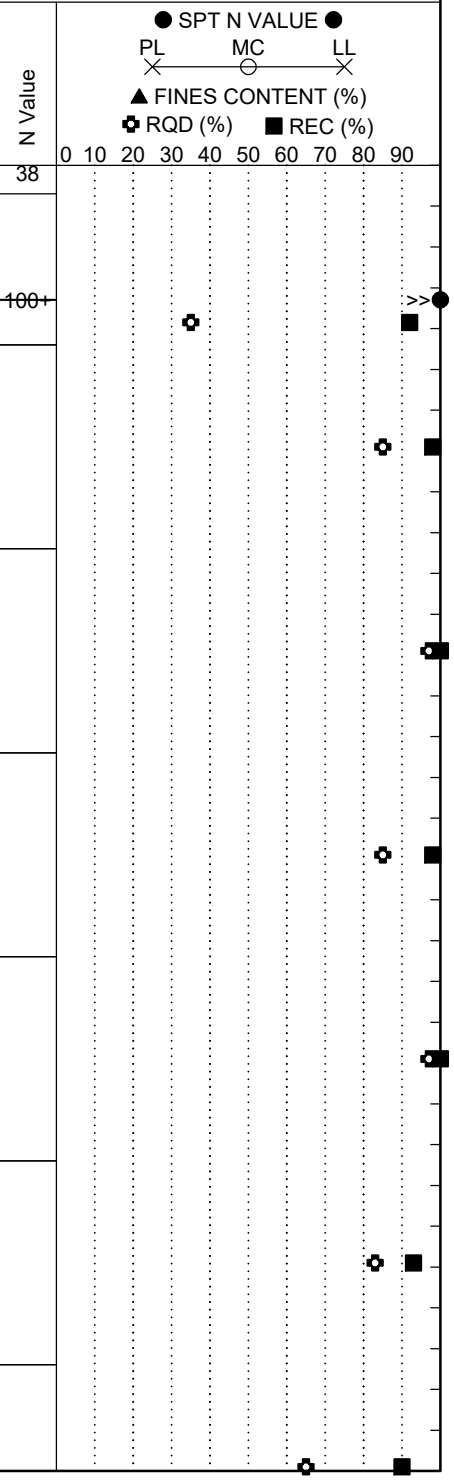
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-48		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5176+05	**Offset:**	94.5-L	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.51787635	**Longitude:**	-80.43567936	**Date Started:**	2/24/2023
Total Depth:	110.8 ft	**Soil Depth:**	57 ft	**Core Depth:**	41.1 ft	**Date Completed:**	2/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		to Low Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Calcareous, Strong HCl Reaction, 5Y8/2			SS-7	4	12	26		38
43.5	35.3	**SANTEE LIMESTONE (EOCENE)**		35.3	SS-8	50/0.5"				100+
		Hard, Moist, Light Gray, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), Strong HCL Reaction, 5Y7/2		35.3 36.4	NQ-1					
		%REC=92, %RQD=35, qu=315 psi, 1.8 min/ft.			NQ-2					
38.5		@NQ-2: Vuggy with Shell Fragments, %REC=98, %RQD=85, qu=410 psi, 1.2 min/ft.		41.4						
		@NQ-3: Pale Yellow, with Phosphate Grains, %REC=100, %RQD=97, 1.0 min/ft.			NQ-3					
33.5				46.4						
		@NQ-4: Strong HCl Reaction, %REC=98, %RQD=85, 1.0 min/ft.			NQ-4					
28.5				51.4						
		@NQ-5: %REC=100, %RQD=97, qu=610 psi, 1.2 min/ft.			NQ-5					
23.5				56.4						
		@NQ-6: %REC=93, %RQD=83, 1.0 min/ft.			NQ-6					
18.5		@59.4-ft.: with Shell Deposits & Phosphate Grains		61.4						
		@NQ-7: Light Bluish Gray, Vuggy, with Gravel Sized Phosphate Nodules, %REC=90, %RQD=65, qu=1,690 psi, 2.6 min/ft.								



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-48
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5176+05	**Offset:**	94.5-L	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.51787635	**Longitude:**	-80.43567936	**Date Started:**	2/24/2023
Total Depth:	110.8 ft	**Soil Depth:**	57 ft	**Core Depth:**	41.1 ft	**Date Completed:**	2/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
13.5					NQ-7					
		@NQ-8: Medium to Coarse Grained, Phosphate Grains, Weak HCl Reaction, %REC=73, %RQD=58, qu=2,100 psi, 3.6 min/ft.		66.4						
					NQ-8					
8.5										
	71.4	Very Dark Greenish Gray/Very Dark Gray, 5G3/2 & 5Y3/1, No HCl Reaction		71.4						
		@NQ-9: %REC=28, %RQD=0, 2.8 min/ft. LL=NP, PL=NP, PI=NP, NMC=39.3%, %200=61.3			NQ-9					
3.5										
	76.4	**UNDIFFERENTIATED EOCENE** Medium Dense, Moist to Wet, Very Dark Gray, Non-Plastic, Silty Fine SAND (SM/A-4), Laminated, No HCl Reaction, 5Y3/1								
-1.5				80.7						
		@SS-9: LL=NP, PL=NP, PI=NP, NMC=34.7%, %200=38.3			SS-9	8	8	11		19
-6.5	85.7	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard, Moist, Very Dark Gray, Medium Plasticity to High Plasticity, Sandy Lean CLAY (CL/A-6), No HCl Reaction, 5Y3/1		85.7	SS-10	10	12	19		31
-11.5				90.7						
					SS-11	12	14	20		34
-16.5	95.7			95.7						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-48
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5176+05	**Offset:**	94.5-L	**Alignment:**	I-95 Med. CL
Elev.:	78.5 ft	**Latitude:**	33.51787635	**Longitude:**	-80.43567936	**Date Started:**	2/24/2023
Total Depth:	110.8 ft	**Soil Depth:**	57 ft	**Core Depth:**	41.1 ft	**Date Completed:**	2/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	NQ	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Hard, Moist, Black, Very Plastic, Elastic SILT (MH/A-7-5), Weak HCl Reaction, 10Y2.5/1			SS-12	15	20	29		49
		@SS-9: LL=92, PL=49, PI=43, NMC=65.1%, %200=98.5								
-21.5				100.7	SS-13	70	50/3.5"			100+
-26.5				105.7						
		@SS-14: Laminated, with Fine Sand Seams			SS-14	7	12	22		34
-31.5	110.8			110.7	~~SS-15~~	~~50/1"~~				~~100+~~
		Boring Terminated at 110.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-36.5										
-41.5										
-46.5										

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-49
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5175+19	**Offset:**	90.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.5180449	**Longitude:**	-80.43548056	**Date Started:**	2/28/2023
Total Depth:	118.4 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (14.9-ft.)							
72.9									
67.9									
62.9									
	18.4	**ALLUVIUM (HOLOCENE)**	18.4						
		@SS-1: No Recovery		SS-1	WOH/24				WOH
57.9		@SS-2: No Recovery	20.4	SS-2	WOH	1	1	2	2
	22.4	Soft, Moist, Dark Gray, Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 5Y4/1	22.4	SS-3	1	1	2	2	3
52.9		@SS-4: Grayish Green, 5G5/2	24.4	SS-4	1	2	2	3	4
		@SS-5: LL=32, PL=17, PI=15, NMC=29.0%, %200=73.4	26.4	SS-5	2	2	1	2	3
47.9									
	31.3								
	31.9	**SANTEE LIMESTONE (EOCENE)**	31.9						

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

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LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-49
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5175+19	**Offset:**	90.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.5180449	**Longitude:**	-80.43548056	**Date Started:**	2/28/2023
Total Depth:	118.4 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		Soft, Moist, Grayish Green, Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 5G5/2		SS-6	10	11	11		22
42.9		Dense, Moist to Wet, Greenish Gray, Non-Plastic, Silty Fine to Meduim SAND (SM/A-4), Calcareous, Strong HCl Reaction, 5GY6/1							
	36.9	@SS-6: LL=NP, PL=NP, PI=NP, NMC=27.8%, %200=45.6	36.9	SS-7	11	13	19		32
37.9		Very Stiff, Moist to Wet, Greenish Gray, Non-Plastic, Sandy SILT (ML/A-4), Strong HCl Reaction, 5GY6/1							
		@SS-7: LL=NP, PL=NP, PI=NP, NMC=35.4%, %200=58.5	41.9	SS-8	16	50/4.5"			100+
		@SS-8: Light Greenish Gray, with Trace of Gravel, Strong HCl Reaction, 5GY7/1							
32.9									
	46.9	Hard, Moist, Light Greenish Gray, Non-Plastic, SILT (ML/A-4) with Sand, 5GY7/1	46.9	SS-9	16	36	50/3.5"		86+
		@SS-9: LL=NP, PL=NP, PI=NP, NMC=40.2%, %200=77.8							
27.9			51.9	SS-10	9	16	50/2"		66+
		@SS-10: Light Greenish Gray, Strong HCl Reaction, 10Y7/1							
22.9									
			56.9	SS-11	10		50/4"		100+
17.9									
	61.4	Very Dense, Moist, Gray/Black/Very Dark Greenish Gray, Non-Plastic, Poorly Graded GRAVEL (GP-GM/A-1-b) with Silt & Sand, with Phosphate Nodules, Strong HCl	61.9	SS-12		50/6"			100+

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

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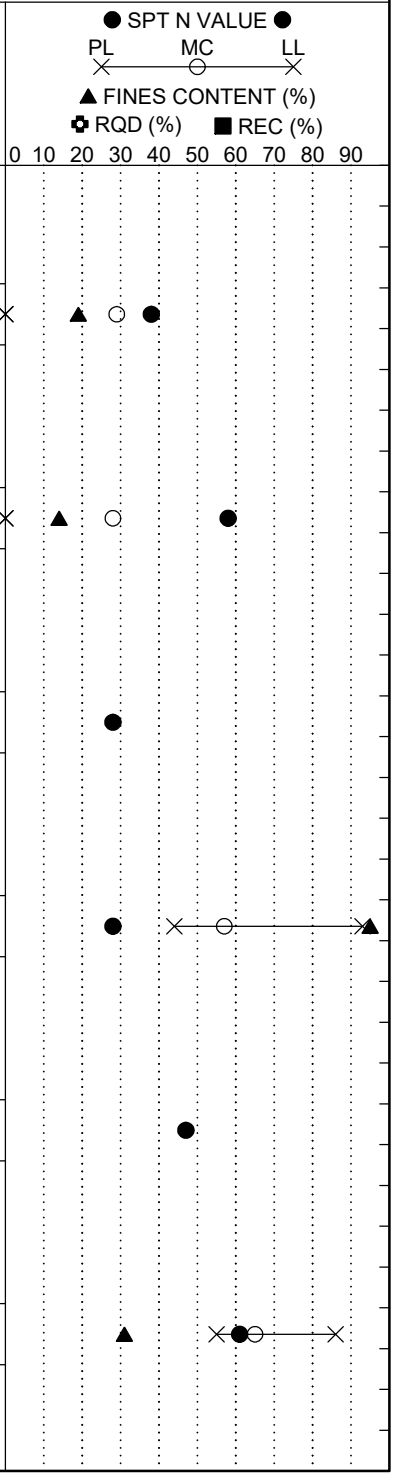
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-49
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5175+19	**Offset:**	90.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.5180449	**Longitude:**	-80.43548056	**Date Started:**	2/28/2023
Total Depth:	118.4 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.9		Reaction, 2.5Y6/1 & 2.5Y2.5/1 & 10Y3/1							
	66.9	**UNDIFFERENTIATED EOCENE**	66.9	SS-13	9	15	23		38
		Dense, Moist to Wet, Gray/Black/Very Dark Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Glauconitic, Weak HCl Reaction, 2.5Y6/1 & 2.5Y2.5/1 & 10Y3/1							
7.9		@SS-13: LL=NP, PL=NP, PI=NP, NMC=29.0%, %200=19.1							
	71.9	Very Dense, Wet, White, Non-Plastic, Silty Fine SAND (SM/A-2-4) (Quartz), No HCl Reaction, 7.5YR5/1	71.9	SS-14	17	27	31		58
2.9		@SS-14: LL=NP, PL=NP, PI=NP, NMC=28.2%, %200=13.8							
	76.9	**WILLIAMSBURG FORMATION (PALEOCENE)**	76.9	SS-15	12	13	15		28
-2.1		Medium Dense, Moist, Very Dark Greenish Gray, Low Plasticity to Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Laminated, Weak HCl Reaction, 10Y3/1							
	81.9	Very Stiff to Hard, Moist, Black,Very Plastic, Elastic SILT (MH/A-7-5) with Fine Sand Seams, Laminated, Micaceous, No HCl Reaction, 10Y2.5/1	81.9	SS-16	9	13	15		28
-7.1		@SS-16: LL=93, PL=44, PI=49, NMC=57.2%, %200=94.6							
		@SS-17: No HCl Reaction	86.9	SS-17	15	16	31		47
-12.1									
		@SS-18: LL=86, PL=55, PI=31, NMC=65.0%, %200=97.3	91.9	SS-18	14	23	38		61
-17.1									



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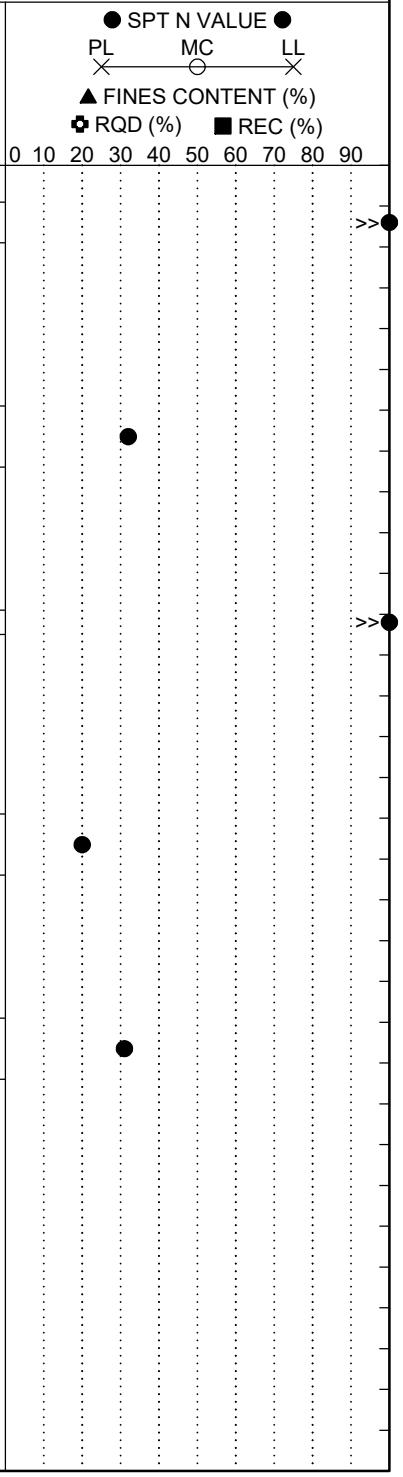
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-49
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5175+19	**Offset:**	90.1-L	**Alignment:**	I-95 Med. CL
Elev.:	77.9 ft	**Latitude:**	33.5180449	**Longitude:**	-80.43548056	**Date Started:**	2/28/2023
Total Depth:	118.4 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	3/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@SS-19: Black, Weak HCl Reaction, 5Y2.5/2		96.9	SS-19	9	50/6"			100+
-22.1				101.9	SS-20	10	14	18		32
-27.1										
		@SS-21: Very Dark Gray, Weak HCl Reaction, 5Y3/1		106.9	SS-21	7	50/1"			100+
-32.1										
	111.9	Medium Dense, Moist to Wet, Greenish Black, Low Plasticity to Medium Plasticity, Silty Fine to Medium SAND (SM/A-2-4), Glauconitic, 10Y2.5/1		111.9	SS-22	6	8	12		20
-37.1										
	116.9	@SS-23: No Recovery		116.9	SS-23	8	13	18		31
	118.4	Boring Terminated at 118.4-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-42.1										
-47.1										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-50		
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95		
Eng./Geo.:	R. Wessinger	**Boring Location:**	5174+43	**Offset:**	87.5-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.51818967	**Longitude:**	-80.43530402	**Date Started:**	2/27/2023
Total Depth:	106.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	BARGE DECK (3.5-ft.)							
	3.5	WATER (3.3-ft.)							
72.6	6.8	**ALLUVIUM (HOLOCENE)** Very Loose, Wet, Dark Olive Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5Y3/2	6.8	SS-1	WOH	1	1	2	2
		@SS-2: Olive Gray, 5Y4/2	8.8	SS-2	2	1	1	1	2
67.6		LL=NP, PL=NP, PI=NP, NMC=25.8%, %200=1.5	10.8	SS-3	3	2	2	2	4
	12.8	@SS-3: Olive Brown, 2.5Y4/3	12.8	SS-4	2	1	1	2	2
		@SS-4: No Recovery							
	14.8		14.8	SS-5	2	2	2	1	4
62.6		Very Loose, Wet, Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-1-b), 10YR6/1							
		@SS-5: LL=NP, PL=NP, PI=NP, %200=1.8							
57.6	20.3	Stiff, Moist, Gray/Grayish Green, Low Plasticity to Medium Plasticity, Sandy Lean CLAY (CL/A-6), 2.5Y5/1 & 5G4/2	20.3	SS-6	5	5	6		11
52.6	25.3	**SANTEE LIMESTONE (EOCENE)** Medium Dense, Wet, Greenish Gray, Non-Plastic, Fine Poorly Graded SAND (SP/A-3), 10Y5/1	25.3	SS-7	2	4	12		16
	28.8	Dense, Wet, Greenish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-4), Calcareous, Strong HCl Reaction, 10Y5/1							
47.6		@SS-8: Moist to Wet, Greenish Gray, 10Y6/1	30.3	SS-8	12	12	30		42

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-50
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5174+43	**Offset:**	87.5-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.51818967	**Longitude:**	-80.43530402	**Date Started:**	2/27/2023
Total Depth:	106.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		LL=NP, PL=NP, PI=NP, NMC=27.4%, %200=40.4								
42.6		@SS-9: Very Dense, Moist		35.3	SS-9	8	22	50/5"		72+
37.6	40.3	Hard, Moist, Light Greenish Gray, Non-Plastic, SILT (ML/A-4) with Sand, Strong HCl Reaction, 10Y7/1		40.3	SS-10	8	10	24		34
		@SS-10: LL=NP, PL=NP, PI=NP, NMC=30.2%, %200=80.2								
32.6				45.3	SS-11	20	27	50/1.5"		77+
27.6				50.3	SS-12	10	10	33		43
22.6	55.3	Very Dense, Moist, Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5Y6/1		55.3	SS-13	10	15	50/1"		100+
		@SS-13: LL=NP, PL=NP, PI=NP, NMC=26.5%, %200=49.0								
17.6	60.3	Very Dense, Moist to Wet, Gray, Non-Plastic, Poorly Graded GRAVEL (GP-GM/A-1-b) with Silt & Sand, Vuggy, 5Y6/1		60.3	SS-14	50/3.5"				100+

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-50
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5174+43	**Offset:**	87.5-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.51818967	**Longitude:**	-80.43530402	**Date Started:**	2/27/2023
Total Depth:	106.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
12.6	65.3	**UNDIFFERENTIATED EOCENE** Dense, Moist to Wet, Dark Greenish Gray/Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), Glauconitic, Weak HCl Reaction, 5G4/1 & 2.5Y6/1 @SS-15: LL=NP, PL=NP, PI=NP, NMC=29.0%, %200=22.8	65.3	SS-15	12	16	21		37
7.6	70.3	Very Dense, Wet, Light Greenish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, 10Y7/1	70.3	SS-16	20	29	36		65
2.6	75.3	Medium Dense, Wet, Greenish Black, Low Plasticity Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), Strong HCl Reaction, 10Y2.5/1	75.3	SS-17	7	12	12		24
-2.4	80.3	**WILLIAMSBURG FORMATION (PALEOCENE)** Hard to Very Stiff, Moist to Wet, Very Dark Gray, High Plasticity, Elastic SILT (MH/A-7-5), Laminated & Micaceous, No HCl Reaction, 5Y3/1 @SS-18: LL=75, PL=38, PI=37, NMC=58.5%, %200=93.8	80.3	SS-18	13	17	21		38
-7.4		@SS-19: Moist, Lithified	85.3	SS-19	50/3"				100+
-12.4		@SS-20: Black, Micaceous, Laminated, with Fine Sand Seams, Weak HCl Reaction, 5Y2.5/2	90.3	SS-20	11	17	27		44
-17.4			95.3						

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

Continued Next Page

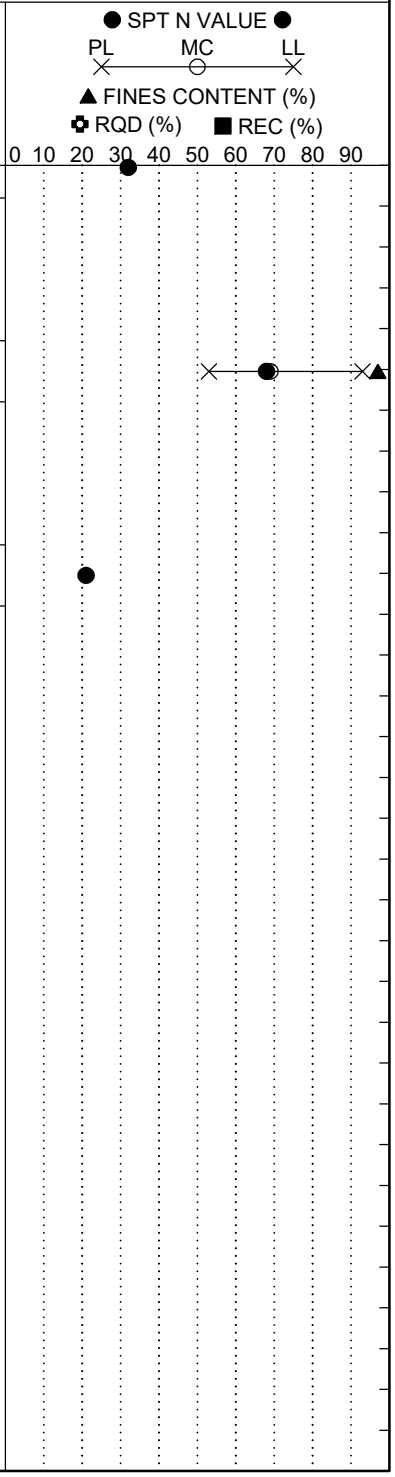
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-50
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	R. Wessinger	**Boring Location:**	5174+43	**Offset:**	87.5-L	**Alignment:**	I-95 Med. CL
Elev.:	77.6 ft	**Latitude:**	33.51818967	**Longitude:**	-80.43530402	**Date Started:**	2/27/2023
Total Depth:	106.8 ft	**Soil Depth:**	100 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME45B	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	81%
Core Size:	N/A	**Driller:**	D. Harris	**Groundwater:**	**TOB** 3.5 ft	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
					SS-21	11	13	19		32
-22.4		@SS-22: Very Dark Gray, Weak HCl Reaction, 5Y3/1, LL=93, PL=53, PI=40, NMC=69.3%, %200=97.3		100.3	SS-22	17	35	33		68
-27.4		@SS-23: Weak HCl Reaction		105.3	SS-23	5	10	11		21
	106.8	Boring Terminated at 106.8-ft. Below the Existing Barge Deck Surface. Boring Achieved Target Depth.								
-32.4										
-37.4										
-42.4										
-47.4										



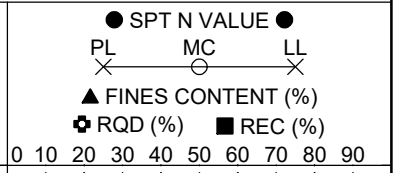
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-51
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**	5173+30	**Offset:**	3.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.5 ft	**Latitude:**	33.51858349	**Longitude:**	-80.43523122	**Date Started:**	2/7/2023
Total Depth:	71.1 ft	**Soil Depth:**	41.5 ft	**Core Depth:**	29.6 ft	**Date Completed:**	2/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** N/A	**24HR**	18.5(Cave@15)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	TOPSOIL (2.0-in.)		0.0	SS-1	5	5	6	7	11
		FILL Medium Dense to Loose, Moist, Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR4/3		2.0	SS-2	7	8	9	8	17
		@SS-2: Light Yellowish Brown, 2.5Y6/4		4.0	SS-3	5	6	8	10	14
84.5				6.0	SS-4	5	9	10	11	19
		@SS-10: LL=NP, PL=NP, PI=NP, NMC=18.2%, %200=3.9		8.0	SS-5	4	5	4	5	9
79.5										
		@SS-6: Light Olive Brown, (SP/A-1-b), 2.5Y5/4		13.5	SS-6	3	4	4		8
74.5		LL=NP, PL=NP, PI=NP, NMC=21.0%, %200=4.3								
		@SS-7: (SP/A-3)		18.5	SS-7	2	6	7		13
69.5		LL=NP, PL=NP, PI=NP, NMC=26.1%, %200=3.5								
	23.5	**ALLUVIUM (HOLOCENE)**		23.5	SS-8	4	5	6		11
64.5		Medium Dense, Moist, Bluish Gray, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), GLEY 2 6/10GB								
		@SS-8: LL=33, PL=17, PI=16, NMC=15.2%, %200=30.3								
	28.5			28.5	SS-9	6	9	11		20
59.5		Very Stiff, Moist, Dark Yellowish Brown, Medium Plasticity, Lean CLAY (CL/A-7-6), 2.5Y4/6								
		@SS-9: LL=46, PL=27, PI=19, NMC=24.7%, %200=89.6								



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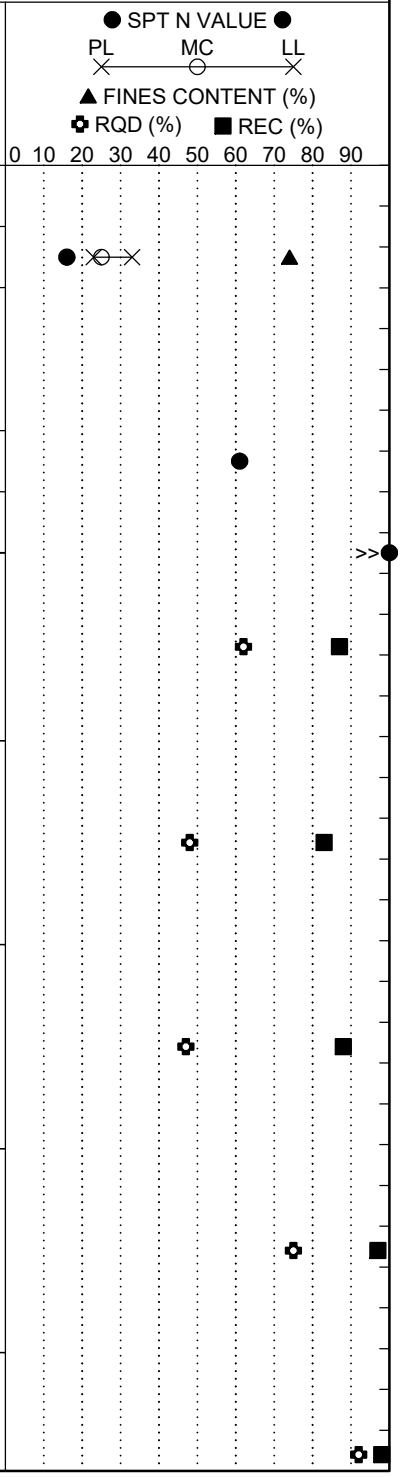
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-51
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**	5173+30	**Offset:**	3.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.5 ft	**Latitude:**	33.51858349	**Longitude:**	-80.43523122	**Date Started:**	2/7/2023
Total Depth:	71.1 ft	**Soil Depth:**	41.5 ft	**Core Depth:**	29.6 ft	**Date Completed:**	2/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** N/A	**24HR**	18.5(Cave@15)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	33.5		33.5						
54.5		Very Stiff, Moist, Bluish Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-4) with Sand, GLEY 2 6/10GB LL=33, PL=23, PI=10, NMC=25.2%, %200=74.4		SS-10	4	6	10		16
	38.8		38.5						
49.5		**SANTEE LIMESTONE (EOCENE)** Very Dense, Moist, Dark Bluish Gray, Non-Plastic, Fine to Coarse Poorly Graded SAND (SP/A-3), GLEY 2 4/5B		SS-11	17	41	20		61
	41.5		41.5	SS-12	50/3.5"				100+
44.5		Light Gray, Non-Plastic to Low Plasticity, Silty Medium to Coarse SAND (SM), 5Y 7/1, Strong HCl Reaction NQ-1: %REC=87, %RQD=62, qu=460 psi, 1.3 min/ft.	41.5	NQ-1					
		@NQ-2: %REC=83, %RQD=48, 1.6 min/ft.	46.1	NQ-2					
39.5		@NQ-3: %REC=88, %RQD=47, 1.8 min/ft.	51.1	NQ-3					
34.5		@NQ-4: %REC=97, %RQD=75, qu=580 psi, 1.4 min/ft.	56.1	NQ-4					
29.5		@NQ-5: %REC=98, %RQD=92, 1.8 min/ft.	61.1	NQ-5					



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-51
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**	5173+30	**Offset:**	3.4-R	**Alignment:**	I-95 Med. CL
Elev.:	89.5 ft	**Latitude:**	33.51858349	**Longitude:**	-80.43523122	**Date Started:**	2/7/2023
Total Depth:	71.1 ft	**Soil Depth:**	41.5 ft	**Core Depth:**	29.6 ft	**Date Completed:**	2/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	NQ	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** N/A	**24HR**	18.5(Cave@15)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
24.5		@NQ-6: %REC=88, %RQD=60, 3.6 min/ft.		66.1	NQ-6		
19.5	71.1	Boring Terminated at 71.1-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.					
14.5							
9.5							
4.5							
-0.5							
-5.5							

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

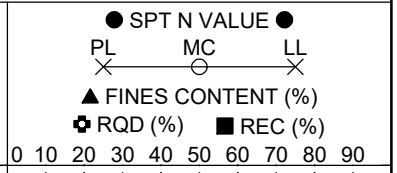
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**	5172+30	**Offset:**	0.3-R	**Alignment:**	I-95 Med. CL
Elev.:	88.1 ft	**Latitude:**	33.51876274	**Longitude:**	-80.4349819	**Date Started:**	2/6/2023
Total Depth:	39.3 ft	**Soil Depth:**	39.3 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** N/A	**24HR**	17.5(Cave@49)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	4	5	6	6	11
	0.1	ASPHALT (I-95) (1.0-in.)	2.0	SS-2	5	5	7	11	12
		FILL	4.0	SS-3	6	6	9	9	15
83.1		Medium Dense to Loose, Moist, Light Yellowish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-1-b) with Silt, No HCl Reaction, 2.5Y6/4	6.0	SS-4	3	5	5	6	10
		@SS-3: Light Olive Brown, 2.5Y5/4	8.0	SS-5	4	6	5	6	11
		@SS-5: Light Yellowish Brown, 2.5Y6/4 LL=NP, PL=NP, PI=NP, NMC=15.8%, %200=5.5							
78.1									
	13.0								
	13.5	**ALLUVIUM (HOLOCENE)**	13.5	SS-6	1	2	2		4
73.1		Medium Dense, Moist, Yellowish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 2.5Y6/4							
		Soft, Moist, Dark Greenish Gray, Low Plasticity, Silty CLAY (CL-ML/A-4) with Sand, No HCl Reaction, GLEY 1 5/5G/1							
	18.5	@SS-6: LL=21, PL=16, PI=5, NMC=40.6%, %200=71.8	18.5	SS-7	3	4	5		9
68.1		@13.8-ft.: Yellowish Brown, No HCl Reaction, 10YR5/6							
		Stiff, Moist, Bluish Gray, Medium Plasticity, Lean CLAY (CL/A-6)<<U> with Sand, No HCl Reaction, GLEY 2 6/10BG							
	23.5	@SS-7: LL=32, PL=18, PI=14, NMC=24.0%, %200=84.1	23.5	SS-8	2	4	4		8
63.1		Firm, Bluish Gray, Medium Plasticity, Lean CLAY (CL/A-6), GLEY 2 5/5B							
		LL=36, PL=24, PI=12, NMC=33.4%, %200=92.4							
	28.5		28.5	SS-9	WOH	2	3		5
58.1		Very Soft, Moist, Bluish Gray, Low Plasticity, Sandy Silty CLAY (CL-ML/A-4), No HCl Reaction, GLEY 2 5/5B							
		@SS-9: LL=28, PL=22, PI=6, NMC=27.3%, %200=53.9							



Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**	5172+30	**Offset:**	0.3-R	**Alignment:**	I-95 Med. CL
Elev.:	88.1 ft	**Latitude:**	33.51876274	**Longitude:**	-80.4349819	**Date Started:**	2/6/2023
Total Depth:	39.3 ft	**Soil Depth:**	39.3 ft	**Core Depth:**	N/A ft	**Date Completed:**	2/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** N/A	**24HR**	17.5(Cave@49)

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	33.5			33.5						
53.1		Medium Dense, Moist, Very Dark Bluish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), No HCl Reaction, GLEY 2 3/5B			SS-10	16	16	10		26
	38.5			38.5						
	39.3	**SANTEE LIMESTONE (EOCENE)**			SS-11	34	50/3.0"			100+
48.1		Very Dense, Moist, Very Dark Bluish Gray, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), Strong HCl Reaction, GLEY 2 3/5B								
		Boring Terminated at 39.3-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								
43.1										
38.1										
33.1										
28.1										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-1
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5319+04	**Offset:**	41.3-L	**Alignment:**	I-95 Med. CL
Elev.:	113.9 ft	**Latitude:**	33.4904845	**Longitude:**	-80.46898416	**Date Started:**	1/10/2023
Total Depth:	5 ft	**Soil Depth:**	5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (7.0-in.)								
	0.6	CONCRETE (8.0-in.)								
	1.3	**MARIETTA (PLIOCENE)** Medium Dense to Dense, Moist, Yellowish Red, Medium Plasticity, Fine to Medium Clayey SAND (SC/A-2-6), 5YR5/8 LL=28, PL=14, PI=14, NMC=14.2%, %200=28.0		1.3	SS-1	24	11	15		26
				3.0	SS-2	12	23	21	22	44
108.9	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

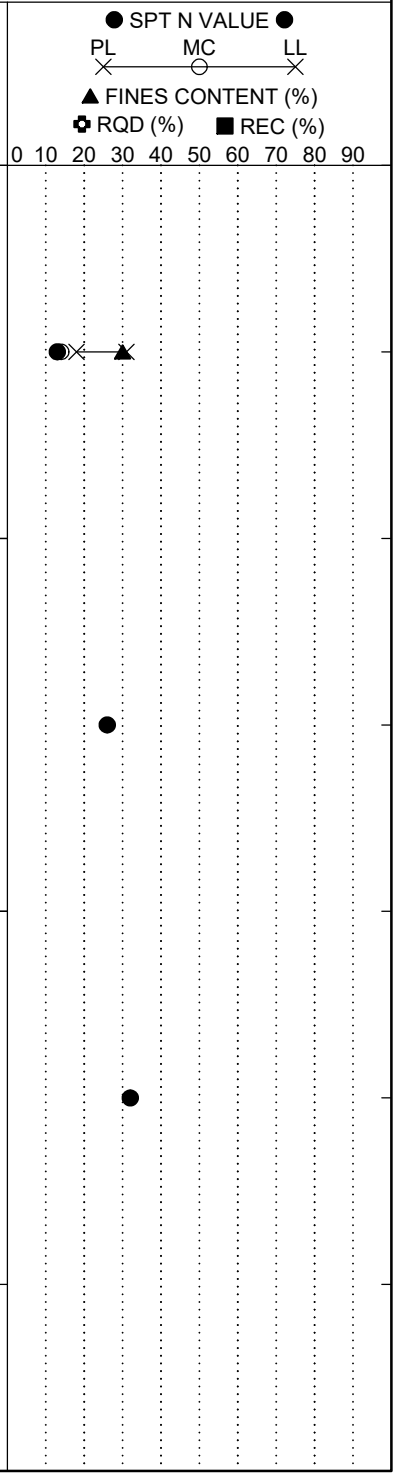
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5315+54	**Offset:**	24.1-L	**Alignment:**	I-95 Med. CL
Elev.:	114.9 ft	**Latitude:**	33.49135609	**Longitude:**	-80.46849899	**Date Started:**	1/10/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
		TOPSOIL (4.0-in.)		0.0						
	0.3	**MARIETTA (PLIOCENE)**								
		Medium Dense to Dense, Moist, Yellowish Red, Medium Plasticity, Clayey Fine to Medium SAND (SC//A-2-6), 5YR5/8			SS-1	2	3	10	14	13
		@SS-2: LL=31, PL=18, LL=13, NMC=14.7, %200=29.6		2.0	SS-2	10	15	11	14	26
		@SS-3: Red, 5YR4/8		4.0	SS-3	10	15	17	18	32
109.9										
	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



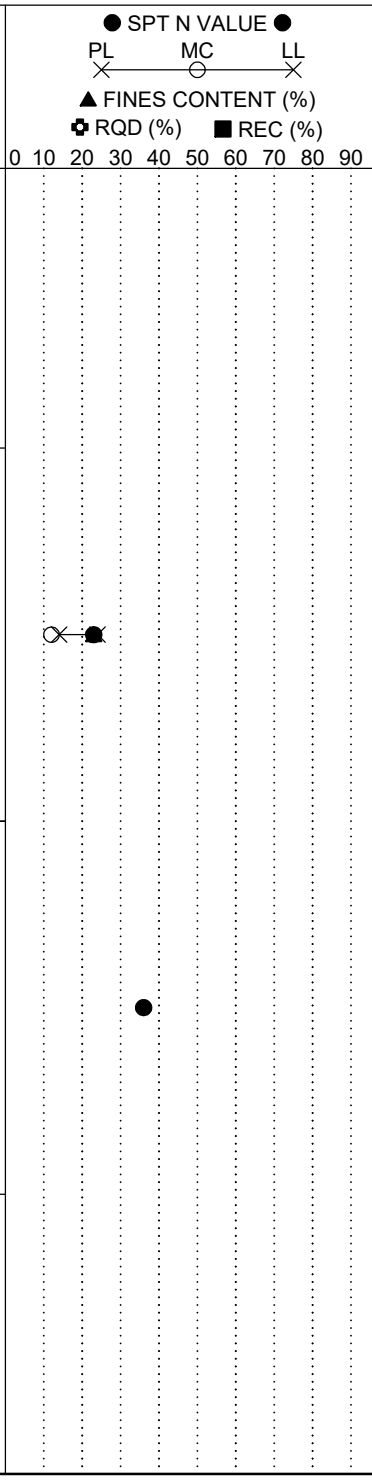
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5312+12	**Offset:**	36.5-R	**Alignment:**	I-95 Med. CL
Elev.:	115.4 ft	**Latitude:**	33.49225219	**Longitude:**	-80.46810781	**Date Started:**	1/12/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (7.0-in.)								
	0.6	CONCRETE (9.0-in.)								
	1.3	**MARIETTA (PLIOCENE)** Medium Dense to Dense, Moist, Light Red, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-4), 2.5YR6/8 LL=24, PL=14, PI=10, NMC=12.2, %200=22.8		1.5						
					SS-1	9	10	13	12	23
		@SS-2: Pale Red, 2.5YR7/1		3.5						
110.4					SS-2	9	14	22	40	36
	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-4
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5308+59	**Offset:**	27.6-R	**Alignment:**	I-95 Med. CL
Elev.:	112.6 ft	**Latitude:**	33.49306122	**Longitude:**	-80.46745939	**Date Started:**	1/12/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	TOPSOIL (9.0-in.)		0.0						
	0.8	**EXISTING FILL** Loose, Moist, Yellowish Red, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5YR5/8			SS-1	2	2	4	6	6
	2.0	**MARIETTA (PLIOCENE)** Medium Dense, Moist, High Plasticty, Clayey Fine to Medium SAND (SC/A-6), 5YR5/8 LL=39, PL=18, PI=21, NMC=17.1%, %200=37.2		2.0	SS-2	3	6	9	13	15
	4.0	Hard, Moist, Red/Gray, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6) with Sand, 2.5YR5/8 & 2.5YR8/1		4.0	SS-3	11	13	19	21	32
107.6	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

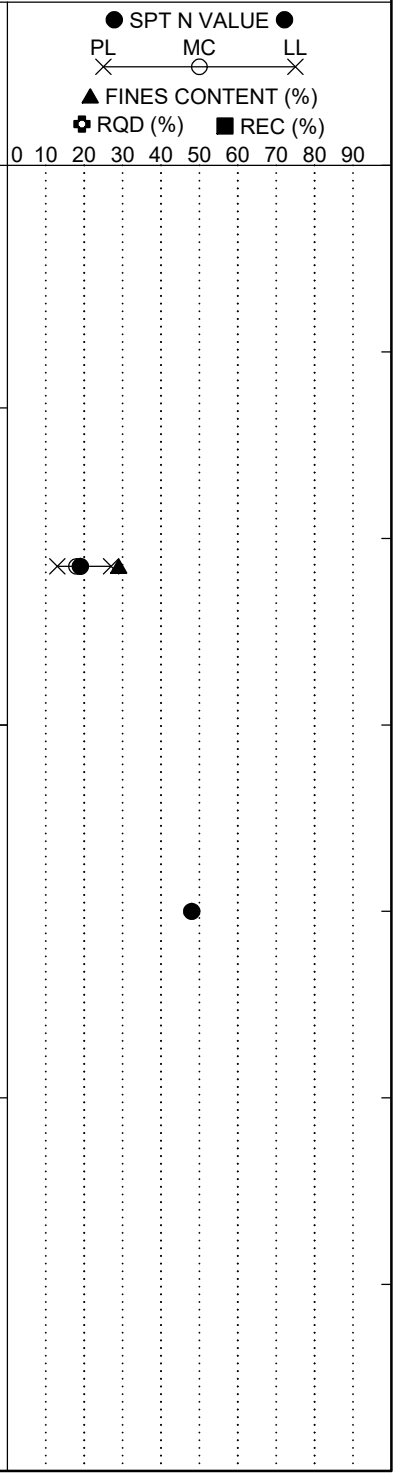
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-5
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5305+15	**Offset:**	38.9-L	**Alignment:**	I-95 Med. CL
Elev.:	110.6 ft	**Latitude:**	33.49373369	**Longitude:**	-80.46663653	**Date Started:**	1/10/2023
Total Depth:	5 ft	**Soil Depth:**	5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (7.0-in.)								
	0.6	CONCRETE (8.0-in.)								
	1.3	**MARIETTA (PLIOCENE)** Medium Dense, Wet, Reddish Brown/Red, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), 5YR5/4 & 2.5YR4/8 LL=27, PL=13, PI=14, NMC=17.9%, %200=29.1		1.3	SS-1	28	12	7		19
	3.0	Dense, Moist, Light Reddish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5YR6/4		3.0	SS-2	9	21	27	26	48
105.6	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-6
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5301+61	**Offset:**	26.0-L	**Alignment:**	I-95 Med. CL
Elev.:	108.5 ft	**Latitude:**	33.49452689	**Longitude:**	-80.46597334	**Date Started:**	1/10/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**EXISTING FILL** Medium Dense to Dense, Moist, Yellowish Red, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR5/8 LL=NP, PL=NP, PI=NP, NMC=10.5%, %200=20.2		0.0	SS-1	1	4	11	11	15
				2.0	SS-2	8	10	18	18	28
		@SS-3: Reddish Yellow, 7.5YR7/6		4.0	SS-3	15	20	15	20	35
103.5	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

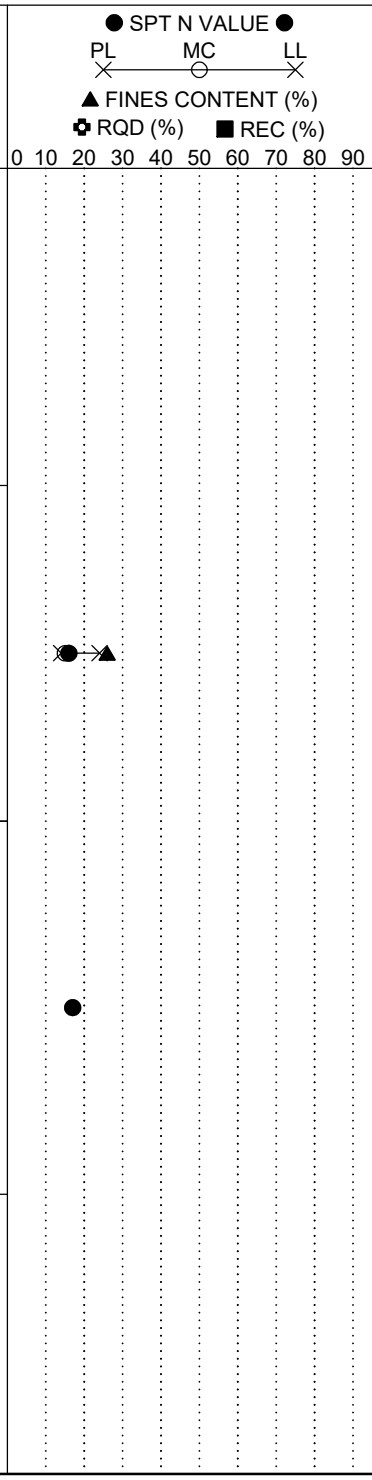
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-7
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5298+12	**Offset:**	37.9-R	**Alignment:**	I-95 Med. CL
Elev.:	107.8 ft	**Latitude:**	33.49537995	**Longitude:**	-80.46540701	**Date Started:**	1/12/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (5.5-in.)								
	0.5	CONCRETE (15.0-in.)								
	1.7	**MARIETTA (PLIOCENE)** Medium Dense, Wet, Yellowish Red, Low Plasticity, Clayey Fine to Medium SAND (SC/A-2-4), 5YR5/8 LL=24, PL=14, PI=10, NMC=14.6%, %200=25.5		1.7	SS-1	8	8	8	10	16
				3.5	SS-2	5	7	10	10	17
102.8	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



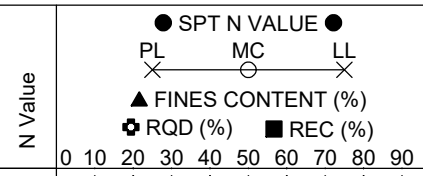
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-8
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5294+63	**Offset:**	28.1-R	**Alignment:**	I-95 Med. CL
Elev.:	105.4 ft	**Latitude:**	33.4960813	**Longitude:**	-80.46461598	**Date Started:**	1/12/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	TOPSOIL (8.0-in.)		0.0						
	0.6	**EXISTING FILL** Loose to Medium Dense, Moist, Yellowish Red, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR5/3 LL=NP, PL=NP, PI=NP, NMC=9.1%, %200=16.0			SS-1	2	3	5	10	8
				2.0	SS-2	5	6	7	7	13
				4.0						
100.4					SS-3	3	3	3	8	6
	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-9
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5291+17	**Offset:**	38.2-L	**Alignment:**	I-95 Med. CL
Elev.:	103.7 ft	**Latitude:**	33.496637	**Longitude:**	-80.46367089	**Date Started:**	1/10/2023
Total Depth:	5.3 ft	**Soil Depth:**	5.3 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (6.0-in.)								
	0.5	CONCRETE (9.0-in.)								
	1.3	**EXISTING FILL** Dense, to Medium Dense, Moist, Reddish Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/8 LL=NP, PL=NP, PI=NP, NMC=16.0%, %200=28.9		1.3	SS-1	17	21	12		33
		@SS-2: Wet		3.0	SS-2	5	8	11	15	19
98.7	5.3	Boring Terminated at 5.3-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

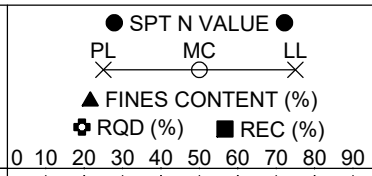
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-10
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5287+63	**Offset:**	25.7-L	**Alignment:**	I-95 Med. CL
Elev.:	101.7 ft	**Latitude:**	33.4973301	**Longitude:**	-80.46286036	**Date Started:**	1/10/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	TOPSOIL (6.0-in.)		0.0						
	0.5	**EXISTING FILL** @SS-1: NO RECOVERY			SS-1	4	7	10	11	17
	2.0	Medium Dense, Moist, Yellowish Red, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR5/8		2.0	SS-2	9	10	10	12	20
96.7		@SS-3: Pink, 5YR7/4, LL=NP, PL=NP, PI=NP, NMC=11.6%, %200=21.5		4.0	SS-3	8	6	6	8	12
	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-11
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5284+12	**Offset:**	38.4-R	**Alignment:**	I-95 Med. CL
Elev.:	100.7 ft	**Latitude:**	33.49811063	**Longitude:**	-80.46215271	**Date Started:**	1/12/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (6.0-in.)								
	0.5	CONCRETE (9.0-in.)								
	1.3	**EXISTING FILL** Dense to Medium Dense, Moist, Reddish Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR7/8 LL=NP, PL=NP, PI=NP, NMC=11.8%, %200=15.9		1.5						
					SS-1	22	23	20	21	43
				3.5						
					SS-2	10	10	17	22	27
95.7	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

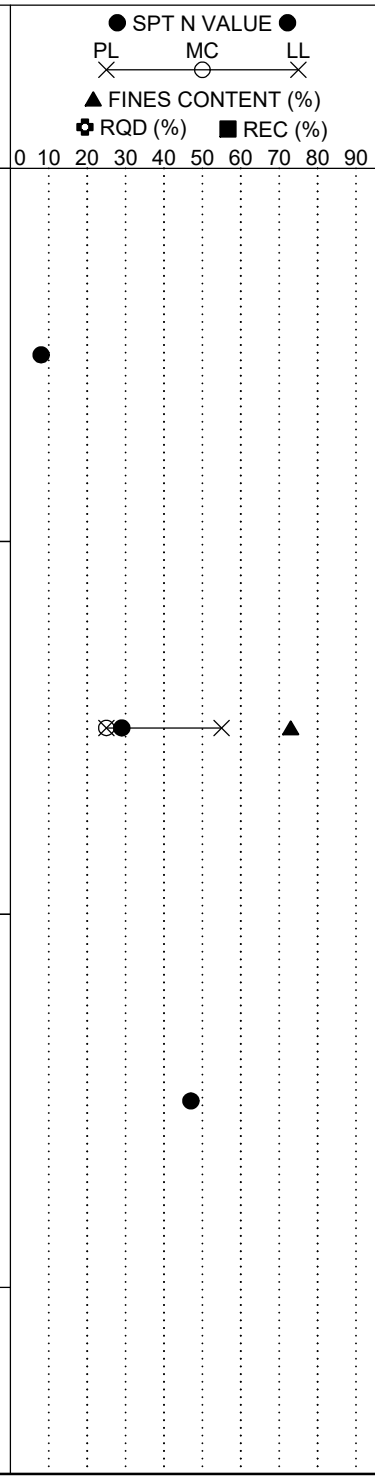
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-12
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5280+25	**Offset:**	28.2-R	**Alignment:**	I-95 Med. CL
Elev.:	98.1 ft	**Latitude:**	33.49880668	**Longitude:**	-80.46119426	**Date Started:**	1/12/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**MARIETTA (PLIOCENE)** Firm, Moist, Yellowish Red, High Plasticity, Fat CLAY (CH/A7-6) with Sand, 5YR5/6		0.0	SS-1	2	3	5	5	8
		@SS-2: Yellowish Red, 5YR5/8, LL=55, PL=25, PI=30, NMC=25.1%, %200=73.0		2.0	SS-2	5	12	17	23	29
	4.0	Hard, Moist, Yellowish Red/White, Low Plasticity to Medium Plasticity, Lean CLAY (CL/A-6), 5YR5/8 & 5YR8/1		4.0	SS-3	12	19	28	30	47
93.1										
	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



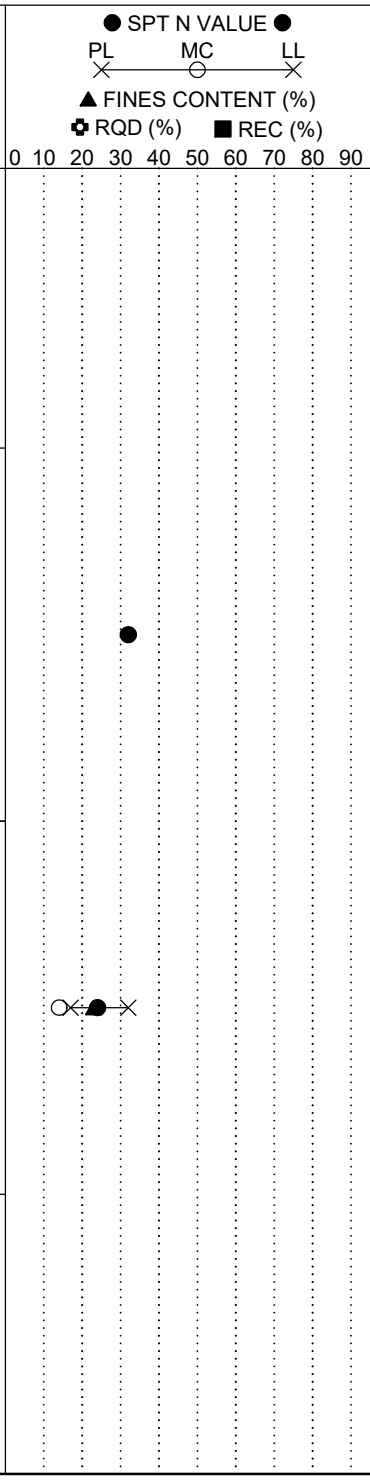
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-13
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5277+18	**Offset:**	38.2-L	**Alignment:**	I-95 Med. CL
Elev.:	99.4 ft	**Latitude:**	33.49924094	**Longitude:**	-80.46030402	**Date Started:**	1/10/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (6.0-in.)								
	0.5	CONCRETE (9.0-in.)								
	1.3	**EXISTING FILL** Dense, Moist, Brownish Yellow, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 10YR6/8		1.5	SS-1	20	16	16	15	32
	3.5	Medium Dense, Moist, Yellowish Red, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-6), 5YR5/8 LL=32, PL=17, PI=15, NMC=13.8%, %200=22.9		3.5	SS-2	11	12	12	20	24
94.4	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-14
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5273+65	**Offset:**	24.4-L	**Alignment:**	I-95 Med. CL
Elev.:	105.8 ft	**Latitude:**	33.49992478	**Longitude:**	-80.4594779	**Date Started:**	1/10/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	TOPSOIL (3.0-in.)		0.0						
		EXISTING FILL Medium Dense, Moist, Reddish Yellow, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/8 LL=NP, PL=NP, PI=NP, NMC=11.8%, %200=19.9			SS-1	4	5	7	7	12
	2.0	Medium Dense, Moist, Strong Brown, Non-Plastic to Low Plasticity, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 7.5YR5/8		2.0	SS-2	9	9	10	10	19
	4.0	Medium Dense, Moist, Strong Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 7.5YR5/8		4.0	SS-3	8	12	17	15	29
100.8	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-15
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5270+16	**Offset:**	37.0-R	**Alignment:**	I-95 Med. CL
Elev.:	117.0 ft	**Latitude:**	33.50069667	**Longitude:**	-80.45876781	**Date Started:**	1/12/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/12/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (3.0-in.)								
	0.3	CONCRETE (9.0-in.)								
	1.0	**EXISTING FILL** Wet, Light Reddish Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/4 @SS-1: Medium Dense, LL=NP, PL=NP, PI=NP, NMC=14.1%, %200=21.3		1.5	SS-1	3	5	6	9	11
		@SS-2: Moist		3.5	SS-2	3	4	16	16	20
112.0	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

SPT N VALUE ● PL × MC ○ LL × ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

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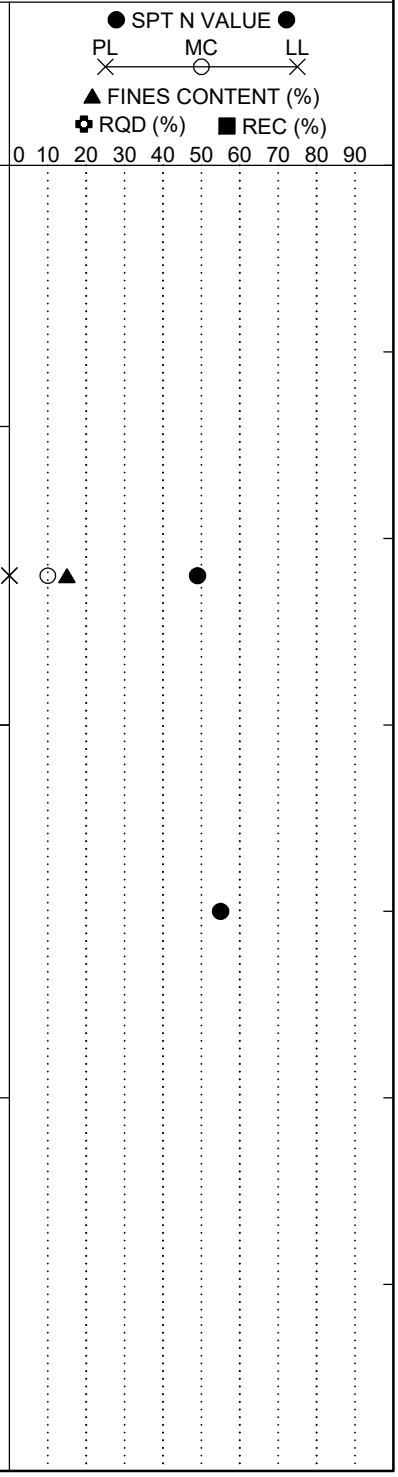
SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-16
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5206+04	**Offset:**	36.6-L	**Alignment:**	I-95 Med. CL
Elev.:	89.9 ft	**Latitude:**	33.51243464	**Longitude:**	-80.44307334	**Date Started:**	1/10/2023
Total Depth:	5 ft	**Soil Depth:**	5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/10/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (5.0-in.)								
	0.4	CONCRETE (12.0-in.)								
	1.4	**MARIETTA (PLIOCENE)** Dense to Very Dense, Moist, Light Reddish Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/4 LL=NP, PL=NP, PI=NP, NMC=9.7%, %200=15.1		1.4	SS-1	6	21	28		49
	3.0			3.0	SS-2	16	22	33	36	55
84.9	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-17
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5186+06	**Offset:**	37.9-R	**Alignment:**	I-95 Med. CL
Elev.:	90.0 ft	**Latitude:**	33.51628837	**Longitude:**	-80.43839905	**Date Started:**	1/11/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (5.0-in.)								
	0.4	CONCRETE (14.0-in.)								
	1.6	**EXISTING FILL** Dense to Very Dense, Moist, Pink, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 7.5YR7/4 LL=NP, PL=NP, PI=NP, NMC=8.0%, %200=14.6		1.6	SS-1	12	21	27	34	48
				3.5	SS-2	17	23	32	40	55
85.0	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

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SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-18
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5163+50	**Offset:**	37.8-R	**Alignment:**	I-95 Med. CL
Elev.:	89.5 ft	**Latitude:**	33.52047262	**Longitude:**	-80.43293871	**Date Started:**	1/11/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**EXISTING FILL** Loose to Medium Dense, Moist, Dark Reddish Gray, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR4/2 LL=NP, PL=NP, PI=NP, NMC=9.9%, %200=12.3		0.0	SS-1	2	1	4	6	5
		@SS-2.: Reddish Brown, 5YR5/4		2.0	SS-2	6	6	14	22	20
		@SS-3: Yellowish Red, 5YR5/6		4.0	SS-3	12	18	18	25	36
84.5	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-19
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5160+01	**Offset:**	29.8-R	**Alignment:**	I-95 Med. CL
Elev.:	89.3 ft	**Latitude:**	33.52112345	**Longitude:**	-80.43209788	**Date Started:**	1/11/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	TOPSOIL (7.0-in.)		0.0						
	0.6	**EXISTING FILL** Very Loose to Medium Dense, Moist, Reddish Brown, Non-Plastic,Silty Fine to Medium SAND (SM/A-2-4), 5YR5/4 LL=NP, PL=NP, PI=NP, NMC=8.7%, %200=18.1			SS-1	1	2	2	2	4
				2.0	SS-2	5	7	14	15	21
	4.0	Dense, Moist, Light Reddish Brown, Non-Plastic, Fine to Medium Poorly Graded SAND (SP/A-3), 5YR6/4		4.0	SS-3	14	20	27	28	47
84.3										
	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

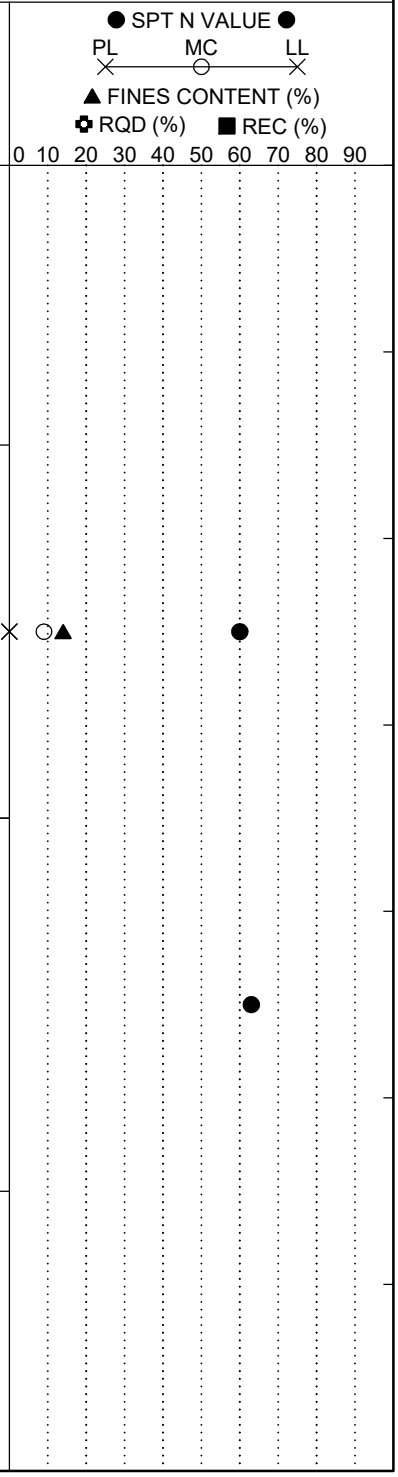
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 RBO LAKE MARION JFH PREP.GPJ SCDOT_DATATEMPLATE.GDT 3/19/24

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-20
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5156+54	**Offset:**	37.2-L	**Alignment:**	I-95 Med. CL
Elev.:	91.7 ft	**Latitude:**	33.52167391	**Longitude:**	-80.43114195	**Date Started:**	1/11/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (4.0-in.)								
	0.3	CONCRETE (12.0-in.)								
	1.4	**MARIETTA (PLIOCENE)** Very Dense, Wet, Dark Reddish Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 2.5YR3/4 LL=NP, PL=NP, PI=NP, NMC=9.1%, %200=14.0		1.5	SS-1	11	27	33	40	60
		@SS-2: Red, 2.5YR5/8		3.5	SS-2	13	26	37	40	63
86.7	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-21
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5152+99	**Offset:**	27.7-L	**Alignment:**	I-95 Med. CL
Elev.:	98.1 ft	**Latitude:**	33.52240398	**Longitude:**	-80.43036743	**Date Started:**	1/11/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (5.0-in.)								
	0.4	CONCRETE (14.0-in.)								
	1.6	**MARIETTA (PLIOCENE)** Dense, Moist, Yellowish Red, Non-Plastic, Silty Fine to Medium SAND (SM/A-1-b), 5YR5/6 LL=NP, PL=NP, PI=NP, NMC=10.3%, %200=16.2		1.6	SS-1	7	15	29	24	44
		@SS-2: Reddish Yellow, 5YR6/6		3.5	SS-2	17	22	23	26	45
93.1	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

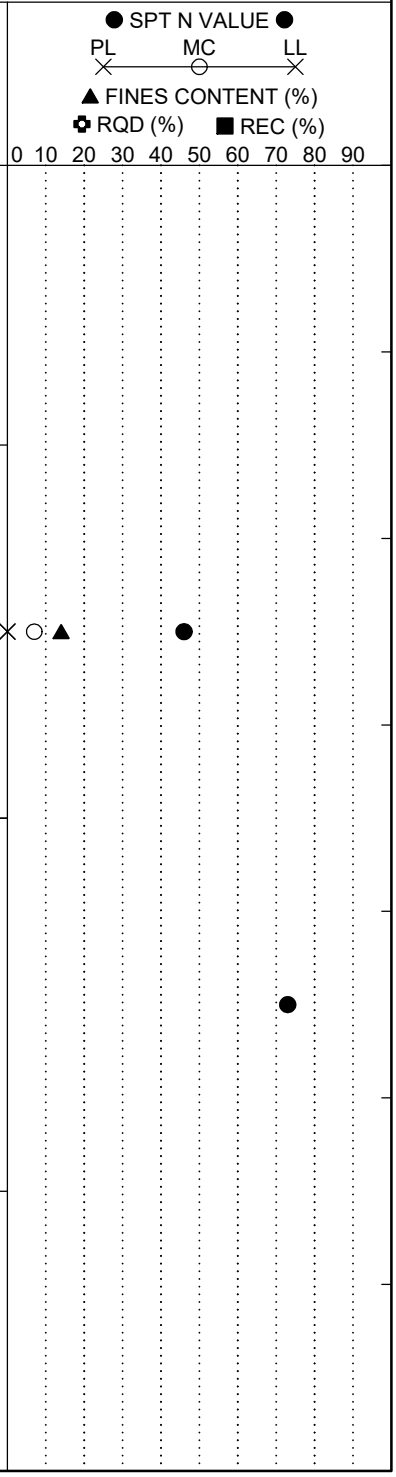
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-22
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5149+53	**Offset:**	36.6-R	**Alignment:**	I-95 Med. CL
Elev.:	107.2 ft	**Latitude:**	33.52323093	**Longitude:**	-80.42976897	**Date Started:**	1/11/2023
Total Depth:	5.5 ft	**Soil Depth:**	5.5 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	ASPHALT ROADWAY (I-95) (5.5-in.)								
	0.5	CONCRETE (12.5-in.)								
	1.5	**MARIETTA (PLIOCENE)** Dense to Very Dense, Moist, Light Reddish Brown, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR6/4 LL=NP, PL=NP, PI=NP, NMC=7.4%, %200=13.5		1.5	SS-1	7	20	26	34	46
		@SS-2: Reddish Yellow, 5YR6/6		3.5	SS-2	30	33	40	48	73
102.2	5.5	Boring Terminated at 5.5-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



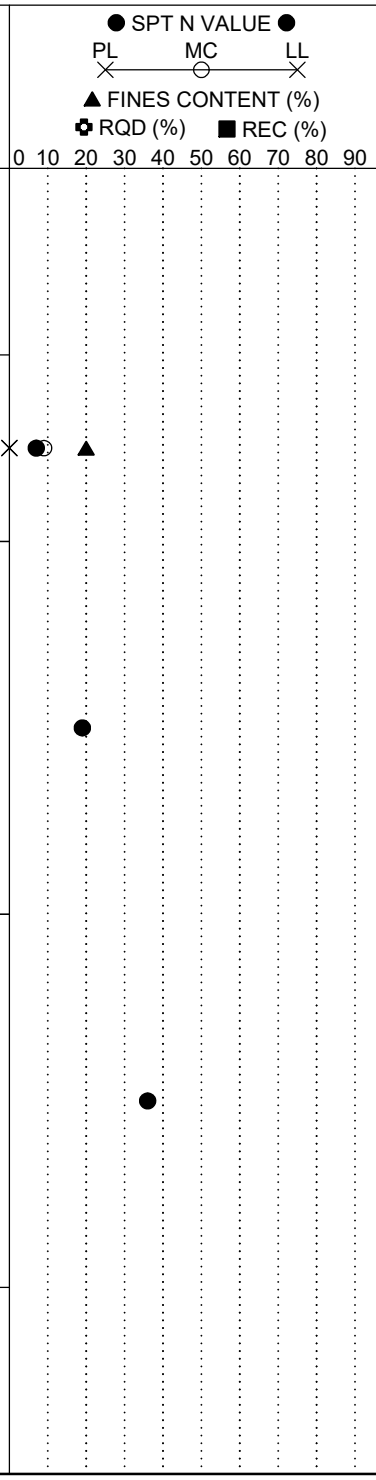
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-23
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5138+69	**Offset:**	11.0-L	**Alignment:**	I-95 Med. CL
Elev.:	104.1 ft	**Latitude:**	33.52546645	**Longitude:**	-80.42741469	**Date Started:**	1/11/2023
Total Depth:	6 ft	**Soil Depth:**	6 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	TOPSOIL (8.0-in.)								
	0.7	**EXISTING FILL** Loose to Medium Dense, Moist, Yellowish Red, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4), 5YR4/6 LL=NP, PL=NP, PI=NP, NMC=9.0%, %200=19.7		1.0	SS-1	3	3	4	6	7
		@SS-2: Reddish Brown, 5YR4/3		2.0	SS-2	6	8	11	16	19
		@SS-3: Dense		4.0	SS-3	10	15	21	24	36
99.1	6.0	Boring Terminated at 6.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



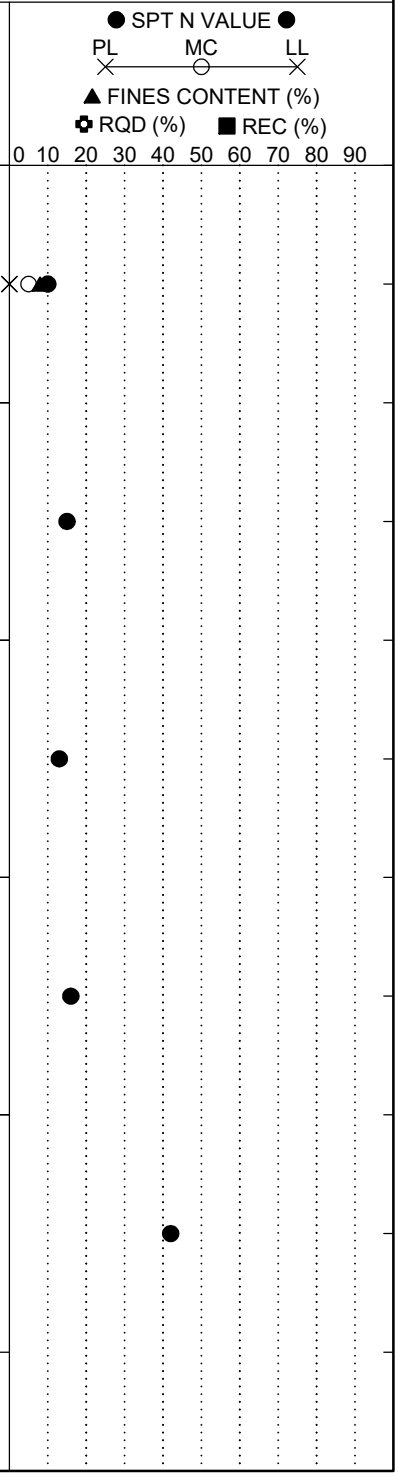
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	P-24
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	C. Thomas	**Boring Location:**	5163+06	**Offset:**	114.2-L	**Alignment:**	I-95 Med. CL
Elev.:	84.8 ft	**Latitude:**	33.52025373	**Longitude:**	-80.43248937	**Date Started:**	1/11/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	1/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	TOPSOIL (4.0-in.)		0.0						
		EXISTING FILL								
		Loose to Medium Dense, Moist, Pinkish White, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt, 5YR8/2			SS-1	1	4	6	7	10
		@SS-2: LL=NP, PL=NP, PI=NP, NMC=5.4, %200=8.1		2.0	SS-2	6	6	9	10	15
				4.0	SS-3	4	6	7	6	13
79.8		@SS-4: Wet, Reddish Yellow, 5YR6/6		6.0	SS-4	8	7	9	13	16
		@SS-5: Dense, Pink, 5YR7/4		8.0	SS-5	15	20	22	21	42
74.8	10.0	Boring Terminated at 10.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.								



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

SECTION 4B AUGER BORINGS LOGS

SCDOT Soil Test Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52U
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Eng./Geo.:	T. Peterson	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	88.1 ft	**Latitude:**	33.5187364	**Longitude:**	-80.43495348	**Date Started:**	6/29/2023
Total Depth:	16 ft	**Soil Depth:**	16 ft	**Core Depth:**	N/A ft	**Date Completed:**	6/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME 550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	78%
Core Size:	N/A	**Driller:**	R. Huffstetler	**Groundwater:**	**TOB** Not Encountered	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value
	0.0	Drilled to 14.0-ft.					
11.0							
6.0							
	14.0	Moist,Brownish Yellow, Non-Plastic, Poorly Graded Fine to Medium SAND (SP/A-3), 10YR6/6		14.0	ST-1		
1.0	15.8						
	16.0	Moist, Black, Non-Plastic to Low Plasticity, Silty Fine to Medium SAND (SM/A-3) with Trace of Gravel (Asphalt) & Organics (Roots), 10YR2/1					
		Boring Terminated at 16.0-ft. Below the Existing Ground surface.					

SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%)

0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT_DATATEMPLATE.GDT 9/14/23

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

SECTION 4C BULK SOIL SAMPLE LOGS

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-1
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	120.5 ft	**Latitude:**	33.50093878	**Longitude:**	-80.45839298	**Date Started:**	1/12/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	1/12/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Medium Plasticity, Clayey Fine to Medium SAND (SC/A-2-4) @BS-1: LL=26, PL=15, PI=11, NMC=14.9%, %200=24.0		0.0	BS-1			
115.5	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-2
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	90.5 ft	**Latitude:**	33.5093694	**Longitude:**	-80.44738363	**Date Started:**	6/29/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	6/29/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Non-Plastic, Silty Fine to Medium SAND (SM/A-2-4) @BS-2: LL=NP, PL=NP, PI=NP, NMC=5.5%, %200=30.3		0.0	BS-2			
85.5	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-3
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	89.5 ft	**Latitude:**	33.51785255	**Longitude:**	-80.43629182	**Date Started:**	2/7/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	2/7/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt @BS-3: LL=NP, PL=NP, PI=NP, NMC=7.7%, %200=6.7		0.0	BS-3			
84.5	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-4
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	90.3 ft	**Latitude:**	33.51864313	**Longitude:**	-80.43525628	**Date Started:**	2/7/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	2/7/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Non-Plastic, Fine to Medium Poorly Graded SAND (SP-SM/A-3) with Silt @BS-4: LL=NP, PL=NP, PI=NP, NMC=10.4%, %200=8.5		0.0	BS-4			
85.3	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-5
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	105.4 ft	**Latitude:**	33.49609347	**Longitude:**	-80.46460128	**Date Started:**	1/12/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	1/12/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Low Plasticity, Silty Clayey Fine to Medium SAND (SC-SM/A-2-4) @BS-5: LL=22, PL=17, PI=5, NMC=13.0%, %200=19.8		0.0	BS-5			
100.4	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

SCDOT Manual Auger Log

Project ID:	P041130			**County:**	Clarendon/Orangeburg	**Boring No.:**	BS-6
Site Description:	I-95 NB/SB over Lake Marion Bridge Replacement					**Route:**	I-95
Driller:	R. Huffstetler	**Boring Location:**		**Offset:**		**Alignment:**	Existing
Elev.:	89.3 ft	**Latitude:**	33.52111221	**Longitude:**	-80.43211311	**Date Started:**	1/12/2023
Total Depth:	5 ft	**Groundwater:**	**TOB** N/A	**24 hr**	N/A	**Date Completed:**	1/12/2023
Dynamic Cone Penetrometer Test Procedure:		ASTM D6951					

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 1-3/4" 2nd 1-3/4" 3rd 1-3/4"	DCP-Value	● DCP-VALUE ● PL MC LL ▲ FINES CONTENT (%) 0 10 20 30 40 50 60 70 80 90
	0.0	**EXISTING FILL** Moist, Non-Plastic, Fine to Medium Well-Graded SAND (SW-SM/A-1-b) with Silt @BS-6: LL=NP, PL=NP, PI=NP, NMC=6.3%, %200=10.6		0.0	BS-6			
84.3	5.0	Boring Terminated at 5.0-ft. Below the Existing Ground Surface. Boring Achieved Target Depth.						

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	DCP Dynamic Cone Penetrometer	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

MANUAL AUGER LOG G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 9/27/23

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

SECTION 4D ELECTRO-PIEZOCONE SOUNDING (CPT) LOGS

F&ME CONSULTANTS

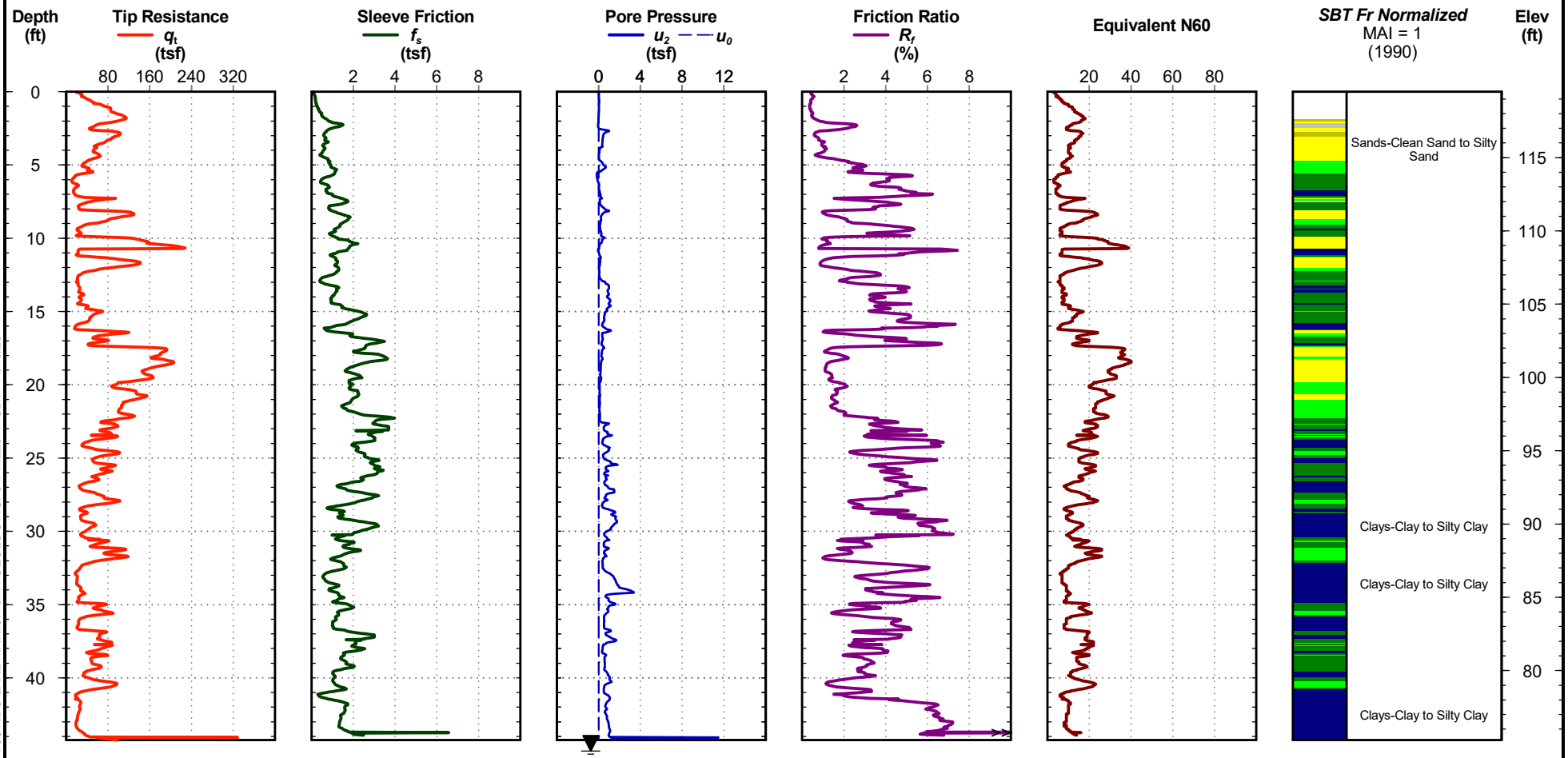
I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

CPT-1

Date: Jun. 8, 2023
Estimated Water Depth: 45 ft
Rig/Operator: An. Chandler

Station: 5268+52
Offset: 4.8-R
Elevation: 119.5 ft-MSL

Total Depth: 44.3 ft
Termination Criteria: Maximum Reaction Force
CPT Probe ID: DDG1330



CPT REPORT - STANDARD G6744 - I-95 RBO LAKE MARION JFH GEOLOGY.GPJ FME2017.GDT 11/10/23

CPT-1

Electronic File Name: I95 - RBO Lake Marion - CPT -1.cpt

Cone Penetration Test

I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)

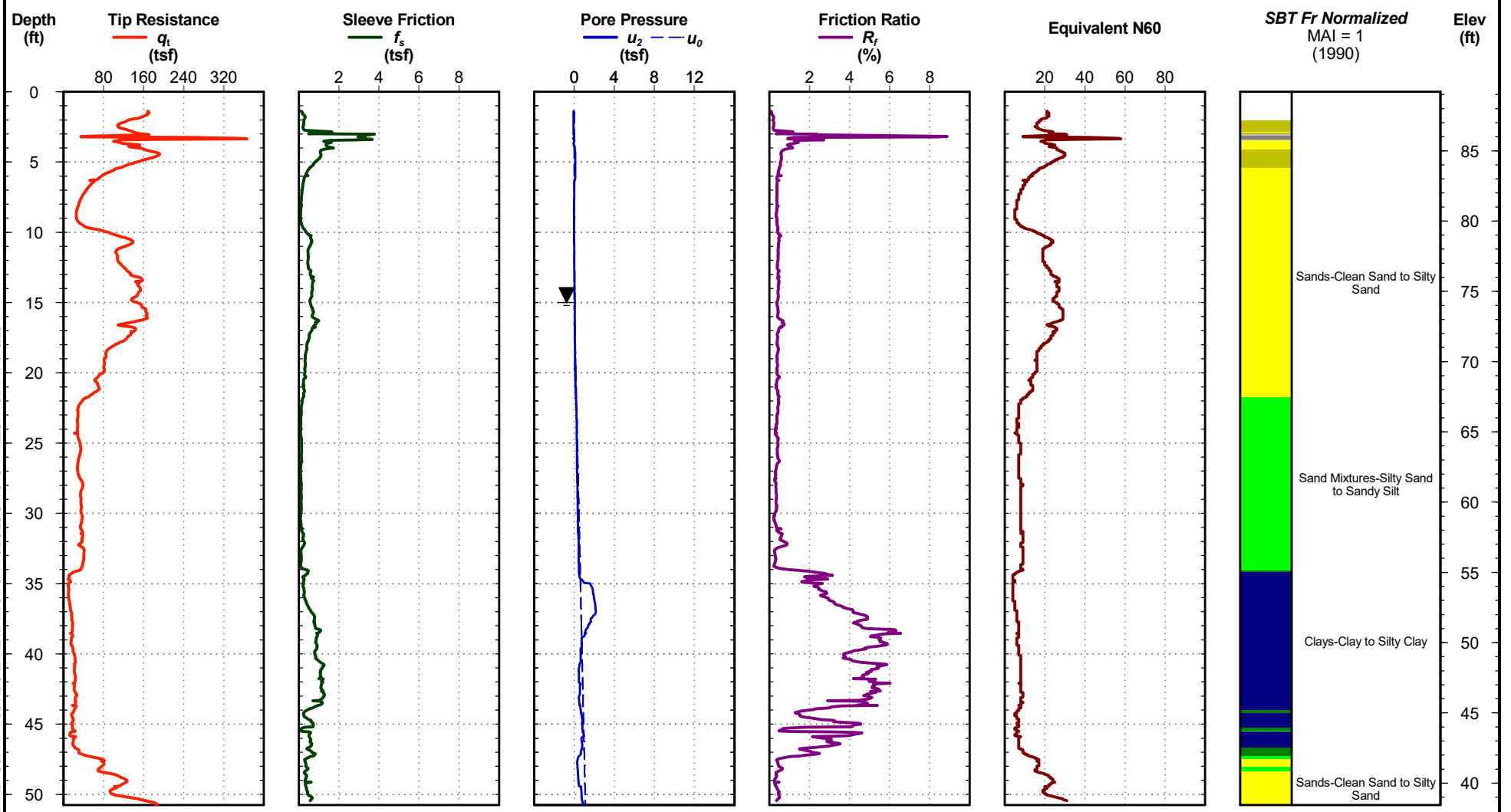
Project Number :P041130

CPT-2

Date: Jun. 8, 2023
Estimated Water Depth: 15 ft
Rig/Operator: An. Chandler

Station: 5223+26
Offset: 4.5-L
Elevation: 89.2 ft-MSL

Total Depth: 50.8 ft
Termination Criteria: Maximum Reaction Force
CPT Probe ID: DDG1330



CPT REPORT - STANDARD G6744 - I-95 RBO LAKE MARION JFH GEOLOGY.GPJ FME2017.GDT 11/10/23

CPT-2

Electronic File Name: I95 - RBO Lake Marion - CPT -2.cpt

F&ME CONSULTANTS

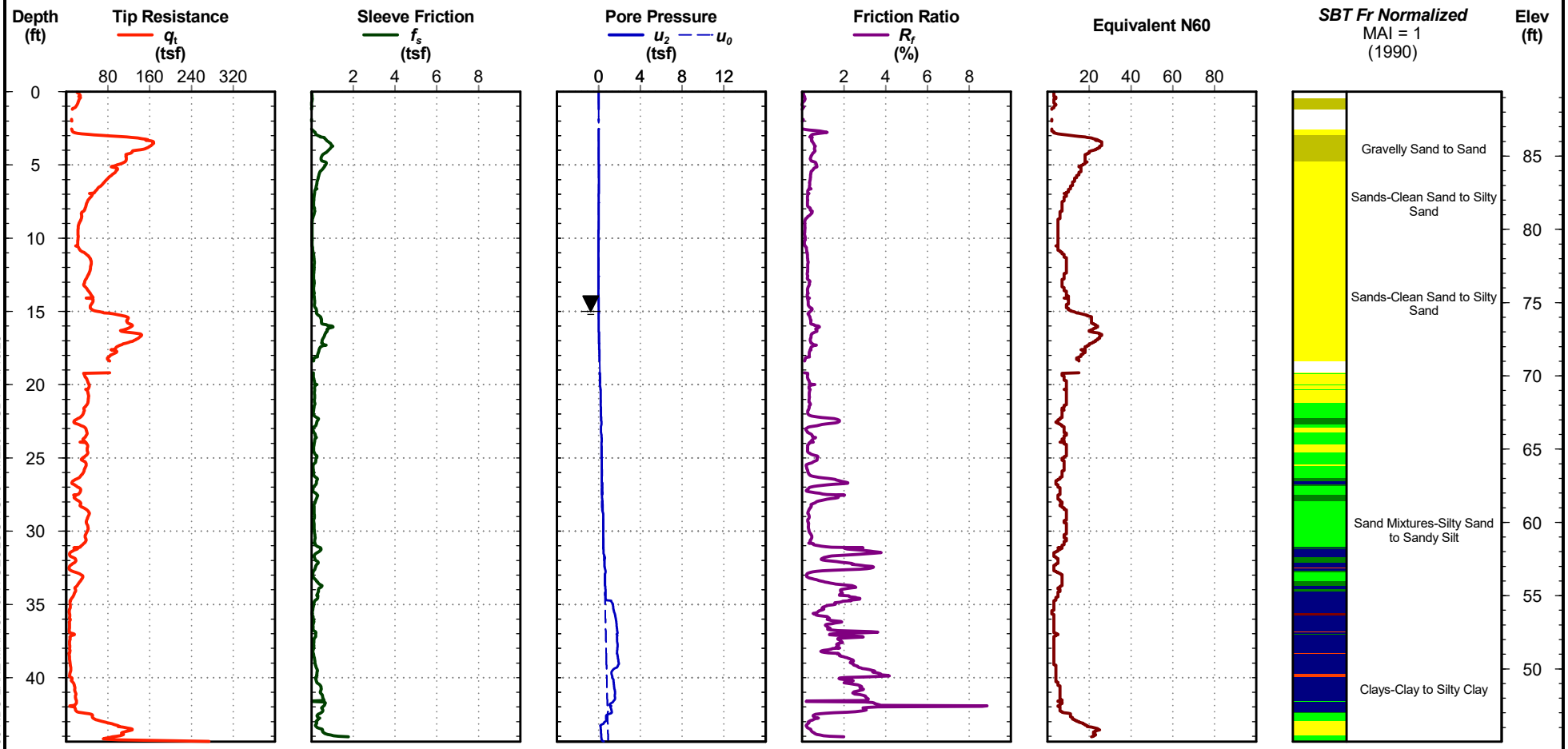
I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

CPT-3

Date: Jun. 9, 2023
Estimated Water Depth: 15 ft
Rig/Operator: An. Chandler

Station: 5177+08
Offset: 0.6-L
Elevation: 89.4 ft-MSL

Total Depth: 44.4 ft
Termination Criteria: Maximum Reaction Force
CPT Probe ID: DDG1330



CPT REPORT - STANDARD G6744 - I-95 RBO LAKE MARION JFH GEOLOGY.GPJ FME2017.GDT 11/10/23

CPT-3

Electronic File Name: I95 - RBO Lake Marion - CPT -3.cpt

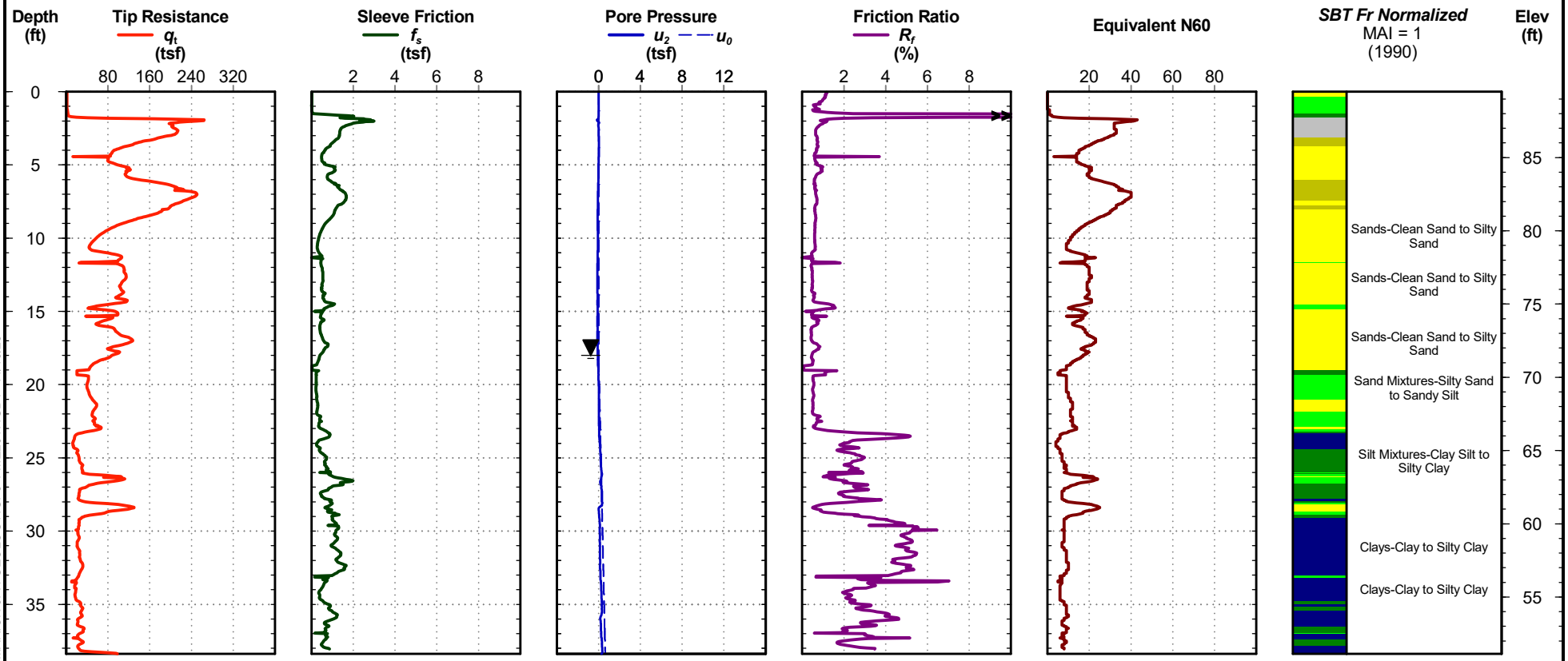
I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

CPT-4

Date: Jun. 9, 2023
Estimated Water Depth: 18 ft
Rig/Operator: An. Chandler

Station: 5173+29
Offset: 7.2-L
Elevation: 89.5 ft-MSL

Total Depth: 38.4 ft
Termination Criteria: Maximum Reaction Force
CPT Probe ID: DDG1330



CPT REPORT - STANDARD G6744 - I-95 RBO LAKE MARION JFH GEOLOGY.GPJ FME2017.GDT 11/10/23

CPT-4

Electronic File Name: I95 - RBO Lake Marion - CPT -4.cpt

APPENDIX

SECTION 4 SUBSURFACE EXPLORATION LOGS

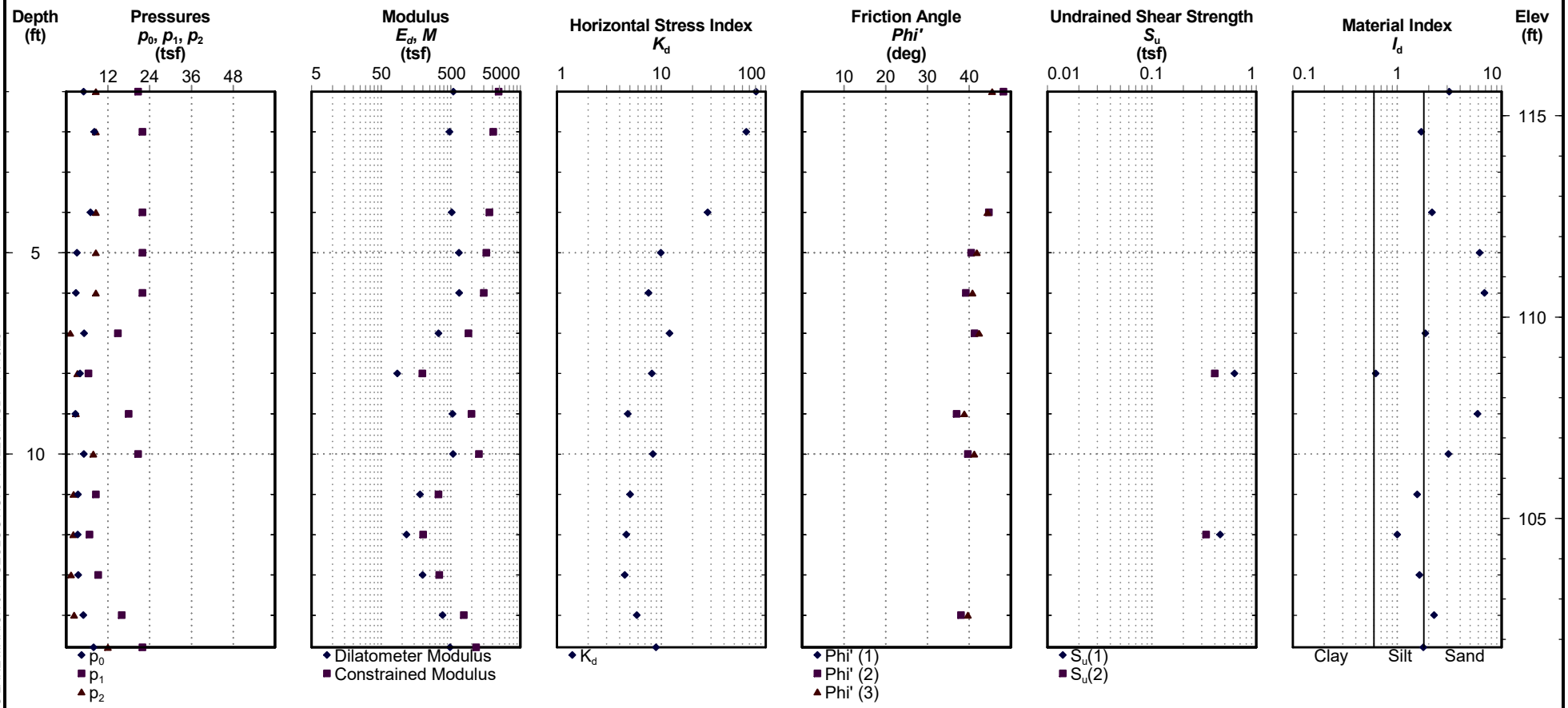
SECTION 4E DILATOMETER SOUNDING (DMT) LOGS

Dilatometer Test

DMT-1

I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

Date:	Jun. 8, 2023	**Station:**	5269+21	**Total Depth:**	14.8 ft
Estimated Water Depth:	24 ft	**Offset:**	7.0-R	**Termination Criteria:**	Maximum Reaction Force
Rig/Operator:	R. Wessinger	**Elevation:**	116.6 ft-MSL	**Membrane Type:**	H-25 Steel



DMT-1

I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

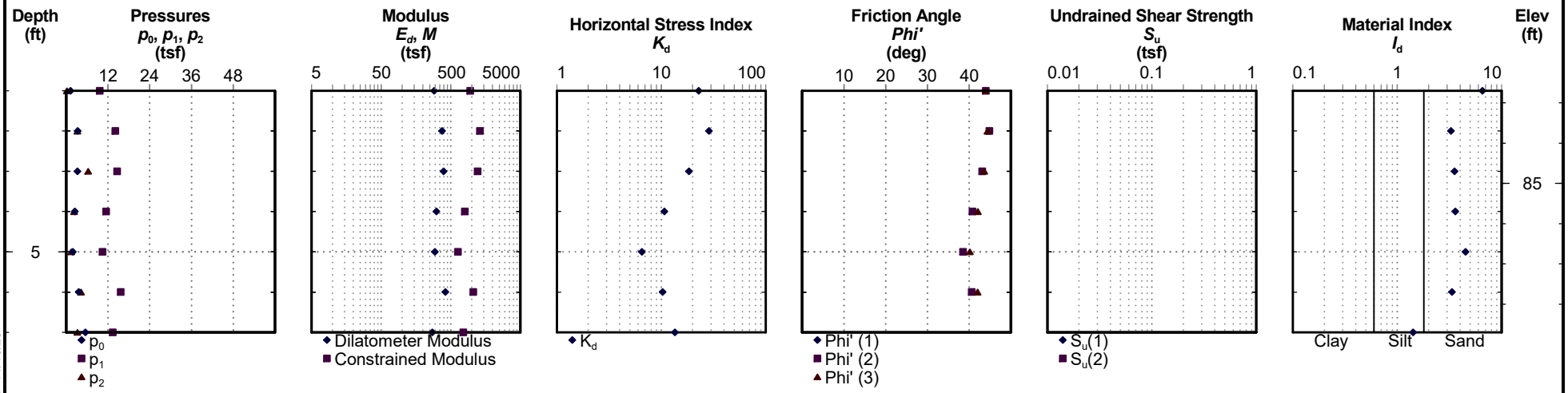
Dilatometer Test

DMT-2

Date: Jun. 8, 2023
Estimated Water Depth: 15 ft
Rig/Operator: R. Wessinger

Station: 5222+35
Offset: 4.1-R
Elevation: 88.3 ft-MSL

Total Depth: 7.0 ft
Termination Criteria: Maximum Reaction Force
Membrane Type: H-25 Steel



DMT-2

I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

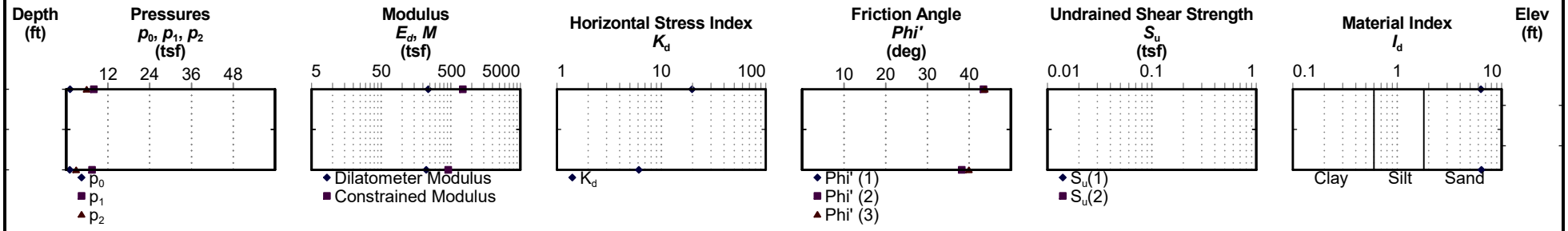
Dilatometer Test

DMT-3

Date: Jun. 29, 2023
Estimated Water Depth: 15 ft
Rig/Operator: R. Wessinger

Station: 5178+10
Offset: 14.5-R
Elevation: 88.4 ft-MSL

Total Depth: 3.0 ft
Termination Criteria: Maximum Reaction Force
Membrane Type: H-25 Steel



DMT-3

I-95 NB/SB over Lake Marion Bridge Replacement
Clarendon/Orangeburg County (South Carolina)
Project Number :P041130

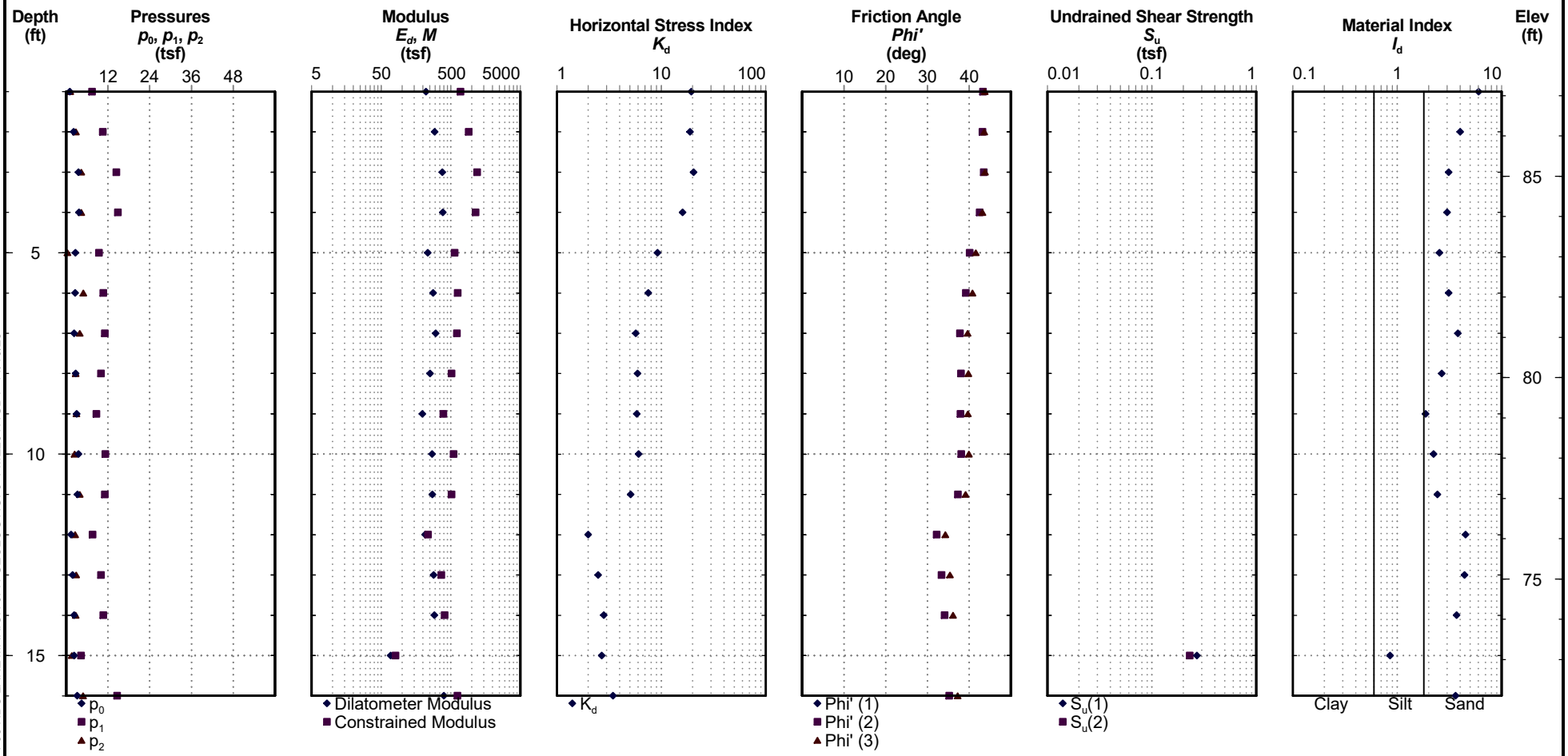
Dilatometer Test

DMT-4

Date: Jun. 29, 2023
Estimated Water Depth: 17 ft
Rig/Operator: R. Wessinger

Station: 5172+31
Offset: 3.3-R
Elevation: 88.1 ft-MSL

Total Depth: 16.0 ft
Termination Criteria: Maximum Reaction Force
Membrane Type: H-25 Steel



DMT-4

APPENDIX

SECTION 5 LABORATORY TEST RESULTS

APPENDIX

SECTION 5 LABORATORY TEST RESULTS

SECTION 5A SPLIT SPOON SAMPLES

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-1	10.0	36	18	18	4.76	19	SC	17.3			
B-1	20.0	34	22	12	9.51	25	SC	17.4			
B-1	25.0	61	29	32	19	26	SC	15.2			
B-1	30.0	46	25	21	9.51	57	CL	23.6			
B-1	35.0	60	25	35	9.51	71	CH	31.5			
B-1	50.0	31	22	9	9.51	16	SC	17.4			
B-1	60.0	NP	NP	NP	19	25	SM	29.0			
B-2	24.0	36	25	11	9.51	24	SM	16.5			
B-2	26.0	35	19	16	9.51	40	SC	17.7			
B-2	30.0	35	22	13	9.51	42	SC	19.6			
B-2	34.0	57	36	21	4.76	30	SM	16.7			
B-2	36.0	27	18	9	9.51	27	SC	15.6			
B-2	38.0	81	36	45	4.76	53	CH	22.3			
B-2	40.0	25	20	5	4.76	36	SC-SM	17.4			
B-2	42.0	38	17	21	9.51	48	SC	17.8			
B-2	44.0	52	29	23	4.76	30	SM	16.7			
B-2	46.0	48	25	23	4.76	41	SC	20.1			
B-2	48.0	46	23	23	9.51	47	SC	20.6			
B-2	50.0	NP	NP	NP	19	20	SM	16.9			
B-2	66.6	28	27	1	0.075	83	ML	5.7			
B-3	14.8	29	20	9	9.51	45	SC	32.1			
B-3	28.3	NP	NP	NP	19	37	SM	34.7			
B-3	32.3	25	24	1	9.51	57	ML	35.3			
B-3	40.3	29	28	1	19	56	ML	48.2			
B-3	52.3	NP	NP	NP	9.51	41	SM	28.6			
B-3	60.3	30	22	8	9.51	60	CL	30.7			
B-3	72.1	NP	NP	NP	9.51	41	SM	24.4			
B-3	84.3	73	21	52	9.51	87	CH	42.3			
B-3	93.8	83	36	47	4.76	92	CH	53.7			
B-3	108.8	108	45	63	4.76	98	MH	107.3			
B-4	21.5	NP	NP	NP	9.51	25	SM	18.6			
B-4	87.6	69	22	47	0.075	87	CH	52.6			
B-4	96.5	29	16	13	4.76	25	SC	28.0			
B-4	106.5	102	49	53	0.075	98	MH	66.3			
B-5	26.2	69	29	40	9.51	89	CH	55.6			
B-5	40.2	31	29	2	25	55	ML	38.6			
B-5	90.2	58	23	35	4.76	85	CH	57.5			
B-5	100.2	111	83	28	9.51	74	MH	68.6			
B-5	110.2	103	53	50	4.76	98	MH	66.7			
B-5	125.2	NP	NP	NP	9.51	45	SM	44.4			
B-5	145.2	97	41	56	4.76	98	MH	54.0			
B-6	30.7	29	18	11	4.76	53	CL	38.6			
B-6	85.7	NP	NP	NP	9.51	54	ML	24.1			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-6	90.7	37	20	17	4.76	23	SC	30.1			
B-6	100.7	120	54	66	0.075	83	MH	73.3			
B-6	105.7	90	49	41	0.075	93	MH	74.4			
B-7	27.3	39	22	17	4.76	93	CL	32.0			
B-7	39.3	34	31	3	9.51	70	ML	33.8			
B-7	47.7	25	24	1	9.51	46	SM	26.6			
B-7	59.3	31	28	3	9.51	54	ML	30.4			
B-7	67.8	25	21	4	19	42	SC-SM	24.0			
B-7	71.7	25	23	2	19	30	SM	24.6			
B-7	79.8	53	21	32	4.76	90	CH	45.3			
B-7	84.3	30	21	9	9.51	27	SC	25.7			
B-7	94.3	109	49	60	4.76	95	MH	80.8			
B-7	109.2	102	61	41	2	95	MH	68.2			
B-8	25.2	43	30	13	4.76	94	ML	39.7			
B-8	86.2	NP	NP	NP	9.51	25	SM	25.6			
B-8	106.2	101	67	34	9.51	87	MH	76.1			
B-8	131.2	NP	NP	NP	25	19	SM	24.1			
B-8	145.6	NP	NP	NP	9.51	13	SM	35.4			
B-8	161.2	68	25	43	9.51	76	CH	52.6			
B-9	87.7	NP	NP	NP	9.51	22	SM	35.8			
B-9	93.9	102	49	53	9.51	65	MH	74.1			
B-9	108.9	97	63	34	4.76	96	MH	76.2			
B-9	123.9	NP	NP	NP	19	22	SM	24.6			
B-9	148.9	NP	NP	NP	4.76	9	SP-SM	28.5			
B-9	153.9	106	52	54	4.76	91	MH	56.5			
B-9	163.9	NP	NP	NP	9.51	31	SM	47.9			
B-9	173.9	NP	NP	NP	9.51	6	SP-SM	25.5			
B-10	45.1	NP	NP	NP	2	72	ML	26.4			
B-10	84.1	33	22	11	4.76	14	SC	24.0			
B-10	94.1	83	48	35	2	95	MH	137.7			
B-10	109.1	106	54	52	4.76	80	MH	70.1			
B-10	134.1	NP	NP	NP	9.51	18	SM	48.8			
B-10	154.1	NP	NP	NP	4.76	12	SP-SM	31.8			
B-10	169.1	NP	NP	NP	9.51	18	SM	27.7			
B-10	184.1	35	21	14	4.76	25	SC	19.4			
B-11	38.9	NP	NP	NP	4.76	7	SP-SM	27.9			
B-11	92.9	95	51	44	4.76	84	MH	68.3			
B-11	112.9	103	54	49	4.76	99	MH	73.6			
B-11	122.9	NP	NP	NP	19	20	SM	16.1			
B-11	137.9	NP	NP	NP	4.76	54	ML	47.0			
B-11	157.9	NP	NP	NP	19	32	SM	29.1			
B-11	177.9	NP	NP	NP	9.51	7	SP-SM	24.1			
B-12	37.3	NP	NP	NP	25	92	ML	94.5			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-12	86.3	30	22	8	9.51	31	SC	22.6			
B-12	96.3	102	60	42	0.075	98	MH	75.7			
B-12	106.3	98	62	36	0.075	92	MH	68.1			
B-12	121.3	NP	NP	NP	0.075	27	SM	25.4			
B-13	24.8	44	23	21	2	95	CL	43.2			
B-13	33.8	NP	NP	NP	4.76	35	SM	31.8			
B-13	44.2	NP	NP	NP	19	44	SM	25.4			
B-13	56.3	NP	NP	NP	9.51	49	SM	37.6			
B-13	64.3	NP	NP	NP	25	38	SM	26.8			
B-13	80.3	48	30	18	4.76	45	SM	29.4			
B-13	88.8	86	50	36	4.76	91	MH	74.0			
B-13	103.8	96	39	57	19	90	CH	73.6			
B-13	118.8	61	25	36	4.76	87	CH	65.0			
B-14	27.0	48	25	23	2	39	SC	45.7			
B-14	84.0	98	43	55	0.075	92	MH	68.4			
B-14	104.0	118	59	59	0.075	96	MH	75.2			
B-14	119.0	NP	NP	NP	19	17	SM	16.6			
B-15	26.3	45	24	21	9.51	96	CL	71.5			
B-15	41.9	NP	NP	NP	19	50	ML	38.3			
B-15	87.3	106	71	35	4.76	96	MH	82.0			
B-15	97.3	61	30	31	19	79	CH	64.1			
B-15	112.3	96	51	45	4.76	97	MH	72.3			
B-15	127.3	NP	NP	NP	9.51	21	SM	30.1			
B-15	136.5	NP	NP	NP	19	19	SM	24.4			
B-15	147.3	31	27	4	4.76	70	ML	60.3			
B-15	162.3	NP	NP	NP	4.76	32	SM	43.6			
B-16	29.3	41	22	19	25	90	CL	51.5			
B-16	41.3	NP	NP	NP	4.76	44	SM	26.7			
B-16	86.3	87	62	25	0.075	93	MH	69.2			
B-16	111.3	98	50	48	0.075	95	MH	65.3			
B-17	39.7	NP	NP	NP	4.76	2	SP	17.9			
B-17	48.6	26	22	4	19	52	ML	26.9			
B-17	56.9	NP	NP	NP	9.51	61	ML	32.4			
B-17	64.1	NP	NP	NP	19	38	SM	25.4			
B-17	79.7	44	23	21	4.76	69	CL	32.1			
B-17	89.7	94	62	32	9.51	89	MH	71.2			
B-17	109.1	89	56	33	9.51	82	MH	67.6			
B-18	28.7	NP	NP	NP	2	27	SM	30.3			
B-18	38.7	NP	NP	NP	4.76	4	SP	25.4			
B-18	78.7	40	23	17	4.76	45	SC	30.1			
B-18	98.7	96	56	40	0.075	78	MH	63.2			
B-18	108.7	97	52	45	0.075	98	MH	72.0			
B-19	29.5	NP	NP	NP	2	15	SM	28.6			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-19	41.5	NP	NP	NP	9.51	3	SP	22.2			
B-19	81.5	38	18	20	4.76	40	SC	27.4			
B-19	96.5	67	37	30	19	86	MH	74.4			
B-19	101.5	91	50	41	9.51	83	MH	81.1			
B-19	116.5	98	63	35	4.76	91	MH	65.5			
B-20	30.6	NP	NP	NP	2	48	SM	35.2			
B-20	40.6	NP	NP	NP	4.76	10	SW-SM	22.4			
B-20	80.6	NP	NP	NP	4.76	7	SP-SM	18.6			
B-20	90.6	53	26	27	0.075	76	CH	65.4			
B-20	105.6	63	40	23	0.075	68	MH	54.5			
B-21	26.3	35	23	12	4.76	82	CL	38.5			
B-21	42.1	NP	NP	NP	9.51	19	SM	20.1			
B-21	53.9	NP	NP	NP	19	55	ML	34.1			
B-21	62.7	NP	NP	NP	19	56	ML	34.6			
B-21	74.8	34	28	6	9.51	38	SM	32.3			
B-21	87.3	NP	NP	NP	4.76	22	SM	31.5			
B-21	97.3	70	49	21	9.51	79	MH	65.8			
B-21	106.6	NP	NP	NP	4.76	58	ML	55.7			
B-21	117.2	94	71	23	9.51	93	MH	66.6			
B-22	26.9				25	65	ML	75.6			
B-22	45.9	NP	NP	NP	4.76	62	ML	31.9			
B-22	80.9	NP	NP	NP	4.76	11	SP-SM	29.5			
B-22	100.9	NP	NP	NP	4.76	62	ML	45.2			
B-22	110.9	82	47	35	4.76	94	MH	57.1			
B-23	31.6	NP	NP	NP	4.76	46	SM	32.9			
B-23	41.6	NP	NP	NP	4.76	3	SP	23.2			
B-23	81.6	NP	NP	NP	9.51	11	SP-SM	24.1			
B-23	91.6	77	38	39	4.76	75	MH	68.9			
B-23	106.6	97	49	48	9.51	81	MH	64.3			
B-24	24.7	47	21	26	19	90	CL	44.0			
B-24	30.7	NP	NP	NP	9.51	26	SM	33.6			
B-24	35.7	NP	NP	NP	9.51	36	SM	39.0			
B-24	67.9	25	24	1	19	40	SM	26.7			
B-24	80.7	74	51	23	0.075	87	MH	40.4			
B-24	110.7	87	64	23	0.075	90	MH	70.3			
B-25	27.3	25	22	3	4.76	91	ML	56.7			
B-25	36.3	NP	NP	NP	4.76	39	SM	34.9			
B-25	46.3	NP	NP	NP	9.51	53	ML	38.5			
B-25	54.8	NP	NP	NP	4.76	56	ML	33.3			
B-25	62.2	NP	NP	NP	25	17	SM	21.6			
B-25	70.8	40	18	22	9.51	14	SC	23.2			
B-25	81.3	95	21	74	4.76	12	SC	24.4			
B-25	91.3	48	36	12	4.76	59	ML	51.9			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-26	25.4	36	19	17	25	65	CL	50.3			
B-26	37.4	NP	NP	NP	2	5	SP-SM	32.0			
B-26	72.4	34	21	13	9.51	12	SP-SC	22.7			
B-26	82.4	NP	NP	NP	4.76	11	SP-SM	23.4			
B-26	102.4	54	22	32	0.075	50	CH	50.6			
B-27	28.8	NP	NP	NP	2	34	SM	34.6			
B-27	35.8	NP	NP	NP	19	29	SM	33.8			
B-27	70.8	30	20	10	19	16	SC	21.9			
B-27	85.8	NP	NP	NP	9.51	51	ML	32.4			
B-27	100.8	69	37	32	9.51	80	MH	75.1			
B-28	22.7	32	26	6	2	70	ML	34.1			
B-28	26.7	NP	NP	NP	19	28	SM	37.3			
B-28	66.7	41	20	21	9.51	56	CL	33.0			
B-28	81.7	NP	NP	NP	4.76	9	SW-SM	24.5			
B-28	96.7	72	39	33	0.075	90	MH	71.5			
B-29	29.3	27	22	5	2	77	ML	53.4			
B-29	36.3				0.841	19	SM	28.6			
B-29	46.3	NP	NP	NP	25	46	SM	31.8			
B-29	50.8	NP	NP	NP	19	50	ML	27.0			
B-29	58.8	NP	NP	NP	19	43	SM	27.9			
B-29	70.8	29	21	8	19	39	SC	25.1			
B-29	81.3	NP	NP	NP	4.76	4	SP	21.0			
B-29	101.3	99	59	40	9.51	66	MH	72.5			
B-30	28.8	34	23	11	4.76	76	CL	37.0			
B-30	35.8	NP	NP	NP	4.76	11	SP-SM	33.9			
B-30	72.8	NP	NP	NP	4.76	31	SM	27.4			
B-30	87.8	29	21	8	4.76	52	CL	27.4			
B-30	102.8	73	43	30	0.075	72	MH	43.4			
B-30	117.8	NP	NP	NP	4.76	33	SM	44.1			
B-31	28.8	36	19	17	2	93	CL	32.7			
B-31	40.5	NP	NP	NP	19	15	SM	28.6			
B-31	85.8	NP	NP	NP	9.51	9	SW-SM	24.6			
B-31	100.8	28	24	4	9.51	8	SW-SM	21.5			
B-31	115.8	71	49	22	4.76	71	MH	58.2			
B-32	31.4	NP	NP	NP	4.76	47	SM	34.5			
B-32	41.4	NP	NP	NP	4.76	5	SP-SM	32.4			
B-32	46.4	NP	NP	NP	19	50	SM	32.4			
B-32	51.4	NP	NP	NP	19	51	ML	43.1			
B-32	86.4	NP	NP	NP	4.76	19	SM	20.9			
B-32	96.4	51	29	22	9.51	17	SM	23.9			
B-32	111.4	40	29	11	0.075	53	ML	44.7			
B-33	31.9	26	22	4	4.76	79	ML	67.6			
B-33	45.7	NP	NP	NP	19	45	SM	41.3			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-33	54.4	NP	NP	NP	9.51	56	ML	31.8			
B-33	69.7	NP	NP	NP	25	29	SM	26.3			
B-33	78.4	37	21	16	9.51	26	SC	24.2			
B-33	86.9	40	20	20	4.76	37	SC	28.9			
B-33	116.9	87	36	51	9.51	92	CH	60.5			
B-34	30.8	50	23	27	9.51	88	CH	70.5			
B-34	35.8	43	23	20	0.075	84	CL	66.7			
B-34	45.8	NP	NP	NP	0.075	66	ML	33.5			
B-34	60.8	NP	NP	NP	0.075	72	ML	46.0			
B-34	65.8	NP	NP	NP	0.075	44	SM	27.6			
B-34	95.8	92	40	52	0.075	96	MH	76.0			
B-34	110.8	74	44	30	0.075	96	MH	36.9			
B-35	29.1	42	27	15	2	92	ML	26.1			
B-35	67.6	NP	NP	NP	19	44	SM	23.7			
B-35	76.1	37	22	15	4.76	22	SC	20.9			
B-35	86.0	58	34	24	19	19	SM	25.4			
B-35	106.1	NP	NP	NP	4.76	36	SM	41.3			
B-36	24.9	39	16	23	4.76	86	CL	29.5			
B-36	31.9	NP	NP	NP	0.075	6	SP-SM	26.0			
B-36	36.9	NP	NP	NP	0.075	56	ML	30.4			
B-36	85.9	43	21	22	0.075	21	SC	28.5			
B-36	95.9	NP	NP	NP	0.075	21	SM	45.1			
B-37	27.1	36	20	16	2	94	CL	29.9			
B-37	46.1	NP	NP	NP	9.51	42	SM	25.5			
B-37	54.5	NP	NP	NP	9.51	48	SM	37.7			
B-37	66.4	NP	NP	NP	9.51	62	ML	35.4			
B-37	82.6	34	24	10	4.76	14	SM	24.8			
B-37	95.7	NP	NP	NP	9.51	12	SM	43.9			
B-37	106.1	NP	NP	NP	19	14	SM	25.6			
B-38	24.0	37	19	18	2	84	CL	29.3			
B-38	28.0	NP	NP	NP	4.76	44	SM	22.3			
B-38	40.0	NP	NP	NP	0.075	3	SP	20.1			
B-38	55.0	NP	NP	NP	0.075	34	SM	41.4			
B-38	89.6	NP	NP	NP	0.075	30	SM	41.5			
B-38	90.2	NP	NP	NP	0.075	19	SM	16.8			
B-38	115.0	95	47	48	0.075	63	MH	68.4			
B-39	35.5	NP	NP	NP	4.76	25	SM	23.7			
B-39	85.5	29	27	2	4.76	64	ML	31.6			
B-39	90.5	NP	NP	NP	19	11	SP-SM	27.4			
B-39	100.5	NP	NP	NP	9.51	11	SP-SM	23.1			
B-39	105.5	73	32	41	9.51	85	CH	56.5			
B-40	27.0	28	13	15	2	60	CL	18.1			
B-40	36.0	NP	NP	NP	0.075	3	SP	25.7			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-40	41.0	NP	NP	NP	0.075	3	SP	24.1			
B-40	80.7	NP	NP	NP	0.075	19	SM	24.0			
B-40	88.5	NP	NP	NP	0.075	1	SP	27.4			
B-40	108.5	69	35	34	0.075	61	MH	59.7			
B-41	32.7	28	16	12	4.76	22	SC	20.5			
B-41	47.7	NP	NP	NP	19	4	SW	14.9			
B-41	52.7	NP	NP	NP	9.51	52	ML	46.6			
B-41	56.5	NP	NP	NP	19	54	ML	27.7			
B-41	64.5	NP	NP	NP	9.51	47	SM	36.4			
B-41	68.6	27	22	5	9.51	43	SM	24.2			
B-41	80.7	26	23	3	9.51	15	SM	22.9			
B-41	87.7	NP	NP	NP	4.76	24	SM	37.1			
B-41	102.7	86	31	55	4.76	82	CH	54.8			
B-42	25.4	59	29	30	4.76	93	CH	30.0			
B-42	34.4	NP	NP	NP	0.075	22	SM	20.8			
B-42	44.4	NP	NP	NP	0.075	2	SP	17.0			
B-42	59.4	NP	NP	NP	0.075	47	SM	42.6			
B-42	72.7	NP	NP	NP	0.075	24	SM	26.6			
B-42	83.4	NP	NP	NP	0.075	30	SM	26.8			
B-42	100.4	76	58	18	0.075	59	MH	54.1			
B-42	102.9	NP	NP	NP	0.075	95	ML	32.2			
B-42	107.7	75	33	42	0.075	59	CH	36.2			
B-42	114.5	100	51	49	0.075	89	MH	40.4			
B-43	19.6	NP	NP	NP	25	5	SP	22.0			
B-43	26.6	40	22	18	2	90	CL	25.6			
B-43	36.6	NP	NP	NP	4.76	9	SP-SM	30.3			
B-43	91.6	80	41	39	0.075	85	MH	65.0			
B-43	100.9	86	55	31	0.075	89	MH	46.3			
B-43	101.3	79	54	25	0.075	30	SM	55.5			
B-43	103.8	81	50	31	0.075	99	MH	56.0			
B-43	104.1	77	50	27	0.075	43	SM	47.5			
B-43	111.0	90	45	45	0.075	89	MH	53.2			
B-43	112.0	106	67	39	0.075	48	SM	61.3			
B-44	15.0	NP	NP	NP	9.51	1	SP	16.7			
B-44	20.0	NP	NP	NP	4.76	6	SP-SM	23.3			
B-44	25.0	NP	NP	NP	9.51	3	SP	27.1			
B-44	30.0	NP	NP	NP	9.51	13	SM	25.8			
B-44	35.0	51	25	26	4.76	94	CH	34.4			
B-44	40.0	47	23	24	19	85	CL	32.0			
B-44	45.0	NP	NP	NP	4.76	8	SP-SM	25.8			
B-44	50.0	NP	NP	NP	19	4	SP	16.8			
B-44	55.0	NP	NP	NP	19	4	SP	14.0			
B-44	60.0	NP	NP	NP	19	5	SP-SM	20.9			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-45	20.0	NP	NP	NP	9.51	4	SP	19.0			
B-45	30.0	NP	NP	NP	9.51	8	SW-SM	21.7			
B-45	35.0	52	28	24	19	92	CH	43.0			
B-45	40.0	41	20	21	19	56	CL	22.6			
B-45	45.0	NP	NP	NP	19	52	ML	33.6			
B-46	10.0	NP	NP	NP	4.76	6	SP-SM	22.0			
B-46	15.0	NP	NP	NP	9.51	18	SM	18.8			
B-46	20.0	NP	NP	NP	9.51	3	SP	23.9			
B-46	25.0	NP	NP	NP	4.76	3	SP	28.0			
B-46	30.0	43	22	21			CL				
B-46	35.0	49	25	24	9.51	97	CL	49.7			
B-46	40.0	37	18	19	19	63	CL	32.9			
B-46	45.0	NP	NP	NP	19	70	ML	36.7			
B-47	18.0	NP	NP	NP	9.51	5	SP-SM	19.5			
B-47	20.0	NP	NP	NP	4.76	1	SP	21.5			
B-47	22.0	NP	NP	NP	4.76	4	SP	23.0			
B-47	24.0	NP	NP	NP	4.76	6	SP-SM	22.9			
B-47	26.0	NP	NP	NP	9.51	5	SP-SM	24.3			
B-47	28.0	NP	NP	NP	4.76	12	SM	23.6			
B-47	30.0	NP	NP	NP	4.76	11	SP-SM	27.5			
B-47	32.0	NP	NP	NP	19	58	ML	32.8			
B-47	34.0	NP	NP	NP	9.51	88	ML	45.5			
B-47	36.0	47	29	18	4.76	98	ML	53.4			
B-47	38.0	56	28	28	9.51	95	CH	51.9			
B-47	40.0	61	26	35	19	83	CH	34.5			
B-47	42.0				0.075	63	SP-SC				
B-48	16.7	NP	NP	NP	9.51	20	SM	23.3			
B-48	22.7	NP	NP	NP	0.075	41	SM	35.4			
B-48	27.7	33	15	18	0.075	65	CL	32.4			
B-48	76.4	NP	NP	NP	0.075	61	ML	39.3			
B-48	82.2	NP	NP	NP	0.075	38	SM	34.7			
B-48	97.2	92	49	43	0.075	99	MH	65.1			
B-49	28.4	32	17	15	4.76	73	CL	29.0			
B-49	33.4	NP	NP	NP	0.075	46	SM	27.8			
B-49	38.4	NP	NP	NP	0.075	59	ML	35.4			
B-49	48.4	NP	NP	NP	0.075	78	ML	40.2			
B-49	68.4	NP	NP	NP	0.075	19	SM	29.0			
B-49	73.4	NP	NP	NP	0.075	14	SM	28.2			
B-49	83.4	93	44	49	0.075	95	MH	57.2			
B-49	93.4	86	55	31	0.075	97	MH	65.0			
B-50	10.8	NP	NP	NP	0.075	2	SP	25.8			
B-50	16.8	NP	NP	NP	4.76	2	SP				
B-50	31.8	NP	NP	NP	0.075	40	SM	27.4			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-50	41.8	NP	NP	NP	0.075	80	ML	30.2			
B-50	56.8	NP	NP	NP	0.075	49	SM	26.5			
B-50	66.8	NP	NP	NP	0.075	23	SM	29.0			
B-50	81.8	75	38	37	0.075	94	MH	58.5			
B-50	101.8	93	53	40	0.075	97	MH	69.3			
B-51	10.0	NP	NP	NP	4.76	4	SP	18.2			
B-51	15.0	NP	NP	NP	4.76	4	SP	21.0			
B-51	20.0	NP	NP	NP	4.76	4	SP	26.1			
B-51	25.0	33	17	16	4.76	30	SC	15.2			
B-51	30.0	46	27	19	4.76	90	CL	24.7			
B-51	35.0	33	23	10	4.76	74	CL	25.1			
B-52	10.0	NP	NP	NP	9.51	5	SP-SM	15.8			
B-52	15.0	21	16	5	4.76	72	CL-ML	40.6			
B-52	20.0	32	18	14	4.76	84	CL	24.0			
B-52	25.0	36	24	12	2	92	CL	33.4			
B-52	30.0	28	22	6	2	54	CL-ML	27.3			
BS-1	5.0	26	15	11	19	24	SC	14.9	121.0		
BS-2	5.0	NP	NP	NP	19	30	SM	5.5	109.3		
BS-3	5.0	NP	NP	NP	9.51	7	SP-SM	7.7	104.4		
BS-4	5.0	NP	NP	NP	9.51	8	SP-SM	10.4	108.4		
BS-5	5.0	22	17	5	9.51	20	SC-SM	13.0	119.6		
BS-6	5.0	NP	NP	NP	19	11	SW-SM	6.3	110.8		
P-01	3.0	28	14	14	9.51	28	SC	14.2			
P-02	4.0	31	18	13	9.51	30	SC	13.7			
P-03	3.5	24	14	10	19	23	SC	12.2			
P-04	4.0	39	18	21	19	37	SC	17.1			
P-05	3.0	27	13	14	25	29	SC	17.9			
P-06	2.0	NP	NP	NP	9.51	20	SM	10.5			
P-07	3.5	24	14	10	9.51	26	SC	14.6			
P-08	2.0	NP	NP	NP	19	16	SM	9.1			
P-09	3.0	NP	NP	NP	9.51	29	SM	16.0			
P-10	6.0	NP	NP	NP	9.51	21	SM	11.6			
P-11	3.5	NP	NP	NP	4.76	16	SM	11.8			
P-12	4.0	55	25	30	4.76	73	CH	25.1			
P-13	5.5	32	17	15	9.51	23	SC	13.8			
P-14	2.0	NP	NP	NP	9.51	20	SM	11.8			
P-15	3.5	NP	NP	NP	9.51	21	SM	14.1			
P-16	3.0	NP	NP	NP	9.51	15	SM	9.7			
P-17	3.5	NP	NP	NP	9.51	15	SM	8.0			
P-18	3.5	NP	NP	NP	4.76	12	SM	9.9			
P-19	2.0	NP	NP	NP	19	18	SM	8.7			
P-20	3.5	NP	NP	NP	4.76	14	SM	9.1			
P-21	3.5	NP	NP	NP	25	16	SM	10.3			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
P-22	3.5	NP	NP	NP	4.76	14	SM	7.4			
P-23	2.0	NP	NP	NP	19	20	SM	9.0			
P-24	2.0	NP	NP	NP	9.51	8	SP-SM	5.4			

CORROSION SERIES SUMMARY

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Sample No.	Sample Depth (ft.)	pH of Soil in Distilled Water	Electrical Resistivity (Ω-cm)	Chloride Content (mg/kg (ppm))	Sulfate Content (mg/kg (ppm))
B-2	SS-9 & SS-10	16.0 – 20.0	5.5	69,092	17	55
B-44	SS-4 & SS-5	6.0 – 10.0	8.4	27,324	10	55
B-47	SS-4 & SS-5	6.0 – 10.0	9.2	15,272	9	55
B-51	SS-3 & SS-4	4.0 – 8.0	8.4	36,248	9	52

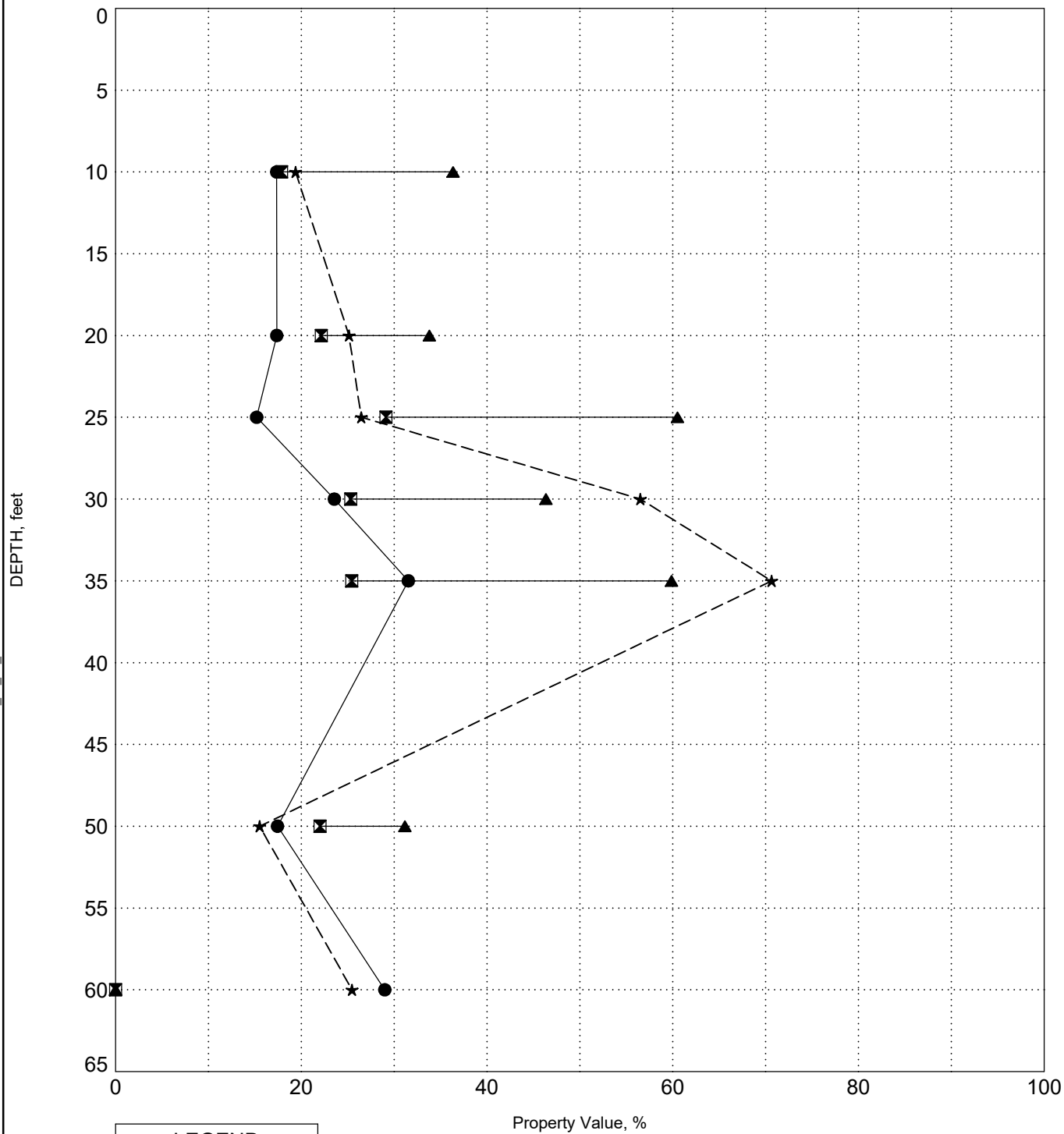
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-1

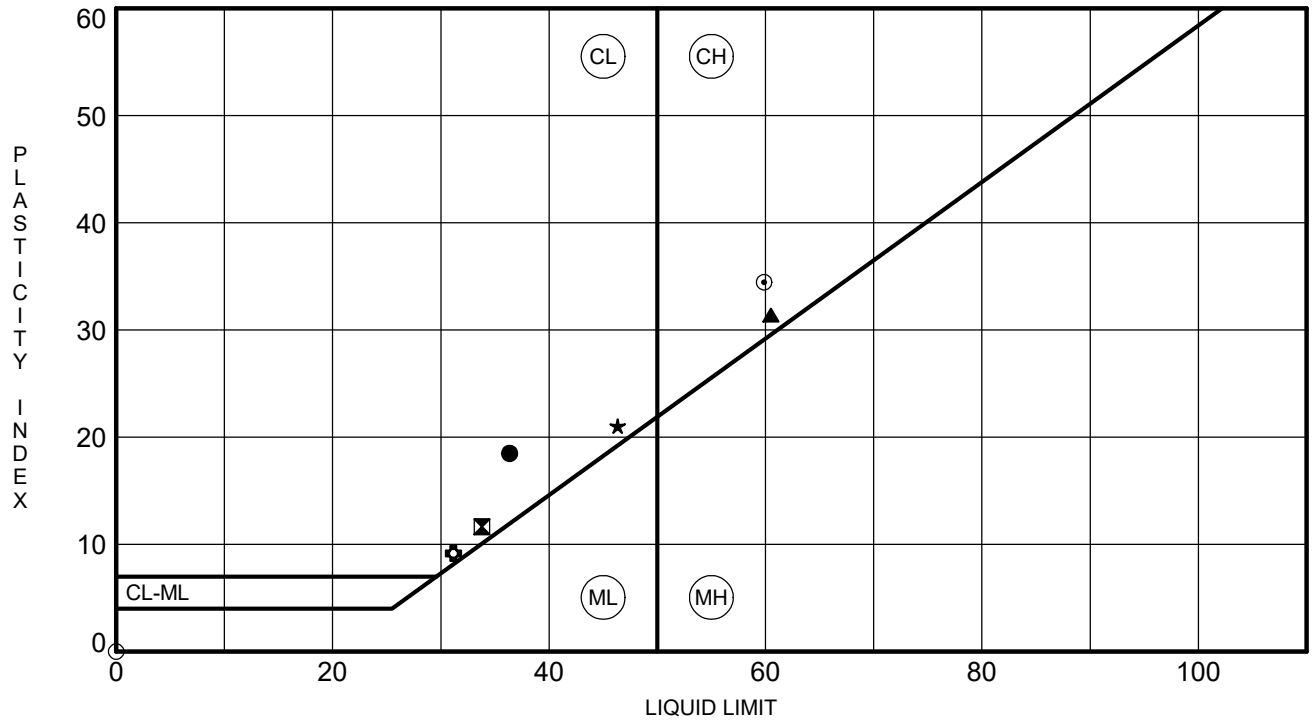
SURFACE ELEVATION: 116.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



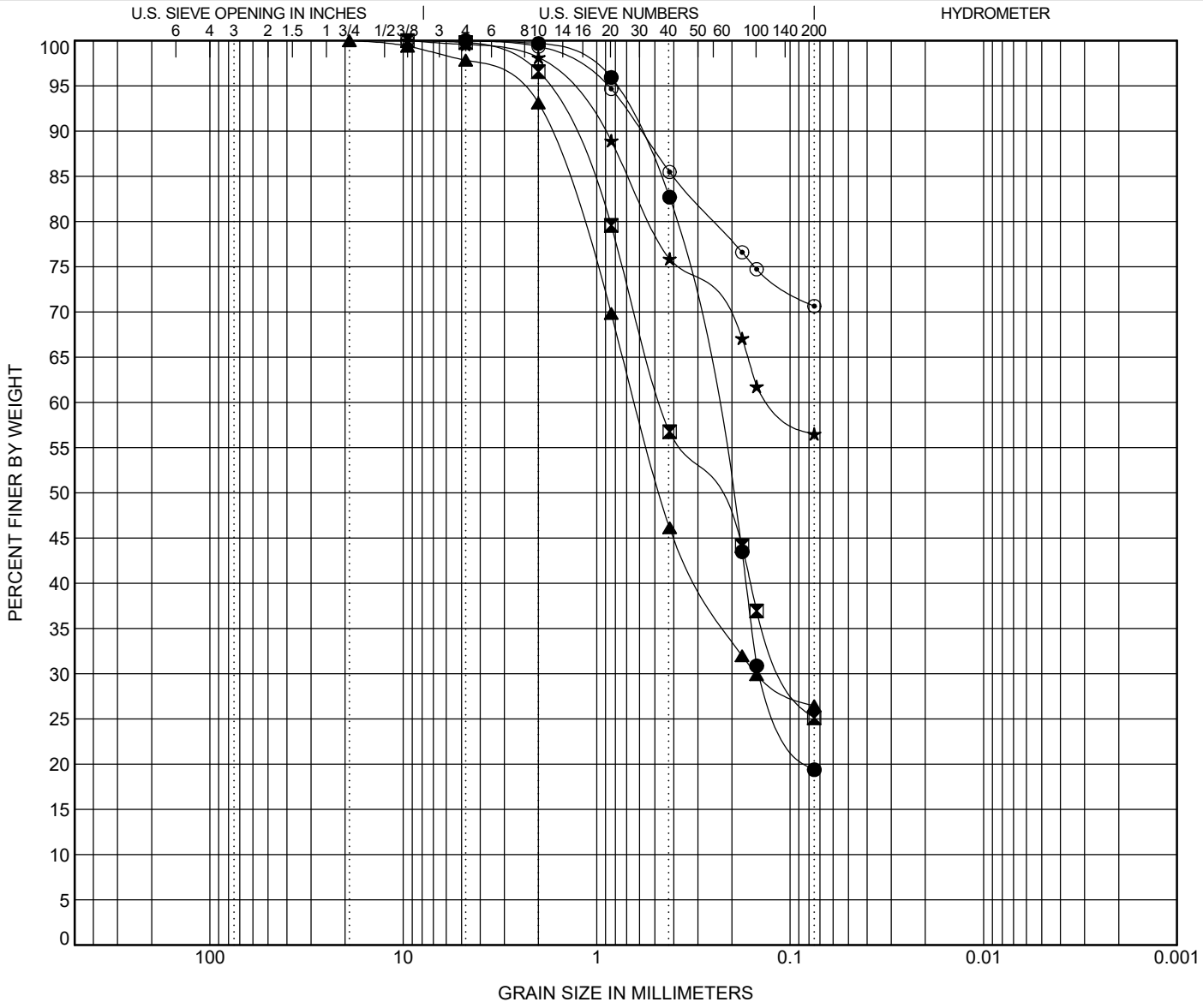
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-1	10.0	36	18	18	19	CLAYEY SAND (SC/A-2-6)
⊠	B-1	20.0	34	22	12	25	CLAYEY SAND (SC/A-2-6)
▲	B-1	25.0	61	29	32	26	CLAYEY SAND (SC/A-2-7)
★	B-1	30.0	46	25	21	57	SANDY LEAN CLAY (CL/A-7-6)
⊙	B-1	35.0	60	25	35	71	FAT CLAY with SAND (CH/A-7-6)
✿	B-1	50.0	31	22	9	16	CLAYEY SAND (SC/A-2-4)
○	B-1	60.0	NP	NP	NP	25	SILTY SAND (SM/A-2-4)

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

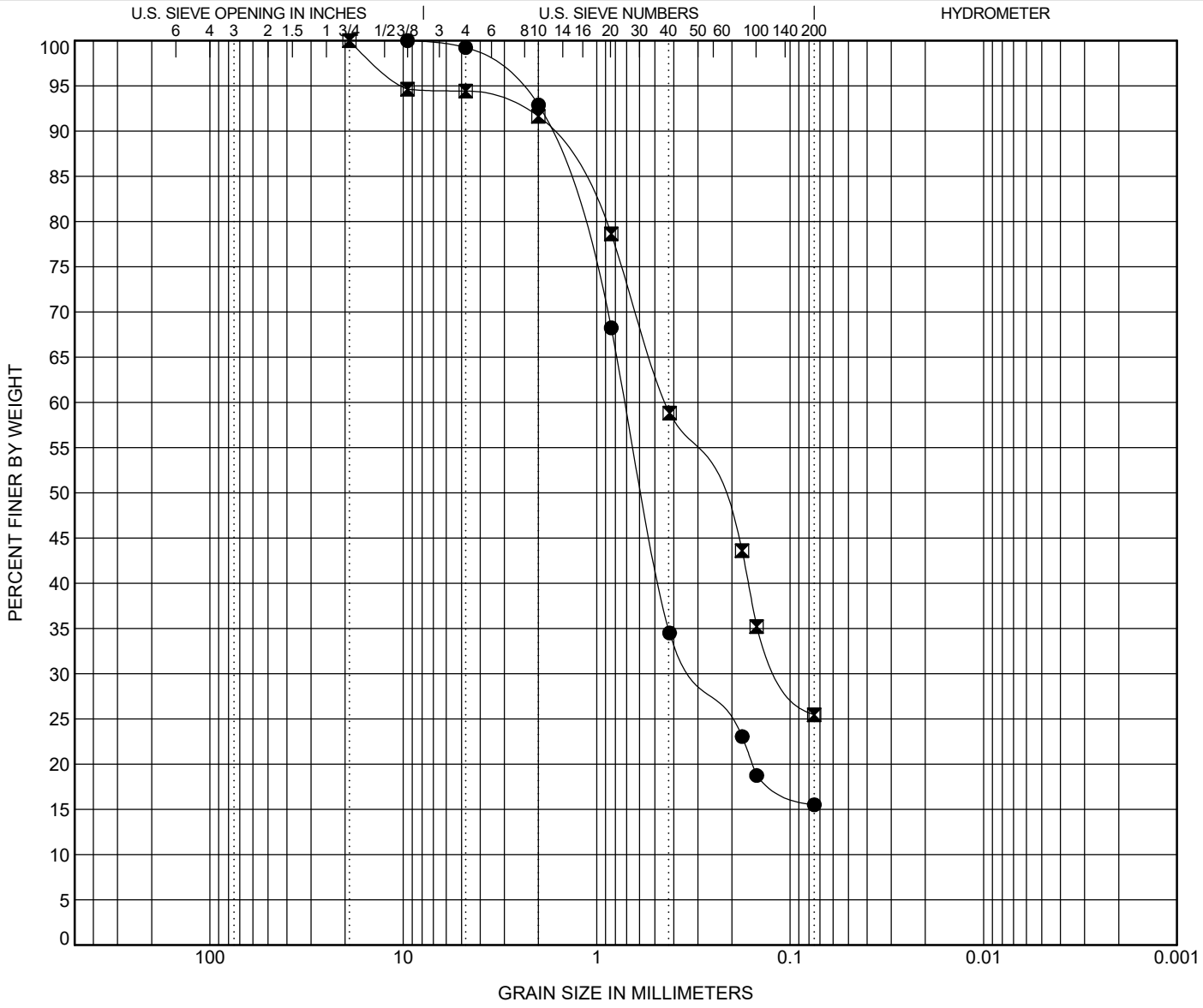
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-1	10.0	CLAYEY SAND (SC/A-2-6)	36	18	18		
⊠	B-1	20.0	CLAYEY SAND (SC/A-2-6)	34	22	12		
▲	B-1	25.0	CLAYEY SAND (SC/A-2-7)	61	29	32		
★	B-1	30.0	SANDY LEAN CLAY (CL/A-7-6)	46	25	21		
⊙	B-1	35.0	FAT CLAY with SAND (CH/A-7-6)	60	25	35		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1	10.0	4.76	0.255	0.141		0.0	80.6	19.4	
⊠	B-1	20.0	9.51	0.464	0.1		0.2	74.7	25.1	
▲	B-1	25.0	19	0.631	0.15		2.2	71.4	26.5	
★	B-1	30.0	9.51	0.118			0.4	43.1	56.5	
⊙	B-1	35.0	9.51				0.0	29.3	70.6	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-1**	**50.0**	**CLAYEY SAND (SC/A-2-4)**	**31**	**22**	**9**		
⊠	**B-1**	**60.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-1**	**50.0**	**9.51**	**0.71**	**0.299**		**0.8**	**83.7**	**15.5**	
⊠	**B-1**	**60.0**	**19**	**0.438**	**0.103**		**5.6**	**69.0**	**25.4**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0152	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	B-1	B-1	B-1	B-1	B-1
SAMPLE NO.	SS-5	SS-7	SS-8	SS-9	SS-10
SAMPLE DEPTH (FT.)	8.0 - 10.0	18.5 - 20.0	23.5 - 25.0	28.5 - 30.0	33.5 - 35.0
WATER CONTENT, W%	17.3	17.4	15.2	23.6	31.5

BORING NO.	B-1	B-1			
SAMPLE NO.	SS-13	SS-15			
SAMPLE DEPTH (FT.)	48.5 - 50.0	58.5 - 60.0			
WATER CONTENT, W%	17.4	29.0			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

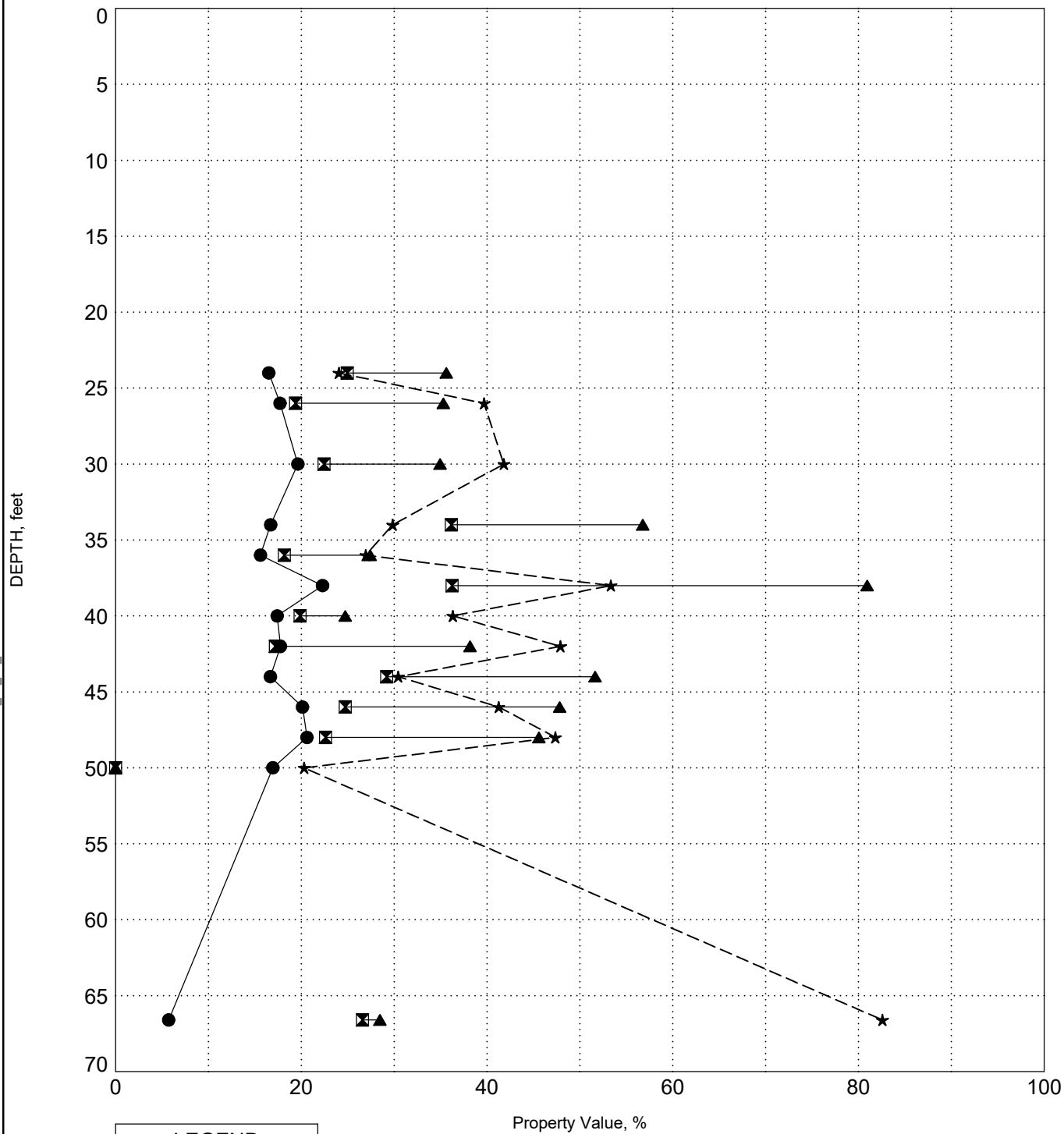
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-2

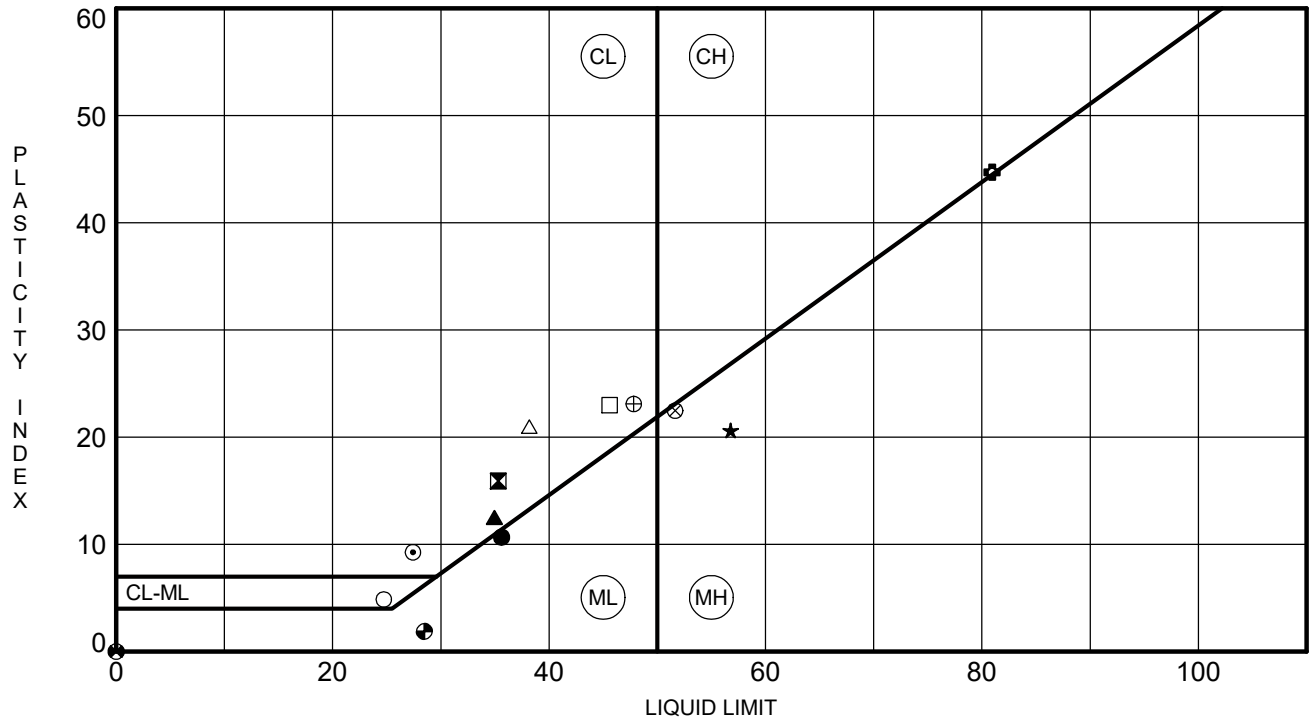
SURFACE ELEVATION: 119.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



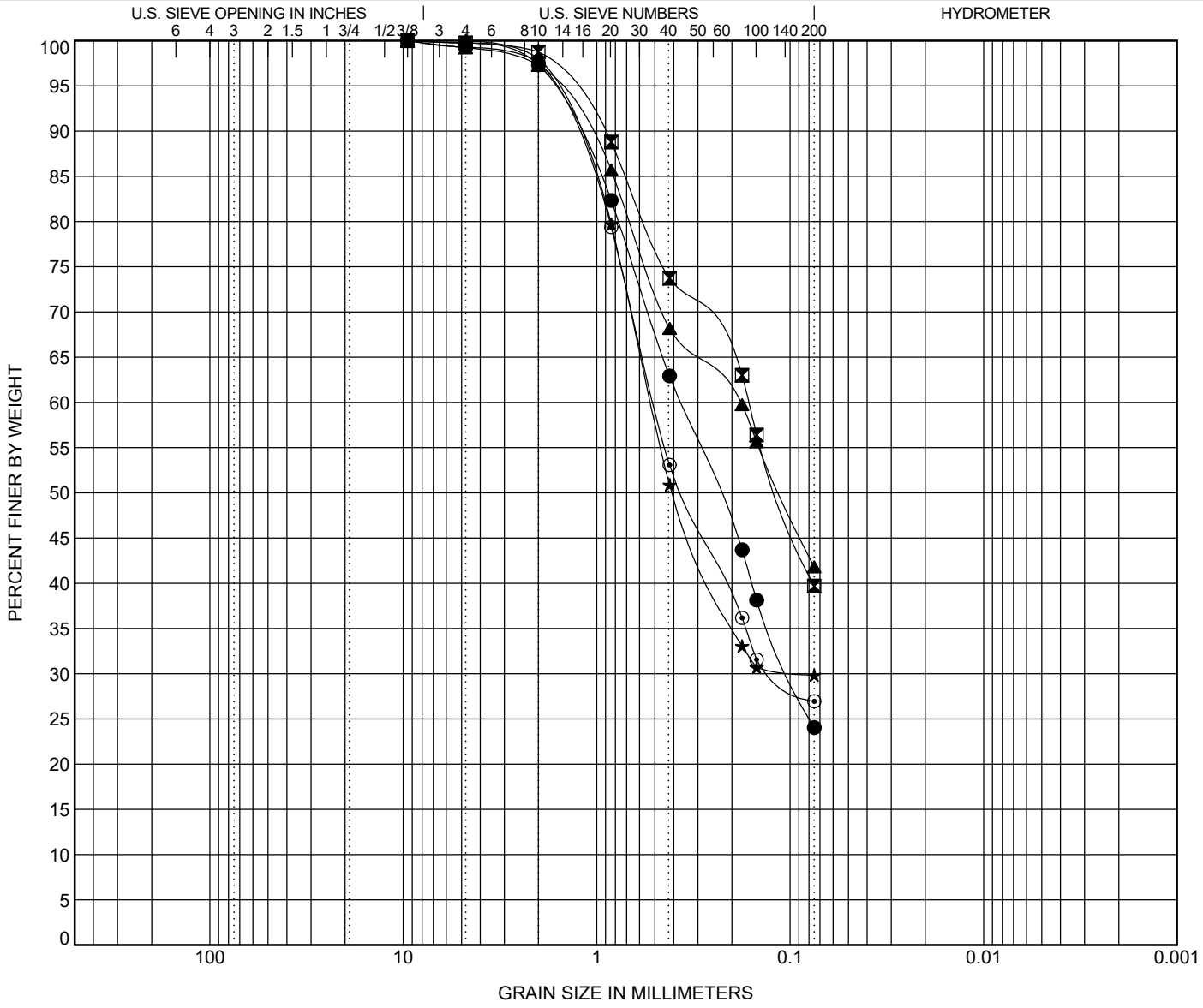
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-2	24.0	36	25	11	24	SILTY SAND (SM/A-2-6)
⊠	B-2	26.0	35	19	16	40	CLAYEY SAND (SC/A-6)
▲	B-2	30.0	35	22	13	42	CLAYEY SAND (SC/A-6)
★	B-2	34.0	57	36	21	30	SILTY SAND (SM/A-2-7)
⊙	B-2	36.0	27	18	9	27	CLAYEY SAND (SC/A-2-4)
✿	B-2	38.0	81	36	45	53	SANDY FAT CLAY (CH/A-7-5)
○	B-2	40.0	25	20	5	36	SILTY, CLAYEY SAND (SC-SM/A-4)
△	B-2	42.0	38	17	21	48	CLAYEY SAND (SC/A-6)
⊗	B-2	44.0	52	29	23	30	SILTY SAND (SM/A-2-7)
⊕	B-2	46.0	48	25	23	41	CLAYEY SAND (SC/A-7-6)
□	B-2	48.0	46	23	23	47	CLAYEY SAND (SC/A-7-6)
⊠	B-2	50.0	NP	NP	NP	20	SILTY SAND (SM/A-2-4)
◕	B-2	67.6	28	27	1	83	SILT with SAND (ML/A-4)

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-2	24.0	SILTY SAND (SM/A-2-6)	36	25	11		
⊠	B-2	26.0	CLAYEY SAND (SC/A-6)	35	19	16		
▲	B-2	30.0	CLAYEY SAND (SC/A-6)	35	22	13		
★	B-2	34.0	SILTY SAND (SM/A-2-7)	57	36	21		
⊙	B-2	36.0	CLAYEY SAND (SC/A-2-4)	27	18	9		

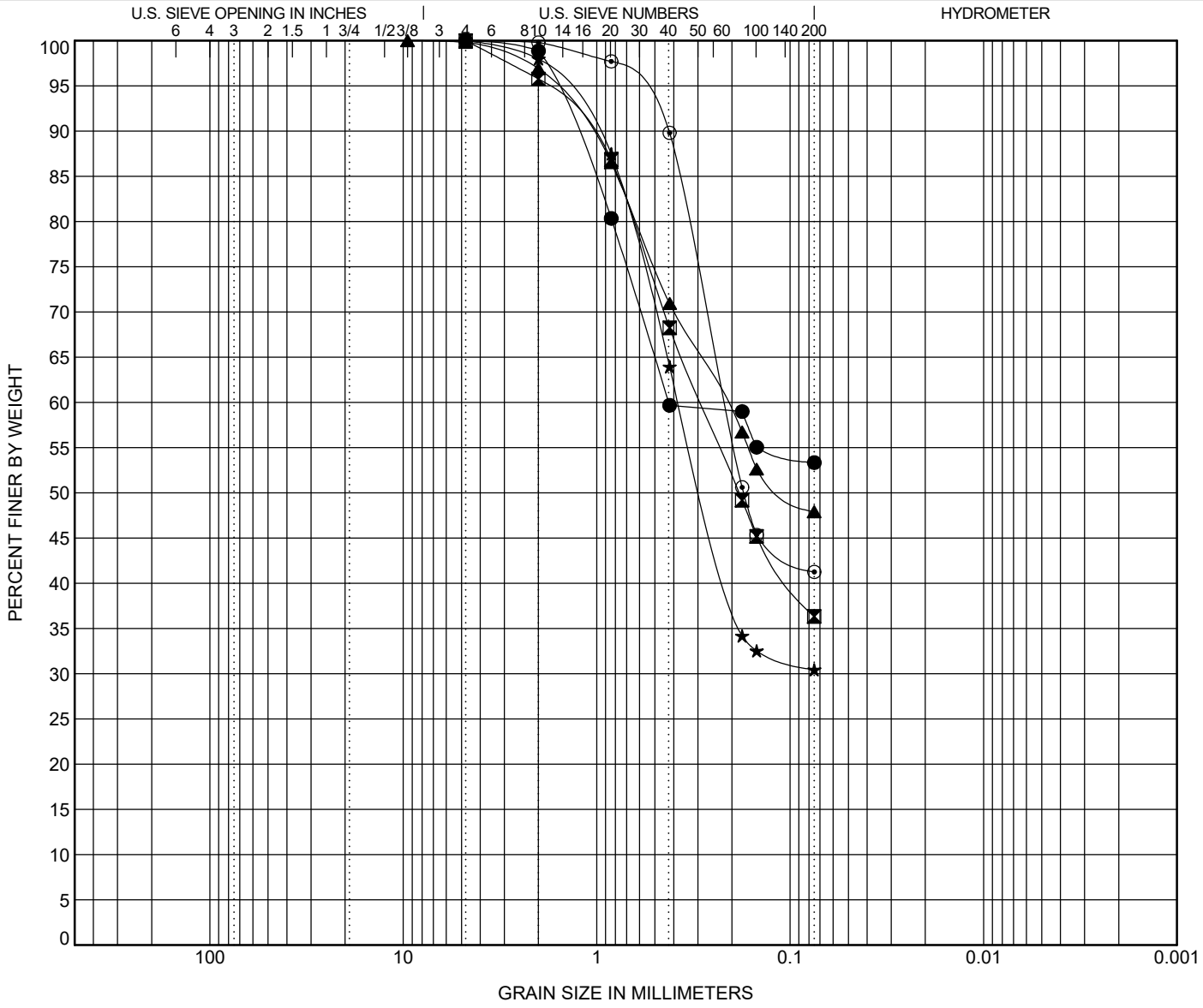
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-2	24.0	9.51	0.368	0.1		0.3	75.7	24.0	
⊠	B-2	26.0	9.51	0.164			0.3	60.1	39.7	
▲	B-2	30.0	9.51	0.181			0.8	57.4	41.8	
★	B-2	34.0	4.76	0.523	0.086		0.0	70.2	29.8	
⊙	B-2	36.0	9.51	0.504	0.118		0.7	72.4	26.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-2	38.0	SANDY FAT CLAY (CH/A-7-5)	81	36	45		
⊠	B-2	40.0	SILTY, CLAYEY SAND (SC-SM/A-4)	25	20	5		
▲	B-2	42.0	CLAYEY SAND (SC/A-6)	38	17	21		
★	B-2	44.0	SILTY SAND (SM/A-2-7)	52	29	23		
⊙	B-2	46.0	CLAYEY SAND (SC/A-7-6)	48	25	23		

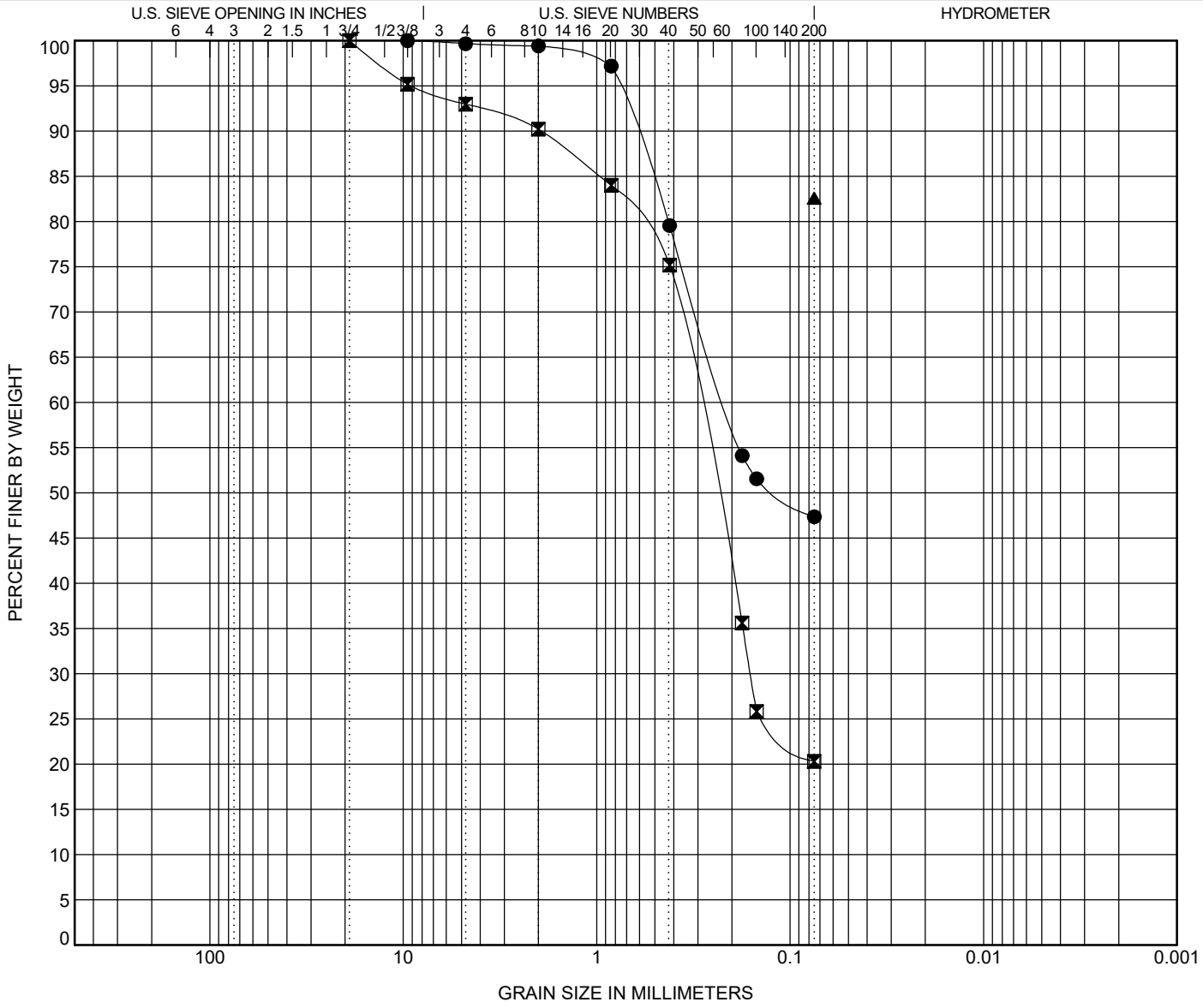
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-2	38.0	4.76	0.425			0.0	46.7	53.3	
⊠	B-2	40.0	4.76	0.289			0.0	63.7	36.3	
▲	B-2	42.0	9.51	0.216			0.2	51.9	47.9	
★	B-2	44.0	4.76	0.375			0.0	69.6	30.4	
⊙	B-2	46.0	4.76	0.218			0.0	58.7	41.3	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● B-2	48.0	CLAYEY SAND (SC/A-7-6)	46	23	23		
⊠ B-2	50.0	SILTY SAND (SM/A-2-4)	NP	NP	NP		
▲ B-2	67.6	SILT with SAND (ML/A-4)	28	27	1		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-2	48.0	9.51	0.216			0.3	52.3	47.4	
⊠ B-2	50.0	19	0.302	0.16		7.0	72.7	20.3	
▲ B-2	137.6	0.075						82.6	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0172	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	B-2	B-2	B-2	B-2	B-2
SAMPLE NO.	SS-12	SS-13	SS-15	SS-17	SS-18
SAMPLE DEPTH (FT.)	22.0 - 24.0	24.0 - 26.0	28.0 - 30.0	32.0 - 34.0	34.0 - 36.0
WATER CONTENT, W%	16.5	17.7	19.6	16.7	15.6

BORING NO.	B-2	B-2	B-2	B-2	B-2
SAMPLE NO.	SS-19	SS-20	SS-21	SS-22	SS-23
SAMPLE DEPTH (FT.)	36.0 - 38.0	38.0 - 40.0	40.0 - 42.0	42.0 - 44.0	44.0 - 46.0
WATER CONTENT, W%	22.3	17.4	17.8	16.7	20.1

BORING NO.	B-2	B-2	B-2		
SAMPLE NO.	SS-24	SS-25	NQ-3		
SAMPLE DEPTH (FT.)	46.0 - 48.0	48.0 - 50.0	67.3 - 67.6		
WATER CONTENT, W%	20.6	16.9	5.7		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

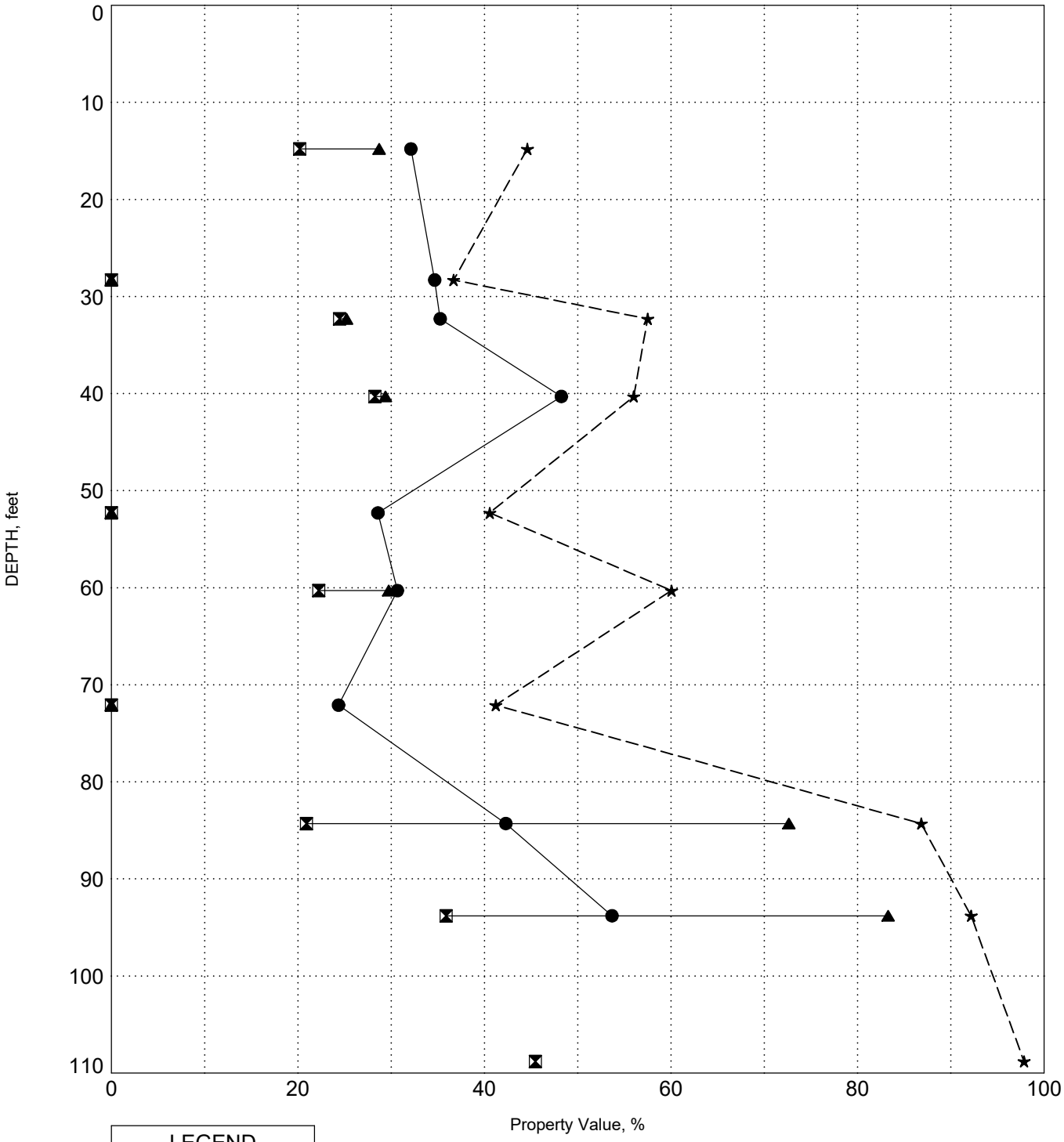
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-3

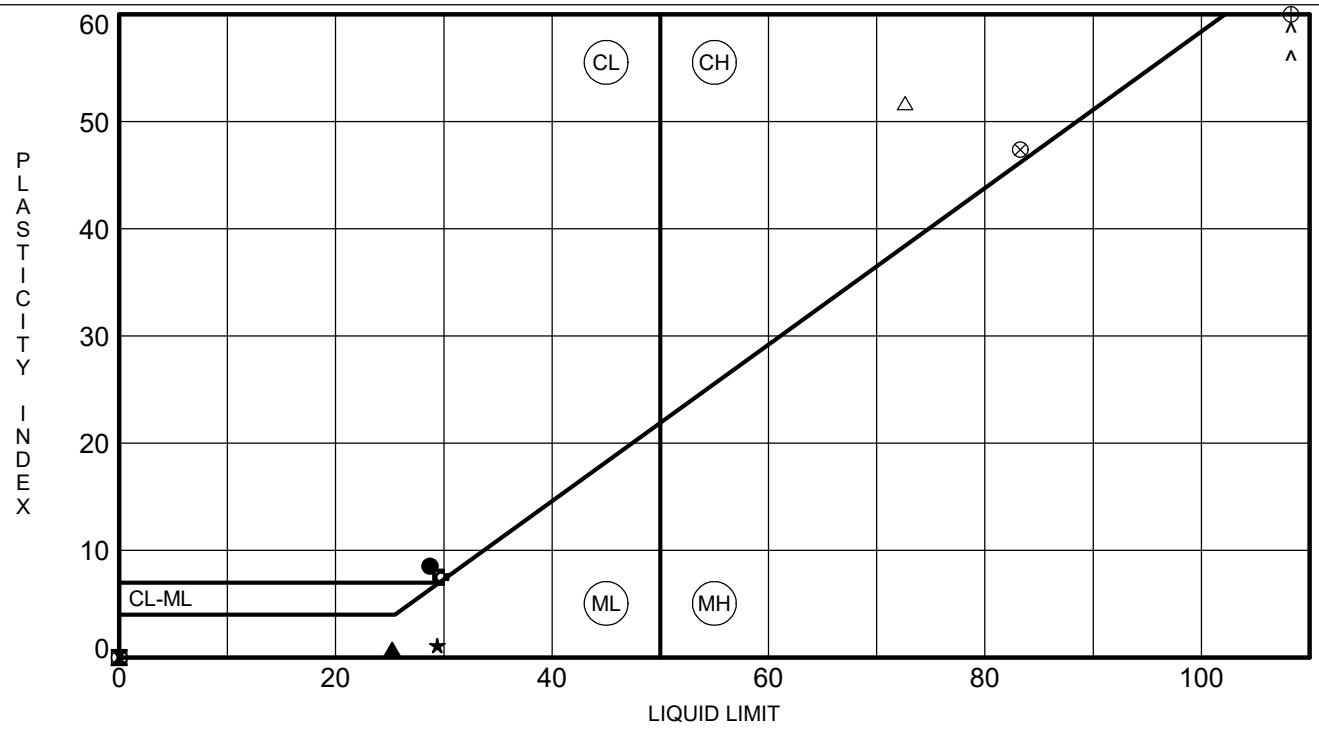
SURFACE ELEVATION: 76.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

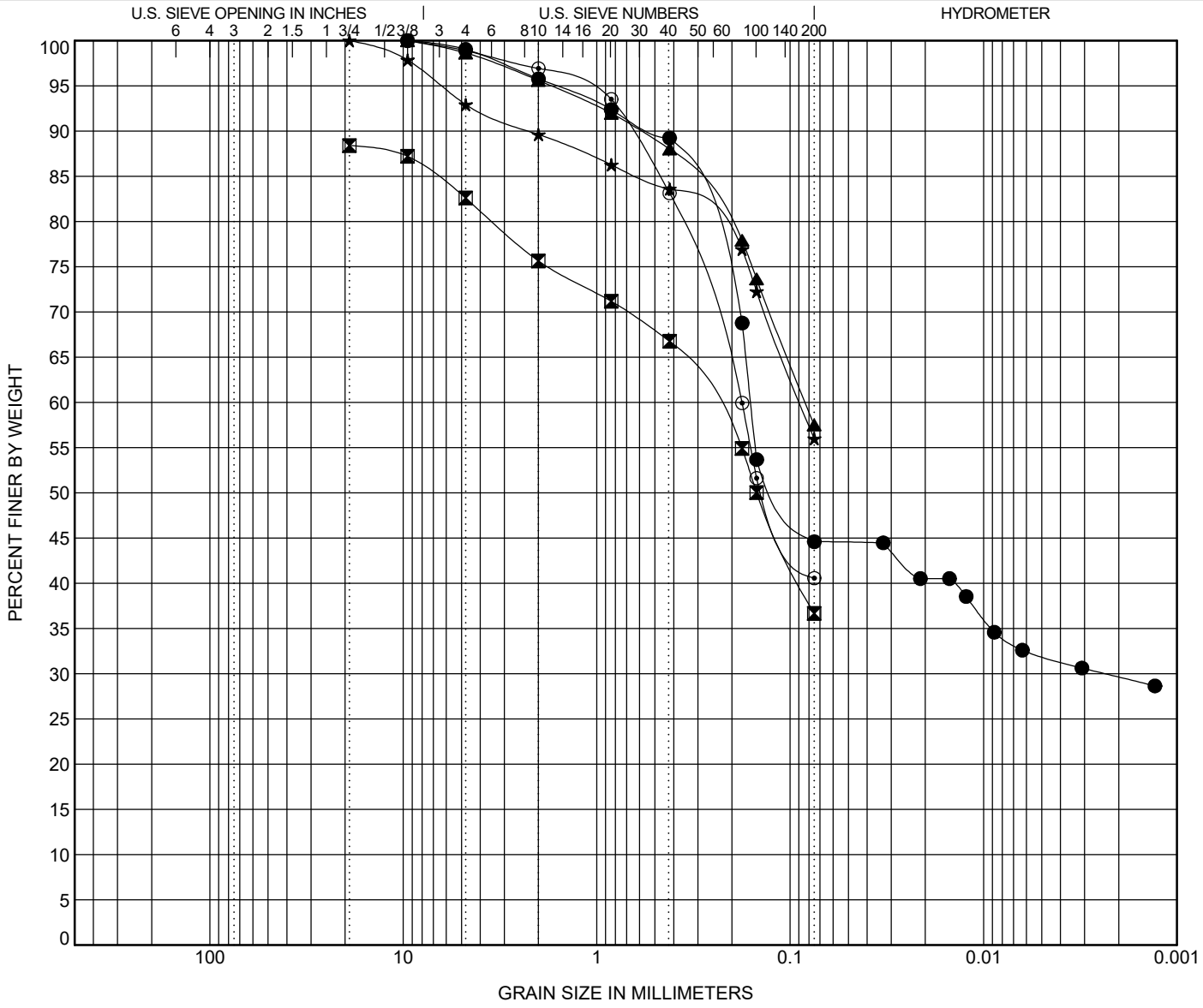


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-3	14.8	29	20	9	45	CLAYEY SAND (SC/A-4)
⊠	B-3	28.3	NP	NP	NP	37	SILTY SAND with GRAVEL (SM/A-4)
▲	B-3	32.3	25	24	1	57	SANDY SILT (ML/A-4)
★	B-3	40.3	29	28	1	56	SANDY SILT (ML/A-4)
⊙	B-3	52.3	NP	NP	NP	41	SILTY SAND (SM/A-4)
✿	B-3	60.3	30	22	8	60	SANDY LEAN CLAY (CL/A-4)
○	B-3	72.1	NP	NP	NP	41	SILTY SAND (SM/A-4)
△	B-3	84.3	73	21	52	87	FAT CLAY (CH/A-7-6)
⊗	B-3	93.8	83	36	47	92	FAT CLAY (CH/A-7-5)
⊕	B-3	108.8	108	45	63	98	ELASTIC SILT (MH/A-7-5)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-3**	**14.8**	**CLAYEY SAND (SC/A-4)**	**29**	**20**	**9**		
⊠	**B-3**	**28.3**	**SILTY SAND with GRAVEL (SM/A-4)**	**NP**	**NP**	**NP**		
▲	**B-3**	**32.3**	**SANDY SILT (ML/A-4)**	**25**	**24**	**1**		
★	**B-3**	**40.3**	**SANDY SILT (ML/A-4)**	**29**	**28**	**1**		
⊙	**B-3**	**52.3**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		

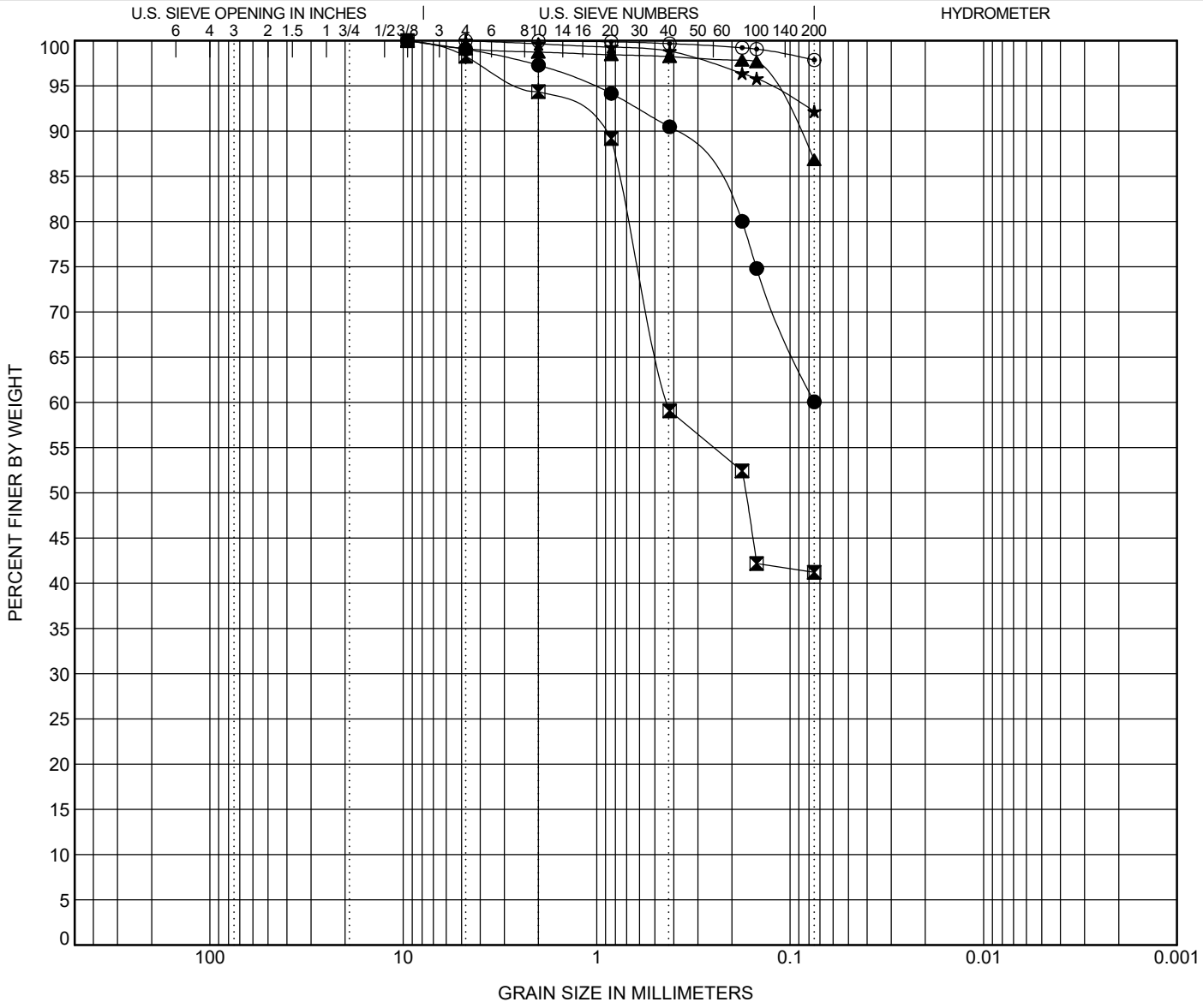
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-3**	**14.8**	**9.51**	**0.16**	**0.002**		**1.0**	**54.4**	**12.6**	**32.0**
⊠	**B-3**	**28.3**	**19**	**0.256**			**5.8**	**45.9**	**36.7**	
▲	**B-3**	**32.3**	**9.51**	**0.083**			**1.4**	**41.1**	**57.5**	
★	**B-3**	**40.3**	**19**	**0.089**			**7.1**	**36.9**	**56.0**	
⊙	**B-3**	**52.3**	**9.51**	**0.177**			**1.1**	**58.3**	**40.6**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-3	60.3	SANDY LEAN CLAY (CL/A-4)	30	22	8		
⊠	B-3	72.1	SILTY SAND (SM/A-4)	NP	NP	NP		
▲	B-3	84.3	FAT CLAY (CH/A-7-6)	73	21	52		
★	B-3	93.8	FAT CLAY (CH/A-7-5)	83	36	47		
⊙	B-3	108.8	ELASTIC SILT (MH/A-7-5)	108	45	63		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-3	60.3	9.51				1.0	39.0	60.1	
⊠	B-3	72.1	9.51	0.429			1.7	57.0	41.2	
▲	B-3	84.3	9.51				0.9	12.3	86.8	
★	B-3	93.8	4.76				0.0	7.8	92.2	
⊙	B-3	108.8	4.76				0.0	2.1	97.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1875	**DATE SAMPLE RECEIVED:**	6/12/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW	**DATE SETUP:**	6/13/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/14/2023

BORING NO.	B-3	B-3	B-3	B-3	B-3
SAMPLE NO.	SS-3	SS-7	SS-8	SS-10	SS-13
SAMPLE DEPTH (FT.)	12.8 - 14.8	26.3 - 28.3	30.3 - 32.3	38.3 - 40.3	50.3 - 52.3
WATER CONTENT, W%	32.1	34.7	35.3	48.2	28.6

BORING NO.	B-3	B-3	B-3	B-3	B-3
SAMPLE NO.	SS-15	SS-18	SS-21	SS-23	SS-26
SAMPLE DEPTH (FT.)	58.3 - 60.3	70.3 - 72.1	82.3 - 84.3	92.3 - 93.8	107.3 -108.8
WATER CONTENT, W%	30.7	24.4	42.3	53.7	107.3

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

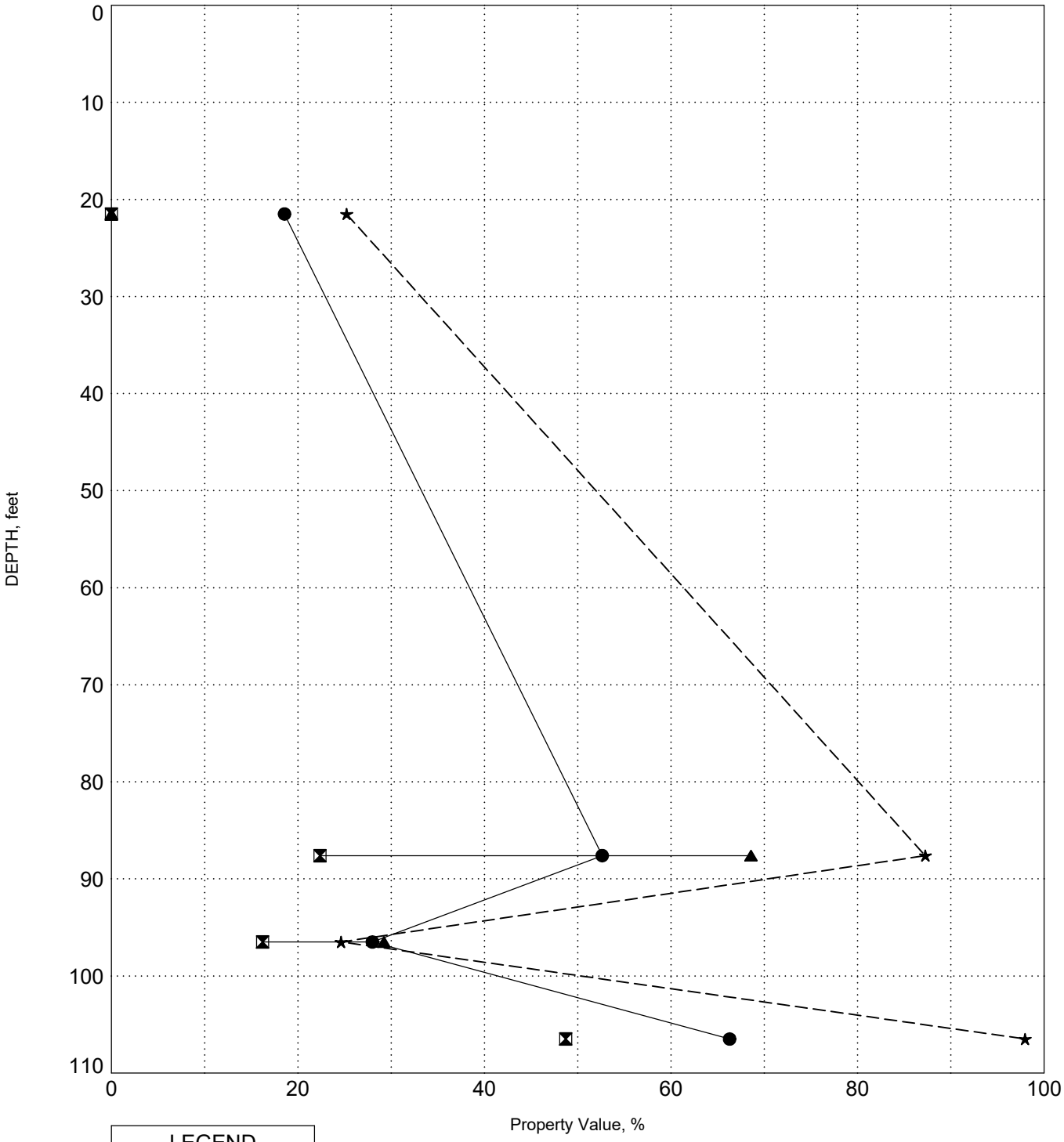
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-4

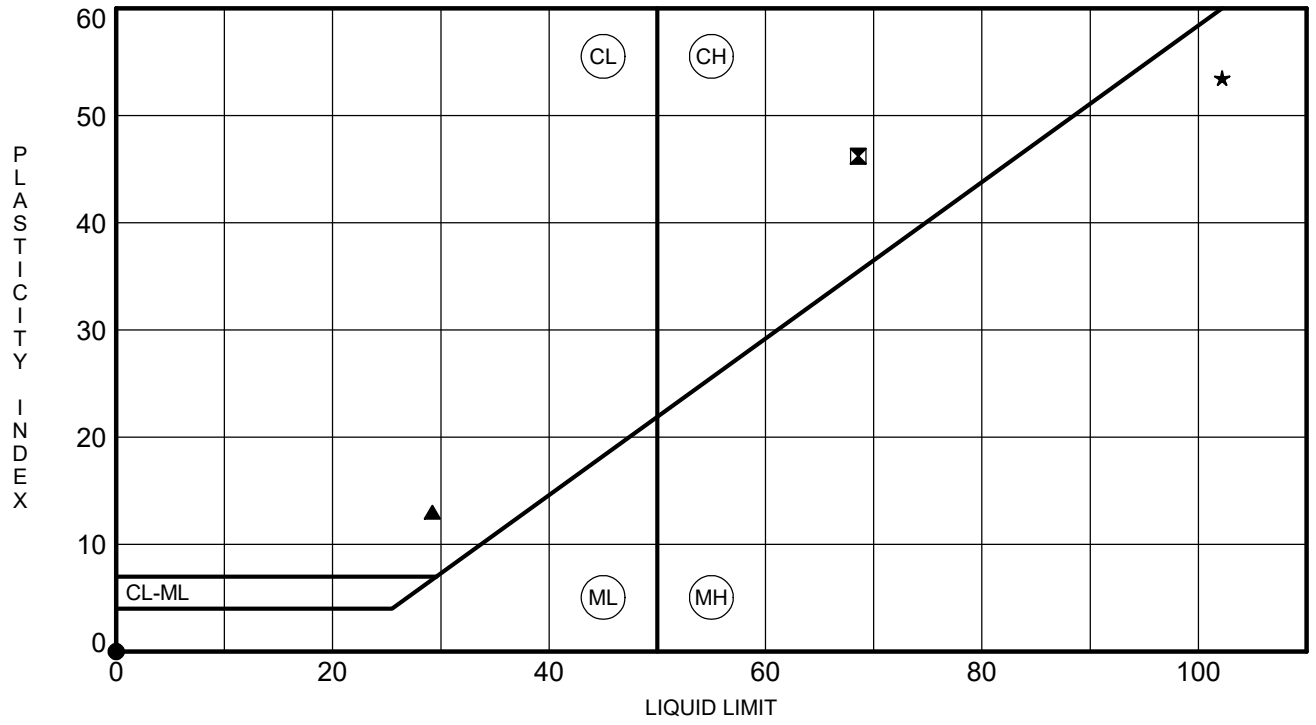
SURFACE ELEVATION: 78.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



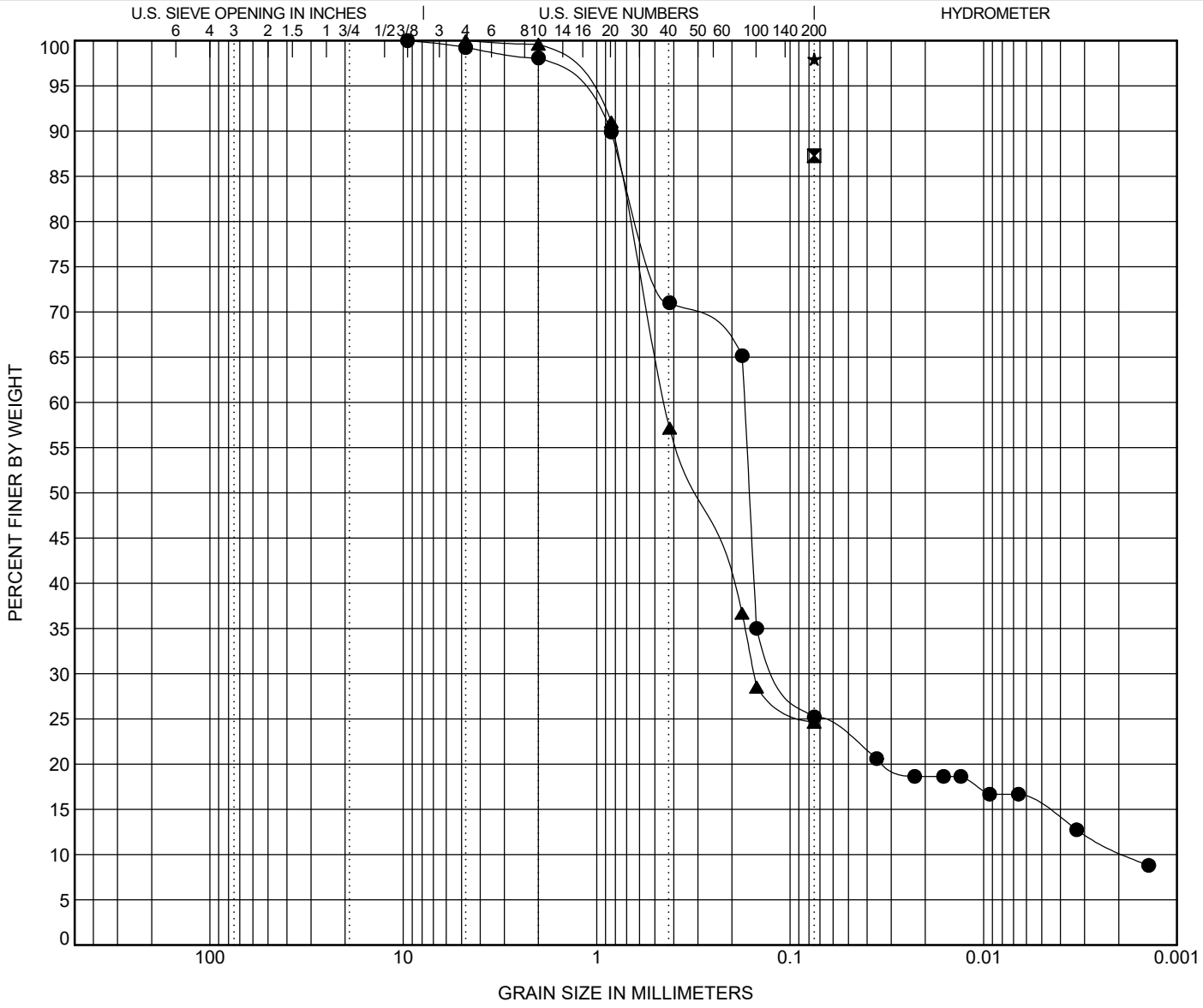
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-4**	**21.5**	**NP**	**NP**	**NP**	**25**	**SILTY SAND (SM/A-2-4)**
⧓	**B-4**	**87.6**	**69**	**22**	**47**	**87**	**FAT CLAY (CH/A-7-6)**
▲	**B-4**	**96.5**	**29**	**16**	**13**	**25**	**CLAYEY SAND (SC/A-2-6)**
★	**B-4**	**106.5**	**102**	**49**	**53**	**98**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/2/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-4	21.5	SILTY SAND (SM/A-2-4)	NP	NP	NP	35.26	94.69
⊠	B-4	87.6	FAT CLAY (CH/A-7-6)	69	22	47		
▲	B-4	96.5	CLAYEY SAND (SC/A-2-6)	29	16	13		
★	B-4	106.5	ELASTIC SILT (MH/A-7-5)	102	49	53		

BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-4	21.5	9.51	0.172	0.105	0.002	0.8	74.0	10.1	15.1
⊠	B-4	87.6	0.075						87.3	
▲	B-4	96.5	4.76	0.445	0.154		0.0	75.4	24.6	
★	B-4	106.5	0.075						98.0	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/2/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1093	**DATE SAMPLE RECEIVED:**	4/19/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	4/20/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	4/21/2023

BORING NO.	B-4	B-4	B-4	B-4	
SAMPLE NO.	SS-5	SS-8	SS-10	SS-12	
SAMPLE DEPTH (FT.)	19.5 - 21.5	86.1 - 87.6	95.0 - 96.5	105.0 - 106.5	
WATER CONTENT, W%	18.6	52.6	28.0	66.3	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

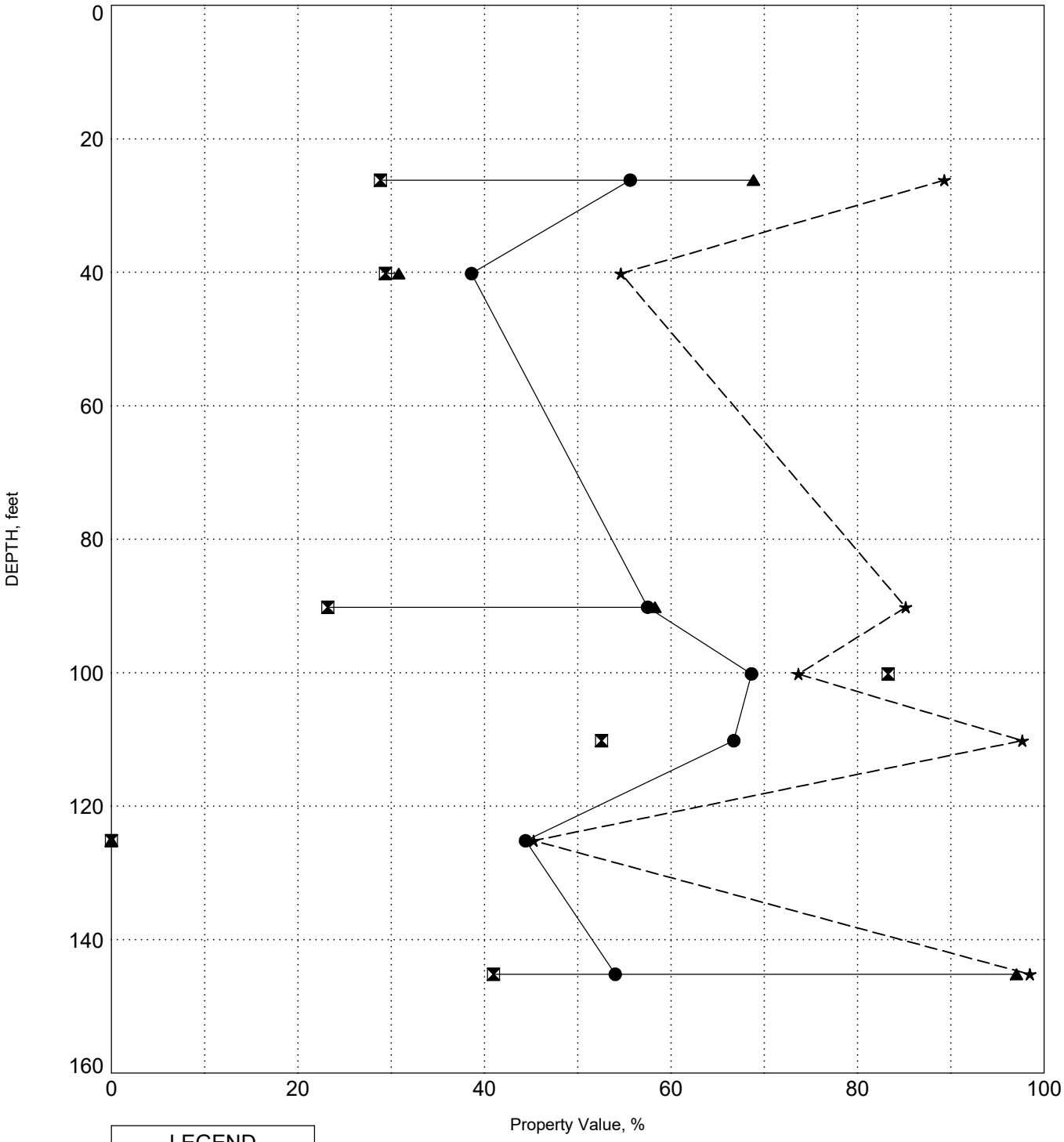
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-5

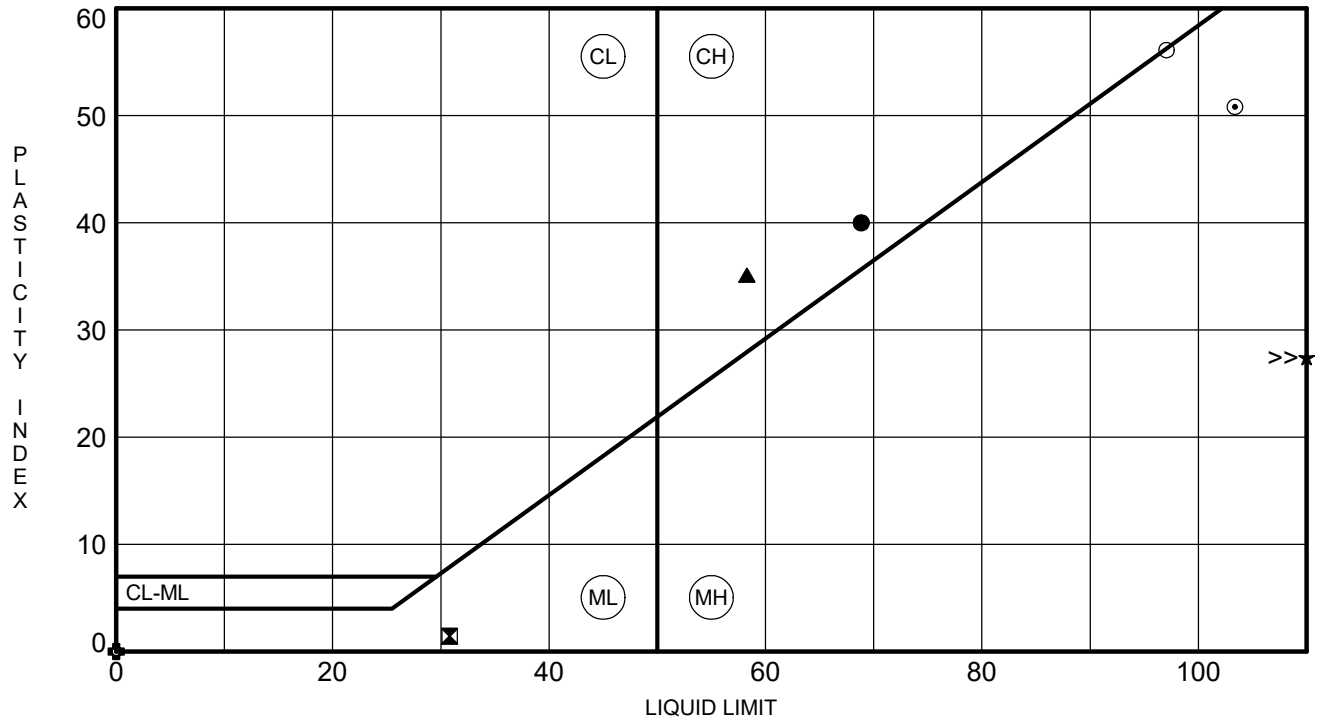
SURFACE ELEVATION: 78.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



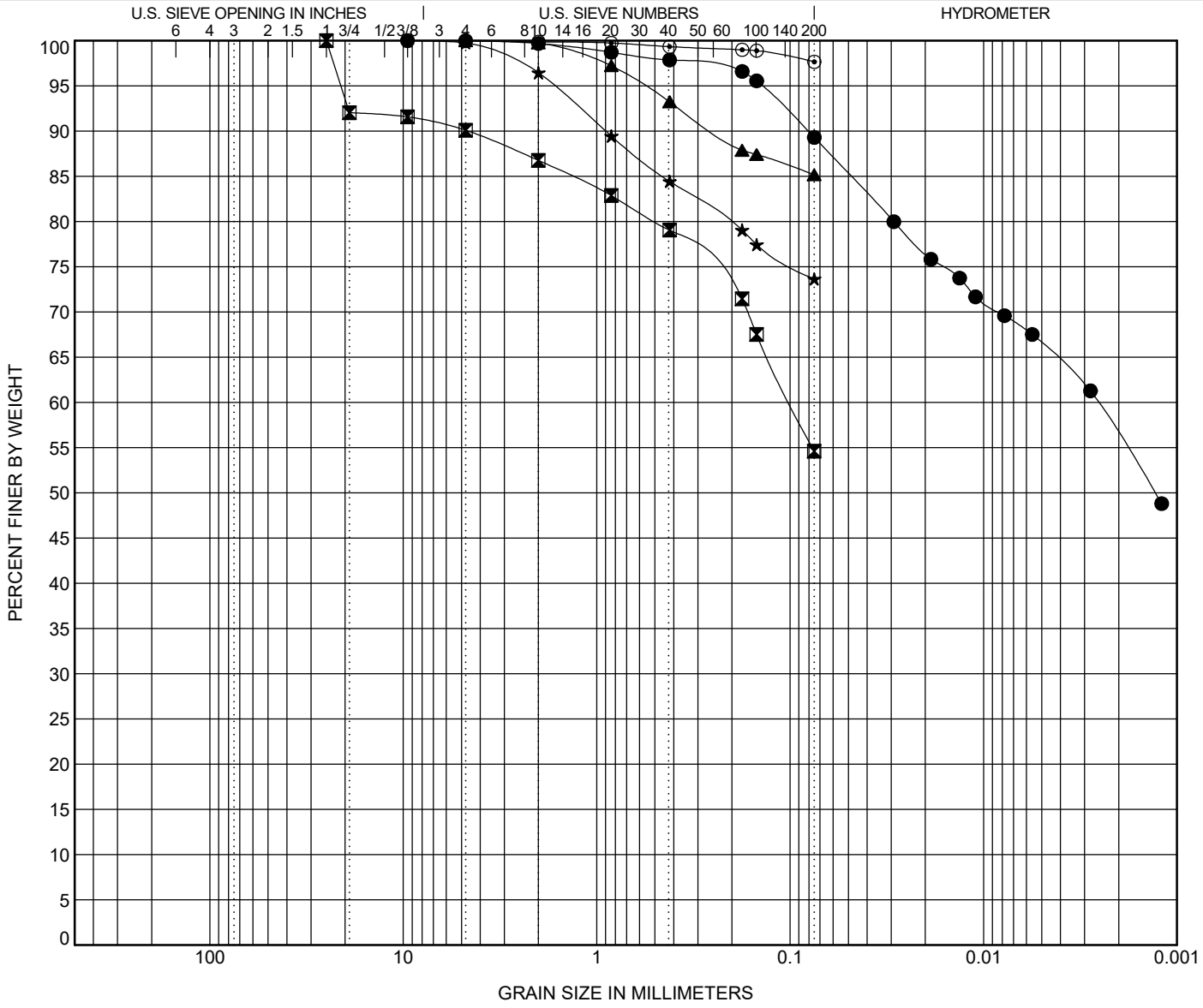
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-5**	**26.2**	**69**	**29**	**40**	**89**	**FAT CLAY (CH/A-7-6)**
⊠	**B-5**	**40.2**	**31**	**29**	**2**	**55**	**SANDY SILT (ML/A-4)**
▲	**B-5**	**90.2**	**58**	**23**	**35**	**85**	**FAT CLAY (CH/A-7-6)**
★	**B-5**	**100.2**	**111**	**83**	**28**	**74**	**ELASTIC SILT with SAND (MH/A-7-5)**
⊙	**B-5**	**110.2**	**103**	**53**	**50**	**98**	**ELASTIC SILT (MH/A-7-5)**
✿	**B-5**	**125.2**	**NP**	**NP**	**NP**	**45**	**SILTY SAND (SM/A-4)**
○	**B-5**	**145.2**	**97**	**41**	**56**	**98**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/28/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-5	26.2	FAT CLAY (CH/A-7-6)	69	29	40		
⊠	B-5	40.2	SANDY SILT (ML/A-4)	31	29	2		
▲	B-5	90.2	FAT CLAY (CH/A-7-6)	58	23	35		
★	B-5	100.2	ELASTIC SILT with SAND (MH/A-7-5)	111	83	28		
⊙	B-5	110.2	ELASTIC SILT (MH/A-7-5)	103	53	50		

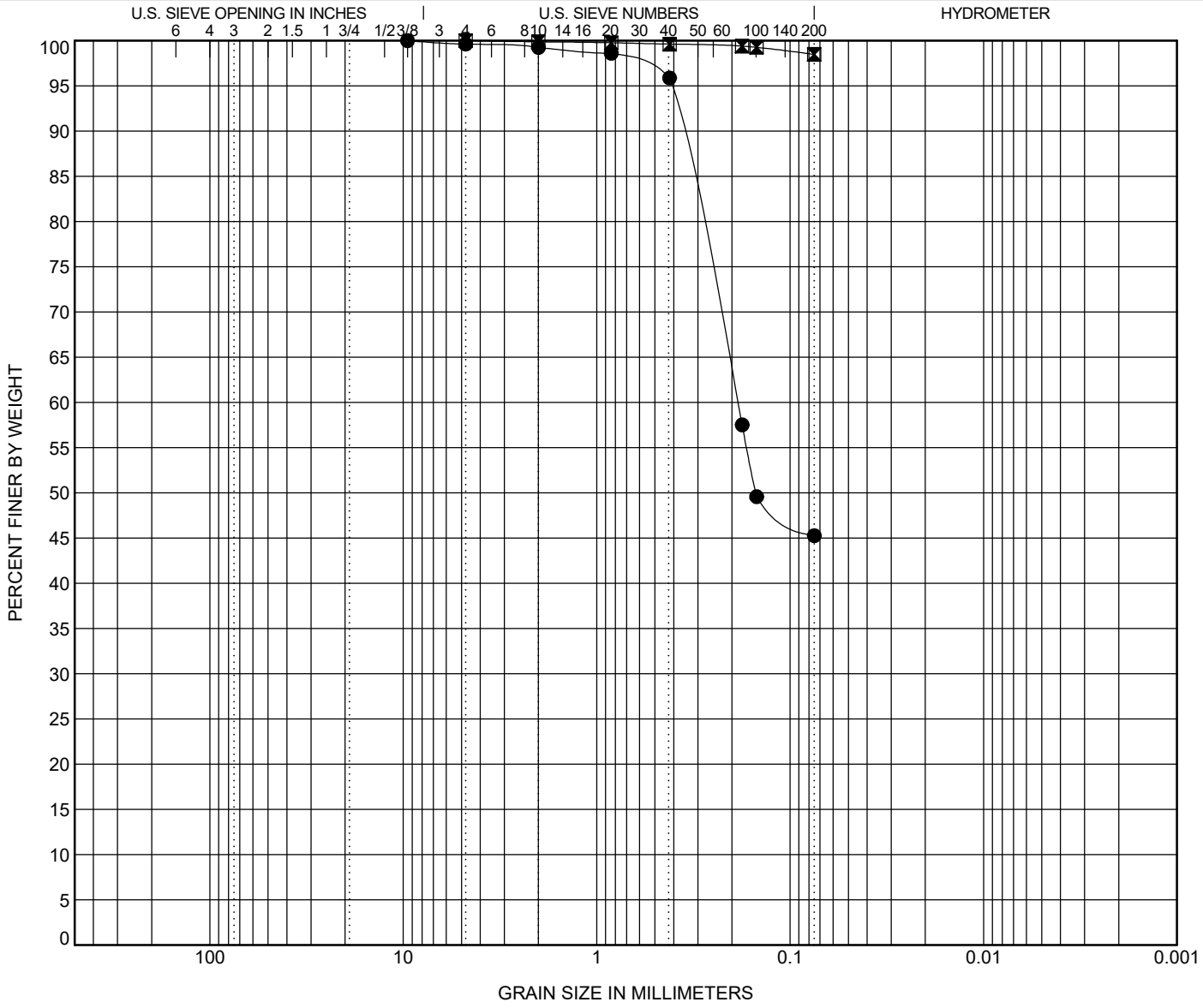
BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-5	26.2	9.51	0.003			0.0	10.7	22.8	66.5
⊠	B-5	40.2	25	0.1			9.9	35.5	54.6	
▲	B-5	90.2	4.76				0.0	14.8	85.2	
★	B-5	100.2	9.51				0.2	26.1	73.6	
⊙	B-5	110.2	4.76				0.0	2.3	97.7	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/28/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-5**	**125.2**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
⊠	**B-5**	**145.2**	**ELASTIC SILT (MH/A-7-5)**	**97**	**41**	**56**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-5**	**125.2**	**9.51**	**0.187**			**0.4**	**54.3**	**45.3**	
⊠	**B-5**	**145.2**	**4.76**				**0.0**	**1.5**	**98.5**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1868	**DATE SAMPLE RECEIVED:**	6/12/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW	**DATE SETUP:**	6/13/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/14/2023

BORING NO.	B-5	B-5	B-5	B-5	B-5
SAMPLE NO.	SS-3	SS-7	SS-9	SS-11	SS-13
SAMPLE DEPTH (FT.)	24.2 - 26.2	38.7 - 40.2	88.7 - 90.2	98.7 - 100.2	108.7 - 110.2
WATER CONTENT, W%	55.6	38.6	57.6	68.6	66.7

BORING NO.	B-5	B-5			
SAMPLE NO.	SS-16	SS-20			
SAMPLE DEPTH (FT.)	123.7 - 125.2	143.7 - 145.2			
WATER CONTENT, W%	44.4	54.0			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

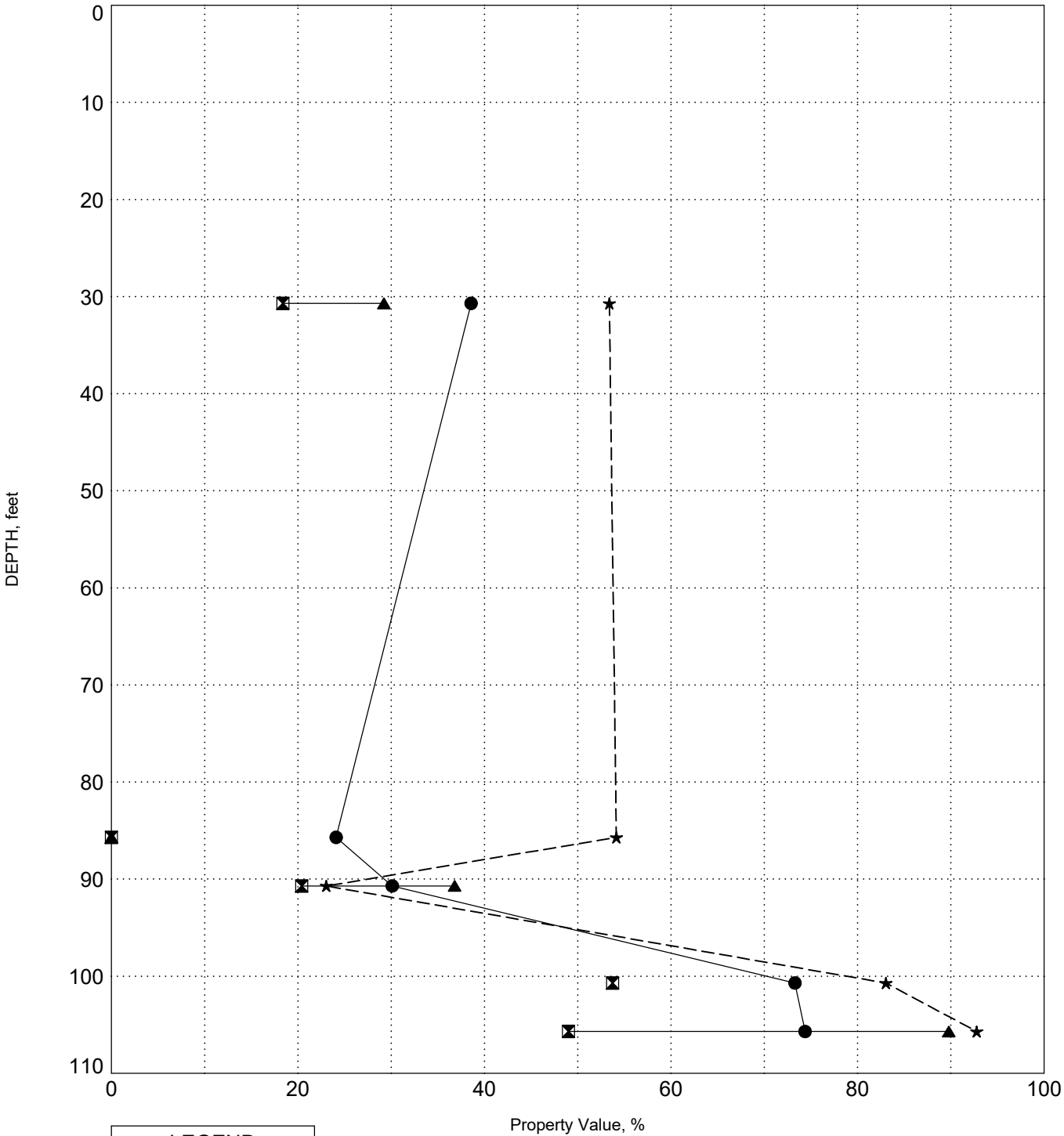
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-6

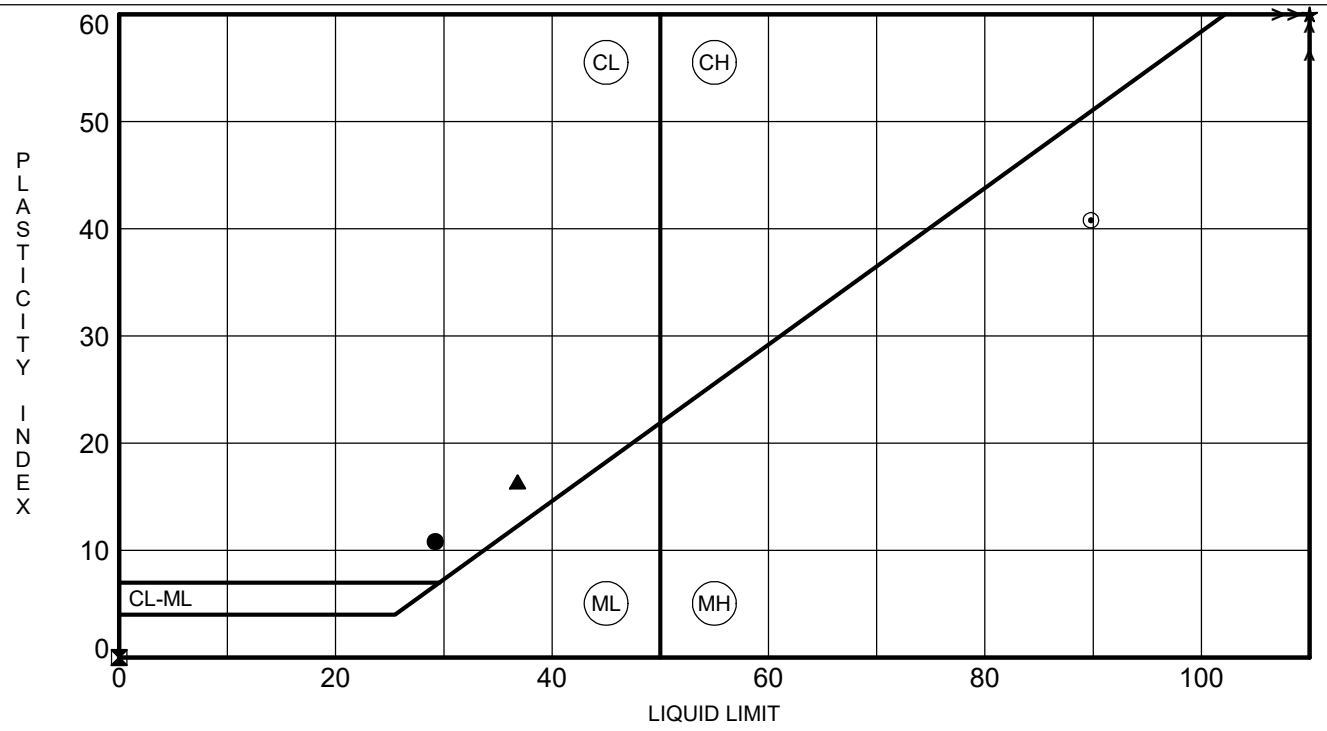
SURFACE ELEVATION: 78.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



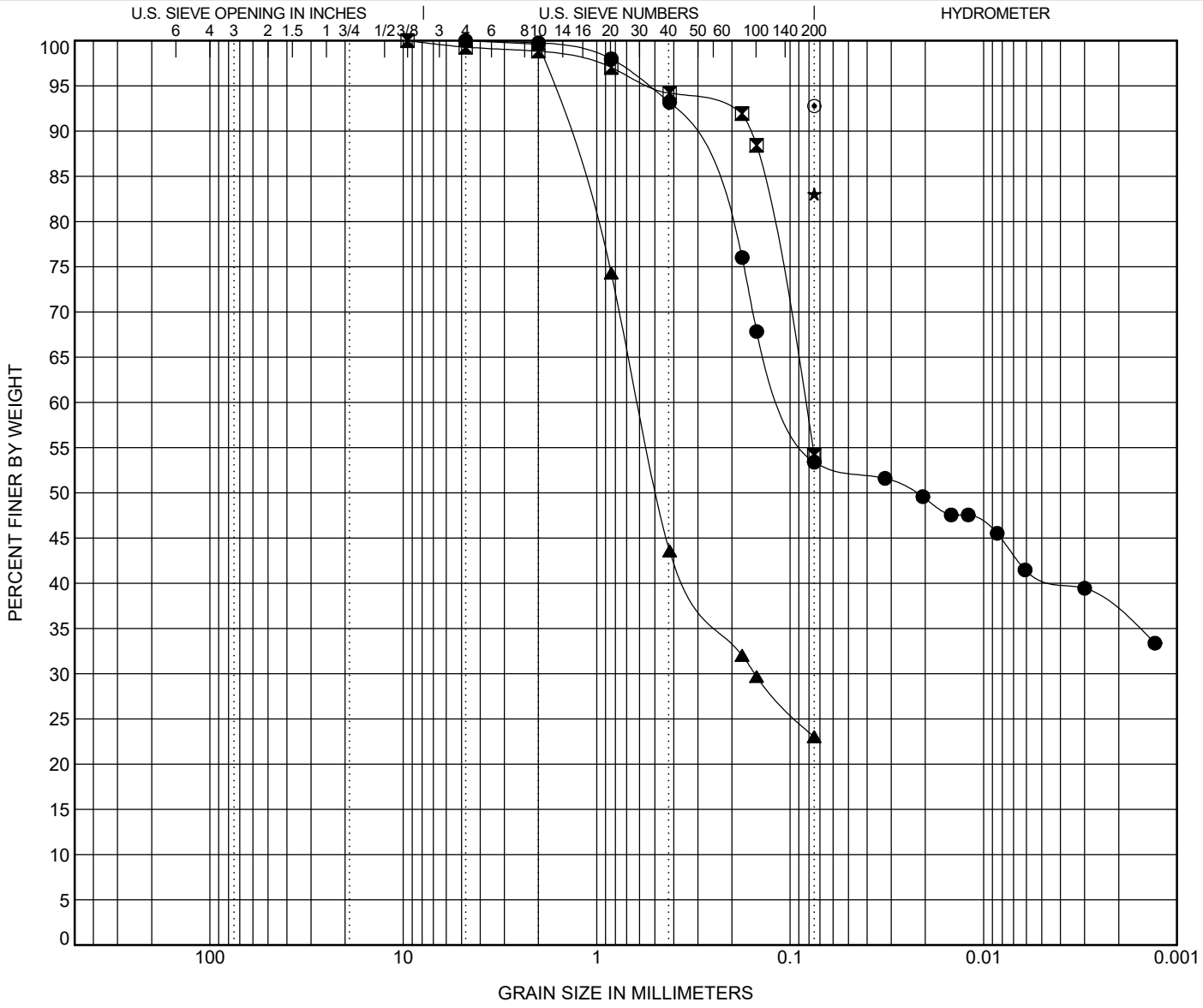
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-6**	**30.7**	**29**	**18**	**11**	**53**	**SANDY LEAN CLAY (CL/A-6)**
⊠	**B-6**	**85.7**	**NP**	**NP**	**NP**	**54**	**SANDY SILT (ML/A-4)**
▲	**B-6**	**90.7**	**37**	**20**	**17**	**23**	**CLAYEY SAND (SC/A-2-6)**
★	**B-6**	**100.7**	**120**	**54**	**66**	**83**	**ELASTIC SILT with SAND (MH/A-7-5)**
⊙	**B-6**	**105.7**	**90**	**49**	**41**	**93**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/2/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-6	30.7	SANDY LEAN CLAY (CL/A-6)	29	18	11		
⊠	B-6	85.7	SANDY SILT (ML/A-4)	NP	NP	NP		
▲	B-6	90.7	CLAYEY SAND (SC/A-2-6)	37	20	17		
★	B-6	100.7	ELASTIC SILT with SAND (MH/A-7-5)	120	54	66		
⊙	B-6	105.7	ELASTIC SILT (MH/A-7-5)	90	49	41		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-6	30.7	4.76	0.103			0.0	46.6	12.5	40.9
⊠	B-6	85.7	9.51	0.084			0.7	45.1	54.1	
▲	B-6	90.7	4.76	0.609	0.153		0.0	77.0	23.0	
★	B-6	100.7	0.075						83.0	
⊙	B-6	105.7	0.075						92.8	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1094	**DATE SAMPLE RECEIVED:**	4/19/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	4/20/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	4/21/2023

BORING NO.	B-6	B-6	B-6	B-6	B-6
SAMPLE NO.	SS-5	SS-8	SS-9	SS-11	SS-12
SAMPLE DEPTH (FT.)	28.7 - 30.7	84.2 - 85.7	89.2 - 90.7	99.2 - 100.7	104.2 - 105.7
WATER CONTENT, W%	38.6	24.1	30.1	73.3	74.4

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

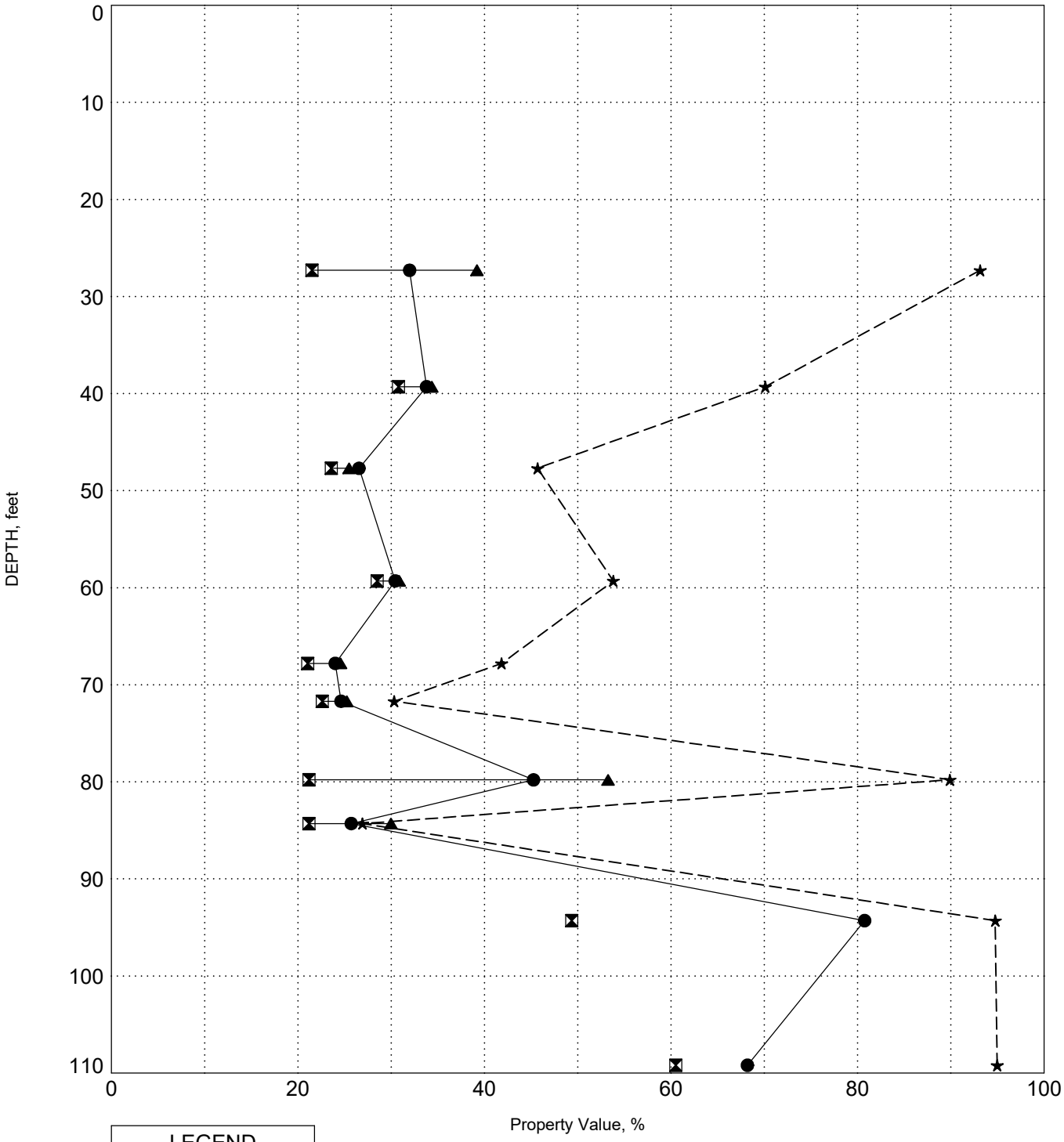
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-7

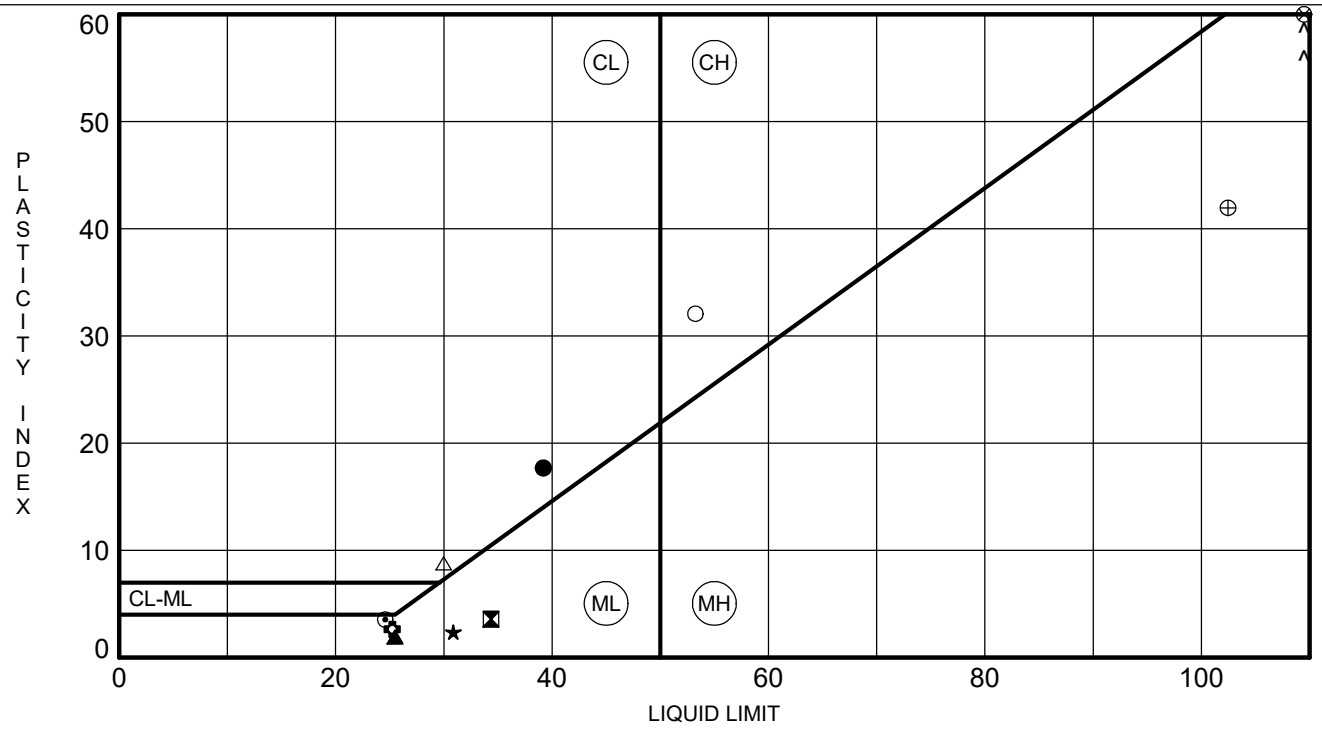
SURFACE ELEVATION: 78.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

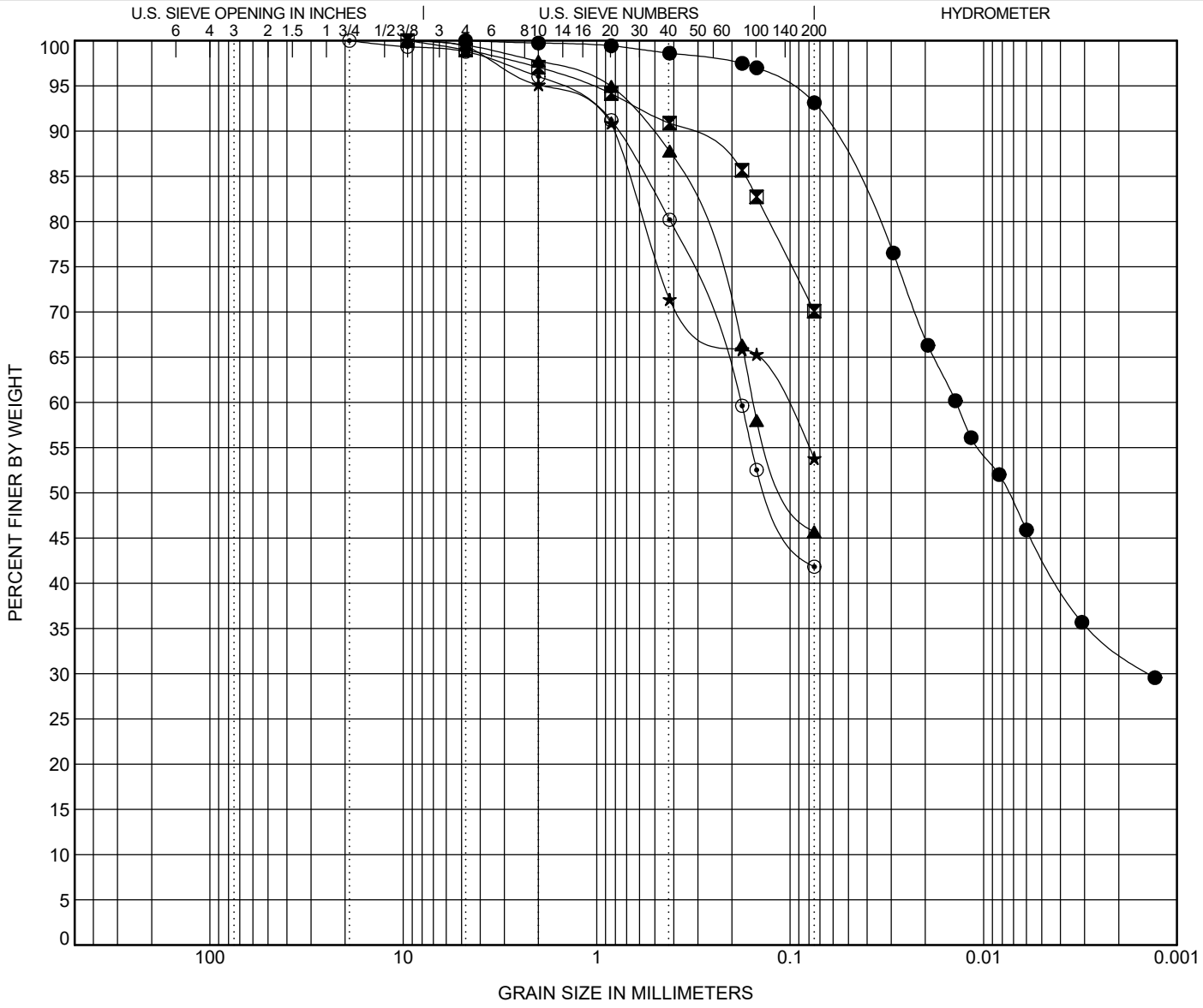


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-7	27.3	39	22	17	93	LEAN CLAY (CL/A-6)
⊠	B-7	39.3	34	31	3	70	SILT with SAND (ML/A-4)
▲	B-7	47.7	25	24	1	46	SILTY SAND (SM/A-4)
★	B-7	59.3	31	28	3	54	SANDY SILT (ML/A-4)
⊙	B-7	67.8	25	21	4	42	SILTY, CLAYEY SAND (SC-SM/A-4)
✿	B-7	71.7	25	23	2	30	SILTY SAND (SM/A-2-4)
○	B-7	79.8	53	21	32	90	FAT CLAY (CH/A-7-6)
△	B-7	84.3	30	21	9	27	CLAYEY SAND (SC/A-2-4)
⊗	B-7	94.3	109	49	60	95	ELASTIC SILT (MH/A-7-5)
⊕	B-7	109.2	102	61	41	95	ELASTIC SILT (MH/A-7-5)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-7**	**27.3**	**LEAN CLAY (CL/A-6)**	**39**	**22**	**17**		
⊠	**B-7**	**39.3**	**SILT with SAND (ML/A-4)**	**34**	**31**	**3**		
▲	**B-7**	**47.7**	**SILTY SAND (SM/A-4)**	**25**	**24**	**1**		
★	**B-7**	**59.3**	**SANDY SILT (ML/A-4)**	**31**	**28**	**3**		
⊙	**B-7**	**67.8**	**SILTY, CLAYEY SAND (SC-SM/A-4)**	**25**	**21**	**4**		

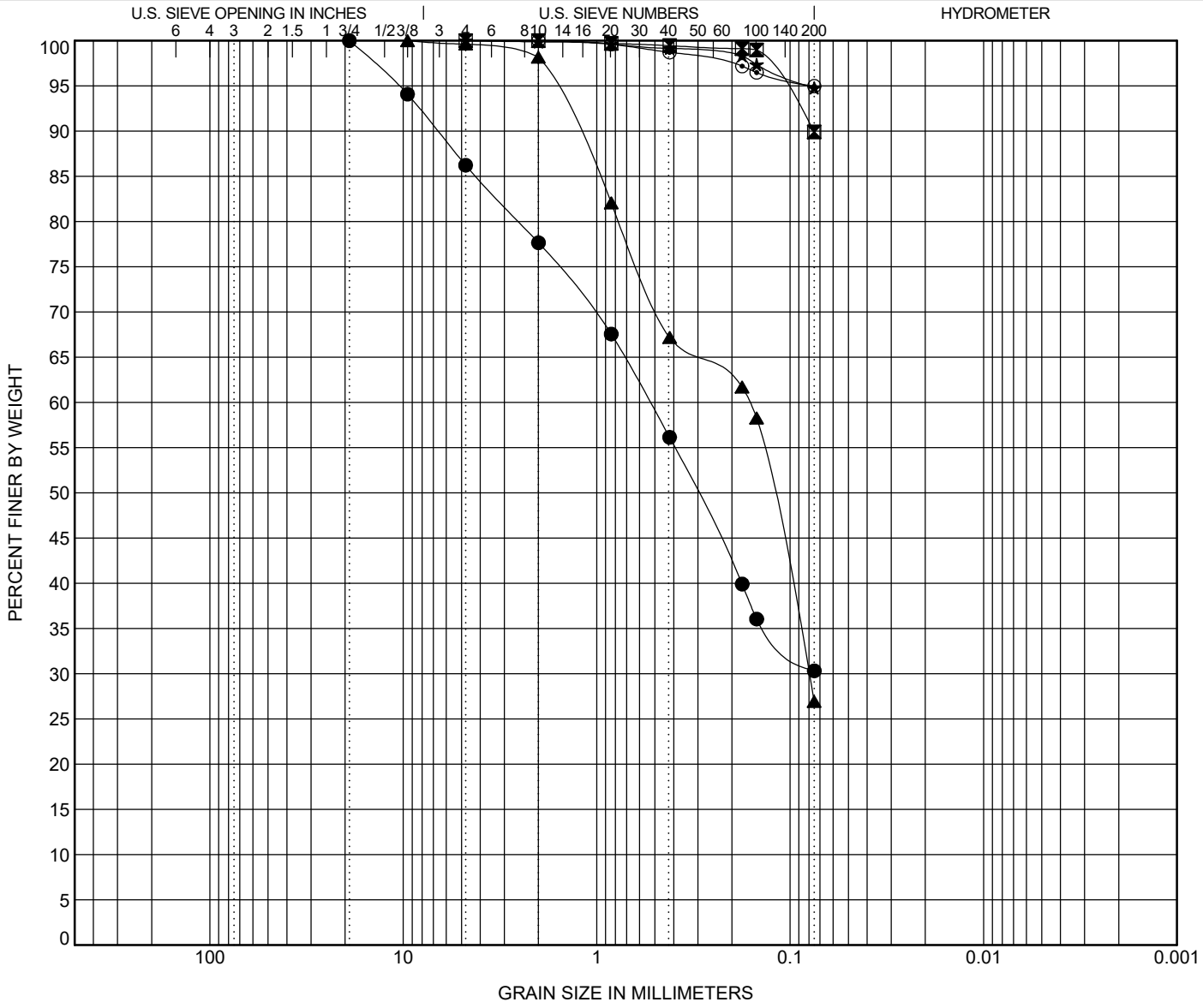
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-7**	**27.3**	**4.76**	**0.014**	**0.001**		**0.0**	**6.9**	**50.1**	**43.1**
⊠	**B-7**	**39.3**	**9.51**				**1.0**	**28.9**	**70.1**	
▲	**B-7**	**47.7**	**9.51**	**0.155**			**0.5**	**53.8**	**45.7**	
★	**B-7**	**59.3**	**9.51**	**0.108**			**0.6**	**45.6**	**53.8**	
⊙	**B-7**	**67.8**	**19**	**0.18**			**1.2**	**56.9**	**41.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/26/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-7	71.7	SILTY SAND (SM/A-2-4)	25	23	2		
⊠	B-7	79.8	FAT CLAY (CH/A-7-6)	53	21	32		
▲	B-7	84.3	CLAYEY SAND (SC/A-2-4)	30	21	9		
★	B-7	94.3	ELASTIC SILT (MH/A-7-5)	109	49	60		
⊙	B-7	109.2	ELASTIC SILT (MH/A-7-5)	102	61	41		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-7	71.7	19	0.531			13.8	55.9	30.3	
⊠	B-7	79.8	4.76				0.0	10.1	89.9	
▲	B-7	84.3	9.51	0.163	0.08		0.4	72.7	26.9	
★	B-7	94.3	4.76				0.0	5.2	94.8	
⊙	B-7	109.2	2				0.0	5.0	95.0	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/26/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1868	**DATE SAMPLE RECEIVED:**	6/12/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW	**DATE SETUP:**	6/13/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/14/2023

BORING NO.	B-7	B-7	B-7	B-7	B-7
SAMPLE NO.	SS-4	SS-7	SS-9	SS-12	SS-14
SAMPLE DEPTH (FT.)	25.3 - 27.3	37.8 - 39.3	45.8 - 47.7	57.8 - 59.3	65.8 - 67.8
WATER CONTENT, W%	32.0	33.8	26.6	30.4	24.0

BORING NO.	B-7	B-7	B-7	B-7	B-7
SAMPLE NO.	SS-15	SS-17	SS-18	SS-20	SS-23
SAMPLE DEPTH (FT.)	69.8 - 71.7	77.8 - 79.8	82.8 - 84.3	92.8 - 94.3	107.8 - 109.2
WATER CONTENT, W%	24.6	45.3	25.7	80.8	48.2

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

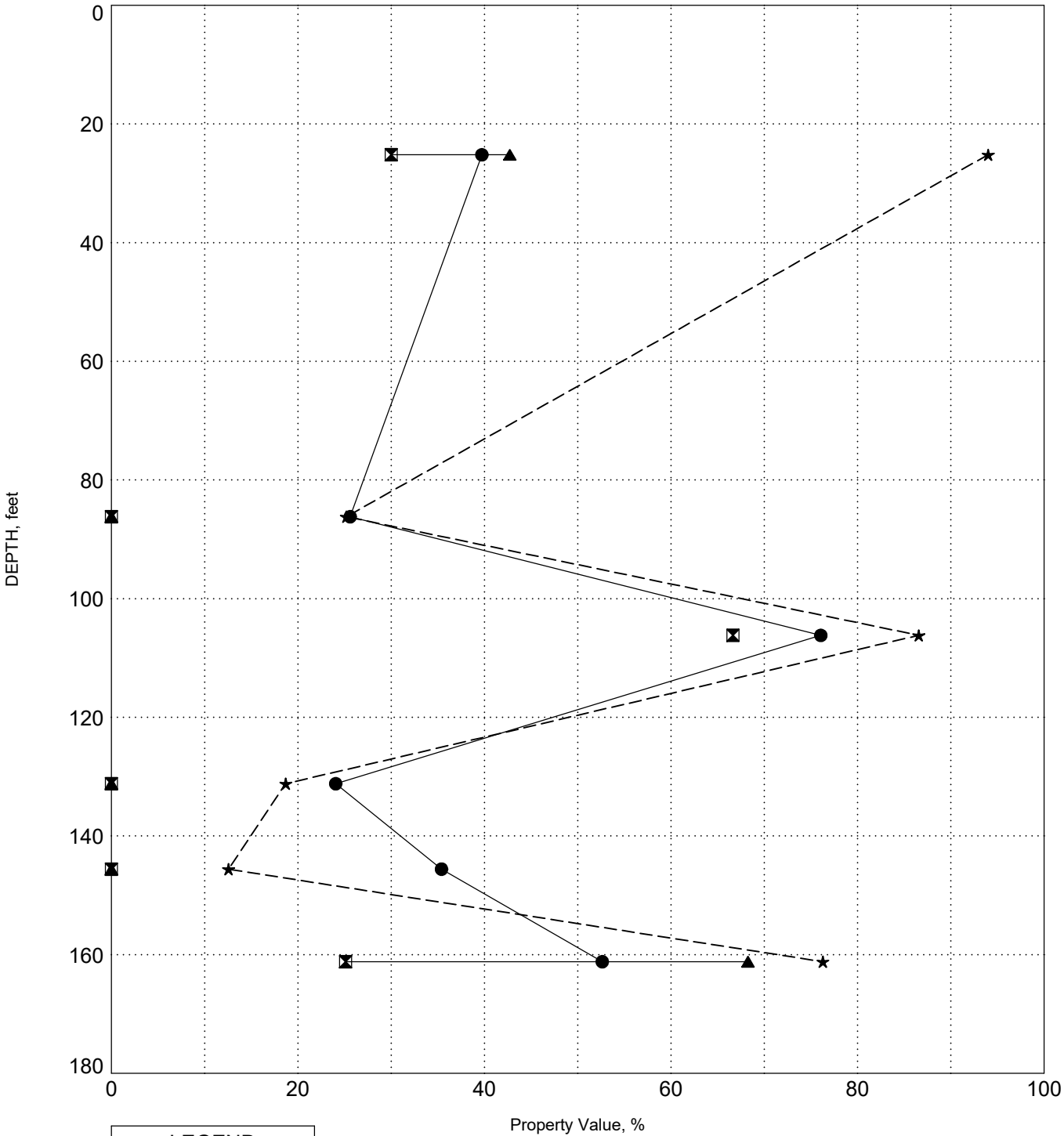
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-8

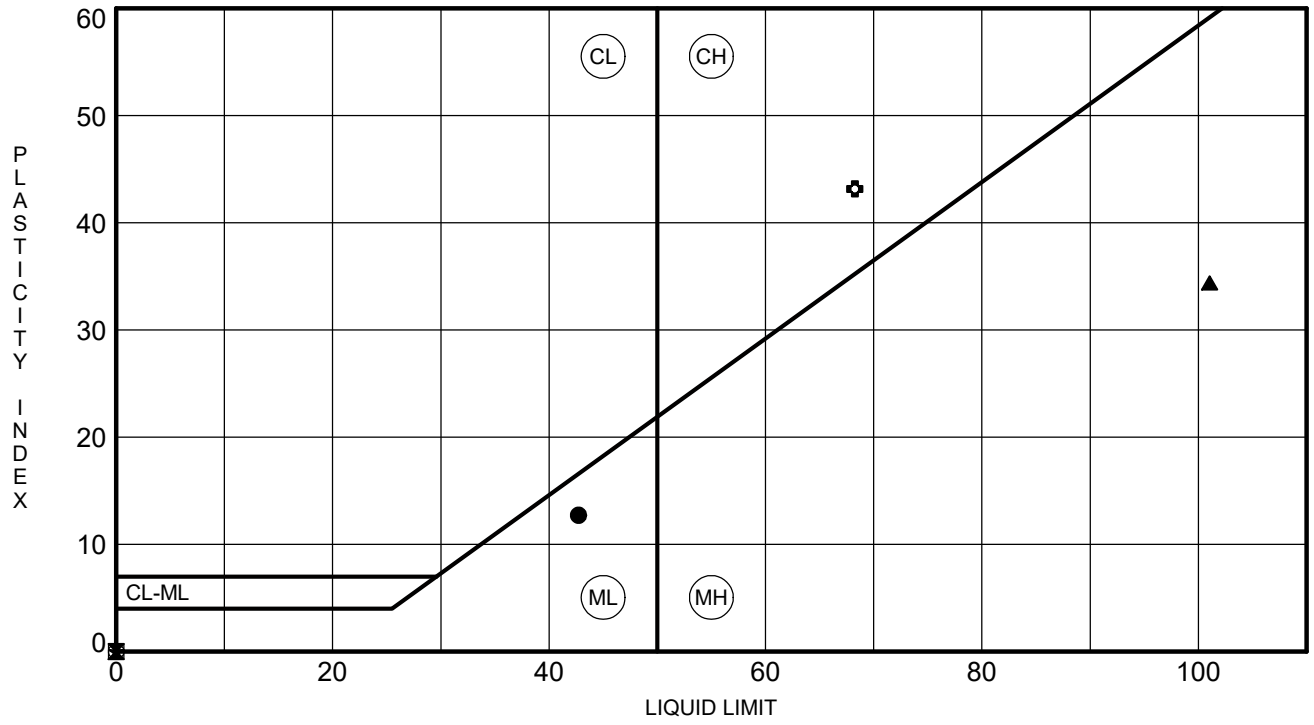
SURFACE ELEVATION: 78.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



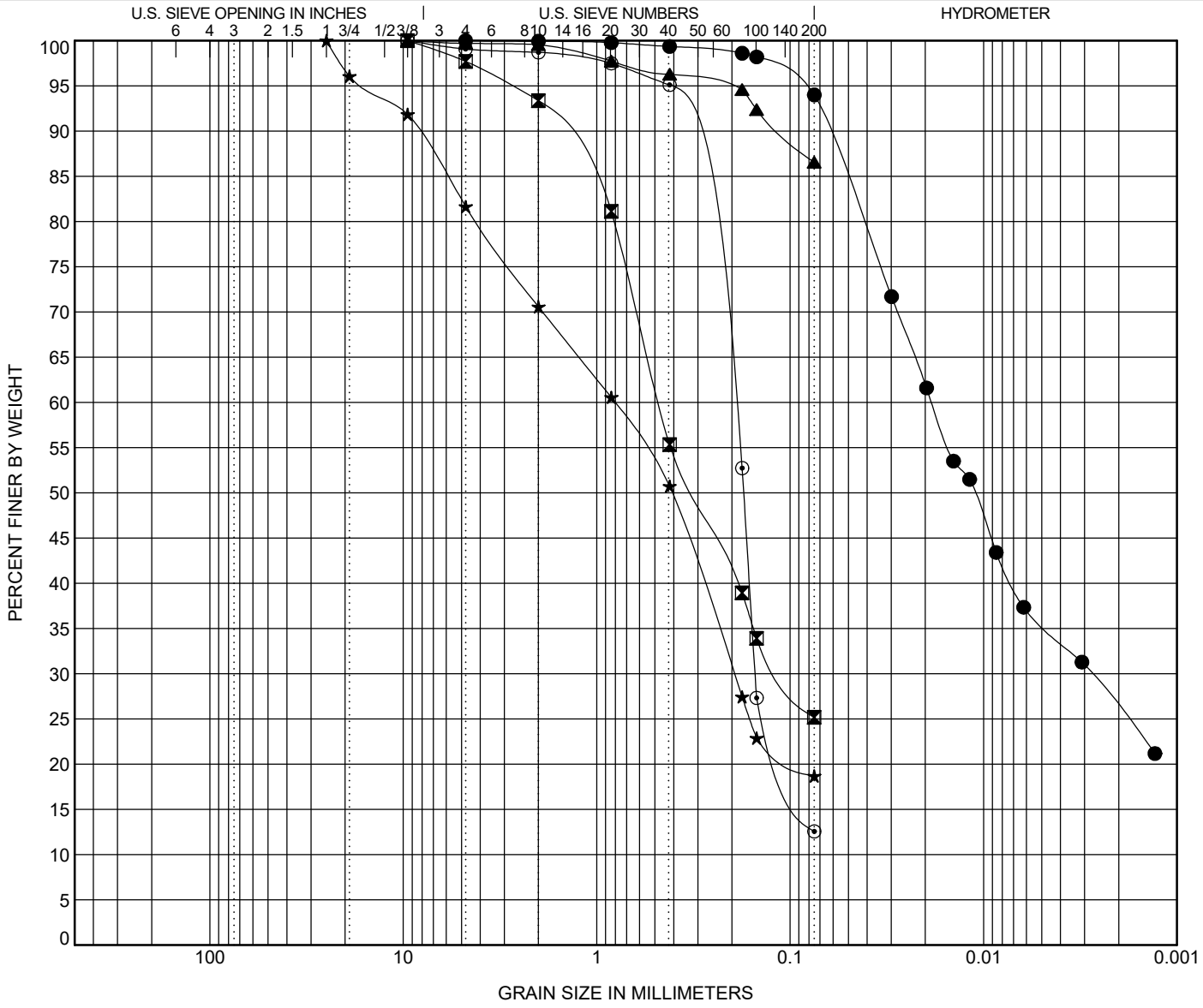
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-8**	**25.2**	**43**	**30**	**13**	**94**	**SILT (ML/A-7-5)**
⊠	**B-8**	**86.2**	**NP**	**NP**	**NP**	**25**	**SILTY SAND (SM/A-2-4)**
▲	**B-8**	**106.2**	**101**	**67**	**34**	**87**	**ELASTIC SILT (MH/A-7-5)**
★	**B-8**	**131.2**	**NP**	**NP**	**NP**	**19**	**SILTY SAND with GRAVEL (SM/A-2-4)**
⊙	**B-8**	**145.6**	**NP**	**NP**	**NP**	**13**	**SILTY SAND (SM/A-2-4)**
✿	**B-8**	**161.2**	**68**	**25**	**43**	**76**	**FAT CLAY with SAND (CH/A-7-6)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/20/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

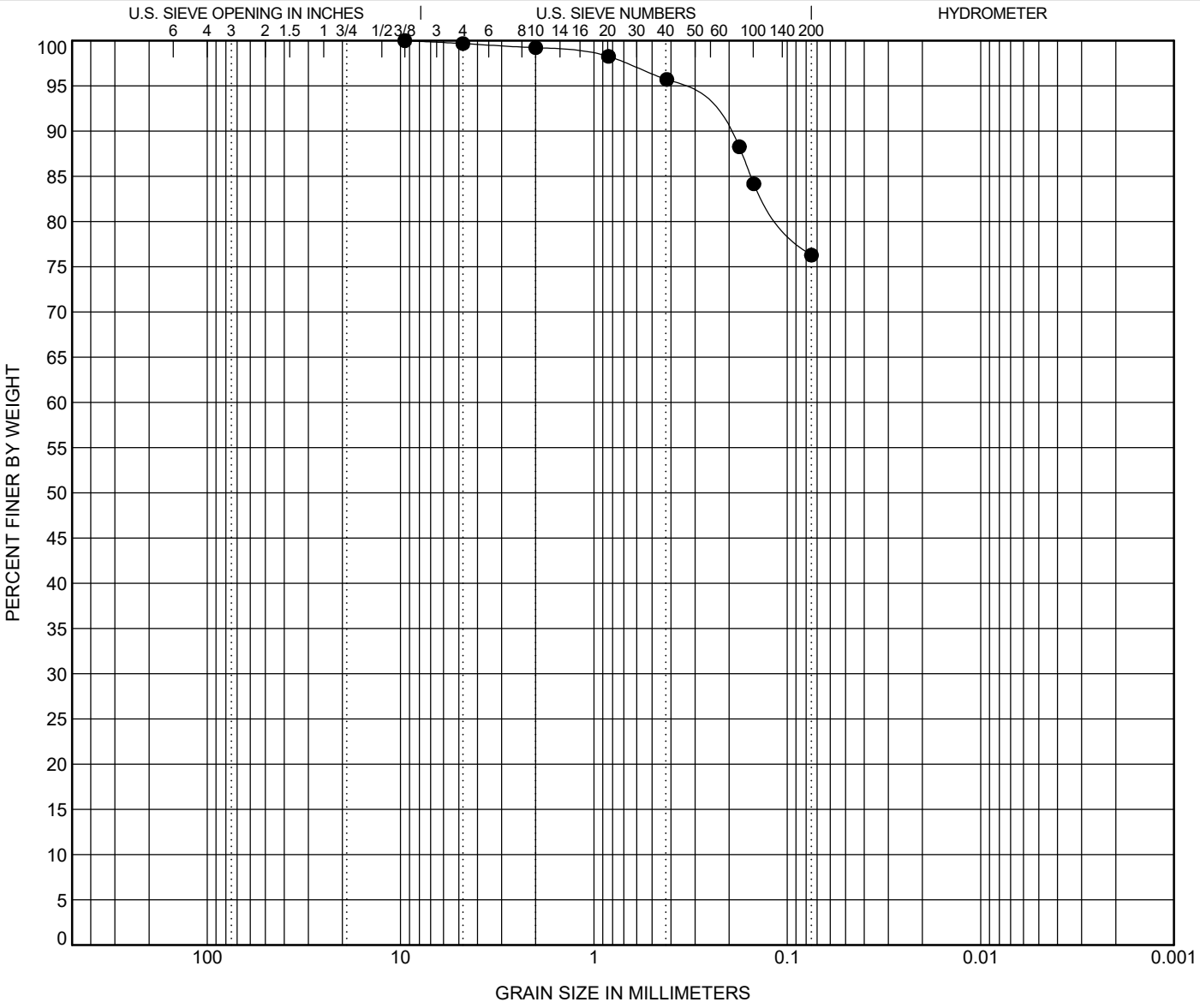
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-8**	**25.2**	**SILT (ML/A-7-5)**	**43**	**30**	**13**		
⊠	**B-8**	**86.2**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
▲	**B-8**	**106.2**	**ELASTIC SILT (MH/A-7-5)**	**101**	**67**	**34**		
★	**B-8**	**131.2**	**SILTY SAND with GRAVEL (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊙	**B-8**	**145.6**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-8**	**25.2**	**4.76**	**0.018**	**0.003**		**0.0**	**6.0**	**58.5**	**35.5**
⊠	**B-8**	**86.2**	**9.51**	**0.476**	**0.11**		**2.3**	**72.5**	**25.2**	
▲	**B-8**	**106.2**	**9.51**				**0.3**	**13.1**	**86.6**	
★	**B-8**	**131.2**	**25**	**0.808**	**0.195**		**18.4**	**62.9**	**18.7**	
⊙	**B-8**	**145.6**	**9.51**	**0.205**	**0.152**		**0.9**	**86.5**	**12.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-8**	**161.2**	**FAT CLAY with SAND (CH/A-7-6)**	**68**	**25**	**43**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-8**	**161.2**	**9.51**				**0.3**	**23.4**	**76.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/20/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0952	**DATE SAMPLE RECEIVED:**	4/7/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	4/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	4/11/2023

BORING NO.	B-8	B-8	B-8	B-8	B-8
SAMPLE NO.	SS-2	SS-9	SS-13	SS-18	SS-21
SAMPLE DEPTH (FT.)	23.2 - 25.2	84.7 - 86.2	104.7 - 106.2	129.7 - 131.2	144.7 - 145.6
WATER CONTENT, W%	39.7	25.6	76.1	24.1	35.4

BORING NO.	B-8				
SAMPLE NO.	SS-24				
SAMPLE DEPTH (FT.)	159.7 - 161.2				
WATER CONTENT, W%	52.6				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

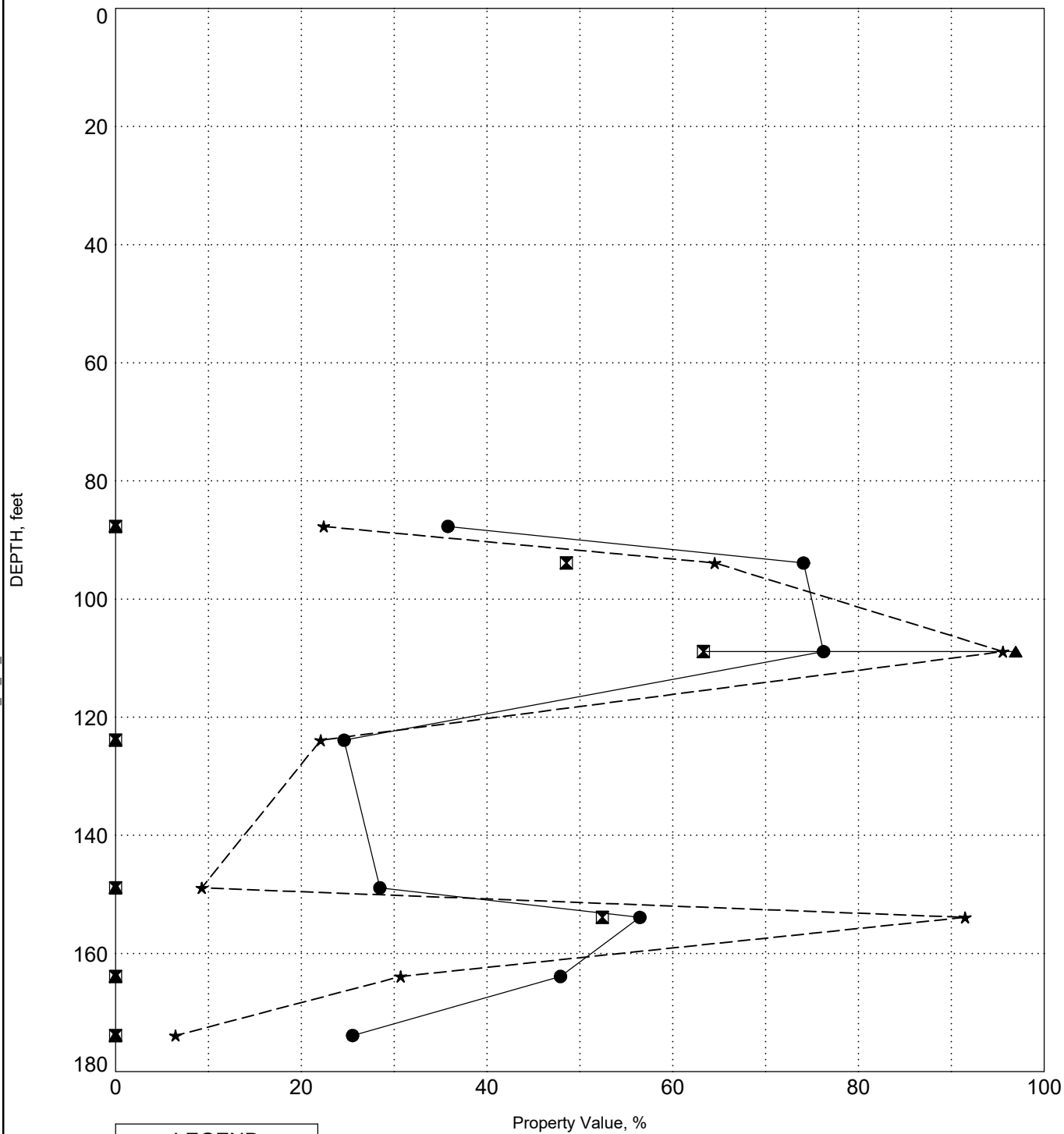
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-9

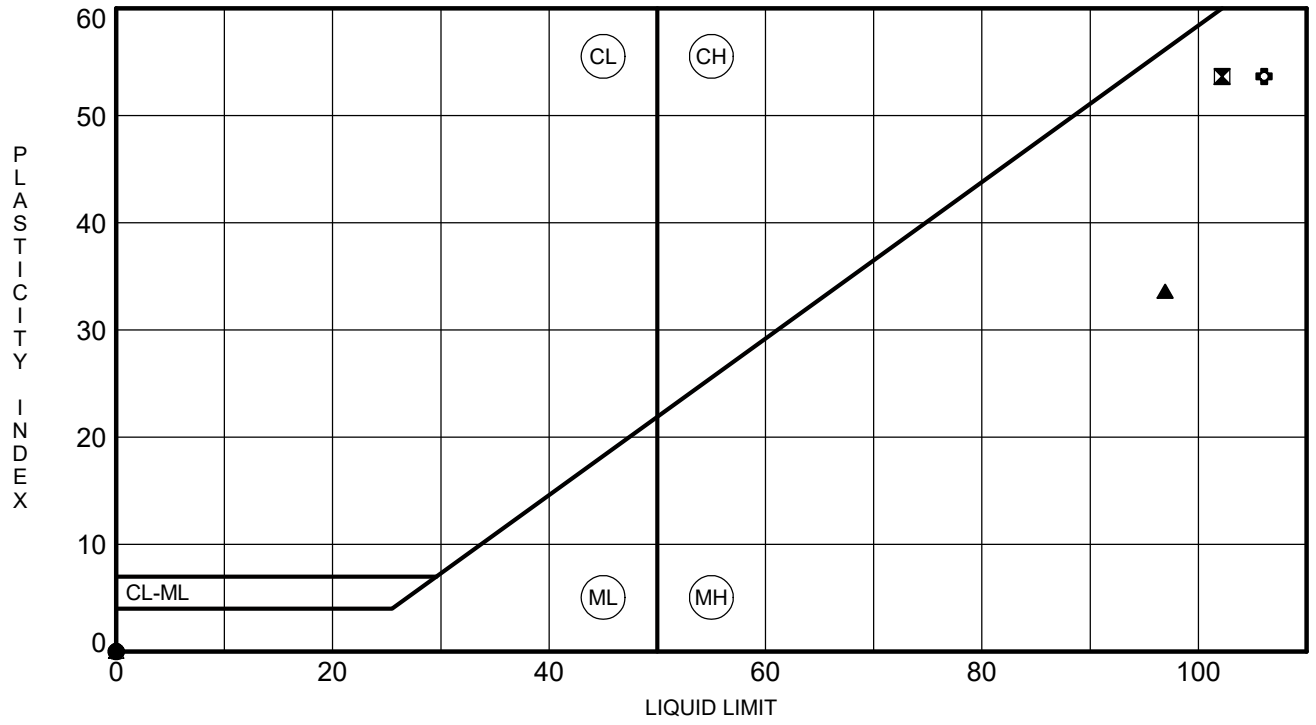
SURFACE ELEVATION: 78.3



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

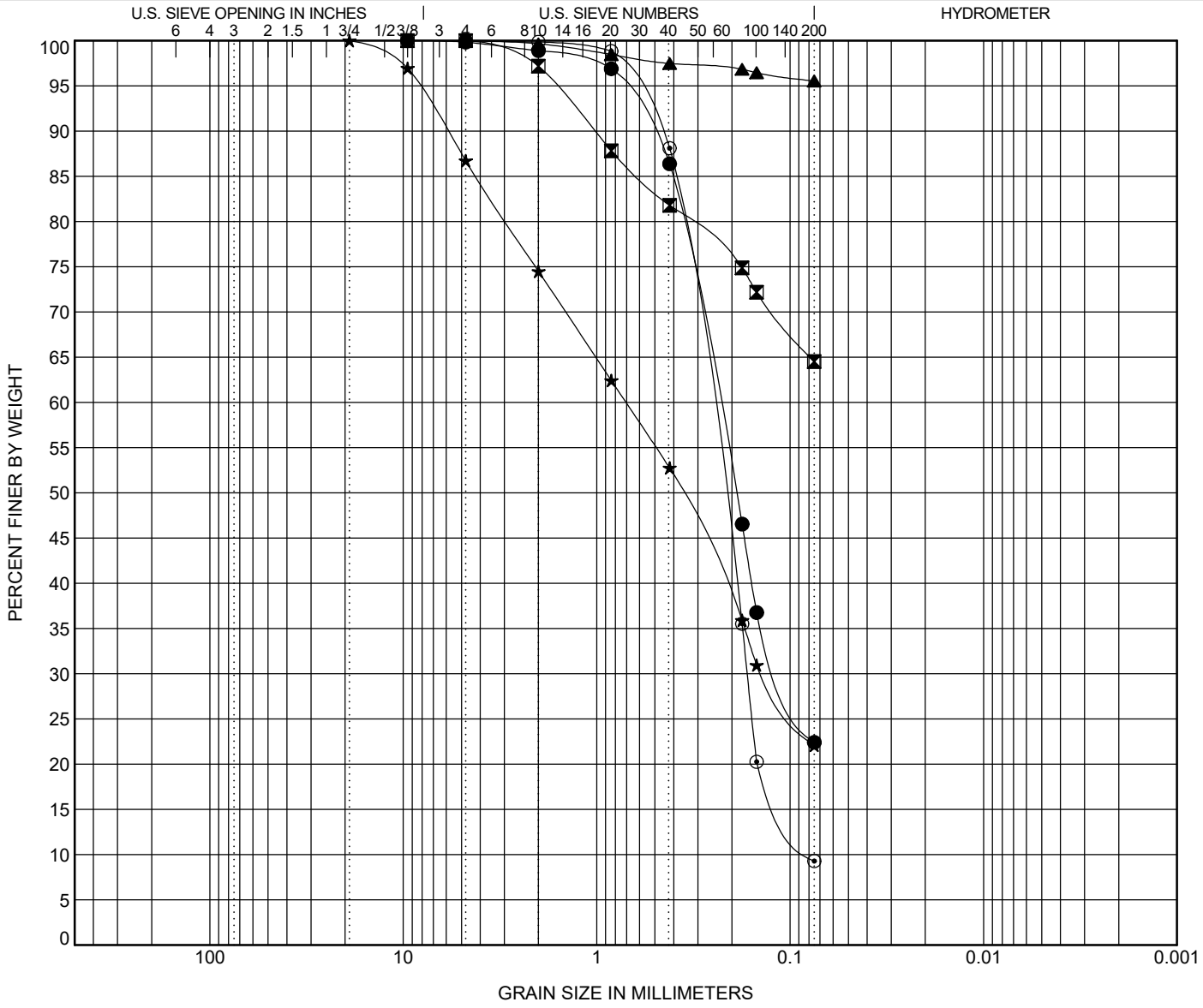


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-9**	**87.7**	**NP**	**NP**	**NP**	**22**	**SILTY SAND (SM/A-2-4)**
⊠	**B-9**	**93.9**	**102**	**49**	**53**	**65**	**SANDY ELASTIC SILT (MH/A-7-5)**
▲	**B-9**	**108.9**	**97**	**63**	**34**	**96**	**ELASTIC SILT (MH/A-7-5)**
★	**B-9**	**123.9**	**NP**	**NP**	**NP**	**22**	**SILTY SAND (SM/A-2-4)**
⊙	**B-9**	**148.9**	**NP**	**NP**	**NP**	**9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
✿	**B-9**	**153.9**	**106**	**52**	**54**	**91**	**ELASTIC SILT (MH/A-7-5)**
○	**B-9**	**163.9**	**NP**	**NP**	**NP**	**31**	**SILTY SAND (SM/A-2-4)**
△	**B-9**	**173.9**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-9**	**87.7**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-9**	**93.9**	**SANDY ELASTIC SILT (MH/A-7-5)**	**102**	**49**	**53**		
▲	**B-9**	**108.9**	**ELASTIC SILT (MH/A-7-5)**	**97**	**63**	**34**		
★	**B-9**	**123.9**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊙	**B-9**	**148.9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.33**	**3.37**

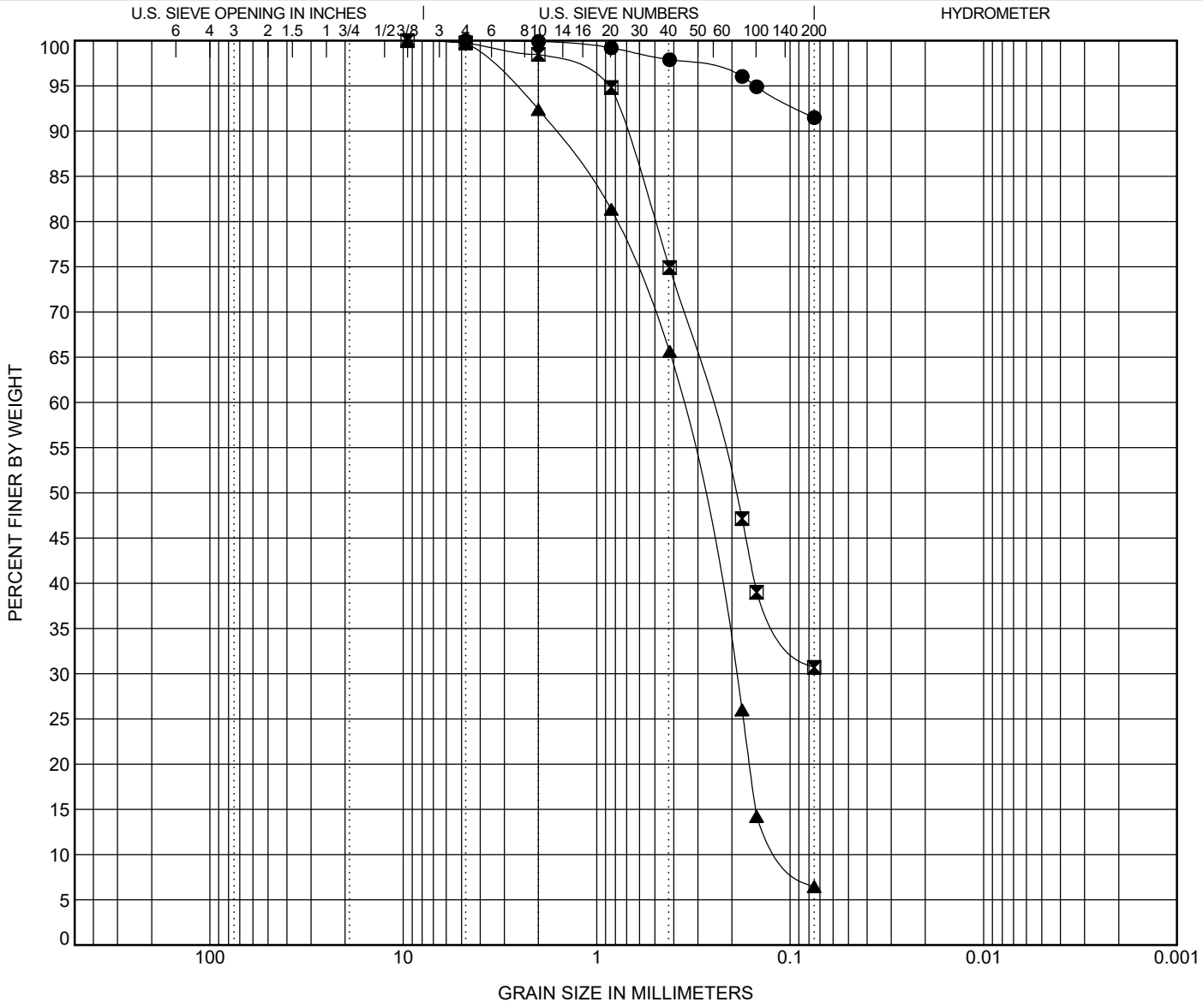
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-9**	**87.7**	**9.51**	**0.237**	**0.108**		**0.2**	**77.4**	**22.4**	
⊠	**B-9**	**93.9**	**9.51**				**0.0**	**35.5**	**64.5**	
▲	**B-9**	**108.9**	**4.76**				**0.0**	**4.4**	**95.6**	
★	**B-9**	**123.9**	**19**	**0.706**	**0.138**		**13.3**	**64.6**	**22.1**	
⊙	**B-9**	**148.9**	**4.76**	**0.265**	**0.166**	**0.078**	**0.0**	**90.7**	**9.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-9**	**153.9**	**ELASTIC SILT (MH/A-7-5)**	**106**	**52**	**54**		
⊠	**B-9**	**163.9**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
▲	**B-9**	**173.9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.98**	**3.62**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-9**	**153.9**	**4.76**				**0.0**	**8.5**	**91.5**	
⊠	**B-9**	**163.9**	**9.51**	**0.264**			**0.2**	**69.1**	**30.7**	
▲	**B-9**	**173.9**	**9.51**	**0.371**	**0.193**	**0.103**	**0.3**	**93.2**	**6.4**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1829	**DATE SAMPLE RECEIVED:**	6/12/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW	**DATE SETUP:**	6/13/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/14/2023

BORING NO.	B-9	B-9	B-9	B-9	B-9
SAMPLE NO.	SS-4	SS-5	SS-8	SS-11	SS-16
SAMPLE DEPTH (FT.)	86.3 - 87.7	92.4 - 93.9	107.4 -108.9	122.4 - 123.9	147.4 - 148.9
WATER CONTENT, W%	35.8	74.1	76.2	24.6	28.5

BORING NO.	B-9	B-9	B-9		
SAMPLE NO.	SS-17	SS-19	SS-21		
SAMPLE DEPTH (FT.)	152.4 - 153.9	162.4 - 163.9	172.4 - 173.9		
WATER CONTENT, W%	56.5	47.9	25.5		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

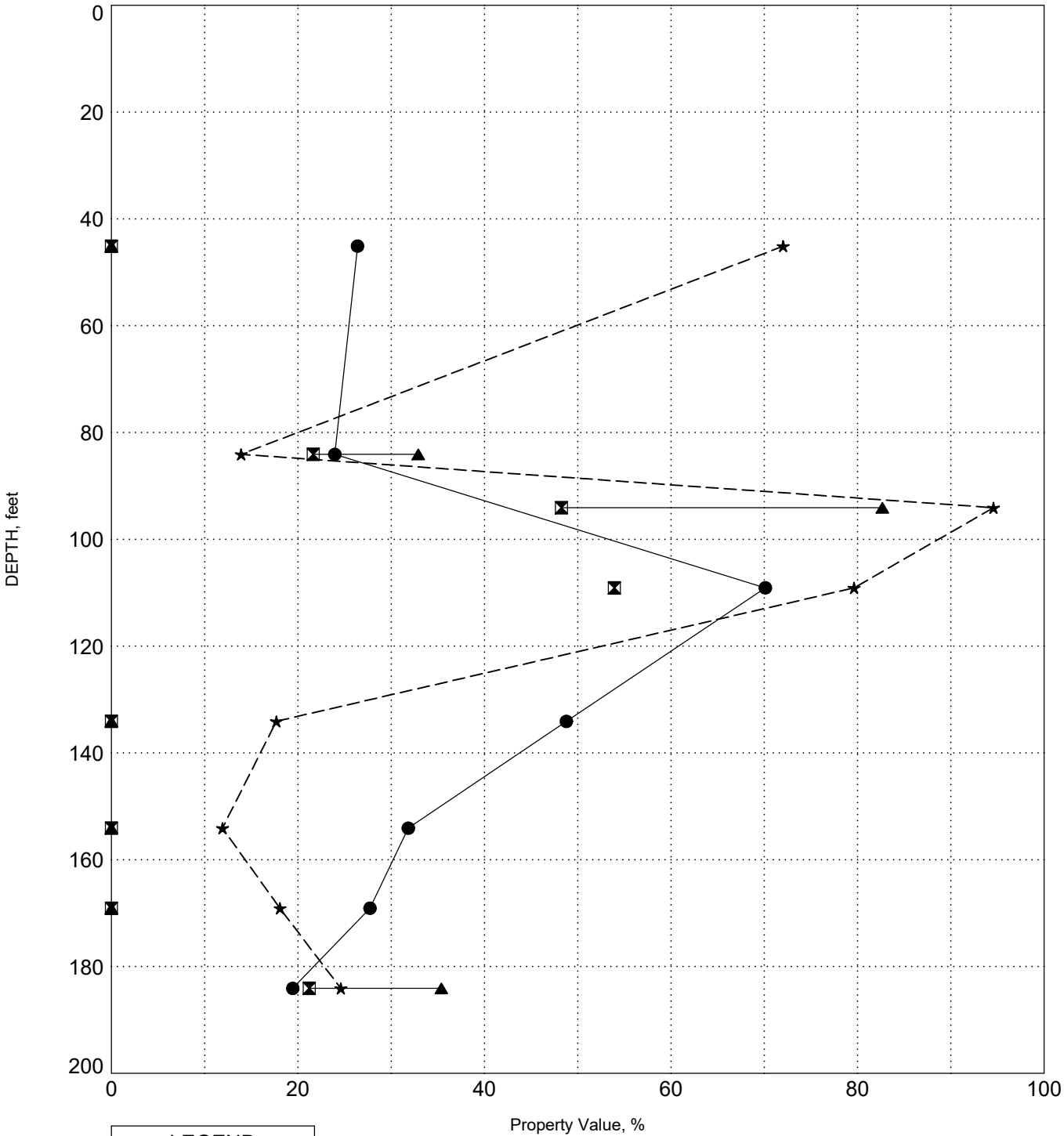
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-10

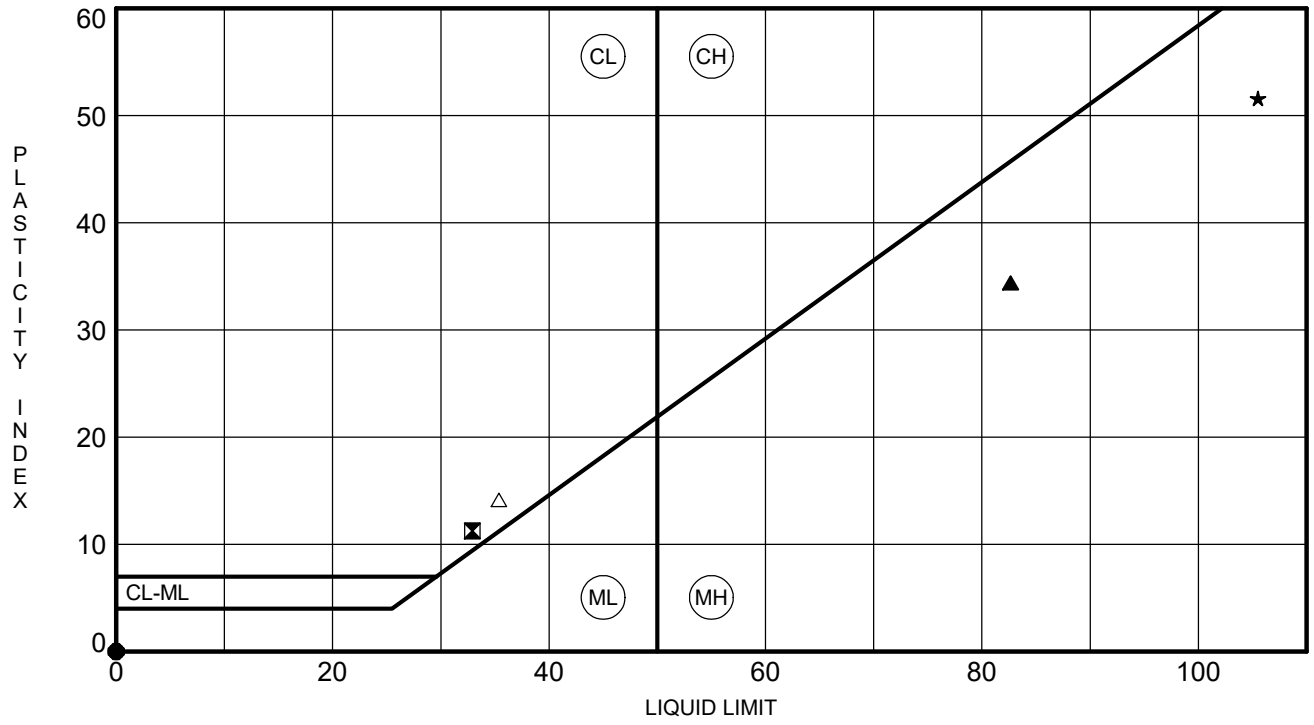
SURFACE ELEVATION: 78.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

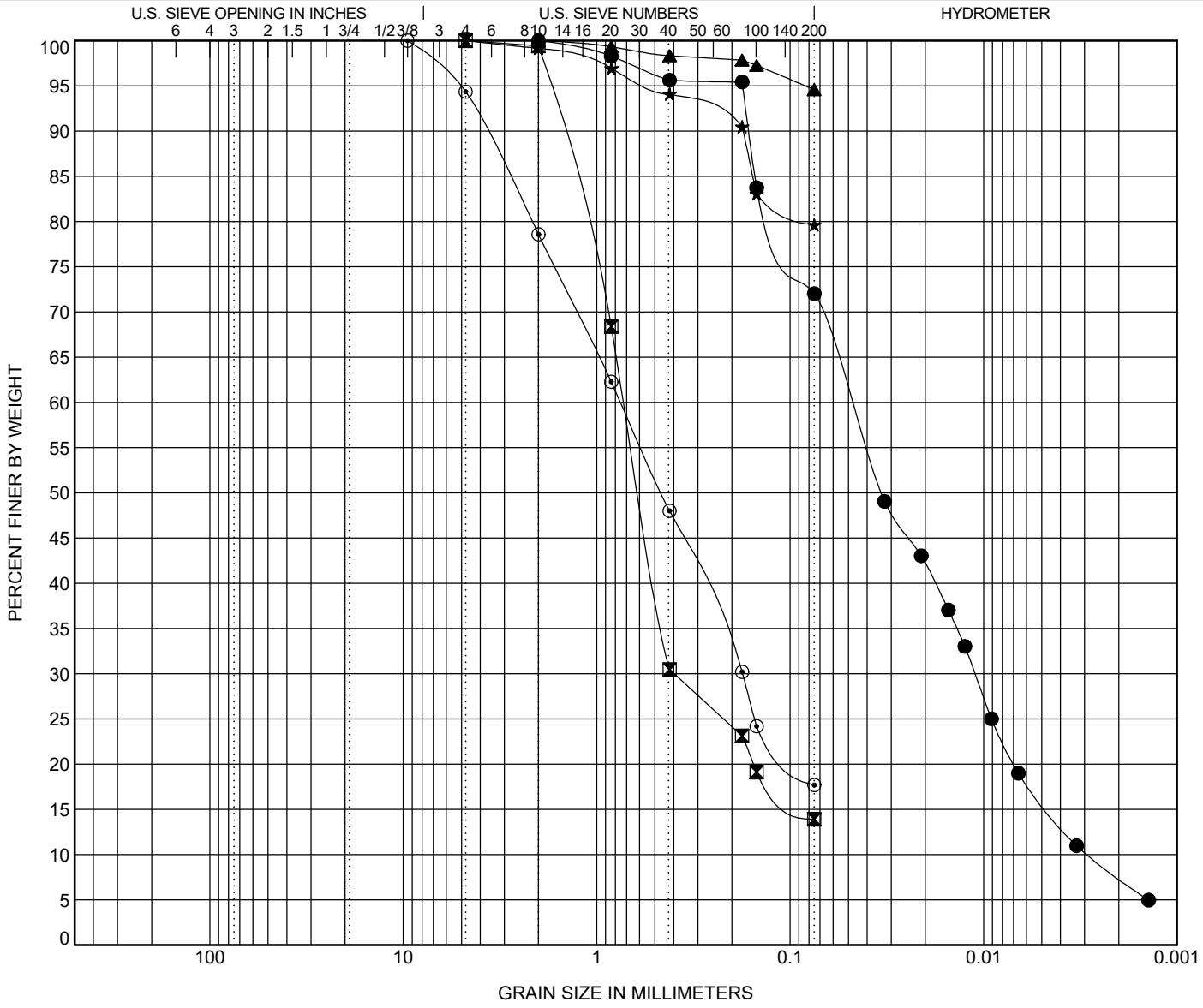


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-10**	**45.1**	**NP**	**NP**	**NP**	**72**	**SILT with SAND (ML/A-4)**
⊠	**B-10**	**84.1**	**33**	**22**	**11**	**14**	**CLAYEY SAND (SC/A-2-6)**
▲	**B-10**	**94.1**	**83**	**48**	**35**	**95**	**ELASTIC SILT (MH/A-7-5)**
★	**B-10**	**109.1**	**106**	**54**	**52**	**80**	**ELASTIC SILT with SAND (MH/A-7-5)**
⊙	**B-10**	**134.1**	**NP**	**NP**	**NP**	**18**	**SILTY SAND (SM/A-1-b)**
✿	**B-10**	**154.1**	**NP**	**NP**	**NP**	**12**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**
○	**B-10**	**169.1**	**NP**	**NP**	**NP**	**18**	**SILTY SAND (SM/A-1-b)**
△	**B-10**	**184.1**	**35**	**21**	**14**	**25**	**CLAYEY SAND (SC/A-2-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-10	45.1	SILT with SAND (ML/A-4)	NP	NP	NP	0.89	16.87
⊠	B-10	84.1	CLAYEY SAND (SC/A-2-6)	33	22	11		
▲	B-10	94.1	ELASTIC SILT (MH/A-7-5)	83	48	35		
★	B-10	109.1	ELASTIC SILT with SAND (MH/A-7-5)	106	54	52		
⊙	B-10	134.1	SILTY SAND (SM/A-1-b)	NP	NP	NP		

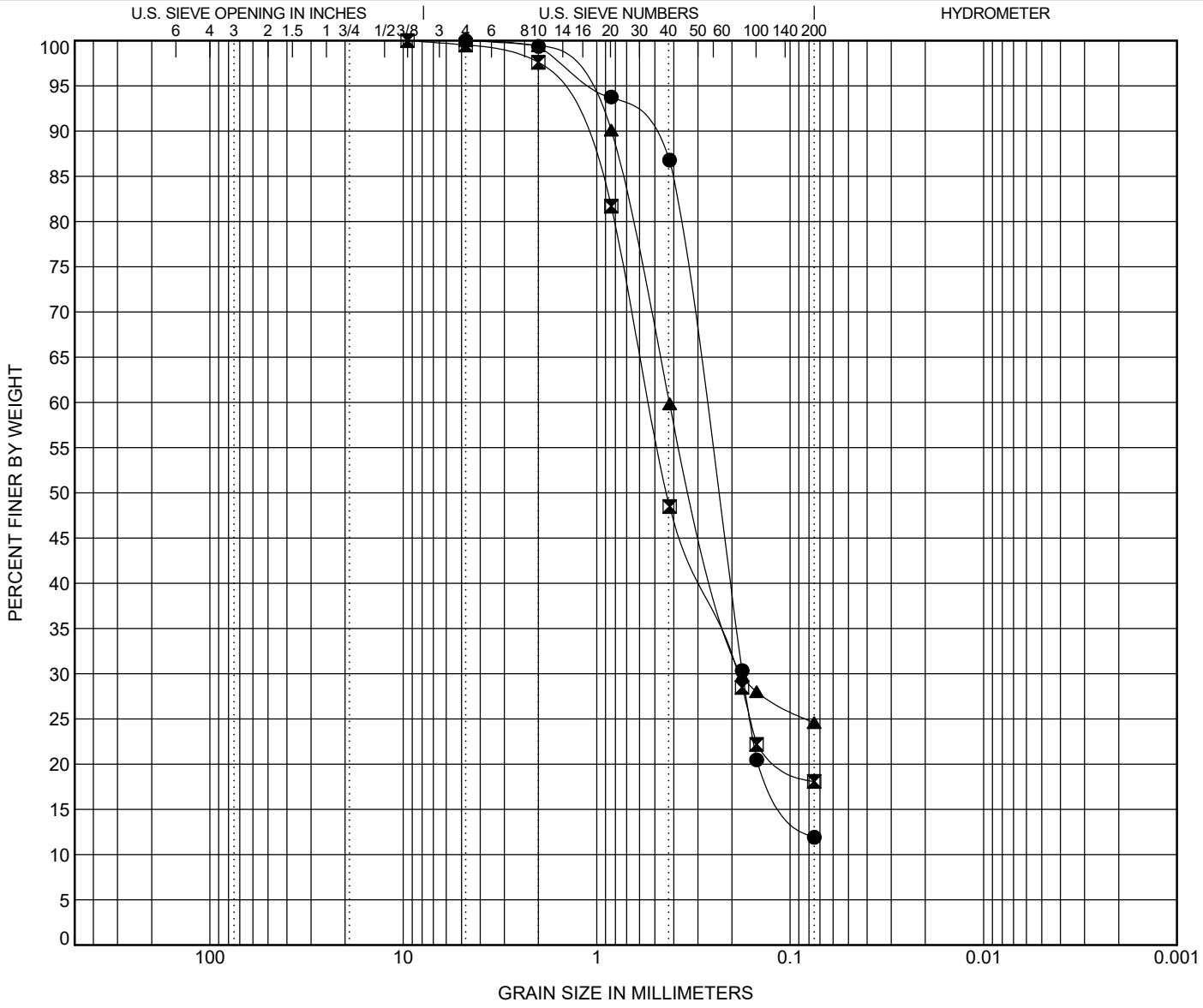
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-10	45.1	2	0.048	0.011	0.003	0.0	28.0	56.2	15.8
⊠	B-10	84.1	4.76	0.721	0.398		0.0	86.1	13.9	
▲	B-10	94.1	2				0.0	5.4	94.6	
★	B-10	109.1	4.76				0.0	20.4	79.6	
⊙	B-10	134.1	9.51	0.753	0.176		5.7	76.6	17.7	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/18/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-10**	**154.1**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**	**NP**	**NP**	**NP**	**1.73**	**4.33**
⊠	**B-10**	**169.1**	**SILTY SAND (SM/A-1-b)**	**NP**	**NP**	**NP**		
▲	**B-10**	**184.1**	**CLAYEY SAND (SC/A-2-6)**	**35**	**21**	**14**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-10**	**154.1**	**4.76**	**0.279**	**0.176**		**0.0**	**88.1**	**11.9**	
⊠	**B-10**	**169.1**	**9.51**	**0.534**	**0.189**		**0.5**	**81.4**	**18.1**	
▲	**B-10**	**184.1**	**4.76**	**0.422**	**0.178**		**0.0**	**75.4**	**24.6**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0951	**DATE SAMPLE RECEIVED:**	4/7/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TP	**DATE SETUP:**	4/10/2023
WEIGHED BY:	TP	**DATE OF WEIGHING:**	4/11/2023

BORING NO.	B-10	B-10	B-10	B-10	B-10
SAMPLE NO.	SS-3	SS-6	SS-8	SS-11	SS-16
SAMPLE DEPTH (FT.)	43.1 - 45.1	82.6 - 84.1	92.6 - 94.1	107.6 - 109.1	132.6 - 134.1
WATER CONTENT, W%	26.4	24.0	137.7	70.1	48.8

BORING NO.	B-10	B-10	B-10		
SAMPLE NO.	SS-20	SS-23	SS-26		
SAMPLE DEPTH (FT.)	152.6 - 154.1	167.6 - 169.1	182.6 - 184.1		
WATER CONTENT, W%	31.8	27.7	19.4		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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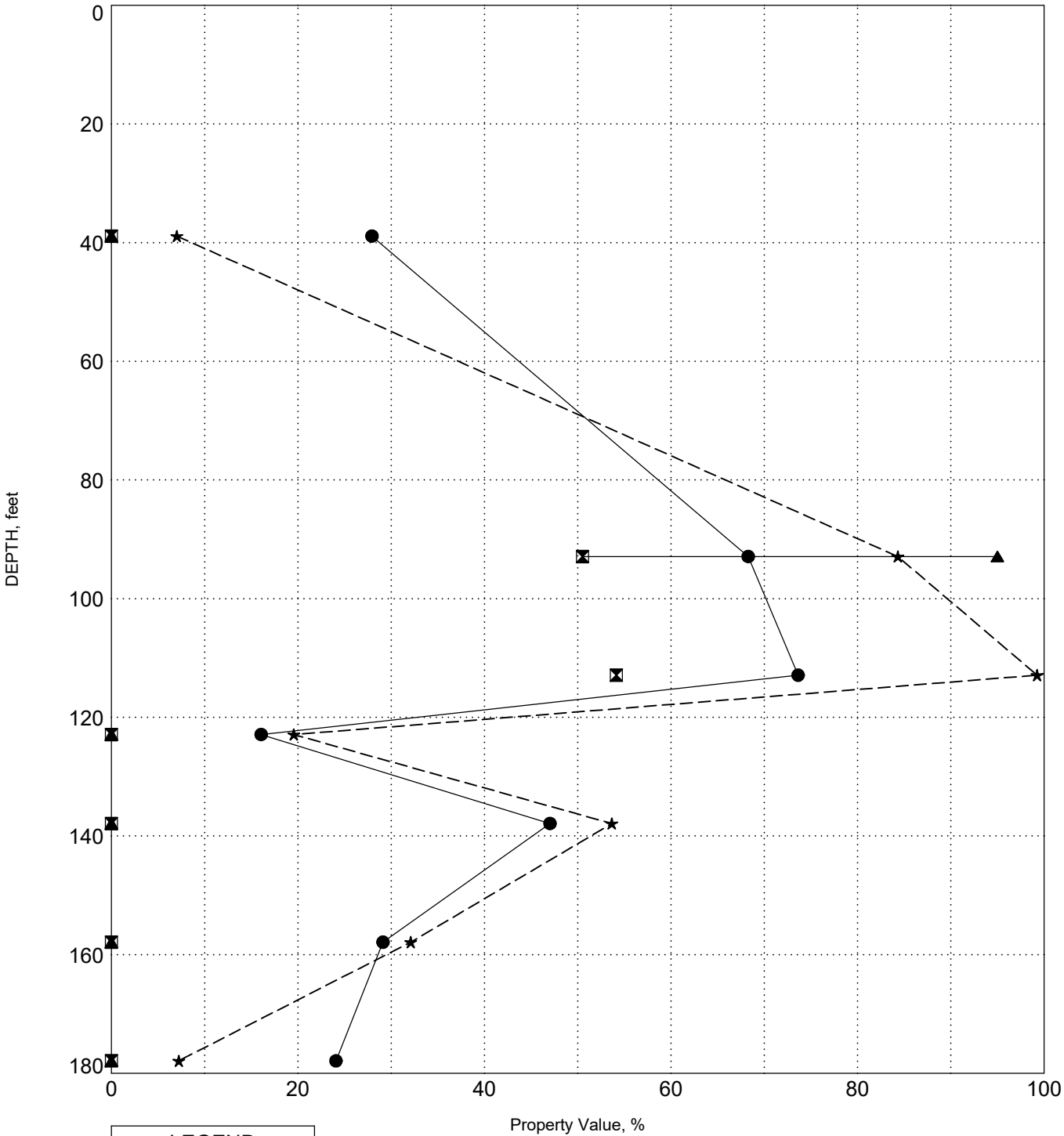
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-11

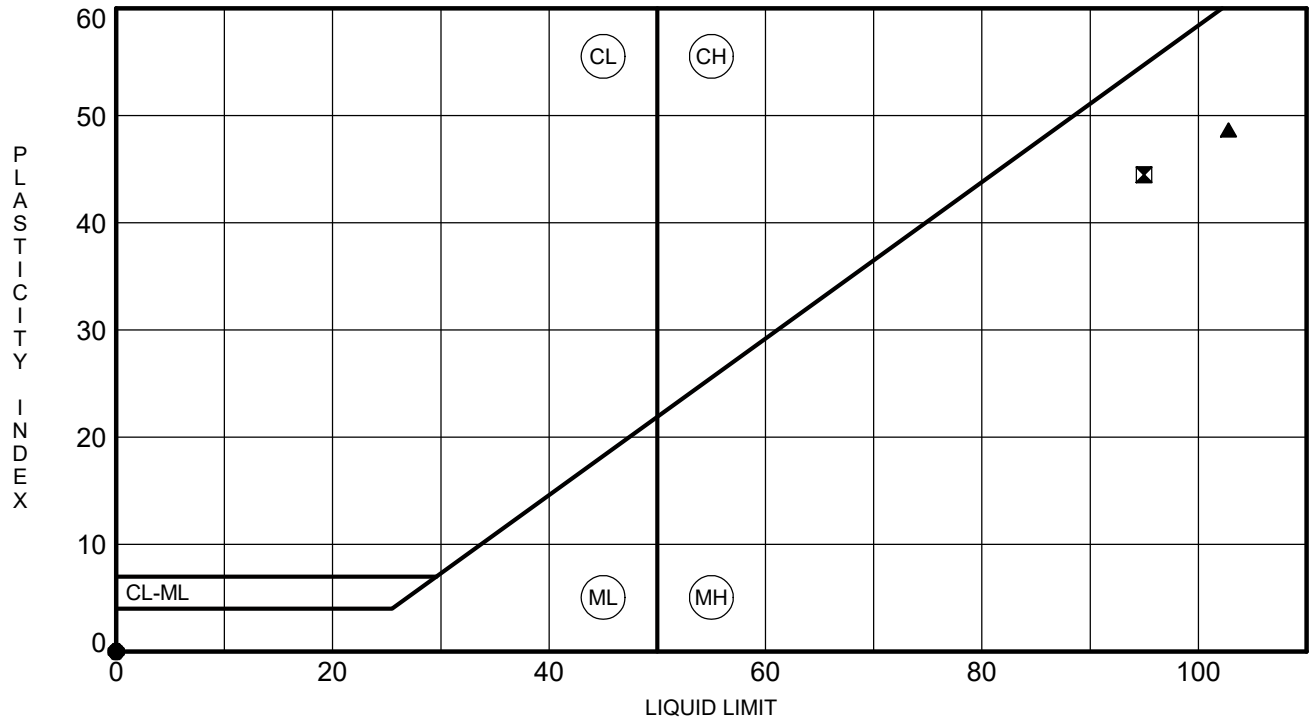
SURFACE ELEVATION: 78.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



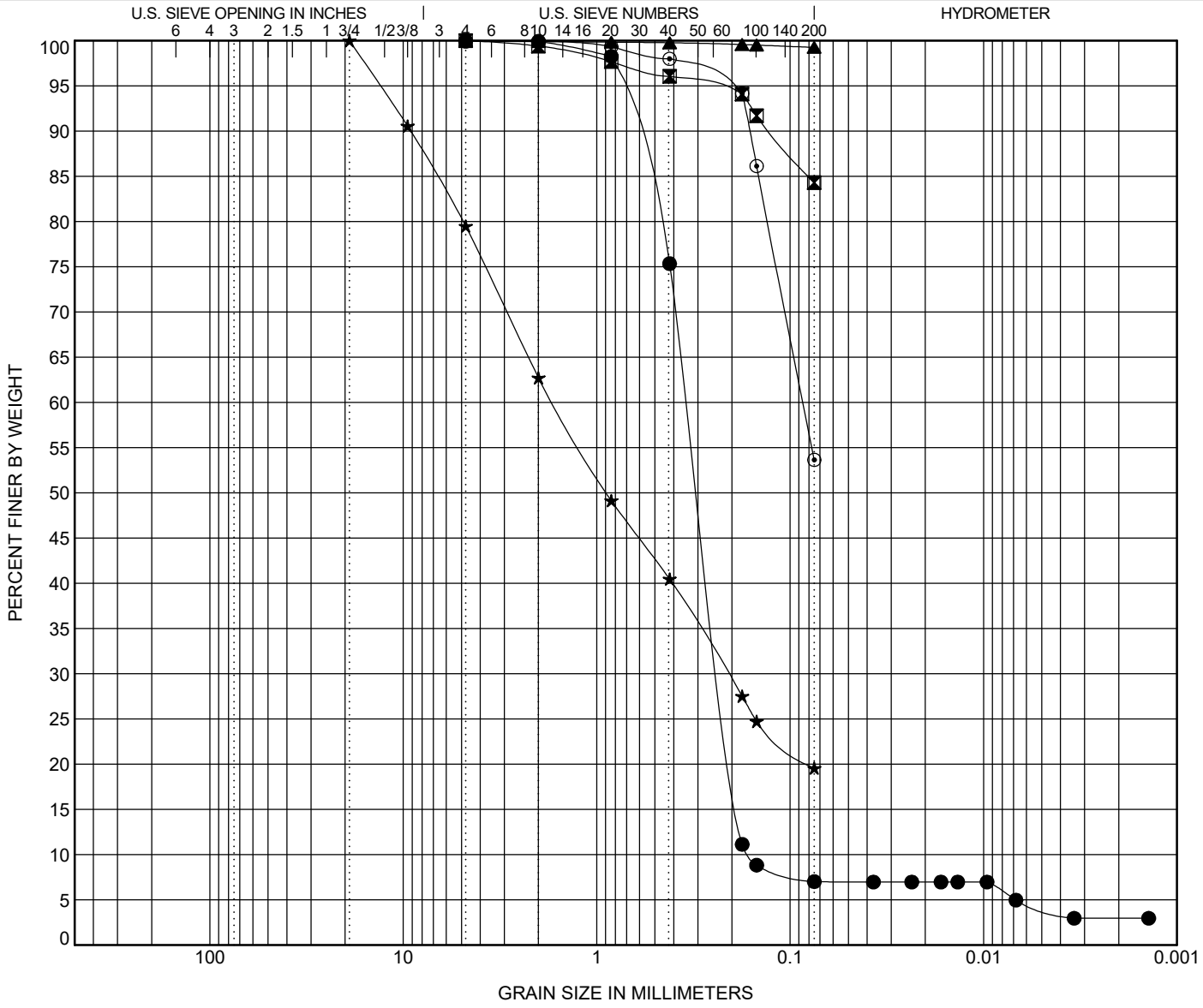
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-11**	**38.9**	**NP**	**NP**	**NP**	**7**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
⊠	**B-11**	**92.9**	**95**	**51**	**44**	**84**	**ELASTIC SILT with SAND (MH/A-7-5)**
▲	**B-11**	**112.9**	**103**	**54**	**49**	**99**	**ELASTIC SILT (MH/A-7-5)**
★	**B-11**	**122.9**	**NP**	**NP**	**NP**	**20**	**SILTY SAND with GRAVEL (SM/A-1-b)**
⊙	**B-11**	**137.9**	**NP**	**NP**	**NP**	**54**	**SANDY SILT (ML/A-4)**
✿	**B-11**	**157.9**	**NP**	**NP**	**NP**	**32**	**SILTY SAND (SM/A-2-4)**
○	**B-11**	**177.9**	**NP**	**NP**	**NP**	**7**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-11**	**38.9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.94**	**2.10**
⊠	**B-11**	**92.9**	**ELASTIC SILT with SAND (MH/A-7-5)**	**95**	**51**	**44**		
▲	**B-11**	**112.9**	**ELASTIC SILT (MH/A-7-5)**	**103**	**54**	**49**		
★	**B-11**	**122.9**	**SILTY SAND with GRAVEL (SM/A-1-b)**	**NP**	**NP**	**NP**		
⊙	**B-11**	**137.9**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		

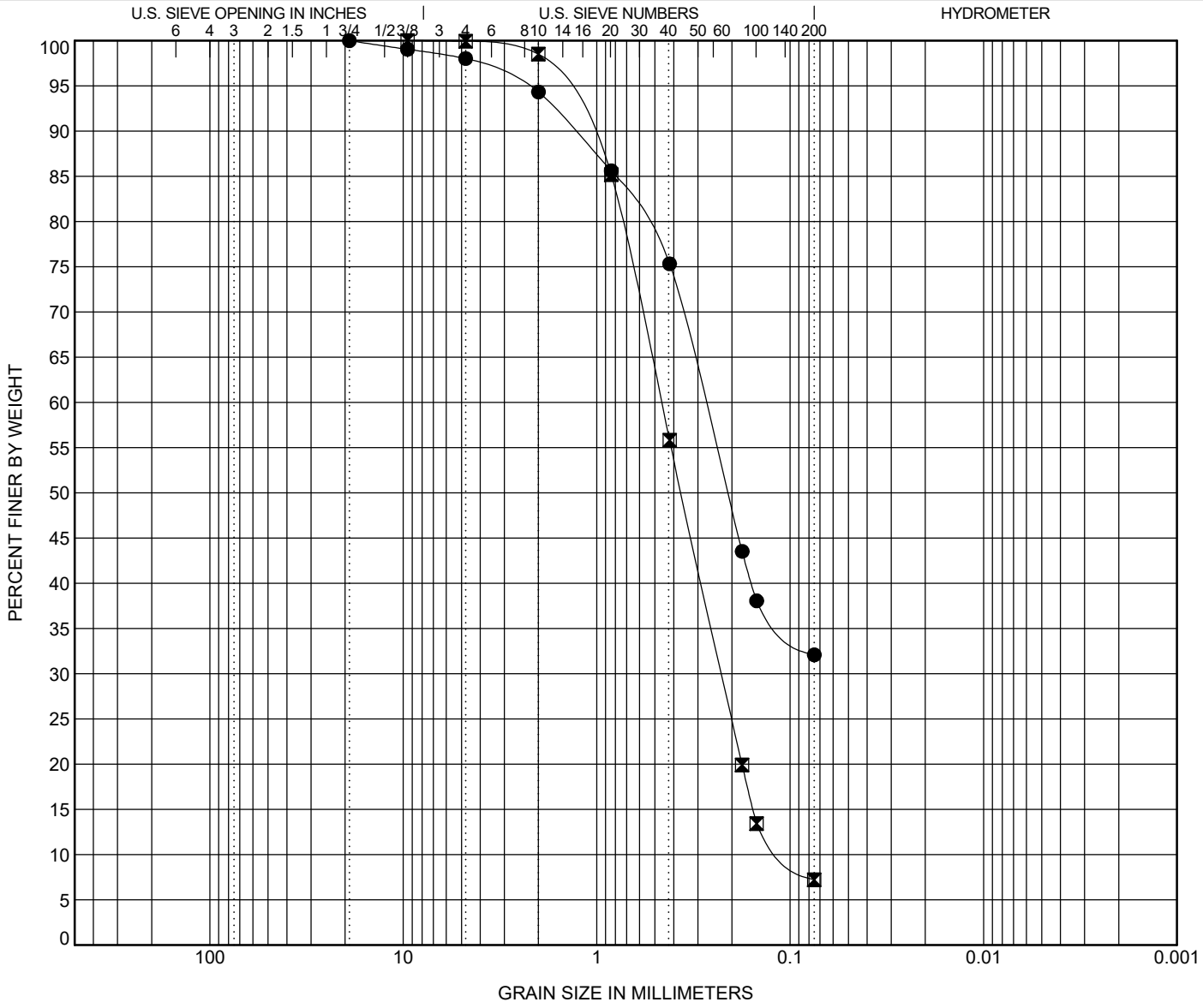
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-11**	**38.9**	**4.76**	**0.342**	**0.228**	**0.163**	**0.0**	**92.9**	**2.9**	**4.1**
⊠	**B-11**	**92.9**	**4.76**				**0.0**	**15.7**	**84.3**	
▲	**B-11**	**112.9**	**4.76**				**0.0**	**0.7**	**99.3**	
★	**B-11**	**122.9**	**19**	**1.682**	**0.209**		**20.5**	**59.9**	**19.6**	
⊙	**B-11**	**137.9**	**4.76**	**0.086**			**0.0**	**46.4**	**53.6**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-11**	**157.9**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-11**	**177.9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.08**	**4.54**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-11**	**157.9**	**19**	**0.277**			**2.0**	**65.9**	**32.1**	
⊠	**B-11**	**177.9**	**9.51**	**0.464**	**0.226**	**0.102**	**0.1**	**92.7**	**7.2**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1662	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-11	B-11	B-11	B-11	B-11
SAMPLE NO.	SS-3	SS-8	SS-12	SS-14	SS-17
SAMPLE DEPTH (FT.)	36.9 - 38.9	91.4 - 92.9	11.4 - 112.9	121.4 - 122.9	136.4 - 137.9
WATER CONTENT, W%	27.9	68.3	73.6	16.1	47.0

BORING NO.	B-11	B-11			
SAMPLE NO.	SS-21	SS-25			
SAMPLE DEPTH (FT.)	156.4 - 157.9	176.4 - 177.9			
WATER CONTENT, W%	29.1	24.1			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

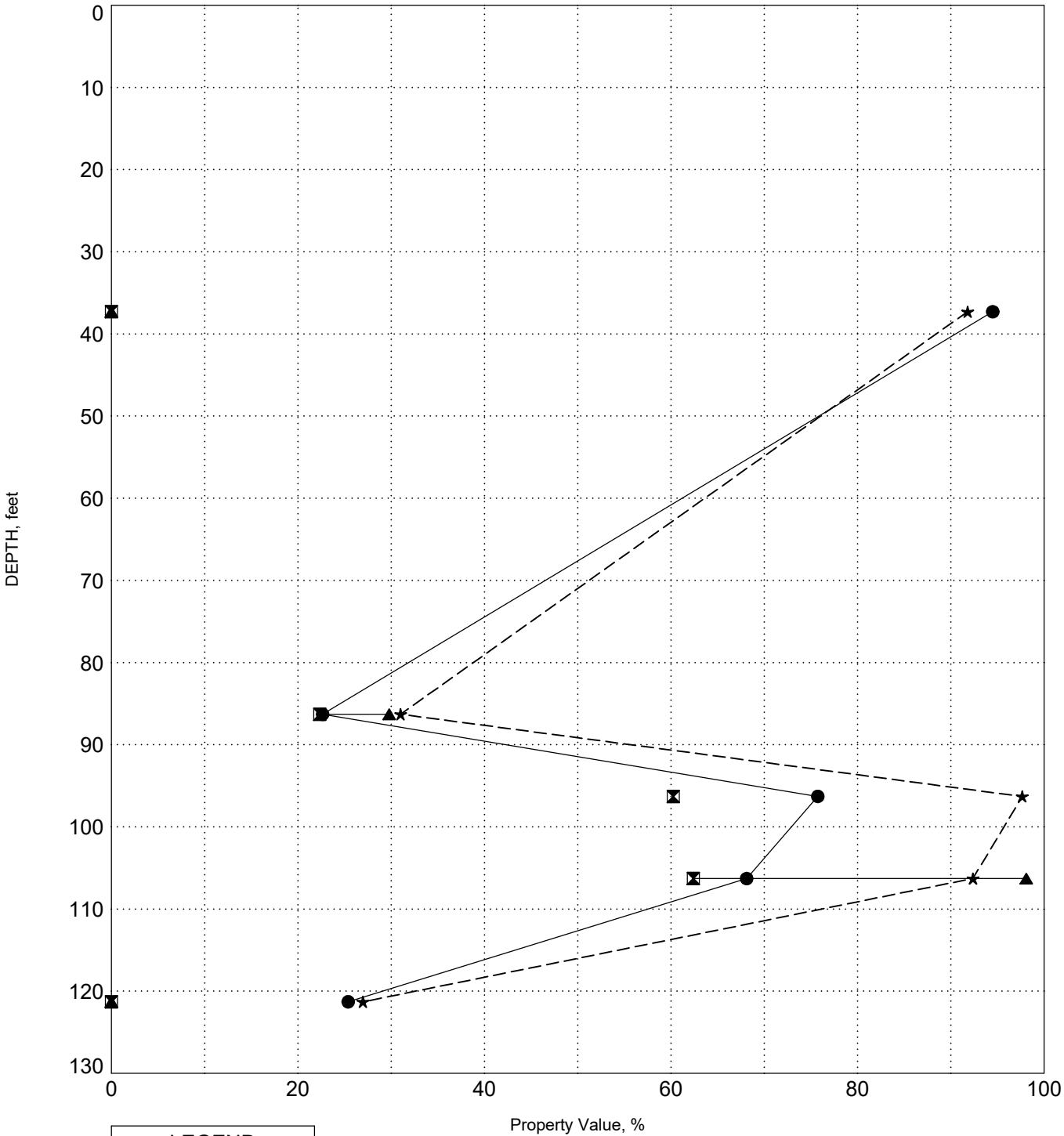
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-12

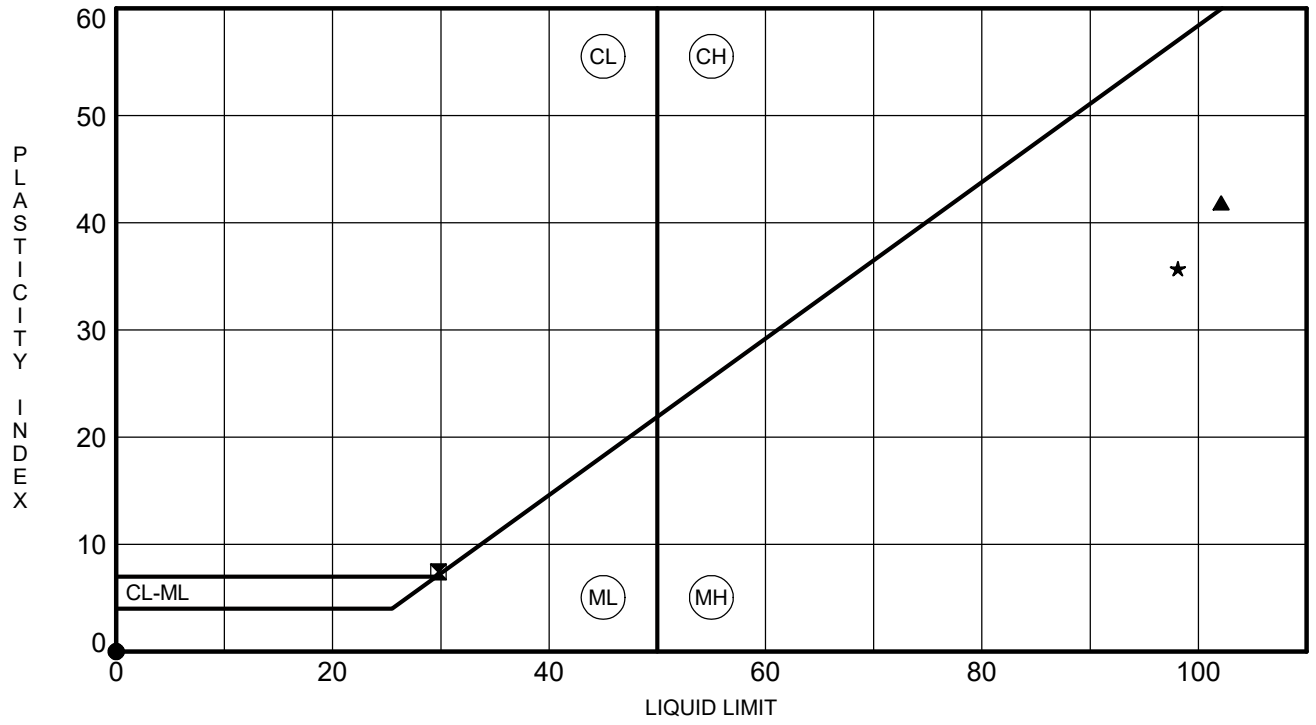
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

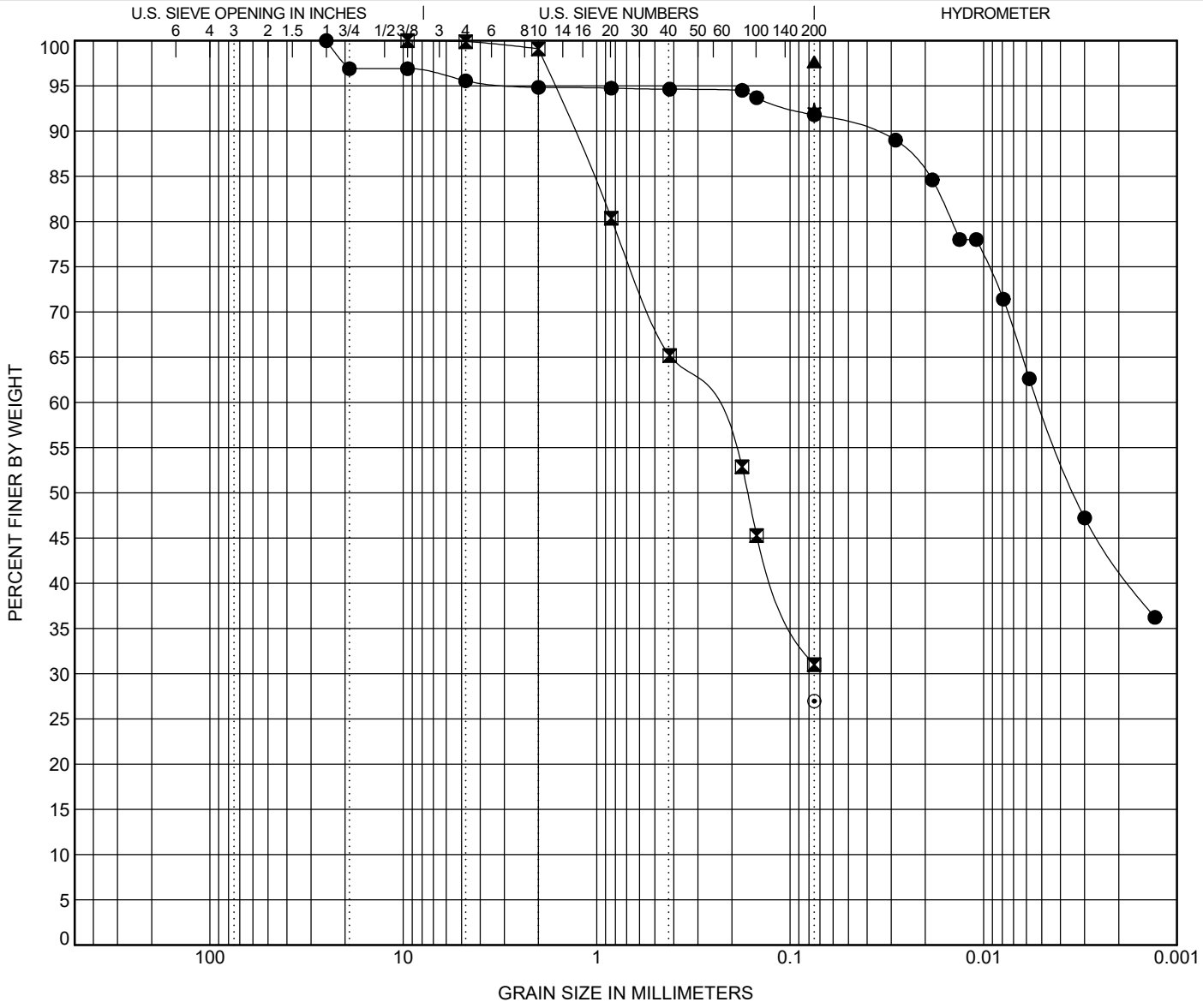


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-12**	**37.3**	**NP**	**NP**	**NP**	**92**	**SILT (ML/A-4)**
⊠	**B-12**	**86.3**	**30**	**22**	**8**	**31**	**CLAYEY SAND (SC/A-2-4)**
▲	**B-12**	**96.3**	**102**	**60**	**42**	**98**	**ELASTIC SILT (MH/A-7-5)**
★	**B-12**	**106.3**	**98**	**62**	**36**	**92**	**ELASTIC SILT (MH/A-7-5)**
⊙	**B-12**	**121.3**	**NP**	**NP**	**NP**	**27**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-12**	**37.3**	**SILT (ML/A-4)**	**NP**	**NP**	**NP**		
⊠	**B-12**	**86.3**	**CLAYEY SAND (SC/A-2-4)**	**30**	**22**	**8**		
▲	**B-12**	**96.3**	**ELASTIC SILT (MH/A-7-5)**	**102**	**60**	**42**		
★	**B-12**	**106.3**	**ELASTIC SILT (MH/A-7-5)**	**98**	**62**	**36**		
⊙	**B-12**	**121.3**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-12**	**37.3**	**25**	**0.005**			**4.4**	**3.8**	**32.6**	**59.2**
⊠	**B-12**	**86.3**	**9.51**	**0.292**			**0.1**	**68.9**	**31.0**	
▲	**B-12**	**96.3**	**0.075**						**97.6**	
★	**B-12**	**106.3**	**0.075**						**92.4**	
⊙	**B-12**	**121.3**	**0.075**						**27.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/13/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0887	**DATE SAMPLE RECEIVED:**	3/28/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	4/4/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	4/5/2023

BORING NO.	B-12	B-22	B-22	B-22	B-22
SAMPLE NO.	SS-3	SS-6	SS-8	SS-10	SS-13
SAMPLE DEPTH (FT.)	35.3 - 37.3	84.8 - 86.3	94.8 - 96.3	104.8 - 106.3	119.8 - 121.3
WATER CONTENT, W%	94.5	22.6	75.7	68.1	25.4

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

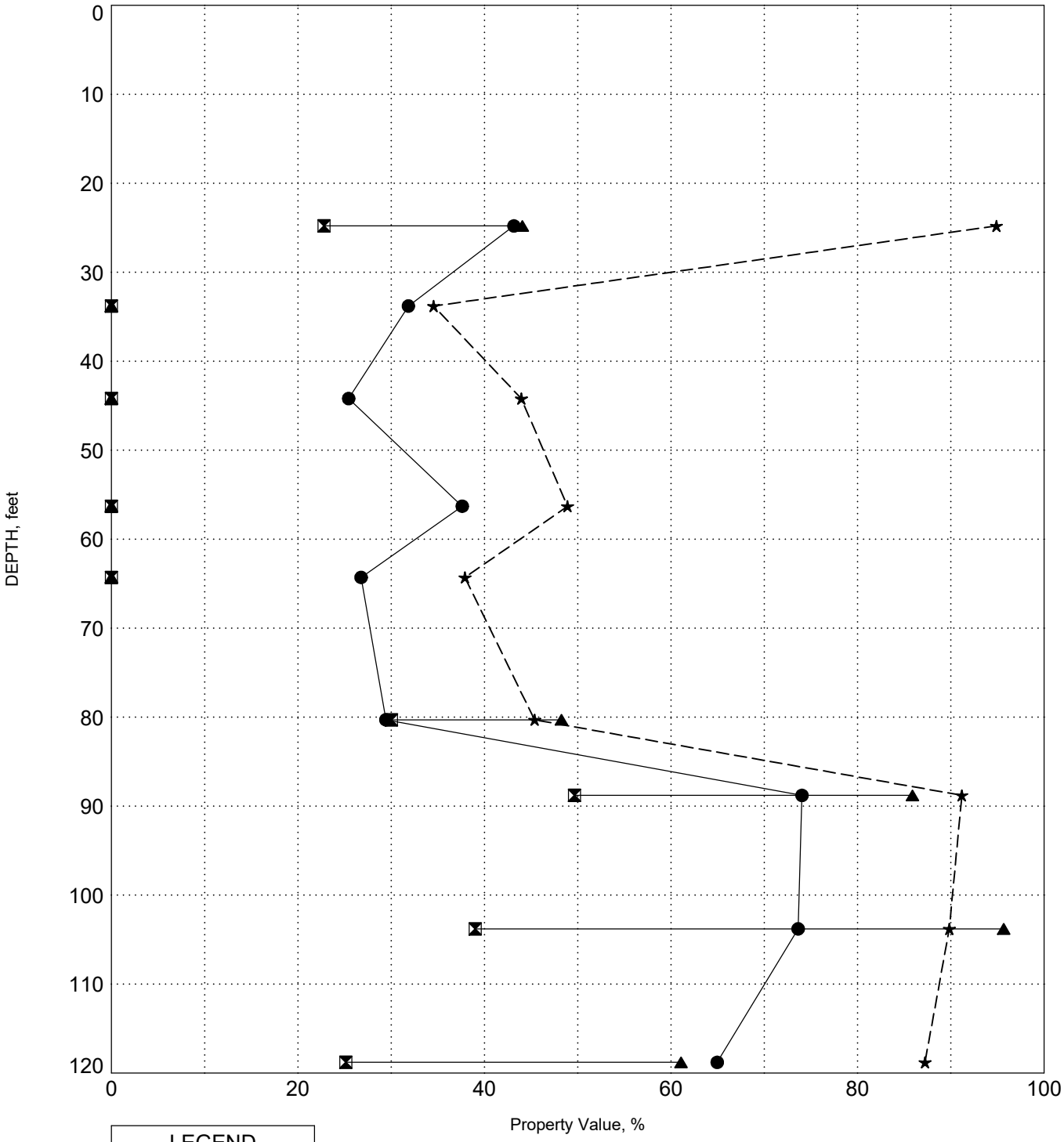
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-13

SURFACE ELEVATION: 78.3

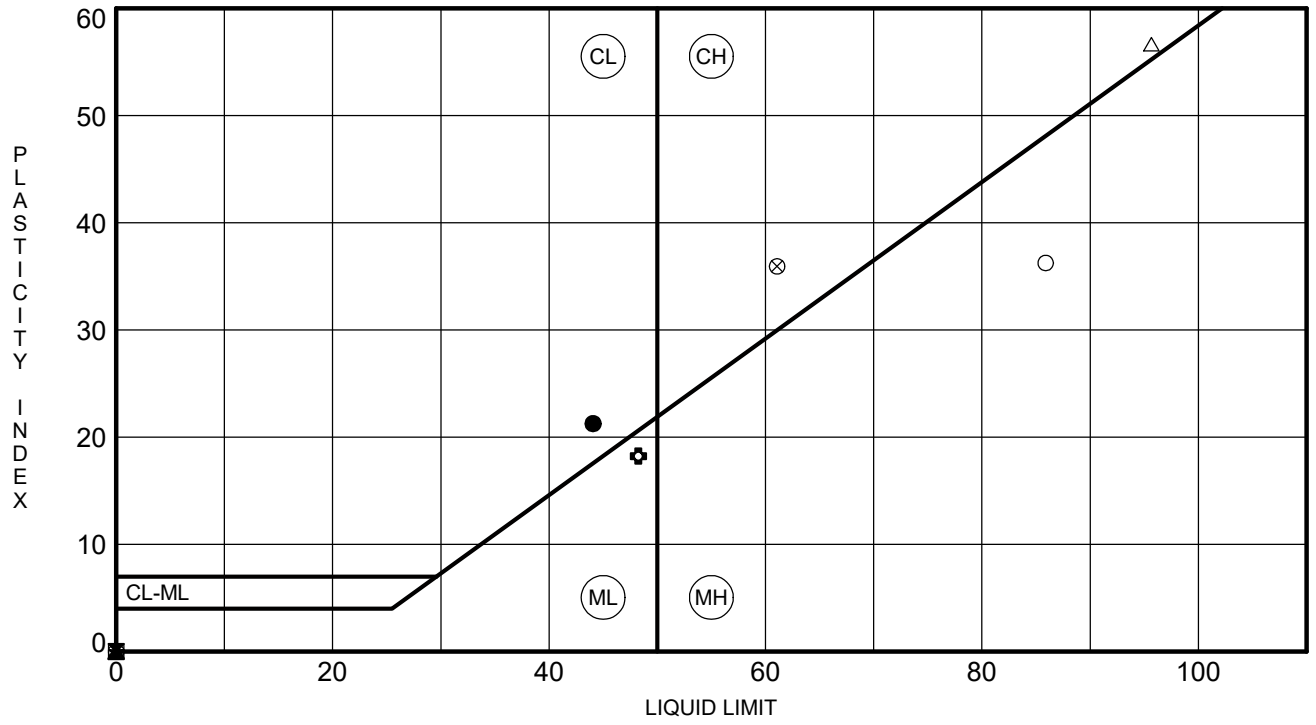


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

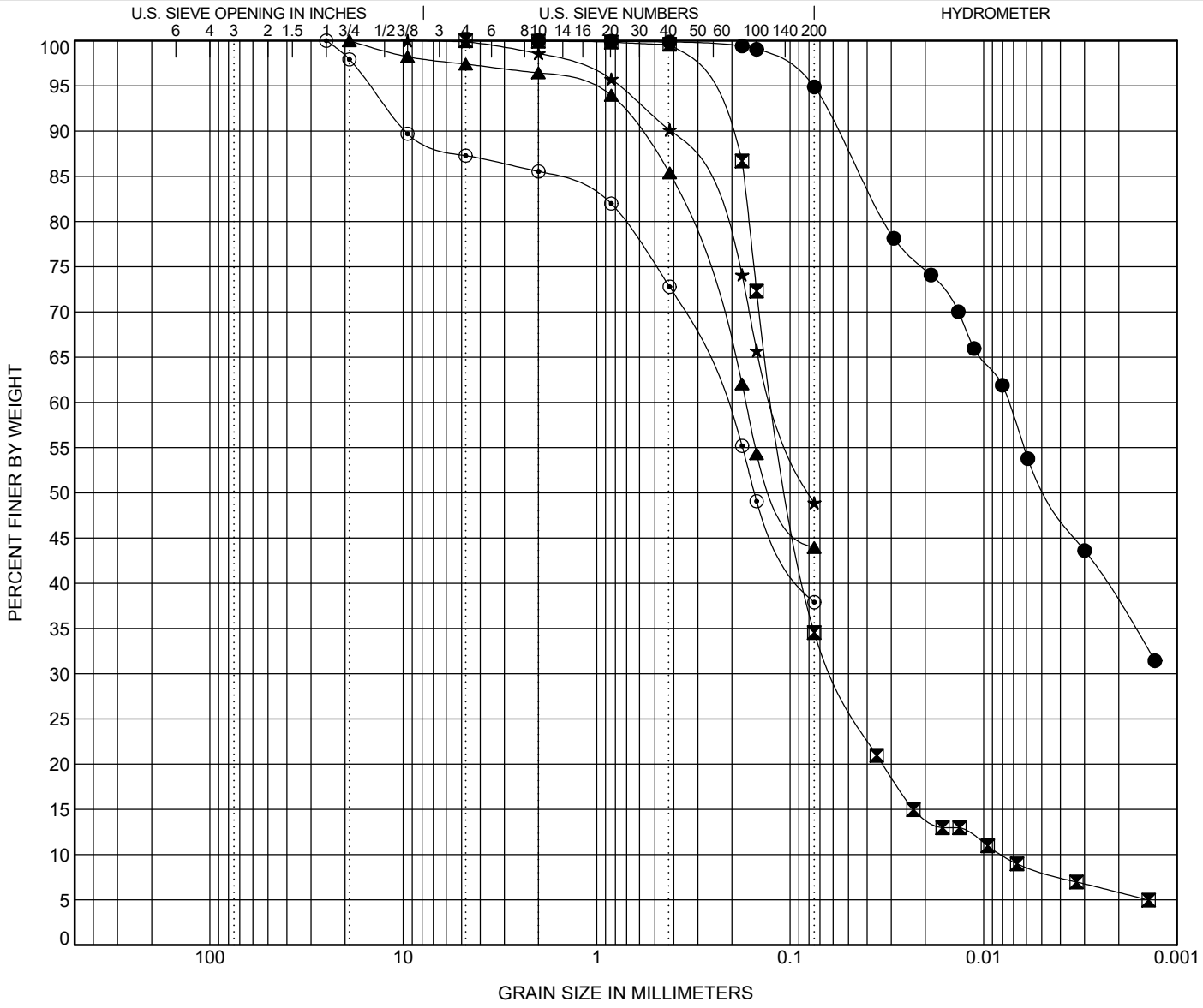


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-13**	**24.8**	**44**	**23**	**21**	**95**	**LEAN CLAY (CL/A-7-6)**
⊠	**B-13**	**33.8**	**NP**	**NP**	**NP**	**35**	**SILTY SAND (SM/A-2-4)**
▲	**B-13**	**44.2**	**NP**	**NP**	**NP**	**44**	**SILTY SAND (SM/A-4)**
★	**B-13**	**56.3**	**NP**	**NP**	**NP**	**49**	**SILTY SAND (SM/A-4)**
⊙	**B-13**	**64.3**	**NP**	**NP**	**NP**	**38**	**SILTY SAND (SM/A-4)**
✿	**B-13**	**80.3**	**48**	**30**	**18**	**45**	**SILTY SAND (SM/A-7-5)**
○	**B-13**	**88.8**	**86**	**50**	**36**	**91**	**ELASTIC SILT (MH/A-7-5)**
△	**B-13**	**103.8**	**96**	**39**	**57**	**90**	**FAT CLAY (CH/A-7-5)**
⊗	**B-13**	**118.8**	**61**	**25**	**36**	**87**	**FAT CLAY (CH/A-7-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-13**	**24.8**	**LEAN CLAY (CL/A-7-6)**	**44**	**23**	**21**		
⊠	**B-13**	**33.8**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**	**3.58**	**14.85**
▲	**B-13**	**44.2**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
★	**B-13**	**56.3**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-13**	**64.3**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		

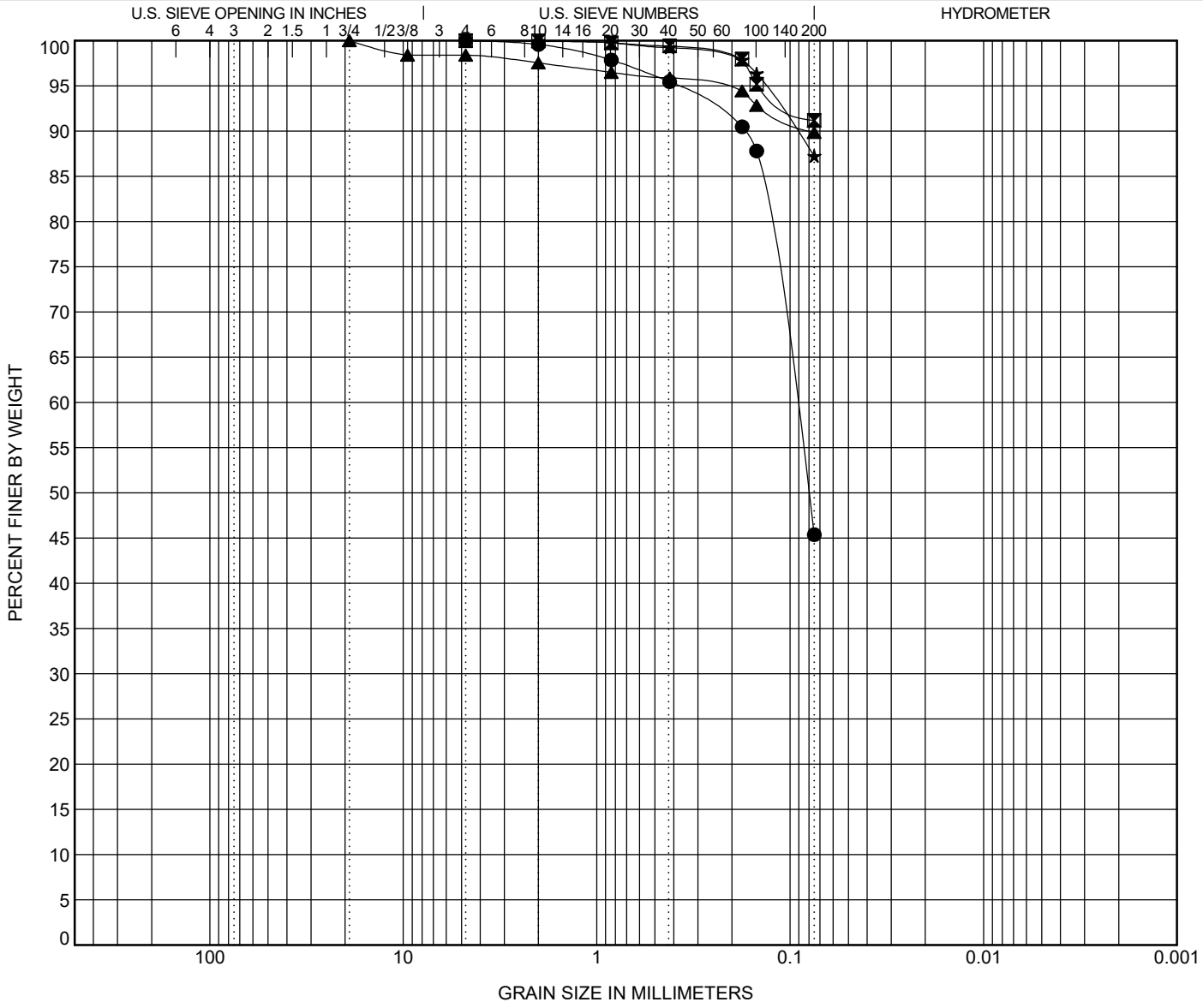
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-13**	**24.8**	**2**	**0.007**			**0.0**	**5.1**	**43.6**	**51.3**
⊠	**B-13**	**33.8**	**4.76**	**0.119**	**0.058**	**0.008**	**0.0**	**65.5**	**26.4**	**8.1**
▲	**B-13**	**44.2**	**19**	**0.169**			**2.6**	**53.4**	**44.0**	
★	**B-13**	**56.3**	**9.51**	**0.118**			**0.1**	**51.0**	**48.9**	
⊙	**B-13**	**64.3**	**25**	**0.224**			**12.7**	**49.4**	**37.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-13**	**80.3**	**SILTY SAND (SM/A-7-5)**	**48**	**30**	**18**		
⊠	**B-13**	**88.8**	**ELASTIC SILT (MH/A-7-5)**	**86**	**50**	**36**		
▲	**B-13**	**103.8**	**FAT CLAY (CH/A-7-5)**	**96**	**39**	**57**		
★	**B-13**	**118.8**	**FAT CLAY (CH/A-7-6)**	**61**	**25**	**36**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-13**	**80.3**	**4.76**	**0.095**			**0.0**	**54.6**	**45.4**	
⊠	**B-13**	**88.8**	**4.76**				**0.0**	**8.8**	**91.2**	
▲	**B-13**	**103.8**	**19**				**1.6**	**8.6**	**89.8**	
★	**B-13**	**118.8**	**4.76**				**0.0**	**12.8**	**87.2**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1660	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-13	B-13	B-13	B-13	B-13
SAMPLE NO.	SS-3	SS-6	SS-8	SS-11	SS-13
SAMPLE DEPTH (FT.)	22.8 - 24.8	32.3 - 33.8	42.3 - 44.2	54.3 - 56.3	62.3 - 64.3
WATER CONTENT, W%	43.2	31.8	25.4	37.6	26.8

BORING NO.	B-13	B-13	B-13	B-13	
SAMPLE NO.	SS-17	SS-19	SS-22	SS-25	
SAMPLE DEPTH (FT.)	78.3 - 80.3	83.7 - 88.8	102.3 - 103.8	117.3 - 118.8	
WATER CONTENT, W%	29.4	74.0	73.6	65.0	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

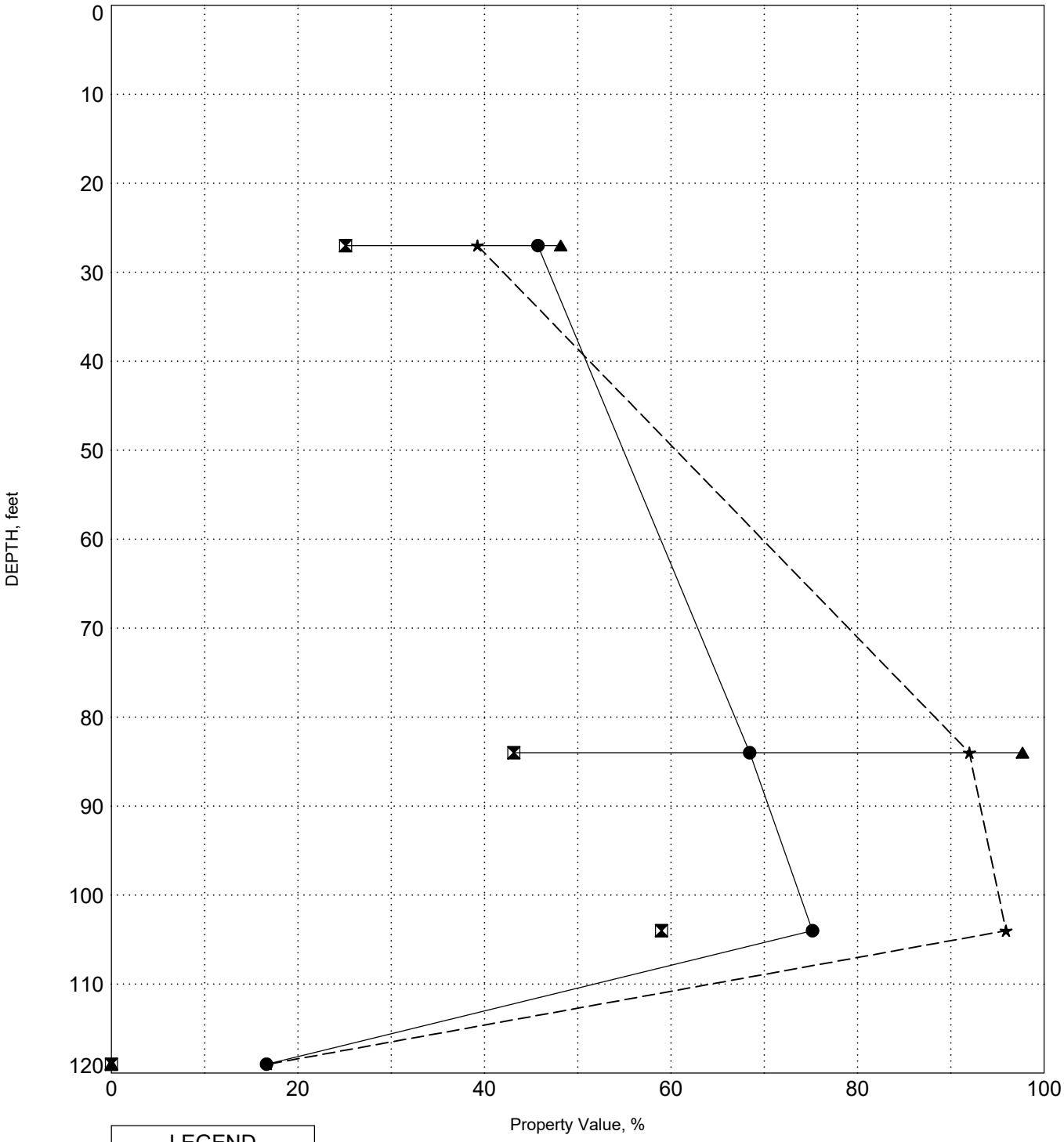
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-14

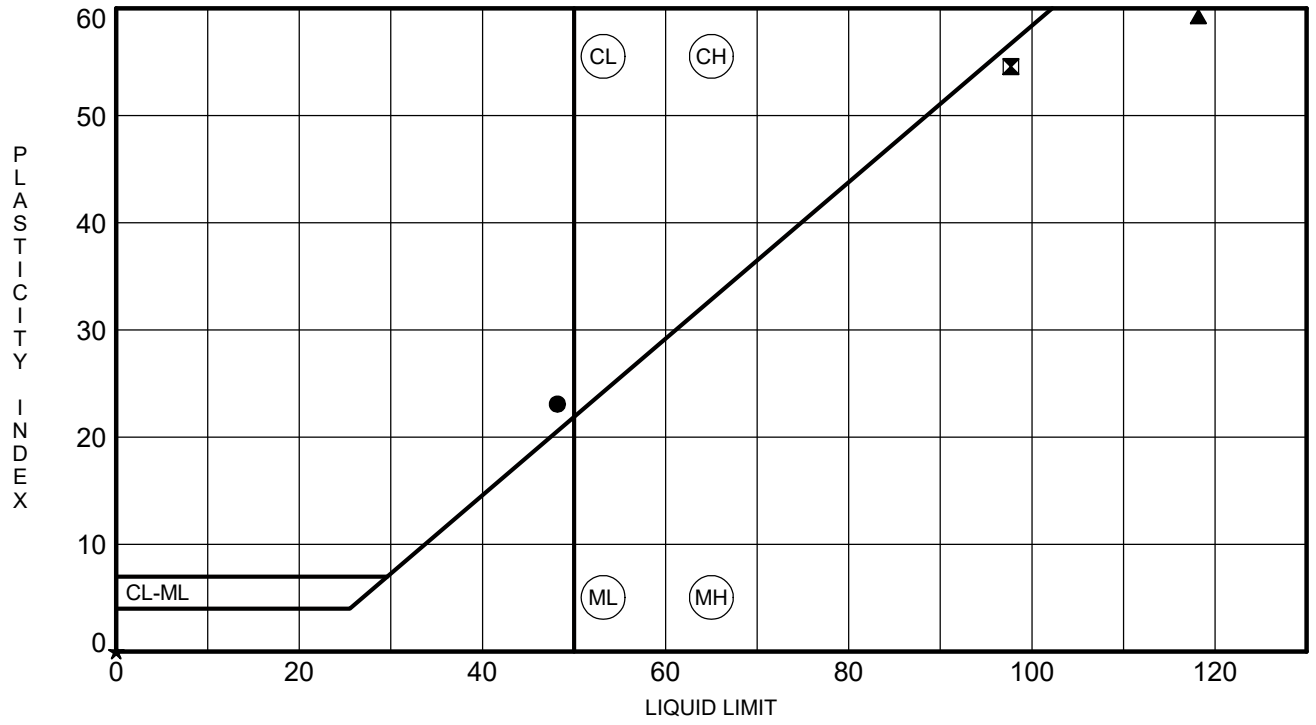
SURFACE ELEVATION: 77.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

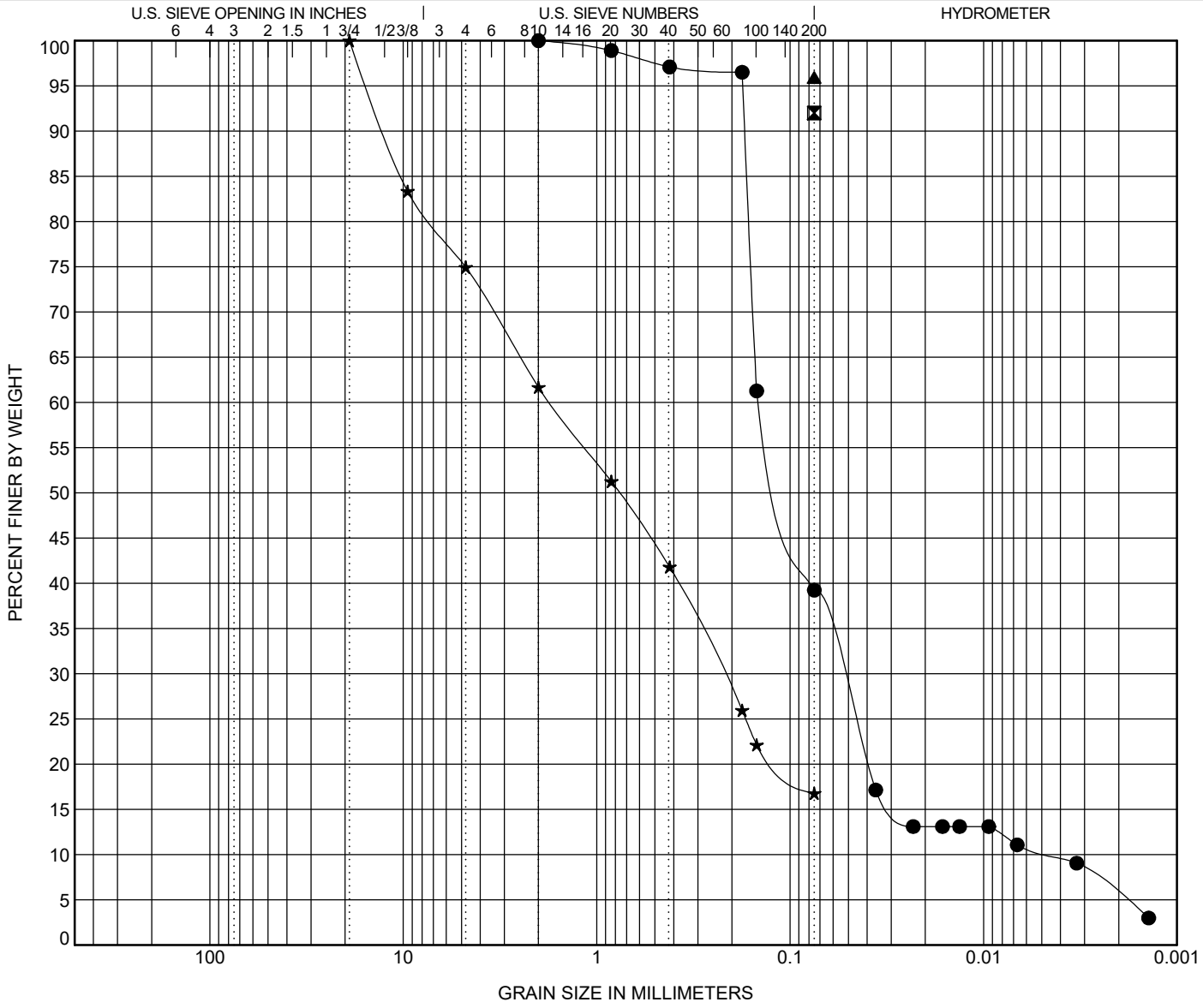


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-14**	**27.0**	**48**	**25**	**23**	**39**	**CLAYEY SAND (SC/A-7-6)**
⊠	**B-14**	**84.0**	**98**	**43**	**55**	**92**	**ELASTIC SILT (MH/A-7-5)**
▲	**B-14**	**104.0**	**118**	**59**	**59**	**96**	**ELASTIC SILT (MH/A-7-5)**
★	**B-14**	**119.0**	**NP**	**NP**	**NP**	**17**	**SILTY SAND with GRAVEL (SM/A-1-b)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-14**	**27.0**	**CLAYEY SAND (SC/A-7-6)**	**48**	**25**	**23**	**4.64**	**31.15**
⊠	**B-14**	**84.0**	**ELASTIC SILT (MH/A-7-5)**	**98**	**43**	**55**		
▲	**B-14**	**104.0**	**ELASTIC SILT (MH/A-7-5)**	**118**	**59**	**59**		
★	**B-14**	**119.0**	**SILTY SAND with GRAVEL (SM/A-1-b)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-14**	**27.0**	**2**	**0.143**	**0.055**	**0.005**	**0.0**	**60.8**	**29.0**	**10.2**
⊠	**B-14**	**84.0**	**0.075**						**92.0**	
▲	**B-14**	**104.0**	**0.075**						**95.9**	
★	**B-14**	**119.0**	**19**	**1.74**	**0.221**		**25.1**	**58.1**	**16.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/13/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0888 **DATE SAMPLE RECEIVED:** 3/28/2023

DESCRIPTION OF SOIL: Various

TESTED BY: TW **DATE SETUP:** 4/4/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 4/5/2023

BORING NO.	B-14	B-14	B-14	B-14	
SAMPLE NO.	SS-4	SS-9	SS-13	SS-16	
SAMPLE DEPTH (FT.)	25.0 - 27.0	82.5 - 84.0	102.5 - 104.0	117.5 - 119.0	
WATER CONTENT, W%	45.7	68.4	75.2	16.6	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

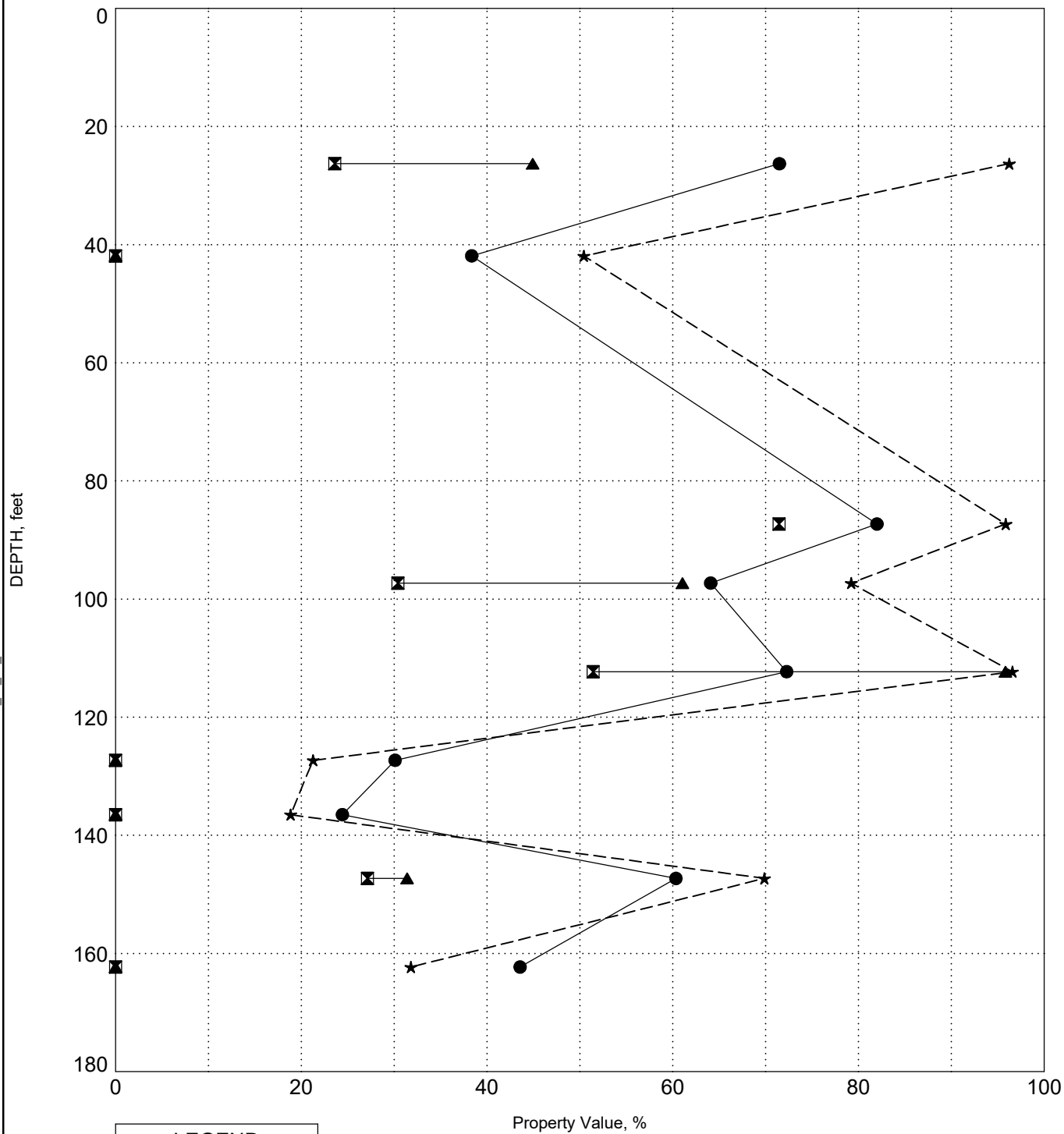
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-15

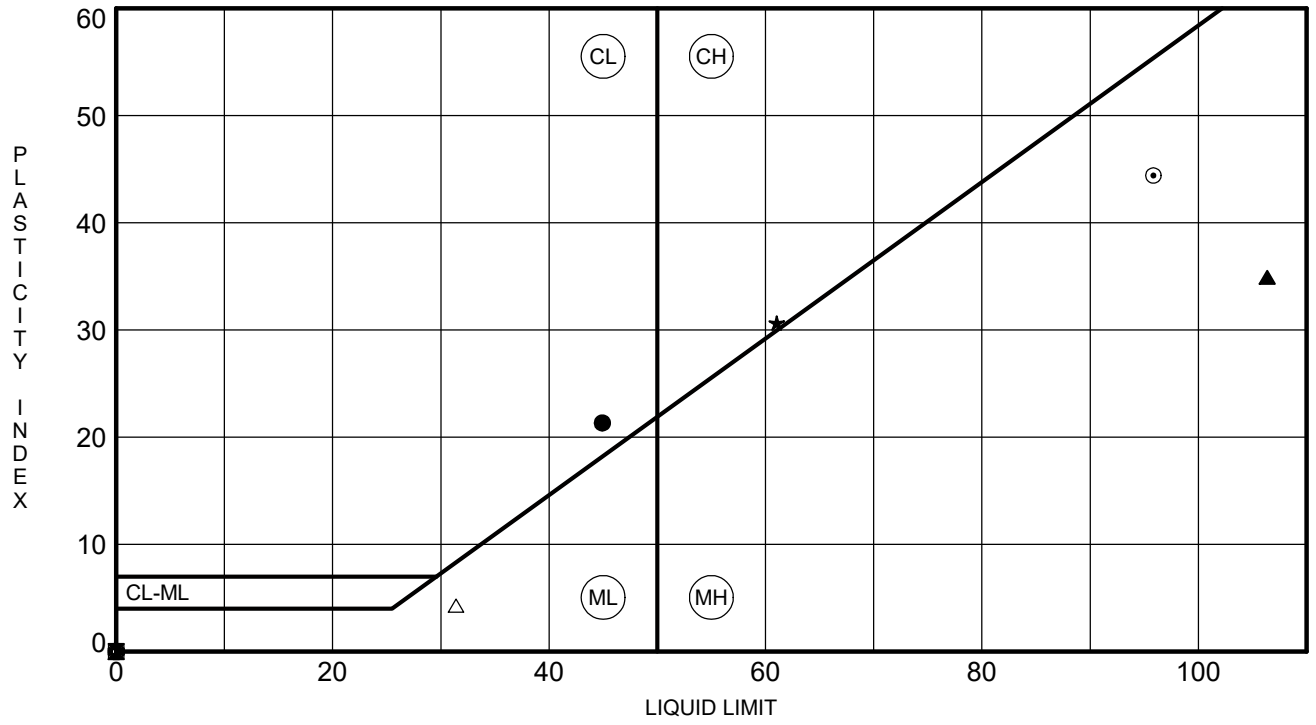
SURFACE ELEVATION: 78.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

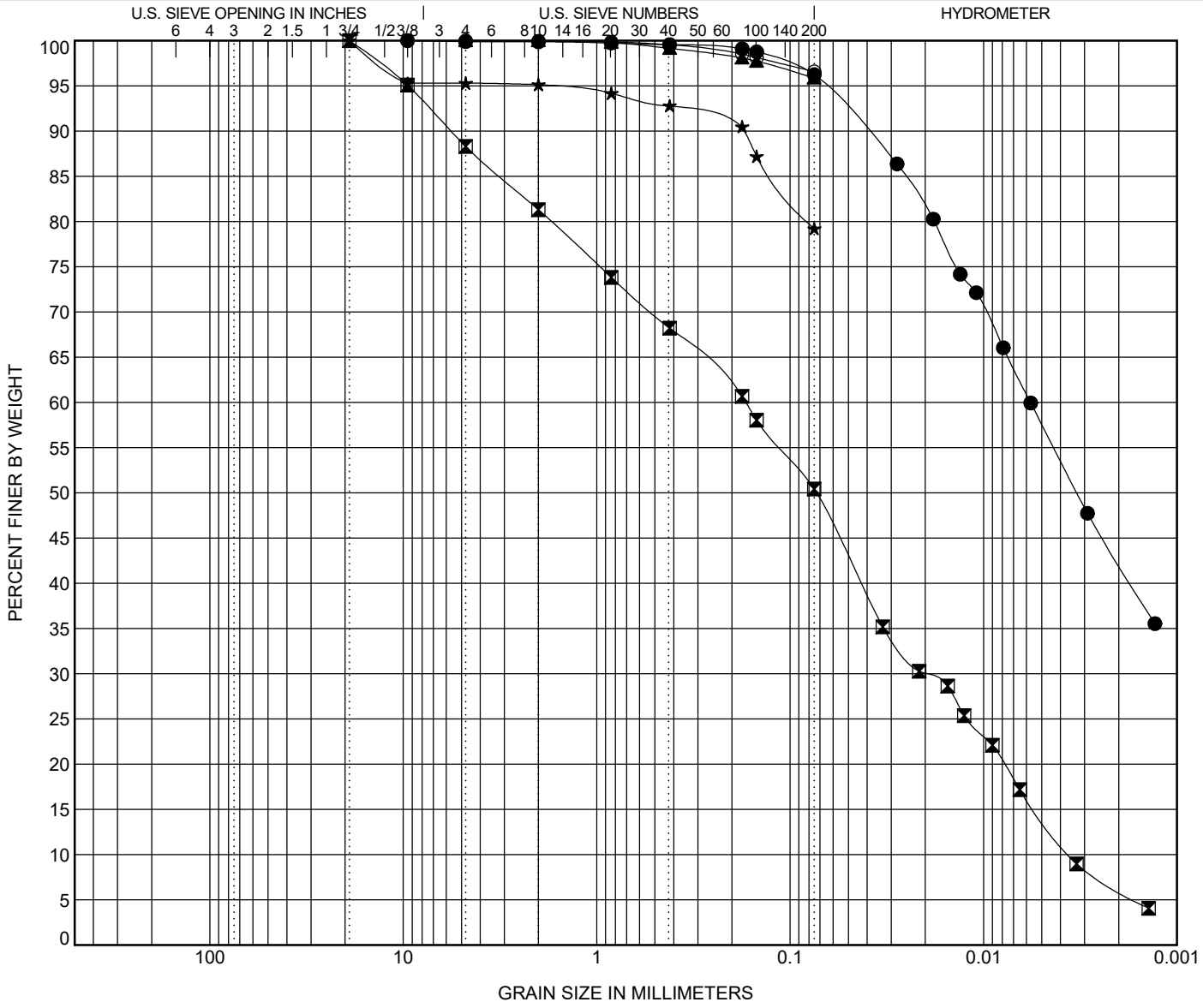


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-15**	**26.3**	**45**	**24**	**21**	**96**	**LEAN CLAY (CL/A-7-6)**
⊠	**B-15**	**41.9**	**NP**	**NP**	**NP**	**50**	**SANDY SILT (ML/A-4)**
▲	**B-15**	**87.3**	**106**	**71**	**35**	**96**	**ELASTIC SILT (MH/A-7-5)**
★	**B-15**	**97.3**	**61**	**30**	**31**	**79**	**FAT CLAY with SAND (CH/A-7-5)**
⊙	**B-15**	**112.3**	**96**	**51**	**45**	**97**	**ELASTIC SILT (MH/A-7-5)**
✿	**B-15**	**127.3**	**NP**	**NP**	**NP**	**21**	**SILTY SAND (SM/A-2-4)**
○	**B-15**	**136.5**	**NP**	**NP**	**NP**	**19**	**SILTY SAND with GRAVEL (SM/A-1-b)**
△	**B-15**	**147.3**	**31**	**27**	**4**	**70**	**SANDY SILT (ML/A-4)**
⊗	**B-15**	**162.3**	**NP**	**NP**	**NP**	**32**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

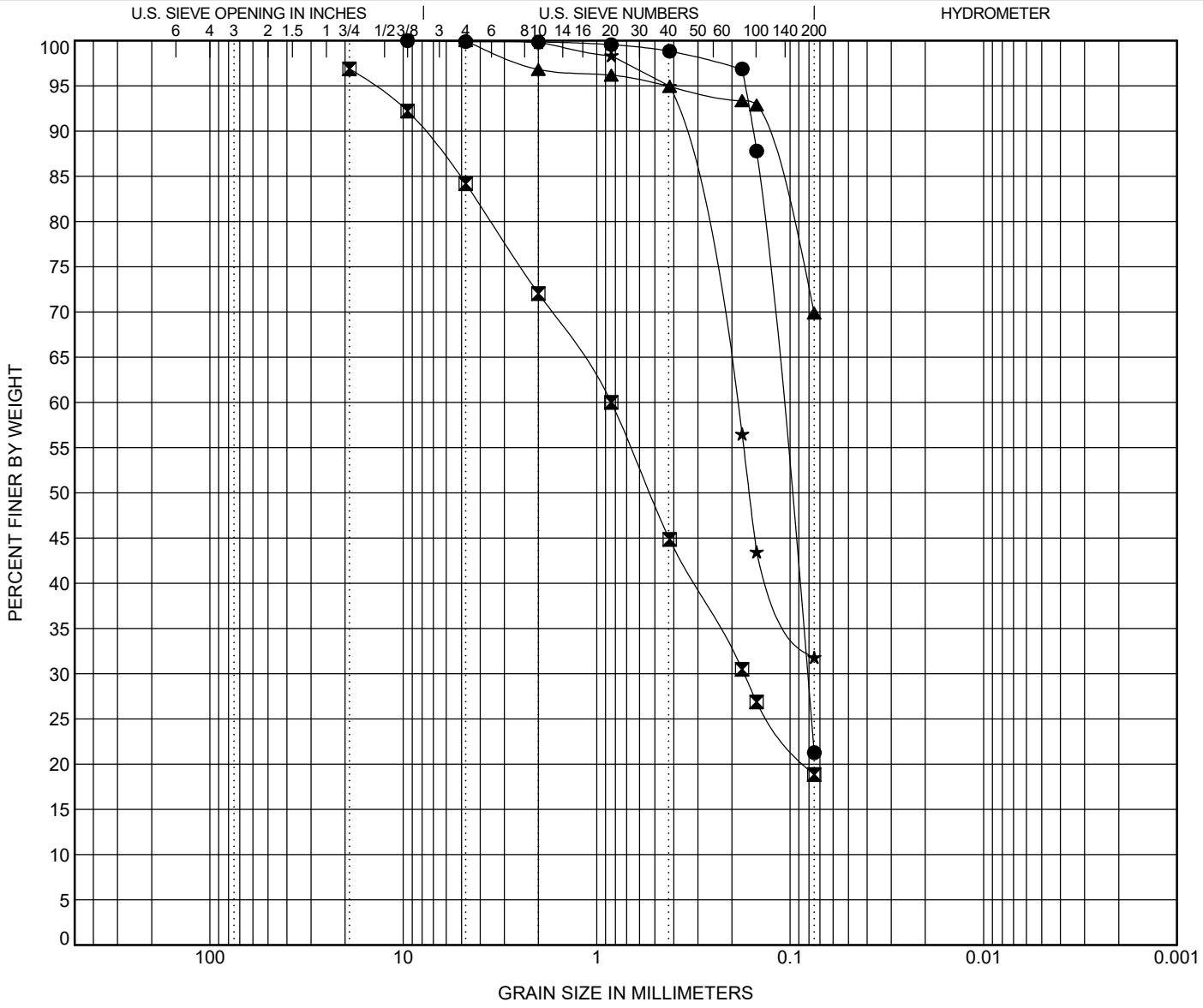
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-15**	**26.3**	**LEAN CLAY (CL/A-7-6)**	**45**	**24**	**21**		
⊠	**B-15**	**41.9**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**	**0.68**	**47.16**
▲	**B-15**	**87.3**	**ELASTIC SILT (MH/A-7-5)**	**106**	**71**	**35**		
★	**B-15**	**97.3**	**FAT CLAY with SAND (CH/A-7-5)**	**61**	**30**	**31**		
⊙	**B-15**	**112.3**	**ELASTIC SILT (MH/A-7-5)**	**96**	**51**	**45**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-15**	**26.3**	**9.51**	**0.006**			**0.1**	**3.7**	**38.7**	**57.6**
⊠	**B-15**	**41.9**	**19**	**0.169**	**0.02**	**0.004**	**11.7**	**37.9**	**36.4**	**14.0**
▲	**B-15**	**87.3**	**4.76**				**0.0**	**4.1**	**95.9**	
★	**B-15**	**97.3**	**19**				**4.7**	**16.1**	**79.2**	
⊙	**B-15**	**112.3**	**4.76**				**0.0**	**3.4**	**96.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-15**	**127.3**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-15**	**136.5**	**SILTY SAND with GRAVEL (SM/A-1-b)**	**NP**	**NP**	**NP**		
▲	**B-15**	**147.3**	**SANDY SILT (ML/A-4)**	**31**	**27**	**4**		
★	**B-15**	**162.3**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-15**	**127.3**	**9.51**	**0.112**	**0.082**		**0.1**	**78.6**	**21.3**	
⊠	**B-15**	**136.5**	**19**	**0.841**	**0.173**		**12.7**	**65.3**	**18.8**	
▲	**B-15**	**147.3**	**4.76**				**0.0**	**30.1**	**69.9**	
★	**B-15**	**162.3**	**4.76**	**0.191**			**0.0**	**68.2**	**31.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1554	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-15	B-15	B-15	B-15	B-15
SAMPLE NO.	SS-2	SS-7	SS-9	SS-11	SS-14
SAMPLE DEPTH (FT.)	24.3 - 26.3	40.8 - 41.9	85.8 - 87.3	95.8 - 97.3	110.8 - 112.3
WATER CONTENT, W%	71.5	5.7	82.0	64.1	72.3

BORING NO.	B-15	B-15	B-15	B-15	
SAMPLE NO.	SS-17	SS-19	SS-21	SS-24	
SAMPLE DEPTH (FT.)	125.8 - 127.3	135.8 - 136.5	145.8 - 147.3	160.8 - 162.3	
WATER CONTENT, W%	30.1	24.4	60.3	43.6	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

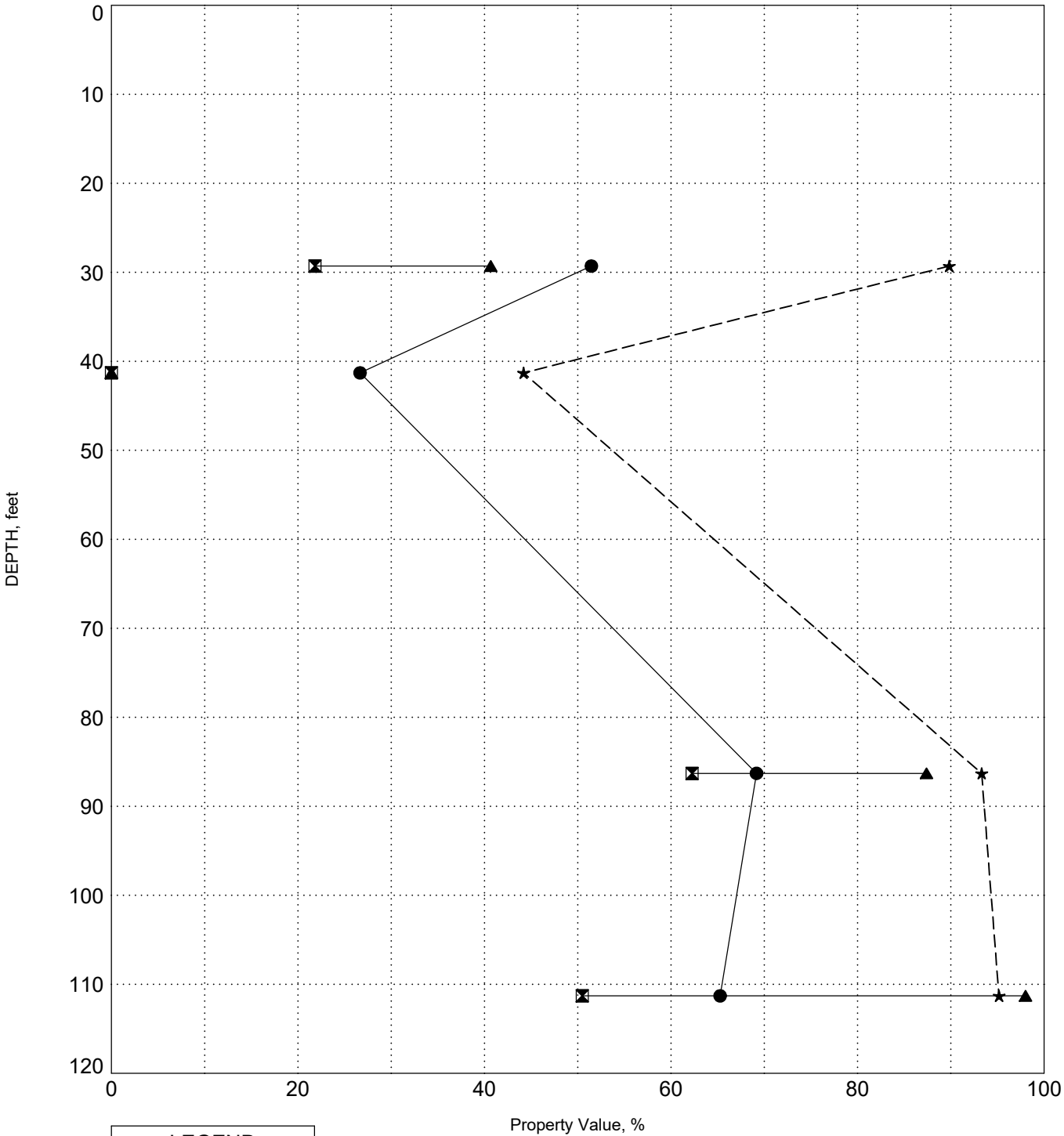
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-16

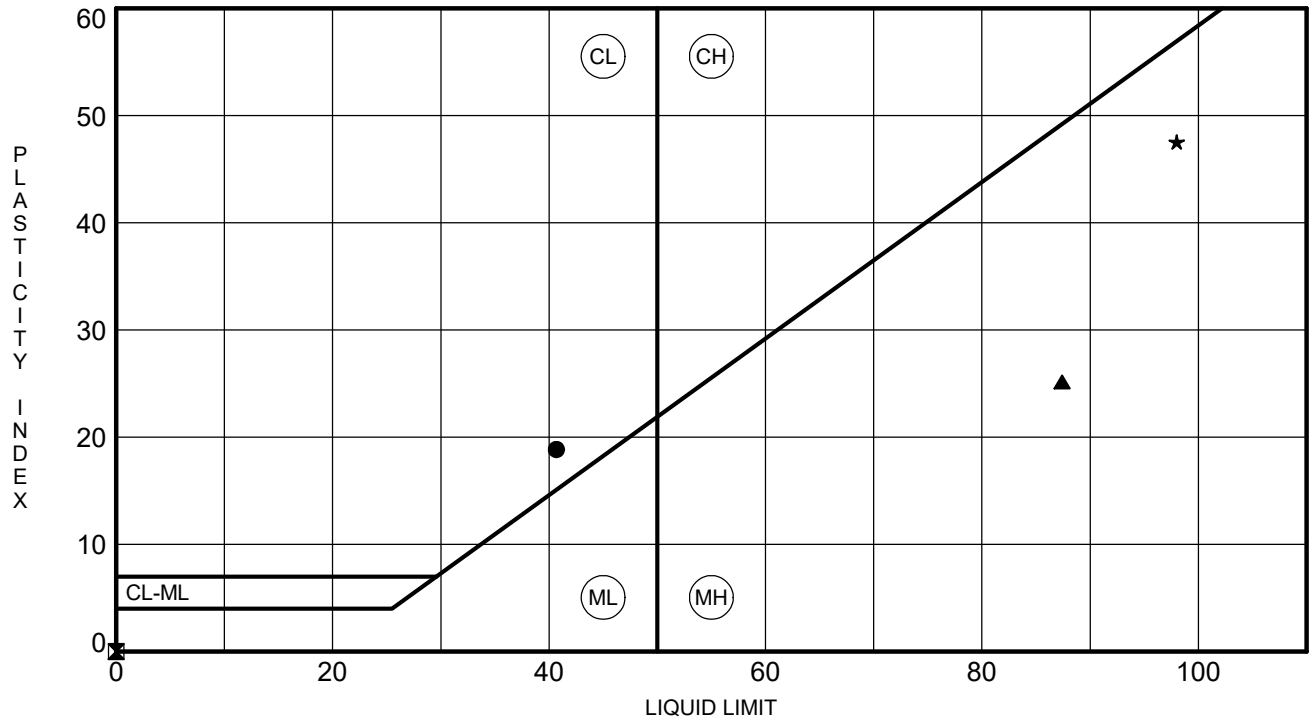
SURFACE ELEVATION: 78.1



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



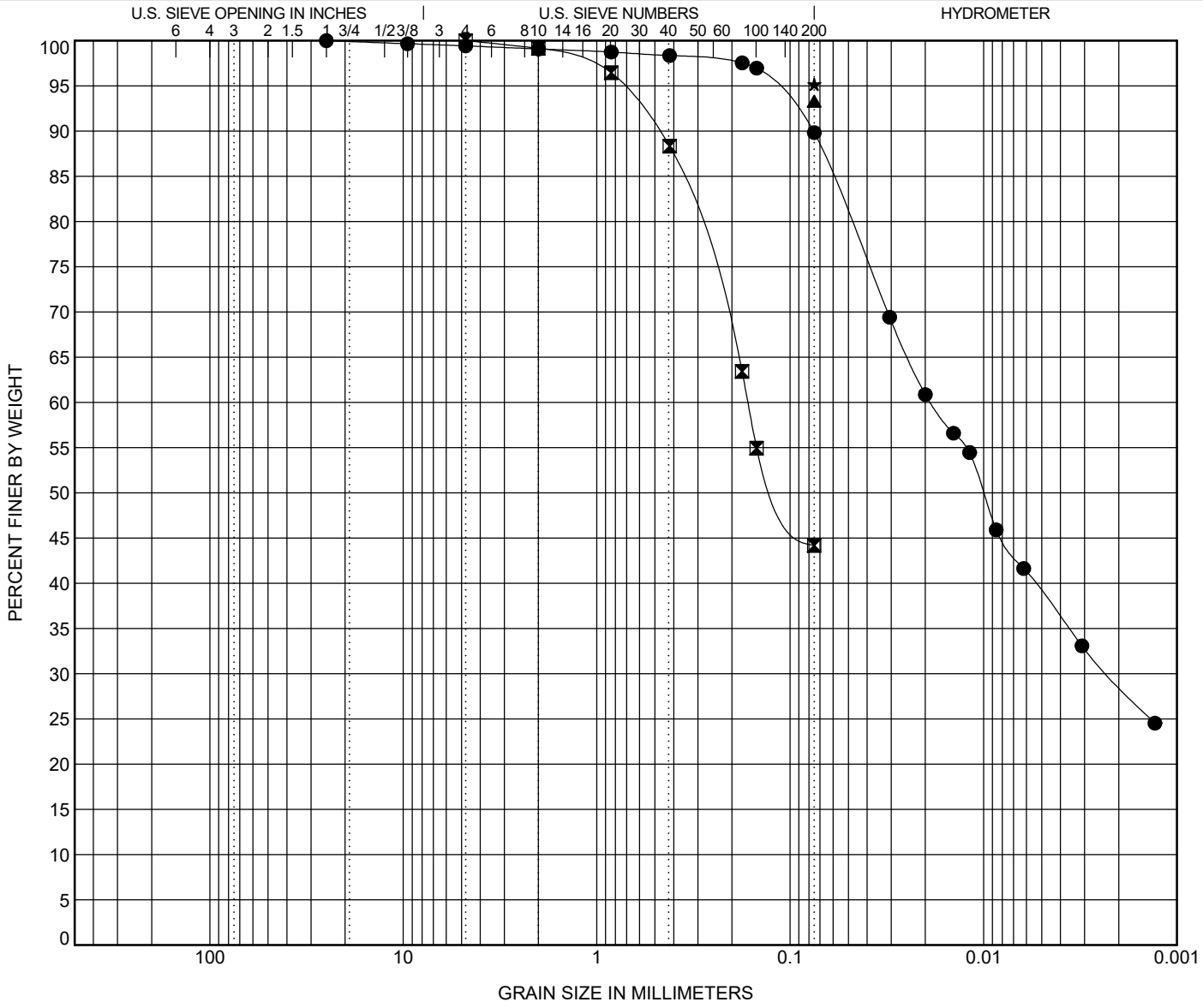
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-16**	**29.3**	**41**	**22**	**19**	**90**	**LEAN CLAY (CL/A-7-6)**
⧓	**B-16**	**41.3**	**NP**	**NP**	**NP**	**44**	**SILTY SAND (SM/A-4)**
▲	**B-16**	**86.3**	**87**	**62**	**25**	**93**	**ELASTIC SILT (MH/A-7-5)**
★	**B-16**	**111.3**	**98**	**50**	**48**	**95**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/5/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-16**	**29.3**	**LEAN CLAY (CL/A-7-6)**	**41**	**22**	**19**		
⊠	**B-16**	**41.3**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
▲	**B-16**	**86.3**	**ELASTIC SILT (MH/A-7-5)**	**87**	**62**	**25**		
★	**B-16**	**111.3**	**ELASTIC SILT (MH/A-7-5)**	**98**	**50**	**48**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-16**	**29.3**	**25**	**0.019**	**0.002**		**0.6**	**9.6**	**50.8**	**39.0**
⊠	**B-16**	**41.3**	**4.76**	**0.165**			**0.0**	**55.8**	**44.2**	
▲	**B-16**	**86.3**	**0.075**						**93.3**	
★	**B-16**	**111.3**	**0.075**						**95.2**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0852 **DATE SAMPLE RECEIVED:** 3/29/2023

DESCRIPTION OF SOIL: Various

TESTED BY: EW **DATE SETUP:** 3/29/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 3/30/2023

BORING NO.	B-16	B-16	B-16	B-16	
SAMPLE NO.	SS-4	SS-7	SS-9	SS-14	
SAMPLE DEPTH (FT.)	27.3 - 29.3	39.8 - 41.3	84.8 - 86.3	109.8 - 111.3	
WATER CONTENT, W%	51.5	26.7	69.2	65.3	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

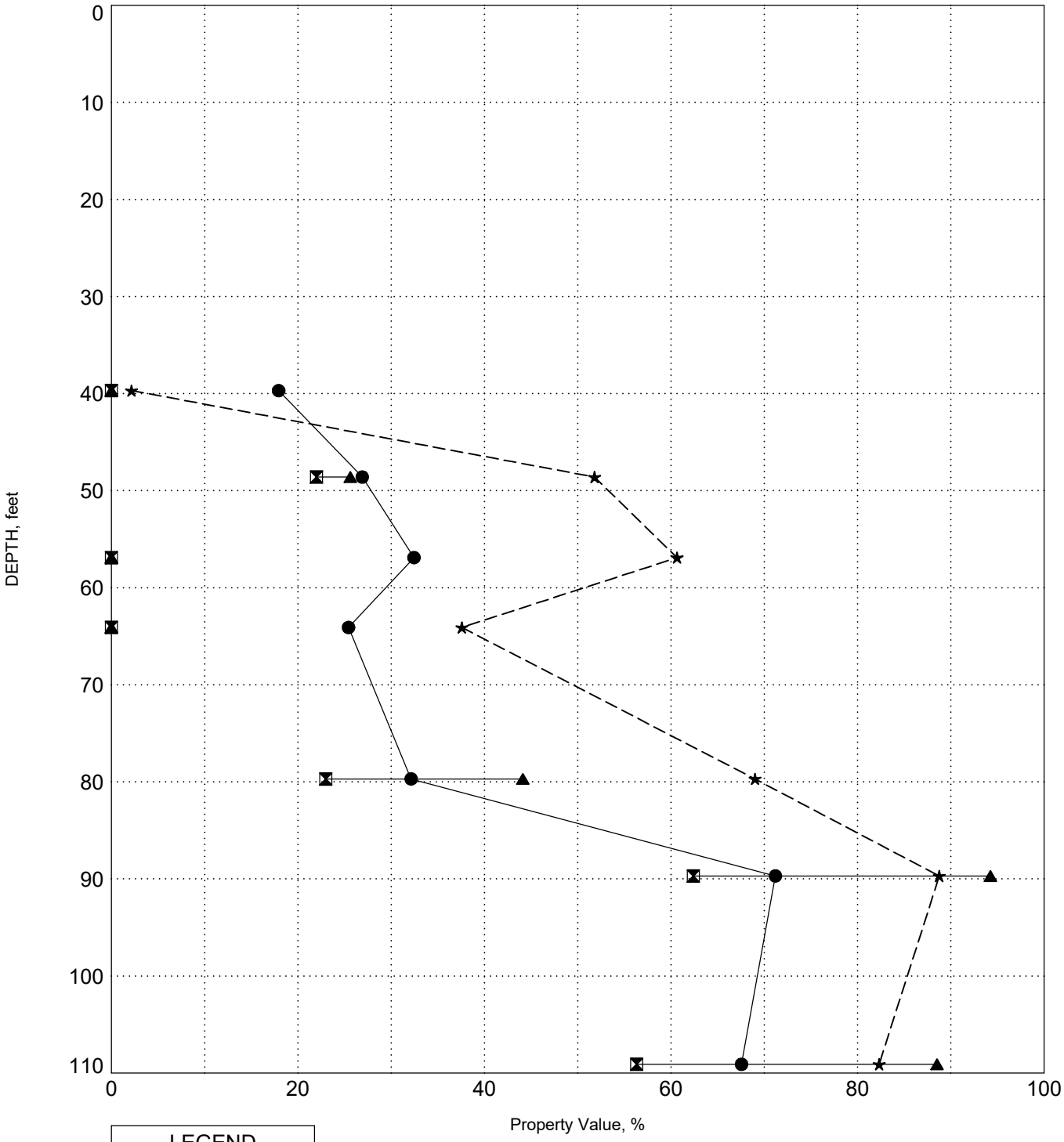
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-17

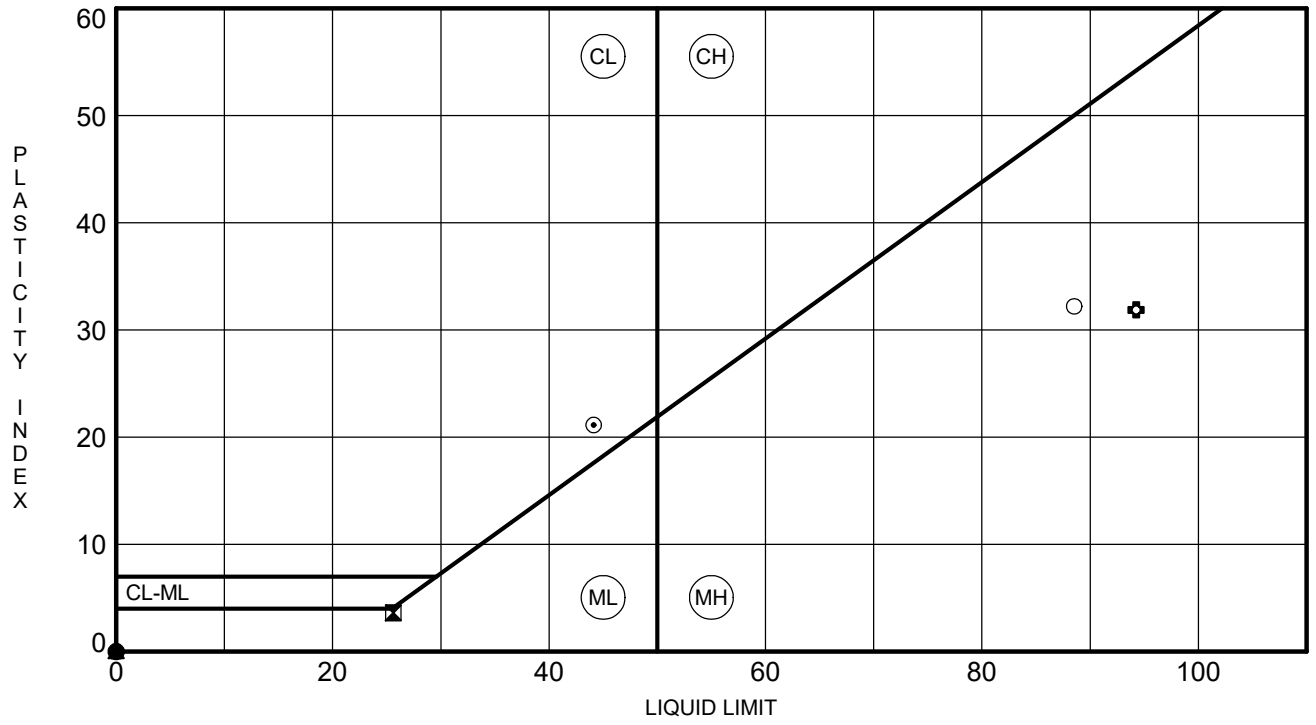
SURFACE ELEVATION: 78.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

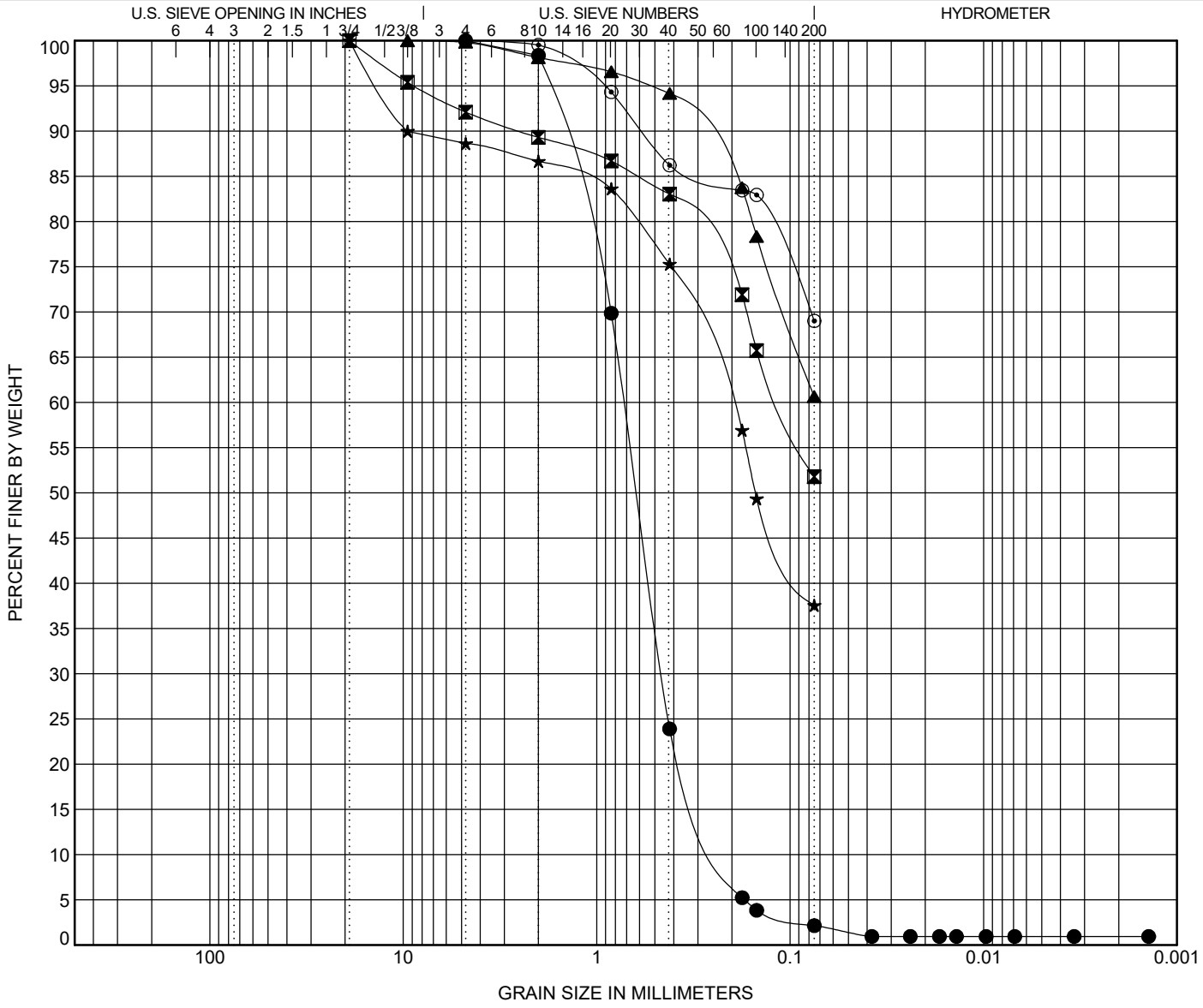


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-17	39.7	NP	NP	NP	2	POORLY GRADED SAND (SP/A-1-b)
⊠	B-17	48.6	26	22	4	52	SANDY SILT (ML/A-4)
▲	B-17	56.9	NP	NP	NP	61	SANDY SILT (ML/A-4)
★	B-17	64.1	NP	NP	NP	38	SILTY SAND (SM/A-4)
⊙	B-17	79.7	44	23	21	69	SANDY LEAN CLAY (CL/A-7-6)
✿	B-17	89.7	94	62	32	89	ELASTIC SILT (MH/A-7-5)
○	B-17	109.1	89	56	33	82	ELASTIC SILT with SAND (MH/A-7-5)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-17	39.7	POORLY GRADED SAND (SP/A-1-b)	NP	NP	NP	1.33	3.28
⊠	B-17	48.6	SANDY SILT (ML/A-4)	26	22	4		
▲	B-17	56.9	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-17	64.1	SILTY SAND (SM/A-4)	NP	NP	NP		
⊙	B-17	79.7	SANDY LEAN CLAY (CL/A-7-6)	44	23	21		

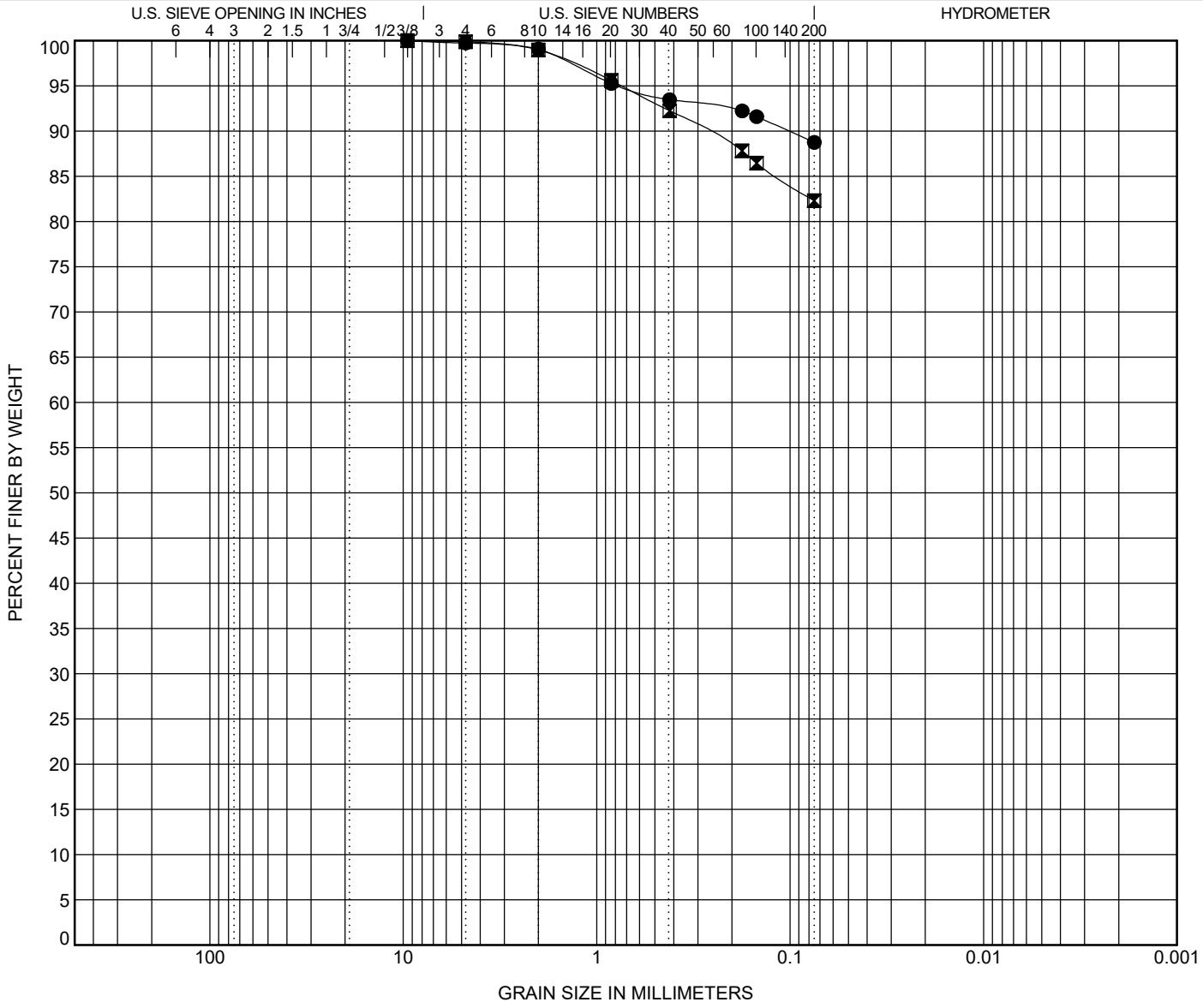
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-17	39.7	4.76	0.725	0.461	0.221	0.0	97.9	1.2	0.9
⊠	B-17	48.6	19	0.112			7.9	40.3	51.8	
▲	B-17	56.9	9.51				0.2	39.2	60.6	
★	B-17	64.1	19	0.205			11.4	51.1	37.6	
⊙	B-17	79.7	4.76				0.0	31.0	69.0	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-17**	**89.7**	**ELASTIC SILT (MH/A-7-5)**	**94**	**62**	**32**		
⊠	**B-17**	**109.1**	**ELASTIC SILT with SAND (MH/A-7-5)**	**89**	**56**	**33**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-17**	**89.7**	**9.51**				**0.3**	**11.0**	**88.8**	
⊠	**B-17**	**109.1**	**9.51**				**0.1**	**17.6**	**82.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1555	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-17	B-17	B-17	B-17	B-17
SAMPLE NO.	SS-7	SS-9	SS-11	SS-13	SS-16
SAMPLE DEPTH (FT.)	38.2 - 39.7	47.2 - 48.6	55.2 - 56.9	63.2 - 64.1	78.2 - 79.7
WATER CONTENT, W%	17.9	26.9	32.4	25.4	32.1

BORING NO.	B-17	B-17			
SAMPLE NO.	SS-18	SS-22			
SAMPLE DEPTH (FT.)	88.2 - 89.7	108.2 - 109.1			
WATER CONTENT, W%	5.7	67.6			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

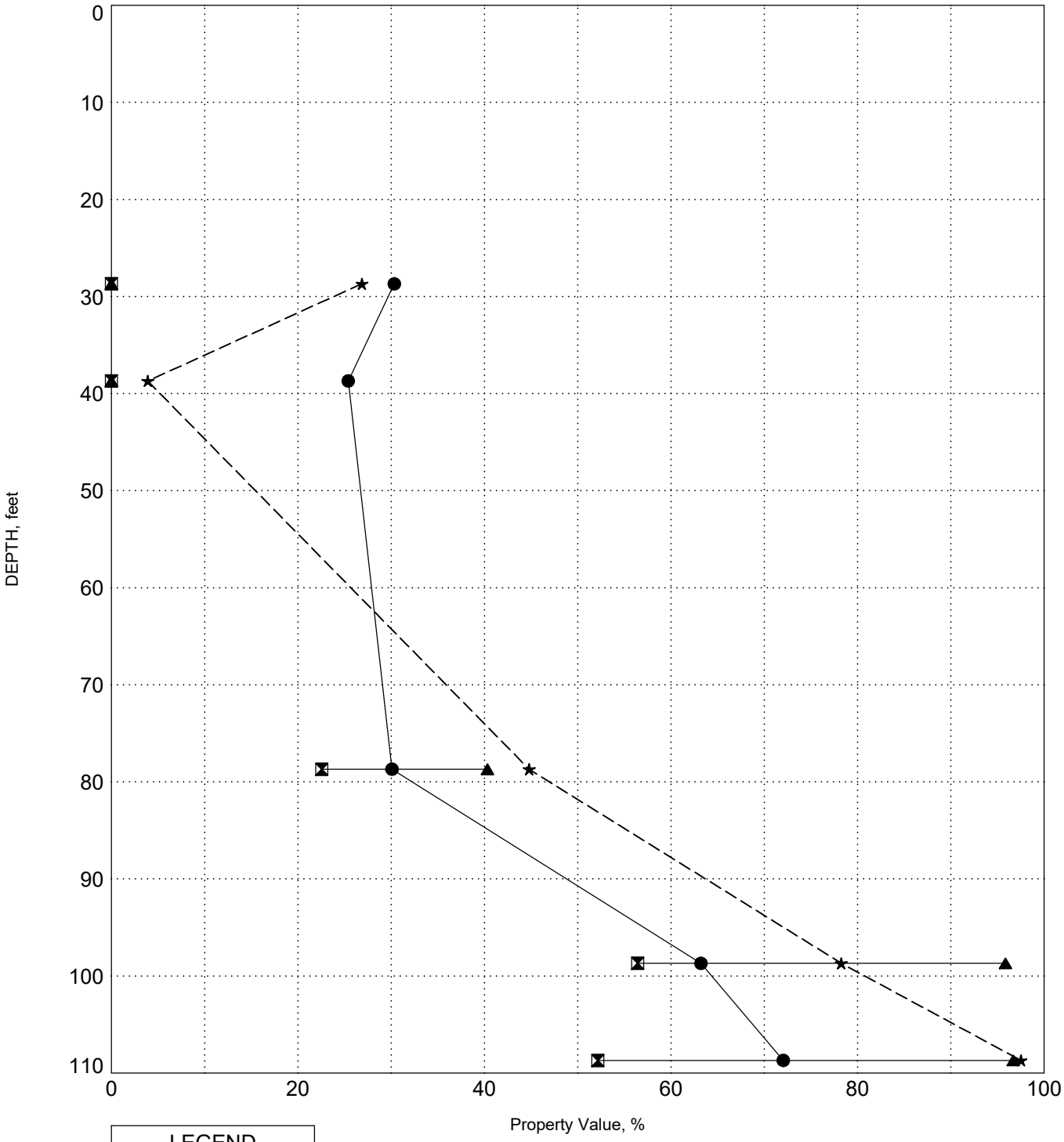
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-18

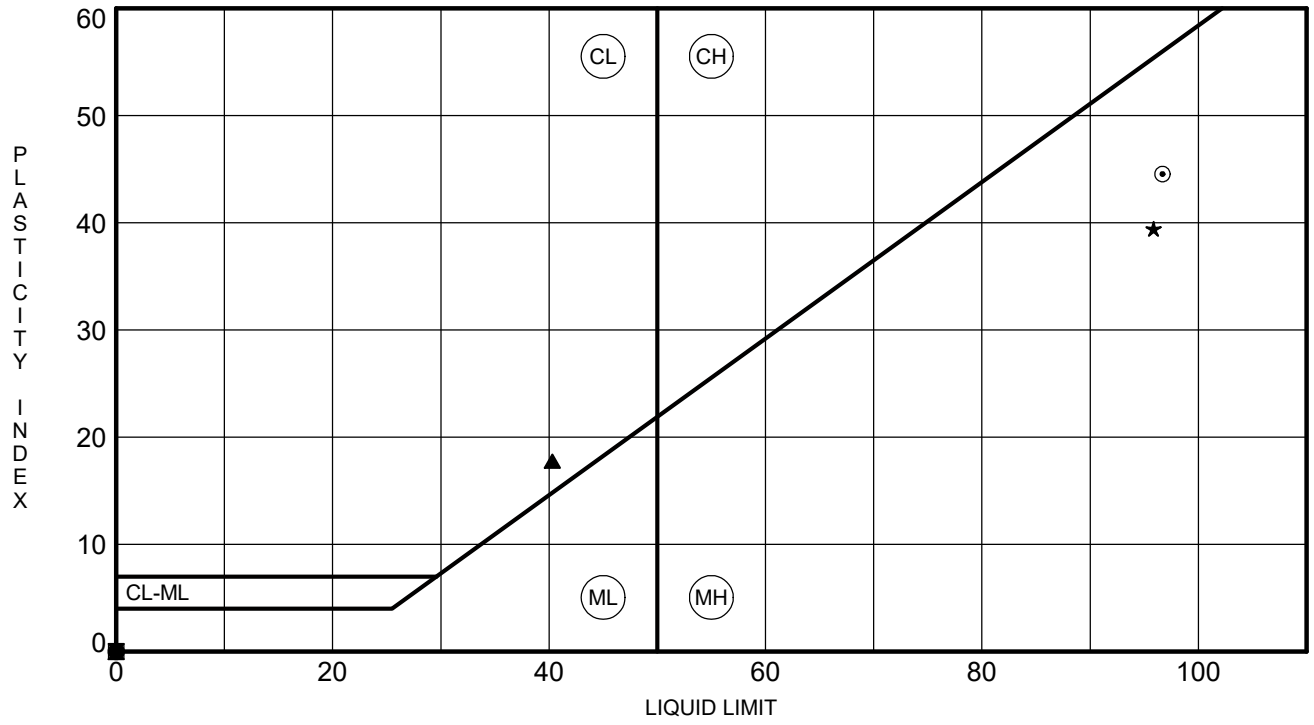
SURFACE ELEVATION: 77.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



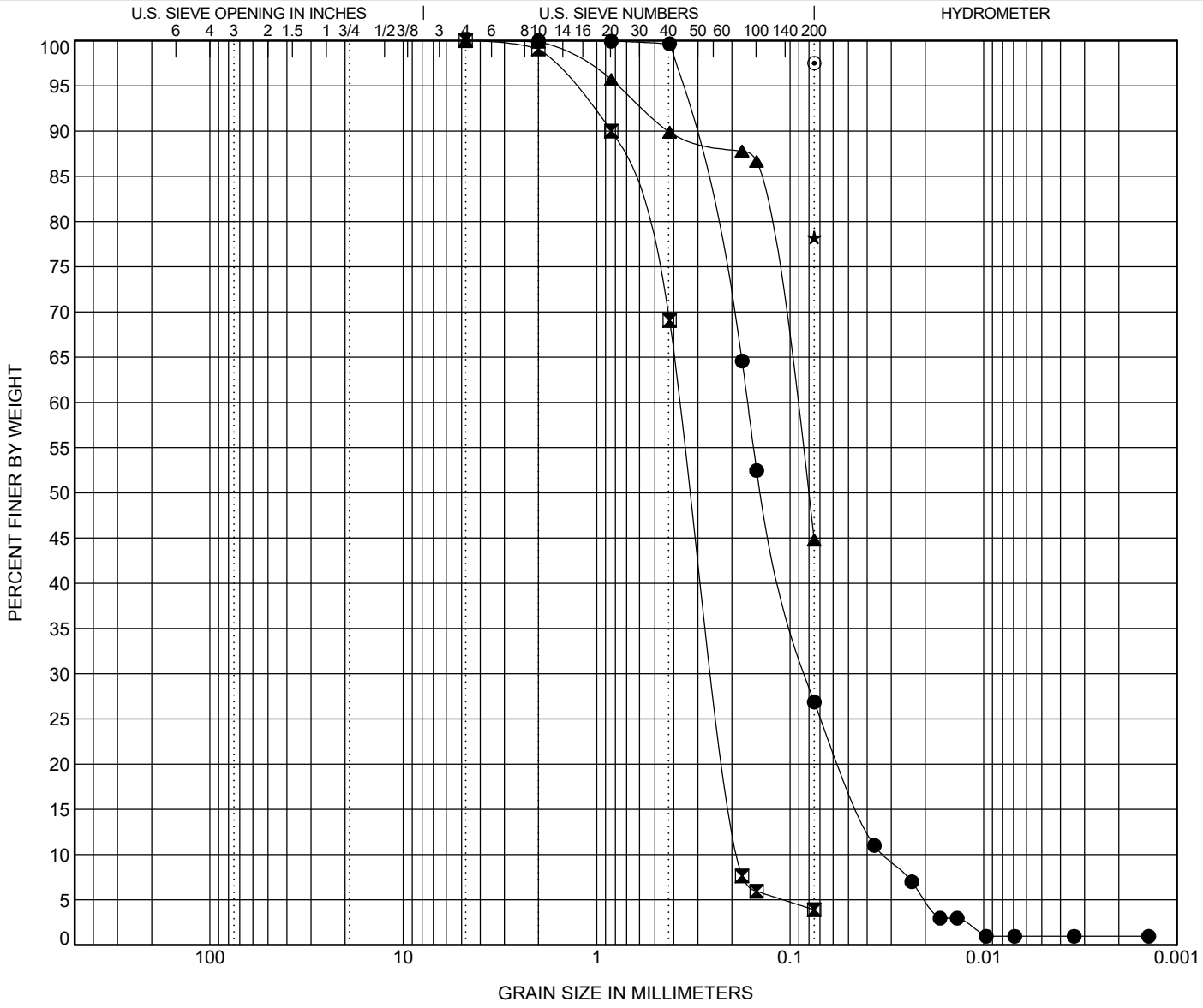
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-18**	**28.7**	**NP**	**NP**	**NP**	**27**	**SILTY SAND (SM/A-2-4)**
⧓	**B-18**	**38.7**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-3)**
▲	**B-18**	**78.7**	**40**	**23**	**17**	**45**	**CLAYEY SAND (SC/A-6)**
★	**B-18**	**98.7**	**96**	**56**	**40**	**78**	**ELASTIC SILT with SAND (MH/A-7-5)**
⊙	**B-18**	**108.7**	**97**	**52**	**45**	**98**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/5/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-18**	**28.7**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**	**1.22**	**5.05**
⊠	**B-18**	**38.7**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.87**	**2.02**
▲	**B-18**	**78.7**	**CLAYEY SAND (SC/A-6)**	**40**	**23**	**17**		
★	**B-18**	**98.7**	**ELASTIC SILT with SAND (MH/A-7-5)**	**96**	**56**	**40**		
⊙	**B-18**	**108.7**	**ELASTIC SILT (MH/A-7-5)**	**97**	**52**	**45**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-18**	**28.7**	**2**	**0.166**	**0.082**	**0.033**	**0.0**	**73.1**	**25.9**	**1.0**
⊠	**B-18**	**38.7**	**4.76**	**0.37**	**0.242**	**0.183**	**0.0**	**96.1**	**3.9**	
▲	**B-18**	**78.7**	**4.76**	**0.096**			**0.0**	**55.2**	**44.8**	
★	**B-18**	**98.7**	**0.075**						**78.2**	
⊙	**B-18**	**108.7**	**0.075**						**97.5**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0852	**DATE SAMPLE RECEIVED:**	3/29/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	3/29/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/30/2023

BORING NO.	B-18	B-18	B-18	B-18	B-18
SAMPLE NO.	SS-5	SS-7	SS-10	SS-14	SS-16
SAMPLE DEPTH (FT.)	26.7 - 28.7	37.2 - 38.7	77.2 - 78.7	97.2 - 98.7	107.2 - 108.7
WATER CONTENT, W%	30.3	25.4	30.1	63.2	72.0

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

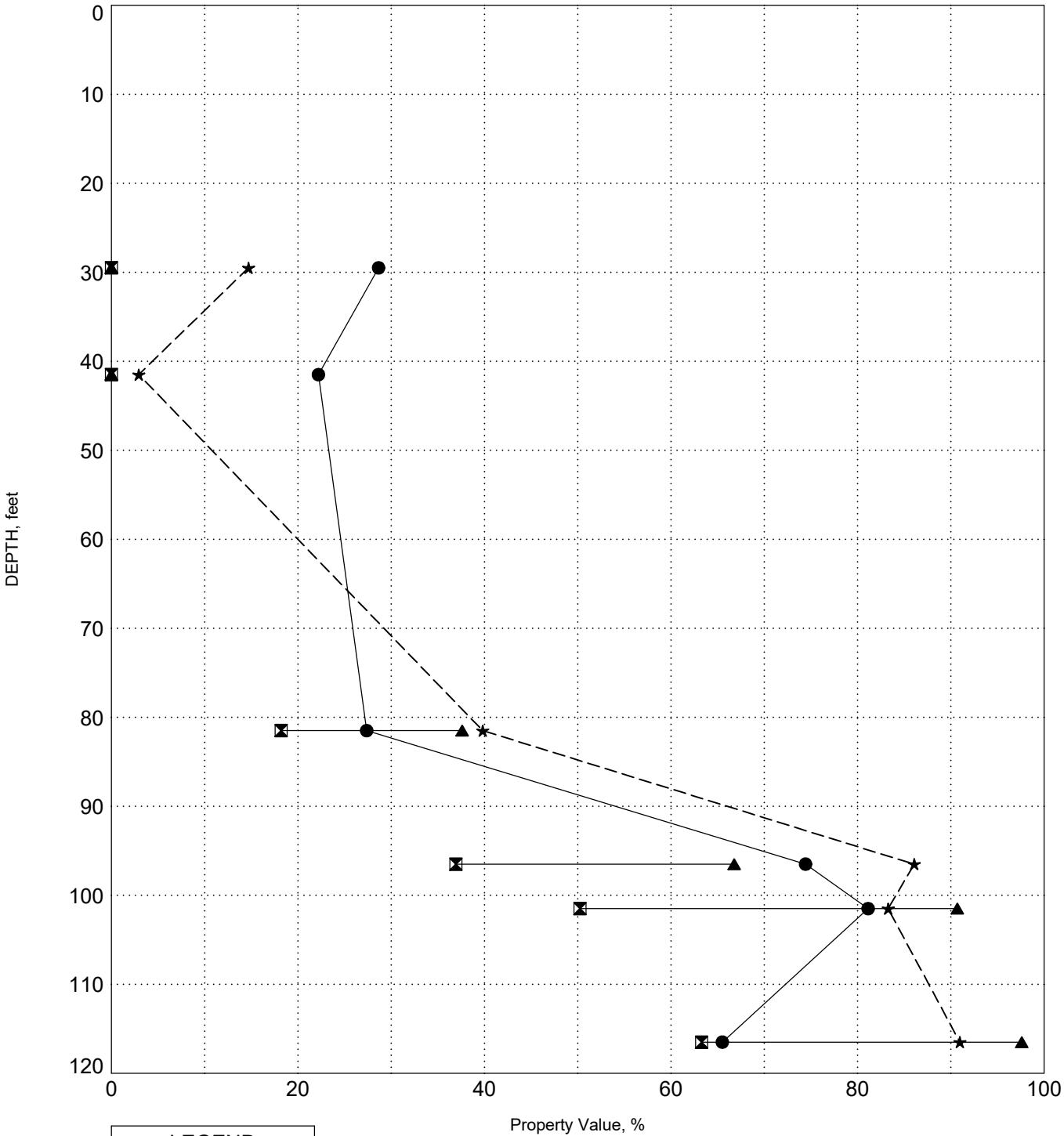
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-19

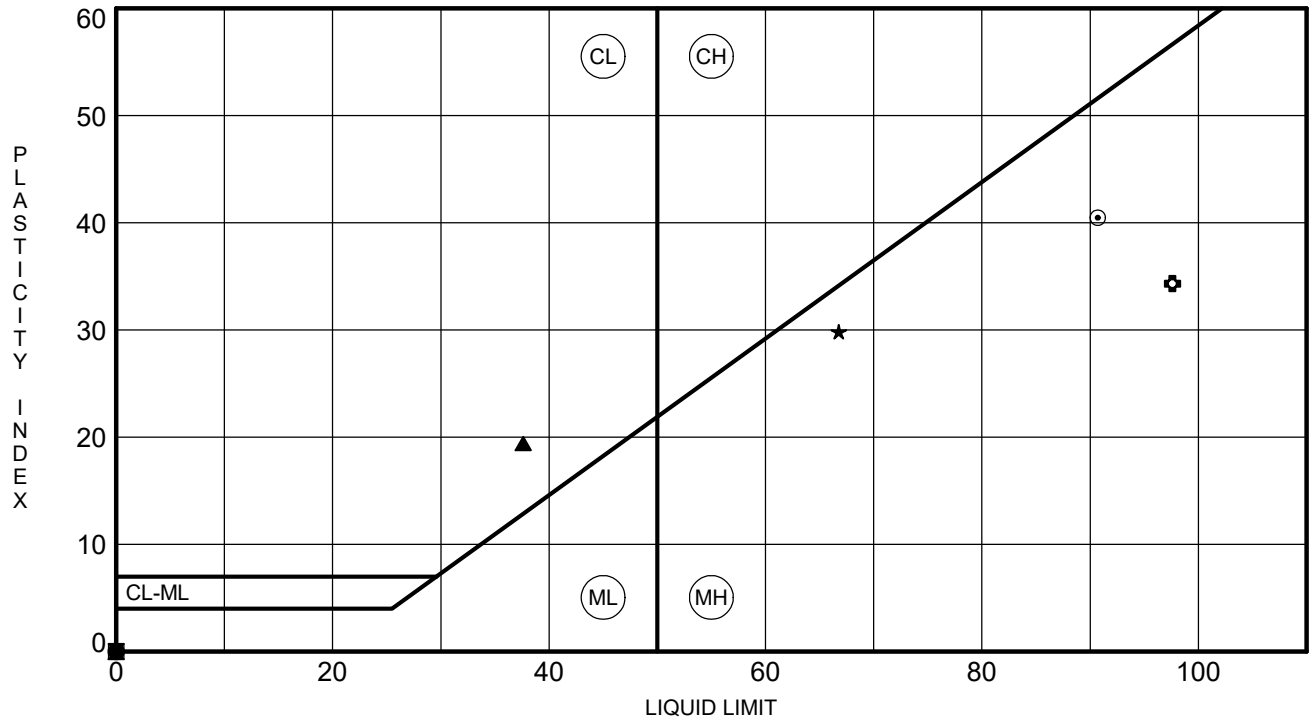
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

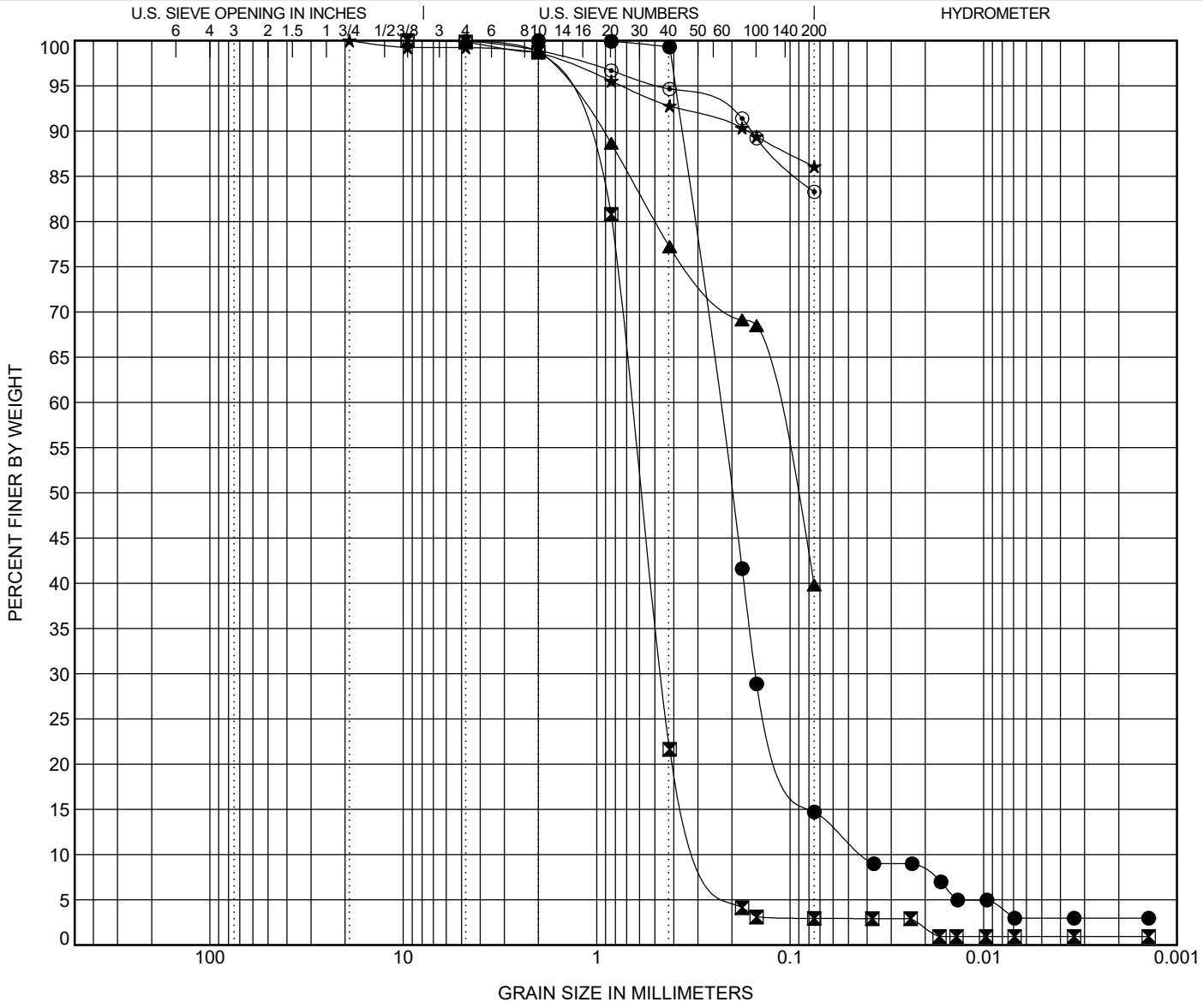


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-19**	**29.5**	**NP**	**NP**	**NP**	**15**	**SILTY SAND (SM/A-2-4)**
⊠	**B-19**	**41.5**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-1-b)**
▲	**B-19**	**81.5**	**38**	**18**	**20**	**40**	**CLAYEY SAND (SC/A-6)**
★	**B-19**	**96.5**	**67**	**37**	**30**	**86**	**ELASTIC SILT (MH/A-7-5)**
⊙	**B-19**	**101.5**	**91**	**50**	**41**	**83**	**ELASTIC SILT with SAND (MH/A-7-5)**
✿	**B-19**	**116.5**	**98**	**63**	**35**	**91**	**ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-19	29.5	SILTY SAND (SM/A-2-4)	NP	NP	NP	2.35	5.57
⊠	B-19	41.5	POORLY GRADED SAND (SP/A-1-b)	NP	NP	NP	1.38	2.79
▲	B-19	81.5	CLAYEY SAND (SC/A-6)	38	18	20		
★	B-19	96.5	ELASTIC SILT (MH/A-7-5)	67	37	30		
⊙	B-19	101.5	ELASTIC SILT with SAND (MH/A-7-5)	91	50	41		

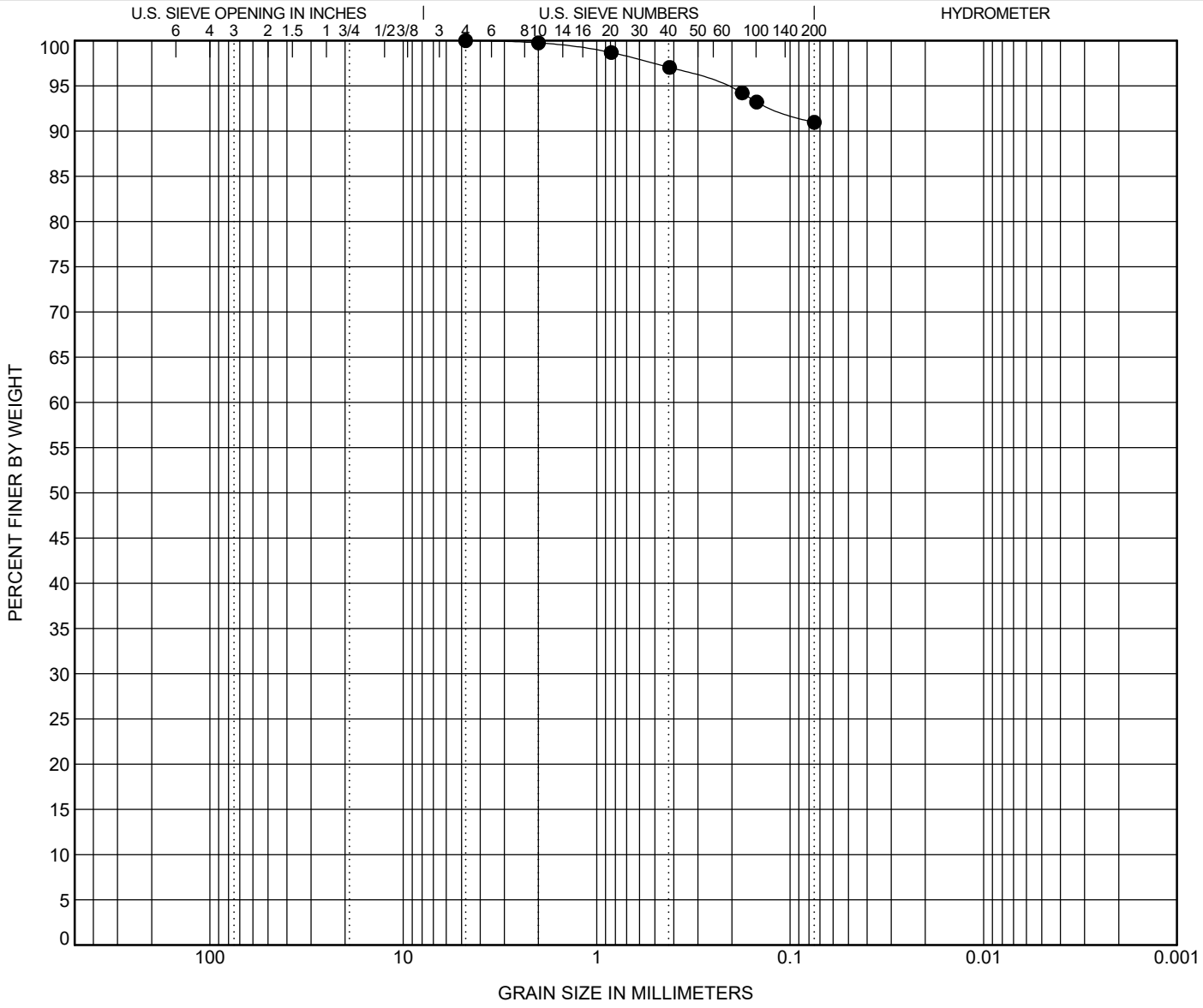
BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-19	29.5	2	0.233	0.151	0.042	0.0	85.3	11.7	3.0
⊠	B-19	41.5	9.51	0.659	0.463	0.236	0.2	96.9	2.0	0.9
▲	B-19	81.5	4.76	0.122			0.0	60.2	39.8	
★	B-19	96.5	19				0.8	13.1	86.1	
⊙	B-19	101.5	9.51				0.1	16.7	83.3	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **B-19**	**116.5**	**ELASTIC SILT (MH/A-7-5)**	**98**	**63**	**35**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **B-19**	**116.5**	**4.76**				**0.0**	**9.0**	**91.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1556	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-19	B-19	B-19	B-19	B-19
SAMPLE NO.	SS-4	SS-7	SS-9	SS-12	SS-13
SAMPLE DEPTH (FT.)	27.5 - 29.5	40.0 - 41.5	80.0 - 81.5	95.0 - 96.5	100.0 - 101.5
WATER CONTENT, W%	28.6	22.2	27.4	74.4	81.1

BORING NO.	B-19				
SAMPLE NO.	SS-16				
SAMPLE DEPTH (FT.)	115.0 - 116.5				
WATER CONTENT, W%	65.5				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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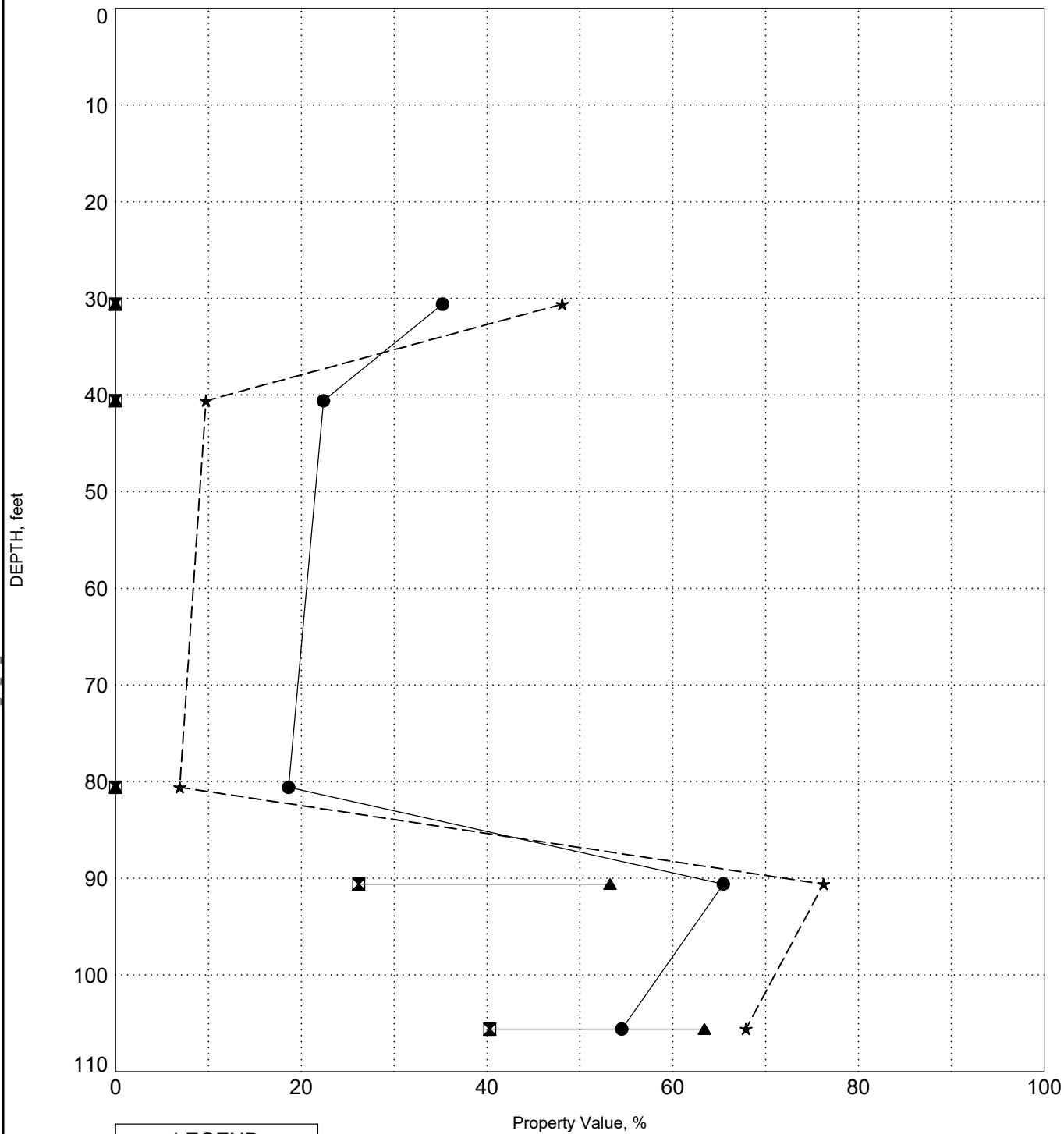
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-20

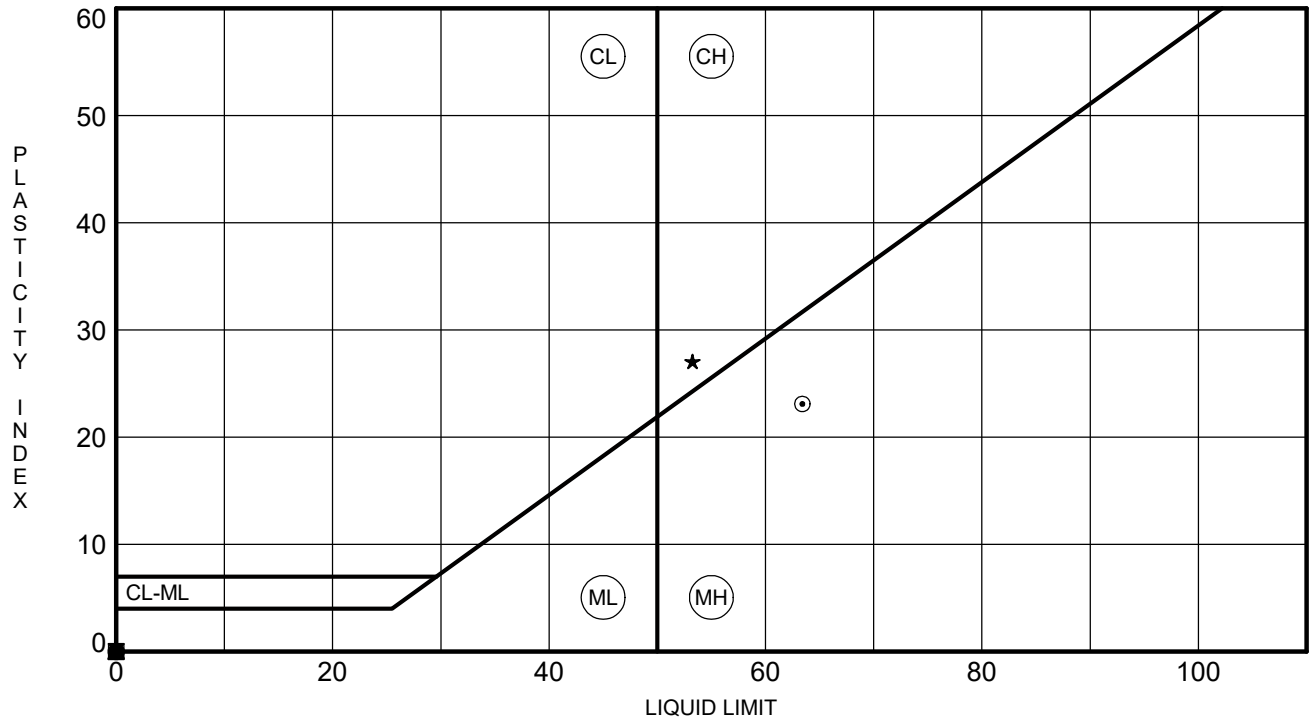
SURFACE ELEVATION: 77.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

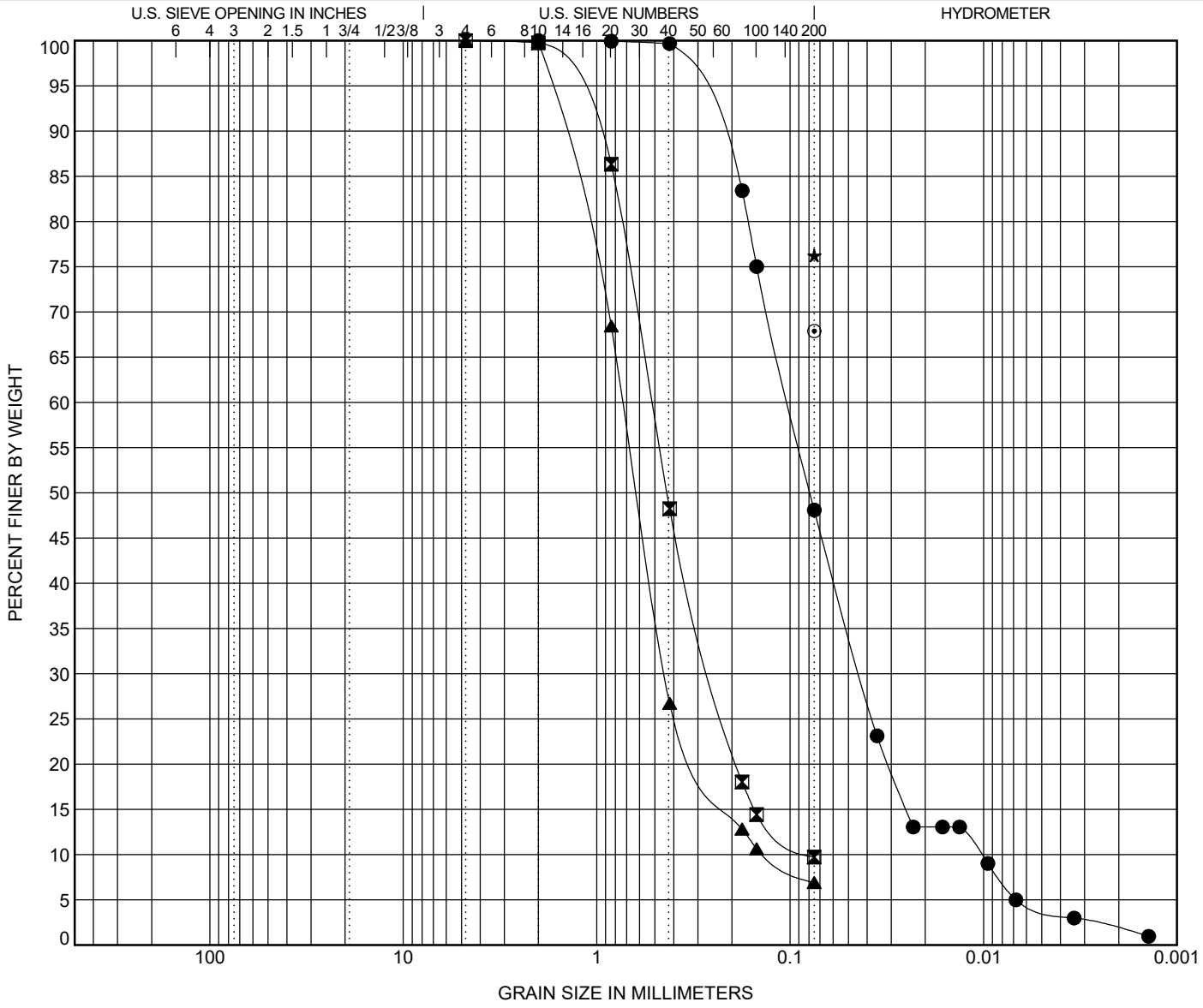


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-20**	**30.6**	**NP**	**NP**	**NP**	**48**	**SILTY SAND (SM/A-4)**
⊠	**B-20**	**40.6**	**NP**	**NP**	**NP**	**10**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**
▲	**B-20**	**80.6**	**NP**	**NP**	**NP**	**7**	**POORLY GRADED SAND with SILT (SP-SM/A-1-b)**
★	**B-20**	**90.6**	**53**	**26**	**27**	**76**	**FAT CLAY with SAND (CH/A-7-6)**
⊙	**B-20**	**105.6**	**63**	**40**	**23**	**68**	**SANDY ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-20**	**30.6**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**	**1.82**	**9.86**
⊠	**B-20**	**40.6**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**	**NP**	**NP**	**NP**	**1.53**	**6.67**
▲	**B-20**	**80.6**	**POORLY GRADED SAND with SILT (SP-SM/A-1-b)**	**NP**	**NP**	**NP**	**2.03**	**5.52**
★	**B-20**	**90.6**	**FAT CLAY with SAND (CH/A-7-6)**	**53**	**26**	**27**		
⊙	**B-20**	**105.6**	**SANDY ELASTIC SILT (MH/A-7-5)**	**63**	**40**	**23**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-20**	**30.6**	**2**	**0.102**	**0.044**	**0.01**	**0.0**	**51.9**	**44.0**	**4.1**
⊠	**B-20**	**40.6**	**4.76**	**0.52**	**0.249**	**0.078**	**0.0**	**90.3**	**9.7**	
▲	**B-20**	**80.6**	**4.76**	**0.731**	**0.444**	**0.132**	**0.0**	**93.1**	**6.9**	
★	**B-20**	**90.6**	**0.075**						**76.2**	
⊙	**B-20**	**105.6**	**0.075**						**67.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/5/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0850	**DATE SAMPLE RECEIVED:**	3/29/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	3/29/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/30/2023

BORING NO.	B-20	B-20	B-20	B-20	B-20
SAMPLE NO.	SS-5	SS-7	SS-10	SS-12	SS-15
SAMPLE DEPTH (FT.)	28.6 - 30.6	39.1 - 40.6	79.1 - 80.6	89.1 - 90.6	104.1 - 105.6
WATER CONTENT, W%	35.2	22.4	18.6	65.4	54.5

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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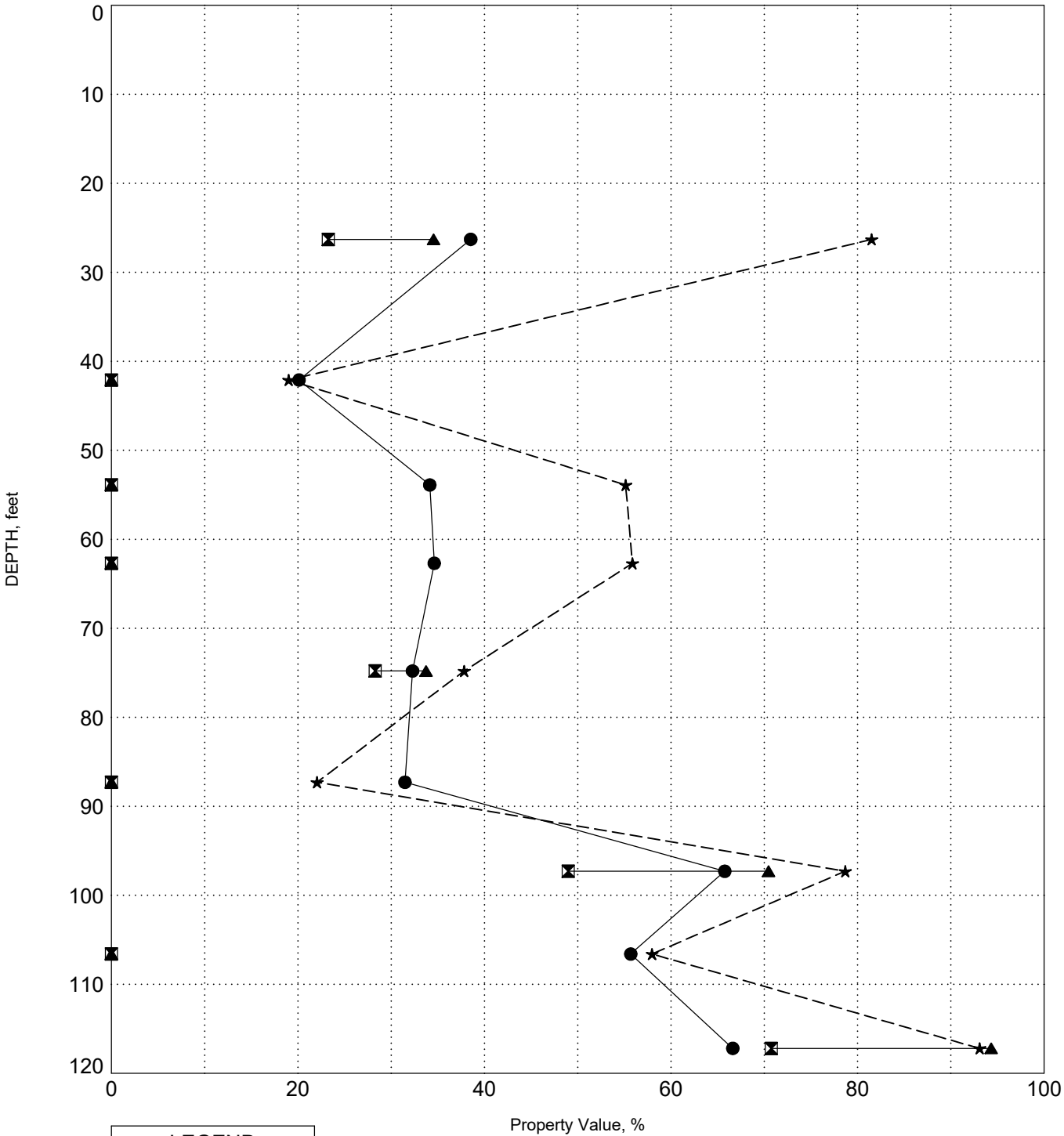
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-21

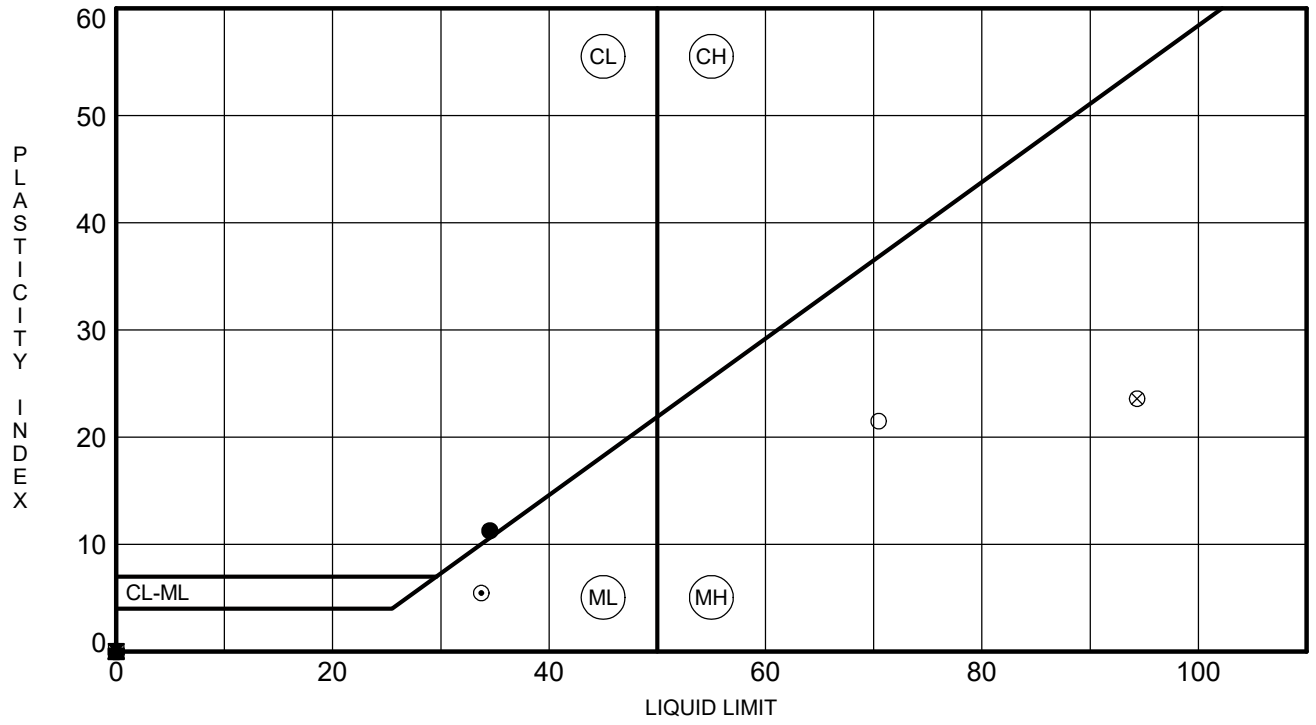
SURFACE ELEVATION: 78.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



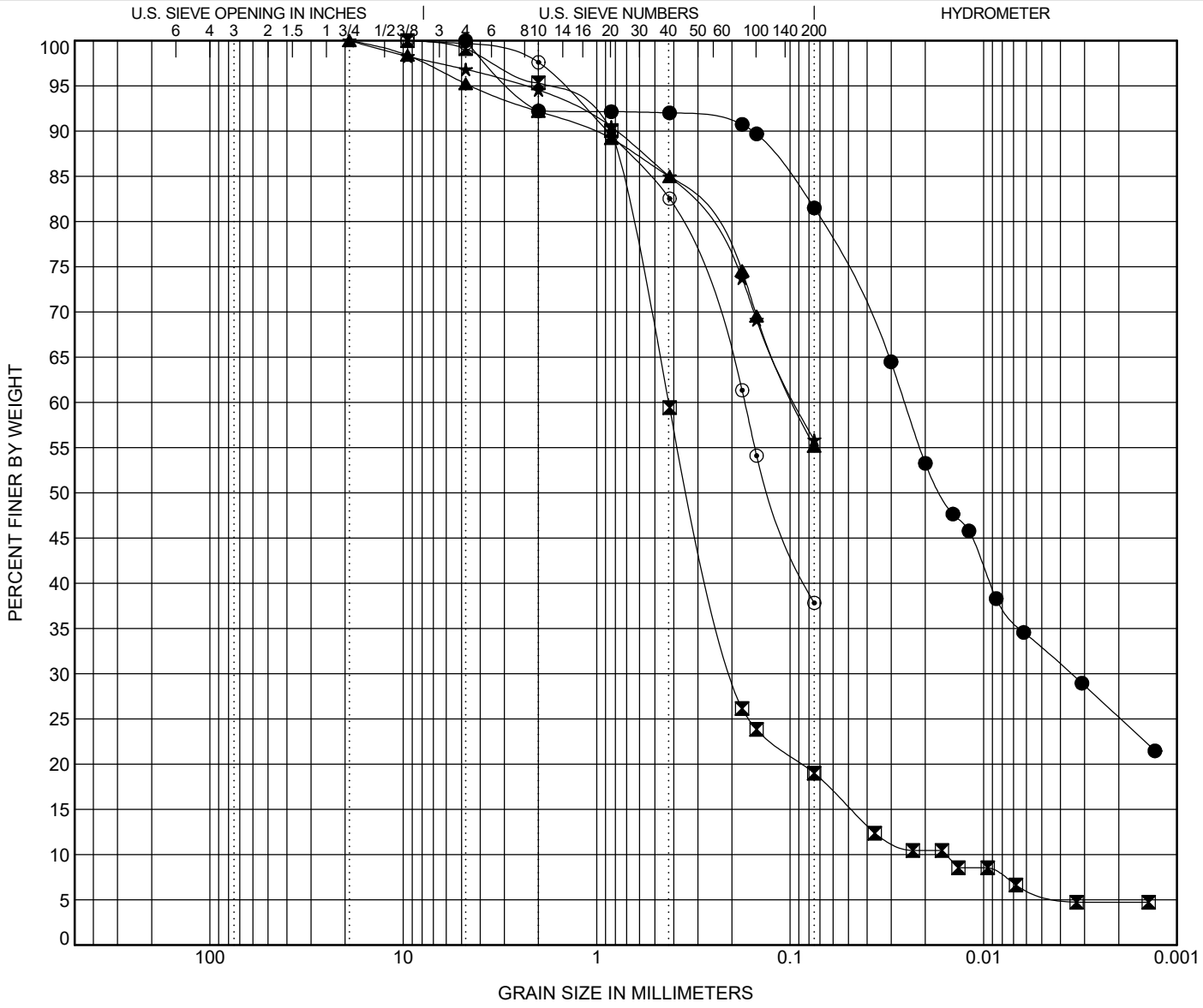
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-21	26.3	35	23	12	82	LEAN CLAY with SAND (CL/A-6)
⊠	B-21	42.1	NP	NP	NP	19	SILTY SAND (SM/A-2-4)
▲	B-21	53.9	NP	NP	NP	55	SANDY SILT (ML/A-4)
★	B-21	62.7	NP	NP	NP	56	SANDY SILT (ML/A-4)
⊙	B-21	74.8	34	28	6	38	SILTY SAND (SM/A-4)
✿	B-21	87.3	NP	NP	NP	22	SILTY SAND (SM/A-1-b)
○	B-21	97.3	70	49	21	79	ELASTIC SILT with SAND (MH/A-7-5)
△	B-21	106.6	NP	NP	NP	58	SANDY SILT (ML/A-4)
⊗	B-21	117.2	94	71	23	93	ELASTIC SILT (MH/A-7-5)

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-21	26.3	LEAN CLAY with SAND (CL/A-6)	35	23	12		
⊠	B-21	42.1	SILTY SAND (SM/A-2-4)	NP	NP	NP	5.75	27.21
▲	B-21	53.9	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-21	62.7	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-21	74.8	SILTY SAND (SM/A-4)	34	28	6		

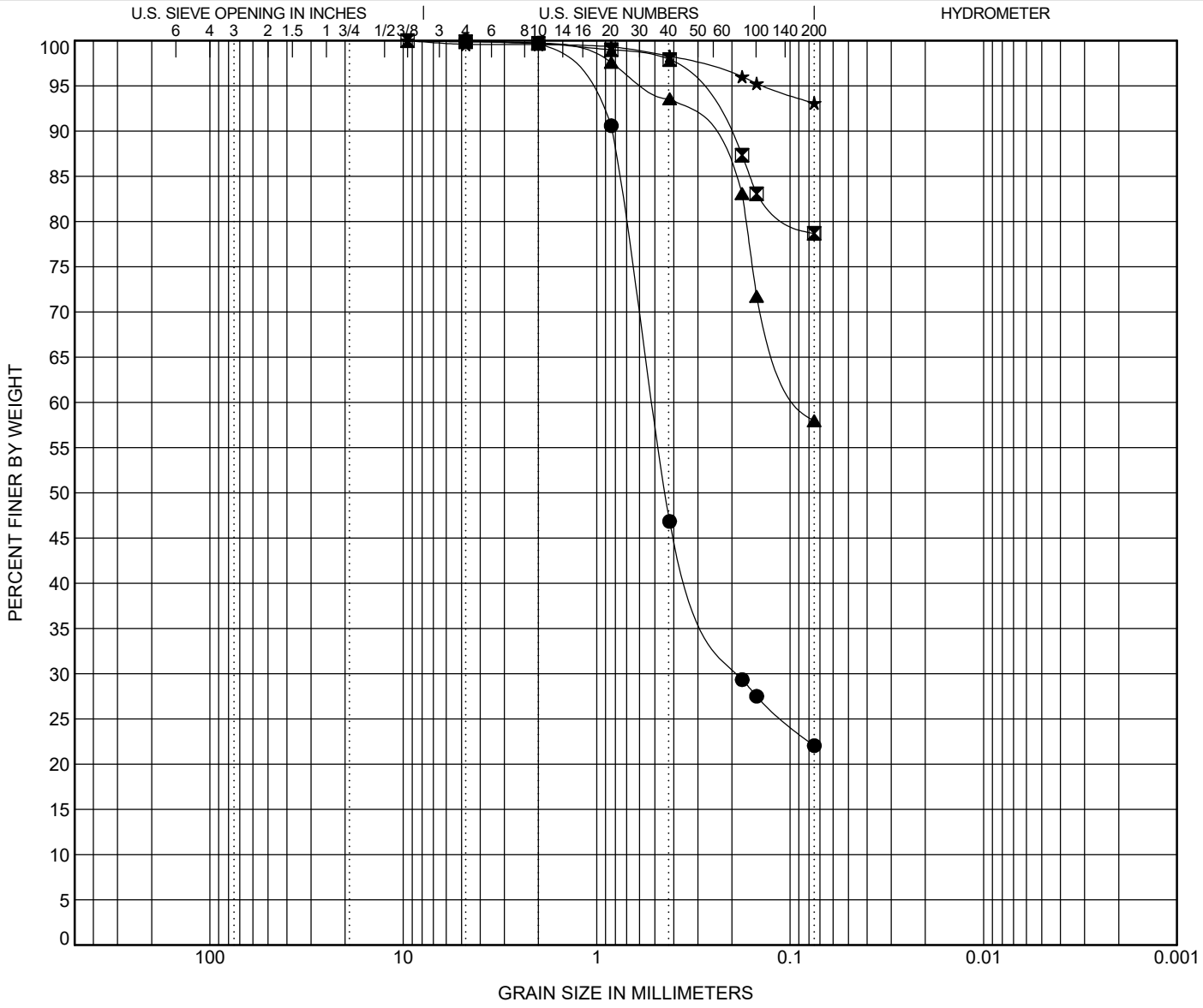
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-21	26.3	4.76	0.026	0.004		0.0	18.5	48.7	32.8
⊠	B-21	42.1	9.51	0.426	0.196	0.016	0.9	80.1	13.2	5.8
▲	B-21	53.9	19	0.095			4.8	40.1	55.1	
★	B-21	62.7	19	0.093			3.2	40.9	55.9	
⊙	B-21	74.8	9.51	0.171			0.3	61.8	37.8	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-21	87.3	SILTY SAND (SM/A-1-b)	NP	NP	NP		
⊠	B-21	97.3	ELASTIC SILT with SAND (MH/A-7-5)	70	49	21		
▲	B-21	106.6	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-21	117.2	ELASTIC SILT (MH/A-7-5)	94	71	23		

BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-21	87.3	4.76	0.518	0.183		0.0	78.0	22.0	
⊠	B-21	97.3	9.51				0.1	21.2	78.7	
▲	B-21	106.6	4.76	0.083			0.0	42.0	58.0	
★	B-21	117.2	9.51				0.4	6.5	93.1	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1557	**DATE SAMPLE RECEIVED:**	6/1/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & CJ	**DATE SETUP:**	6/2/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	6/6/2023

BORING NO.	B-21	B-21	B-21	B-21	B-21
SAMPLE NO.	SS-2	SS-7	SS-10	SS-12	SS-15
SAMPLE DEPTH (FT.)	24.3 - 26.3	40.8 - 42.1	52.8 -53.9	60.8 - 62.7	72.8 - 74.8
WATER CONTENT, W%	38.5	20.1	34.1	34.6	33.3

BORING NO.	B-21	B-21	B-21	B-21	
SAMPLE NO.	SS-18	SS-20	SS-22	SS-24	
SAMPLE DEPTH (FT.)	85.8 - 87.3	95.8 - 97.3	105.8 - 106.6	115.8 - 117.2	
WATER CONTENT, W%	31.5	65.8	65.7	66.6	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

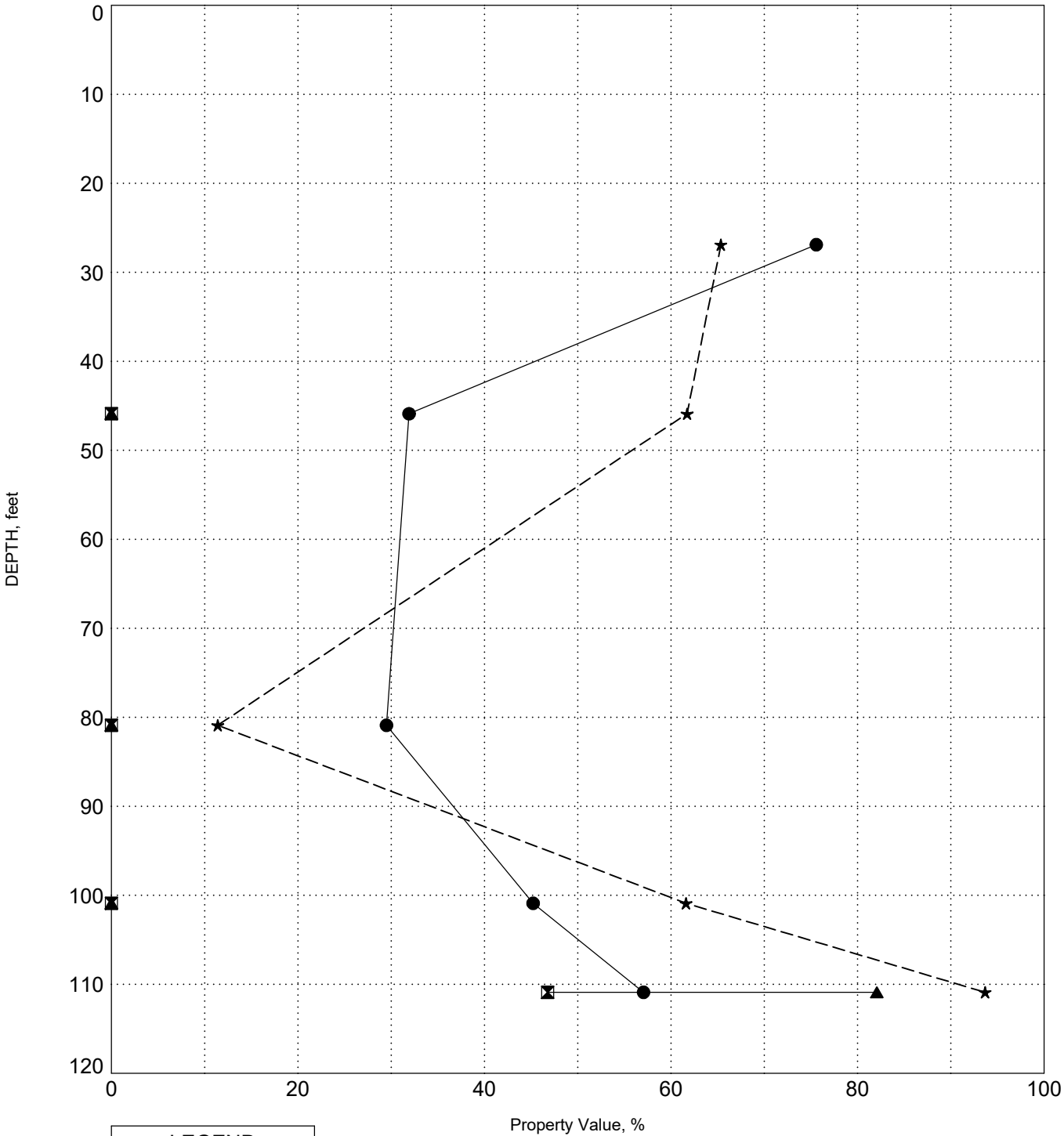
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-22

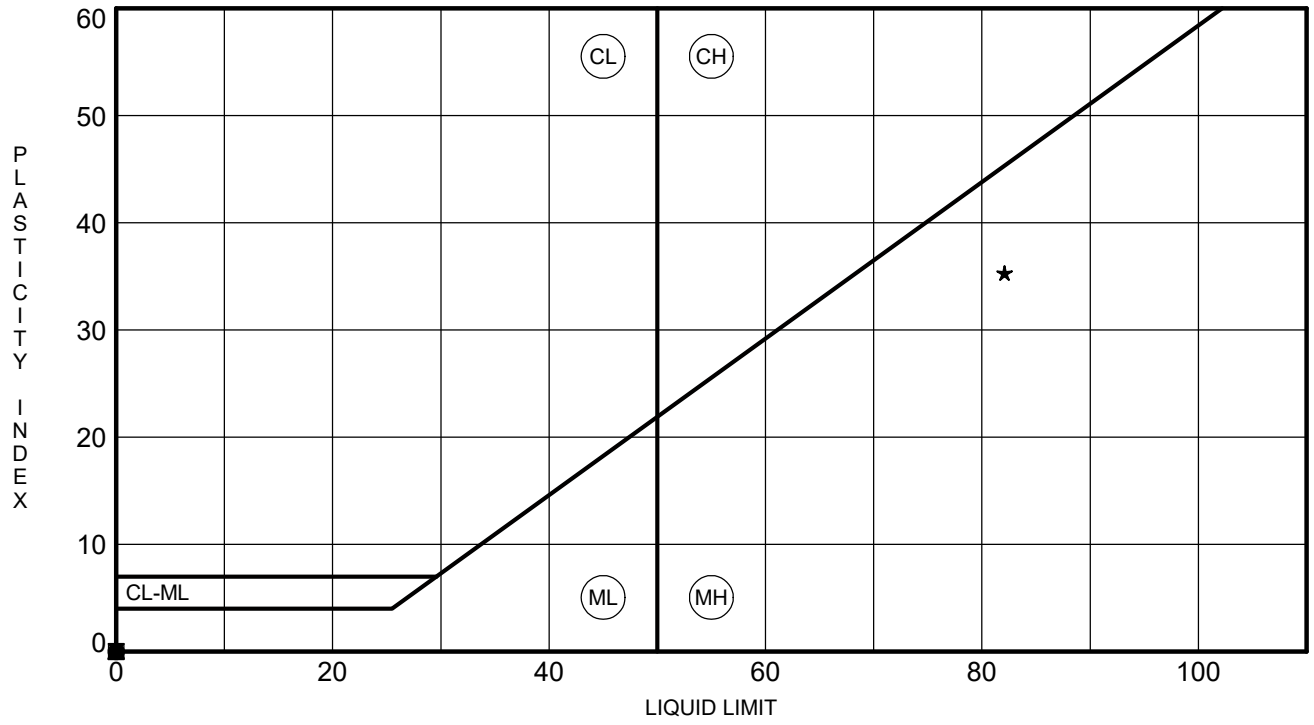
SURFACE ELEVATION: 77.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



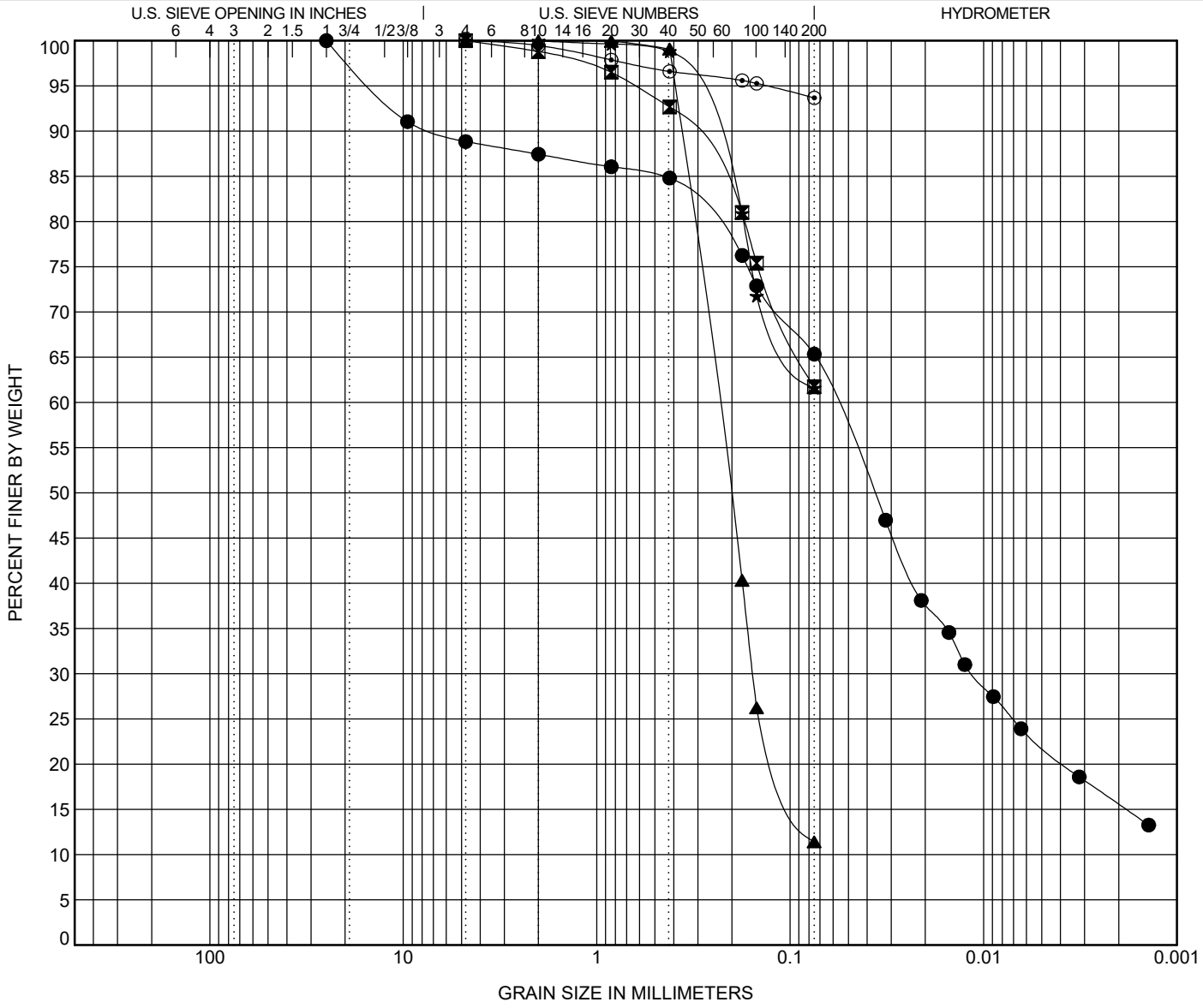
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-22**	**45.9**	**NP**	**NP**	**NP**	**62**	**SANDY SILT (ML/A-4)**
⊠	**B-22**	**80.9**	**NP**	**NP**	**NP**	**11**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**
▲	**B-22**	**100.9**	**NP**	**NP**	**NP**	**62**	**SANDY SILT (ML/A-4)**
★	**B-22**	**110.9**	**82**	**47**	**35**	**94**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/5/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-22**	**26.9**	**SANDY SILT (ML)**					
⊠	**B-22**	**45.9**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		
▲	**B-22**	**80.9**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**	**NP**	**NP**	**NP**	**1.47**	**3.36**
★	**B-22**	**100.9**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-22**	**110.9**	**ELASTIC SILT (MH/A-7-5)**	**82**	**47**	**35**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-22**	**26.9**	**25**	**0.059**	**0.011**		**11.2**	**23.5**	**43.3**	**22.0**
⊠	**B-22**	**45.9**	**4.76**				**0.0**	**38.3**	**61.7**	
▲	**B-22**	**80.9**	**4.76**	**0.236**	**0.156**		**0.0**	**88.6**	**11.4**	
★	**B-22**	**100.9**	**4.76**				**0.0**	**38.4**	**61.6**	
⊙	**B-22**	**110.9**	**4.76**				**0.0**	**6.3**	**93.7**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/5/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0850	**DATE SAMPLE RECEIVED:**	3/29/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	3/29/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/30/2023

BORING NO.	B-22	B-22	B-22	B-22	B-22
SAMPLE NO.	SS-3	SS-8	SS-10	SS-14	SS-16
SAMPLE DEPTH (FT.)	24.9 - 26.9	44.4 - 45.9	79.4 - 80.9	99.4 - 100.9	109.4 - 110.9
WATER CONTENT, W%	75.6	31.9	29.5	45.2	57.1

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

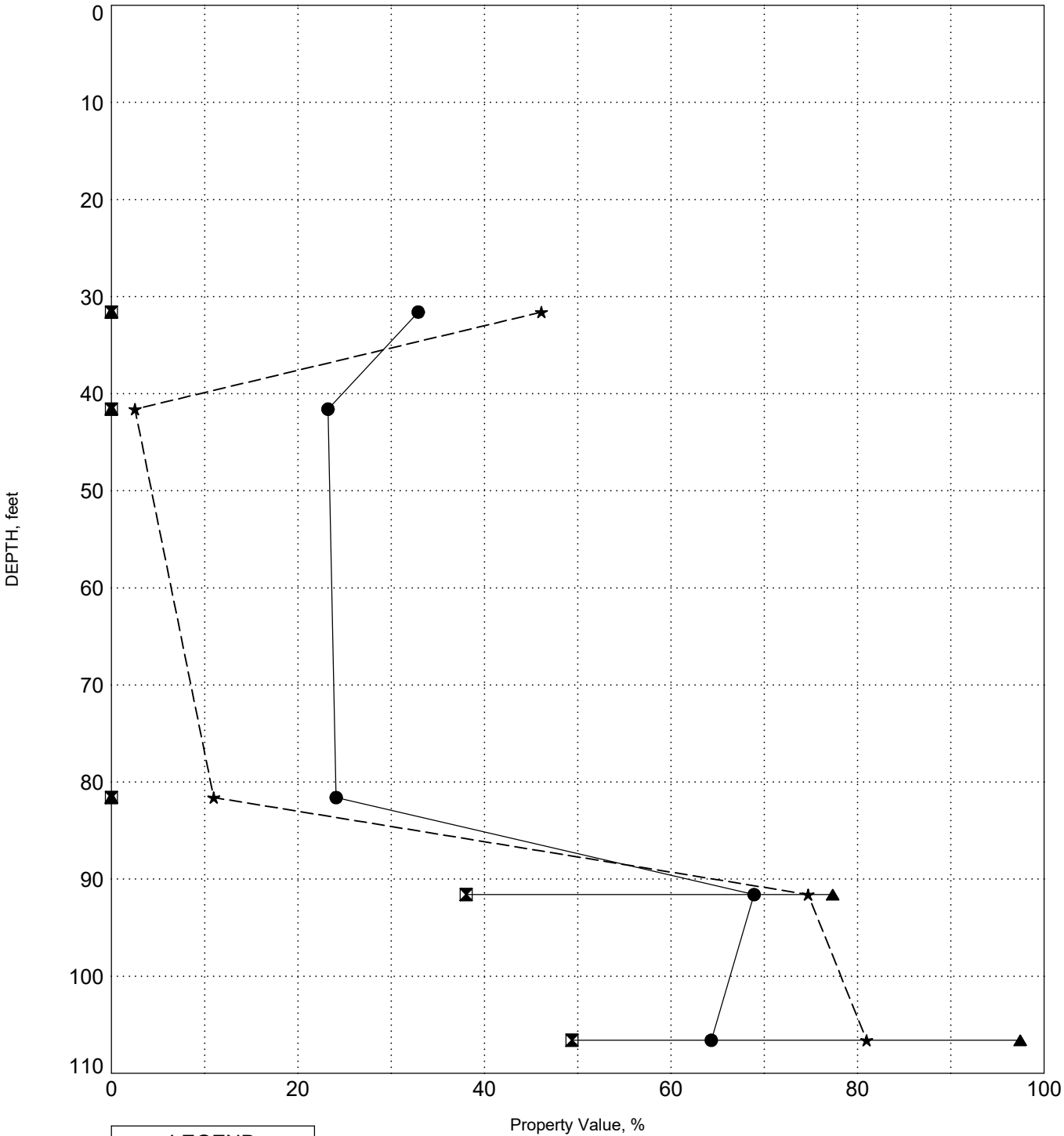
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-23

SURFACE ELEVATION: 78.4

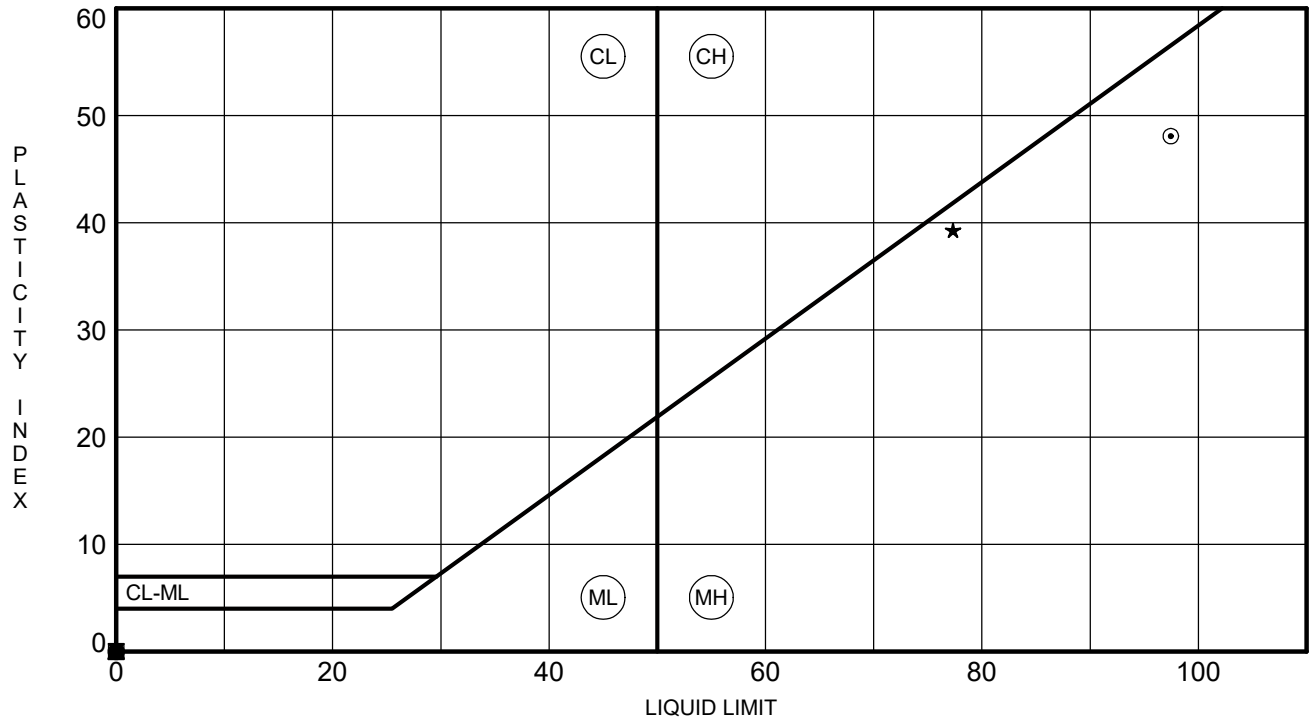


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



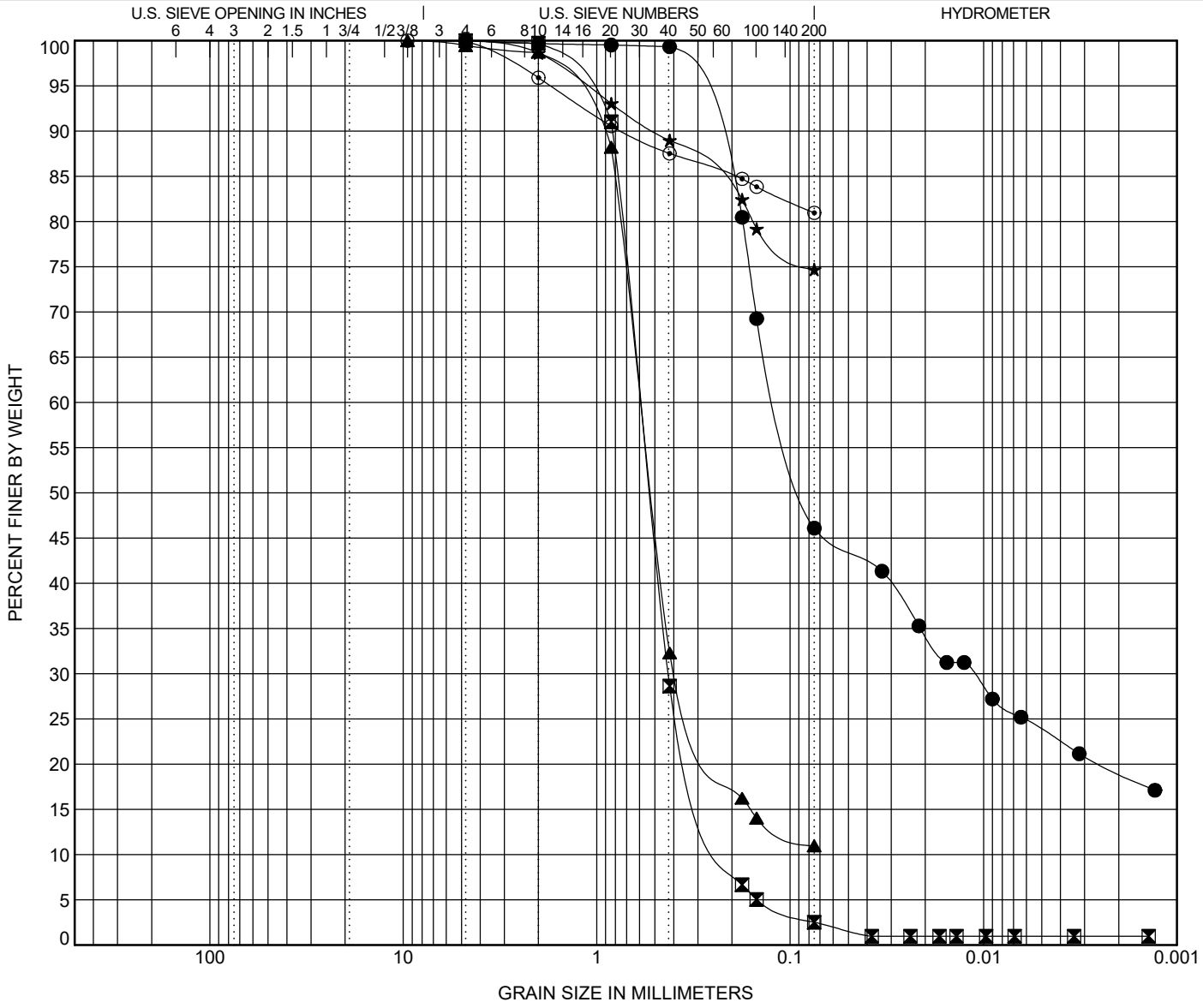
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-23**	**31.6**	**NP**	**NP**	**NP**	**46**	**Silty SAND (SM/A-4)**
⊠	**B-23**	**41.6**	**NP**	**NP**	**NP**	**3**	**Poorly Graded SAND (SP/A-1-b)**
▲	**B-23**	**81.6**	**NP**	**NP**	**NP**	**11**	**Poorly Graded SAND with SILT (SP-SM/A-1-b)**
★	**B-23**	**91.6**	**77**	**38**	**39**	**75**	**Elastic SILT with SAND (MH/A-7-5)**
⊙	**B-23**	**106.6**	**97**	**49**	**48**	**81**	**Elastic SILT with SAND (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-23	31.6	Silty SAND (SM/A-4)	NP	NP	NP		
⊠	B-23	41.6	Poorly Graded SAND (SP/A-1-b)	NP	NP	NP	1.51	2.95
▲	B-23	81.6	Poorly Graded SAND with SILT (SP-SM/A-1-b)	NP	NP	NP	3.86	9.82
★	B-23	91.6	Elastic SILT with SAND (MH/A-7-5)	77	38	39		
⊙	B-23	106.6	Elastic SILT with SAND (MH/A-7-5)	97	49	48		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-23	31.6	4.76	0.113	0.011		0.0	53.9	22.3	23.7
⊠	B-23	41.6	4.76	0.595	0.426	0.202	0.0	97.5	1.6	1.0
▲	B-23	81.6	9.51	0.592	0.371		0.6	88.5	11.0	
★	B-23	91.6	4.76				0.0	25.3	74.7	
⊙	B-23	106.6	9.51				0.1	18.9	81.0	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1355	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-23	B-23	B-23	B-23	B-23
SAMPLE NO.	SS-5	SS-7	SS-10	SS-12	SS-15
SAMPLE DEPTH (FT.)	29.6 - 31.6	40.1 - 41.6	80.1 - 81.6	90.1- 91.6	105.1 - 106.6
WATER CONTENT, W%	32.9	23.2	24.1	68.9	64.3

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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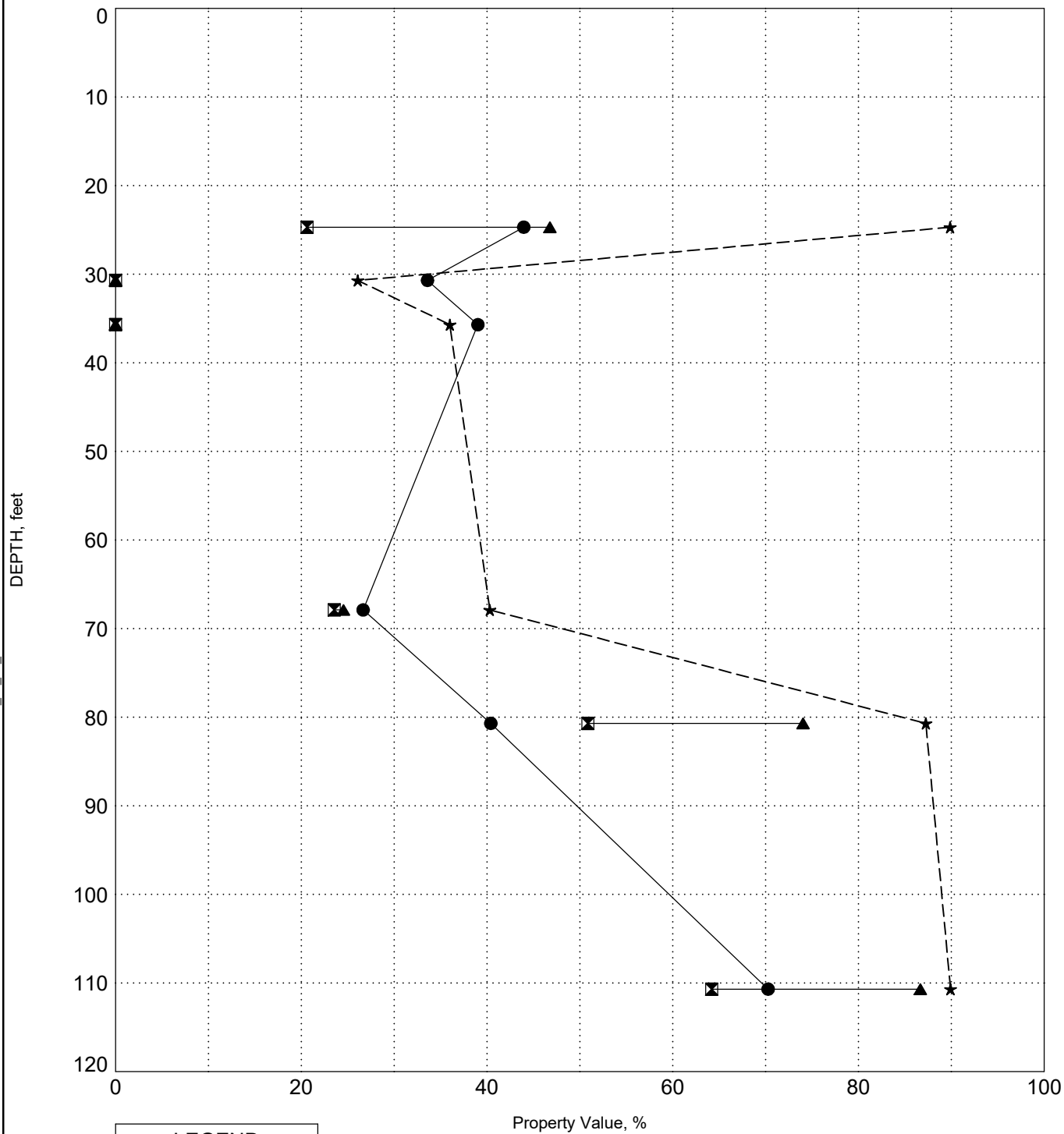
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-24

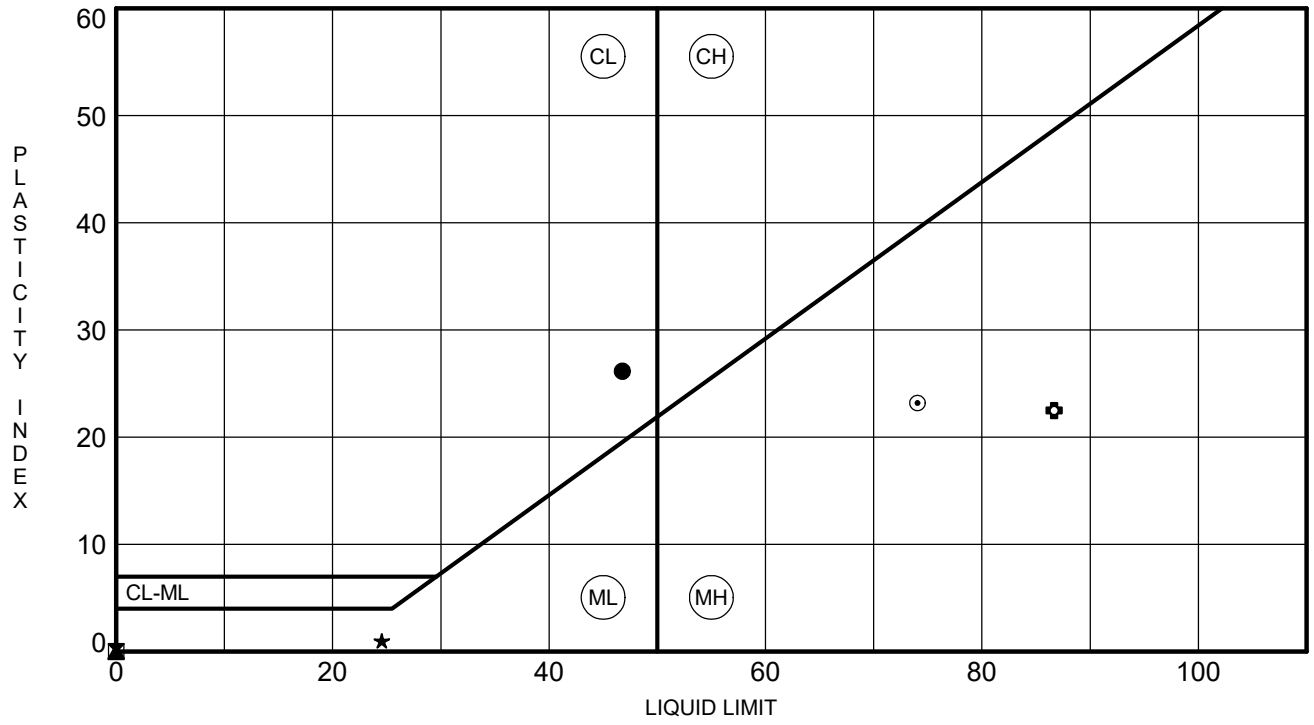
SURFACE ELEVATION: 77.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



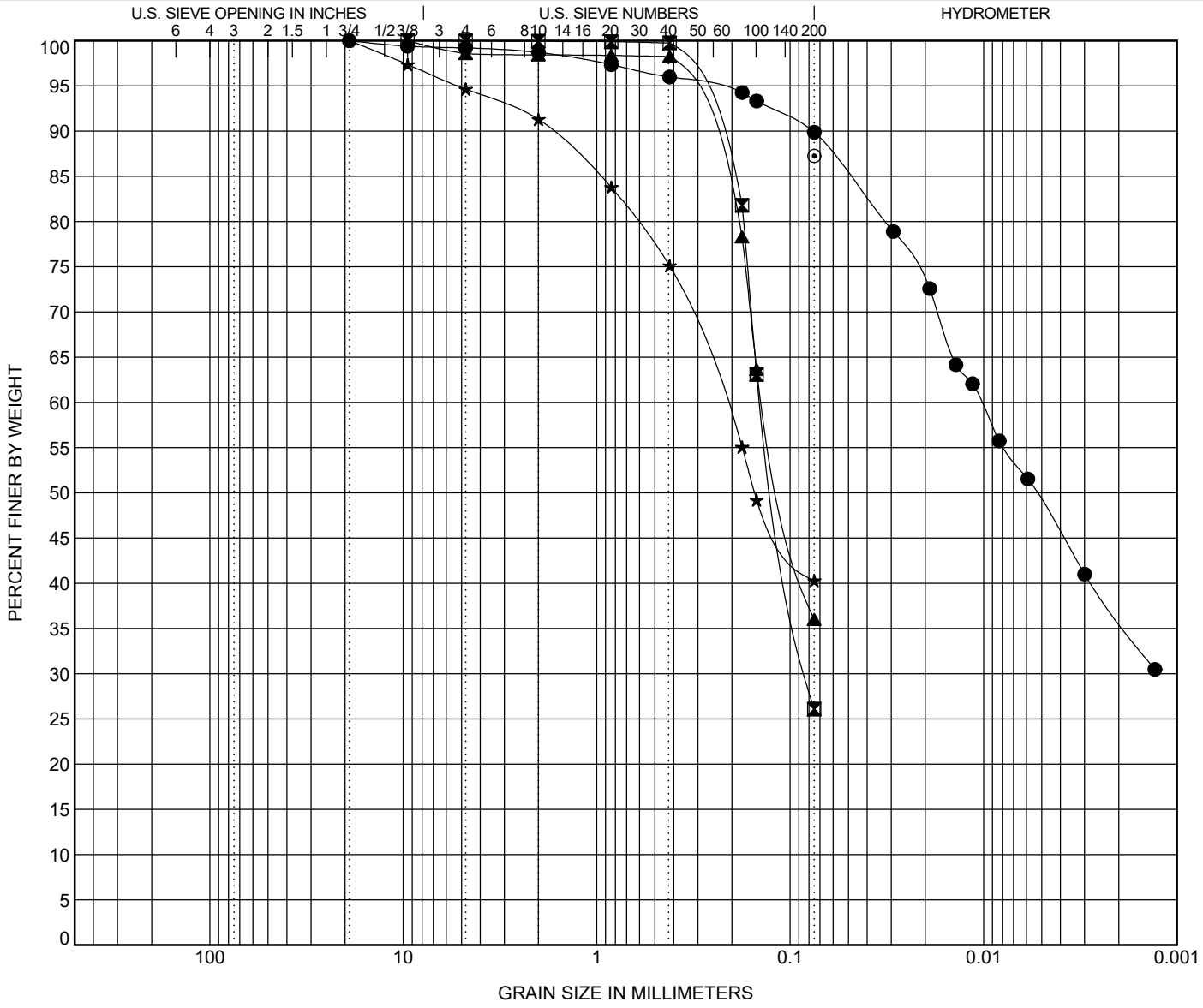
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-24**	**24.7**	**47**	**21**	**26**	**90**	**LEAN CLAY (CL/A-7-6)**
⊠	**B-24**	**30.7**	**NP**	**NP**	**NP**	**26**	**SILTY SAND (SM/A-2-4)**
▲	**B-24**	**35.7**	**NP**	**NP**	**NP**	**36**	**SILTY SAND (SM/A-4)**
★	**B-24**	**67.9**	**25**	**24**	**1**	**40**	**SILTY SAND (SM/A-4)**
⊙	**B-24**	**80.7**	**74**	**51**	**23**	**87**	**ELASTIC SILT (MH/A-7-5)**
✿	**B-24**	**110.7**	**87**	**64**	**23**	**90**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-24**	**24.7**	**LEAN CLAY (CL/A-7-6)**	**47**	**21**	**26**		
⊠	**B-24**	**30.7**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
▲	**B-24**	**35.7**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
★	**B-24**	**67.9**	**SILTY SAND (SM/A-4)**	**25**	**24**	**1**		
⊙	**B-24**	**80.7**	**ELASTIC SILT (MH/A-7-5)**	**74**	**51**	**23**		

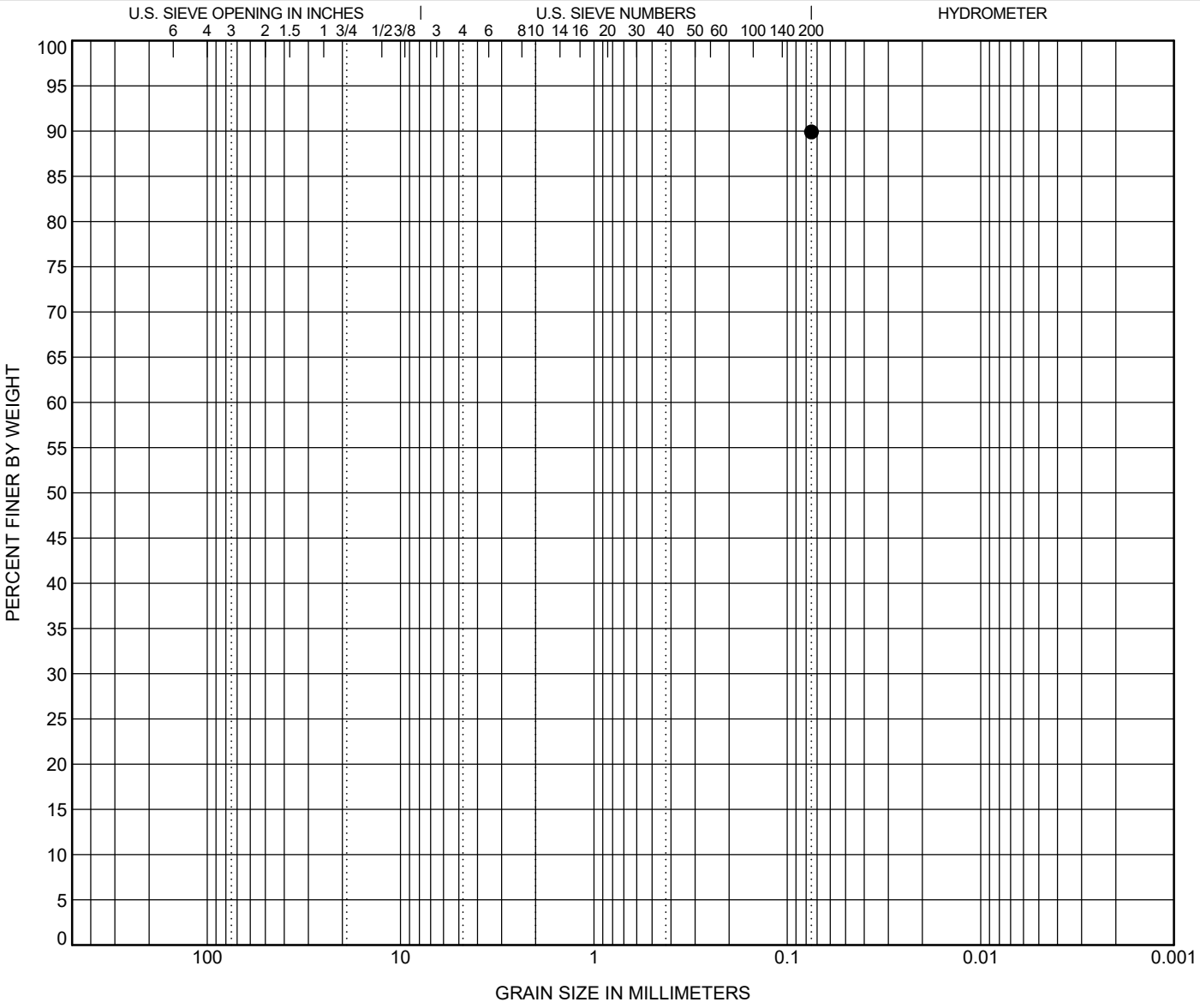
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-24**	**24.7**	**19**	**0.01**			**0.8**	**9.3**	**40.9**	**49.0**
⊠	**B-24**	**30.7**	**9.51**	**0.141**	**0.081**		**0.0**	**73.9**	**26.1**	
▲	**B-24**	**35.7**	**9.51**	**0.136**			**1.4**	**62.6**	**36.0**	
★	**B-24**	**67.9**	**19**	**0.219**			**5.4**	**54.3**	**40.3**	
⊙	**B-24**	**80.7**	**0.075**						**87.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-24**	**110.7**	**ELASTIC SILT (MH/A-7-5)**	**87**	**64**	**23**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-24**	**110.7**	**0.075**						**89.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0786	**DATE SAMPLE RECEIVED:**	3/23/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/23/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/24/2023

BORING NO.	B-24	B-24	B-24	B-24	B-24
SAMPLE NO.	SS-2	SS-5	SS-6	SS-9	SS-12
SAMPLE DEPTH (FT.)	22.7 - 24.7	28.7 - 30.7	34.2 - 35.7	66.4 - 67.9	79.2 - 80.7
WATER CONTENT, W%	44.0	33.6	39.0	26.7	40.4

BORING NO.	B-24				
SAMPLE NO.	SS-18				
SAMPLE DEPTH (FT.)	109.2 - 110.7				
WATER CONTENT, W%	70.3				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

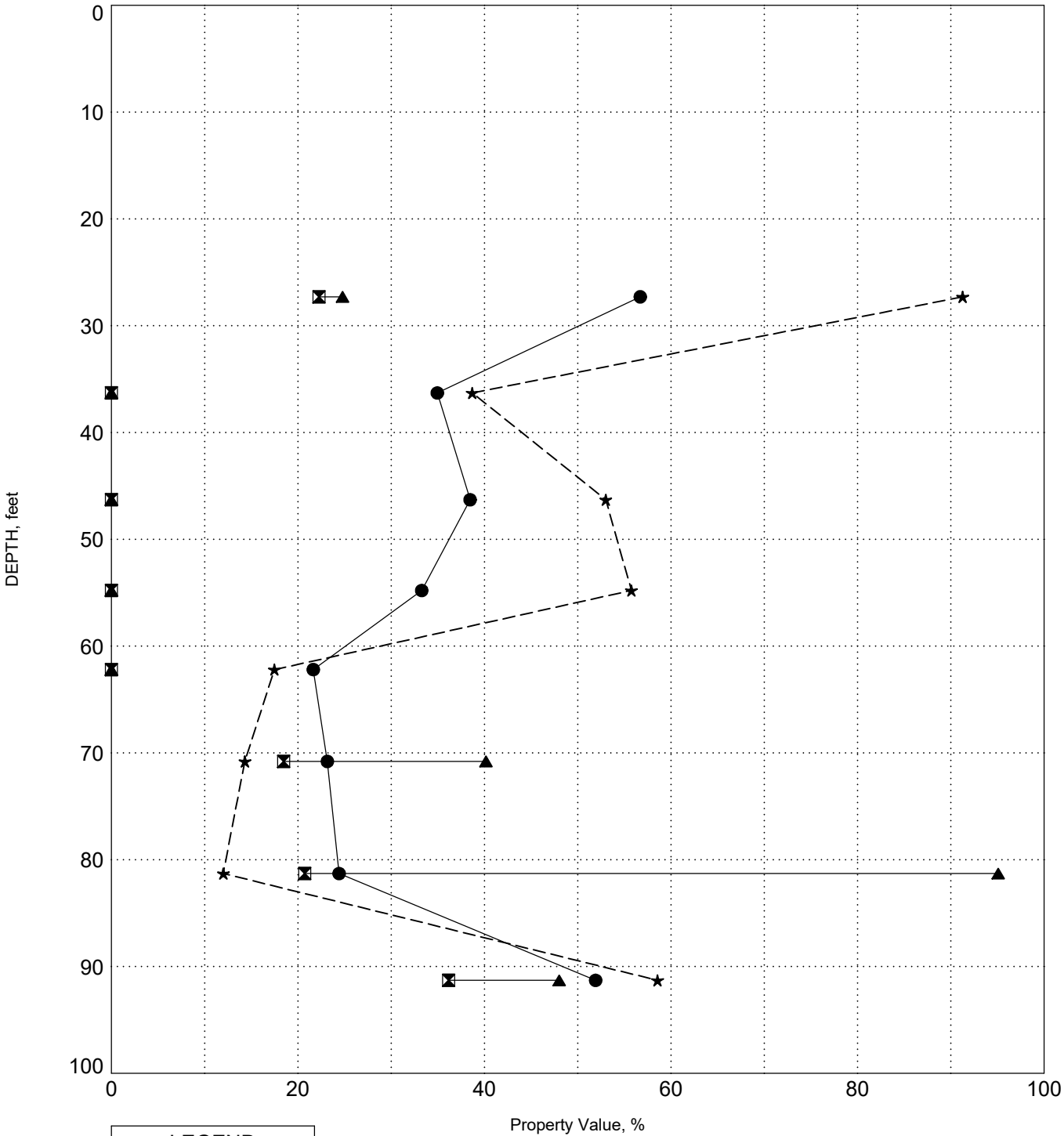
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-25

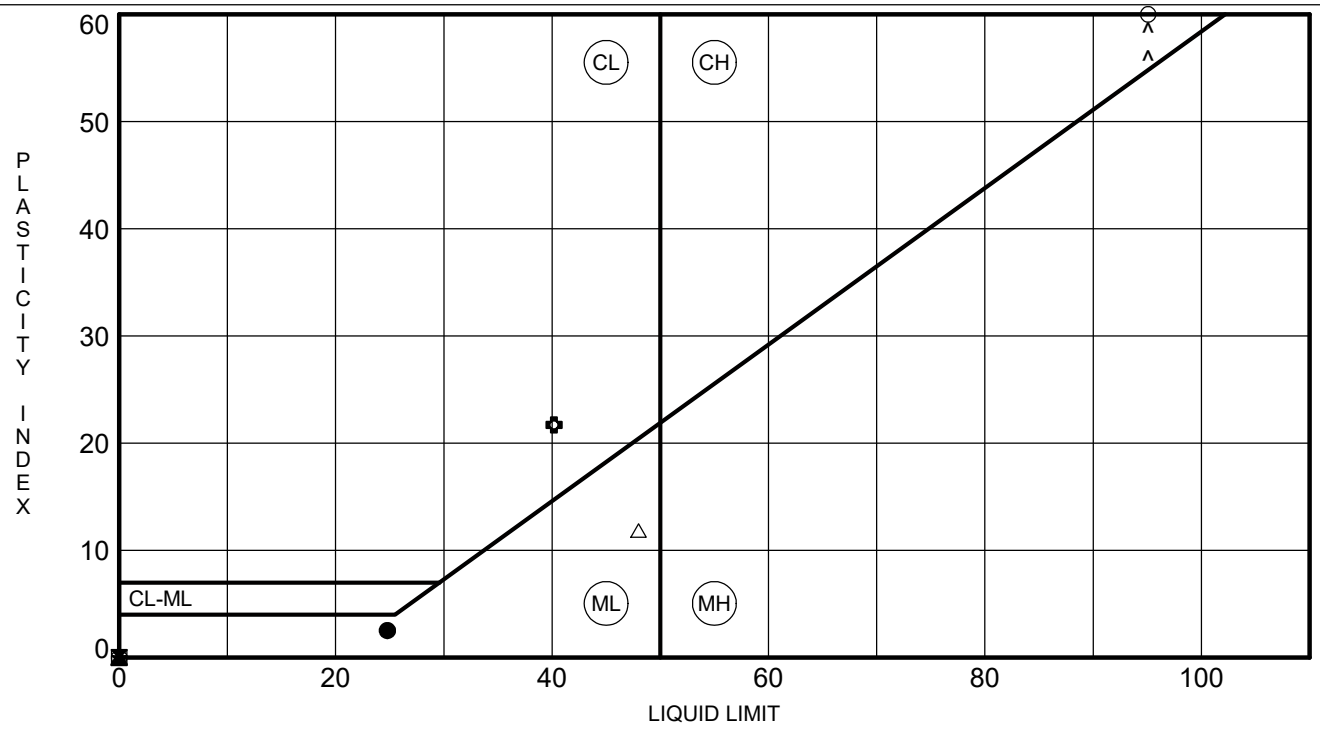
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

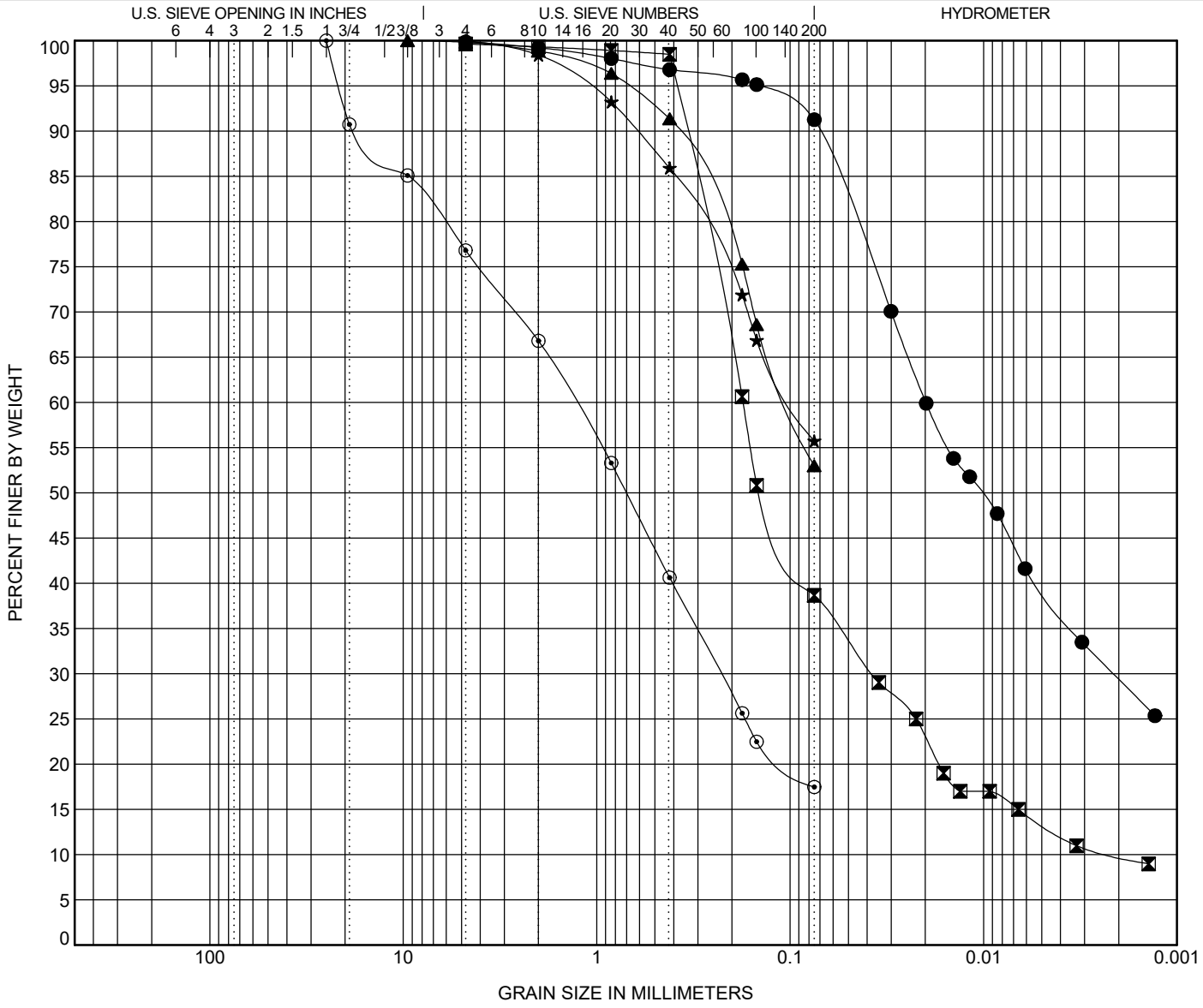


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-25**	**27.3**	**25**	**22**	**3**	**91**	**SILT (ML/A-4)**
⊠	**B-25**	**36.3**	**NP**	**NP**	**NP**	**39**	**SILTY SAND (SM/A-4)**
▲	**B-25**	**46.3**	**NP**	**NP**	**NP**	**53**	**SANDY SILT (ML/A-4)**
★	**B-25**	**54.8**	**NP**	**NP**	**NP**	**56**	**SANDY SILT (ML/A-4)**
⊙	**B-25**	**62.2**	**NP**	**NP**	**NP**	**17**	**SILTY SAND with GRAVEL (SM/A-1-b)**
✿	**B-25**	**70.8**	**40**	**18**	**22**	**14**	**CLAYEY SAND (SC/A-2-6)**
○	**B-25**	**81.3**	**95**	**21**	**74**	**12**	**CLAYEY SAND (SC/A-2-7)**
△	**B-25**	**91.3**	**48**	**36**	**12**	**59**	**SANDY SILT (ML/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-25	27.3	SILT (ML/A-4)	25	22	3		
⊠	B-25	36.3	SILTY SAND (SM/A-4)	NP	NP	NP	3.73	80.68
▲	B-25	46.3	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-25	54.8	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-25	62.2	SILTY SAND with GRAVEL (SM/A-1-b)	NP	NP	NP		

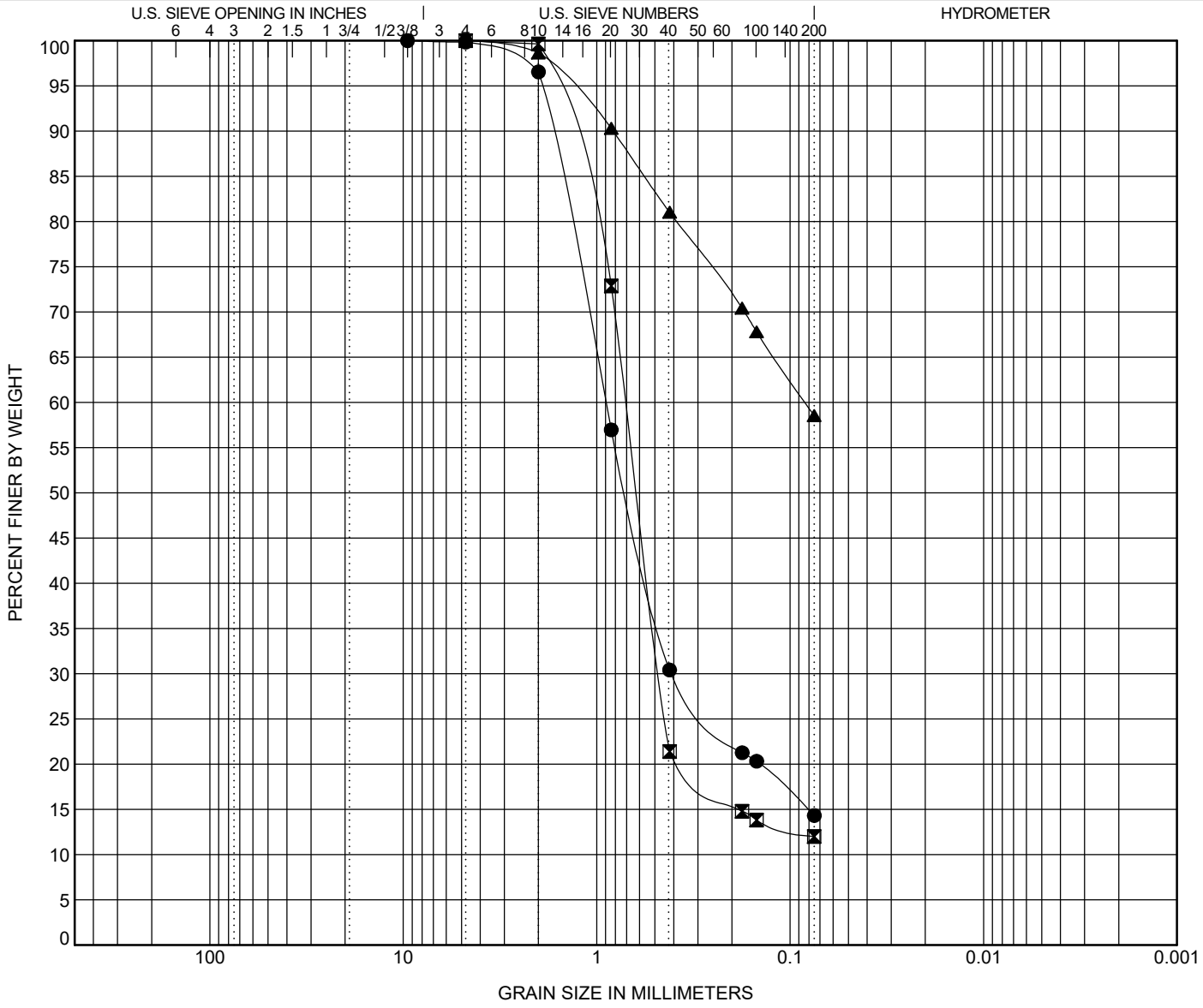
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-25	27.3	4.76	0.02	0.002		0.0	8.6	52.0	39.2
⊠	B-25	36.3	4.76	0.175	0.038	0.002	0.0	61.0	25.3	13.4
▲	B-25	46.3	9.51	0.102			0.2	46.8	53.0	
★	B-25	54.8	4.76	0.098			0.0	44.3	55.7	
⊙	B-25	62.2	25	1.293	0.228		23.2	59.3	17.5	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-25**	**70.8**	**CLAYEY SAND (SC/A-2-6)**	**40**	**18**	**22**		
⊠	**B-25**	**81.3**	**CLAYEY SAND (SC/A-2-7)**	**95**	**21**	**74**	**8.94**	**20.07**
▲	**B-25**	**91.3**	**SANDY SILT (ML/A-7-5)**	**48**	**36**	**12**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-25**	**70.8**	**9.51**	**0.899**	**0.404**		**0.2**	**85.5**	**14.3**	
⊠	**B-25**	**81.3**	**4.76**	**0.707**	**0.472**		**0.0**	**88.0**	**12.0**	
▲	**B-25**	**91.3**	**4.76**	**0.084**			**0.0**	**41.5**	**58.5**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1356	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-25	B-25	B-25	B-25	B-25
SAMPLE NO.	SS-3	SS-6	SS-8	SS-10	SS-12
SAMPLE DEPTH (FT.)	25.3 - 27.3	34.8 - 36.3	44.8 - 46.3	52.8 - 54.8	60.8 - 62.2
WATER CONTENT, W%	56.7	34.9	38.5	33.3	21.6

BORING NO.	B-25	B-25	B-25		
SAMPLE NO.	SS-14	SS-16	SS-18		
SAMPLE DEPTH (FT.)	68.8 - 70.8	79.8 - 81.3	89.8 - 91.3		
WATER CONTENT, W%	23.2	24.4	51.9		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

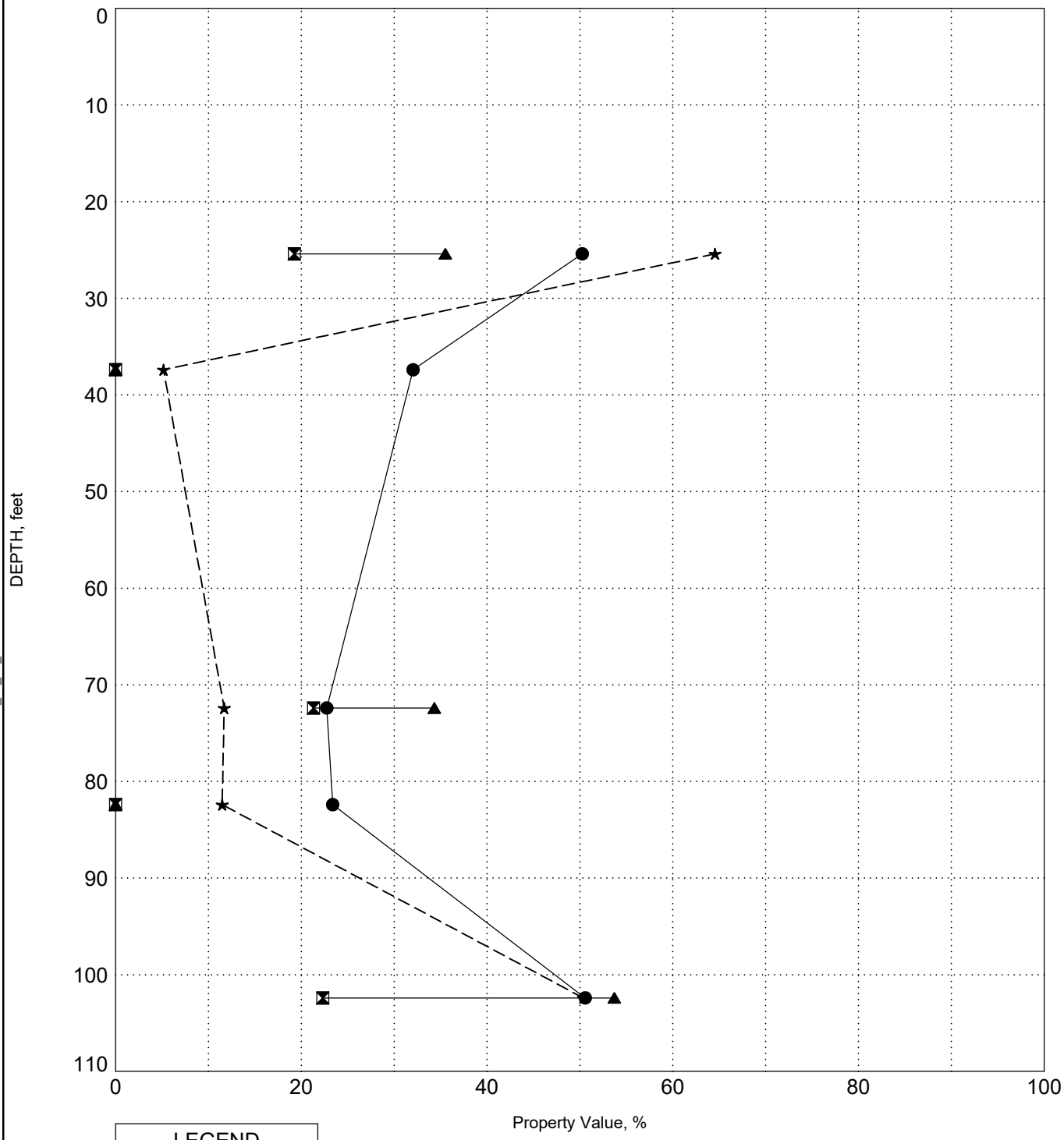
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-26

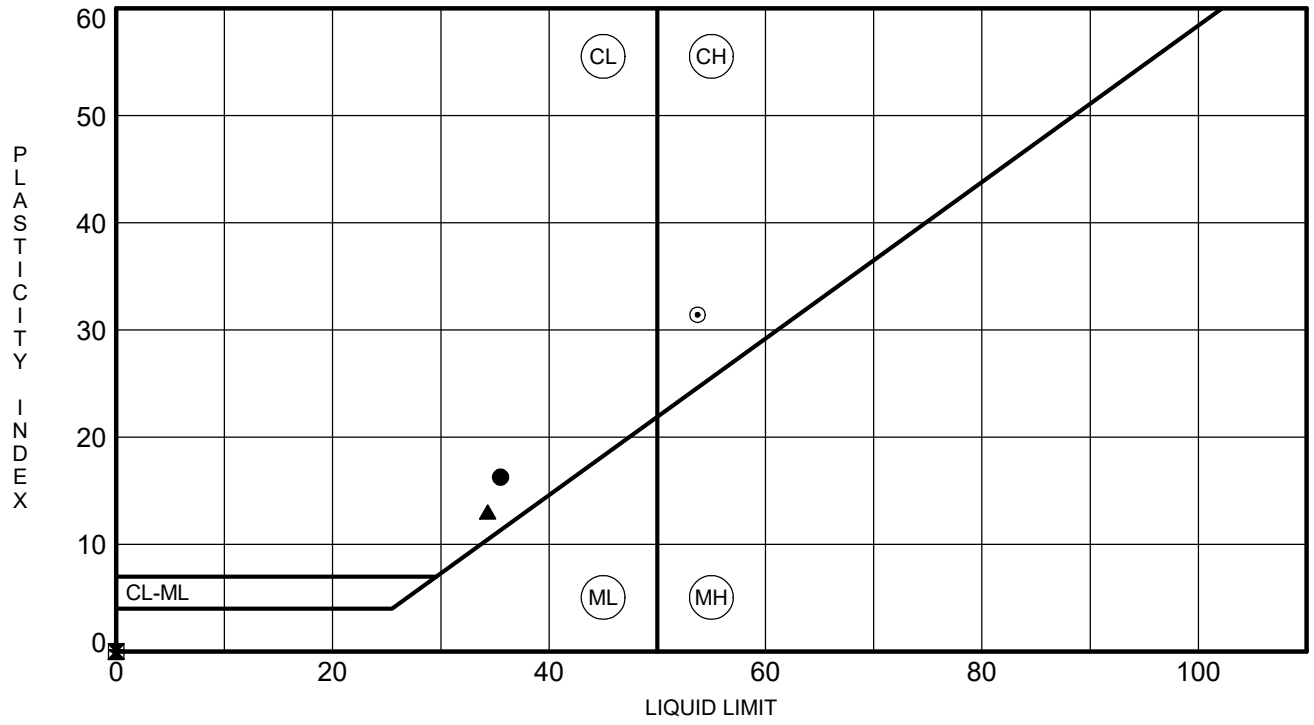
SURFACE ELEVATION: 77.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



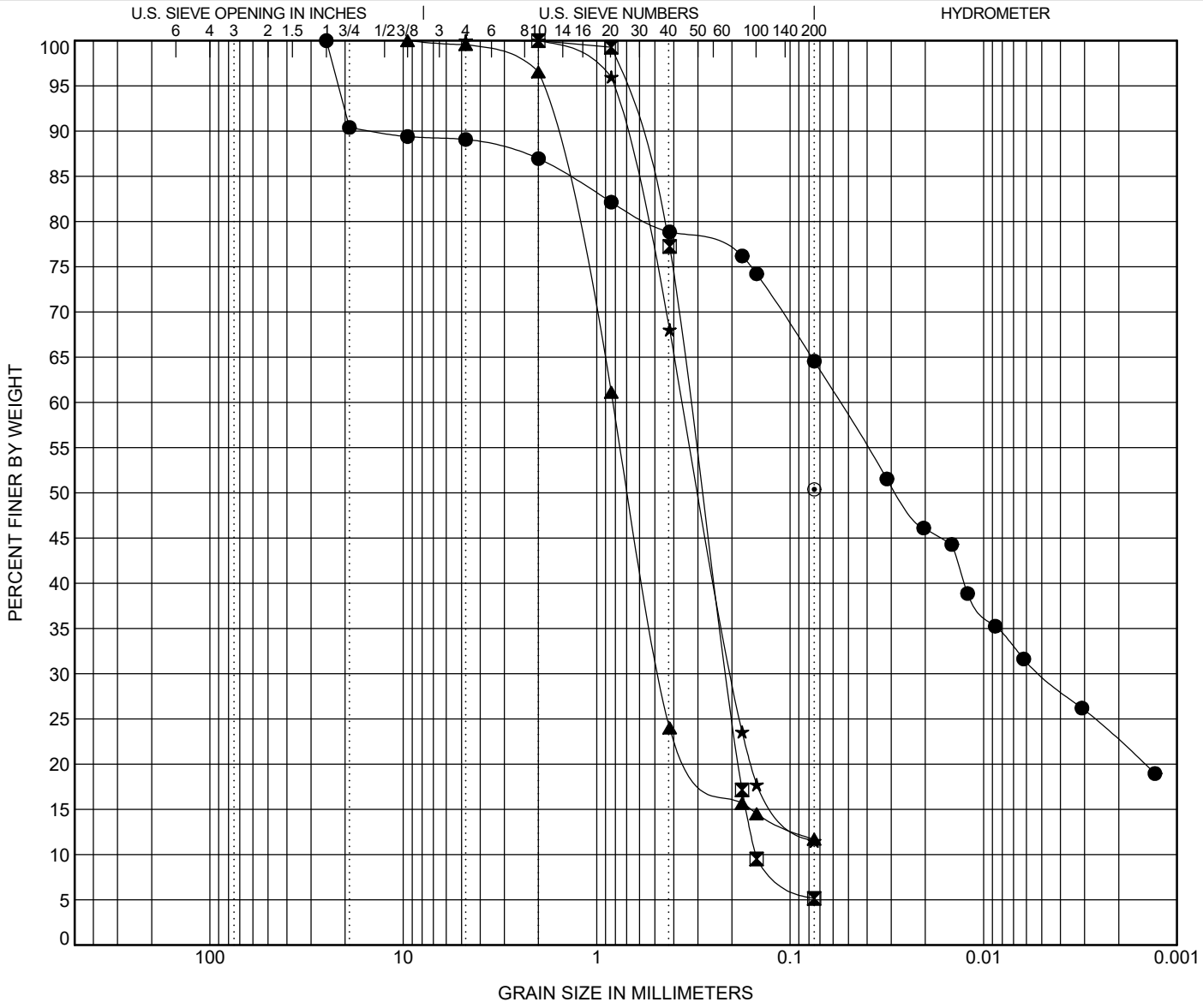
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-26**	**25.4**	**36**	**19**	**17**	**65**	**SANDY LEAN CLAY (CL/A-6)**
⊠	**B-26**	**37.4**	**NP**	**NP**	**NP**	**5**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
▲	**B-26**	**72.4**	**34**	**21**	**13**	**12**	**POORLY GRADED SAND with CLAY (SP-SC/A-2-6)**
★	**B-26**	**82.4**	**NP**	**NP**	**NP**	**11**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**
⊙	**B-26**	**102.4**	**54**	**22**	**32**	**50**	**SANDY FAT CLAY (CH/A-7-6)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-26**	**25.4**	**SANDY LEAN CLAY (CL/A-6)**	**36**	**19**	**17**		
⊠	**B-26**	**37.4**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.92**	**2.18**
▲	**B-26**	**72.4**	**POORLY GRADED SAND with CLAY (SP-SC/A-2-6)**	**34**	**21**	**13**	**5.39**	**16.57**
★	**B-26**	**82.4**	**POORLY GRADED SAND with SILT (SP-SM/A-2-4)**	**NP**	**NP**	**NP**	**1.76**	**5.64**
⊙	**B-26**	**102.4**	**SANDY FAT CLAY (CH/A-7-6)**	**54**	**22**	**32**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-26**	**25.4**	**25**	**0.055**	**0.005**		**10.9**	**24.5**	**34.6**	**29.9**
⊠	**B-26**	**37.4**	**2**	**0.328**	**0.213**	**0.151**	**0.0**	**94.8**	**5.2**	
▲	**B-26**	**72.4**	**9.51**	**0.823**	**0.47**		**0.4**	**87.9**	**11.7**	
★	**B-26**	**82.4**	**4.76**	**0.359**	**0.201**		**0.0**	**88.5**	**11.5**	
⊙	**B-26**	**102.4**	**0.075**						**50.4**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0785	**DATE SAMPLE RECEIVED:**	3/23/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/23/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/24/2023

BORING NO.	B-26	B-26	B-26	B-26	B-26
SAMPLE NO.	SS-2	SS-7	SS-10	SS-12	SS-16
SAMPLE DEPTH (FT.)	23.4 - 25.4	18.5 - 20.0	70.9 - 72.4	80.9 - 82.4	100.9 - 102.4
WATER CONTENT, W%	50.3	32.0	22.7	23.4	50.6

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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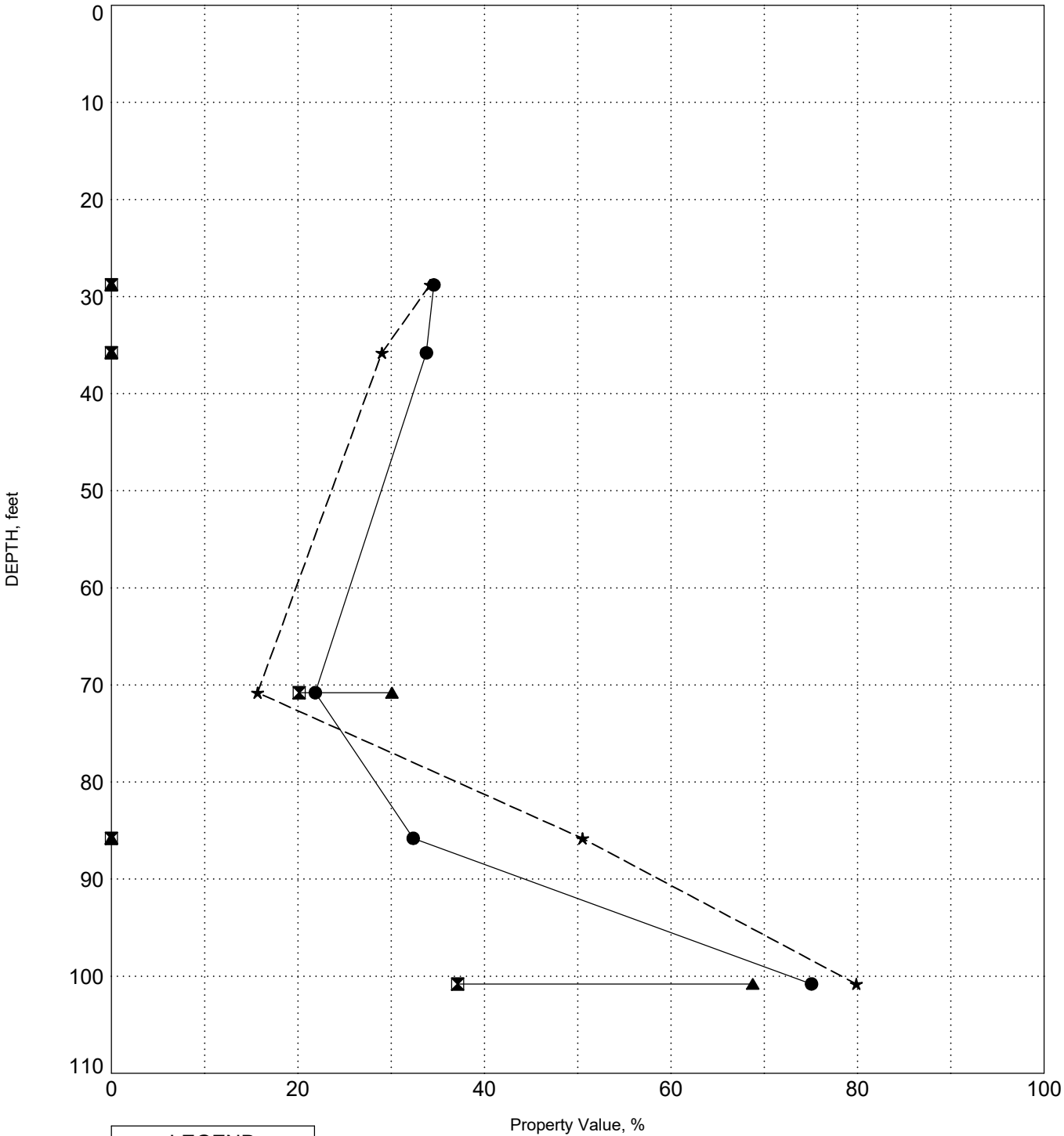
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-27

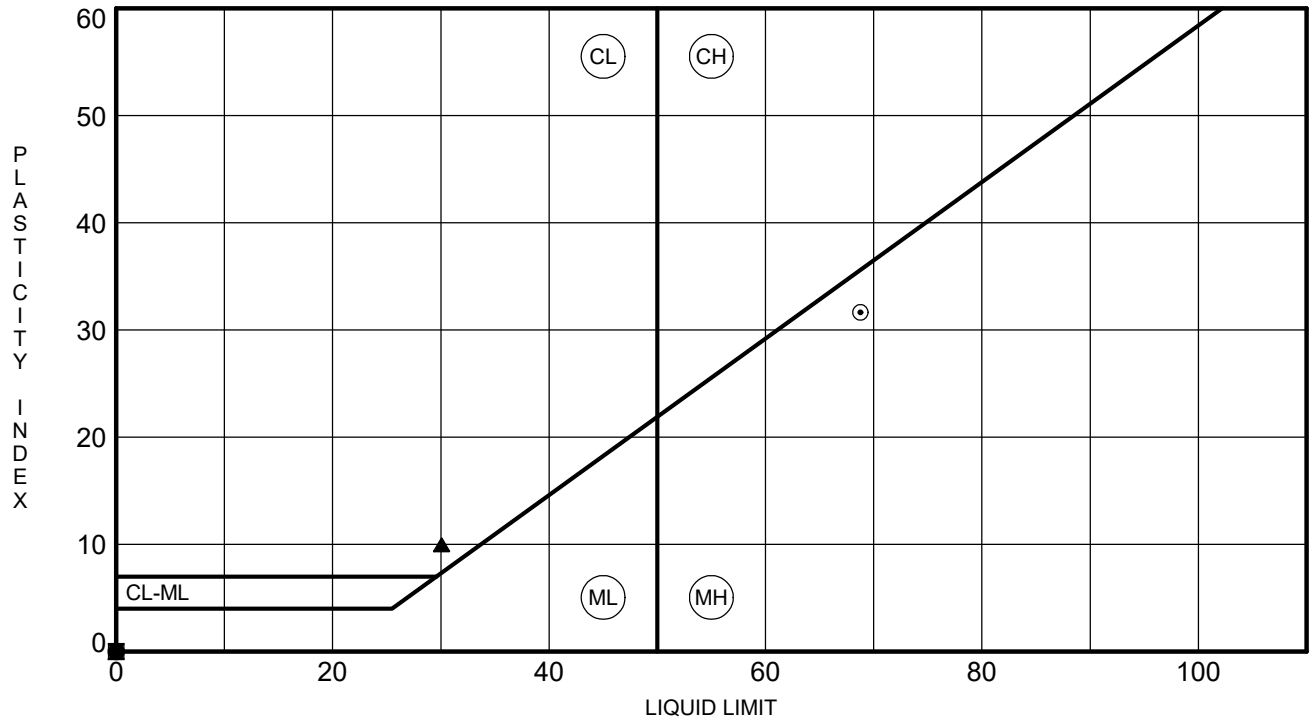
SURFACE ELEVATION: 77.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

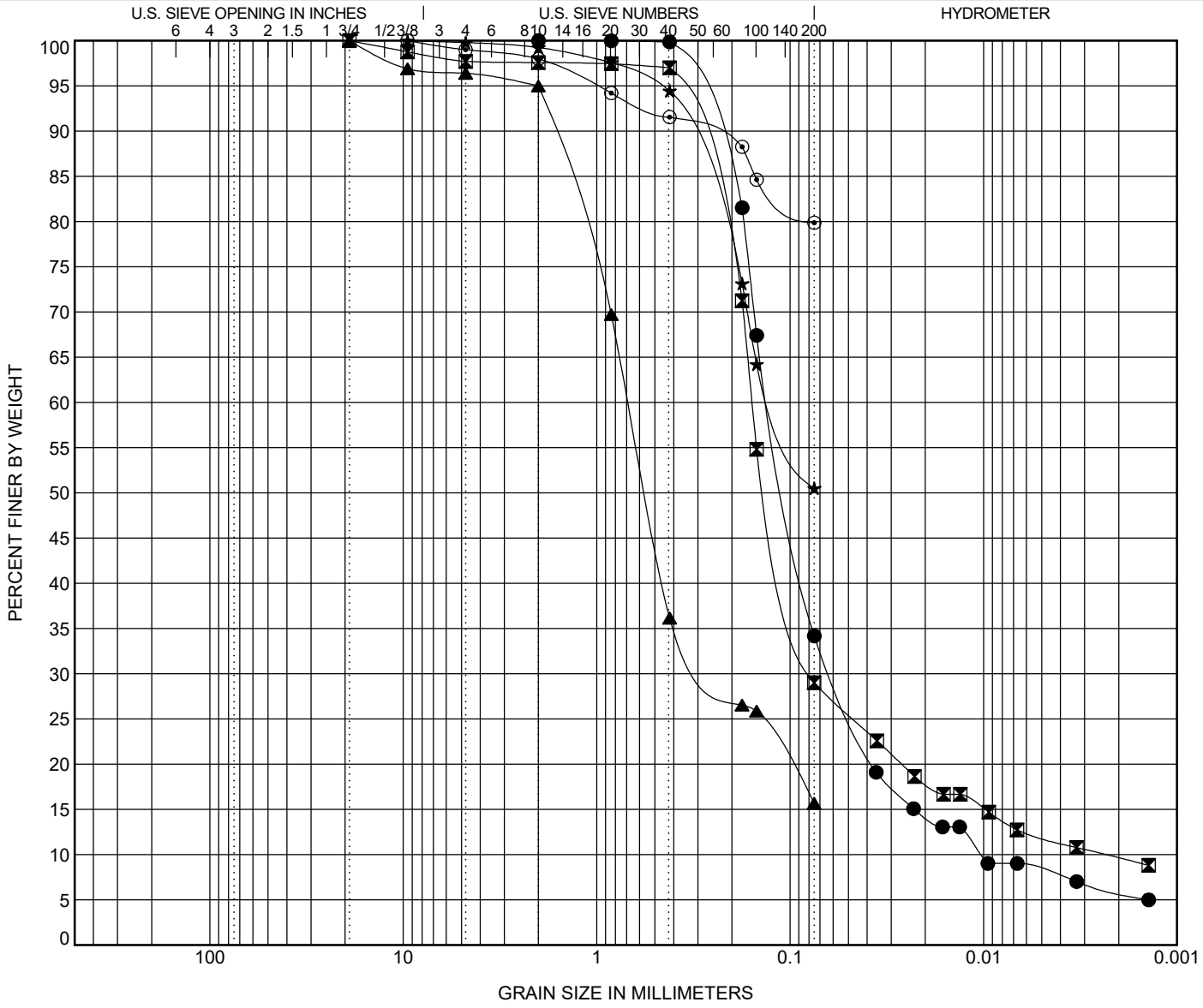


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-27**	**28.8**	**NP**	**NP**	**NP**	**34**	**SILTY SAND (SM/A-2-4)**
⊠	**B-27**	**35.8**	**NP**	**NP**	**NP**	**29**	**SILTY SAND (SM/A-2-4)**
▲	**B-27**	**70.8**	**30**	**20**	**10**	**16**	**CLAYEY SAND (SC/A-2-4)**
★	**B-27**	**85.8**	**NP**	**NP**	**NP**	**51**	**SANDY SILT (ML/A-4)**
⊙	**B-27**	**100.8**	**69**	**37**	**32**	**80**	**ELASTIC SILT with SAND (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-27	28.8	SILTY SAND (SM/A-2-4)	NP	NP	NP	2.84	12.41
⊠	B-27	35.8	SILTY SAND (SM/A-2-4)	NP	NP	NP	16.02	66.85
▲	B-27	70.8	CLAYEY SAND (SC/A-2-4)	30	20	10		
★	B-27	85.8	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-27	100.8	ELASTIC SILT with SAND (MH/A-7-5)	69	37	32		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-27	28.8	2	0.128	0.061	0.01	0.0	65.8	26.0	8.2
⊠	B-27	35.8	19	0.157	0.077	0.002	2.3	68.7	17.1	11.9
▲	B-27	70.8	19	0.688	0.242		3.6	80.7	15.7	
★	B-27	85.8	9.51	0.121			0.2	49.3	50.5	
⊙	B-27	100.8	9.51				1.0	19.1	79.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1357	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-27	B-27	B-27	B-27	B-27
SAMPLE NO.	SS-4	SS-6	SS-9	SS-12	SS-15
SAMPLE DEPTH (FT.)	26.8 - 28.8	34.3 - 35.8	69.3 - 70.8	84.3 - 85.8	99.3 - 100.8
WATER CONTENT, W%	34.6	33.8	21.9	32.4	75.1

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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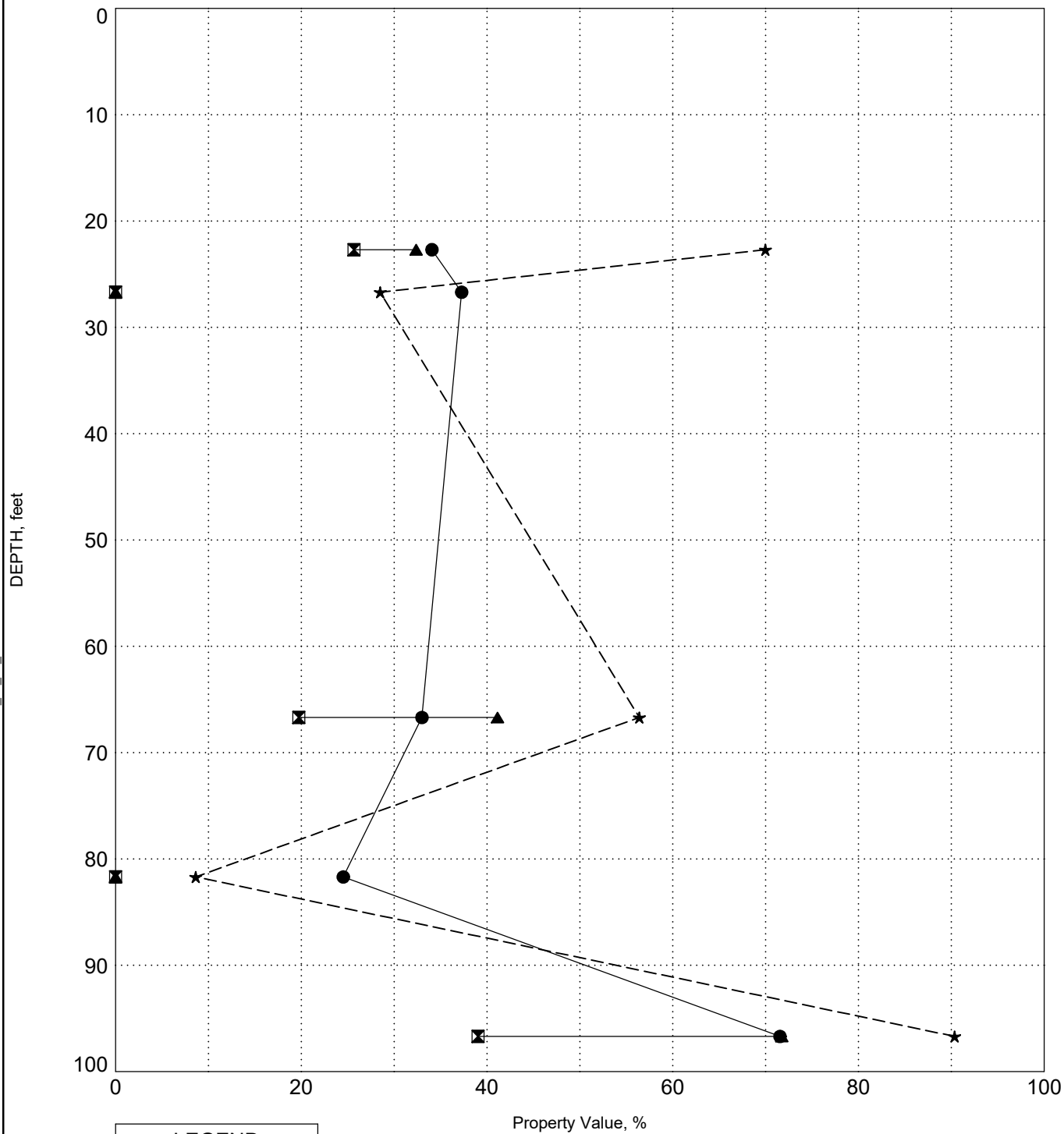
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-28

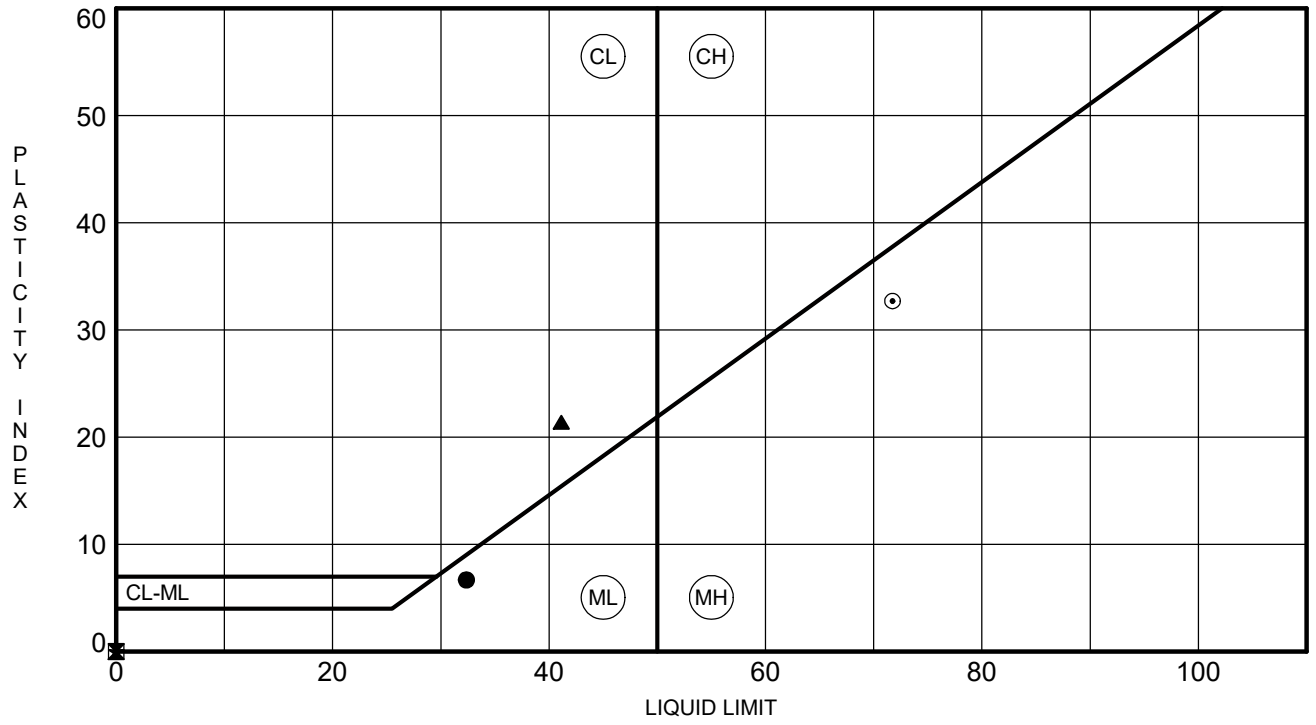
SURFACE ELEVATION: 77.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

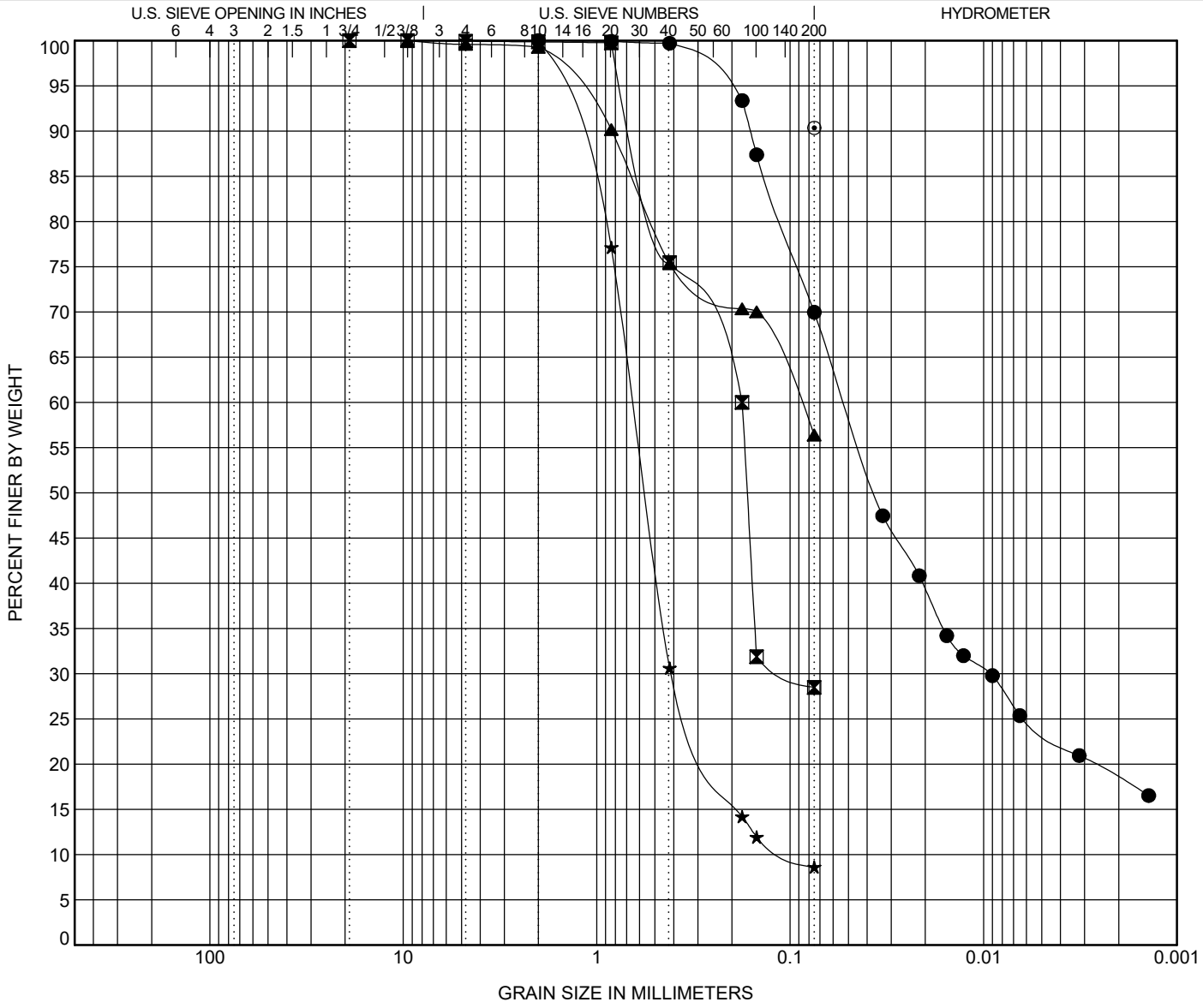


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-28**	**22.7**	**32**	**26**	**6**	**70**	**SANDY SILT (ML/A-4)**
⊠	**B-28**	**26.7**	**NP**	**NP**	**NP**	**28**	**SILTY SAND (SM/A-2-4)**
▲	**B-28**	**66.7**	**41**	**20**	**21**	**56**	**SANDY LEAN CLAY (CL/A-7-6)**
★	**B-28**	**81.7**	**NP**	**NP**	**NP**	**9**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**
⊙	**B-28**	**96.7**	**72**	**39**	**33**	**90**	**ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-28	22.7	SANDY SILT (ML/A-4)	32	26	6		
⊠	B-28	26.7	SILTY SAND (SM/A-2-4)	NP	NP	NP		
▲	B-28	66.7	SANDY LEAN CLAY (CL/A-7-6)	41	20	21		
★	B-28	81.7	WELL-GRADED SAND with SILT (SW-SM/A-1-b)	NP	NP	NP	2.54	6.53
⊙	B-28	96.7	ELASTIC SILT (MH/A-7-5)	72	39	33		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-28	22.7	2	0.052	0.009		0.0	30.0	46.2	23.7
⊠	B-28	26.7	19	0.177	0.102		0.1	71.4	28.5	
▲	B-28	66.7	9.51	0.09			0.4	43.2	56.4	
★	B-28	81.7	4.76	0.651	0.406	0.1	0.0	91.4	8.6	
⊙	B-28	96.7	0.075						90.4	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0784	**DATE SAMPLE RECEIVED:**	3/23/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/23/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/24/2023

BORING NO.	B-28	B-28	B-28	B-28	B-28
SAMPLE NO.	SS-3	SS-5	SS-9	SS-12	SS-15
SAMPLE DEPTH (FT.)	20.7 - 22.7	24.7 - 26.7	65.2 - 66.7	80.2 - 81.7	95.2 - 96.7
WATER CONTENT, W%	34.1	37.3	33.0	24.5	71.5

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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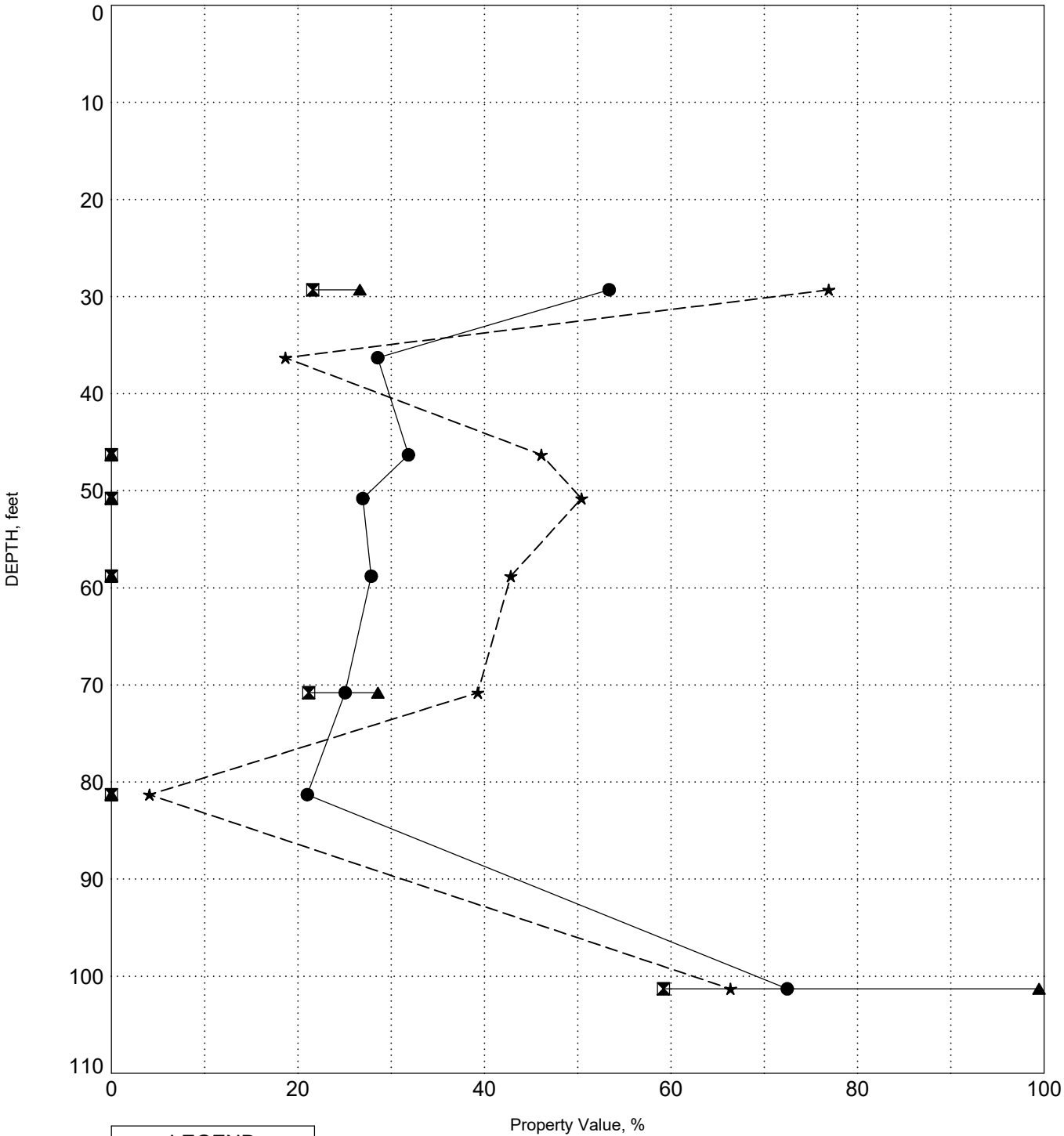
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-29

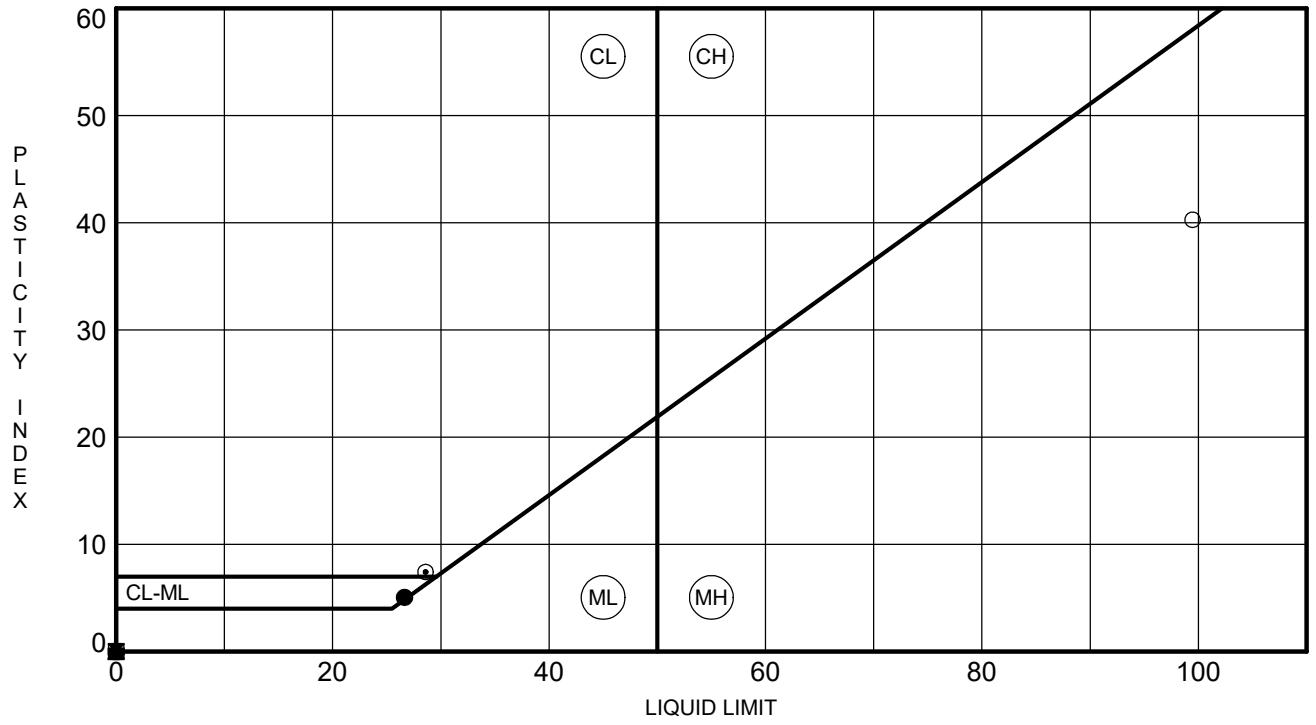
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

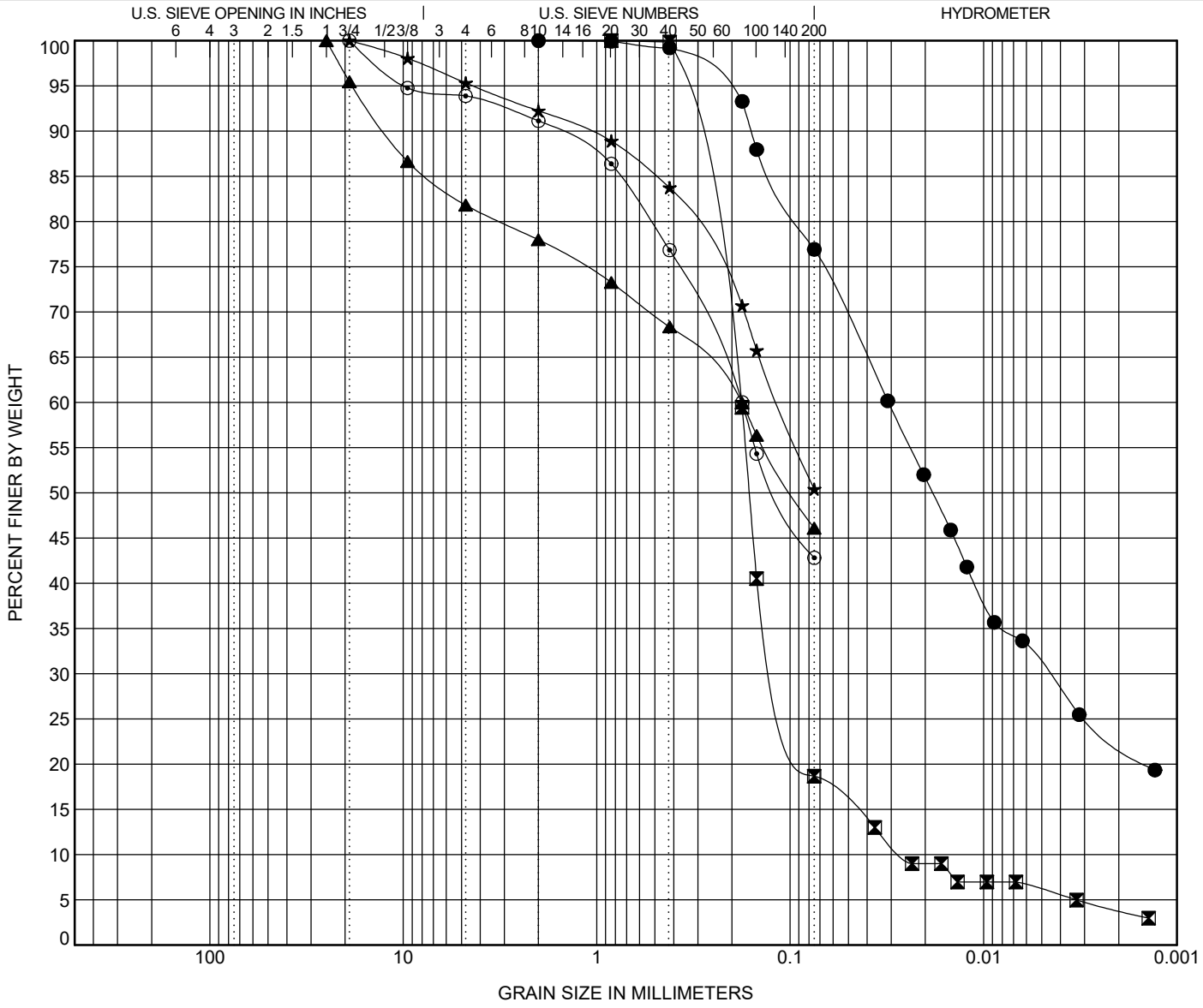


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-29**	**29.3**	**27**	**22**	**5**	**77**	**SILT with SAND (ML/A-4)**
⊠	**B-29**	**46.3**	**NP**	**NP**	**NP**	**46**	**SILTY SAND with GRAVEL (SM/A-4)**
▲	**B-29**	**50.8**	**NP**	**NP**	**NP**	**50**	**SANDY SILT (ML/A-4)**
★	**B-29**	**58.8**	**NP**	**NP**	**NP**	**43**	**SILTY SAND (SM/A-4)**
⊙	**B-29**	**70.8**	**29**	**21**	**8**	**39**	**CLAYEY SAND (SC/A-4)**
✿	**B-29**	**81.3**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-1-b)**
○	**B-29**	**101.3**	**99**	**59**	**40**	**66**	**SANDY ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-29	29.3	SILT with SAND (ML/A-4)	27	22	5		
⊠	B-29	36.3	SILTY SAND (SM)				2.45	6.84
▲	B-29	46.3	SILTY SAND with GRAVEL (SM/A-4)	NP	NP	NP		
★	B-29	50.8	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-29	58.8	SILTY SAND (SM/A-4)	NP	NP	NP		

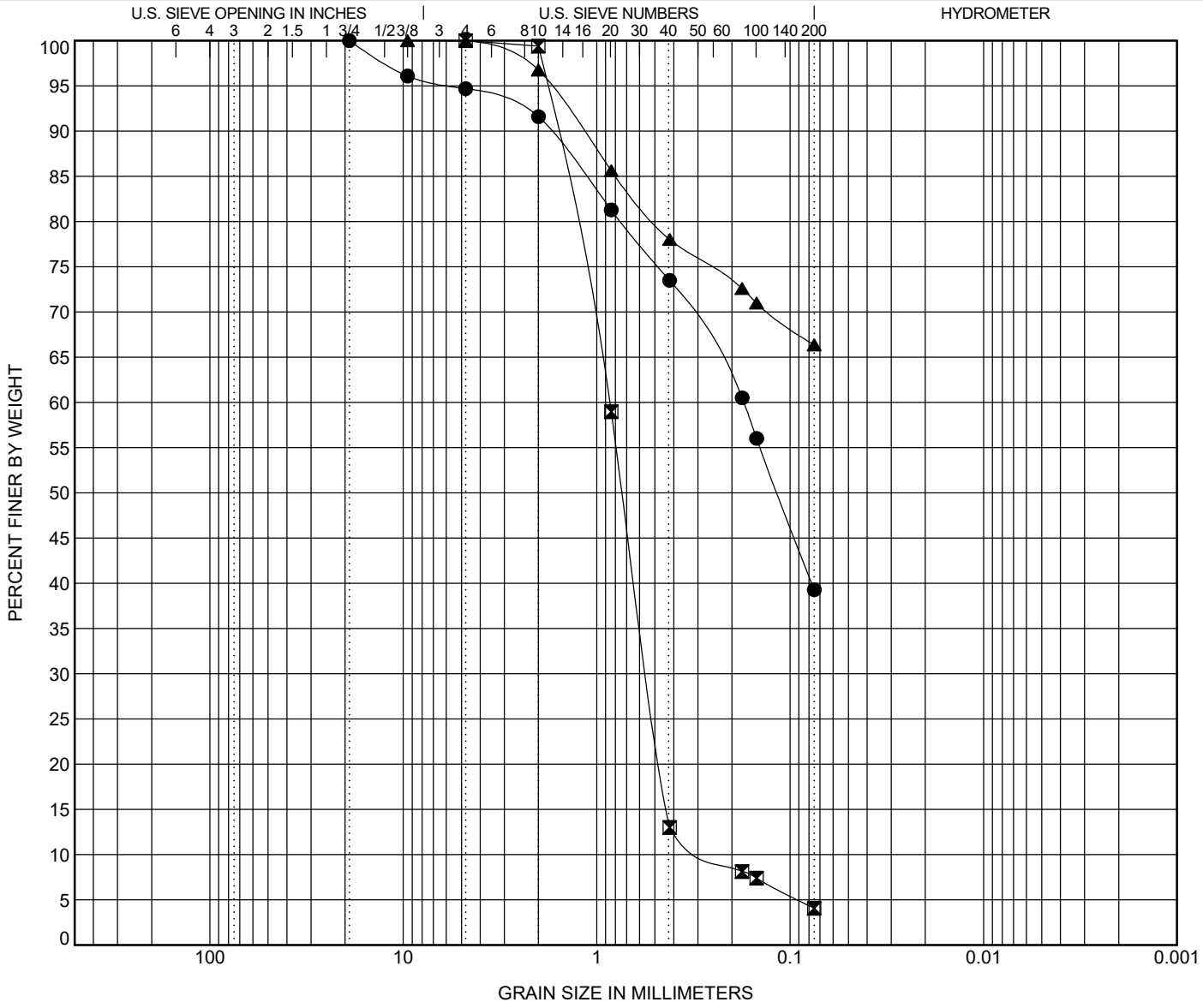
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-29	29.3	2	0.031	0.005		0.0	23.1	46.1	30.9
⊠	B-29	36.3	0.841	0.179	0.107	0.026	0.0	81.3	12.5	6.1
▲	B-29	46.3	25	0.178			18.2	35.7	46.1	
★	B-29	50.8	19	0.115			4.7	44.9	50.4	
⊙	B-29	58.8	19	0.177			6.1	51.1	42.8	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/29/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-29**	**70.8**	**CLAYEY SAND (SC/A-4)**	**29**	**21**	**8**		
⊠	**B-29**	**81.3**	**POORLY GRADED SAND (SP/A-1-b)**	**NP**	**NP**	**NP**	**1.39**	**3.49**
▲	**B-29**	**101.3**	**SANDY ELASTIC SILT (MH/A-7-5)**	**99**	**59**	**40**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-29**	**70.8**	**19**	**0.174**			**5.3**	**55.4**	**39.3**	
⊠	**B-29**	**81.3**	**4.76**	**0.86**	**0.543**	**0.247**	**0.0**	**95.9**	**4.1**	
▲	**B-29**	**101.3**	**9.51**				**0.0**	**33.6**	**66.4**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1358	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-29	B-29	B-29	B-29	B-29
SAMPLE NO.	SS-4	SS-6	SS-8	SS-9	SS-11
SAMPLE DEPTH (FT.)	27.3 - 29.3	34.8 - 36.3	44.8 - 46.3	48.8 - 50.8	56.8 - 58.8
WATER CONTENT, W%	53.4	28.6	31.8	27.0	27.9

BORING NO.	B-29	B-29	B-29		
SAMPLE NO.	SS-14	SS-16	SS-20		
SAMPLE DEPTH (FT.)	68.8 - 70.8	79.8 - 81.3	99.8 - 101.3		
WATER CONTENT, W%	25.1	21.0	72.5		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

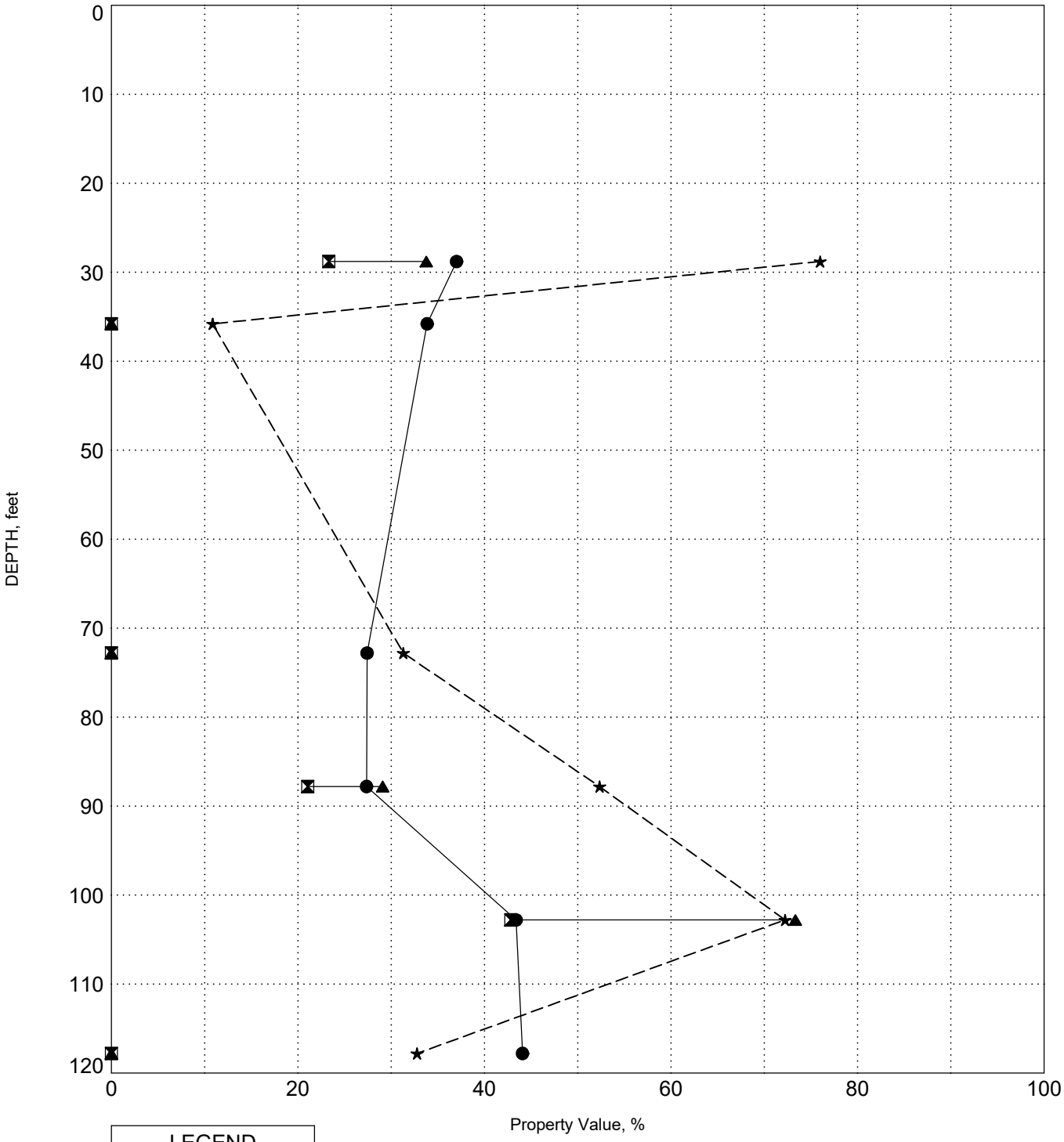
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-30

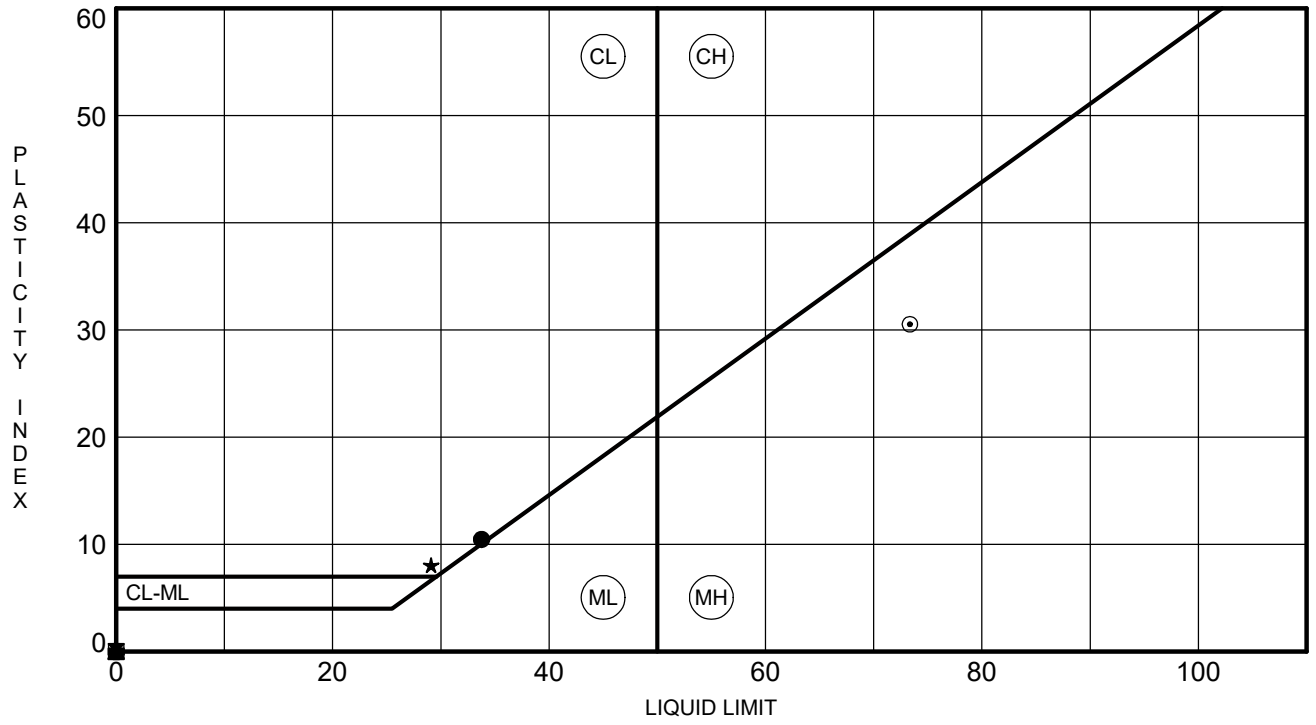
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

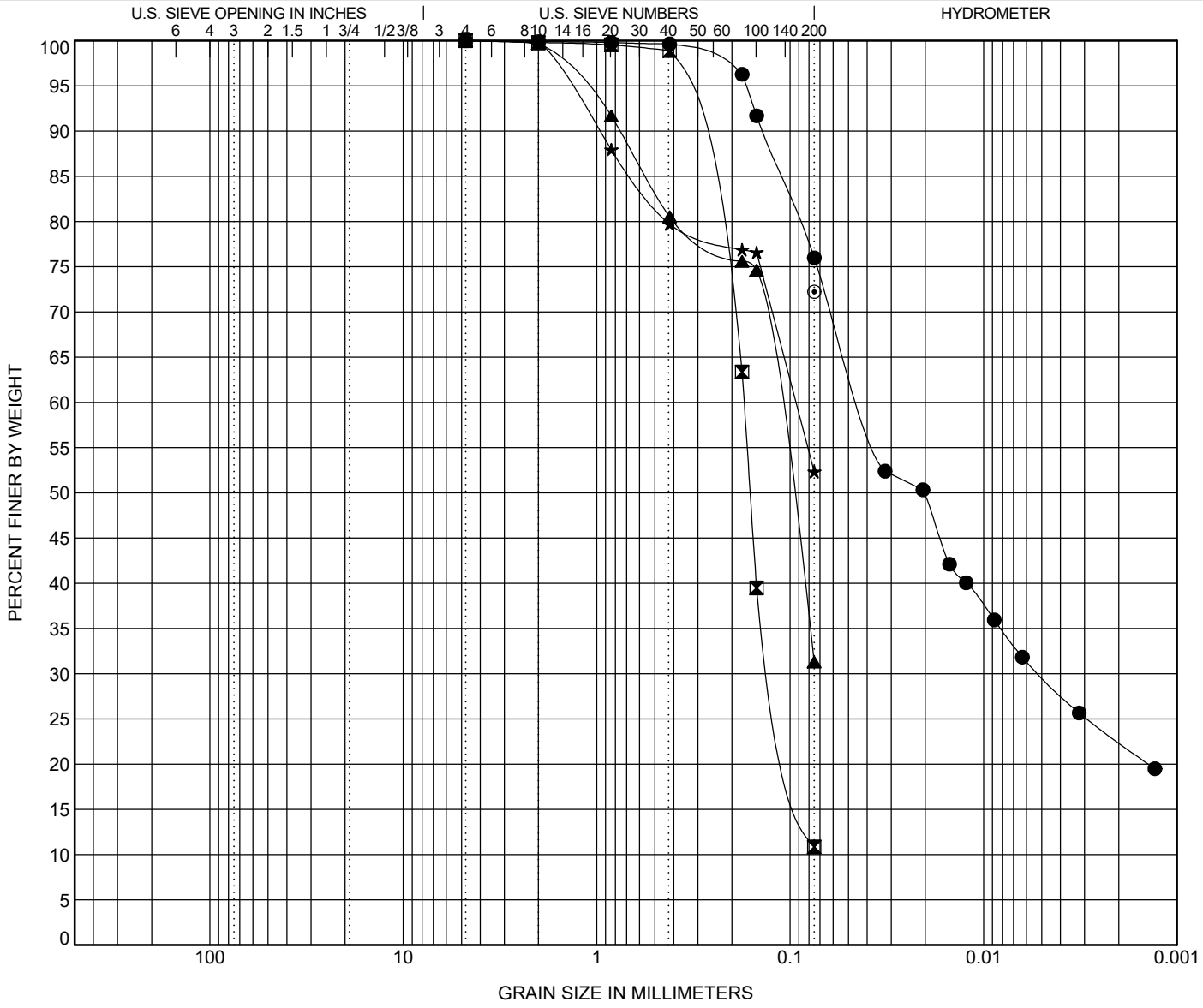


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-30	28.8	34	23	11	76	LEAN CLAY with SAND (CL/A-6)
⊠	B-30	35.8	NP	NP	NP	11	POORLY GRADED SAND with SILT (SP-SM/A-2-4)
▲	B-30	72.8	NP	NP	NP	31	SILTY SAND (SM/A-2-4)
★	B-30	87.8	29	21	8	52	SANDY LEAN CLAY (CL/A-4)
⊙	B-30	102.8	73	43	30	72	ELASTIC SILT with SAND (MH/A-7-5)
✿	B-30	117.8	NP	NP	NP	33	SILTY SAND (SM/A-2-4)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

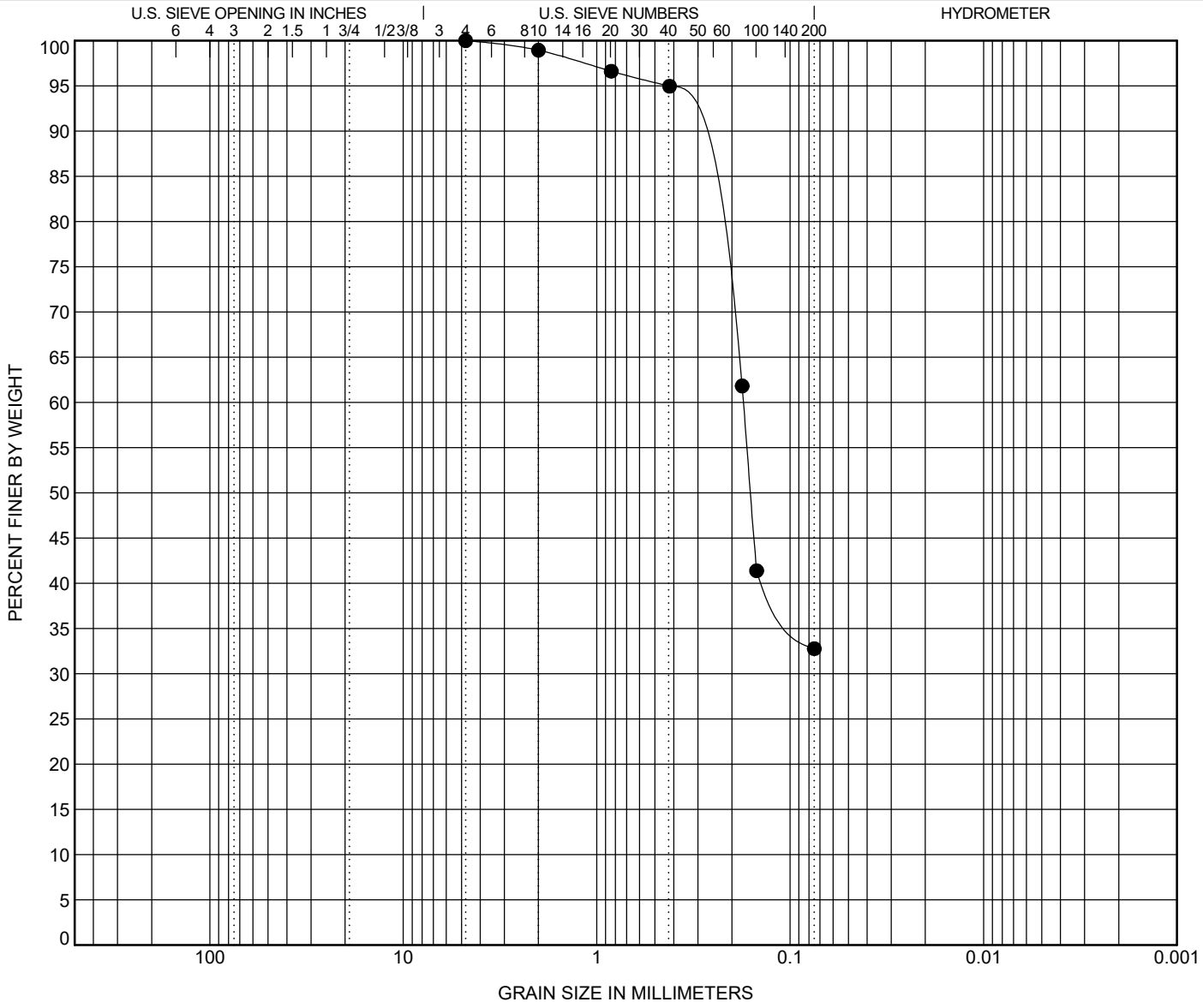
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-30	28.8	LEAN CLAY with SAND (CL/A-6)	34	23	11		
⊠	B-30	35.8	POORLY GRADED SAND with SILT (SP-SM/A-2-4)	NP	NP	NP	1.11	2.35
▲	B-30	72.8	SILTY SAND (SM/A-2-4)	NP	NP	NP		
★	B-30	87.8	SANDY LEAN CLAY (CL/A-4)	29	21	8		
⊙	B-30	102.8	ELASTIC SILT with SAND (MH/A-7-5)	73	43	30		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-30	28.8	4.76	0.042	0.005		0.0	24.0	46.3	29.7
⊠	B-30	35.8	4.76	0.173	0.119		0.0	89.1	10.9	
▲	B-30	72.8	4.76	0.118			0.0	68.7	31.3	
★	B-30	87.8	4.76	0.093			0.0	47.7	52.3	
⊙	B-30	102.8	0.075						72.2	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **B-30**	**117.8**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **B-30**	**117.8**	**4.76**	**0.174**			**0.0**	**67.2**	**32.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0684	**DATE SAMPLE RECEIVED:**	3/23/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/23/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/24/2023

BORING NO.	B-30	B-30	B-30	B-30	B-30
SAMPLE NO.	SS-4	SS-6	SS-10	SS-13	SS-16
SAMPLE DEPTH (FT.)	26.8 - 28.8	34.3 - 35.8	71.3 - 72.8	86.3 - 87.8	101.3 - 102.8
WATER CONTENT, W%	37.0	33.9	27.4	27.4	43.4

BORING NO.	B-30				
SAMPLE NO.	SS-19				
SAMPLE DEPTH (FT.)	116.3 - 117.8				
WATER CONTENT, W%	44.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

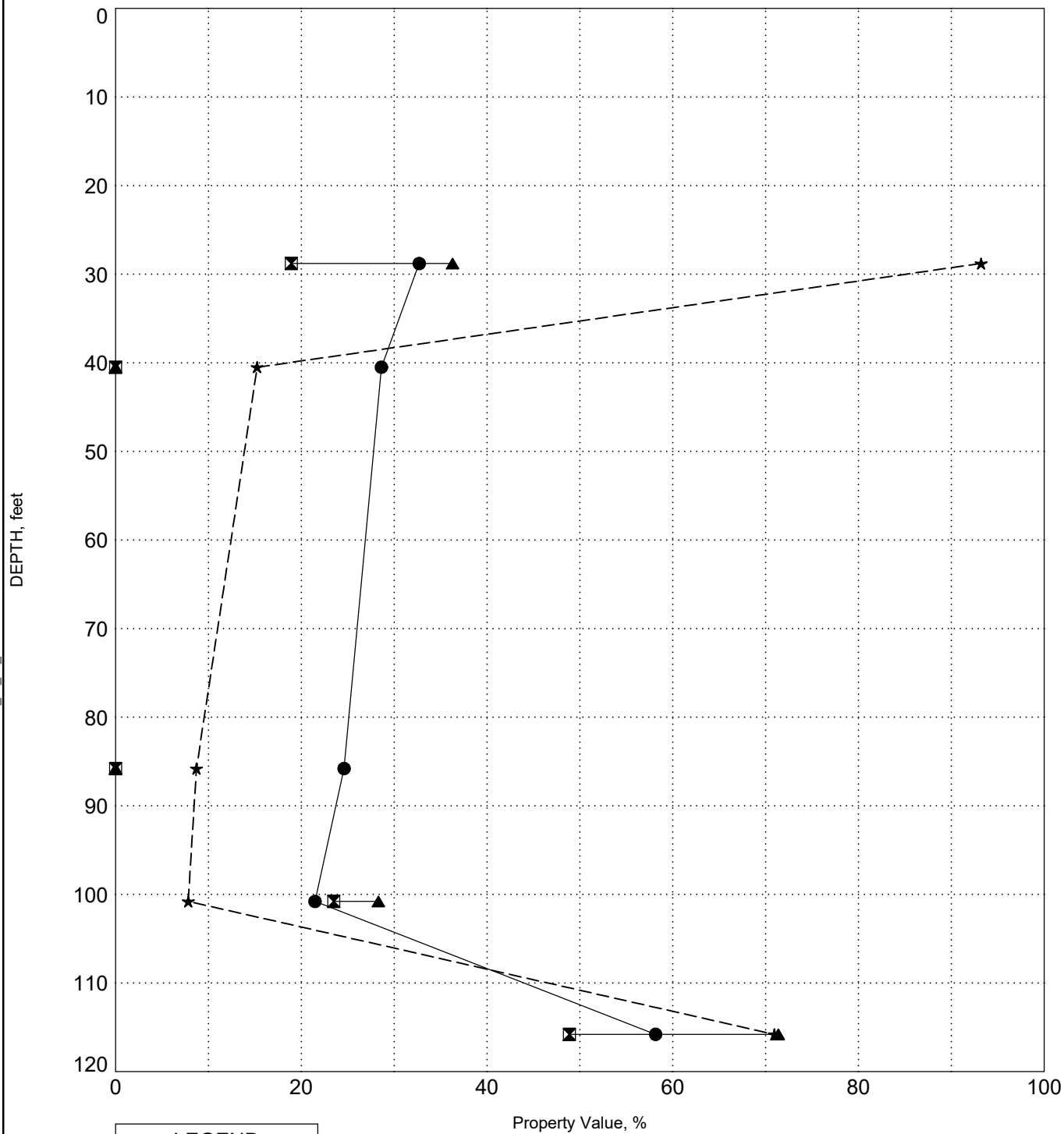
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-31

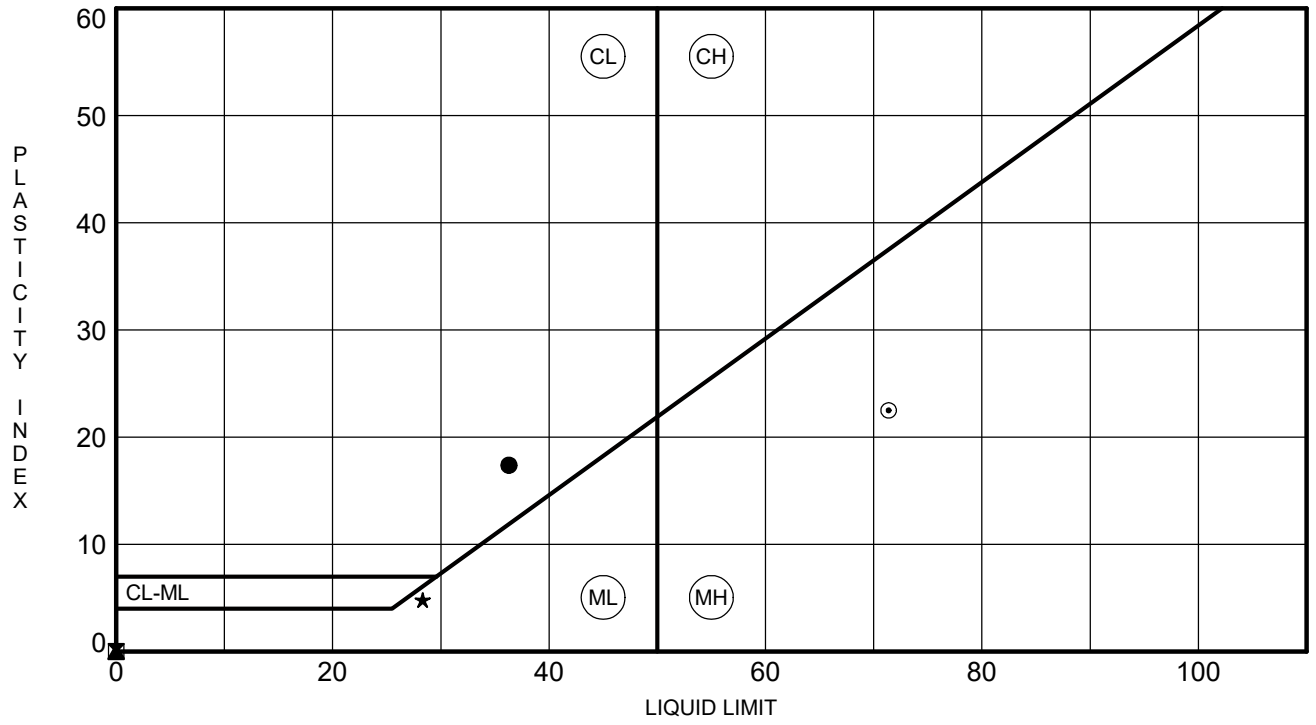
SURFACE ELEVATION: 78.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

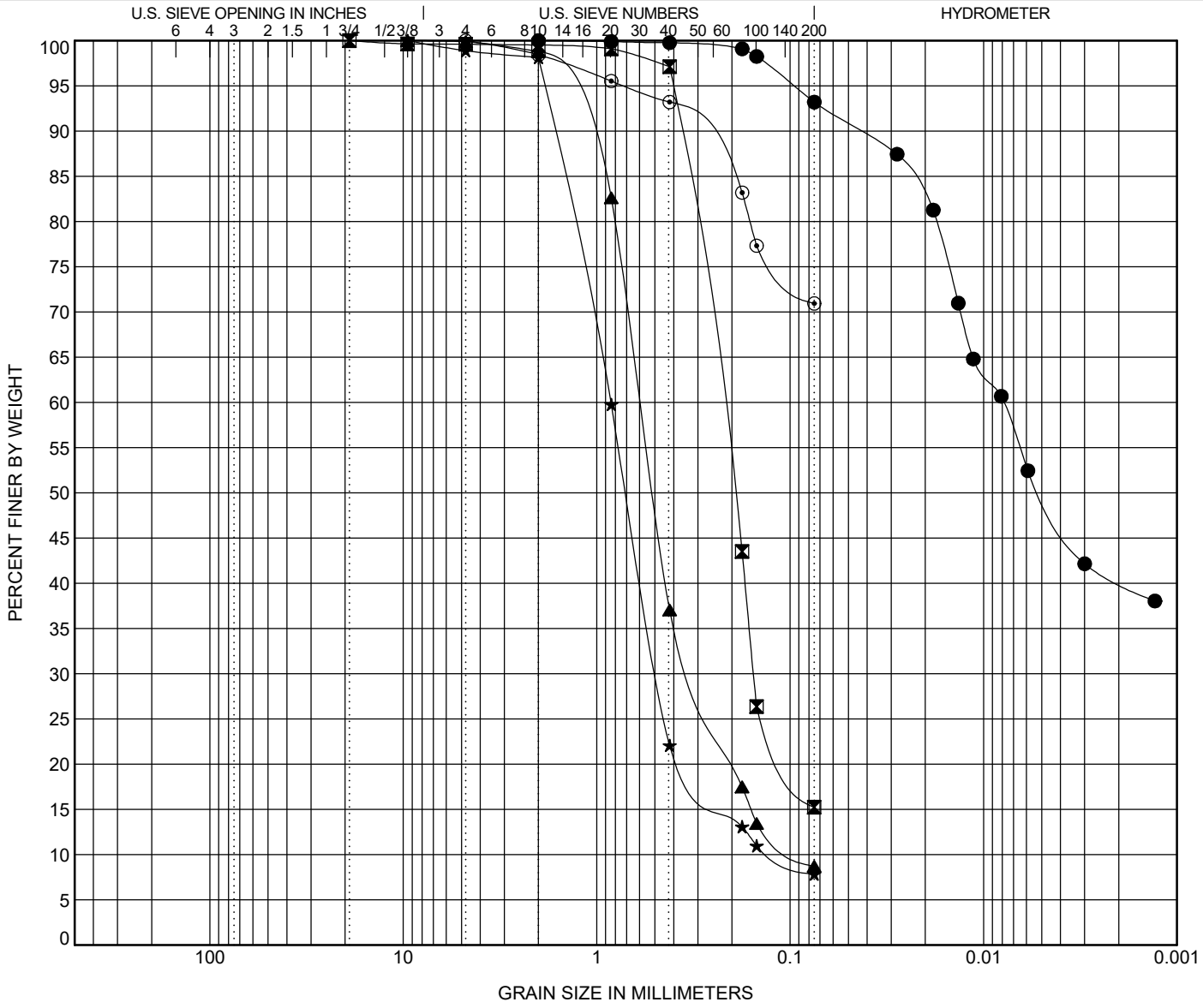


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-31**	**28.8**	**36**	**19**	**17**	**93**	**LEAN CLAY (CL/A-6)**
⊠	**B-31**	**40.5**	**NP**	**NP**	**NP**	**15**	**SILTY SAND (SM/A-2-4)**
▲	**B-31**	**85.8**	**NP**	**NP**	**NP**	**9**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**
★	**B-31**	**100.8**	**28**	**24**	**4**	**8**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**
⊙	**B-31**	**115.8**	**71**	**49**	**22**	**71**	**ELASTIC SILT with SAND (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-31	28.8	LEAN CLAY (CL/A-6)	36	19	17		
⊠	B-31	40.5	SILTY SAND (SM/A-2-4)	NP	NP	NP		
▲	B-31	85.8	WELL-GRADED SAND with SILT (SW-SM/A-1-b)	NP	NP	NP	1.76	6.59
★	B-31	100.8	WELL-GRADED SAND with SILT (SW-SM/A-1-b)	28	24	4	2.32	7.01
⊙	B-31	115.8	ELASTIC SILT with SAND (MH/A-7-5)	71	49	22		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-31	28.8	2	0.008			0.0	6.8	43.3	49.9
⊠	B-31	40.5	19	0.231	0.155		0.4	84.4	15.2	
▲	B-31	85.8	9.51	0.596	0.308	0.09	0.1	91.2	8.7	
★	B-31	100.8	9.51	0.845	0.486	0.121	1.1	91.1	7.8	
⊙	B-31	115.8	4.76				0.0	29.1	70.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/17/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1262	**DATE SAMPLE RECEIVED:**	5/3/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	5/3/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	5/4/2023

BORING NO.	B-31	B-31	B-31	B-31	B-31
SAMPLE NO.	SS-4	SS-7	SS-11	SS-14	SS-17
SAMPLE DEPTH (FT.)	26.8 - 28.8	39.3 - 40.5	84.3 - 85.8	99.3 - 100.8	114.3 - 115.8
WATER CONTENT, W%	32.7	28.6	24.6	21.5	58.2

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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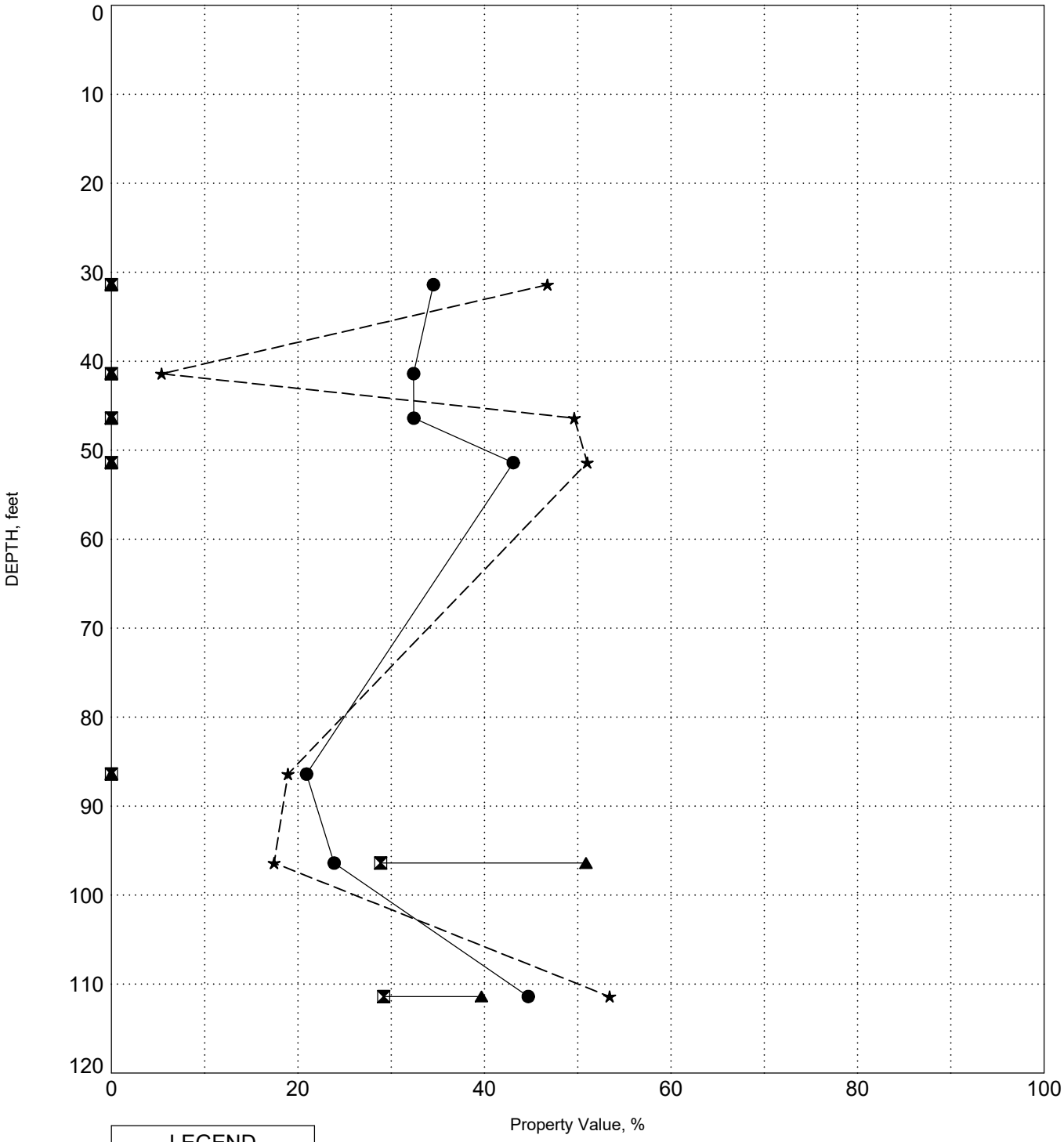
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-32

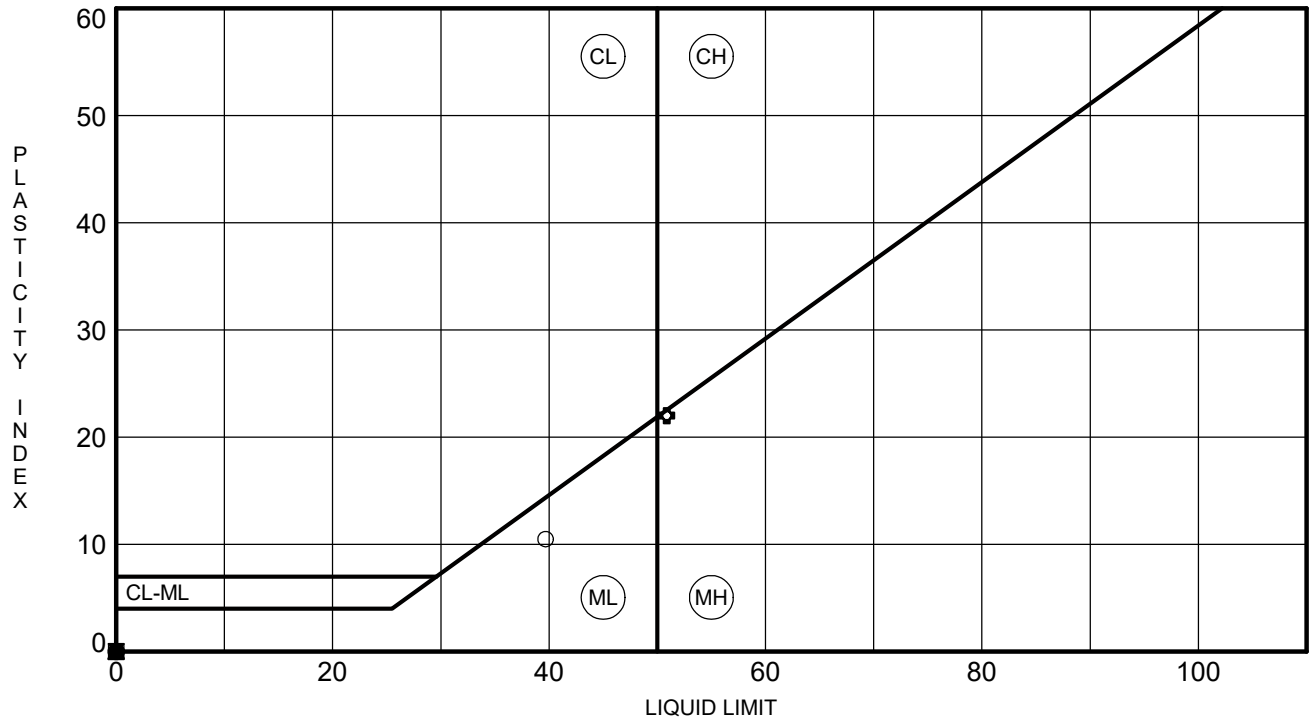
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



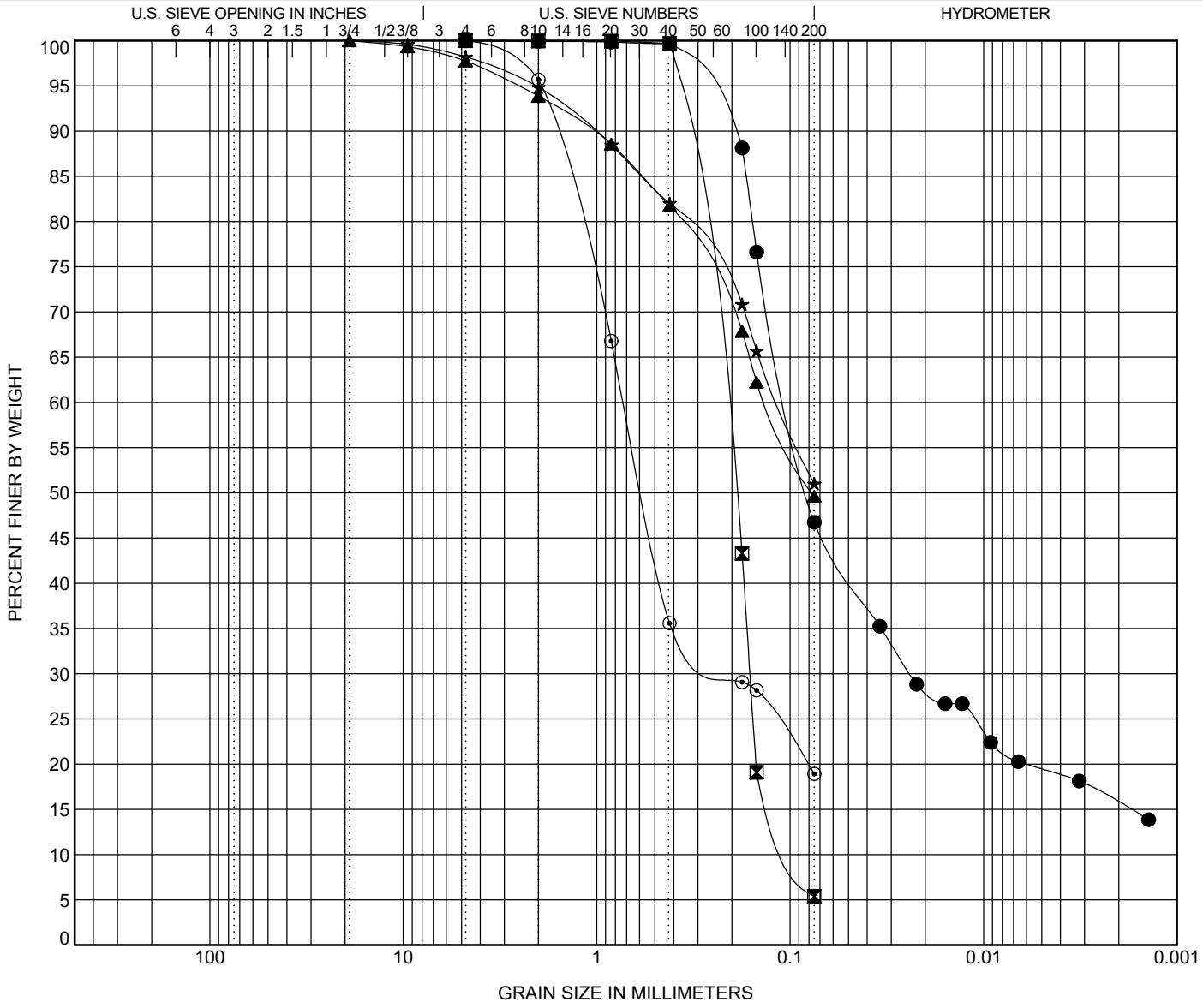
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-32**	**31.4**	**NP**	**NP**	**NP**	**47**	**SILTY SAND (SM/A-4)**
⊠	**B-32**	**41.4**	**NP**	**NP**	**NP**	**5**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
▲	**B-32**	**46.4**	**NP**	**NP**	**NP**	**50**	**SILTY SAND (SM/A-4)**
★	**B-32**	**51.4**	**NP**	**NP**	**NP**	**51**	**SANDY SILT (ML/A-4)**
⊙	**B-32**	**86.4**	**NP**	**NP**	**NP**	**19**	**SILTY SAND (SM/A-1-b)**
✿	**B-32**	**96.4**	**51**	**29**	**22**	**17**	**SILTY SAND (SM/A-2-7)**
○	**B-32**	**111.4**	**40**	**29**	**11**	**53**	**SANDY SILT (ML/A-6)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

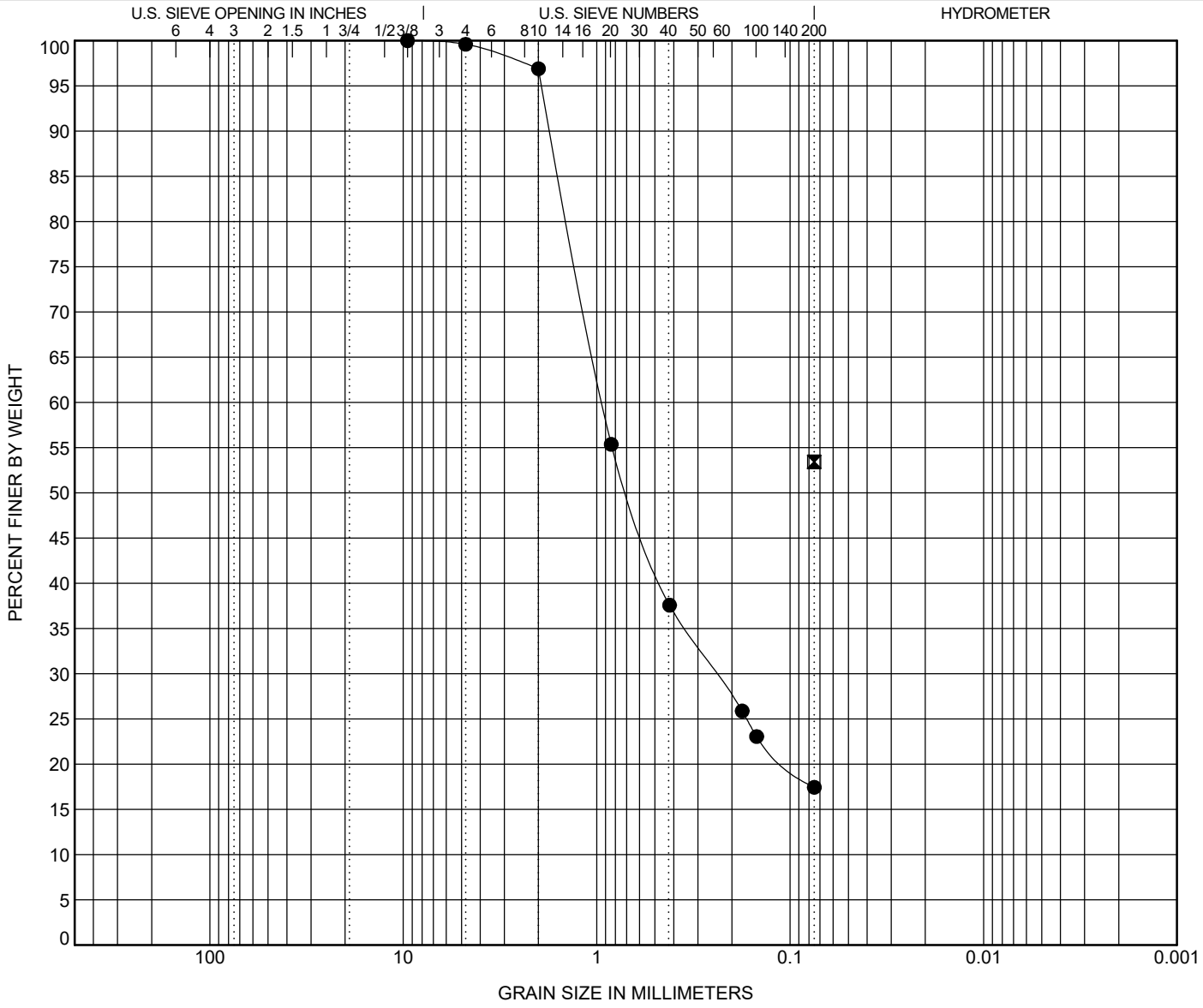
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-32	31.4	SILTY SAND (SM/A-4)	NP	NP	NP		
⊠	B-32	41.4	POORLY GRADED SAND with SILT (SP-SM/A-3)	NP	NP	NP	1.20	2.42
▲	B-32	46.4	SILTY SAND (SM/A-4)	NP	NP	NP		
★	B-32	51.4	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-32	86.4	SILTY SAND (SM/A-1-b)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-32	31.4	4.76	0.102	0.024		0.0	53.3	27.3	19.5
⊠	B-32	41.4	4.76	0.229	0.161	0.095	0.0	94.6	5.4	
▲	B-32	46.4	19	0.132			2.3	48.1	49.6	
★	B-32	51.4	19	0.114			1.8	47.2	51.0	
⊙	B-32	86.4	4.76	0.723	0.2		0.0	81.1	18.9	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● B-32	96.4	SILTY SAND (SM/A-2-7)	51	29	22		
⊠ B-32	111.4	SANDY SILT (ML/A-6)	40	29	11		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-32	96.4	9.51	0.926	0.24		0.4	82.2	17.4	
⊠ B-32	111.4	0.075						53.4	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 4/4/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0685	**DATE SAMPLE RECEIVED:**	3/23/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/23/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/24/2023

BORING NO.	B-32	B-32	B-32	B-32	B-32
SAMPLE NO.	SS-5	SS-7	SS-8	SS-9	SS-12
SAMPLE DEPTH (FT.)	29.4 - 31.4	39.9 - 41.4	44.9 - 46.4	49.9 - 51.4	84.9 - 86.4
WATER CONTENT, W%	34.5	32.4	32.4	43.1	20.9

BORING NO.	B-32	B-32			
SAMPLE NO.	SS-14	SS-17			
SAMPLE DEPTH (FT.)	94.9 - 96.4	109.9 - 111.4			
WATER CONTENT, W%	23.9	44.7			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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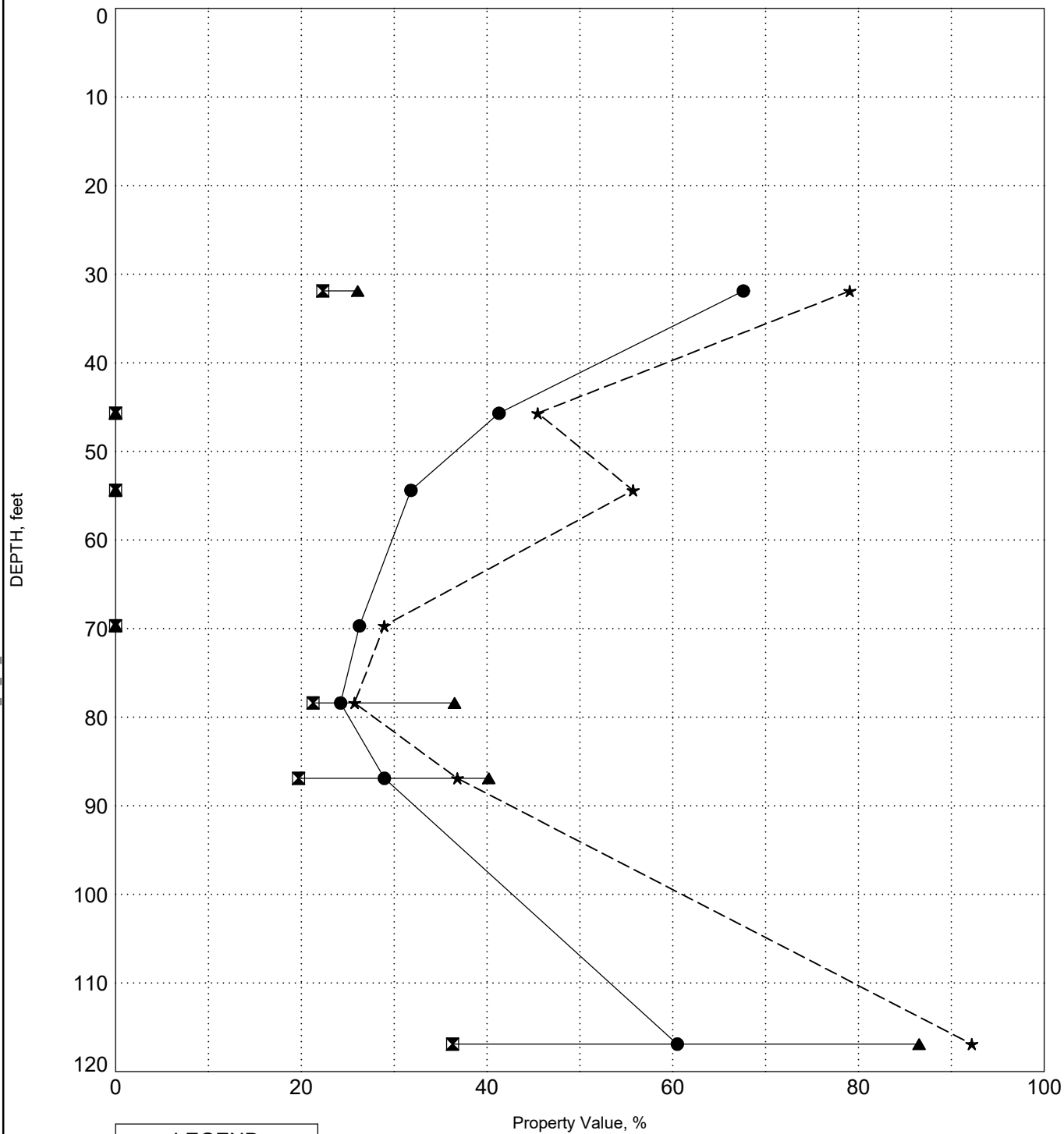
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-33

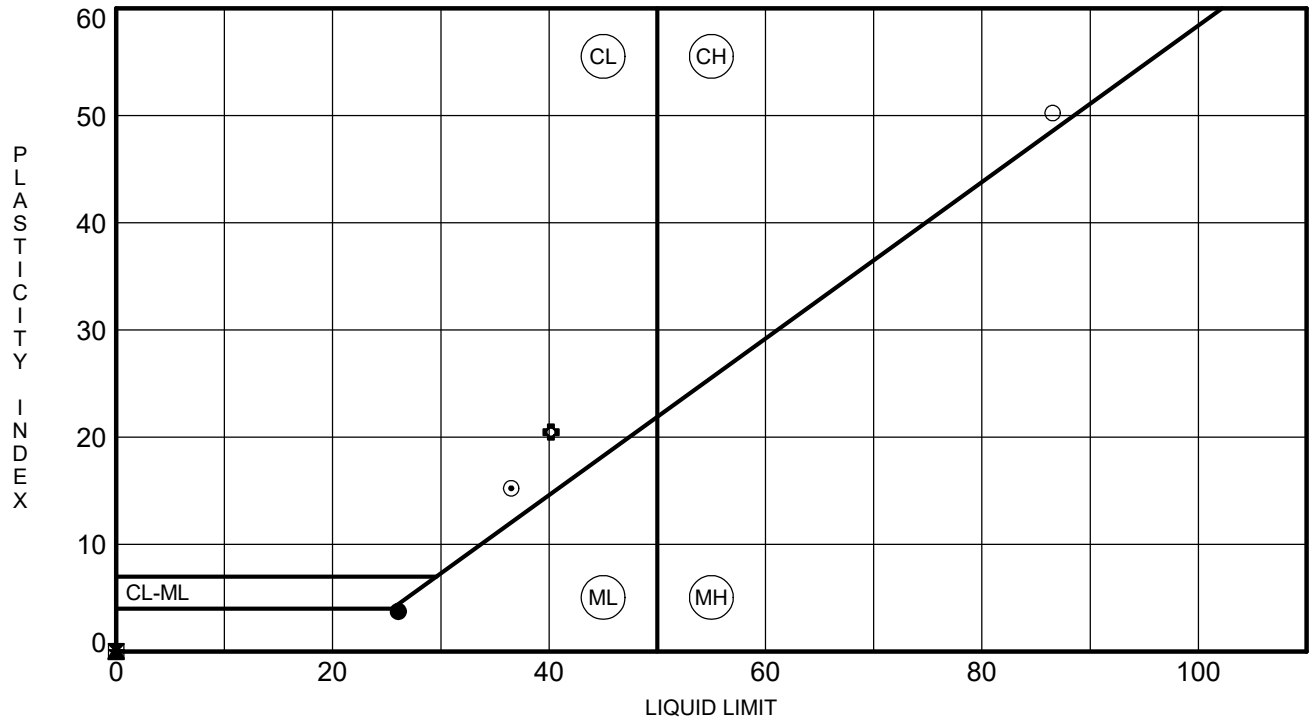
SURFACE ELEVATION: 78.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



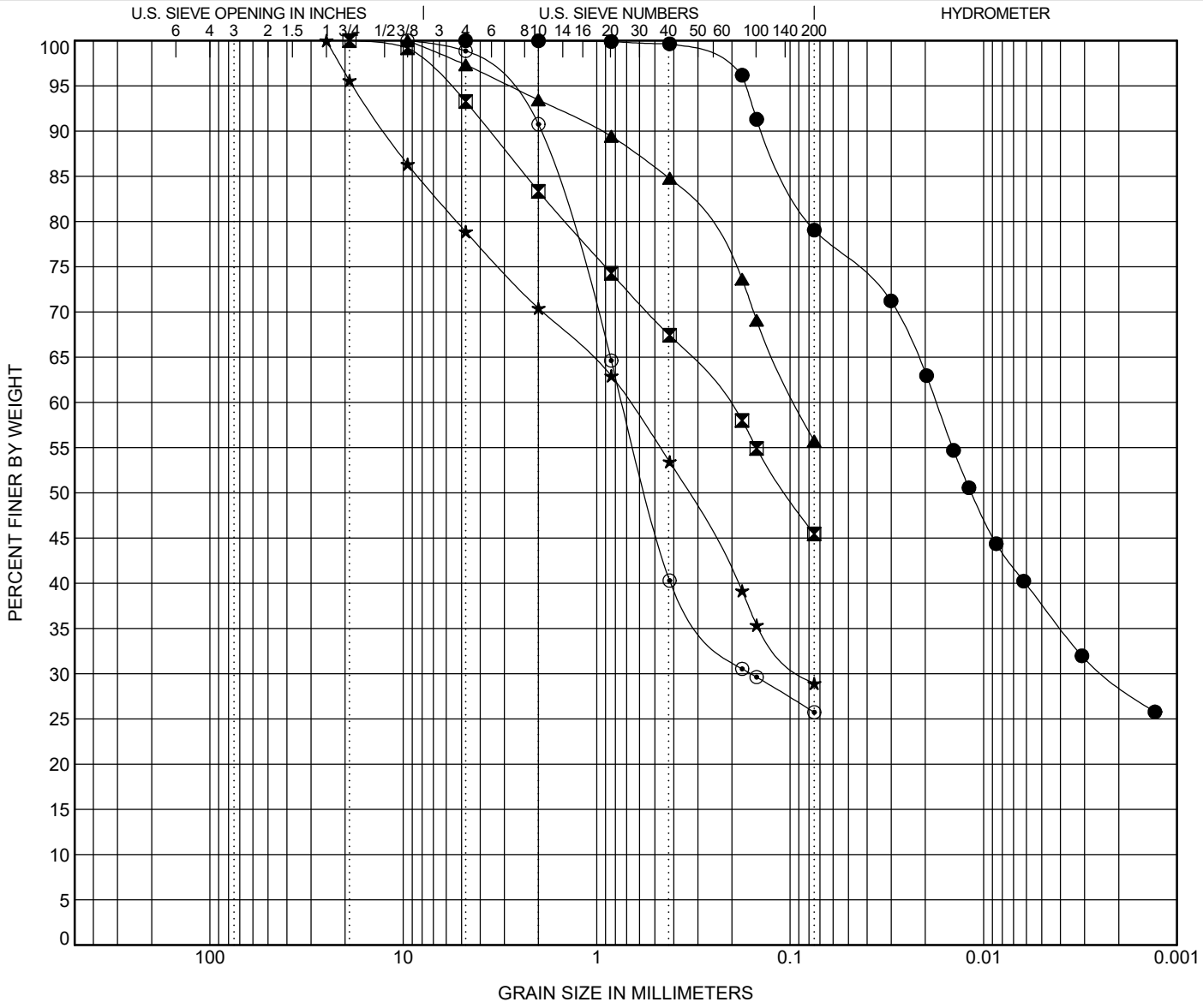
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-33**	**31.9**	**26**	**22**	**4**	**79**	**SILT with SAND (ML/A-4)**
⊠	**B-33**	**45.7**	**NP**	**NP**	**NP**	**45**	**SILTY SAND (SM/A-4)**
▲	**B-33**	**54.4**	**NP**	**NP**	**NP**	**56**	**SANDY SILT (ML/A-4)**
★	**B-33**	**69.7**	**NP**	**NP**	**NP**	**29**	**SILTY SAND with GRAVEL (SM/A-2-4)**
⊙	**B-33**	**78.4**	**37**	**21**	**16**	**26**	**CLAYEY SAND (SC/A-2-6)**
✿	**B-33**	**86.9**	**40**	**20**	**20**	**37**	**CLAYEY SAND (SC/A-6)**
○	**B-33**	**116.9**	**87**	**36**	**51**	**92**	**FAT CLAY (CH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-33	31.9	SILT with SAND (ML/A-4)	26	22	4		
⊠	B-33	45.7	SILTY SAND (SM/A-4)	NP	NP	NP		
▲	B-33	54.4	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-33	69.7	SILTY SAND with GRAVEL (SM/A-2-4)	NP	NP	NP		
⊙	B-33	78.4	CLAYEY SAND (SC/A-2-6)	37	21	16		

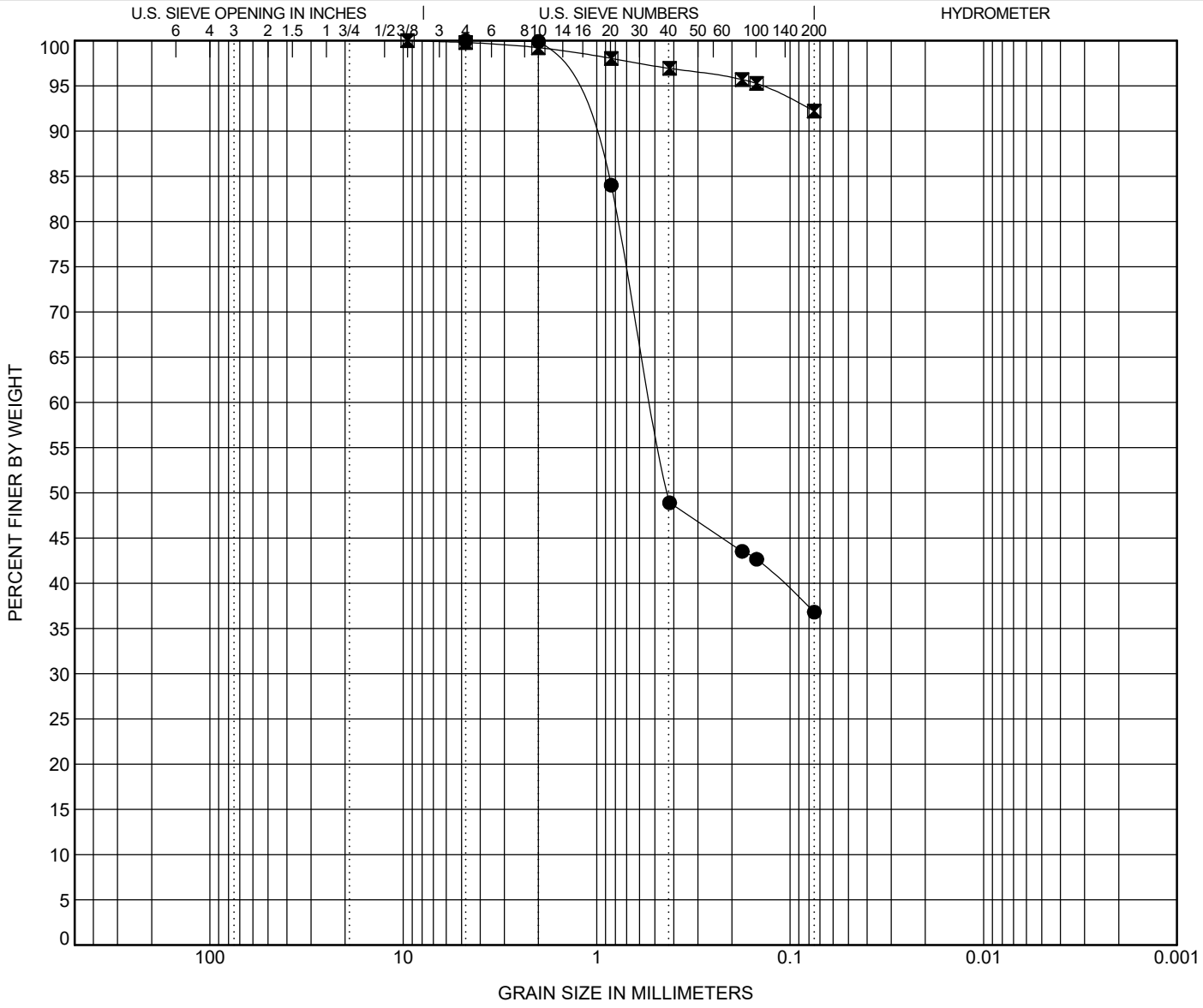
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-33	31.9	4.76	0.018	0.002		0.0	20.9	41.4	37.7
⊠	B-33	45.7	19	0.213			6.8	47.8	45.5	
▲	B-33	54.4	9.51	0.093			2.7	41.6	55.7	
★	B-33	69.7	25	0.678	0.084		21.1	49.9	28.9	
⊙	B-33	78.4	9.51	0.737	0.16		1.2	73.1	25.7	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 5/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-33**	**86.9**	**CLAYEY SAND (SC/A-6)**	**40**	**20**	**20**		
⊠	**B-33**	**116.9**	**FAT CLAY (CH/A-7-5)**	**87**	**36**	**51**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-33**	**86.9**	**4.76**	**0.523**			**0.0**	**63.2**	**36.8**	
⊠	**B-33**	**116.9**	**9.51**				**0.2**	**7.6**	**92.2**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1261	**DATE SAMPLE RECEIVED:**	5/3/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	5/3/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	5/4/2023

BORING NO.	B-33	B-33	B-33	B-33	B-33
SAMPLE NO.	SS-5	SS-8	SS-10	SS-14	SS-16
SAMPLE DEPTH (FT.)	29.9 - 31.9	44.4 - 45.7	52.4 - 54.4	68.4 - 69.7	76.4 - 78.4
WATER CONTENT, W%	67.6	41.3	31.8	26.3	24.2

BORING NO.	B-33	B-33			
SAMPLE NO.	SS-18	SS-24			
SAMPLE DEPTH (FT.)	85.4 - 86.9	115.4 - 116.9			
WATER CONTENT, W%	28.9	60.5			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

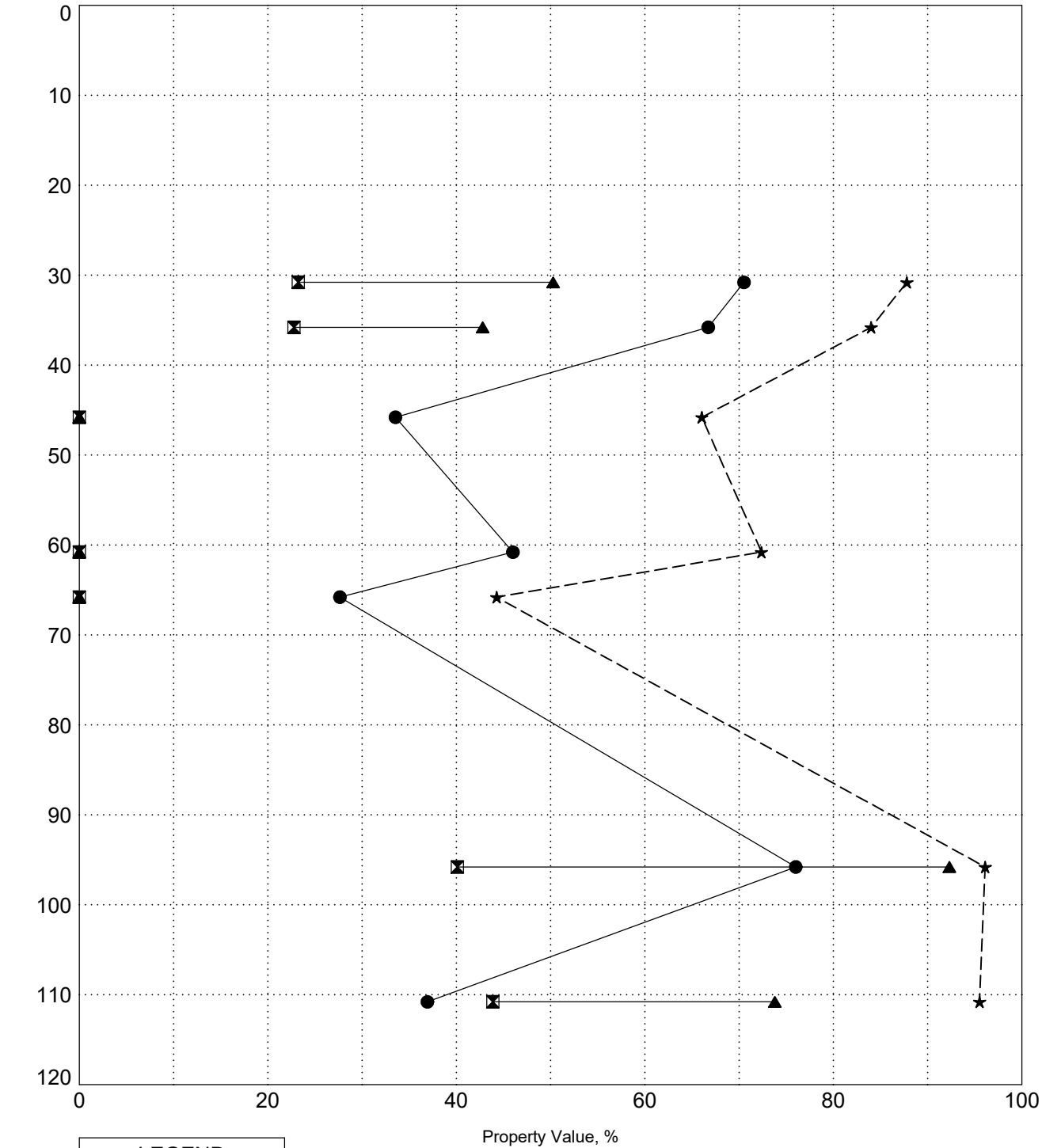
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-34

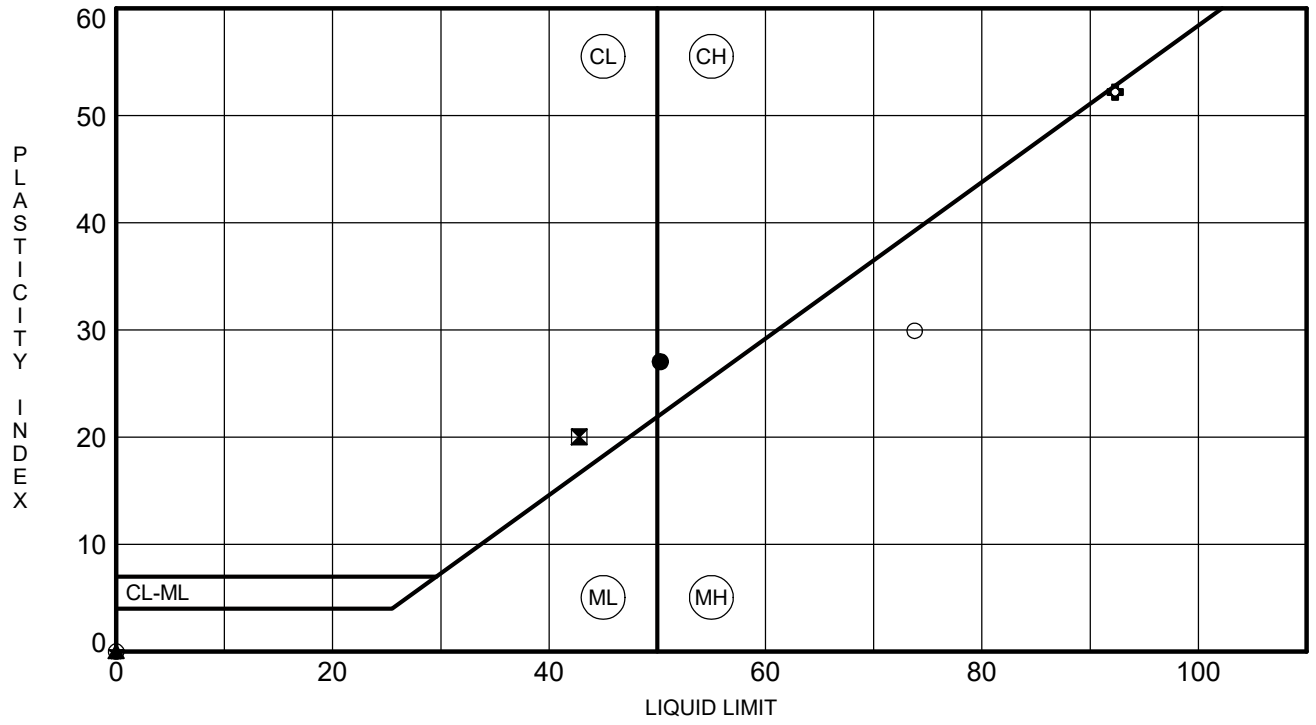
SURFACE ELEVATION: 78.1



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



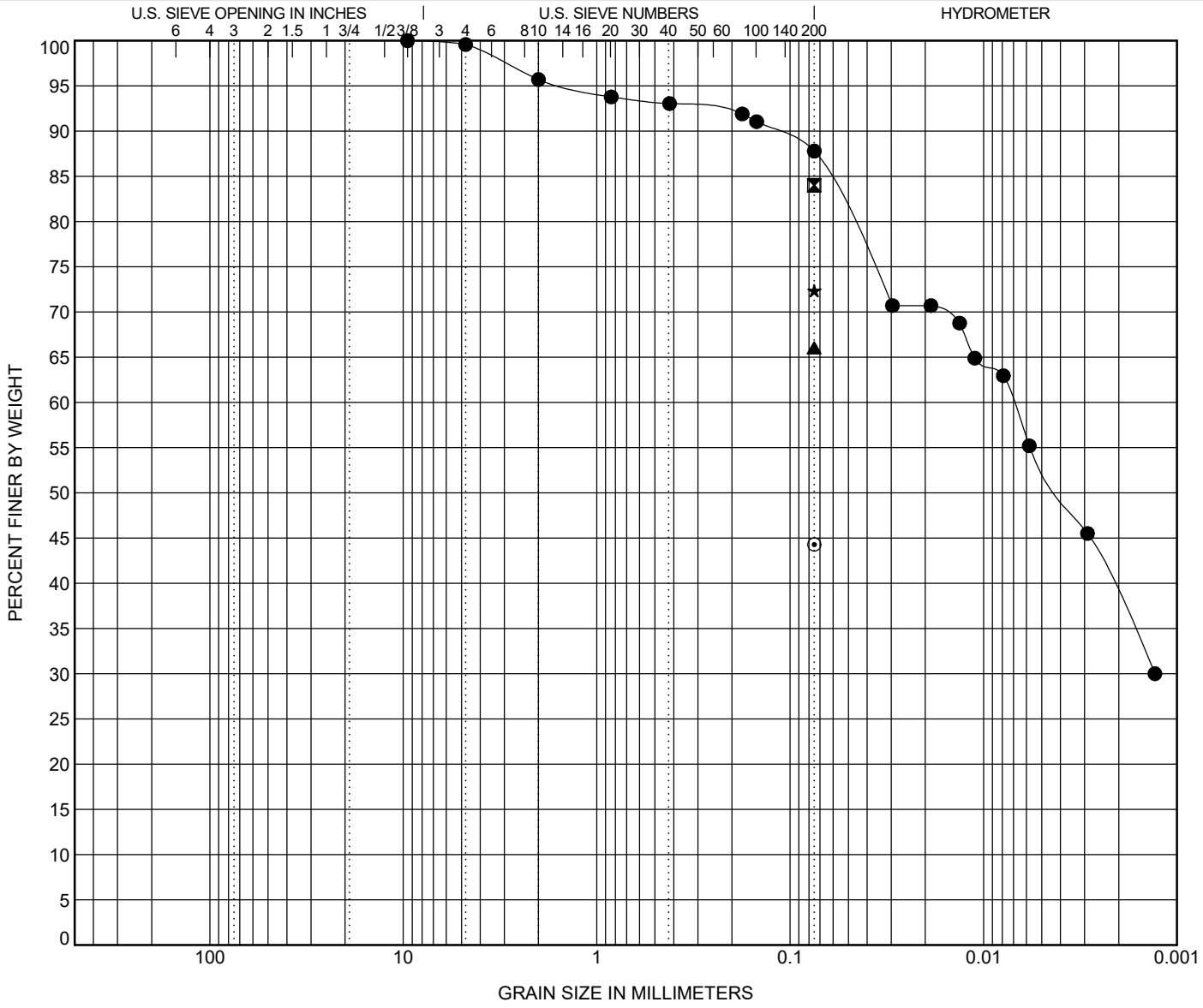
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-34**	**30.8**	**50**	**23**	**27**	**88**	**FAT CLAY (CH/A-7-6)**
⊠	**B-34**	**35.8**	**43**	**23**	**20**	**84**	**LEAN CLAY with SAND (CL/A-7-6)**
▲	**B-34**	**45.8**	**NP**	**NP**	**NP**	**66**	**SANDY SILT (ML/A-4)**
★	**B-34**	**60.8**	**NP**	**NP**	**NP**	**72**	**SILT with SAND (ML/A-4)**
⊙	**B-34**	**65.8**	**NP**	**NP**	**NP**	**44**	**SILTY SAND (SM/A-4)**
✿	**B-34**	**95.8**	**92**	**40**	**52**	**96**	**ELASTIC SILT (MH/A-7-5)**
○	**B-34**	**110.8**	**74**	**44**	**30**	**96**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/24/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

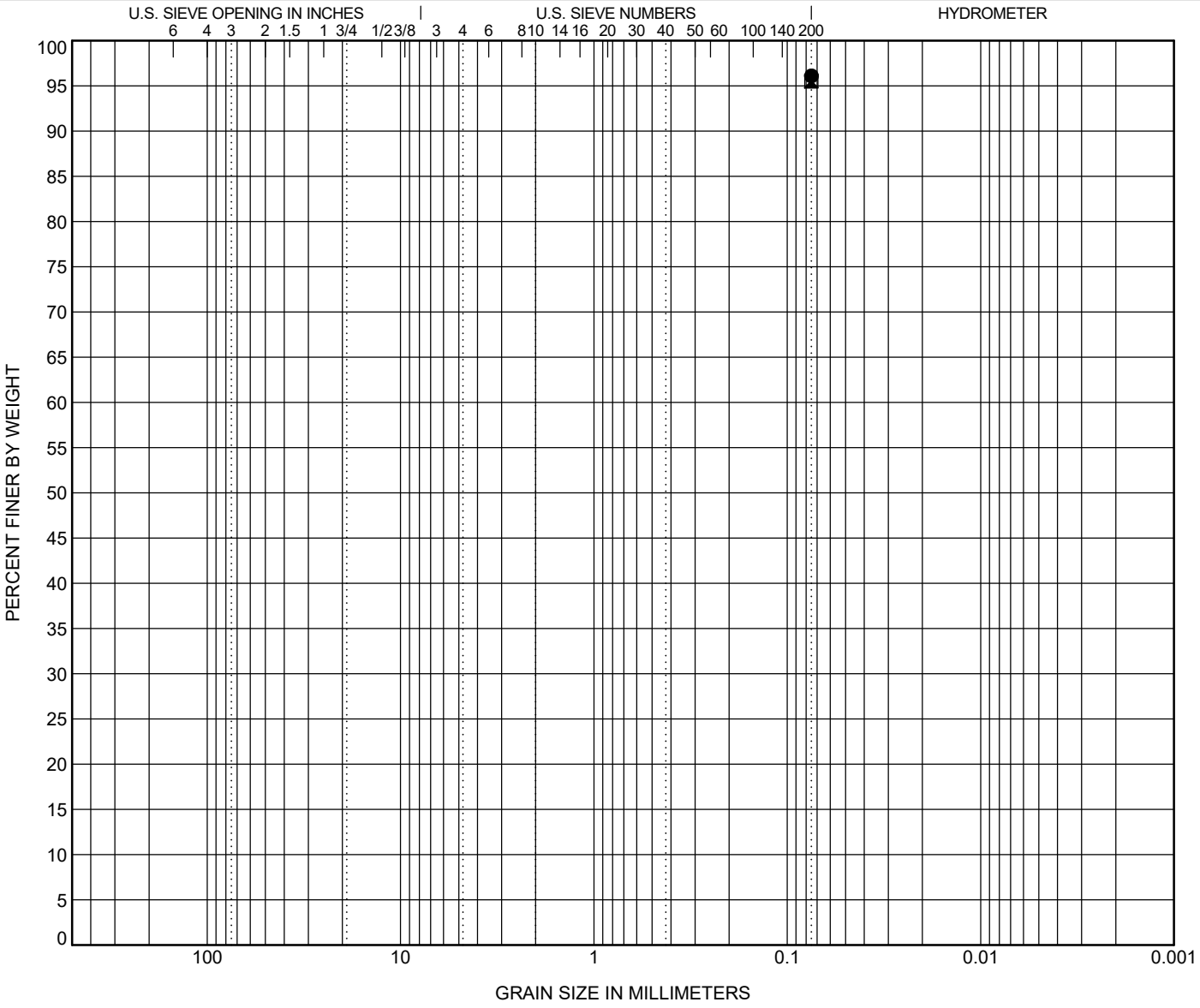
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-34**	**30.8**	**FAT CLAY (CH/A-7-6)**	**50**	**23**	**27**		
⊠	**B-34**	**35.8**	**LEAN CLAY with SAND (CL/A-7-6)**	**43**	**23**	**20**		
▲	**B-34**	**45.8**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		
★	**B-34**	**60.8**	**SILT with SAND (ML/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-34**	**65.8**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-34**	**30.8**	**9.51**	**0.007**			**0.4**	**11.8**	**34.7**	**53.1**
⊠	**B-34**	**35.8**	**0.075**						**84.0**	
▲	**B-34**	**45.8**	**0.075**						**66.0**	
★	**B-34**	**60.8**	**0.075**						**72.4**	
⊙	**B-34**	**65.8**	**0.075**						**44.3**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-34**	**95.8**	**ELASTIC SILT (MH/A-7-5)**	**92**	**40**	**52**		
⊠	**B-34**	**110.8**	**ELASTIC SILT (MH/A-7-5)**	**74**	**44**	**30**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-34**	**95.8**	**0.075**						**96.1**	
⊠	**B-34**	**110.8**	**0.075**						**95.5**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0686	**DATE SAMPLE RECEIVED:**	3/8/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & TP	**DATE SETUP:**	3/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/11/2023

BORING NO.	B-34	B-34	B-34	B-34	B-34
SAMPLE NO.	SS-1	SS-6	SS-8	SS-11	SS-12
SAMPLE DEPTH (FT.)	20.8 - 30.8	34.5 - 35.8	44.3 - 45.8	59.3 - 60.8	64.3 - 65.8
WATER CONTENT, W%	70.5	66.7	33.5	46.0	27.6

BORING NO.	B-34	B-34			
SAMPLE NO.	SS-18	SS-21			
SAMPLE DEPTH (FT.)	94.3 - 95.8	109.3 - 110.8			
WATER CONTENT, W%	76.0	36.9			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

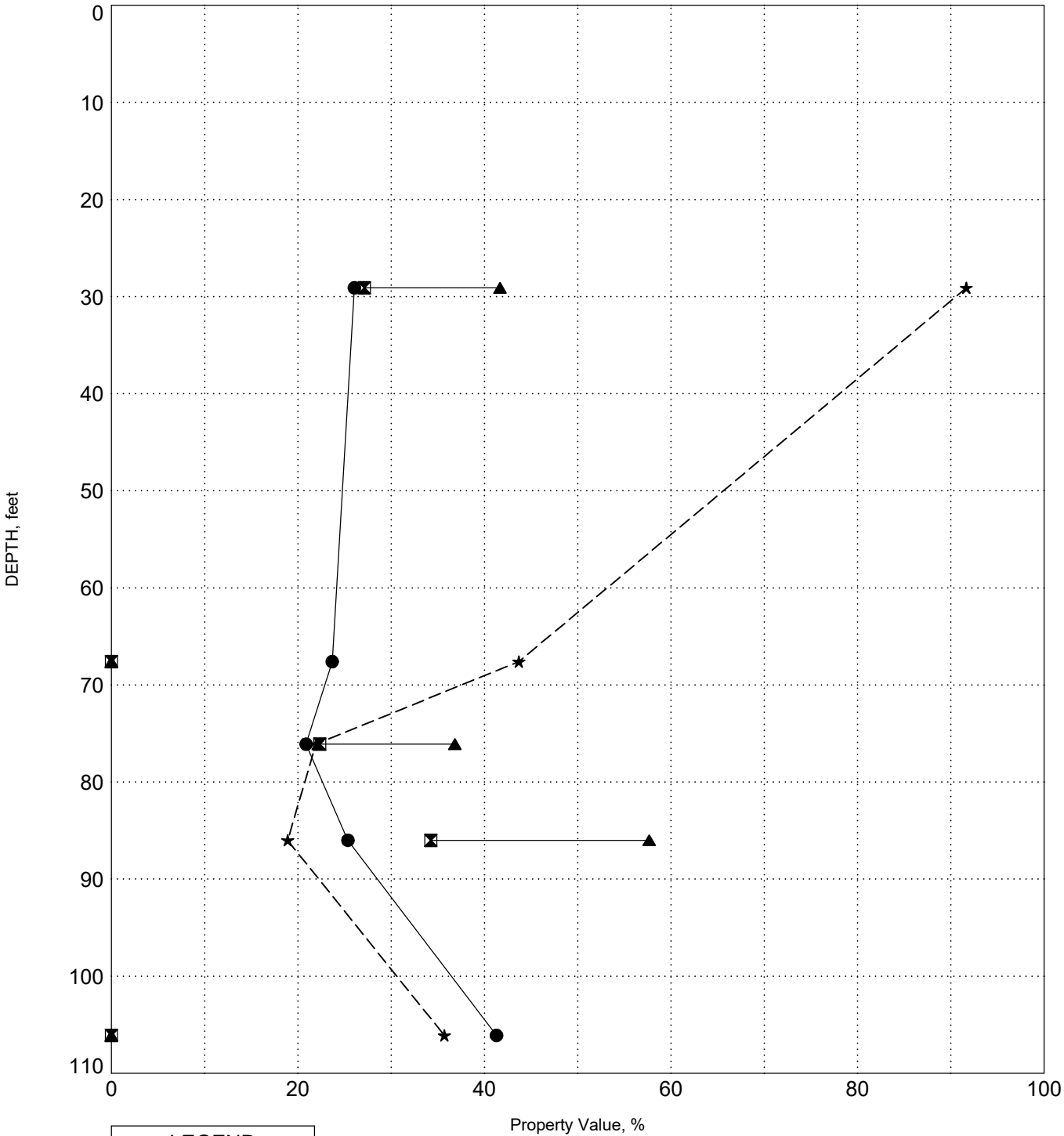
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-35

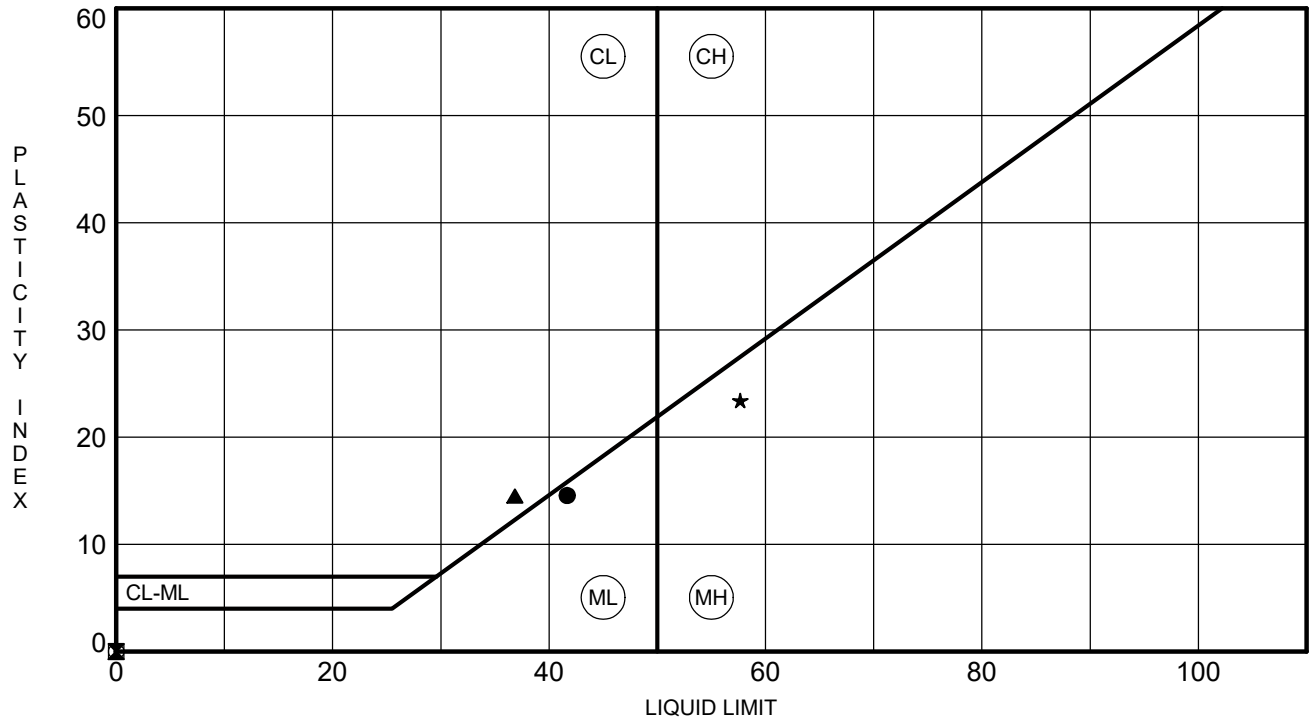
SURFACE ELEVATION: 78.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

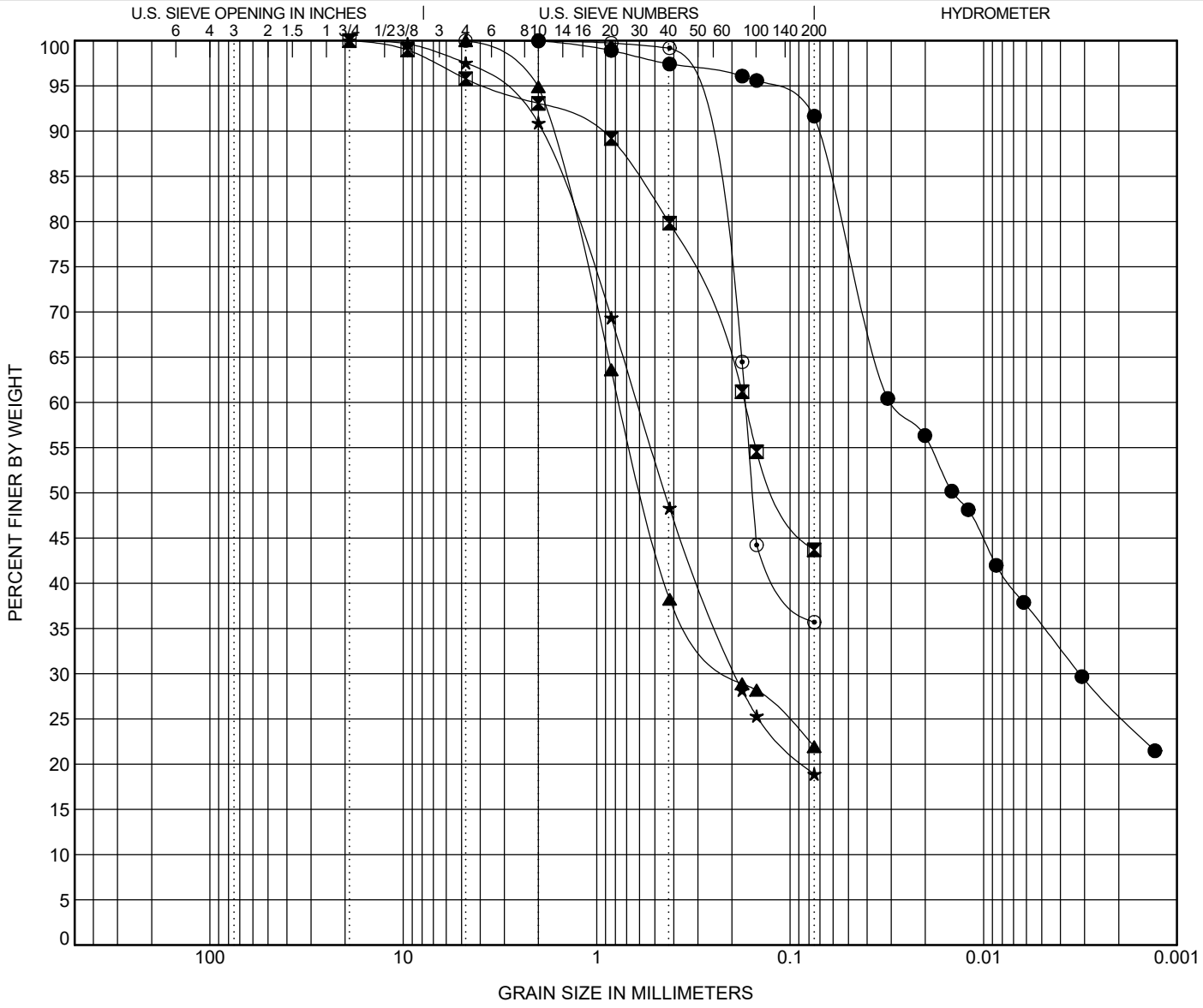


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-35**	**29.1**	**42**	**27**	**15**	**92**	**SILT (MH/A-7-6)**
⧓	**B-35**	**67.6**	**NP**	**NP**	**NP**	**44**	**Silty SAND (SM/A-4)**
▲	**B-35**	**76.1**	**37**	**22**	**15**	**22**	**Clayey SAND (SC/A-2-6)**
★	**B-35**	**86.0**	**58**	**34**	**24**	**19**	**Silty SAND (SM/A-2-7)**
⊙	**B-35**	**106.1**	**NP**	**NP**	**NP**	**36**	**Silty SAND (SM/A-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-35	29.1	SILT (MH/A-7-6)	42	27	15		
⊠	B-35	67.6	Silty SAND (SM/A-4)	NP	NP	NP		
▲	B-35	76.1	Clayey SAND (SC/A-2-6)	37	22	15		
★	B-35	86.0	Silty SAND (SM/A-2-7)	58	34	24		
⊙	B-35	106.1	Silty SAND (SM/A-4)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-35	29.1	2	0.03	0.003		0.0	8.3	56.3	35.3
⊠	B-35	67.6	19	0.172			4.2	52.1	43.7	
▲	B-35	76.1	4.76	0.762	0.196		0.0	78.1	21.9	
★	B-35	86.0	19	0.617	0.191		2.5	78.6	18.9	
⊙	B-35	106.1	4.76	0.17			0.0	64.3	35.7	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1161	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-35	B-35	B-35	B-35	B-35
SAMPLE NO.	SS-4	SS-9	SS-11	SS-13	SS-17
SAMPLE DEPTH (FT.)	27.1 - 29.1	66.1 - 67.6	74.6 - 76.1	84.6 - 86.0	104.6 - 106.1
WATER CONTENT, W%	26.1	23.7	20.9	25.4	41.3

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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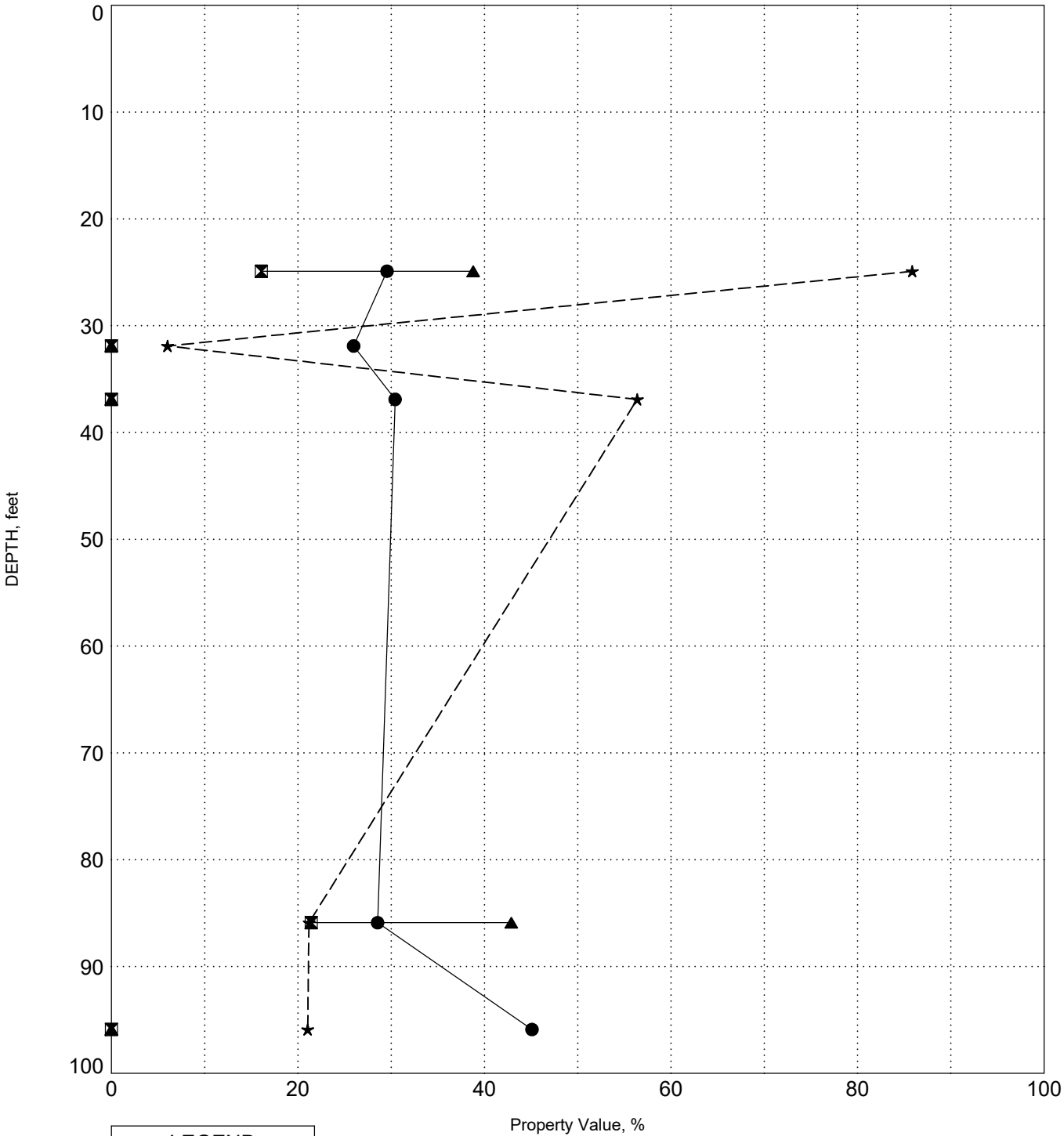
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-36

SURFACE ELEVATION: 78.0



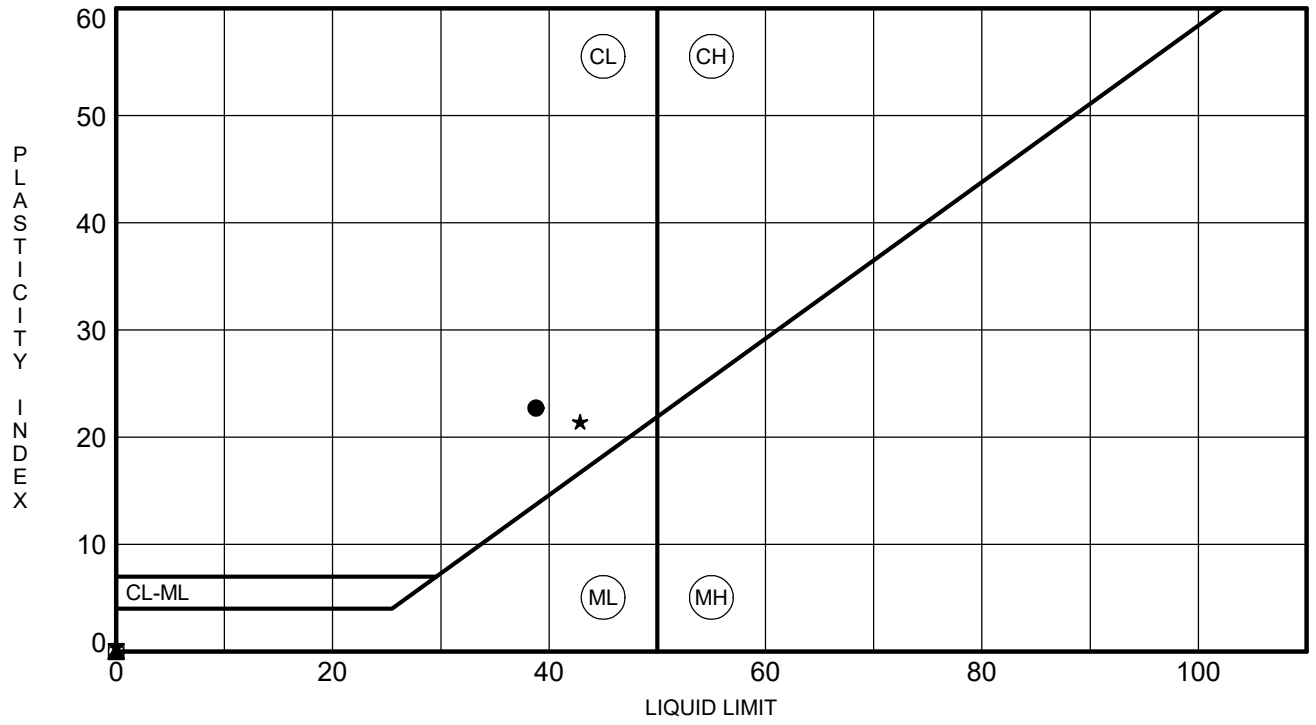
LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



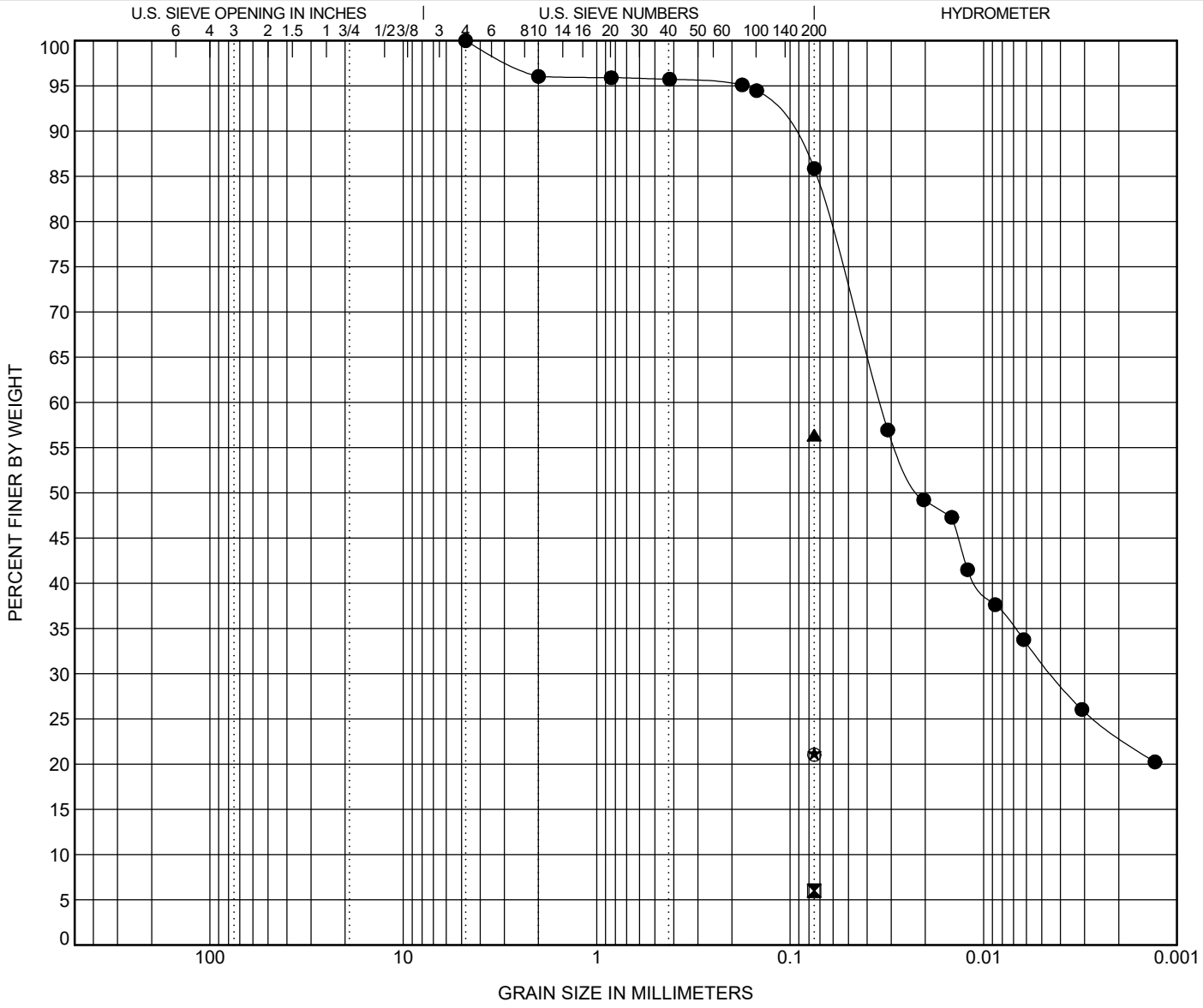
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-36**	**24.9**	**39**	**16**	**23**	**86**	**LEAN CLAY (CL/A-6)**
⊠	**B-36**	**31.9**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
▲	**B-36**	**36.9**	**NP**	**NP**	**NP**	**56**	**SANDY SILT (ML/A-4)**
★	**B-36**	**85.9**	**43**	**21**	**22**	**21**	**CLAYEY SAND (SC/A-2-7)**
⊙	**B-36**	**95.9**	**NP**	**NP**	**NP**	**21**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/24/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-36**	**24.9**	**LEAN CLAY (CL/A-6)**	**39**	**16**	**23**		
⊠	**B-36**	**31.9**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**		
▲	**B-36**	**36.9**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		
★	**B-36**	**85.9**	**CLAYEY SAND (SC/A-2-7)**	**43**	**21**	**22**		
⊙	**B-36**	**95.9**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-36**	**24.9**	**4.76**	**0.034**	**0.004**		**0.0**	**14.1**	**54.5**	**31.4**
⊠	**B-36**	**31.9**	**0.075**						**6.0**	
▲	**B-36**	**36.9**	**0.075**						**56.4**	
★	**B-36**	**85.9**	**0.075**						**21.2**	
⊙	**B-36**	**95.9**	**0.075**						**21.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/24/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0619	**DATE SAMPLE RECEIVED:**	3/8/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/9/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/10/2023

BORING NO.	B-36	B-36	B-36	B-36	B-36
SAMPLE NO.	SS-4	SS-6	SS-7	SS-10	SS-12
SAMPLE DEPTH (FT.)	22.9 - 24.9	30.4 - 31.9	35.4 - 36.9	84.4 - 85.9	94.4 - 95.9
WATER CONTENT, W%	29.5	26.0	30.4	28.5	45.1

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

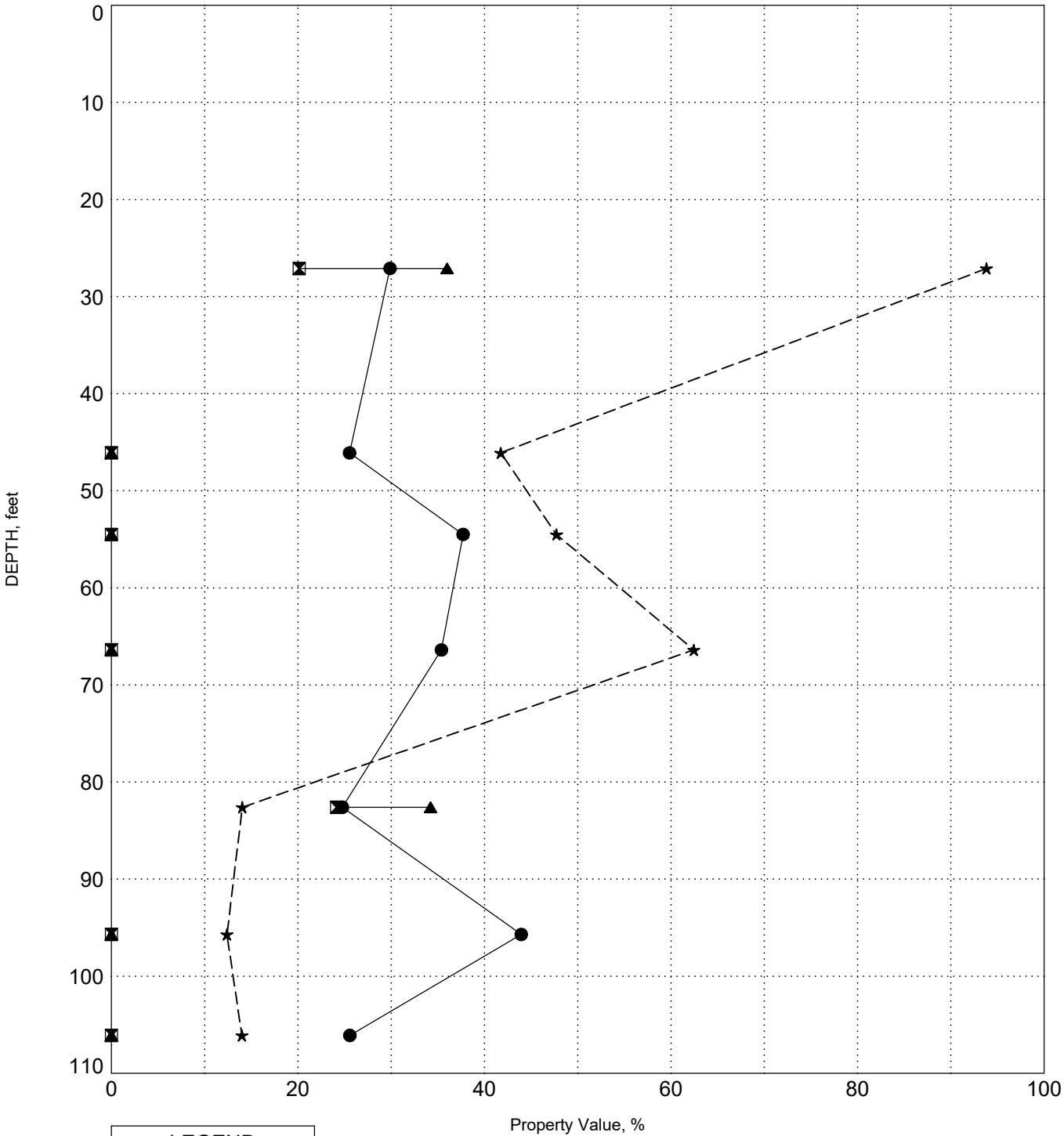
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-37

SURFACE ELEVATION: 79.1

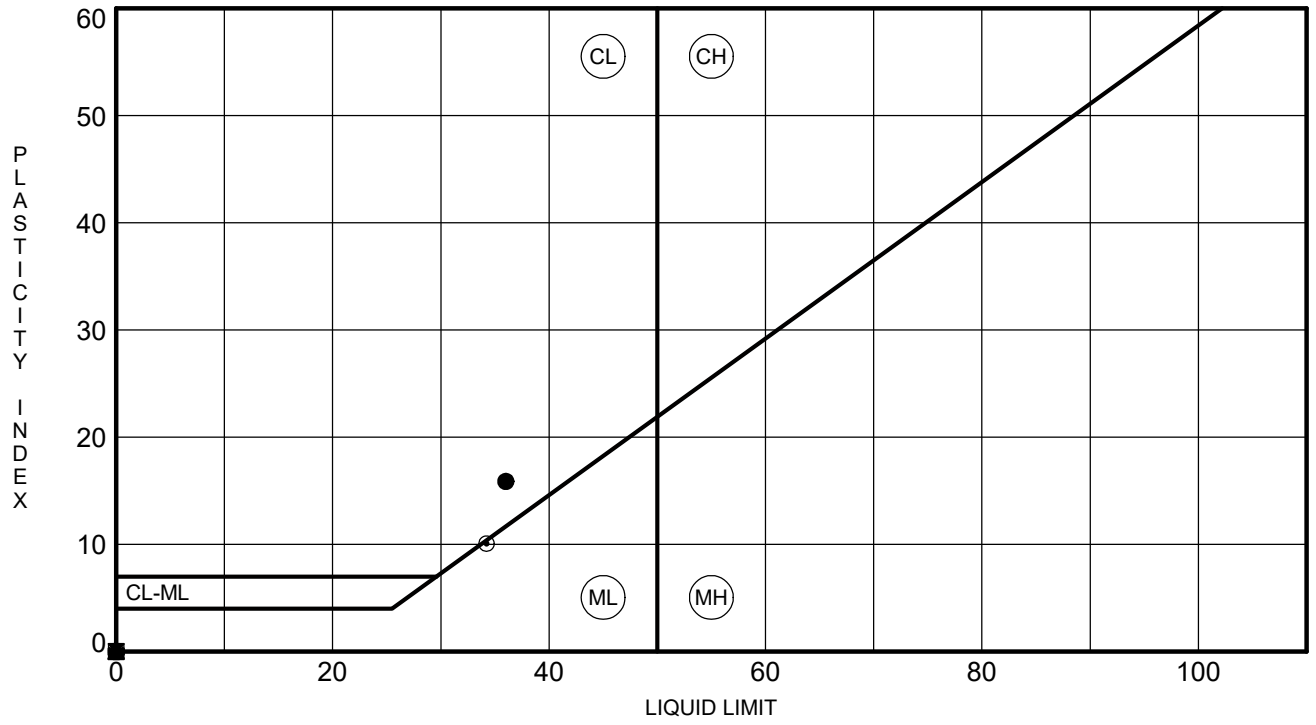


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



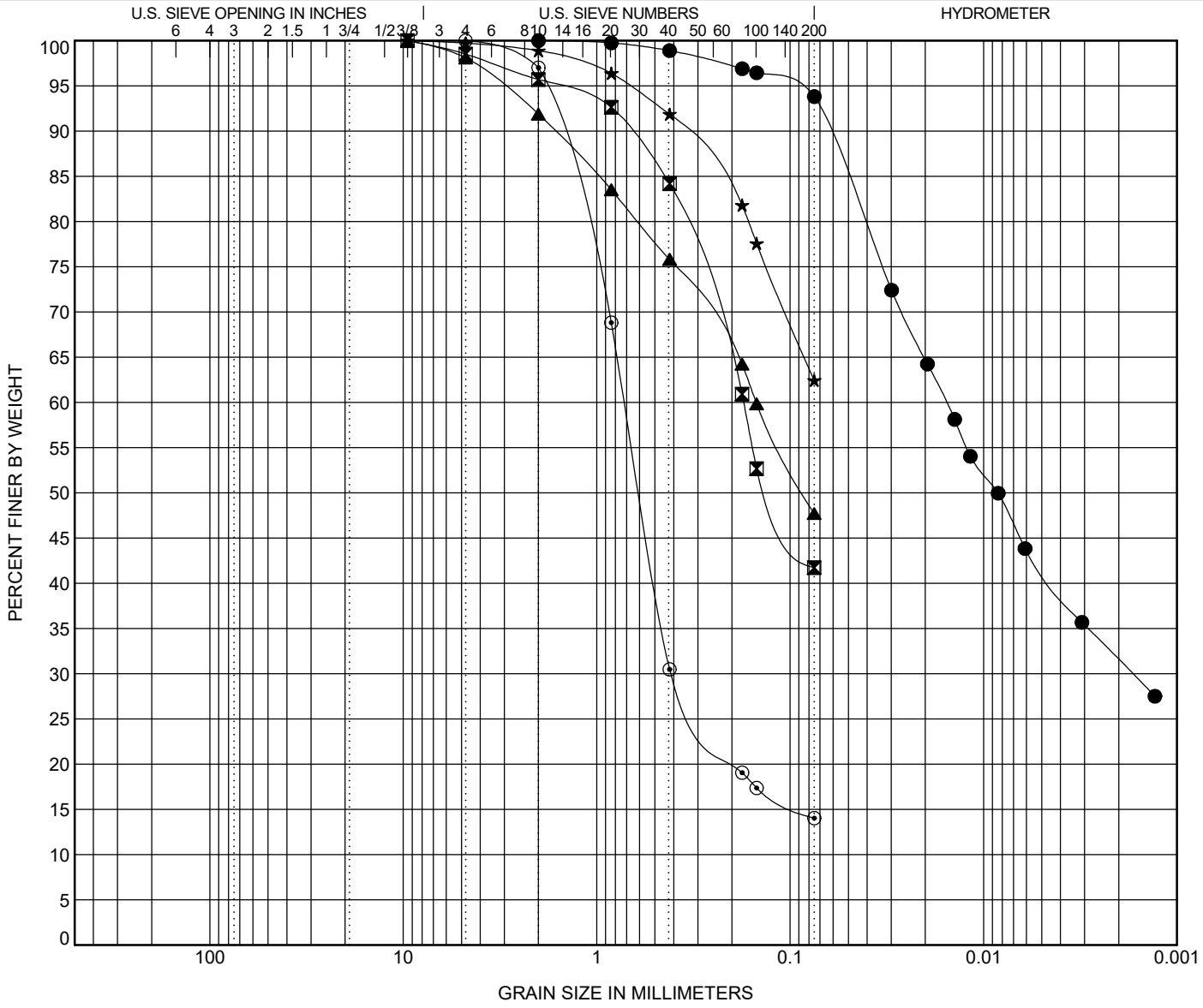
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-37**	**27.1**	**36**	**20**	**16**	**94**	**Lean CLAY (CL/A-6)**
⊠	**B-37**	**46.1**	**NP**	**NP**	**NP**	**42**	**Silty SAND (SM/A-4)**
▲	**B-37**	**54.5**	**NP**	**NP**	**NP**	**48**	**Silty SAND (SM/A-4)**
★	**B-37**	**66.4**	**NP**	**NP**	**NP**	**62**	**Sandy SILT (ML/A-4)**
⊙	**B-37**	**82.6**	**34**	**24**	**10**	**14**	**Silty SAND (SM/A-2-4)**
✿	**B-37**	**95.7**	**NP**	**NP**	**NP**	**12**	**Silty SAND (SM/A-2-4)**
○	**B-37**	**106.1**	**NP**	**NP**	**NP**	**14**	**Silty SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-37	27.1	Lean CLAY (CL/A-6)	36	20	16		
⊠	B-37	46.1	Silty SAND (SM/A-4)	NP	NP	NP		
▲	B-37	54.5	Silty SAND (SM/A-4)	NP	NP	NP		
★	B-37	66.4	Sandy SILT (ML/A-4)	NP	NP	NP		
⊙	B-37	82.6	Silty SAND (SM/A-2-4)	34	24	10		

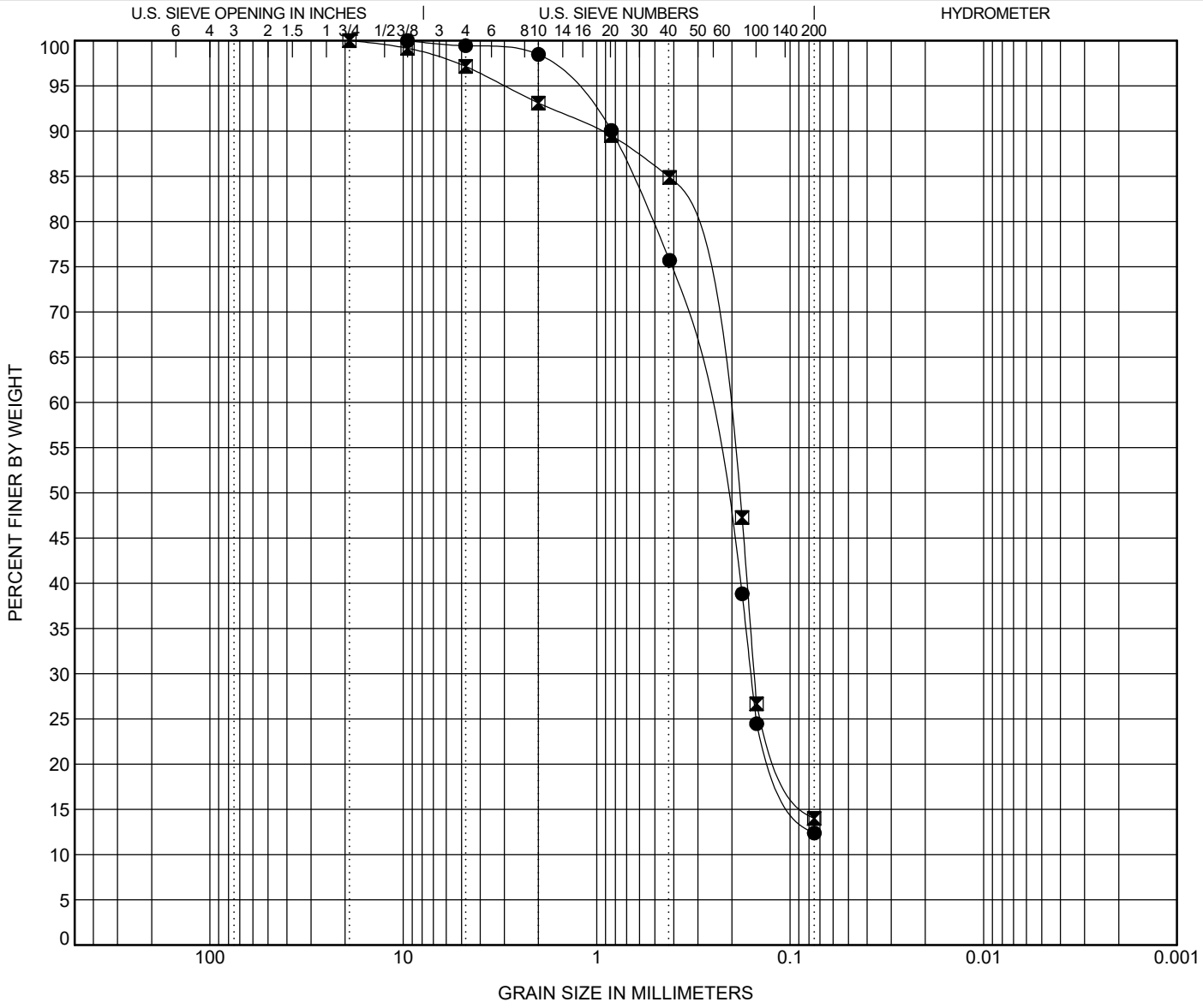
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-37	27.1	2	0.016	0.002		0.0	6.2	52.4	41.4
⊠	B-37	46.1	9.51	0.174			1.5	56.8	41.7	
▲	B-37	54.5	9.51	0.15			1.9	50.4	47.7	
★	B-37	66.4	9.51				0.3	37.3	62.4	
⊙	B-37	82.6	4.76	0.717	0.405		0.0	86.0	14.0	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-37**	**95.7**	**Silty SAND (SM/A-2-4)**	**NP**	**NP**	**NP**	**1.33**	**4.44**
⊠	**B-37**	**106.1**	**Silty SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-37**	**95.7**	**9.51**	**0.291**	**0.159**		**0.6**	**87.1**	**12.4**	
⊠	**B-37**	**106.1**	**19**	**0.237**	**0.153**		**2.9**	**83.1**	**14.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1160	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-37	B-37	B-37	B-37	B-37
SAMPLE NO.	SS-3	SS-8	SS-10	SS-13	SS-17
SAMPLE DEPTH (FT.)	25.1 - 27.1	44.6 - 46.1	52.6 - 54.5	64.6 - 66.4	80.6 - 82.6
WATER CONTENT, W%	29.9	25.5	37.7	35.4	24.8

BORING NO.	B-37	B-37			
SAMPLE NO.	SS-20	SS-22			
SAMPLE DEPTH (FT.)	94.6 - 95.7	104.6 - 106.1			
WATER CONTENT, W%	43.9	37.0			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

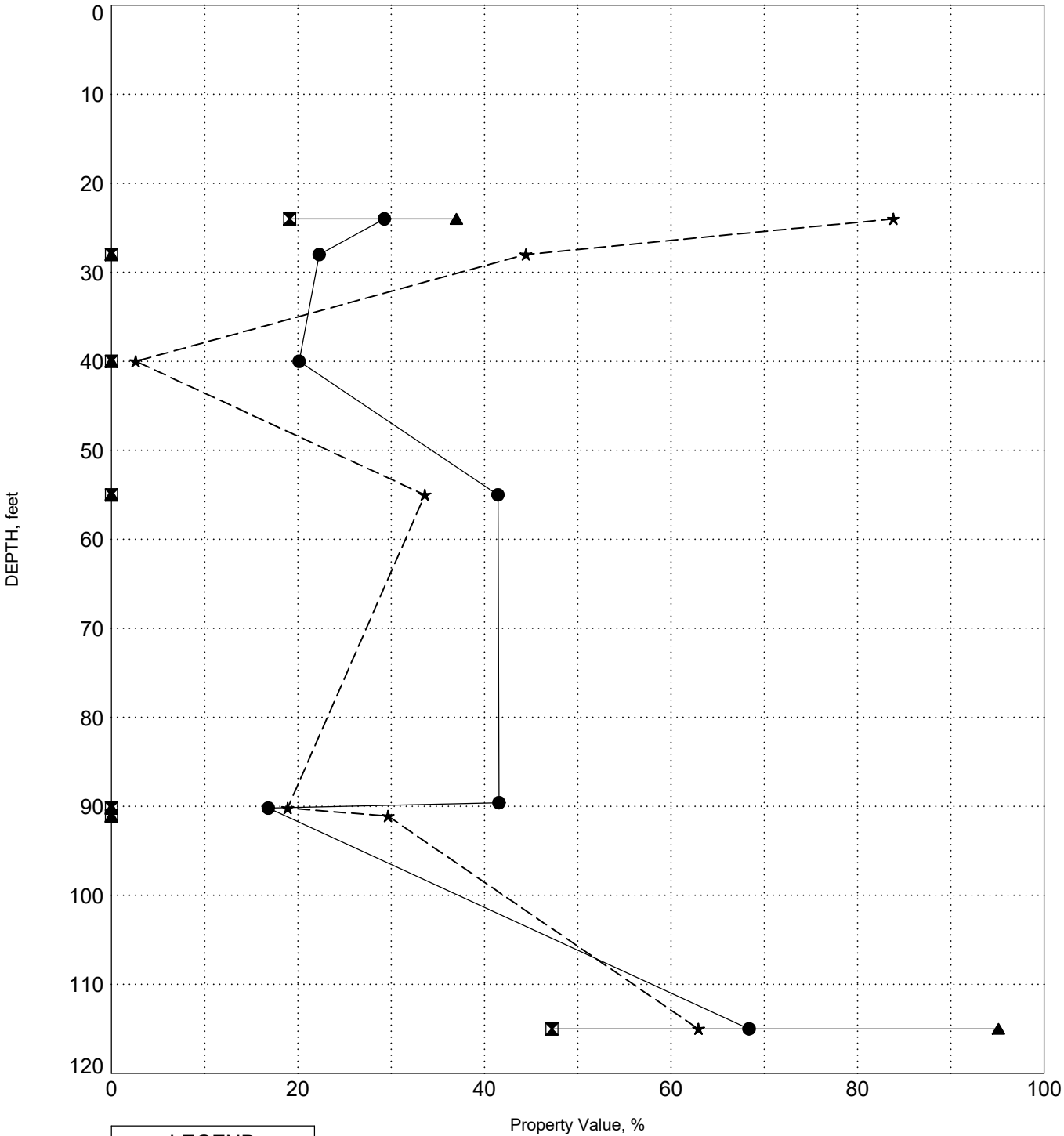
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-38

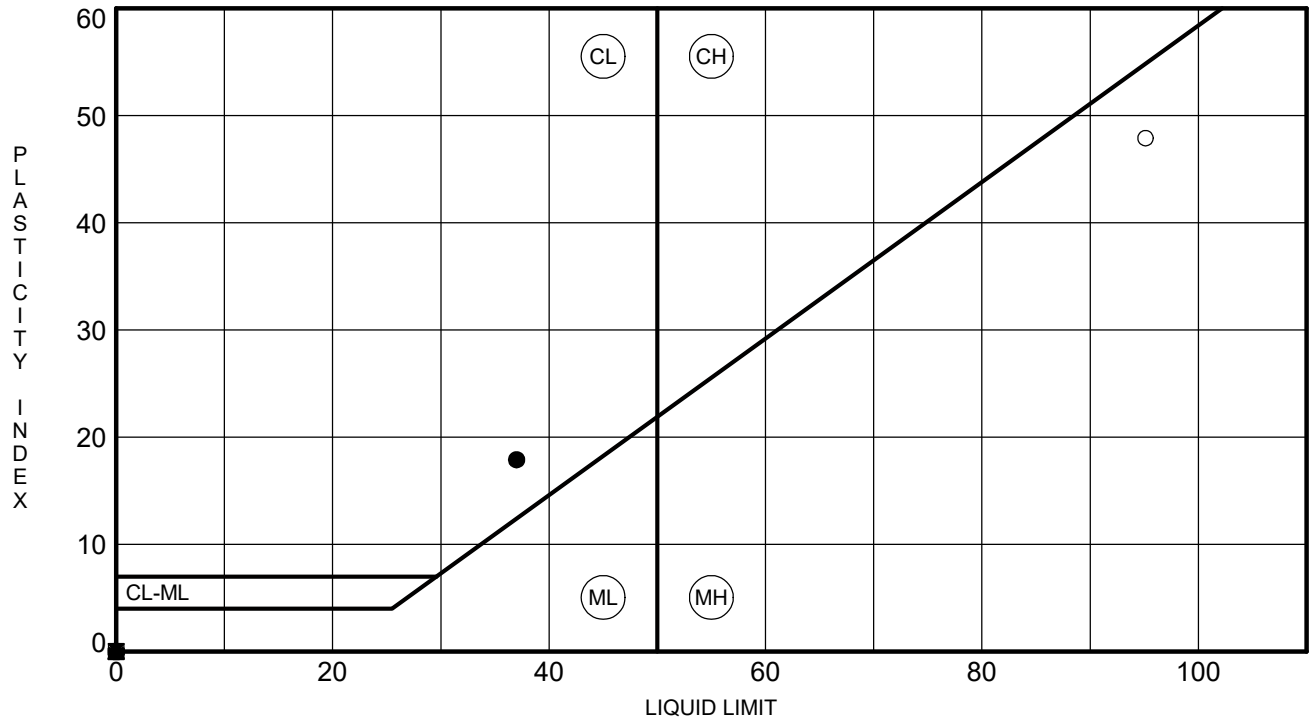
SURFACE ELEVATION: 78.0



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

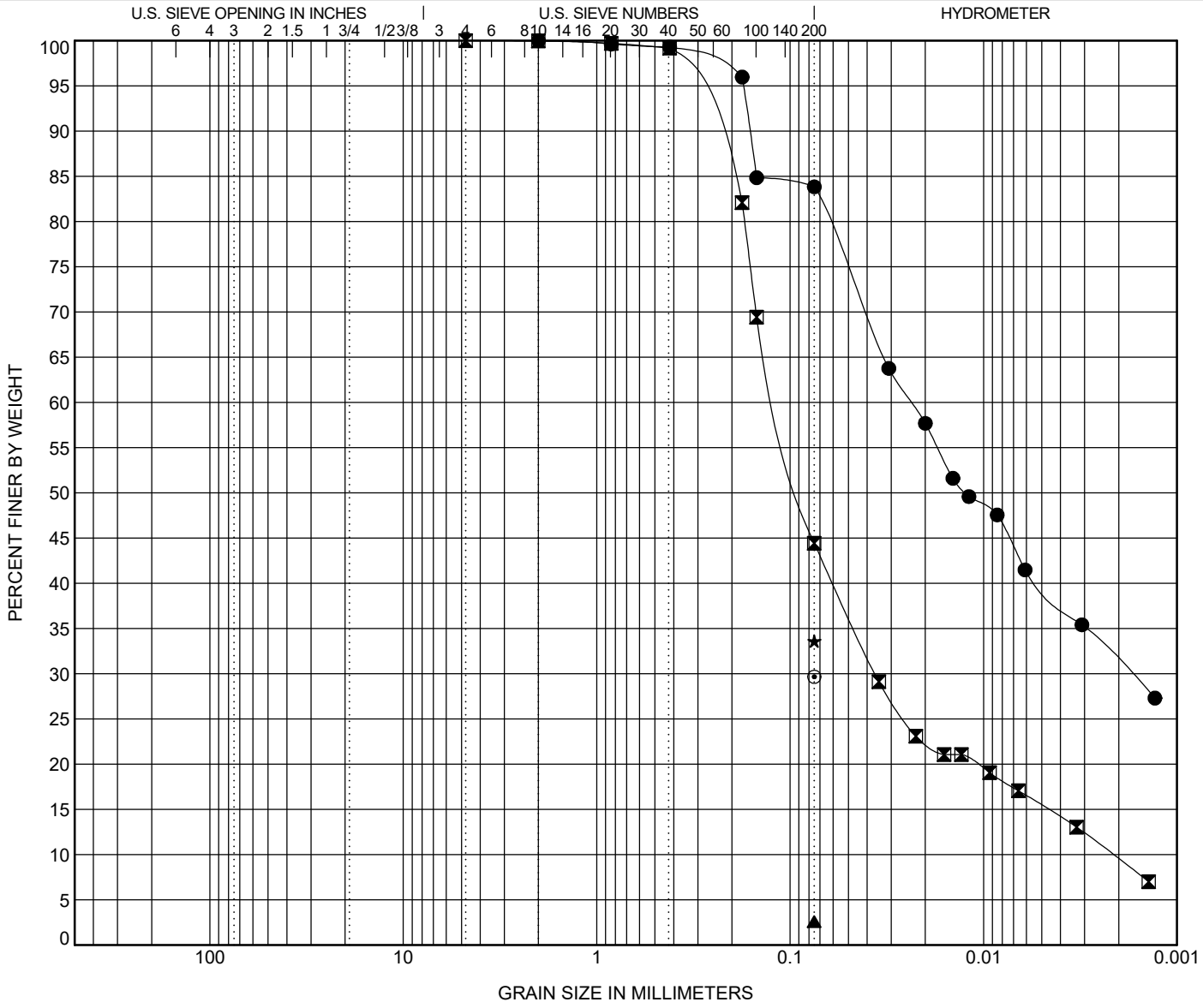


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-38	24.0	37	19	18	84	LEAN CLAY with SAND (CL/A-6)
⊠	B-38	28.0	NP	NP	NP	44	SILTY SAND (SM/A-4)
▲	B-38	40.0	NP	NP	NP	3	POORLY GRADED SAND (SP/A-3)
★	B-38	55.0	NP	NP	NP	34	SILTY SAND (SM/A-2-4)
⊙	B-38	89.6	NP	NP	NP	30	SILTY SAND (SM/A-2-4)
✿	B-38	90.2	NP	NP	NP	19	SILTY SAND (SM/A-2-4)
○	B-38	115.0	95	47	48	63	SANDY ELASTIC SILT (MH/A-7-5)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

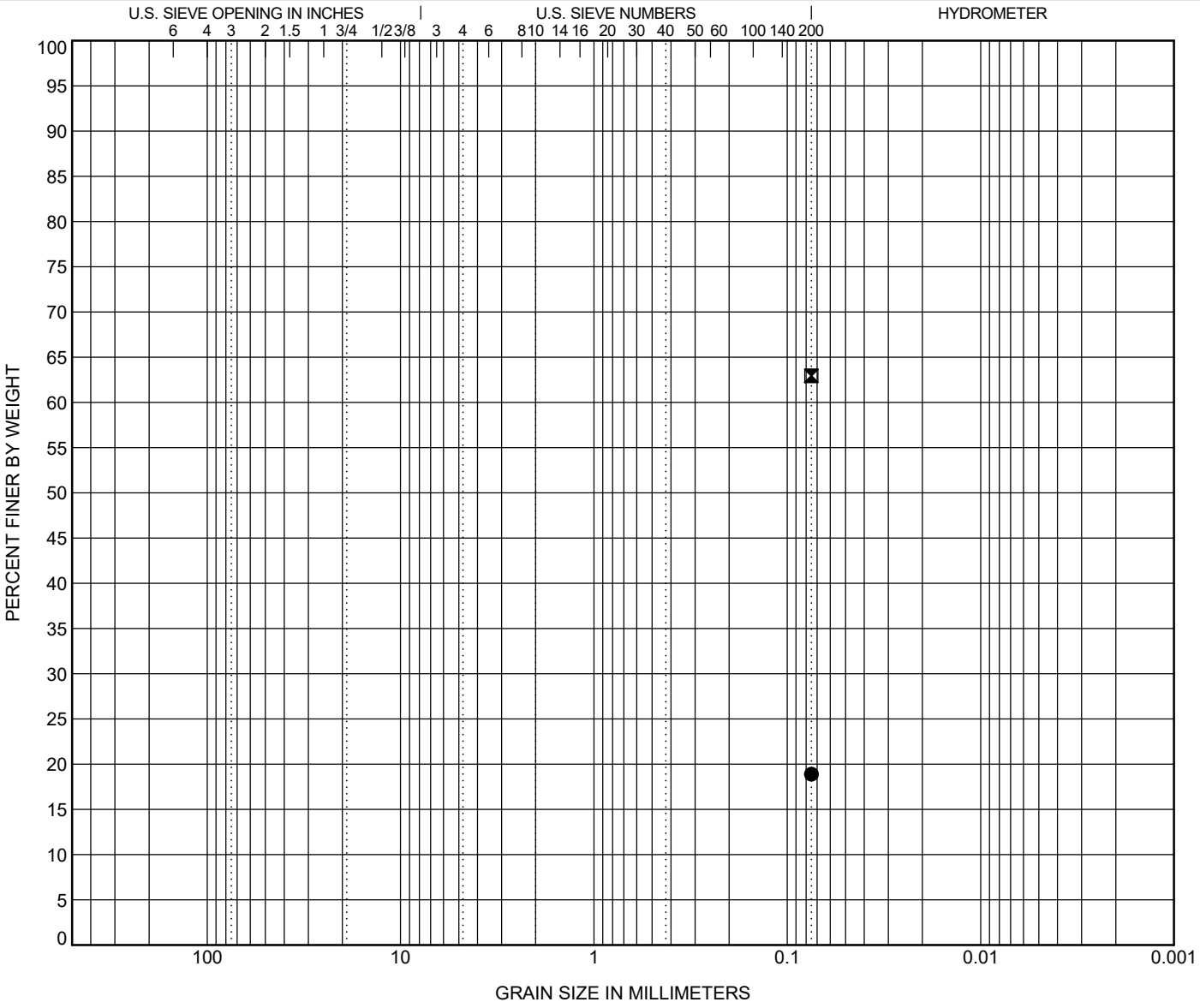
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-38	24.0	LEAN CLAY with SAND (CL/A-6)	37	19	18		
⊠	B-38	28.0	SILTY SAND (SM/A-4)	NP	NP	NP	5.36	53.61
▲	B-38	40.0	POORLY GRADED SAND (SP/A-3)	NP	NP	NP		
★	B-38	55.0	SILTY SAND (SM/A-2-4)	NP	NP	NP		
⊙	B-38	89.6	SILTY SAND (SM/A-2-4)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-38	24.0	2	0.024	0.002		0.0	16.2	44.1	39.7
⊠	B-38	28.0	4.76	0.115	0.036	0.002	0.0	55.6	29.0	15.4
▲	B-38	40.0	0.075						2.6	
★	B-38	55.0	0.075						33.6	
⊙	B-38	89.6	0.075						29.7	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● B-38	90.2	SILTY SAND (SM/A-2-4)	NP	NP	NP		
⊠ B-38	115.0	SANDY ELASTIC SILT (MH/A-7-5)	95	47	48		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-38	90.2	0.075						18.9	
⊠ B-38	115.0	0.075						62.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0564	**DATE SAMPLE RECEIVED:**	2/28/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW & GJ	**DATE SETUP:**	3/1/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	3/2/2023

BORING NO.	B-38	B-38	B-38	B-38	B-38
SAMPLE NO.	SS-1 & SS-2	SS-4	SS-7	SS-10	NQ-6.1
SAMPLE DEPTH (FT.)	20.0 - 24.0	26.0 - 28.0	38.5 - 40.0	53.5 - 55.0	86.1 - 90.2
WATER CONTENT, W%	29.3	22.3	20.1	41.5	41.5

BORING NO.	B-38	B-38			
SAMPLE NO.	NQ-6.2	SS-14			
SAMPLE DEPTH (FT.)	90.2- 91.1	113.5 - 115.0			
WATER CONTENT, W%	16.8	68.4			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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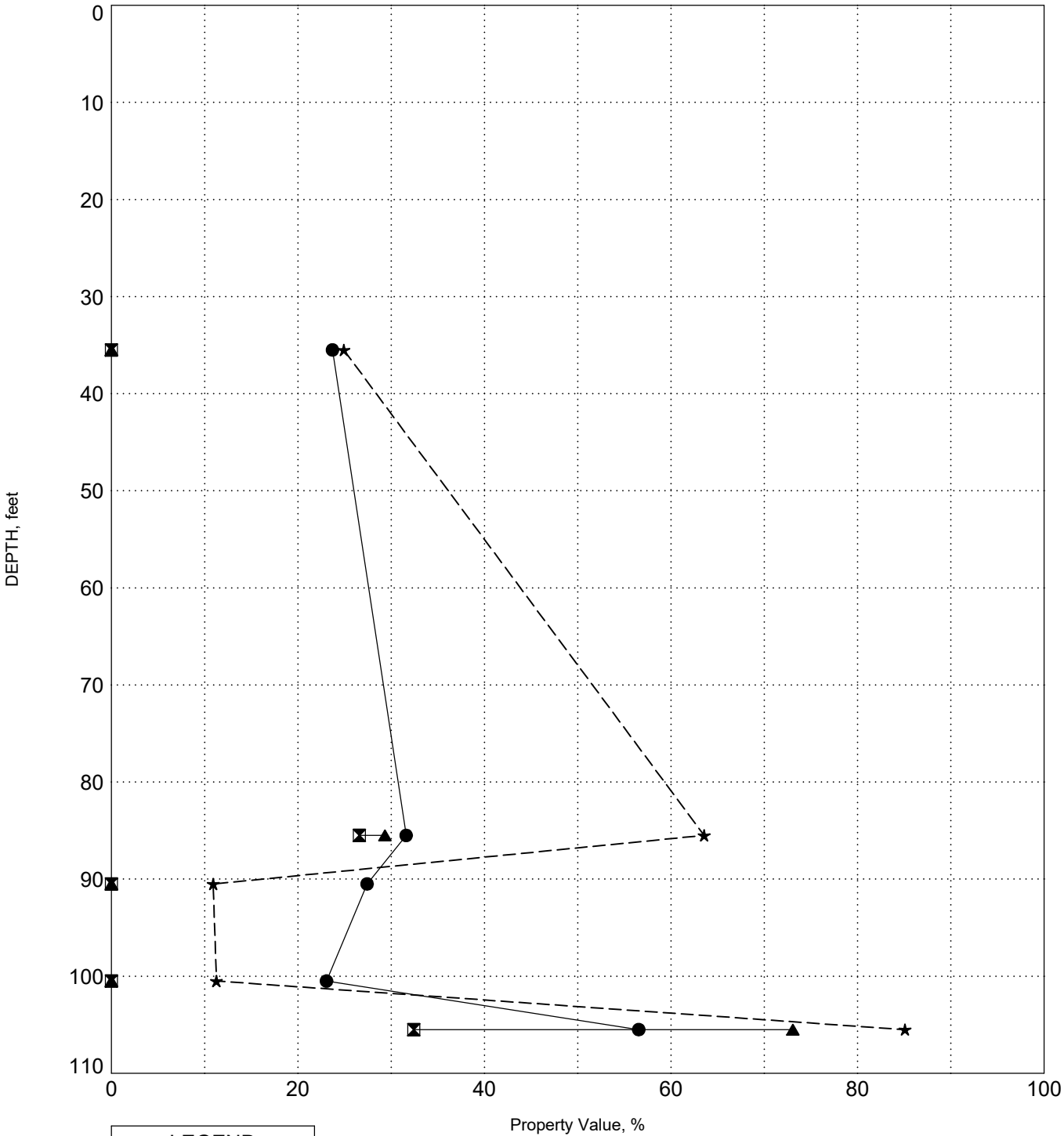
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-39

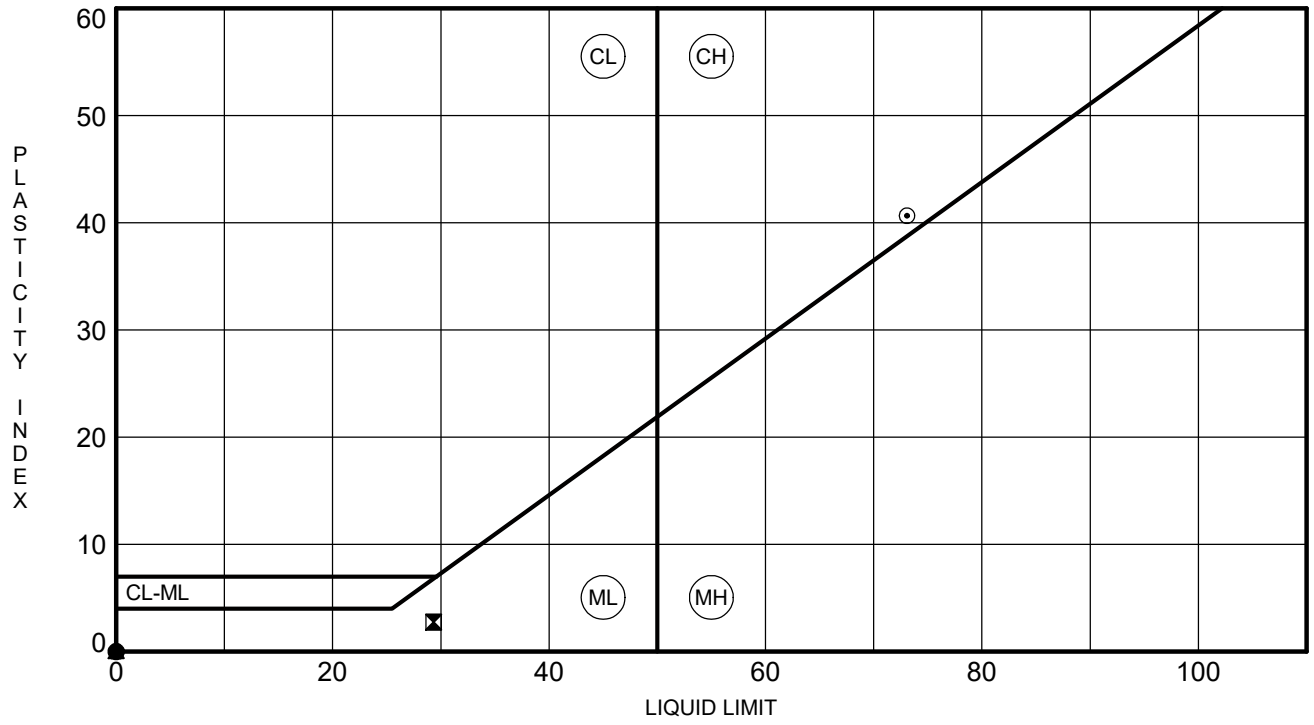
SURFACE ELEVATION: 78.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



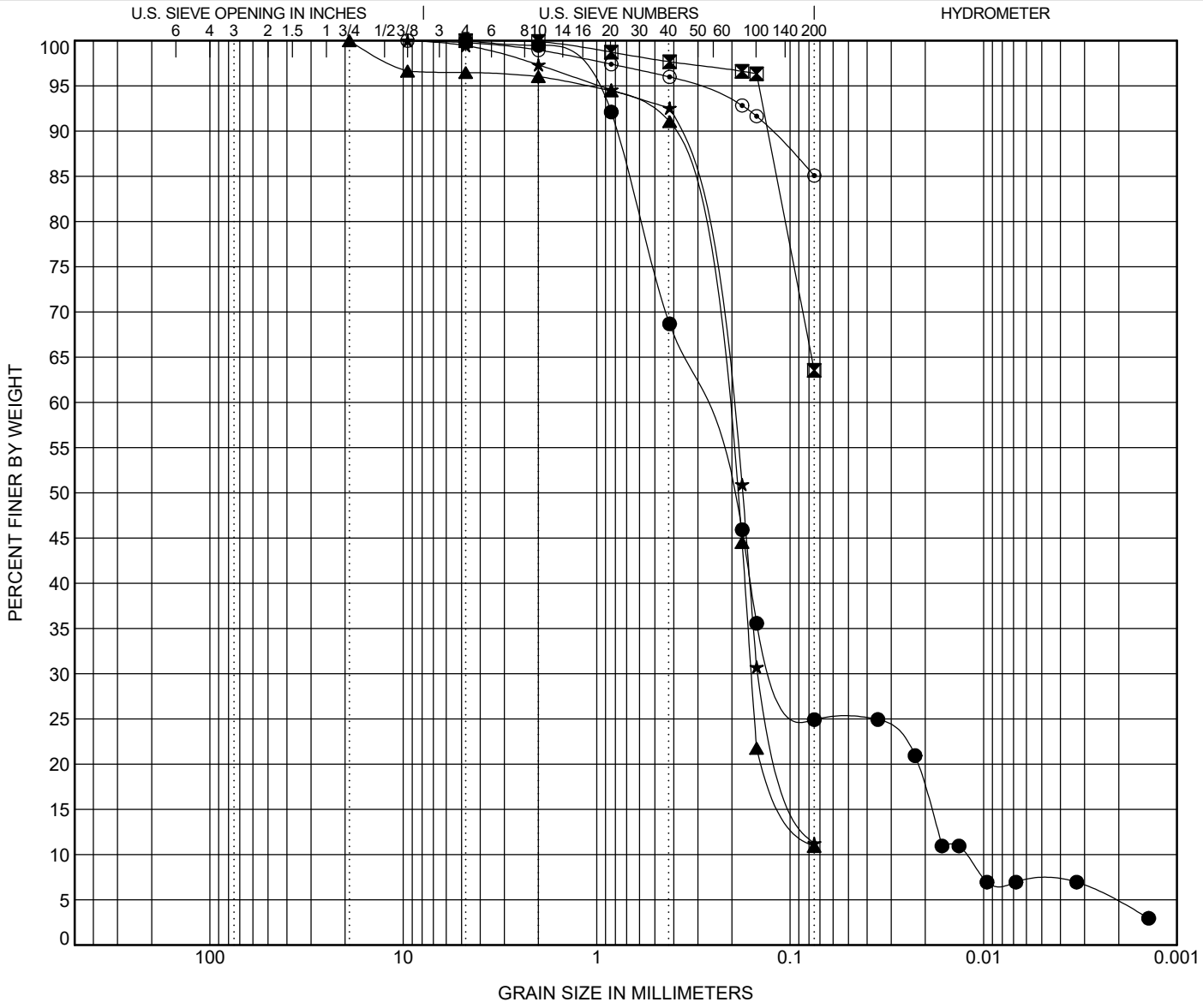
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-39**	**35.5**	**NP**	**NP**	**NP**	**25**	**Silty SAND (SM/A-2-4)**
⊠	**B-39**	**85.5**	**29**	**27**	**2**	**64**	**Sandy SILT (ML/A-4)**
▲	**B-39**	**90.5**	**NP**	**NP**	**NP**	**11**	**Poorly Graded SAND with SILT (SP-SM/A-2-4)**
★	**B-39**	**100.5**	**NP**	**NP**	**NP**	**11**	**Poorly Graded SAND with SILT (SP-SM/A-2-4)**
⊙	**B-39**	**105.5**	**73**	**32**	**41**	**85**	**Fat CLAY (CH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-39	35.5	Silty SAND (SM/A-2-4)	NP	NP	NP	1.31	24.40
⊠	B-39	85.5	Sandy SILT (ML/A-4)	29	27	2		
▲	B-39	90.5	Poorly Graded SAND with SILT (SP-SM/A-2-4)	NP	NP	NP	1.51	3.33
★	B-39	100.5	Poorly Graded SAND with SILT (SP-SM/A-2-4)	NP	NP	NP	1.38	2.98
⊙	B-39	105.5	Fat CLAY (CH/A-7-5)	73	32	41		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-39	35.5	4.76	0.302	0.07	0.012	0.0	75.1	18.0	7.0
⊠	B-39	85.5	4.76				0.0	36.5	63.5	
▲	B-39	90.5	19	0.236	0.159		3.5	85.6	10.9	
★	B-39	100.5	9.51	0.214	0.145		0.5	88.2	11.3	
⊙	B-39	105.5	9.51				0.2	14.7	85.1	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1159	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-39	B-39	B-39	B-39	B-39
SAMPLE NO.	SS-6	SS-9	SS-10	SS-12	SS-13
SAMPLE DEPTH (FT.)	34.0 - 35.5	84.0 - 85.5	89.0 - 90.5	99.0 - 100.5	104.0 - 105.5
WATER CONTENT, W%	23.7	31.6	27.4	23.1	56.5

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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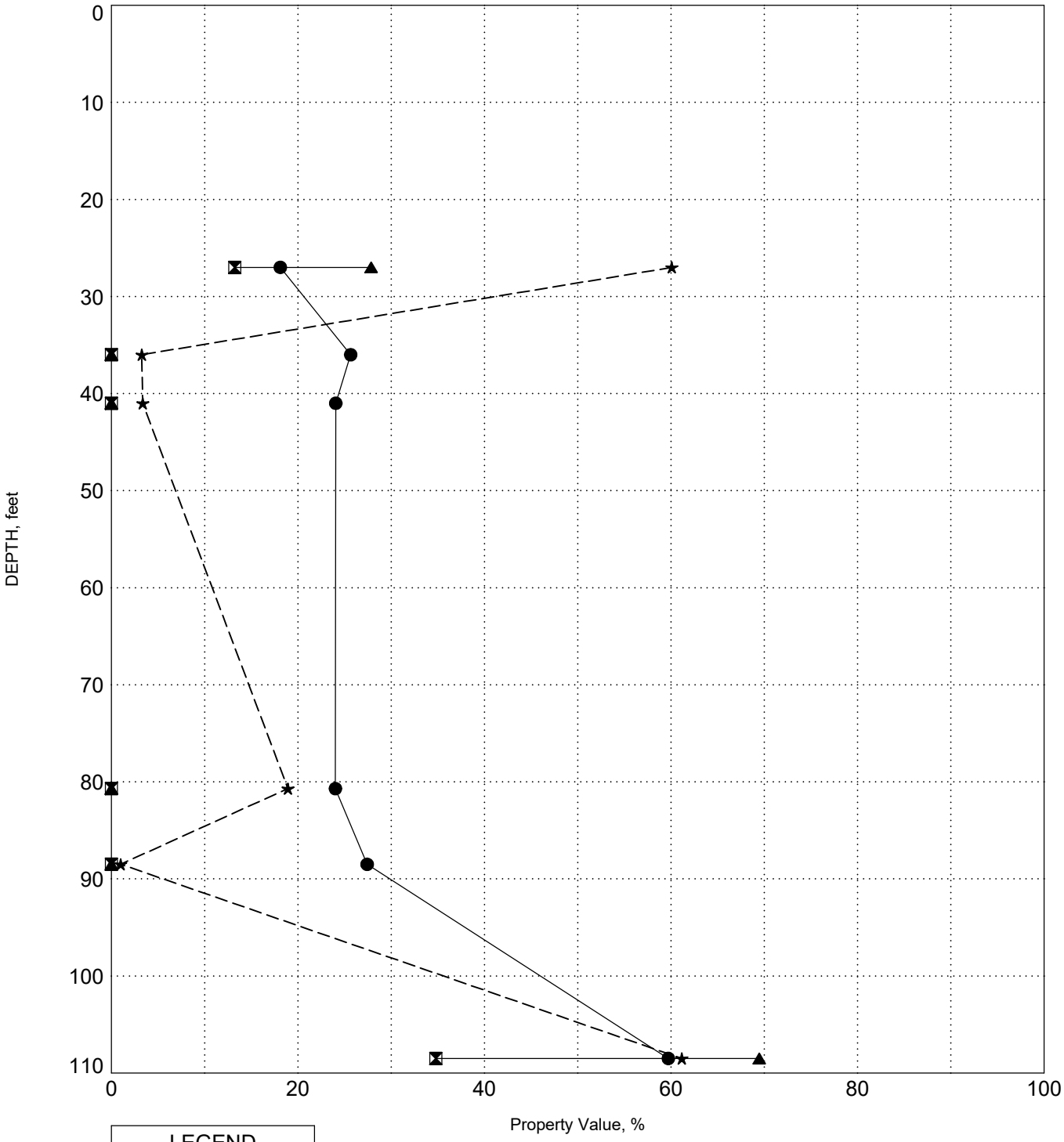
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-40

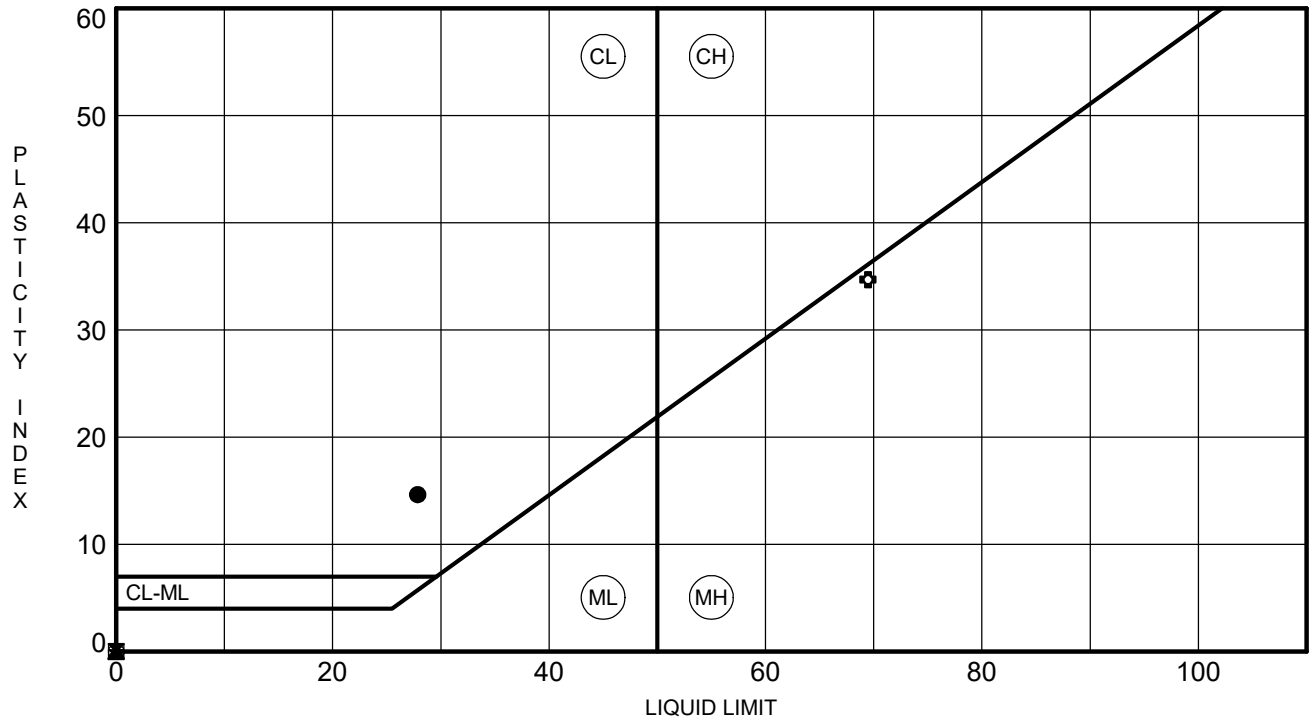
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

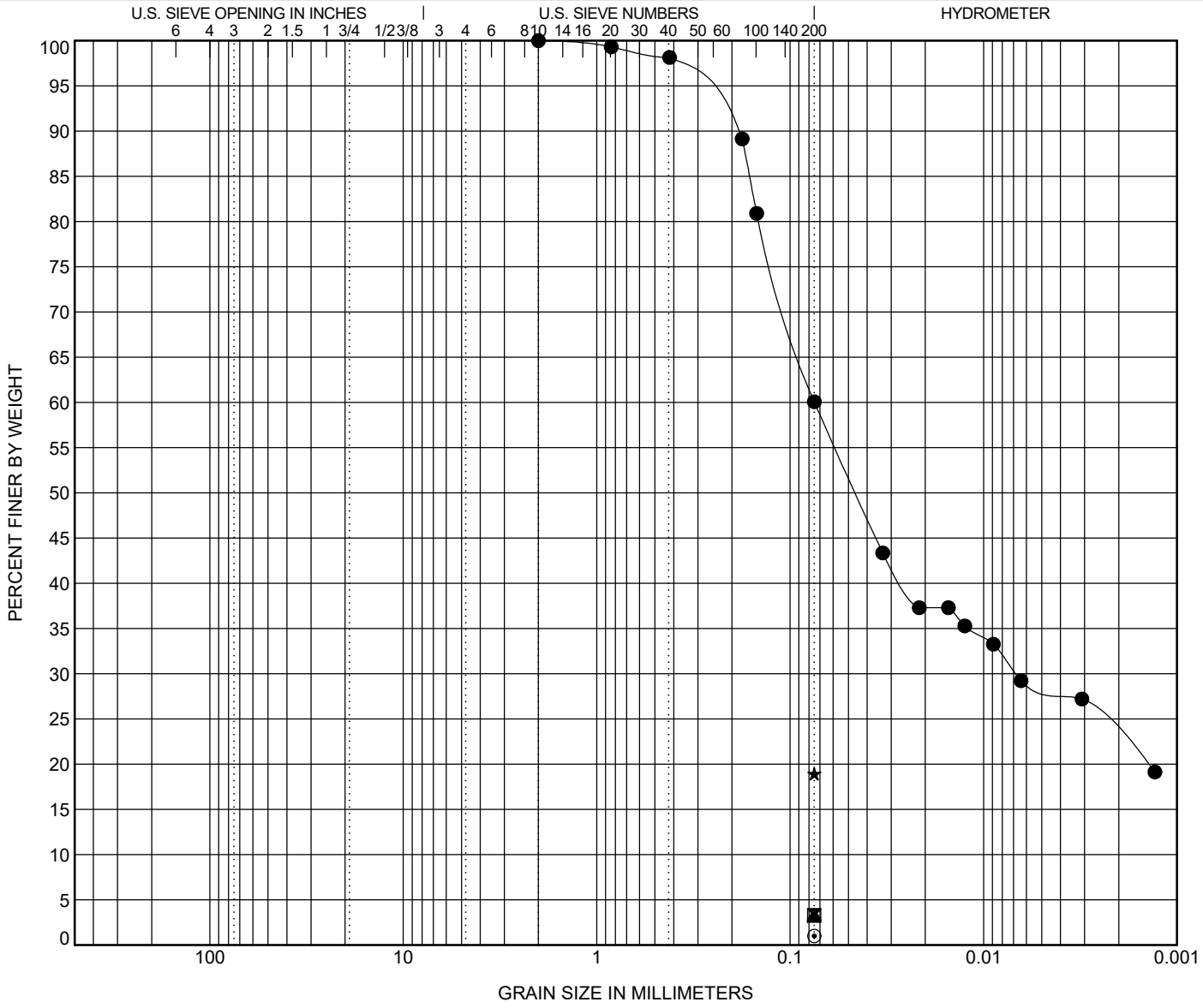


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-40**	**27.0**	**28**	**13**	**15**	**60**	**SANDY LEAN CLAY (CL/A-6)**
⊠	**B-40**	**36.0**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-3)**
▲	**B-40**	**41.0**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-3)**
★	**B-40**	**80.7**	**NP**	**NP**	**NP**	**19**	**SILTY SAND (SM/A-2-4)**
⊙	**B-40**	**88.5**	**NP**	**NP**	**NP**	**1**	**POORLY GRADED SAND (SP/A-3)**
✿	**B-40**	**108.5**	**69**	**35**	**34**	**61**	**SANDY ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-40**	**27.0**	**SANDY LEAN CLAY (CL/A-6)**	**28**	**13**	**15**		
⊠	**B-40**	**36.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**		
▲	**B-40**	**41.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**		
★	**B-40**	**80.7**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊙	**B-40**	**88.5**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**		

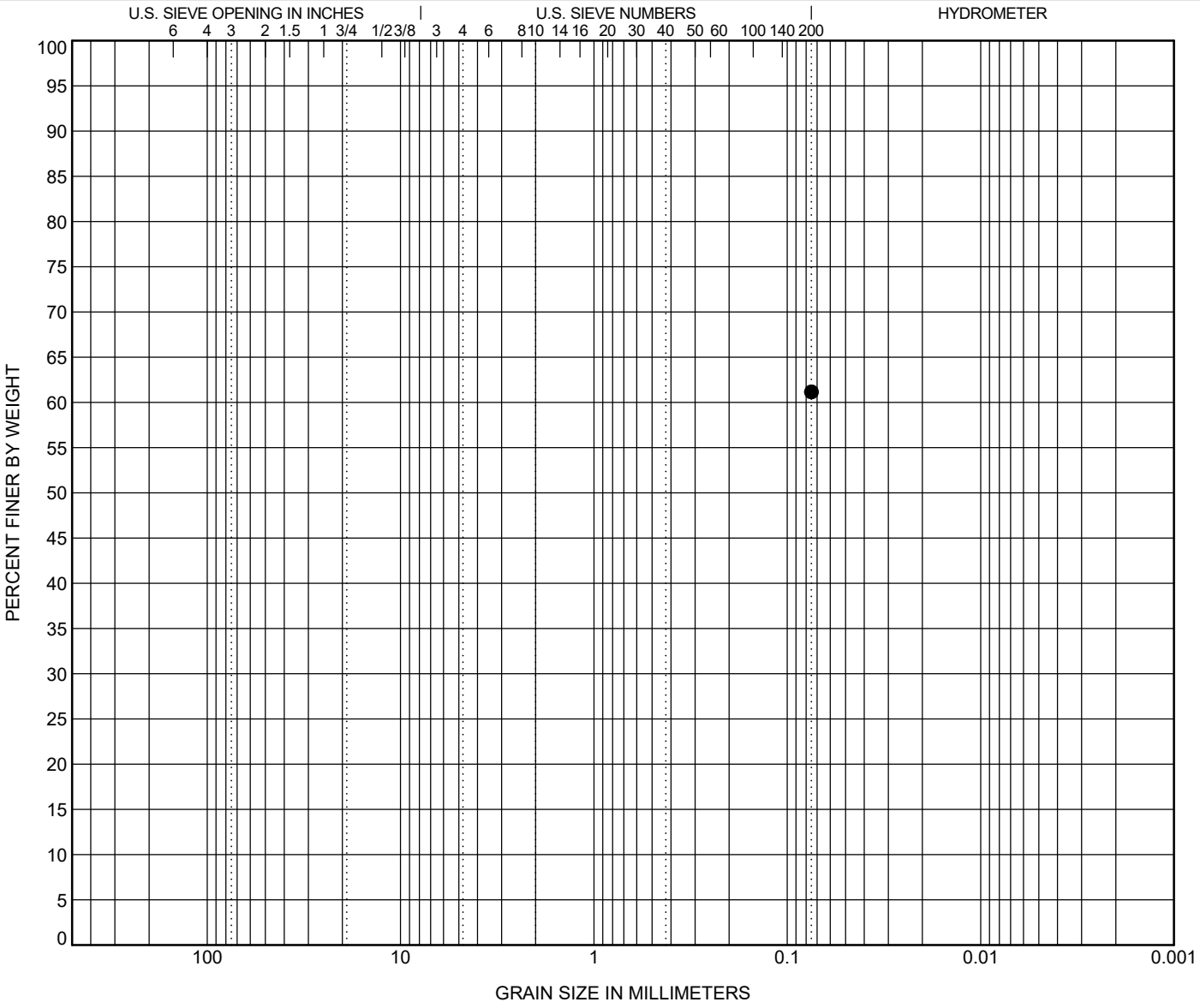
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-40**	**27.0**	**2**	**0.075**	**0.007**		**0.0**	**39.9**	**31.5**	**28.5**
⊠	**B-40**	**36.0**	**0.075**						**3.3**	
▲	**B-40**	**41.0**	**0.075**						**3.4**	
★	**B-40**	**80.7**	**0.075**						**18.9**	
⊙	**B-40**	**88.5**	**0.075**						**1.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/17/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **B-40**	**108.5**	**SANDY ELASTIC SILT (MH/A-7-5)**	**69**	**35**	**34**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **B-40**	**108.5**	**0.075**						**61.2**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0565	**DATE SAMPLE RECEIVED:**	2/28/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW & GJ	**DATE SETUP:**	3/1/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	3/2/2023

BORING NO.	B-40	B-40	B-40	B-40	B-40
SAMPLE NO.	SS-3	SS-6	SS-7	NQ-8	SS-10
SAMPLE DEPTH (FT.)	25.0 - 27.0	34.5 - 37.0	39.5 - 41.0	80.3 - 80.7	87.0 - 88.5
WATER CONTENT, W%	18.2	25.7	24.1	24.0	27.4

BORING NO.	B-40				
SAMPLE NO.	SS-14				
SAMPLE DEPTH (FT.)	107.0 - 108.5				
WATER CONTENT, W%	59.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

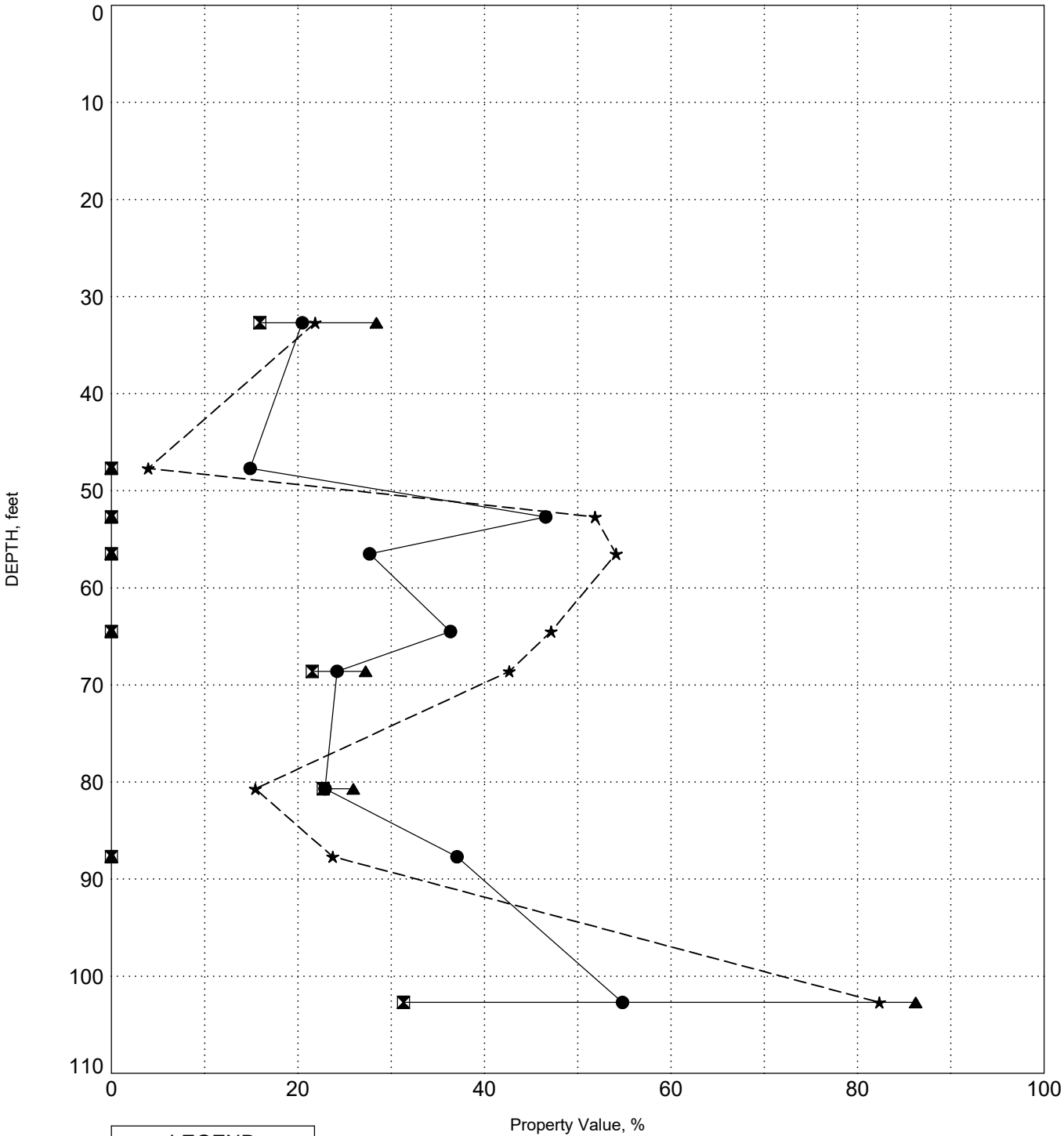
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-41

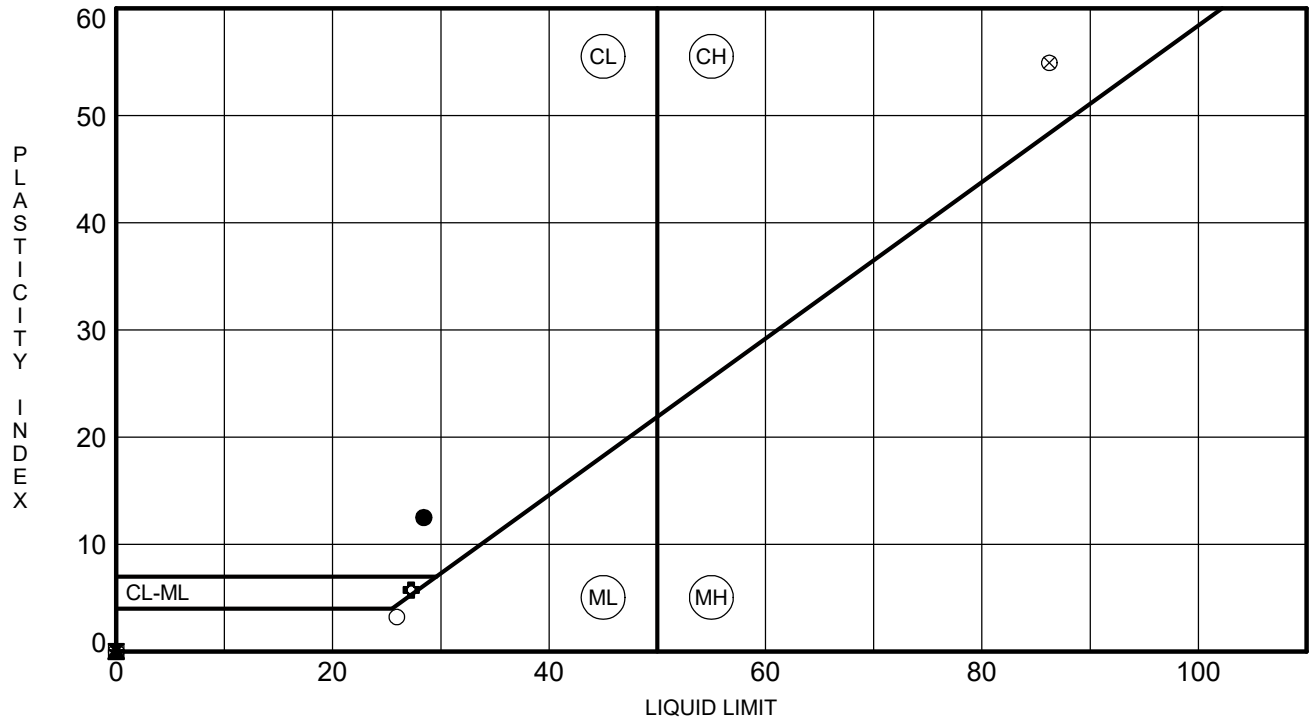
SURFACE ELEVATION: 78.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



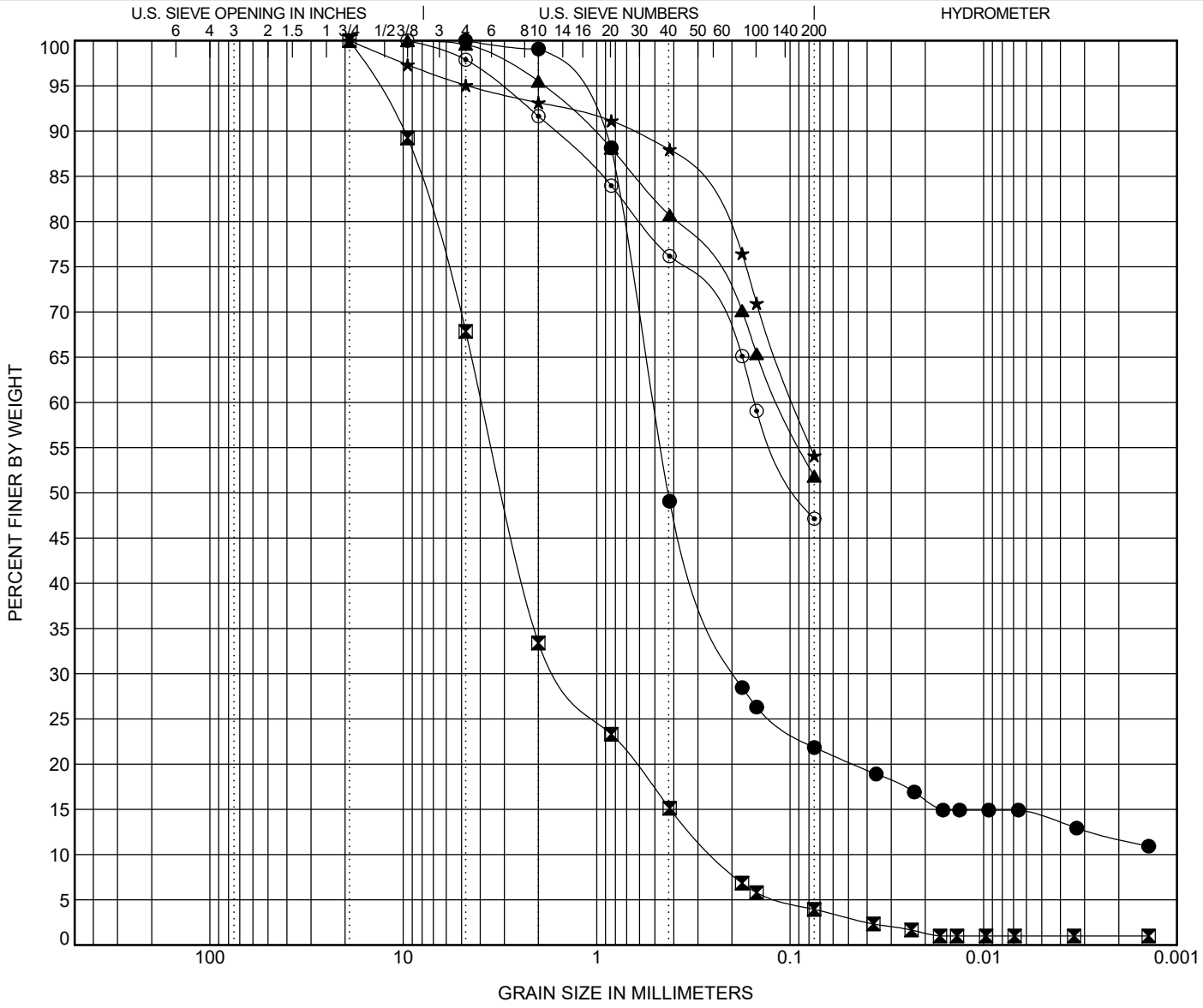
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-41**	**32.7**	**28**	**16**	**12**	**22**	**Clayey SAND (SC/A-2-6)**
⊠	**B-41**	**47.7**	**NP**	**NP**	**NP**	**4**	**Well-Graded SAND with GRAVEL (SW/A-1-a)**
▲	**B-41**	**52.7**	**NP**	**NP**	**NP**	**52**	**Sandy SILT (ML/A-4)**
★	**B-41**	**56.5**	**NP**	**NP**	**NP**	**54**	**Sandy SILT (ML/A-4)**
⊙	**B-41**	**64.5**	**NP**	**NP**	**NP**	**47**	**Silty SAND (SM/A-4)**
✿	**B-41**	**68.6**	**27**	**22**	**5**	**43**	**Silty SAND (SM/A-4)**
○	**B-41**	**80.7**	**26**	**23**	**3**	**15**	**Silty SAND (SM/A-1-b)**
△	**B-41**	**87.7**	**NP**	**NP**	**NP**	**24**	**Silty SAND (SM/A-2-4)**
⊗	**B-41**	**102.7**	**86**	**31**	**55**	**82**	**Fat CLAY with SAND (CH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-41**	**32.7**	**Clayey SAND (SC/A-2-6)**	**28**	**16**	**12**		
⊠	**B-41**	**47.7**	**Well-Graded SAND with GRAVEL (SW/A-1-a)**	**NP**	**NP**	**NP**	**2.32**	**15.86**
▲	**B-41**	**52.7**	**Sandy SILT (ML/A-4)**	**NP**	**NP**	**NP**		
★	**B-41**	**56.5**	**Sandy SILT (ML/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-41**	**64.5**	**Silty SAND (SM/A-4)**	**NP**	**NP**	**NP**		

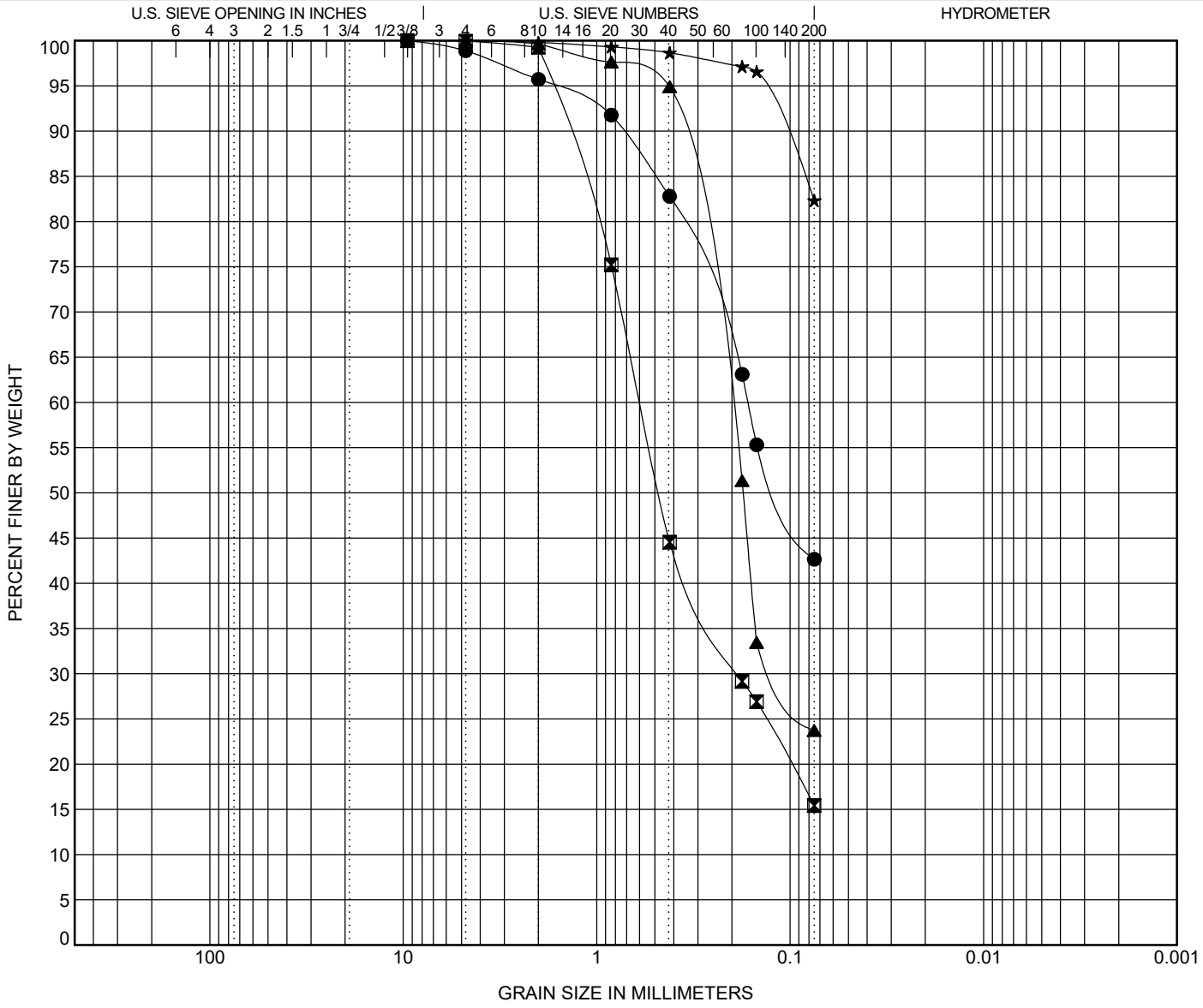
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-41**	**32.7**	**4.76**	**0.51**	**0.189**		**0.0**	**78.2**	**7.7**	**14.1**
⊠	**B-41**	**47.7**	**19**	**3.907**	**1.494**	**0.246**	**32.2**	**63.8**	**2.9**	**1.0**
▲	**B-41**	**52.7**	**9.51**	**0.113**			**0.4**	**47.7**	**51.8**	
★	**B-41**	**56.5**	**19**	**0.095**			**4.9**	**40.9**	**54.1**	
⊙	**B-41**	**64.5**	**9.51**	**0.153**			**2.1**	**50.7**	**47.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-41**	**68.6**	**Silty SAND (SM/A-4)**	**27**	**22**	**5**		
⊠	**B-41**	**80.7**	**Silty SAND (SM/A-1-b)**	**26**	**23**	**3**		
▲	**B-41**	**87.7**	**Silty SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
★	**B-41**	**102.7**	**Fat CLAY with SAND (CH/A-7-5)**	**86**	**31**	**55**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-41**	**68.6**	**9.51**	**0.165**			**1.1**	**56.2**	**42.7**	
⊠	**B-41**	**80.7**	**9.51**	**0.596**	**0.185**		**0.1**	**84.5**	**15.4**	
▲	**B-41**	**87.7**	**4.76**	**0.21**	**0.117**		**0.0**	**76.3**	**23.7**	
★	**B-41**	**102.7**	**4.76**				**0.0**	**17.7**	**82.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/27/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1158	**DATE SAMPLE RECEIVED:**	5/9/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW/EJ	**DATE SETUP:**	5/10/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	5/11/2023

BORING NO.	B-41	B-41	B-41	B-41	B-41
SAMPLE NO.	SS-5	SS-8	SS-9	SS-10	SS-12
SAMPLE DEPTH (FT.)	30.7 - 32.7	46.2 - 47.7	51.2 - 52.7	54.7 - 56.5	62.7 - 64.5
WATER CONTENT, W%	20.5	14.9	46.6	27.7	56.5

BORING NO.	B-41	B-41	B-41	B-41	
SAMPLE NO.	SS-13	SS-16	SS-17	SS-20	
SAMPLE DEPTH (FT.)	66.7 - 68.6	78.7 - 80.7	86.2 - 87.7	101.2 - 102.7	
WATER CONTENT, W%	24.2	22.9	37.1	54.8	

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

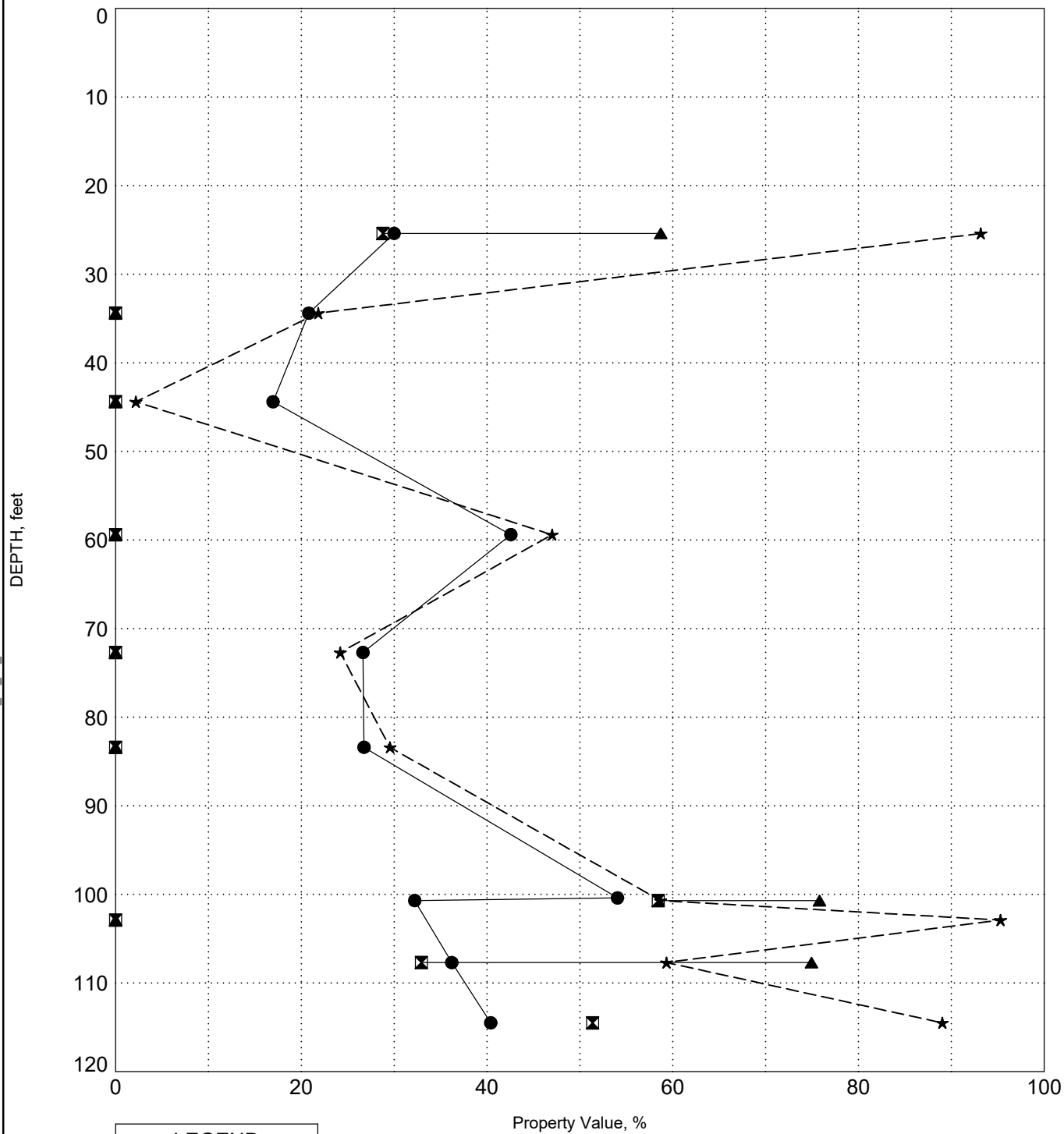
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-42

SURFACE ELEVATION: 77.5

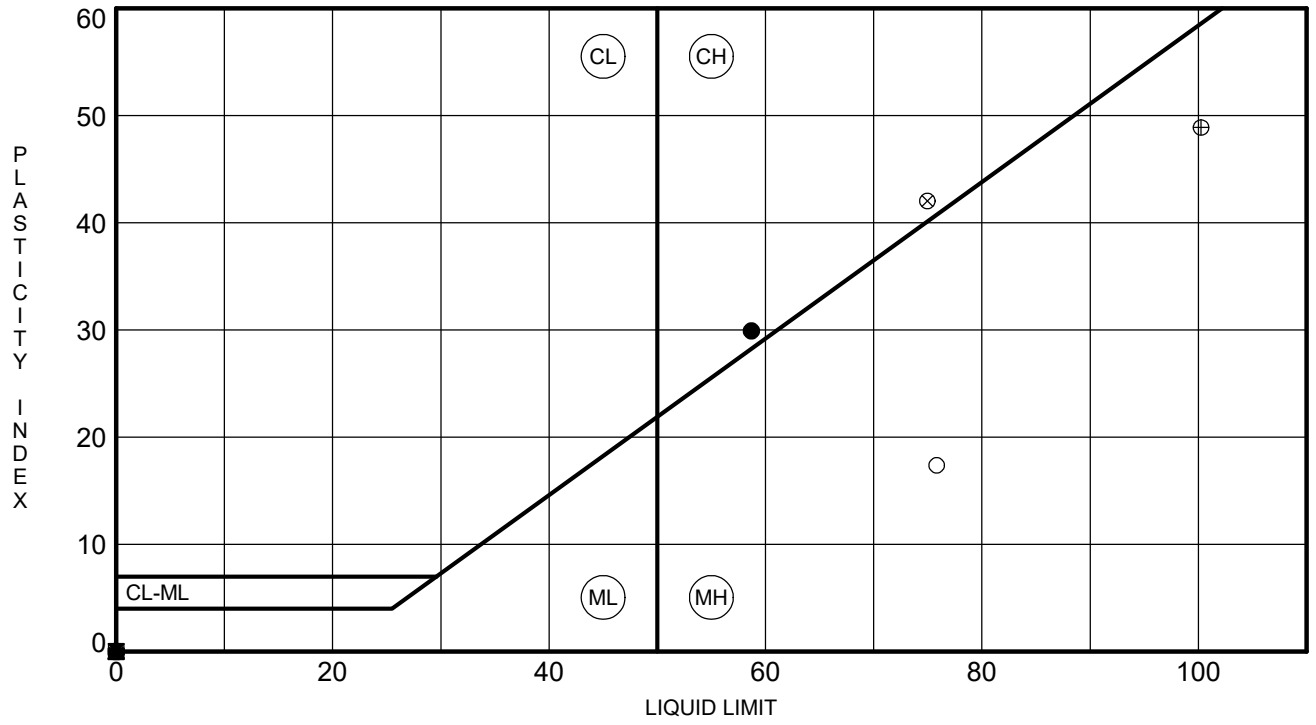


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

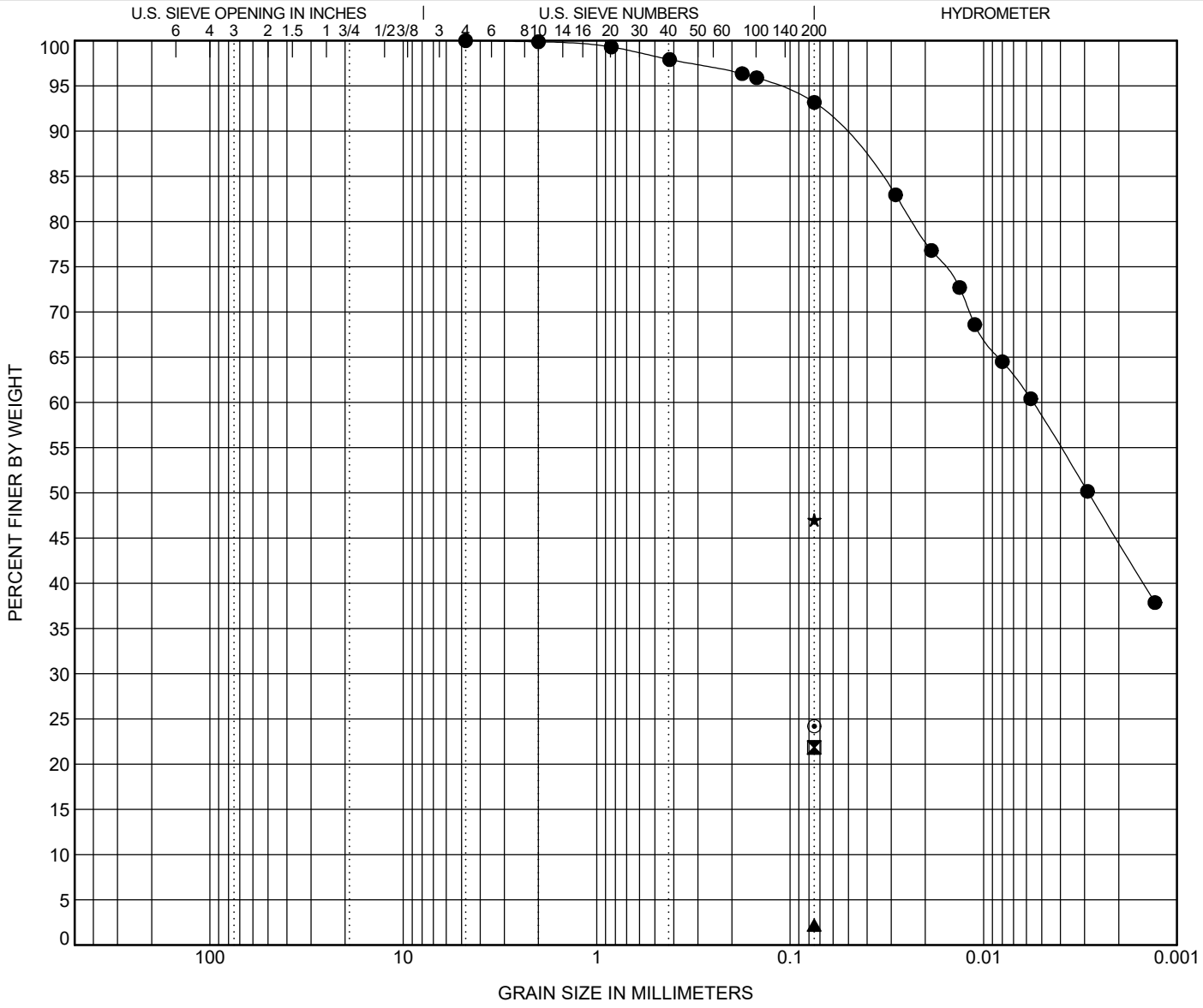


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-42**	**25.4**	**59**	**29**	**30**	**93**	**FAT CLAY (CH/A-7-6)**
⊠	**B-42**	**34.4**	**NP**	**NP**	**NP**	**22**	**SILTY SAND (SM/A-2-4)**
▲	**B-42**	**44.4**	**NP**	**NP**	**NP**	**2**	**POORLY GRADED SAND (SP/A-3)**
★	**B-42**	**59.4**	**NP**	**NP**	**NP**	**47**	**SILTY SAND (SM/A-4)**
⊙	**B-42**	**72.7**	**NP**	**NP**	**NP**	**24**	**SILTY SAND (SM/A-2-4)**
✿	**B-42**	**83.4**	**NP**	**NP**	**NP**	**30**	**SILTY SAND (SM/A-2-4)**
○	**B-42**	**100.4**	**76**	**58**	**18**	**59**	**SANDY ELASTIC SILT (MH/A-7-5)**
△	**B-42**	**102.9**	**NP**	**NP**	**NP**	**95**	**SILT (ML/A-4)**
⊗	**B-42**	**107.7**	**75**	**33**	**42**	**59**	**SANDY FAT CLAY (CH/A-7-5)**
⊕	**B-42**	**114.5**	**100**	**51**	**49**	**89**	**ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-42**	**25.4**	**FAT CLAY (CH/A-7-6)**	**59**	**29**	**30**		
⊠	**B-42**	**34.4**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
▲	**B-42**	**44.4**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**		
★	**B-42**	**59.4**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-42**	**72.7**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

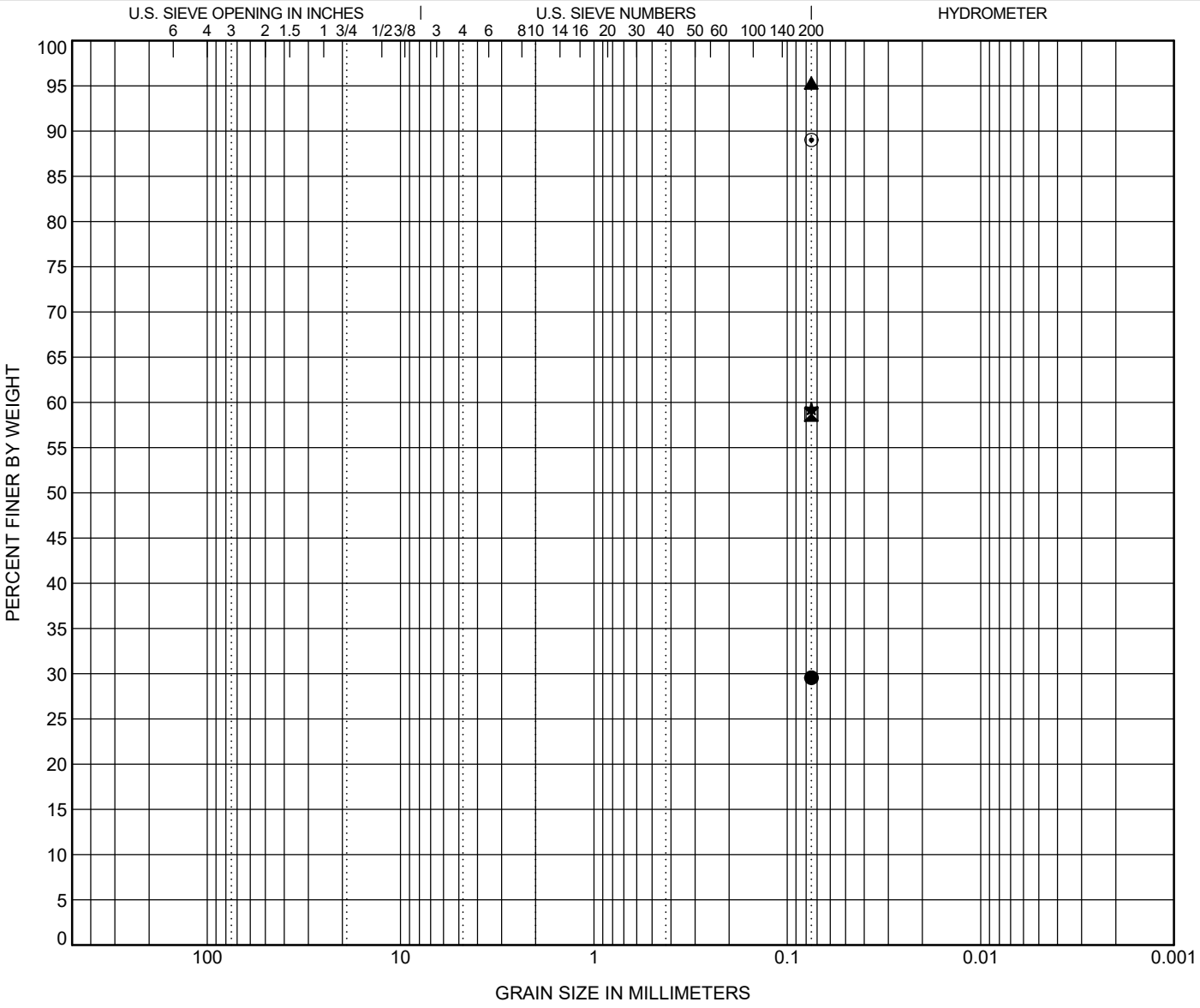
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-42**	**25.4**	**4.76**	**0.006**			**0.0**	**6.8**	**34.8**	**58.4**
⊠	**B-42**	**34.4**	**0.075**						**21.8**	
▲	**B-42**	**44.4**	**0.075**						**2.2**	
★	**B-42**	**59.4**	**0.075**						**47.0**	
⊙	**B-42**	**72.7**	**0.075**						**24.2**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/29/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-42**	**83.4**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-42**	**100.4**	**SANDY ELASTIC SILT (MH/A-7-5)**	**76**	**58**	**18**		
▲	**B-42**	**102.9**	**SILT (ML/A-4)**	**NP**	**NP**	**NP**		
★	**B-42**	**107.7**	**SANDY FAT CLAY (CH/A-7-5)**	**75**	**33**	**42**		
⊙	**B-42**	**114.5**	**ELASTIC SILT (MH/A-7-5)**	**100**	**51**	**49**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-42**	**83.4**	**0.075**						**29.6**	
⊠	**B-42**	**100.4**	**0.075**						**58.7**	
▲	**B-42**	**102.9**	**0.075**						**95.3**	
★	**B-42**	**107.7**	**0.075**						**59.3**	
⊙	**B-42**	**114.5**	**0.075**						**89.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/29/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0566	**DATE SAMPLE RECEIVED:**	2/28/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW & GJ	**DATE SETUP:**	3/1/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	3/2/2023

BORING NO.	B-42	B-40	B-40	B-40	B-40
SAMPLE NO.	SS-3	SS-6	SS-8	SS-11	SS-14
SAMPLE DEPTH (FT.)	23.4 - 25.4	32.9 - 34.4	42.9 - 44.4	57.9 - 59.4	71.4- 72.9
WATER CONTENT, W%	30.0	20.8	17.0	42.6	26.6

BORING NO.	B-42	B-42	B-42	B-42	B-42
SAMPLE NO.	NQ-3	NQ-6.1	NQ-6.2	NQ-7	NQ-9
SAMPLE DEPTH (FT.)	83.1 - 83.4	97.9 - 100.4	100.4 - 100.7	107.3 - 107.7	114.2 - 114.5
WATER CONTENT, W%	26.8	54.1	32.2	36.2	40.4

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

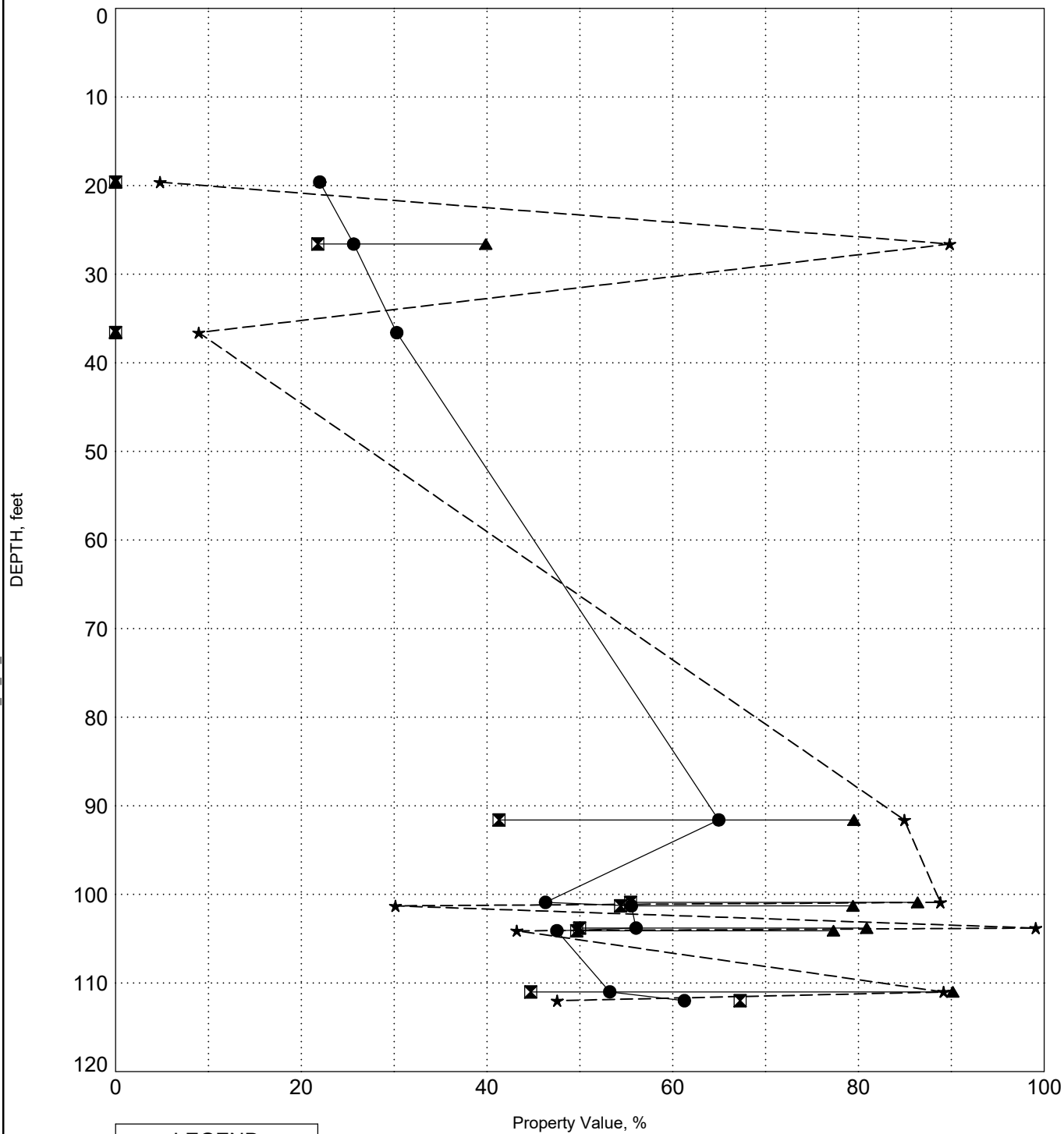
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-43

SURFACE ELEVATION: 78.3

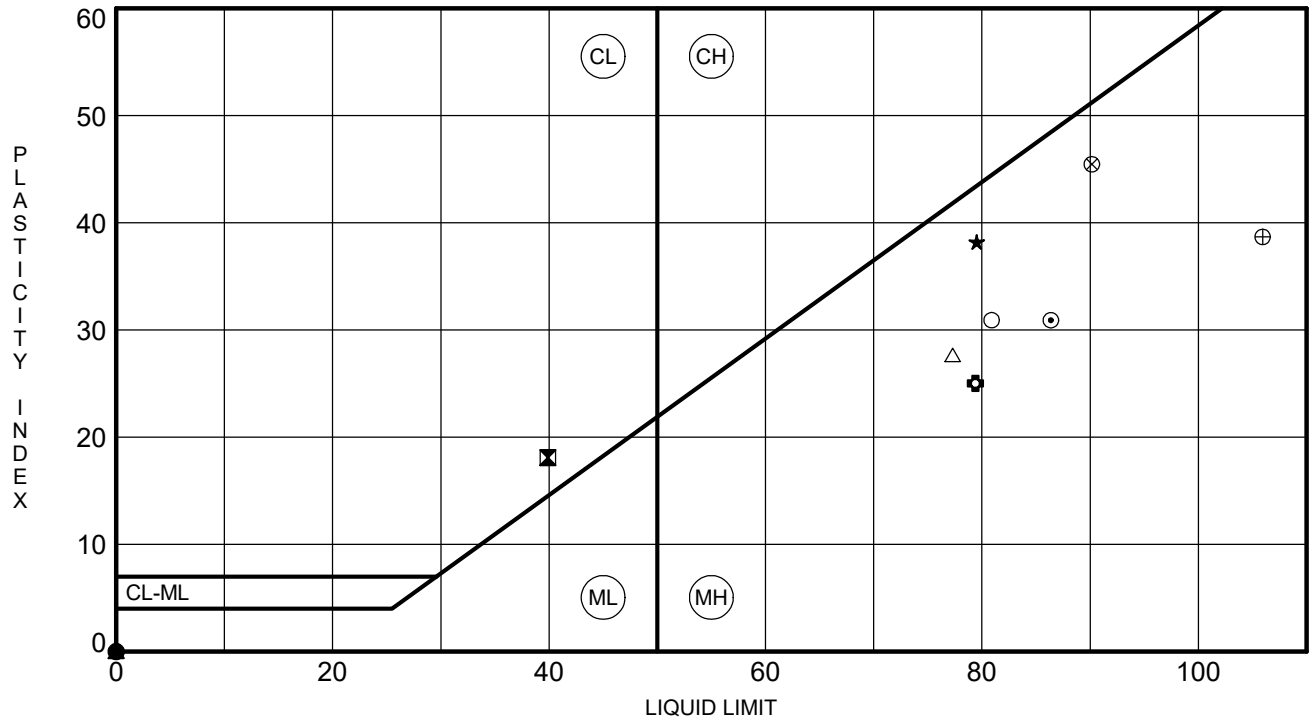


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

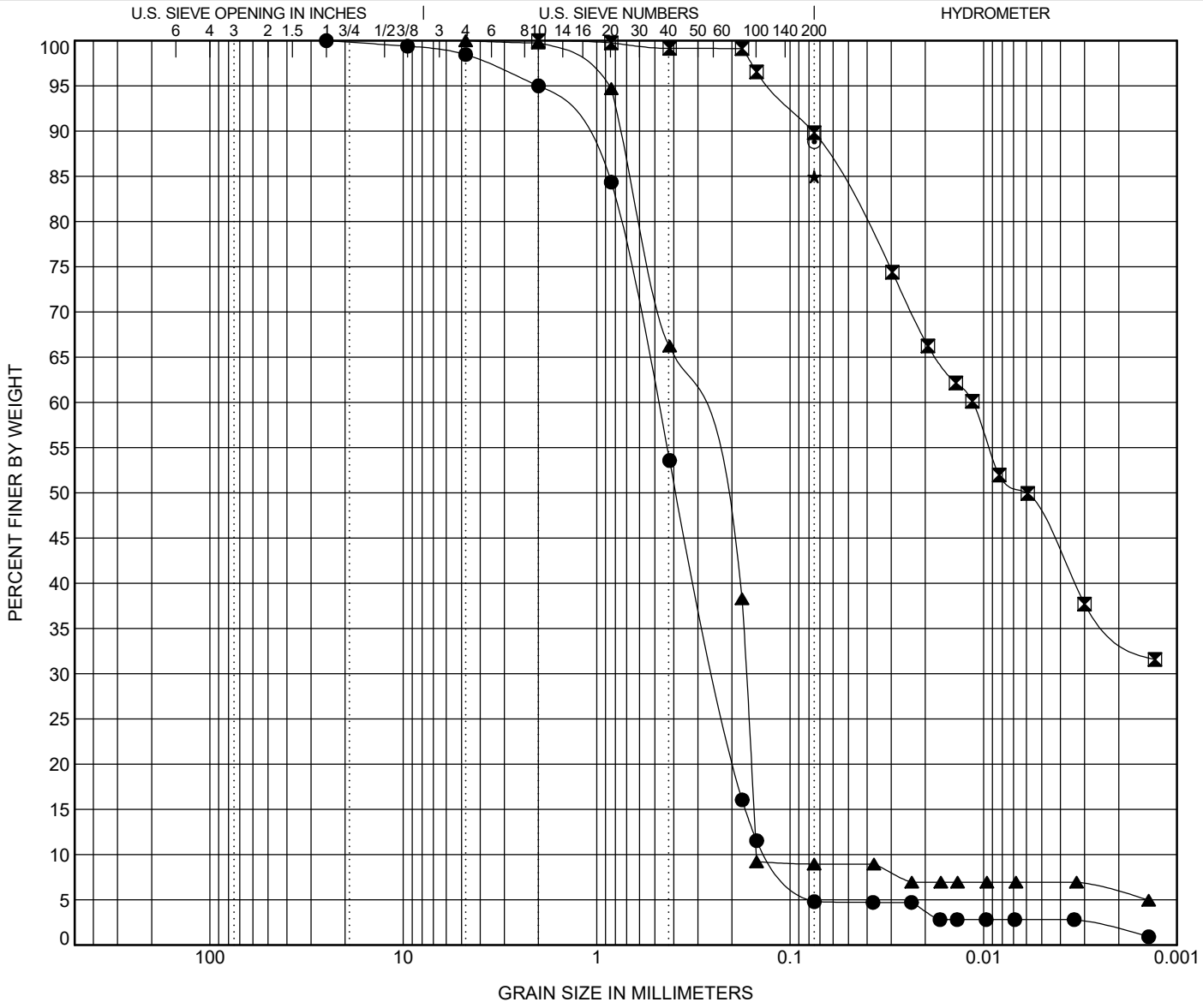


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-43	19.6	NP	NP	NP	5	POORLY GRADED SAND (SP/A-3)
⊠	B-43	26.6	40	22	18	90	LEAN CLAY (CL/A-6)
▲	B-43	36.6	NP	NP	NP	9	POORLY GRADED SAND with SILT (SP-SM/A-3)
★	B-43	91.6	80	41	39	85	ELASTIC SILT with SAND (MH/A-7-5)
⊙	B-43	100.9	86	55	31	89	ELASTIC SILT (MH/A-7-5)
✿	B-43	101.3	79	54	25	30	SILTY SAND (SM/A-2-7)
○	B-43	103.8	81	50	31	99	ELASTIC SILT (MH/A-7-5)
△	B-43	104.1	77	50	27	43	SILTY SAND (SM/A-7-5)
⊗	B-43	111.0	90	45	45	89	ELASTIC SILT (MH/A-7-5)
⊕	B-43	112.0	106	67	39	48	SILTY SAND (SM/A-7-5)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-43**	**19.6**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.96**	**3.81**
⊠	**B-43**	**26.6**	**LEAN CLAY (CL/A-6)**	**40**	**22**	**18**		
▲	**B-43**	**36.6**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.55**	**2.31**
★	**B-43**	**91.6**	**ELASTIC SILT with SAND (MH/A-7-5)**	**80**	**41**	**39**		
⊙	**B-43**	**100.9**	**ELASTIC SILT (MH/A-7-5)**	**86**	**55**	**31**		

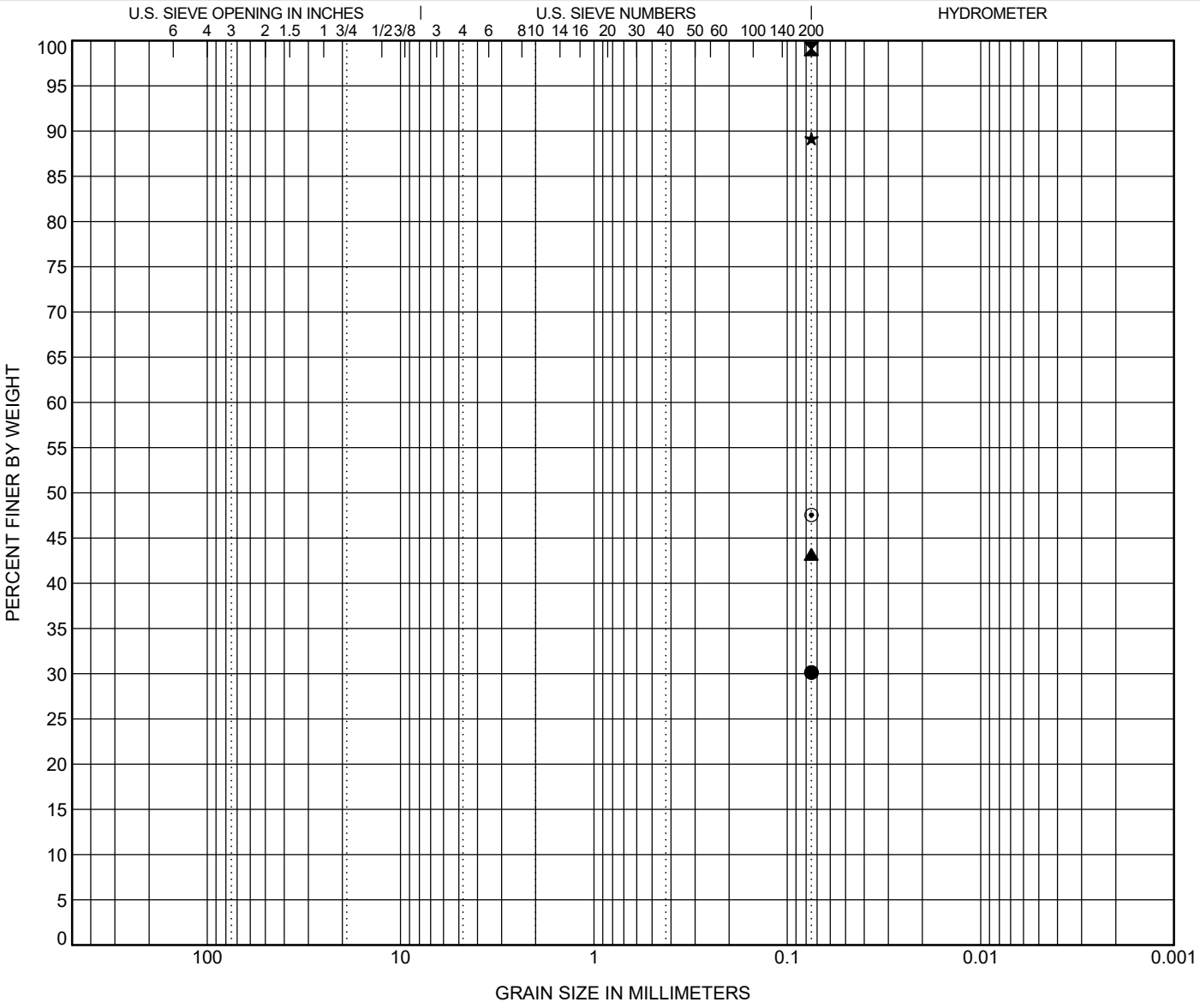
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-43**	**19.6**	**25**	**0.486**	**0.244**	**0.127**	**1.5**	**93.7**	**2.0**	**2.8**
⊠	**B-43**	**26.6**	**2**	**0.011**			**0.0**	**10.2**	**42.9**	**46.9**
▲	**B-43**	**36.6**	**4.76**	**0.346**	**0.169**	**0.15**	**0.0**	**91.0**	**2.0**	**7.0**
★	**B-43**	**91.6**	**0.075**						**85.0**	
⊙	**B-43**	**100.9**	**0.075**						**88.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/18/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-43**	**101.3**	**SILTY SAND (SM/A-2-7)**	**79**	**54**	**25**		
⊠	**B-43**	**103.8**	**ELASTIC SILT (MH/A-7-5)**	**81**	**50**	**31**		
▲	**B-43**	**104.1**	**SILTY SAND (SM/A-7-5)**	**77**	**50**	**27**		
★	**B-43**	**111.0**	**ELASTIC SILT (MH/A-7-5)**	**90**	**45**	**45**		
⊙	**B-43**	**112.0**	**SILTY SAND (SM/A-7-5)**	**106**	**67**	**39**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-43**	**101.3**	**0.075**						**30.1**	
⊠	**B-43**	**103.8**	**0.075**						**99.1**	
▲	**B-43**	**104.1**	**0.075**						**43.2**	
★	**B-43**	**111.0**	**0.075**						**89.2**	
⊙	**B-43**	**112.0**	**0.075**						**47.5**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-1095	**DATE SAMPLE RECEIVED:**	4/19/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	TW	**DATE SETUP:**	4/20/2023
WEIGHED BY:	TW	**DATE OF WEIGHING:**	4/21/2023

BORING NO.	B-43	B-43	B-43	B-43	B-43
SAMPLE NO.	SS-4	SS-6	SS-8	SS-13	NQ-8.1
SAMPLE DEPTH (FT.)	17.6 - 19.6	25.1 - 26.6	35.1 - 36.6	90.1 - 91.6	100.1 - 100.9
WATER CONTENT, W%	22.0	25.6	30.3	65.0	46.3

BORING NO.	B-43	B-43	B-43	B-43	B-43
SAMPLE NO.	NQ-8.2	NQ-9.1	NQ-9.2	NQ-10.1	NQ-10.2
SAMPLE DEPTH (FT.)	100.9- 101.3	103.2 - 103.8	103.8 - 104.1	108.2 - 111.0	111.0 - 112.0
WATER CONTENT, W%	55.5	56.0	47.5	53.2	61.3

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

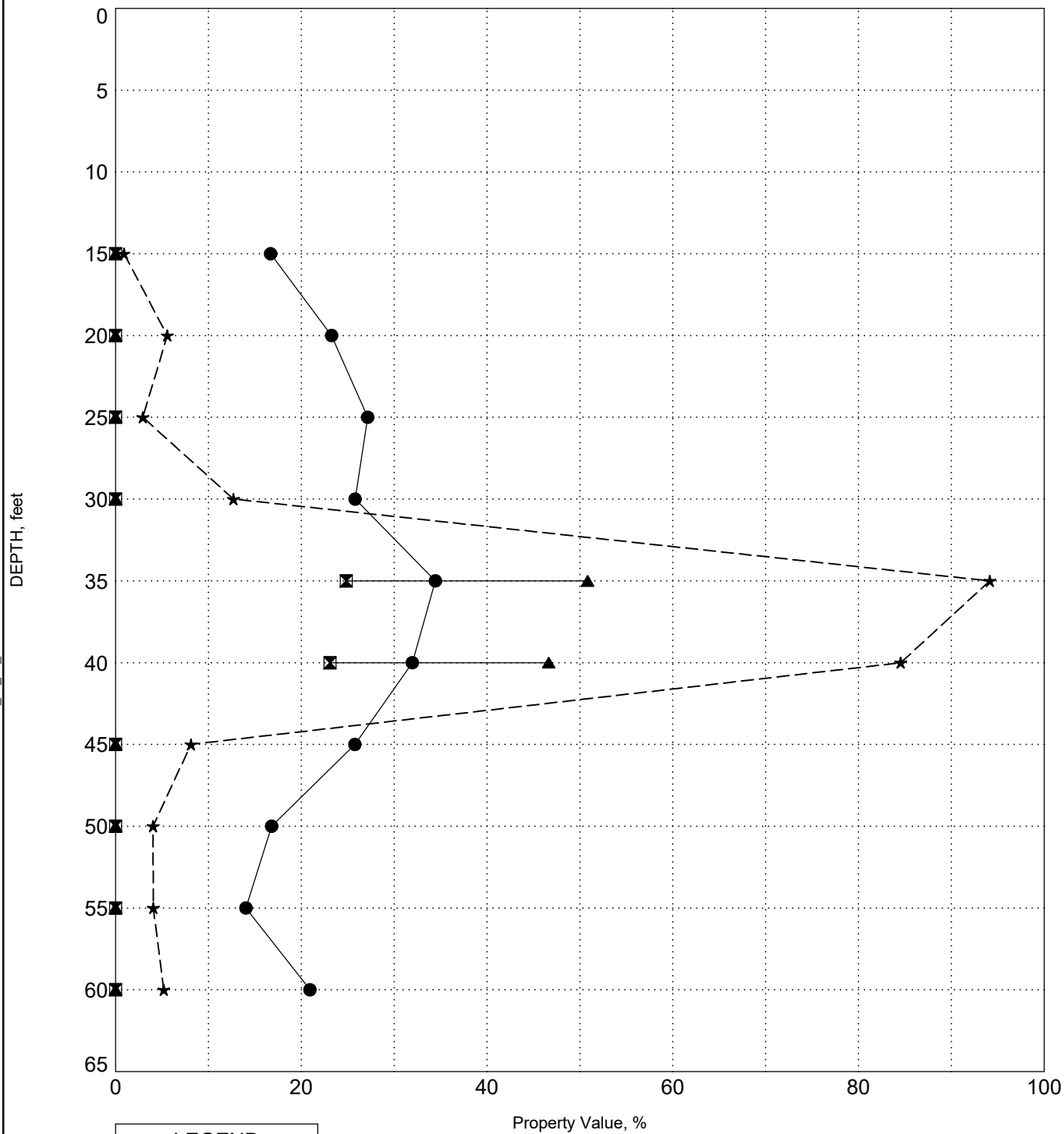
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-44

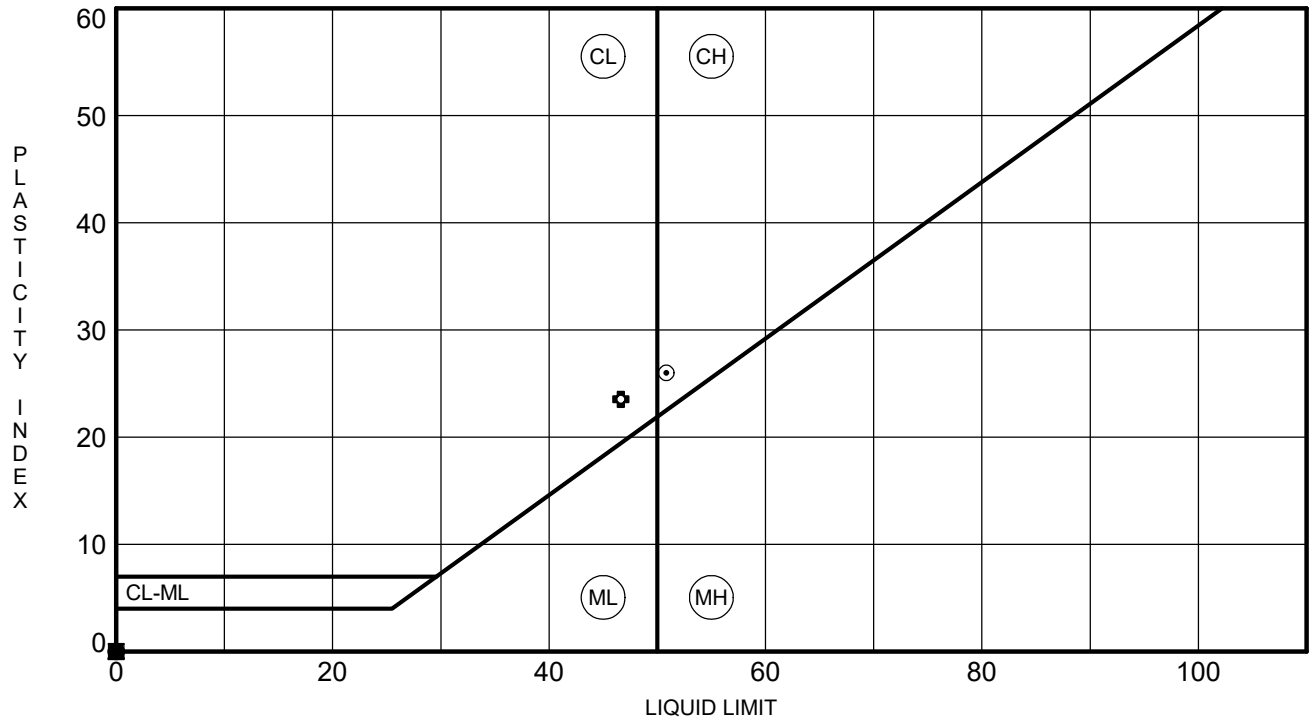
SURFACE ELEVATION: 89.2



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



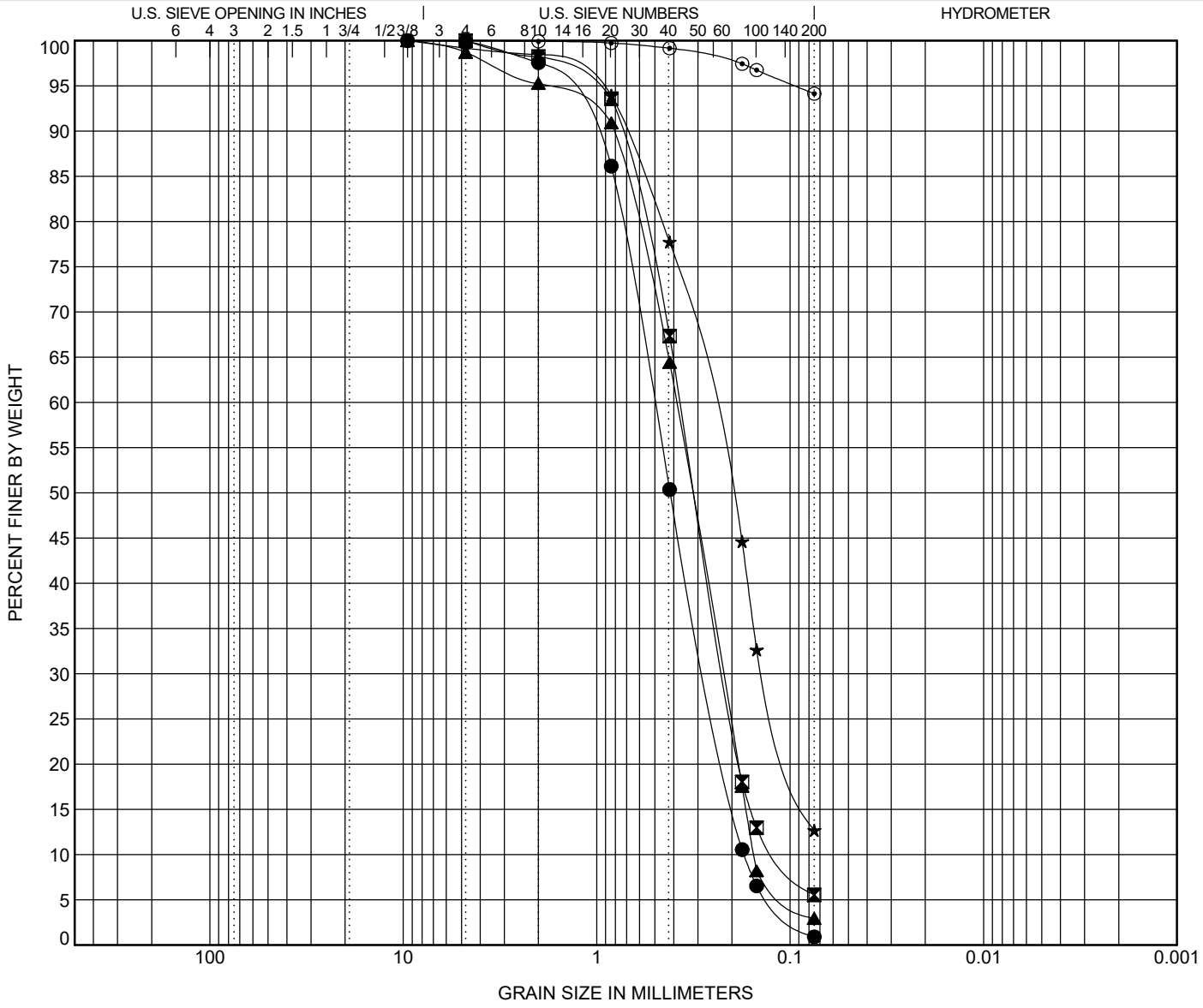
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-44**	**15.0**	**NP**	**NP**	**NP**	**1**	**POORLY GRADED SAND (SP/A-3)**
⊠	**B-44**	**20.0**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
▲	**B-44**	**25.0**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-3)**
★	**B-44**	**30.0**	**NP**	**NP**	**NP**	**13**	**SILTY SAND (SM/A-2-4)**
⊙	**B-44**	**35.0**	**51**	**25**	**26**	**94**	**FAT CLAY (CH/A-7-6)**
✿	**B-44**	**40.0**	**47**	**23**	**24**	**85**	**LEAN CLAY with SAND (CL/A-7-6)**
○	**B-44**	**45.0**	**NP**	**NP**	**NP**	**8**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
△	**B-44**	**50.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-1-b)**
⊗	**B-44**	**55.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND with GRAVEL (SP/A-1-b)**
⊕	**B-44**	**60.0**	**NP**	**NP**	**NP**	**5**	**POORLY GRADED SAND with SILT (SP-SM/A-1-b)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

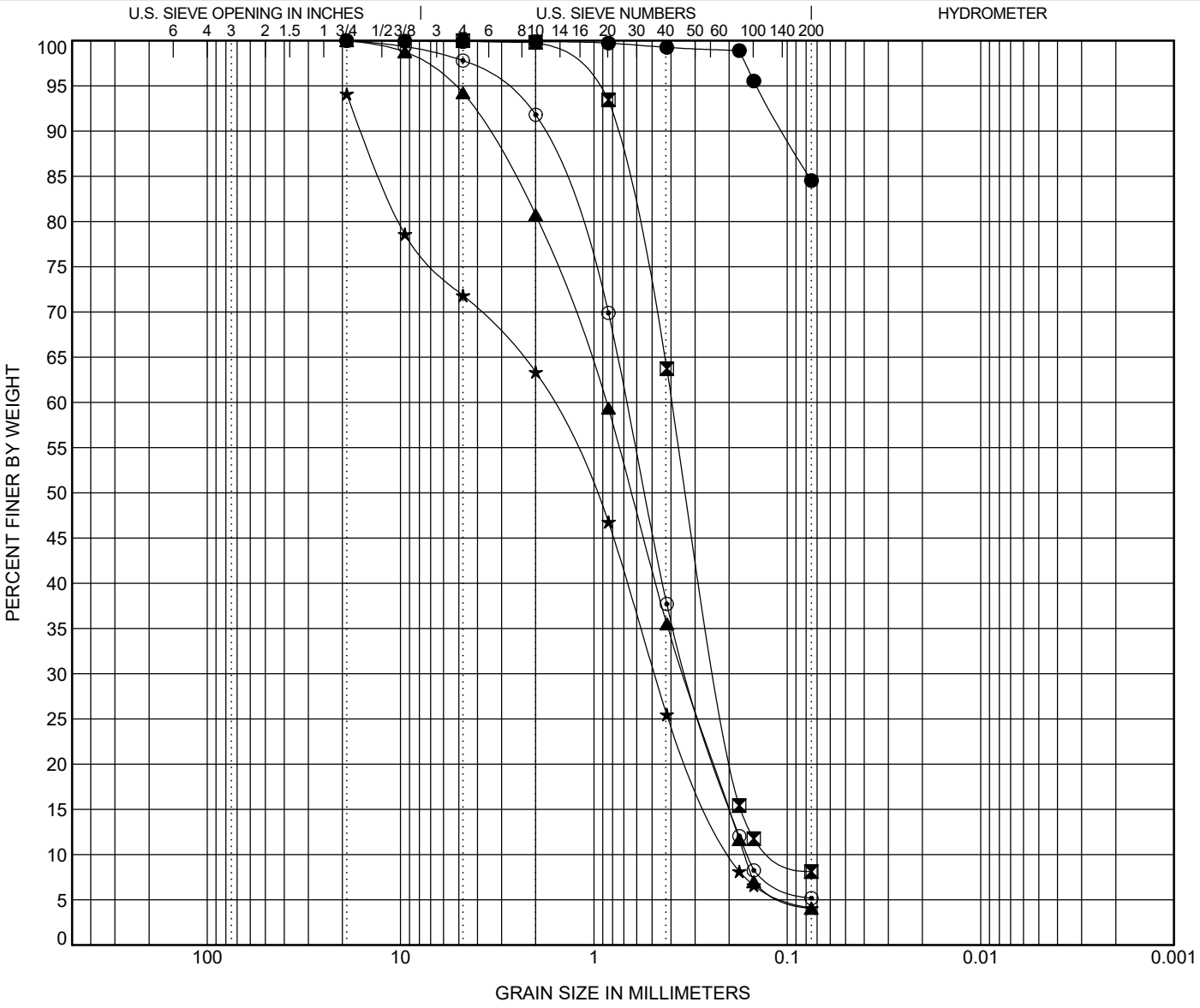
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-44**	**15.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.83**	**2.93**
⊠	**B-44**	**20.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.14**	**3.27**
▲	**B-44**	**25.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.83**	**2.51**
★	**B-44**	**30.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊙	**B-44**	**35.0**	**FAT CLAY (CH/A-7-6)**	**51**	**25**	**26**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-44**	**15.0**	**9.51**	**0.506**	**0.27**	**0.173**	**0.1**	**99.0**	**0.9**	
⊠	**B-44**	**20.0**	**4.76**	**0.369**	**0.218**	**0.113**	**0.0**	**94.4**	**5.6**	
▲	**B-44**	**25.0**	**9.51**	**0.387**	**0.223**	**0.154**	**1.3**	**95.8**	**2.9**	
★	**B-44**	**30.0**	**9.51**	**0.264**	**0.136**		**0.8**	**86.5**	**12.7**	
⊙	**B-44**	**35.0**	**4.76**				**0.0**	**5.9**	**94.1**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-44	40.0	LEAN CLAY with SAND (CL/A-7-6)	47	23	24		
⊠	B-44	45.0	POORLY GRADED SAND with SILT (SP-SM/A-3)	NP	NP	NP	1.26	3.67
▲	B-44	50.0	POORLY GRADED SAND (SP/A-1-b)	NP	NP	NP	0.82	5.19
★	B-44	55.0	POORLY GRADED SAND with GRAVEL (SP/A-1-b)	NP	NP	NP	0.73	8.65
⊙	B-44	60.0	POORLY GRADED SAND with SILT (SP-SM/A-1-b)	NP	NP	NP	0.96	4.21

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-44	40.0	19				0.1	15.4	84.5	
⊠	B-44	45.0	4.76	0.393	0.23	0.107	0.0	91.9	8.1	
▲	B-44	50.0	19	0.863	0.344	0.166	5.8	90.2	4.0	
★	B-44	55.0	19	1.679	0.487	0.194	22.3	67.7	4.1	
⊙	B-44	60.0	19	0.679	0.324	0.161	2.2	92.6	5.2	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0194	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-44	B-44	B-44	B-44	B-44
SAMPLE NO.	SS-6	SS-7	SS-8	SS-9	SS-10
SAMPLE DEPTH (FT.)	13.5 - 15.0	18.5-20.0	23.5 - 25.0	28.5 - 30.0	33.5 - 35.0
WATER CONTENT, W%	16.7	23.3	27.1	25.8	34.4

BORING NO.	B-44	B-44	B-44	B-44	B-44
SAMPLE NO.	SS-11	SS-12	SS-13	SS-14	SS-15
SAMPLE DEPTH (FT.)	38.5 - 40.0	43.5 - 45.0	48.5 - 50.0	53.5 - 55.0	58.5 - 60.0
WATER CONTENT, W%	32.0	25.8	16.8	14.0	20.9

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

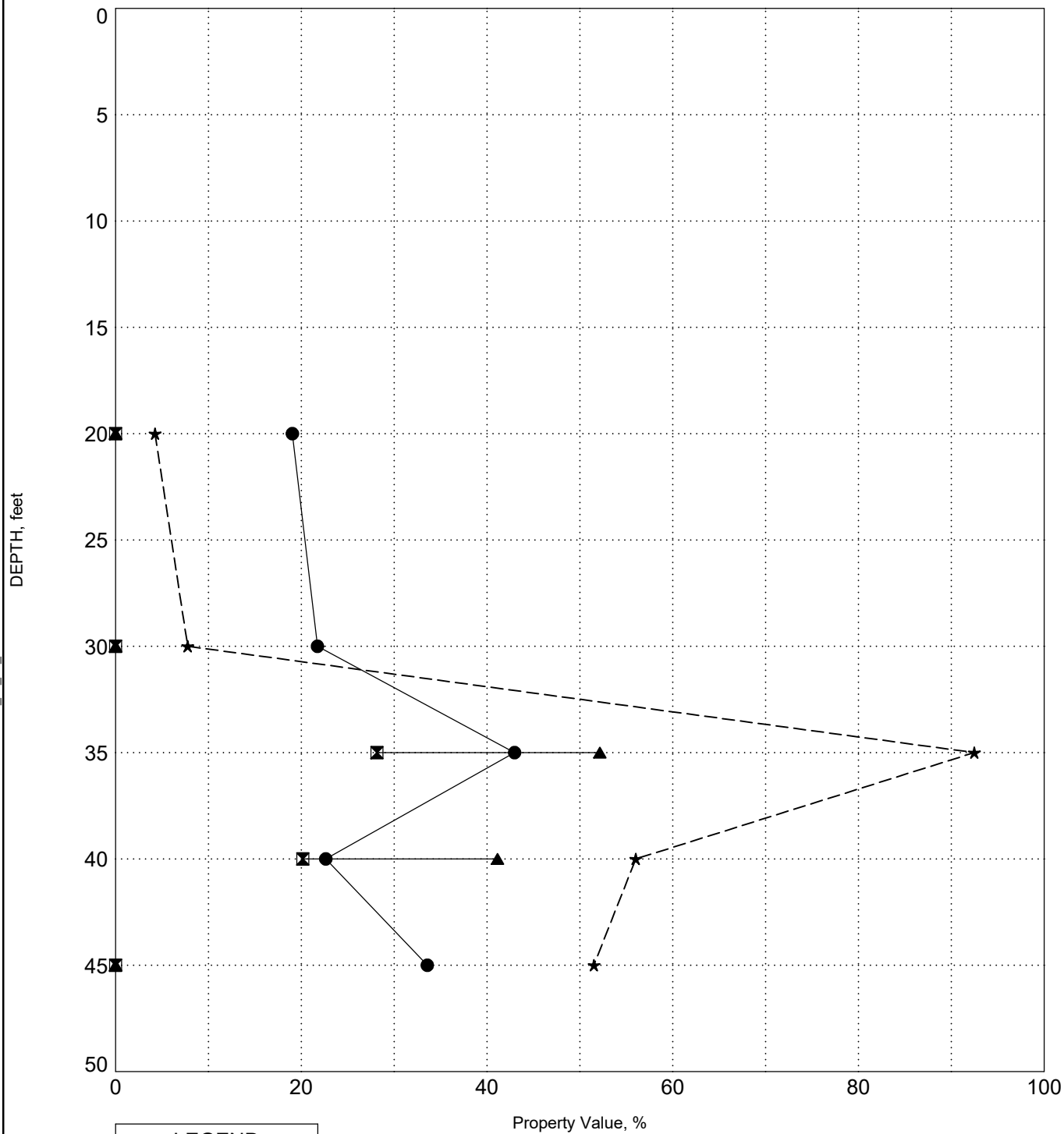
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-45

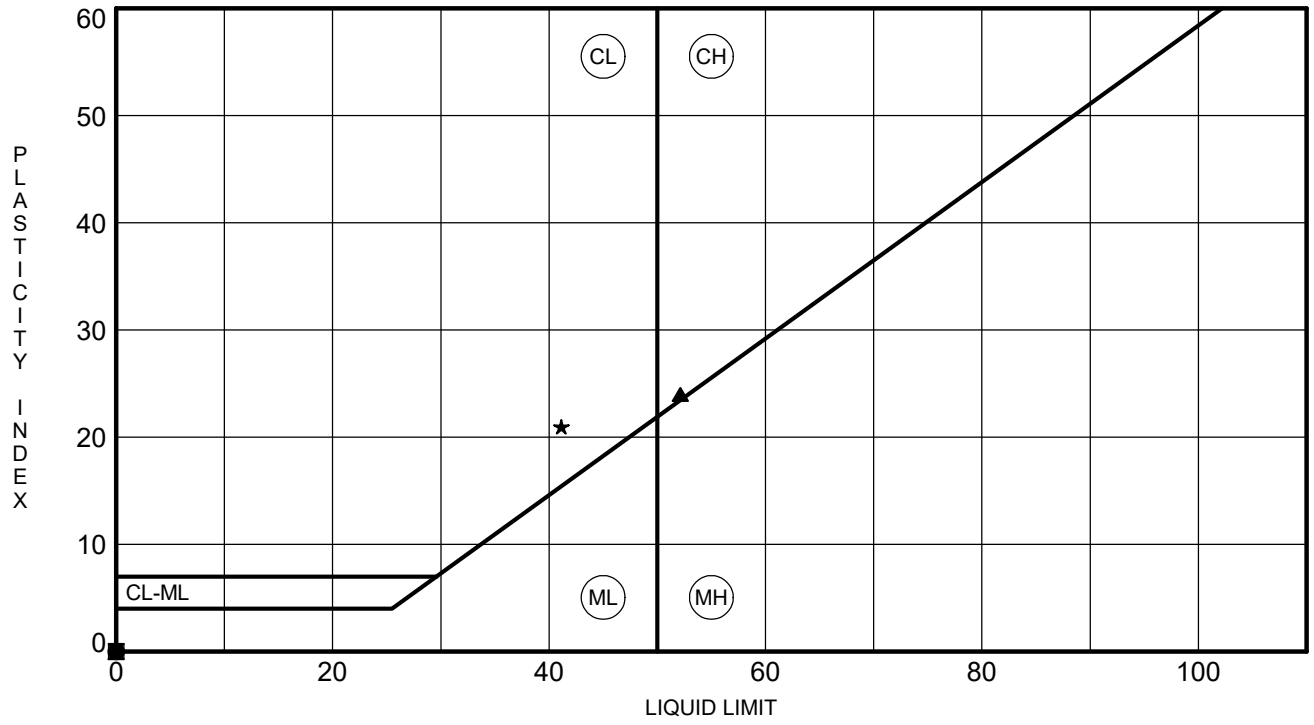
SURFACE ELEVATION: 88.3



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



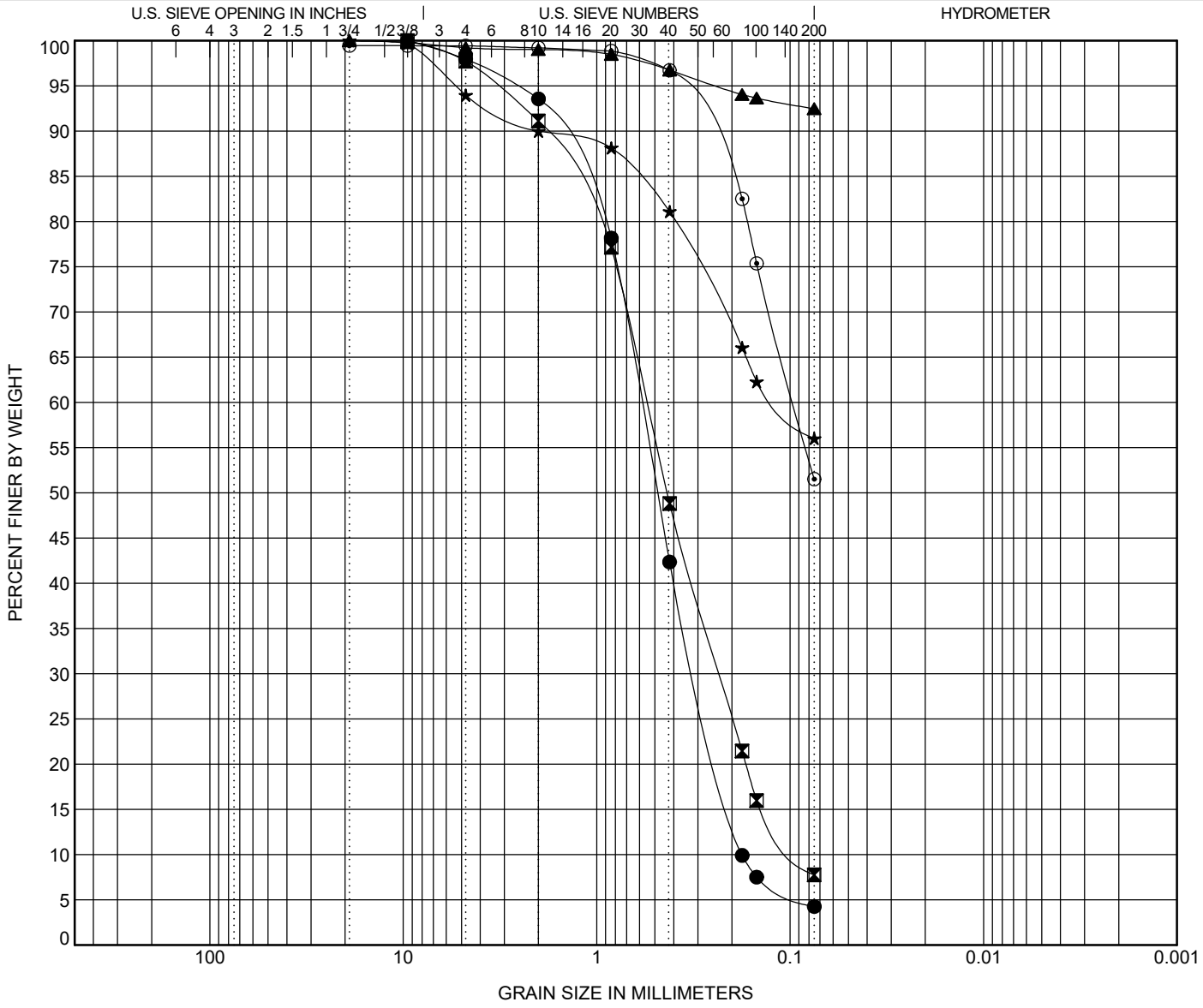
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-45**	**20.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-1-b)**
⊠	**B-45**	**30.0**	**NP**	**NP**	**NP**	**8**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**
▲	**B-45**	**35.0**	**52**	**28**	**24**	**92**	**FAT CLAY (CH/A-7-6)**
★	**B-45**	**40.0**	**41**	**20**	**21**	**56**	**SANDY LEAN CLAY (CL/A-7-6)**
⊙	**B-45**	**45.0**	**NP**	**NP**	**NP**	**52**	**SANDY SILT (ML/A-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-45	20.0	POORLY GRADED SAND (SP/A-1-b)	NP	NP	NP	0.87	3.33
⊠	B-45	30.0	WELL-GRADED SAND with SILT (SW-SM/A-1-b)	NP	NP	NP	1.08	6.11
▲	B-45	35.0	FAT CLAY (CH/A-7-6)	52	28	24		
★	B-45	40.0	SANDY LEAN CLAY (CL/A-7-6)	41	20	21		
⊙	B-45	45.0	SANDY SILT (ML/A-4)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-45	20.0	9.51	0.591	0.302	0.177	2.0	93.7	4.3	
⊠	B-45	30.0	9.51	0.552	0.232	0.09	2.3	90.0	7.8	
▲	B-45	35.0	19				0.8	6.7	92.5	
★	B-45	40.0	19	0.116			6.0	38.0	56.0	
⊙	B-45	45.0	19	0.096			0.0	47.9	51.5	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0193	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-45	B-45	B-45	B-45	B-45
SAMPLE NO.	SS-7	SS-9	SS-10	SS-11	SS-12
SAMPLE DEPTH (FT.)	18.5 - 20.0	28.5 - 30.0	33.5 - 35.0	38.5 - 40.0	43.5 - 45.0
WATER CONTENT, W%	19.0	21.7	43.0	22.6	33.6

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

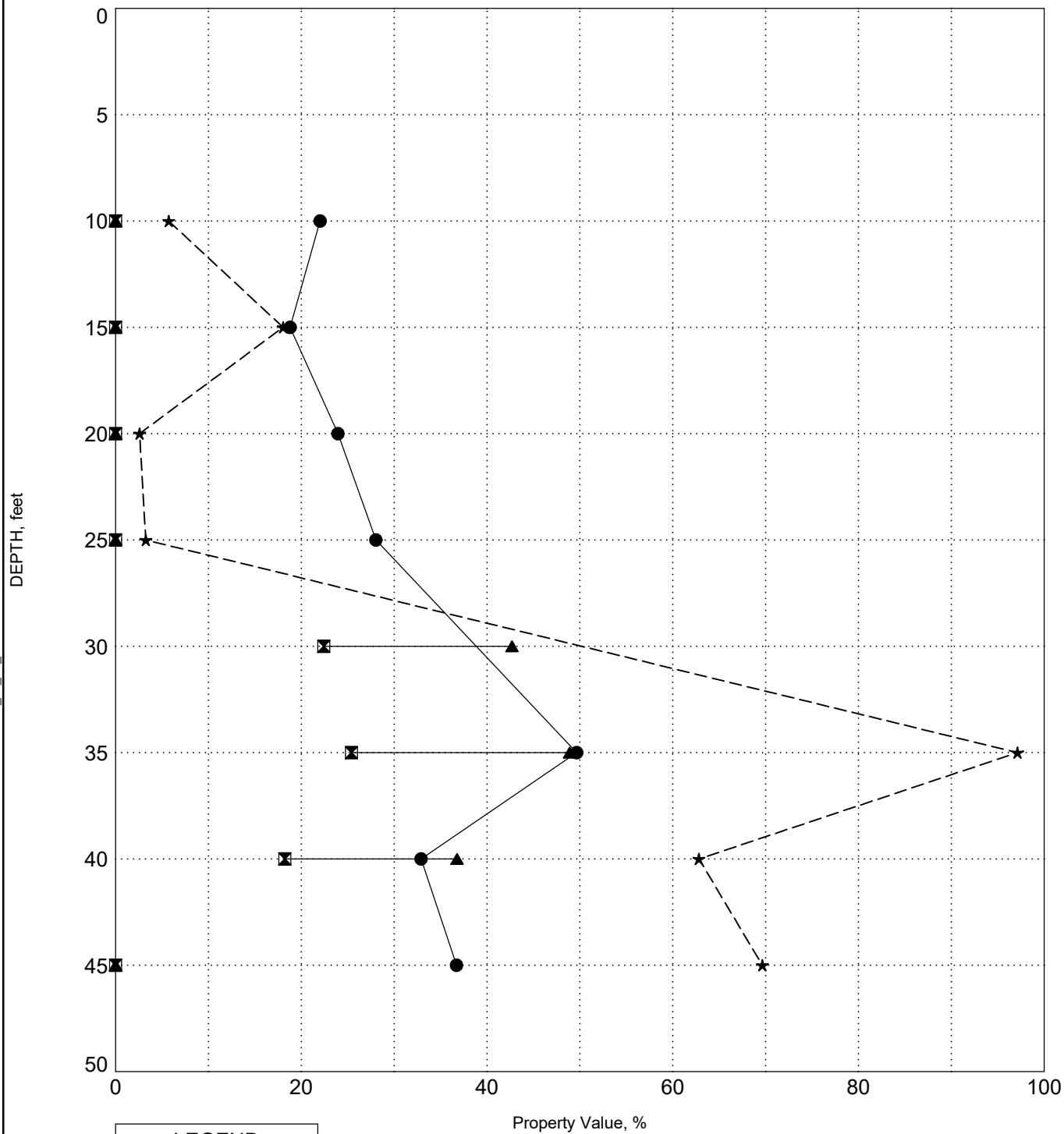
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-46

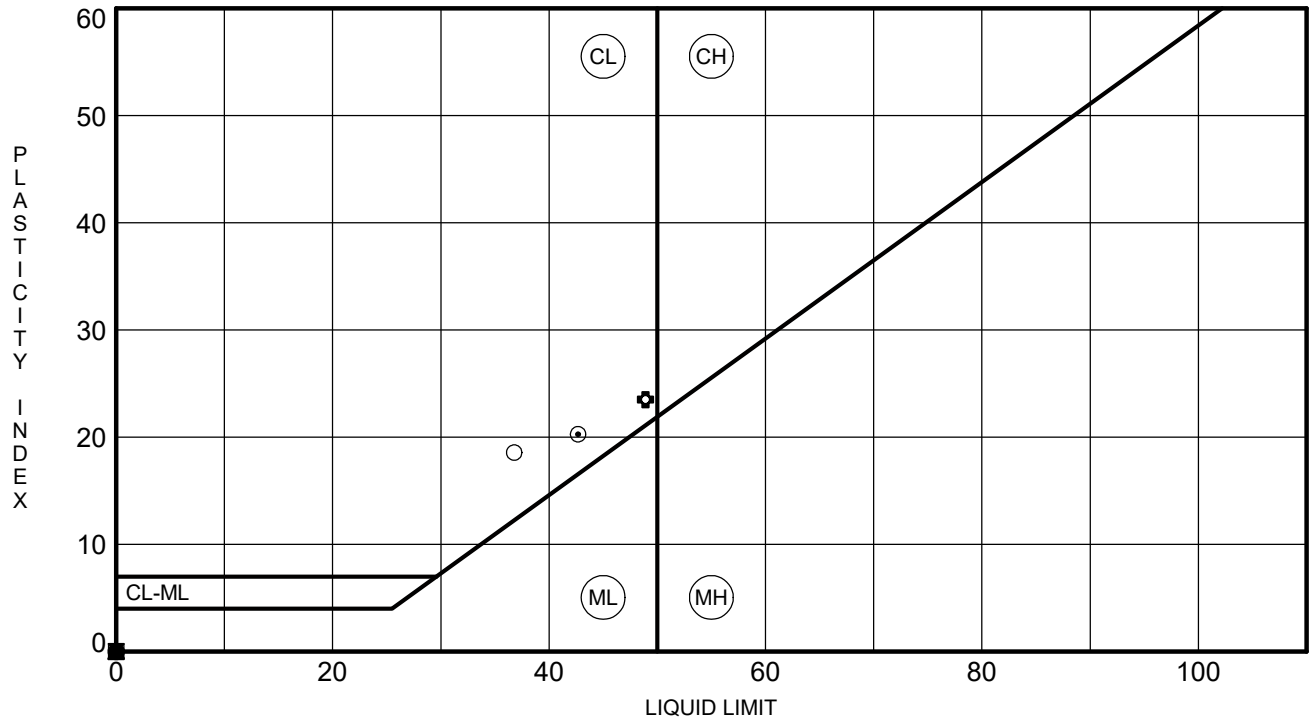
SURFACE ELEVATION: 88.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

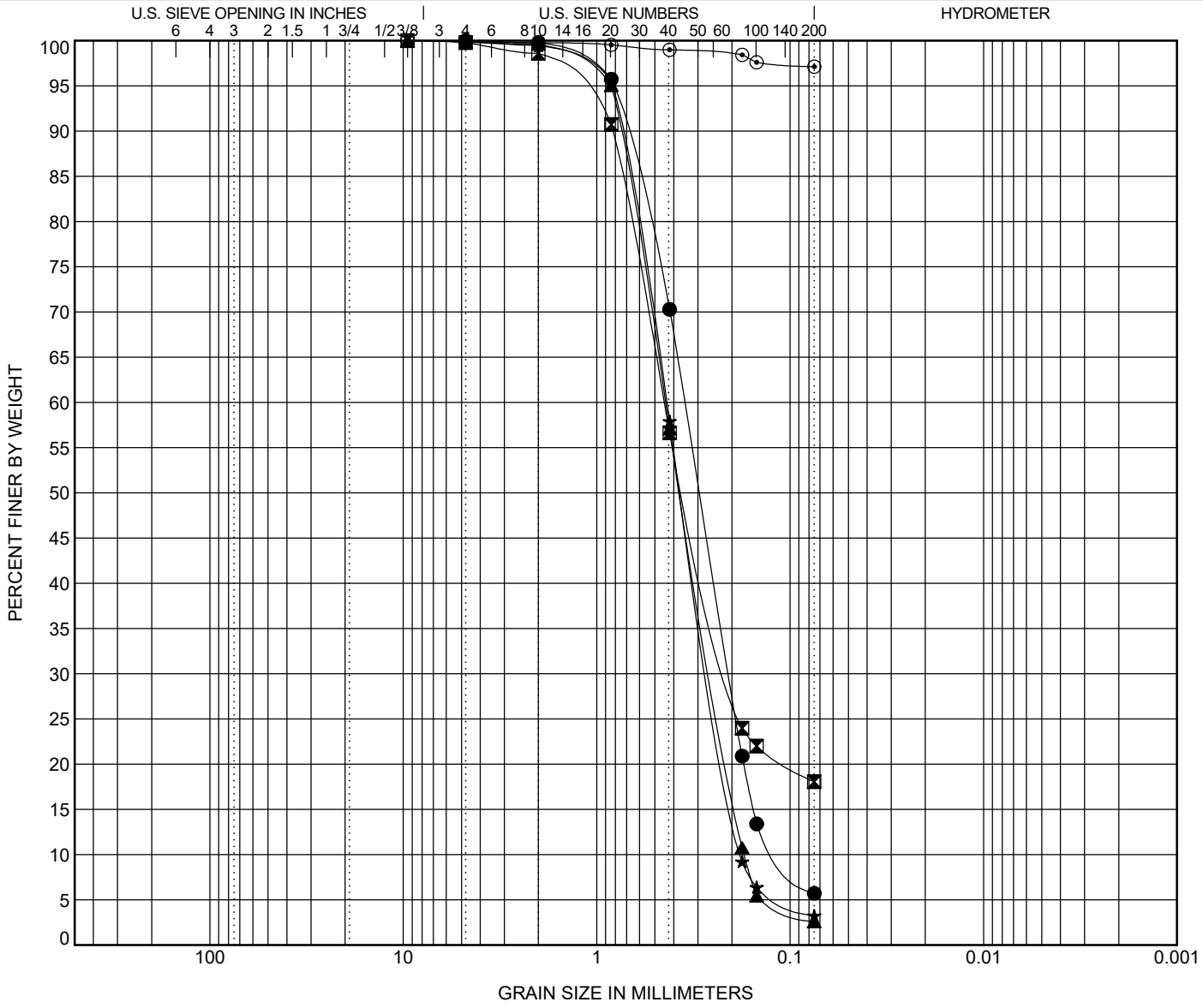


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-46**	**10.0**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**
⊠	**B-46**	**15.0**	**NP**	**NP**	**NP**	**18**	**SILTY SAND (SM/A-2-4)**
▲	**B-46**	**20.0**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-3)**
★	**B-46**	**25.0**	**NP**	**NP**	**NP**	**3**	**POORLY GRADED SAND (SP/A-3)**
⊙	**B-46**	**30.0**	**43**	**22**	**21**		**LEAN CLAY (CL)**
✿	**B-46**	**35.0**	**49**	**25**	**24**	**97**	**LEAN CLAY (CL/A-7-6)**
○	**B-46**	**40.0**	**37**	**18**	**19**	**63**	**SANDY LEAN CLAY (CL/A-6)**
△	**B-46**	**45.0**	**NP**	**NP**	**NP**	**70**	**SANDY SILT (ML/A-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-46**	**10.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.12**	**3.19**
⊠	**B-46**	**15.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
▲	**B-46**	**20.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.84**	**2.57**
★	**B-46**	**25.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.84**	**2.43**
⊙	**B-46**	**35.0**	**LEAN CLAY (CL/A-7-6)**	**49**	**25**	**24**		

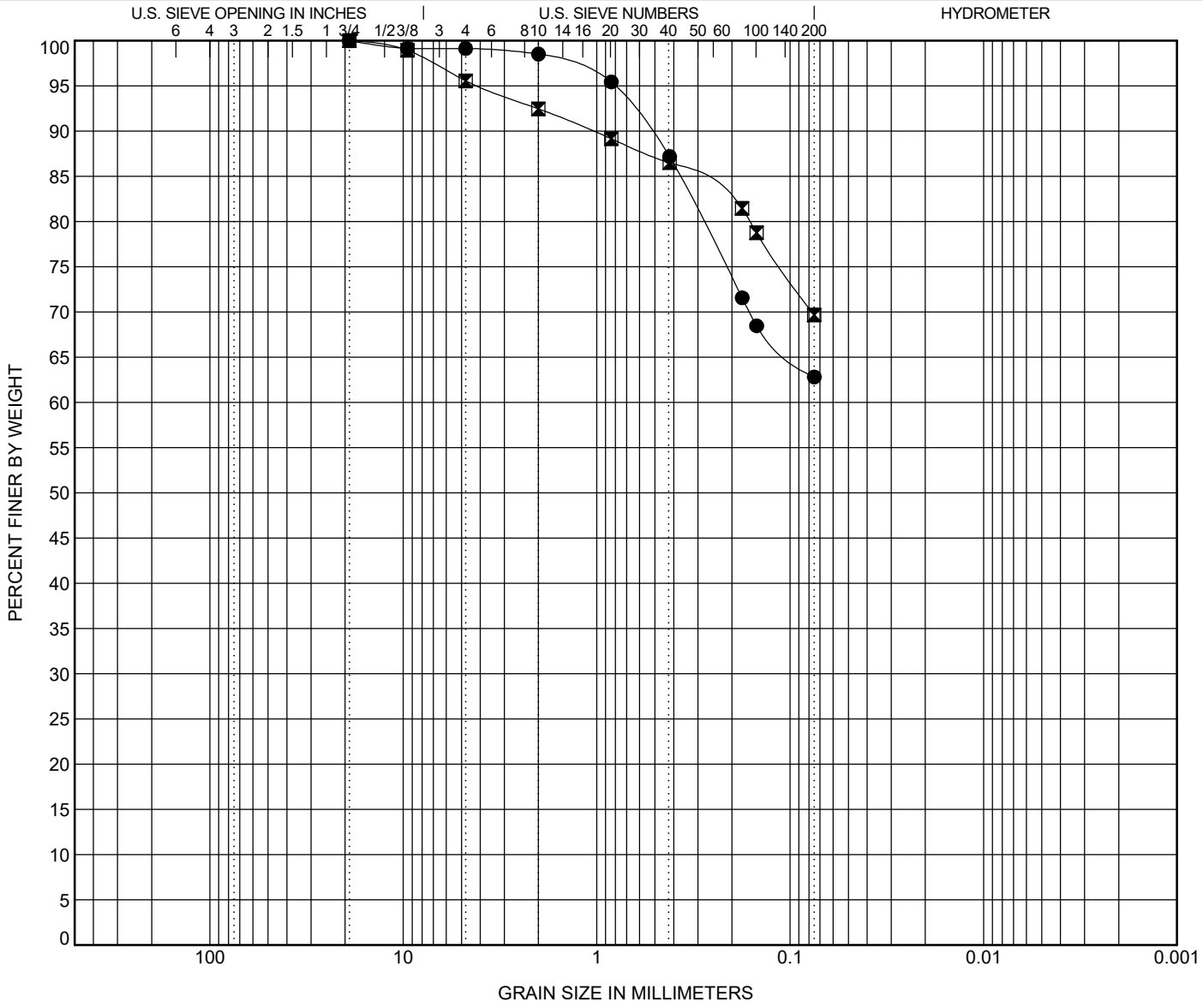
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-46**	**10.0**	**4.76**	**0.351**	**0.208**	**0.11**	**0.0**	**94.3**	**5.7**	
⊠	**B-46**	**15.0**	**9.51**	**0.45**	**0.208**		**0.2**	**81.7**	**18.0**	
▲	**B-46**	**20.0**	**9.51**	**0.443**	**0.254**	**0.173**	**0.2**	**97.2**	**2.6**	
★	**B-46**	**25.0**	**4.76**	**0.436**	**0.256**	**0.179**	**0.0**	**96.8**	**3.2**	
⊙	**B-46**	**35.0**	**9.51**				**0.1**	**2.7**	**97.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-46**	**40.0**	**SANDY LEAN CLAY (CL/A-6)**	**37**	**18**	**19**		
⊠	**B-46**	**45.0**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		

BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-46**	**40.0**	**19**				**0.9**	**36.3**	**62.8**	
⊠	**B-46**	**45.0**	**19**				**4.4**	**25.9**	**69.7**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0311	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-46	B-46	B-46	B-46	B-46
SAMPLE NO.	SS-5	SS-6	SS-7	SS-8	SS-10
SAMPLE DEPTH (FT.)	8.0 - 10.0	13.5 - 15.0	18.5 - 20.0	23.5 - 25.0	33.5 - 35.0
WATER CONTENT, W%	22.0	18.8	23.9	28.0	49.7

BORING NO.	B-46	B-46			
SAMPLE NO.	SS-11	SS-12			
SAMPLE DEPTH (FT.)	38.5 - 40.0	43.5 - 45.0			
WATER CONTENT, W%	32.9	36.7			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

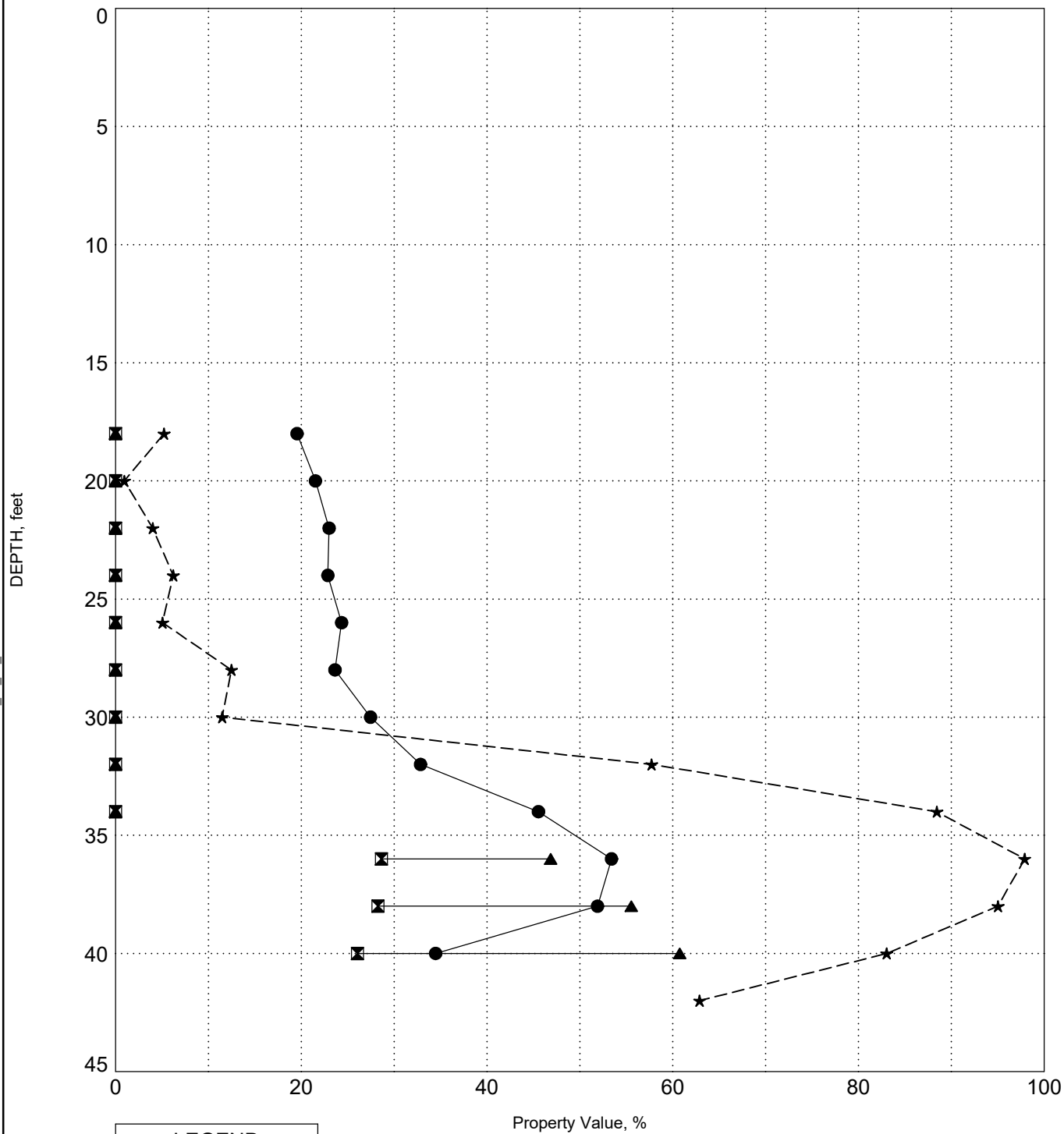
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-47

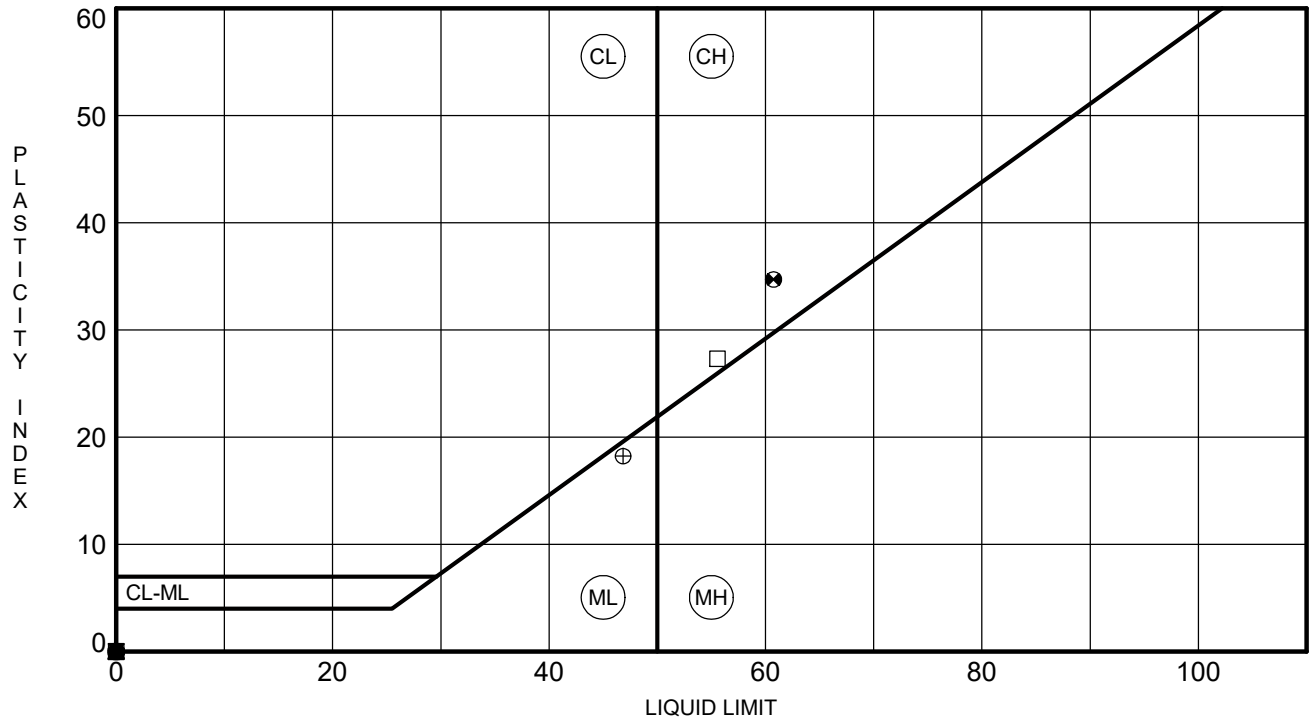
SURFACE ELEVATION: 89.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

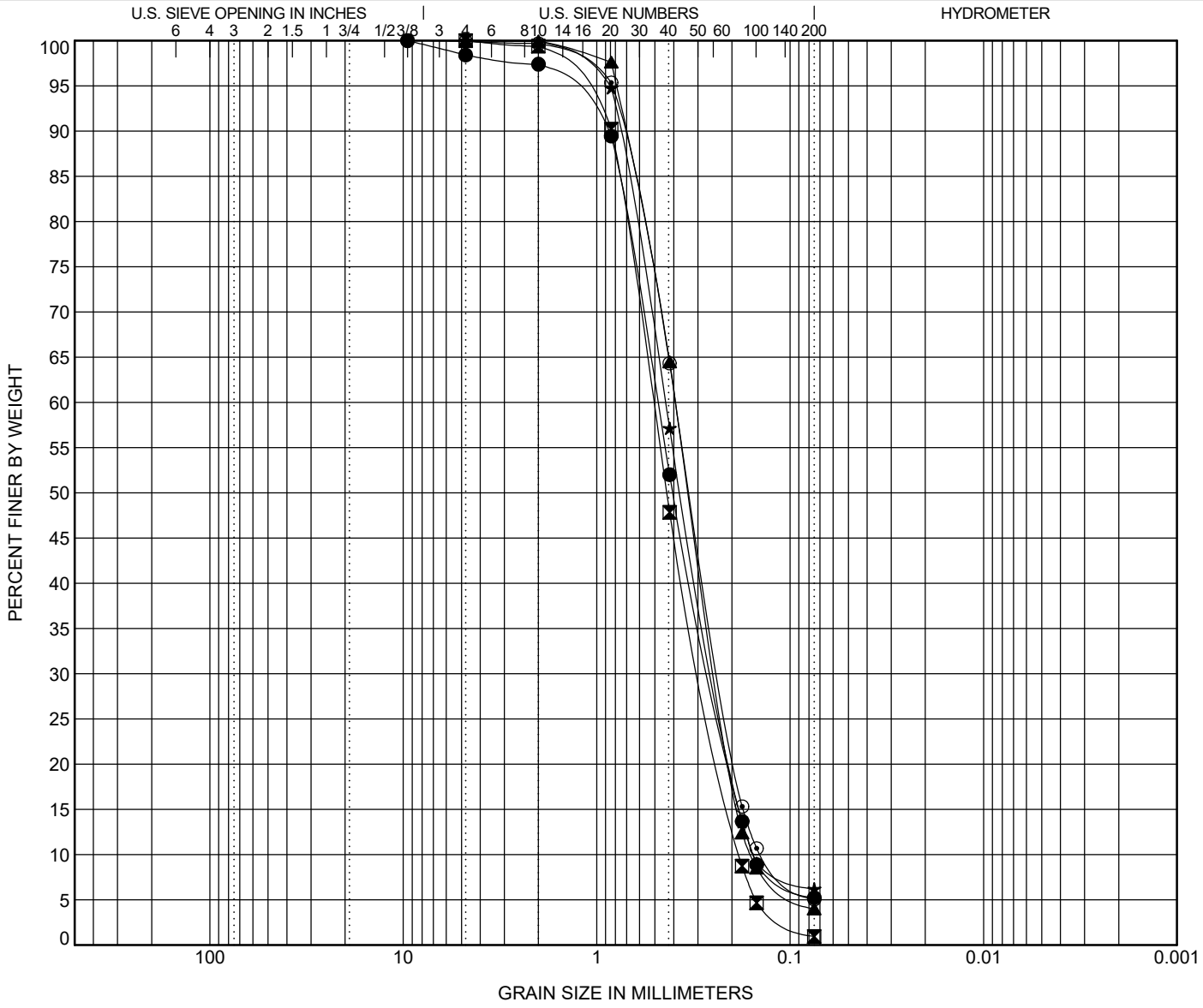


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	B-47	18.0	NP	NP	NP	5	POORLY GRADED SAND with SILT (SP-SM/A-3)
⊠	B-47	20.0	NP	NP	NP	1	POORLY GRADED SAND (SP/A-1-b)
▲	B-47	22.0	NP	NP	NP	4	POORLY GRADED SAND (SP/A-3)
★	B-47	24.0	NP	NP	NP	6	POORLY GRADED SAND with SILT (SP-SM/A-3)
⊙	B-47	26.0	NP	NP	NP	5	POORLY GRADED SAND with SILT (SP-SM/A-3)
✿	B-47	28.0	NP	NP	NP	12	SILTY SAND (SM/A-2-4)
○	B-47	30.0	NP	NP	NP	11	POORLY GRADED SAND with SILT (SP-SM/A-2-4)
△	B-47	32.0	NP	NP	NP	58	SANDY SILT (ML/A-4)
⊗	B-47	34.0	NP	NP	NP	88	SILT (ML/A-4)
⊕	B-47	36.0	47	29	18	98	SILT (ML/A-7-6)
□	B-47	38.0	56	28	28	95	FAT CLAY (CH/A-7-6)
⊛	B-47	40.0	61	26	35	83	FAT CLAY with SAND (CH/A-7-6)

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

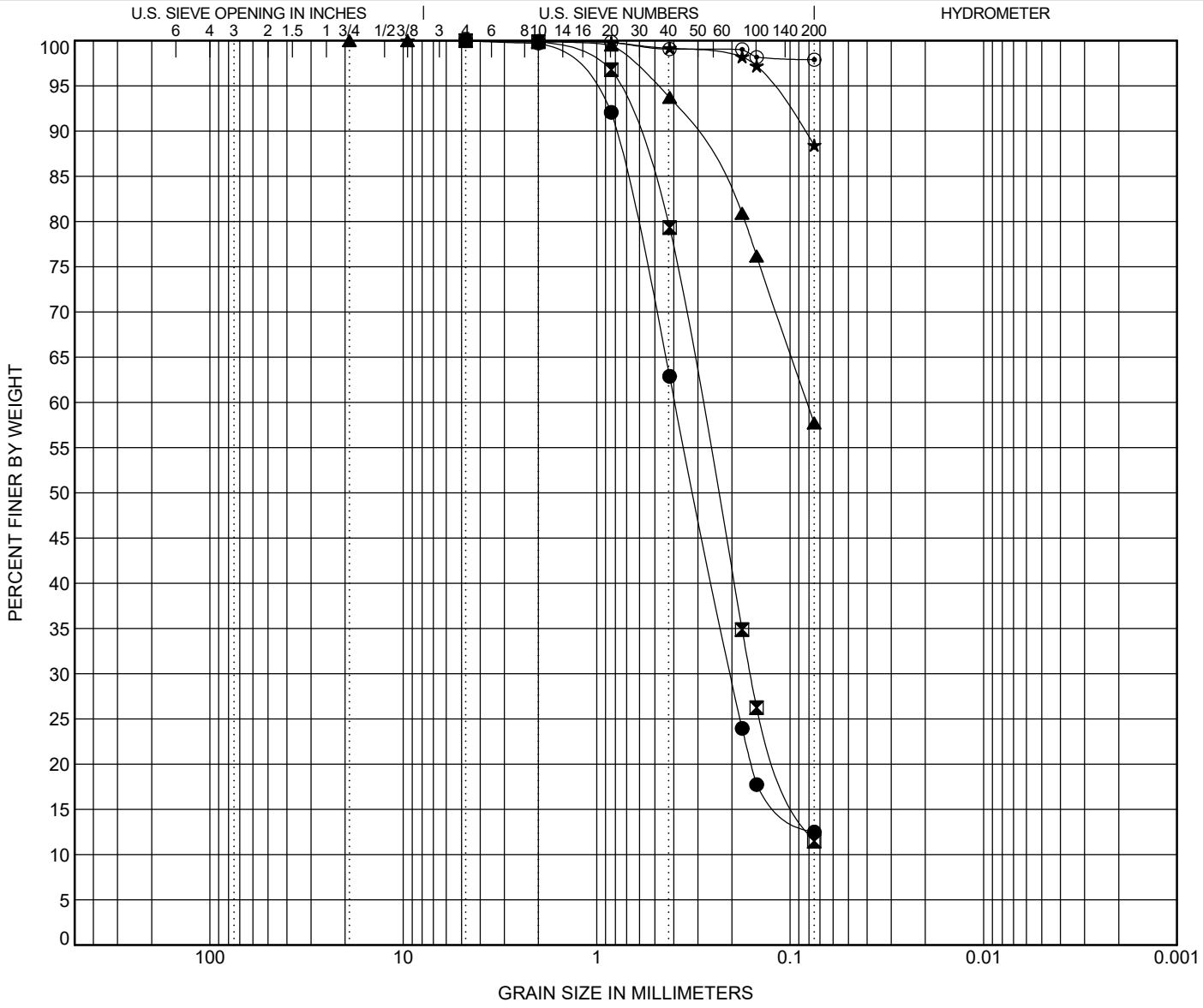
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-47**	**18.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.87**	**3.14**
⊠	**B-47**	**20.0**	**POORLY GRADED SAND (SP/A-1-b)**	**NP**	**NP**	**NP**	**0.86**	**2.81**
▲	**B-47**	**22.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.91**	**2.45**
★	**B-47**	**24.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.88**	**2.87**
⊙	**B-47**	**26.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.99**	**2.84**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-47**	**18.0**	**9.51**	**0.487**	**0.256**	**0.155**	**1.6**	**93.2**	**5.2**	
⊠	**B-47**	**20.0**	**4.76**	**0.513**	**0.283**	**0.182**	**0.0**	**99.1**	**0.9**	
▲	**B-47**	**22.0**	**4.76**	**0.39**	**0.237**	**0.159**	**0.0**	**96.0**	**4.0**	
★	**B-47**	**24.0**	**4.76**	**0.443**	**0.245**	**0.154**	**0.0**	**93.8**	**6.2**	
⊙	**B-47**	**26.0**	**9.51**	**0.389**	**0.229**	**0.137**	**0.1**	**94.8**	**5.1**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-47	28.0	SILTY SAND (SM/A-2-4)	NP	NP	NP	1.92	7.27
⊠	B-47	30.0	POORLY GRADED SAND with SILT (SP-SM/A-2-4)	NP	NP	NP	1.28	4.12
▲	B-47	32.0	SANDY SILT (ML/A-4)	NP	NP	NP		
★	B-47	34.0	SILT (ML/A-4)	NP	NP	NP		
⊙	B-47	36.0	SILT (ML/A-7-6)	47	29	18		

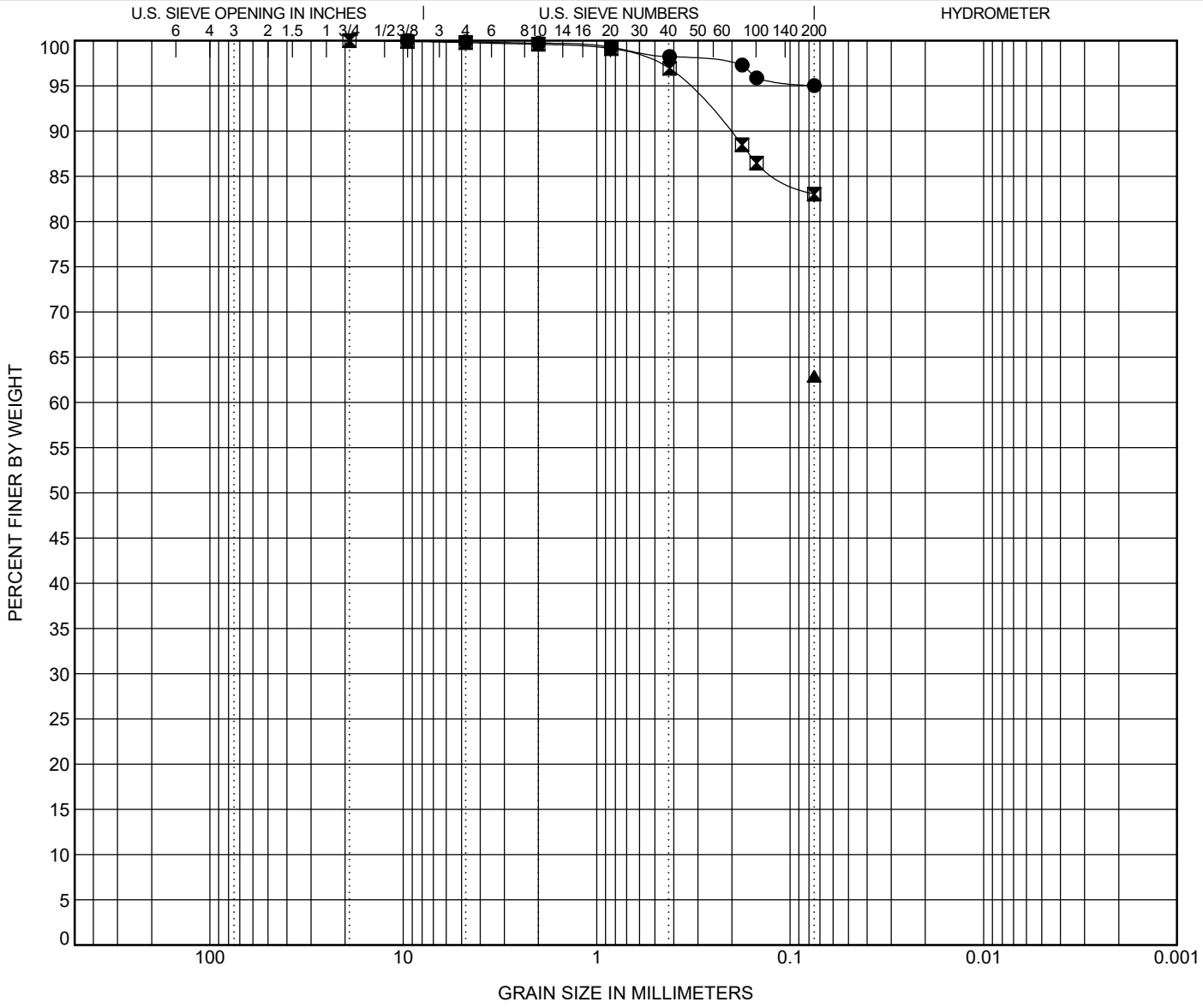
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-47	28.0	4.76	0.394	0.202		0.0	87.5	12.5	
⊠	B-47	30.0	4.76	0.288	0.161		0.0	88.5	11.5	
▲	B-47	32.0	19	0.082			0.0	42.2	57.7	
★	B-47	34.0	9.51				0.0	11.5	88.4	
⊙	B-47	36.0	4.76				0.0	2.1	97.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-47**	**38.0**	**FAT CLAY (CH/A-7-6)**	**56**	**28**	**28**		
⊠	**B-47**	**40.0**	**FAT CLAY with SAND (CH/A-7-6)**	**61**	**26**	**35**		
▲	**B-47**	**42.0**	**POORLY GRADED SAND with CLAY (SP-SC)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-47**	**38.0**	**9.51**				**0.1**	**4.9**	**95.0**	
⊠	**B-47**	**40.0**	**19**				**0.2**	**16.7**	**83.0**	
▲	**B-47**	**42.0**	**0.075**						**62.9**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0312	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-47	B-47	B-47	B-47	B-47
SAMPLE NO.	SS-9	SS-10	SS-11	SS-12	SS-13
SAMPLE DEPTH (FT.)	16.0 - 18.0	18.0 - 20.0	20.0 - 22.0	22.0 - 24.0	24.0 - 26.0
WATER CONTENT, W%	19.5	21.5	23.0	22.9	24.3

BORING NO.	B-47	B-47	B-47	B-47	B-47
SAMPLE NO.	SS-14	SS-15	SS-16	SS-17	SS-18
SAMPLE DEPTH (FT.)	26.0 - 28.0	28.0 - 30.0	30.0 - 32.0	32.0 - 34.0	34.0 - 36.0
WATER CONTENT, W%	23.6	27.5	32.8	45.5	53.4

BORING NO.	B-47	B-47			
SAMPLE NO.	SS-19	SS-20			
SAMPLE DEPTH (FT.)	36.0 - 38.0	38.0 - 40.0			
WATER CONTENT, W%	51.9	34.5			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

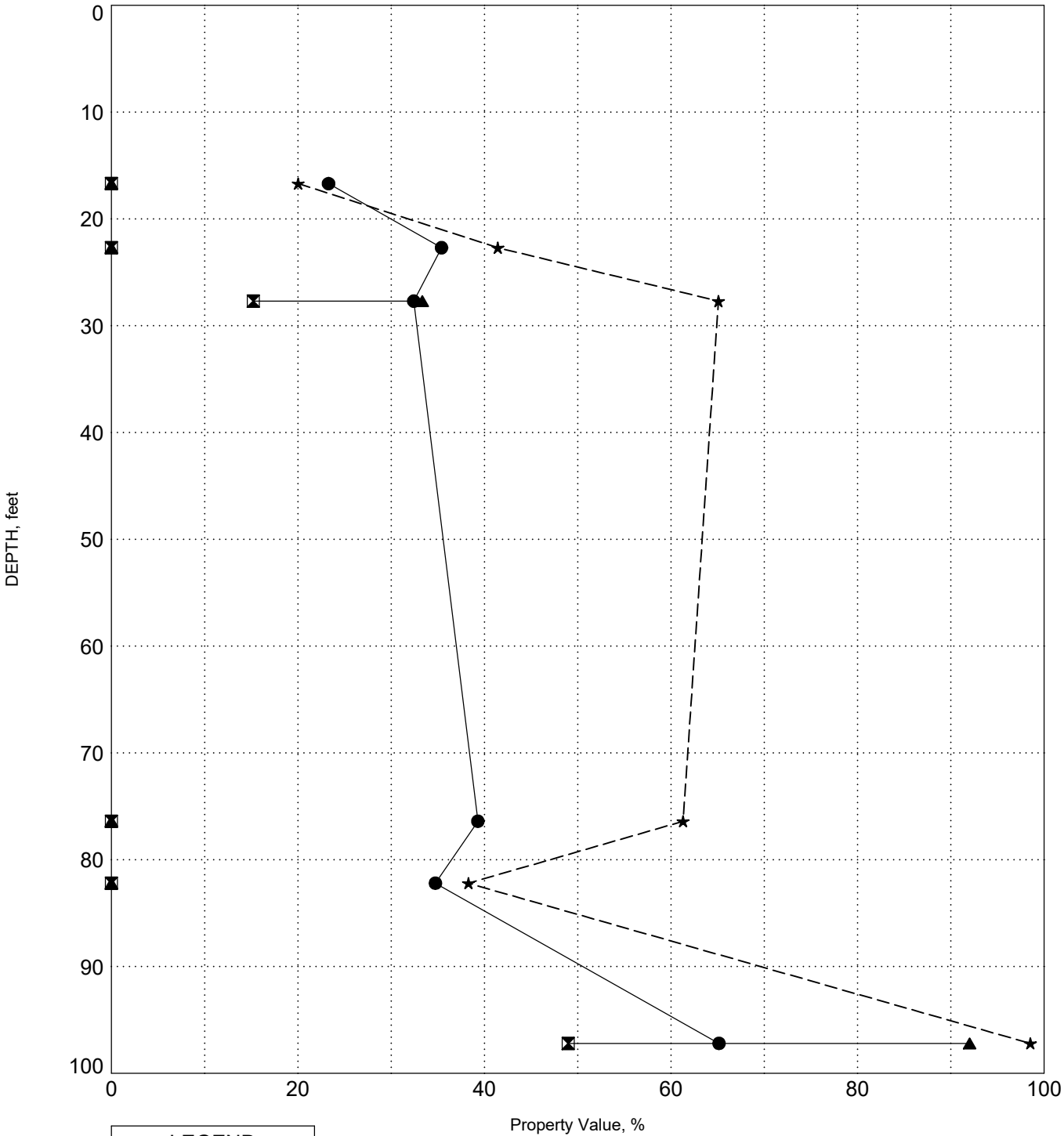
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-48

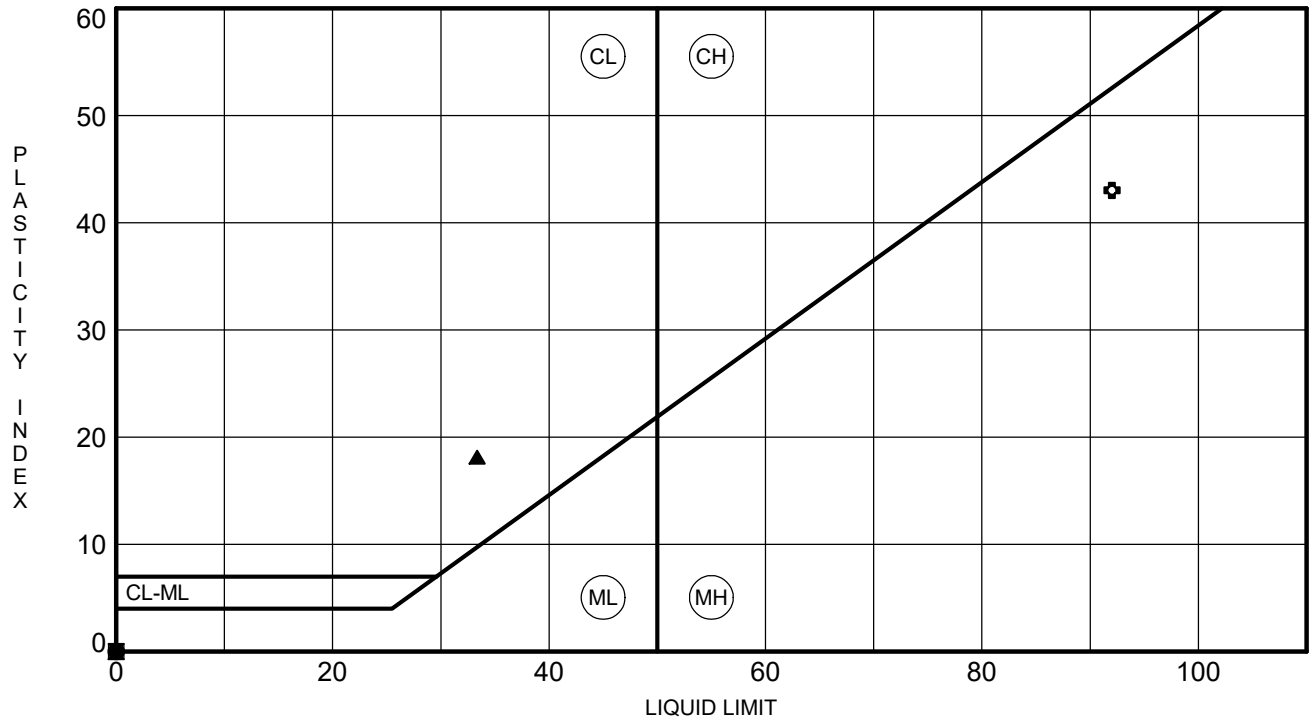
SURFACE ELEVATION: 78.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

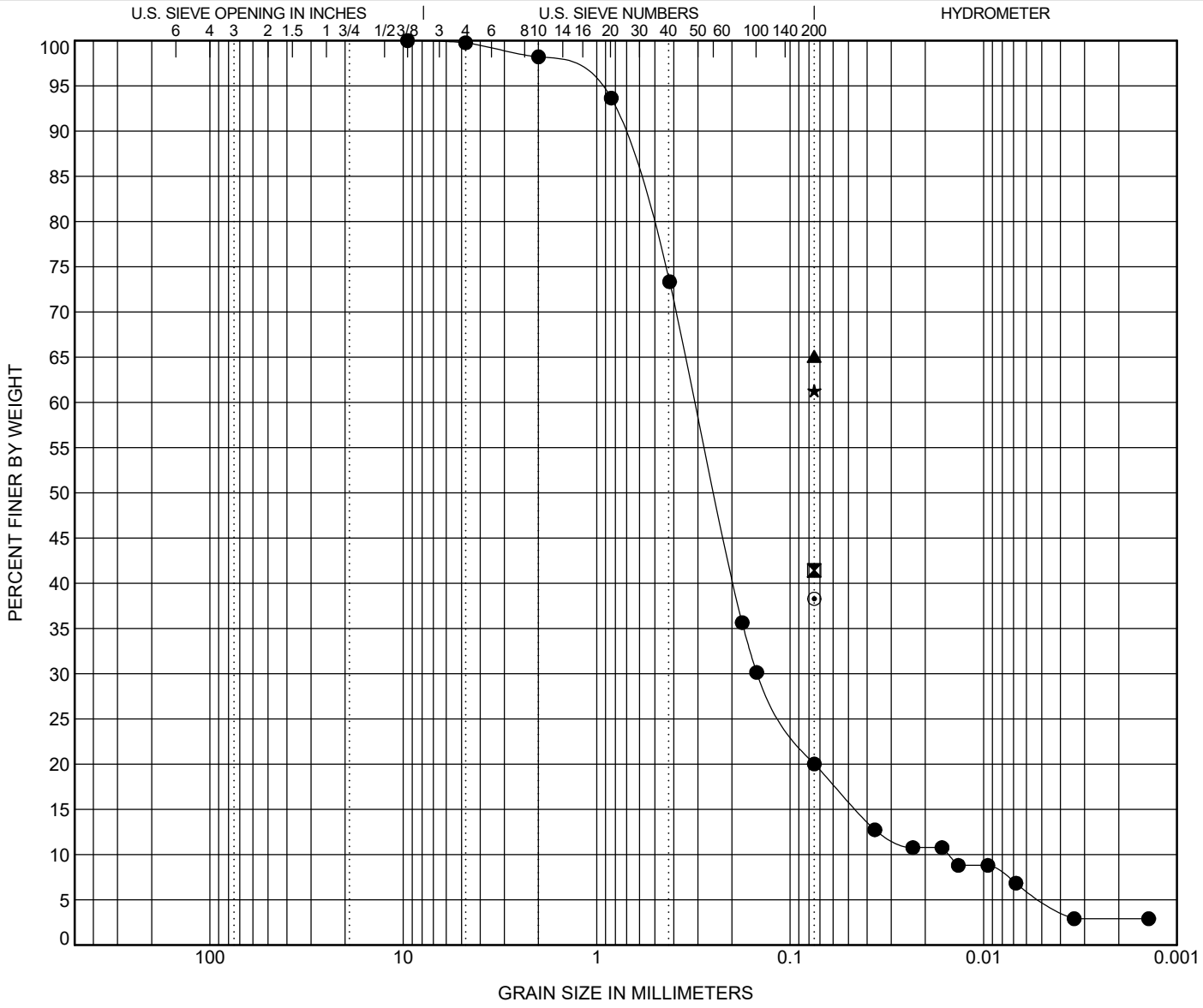


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-48**	**16.7**	**NP**	**NP**	**NP**	**20**	**SILTY SAND (SM/A-2-4)**
⊠	**B-48**	**22.7**	**NP**	**NP**	**NP**	**41**	**SILTY SAND (SM/A-4)**
▲	**B-48**	**27.7**	**33**	**15**	**18**	**65**	**SANDY LEAN CLAY (CL/A-6)**
★	**B-48**	**76.4**	**NP**	**NP**	**NP**	**61**	**SANDY SILT (ML/A-4)**
⊙	**B-48**	**82.2**	**NP**	**NP**	**NP**	**38**	**SILTY SAND (SM/A-4)**
✿	**B-48**	**97.2**	**92**	**49**	**43**	**99**	**ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-48	16.7	SILTY SAND (SM/A-2-4)	NP	NP	NP	4.63	20.36
⊠	B-48	22.7	SILTY SAND (SM/A-4)	NP	NP	NP		
▲	B-48	27.7	SANDY LEAN CLAY (CL/A-6)	33	15	18		
★	B-48	76.4	SANDY SILT (ML/A-4)	NP	NP	NP		
⊙	B-48	82.2	SILTY SAND (SM/A-4)	NP	NP	NP		

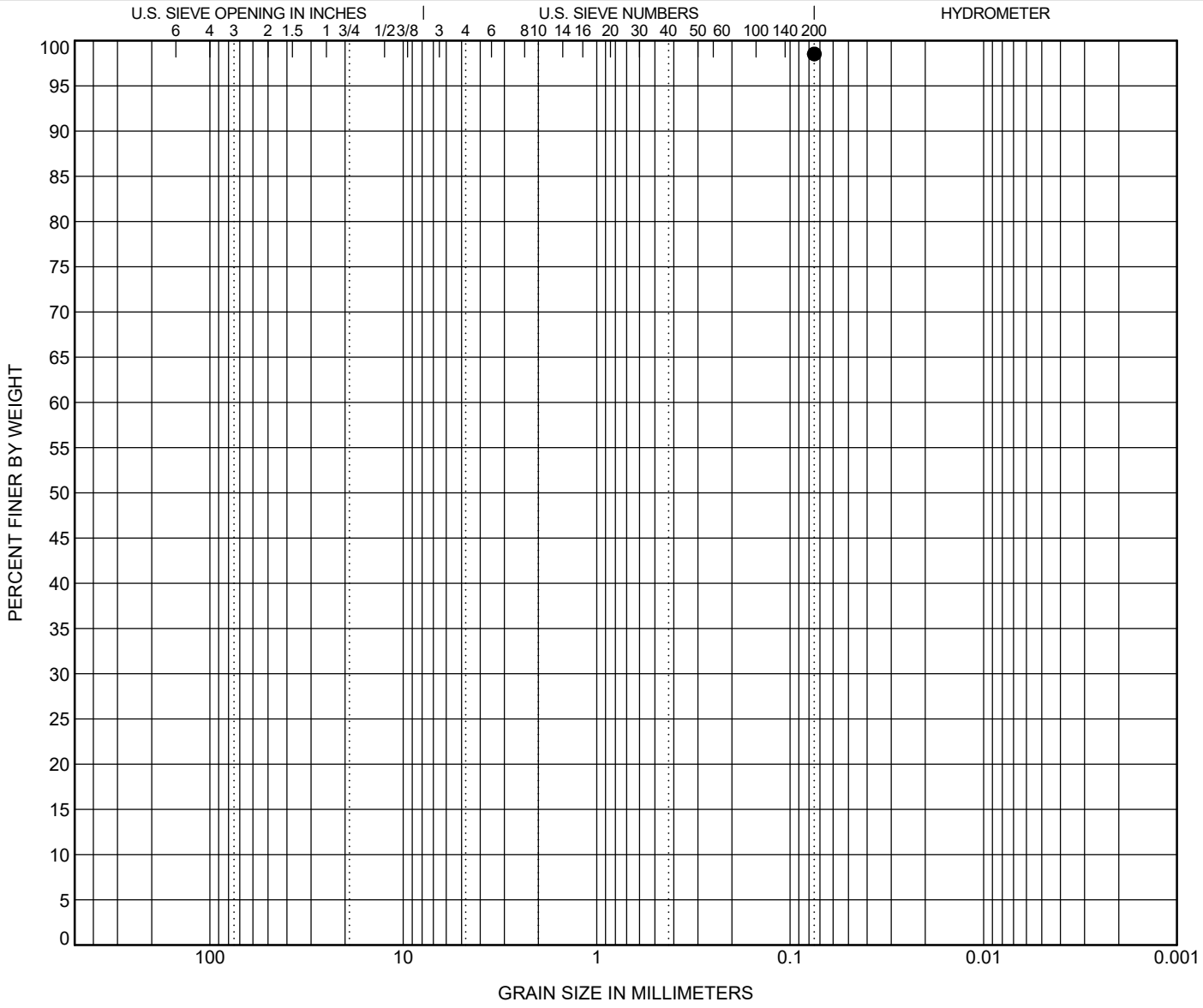
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-48	16.7	9.51	0.309	0.148	0.015	0.2	79.7	14.9	5.1
⊠	B-48	22.7	0.075						41.4	
▲	B-48	27.7	0.075						65.1	
★	B-48	76.4	0.075						61.3	
⊙	B-48	82.2	0.075						38.3	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **B-48**	**97.2**	**ELASTIC SILT (MH/A-7-5)**	**92**	**49**	**43**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **B-48**	**97.2**	**0.075**						**98.5**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0567	**DATE SAMPLE RECEIVED:**	3/2/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/2/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/3/2023

BORING NO.	B-48	B-48	B-48	B-48	B-48
SAMPLE NO.	SS-2	SS-5	SS-6	NQ-9	SS-9
SAMPLE DEPTH (FT.)	14.7 - 16.7	20.7 - 22.7	26.2 - 27.7	71.4 - 76.4	80.7 - 82.2
WATER CONTENT, W%	23.3	35.4	32.4	39.3	34.7

BORING NO.	B-48				
SAMPLE NO.	SS-12				
SAMPLE DEPTH (FT.)	95.7 - 97.2				
WATER CONTENT, W%	65.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

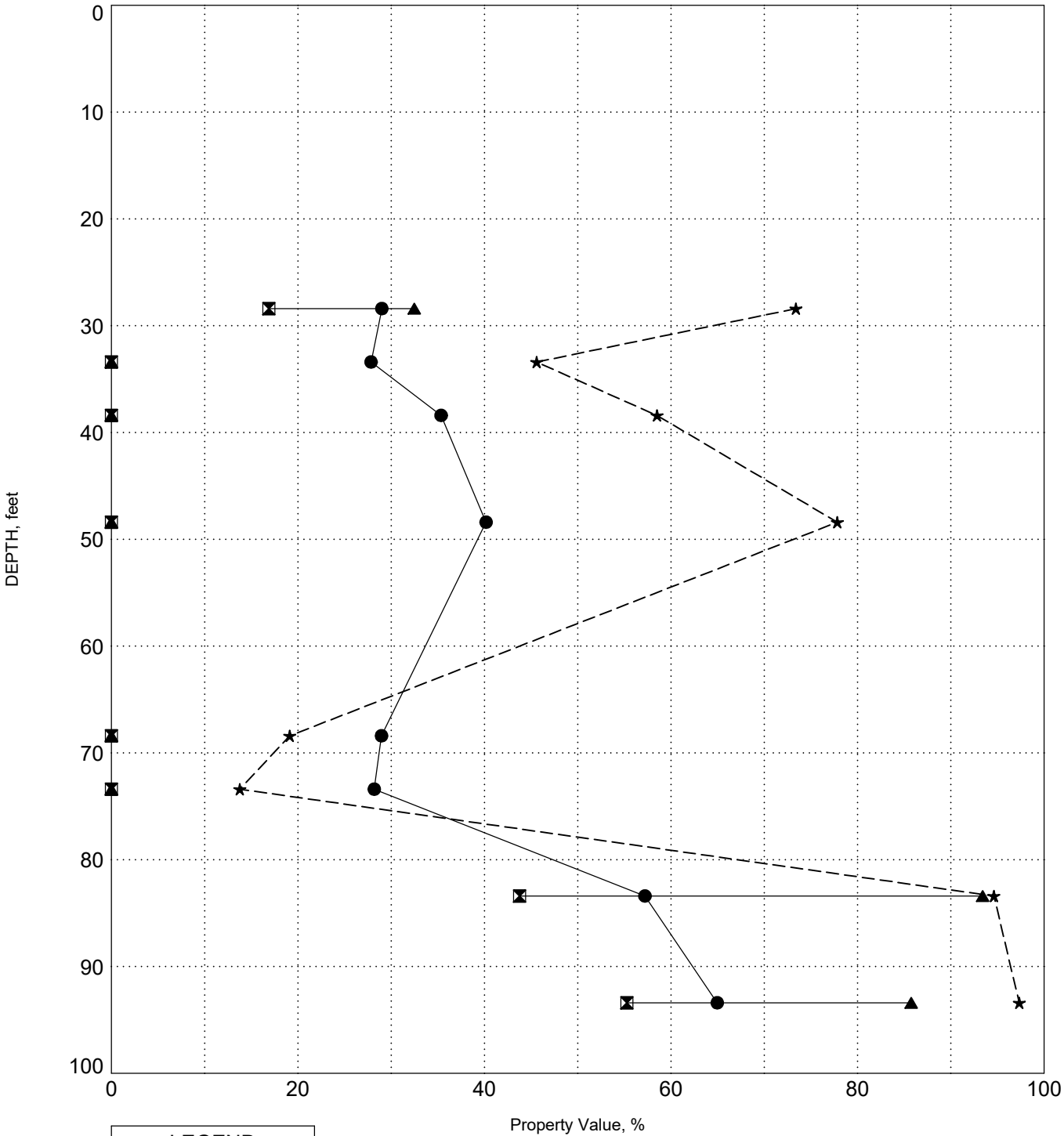
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-49

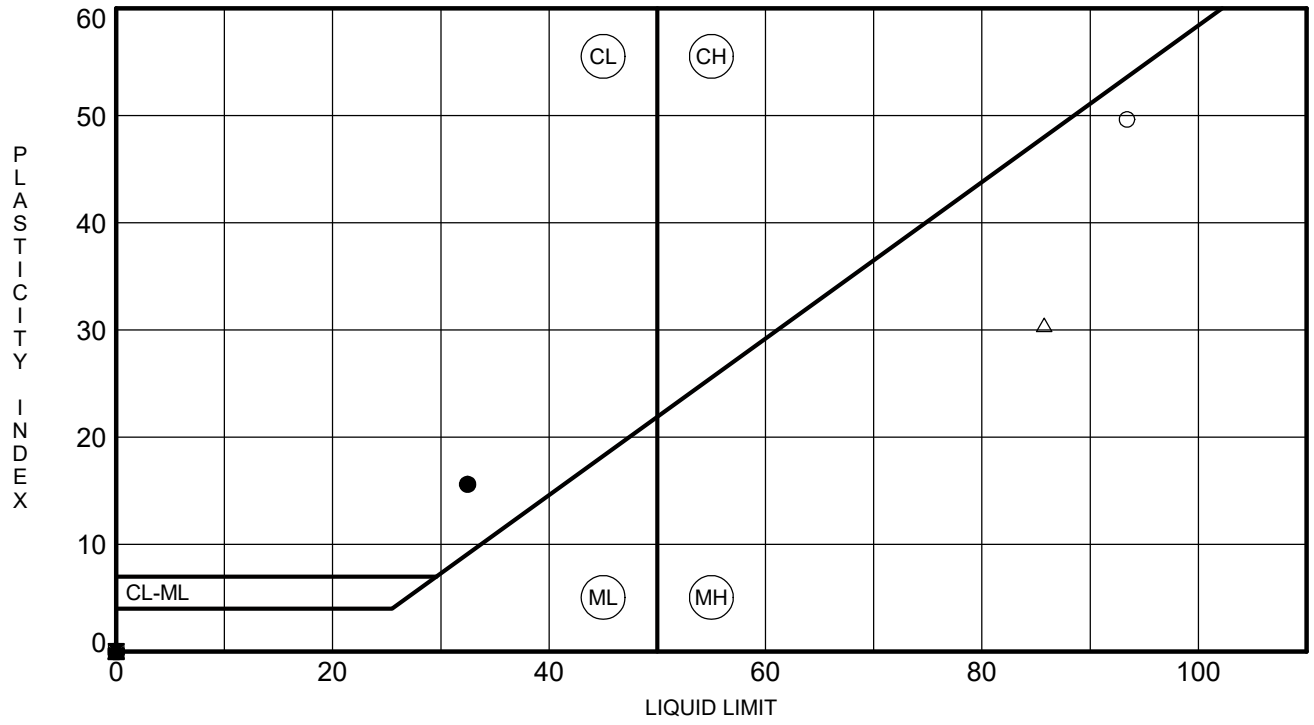
SURFACE ELEVATION: 77.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

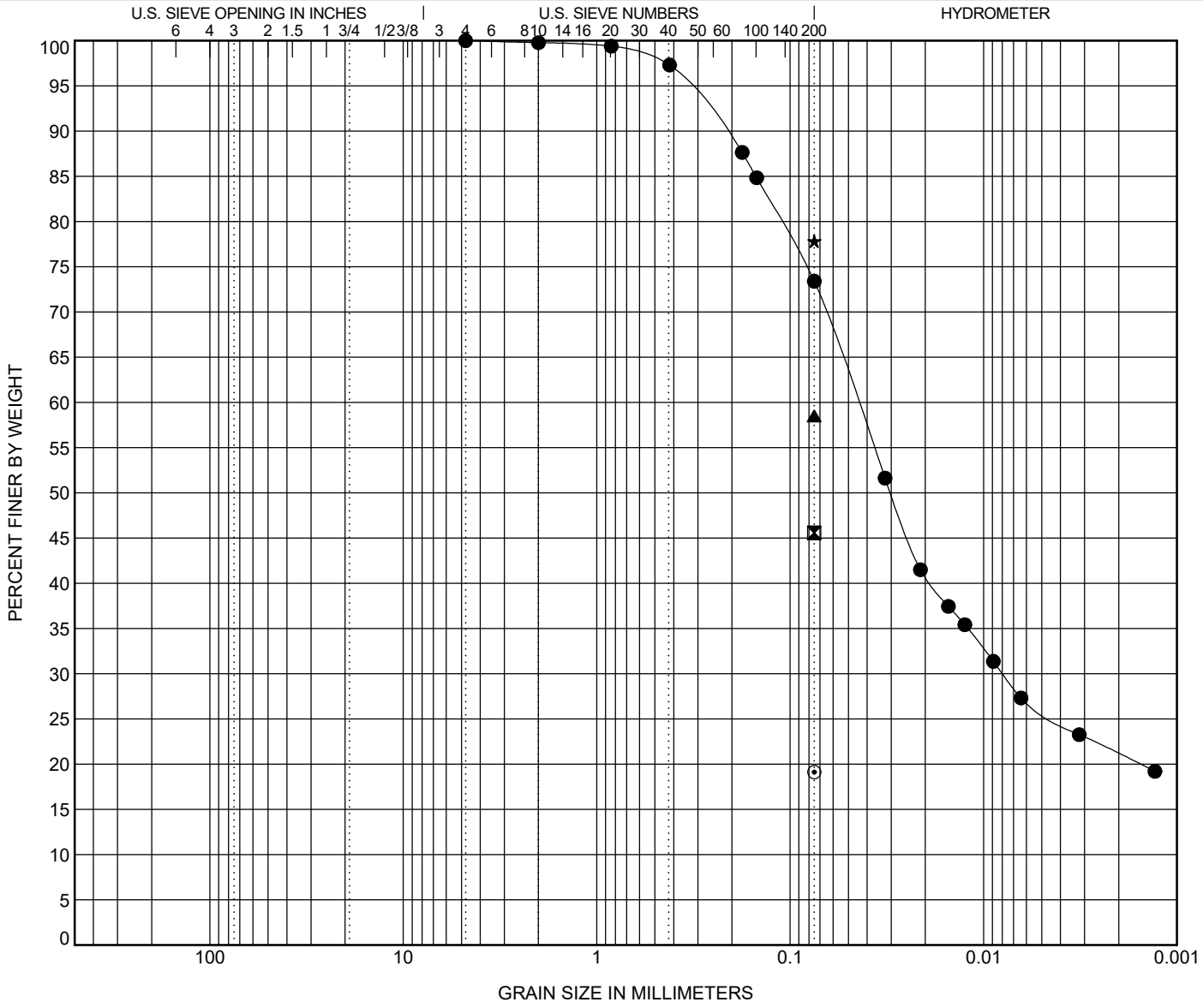


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-49**	**28.4**	**32**	**17**	**15**	**73**	**LEAN CLAY with SAND (CL/A-6)**
⊠	**B-49**	**33.4**	**NP**	**NP**	**NP**	**46**	**SILTY SAND (SM/A-4)**
▲	**B-49**	**38.4**	**NP**	**NP**	**NP**	**59**	**SANDY SILT (ML/A-4)**
★	**B-49**	**48.4**	**NP**	**NP**	**NP**	**78**	**SILT with SAND (ML/A-4)**
⊙	**B-49**	**68.4**	**NP**	**NP**	**NP**	**19**	**SILTY SAND (SM/A-2-4)**
✿	**B-49**	**73.4**	**NP**	**NP**	**NP**	**14**	**SILTY SAND (SM/A-2-4)**
○	**B-49**	**83.4**	**93**	**44**	**49**	**95**	**ELASTIC SILT (MH/A-7-5)**
△	**B-49**	**93.4**	**86**	**55**	**31**	**97**	**ELASTIC SILT (MH/A-7-5)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-49**	**28.4**	**LEAN CLAY with SAND (CL/A-6)**	**32**	**17**	**15**		
⊠	**B-49**	**33.4**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
▲	**B-49**	**38.4**	**SANDY SILT (ML/A-4)**	**NP**	**NP**	**NP**		
★	**B-49**	**48.4**	**SILT with SAND (ML/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-49**	**68.4**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

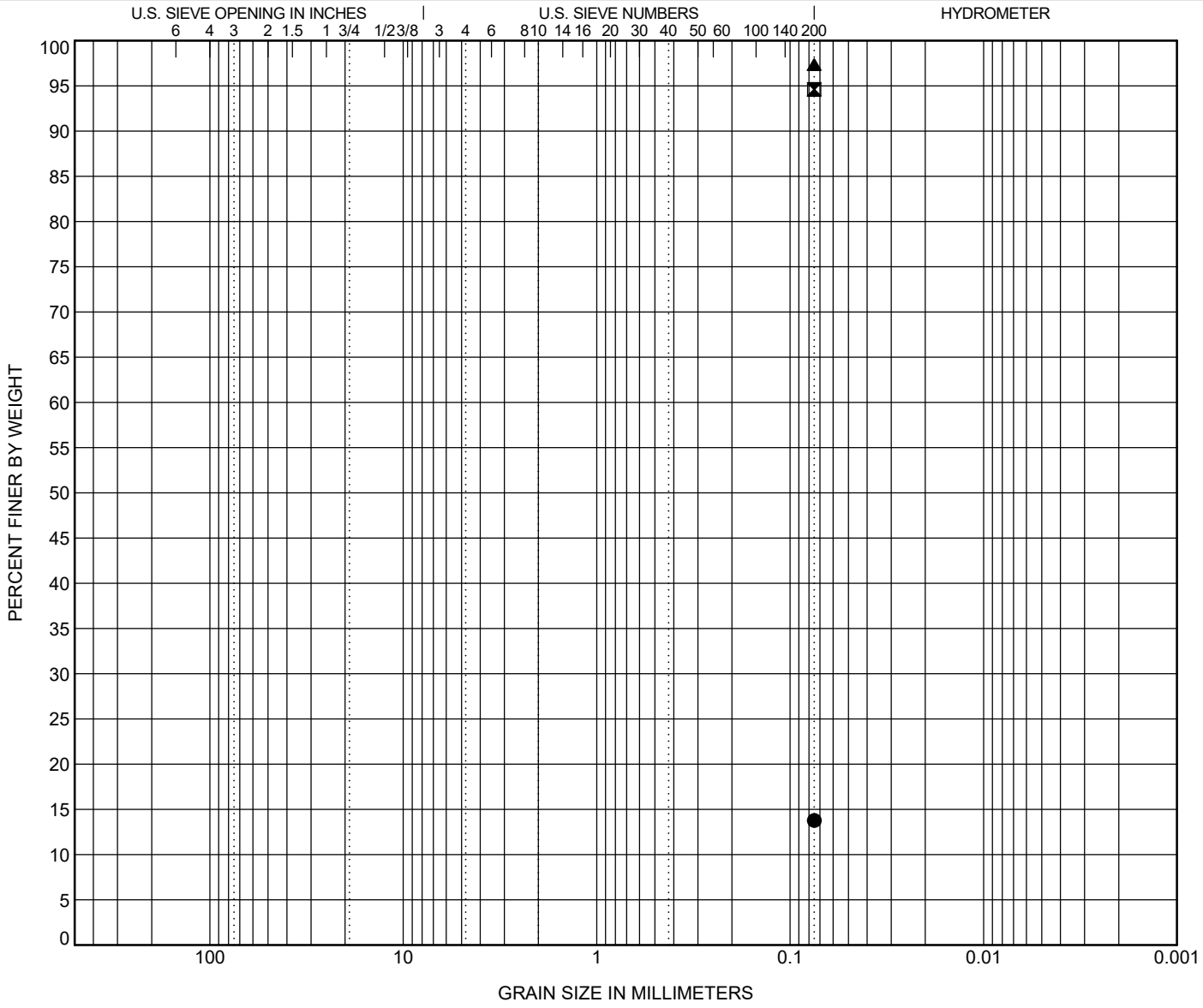
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-49**	**28.4**	**4.76**	**0.045**	**0.008**		**0.0**	**26.6**	**47.5**	**25.9**
⊠	**B-49**	**33.4**	**0.075**						**45.6**	
▲	**B-49**	**38.4**	**0.075**						**58.5**	
★	**B-49**	**48.4**	**0.075**						**77.8**	
⊙	**B-49**	**68.4**	**0.075**						**19.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/24/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE		DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-49**	**73.4**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-49**	**83.4**	**ELASTIC SILT (MH/A-7-5)**	**93**	**44**	**49**		
▲	**B-49**	**93.4**	**ELASTIC SILT (MH/A-7-5)**	**86**	**55**	**31**		

BOREHOLE		DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-49**	**73.4**	**0.075**						**13.8**	
⊠	**B-49**	**83.4**	**0.075**						**94.6**	
▲	**B-49**	**93.4**	**0.075**						**97.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/24/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0617	**DATE SAMPLE RECEIVED:**	3/8/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	MW & DH	**DATE SETUP:**	3/9/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/10/2023

BORING NO.	B-49	B-49	B-49	B-49	B-49
SAMPLE NO.	SS-5	SS-6	SS-7	SS-9	SS-13
SAMPLE DEPTH (FT.)	26.4 - 28.4	31.9 - 33.4	36.1 - 38.4	46.9 - 48.4	66.9 - 68.4
WATER CONTENT, W%	29.0	27.8	35.4	40.2	29.0

BORING NO.	B-49	B-49	B-49		
SAMPLE NO.	SS-14	SS-16	SS-18		
SAMPLE DEPTH (FT.)	71.9 - 73.4	81.9 - 83.4	91.9 - 93.4		
WATER CONTENT, W%	28.2	57.2	65.0		

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

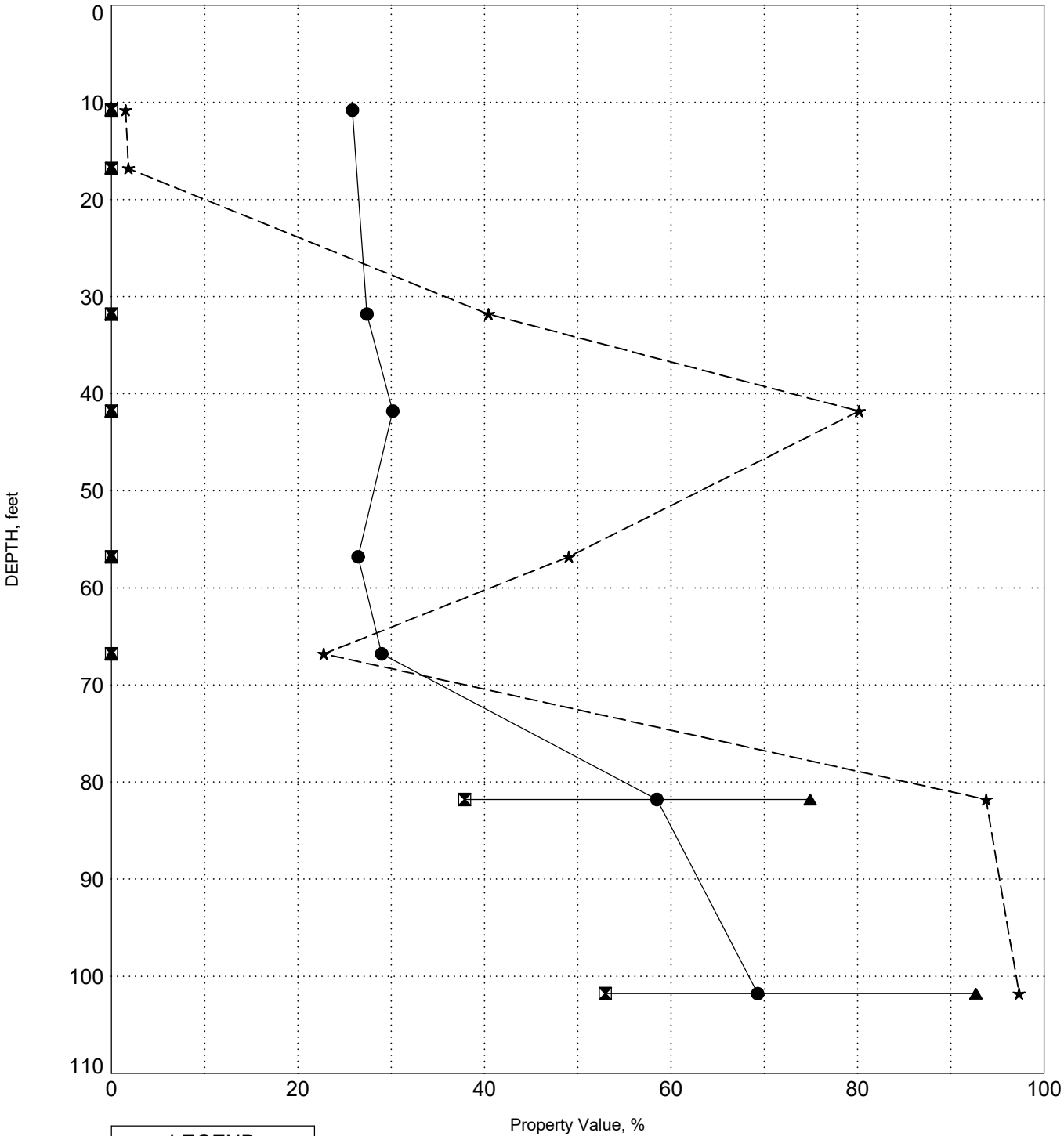
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-50

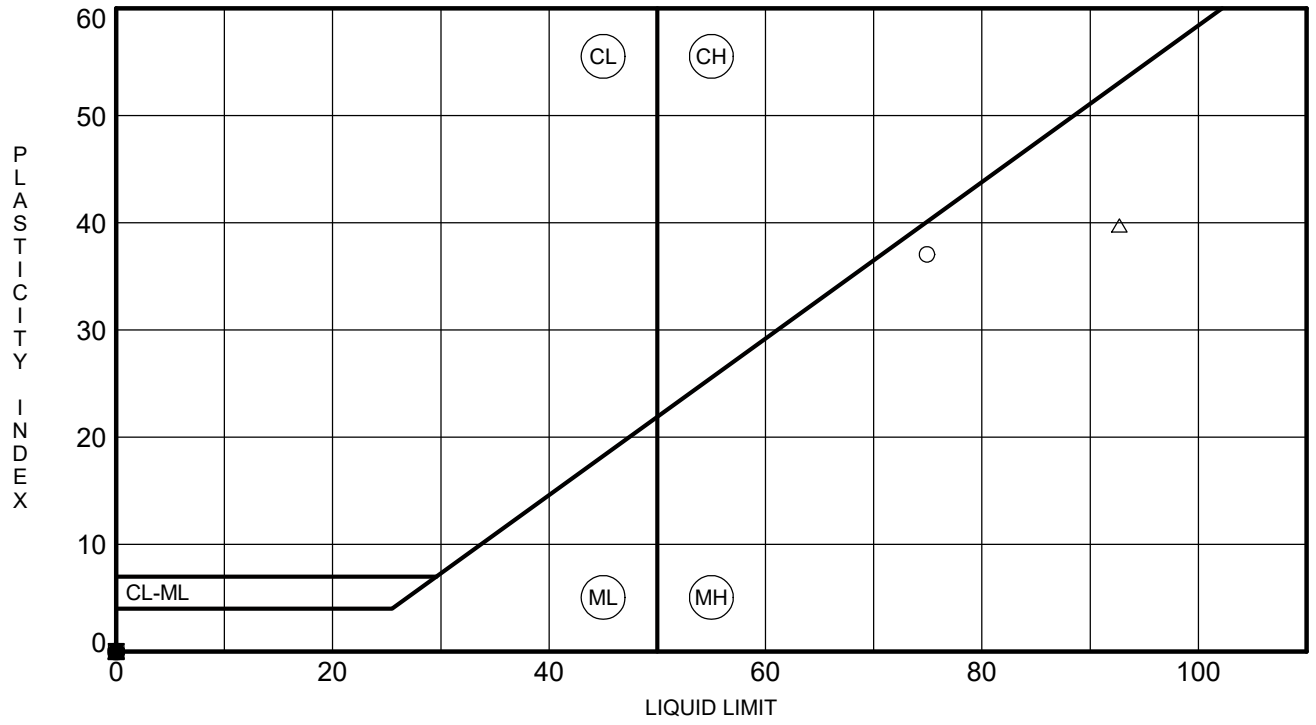
SURFACE ELEVATION: 77.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



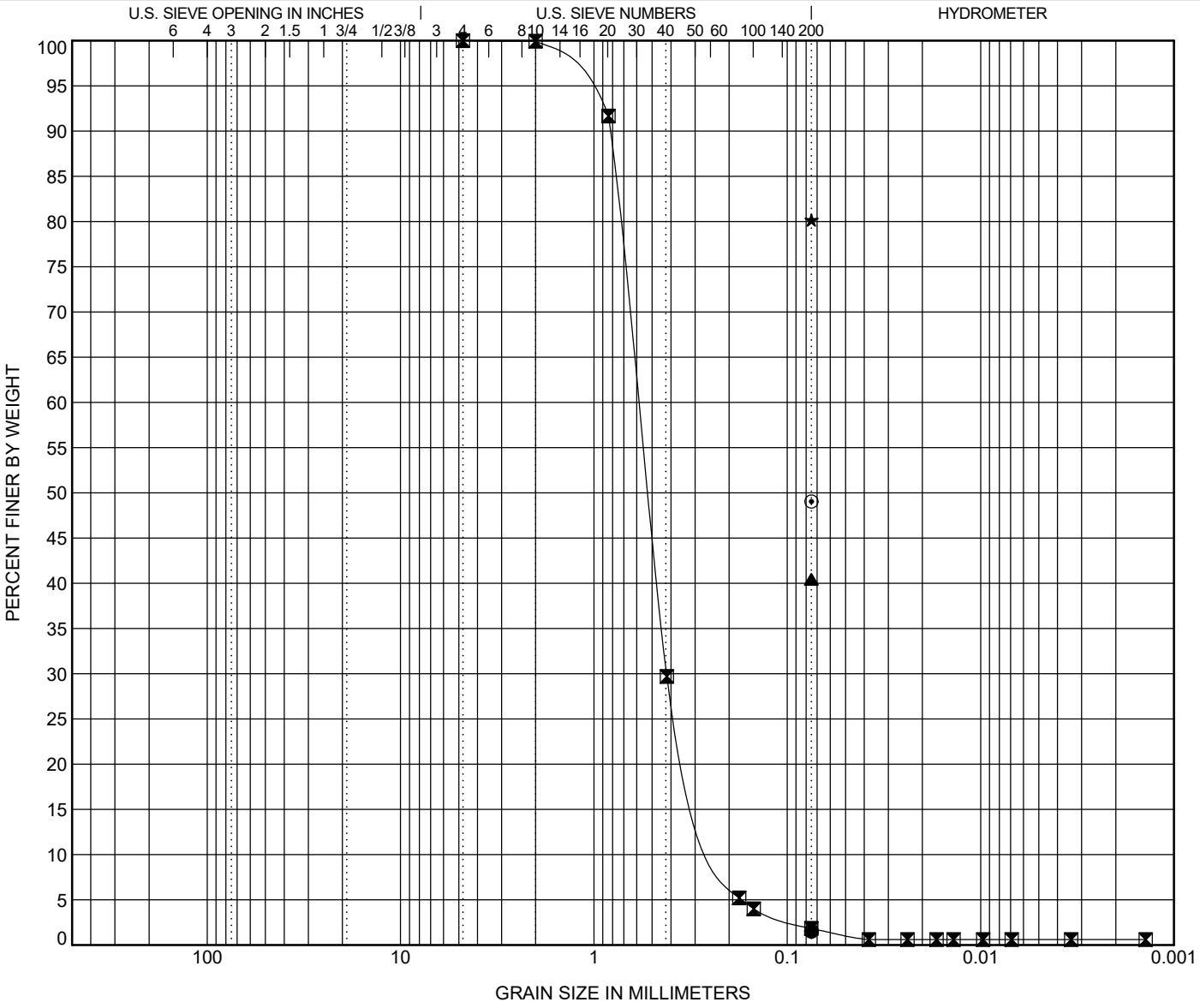
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-50**	**10.8**	**NP**	**NP**	**NP**	**2**	**POORLY GRADED SAND (SP/A-3)**
⊠	**B-50**	**16.8**	**NP**	**NP**	**NP**	**2**	**POORLY GRADED SAND (SP/A-1-b)**
▲	**B-50**	**31.8**	**NP**	**NP**	**NP**	**40**	**SILTY SAND (SM/A-4)**
★	**B-50**	**41.8**	**NP**	**NP**	**NP**	**80**	**SILT with SAND (ML/A-4)**
⊙	**B-50**	**56.8**	**NP**	**NP**	**NP**	**49**	**SILTY SAND (SM/A-4)**
✿	**B-50**	**66.8**	**NP**	**NP**	**NP**	**23**	**SILTY SAND (SM/A-2-4)**
○	**B-50**	**81.8**	**75**	**38**	**37**	**94**	**ELASTIC SILT (MH/A-7-5)**
△	**B-50**	**101.8**	**93**	**53**	**40**	**97**	**ELASTIC SILT (MH/A-7-5)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-50**	**10.8**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**		
⊠	**B-50**	**16.8**	**POORLY GRADED SAND (SP/A-1-b)**	**NP**	**NP**	**NP**	**1.44**	**2.81**
▲	**B-50**	**31.8**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		
★	**B-50**	**41.8**	**SILT with SAND (ML/A-4)**	**NP**	**NP**	**NP**		
⊙	**B-50**	**56.8**	**SILTY SAND (SM/A-4)**	**NP**	**NP**	**NP**		

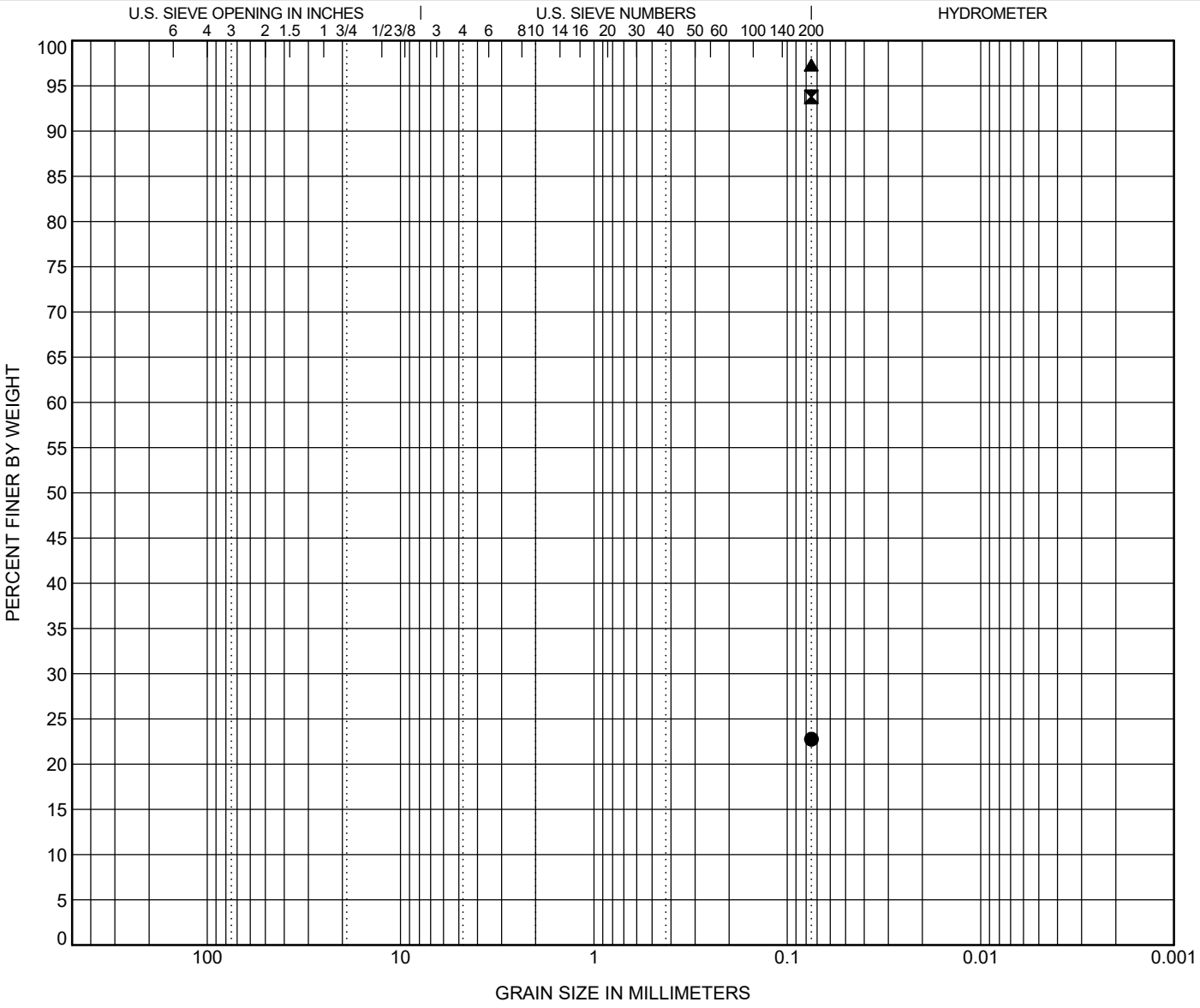
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-50**	**10.8**	**0.075**						**1.5**	
⊠	**B-50**	**16.8**	**4.76**	**0.59**	**0.421**	**0.21**	**0.0**	**98.2**	**1.2**	**0.6**
▲	**B-50**	**31.8**	**0.075**						**40.4**	
★	**B-50**	**41.8**	**0.075**						**80.2**	
⊙	**B-50**	**56.8**	**0.075**						**49.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-50**	**66.8**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		
⊠	**B-50**	**81.8**	**ELASTIC SILT (MH/A-7-5)**	**75**	**38**	**37**		
▲	**B-50**	**101.8**	**ELASTIC SILT (MH/A-7-5)**	**93**	**53**	**40**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-50**	**66.8**	**0.075**						**22.8**	
⊠	**B-50**	**81.8**	**0.075**						**93.8**	
▲	**B-50**	**101.8**	**0.075**						**97.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0618	**DATE SAMPLE RECEIVED:**	3/2/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	3/2/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	3/3/2023

BORING NO.	B-50	B-50	B-50	B-50	B-50
SAMPLE NO.	SS-2	SS-8	SS-10	SS-13	SS-15
SAMPLE DEPTH (FT.)	8.8 - 10.8	30.3 - 31.8	40.3 - 41.8	55.3 - 56.8	65.3 - 66.8
WATER CONTENT, W%	25.8	27.4	30.2	26.5	29.0

BORING NO.	B-50	B-50			
SAMPLE NO.	SS-18	SS-22			
SAMPLE DEPTH (FT.)	65.3 - 66.8	100.3 - 101.8			
WATER CONTENT, W%	58.5	69.3			

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

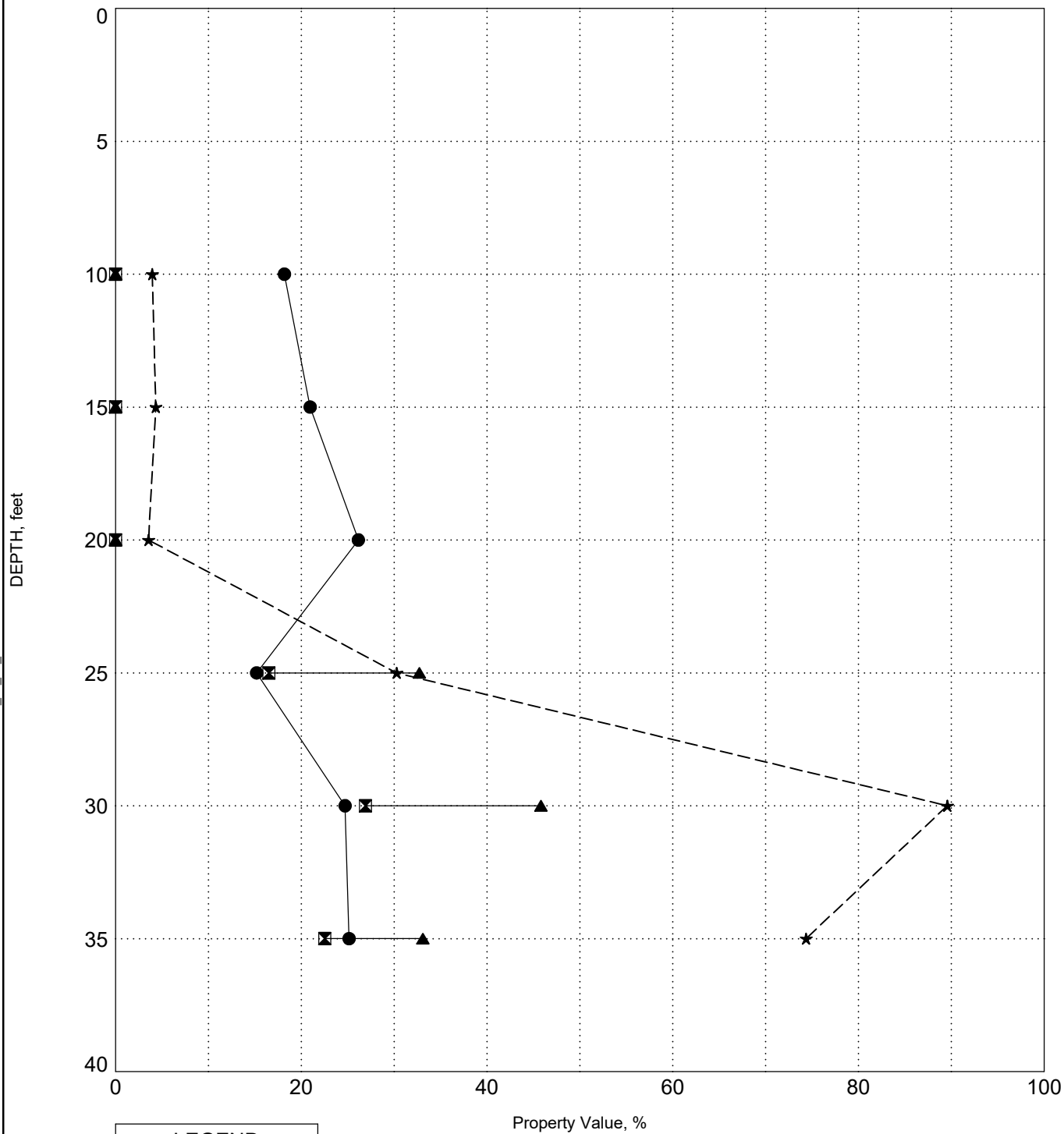
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-51

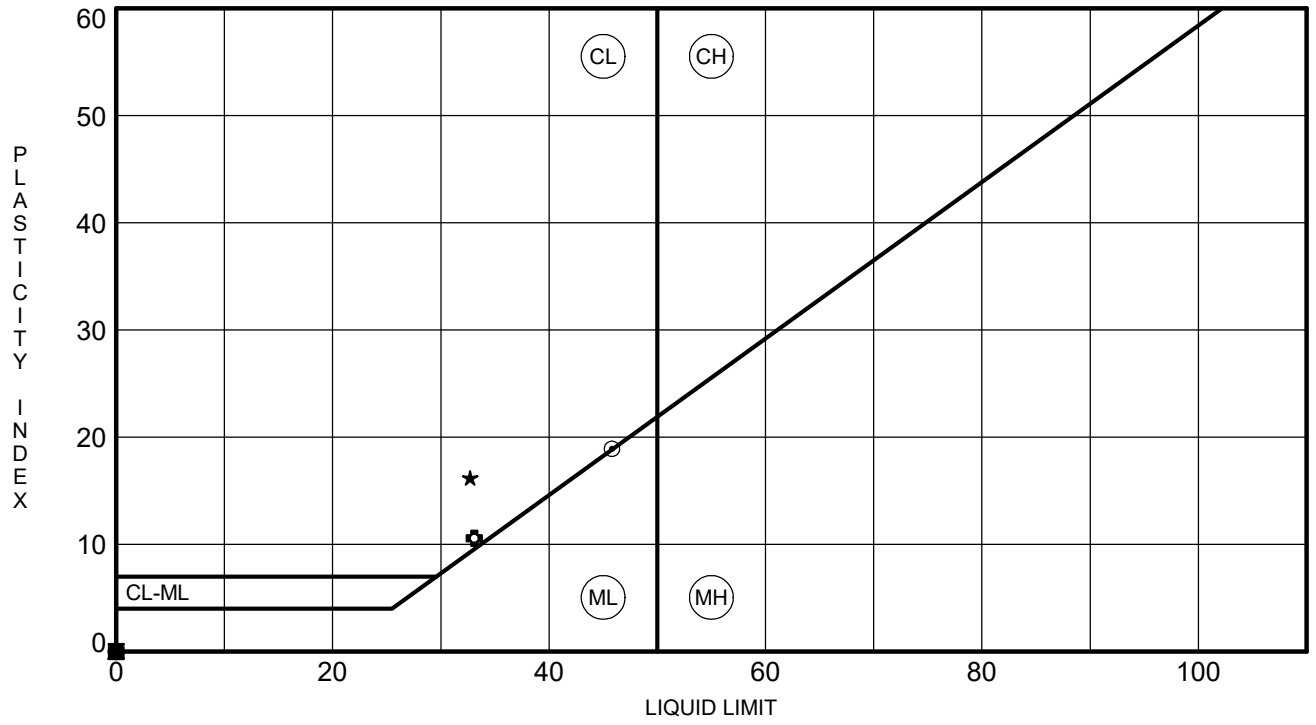
SURFACE ELEVATION: 89.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

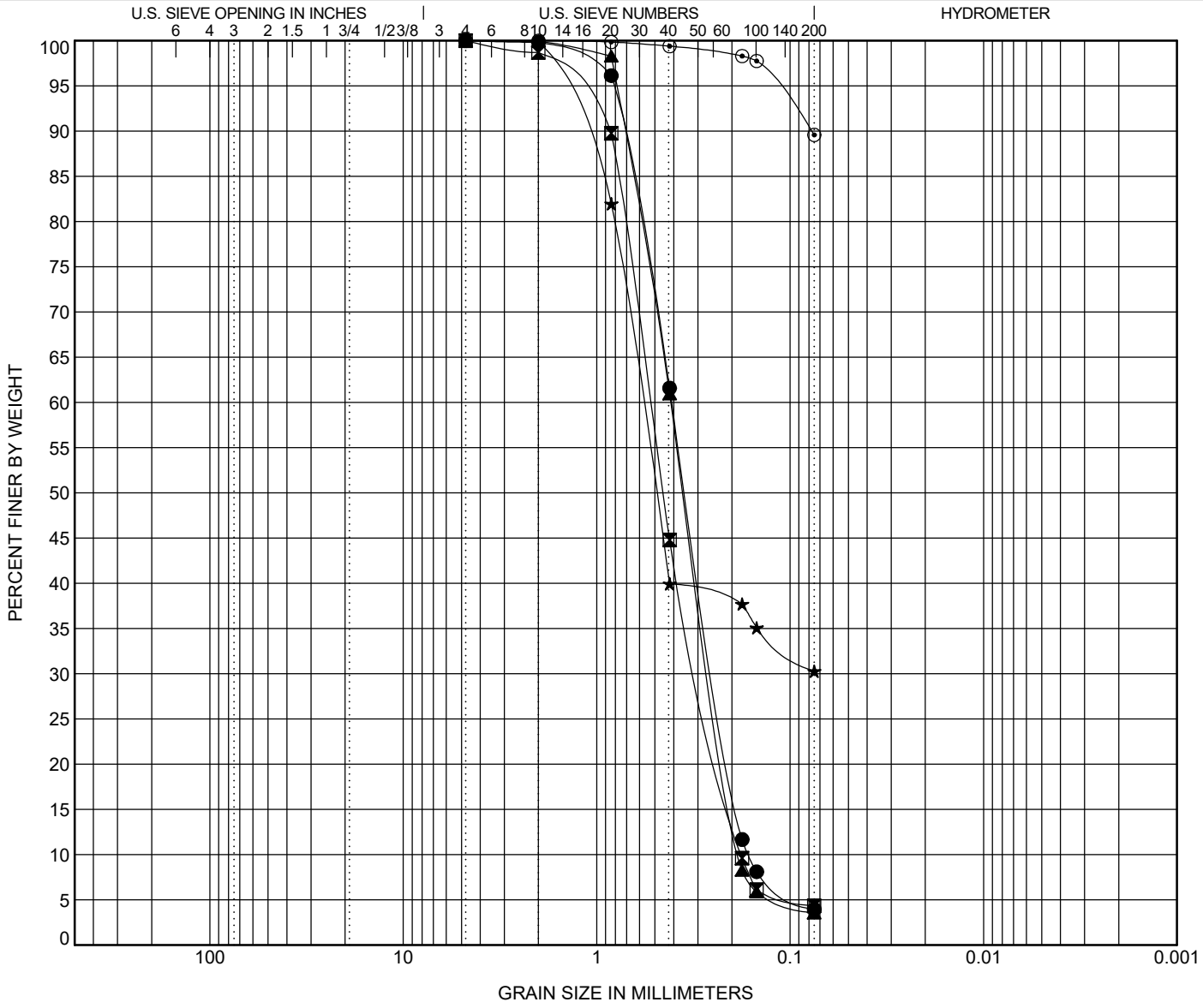


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-51**	**10.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-3)**
⊠	**B-51**	**15.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-1-b)**
▲	**B-51**	**20.0**	**NP**	**NP**	**NP**	**4**	**POORLY GRADED SAND (SP/A-3)**
★	**B-51**	**25.0**	**33**	**17**	**16**	**30**	**CLAYEY SAND (SC/A-2-6)**
⊙	**B-51**	**30.0**	**46**	**27**	**19**	**90**	**LEAN CLAY (CL/A-7-6)**
✿	**B-51**	**35.0**	**33**	**23**	**10**	**74**	**LEAN CLAY with SAND (CL/A-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

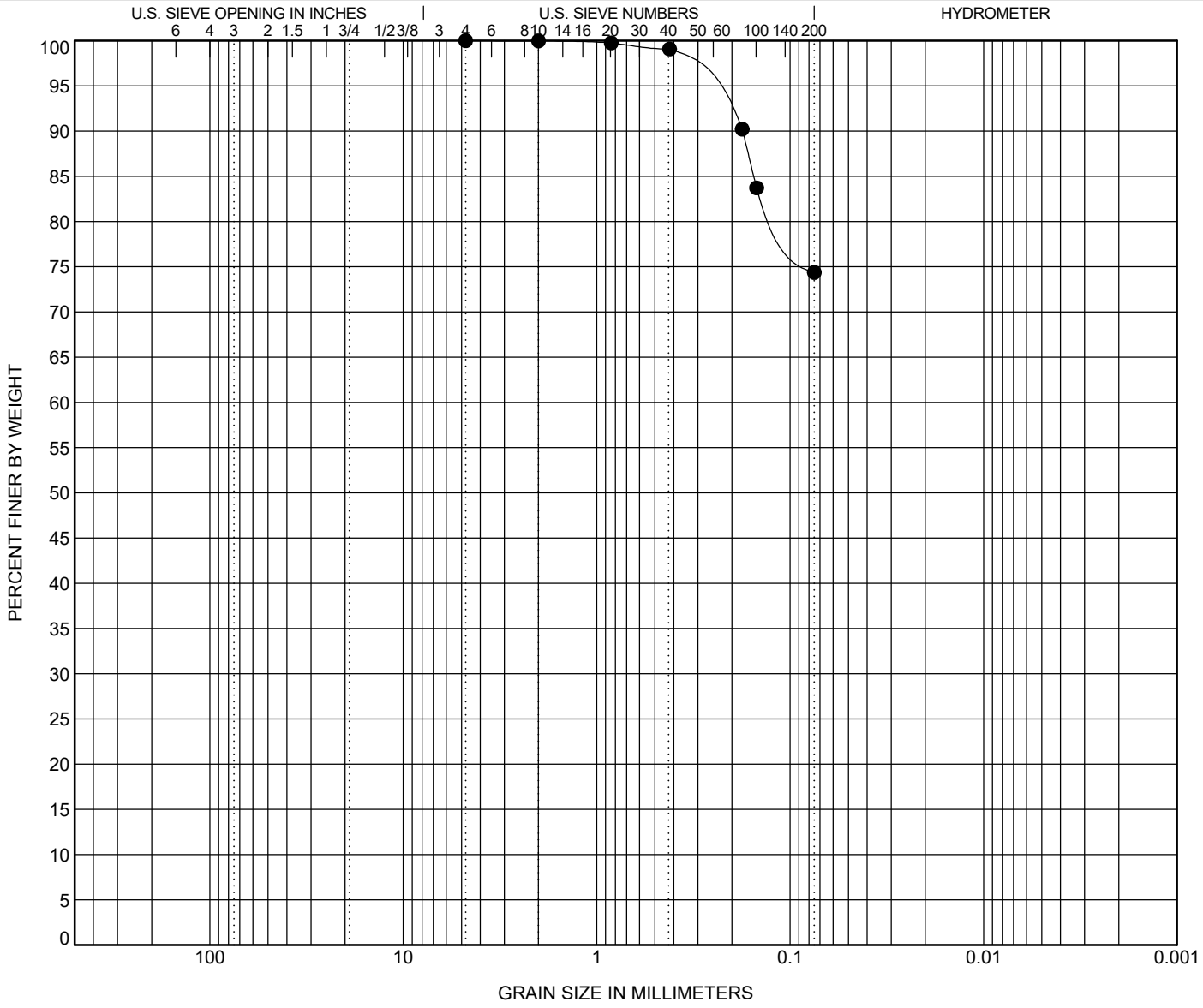
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-51**	**10.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.89**	**2.50**
⊠	**B-51**	**15.0**	**POORLY GRADED SAND (SP/A-1-b)**	**NP**	**NP**	**NP**	**0.90**	**2.97**
▲	**B-51**	**20.0**	**POORLY GRADED SAND (SP/A-3)**	**NP**	**NP**	**NP**	**0.85**	**2.27**
★	**B-51**	**25.0**	**CLAYEY SAND (SC/A-2-6)**	**33**	**17**	**16**		
⊙	**B-51**	**30.0**	**LEAN CLAY (CL/A-7-6)**	**46**	**27**	**19**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-51**	**10.0**	**4.76**	**0.409**	**0.243**	**0.163**	**0.0**	**96.1**	**3.9**	
⊠	**B-51**	**15.0**	**4.76**	**0.531**	**0.292**	**0.179**	**0.0**	**95.7**	**4.3**	
▲	**B-51**	**20.0**	**4.76**	**0.414**	**0.253**	**0.182**	**0.0**	**96.5**	**3.5**	
★	**B-51**	**25.0**	**4.76**	**0.585**			**0.0**	**69.7**	**30.3**	
⊙	**B-51**	**30.0**	**4.76**				**0.0**	**10.4**	**89.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-51**	**35.0**	**LEAN CLAY with SAND (CL/A-4)**	**33**	**23**	**10**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-51**	**35.0**	**4.76**				**0.0**	**25.6**	**74.4**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0312	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-51	B-51	B-51	B-51	B-51
SAMPLE NO.	SS-5	SS-6	SS-7	SS-8	SS-9
SAMPLE DEPTH (FT.)	8.0 - 10.0	13.5 - 15.0	18.5 - 20.0	23.5 - 25.0	28.5 - 30.0
WATER CONTENT, W%	18.2	21.0	26.1	15.2	24.7

BORING NO.	B-51				
SAMPLE NO.	SS-10				
SAMPLE DEPTH (FT.)	33.5 - 35.0				
WATER CONTENT, W%	25.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

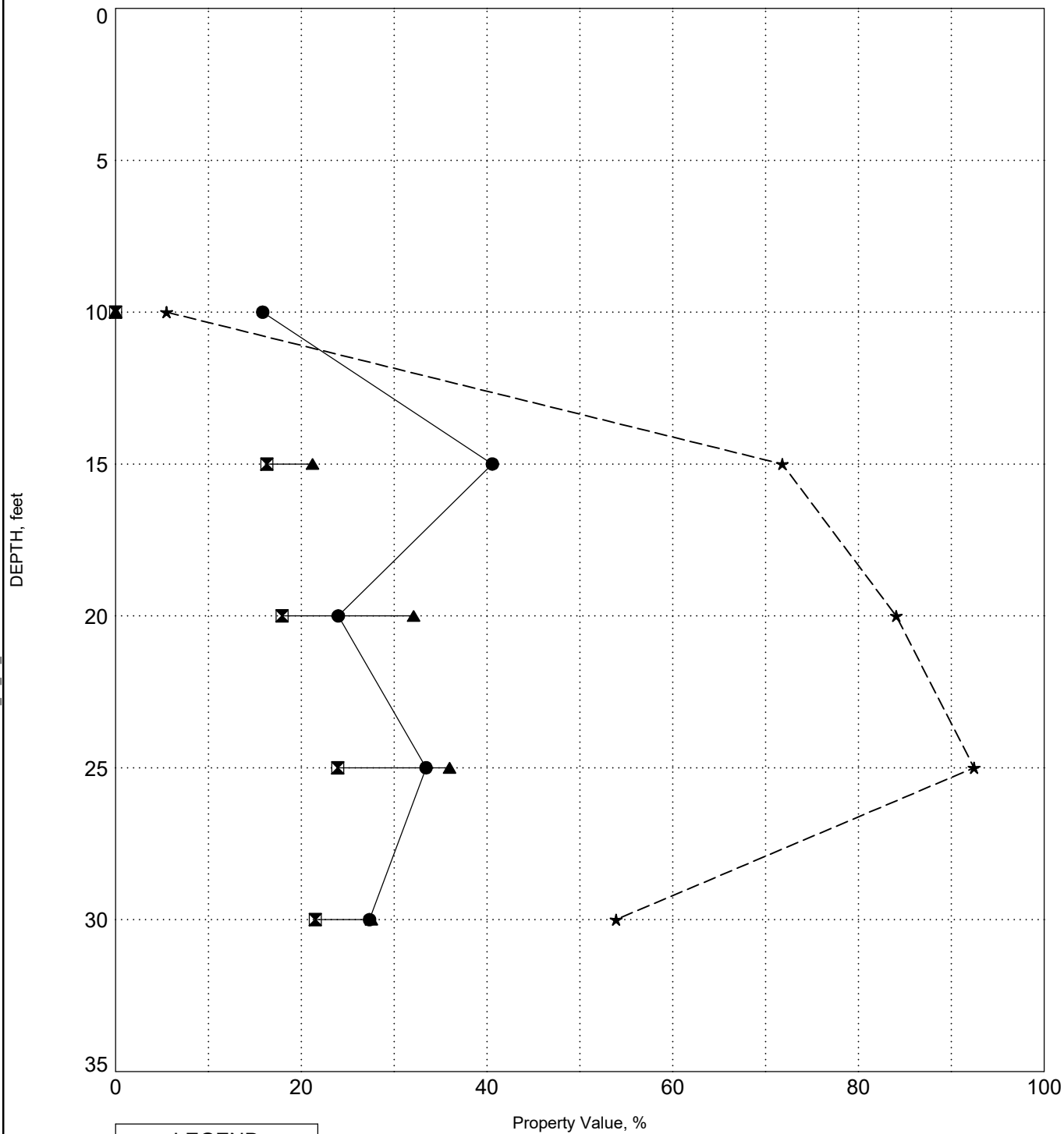
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING B-52

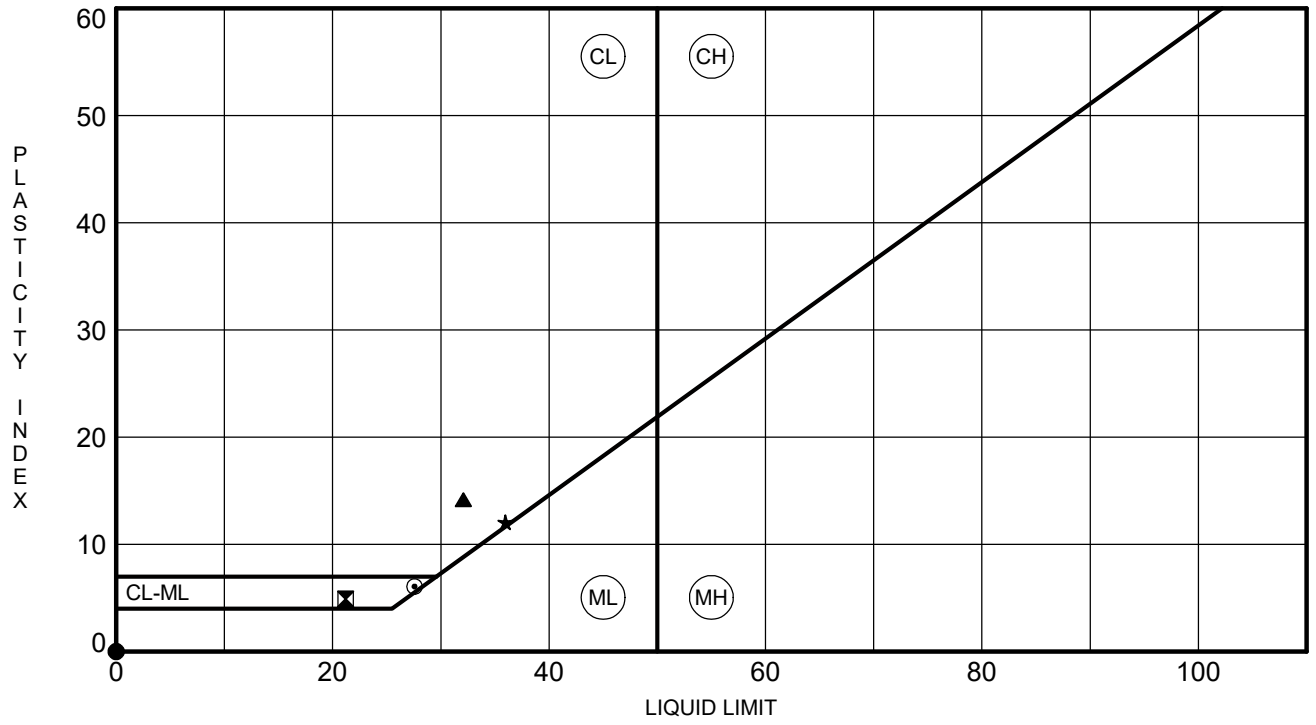
SURFACE ELEVATION: 88.1



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

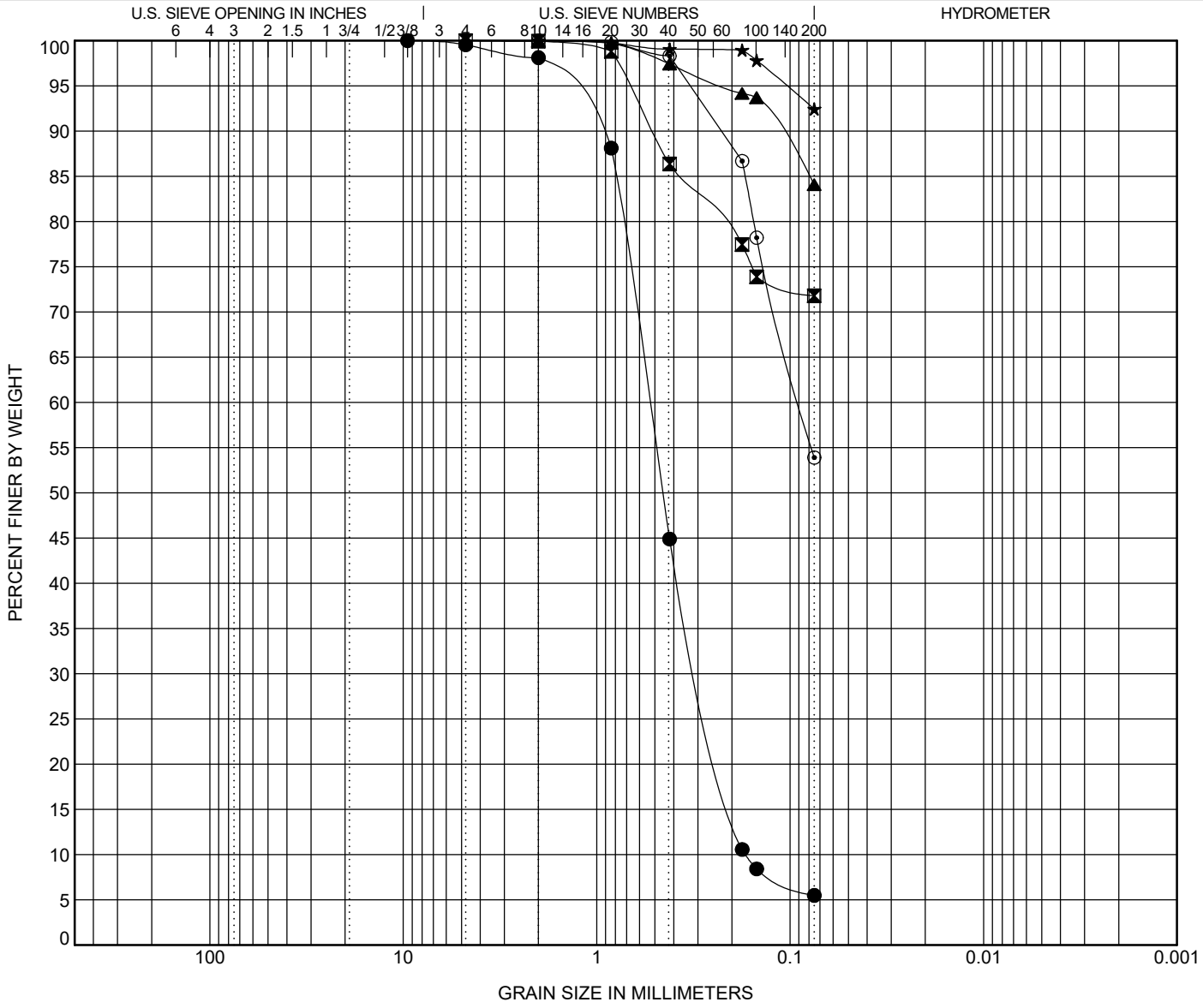


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-52**	**10.0**	**NP**	**NP**	**NP**	**5**	**POORLY GRADED SAND with SILT (SP-SM/A-1-b)**
⊠	**B-52**	**15.0**	**21**	**16**	**5**	**72**	**SILTY CLAY with SAND (CL-ML/A-4)**
▲	**B-52**	**20.0**	**32**	**18**	**14**	**84**	**LEAN CLAY with SAND (CL/A-6)**
★	**B-52**	**25.0**	**36**	**24**	**12**	**92**	**LEAN CLAY (CL/A-6)**
⊙	**B-52**	**30.0**	**28**	**22**	**6**	**54**	**SANDY SILTY CLAY (CL-ML/A-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-52	10.0	POORLY GRADED SAND with SILT (SP-SM/A-1-b)	NP	NP	NP	0.92	3.16
⊠	B-52	15.0	SILTY CLAY with SAND (CL-ML/A-4)	21	16	5		
▲	B-52	20.0	LEAN CLAY with SAND (CL/A-6)	32	18	14		
★	B-52	25.0	LEAN CLAY (CL/A-6)	36	24	12		
⊙	B-52	30.0	SANDY SILTY CLAY (CL-ML/A-4)	28	22	6		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-52	10.0	9.51	0.535	0.289	0.169	0.5	94.0	5.5	
⊠	B-52	15.0	4.76				0.0	28.2	71.8	
▲	B-52	20.0	4.76				0.0	15.9	84.1	
★	B-52	25.0	2				0.0	7.6	92.4	
⊙	B-52	30.0	2	0.089			0.0	46.1	53.9	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0313	**DATE SAMPLE RECEIVED:**	2/15/2023
DESCRIPTION OF SOIL:	Various		
TESTED BY:	EW	**DATE SETUP:**	2/15/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	2/16/2023

BORING NO.	B-52	B-52	B-52	B-52	B-52
SAMPLE NO.	SS-5	SS-6	SS-7	SS-8	SS-9
SAMPLE DEPTH (FT.)	8.0 - 10.0	13.5 - 15.0	18.5 - 20.0	23.5 - 25.0	28.5 - 30.0
WATER CONTENT, W%	15.8	40.6	24.0	33.4	27.3

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

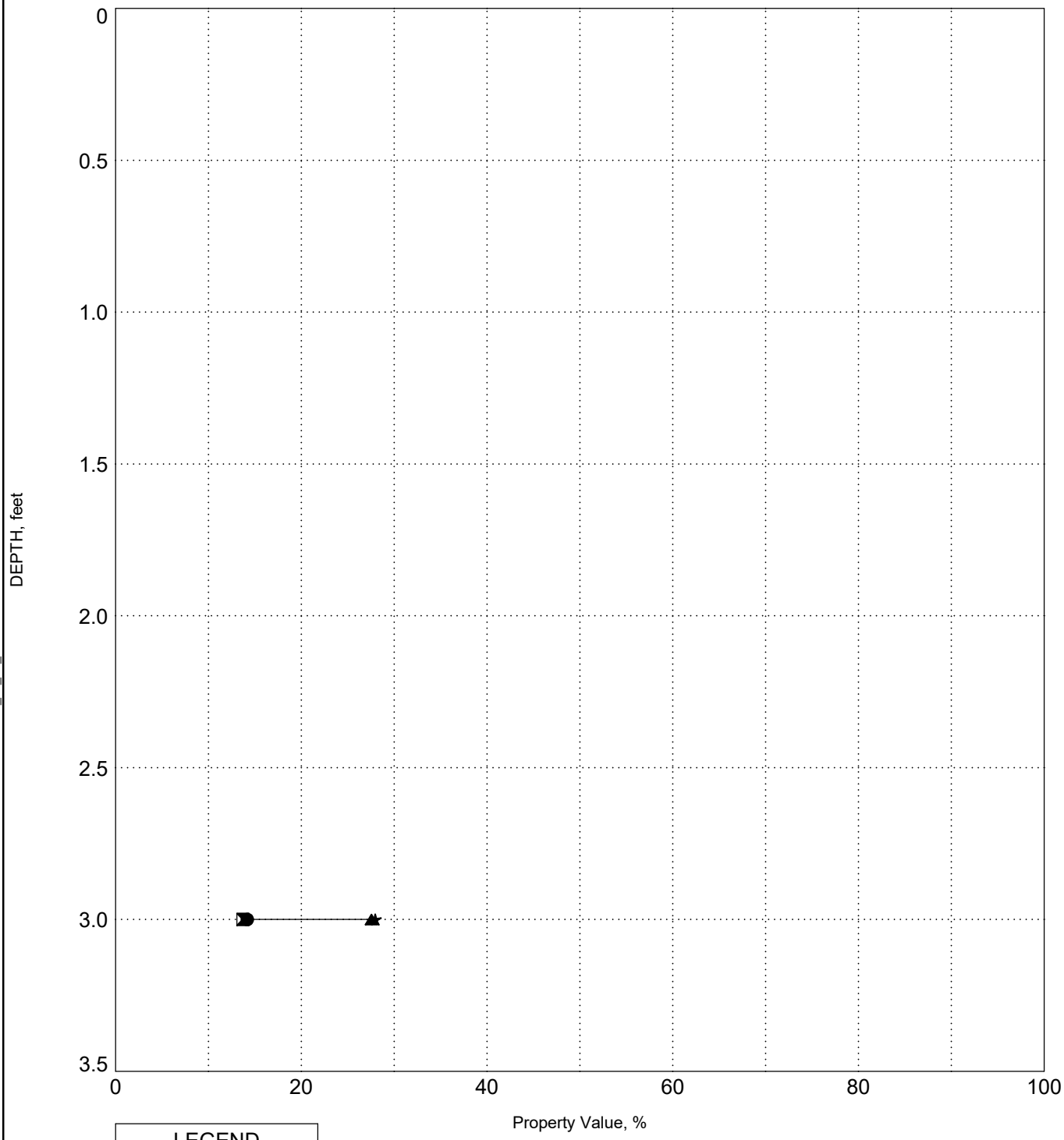
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-1

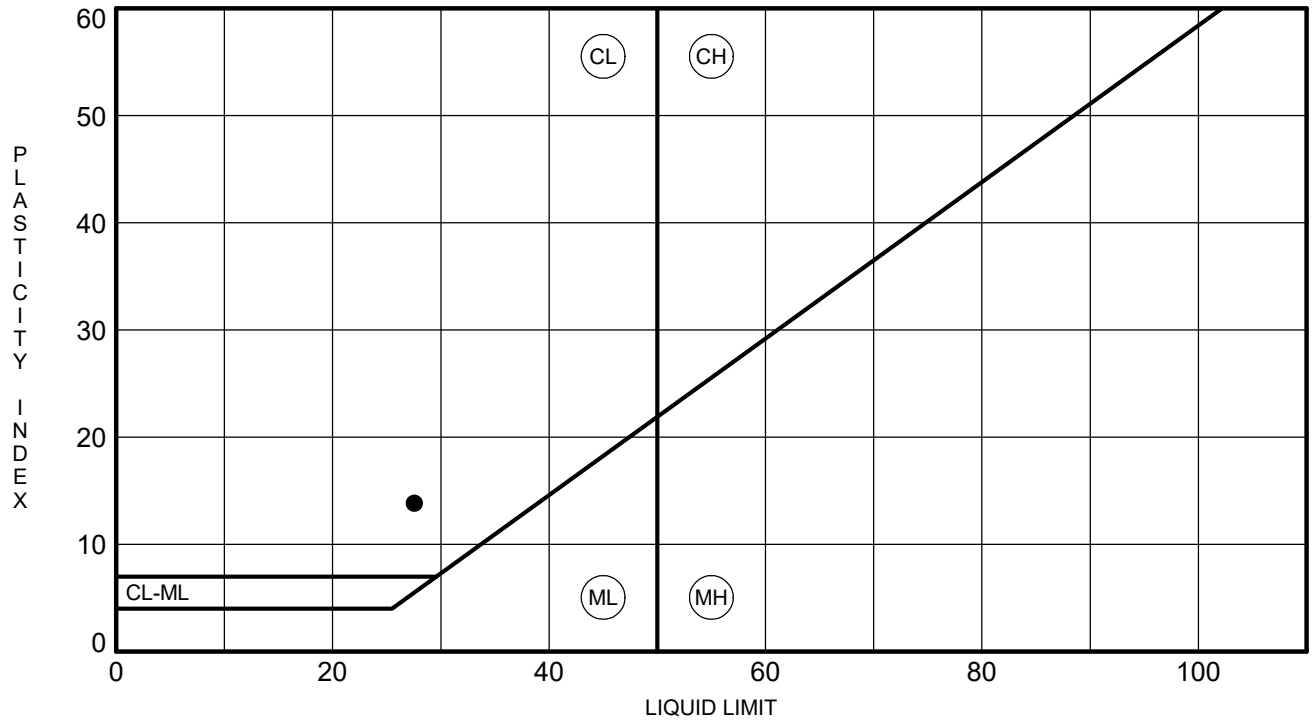
SURFACE ELEVATION: 113.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

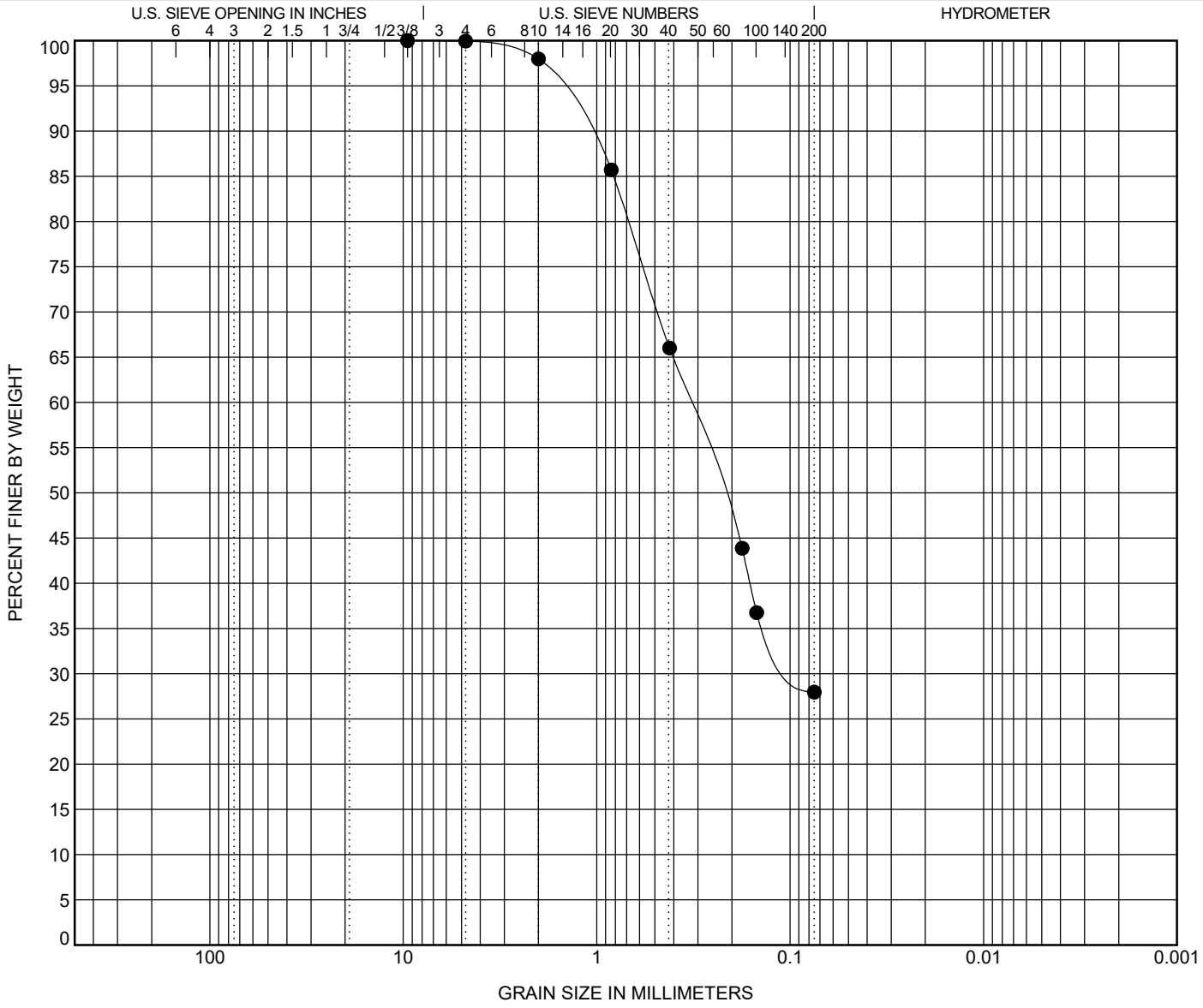


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-1**	**3.0**	**28**	**14**	**14**	**28**	**CLAYEY SAND (SC/A-2-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-1**	**3.0**	**CLAYEY SAND (SC/A-2-6)**	**28**	**14**	**14**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-1**	**3.0**	**9.51**	**0.332**	**0.088**		**0.1**	**72.0**	**28.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0150 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-2-6)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-1				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.0 - 3.0				
WATER CONTENT, W%	14.2				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

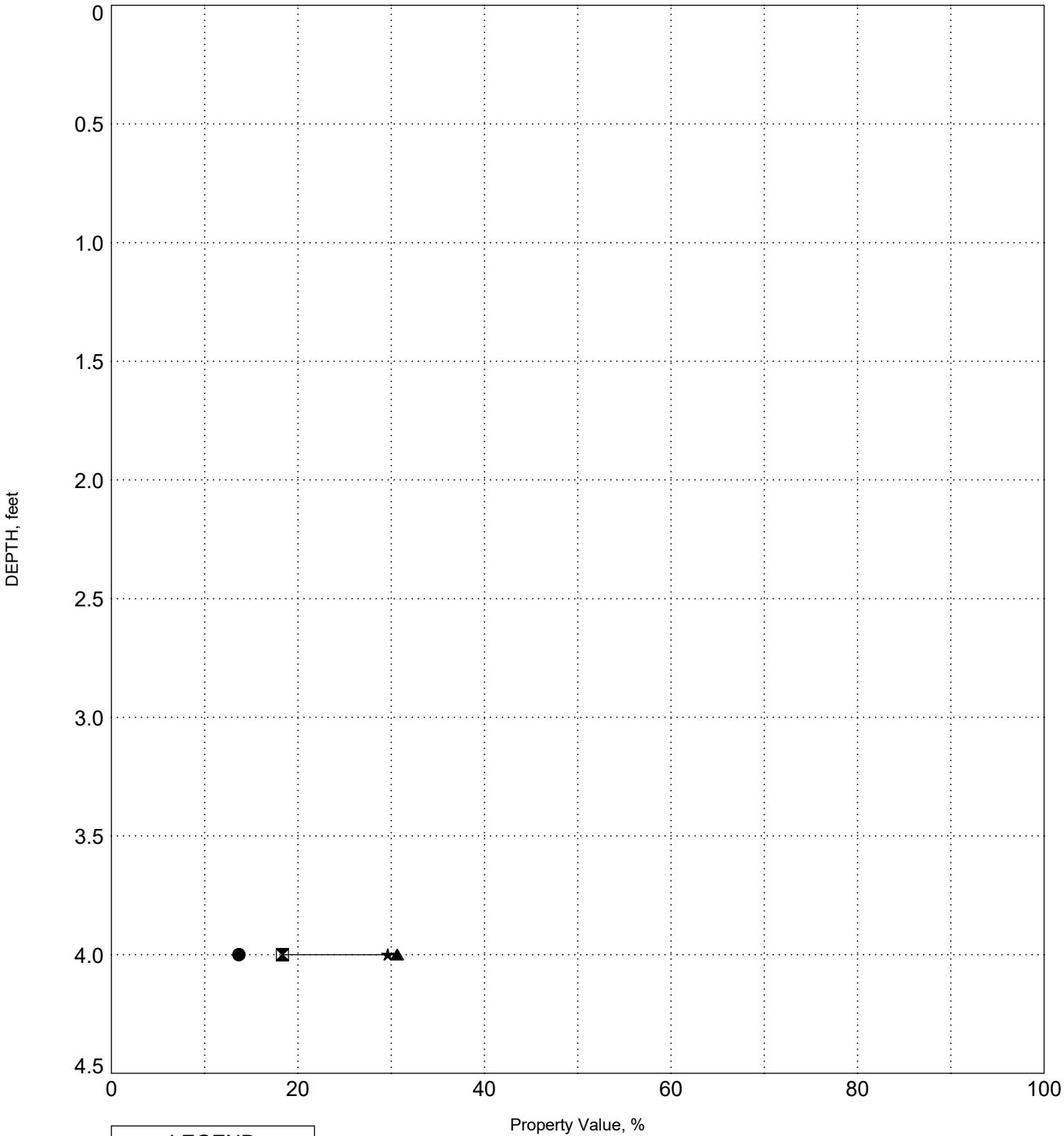
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-2

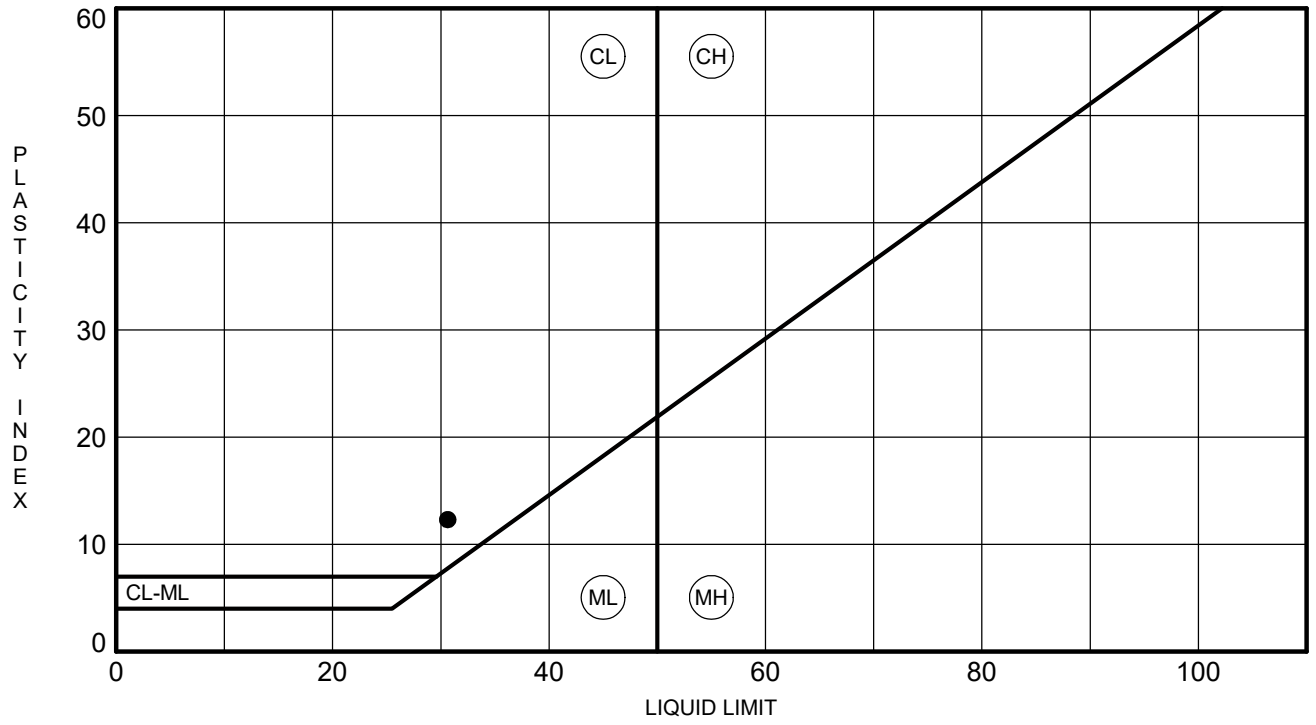
SURFACE ELEVATION: 114.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

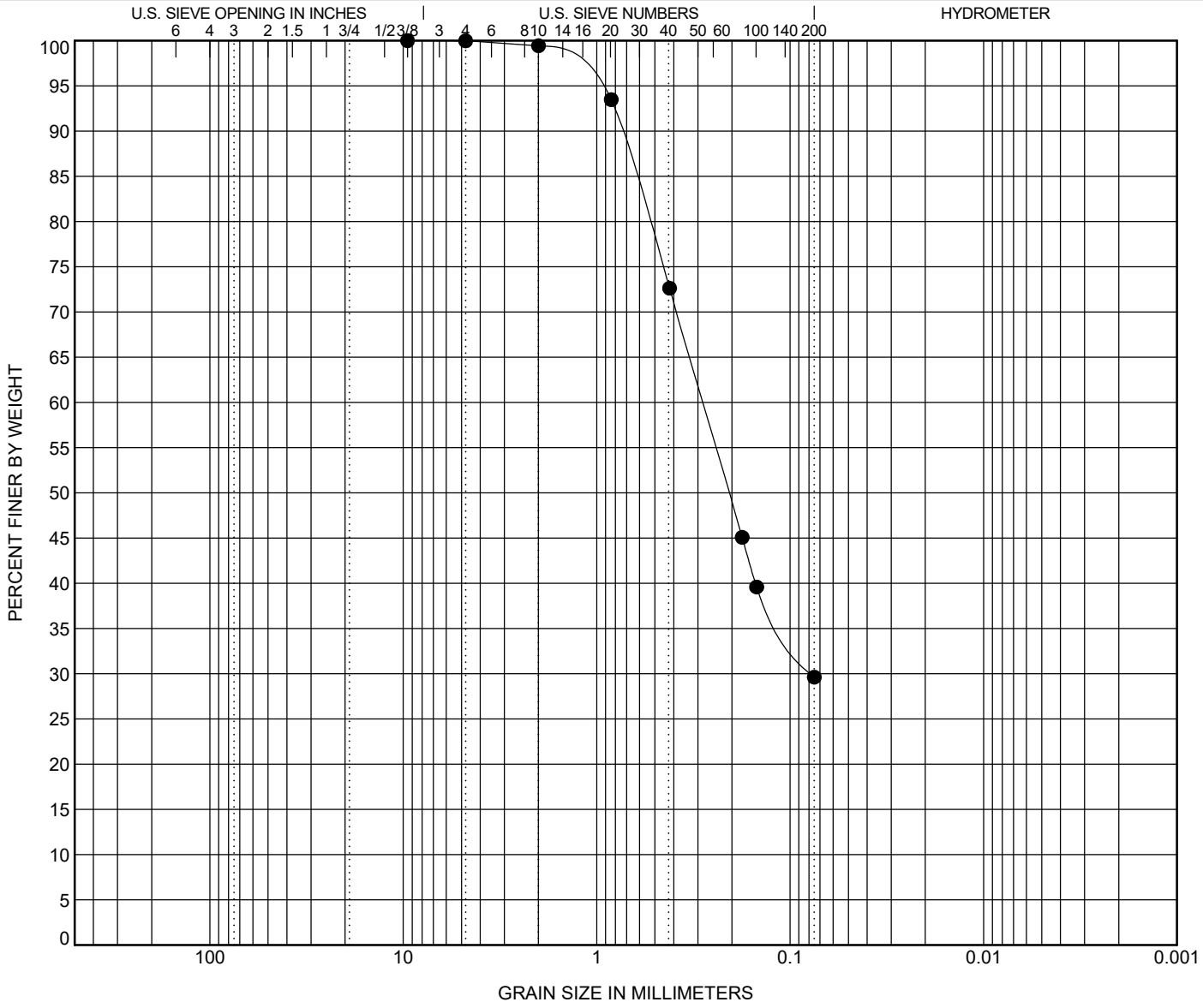


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-2**	**4.0**	**31**	**18**	**13**	**30**	**CLAYEY SAND (SC/A-2-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-2**	**4.0**	**CLAYEY SAND (SC/A-2-6)**	**31**	**18**	**13**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-2**	**4.0**	**9.51**	**0.283**	**0.077**		**0.0**	**70.4**	**29.6**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0147 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-2-6)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-2				
SAMPLE NO.	SS-2				
SAMPLE DEPTH (FT.)	2.0 - 4.0				
WATER CONTENT, W%	13.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

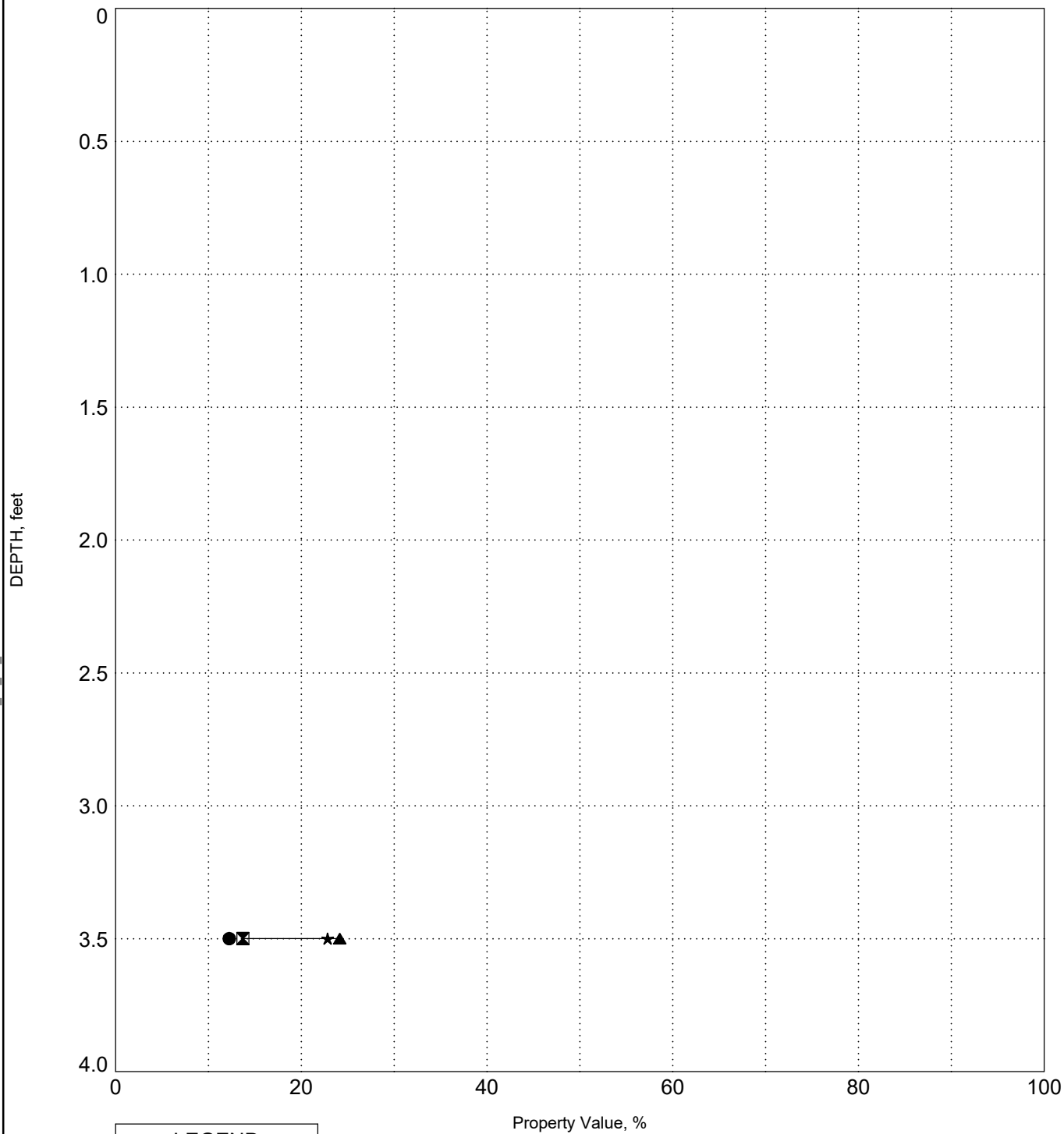
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-3

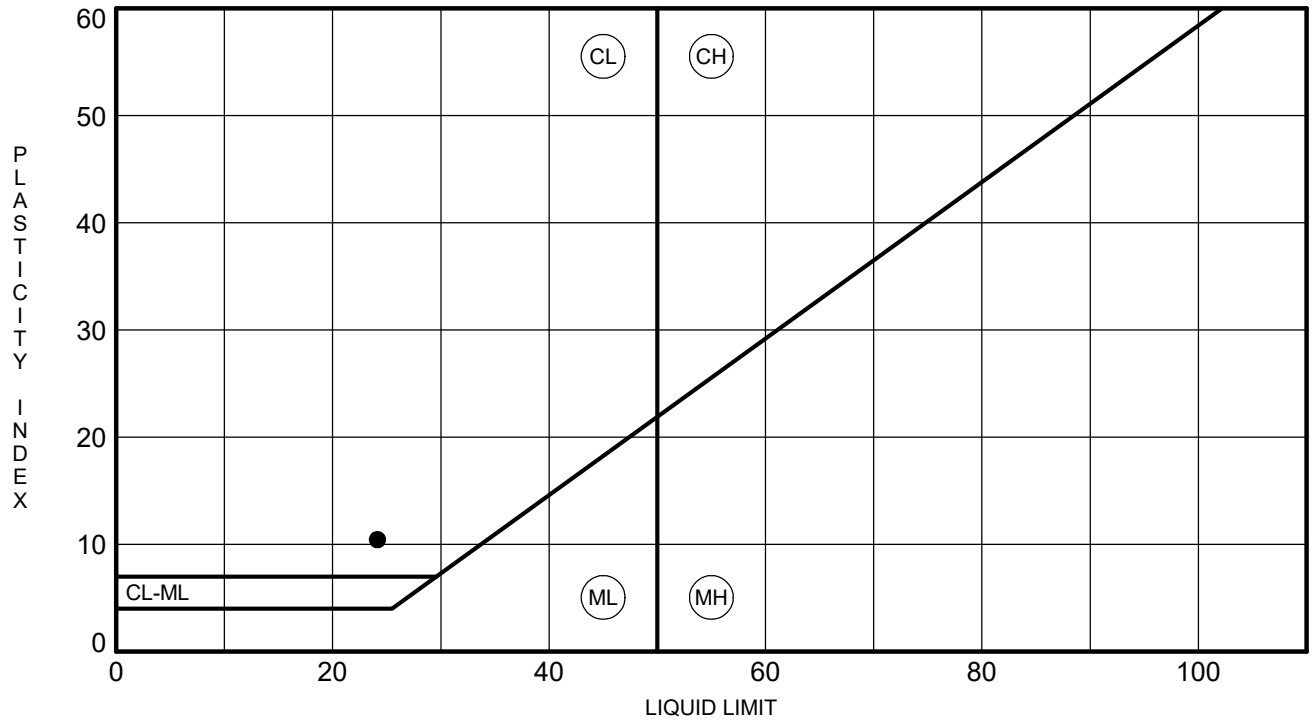
SURFACE ELEVATION: 115.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

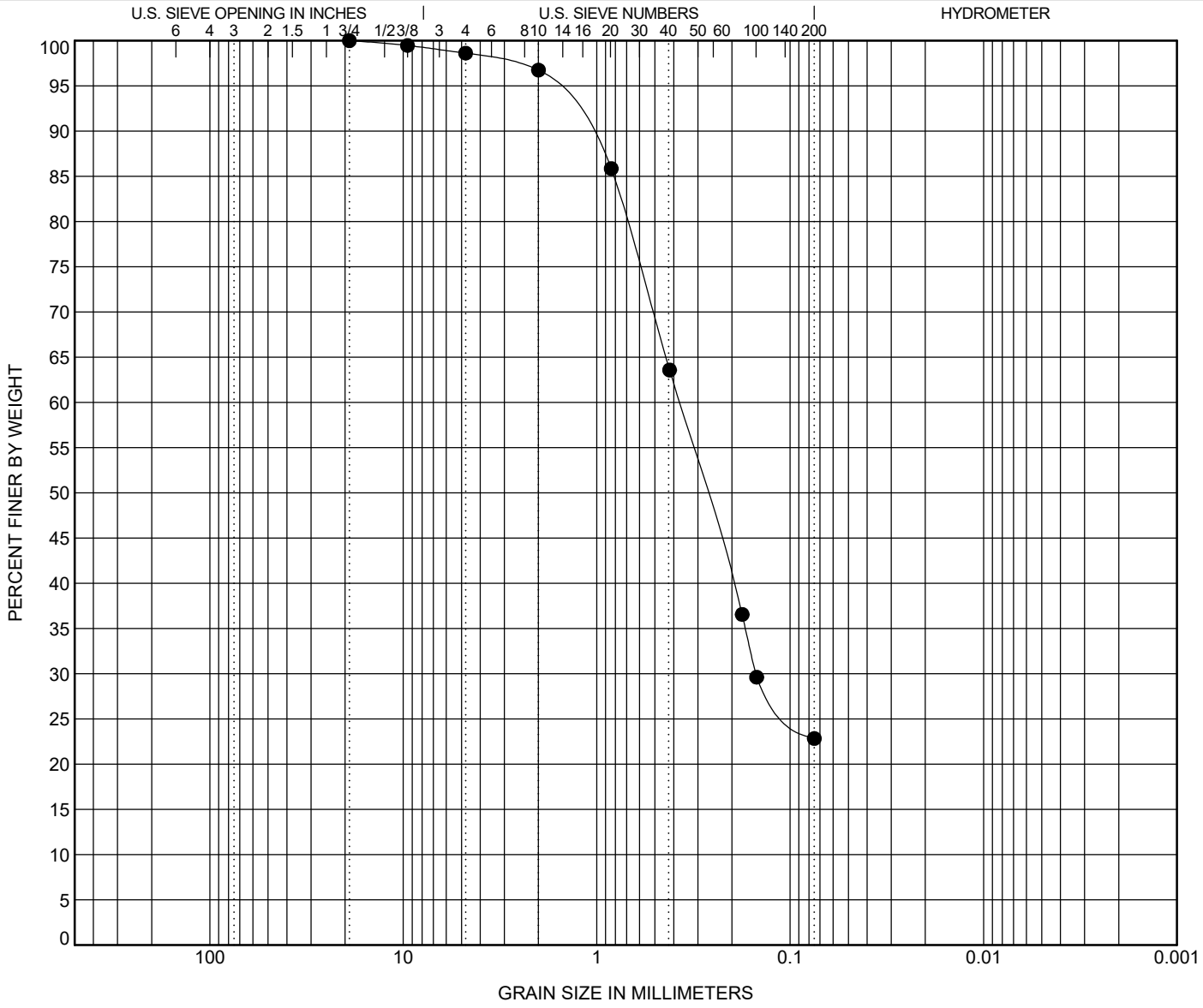


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-3**	**3.5**	**24**	**14**	**10**	**23**	**CLAYEY SAND (SC/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**P-3**	**3.5**	**CLAYEY SAND (SC/A-2-4)**	**24**	**14**	**10**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**P-3**	**3.5**	**19**	**0.375**	**0.15**		**1.4**	**75.8**	**22.8**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0127	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Clayey SAND (SC/A-2-4)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-3				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	12.2				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

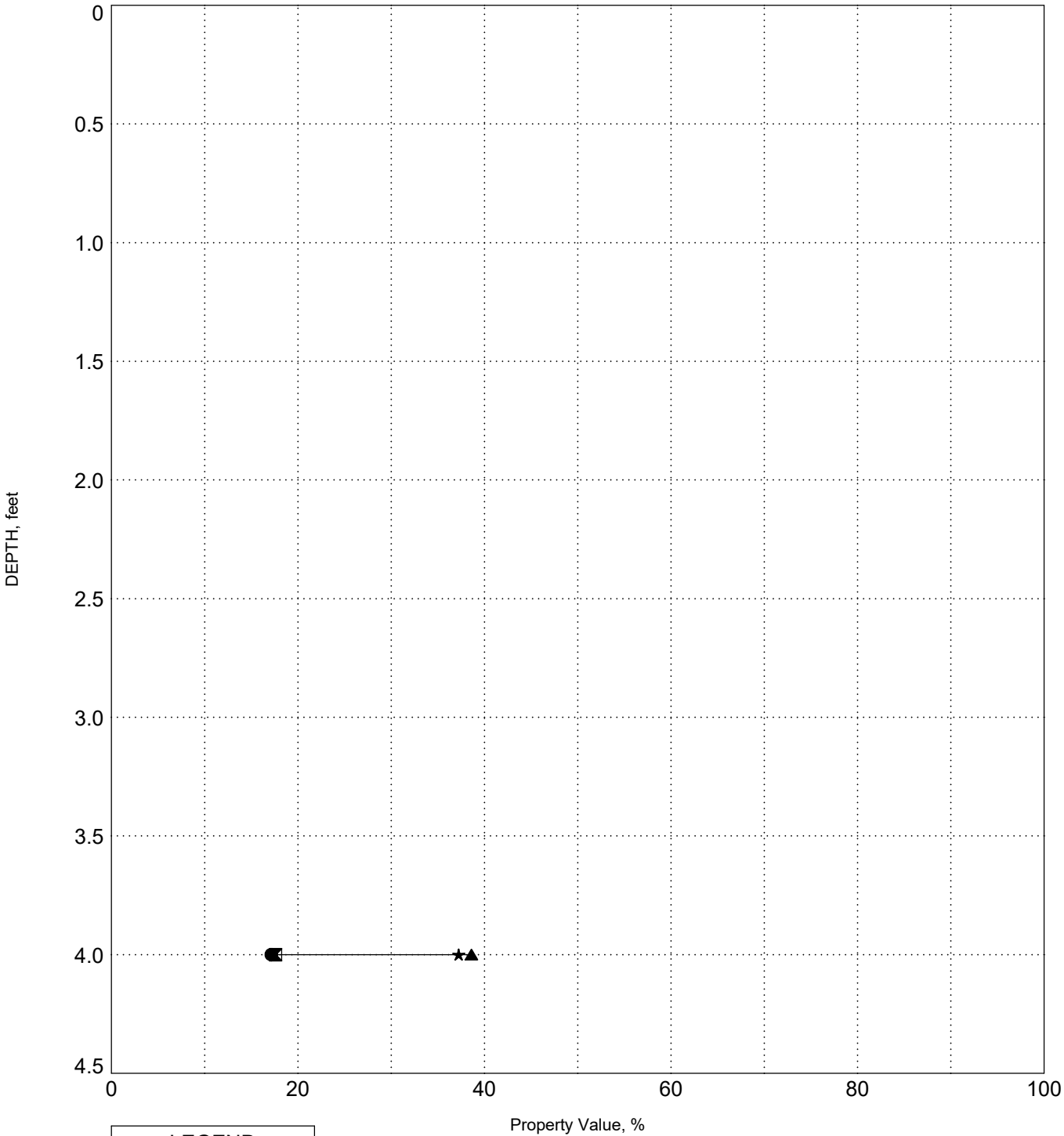
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-4

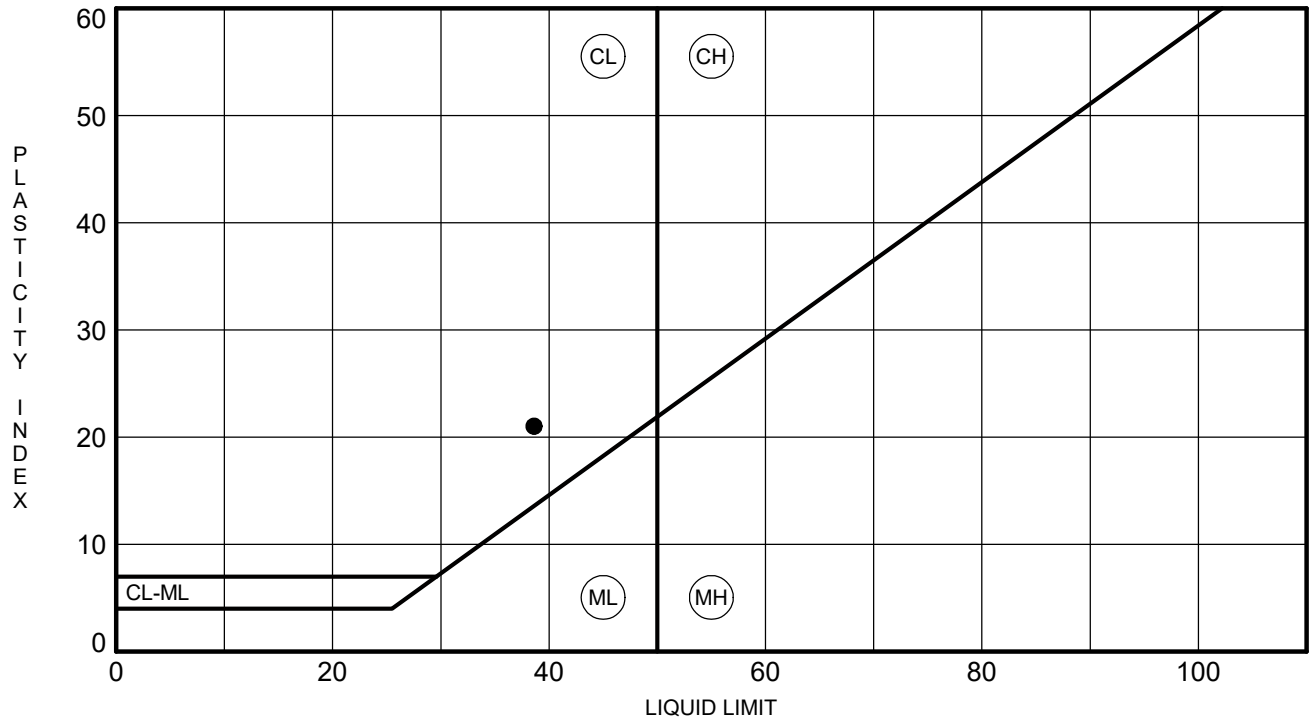
SURFACE ELEVATION: 112.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

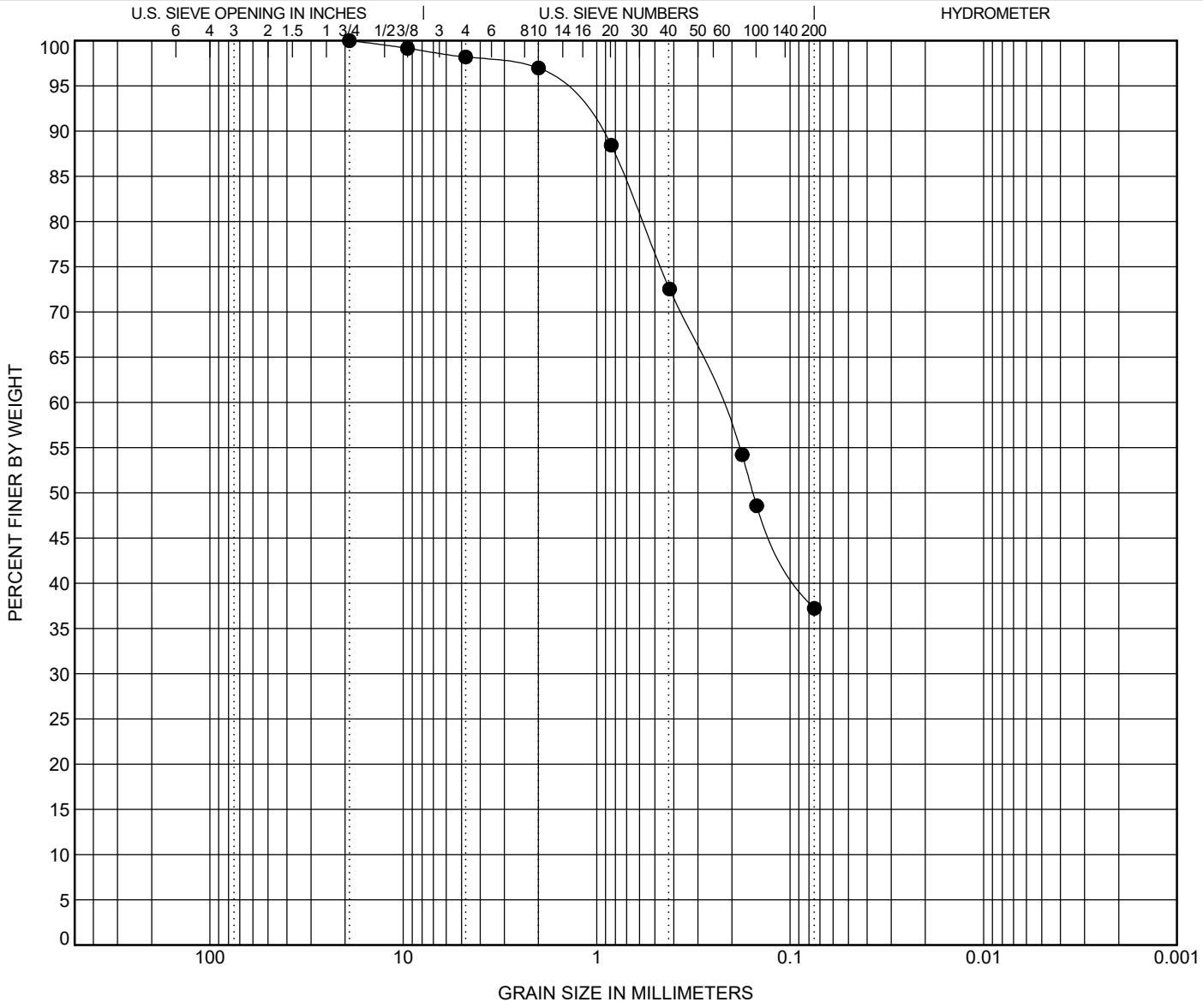


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-4**	**4.0**	**39**	**18**	**21**	**37**	**CLAYEY SAND (SC/A-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-4**	**4.0**	**CLAYEY SAND (SC/A-6)**	**39**	**18**	**21**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-4**	**4.0**	**19**	**0.233**			**1.8**	**61.0**	**37.2**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0127 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-6)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-4				
SAMPLE NO.	SS-2				
SAMPLE DEPTH (FT.)	2.0 - 4.0				
WATER CONTENT, W%	17.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

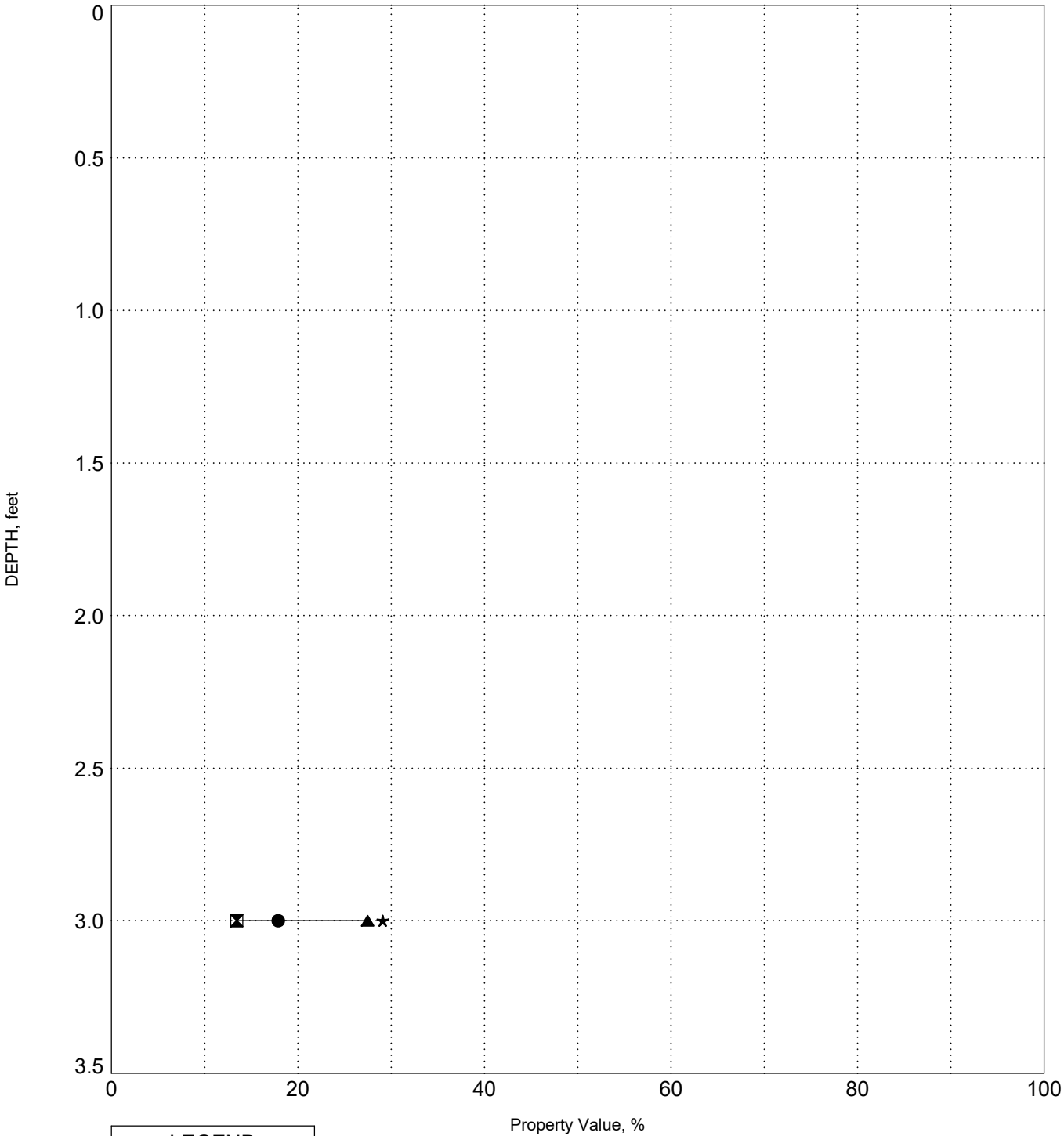
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-5

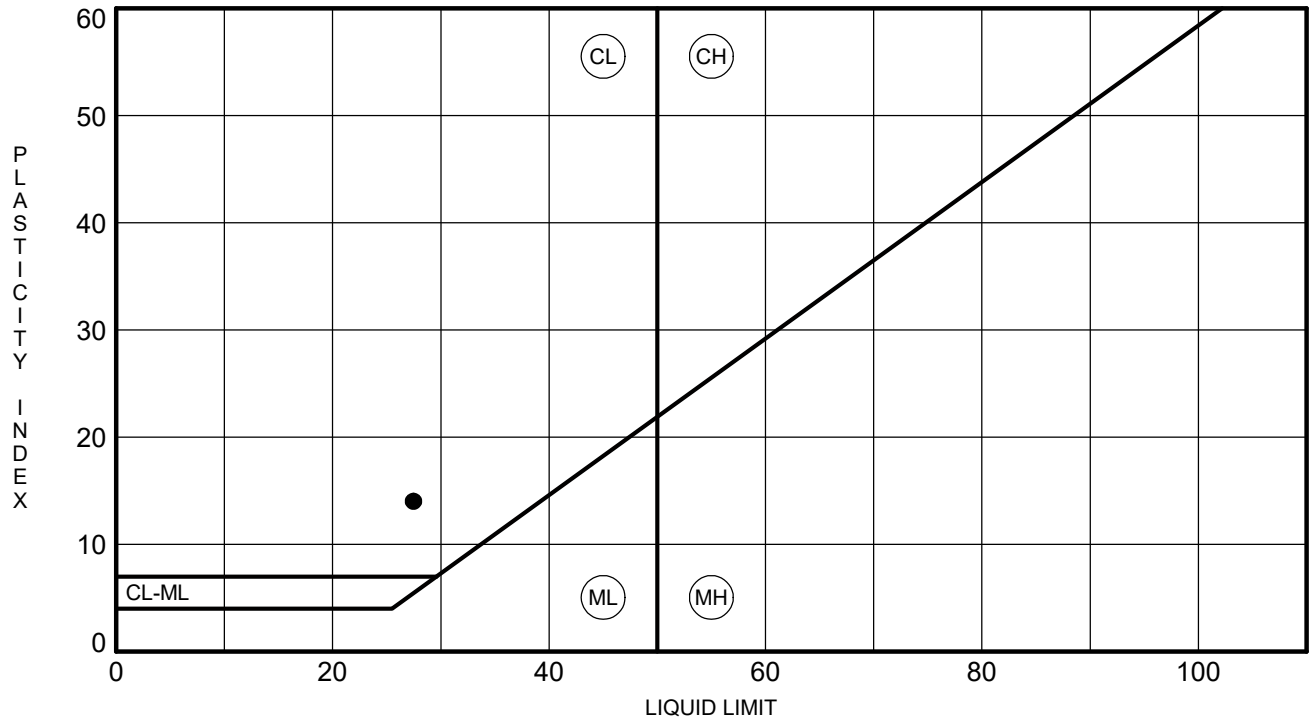
SURFACE ELEVATION: 110.6



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

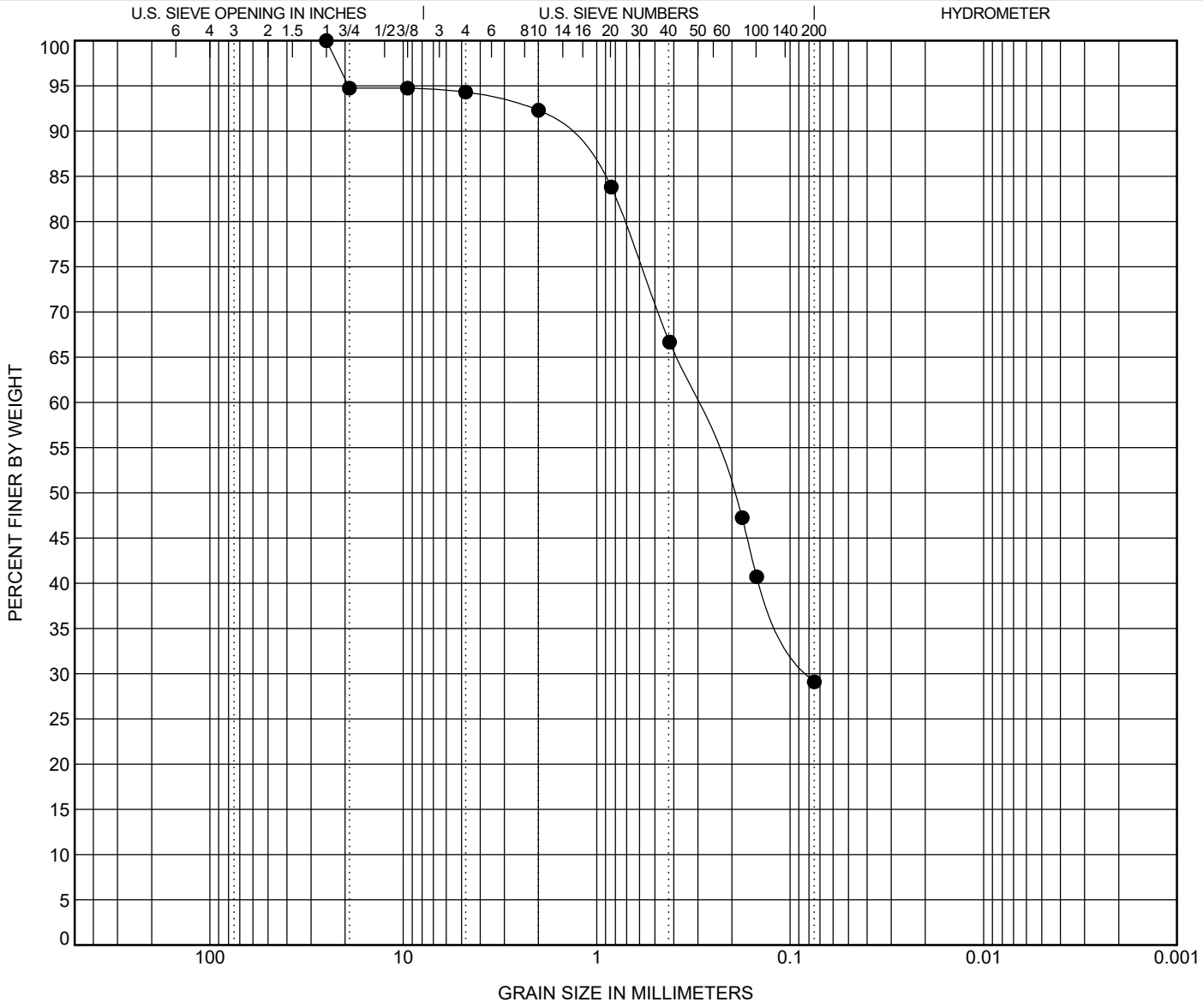


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-5**	**3.0**	**27**	**13**	**14**	**29**	**CLAYEY SAND (SC/A-2-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-5**	**3.0**	**CLAYEY SAND (SC/A-2-6)**	**27**	**13**	**14**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-5**	**3.0**	**25**	**0.312**	**0.079**		**5.7**	**65.2**	**29.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 RBO Lake Marion	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0149	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Clayey SAND (SC/A-2-6)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-5				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.0 - 3.0				
WATER CONTENT, W%	17.9				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

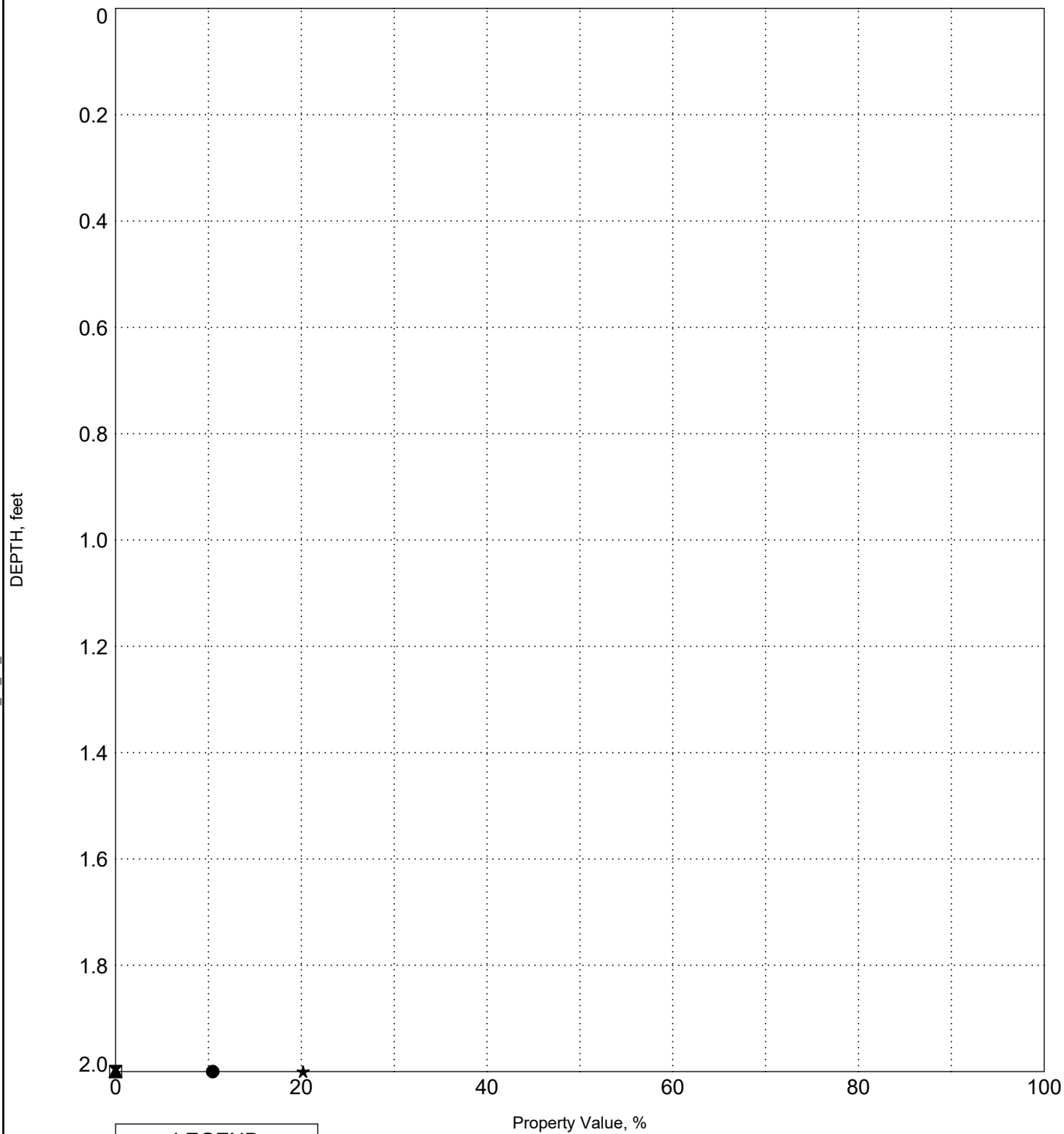
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-6

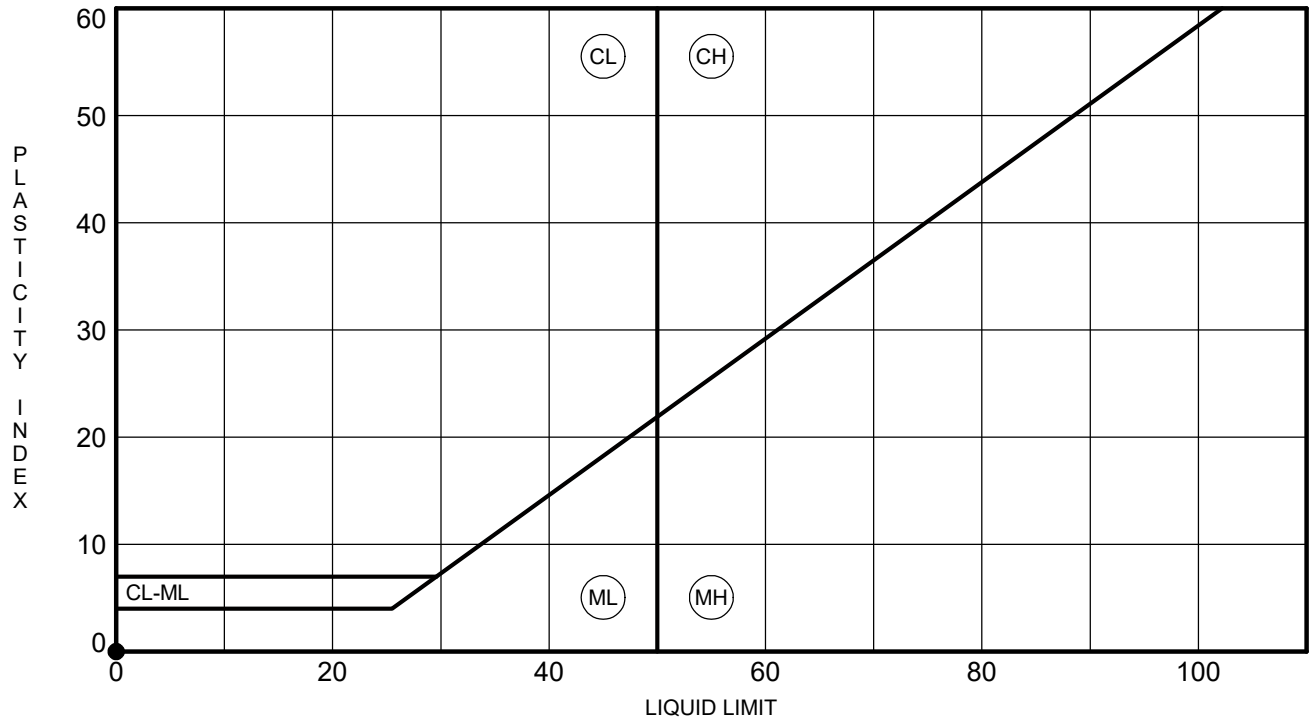
SURFACE ELEVATION: 108.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



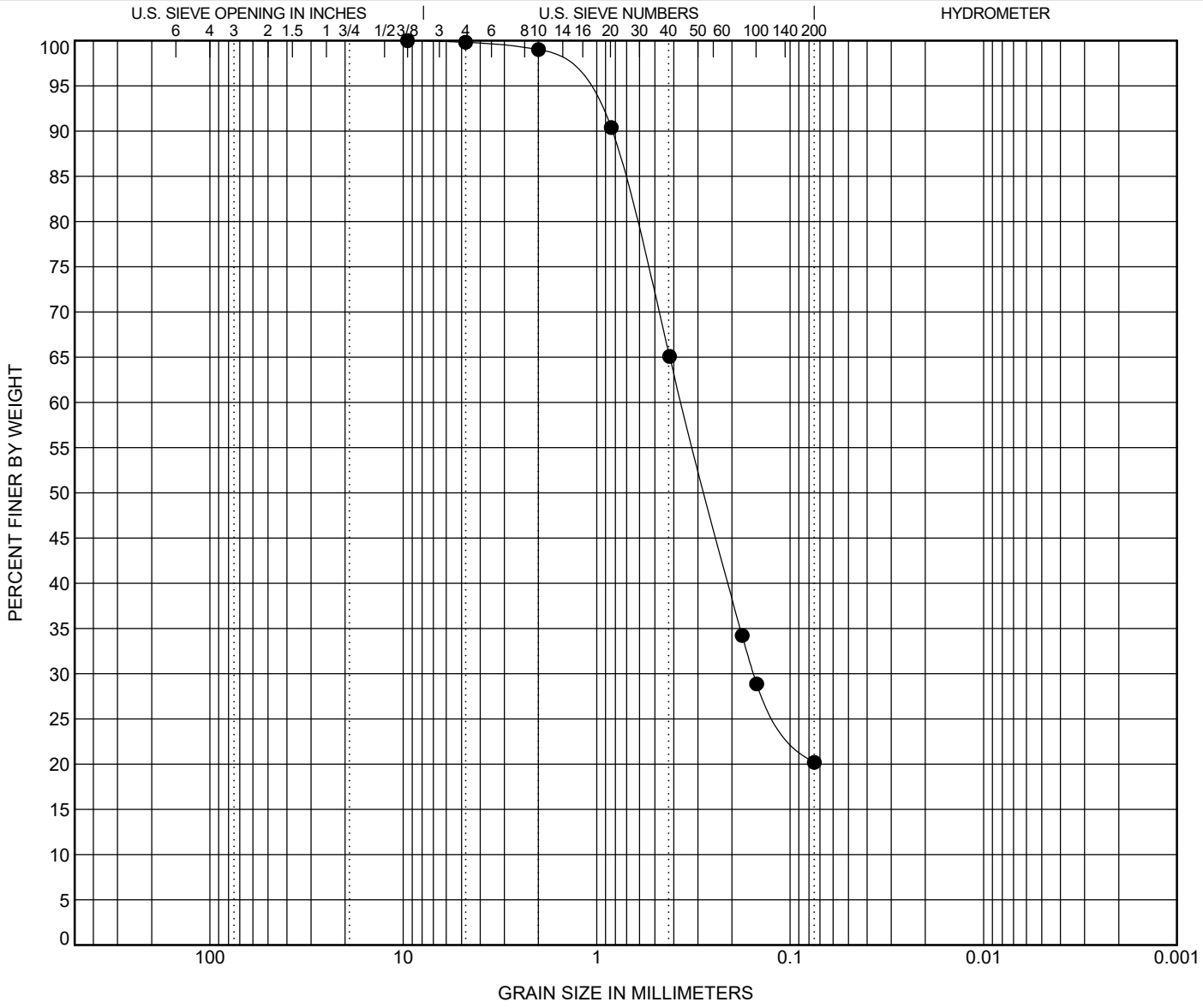
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-6**	**2.0**	**NP**	**NP**	**NP**	**20**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-6**	**2.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-6**	**2.0**	**9.51**	**0.364**	**0.155**		**0.2**	**79.6**	**20.2**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0148	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Silty SAND (SM/A-2-4)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-6				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	0.0 - 2.0				
WATER CONTENT, W%	10.5				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

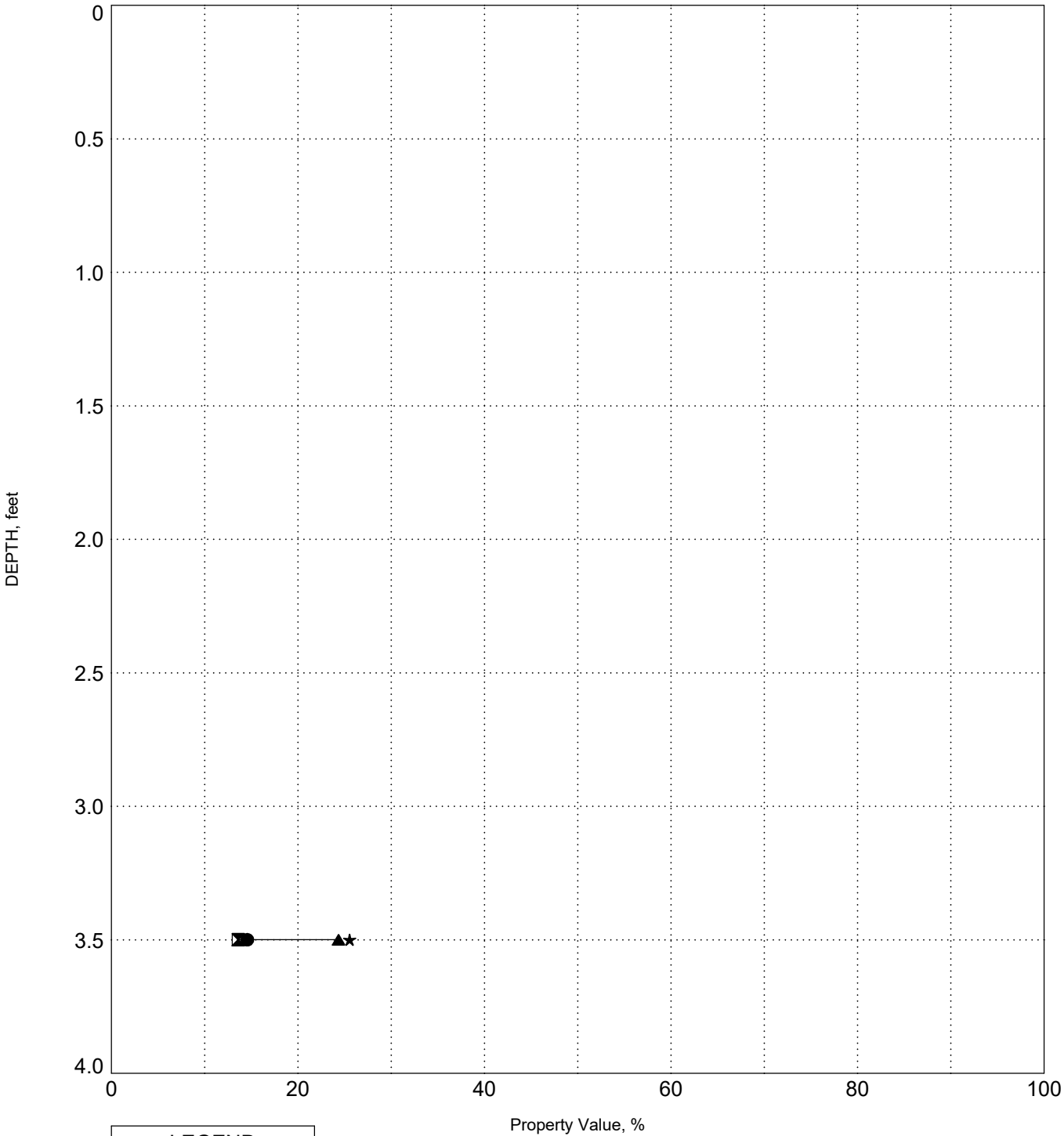
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-7

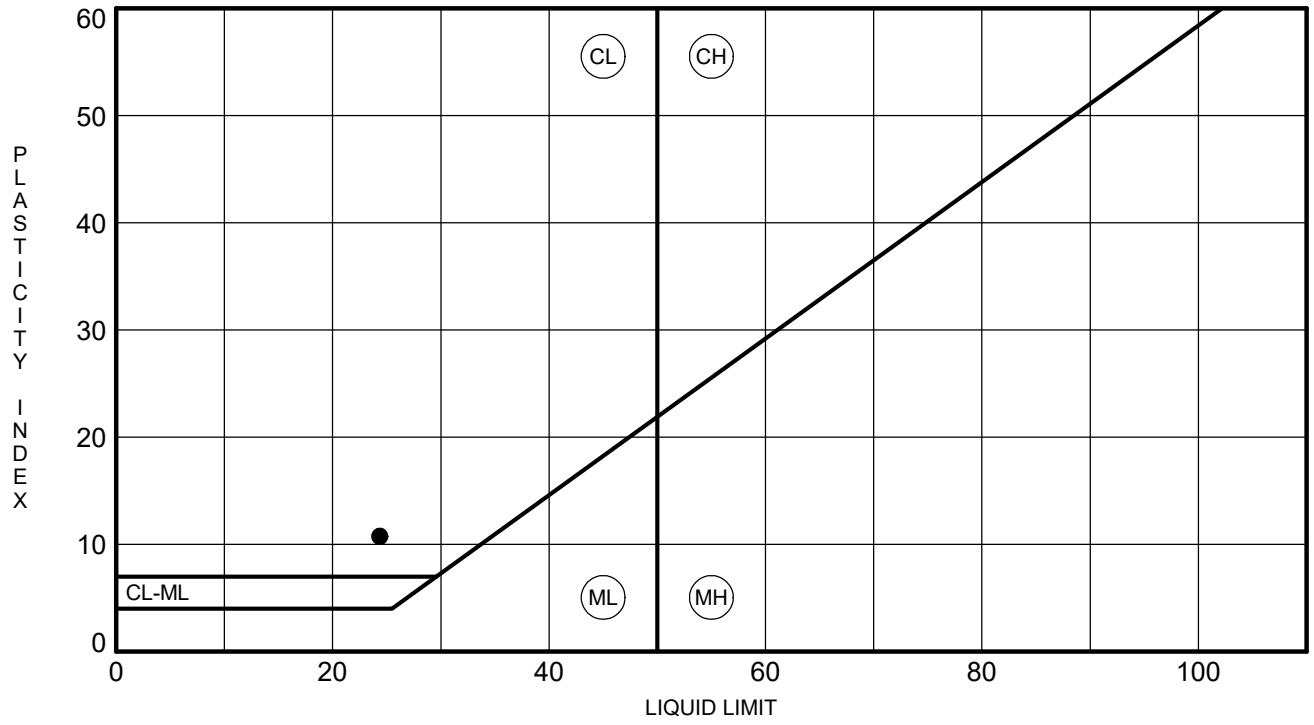
SURFACE ELEVATION: 107.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

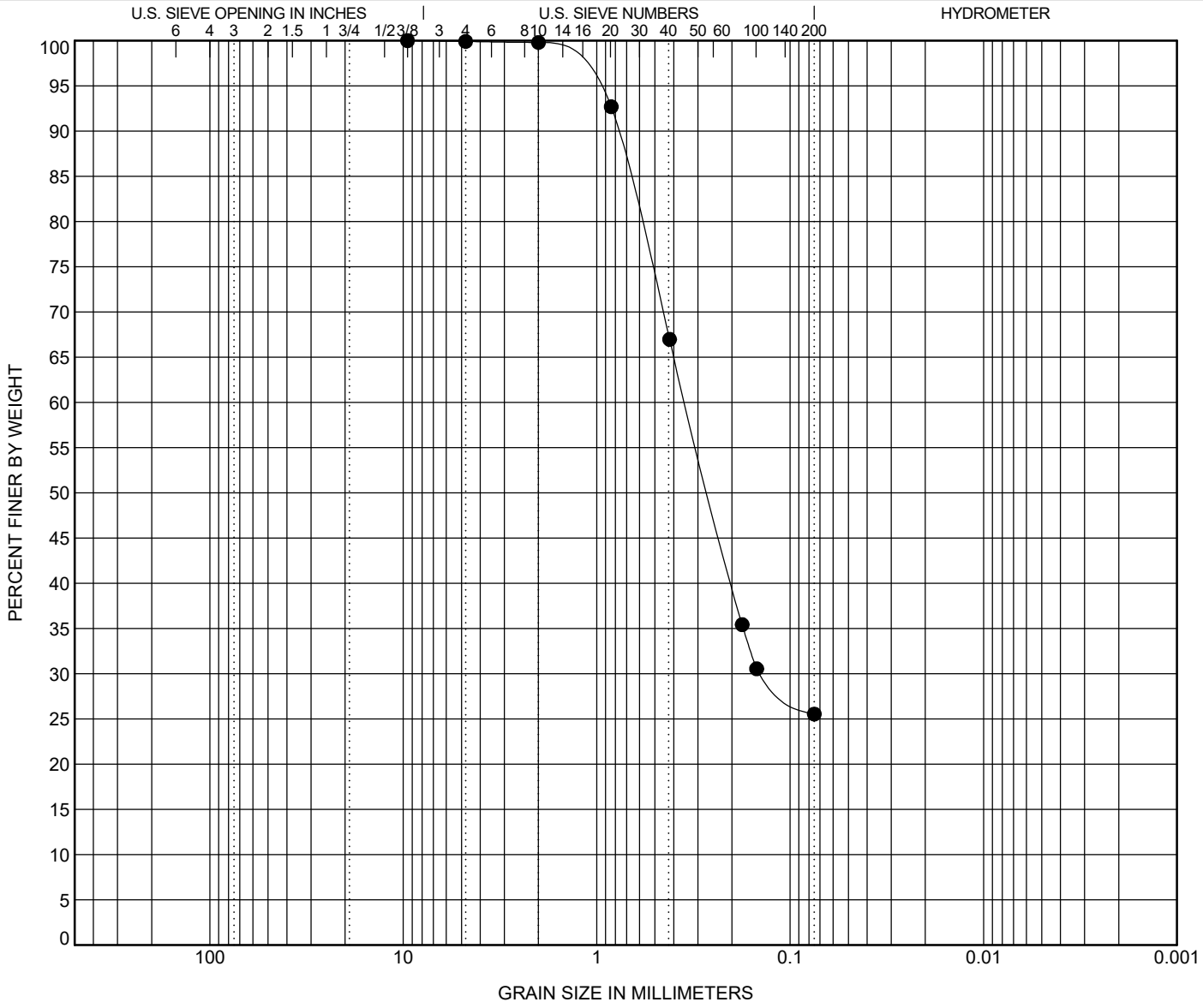


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-7**	**3.5**	**24**	**14**	**10**	**26**	**CLAYEY SAND (SC/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-7**	**3.5**	**CLAYEY SAND (SC/A-2-4)**	**24**	**14**	**10**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-7**	**3.5**	**9.51**	**0.347**	**0.138**		**0.1**	**74.4**	**25.5**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0141 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-7				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	14.6				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

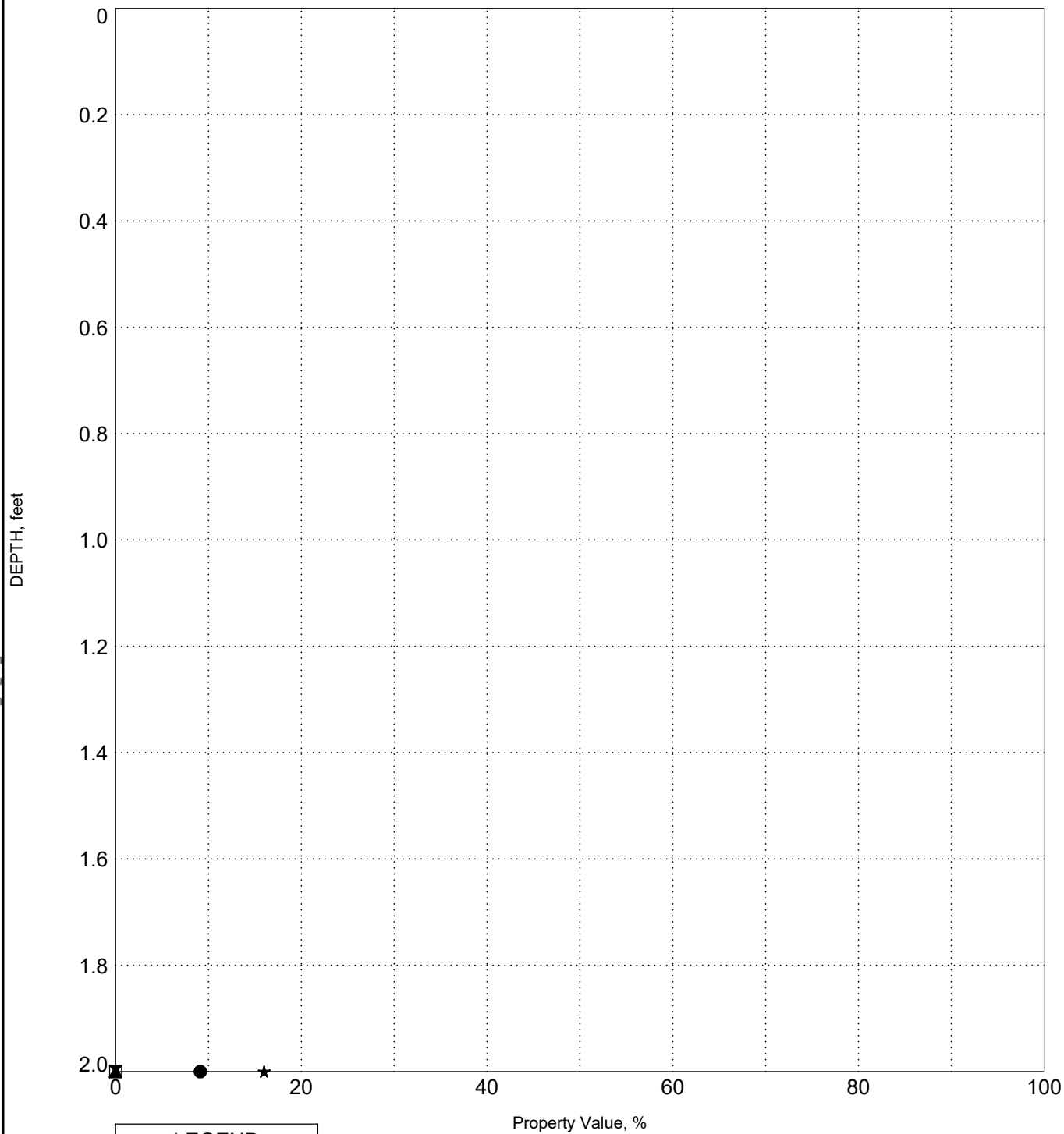
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-8

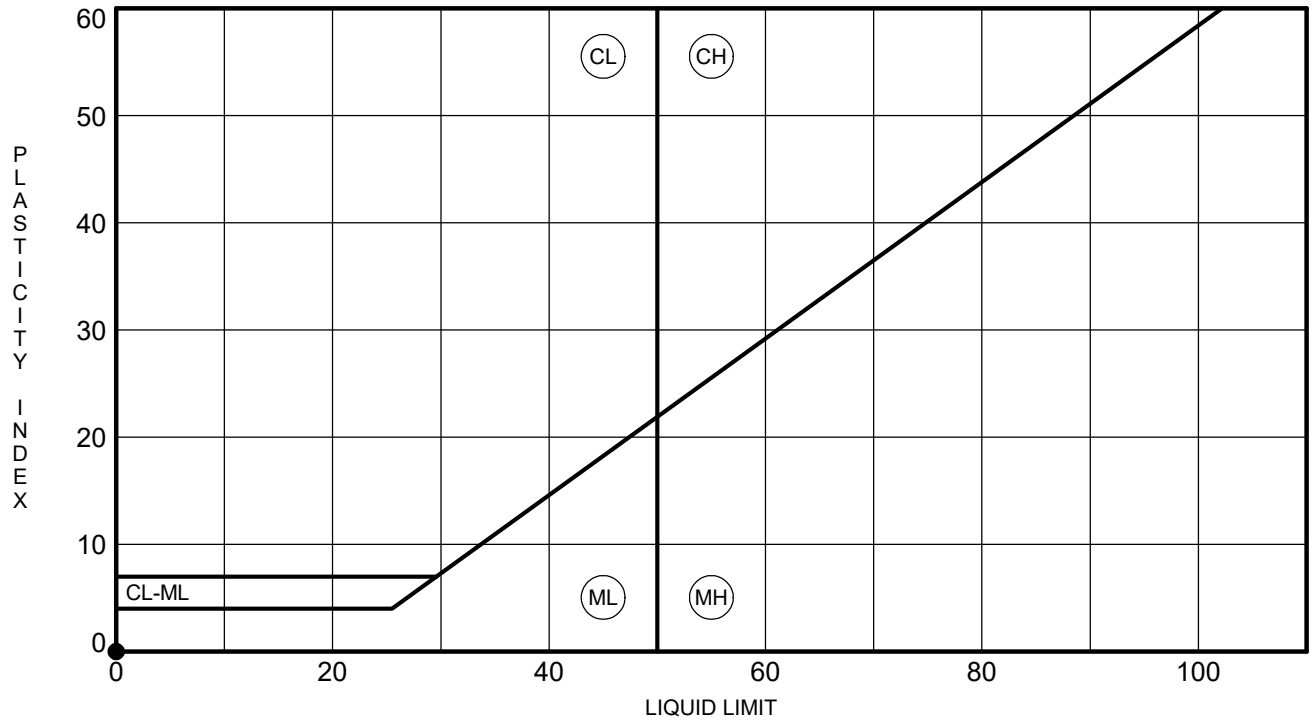
SURFACE ELEVATION: 105.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

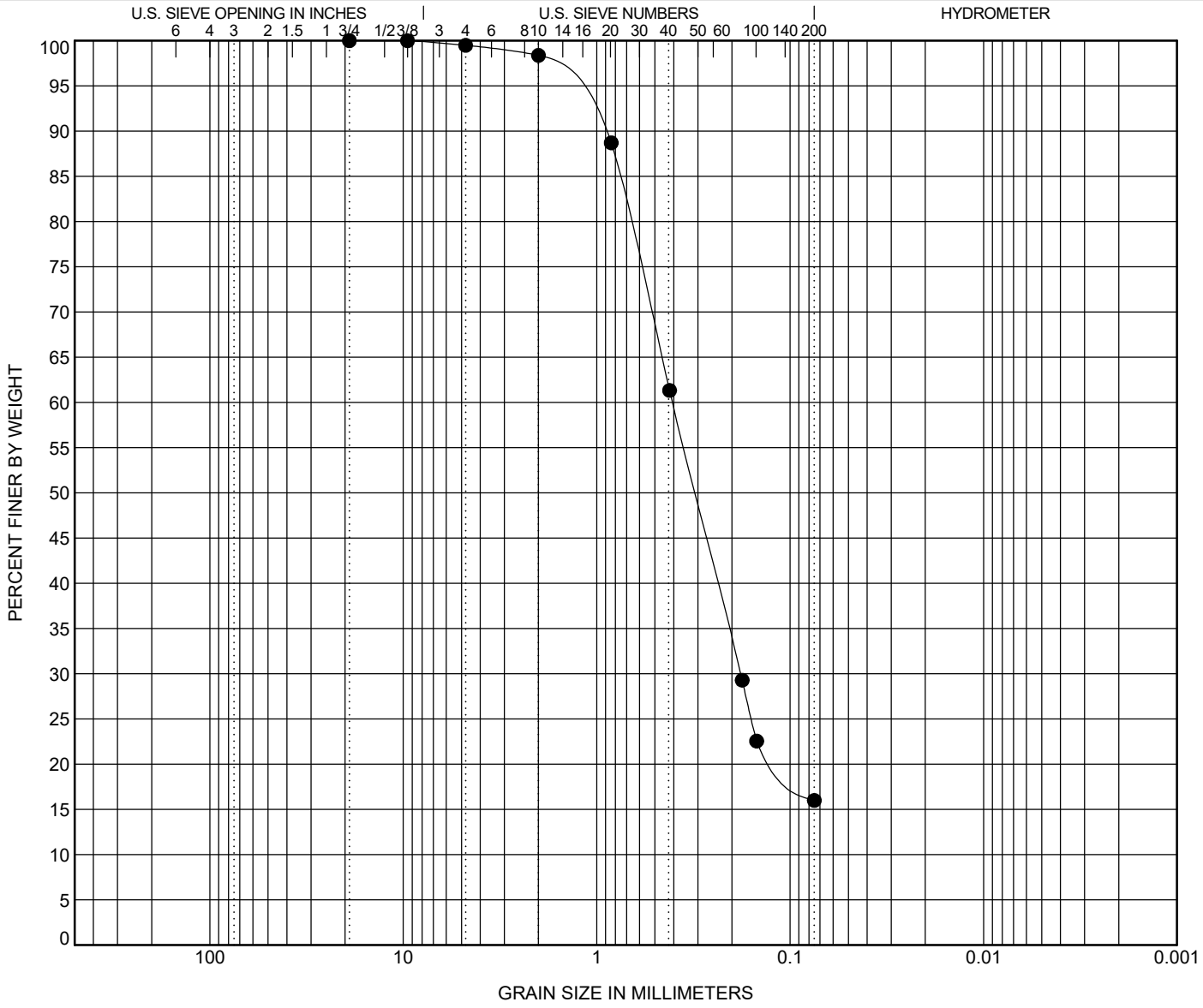


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-8**	**2.0**	**NP**	**NP**	**NP**	**16**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-8**	**2.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-8**	**2.0**	**19**	**0.405**	**0.18**		**0.5**	**83.5**	**16.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0134 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-8				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	0.0 - 2.0				
WATER CONTENT, W%	9.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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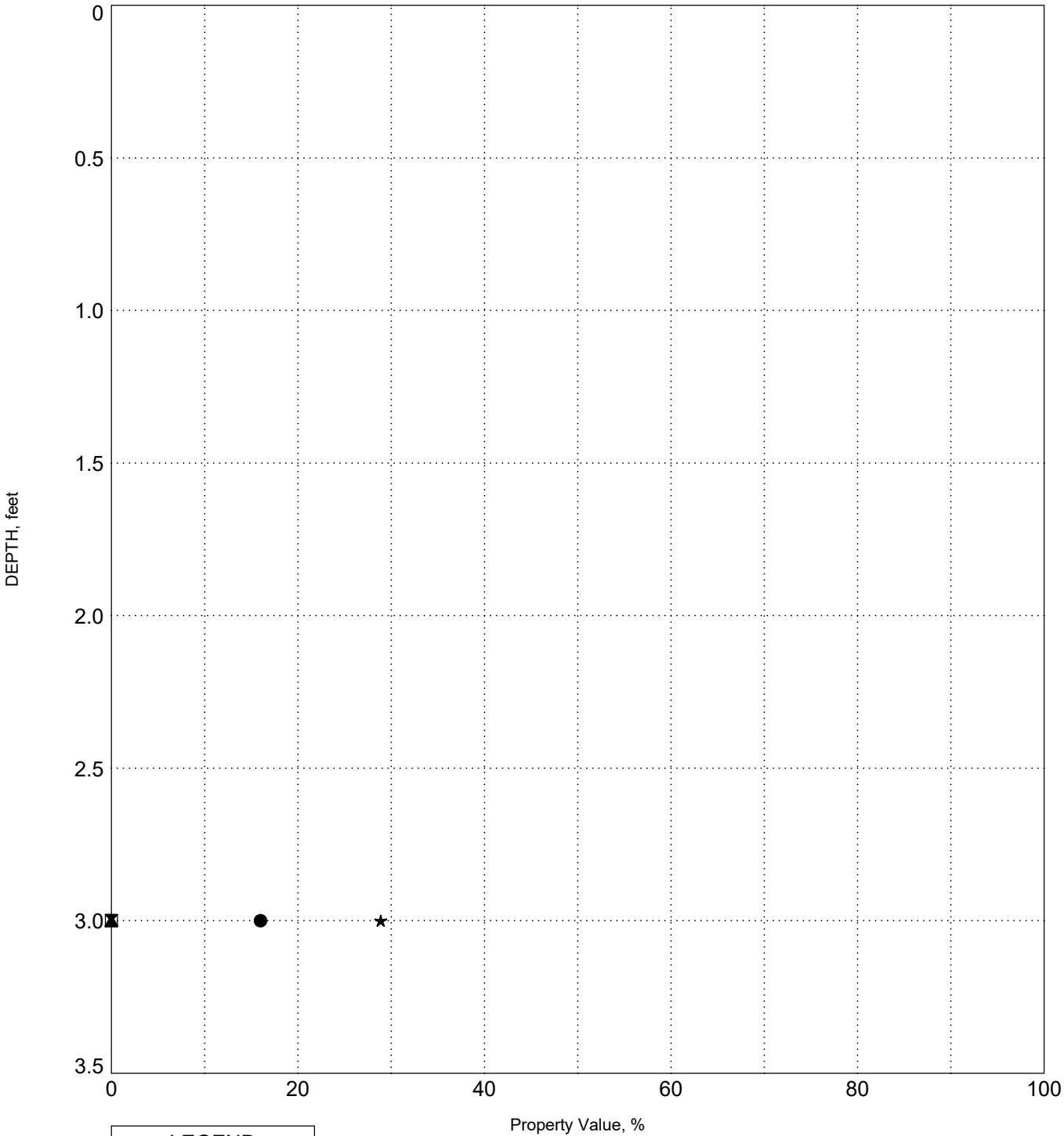
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-9

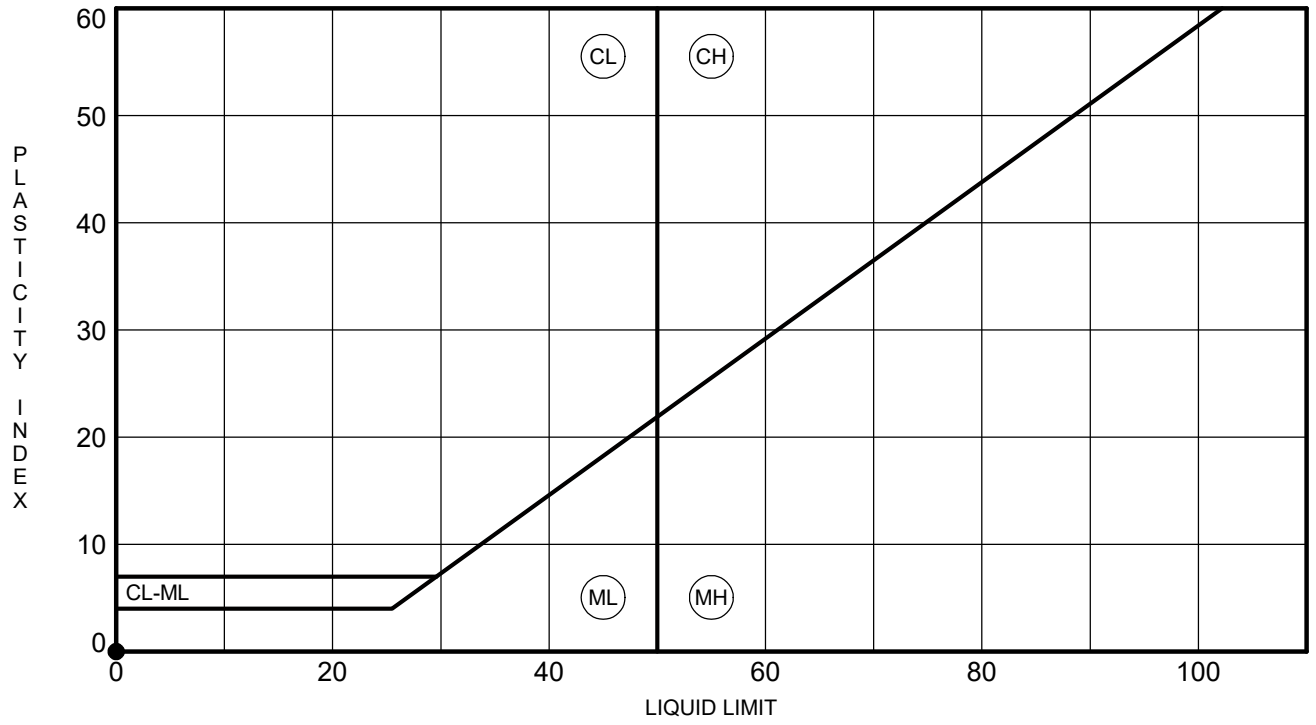
SURFACE ELEVATION: 103.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

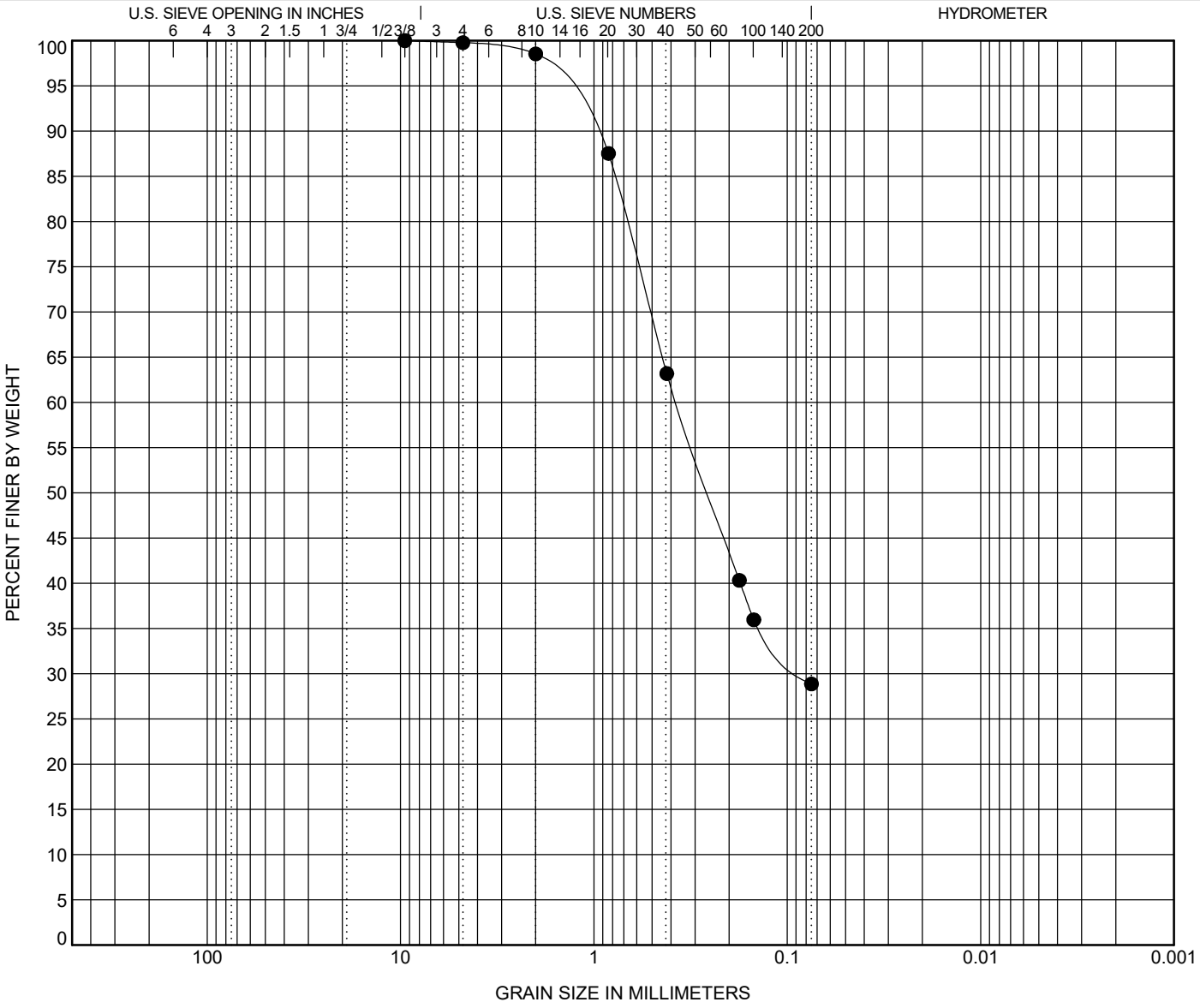


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-9**	**3.0**	**NP**	**NP**	**NP**	**29**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-9**	**3.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-9**	**3.0**	**9.51**	**0.372**	**0.084**		**0.2**	**70.9**	**28.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0146 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-9				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.0 - 3.0				
WATER CONTENT, W%	16.0				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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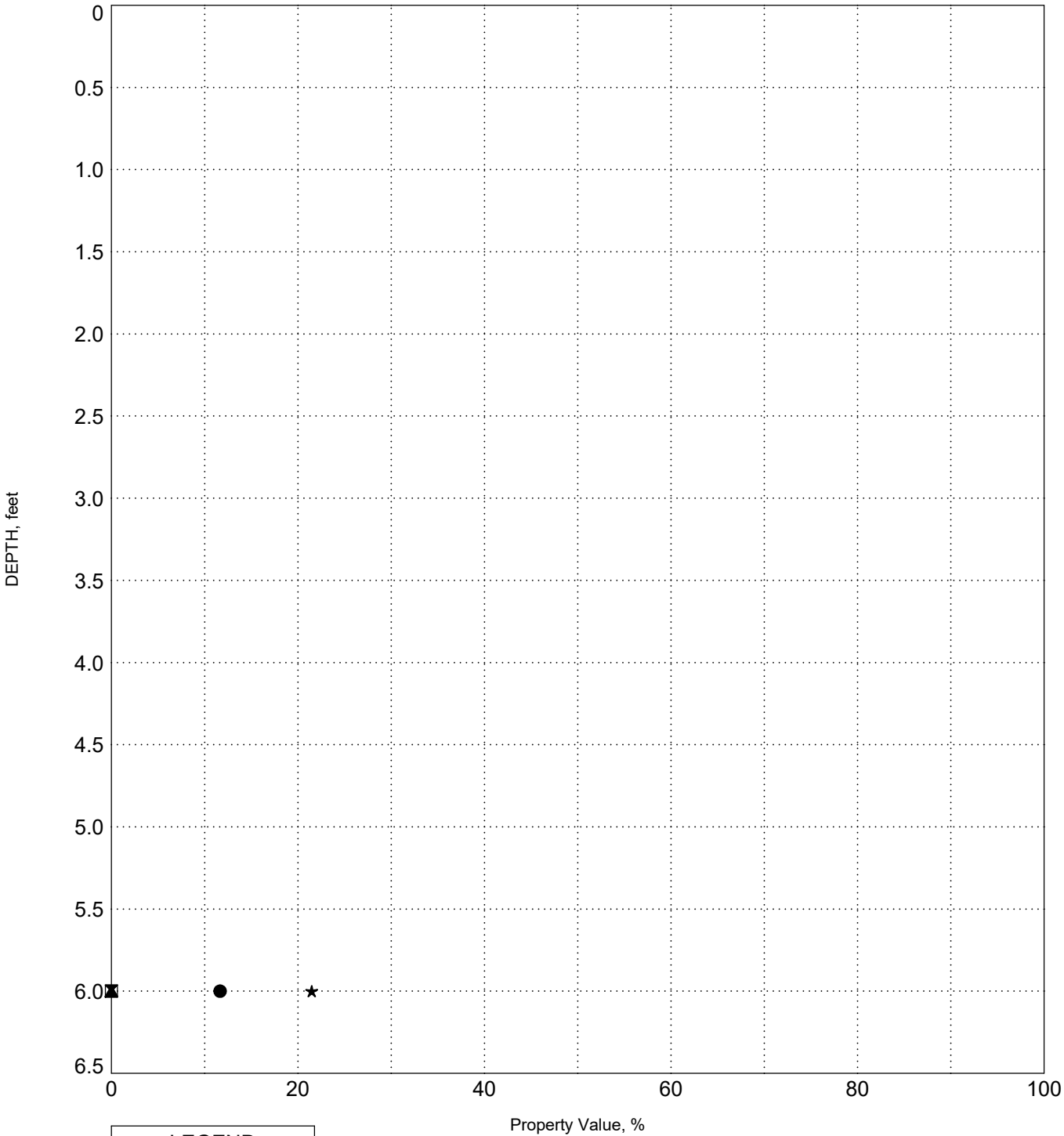
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-10

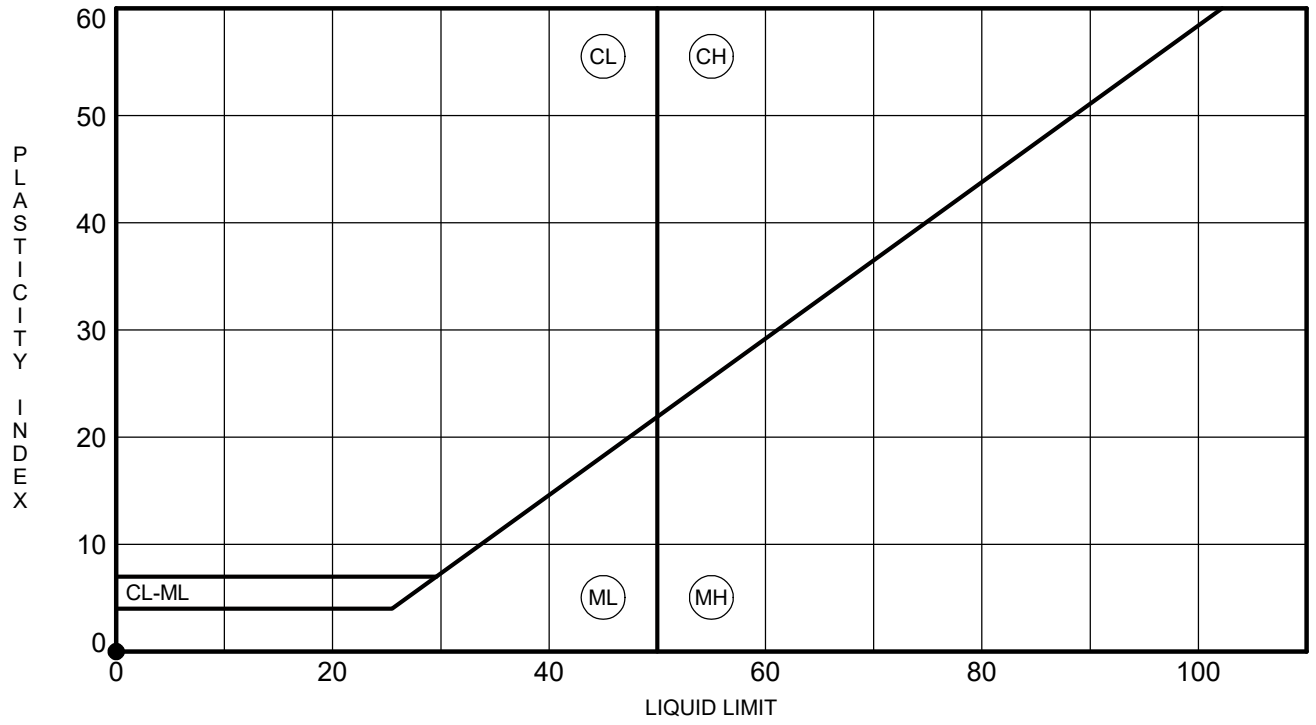
SURFACE ELEVATION: 101.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



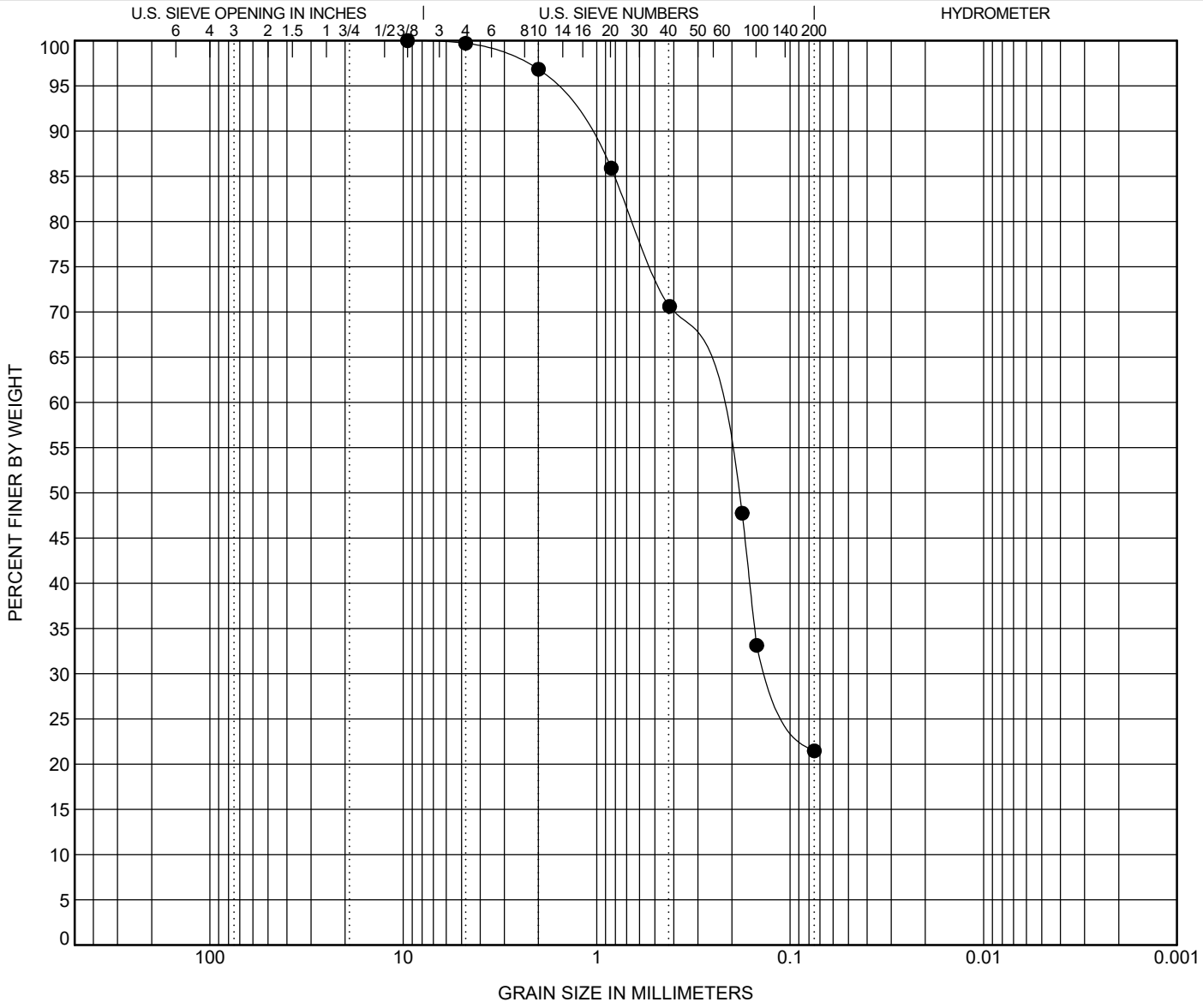
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-10**	**6.0**	**NP**	**NP**	**NP**	**21**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-10**	**6.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-10**	**6.0**	**9.51**	**0.281**	**0.124**		**0.3**	**78.2**	**21.5**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0136 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/16/2023

BORING NO.	P-10				
SAMPLE NO.	SS-2 & SS-3				
SAMPLE DEPTH (FT.)	2.0 - 6.0				
WATER CONTENT, W%	11.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

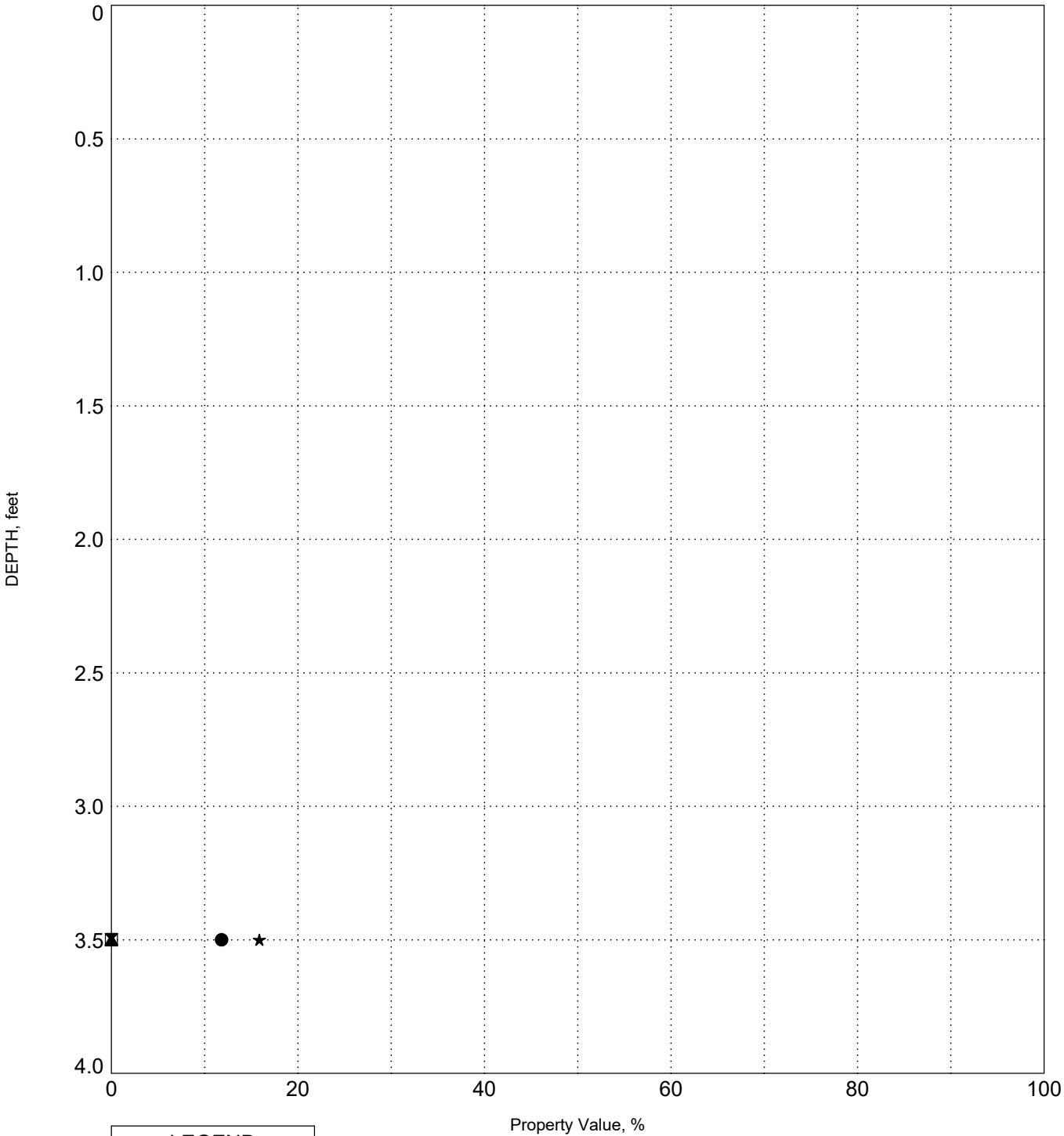
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-11

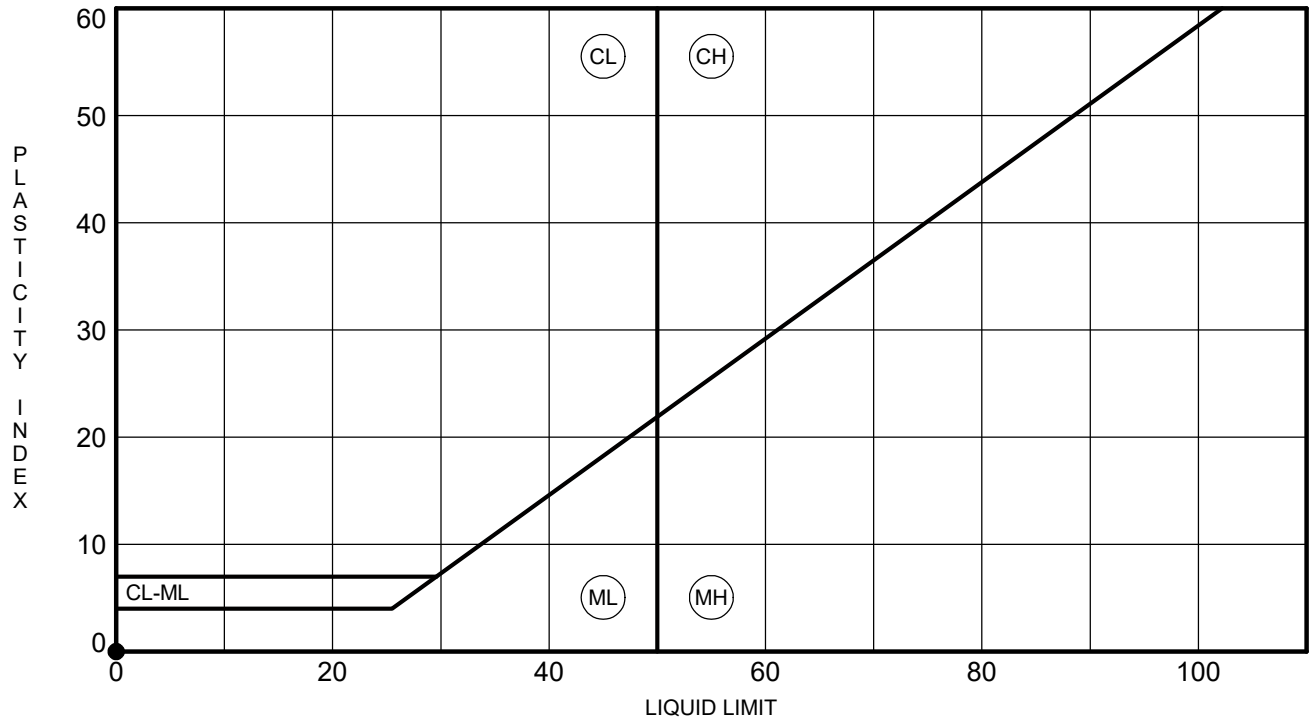
SURFACE ELEVATION: 100.7



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

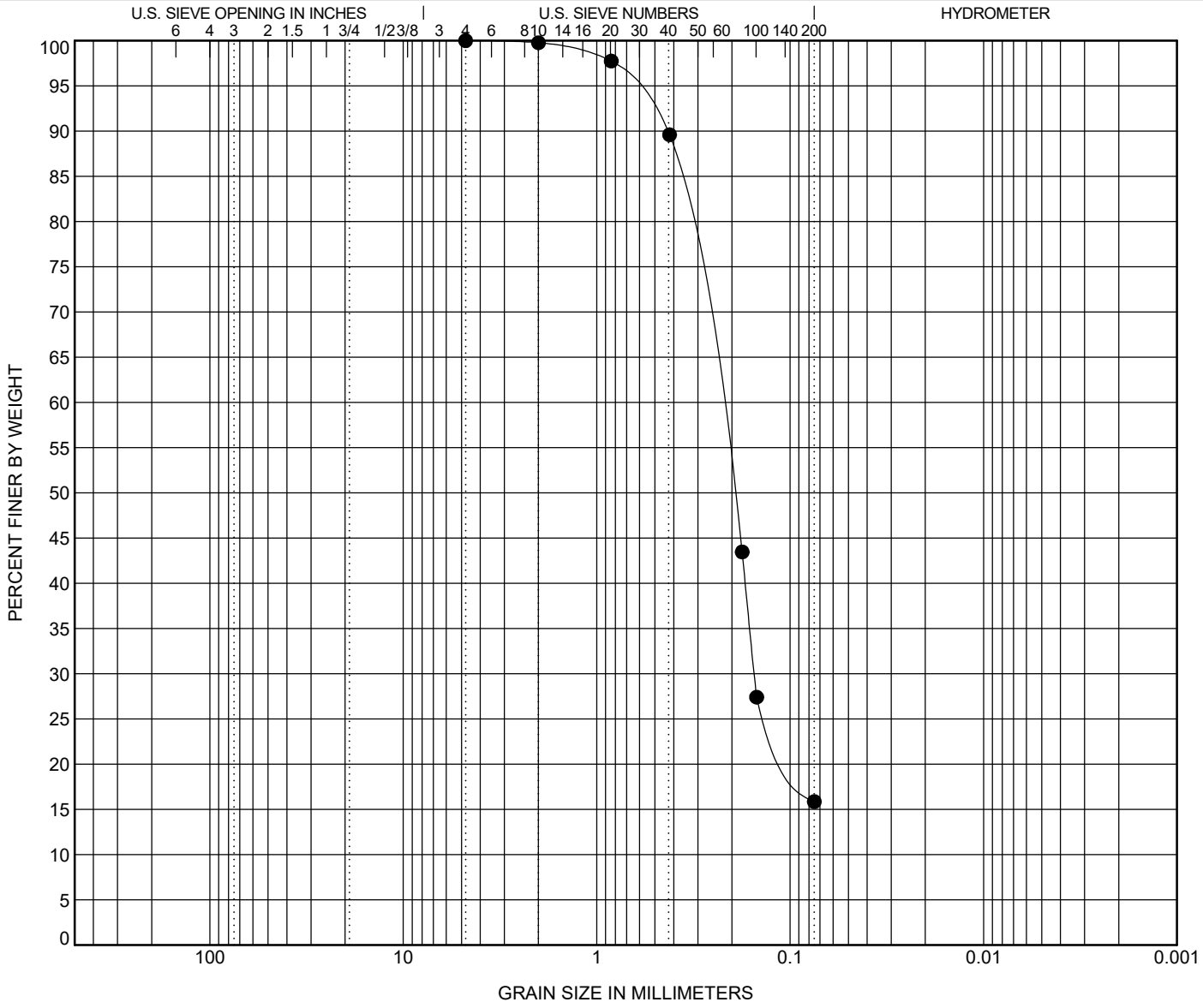


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-11**	**3.5**	**NP**	**NP**	**NP**	**16**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-11**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-11**	**3.5**	**4.76**	**0.241**	**0.153**		**0.0**	**84.1**	**15.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0129	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Fat CLAY (CH/A-7-6) with Sand		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/16/2023

BORING NO.	P-11				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	11.8				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

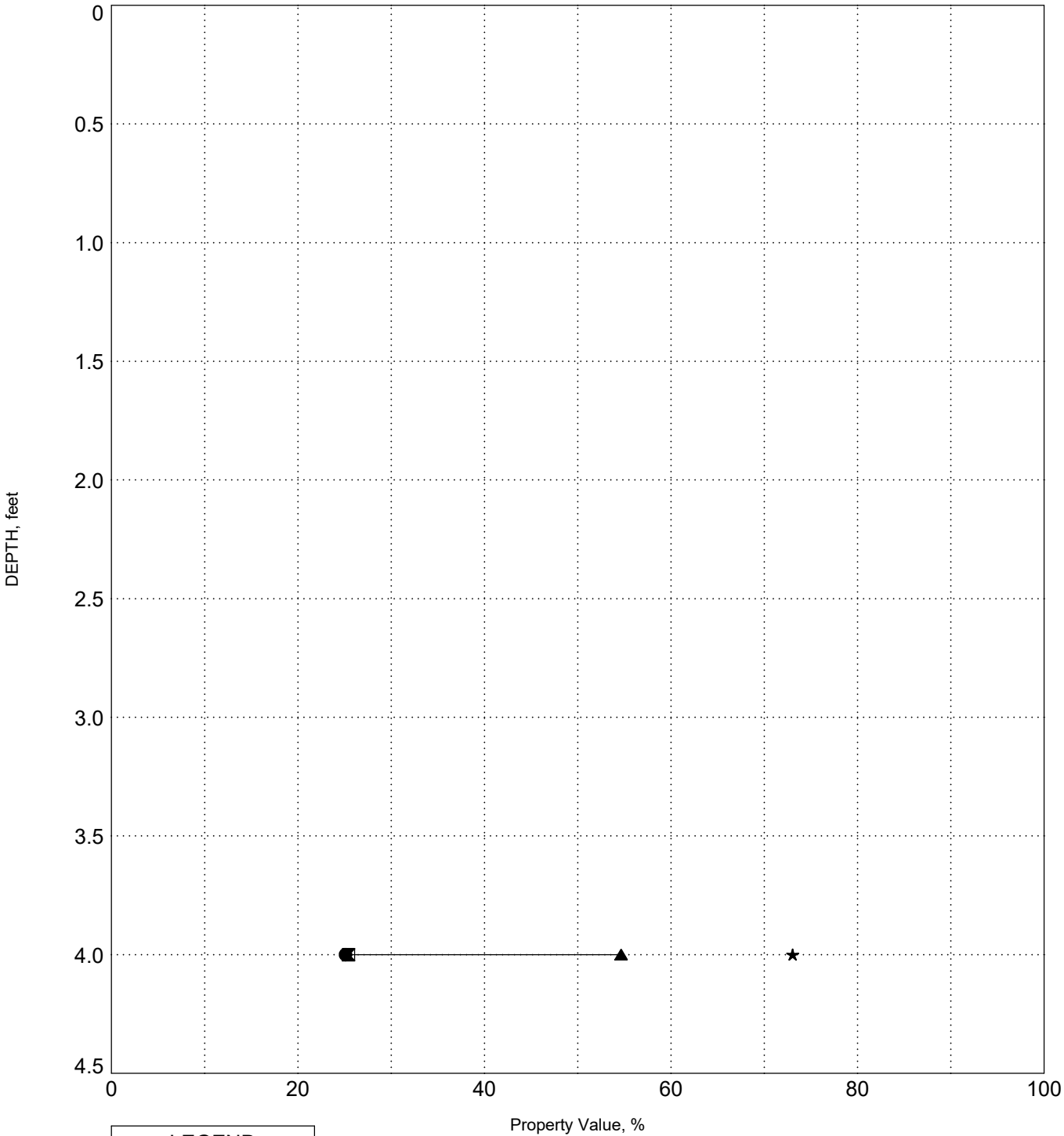
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-12

SURFACE ELEVATION: 98.1

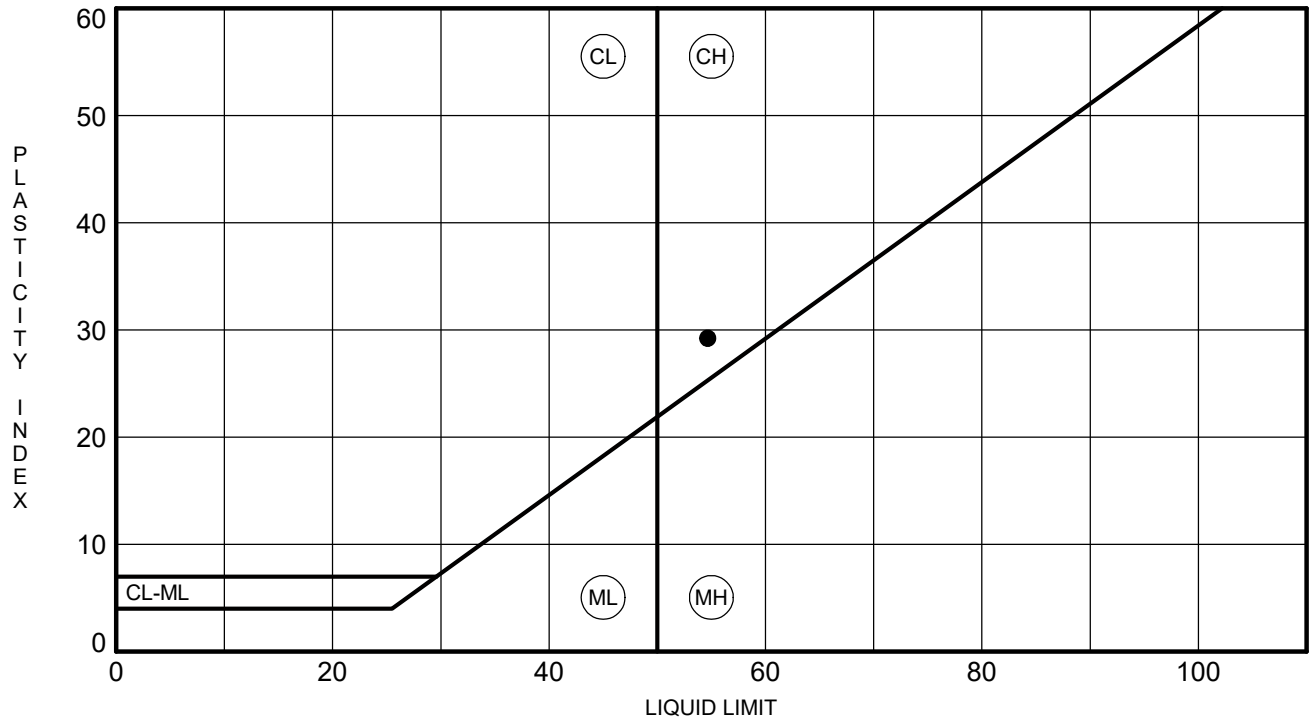


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

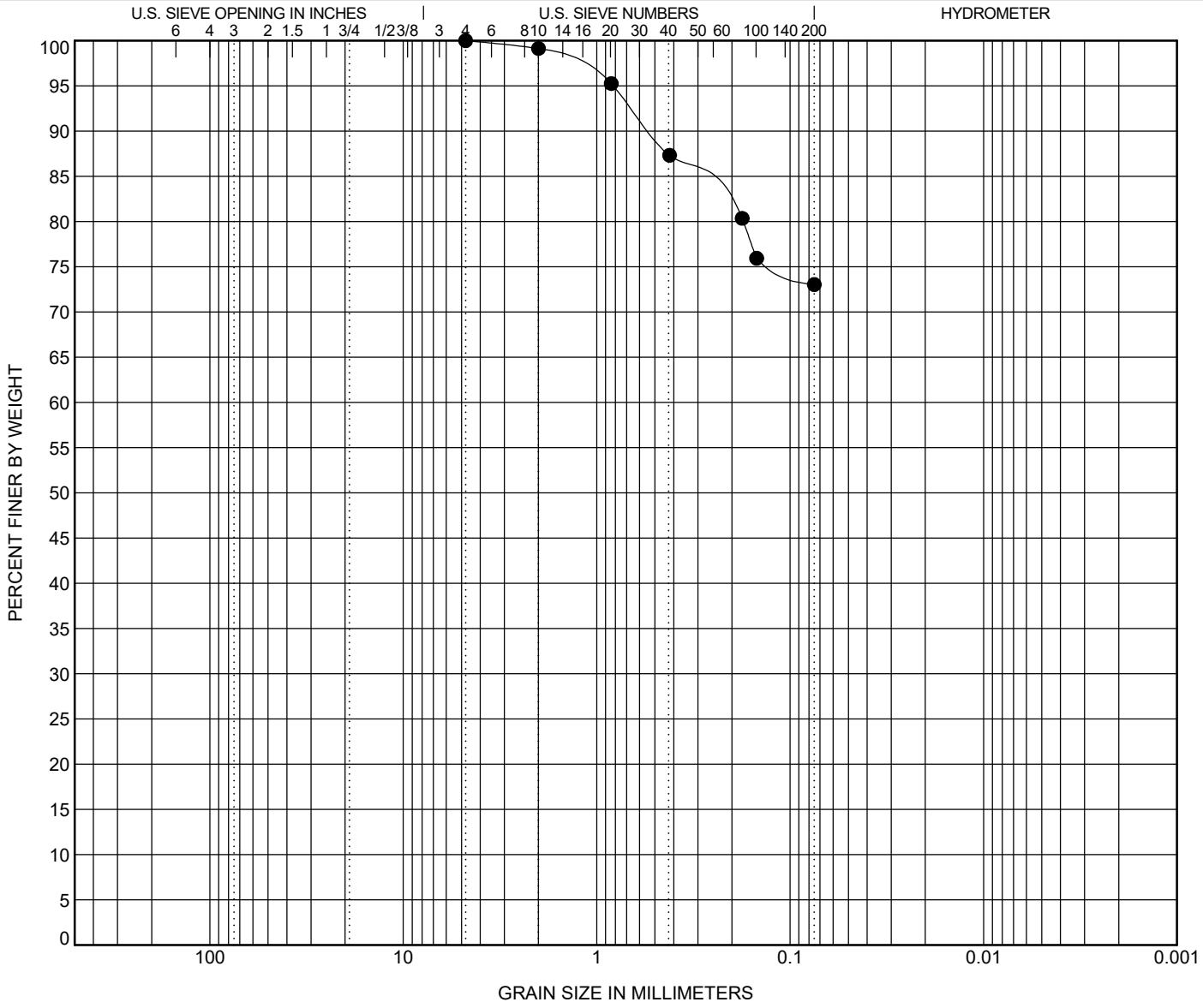


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-12**	**4.0**	**55**	**25**	**30**	**73**	**FAT CLAY with SAND (CH/A-7-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**P-12**	**4.0**	**FAT CLAY with SAND (CH/A-7-6)**	**55**	**25**	**30**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**P-12**	**4.0**	**4.76**				**0.0**	**27.0**	**73.0**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0133 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Fat CLAY (CH/A-7-6) with Sand

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-12				
SAMPLE NO.	SS-2				
SAMPLE DEPTH (FT.)	2.0 - 4.0				
WATER CONTENT, W%	25.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

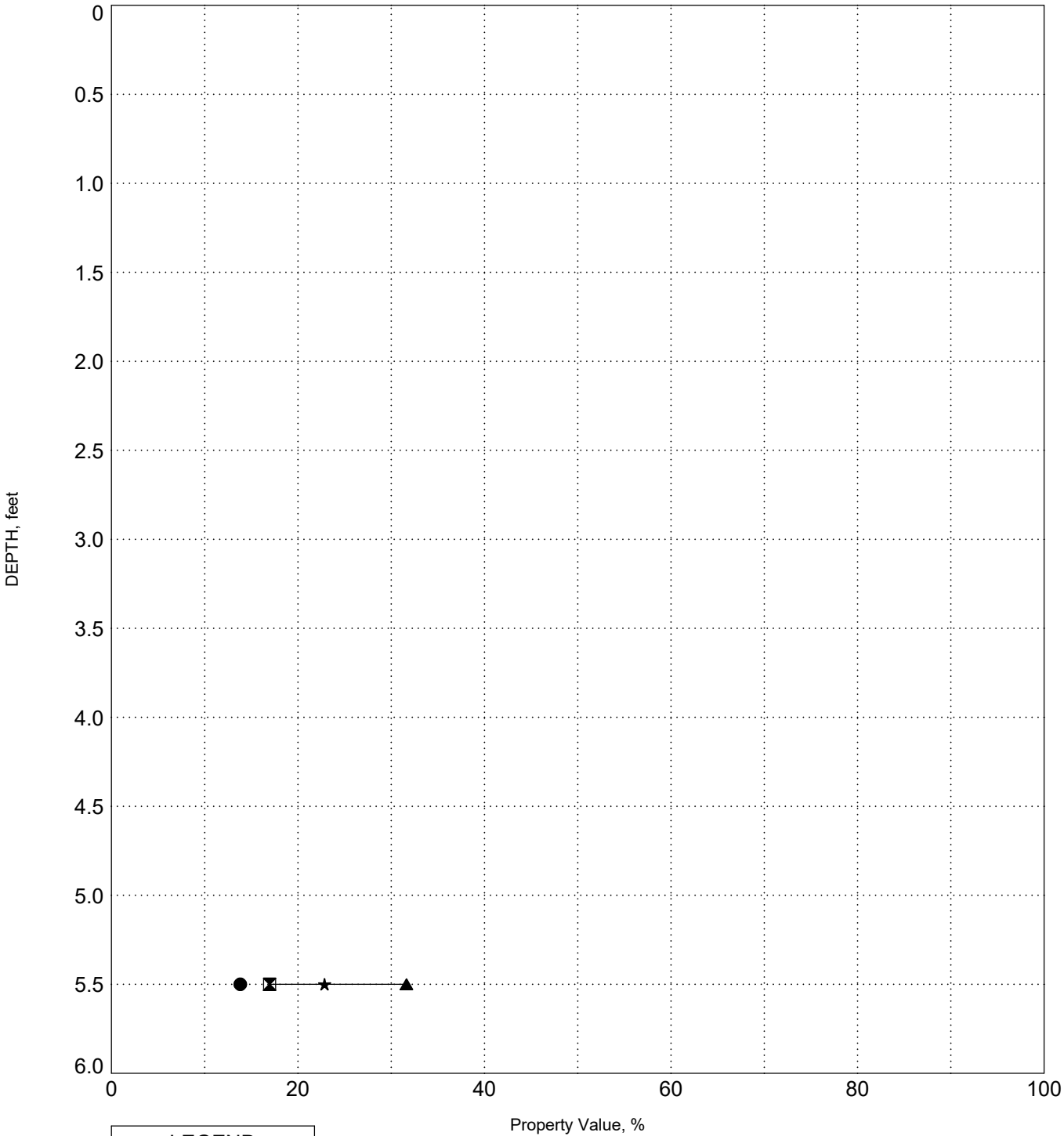
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-13

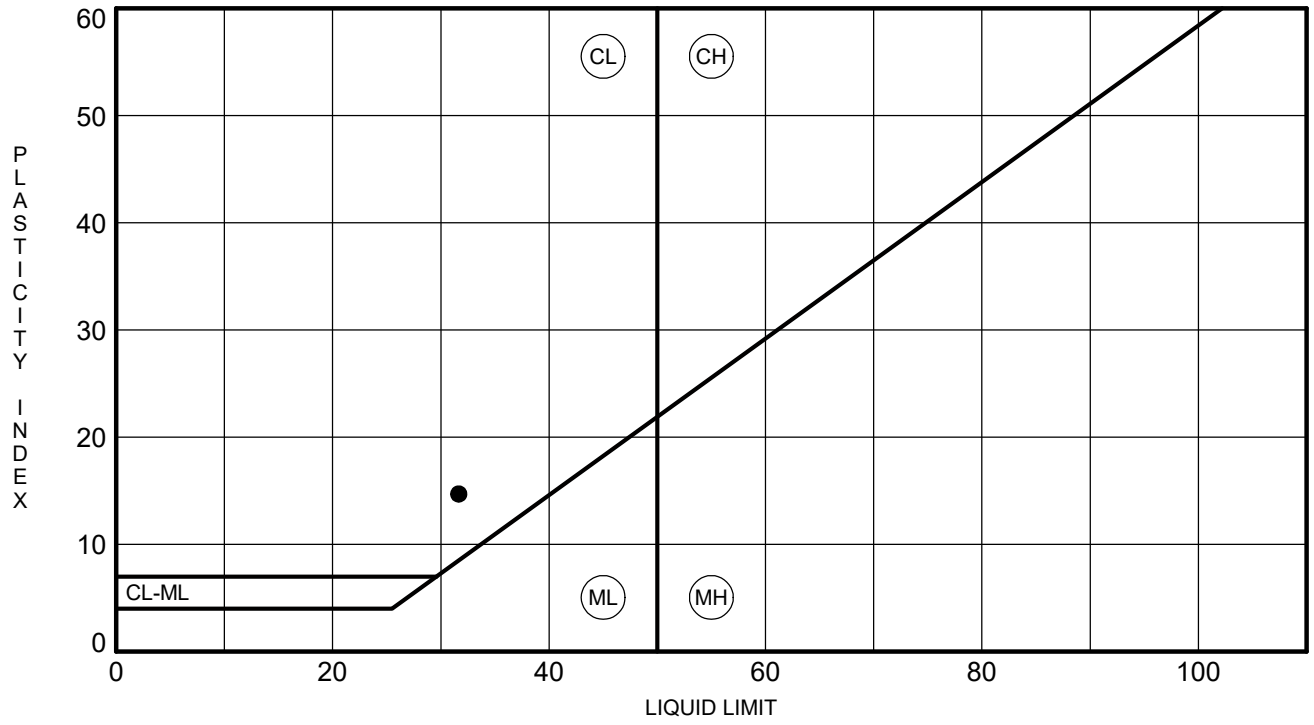
SURFACE ELEVATION: 99.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

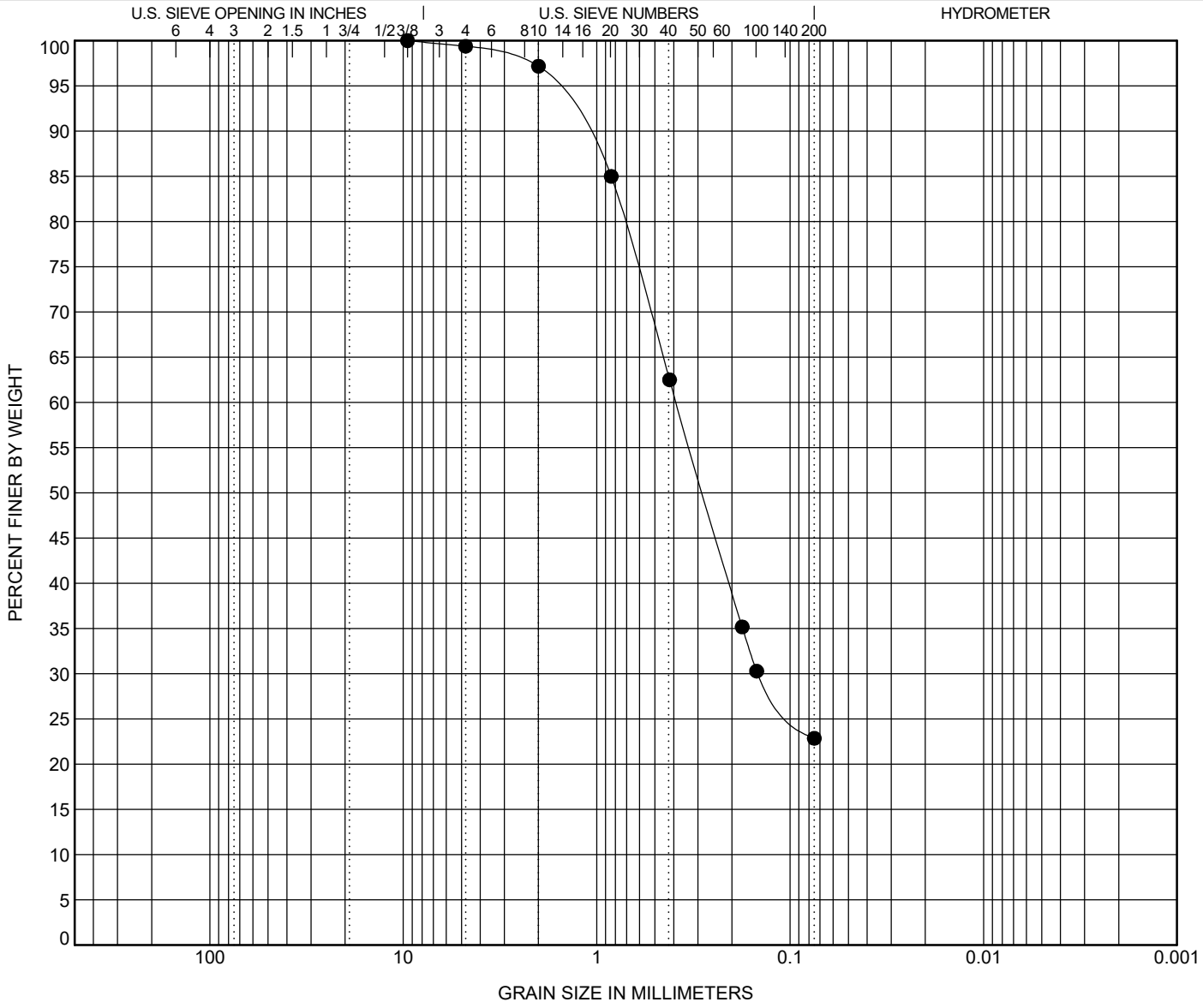


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-13**	**5.5**	**32**	**17**	**15**	**23**	**CLAYEY SAND (SC/A-2-6)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-13**	**5.5**	**CLAYEY SAND (SC/A-2-6)**	**32**	**17**	**15**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-13**	**5.5**	**9.51**	**0.388**	**0.145**		**0.6**	**76.5**	**22.9**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0144 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-2-6)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-13				
SAMPLE NO.	SS-2				
SAMPLE DEPTH (FT.)	3.5 - 5.5				
WATER CONTENT, W%	13.8				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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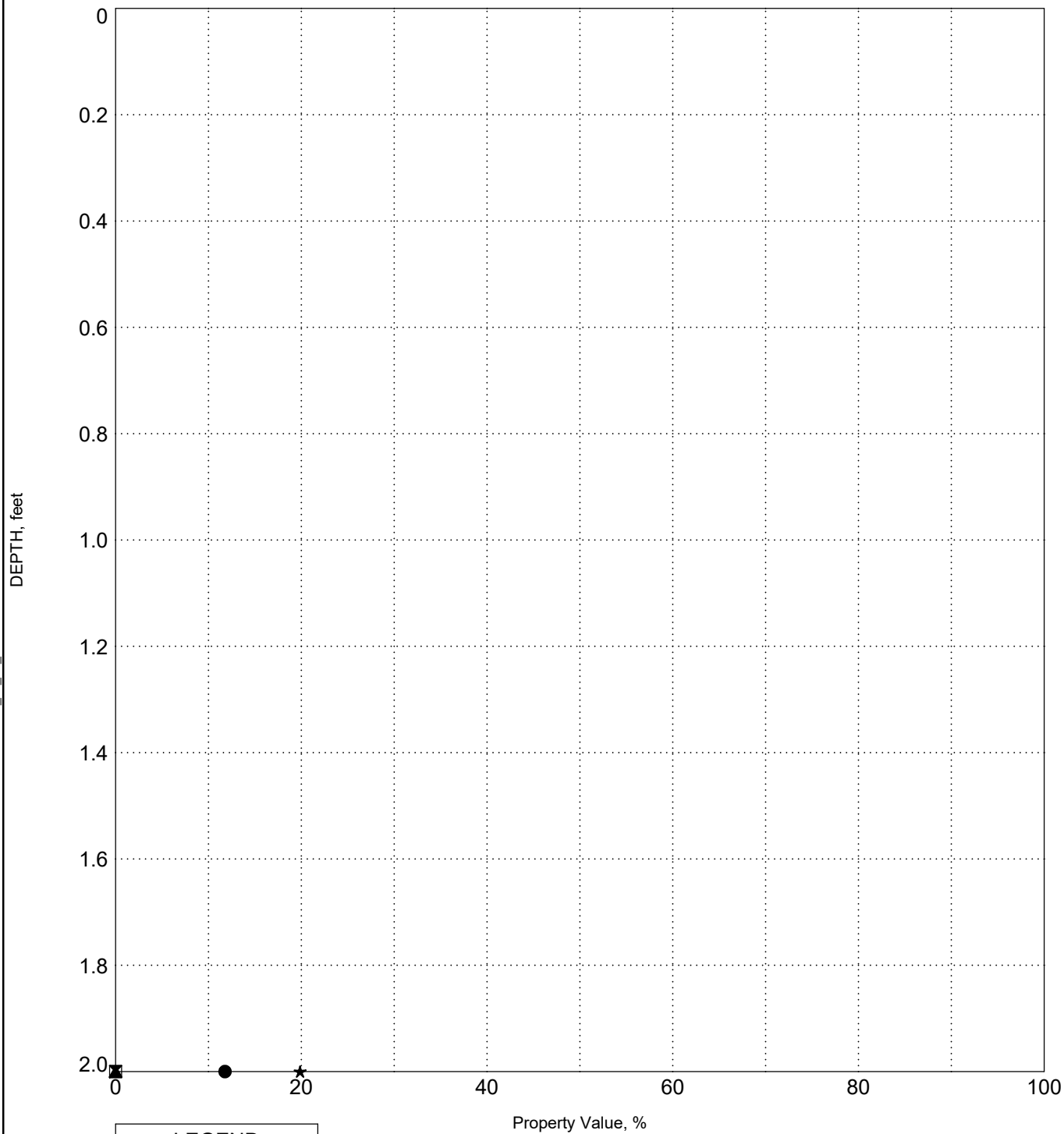
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-14

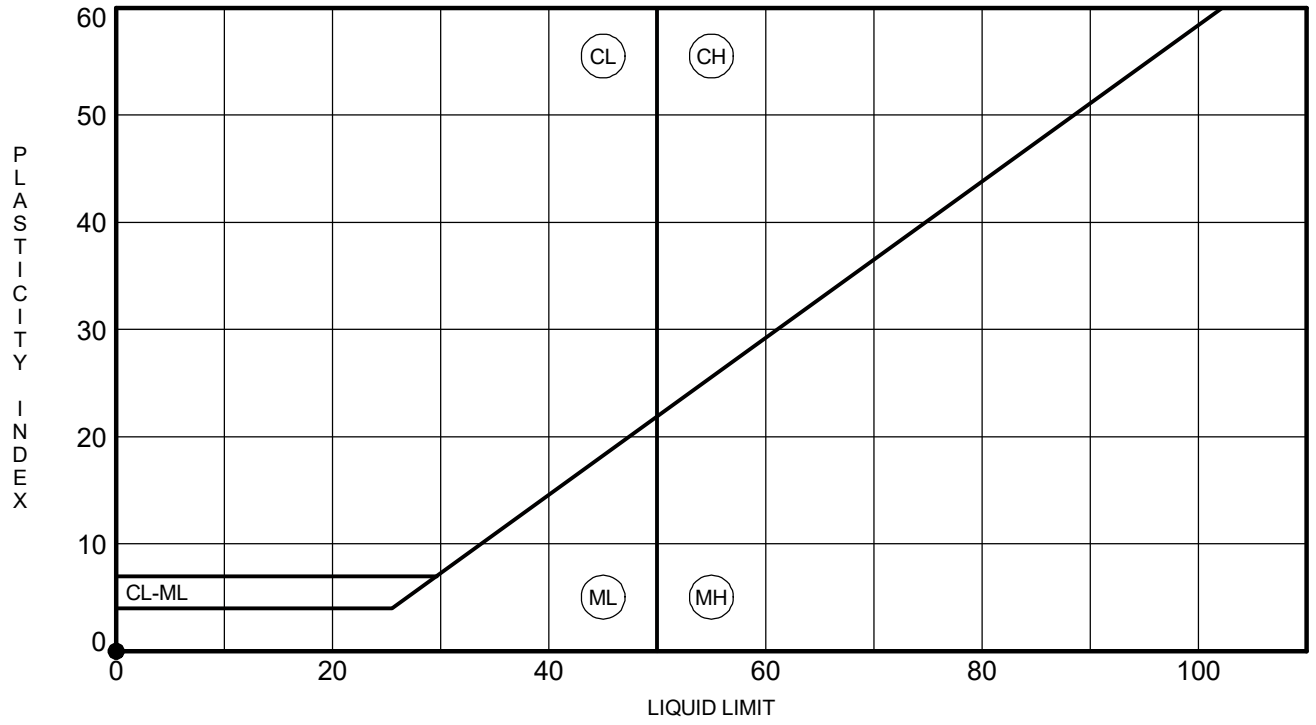
SURFACE ELEVATION: 105.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 Bridge over Lake Marion DB Prep

PROJECT COUNTY Clarendon/Orangeburg



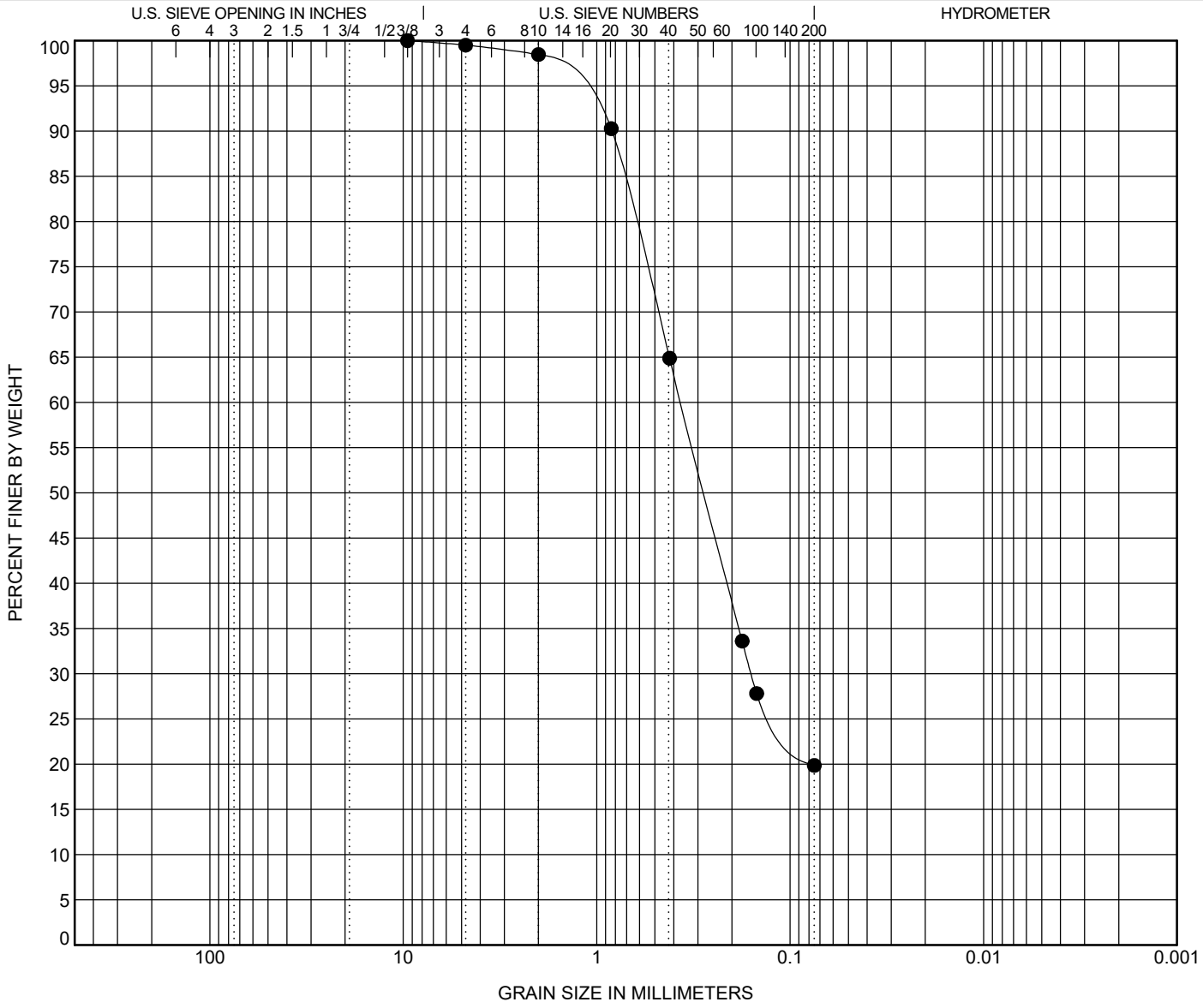
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-14**	**2.0**	**NP**	**NP**	**NP**	**20**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/27/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-14**	**2.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-14**	**2.0**	**9.51**	**0.367**	**0.159**		**0.5**	**79.6**	**19.9**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0143 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-14				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	0.0 - 2.0				
WATER CONTENT, W%	11.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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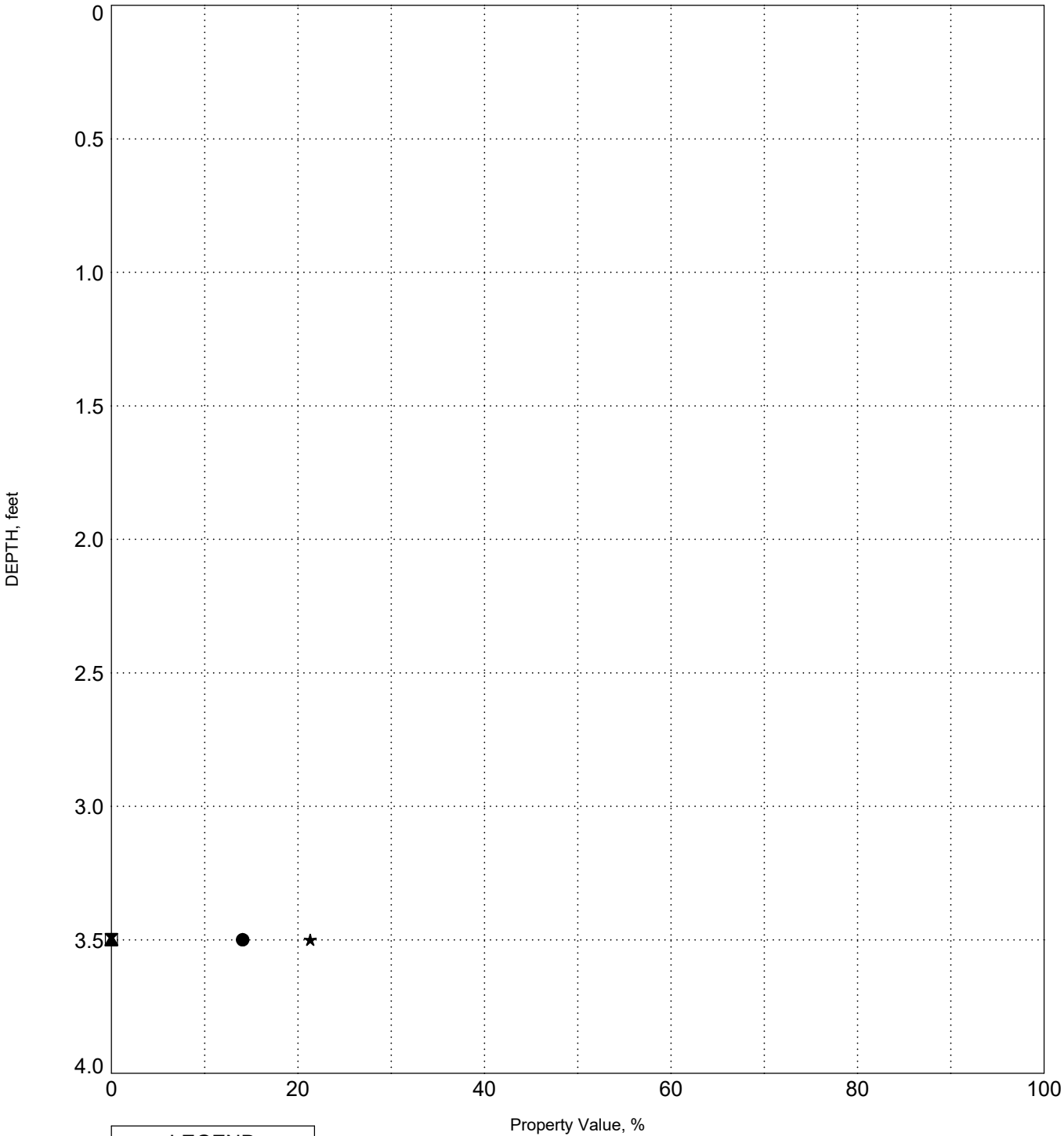
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-15

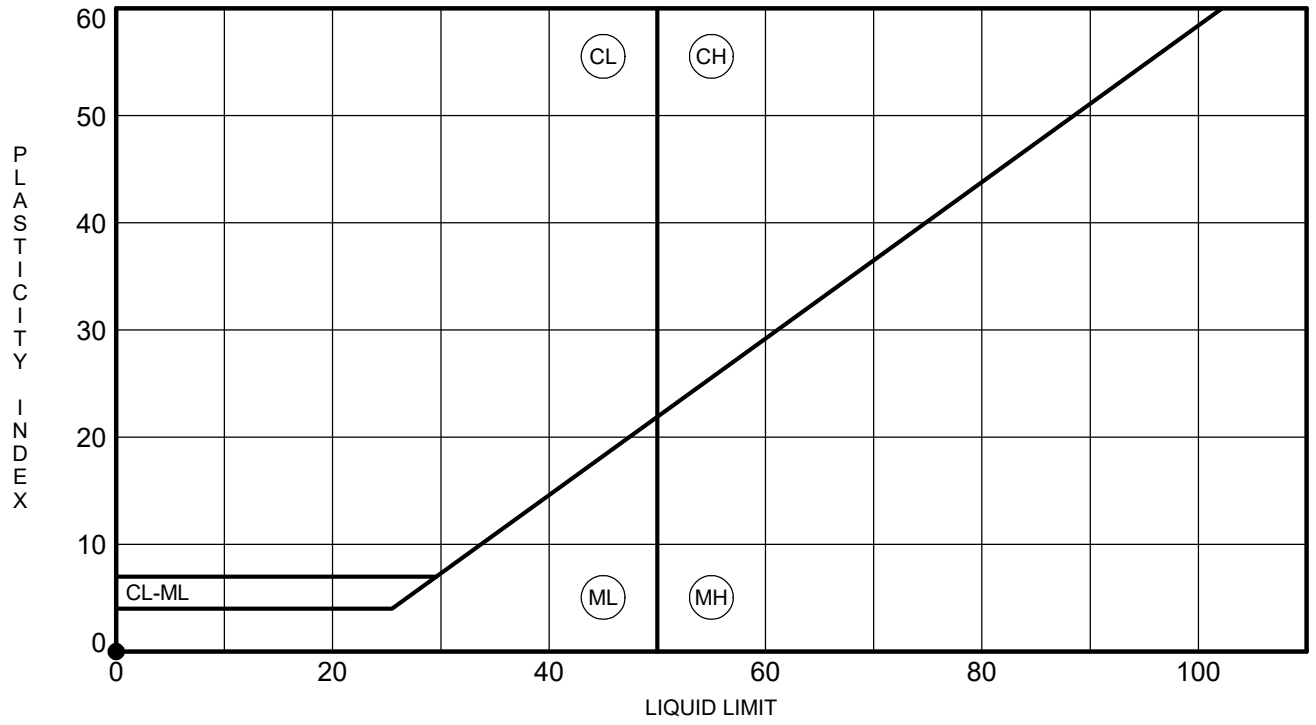
SURFACE ELEVATION: 117.0



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



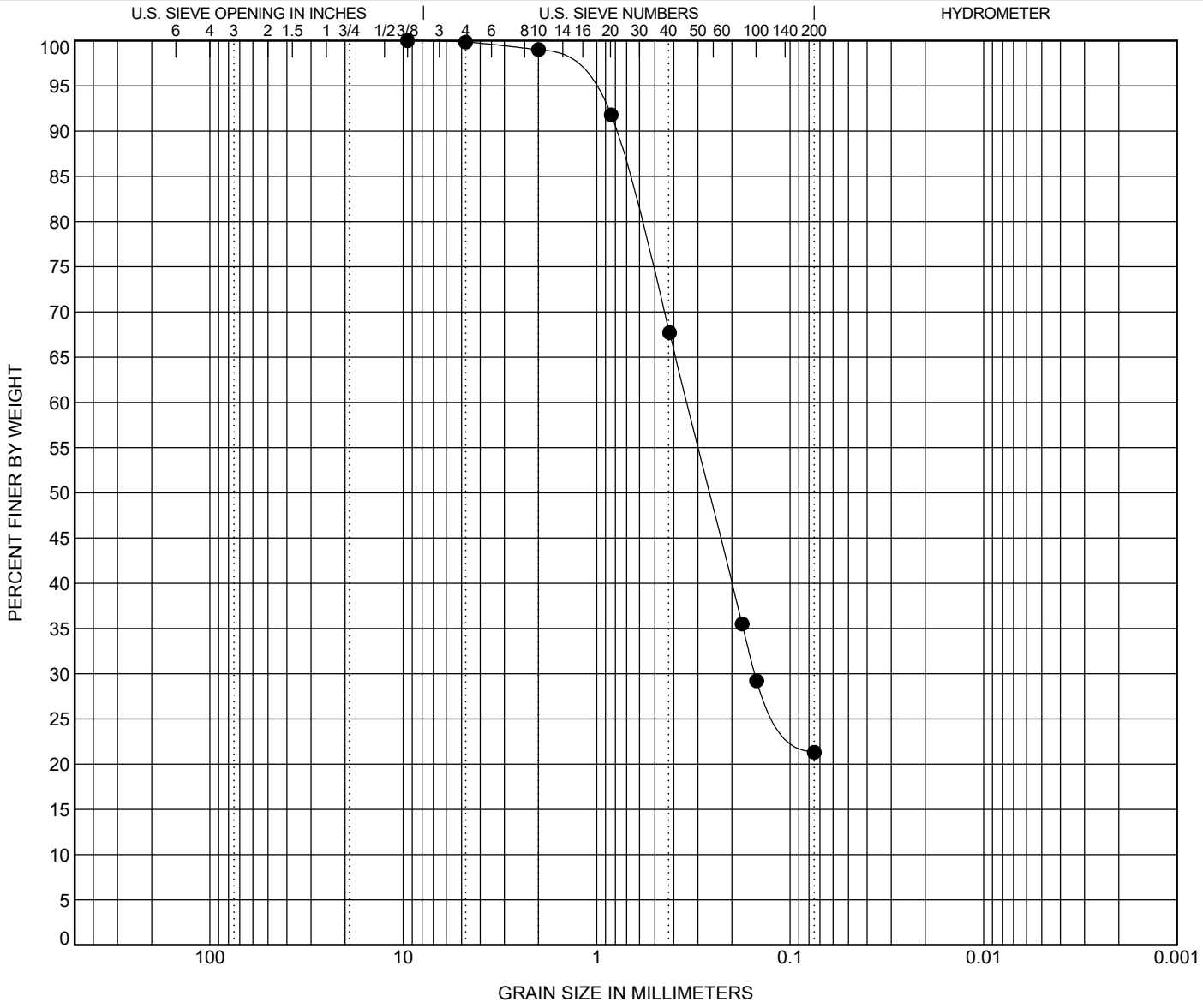
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-14**	**2.0**	**NP**	**NP**	**NP**	**20**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-15**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-15**	**3.5**	**9.51**	**0.342**	**0.152**		**0.2**	**78.5**	**21.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0140	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Silty SAND (SM/A-2-4)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-15				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	14.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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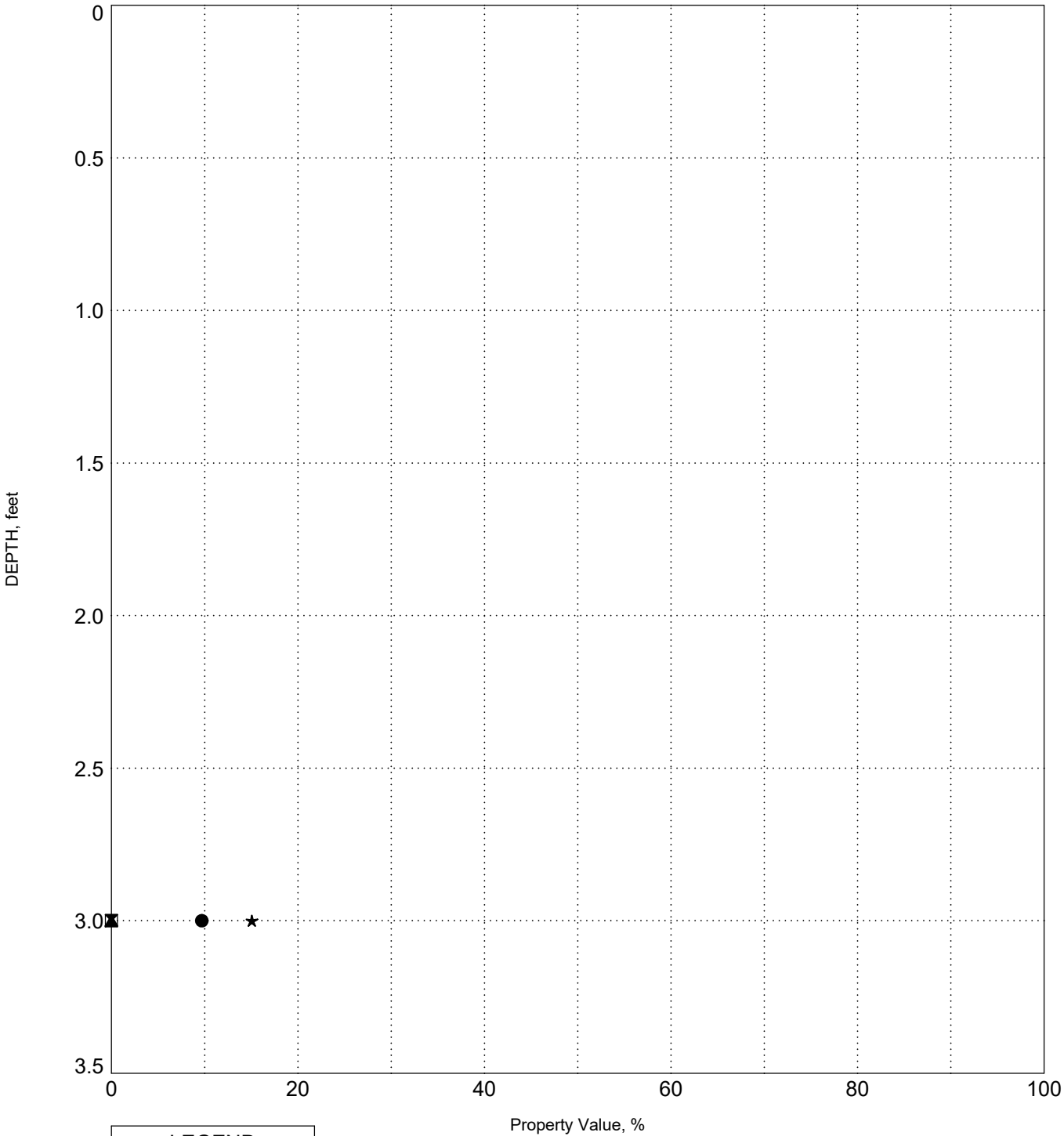
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-16

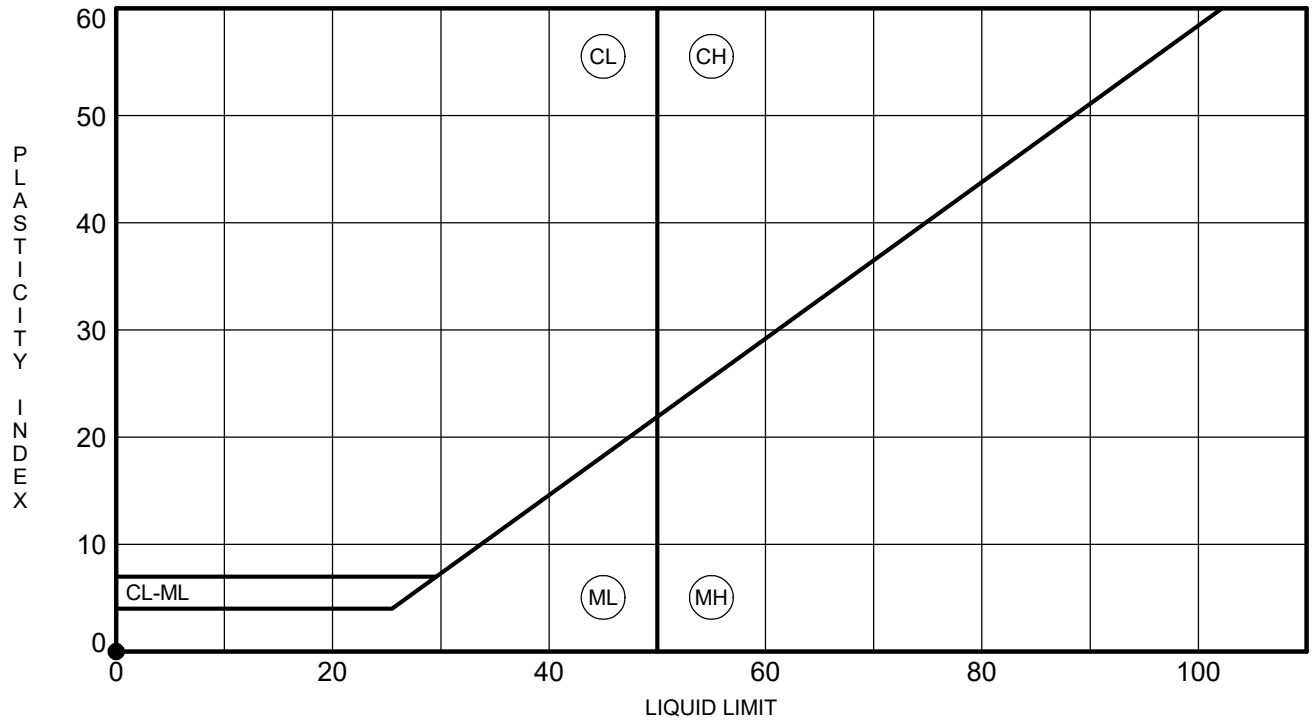
SURFACE ELEVATION: 89.9



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



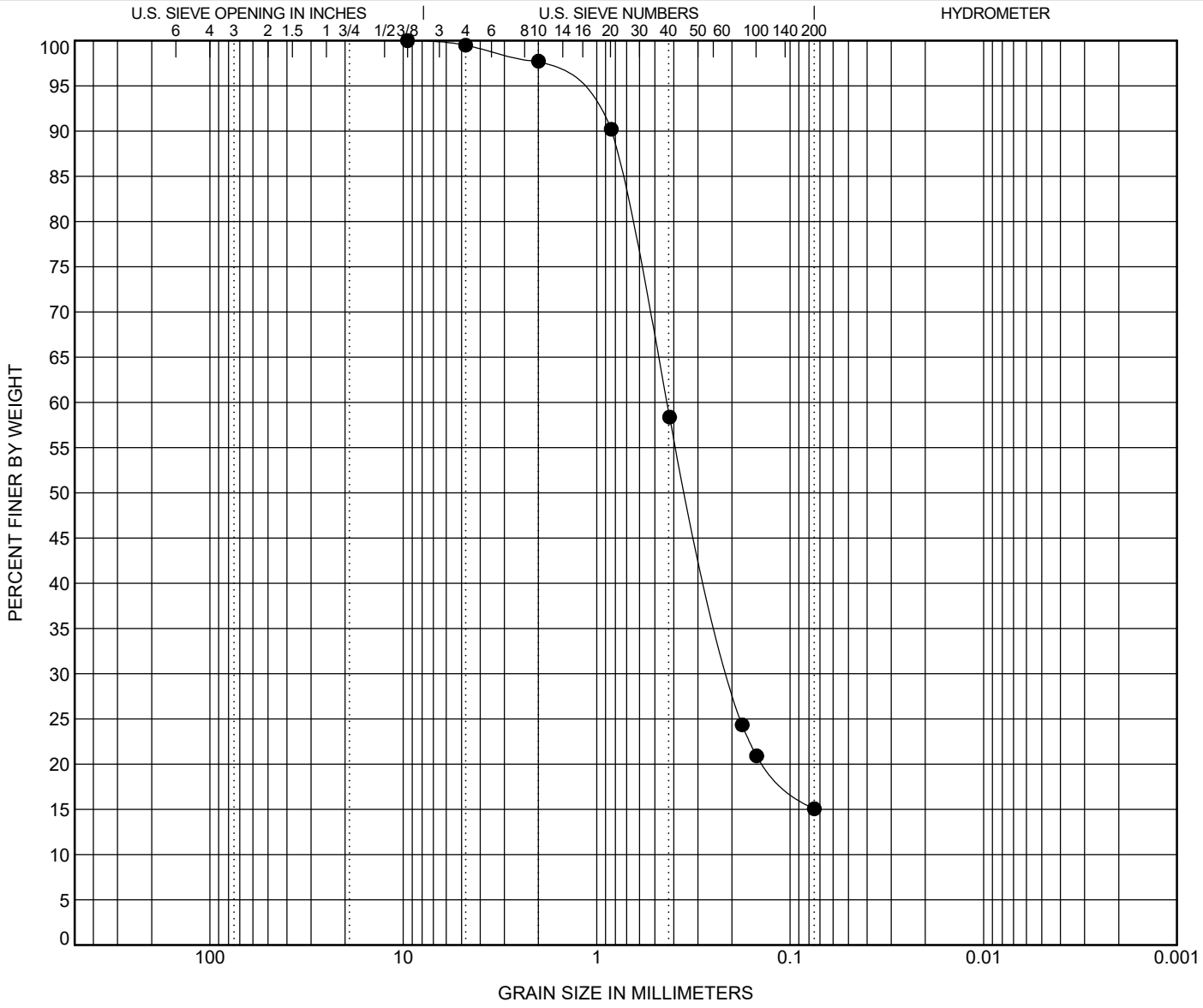
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-16**	**3.0**	**NP**	**NP**	**NP**	**15**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-16**	**3.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-16**	**3.0**	**9.51**	**0.435**	**0.204**		**0.5**	**84.4**	**15.1**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0142 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-16				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.0 - 3.0				
WATER CONTENT, W%	9.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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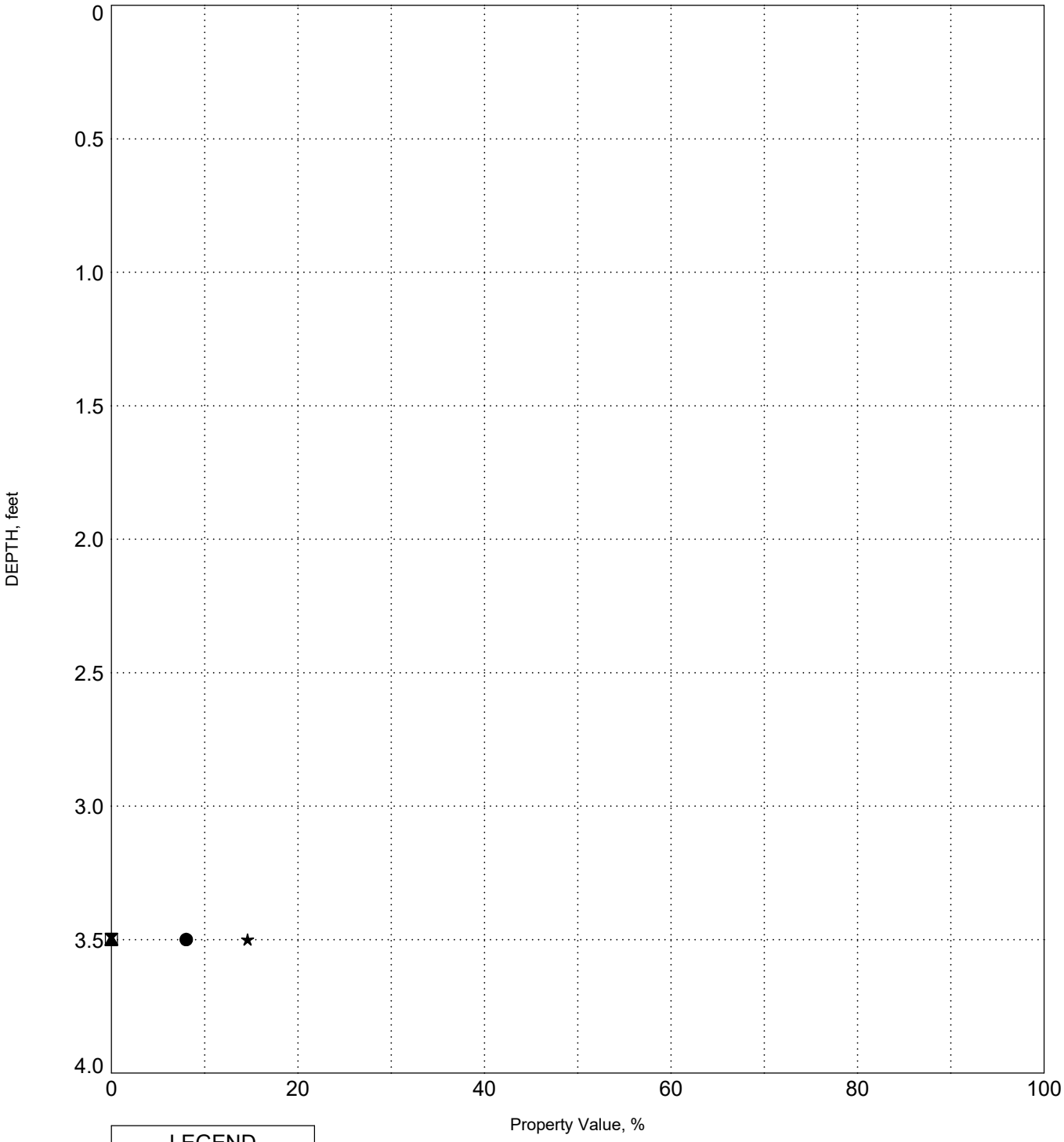
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-17

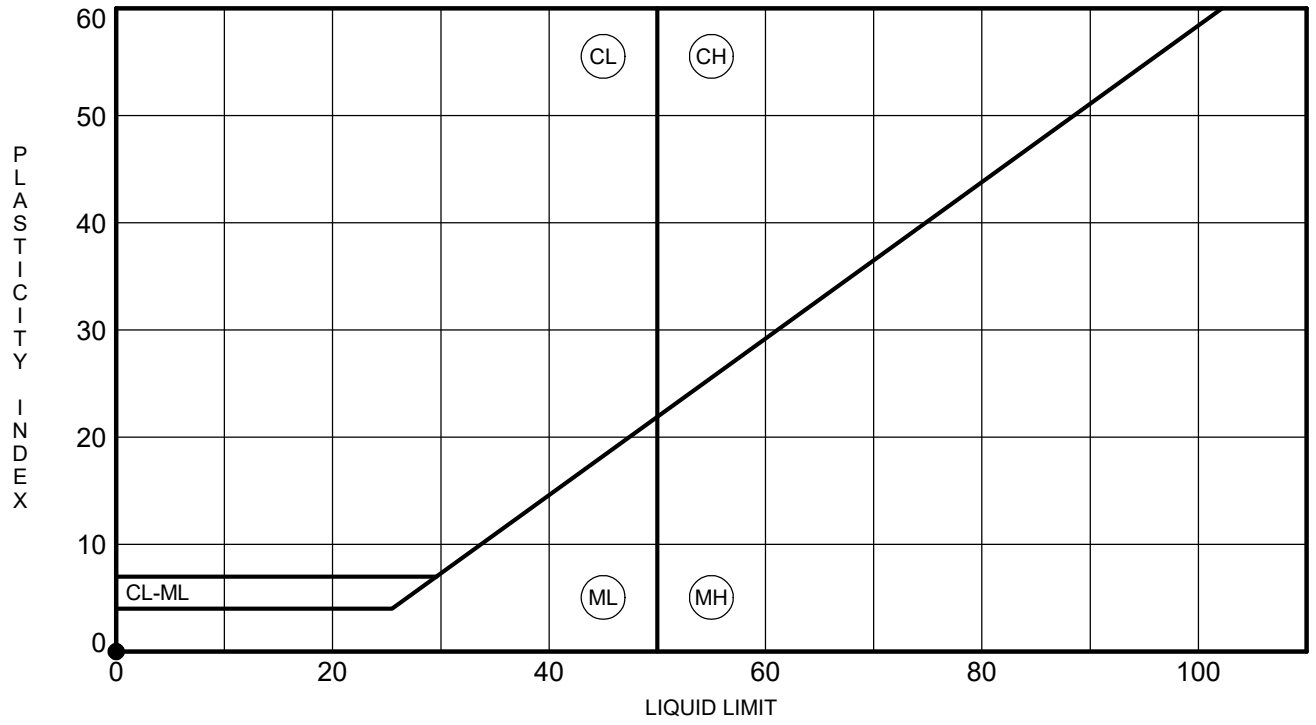
SURFACE ELEVATION: 90.0



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



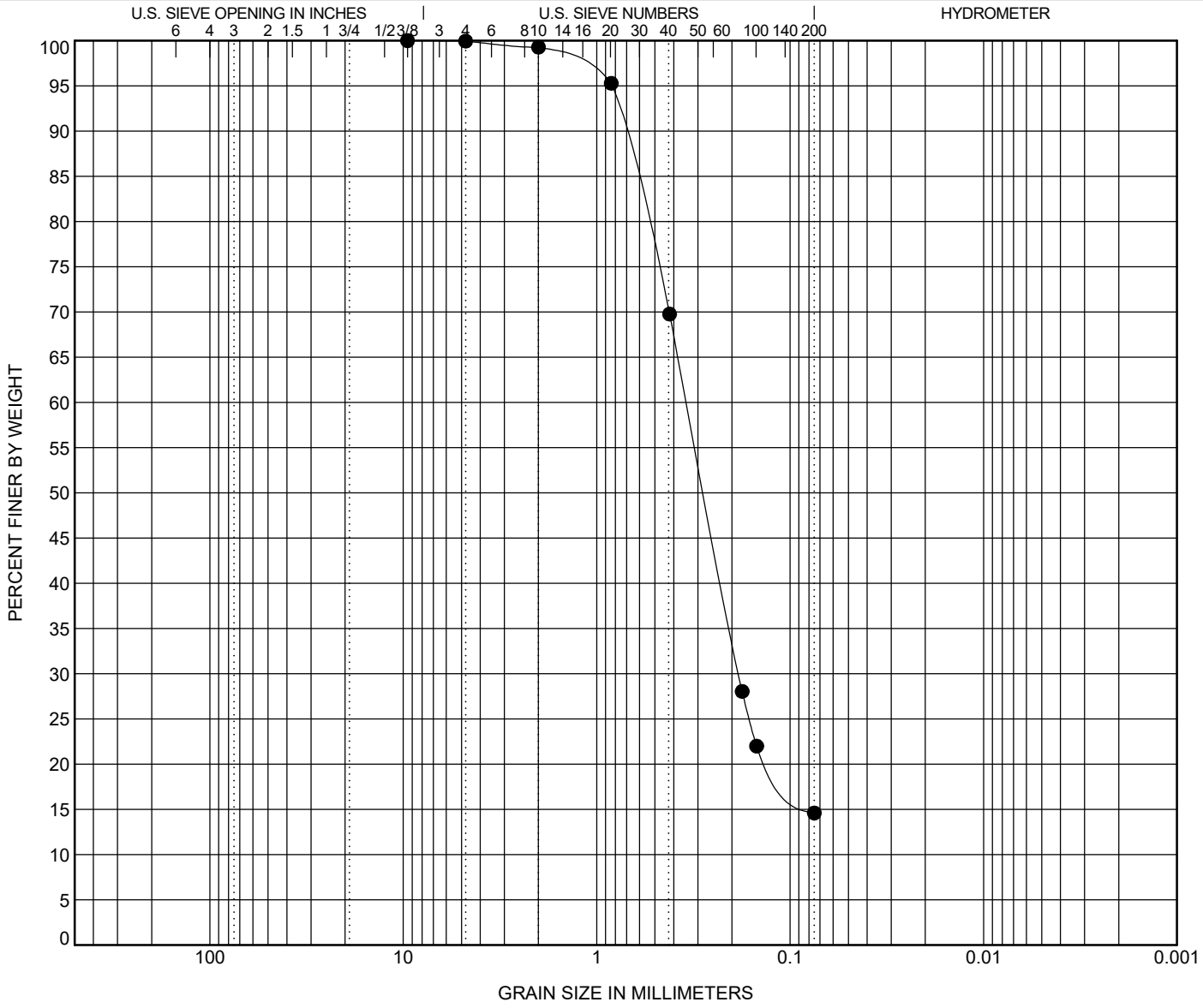
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-17**	**3.5**	**NP**	**NP**	**NP**	**15**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-17**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-17**	**3.5**	**9.51**	**0.343**	**0.184**		**0.1**	**85.3**	**14.6**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0135 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-17				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	8.0				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

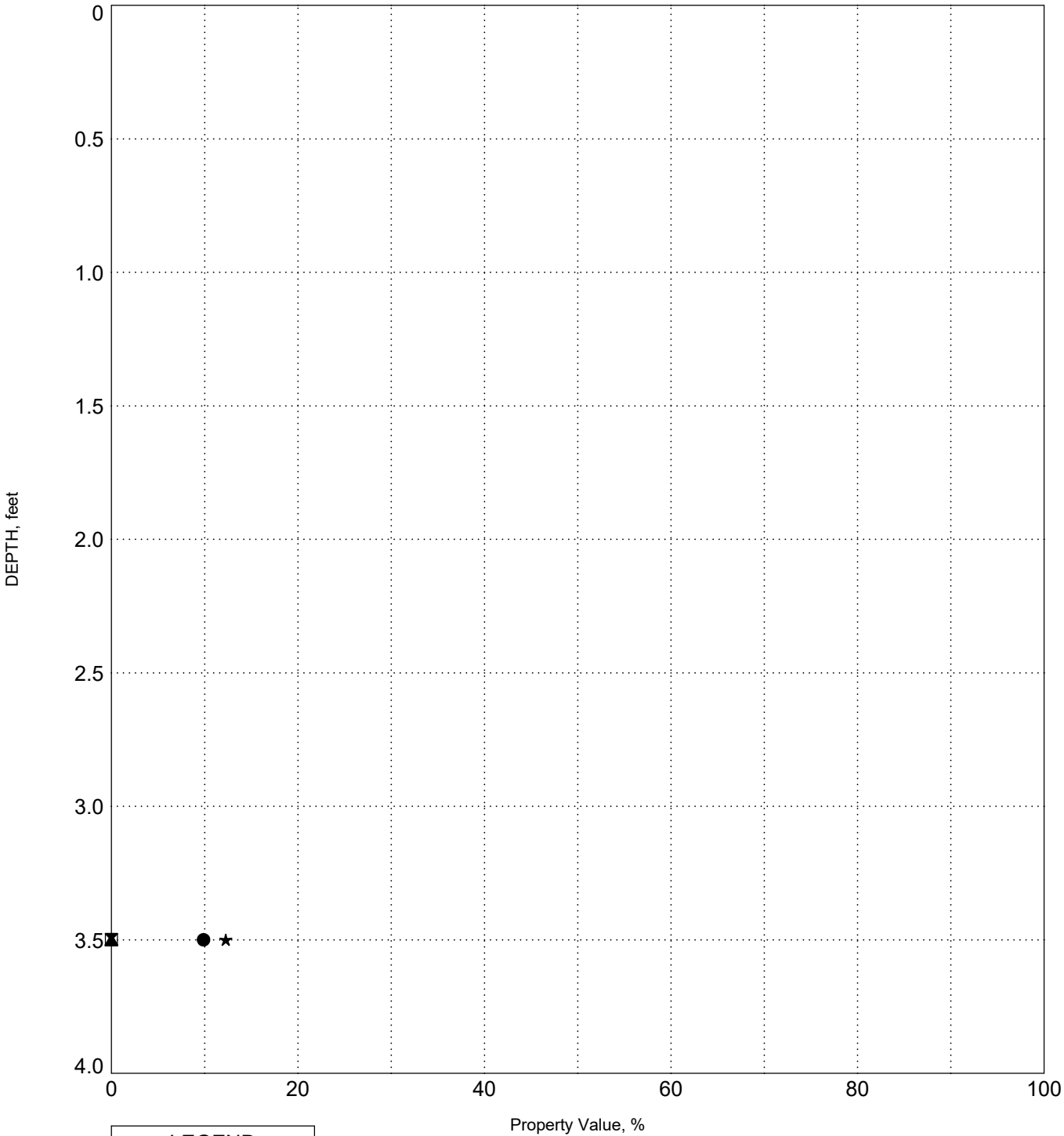
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-18

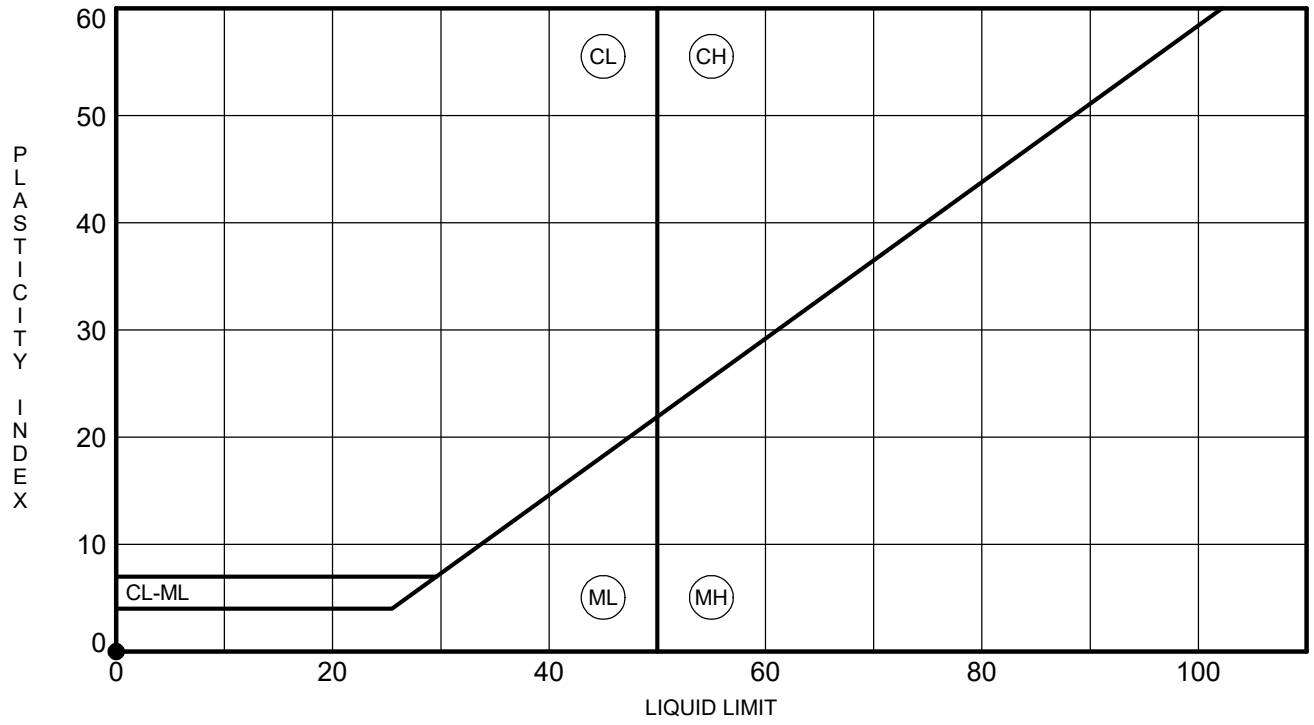
SURFACE ELEVATION: 89.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

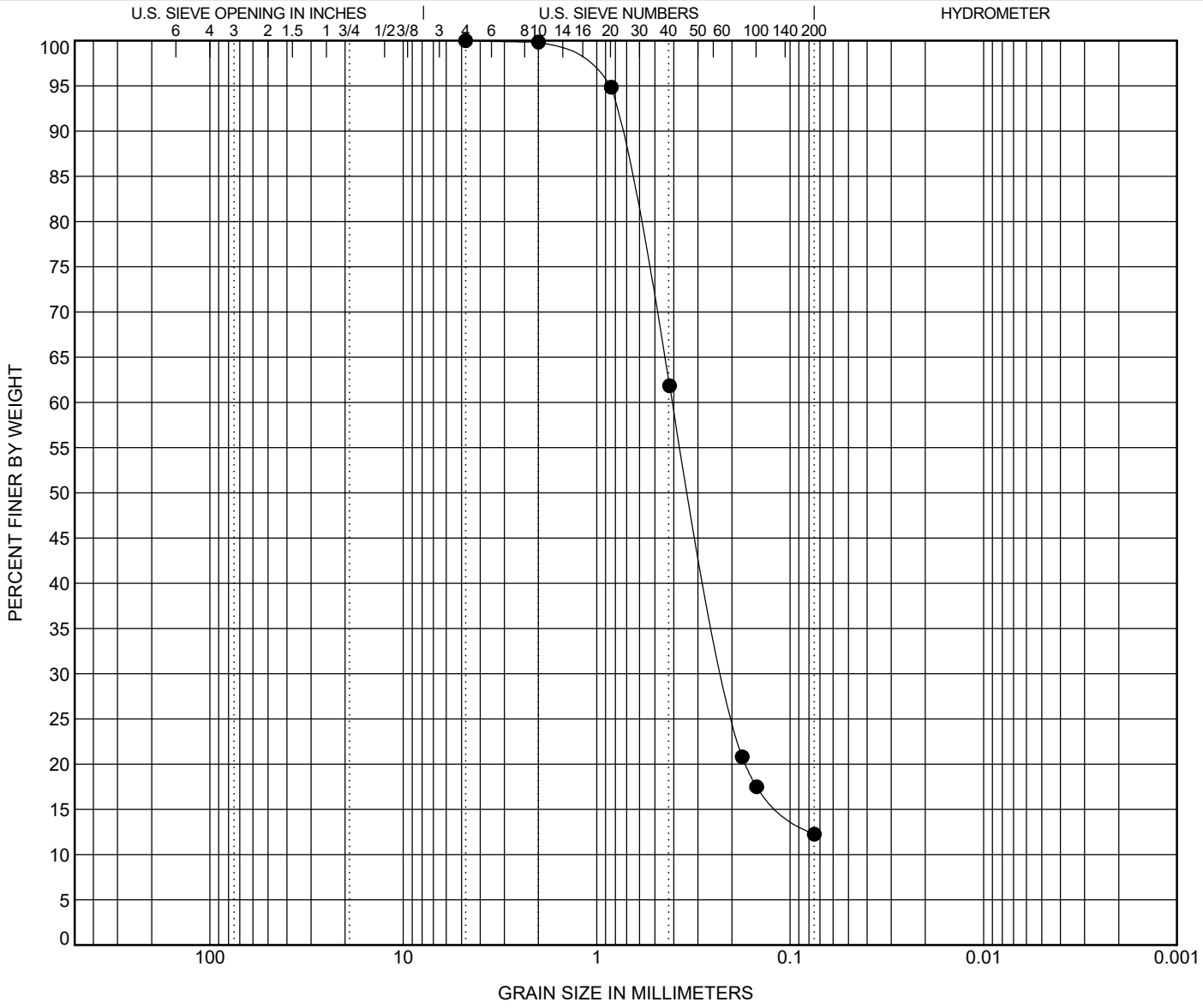


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-18**	**3.5**	**NP**	**NP**	**NP**	**12**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-18**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**	**2.05**	**7.24**

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-18**	**3.5**	**4.76**	**0.404**	**0.215**		**0.0**	**87.7**	**12.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0128 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-18				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	9.9				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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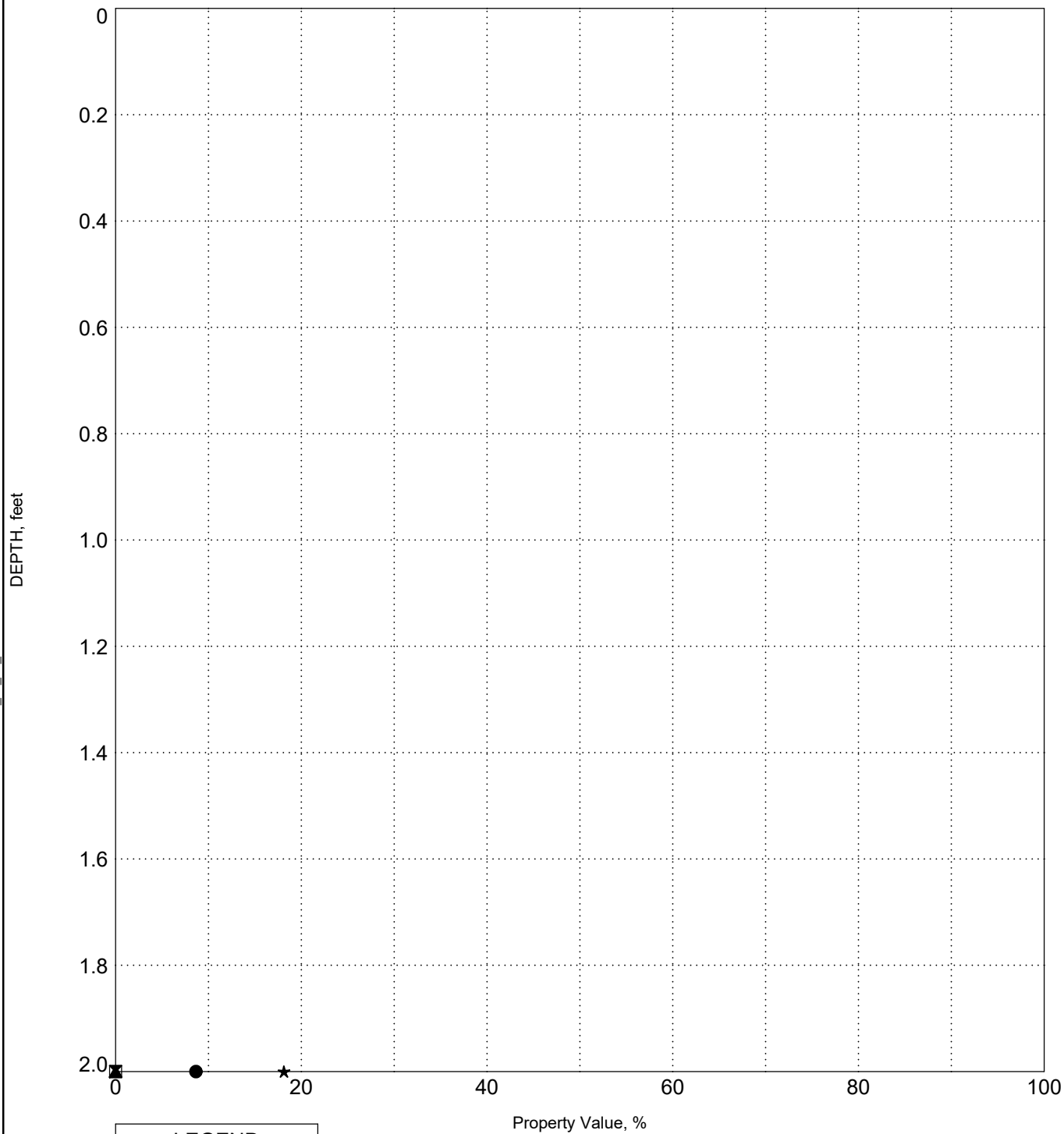
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-19

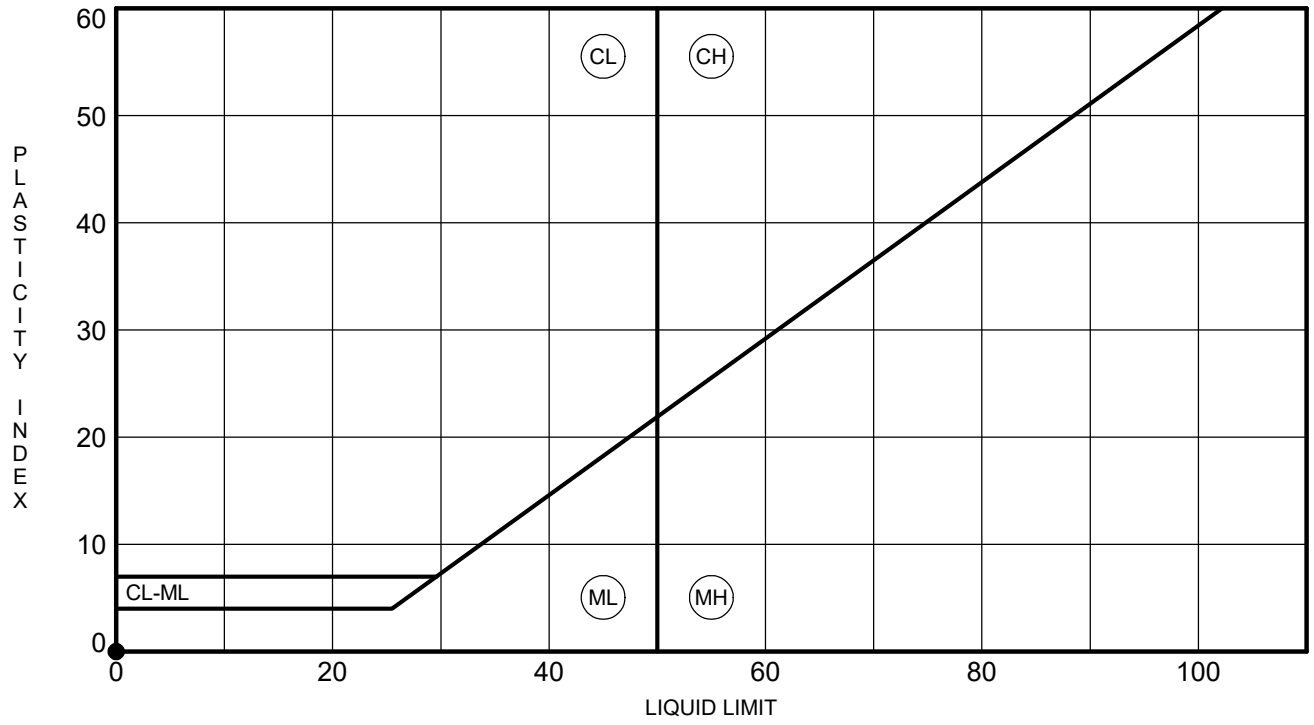
SURFACE ELEVATION: 89.3



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



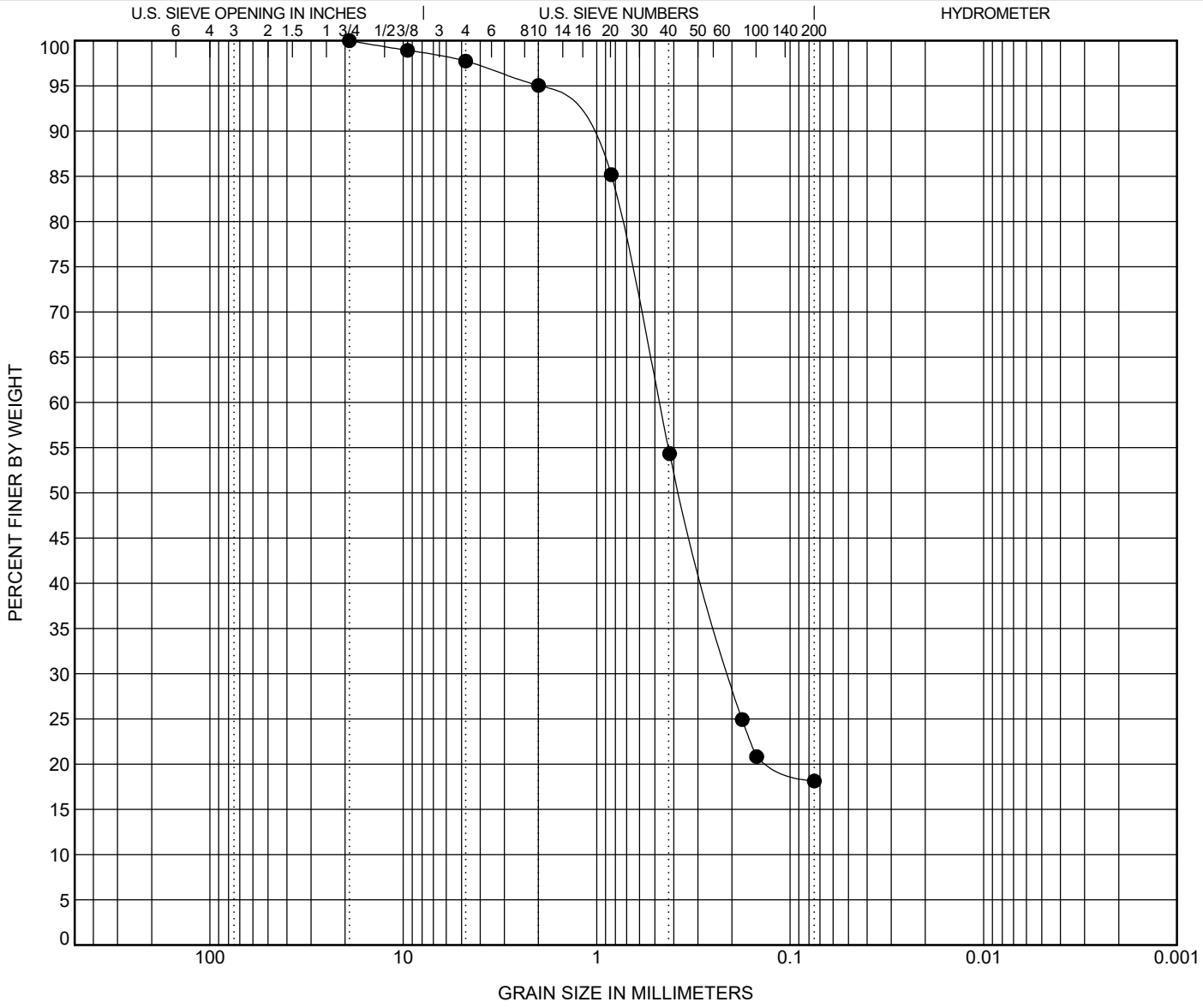
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-19**	**2.0**	**NP**	**NP**	**NP**	**18**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**P-19**	**2.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**P-19**	**2.0**	**19**	**0.477**	**0.205**		**2.3**	**79.6**	**18.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0146 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-19				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	0.0 - 2.0				
WATER CONTENT, W%	8.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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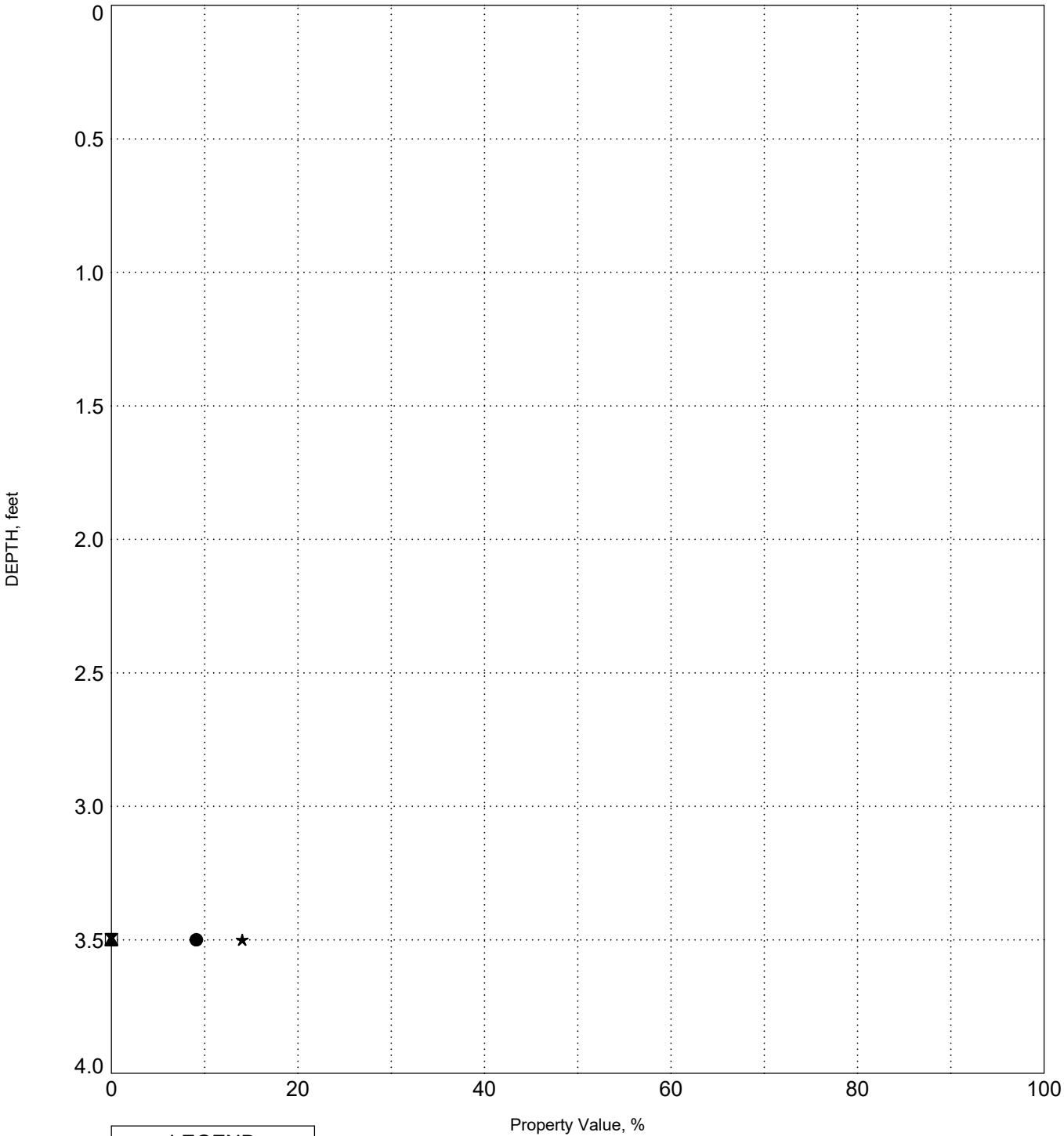
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-20

SURFACE ELEVATION: 91.7

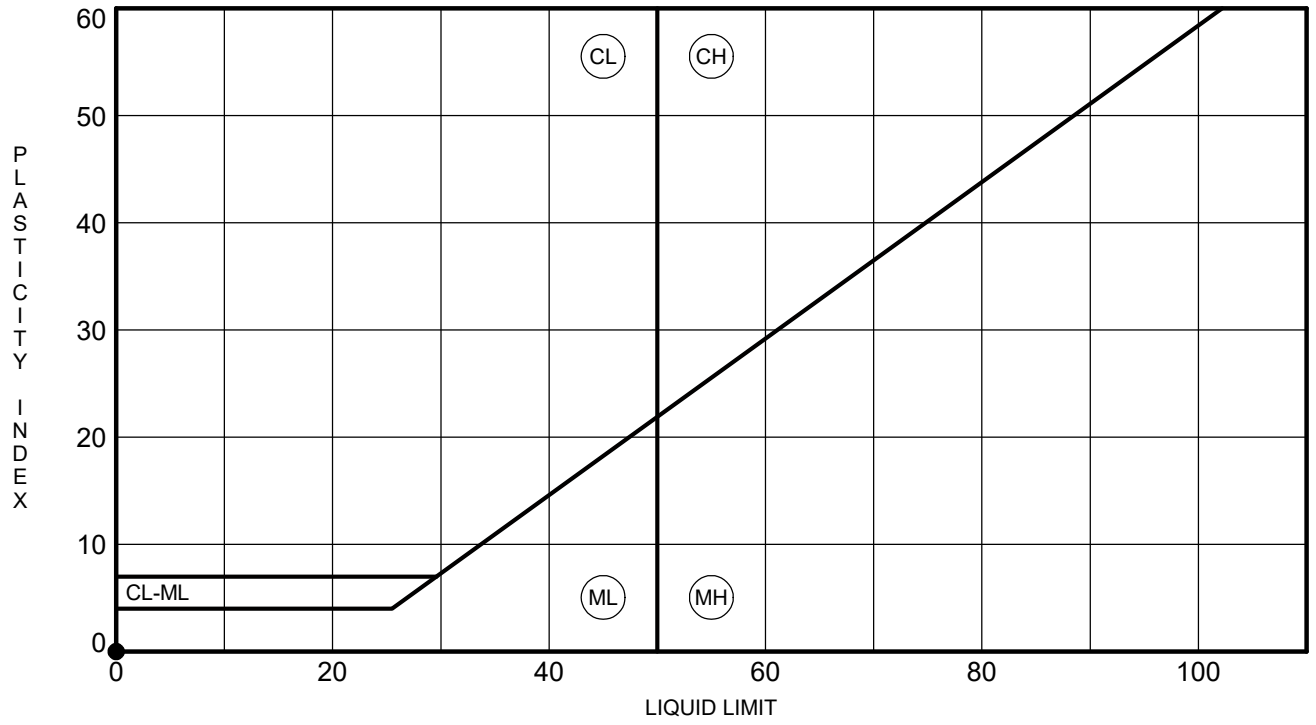


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

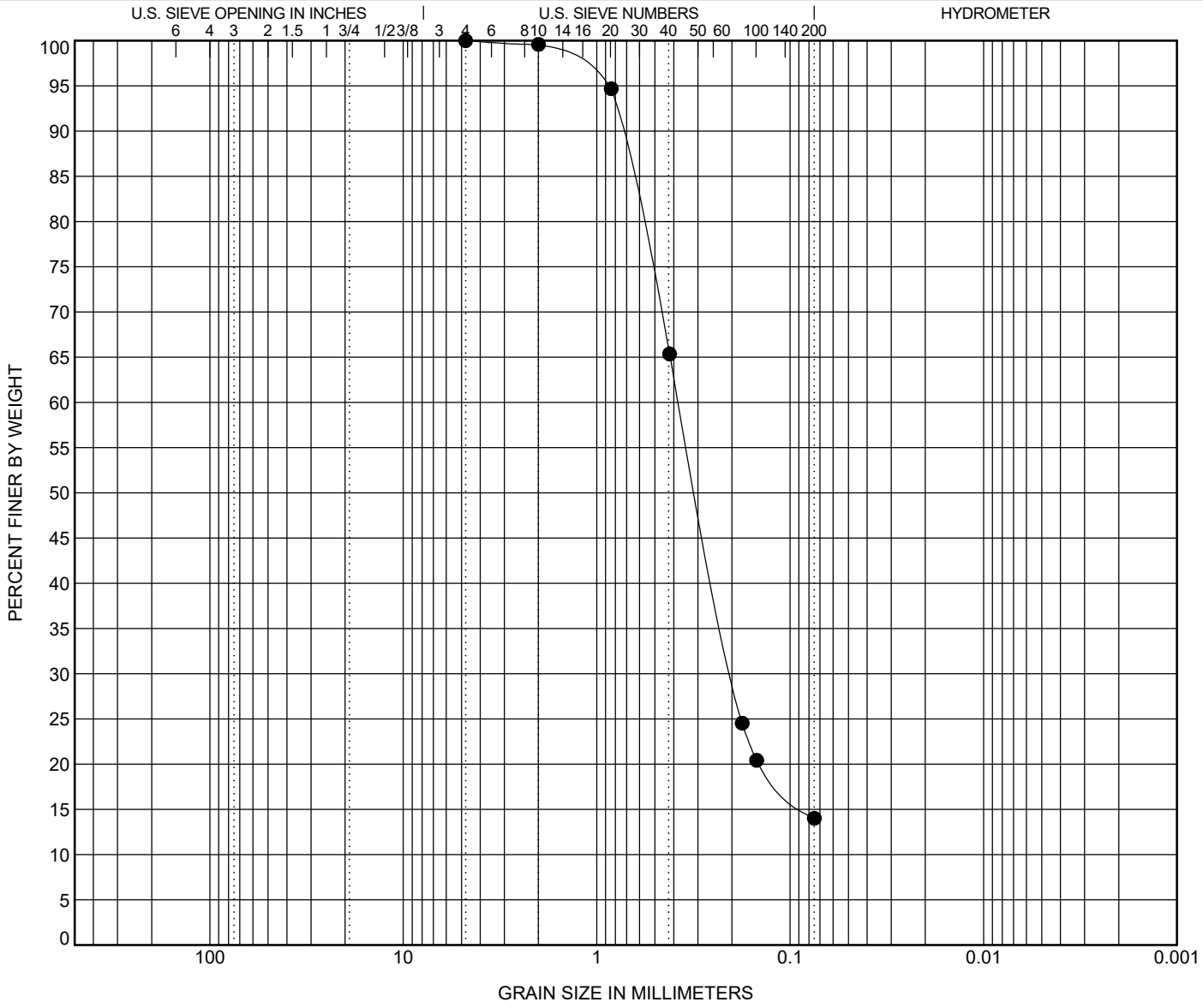


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-20**	**3.5**	**NP**	**NP**	**NP**	**14**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-20**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-20**	**3.5**	**4.76**	**0.375**	**0.199**		**0.0**	**86.0**	**14.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0130	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Silty SAND (SM/A-2-4)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-20				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	9.1				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

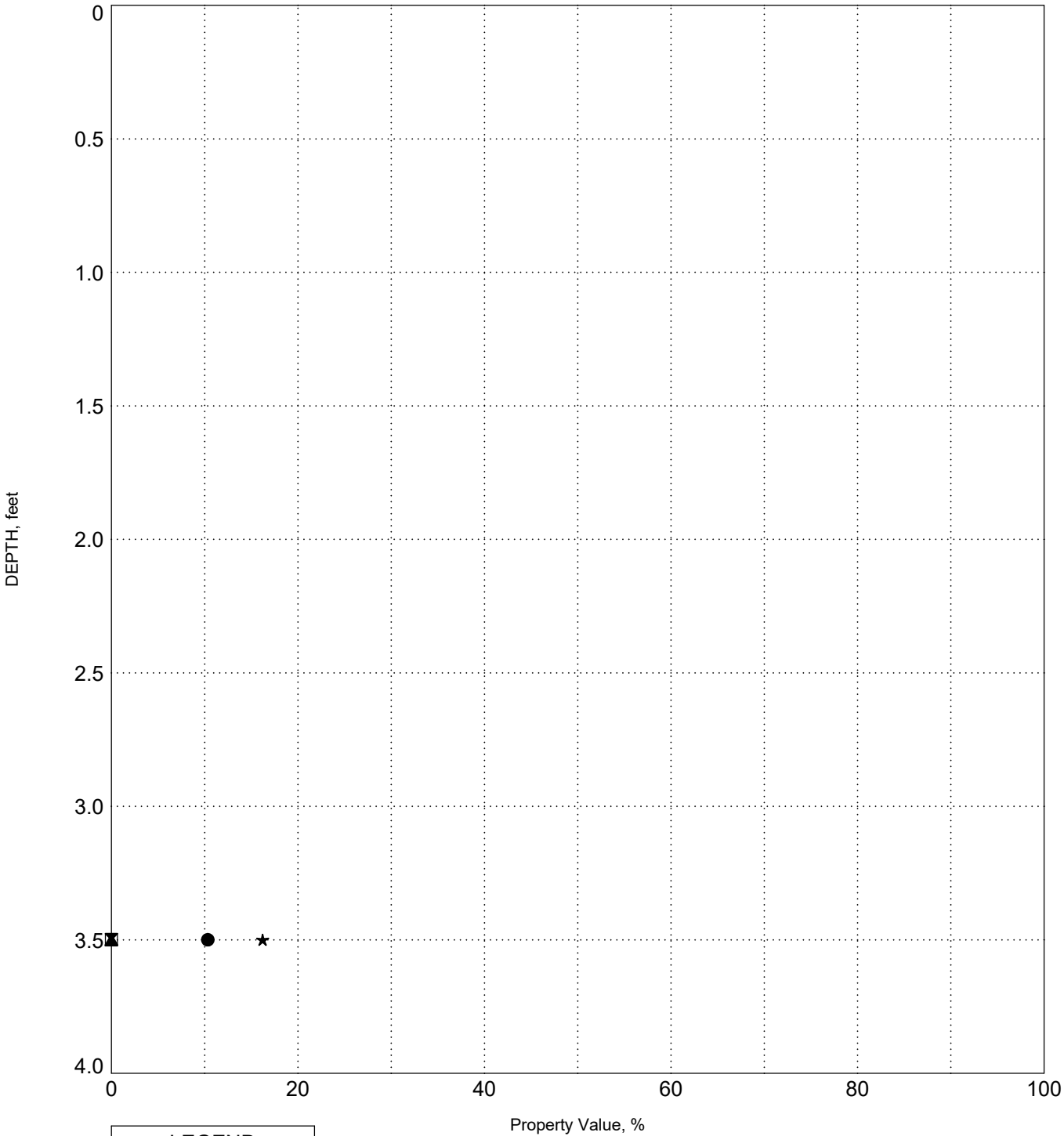
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-21

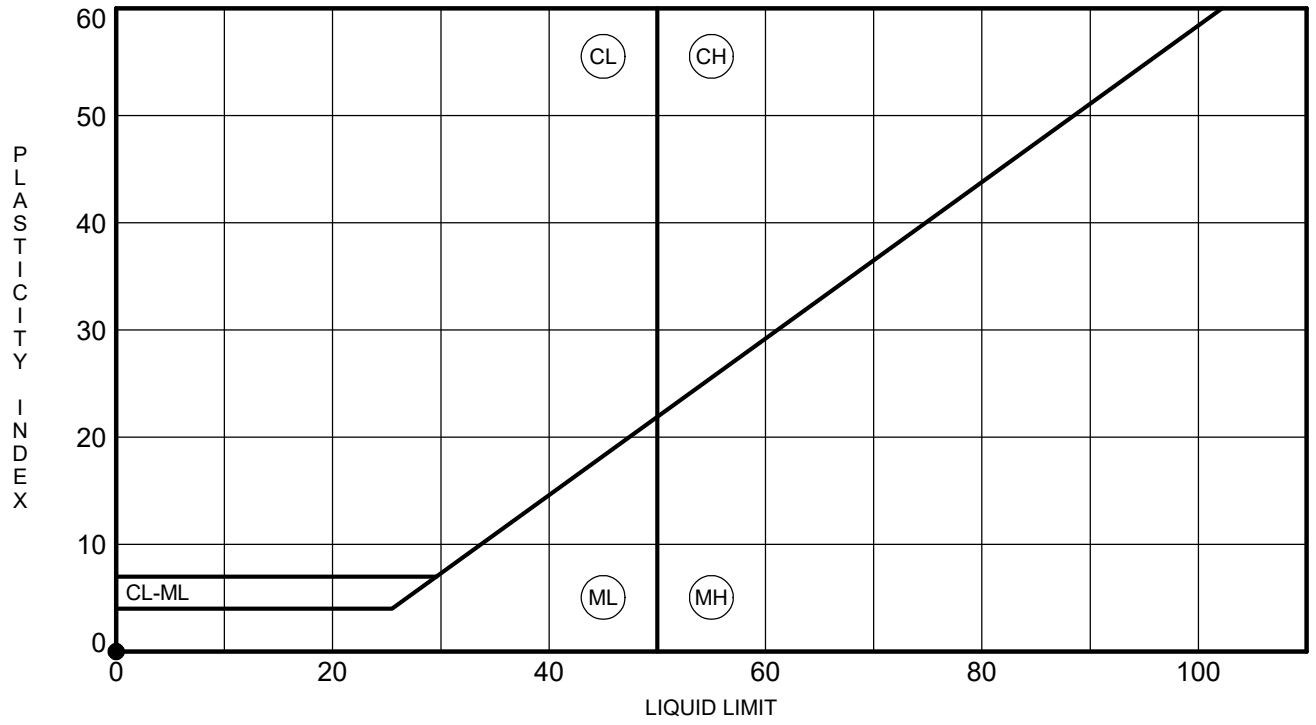
SURFACE ELEVATION: 98.1



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

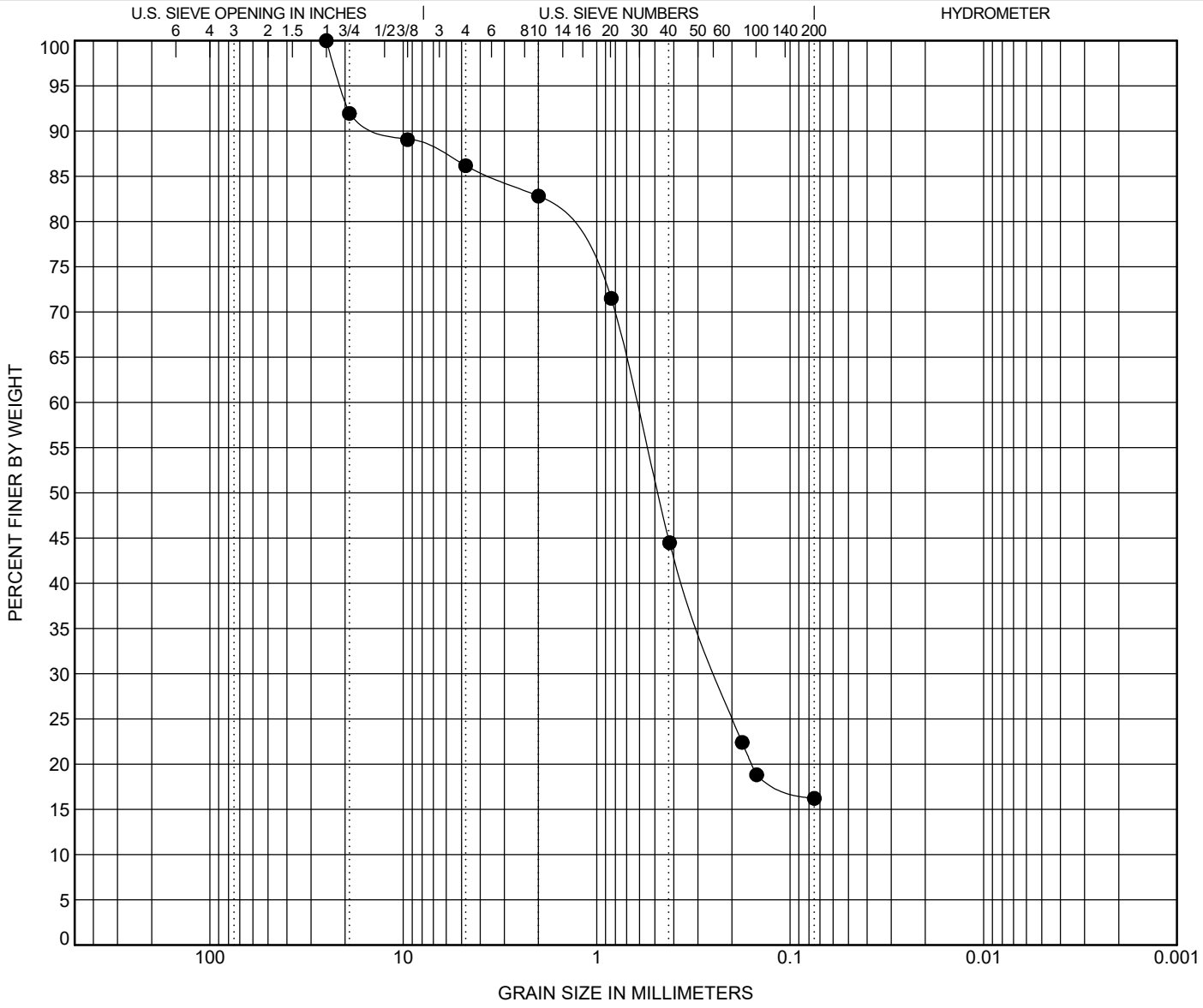


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-21**	**3.5**	**NP**	**NP**	**NP**	**16**	**SILTY SAND (SM/A-1-b)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-21**	**3.5**	**SILTY SAND (SM/A-1-b)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-21**	**3.5**	**25**	**0.626**	**0.238**		**13.8**	**70.0**	**16.2**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/23/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT:	I-95 NB/SB over Lake Marion Bridge Replacement	**SCDOT PROJECT ID:**	P041130
SAMPLE NUMBER:	23-0132	**DATE SAMPLE RECEIVED:**	1/16/2023
DESCRIPTION OF SOIL:	Silty SAND (SM/A-1-b)		
TESTED BY:	EW	**DATE SETUP:**	1/16/2023
WEIGHED BY:	DH	**DATE OF WEIGHING:**	1/17/2023

BORING NO.	P-21				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.6 - 3.5				
WATER CONTENT, W%	10.3				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

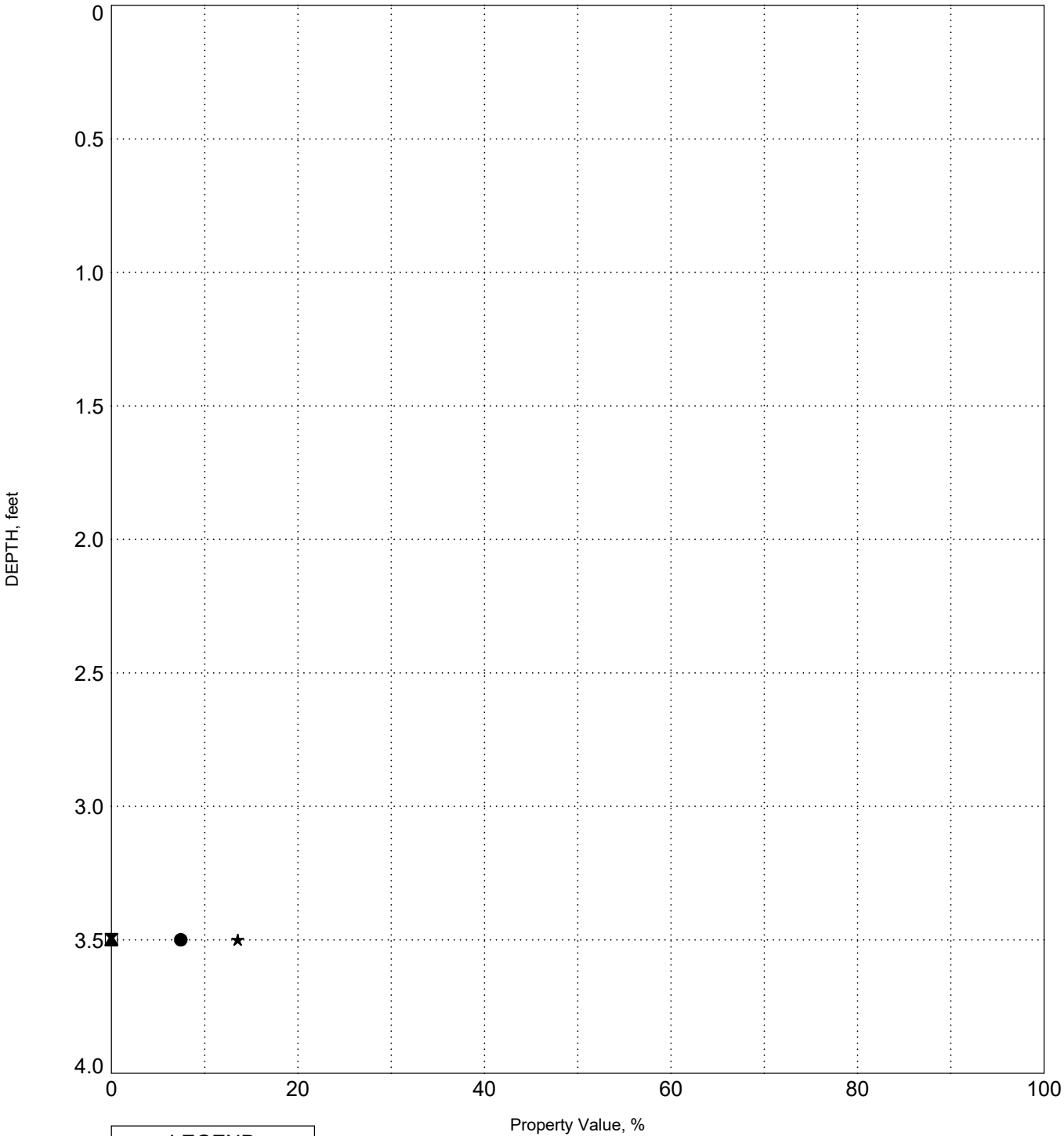
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-22

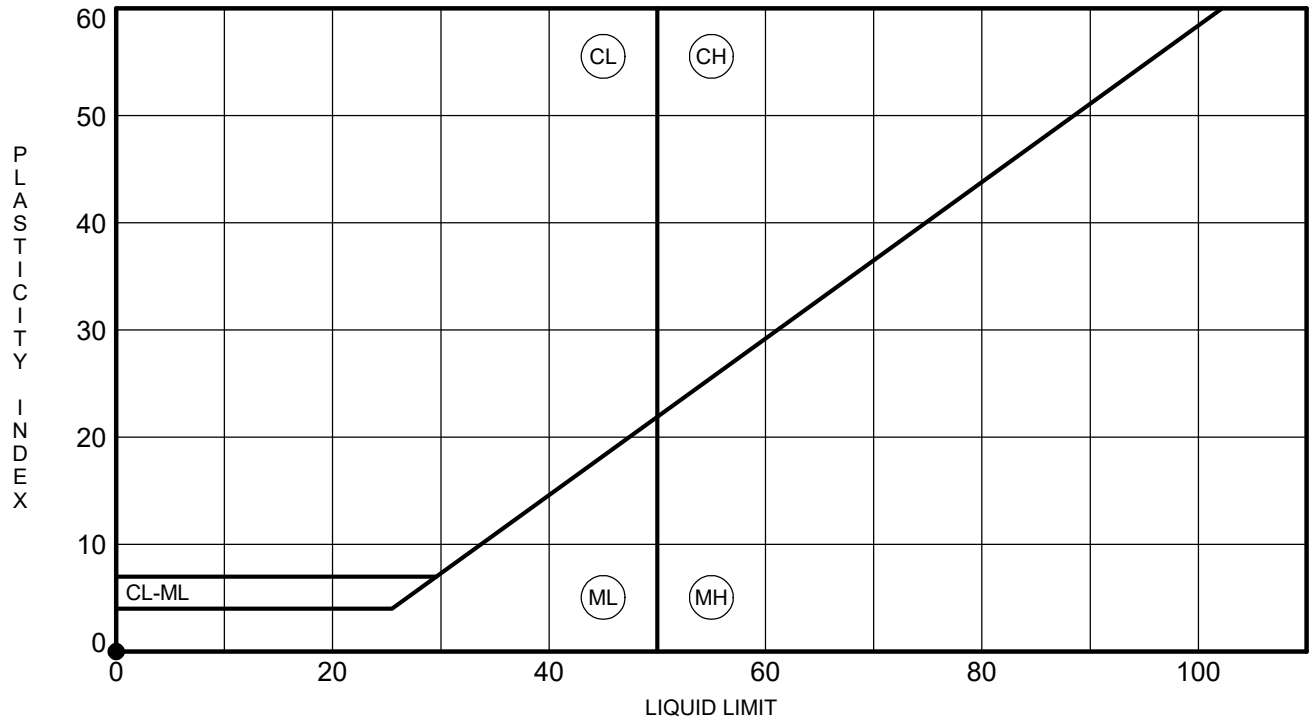
SURFACE ELEVATION: 107.2



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

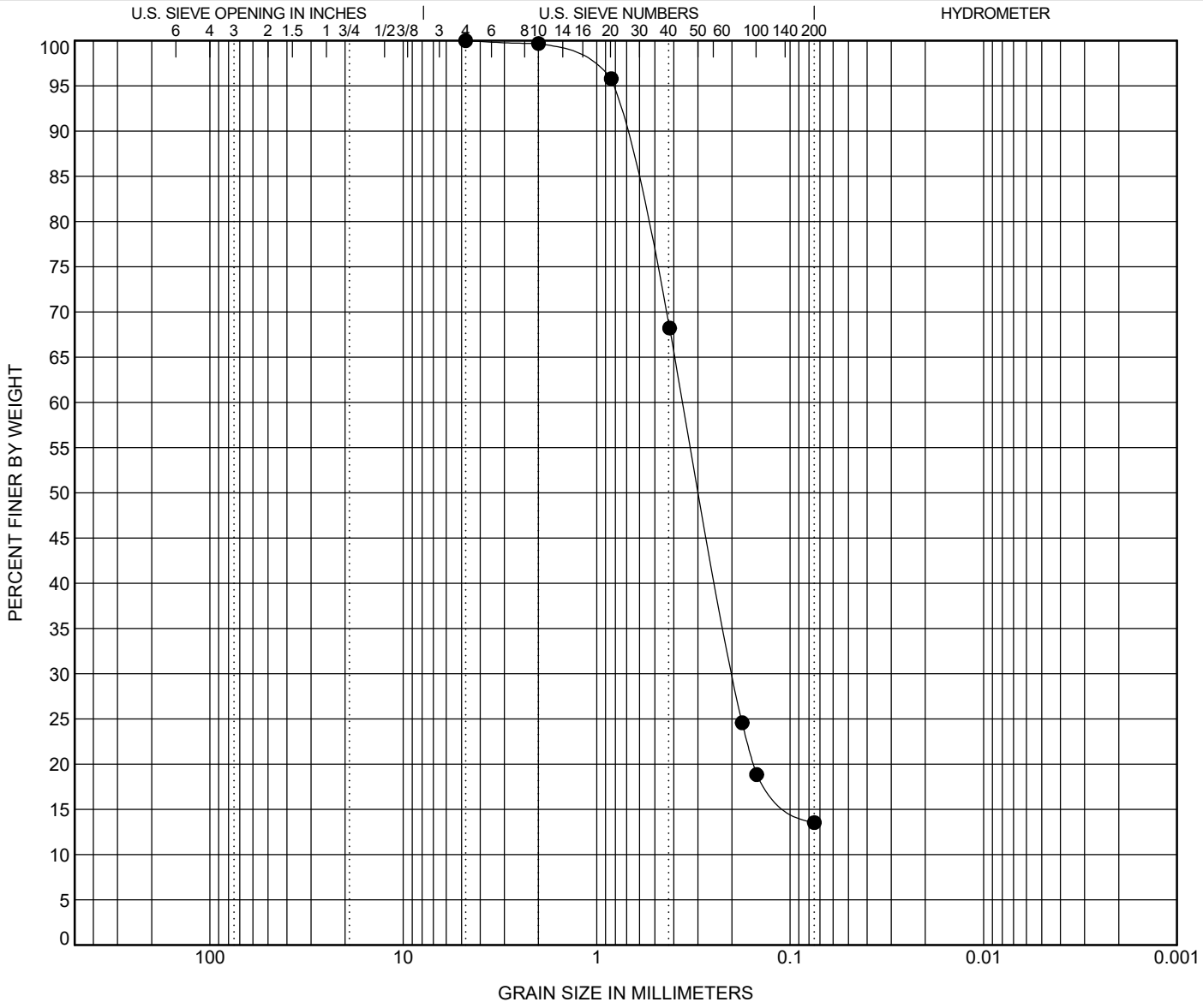


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-22**	**3.5**	**NP**	**NP**	**NP**	**14**	**SILTY SAND (SM/A-2-4)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-22**	**3.5**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-22**	**3.5**	**4.76**	**0.357**	**0.197**		**0.0**	**86.5**	**13.5**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0131 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-22				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.5 - 3.5				
WATER CONTENT, W%	7.4				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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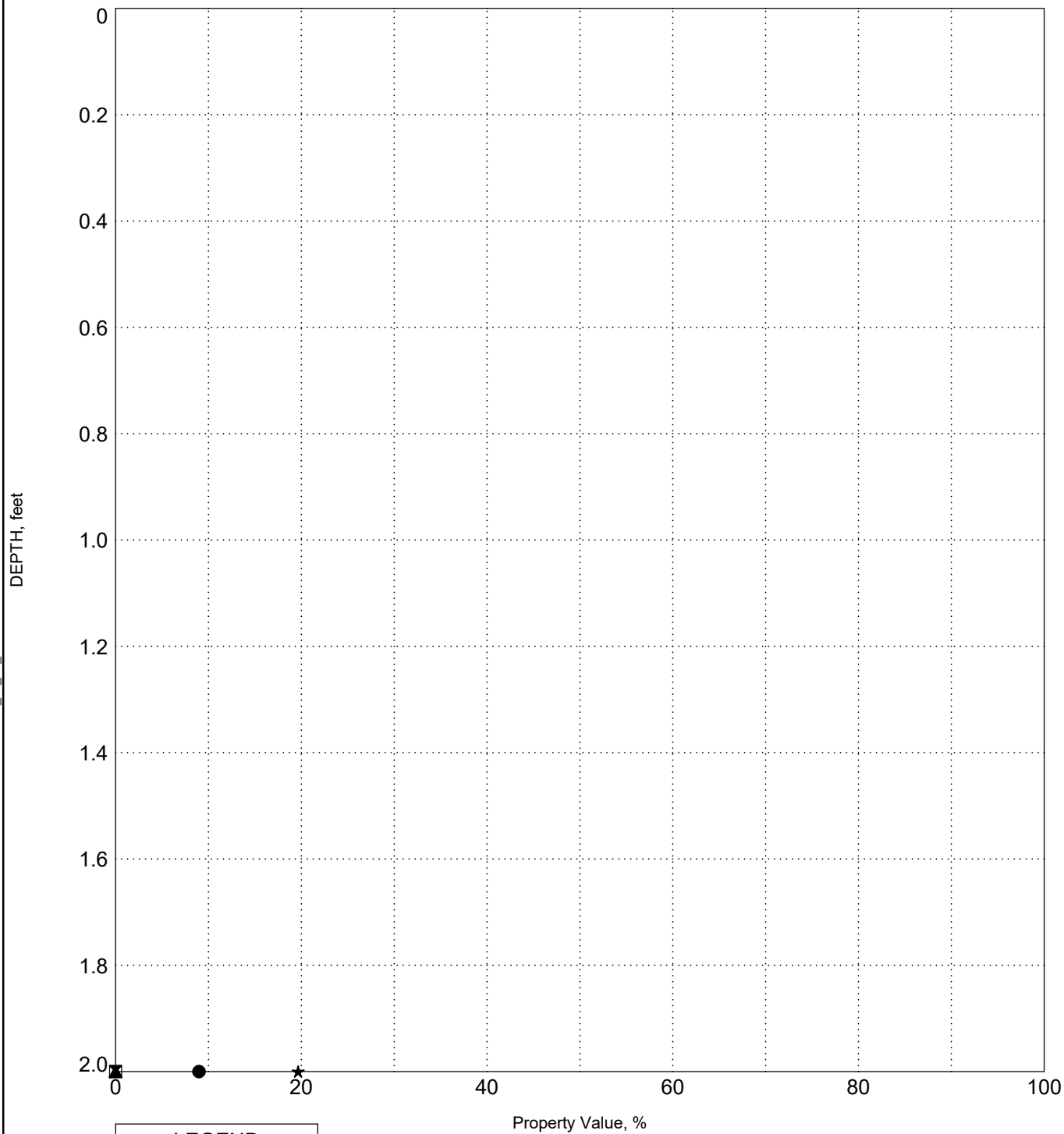
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-23

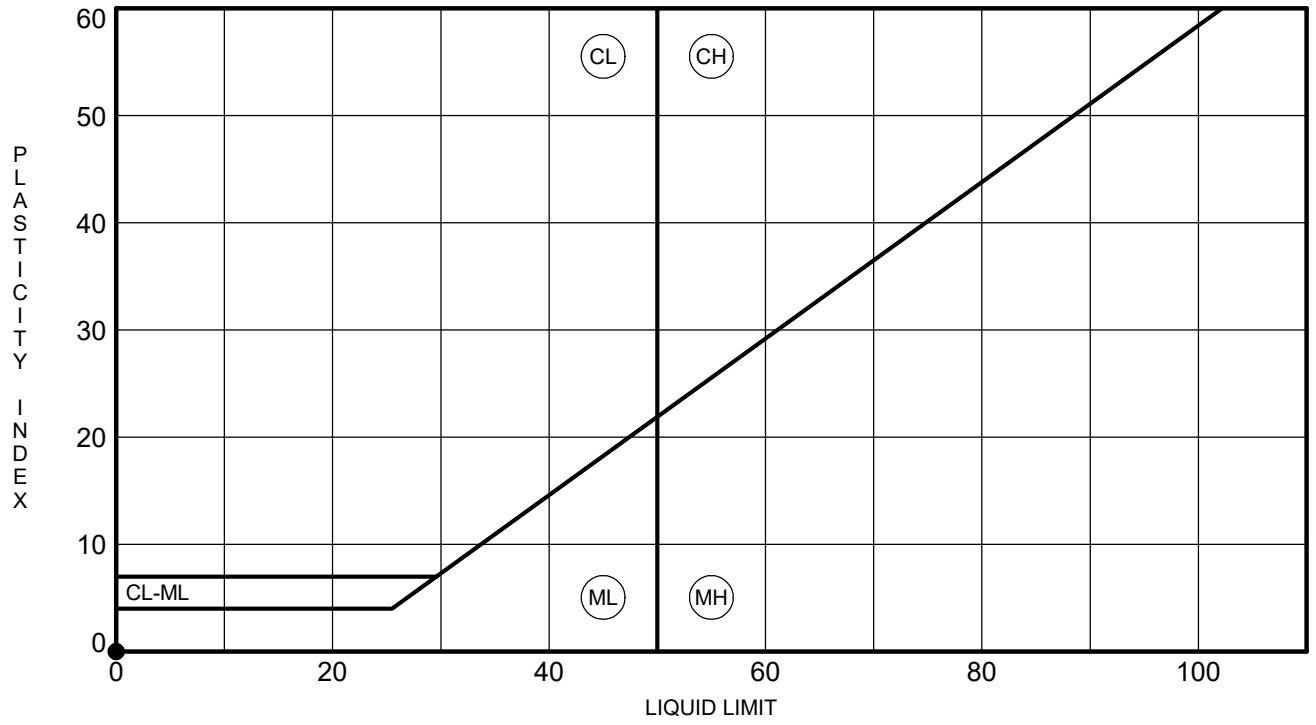
SURFACE ELEVATION: 104.1



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



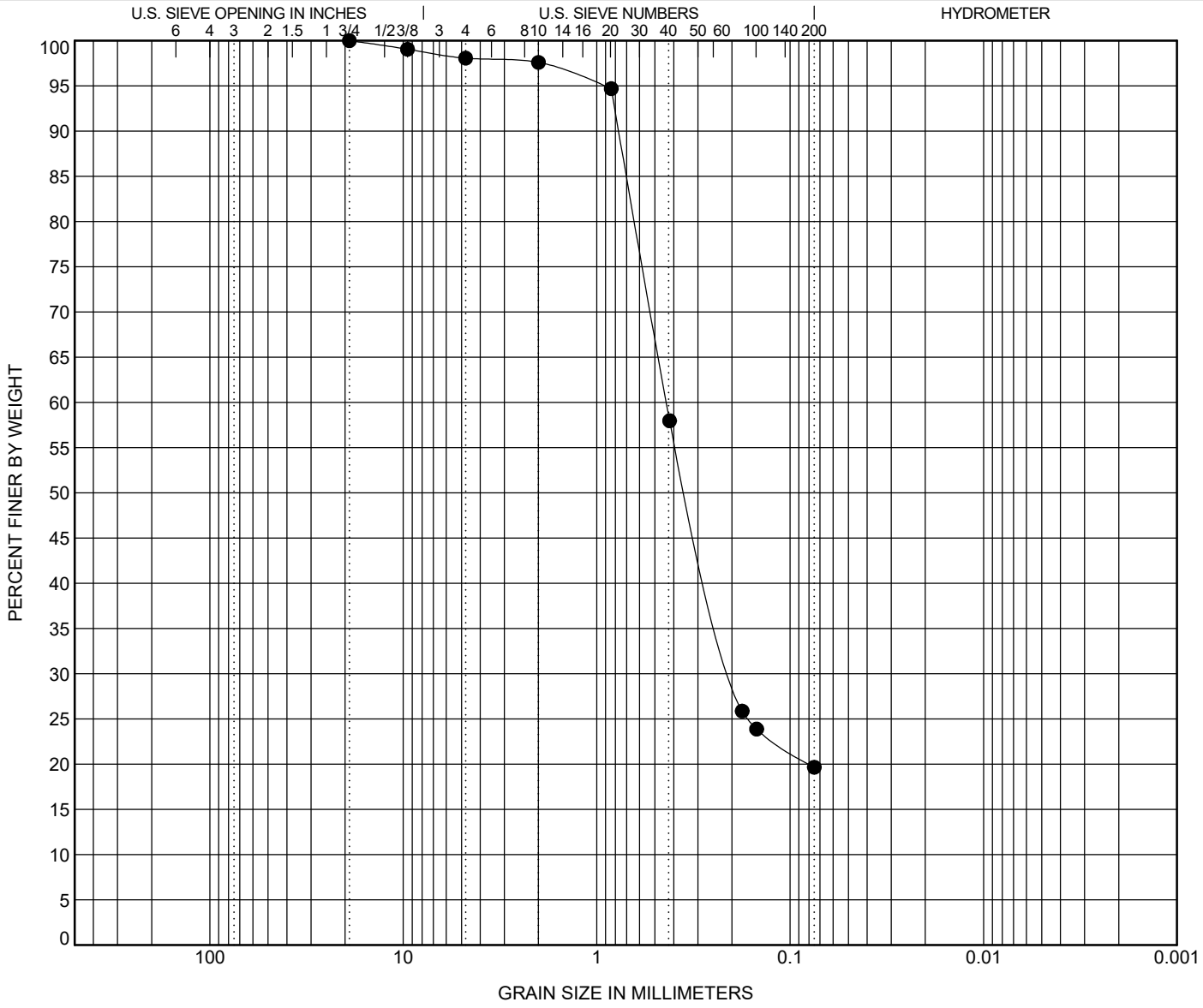
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-23**	**2.0**	**NP**	**NP**	**NP**	**20**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-23**	**2.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-23**	**2.0**	**19**	**0.436**	**0.198**		**1.9**	**78.4**	**19.7**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0137 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-23				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	1.0 - 2.0				
WATER CONTENT, W%	9.0				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

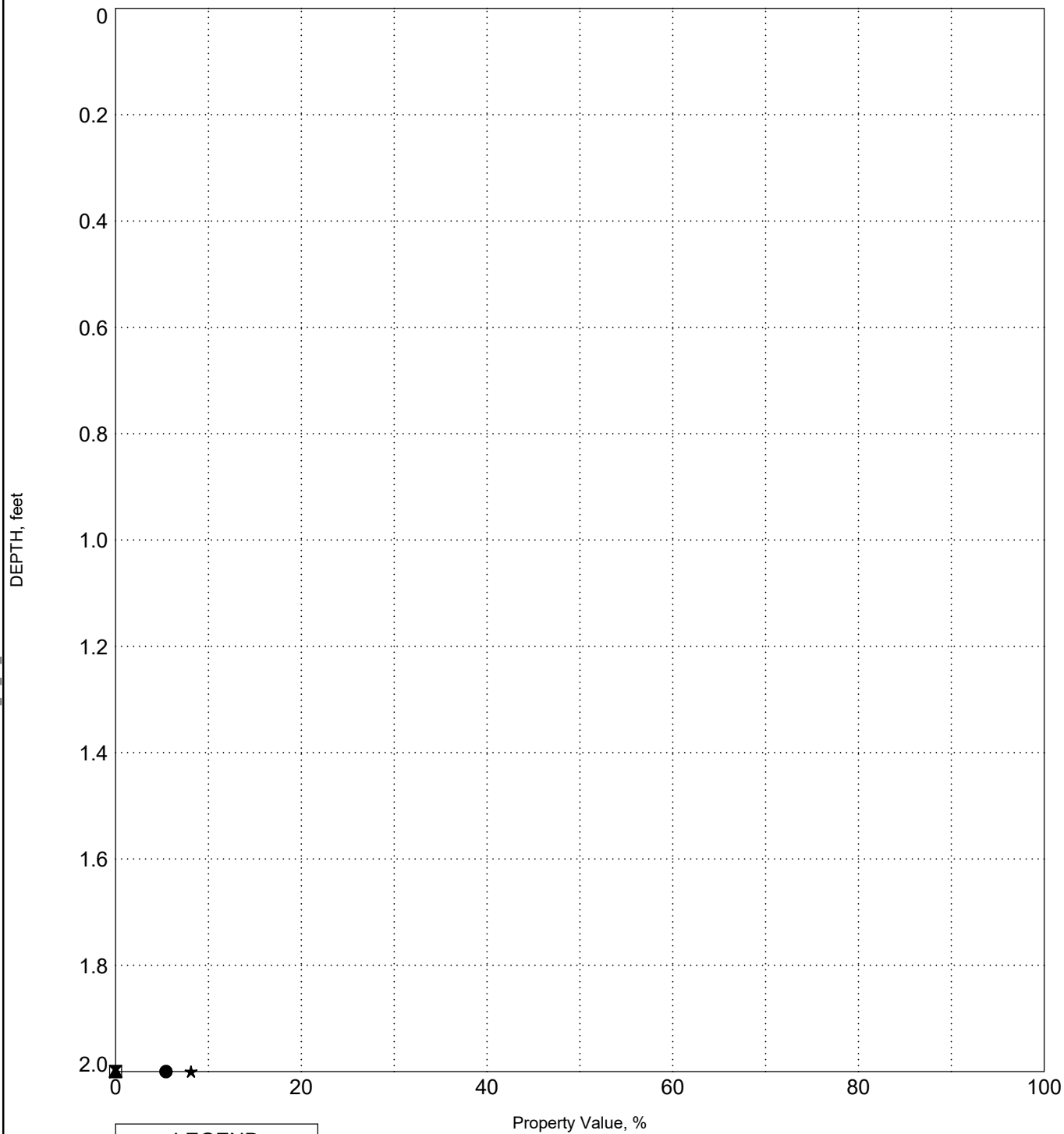
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING P-24

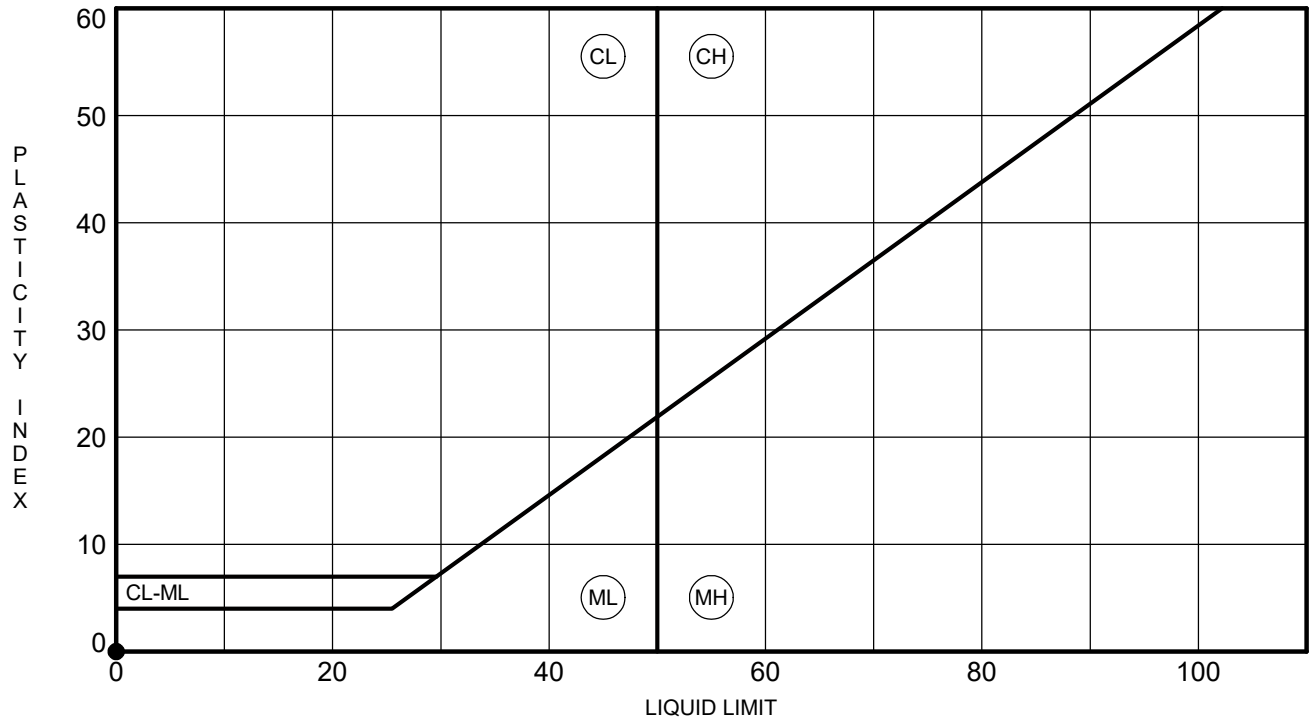
SURFACE ELEVATION: 84.8



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

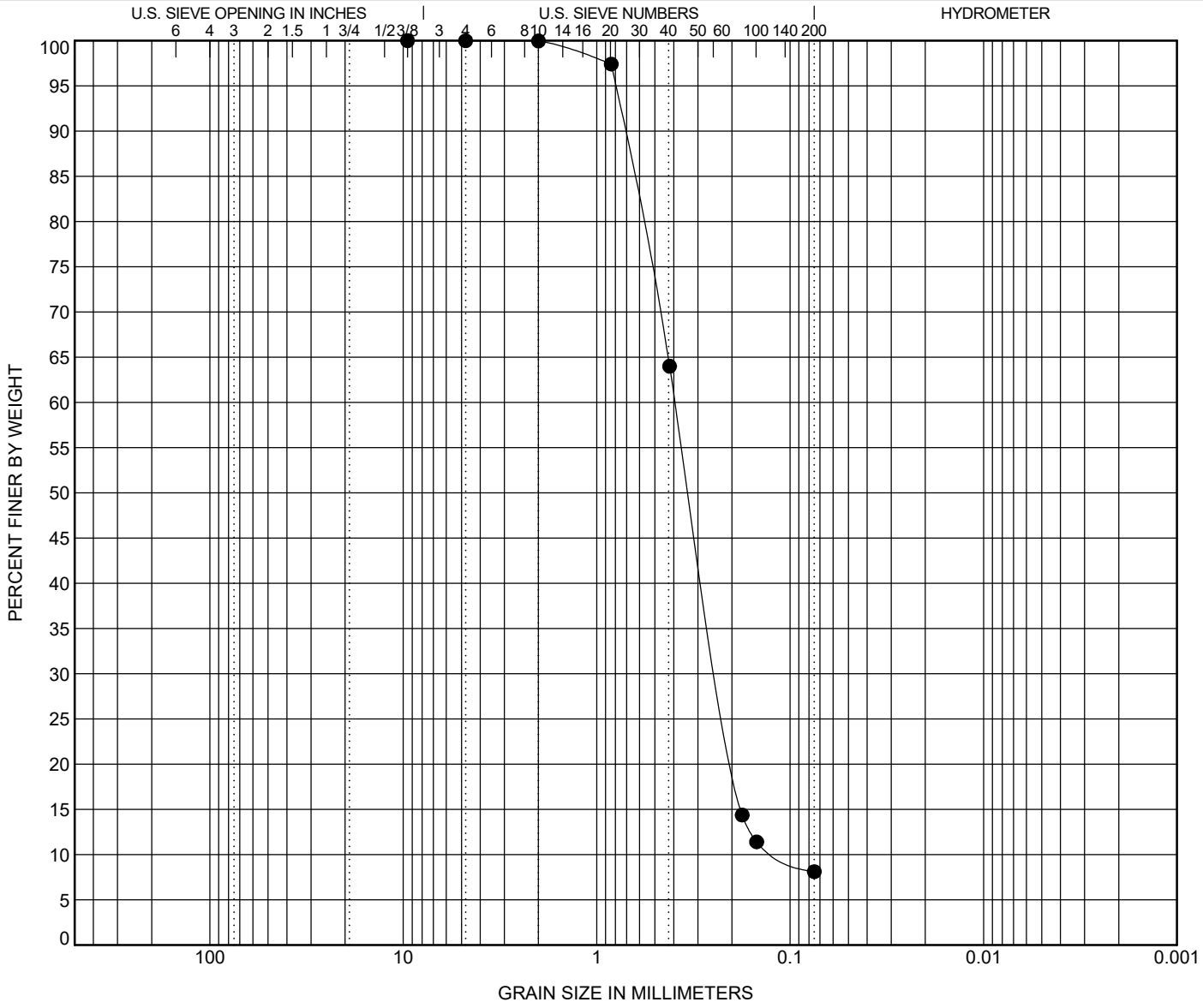


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**P-24**	**2.0**	**NP**	**NP**	**NP**	**8**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **P-24**	**2.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.24**	**3.53**

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **P-24**	**2.0**	**9.51**	**0.392**	**0.232**	**0.111**	**0.0**	**91.9**	**8.1**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0145 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Poorly Graded SAND (SP-SM/A-3) with Silt

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	P-24				
SAMPLE NO.	SS-1				
SAMPLE DEPTH (FT.)	0.0 - 2.0				
WATER CONTENT, W%	5.4				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

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F&ME CONSULTANTS
3112 Devine Street
Columbia, South Carolina 29205

pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	B-2	Sample Elevation/Depth:	86.0' - 90.0'
Description of Sample:	Silty SAND (SM/A-2-6)	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0172			
Sample ID	B-2			
Depth (ft.)	86.0 - 90.0			
pH Value	5.46			
Temperature (˚C)	20.1			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	B-2	FME Lab ID No.:	23-0172
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Silty SAND (SM/A-2-6)	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
B-2	86.0 - 90.0	69,092

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	B-2
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	16.0-20.0'
Project No.:	2023-147-001	Sample No.:	SS-9/10
Lab ID:	2023-147-001-001	Description:	Orange Sand

(- # 10 Sieve material)

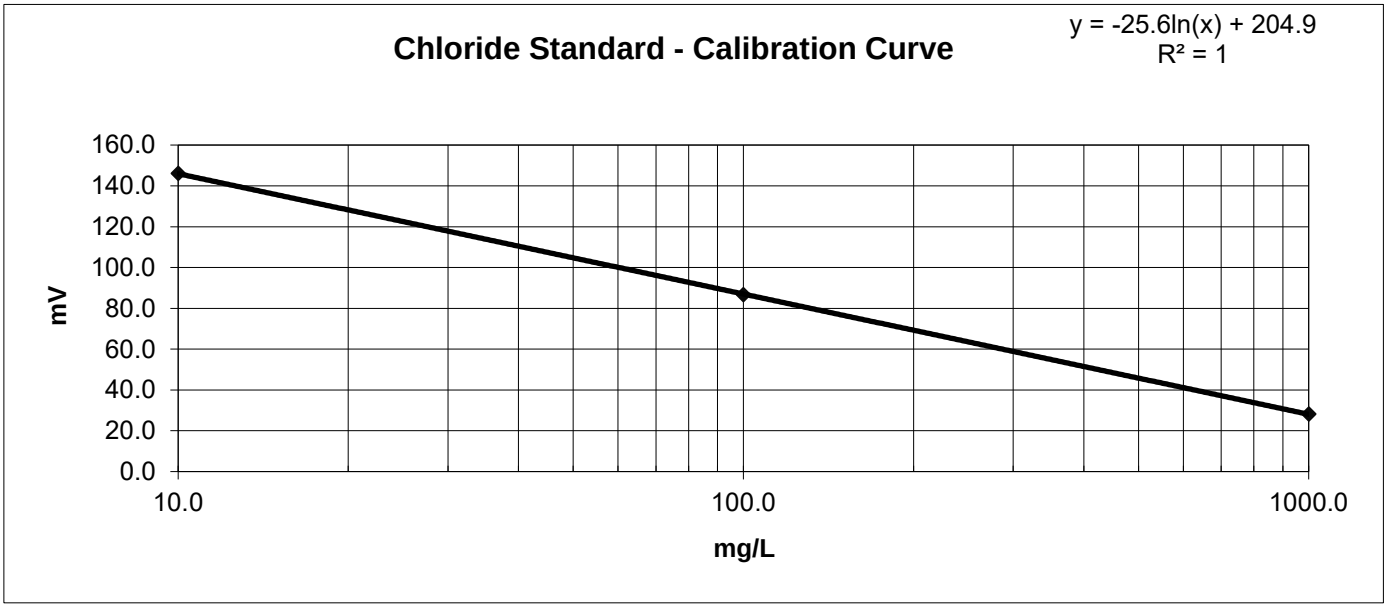
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	133.0	16.58	16.58

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	B-2
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	16.0-20.0'
Project No.:	2023-147-001	Sample No.:	SS-9/10
Lab ID:	2023-147-001-001	Soil Description:	Orange Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

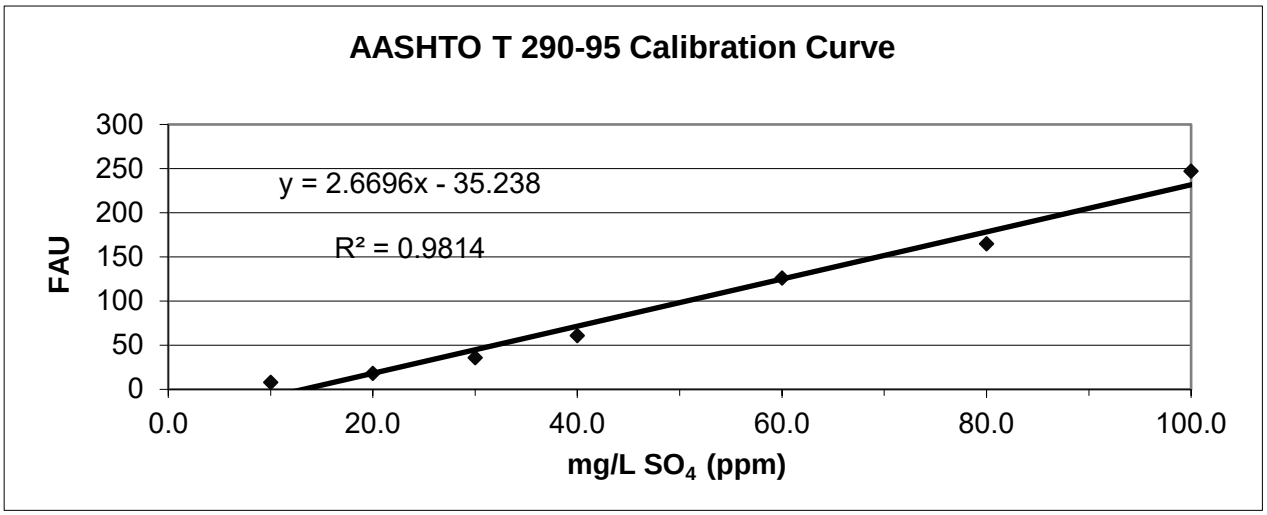
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	15
Sample Diluted:	No
Sulfate Solution Added (ml):	5

Sample Moisture Content

Tare Number:	894
Weight of Tare & Wet Sample (g):	369.47
Weight of Tare & Dry Sample (g):	368.15
Weight of Tare (g):	109.79
Weight of Water (g):	1.32
Weight of Dry Sample (g):	258.36
Moisture Content (%):	0.51

Sample Sulfate Ion Concentration:	18.32	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	55.0	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	55.2	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	B-44	Sample Elevation/Depth:	6.0' - 10.0'
Description of Sample:	Poorly Graded SAND (SP/A-3)	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0194			
Sample ID	B-44			
Depth (ft.)	6.0 - 10.0			
pH Value	8.39			
Temperature (˚C)	20.6			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	B-44	FME Lab ID No.:	23-0194
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Poorly Graded SAND (SP/A-3)	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
B-44	6.0 - 10.0	27,324

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	B-44
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	6.0-10.0'
Project No.:	2023-147-001	Sample No.:	SS-4/5
Lab ID:	2023-147-001-002	Description:	Brown Sand

(- # 10 Sieve material)

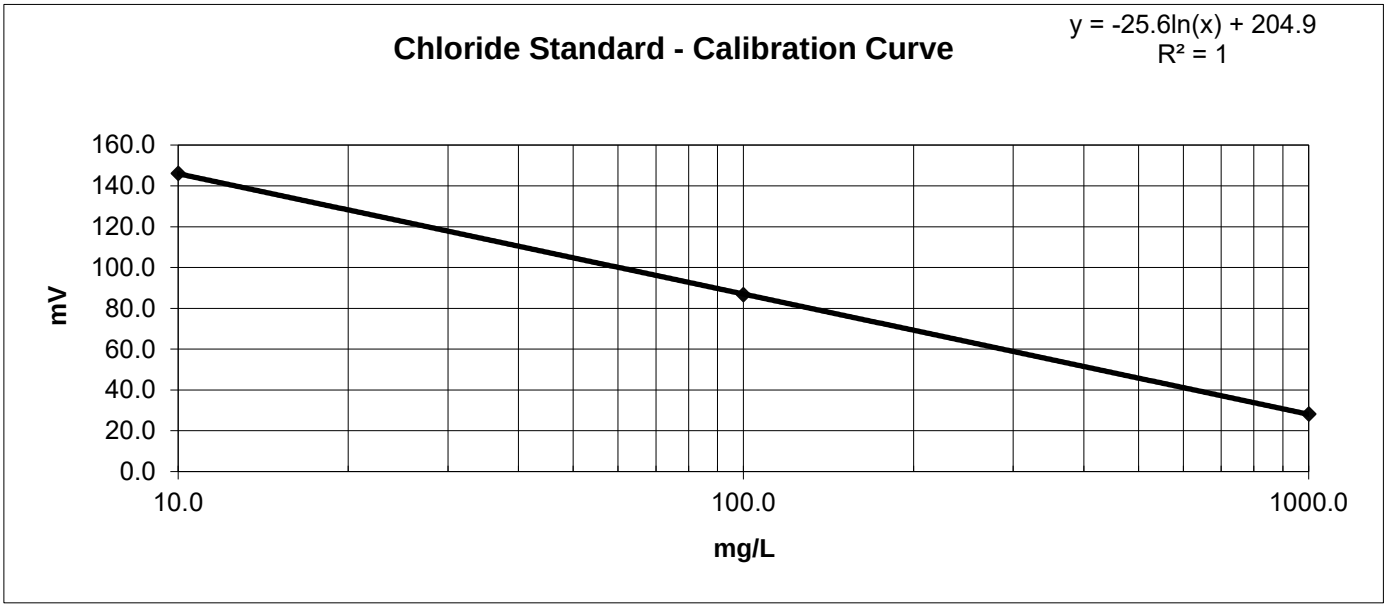
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	147.1	9.56	9.56

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	B-44
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	6.0-10.0'
Project No.:	2023-147-001	Sample No.:	SS-4/5
Lab ID:	2023-147-001-002	Soil Description:	Brown Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

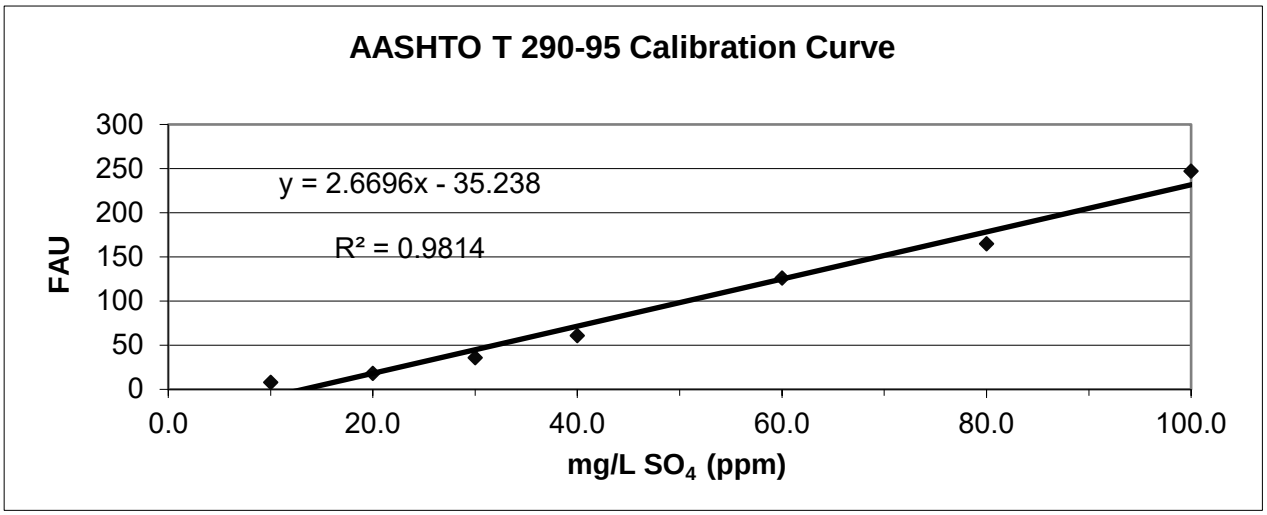
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	14
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	898
Weight of Tare & Wet Sample (g):	218.77
Weight of Tare & Dry Sample (g):	218.70
Weight of Tare (g):	109.43
Weight of Water (g):	0.07
Weight of Dry Sample (g):	109.27
Moisture Content (%):	0.06

Sample Sulfate Ion Concentration:	18.44	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	55.3	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	55.4	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	B-47	Sample Elevation/Depth:	6.0' - 10.0'
Description of Sample:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0312			
Sample ID	B-47			
Depth (ft.)	6.0 - 10.0			
pH Value	9.17			
Temperature (˚C)	20.1			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	B-47	FME Lab ID No.:	23-0312
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
B-47	6.0 - 10.0	15,272

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	B-47
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	6.0-10.0'
Project No.:	2023-147-001	Sample No.:	SS-4/5
Lab ID:	2023-147-001-003	Description:	Brown Sand

(- # 10 Sieve material)

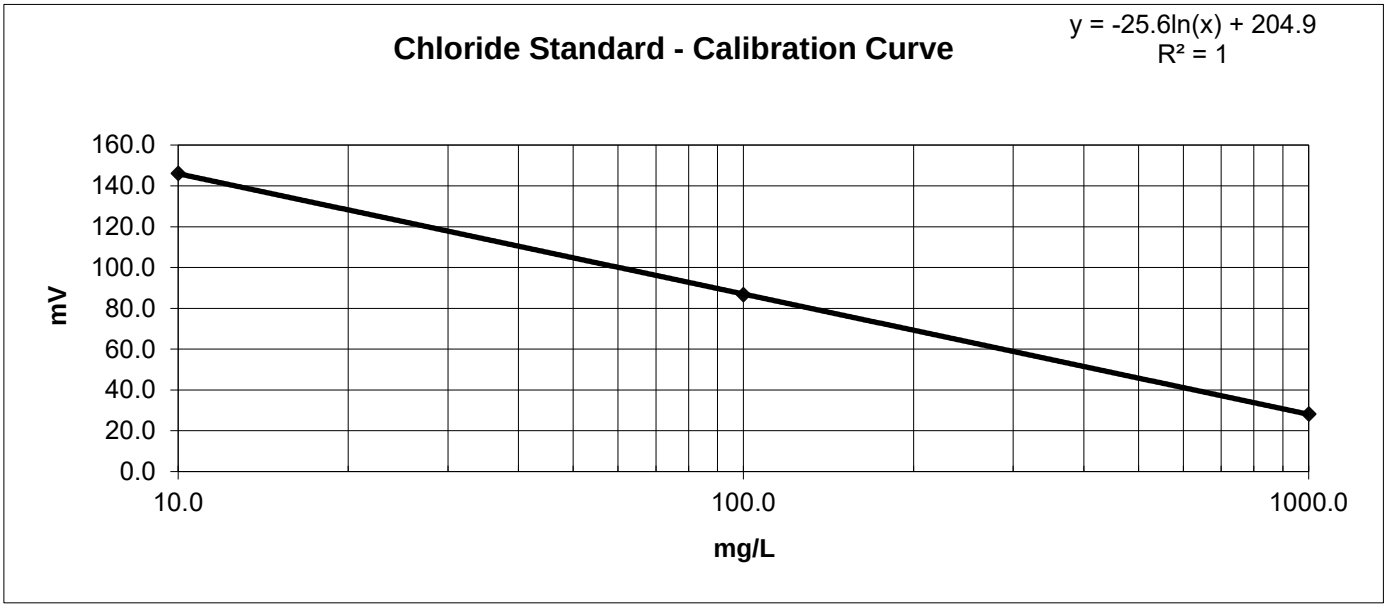
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	147.4	9.45	9.45

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	B-47
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	6.0-10.0'
Project No.:	2023-147-001	Sample No.:	SS-4/5
Lab ID:	2023-147-001-003	Soil Description:	Brown Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

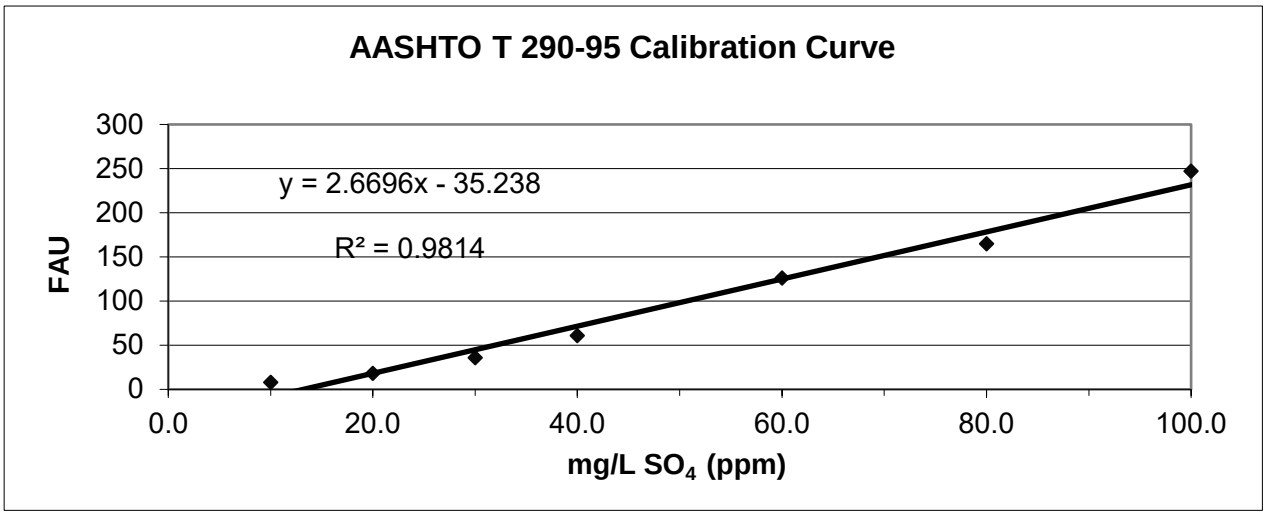
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	14
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	578
Weight of Tare & Wet Sample (g):	243.13
Weight of Tare & Dry Sample (g):	243.03
Weight of Tare (g):	83.78
Weight of Water (g):	0.10
Weight of Dry Sample (g):	159.25
Moisture Content (%):	0.06

Sample Sulfate Ion Concentration:	18.44	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	55.3	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	55.4	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	B-51	Sample Elevation/Depth:	4.0' - 8.0'
Description of Sample:	Poorly Graded SAND (SP/A-3)	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0312			
Sample ID	B-51			
Depth (ft.)	4.0 - 8.0			
pH Value	8.43			
Temperature (˚C)	20.5			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	B-51	FME Lab ID No.:	23-0312
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Poorly Graded SAND (SP/A-3)	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
B-51	4.0 - 8.0	36,248

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	B-51
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	4.0-8.0'
Project No.:	2023-147-001	Sample No.:	SS-3/4
Lab ID:	2023-147-001-004	Description:	Brown Sand

(- # 10 Sieve material)

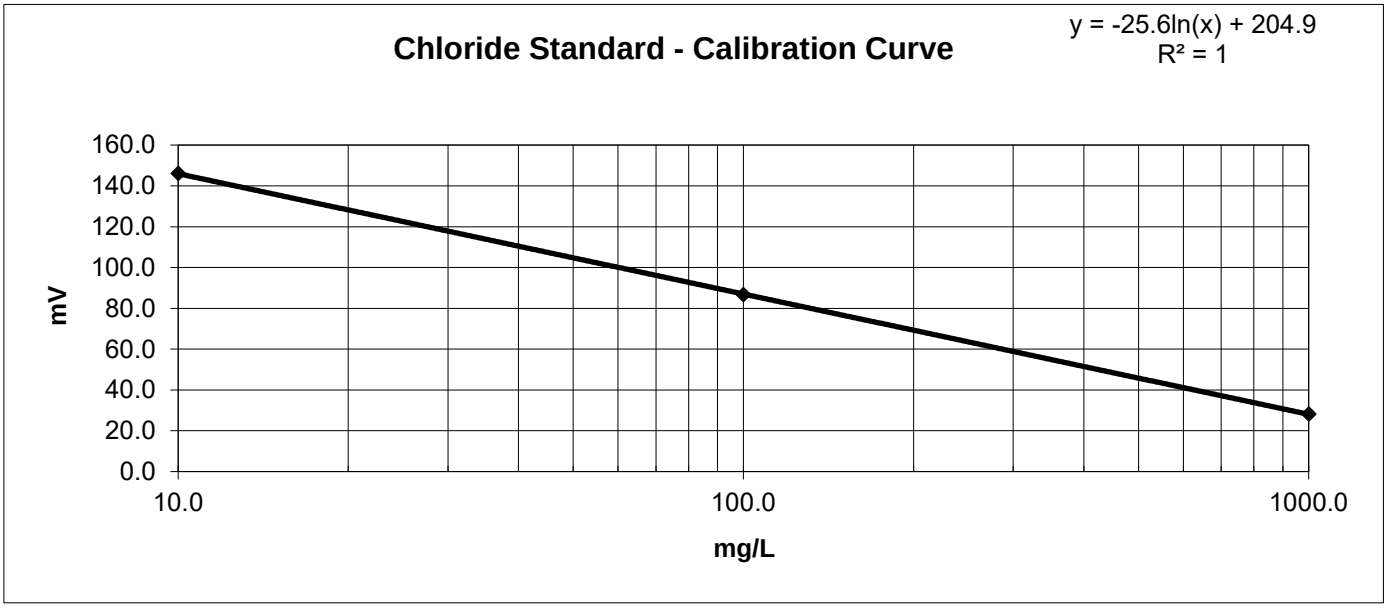
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	148.6	9.02	9.02

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	B-51
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	4.0-8.0'
Project No.:	2023-147-001	Sample No.:	SS-3/4
Lab ID:	2023-147-001-004	Soil Description:	Brown Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

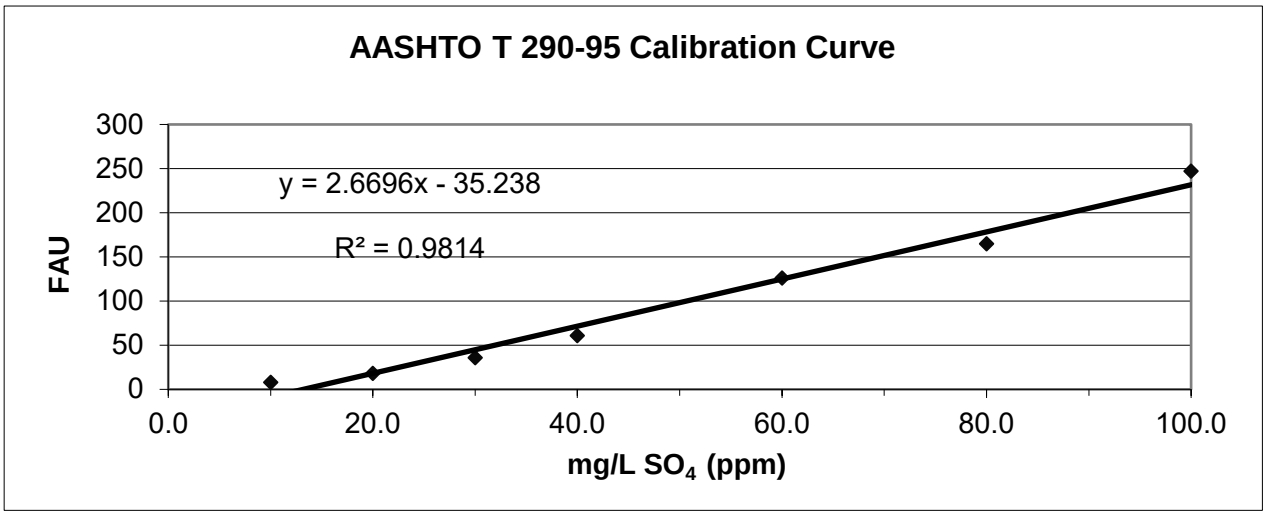
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	11
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	881
Weight of Tare & Wet Sample (g):	245.24
Weight of Tare & Dry Sample (g):	245.17
Weight of Tare (g):	110.04
Weight of Water (g):	0.07
Weight of Dry Sample (g):	135.13
Moisture Content (%):	0.05

Sample Sulfate Ion Concentration:	17.32	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	52.0	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	52.0	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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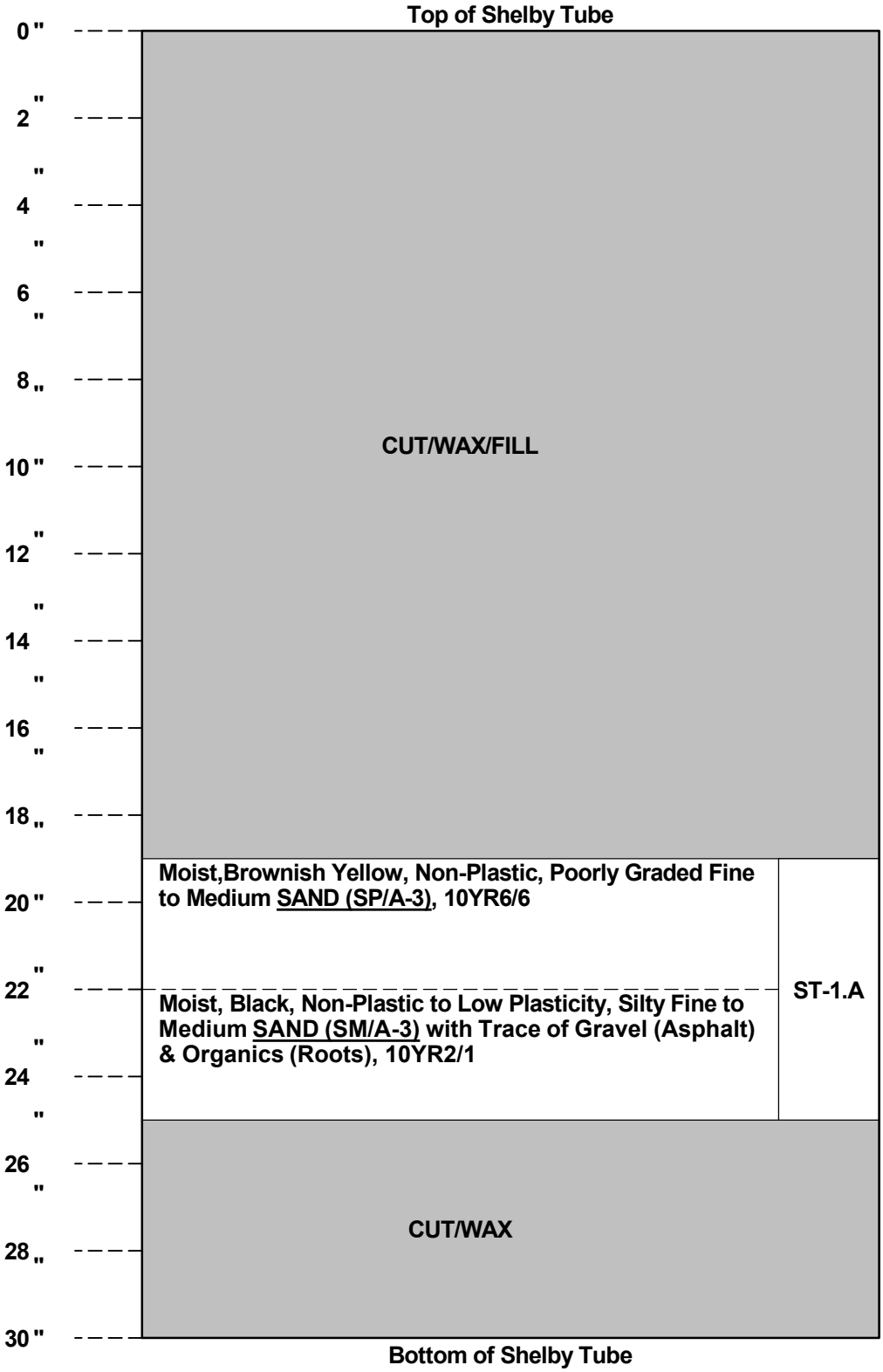
APPENDIX

SECTION 5 LABORATORY TEST RESULTS

SECTION 5B UNDISTURBED SAMPLES

SCDOT Shelby Tube Log

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52U
Project Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95
UD Sample No.:	ST-1	**Depth:**	14' - 16'		
Date Sampled:	6/29/2023	**Date Extracted:**	7/28/2023		
Extracted By:	R. Coldiron	**Eng. Firm:**			



SCDOT Undisturbed Sample Pictures

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52U
Project Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95
UD Sample No.:	ST-1	**Depth:**	14' - 16'		
Date Sampled:	6/29/2023	**Date Extracted:**	7/28/2023		
Extracted By:	R. Coldiron	**Eng. Firm:**			

Specimen No. ST-1.A

Specimen No. ST-1.A

SCDOT Undisturbed Sample Pictures

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52U
Project Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95
UD Sample No.:	ST-1	**Depth:**	14' - 16'		
Date Sampled:	6/29/2023	**Date Extracted:**	7/28/2023		
Extracted By:	R. Coldiron	**Eng. Firm:**			

Specimen No. ST-1.A

Specimen No. ST-1.A

SCDOT Undisturbed Sample Pictures

Project ID:	P041130	**County:**	Clarendon/Orangeburg	**Boring No.:**	B-52U
Project Description:	I-95 NB/SB over Lake Marion Bridge Replacement			**Route:**	I-95
UD Sample No.:	ST-1	**Depth:**	14' - 16'		
Date Sampled:	6/29/2023	**Date Extracted:**	7/28/2023		
Extracted By:	R. Coldiron	**Eng. Firm:**			

Specimen No. ST-1.A

APPENDIX

SECTION 5 LABORATORY TEST RESULTS

SECTION 5C BULK SOIL SAMPLES

SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Boring No.	Sample Depth (ft.)	Liquid Limit	Plastic Limit	Plasticity Index	%<#200 Sieve	Soil Classifi-cation	Moisture Content (%)	Max Dry Density (PCF)	Optimum Moisture Content (%)	C (psi)	ϕ (Degrees)	C' (psi)	ϕ' (Degrees)
BS-1	0.0 – 5.0	26	15	11	24	SC	14.9	121.0	11.2	1.4	9.2	0.4	33.7
BS-2	0.0 – 5.0	NP	NP	NP	30	SM	5.5	109.3	12.6	3.0	33.0	N/A	N/A
BS-3	0.0 – 5.0	NP	NP	NP	6.7	SP-SM	7.7	104.4	15.5	0.6	42.8	N/A	N/A
BS-4	0.0 – 5.0	NP	NP	NP	8.5	SP-SM	10.4	108.4	13.8	2.3	39.6	N/A	N/A

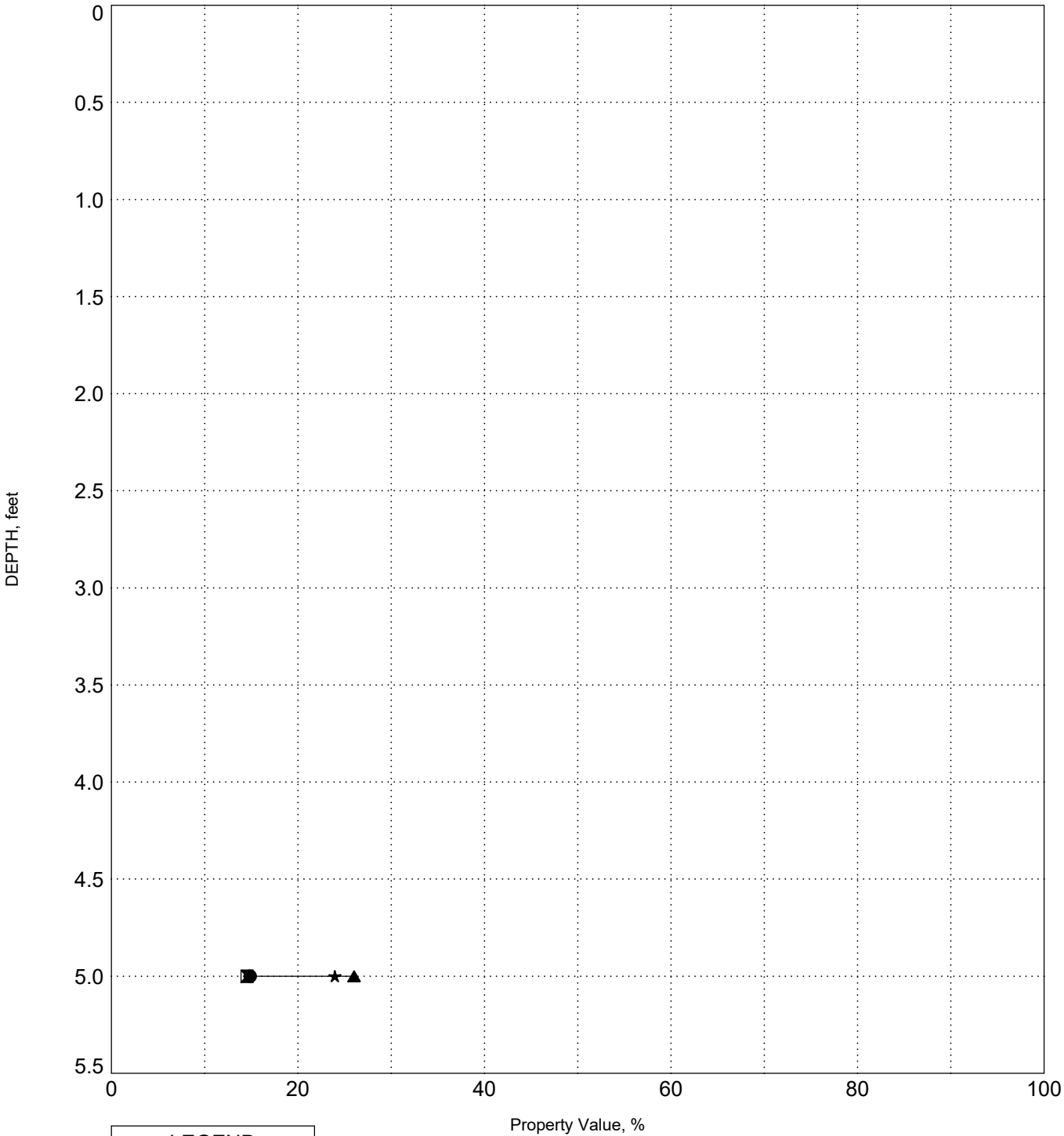
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-1

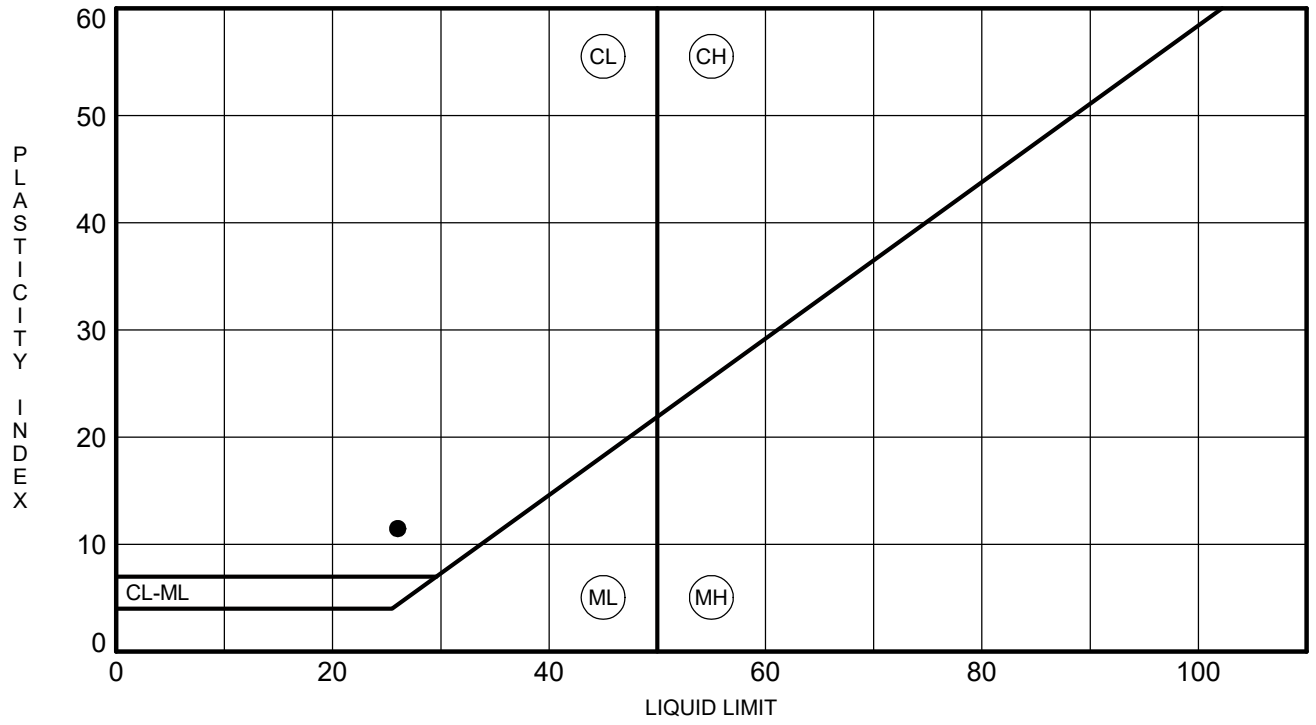
SURFACE ELEVATION: 120.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



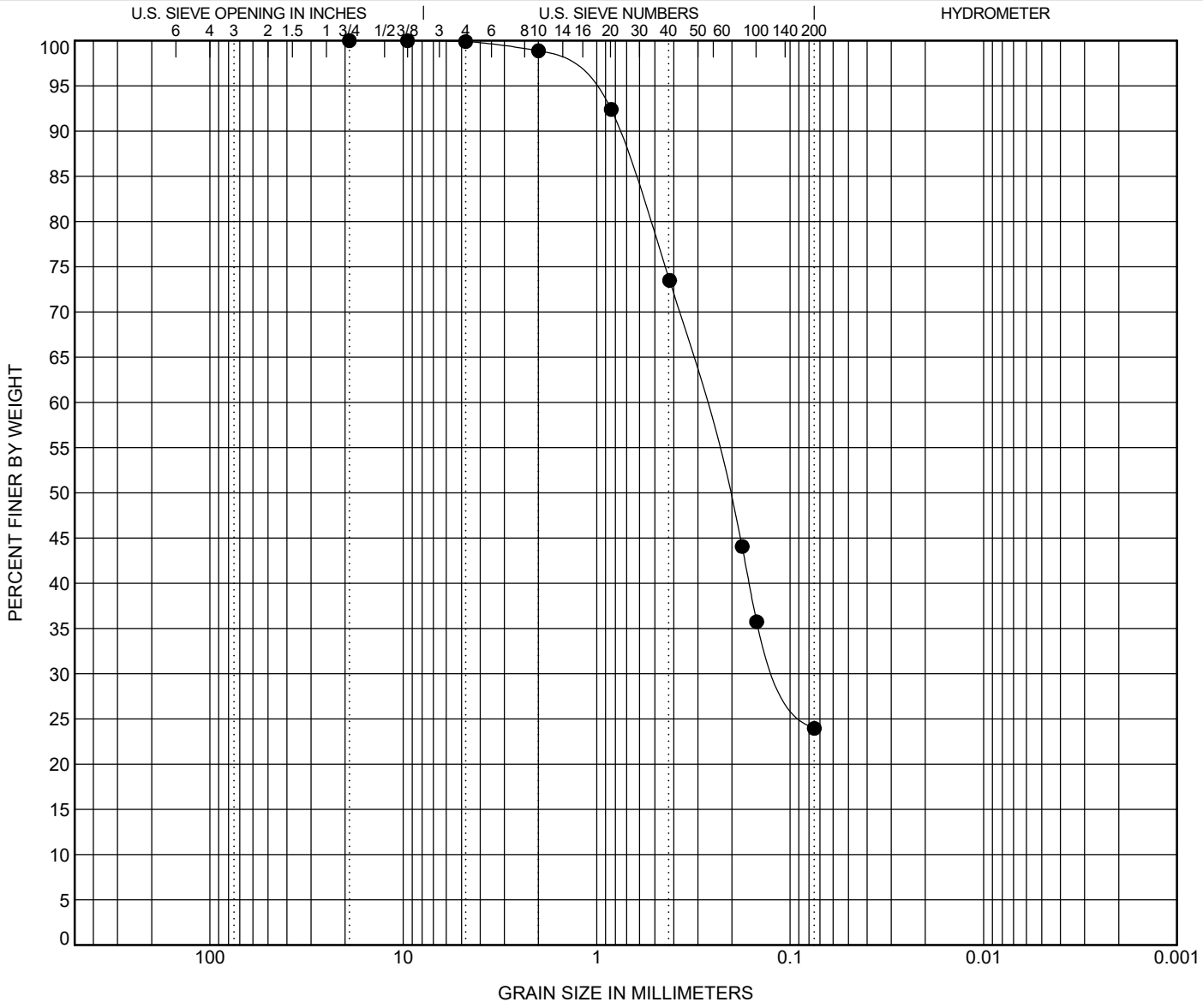
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-1**	**5.0**	**26**	**15**	**11**	**24**	**CLAYEY SAND (SC/A-2-6)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**BS-1**	**5.0**	**CLAYEY SAND (SC/A-2-6)**	**26**	**15**	**11**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BS-1**	**5.0**	**19**	**0.283**	**0.107**		**0.1**	**75.9**	**24.0**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0153 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Clayey SAND (SC/A-2-6)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	BS-1				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	14.9				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

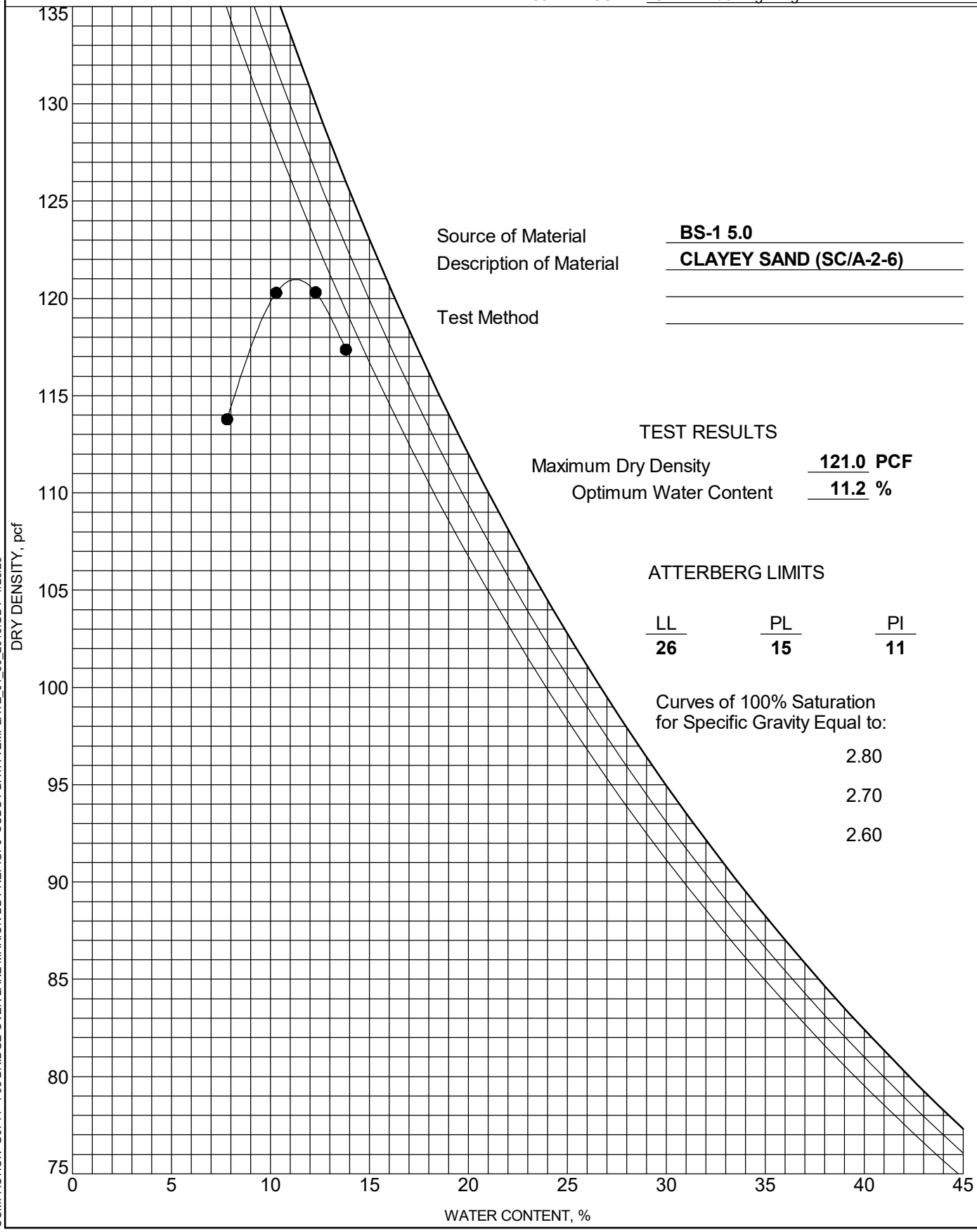
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 Bridge over Lake Marion DB Prep

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-1 5.0**

Description of Material **CLAYEY SAND (SC/A-2-6)**

Test Method

TEST RESULTS

Maximum Dry Density **121.0** **PCF**

Optimum Water Content **11.2** **%**

ATTERBERG LIMITS

LL	PL	PI
26	**15**	**11**

Curves of 100% Saturation for Specific Gravity Equal to:

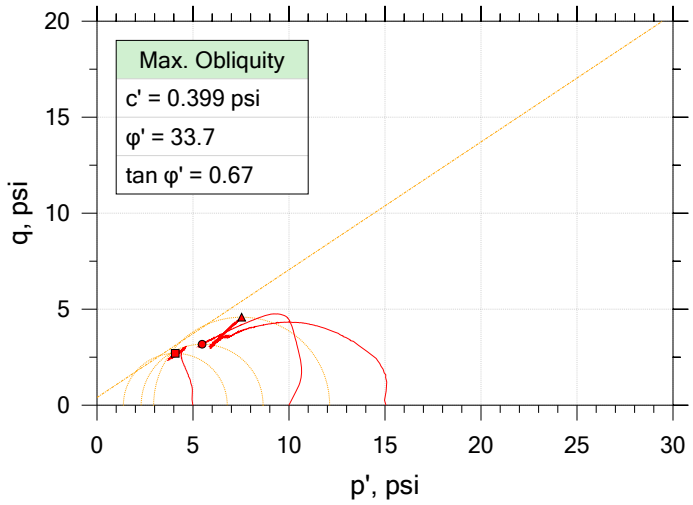
2.80

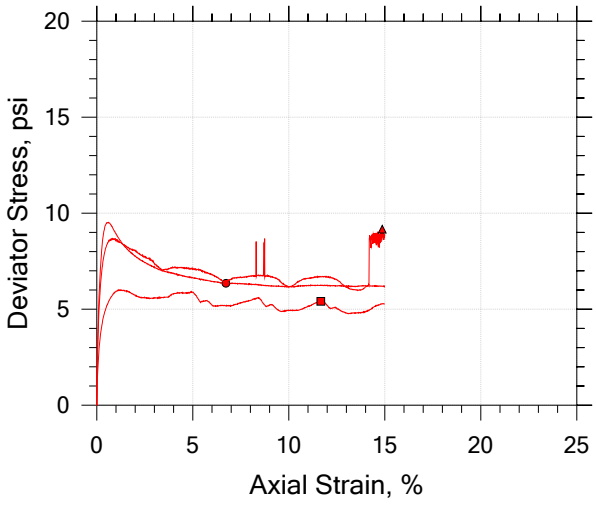
2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/25/23

Consolidated Undrained by AASHTO T297





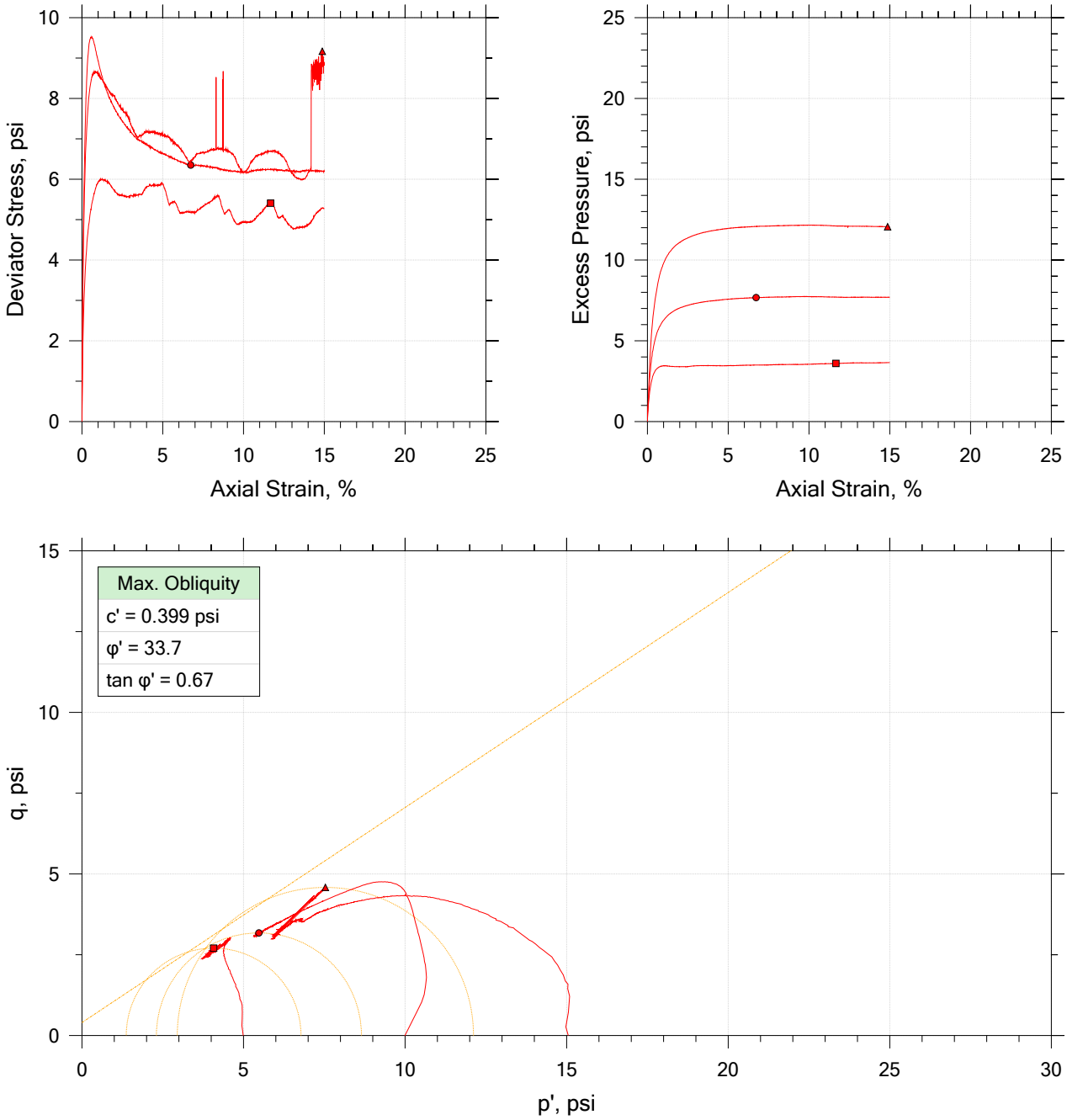
Symbol		■	●	▲	
Sample ID		23-0153	23-0153	23-0153	
Depth		0.0' - 5.0'	0.0' - 5.0'	0.0' - 5.0'	
Test Number		A	B	C	
Initial	Height, in	6.000	6.000	6.000	
	Diameter, in	2.800	2.800	2.800	
	Moisture Content (from Cuttings), %	10.9	10.9	11.1	
	Dry Density, pcf	115.	115.	118.	
	Saturation (Wet Method), %	64.7	64.7	72.1	
	Void Ratio	0.451	0.451	0.413	
Final	Moisture Content, %	15.7	15.9	13.7	
	Dry Density, pcf	118.	117.	122.	
	Cross-Sectional Area (Method A), in²	6.065	6.075	5.993	
	Saturation, %	100.0	100.0	100.0	
	Void Ratio	0.421	0.426	0.367	
	Back Pressure, psi	101.0	101.0	98.00	
Vertical Effective Consolidation Stress, psi		4.978	9.966	15.03	
Horizontal Effective Consolidation Stress, psi		4.999	10.00	15.05	
Vertical Strain after Consolidation, %		0.1468	0.2966	0.3797	
Volumetric Strain after Consolidation, %		0.8081	1.487	2.573	
Time to 50% Consolidation, min		0.2300	0.2300	0.2800	
Shear Strength, psi		2.705	3.175	4.584	
Strain at Failure, %		11.7	6.73	14.9	
Strain Rate, %/min		0.0005000	0.0005000	0.0005000	
Deviator Stress at Failure, psi		5.409	6.350	9.168	
Effective Minor Principal Stress at Failure, psi		1.372	2.302	2.949	
Effective Major Principal Stress at Failure, psi		6.781	8.651	12.12	
B-Value		0.94	0.95	0.93	

Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

F&ME CONSULTANTS

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

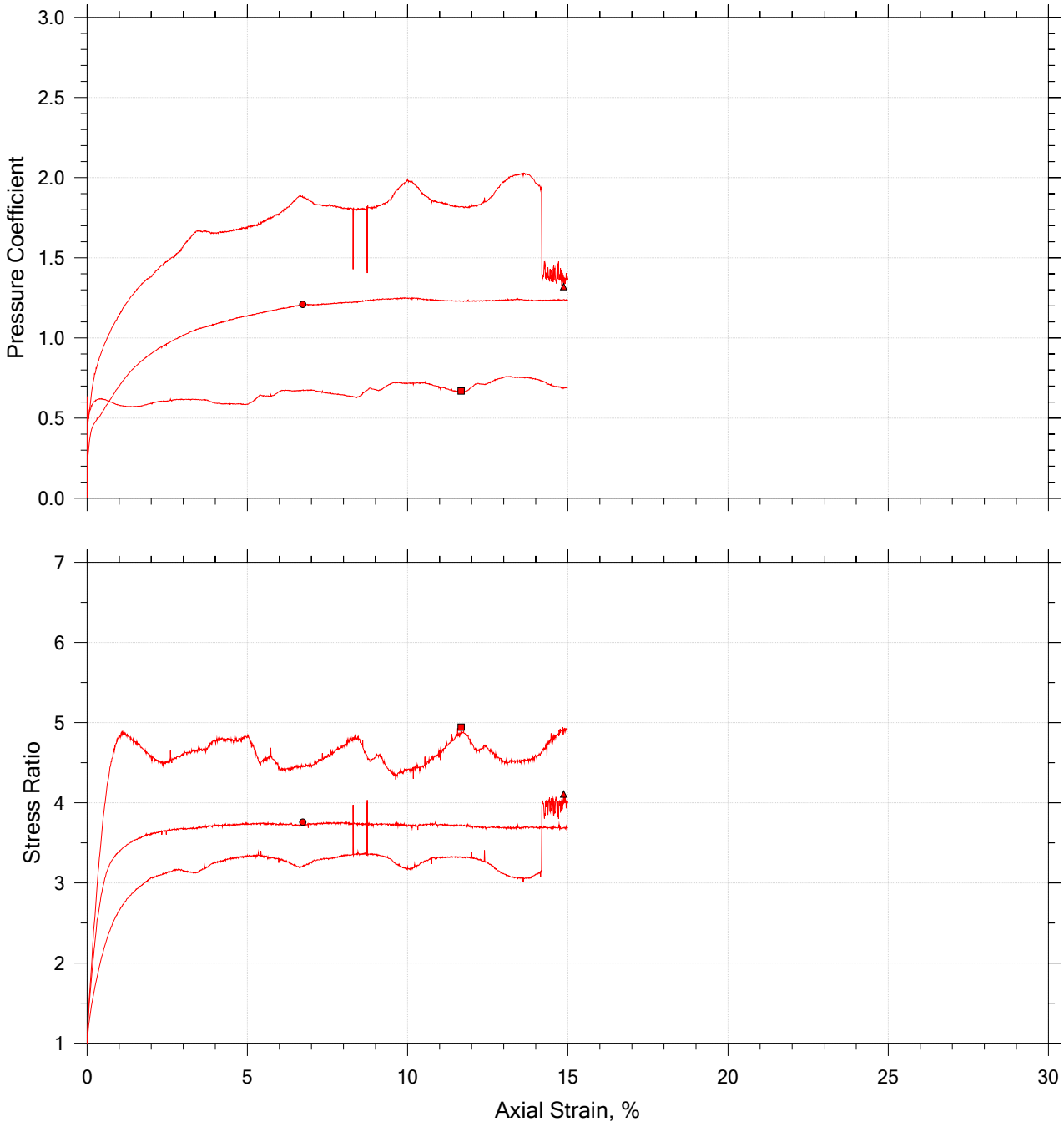
Consolidated Undrained by AASHTO T297



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	23-0153	A	0.0' - 5.0'	RMC	2/6/2023	WAP/ WJG	2/15/2023	G6744_BS-1.A.dat
●	23-0153	B	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.B.dat
▲	23-0153	C	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.C.dat

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

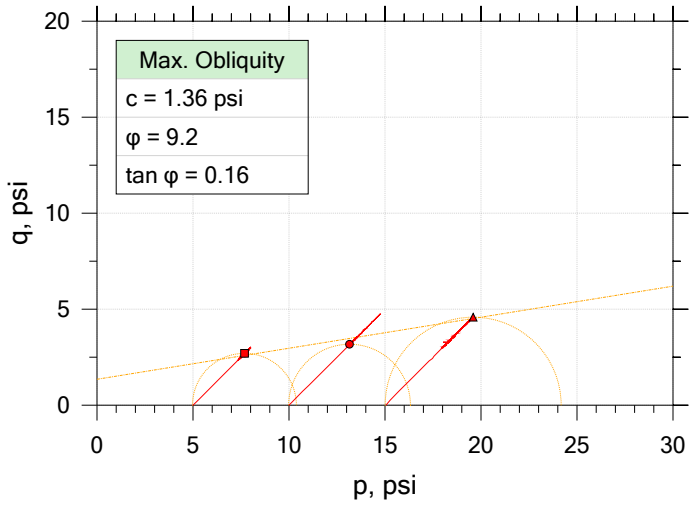
Consolidated Undrained by AASHTO T297

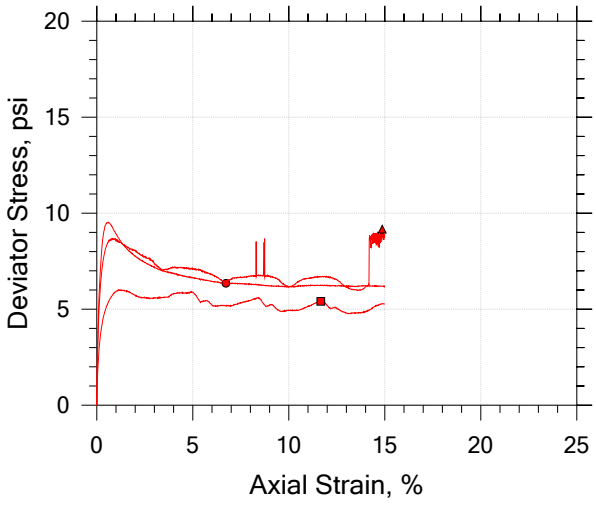


	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	23-0153	A	0.0' - 5.0'	RMC	2/6/2023	WAP/ WJG	2/15/2023	G6744_BS-1.A.dat
●	23-0153	B	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.B.dat
▲	23-0153	C	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.C.dat

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

Consolidated Undrained by AASHTO T297





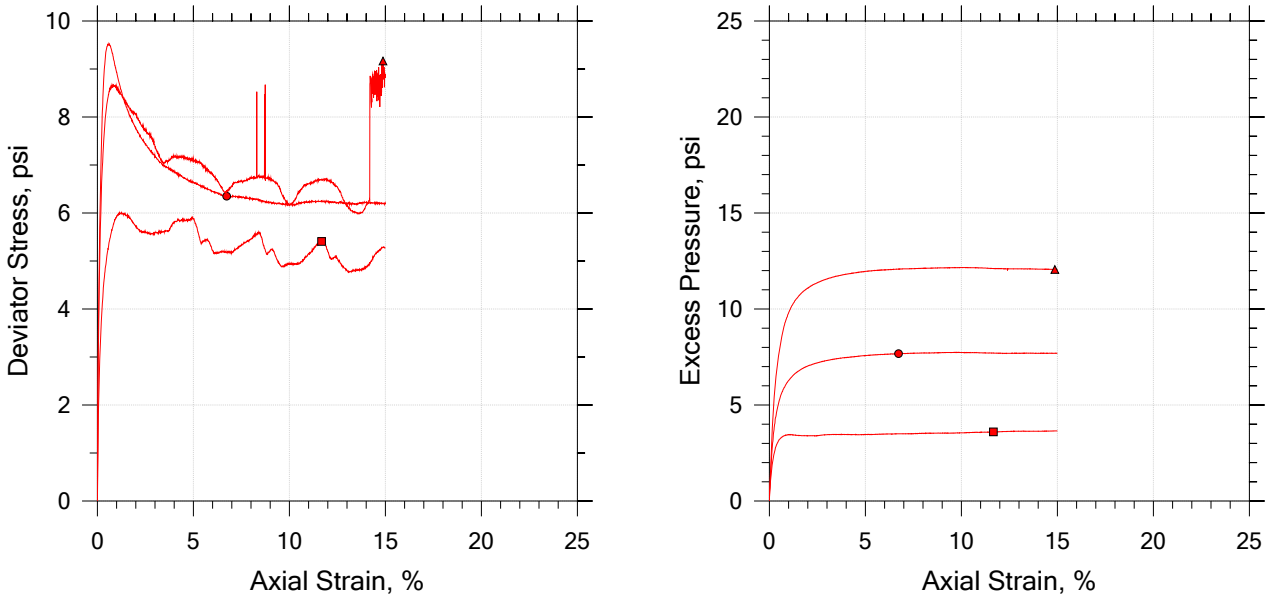
Symbol		■	●	▲	
Sample ID		23-0153	23-0153	23-0153	
Depth		0.0' - 5.0'	0.0' - 5.0'	0.0' - 5.0'	
Test Number		A	B	C	
Initial	Height, in	6.000	6.000	6.000	
	Diameter, in	2.800	2.800	2.800	
	Moisture Content (from Cuttings), %	10.9	10.9	11.1	
	Dry Density, pcf	115.	115.	118.	
	Saturation (Wet Method), %	64.7	64.7	72.1	
	Void Ratio	0.451	0.451	0.413	
Final	Moisture Content, %	15.7	15.9	13.7	
	Dry Density, pcf	118.	117.	122.	
	Cross-Sectional Area (Method A), in²	6.065	6.075	5.993	
	Saturation, %	100.0	100.0	100.0	
	Void Ratio	0.421	0.426	0.367	
	Back Pressure, psi	101.0	101.0	98.00	
Vertical Effective Consolidation Stress, psi		4.978	9.966	15.03	
Horizontal Effective Consolidation Stress, psi		4.999	10.00	15.05	
Vertical Strain after Consolidation, %		0.1468	0.2966	0.3797	
Volumetric Strain after Consolidation, %		0.8081	1.487	2.573	
Time to 50% Consolidation, min		0.2300	0.2300	0.2800	
Shear Strength, psi		2.705	3.175	4.584	
Strain at Failure, %		11.7	6.73	14.9	
Strain Rate, %/min		0.0005000	0.0005000	0.0005000	
Deviator Stress at Failure, psi		5.409	6.350	9.168	
Effective Minor Principal Stress at Failure, psi		1.372	2.302	2.949	
Effective Major Principal Stress at Failure, psi		6.781	8.651	12.12	
B-Value		0.94	0.95	0.93	

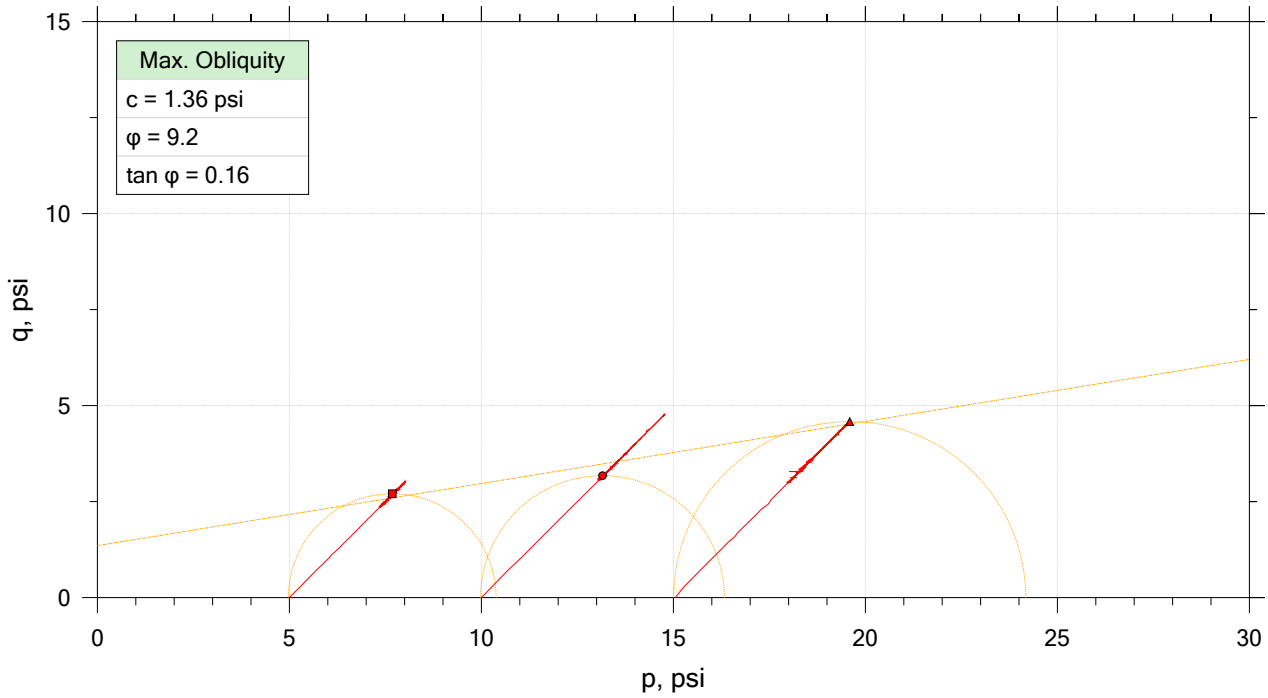
Notes:
- Before Shear Saturation set to 100% for phase calculation.
- Moisture Content determined by ASTM D2216.
- Atterberg Limits determined by ASTM D4318.
- Deviator Stress includes membrane correction.
- Values for c and φ determined from best-fit straight line for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site conditions.

F&ME CONSULTANTS

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

Consolidated Undrained by AASHTO T297



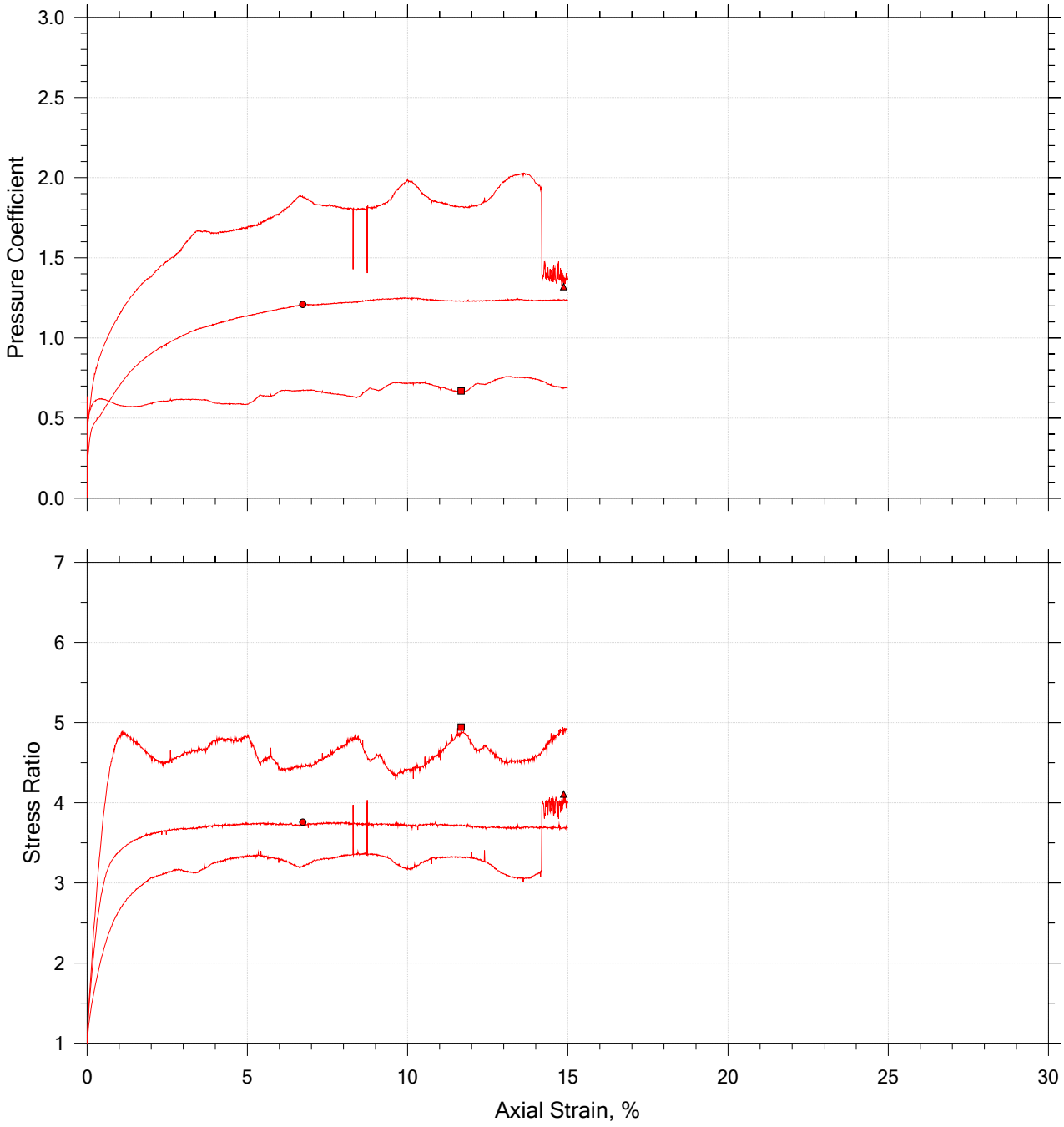


	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	23-0153	A	0.0' - 5.0'	RMC	2/6/2023	WAP/ WJG	2/15/2023	G6744_BS-1.A.dat
●	23-0153	B	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.B.dat
▲	23-0153	C	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.C.dat

F&ME CONSULTANTS

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

Consolidated Undrained by AASHTO T297



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
■	23-0153	A	0.0' - 5.0'	RMC	2/6/2023	WAP/ WJG	2/15/2023	G6744_BS-1.A.dat
●	23-0153	B	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.B.dat
▲	23-0153	C	0.0' - 5.0'	RMC	2/2/2023	WAP/ WJG	2/15/2023	G6744_BS-1.C.dat

Project Name: I-95 Bridge over Lake Marion	Location: Clarendon/Orangeburg County	Project Number: G6744
Boring Number: BS-1	Tester: RMC	Checker: WAP/ WJG
Sample Number: 23-0153	Test Date: 2/6/2023	Depth: 0.0' - 5.0'
Test Number: ABC	Preparation: Remolded	Elevation:
Description: Clayey SAND (SC/A-2-6) LL=26, PL=15, PI=11, %200=24.0		
Remarks: Max Dry Density=121.0 pcf, OMC=11.2%, Samples Molded at 95%		

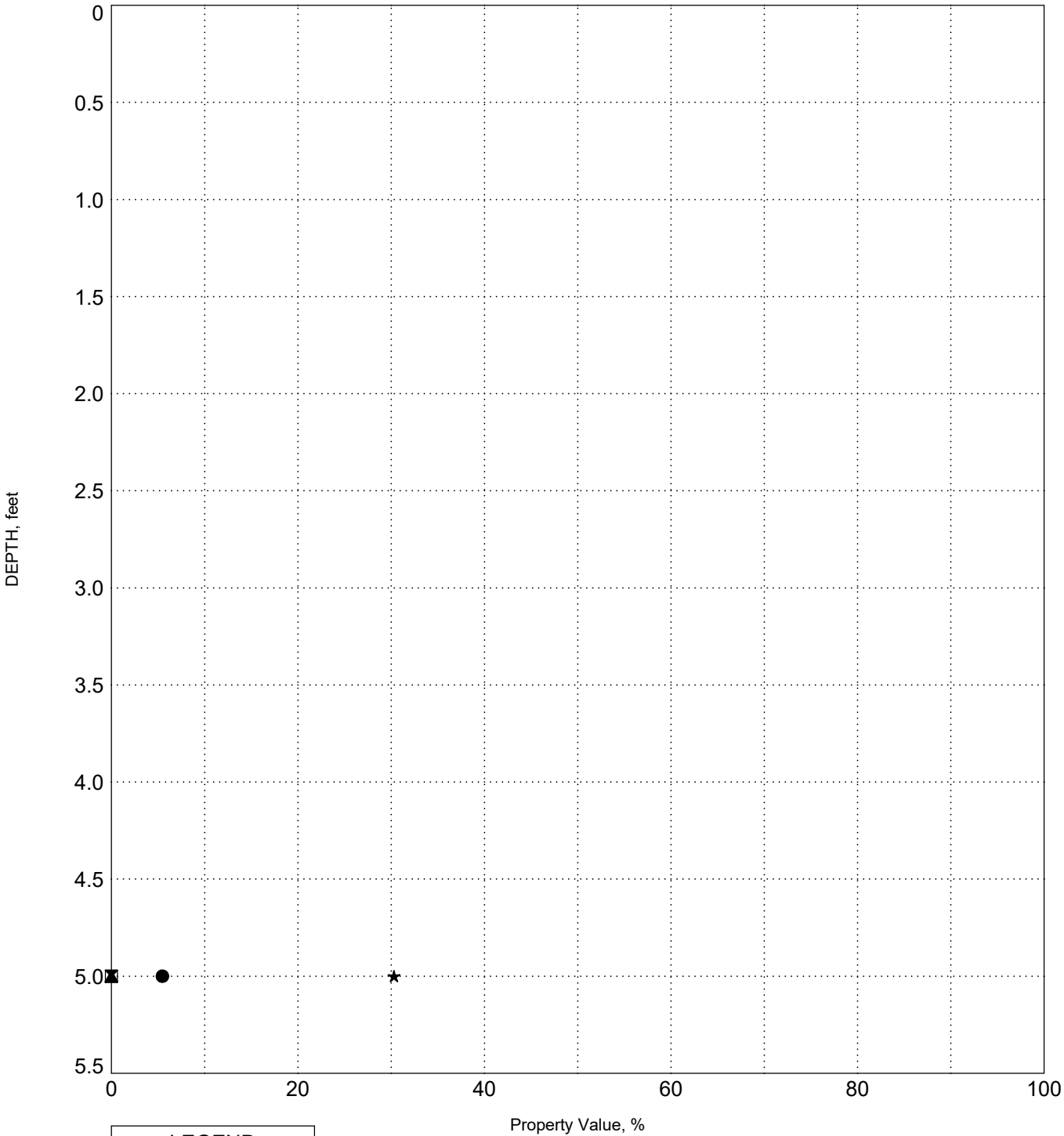
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-2

SURFACE ELEVATION: 90.5

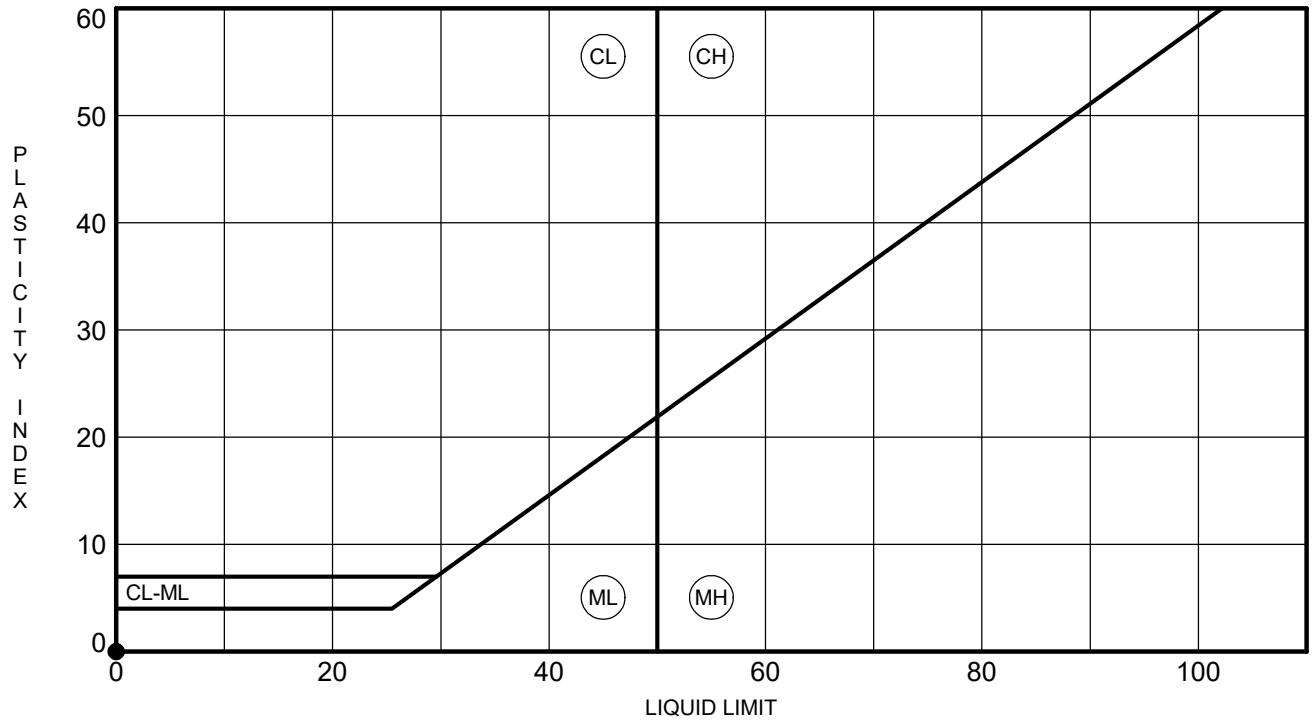


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

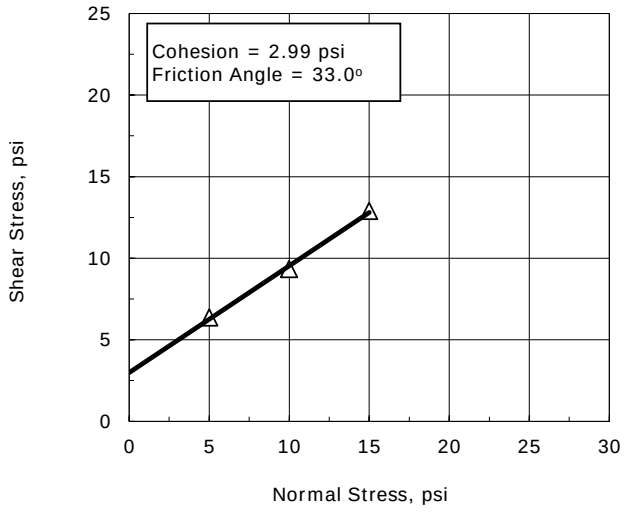


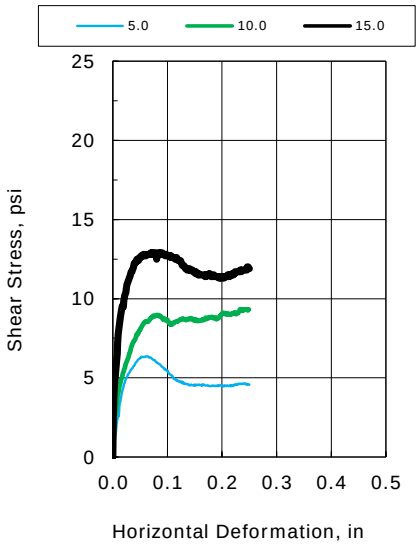
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-2**	**5.0**	**NP**	**NP**	**NP**	**30**	**SILTY SAND (SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/11/23

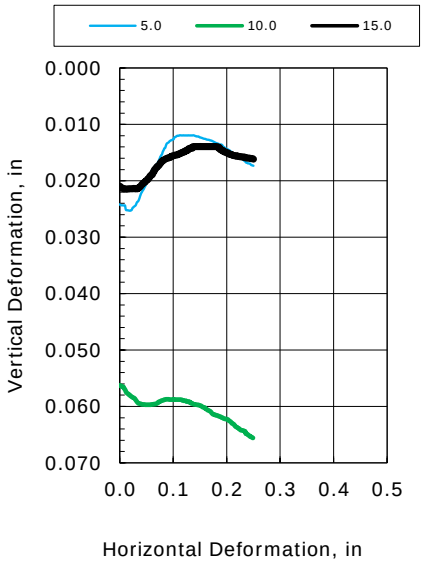
Client:	F&ME Consultants
Project Name:	I-95 NB/SB over Lake Marion Bridge Replacement
Project Location:	Clarendon/Orangeburg County, South Carolina
GTX #:	317398
Test Date:	07/25/23
Tested By:	jbh
Checked By:	mcm
Boring ID:	BS-2
Sample ID:	---
Depth, ft:	0-5
Visual Description:	Moist, silty sand

Direct Shear Test of Soils Under Consolidated Drained Conditions by AASHTO T236





Test No.:	DS-3-1	DS-3-2	DS-3-3
Initial Diameter, in:	2.5	2.5	2.5
Initial Height, in:	1.0	1.0	1.0
Initial Mass, grams:	150.7	150.7	150.7
Initial Dry Density, pcf:	104.4	104.4	104.2
Initial Moisture Content, %:	12.0	12.0	12.2
Initial Bulk Density, pcf:	117.0	116.9	116.9
Initial Degree of Saturation:	54.5	54.5	55.0
Initial Void Ratio:	0.59	0.59	0.59
Final Dry Density, pcf:	106.2	111.7	106.0
Final Moisture Content, %:	18.3	19.4	18.1
Final Bulk Density, pcf:	125.6	133.4	125.2
Normal Stress, psi:	5.0	10.0	15.0
Maximum Shear Stress, psi:	6.4	9.3	12.9
Shear Rate, in/min:	0.002	0.002	0.002



Sample Type:	reconstituted
Estimated Specific Gravity:	2.65
Liquid Limit:	---
Plastic Limit:	---
Plasticity Index:	---
% Passing #200 sieve:	---
Soil Classification:	---
Group Symbol:	---

Notes:
Material greater than #5 sieve screened out of sample prior to testing
Moisture content obtained before shear from sample trimmings
Moisture Content determined by ASTM D2216
Target Compaction: 95% of (109.3 pcf) at optimum moisture content (12.6%), values provided by client.

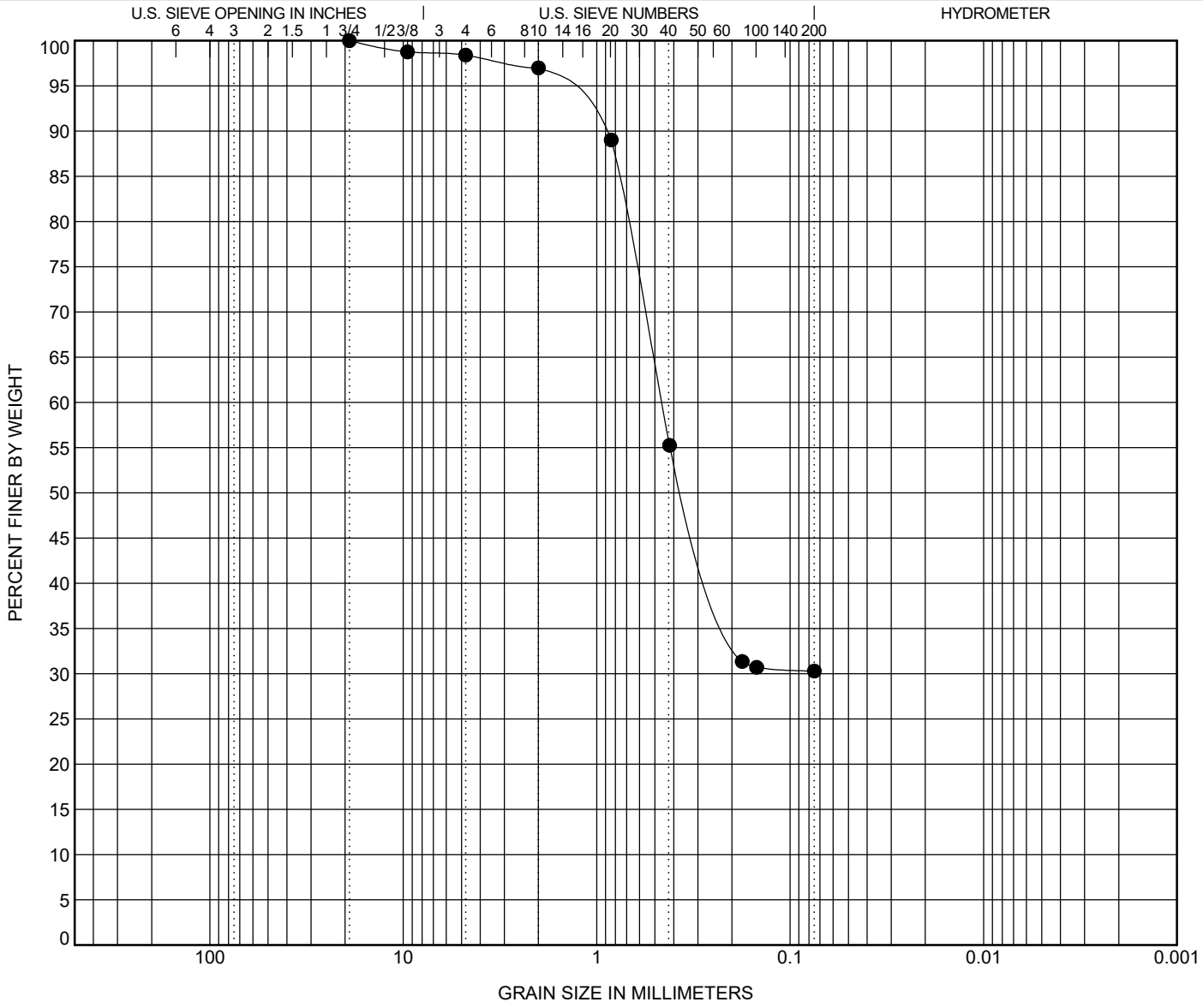
Values for cohesion and friction angle determined from best-fit straight line to the data for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site-specific conditions.

"---" indicates testing required to determine these values was not requested.

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **BS-2**	**5.0**	**SILTY SAND (SM/A-2-4)**	**NP**	**NP**	**NP**		

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **BS-2**	**5.0**	**19**	**0.463**			**1.6**	**68.1**	**30.3**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/11/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-2285 **DATE SAMPLE RECEIVED:** 6/29/2023

DESCRIPTION OF SOIL: Silty SAND (SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 6/30/2023

WEIGHED BY: LH **DATE OF WEIGHING:** 7/11/2023

BORING NO.	BS-2				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	5.5				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

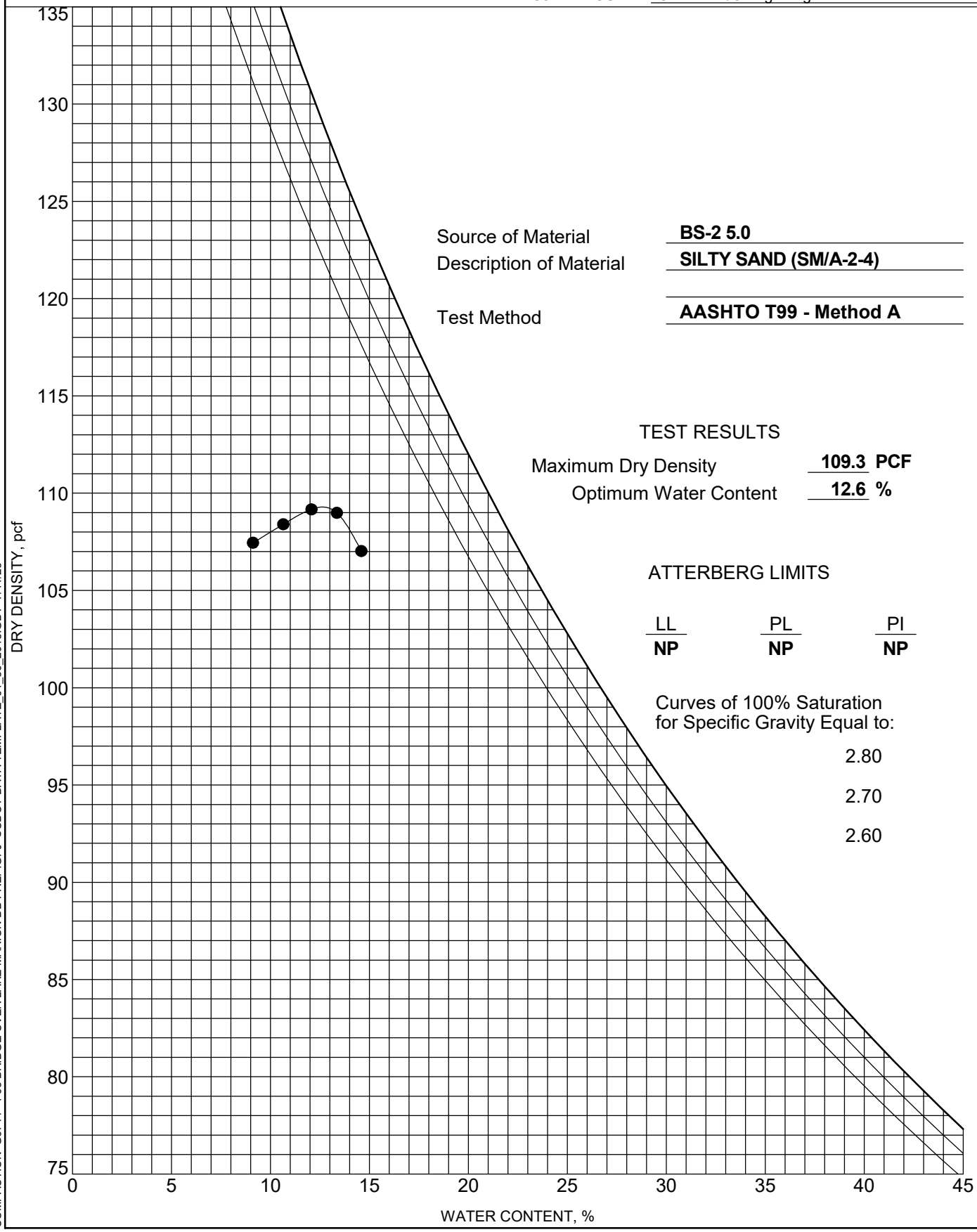
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-2 5.0**

Description of Material **SILTY SAND (SM/A-2-4)**

Test Method **AASHTO T99 - Method A**

TEST RESULTS

Maximum Dry Density **109.3** **PCF**

Optimum Water Content **12.6** **%**

ATTERBERG LIMITS

LL	PL	PI
NP	**NP**	**NP**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 7/11/23

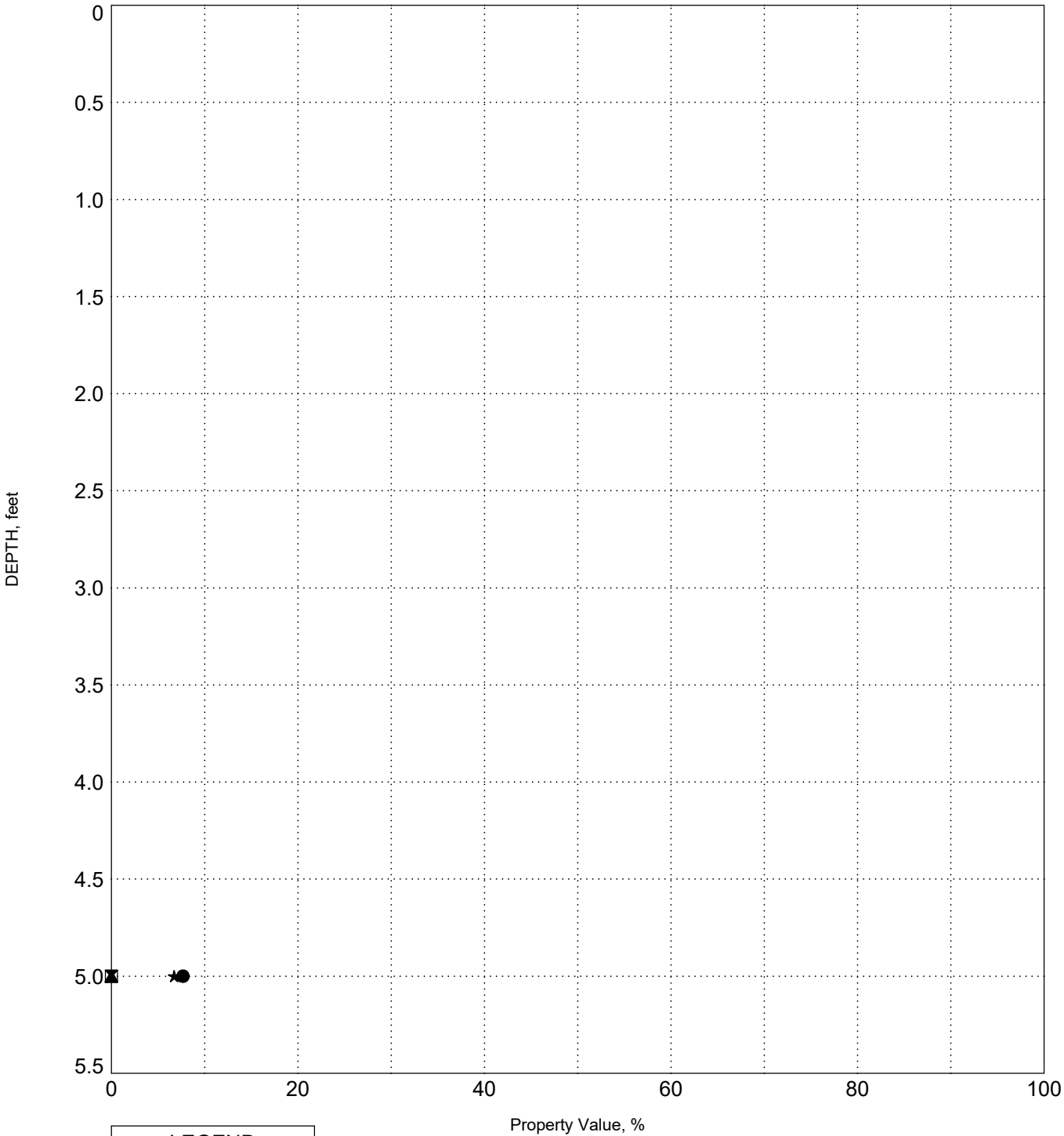
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-3

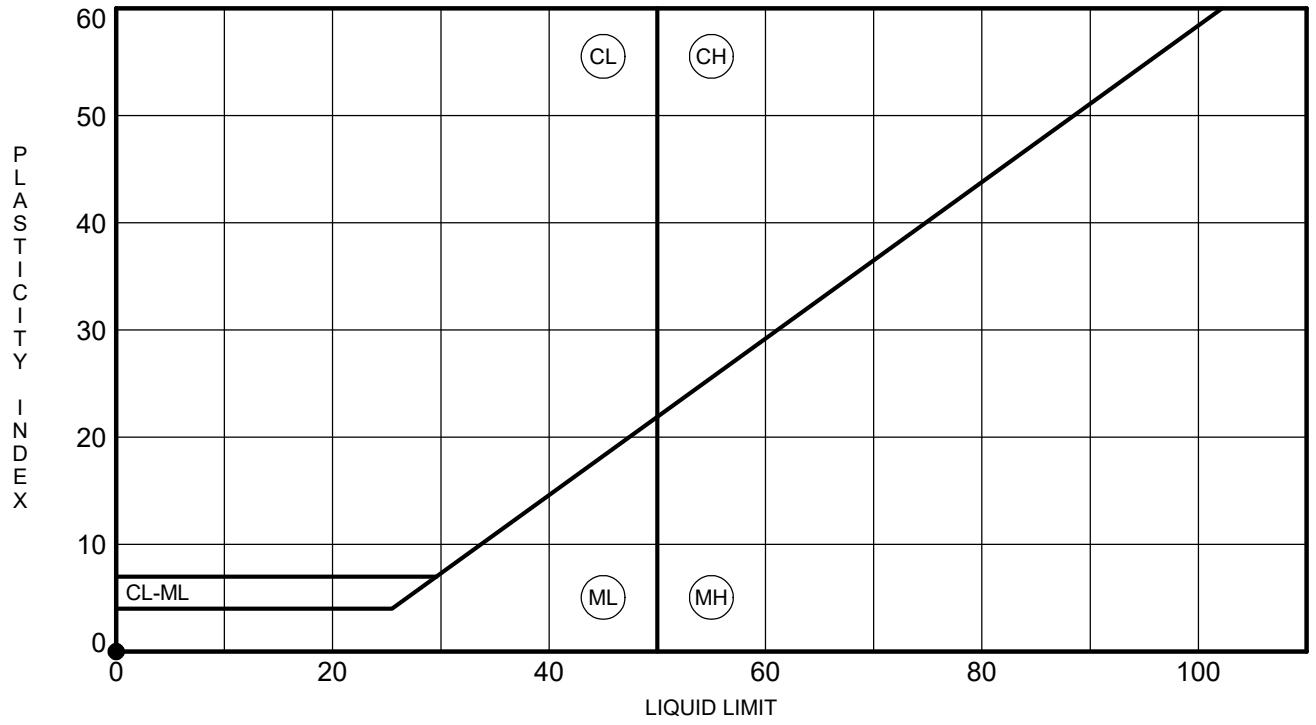
SURFACE ELEVATION: 89.5



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

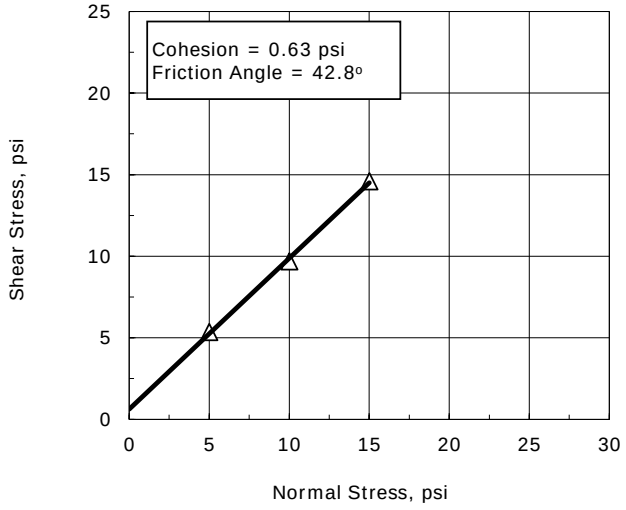
PROJECT COUNTY Clarendon/Orangeburg

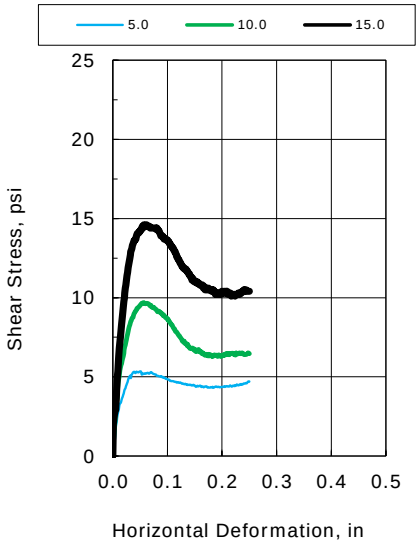


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-3**	**5.0**	**NP**	**NP**	**NP**	**7**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**

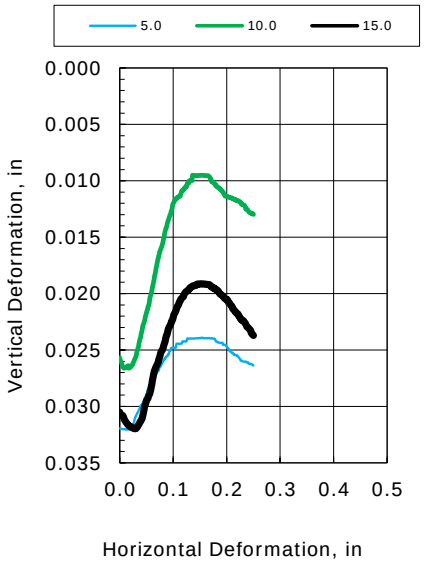
Client:	F&ME Consultants
Project Name:	I-95 NB/SB over Lake Marion Bridge Replacement
Project Location:	Clarendon/Orangeburg County, South Carolina
GTX #:	317398
Test Date:	06/26/23
Tested By:	twh
Checked By:	mcm
Boring ID:	BS-3
Sample ID:	---
Depth, ft:	0-5
Visual Description:	Moist, brown sand with silt

Direct Shear Test of Soils Under Consolidated Drained Conditions by AASHTO T236





Test No.:	DS-1-1	DS-1-2	DS-1-3
Initial Diameter, in:	2.5	2.5	2.5
Initial Height, in:	1.0	1.0	1.0
Initial Mass, grams:	147.6	147.6	147.6
Initial Dry Density, pcf:	99.2	99.2	99.2
Initial Moisture Content, %:	15.5	15.5	15.5
Initial Bulk Density, pcf:	114.6	114.6	114.6
Initial Degree of Saturation:	61.5	61.5	61.5
Initial Void Ratio:	0.67	0.67	0.67
Final Dry Density, pcf:	101.9	100.5	101.6
Final Moisture Content, %:	23.7	18.3	20.8
Final Bulk Density, pcf:	126.1	118.9	122.8
Normal Stress, psi:	5.0	10.0	15.0
Maximum Shear Stress, psi:	5.4	9.7	14.6
Shear Rate, in/min:	0.002	0.002	0.002



Sample Type:	reconstituted
Estimated Specific Gravity:	2.65
Liquid Limit:	---
Plastic Limit:	---
Plasticity Index:	---
% Passing #200 sieve:	---
Soil Classification:	---
Group Symbol:	---

Notes:
- Material greater than #5 sieve screened out of sample prior to testing
- Moisture content obtained before shear from sample trimmings
- Moisture Content determined by ASTM D2216
- Target Compaction: 95% of (104.4 pcf) at optimum moisture content (15.5%), values provided by client.

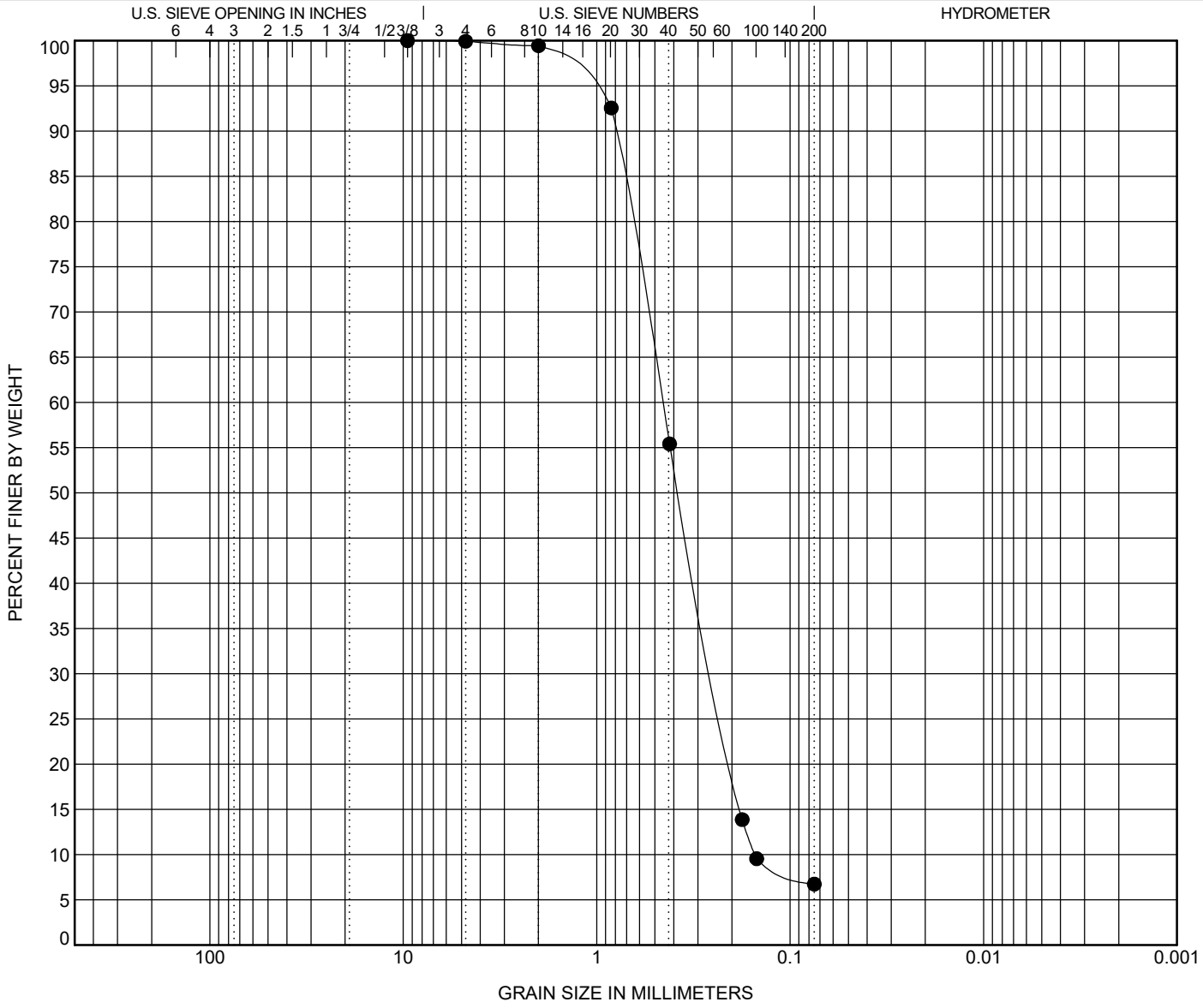
Values for cohesion and friction angle determined from best-fit straight line to the data for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site-specific conditions.

"---" indicates testing required to determine these values was not requested.

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**BS-3**	**5.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**0.88**	**3.02**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BS-3**	**5.0**	**9.51**	**0.458**	**0.248**	**0.152**	**0.1**	**93.2**	**6.7**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0366 **DATE SAMPLE RECEIVED:** 2/16/2023

DESCRIPTION OF SOIL: Poorly Graded SAND (SP-SM/A-3) with Silt

TESTED BY: EW **DATE SETUP:** 2/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 2/17/2023

BORING NO.	BS-3				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	7.7				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

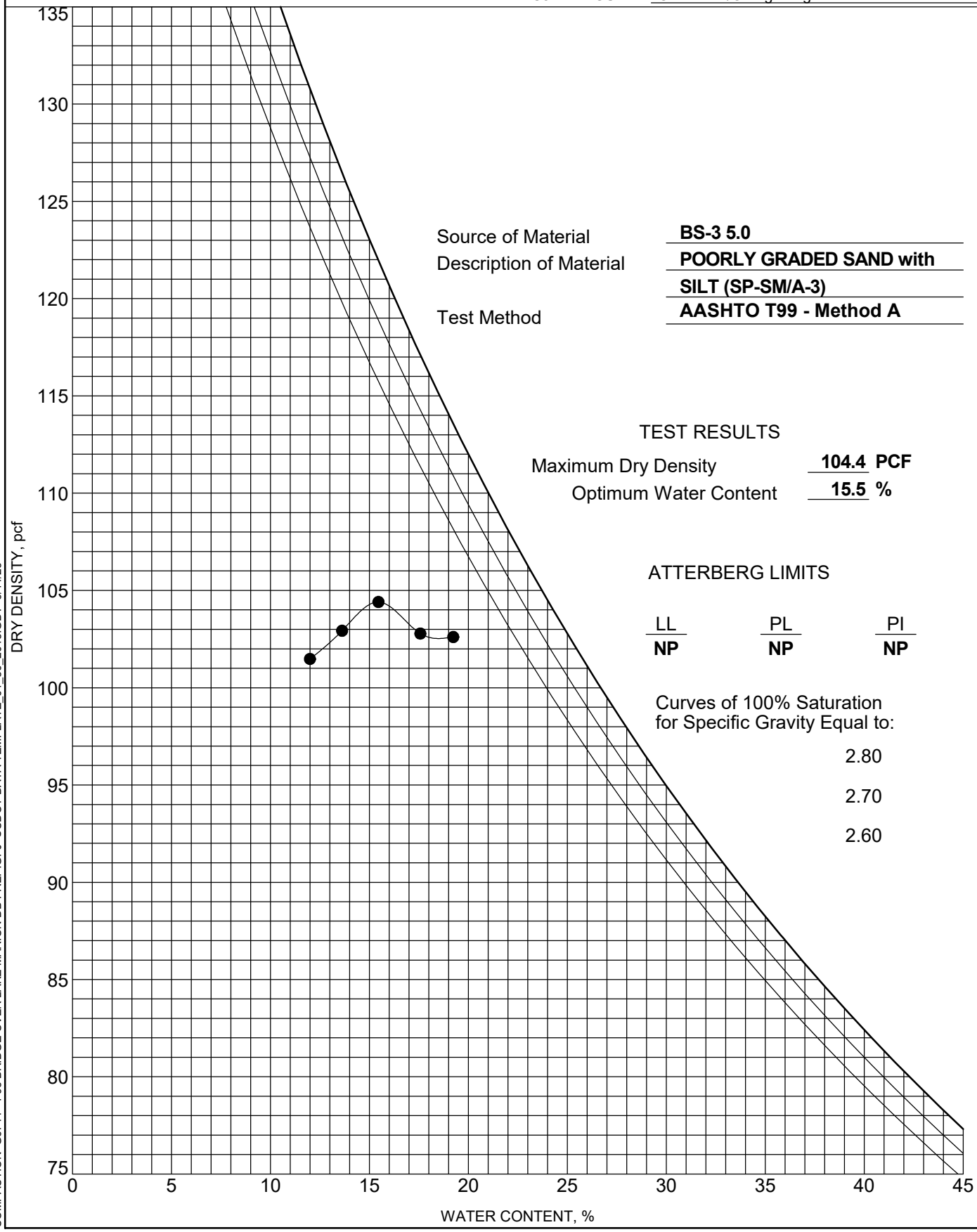
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-3 5.0**

Description of Material **POORLY GRADED SAND with SILT (SP-SM/A-3)**

Test Method **AASHTO T99 - Method A**

TEST RESULTS

Maximum Dry Density **104.4** **PCF**

Optimum Water Content **15.5** **%**

ATTERBERG LIMITS

LL	PL	PI
NP	**NP**	**NP**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/14/23

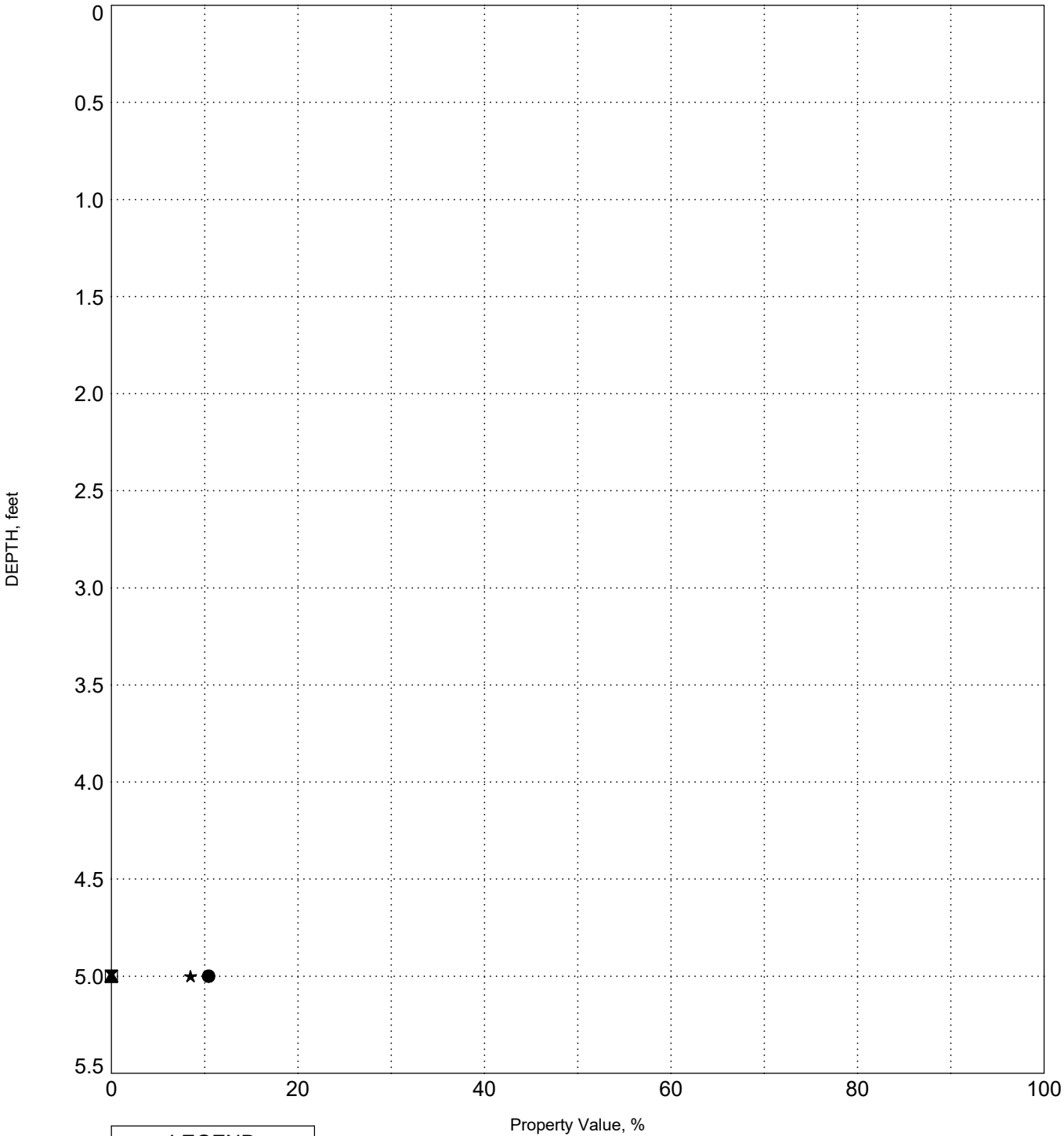
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-4

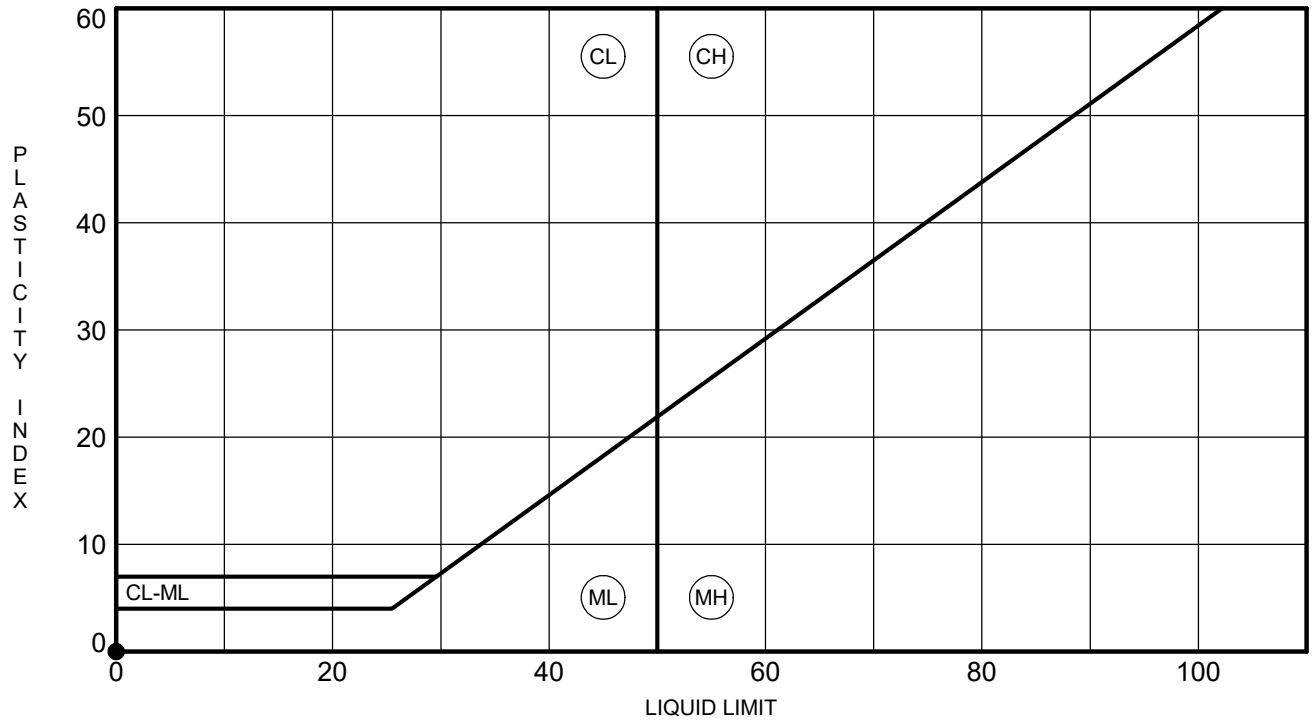
SURFACE ELEVATION: 90.3



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

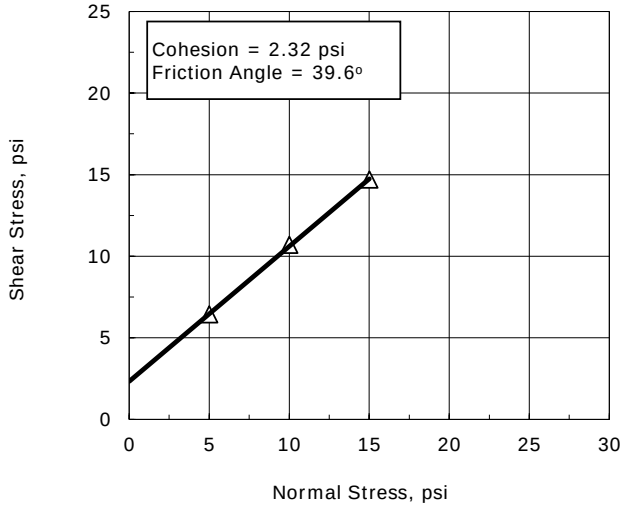
PROJECT COUNTY Clarendon/Orangeburg

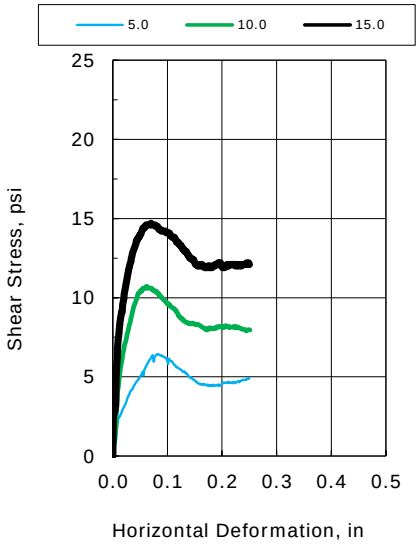


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-4**	**5.0**	**NP**	**NP**	**NP**	**8**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**

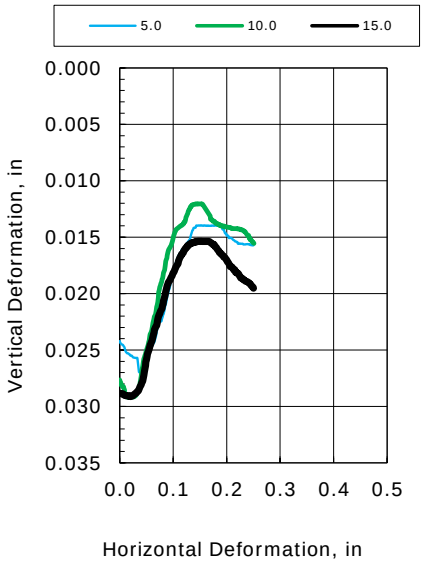
Client:	F&ME Consultants
Project Name:	I-95 NB/SB over Lake Marion Bridge Replacement
Project Location:	Clarendon/Orangeburg County, South Carolina
GTX #:	317398
Test Date:	06/27/23
Tested By:	twh
Checked By:	mcm
Boring ID:	BS-4
Sample ID:	---
Depth, ft:	0-5
Visual Description:	Moist, brown sand with silt

Direct Shear Test of Soils Under Consolidated Drained Conditions by AASHTO T236





Test No.:	DS-2-1	DS-2-2	DS-2-3
Initial Diameter, in:	2.5	2.5	2.5
Initial Height, in:	1.0	1.0	1.0
Initial Mass, grams:	151.1	151.1	151.0
Initial Dry Density, pcf:	103.5	103.5	103.5
Initial Moisture Content, %:	13.3	13.3	13.3
Initial Bulk Density, pcf:	117.3	117.3	117.3
Initial Degree of Saturation:	58.8	58.8	58.8
Initial Void Ratio:	0.60	0.60	0.60
Final Dry Density, pcf:	105.1	105.1	105.5
Final Moisture Content, %:	17.7	18.5	18.6
Final Bulk Density, pcf:	123.7	124.5	125.1
Normal Stress, psi:	5.0	10.0	15.0
Maximum Shear Stress, psi:	6.4	10.7	14.7
Shear Rate, in/min:	0.002	0.002	0.002



Sample Type:	reconstituted
Estimated Specific Gravity:	2.65
Liquid Limit:	---
Plastic Limit:	---
Plasticity Index:	---
% Passing #200 sieve:	---
Soil Classification:	---
Group Symbol:	---

Notes:

Material greater than #5 sieve screened out of sample prior to testing

Moisture content obtained before shear from sample trimmings

Moisture Content determined by ASTM D2216

Target Compaction: 95% of (108.4 pcf) at optimum moisture content (13.8%), values provided by client.

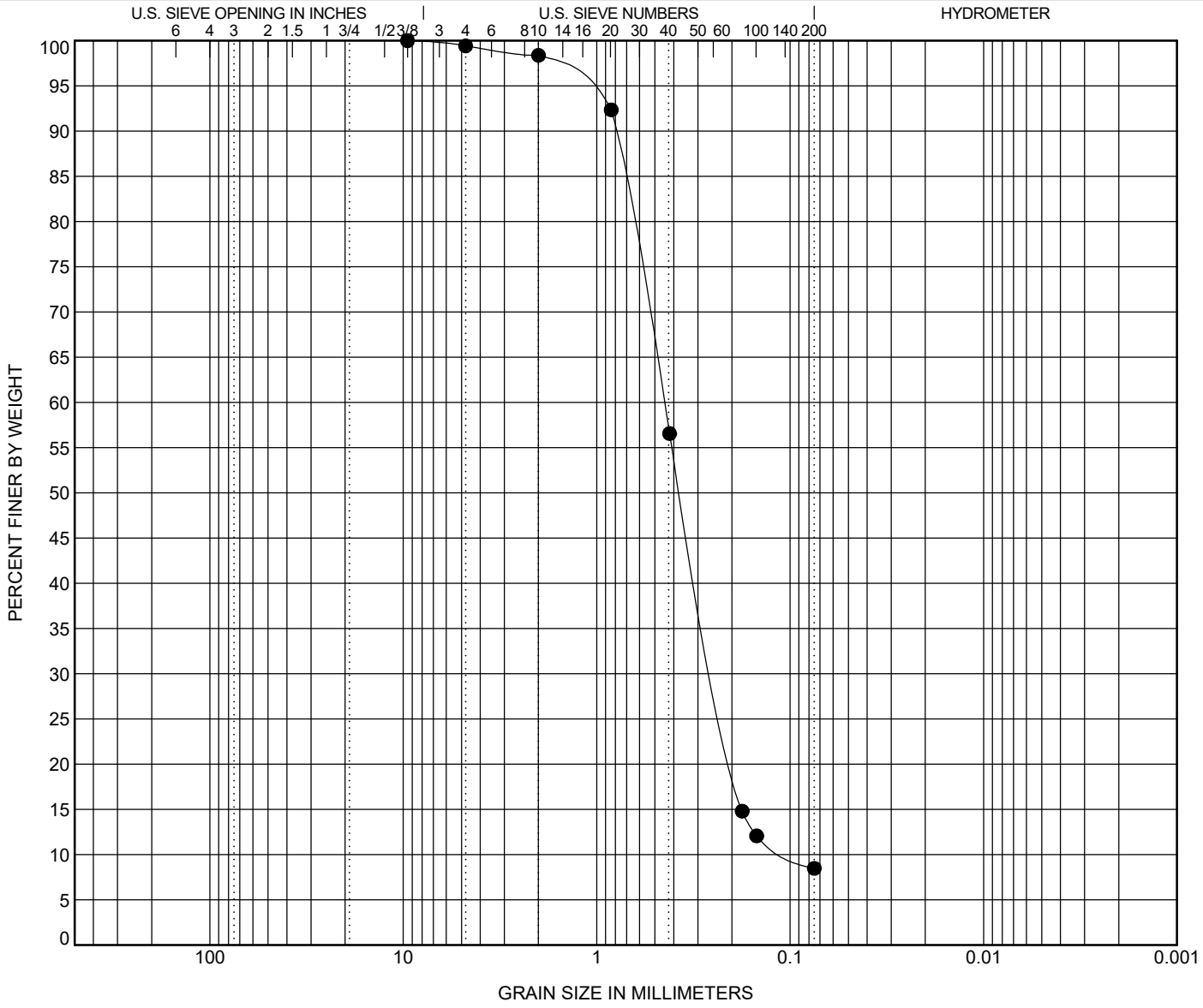
Values for cohesion and friction angle determined from best-fit straight line to the data for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site-specific conditions.

"---" indicates testing required to determine these values was not requested.

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
● **BS-4**	**5.0**	**POORLY GRADED SAND with SILT (SP-SM/A-3)**	**NP**	**NP**	**NP**	**1.30**	**4.48**

BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● **BS-4**	**5.0**	**9.51**	**0.449**	**0.242**	**0.1**	**0.6**	**90.9**	**8.5**	

GRAIN SIZE G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0453 **DATE SAMPLE RECEIVED:** 2/16/2023

DESCRIPTION OF SOIL: Poorly Graded SAND (SP-SM/A-3) with Silt

TESTED BY: EW **DATE SETUP:** 2/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 2/17/2023

BORING NO.	BS-4				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	10.4				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

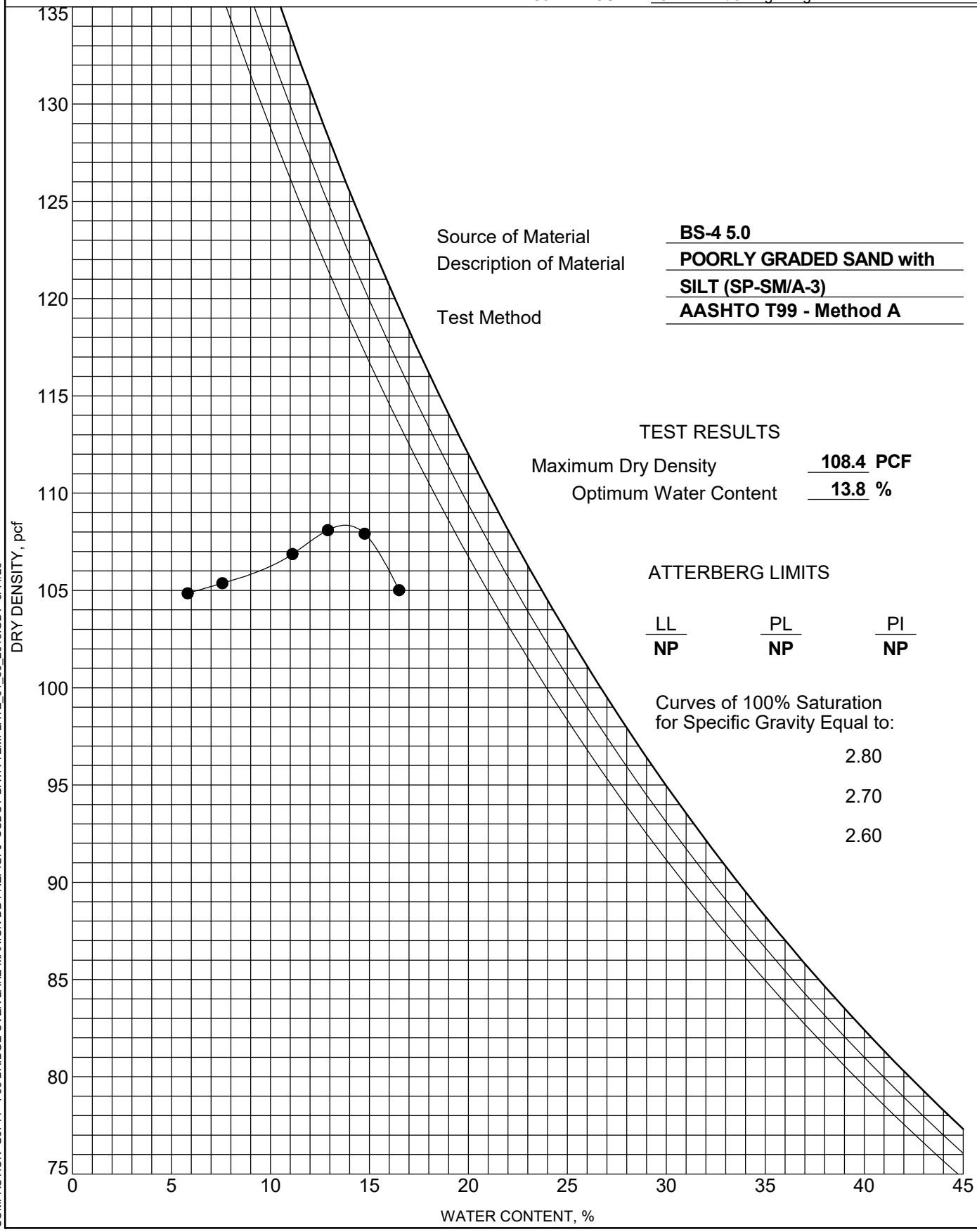
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

211 Business Park Blvd., Columbia, SC 29203

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-4 5.0**

Description of Material **POORLY GRADED SAND with SILT (SP-SM/A-3)**

Test Method **AASHTO T99 - Method A**

TEST RESULTS

Maximum Dry Density **108.4** **PCF**

Optimum Water Content **13.8** **%**

ATTERBERG LIMITS

LL	PL	PI
NP	**NP**	**NP**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/14/23

CORROSION SERIES SUMMARY

SCDOT

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Sample No.	Sample Depth (ft.)	pH of Soil in Distilled Water	Electrical Resistivity (Ω-cm)	Chloride Content (mg/kg (ppm))	Sulfate Content (mg/kg (ppm))
BS-3	--	0.0 – 5.0	7.7	27,876	6	60
BS-4	--	0.0 – 5.0	20.4	17,848	7	58

F&ME CONSULTANTS
3112 Devine Street
Columbia, South Carolina 29205

pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	BS-3	Sample Elevation/Depth:	0.0' - 5.0'
Description of Sample:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0366			
Sample ID	BS-3			
Depth (ft.)	0.0 - 5.0			
pH Value	7.74			
Temperature (˚C)	19.7			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	BS-3	FME Lab ID No.:	23-0366
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
BS-3	0.0 - 5.0	27,876

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	BS-3
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	0.0-5.0'
Project No.:	2023-147-001	Sample No.:	NA
Lab ID:	2023-147-001-005	Description:	Brown Sand

(- # 10 Sieve material)

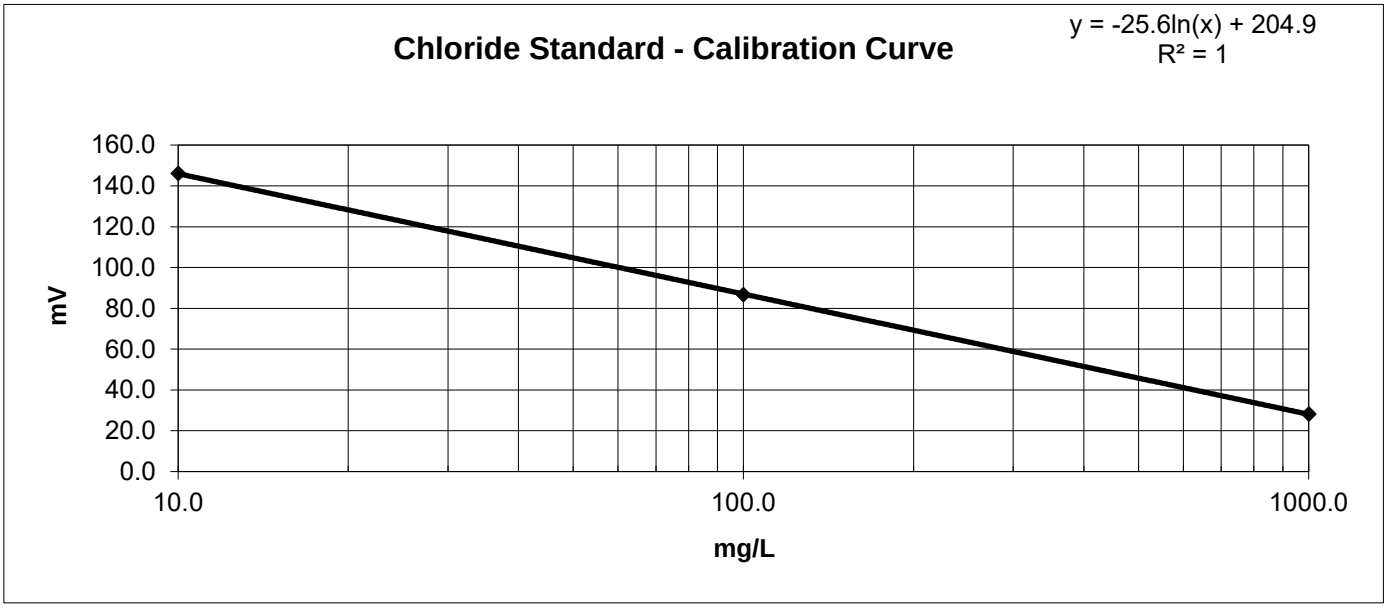
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	159.8	5.82	5.82

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5^{o}C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	BS-3
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	0.0-5.0'
Project No.:	2023-147-001	Sample No.:	NA
Lab ID:	2023-147-001-005	Soil Description:	Brown Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

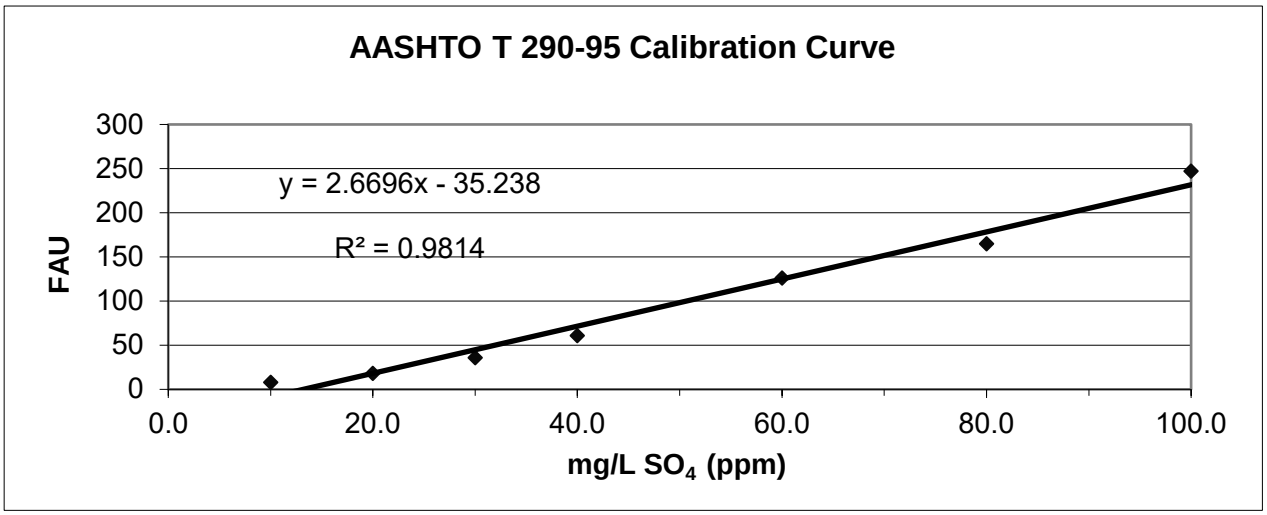
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	18
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	883
Weight of Tare & Wet Sample (g):	329.81
Weight of Tare & Dry Sample (g):	329.63
Weight of Tare (g):	109.79
Weight of Water (g):	0.18
Weight of Dry Sample (g):	219.84
Moisture Content (%):	0.08

Sample Sulfate Ion Concentration:	19.94	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	59.8	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	59.9	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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F&ME CONSULTANTS
3112 Devine Street
Columbia, South Carolina 29205

pH Determination (AASHTO T289)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project No.:	P041130
Sample Location:	BS-4	Sample Elevation/Depth:	0.0' - 5.0'
Description of Sample:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Sampled:	1/16/2023
Tested By:	R. Coldiron	Date Tested:	2/22/2023

FME Lab ID No.	23-0453			
Sample ID	BS-4			
Depth (ft.)	0.0 - 5.0			
pH Value	8.36			
Temperature (˚C)	20.4			

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

REV 09/2022

SOIL RESISTIVITY
(AASHTO T288)

Project Name:	I-95 Lake Marion DB Prep	SCDOT Project ID:	G6744.00
Location:	BS-4	FME Lab ID No.:	23-0453
Sampled By:	TP	Date Sampled:	1/16/2023
Soil Description:	Poorly Graded SAND (SP-SM/A-3) with Silt	Date Received:	1/16/2023
Tested By:	CM	Date Tested:	2/22/2023

Boring No.	Sample Depth (ft.)	Minimum Soil Resistivity, Ω-cm
BS-4	0.0 - 5.0	17,848

Date Reviewed: 2/28/2023 Reviewed By: J. Hiers

CHLORIDE ION CONTENT IN SOILS

AASHTO T 291 - 94 (2018) (*Method B*)

Client:	F&ME Consultants, Inc.	Boring No.:	BS-4
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	0.0-5.0'
Project No.:	2023-147-001	Sample No.:	NA
Lab ID:	2023-147-001-006	Description:	Dark Brown Sand

(- # 10 Sieve material)

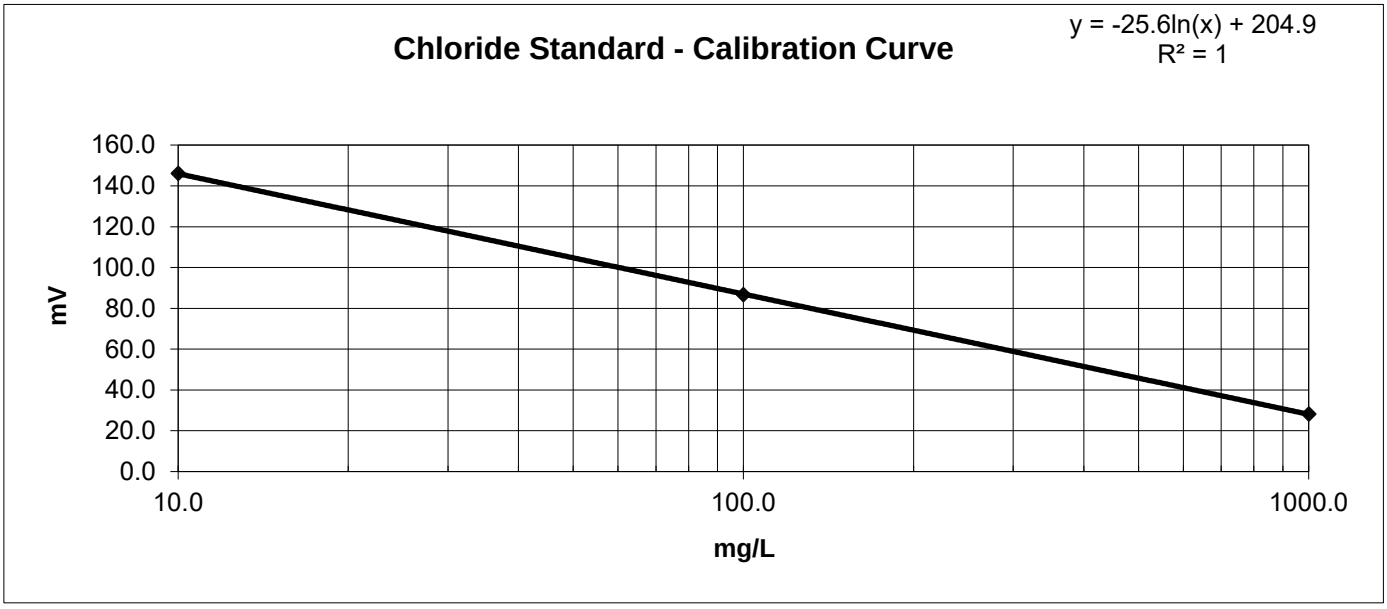
CHLORIDE STANDARD: CALIBRATION CURVE

STANDARD		MILLIVOLTS (mV)
10.0	mg/L	146.1
100.0	mg/L	86.7
1000.0	mg/L	28.2

MEASUREMENT OF CHLORIDES

		CONCENTRATION (mg/L)	CONCENTRATION (mg/kg)
Sample Weight (g):	100.0		
Water added to Sample (ml):	100.0		
Size of Sample Aliquot (ml):	25.0		
Sample Reading (mV):	154.0	7.30	7.30

Notes: 1) Samples and standards were buffered by the addition of an equal volume of the 0.2 M KNO_3 solution (1:1 volume).
2) Samples were dried for a minimum of 12 hours at 110 $^{+}/_{-}$ 5°C.



Notes:

Tested By	JAM	Date	3/7/23	Checked By	BRB	Date	3/9/23

DCN: CT-S63A DATE: 6/2/14 REVISION: 1

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Water-Soluble Sulfate Ion Content in Soil

AASHTO T 290-95 (2020)

Client:	F&ME Consultants, Inc.	Boring No.:	BS-4
Client Reference:	I-95 RBO Lake Marion G6744	Depth (ft):	0.0-5.0'
Project No.:	2023-147-001	Sample No.:	NA
Lab ID:	2023-147-001-006	Soil Description:	Dark Brown Sand

Sulfate Standard - Calibration Curve Spectrophotometer Readings

Sulfate Ion Concentrations (mg/L)

0.0	4.0	10.0	20.0	30.0	40.0	60.0	80.0	100.0

Spectrophotometer Readings (FAU)

Underrange	Underrange	8	18	36	61	126	165	247

Measurement of Barium Chloride Turbidity

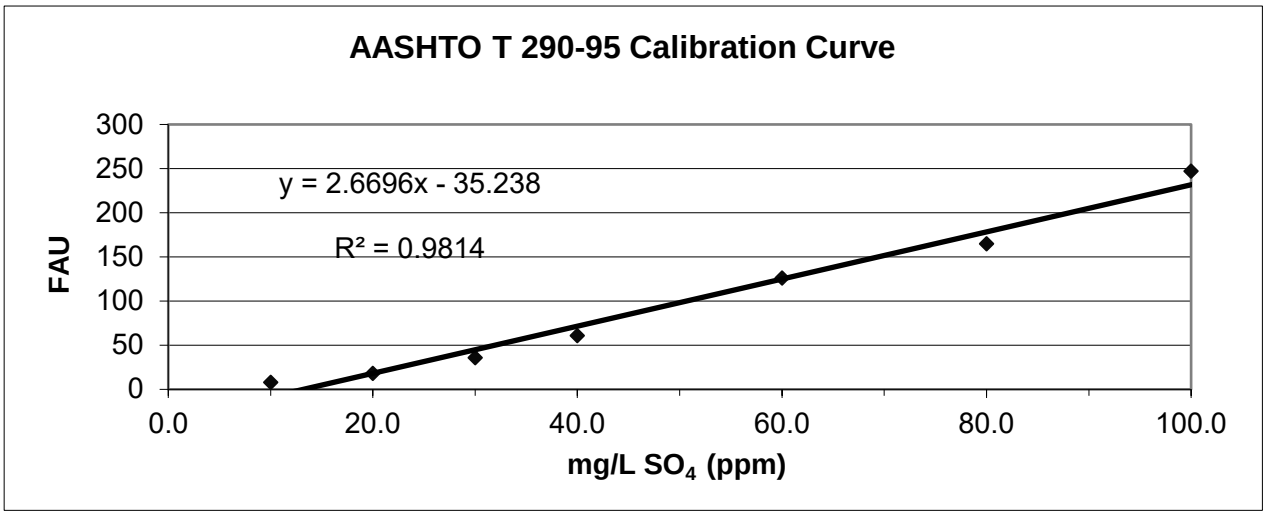
(Sample contains 5.0 mL NaCl solution and 0.3 g $BaCl_2 \cdot 2H_2O$)

Sample Weight (g):	100.0
Water added to Sample (mL):	300.0
Size of Sample Aliquot (mL):	50.0
Sample Reading (FAU):	16
Sample Diluted:	No
Sulfate Solution Added (ml):	0

Sample Moisture Content

Tare Number:	606
Weight of Tare & Wet Sample (g):	339.82
Weight of Tare & Dry Sample (g):	339.37
Weight of Tare (g):	84.94
Weight of Water (g):	0.45
Weight of Dry Sample (g):	254.43
Moisture Content (%):	0.18

Sample Sulfate Ion Concentration:	19.19	**mg/L SO_4 (ppm)**
Sample Sulfate Ion Content:	57.6	**mg/Kg SO_4 (not corrected for moisture)**
Sample Sulfate Ion Content:	57.7	**mg/Kg SO4 (corrected for moisture)**



Tested by: JAM Date: 3/8/23 Checked by: BRB Date: 3/9/2023

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SUMMARY OF LABORATORY RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Boring No.	Sample Depth (ft.)	Liquid Limit	Plastic Limit	Plasticity Index	%<#200 Sieve	Soil Classification	Desired % Compaction	% Compaction	Shrink/ Swell %	0.1-in. CBR	0.2-in. CBR)
BS-5	0.0 – 5.0	22	17	5	20	SC-SM	90.0	90.2	0.0	5.2	5.2
BS-5	0.0 – 5.0	22	17	5	20	SC-SM	95.0	94.9	0.0	9.7	11.6
BS-5	0.0 – 5.0	22	17	5	20	SC-SM	100.0	100.3	0.0	27.5	37.3
BS-6	0.0 – 5.0	NP	NP	NP	10.6	SW-SM	90.0	90.1	-0.1	9.0	8.6
BS-6	0.0 – 5.0	NP	NP	NP	10.6	SW-SM	95.0	95.1	0.0	13.5	17.1
BS-6	0.0 – 5.0	NP	NP	NP	10.6	SW-SM	100.0	100.4	0.0	18.0	19.2

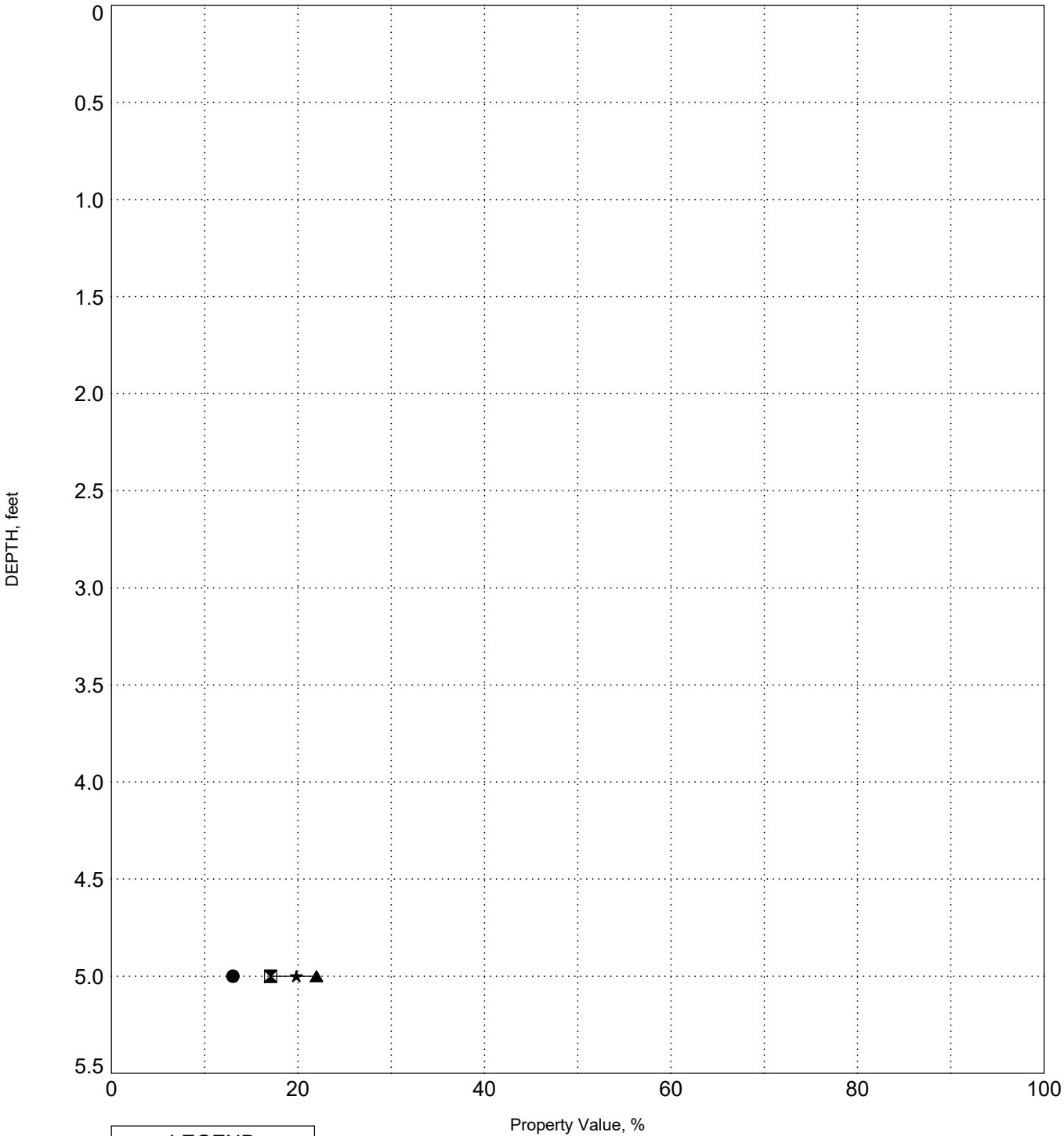
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-5

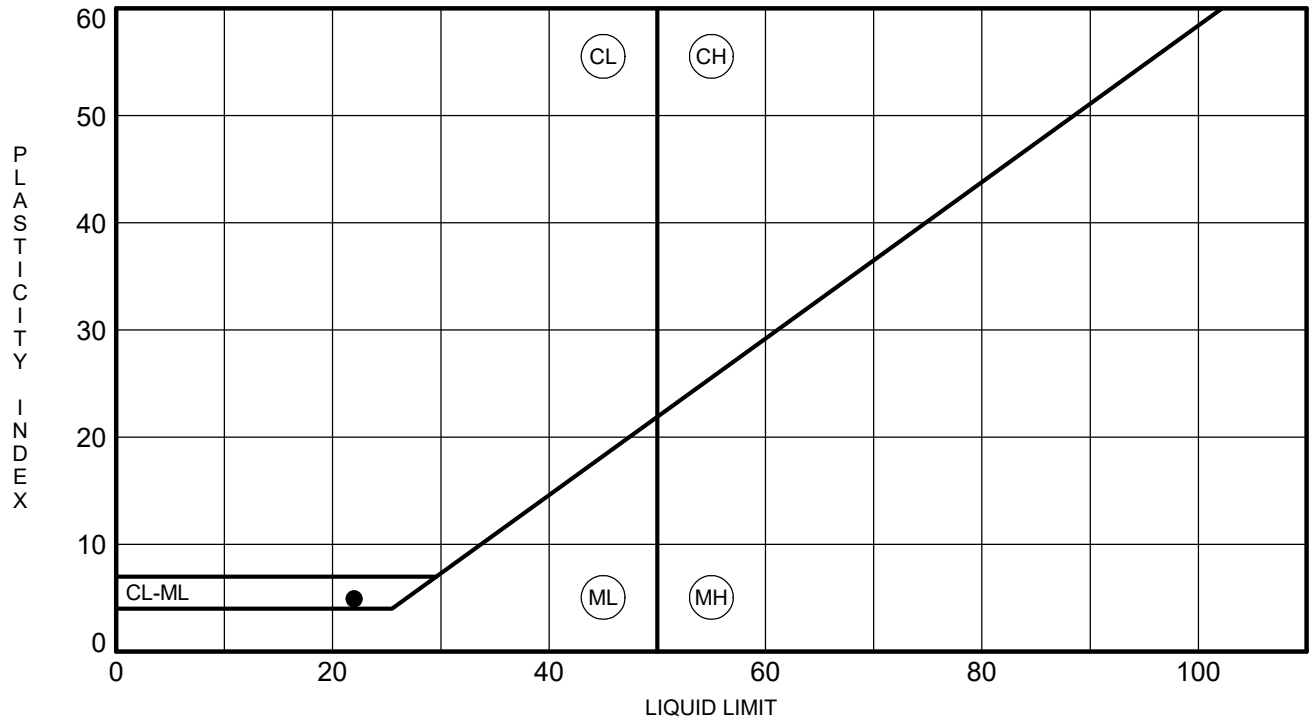
SURFACE ELEVATION: 105.4



ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



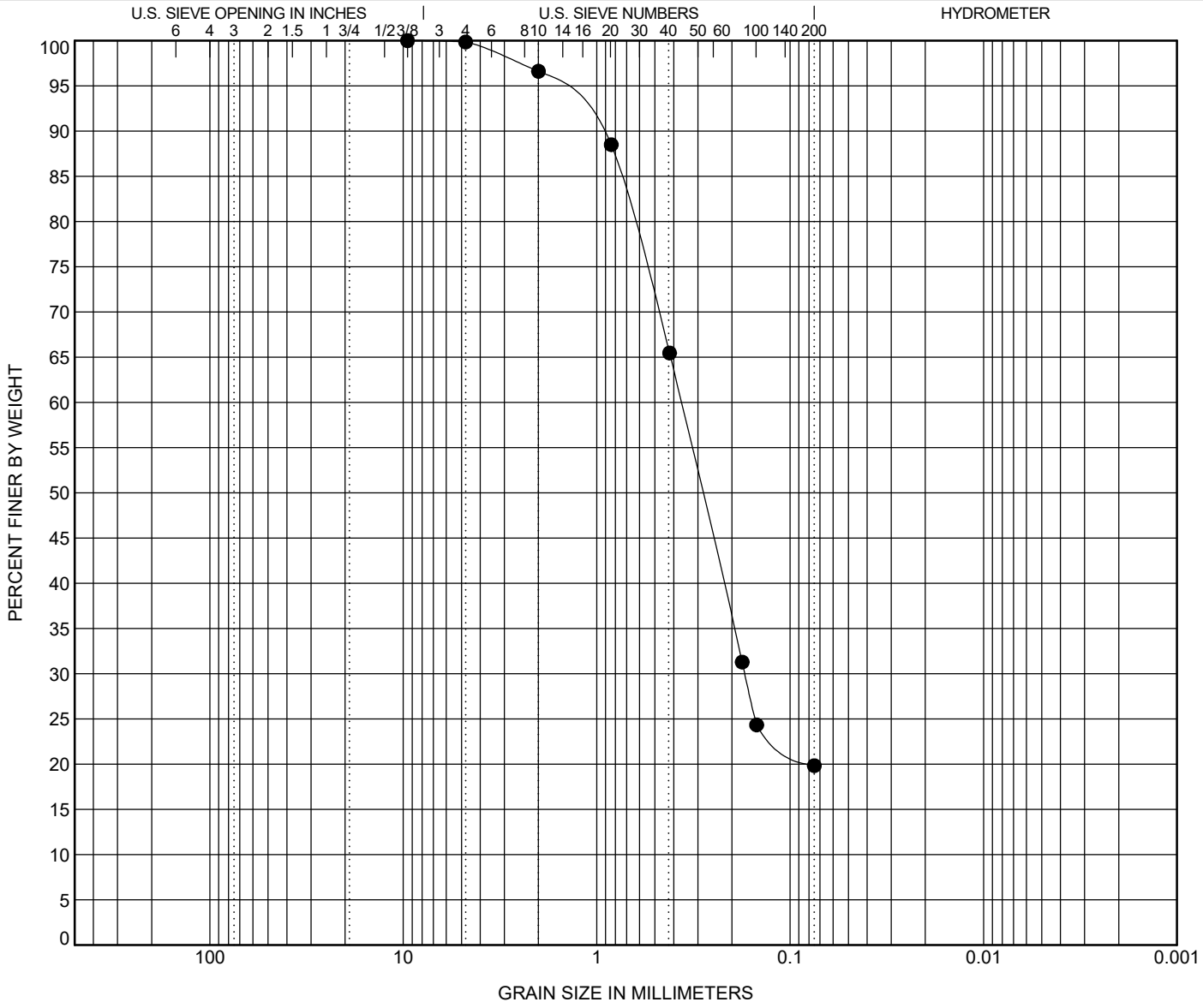
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-5**	**5.0**	**22**	**17**	**5**	**20**	**SILTY, CLAYEY SAND (SC-SM/A-2-4)**

ATTERBERG LIMITS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 3/22/23

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**BS-5**	**5.0**	**SILTY, CLAYEY SAND (SC-SM/A-2-4)**	**22**	**17**	**5**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BS-5**	**5.0**	**9.51**	**0.366**	**0.171**		**0.2**	**80.0**	**19.8**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0151 **DATE SAMPLE RECEIVED:** 1/16/2023

DESCRIPTION OF SOIL: Silty, Clayey SAND (SC-SM/A-2-4)

TESTED BY: EW **DATE SETUP:** 1/16/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 1/17/2023

BORING NO.	BS-5				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	13.0				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

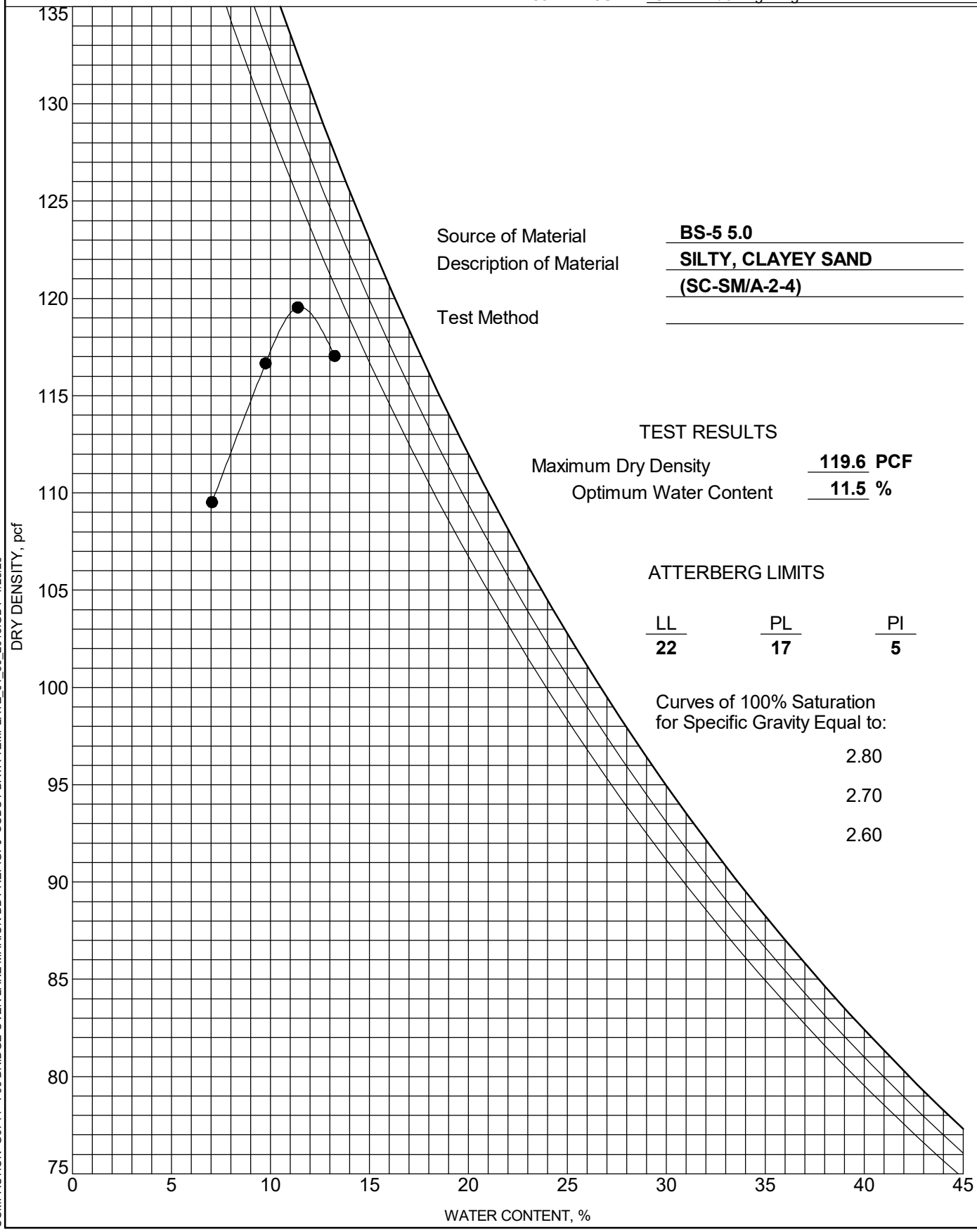
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 Bridge over Lake Marion DB Prep

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-5 5.0**

Description of Material **SILTY, CLAYEY SAND (SC-SM/A-2-4)**

Test Method

TEST RESULTS

Maximum Dry Density **119.6** **PCF**

Optimum Water Content **11.5** **%**

ATTERBERG LIMITS

LL	PL	PI
22	**17**	**5**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/25/23

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

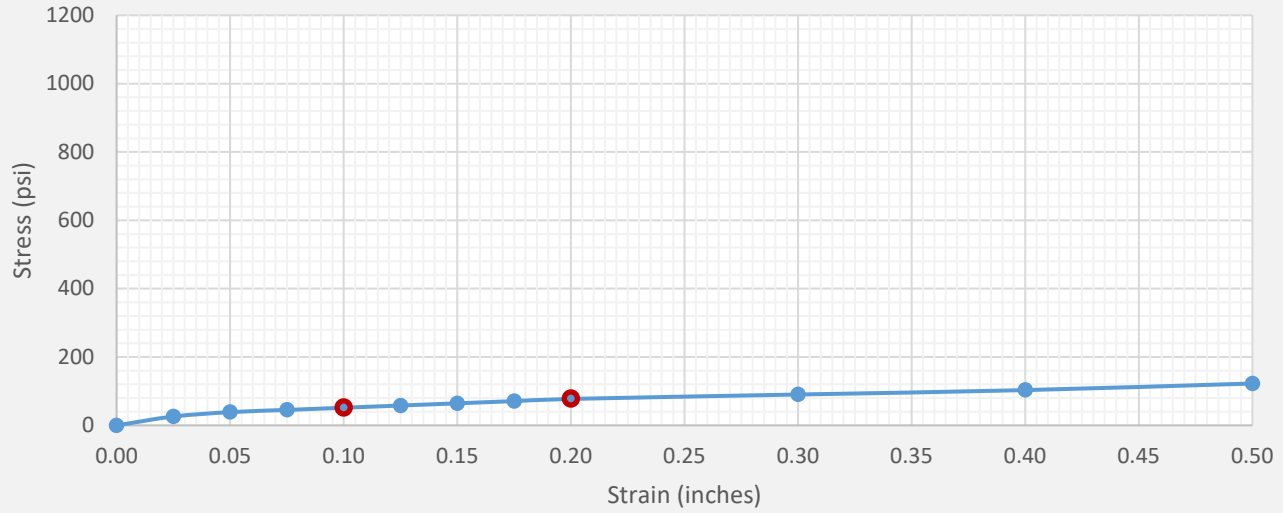
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-5			FME Lab ID	23-0151
Soil Description	SILTY, CLAYEY SAND (SC-SM/A-2-4)			Depth/Elev.	0.0 - 5.0
Date Sampled	1/11/23	Sampled By:	FME	Date Received	1/12/23
Date Test Began	2/16/23	Date Completed	2/20/23	Tested By	NR & DH

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	119.6	Optimum Moisture Content (%)	11.5
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

CBR at 0.10-inch penetration	CBR at 0.20-inch penetration
5.2	**5.2**



Before Soaking	
Dry Density (lb/ft^3)	107.9
Moisture Content	11.3%
Percent Compaction	90.2%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	109.0
Moisture Content (Top 1")	14.5%
Percent Compaction	91.2%
Percent Shrink/Swell	0.0%

ADDITIONAL COMMENTS

Desired Percent Compaction = 90%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

Reviewed By

6/12/23
Date

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

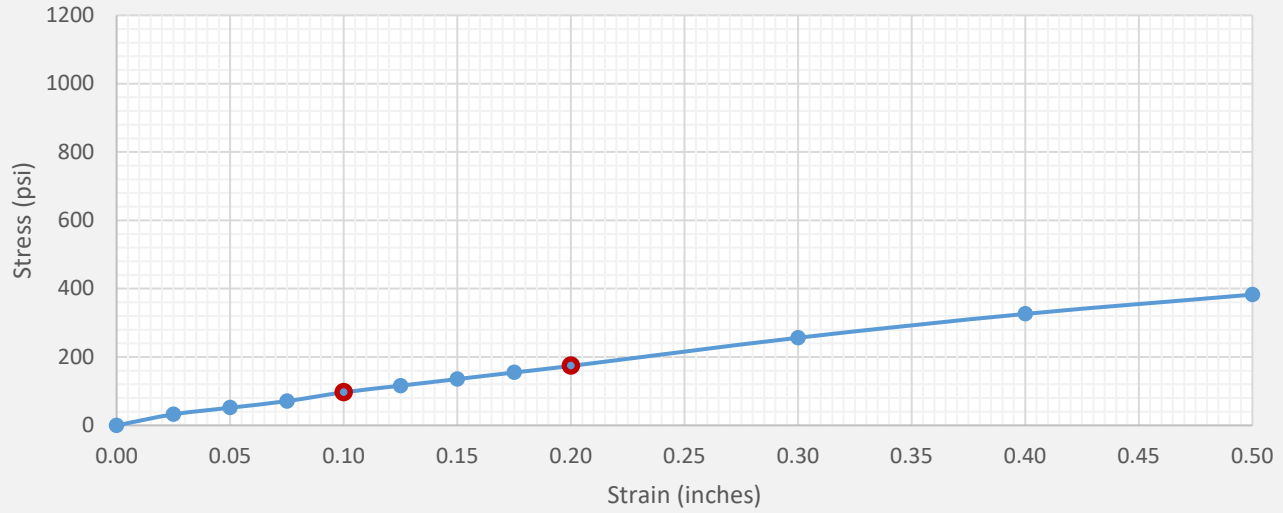
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-5			FME Lab ID	23-0151
Soil Description	SILTY, CLAYEY SAND (SC-SM/A-2-4)			Depth/Elev.	0.0 - 5.0
Date Sampled	1/11/23	Sampled By:	FME	Date Received	1/12/23
Date Test Began	2/16/23	Date Completed	2/20/23	Tested By	NR & DH

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	119.6	Optimum Moisture Content (%)	11.5
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

CBR at 0.10-inch penetration	CBR at 0.20-inch penetration
9.7	**11.6**



Before Soaking	
Dry Density (lb/ft^3)	113.6
Moisture Content	11.6%
Percent Compaction	94.9%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	114.6
Moisture Content (Top 1")	13.5%
Percent Compaction	95.8%
Percent Shrink/Swell	0.0%

ADDITIONAL COMMENTS

Desired Percent Compaction = 95%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

Reviewed By

6/12/23
Date

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

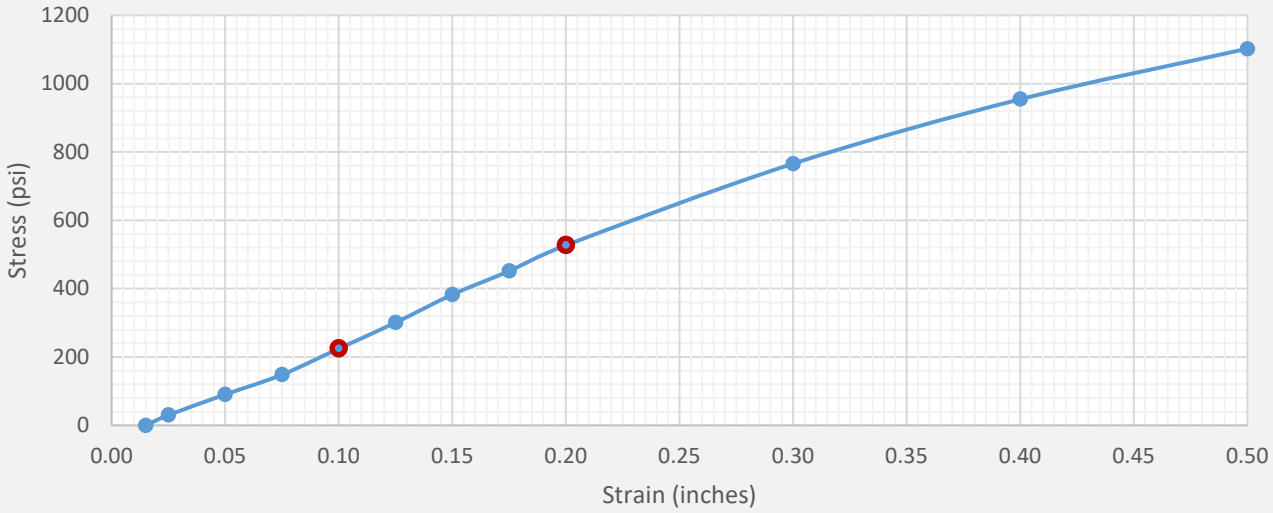
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-5			FME Lab ID	23-0151
Soil Description	SILTY, CLAYEY SAND (SC-SM/A-2-4)			Depth/Elev.	0.0 - 5.0
Date Sampled	1/11/23	Sampled By:	FME	Date Received	1/12/23
Date Test Began	2/16/23	Date Completed	2/20/23	Tested By	NR & DH

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	119.6	Optimum Moisture Content (%)	11.5
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

Corrected CBR at 0.10-inch penetration	Corrected CBR at 0.20-inch penetration
27.5	**37.3**



Before Soaking	
Dry Density (lb/ft^3)	120.0
Moisture Content	11.4%
Percent Compaction	100.3%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	120.7
Moisture Content (Top 1")	11.9%
Percent Compaction	100.9%
Percent Shrink/Swell	0.0%

ADDITIONAL COMMENTS

Desired Percent Compaction = 100%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

Reviewed By

6/12/23
Date

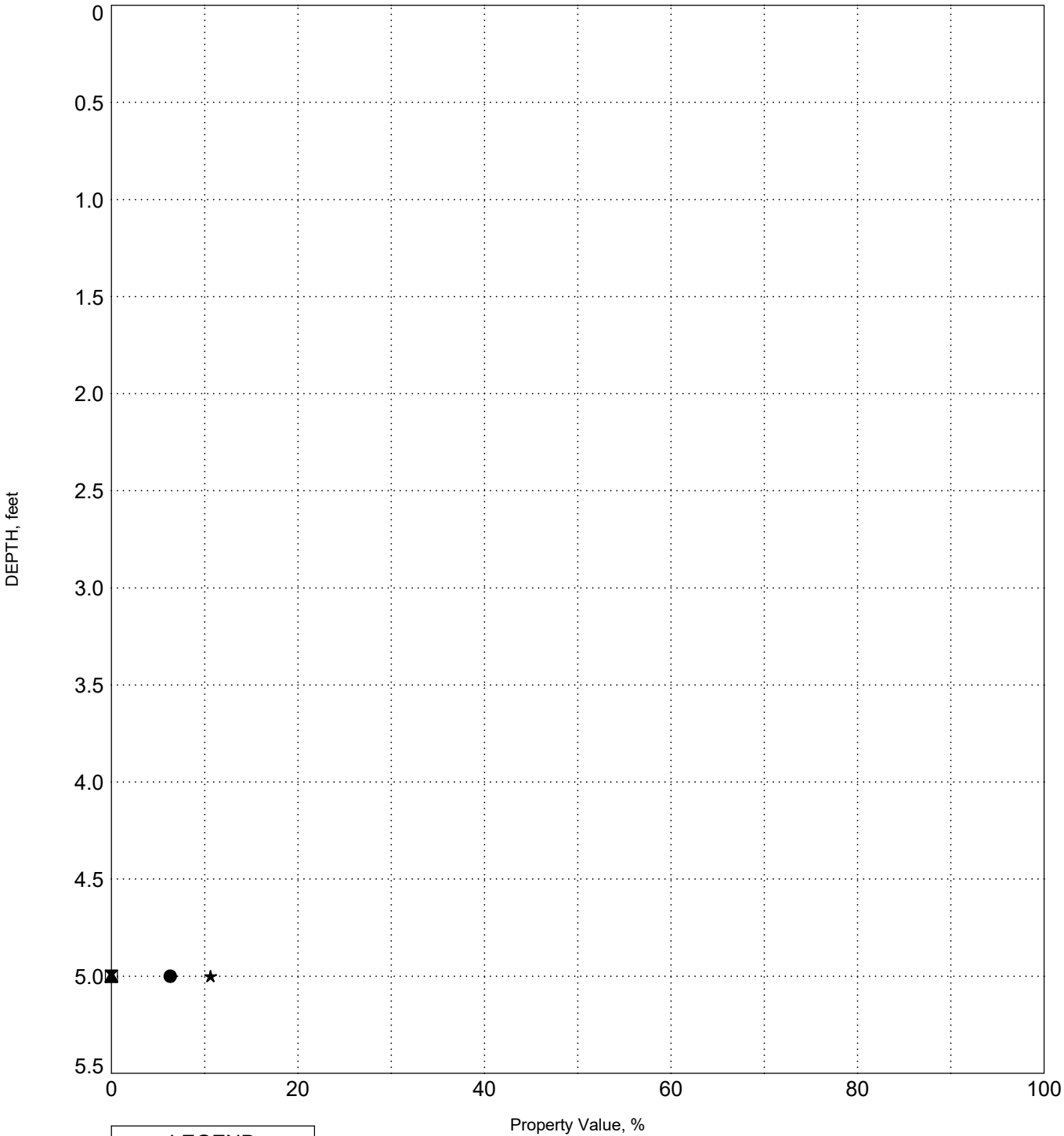
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

BORING BS-6

SURFACE ELEVATION: 89.3

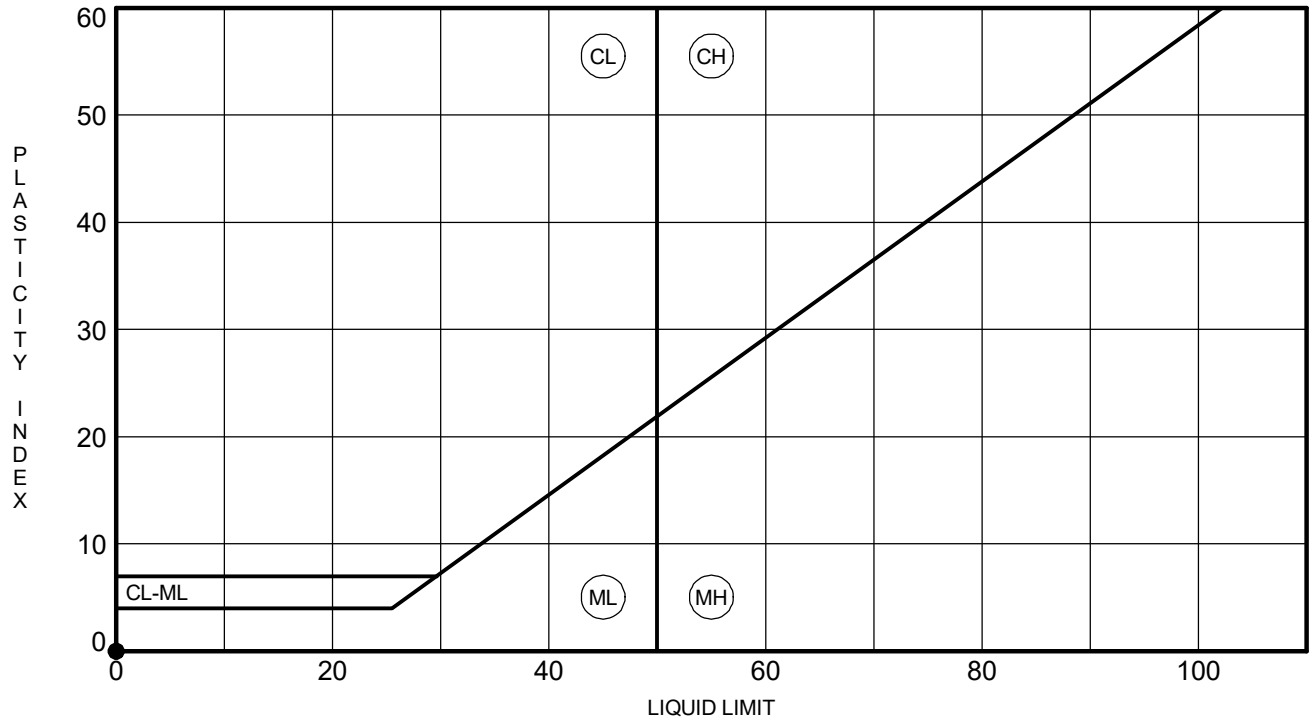


INDEX PROPS G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 8/2/23

ATTERBERG LIMITS' RESULTS

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

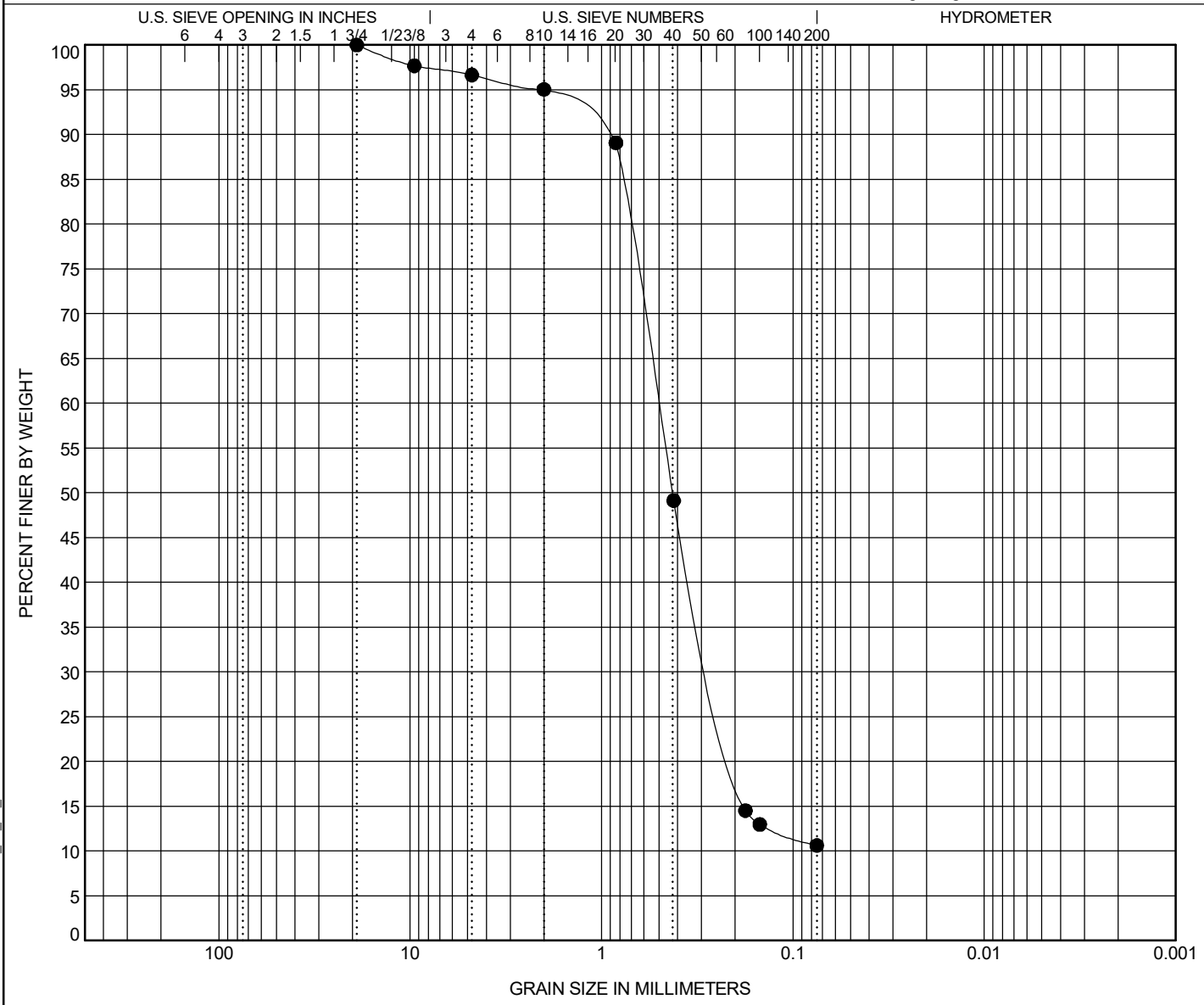


	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**BS-6**	**5.0**	**NP**	**NP**	**NP**	**11**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**

GRAIN SIZE DISTRIBUTION

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**BS-6**	**5.0**	**WELL-GRADED SAND with SILT (SW-SM/A-1-b)**	**NP**	**NP**	**NP**	**2.14**	**8.12**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BS-6**	**5.0**	**19**	**0.507**	**0.26**		**3.4**	**86.0**	**10.6**	

F&ME CONSULTANTS, INC.

MOISTURE CONTENT DETERMINATION
(AASHTO T265)

PROJECT: I-95 NB/SB over Lake Marion Bridge Replacement **SCDOT PROJECT ID:** P041130

SAMPLE NUMBER: 23-0154 **DATE SAMPLE RECEIVED:** 5/9/2023

DESCRIPTION OF SOIL: Well-Graded SAND (SW-SM/A-1-b) with Silt

TESTED BY: EW **DATE SETUP:** 5/11/2023

WEIGHED BY: DH **DATE OF WEIGHING:** 5/12/2023

BORING NO.	BS-6				
SAMPLE NO.	--				
SAMPLE DEPTH (FT.)	0.0 - 5.0				
WATER CONTENT, W%	6.3				

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

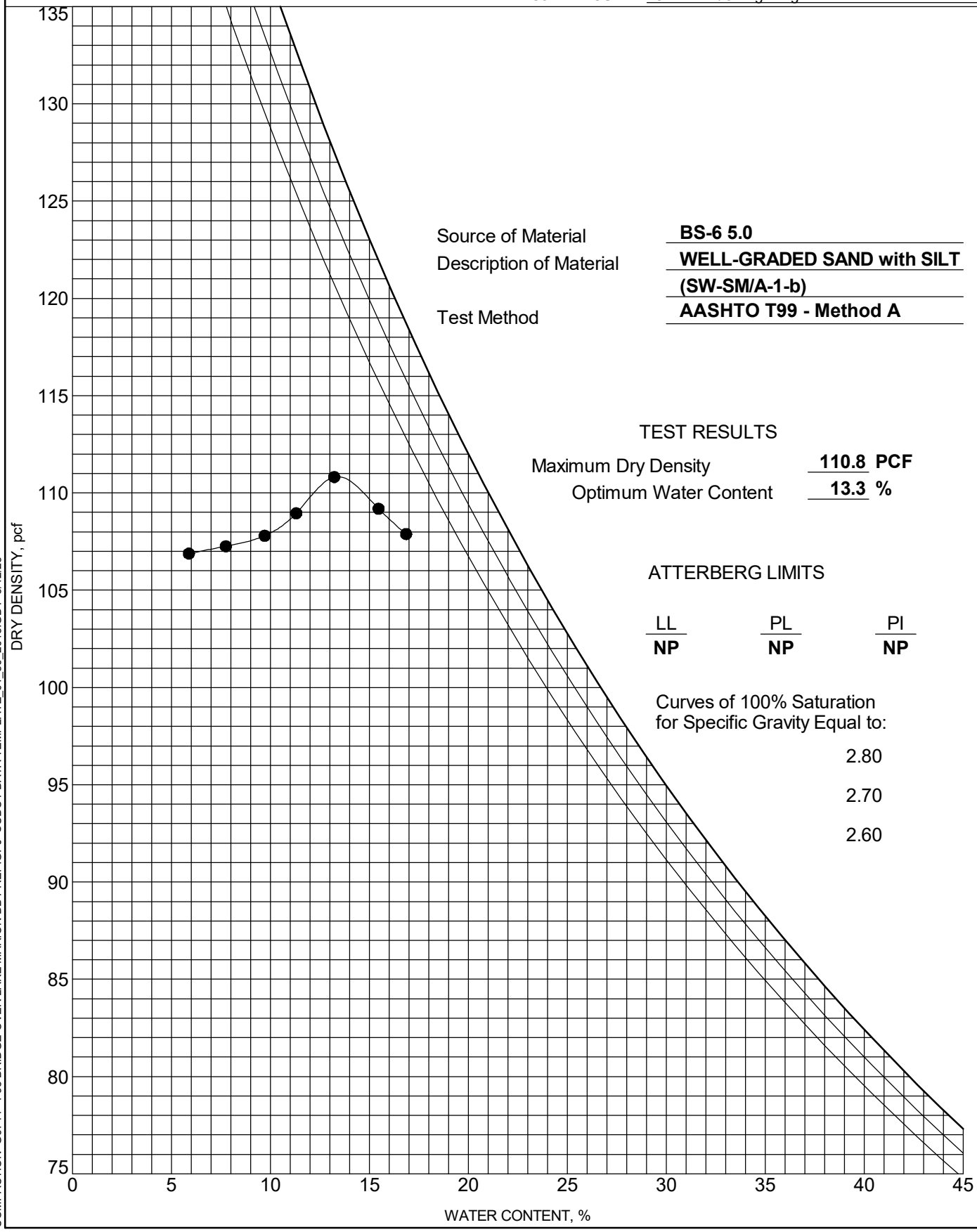
BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

BORING NO.					
SAMPLE NO.					
SAMPLE DEPTH (FT.)					
WATER CONTENT, W%					

MOISTURE-DENSITY RELATIONSHIP

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg



Source of Material **BS-6 5.0**

Description of Material **WELL-GRADED SAND with SILT (SW-SM/A-1-b)**

Test Method **AASHTO T99 - Method A**

TEST RESULTS

Maximum Dry Density **110.8** **PCF**

Optimum Water Content **13.3** **%**

ATTERBERG LIMITS

LL	PL	PI
NP	**NP**	**NP**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION G6744 - I-95 BRIDGE OVER LAKE MARION DB PREP.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 6/12/23

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

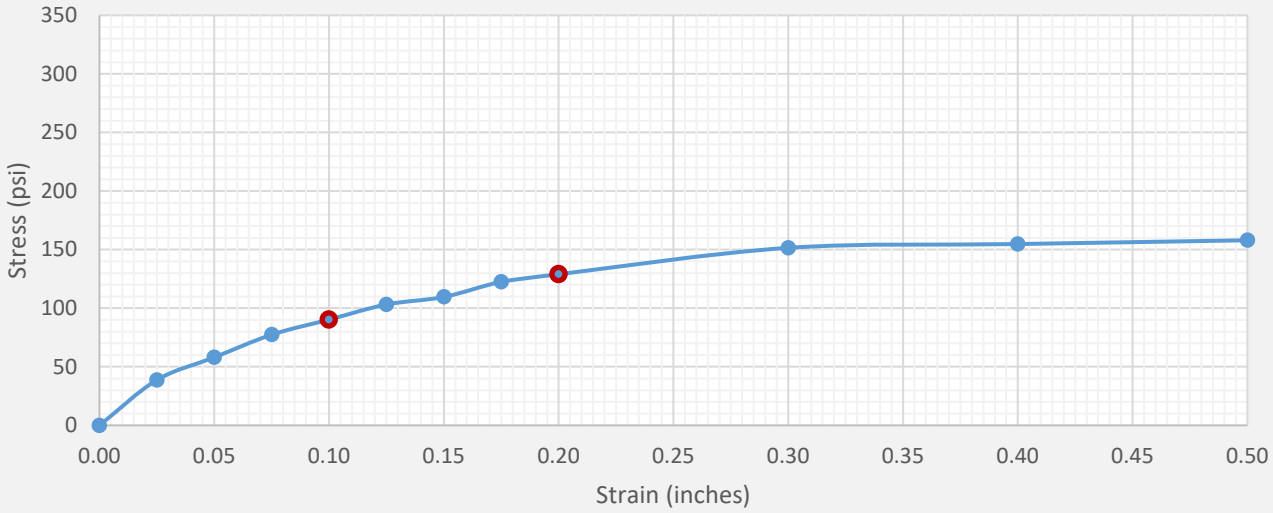
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-6			FME Lab ID	23-1361
Soil Description	Well-Graded Sand (SW-SM/A-1-b) with Silt			Depth/Elev.	0.0 - 5.0
Date Sampled	5/5/23	Sampled By:	FME	Date Received	5/5/23
Date Test Began	6/2/23	Date Completed	6/6/23	Tested By	TW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	110.8	Optimum Moisture Content (%)	13.3
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

CBR at 0.10-inch penetration	CBR at 0.20-inch penetration
9.0	**8.6**



Before Soaking	
Dry Density (lb/ft^3)	99.8
Moisture Content	13.1%
Percent Compaction	90.1%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	104.3
Moisture Content (Top 1")	16.1%
Percent Compaction	94.1%
Percent Shrink/Swell	-0.1%

ADDITIONAL COMMENTS

Desired Percent Compaction = 90%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

Reviewed By

6/12/23
Date

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

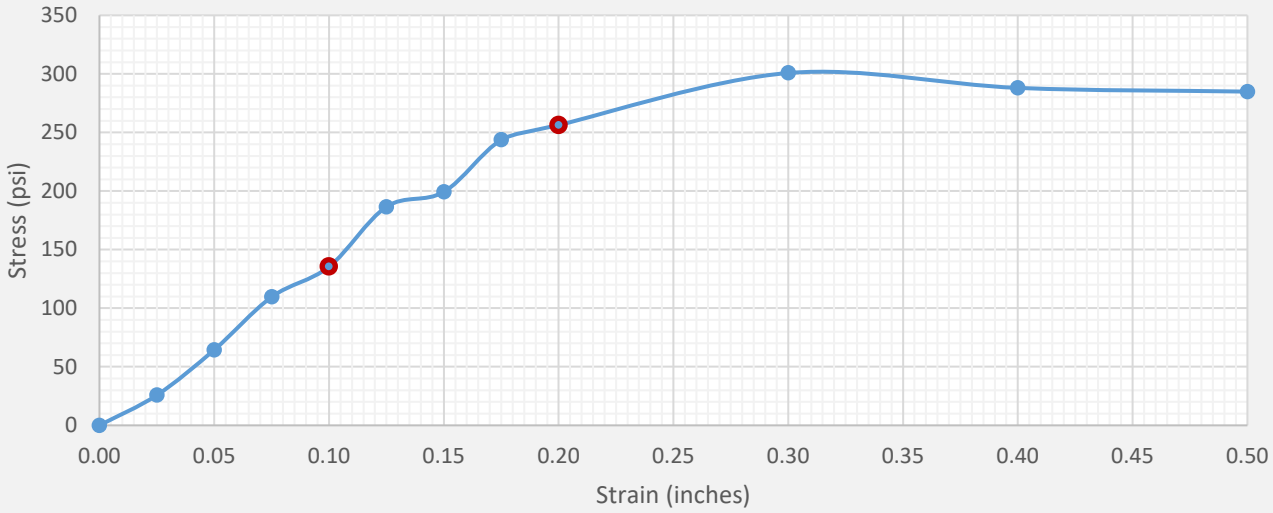
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-6			FME Lab ID	23-1361
Soil Description	Well-Graded Sand (SW-SM/A-1-b) with Silt			Depth/Elev.	0.0 - 5.0
Date Sampled	5/5/23	Sampled By:	FME	Date Received	5/5/23
Date Test Began	6/2/23	Date Completed	6/6/23	Tested By	TW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	110.8	Optimum Moisture Content (%)	13.3
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

CBR at 0.10-inch penetration	CBR at 0.20-inch penetration
13.5	**17.1**



Before Soaking	
Dry Density (lb/ft^3)	105.4
Moisture Content	13.1%
Percent Compaction	95.1%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	107.0
Moisture Content (Top 1")	15.0%
Percent Compaction	96.5%
Percent Shrink/Swell	0.0%

ADDITIONAL COMMENTS

Desired Percent Compaction = 95%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

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6/12/23
Date

REV 01/2023

CALIFORNIA BEARING RATIO (CBR)
AASHTO T193

SAMPLE INFORMATION

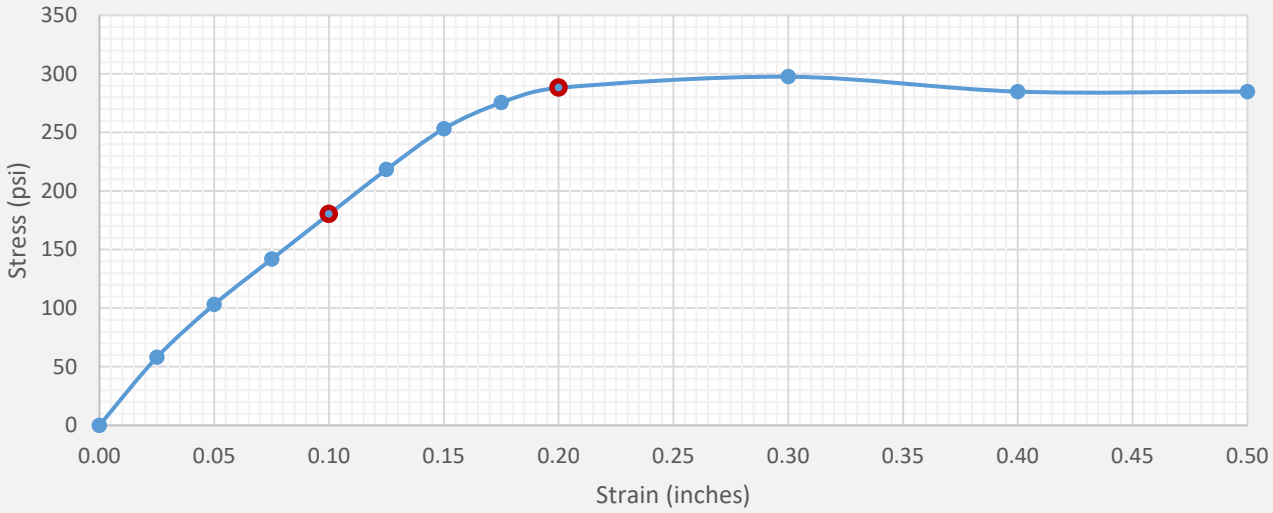
Project Name	I-95 RBO LAKE MARION			Project No.	G6744
Sample Location	BS-6			FME Lab ID	23-1361
Soil Description	Well-Graded Sand (SW-SM/A-1-b) with Silt			Depth/Elev.	0.0 - 5.0
Date Sampled	5/5/23	Sampled By:	FME	Date Received	5/5/23
Date Test Began	6/2/23	Date Completed	6/6/23	Tested By	TW

MOLDING CHARACTERISTICS

Method	AASHTO T99 - Method A	% Retained on 3/4" Sieve	0%
Max Dry Density (lb/ft^3)	110.8	Optimum Moisture Content (%)	13.3
Soak Time (hr)	96	Surcharge Weight (lb)	10.0

TESTING RESULTS

CBR at 0.10-inch penetration	CBR at 0.20-inch penetration
18.0	**19.2**



Before Soaking	
Dry Density (lb/ft^3)	111.2
Moisture Content	13.1%
Percent Compaction	100.4%
Percent Shrink/Swell	--

After Soaking	
Dry Density (lb/ft^3)	110.9
Moisture Content (Top 1")	14.8%
Percent Compaction	100.1%
Percent Shrink/Swell	0.0%

ADDITIONAL COMMENTS

Desired Percent Compaction = 100%

F&ME CONSULTANTS

F&ME Consultants, Inc.
211 Business Park Blvd., Columbia, SC 29203

Reviewed By

6/12/23
Date

APPENDIX

SECTION 5 LABORATORY TEST RESULTS

SECTION 5D SOIL CORE SAMPLES

Rock Coring Summary

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-2	NQ-1	59.5	76	23						
B-2	NQ-2	61.6	68	23						
B-2	NQ-3	66.6	43	25	7			120		
B-2	NQ-4	71.6	60	23						
B-4	NQ-1	27.8	10	0						
B-4	NQ-2	31.1	80	61	550			116		
B-4	NQ-3	36.1	100	68						
B-4	NQ-4	41.1	70	31						
B-4	NQ-5	46.1	100	80	310			121		
B-4	NQ-6	51.1	100	95	340			122		
B-4	NQ-7	56.1	96	63						
B-4	NQ-8	61.1	31	6						
B-4	NQ-9	66.1	98	71	1150			138		
B-4	NQ-10	71.1	61	30						
B-4	NQ-11	76.1	58	40	1365			141		
B-4	NQ-12	81.1	95	30	160			115		
B-5	NQ-1	40.2	88	56						
B-5	NQ-2	41.5	17	0						
B-5	NQ-3	46.5	90	50	555			126		
B-5	NQ-4	51.5	100	68	440			126		
B-5	NQ-5	56.5	92	48	390			123		
B-5	NQ-6	61.5	98	75						
B-5	NQ-7	66.5	82	40	575			130		
B-5	NQ-8	71.5	60	20						
B-5	NQ-9	76.5	92	53	605			141		
B-5	NQ-10	81.5	63	20						
B-6	NQ-1	38.2	85	16						
B-6	NQ-2	43.2	98	56	395			123		
B-6	NQ-3	48.2	96	23						
B-6	NQ-4	53.2	88	43	560			124		
B-6	NQ-5	58.2	85	43						
B-6	NQ-6	63.2	100	85	410			121		
B-6	NQ-7	68.2	48	48						
B-6	NQ-8	73.2	85	55	2790	0.26	3050	149		
B-6	NQ-9	78.2	90	61	135			110		
B-8	NQ-1	44.7	91	61	350			114		
B-8	NQ-2	49.7	96	83	3310	0.26	2170	148		
B-8	NQ-3	54.7	100	70	360			119		
B-8	NQ-4	59.7	93	71						
B-8	NQ-5	64.7	68	51						
B-8	NQ-6	69.7	86	60	300			116		
B-8	NQ-7	74.7	83	53						
B-8	NQ-8	79.7	86	40	360			139		

Rock Coring Summary

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-9	NQ-1	41.7	75	38	310			119		
B-9	NQ-2	46.3	92	60						
B-9	NQ-3	51.3	98	57	480			121		
B-9	NQ-4	56.3	90	63	305			122		
B-9	NQ-5	61.3	87	58	370			122		
B-9	NQ-6	66.3	80	18						
B-9	NQ-7	71.3	73	43	2020	N/A	2,650	146		
B-9	NQ-8	76.3	98	68	1100	0.10	345	146		
B-9	NQ-9	81.3	50	7						
B-10	NQ-1	47.1	76	73						
B-10	NQ-2	52.1	65	15	195			121		
B-10	NQ-3	57.1	63	40	220			117		
B-10	NQ-4	62.1	36	8						
B-10	NQ-5	67.1	98	86	570			131		
B-10	NQ-6	72.1	88	55	3120	0.17	4070	147		
B-10	NQ-7	77.1	86	71	400			140		
B-11	NQ-1	46.4	46	38						
B-11	NQ-2	51.1	52	27	380			124		
B-11	NQ-3	56.1	90	63	290			126		
B-11	NQ-4	61.1	90	68	380			122		
B-11	NQ-5	66.1	73	55	390			121		
B-11	NQ-6	71.1	40	20						
B-11	NQ-7	76.1	87	63	195			134		
B-12	NQ-1	40.1	98	98	835			125		
B-12	NQ-2	44.6	100	98						
B-12	NQ-3	49.6	56	53	330			109		
B-12	NQ-4	54.6	73	68						
B-12	NQ-5	59.6	70	40						
B-12	NQ-6	64.6	86	65						
B-12	NQ-7	69.6	51	43	3010	0.13	2310	150		
B-12	NQ-8	74.6	95	83	925			144		
B-14	NQ-1	39.0	96	78						
B-14	NQ-2	43.8	100	96						
B-14	NQ-3	48.8	100	91						
B-14	NQ-4	53.8	90	85						
B-14	NQ-5	58.8	76	61						
B-14	NQ-6	63.8	98	78						
B-14	NQ-7	68.8	96	85						
B-14	NQ-8	73.8	91	91						
B-15	NQ-1	41.9	91	67						
B-15	NQ-2	46.4	95	38	4630	0.39	2840	149		
B-15	NQ-3	51.4	98	35	530			124		
B-15	NQ-4	56.4	90	7						

Rock Coring Summary

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-15	NQ-5	61.4	60	47	460			120		
B-15	NQ-6	66.4	93	50	380			119		
B-15	NQ-7	71.4	87	67	1770	N/A	N/A	147		
B-15	NQ-8	76.4	88	85	120			122		
B-16	NQ-1	41.3	93	75	355			121		
B-16	NQ-2	46.1	100	85						
B-16	NQ-3	51.1	100	95	555			117		
B-16	NQ-4	56.1	90	43						
B-16	NQ-5	61.1	98	95	495			123		
B-16	NQ-6	66.1	90	72	340			131		
B-16	NQ-7	71.1	97	85	90			121		
B-16	NQ-8	76.1	53	35						
B-18	NQ-1	38.7	87	67						
B-18	NQ-2	43.7	100	90	285			119		
B-18	NQ-3	48.7	100	75						
B-18	NQ-4	53.7	98	93	345			119		
B-18	NQ-5	58.7	98	82	335			114		
B-18	NQ-6	63.7	93	83	340			118		
B-18	NQ-7	68.7	38	22						
B-19	NQ-1	45.0	98	36						
B-19	NQ-2	49.7	98	46	965			134		
B-19	NQ-3	54.7	98	23	555			111		
B-19	NQ-4	59.7	90	38						
B-19	NQ-5	64.7	100	63	350			120		
B-19	NQ-6	69.7	93	53	1430	0.03	166	140		
B-19	NQ-7	74.7	55	41	725			143		
B-20	NQ-1	43.8	100	94						
B-20	NQ-2	46.6	98	77	275			121		
B-20	NQ-3	51.6	100	95						
B-20	NQ-4	56.6	97	85	440			124		
B-20	NQ-5	61.6	87	82						
B-20	NQ-6	66.6	78	42	1800			150		
B-20	NQ-7	71.6	72	43	1320			148		
B-22	NQ-1	46.0	50	0						
B-22	NQ-2	46.5	100	78	595			121		
B-22	NQ-3	51.5	100	86	340			121		
B-22	NQ-4	56.5	96	90	270			120		
B-22	NQ-5	61.5	98	95						
B-22	NQ-6	66.5	100	83	1430			148		
B-22	NQ-7	71.5	65	33	65			122		
B-23	NQ-1	44.6	83	68	360			112		
B-23	NQ-2	49.6	100	67	575			127		
B-23	NQ-3	54.6	95	73						

Rock Coring Summary

PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-23	NQ-4	59.6	100	68	570			123		
B-23	NQ-5	64.6	67	7						
B-23	NQ-6	69.6	50	0						
B-24	NQ-1	43.5	100	100	1,510			126		
B-24	NQ-2	46.4	97	75	460			119		
B-24	NQ-3	51.4	100	95						
B-24	NQ-4	56.4	100	80	880	0.24	1450	141		
B-24	NQ-5	61.4	90	70	890	0.09	1590	145		
B-26	NQ-1	38.4	96	96	475			112		
B-26	NQ-2	42.8	100	75						
B-26	NQ-3	47.8	98	87	580			123		
B-26	NQ-4	52.8	98	87	410	N/A	N/A	119		
B-26	NQ-5	57.8	57	43	1,250	N/A	N/A	146		
B-27	NQ-1	42.6	13	0						
B-27	NQ-2	47.6	88	55	385			120		
B-27	NQ-3	52.6	91	80	510			122		
B-27	NQ-4	57.6	88	48	6,330	0.19	5430	155		
B-27	NQ-5	62.6	83	53	730	0.14	209	149		
B-28	NQ-1	38.7	89	89	300			111		
B-28	NQ-2	42.0	99	93	475			125		
B-28	NQ-3	47.0	97	93	420			119		
B-28	NQ-4	52.0	92	63	340			122		
B-28	NQ-5	57.0	95	90	3,690	0.26	4490	151		
B-28	NQ-6	62.0	8	0						
B-30	NQ-1	46.3	95	67						
B-30	NQ-2	51.3	100	87	480			116		
B-30	NQ-3	56.3	100	95	565			116		
B-30	NQ-4	61.3	95	53	2,320	0.25	1840	144		
B-30	NQ-5	66.3	73	43						
B-31	NQ-1	45.8	92	28						
B-31	NQ-2	50.7	95	51	410			122		
B-31	NQ-3	55.7	76	18	300			119		
B-31	NQ-4	60.7	85	48	1,785			137		
B-31	NQ-5	65.7	93	71	2,270	0.46	5230	151		
B-31	NQ-6	70.7	36	18						
B-31	NQ-7	75.7	0	0						
B-32	NQ-1	55.0	83	69						
B-32	NQ-2	56.5	100	100	515			109		
B-32	NQ-3	61.5	95	98	770	0.19	799	132		
B-32	NQ-4	66.5	68	35	550	N/A	N/A	127		
B-32	NQ-5	71.5	43	32						
B-35	NQ-1	41.1	100	90	430			118		
B-35	NQ-2	46.1	100	88	595			118		

Rock Coring Summary

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PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-35	NQ-3	51.1	0	0						
B-35	NQ-4	56.1	0	0						
B-35	NQ-5	61.1	0	0						
B-36	NQ-1	45.5	97	97	390			117		
B-36	NQ-2	48.2	100	80	375			122		
B-36	NQ-3	53.2	100	78						
B-36	NQ-4	58.2	97	62	450			121		
B-36	NQ-5	63.2	100	82						
B-36	NQ-6	68.2	95	82	220			125		
B-36	NQ-7	73.2	33	27	510			130		
B-36	NQ-8	78.2	0	0						
B-38	NQ-1	63.8	89	89	600			104		
B-38	NQ-2	66.1	98	82	460			127		
B-38	NQ-3	71.1	97	68	1250	0.15	1560	139		
B-38	NQ-4	76.1	80	42	830	0.21	70	144		
B-38	NQ-5	81.1	42	0						
B-38	NQ-6.1	86.1	40	8						
B-38	NQ-7	91.1	3	3						
B-38	NQ-8	96.1	37	8						
B-38	NQ-9	101.1	0	0						
B-39	NQ-1	43.5	98	91	420			121		
B-39	NQ-2	48.3	95	83						
B-39	NQ-3	53.3	95	36	325			116		
B-39	NQ-4	58.3	98	70						
B-39	NQ-5	63.3	100	61	510			119		
B-39	NQ-6	68.3	93	48						
B-39	NQ-7	73.3	88	38	890	0.67	445	143		
B-39	NQ-8	78.3	43	16	80			120		
B-40	NQ-1	45.5	67	0						
B-40	NQ-2	47.0	98	27	270			121		
B-40	NQ-3	52.0	85	8						
B-40	NQ-4	57.0	90	23	270			118		
B-40	NQ-5	62.0	93	15						
B-40	NQ-6	67.0	93	36	1390	0.78	828	140		
B-40	NQ-7	72.0	68	45	1370	0.49	831	144		
B-40	NQ-8	77.0	85	43	145			115		
B-40	NQ-9	82.0	5	0						
B-42	NQ-1	72.9	18	0						
B-42	NQ-2	77.9	38	18						
B-42	NQ-3	82.9	82	73	265			114		
B-42	NQ-4	87.9	65	18						
B-42	NQ-5	92.9	63	17	8040	0.06	2680	150		
B-42	NQ-6.1	97.9	82	65	120			101		

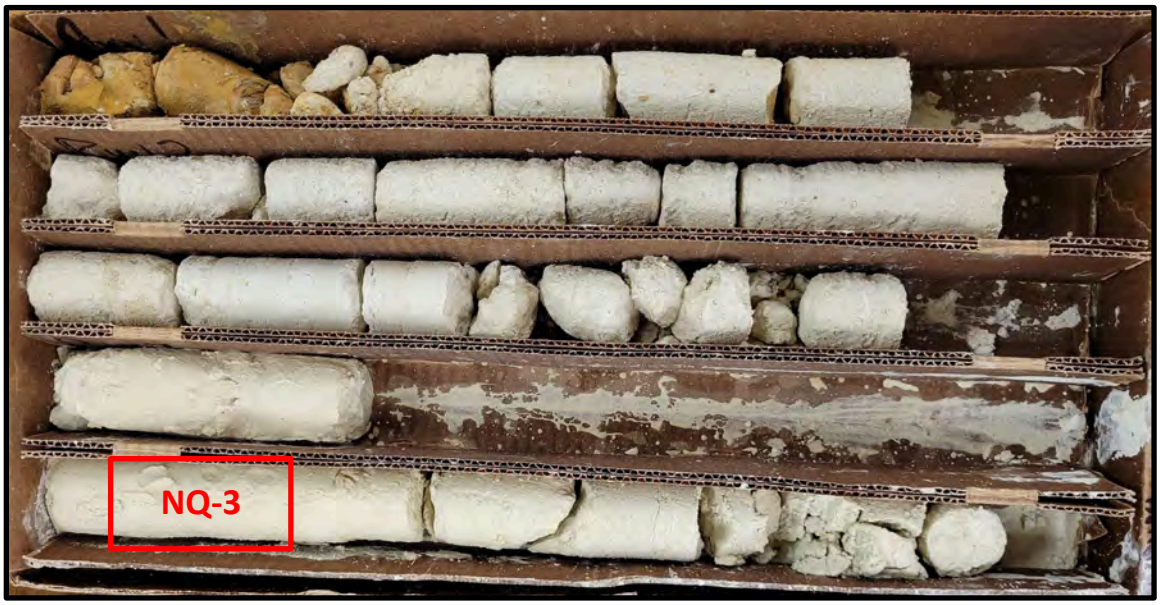
Rock Coring Summary

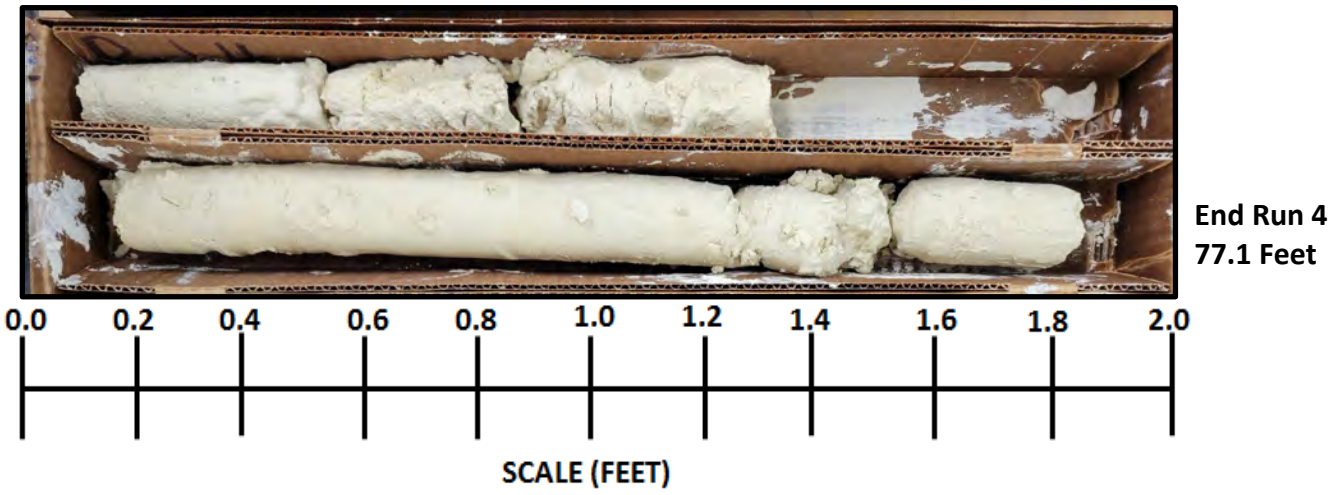
PROJECT ID P041130 **PROJECT NAME** I-95 NB/SB over Lake Marion Bridge Replacement

PROJECT COUNTY Clarendon/Orangeburg

Borehole	Core Run Number	Core Run Top Depth	REC (%)	RQD (%)	q_u (psi)	Poisson's Ratio	Elastic Modulus (ksi)	Unit Weight (pcf)	RMR	GSI
B-42	NQ-7	102.9	100	63	185			102		
B-42	NQ-8	107.9	53	0						
B-42	NQ-9	112.9	65	15	150			101		
B-42	NQ-10	117.9	54	21						
B-43	NQ-1	51.6	91	80	490			119		
B-43	NQ-2	56.5	95	88						
B-43	NQ-3	61.5	100	43	450			122		
B-43	NQ-4	66.5	93	65	915			138		
B-43	NQ-5	71.5	20	0						
B-43	NQ-6	76.5	26	11	2640	0.36	2540	153		
B-43	NQ-7	81.5	0	0						
B-43	NQ-8.1	100.1	86	69	315			100		
B-43	NQ-9.1	103.2	95	73	260			102		
B-43	NQ-10.1	108.2	100	65						
B-44	NQ-1	64.0	54	14						
B-44	NQ-2	66.3	53	0						
B-44	NQ-3	71.3	93	43	410			122		
B-44	NQ-4	76.3	88	78						
B-44	NQ-5	81.3	98	52	2420	0.24	1420	146		
B-44	NQ-6	86.3	0	0						
B-47	NQ-1	43.0	99	40	470			121		
B-47	NQ-2	46.6	77	42						
B-47	NQ-3	51.6	77	31						
B-47	NQ-4	56.6	80	80	580			108		
B-47	NQ-5	61.6	97	97						
B-47	NQ-6	66.6	98	78						
B-47	NQ-7	71.6	36	14						
B-48	NQ-1	35.3	92	35	315			133		
B-48	NQ-2	36.4	98	85	410			121		
B-48	NQ-3	41.4	100	97						
B-48	NQ-4	46.4	98	85						
B-48	NQ-5	51.4	100	97	610			121		
B-48	NQ-6	56.4	93	83						
B-48	NQ-7	61.4	90	65	1690	0.09	900	146		
B-48	NQ-8	66.4	73	58	2100	0.19	2840	156		
B-48	NQ-9	71.4	28	0						
B-51	NQ-1	41.5	87	62	460			118		
B-51	NQ-2	46.1	83	48						
B-51	NQ-3	51.1	88	47						
B-51	NQ-4	56.1	97	75	580			125		
B-51	NQ-5	61.1	98	92						
B-51	NQ-6	66.1	88	60						

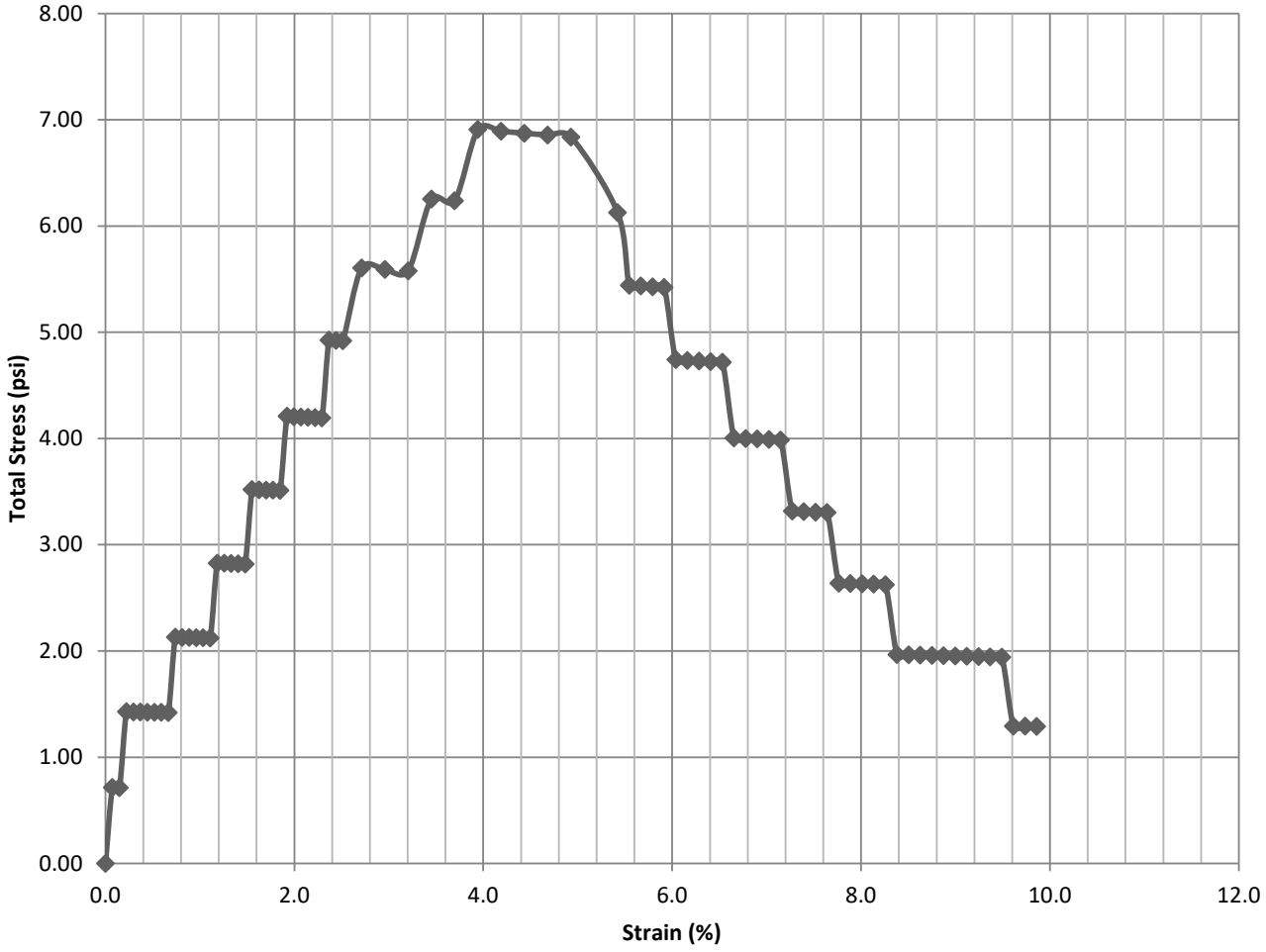
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-2





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0364



Average Initial Diameter (Do):	1.790 in.	Sample Volume:	10.21 in^3
Average Initial Height (Lo):	4.057 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.516 in^2	Sample Weight:	0.710 lbs.
In-Situ Unit Weight:	120.2 pcf	L/D Ratio:	2.266
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-2 / NQ-3		
Depth/Elevation	67.8' - 68.1'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: SILT with Sand (ML/A-4)

$\sigma_{c\text{-}ULT}$ = 6.9 psi ε_{ULT} = 4.0%

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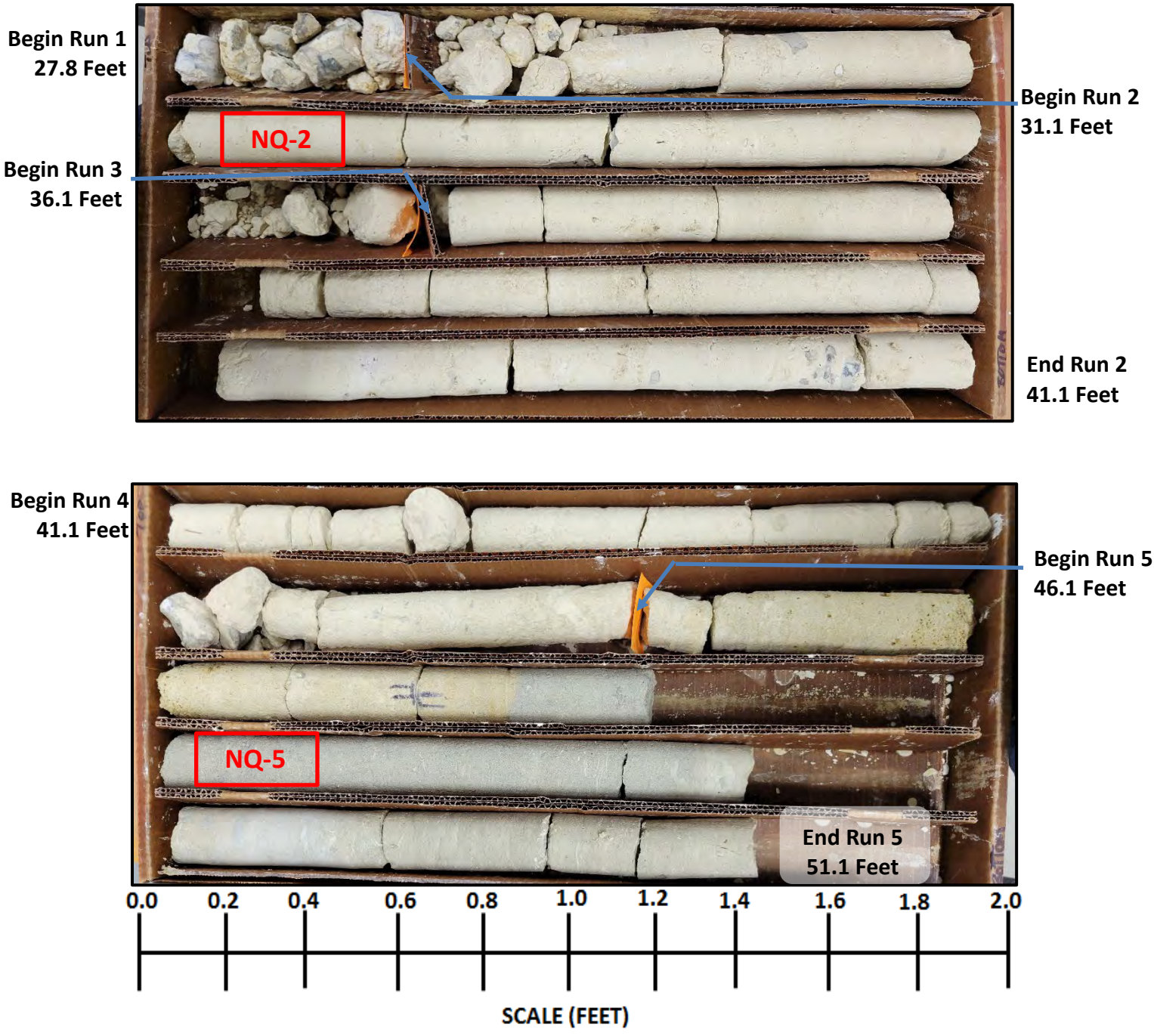
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0172
Sample Location:	B-2 / NQ-3		**Depth of Sample:**	67.8' - 68.1"
Tested By:	W. Pitts	**Date Tested:**	3/3/2023	

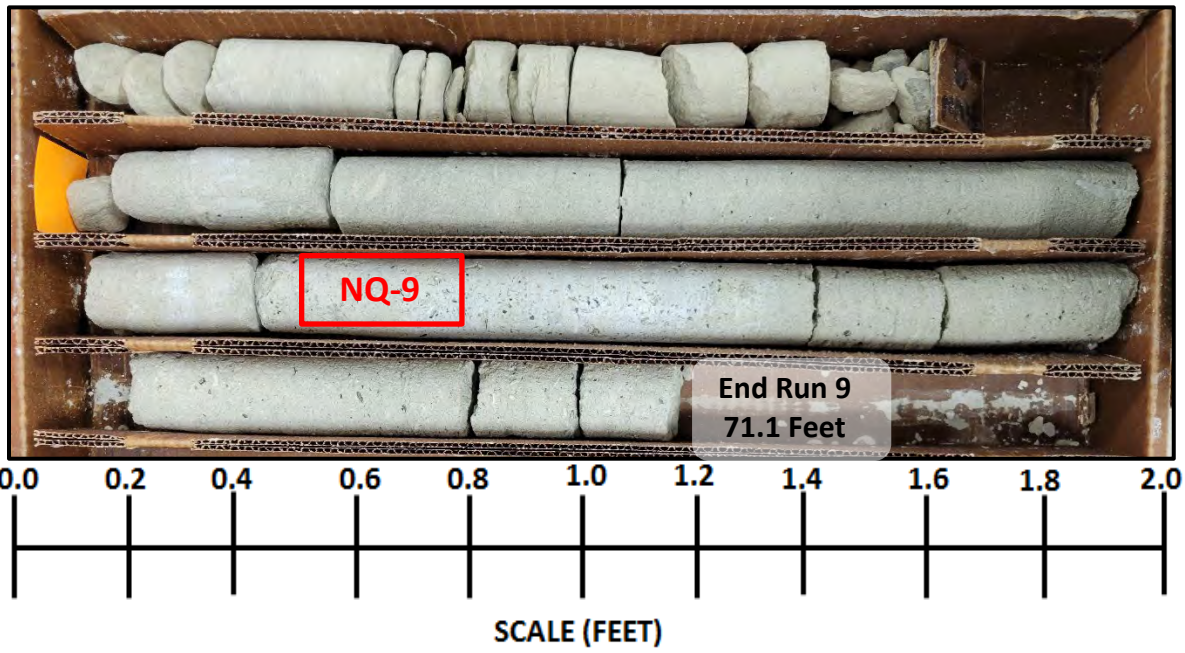
Before Break

After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-4



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-4

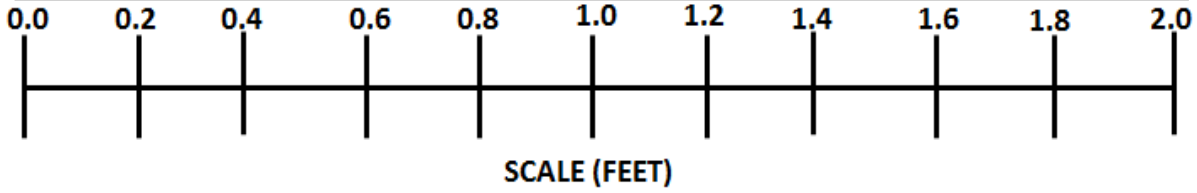


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-4

Begin Run 10
71.1 Feet

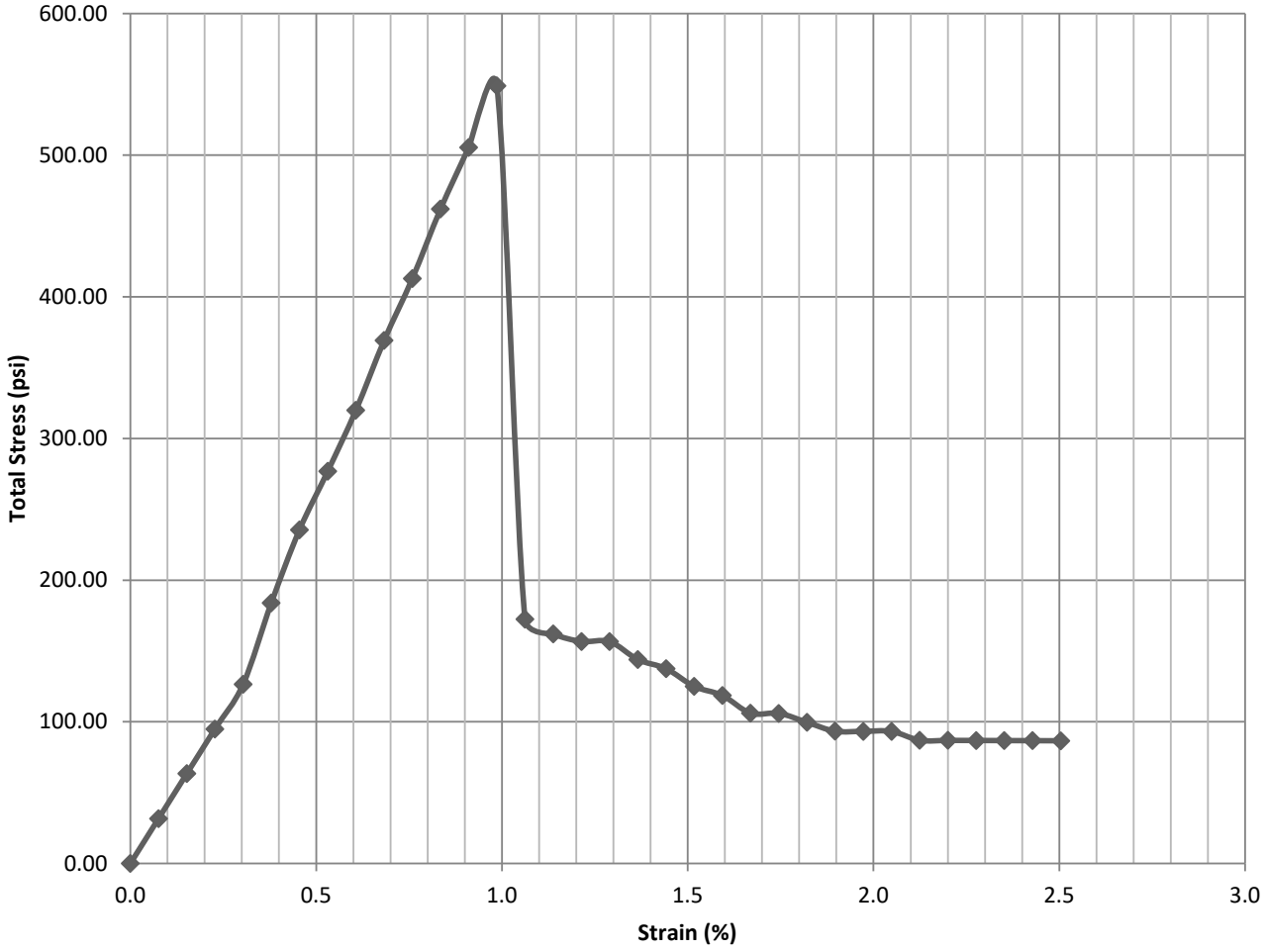
Begin Run 11
76.1 Feet

Begin Run 12
81.1 Feet



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.67 in^3
Average Initial Height (Lo):	3.954 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.715 lbs.
In-Situ Unit Weight:	115.7 pcf	L/D Ratio:	2.133
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-2		
Depth/Elevation	32.6' - 32.9'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 550 psi ε_{ULT} = 1.0%

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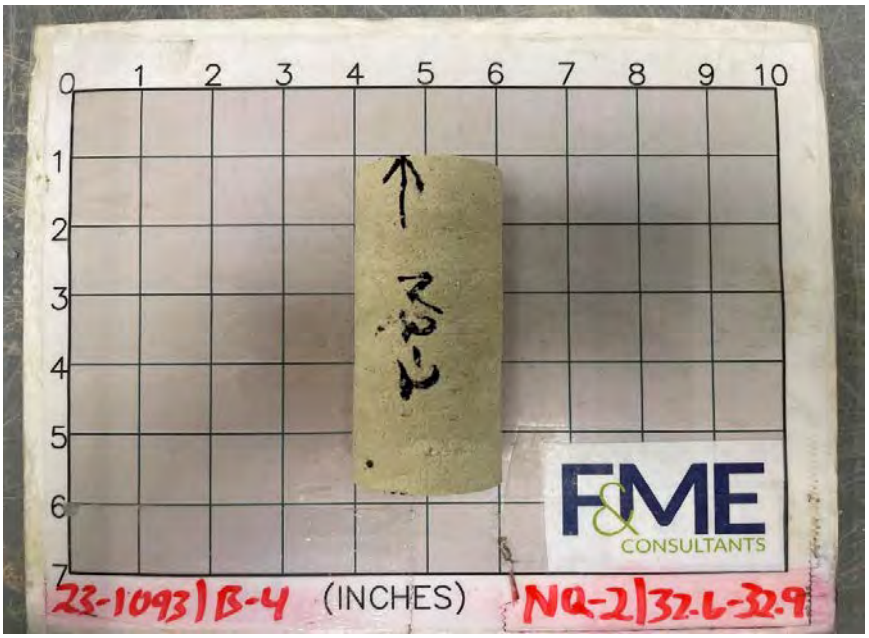
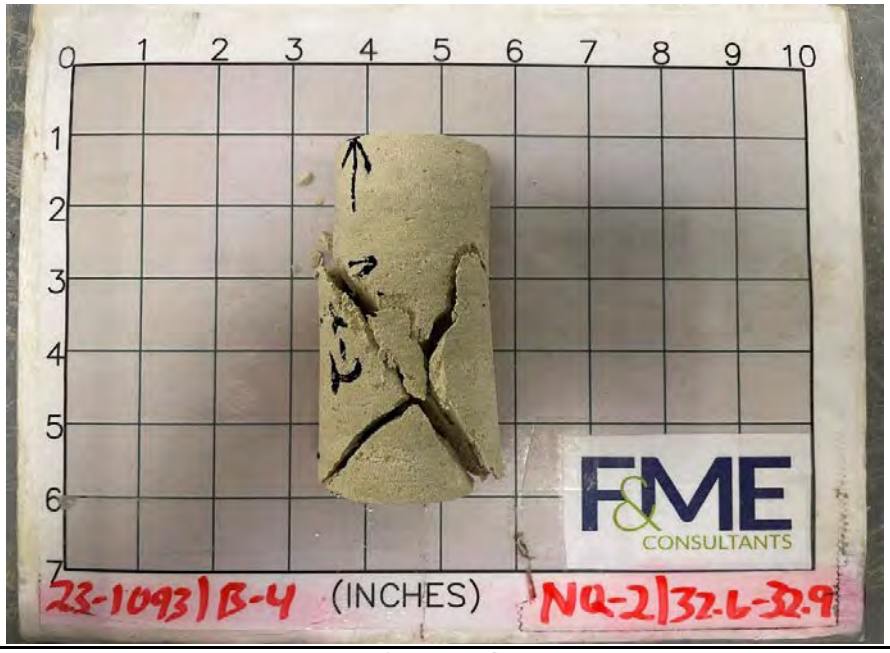
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1093
Sample Location:	B-4 / NQ-2		Depth of Sample:	32.6' - 32.9'
Tested By:	W. Pitts	Date Tested:	5/3/2023	



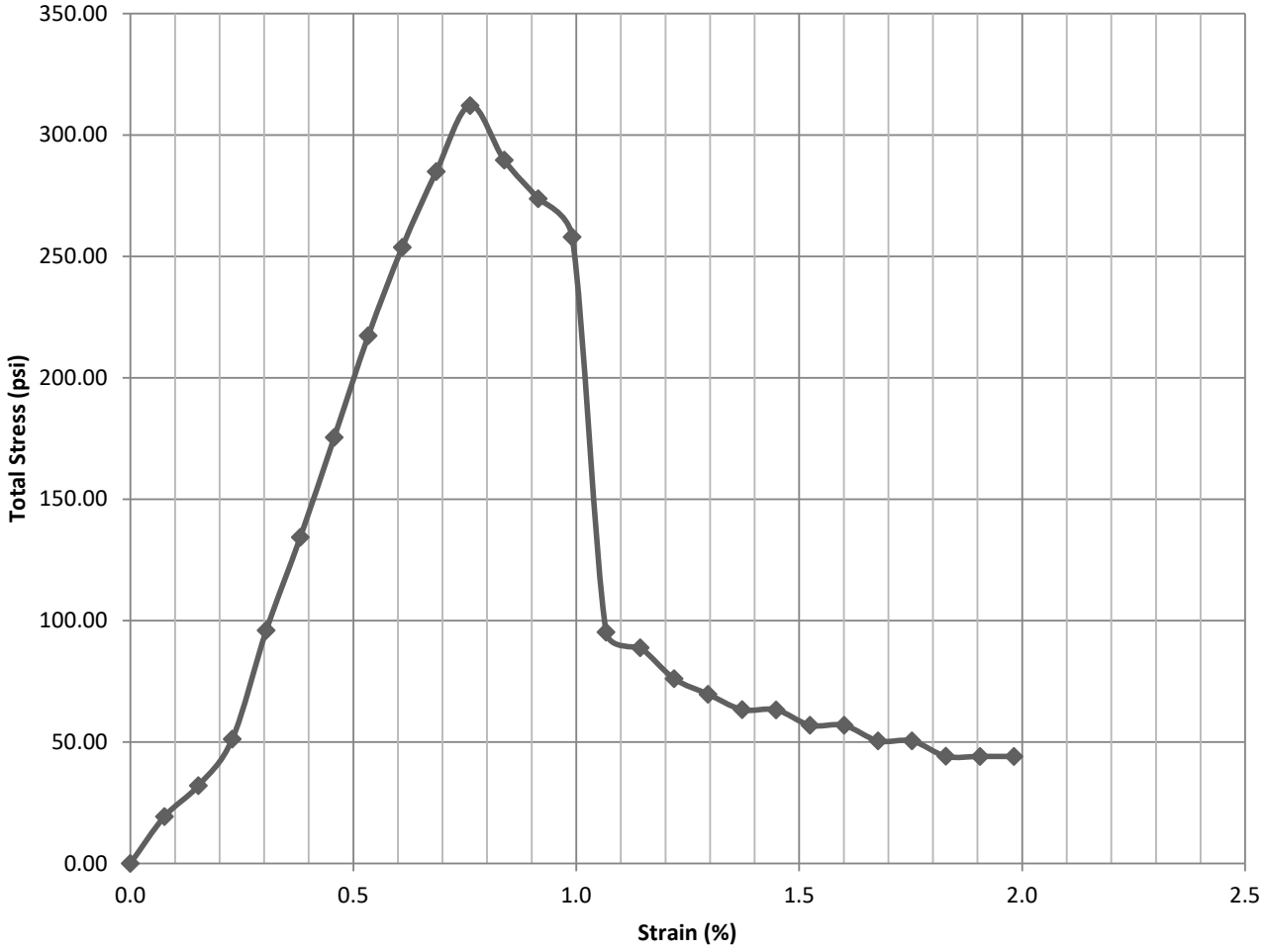
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.843 in.	Sample Volume:	10.50 in^3
Average Initial Height (Lo):	3.936 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.668 in^2	Sample Weight:	0.738 lbs.
In-Situ Unit Weight:	121.4 pcf	L/D Ratio:	2.136
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-5		
Depth/Elevation	48.2' - 48.5'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 310 psi ε_{ULT} = 0.8%

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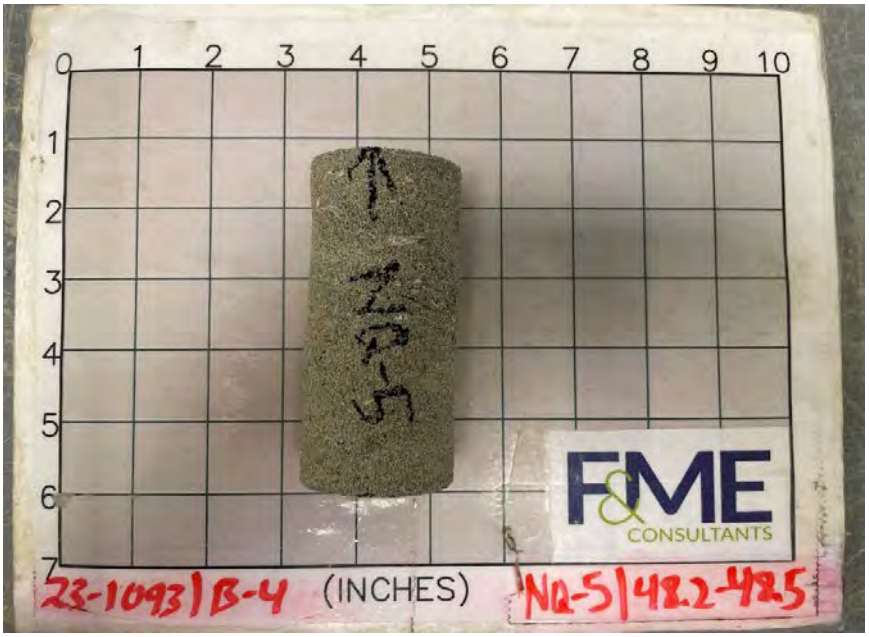
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1093
Sample Location:	B-4 / NQ-5		**Depth of Sample:**	48.2' - 48.5'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	

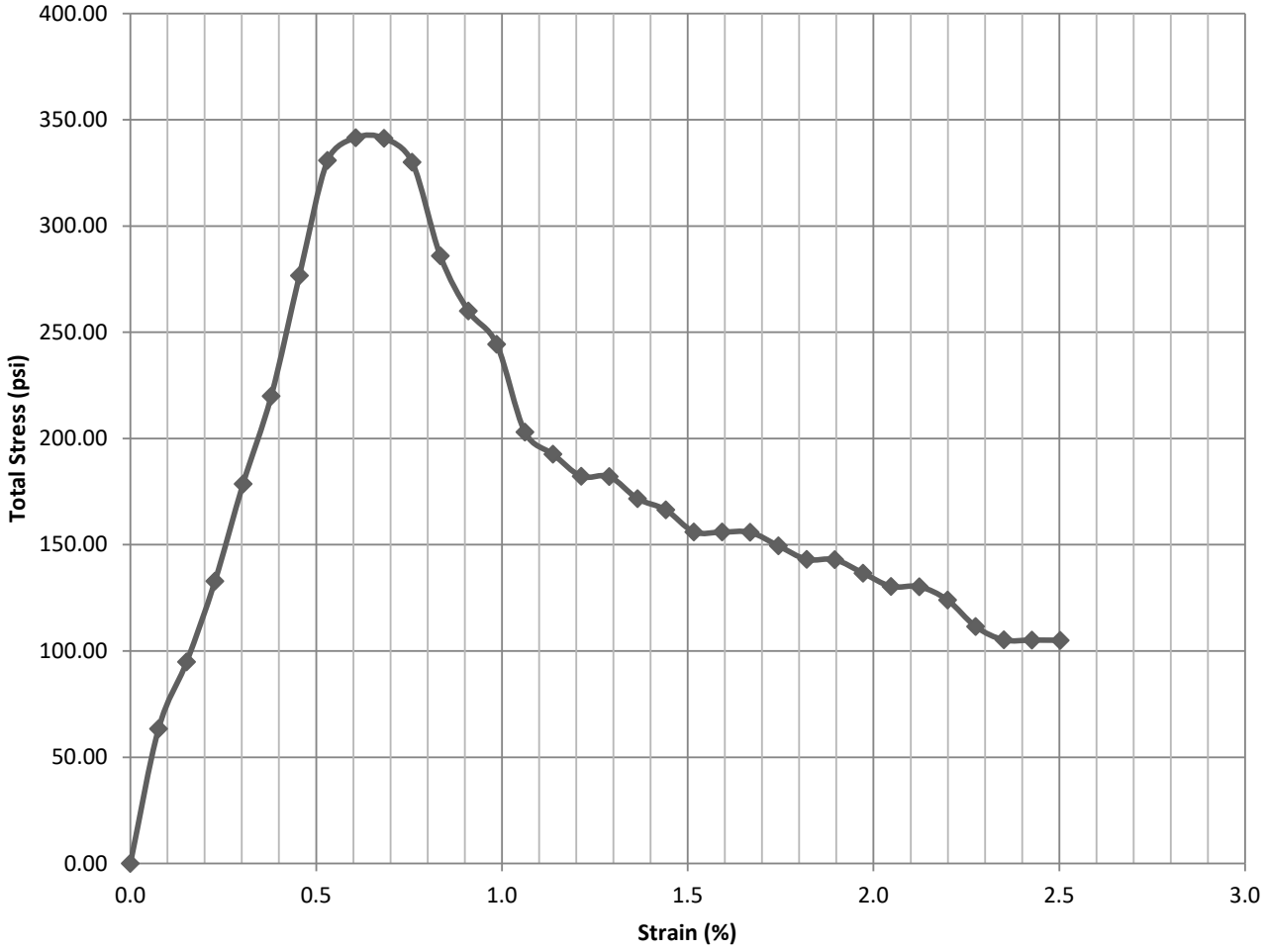


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.855 in.	Sample Volume:	10.69 in^3
Average Initial Height (Lo):	3.956 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.703 in^2	Sample Weight:	0.752 lbs.
In-Situ Unit Weight:	121.5 pcf	L/D Ratio:	2.133
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-6		
Depth/Elevation	51.9' - 52.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 340 psi ε_{ULT} = 0.6%

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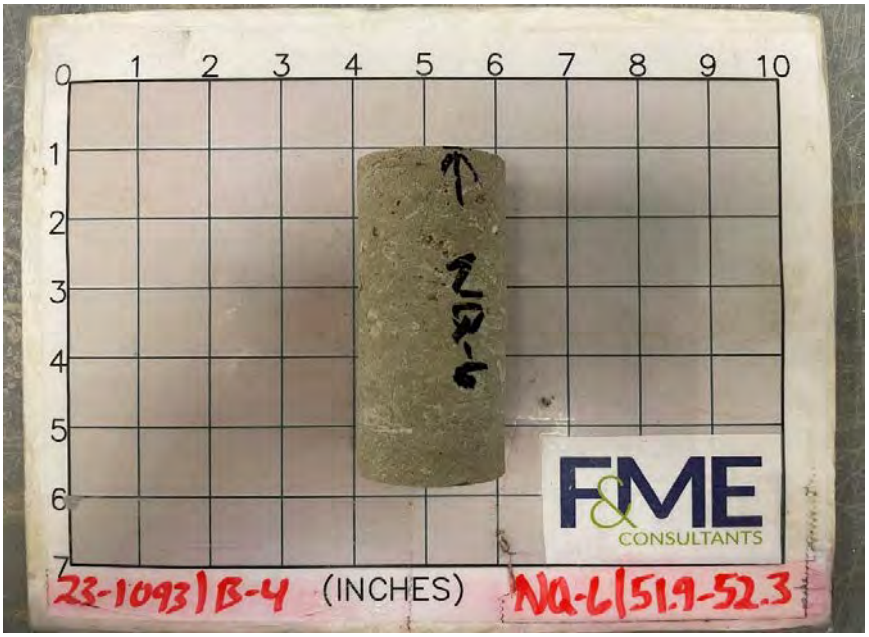
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1093
Sample Location:	B-4 / NQ-6		**Depth of Sample:**	51.9' - 52.3'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	

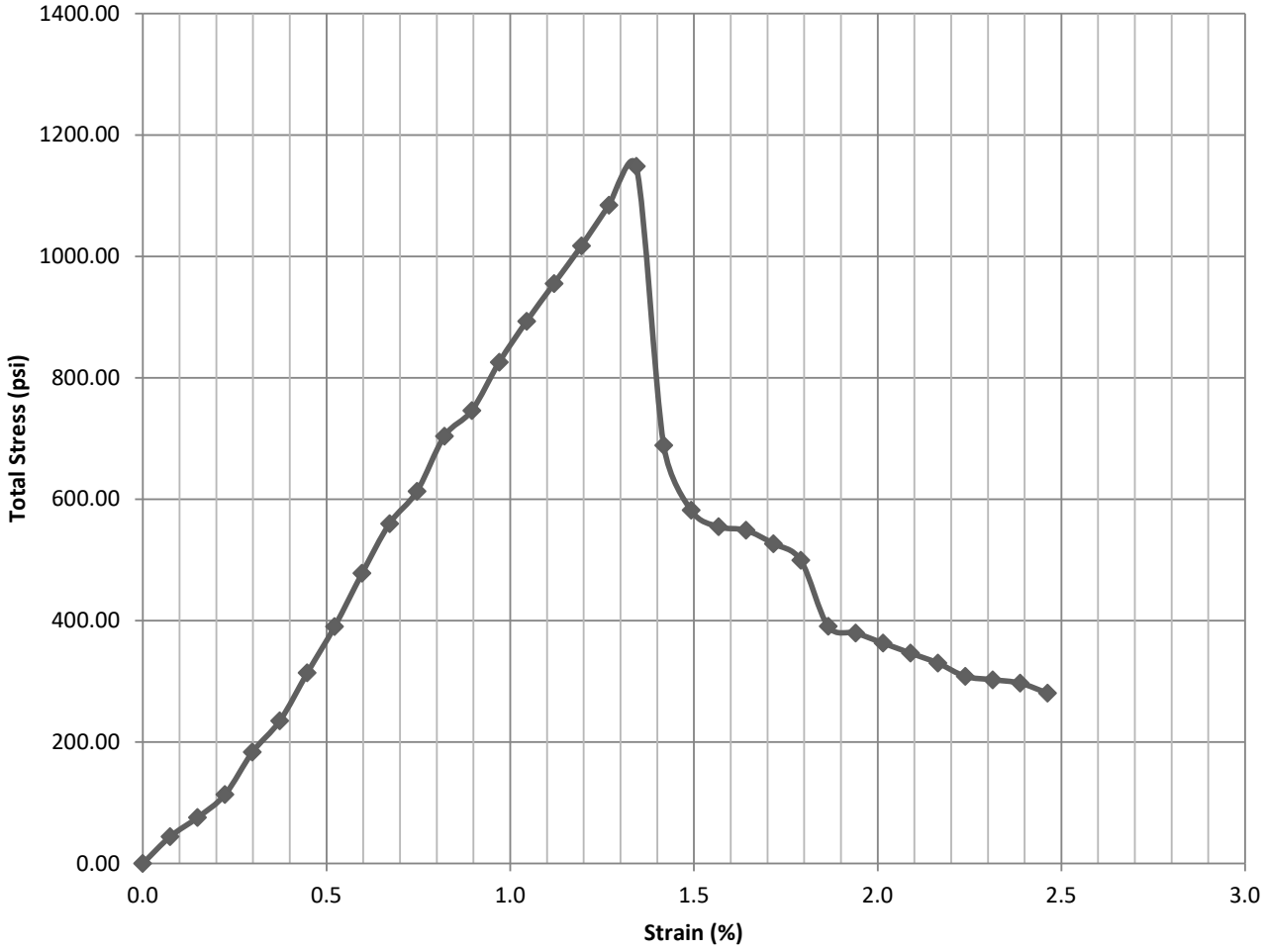


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.857 in.	Sample Volume:	10.89 in^3
Average Initial Height (Lo):	4.021 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.708 in^2	Sample Weight:	0.870 lbs.
In-Situ Unit Weight:	138.0 pcf	L/D Ratio:	2.165
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-9		
Depth/Elevation	68.5' - 68.9'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1150 psi ε_{ULT} = 1.3%

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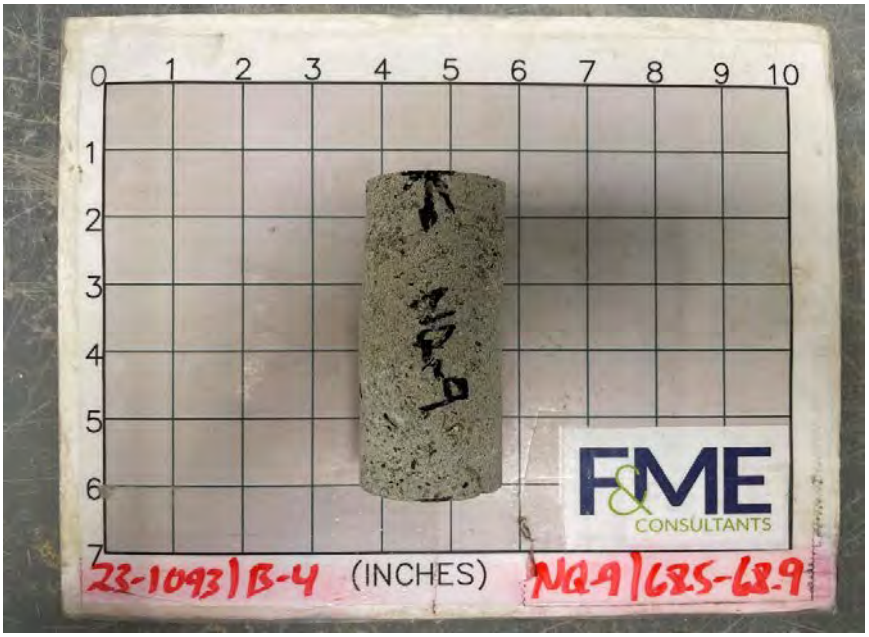
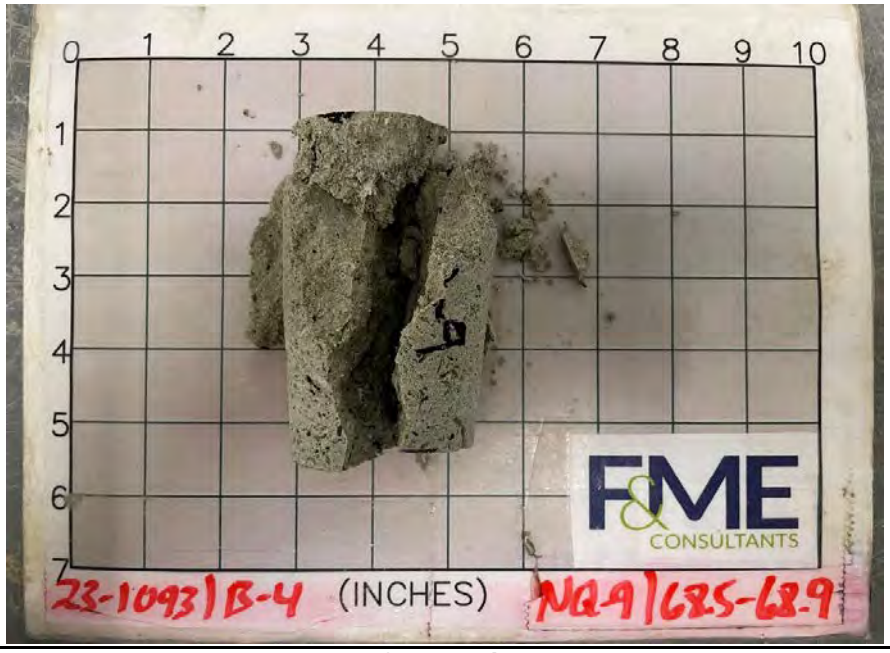
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1093
Sample Location:	B-4 / NQ-9		**Depth of Sample:**	68.5' - 68.9'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	



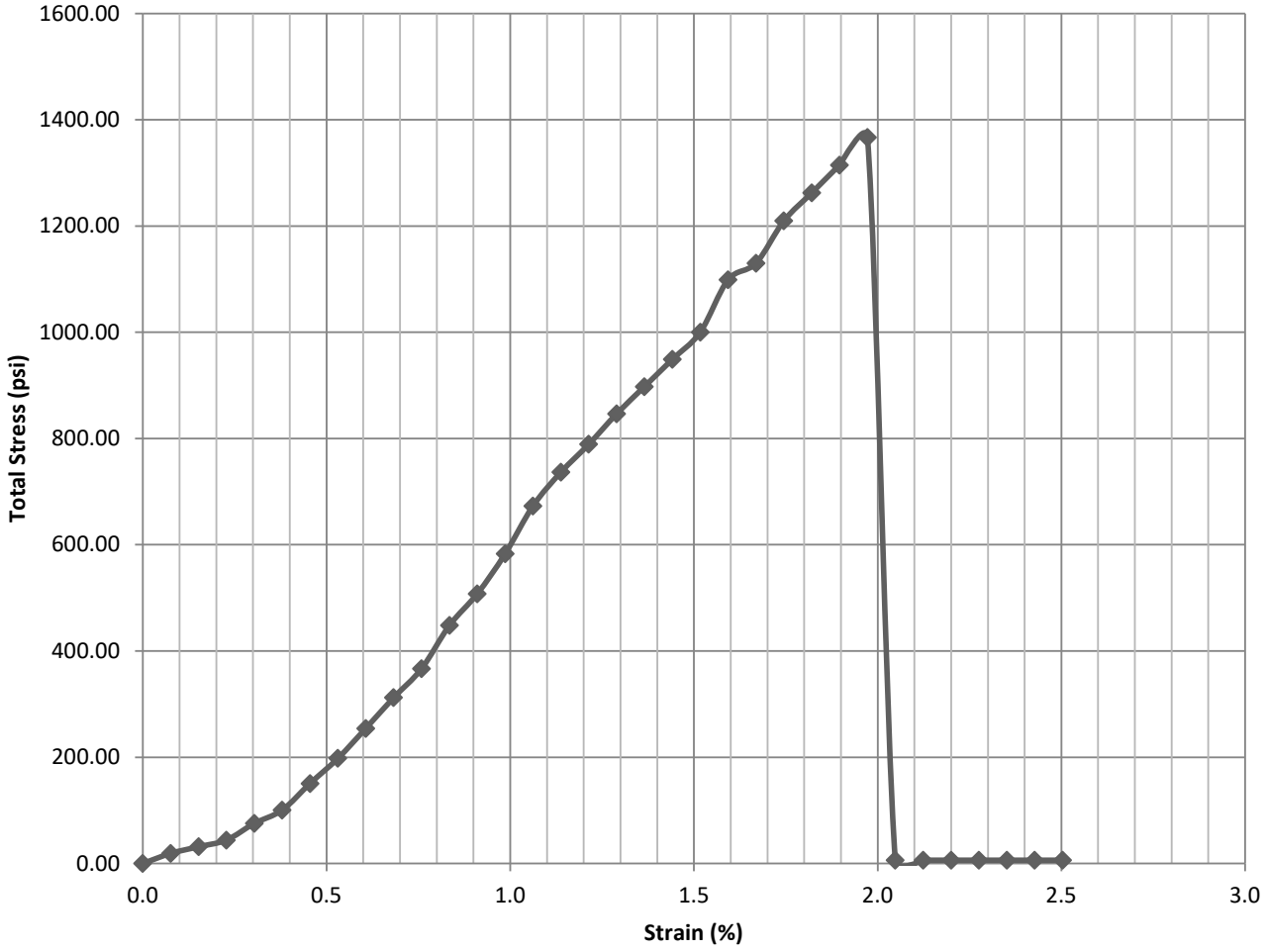
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.860 in.	Sample Volume:	10.75 in^3
Average Initial Height (Lo):	3.955 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.717 in^2	Sample Weight:	0.875 lbs.
In-Situ Unit Weight:	140.7 pcf	L/D Ratio:	2.126
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-11		
Depth/Elevation	77.3' - 77.6'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1365 psi ε_{ULT} = 2.0%

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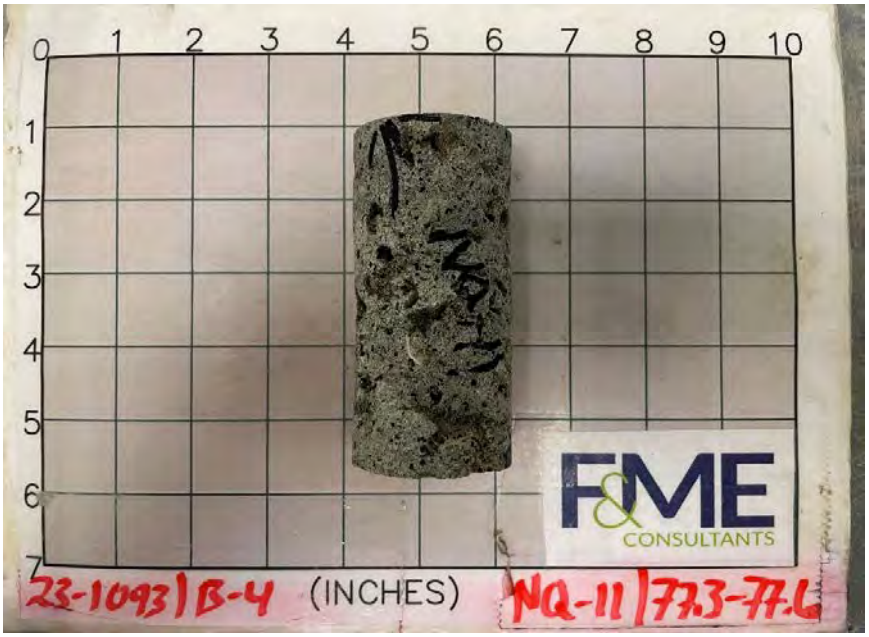
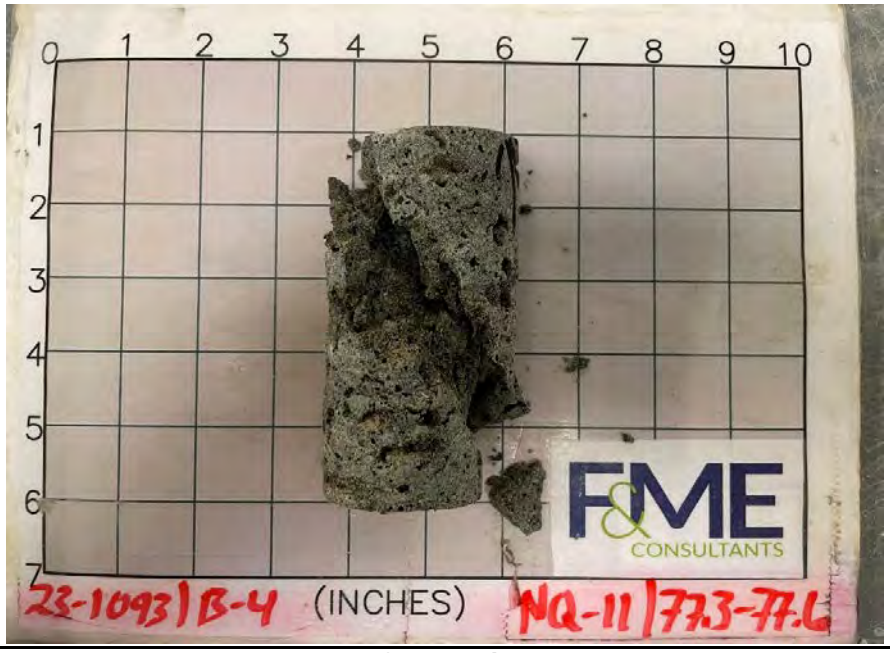
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1093
Sample Location:	B-4 / NQ-11		**Depth of Sample:**	77.3' - 77.6'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	



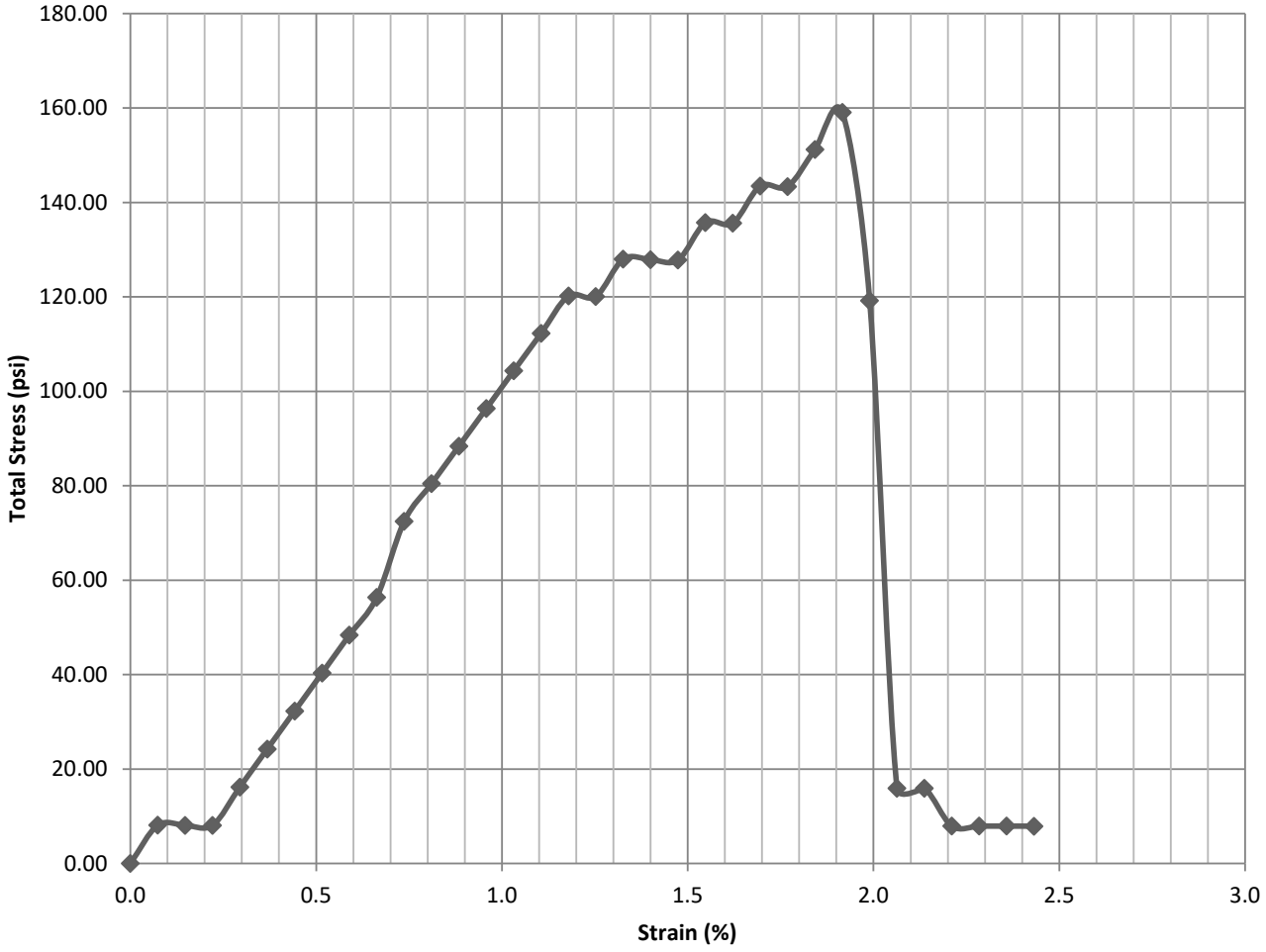
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1093



Average Initial Diameter (Do):	1.640 in.	Sample Volume:	8.60 in^3
Average Initial Height (Lo):	4.071 in.	Sample Volume:	0.005 ft^3
Average Initial Area (Ao):	2.112 in^2	Sample Weight:	0.572 lbs.
In-Situ Unit Weight:	114.9 pcf	L/D Ratio:	2.482
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-4 / NQ-12		
Depth/Elevation	81.3' - 81.6'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 160 psi ε_{ULT} = 1.9%

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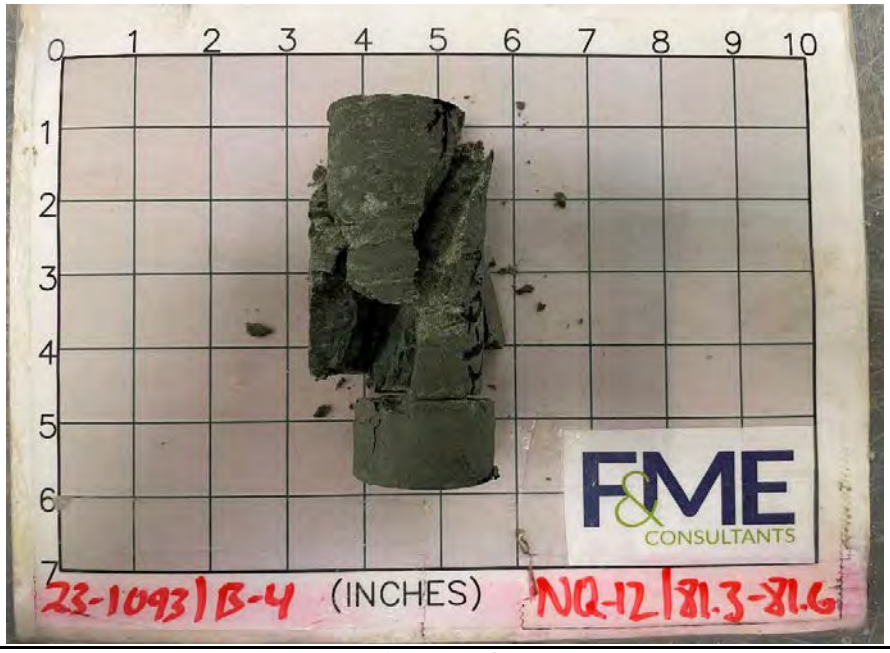
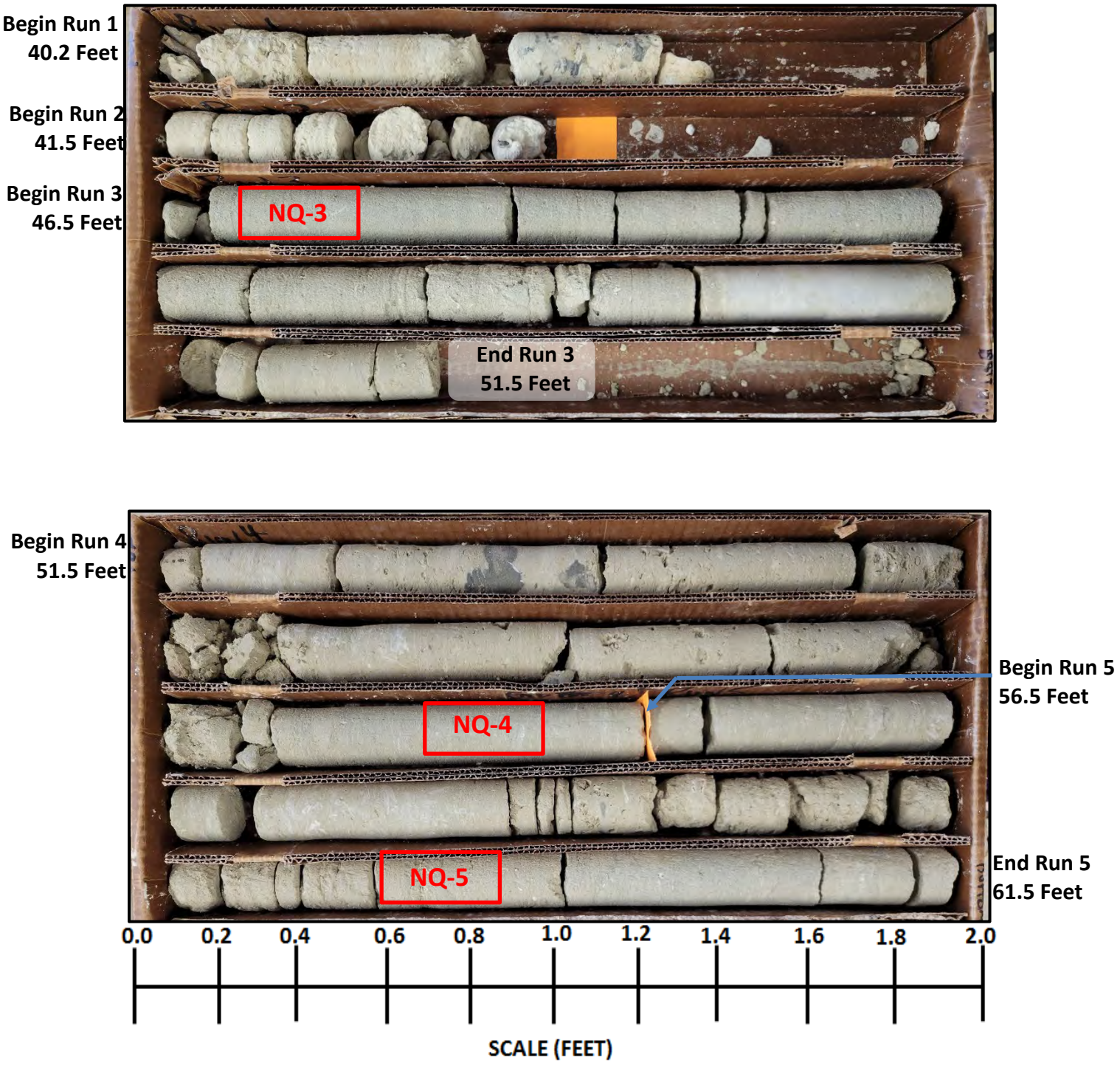
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1093
Sample Location:	B-4 / NQ-12		**Depth of Sample:**	81.3' - 81.6'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	

Before Break



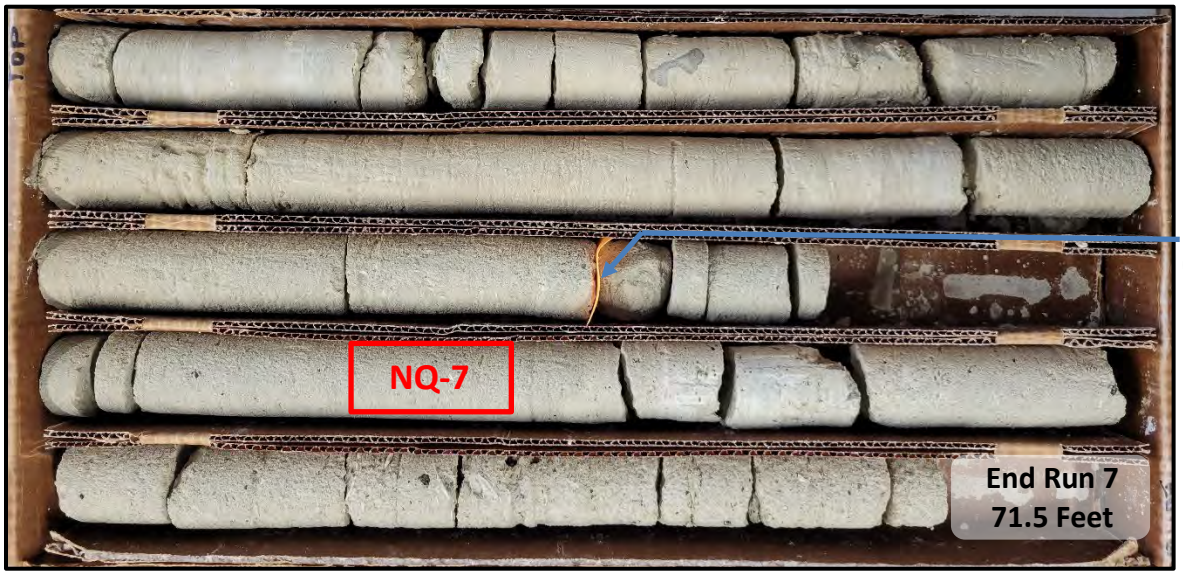
After Break

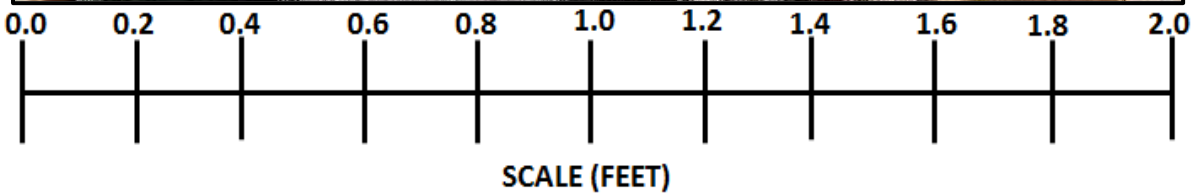
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-5



I-95 Bridge over Lake Marion DB Prep

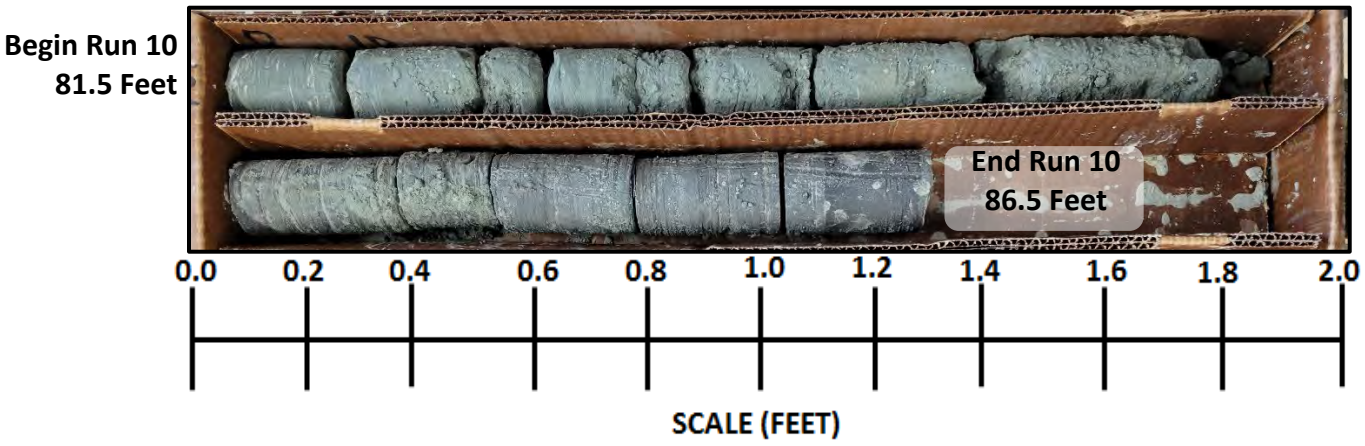
CORE PHOTOGRAPHS: B-5





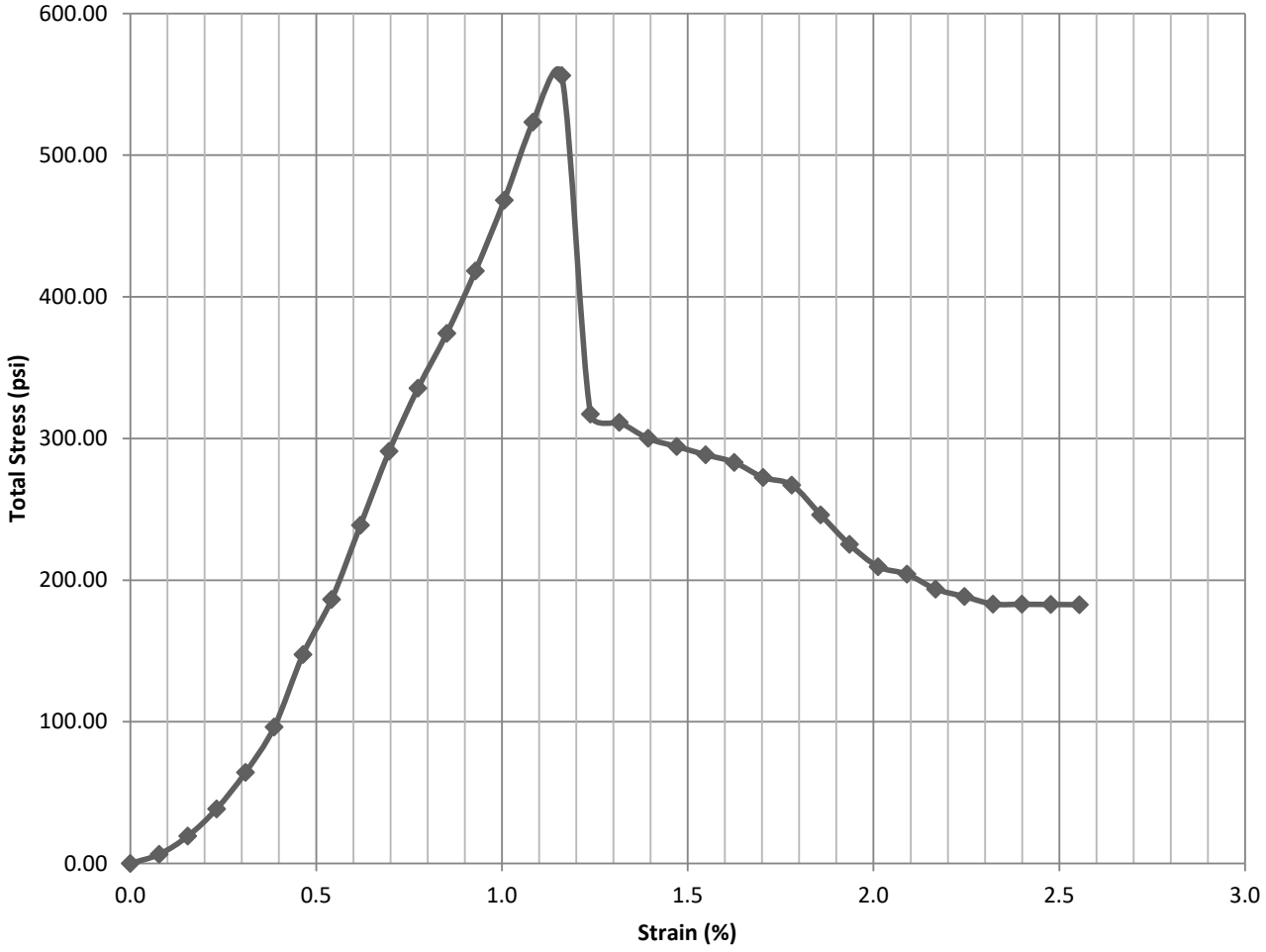
I-95 Bridge over Lake Marion DB Prep

CORE PHOTOGRAPHS: B-5



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1870



Average Initial Diameter (Do):	1.840 in.	Sample Volume:	10.31 in^3
Average Initial Height (Lo):	3.876 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.659 in^2	Sample Weight:	0.752 lbs.
In-Situ Unit Weight:	126.0 pcf	L/D Ratio:	2.107
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/30/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-5 / NQ-3		
Depth/Elevation	46.7' - 47.0'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 555 psi ε_{ULT} = 1.2%

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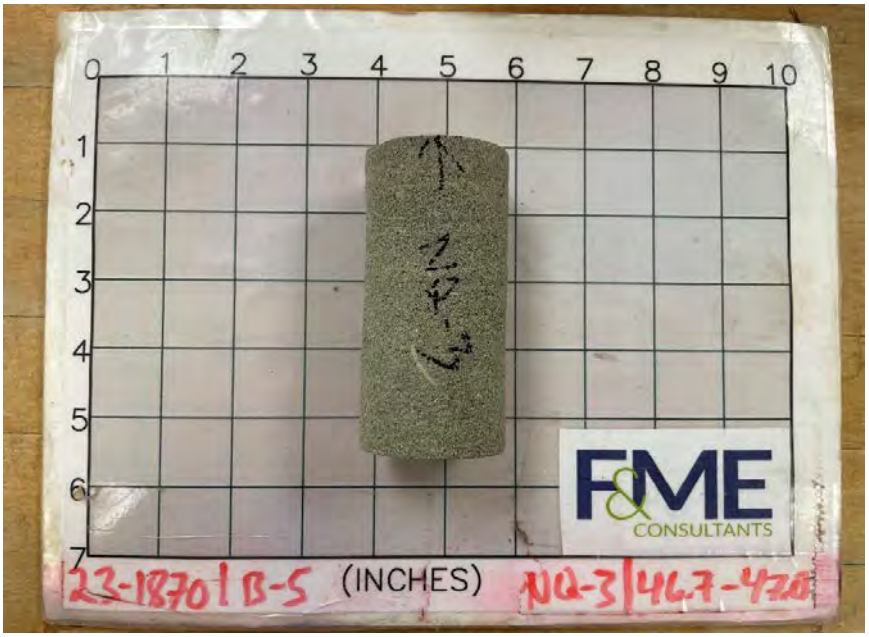
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1870
Sample Location:	B-5 / NQ-3		Depth of Sample:	46.7' - 47.0'
Tested By:	W. Pitts	Date Tested:	6/30/2023	

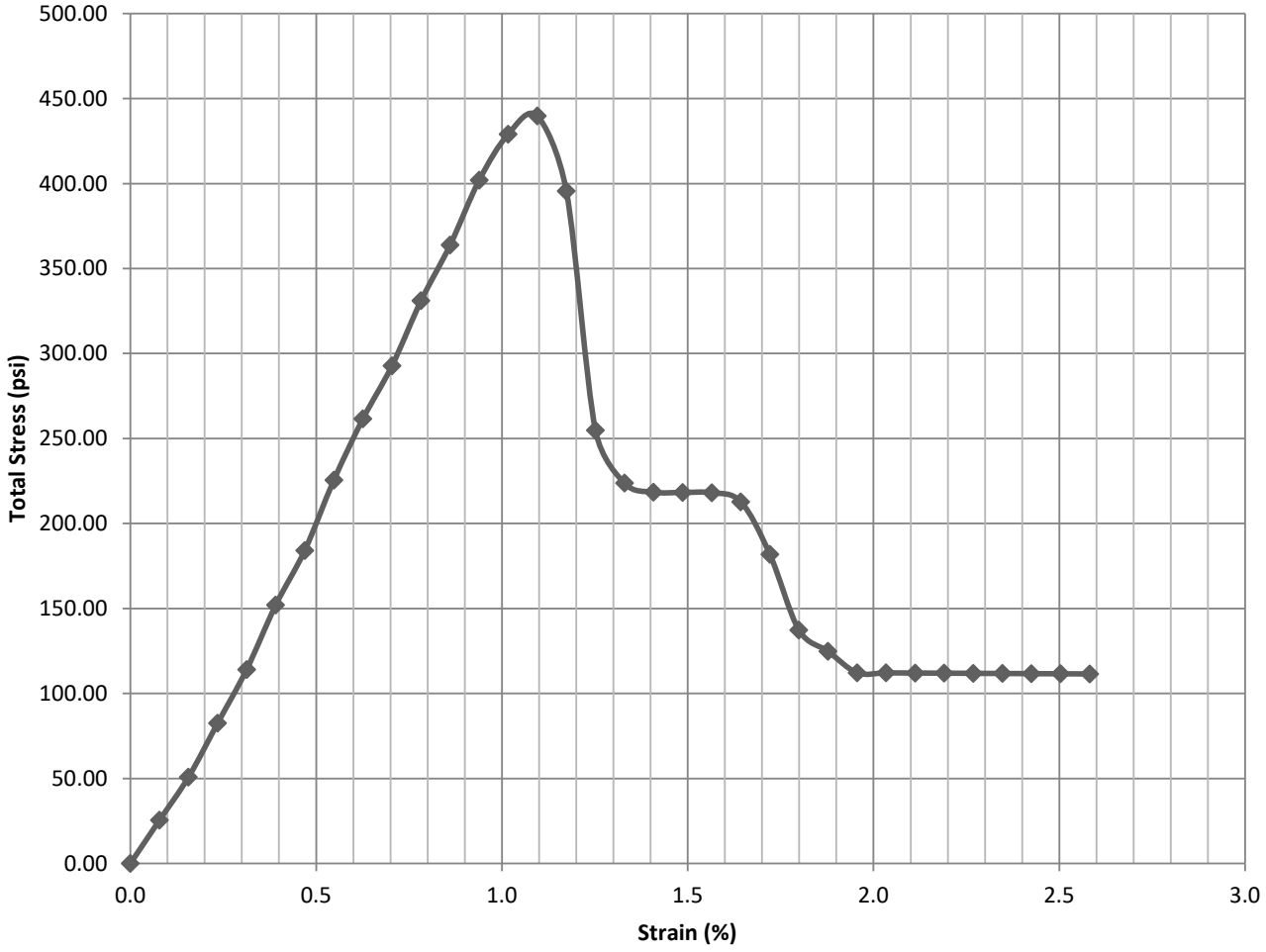


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1870



Average Initial Diameter (Do):	1.852 in.	Sample Volume:	10.33 in^3
Average Initial Height (Lo):	3.835 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.694 in^2	Sample Weight:	0.752 lbs.
In-Situ Unit Weight:	125.8 pcf	L/D Ratio:	2.071
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/30/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-5 / NQ-4		
Depth/Elevation	55.9' - 56.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 440 psi ε_{ULT} = 1.1%

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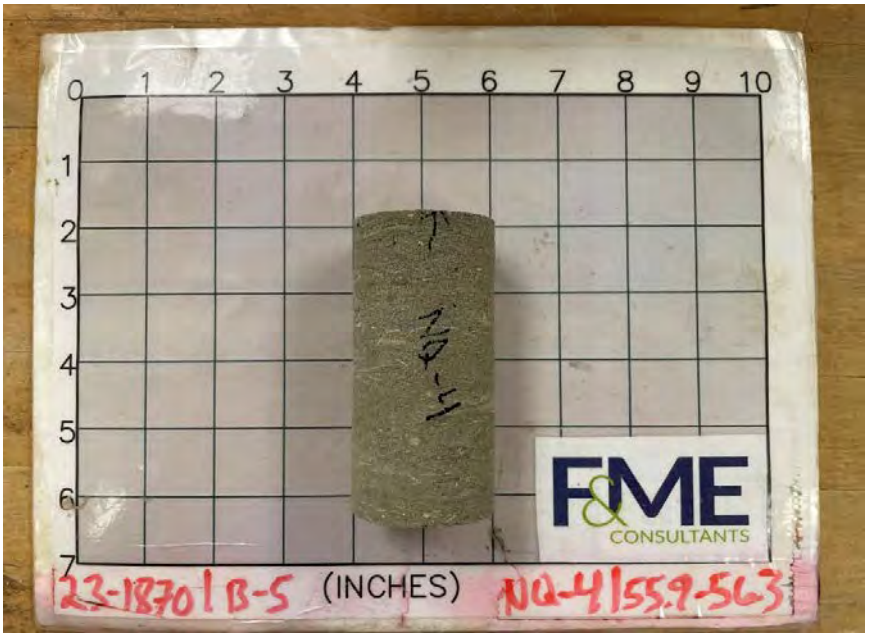
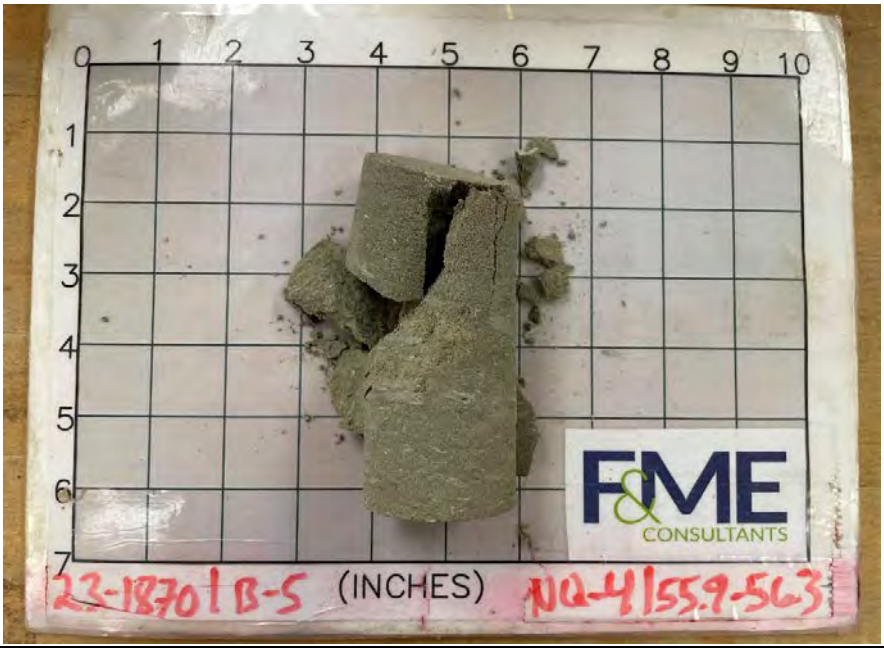
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1870
Sample Location:	B-5 / NQ-4		**Depth of Sample:**	55.9' - 56.3'
Tested By:	W. Pitts	**Date Tested:**	6/30/2023	



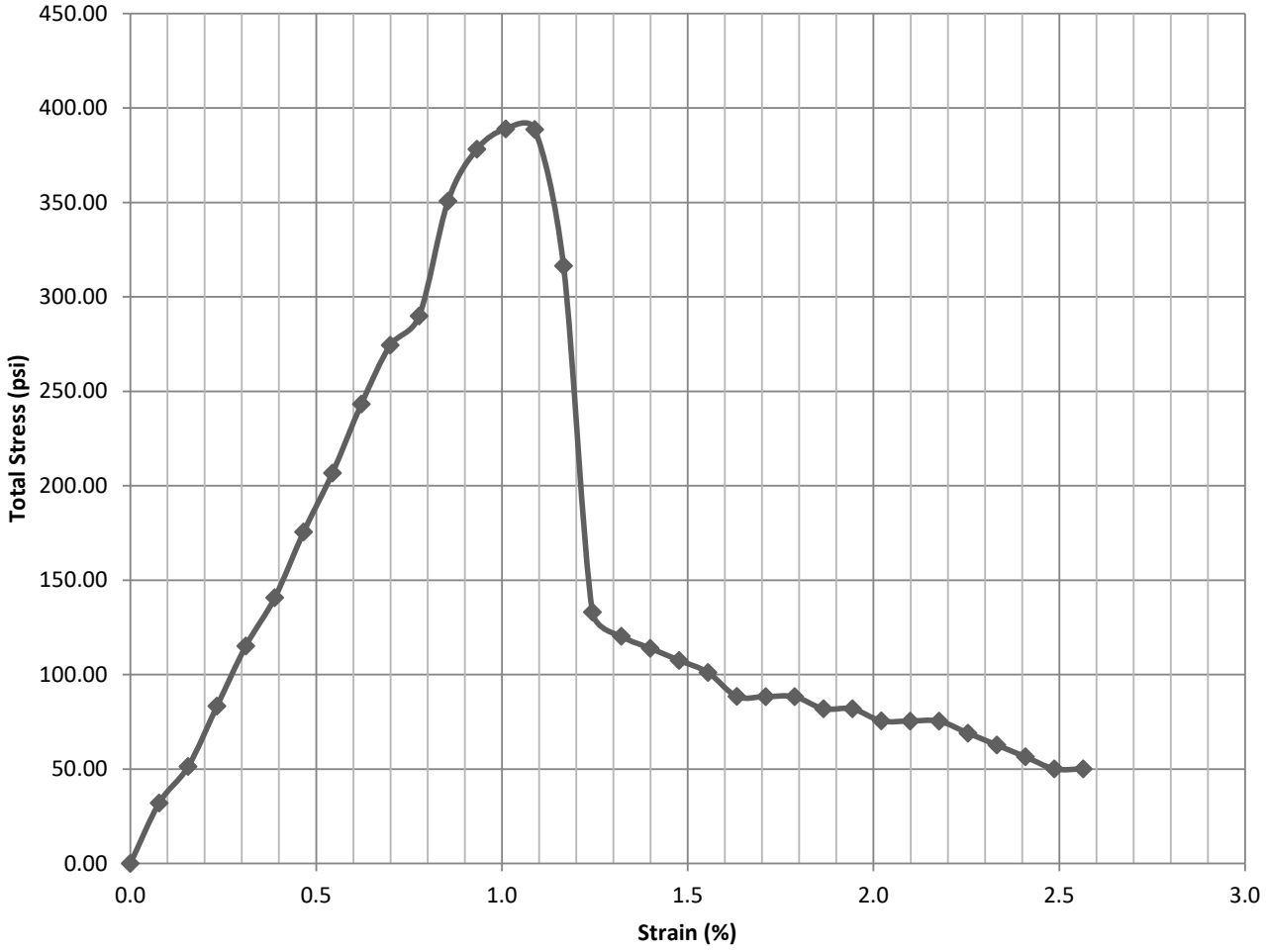
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1870



Average Initial Diameter (Do):	1.843 in.	Sample Volume:	10.30 in^3
Average Initial Height (Lo):	3.860 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.668 in^2	Sample Weight:	0.732 lbs.
In-Situ Unit Weight:	122.9 pcf	L/D Ratio:	2.094
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/30/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-5 / NQ-5		
Depth/Elevation	60.3' - 60.6'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 390 psi ε_{ULT} = 1.0%

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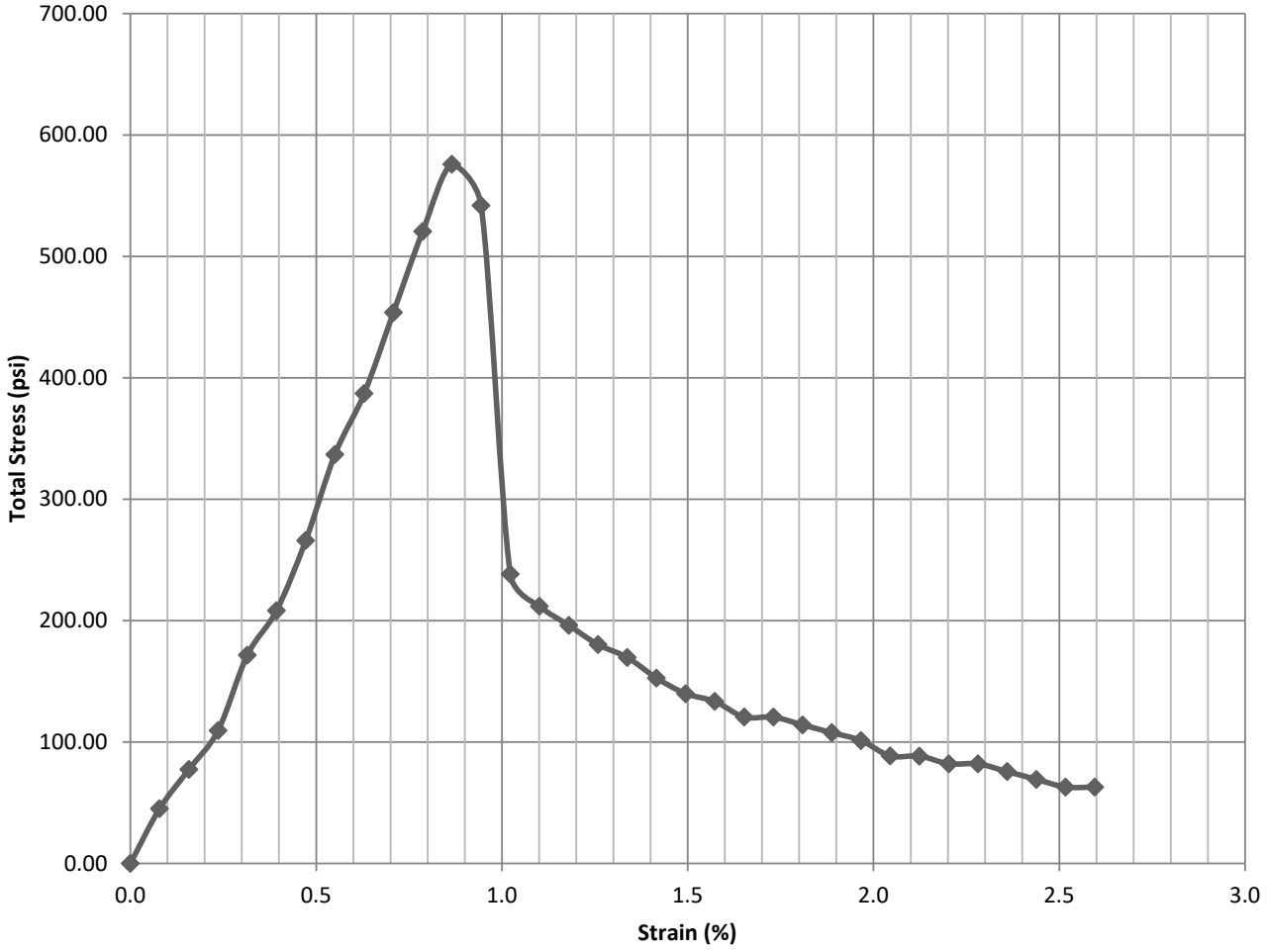
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1870
Sample Location:	B-5 / NQ-5		**Depth of Sample:**	60.3' - 60.6'
Tested By:	W. Pitts	**Date Tested:**	6/30/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1870



Average Initial Diameter (Do):	1.838 in.	Sample Volume:	10.12 in^3
Average Initial Height (Lo):	3.814 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.653 in^2	Sample Weight:	0.762 lbs.
In-Situ Unit Weight:	130.1 pcf	L/D Ratio:	2.075
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/30/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-5 / NQ-7		
Depth/Elevation	68.4' - 68.8'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 575 psi ε_{ULT} = 0.9%

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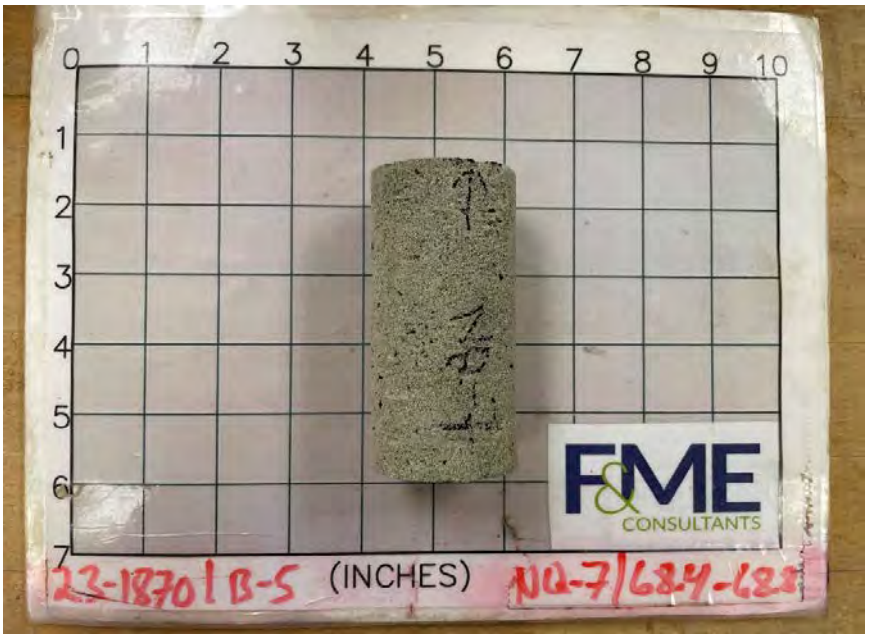
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1870
Sample Location:	B-5 / NQ-7		Depth of Sample:	68.4' - 68.8'
Tested By:	W. Pitts	Date Tested:	6/30/2023	

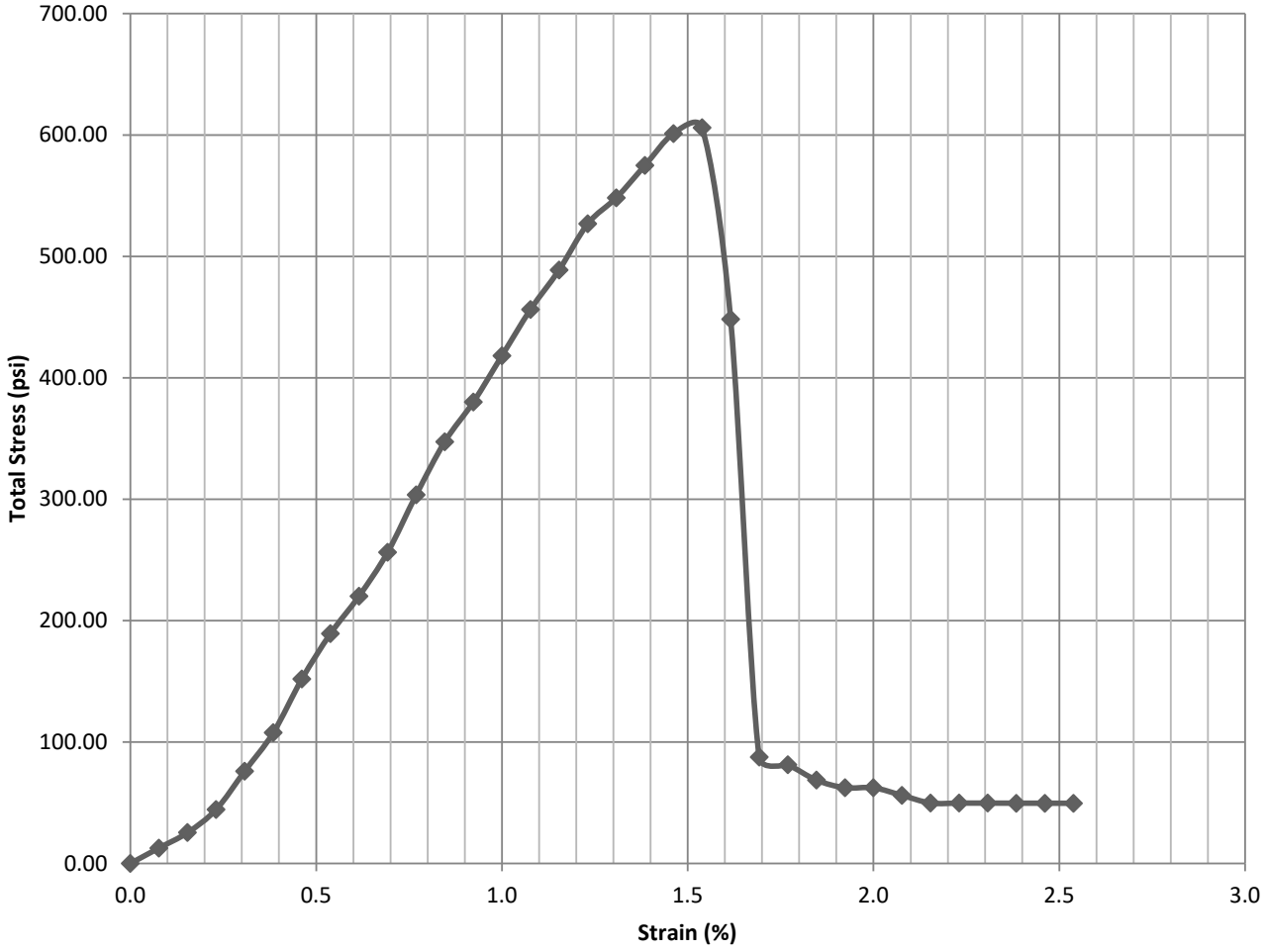


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1870



Average Initial Diameter (Do):	1.852 in.	Sample Volume:	10.51 in^3
Average Initial Height (Lo):	3.900 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.694 in^2	Sample Weight:	0.859 lbs.
In-Situ Unit Weight:	141.3 pcf	L/D Ratio:	2.106
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/30/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-5 / NQ-9		
Depth/Elevation	79.0' - 79.3'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 605 psi ε_{ULT} = 1.5%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1870
Sample Location:	B-5 / NQ-9		**Depth of Sample:**	79.0' - 79.3'
Tested By:	W. Pitts	**Date Tested:**	6/30/2023	

Before Break

After Break

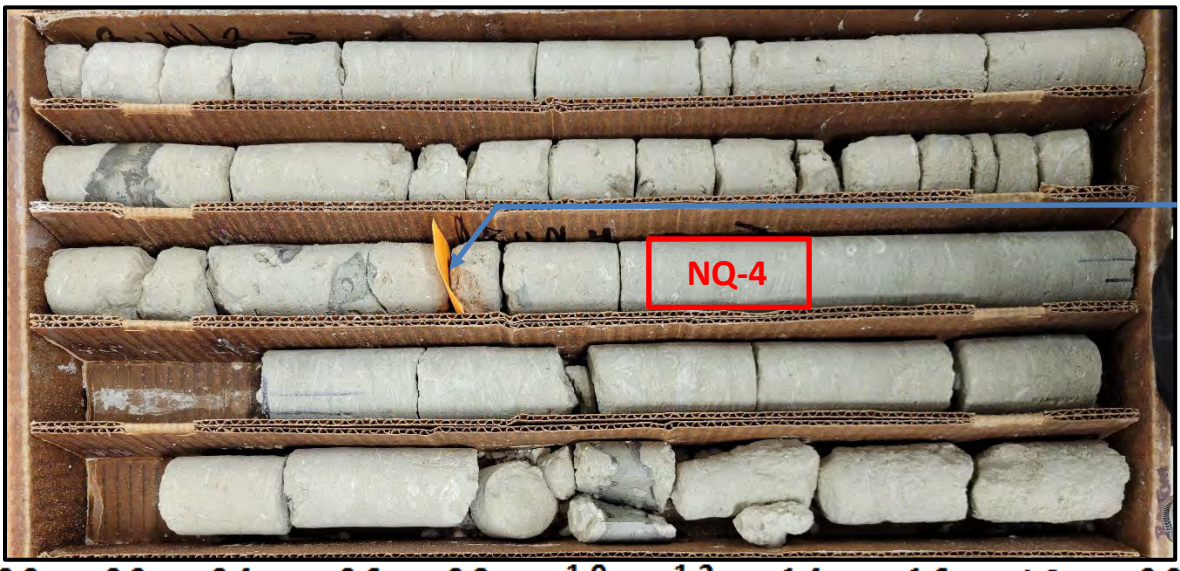
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-6

Begin Run 1
38.2 Feet

Begin Run 2
43.2 Feet

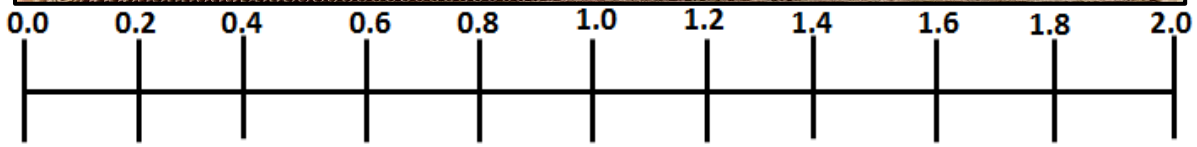
End Run 2
48.2 Feet

Begin Run 3
48.2 Feet



Begin Run 4
53.2 Feet

End Run 4
58.2 Feet



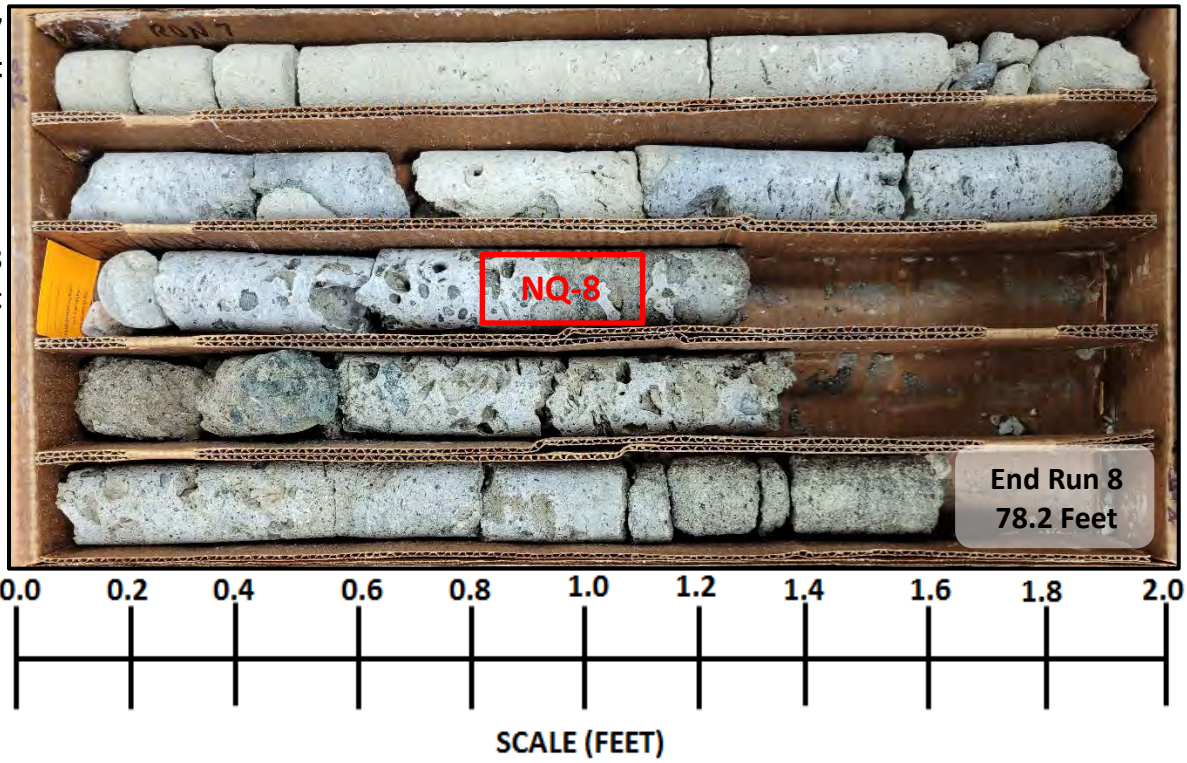
SCALE (FEET)

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-6

Begin Run 5
58.2 Feet

Begin Run 6
63.2 Feet

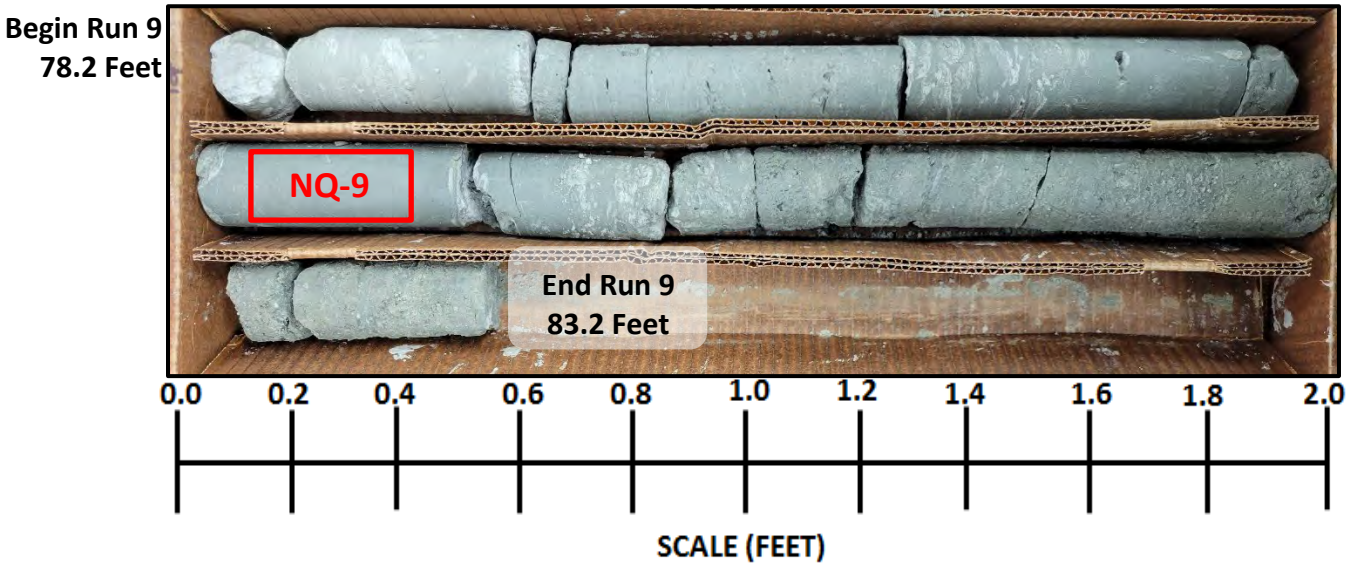
End Run 6
68.2 Feet



Begin Run 7
68.2 Feet

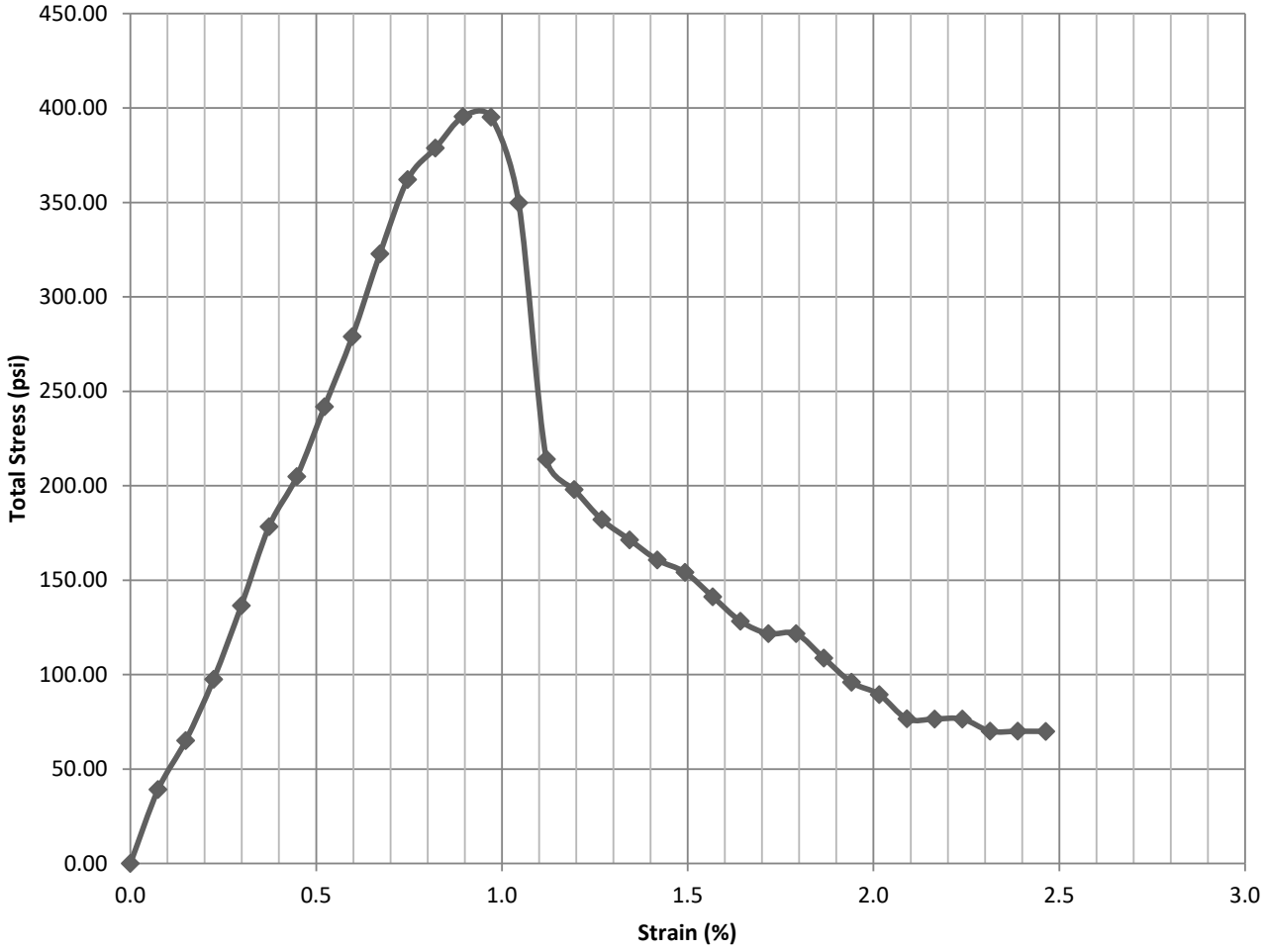
Begin Run 8
73.2 Feet

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-6



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1094



Average Initial Diameter (Do):	1.829 in.	Sample Volume:	10.56 in^3
Average Initial Height (Lo):	4.019 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.627 in^2	Sample Weight:	0.750 lbs.
In-Situ Unit Weight:	122.8 pcf	L/D Ratio:	2.197
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/3/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-6 / NQ-2		
Depth/Elevation	45.5' - 45.9'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 395 psi ε_{ULT} = 0.9%

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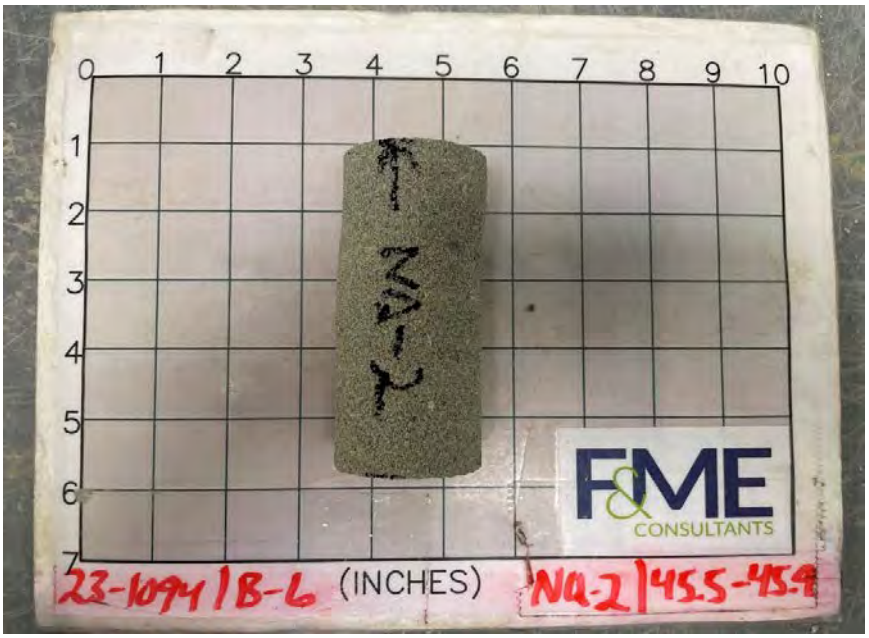
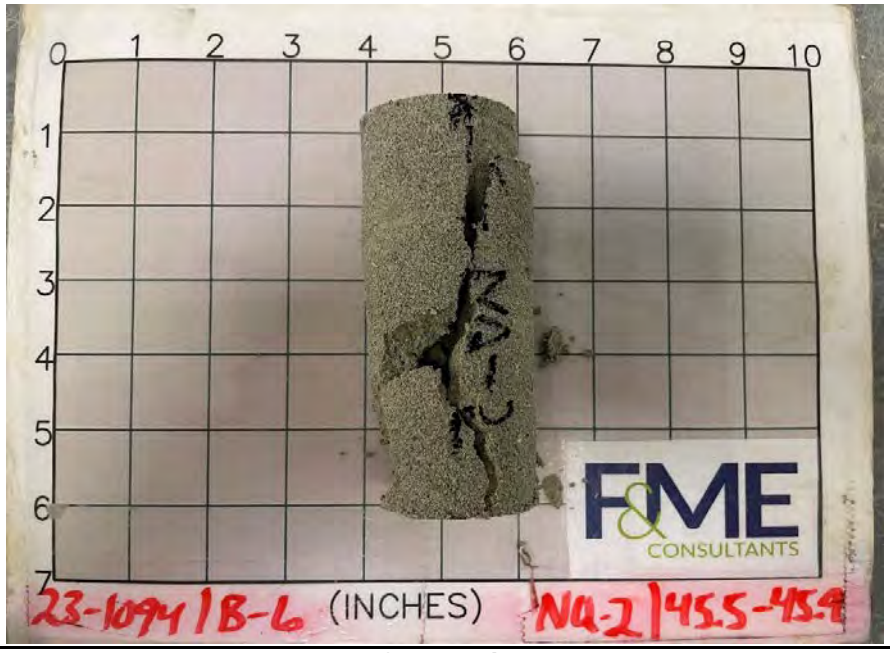
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1094
Sample Location:	B-6 / NQ-2		**Depth of Sample:**	45.5' - 45.9'
Tested By:	W. Pitts	**Date Tested:**	5/3/2023	



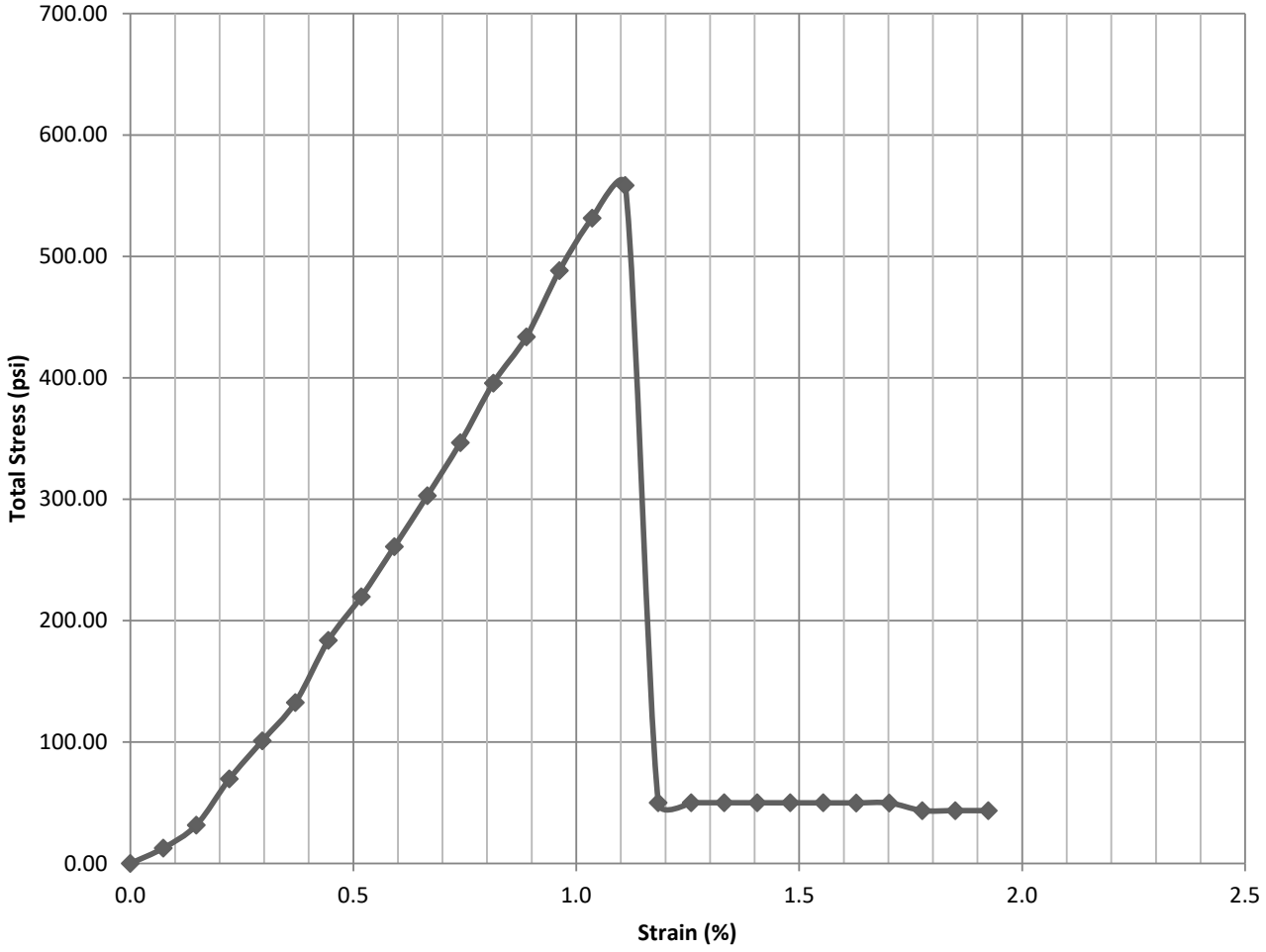
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1094



Average Initial Diameter (Do):	1.855 in.	Sample Volume:	10.96 in^3
Average Initial Height (Lo):	4.054 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.703 in^2	Sample Weight:	0.786 lbs.
In-Situ Unit Weight:	124.0 pcf	L/D Ratio:	2.185
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-6 / NQ-4		
Depth/Elevation	53.6' - 54.0'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 560 psi ε_{ULT} = 1.1%

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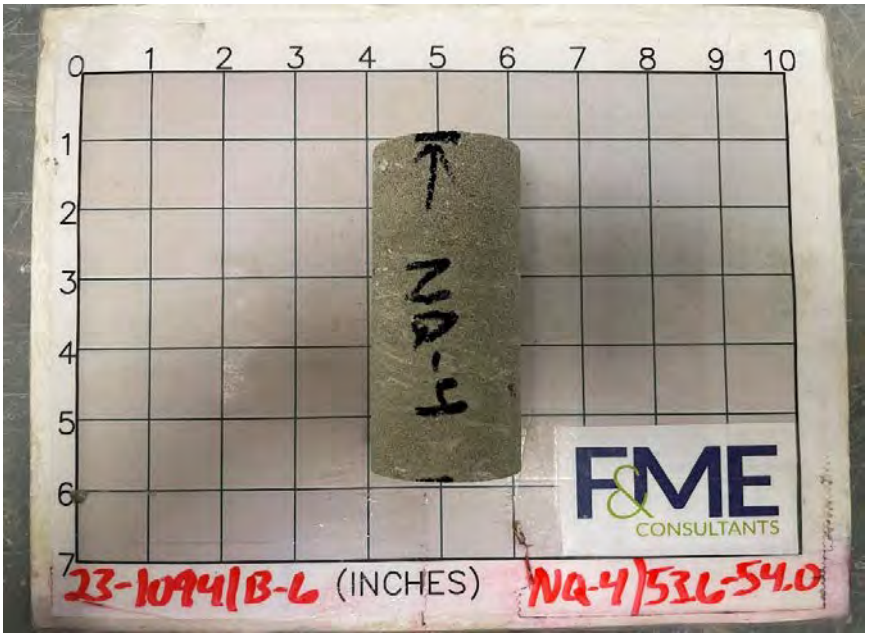
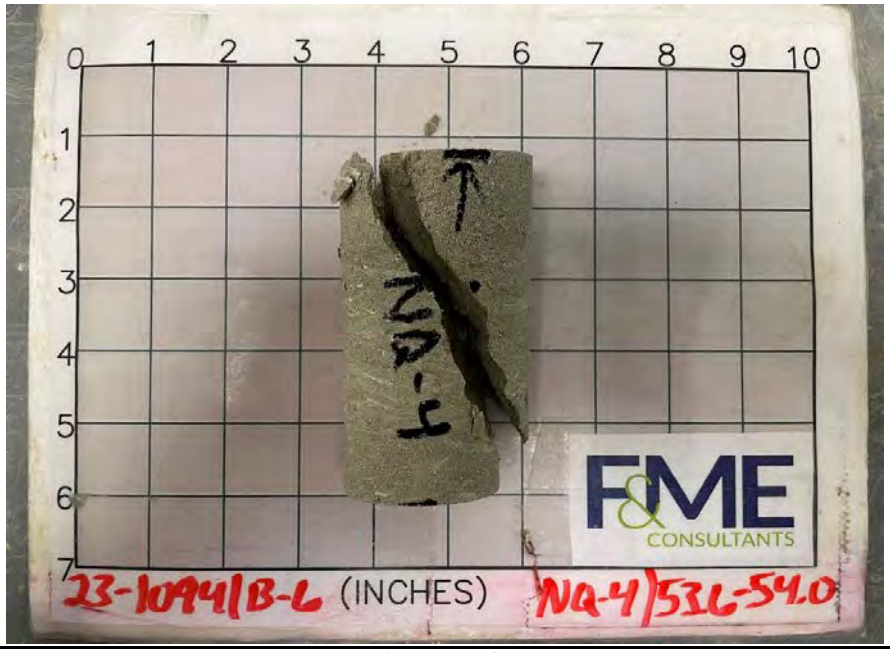
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1094
Sample Location:	B-6 / NQ-4		**Depth of Sample:**	53.6' - 54.0'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	



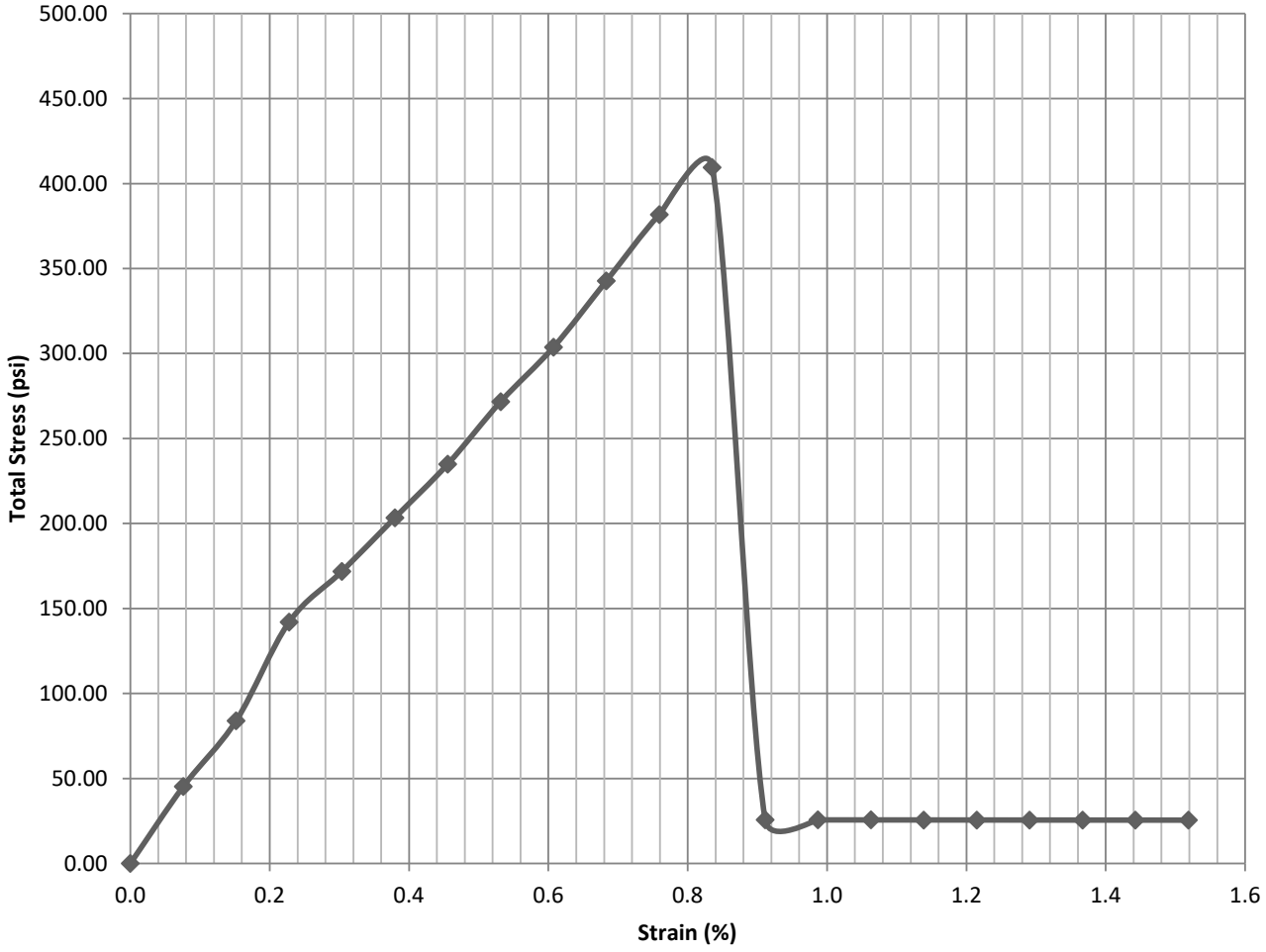
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1094



Average Initial Diameter (Do):	1.836 in.	Sample Volume:	10.46 in^3
Average Initial Height (Lo):	3.951 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.647 in^2	Sample Weight:	0.734 lbs.
In-Situ Unit Weight:	121.2 pcf	L/D Ratio:	2.152
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-6 / NQ-6		
Depth/Elevation	64.8' - 65.1'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 410 psi ε_{ULT} = 0.8%

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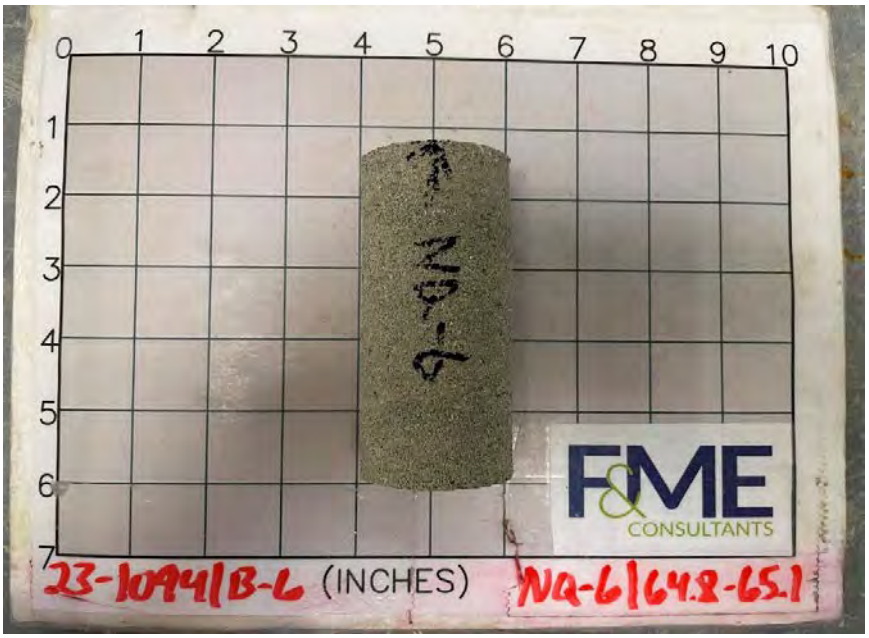
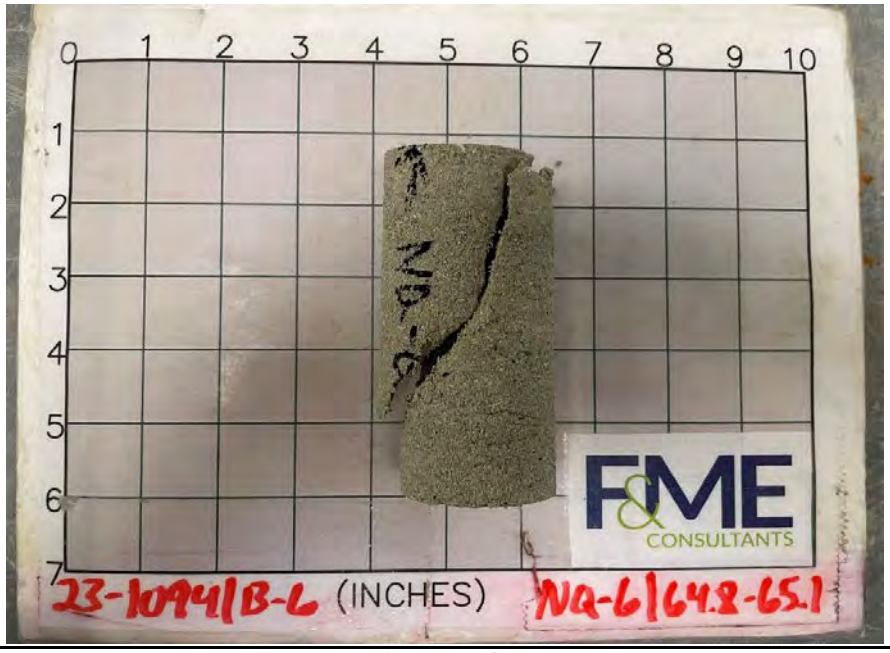
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1094
Sample Location:	B-6 / NQ-6		**Depth of Sample:**	64.8' - 65.1'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	



Before Break



After Break

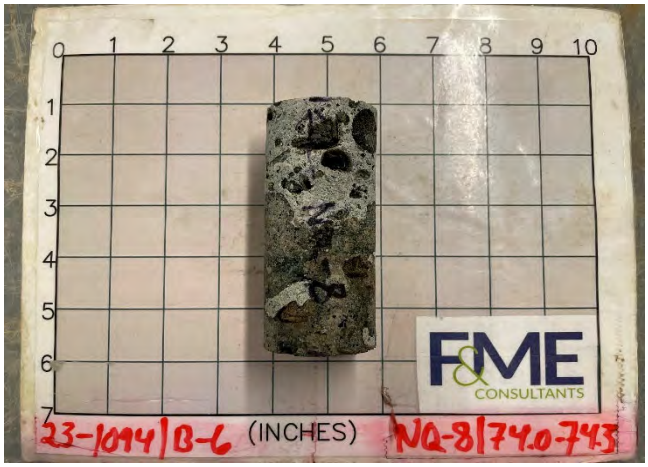
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.85	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.071	Reviewed By	WJG
Boring	B-6	Unit Weight (pcf)	149.3	Core Size	NQ
Sample No.	NQ-8 / 23-1094	L/D Ratio	2.20	Recovery	85%
Depth	74.0' - 74.3'	Load Rate (psi/sec)	10	RQD	55%
Description	Gray/Black/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-596	86	1,515	564	1.89	0.15
30%	-669	114	2,279	848	2.53	0.17
40%	-816	179	3,015	1,122	2.75	0.22
50%	-933	232	3,748	1,394	2.99	0.25
60%	-1057	297	4,492	1,671	3.16	0.28
70%	-1185	374	5,252	1,954	3.30	0.32
80%	-1316	489	6,023	2,241	3.40	0.37
90%	-1473	734	6,717	2,499	3.39	0.50
100%	-1780	1676	7,503	2,791		

Sample Photos

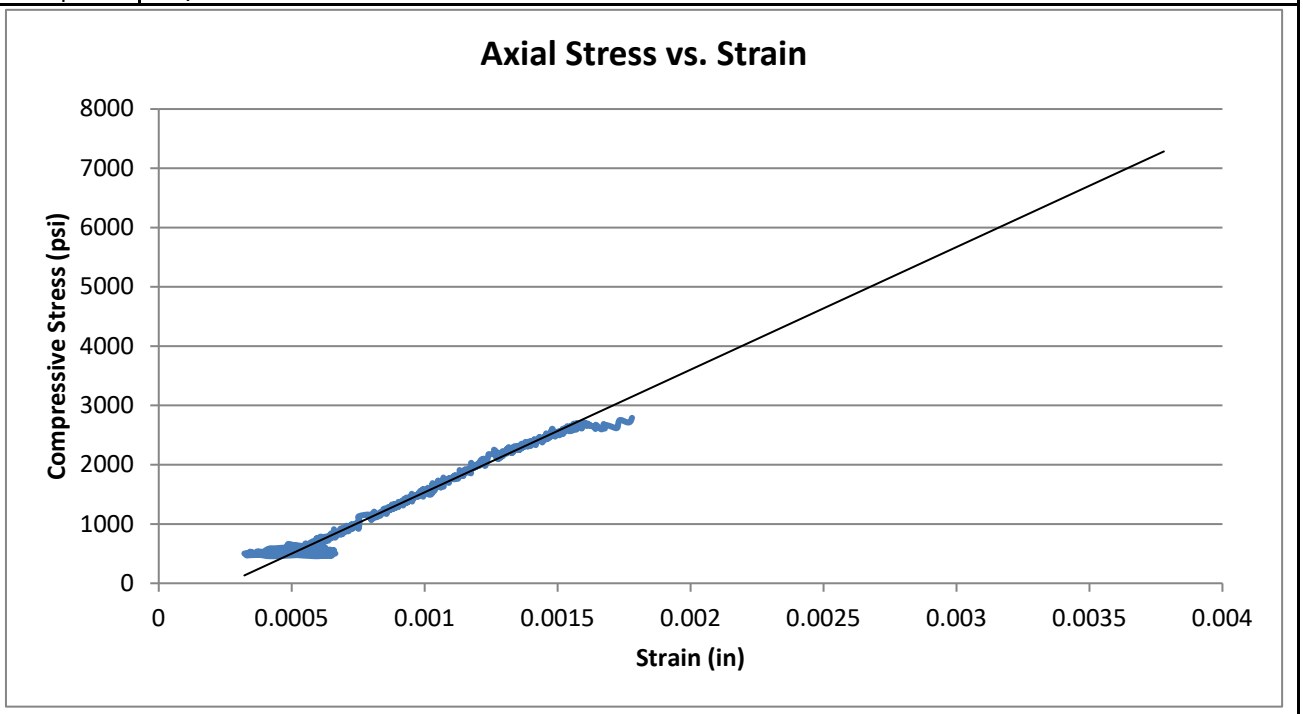


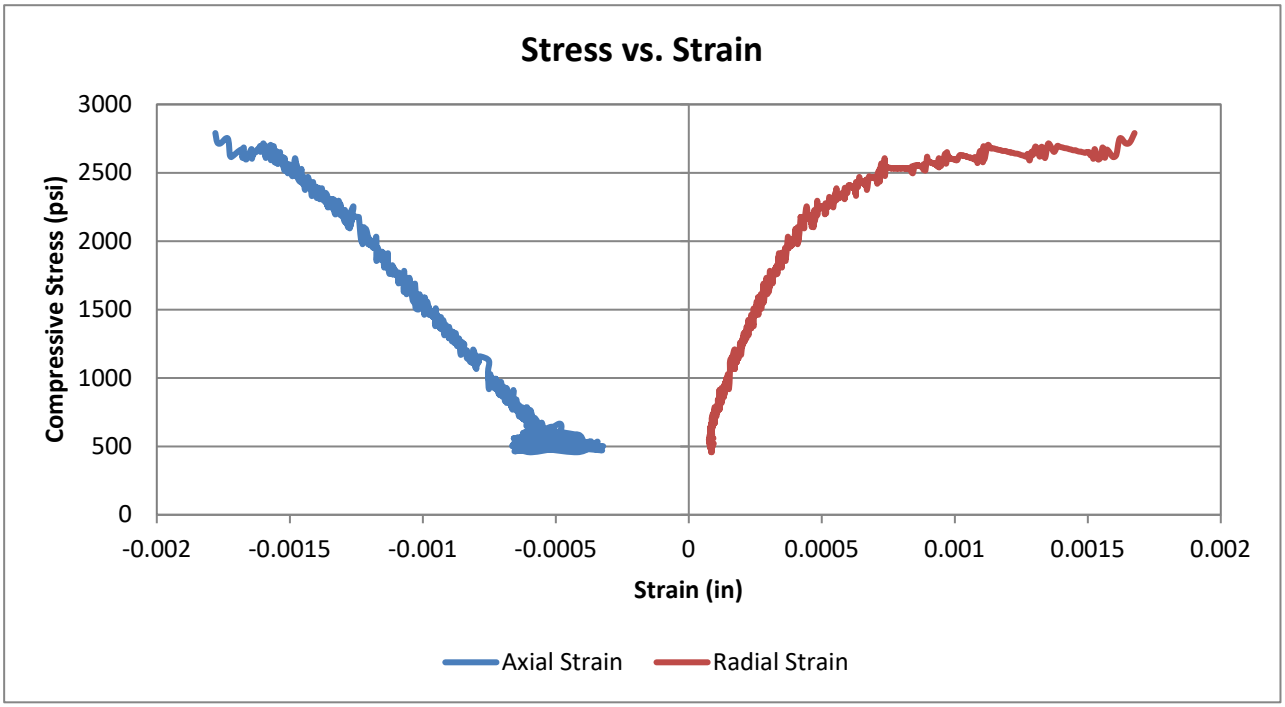
Test Results

Unconfined Compressive Strength (psi)	**2,790**	Elastic Modulus (psi)	3.05E+06
		Poisson's Ratio in Elastic Range	0.26
Comments	Elastic range was taken as between 0.0008 and 0.0012 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

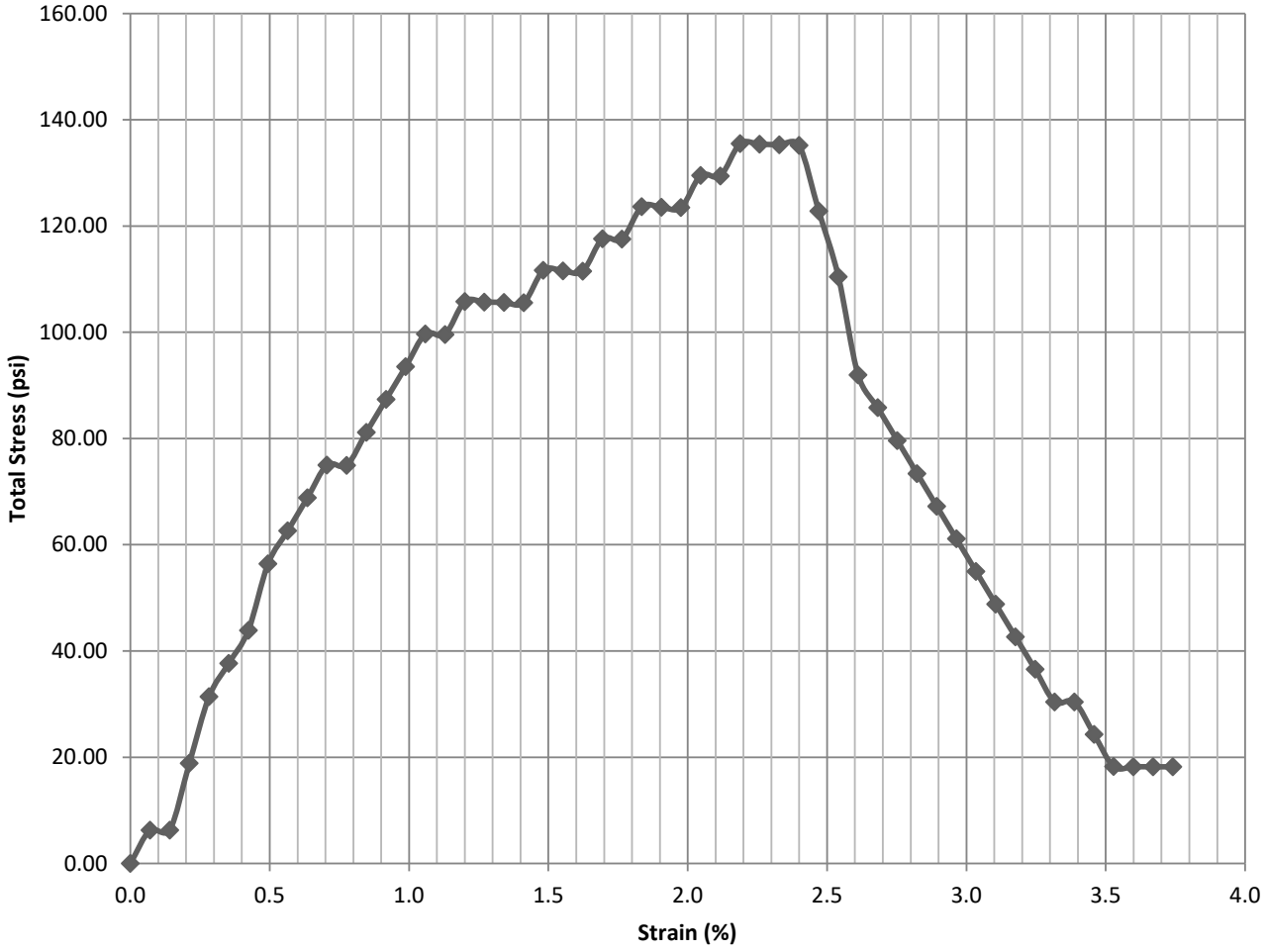
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.85	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.071	Reviewed By	WJG
Boring	B-6	Unit Weight (pcf)	149.3	Core Size	NQ
Sample No.	NQ-8 / 23-1094	L/D Ratio	2.20	Recovery	85%
Depth	74.0' - 74.3'	Load Rate (psi/sec)	10	RQD	55%
Description	Gray/Black/White Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1094



Average Initial Diameter (Do):	1.861 in.	Sample Volume:	11.56 in^3
Average Initial Height (Lo):	4.251 in.	Sample Volume:	0.007 ft^3
Average Initial Area (Ao):	2.720 in^2	Sample Weight:	0.733 lbs.
In-Situ Unit Weight:	109.5 pcf	L/D Ratio:	2.284
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-6 / NQ-9		
Depth/Elevation	80.3' - 80.6'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 135 psi ε_{ULT} = 2.2%

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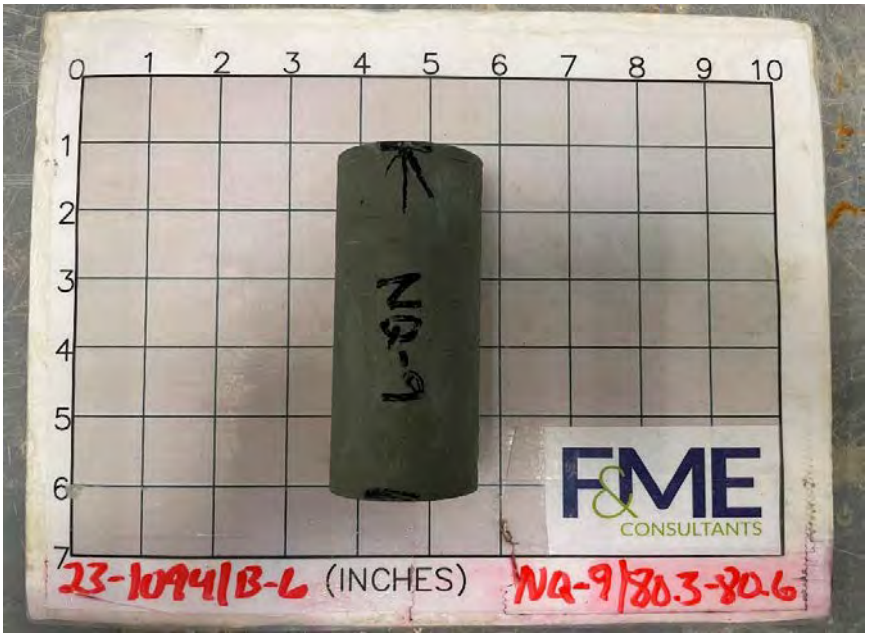
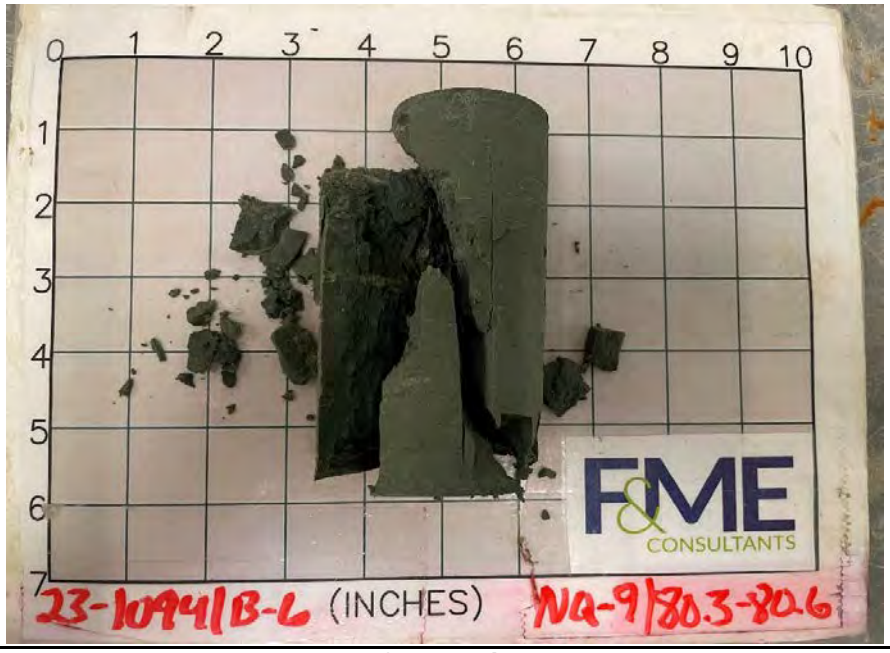
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1094
Sample Location:	B-6 / NQ-9		Depth of Sample:	80.3' - 80.6'
Tested By:	W. Pitts	Date Tested:	5/4/2023	

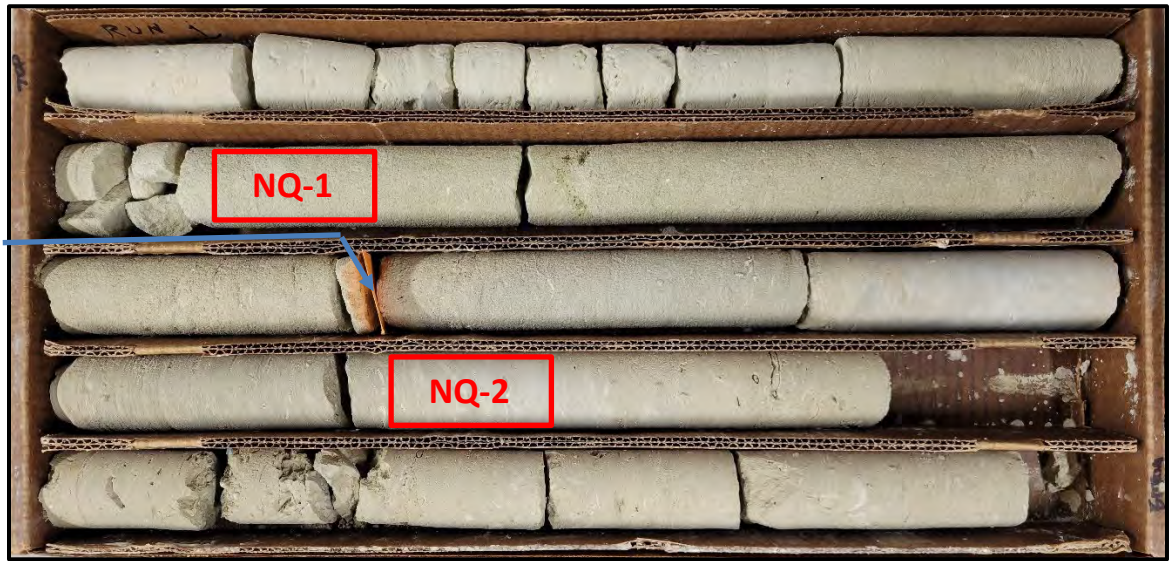


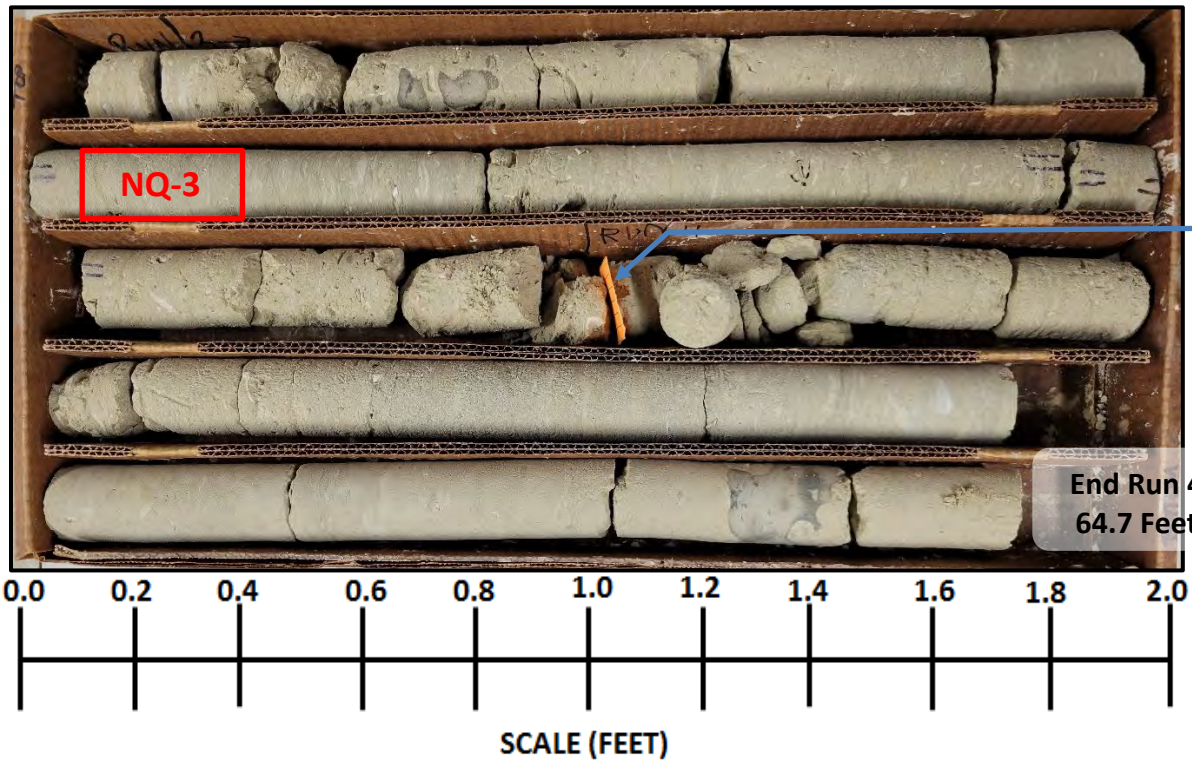
Before Break



After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-8

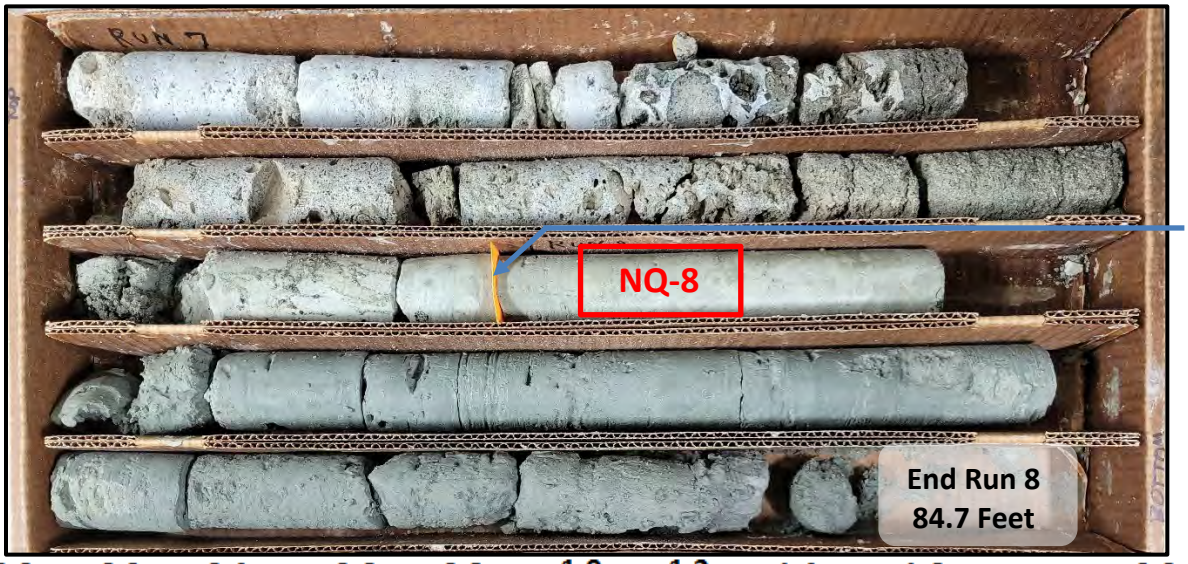




I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-8

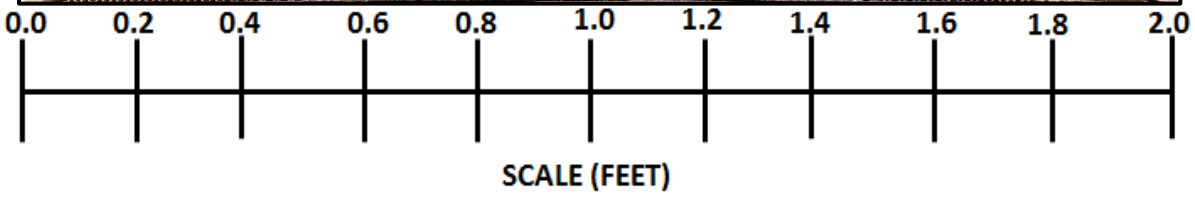
Begin Run 5
64.7 Feet

Begin Run 6
69.7 Feet



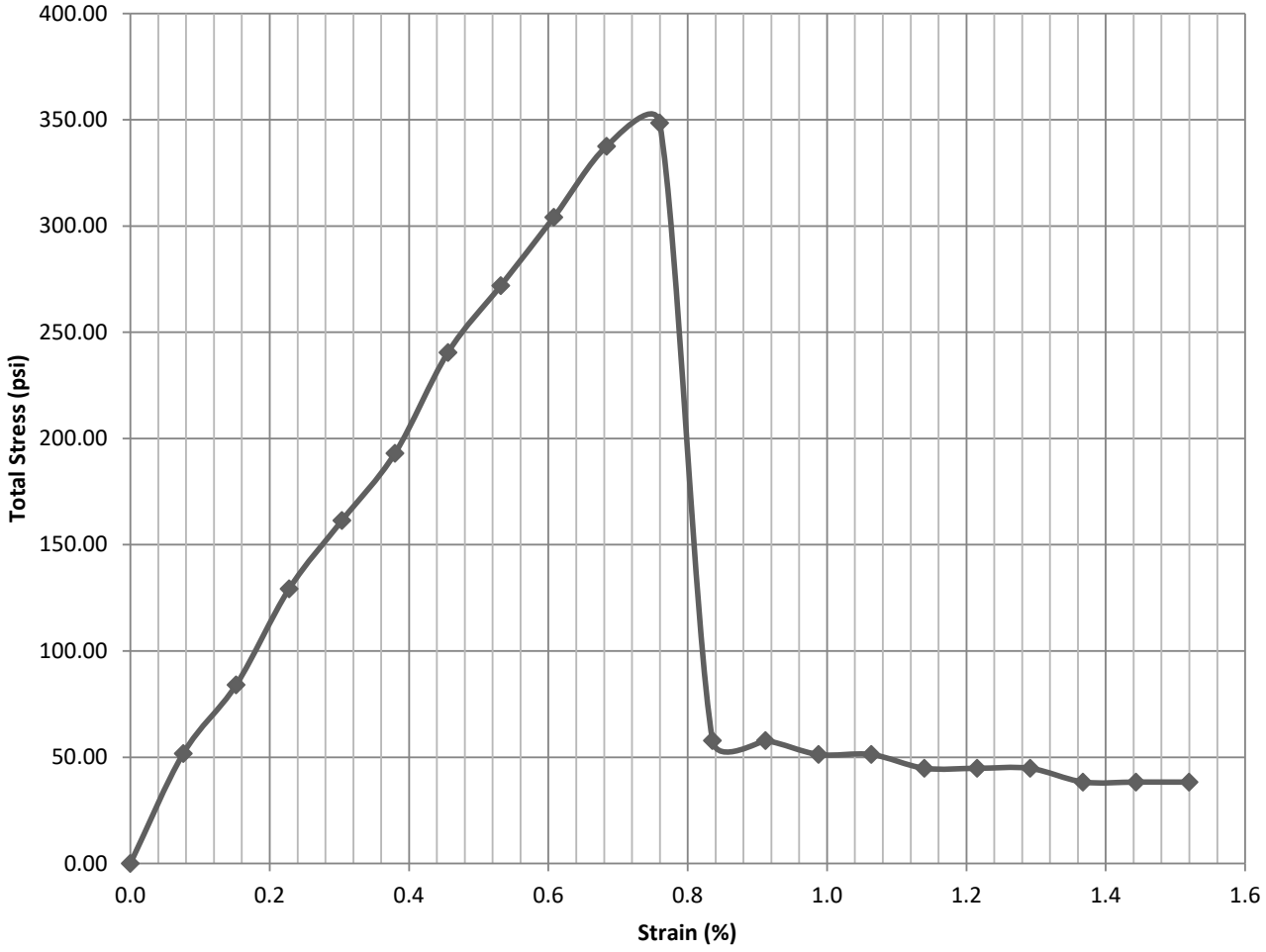
Begin Run 7
74.7 Feet

Begin Run 8
79.7 Feet



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0952



Average Initial Diameter (Do):	1.835 in.	Sample Volume:	10.44 in^3
Average Initial Height (Lo):	3.949 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.645 in^2	Sample Weight:	0.690 lbs.
In-Situ Unit Weight:	114.2 pcf	L/D Ratio:	2.152
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/9/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-8 / NQ-1		
Depth/Elevation	47.0' - 47.4'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 350 psi ε_{ULT} = 0.8%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0952
Sample Location:	B-8 / NQ-1		**Depth of Sample:**	47.0' - 47.4'
Tested By:	W. Pitts	**Date Tested:**	5/9/2023	

Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.853	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.967	Reviewed By	WJG
Boring	B-8	Unit Weight (pcf)	147.5	Core Size	NQ
Sample No.	NQ-2 / 23-0952	L/D Ratio	2.14	Recovery	96%
Depth	51.8' - 52.1'	Load Rate (psi/sec)	10	RQD	83%
Description	Gray/Brown/White Limestone				

Test Data						
Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-568	118	1,725	640	2.25	0.21
30%	-889	208	2,674	992	2.23	0.23
40%	-1203	305	3,591	1,332	2.21	0.25
50%	-1553	418	4,472	1,658	2.13	0.27
60%	-1859	515	5,384	1,996	2.15	0.28
70%	-2201	639	6,259	2,321	2.11	0.29
80%	-2640	840	7,171	2,659	2.01	0.32
90%	-3191	1108	8,050	2,985	1.87	0.35
100%	-3667	1335	8,926	3,310		

Sample Photos

Test Results			
Unconfined Compressive Strength (psi)	**3,310**	Elastic Modulus (psi)	2.17E+06
		Poisson's Ratio in Elastic Range	0.26
Comments	Elastic range was taken as between 0.001 and 0.002 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

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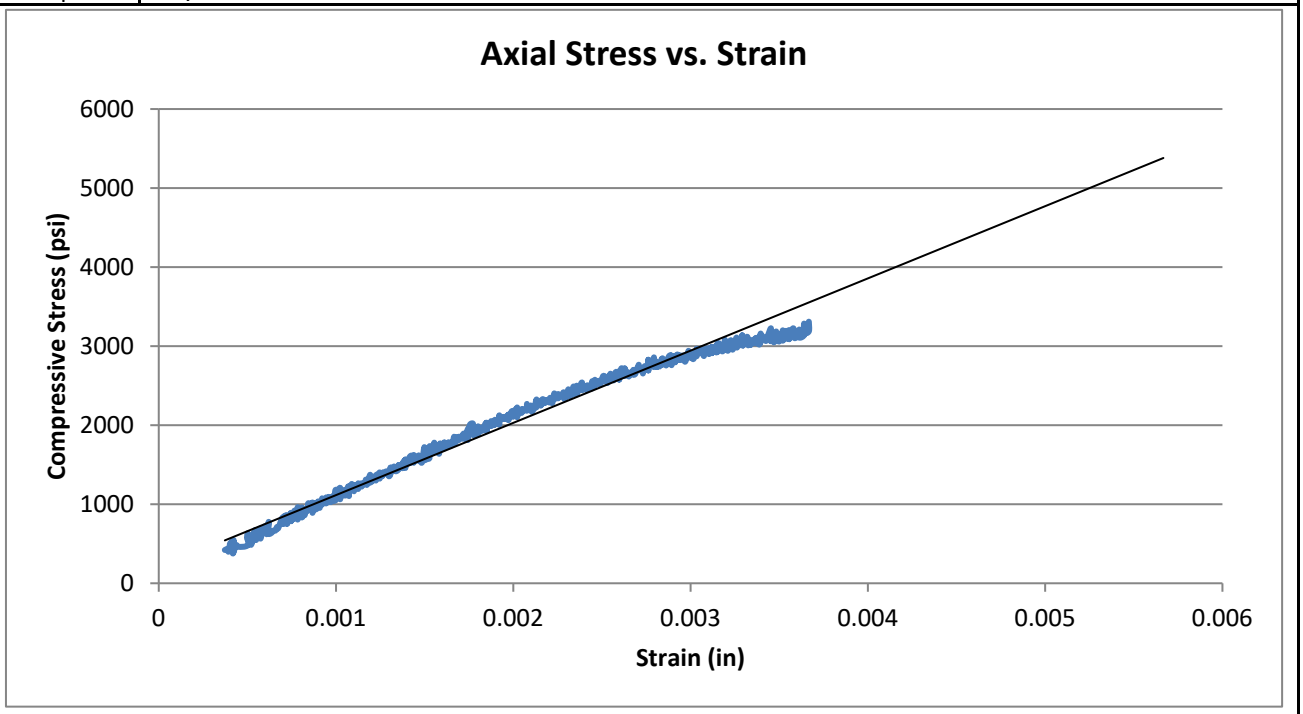
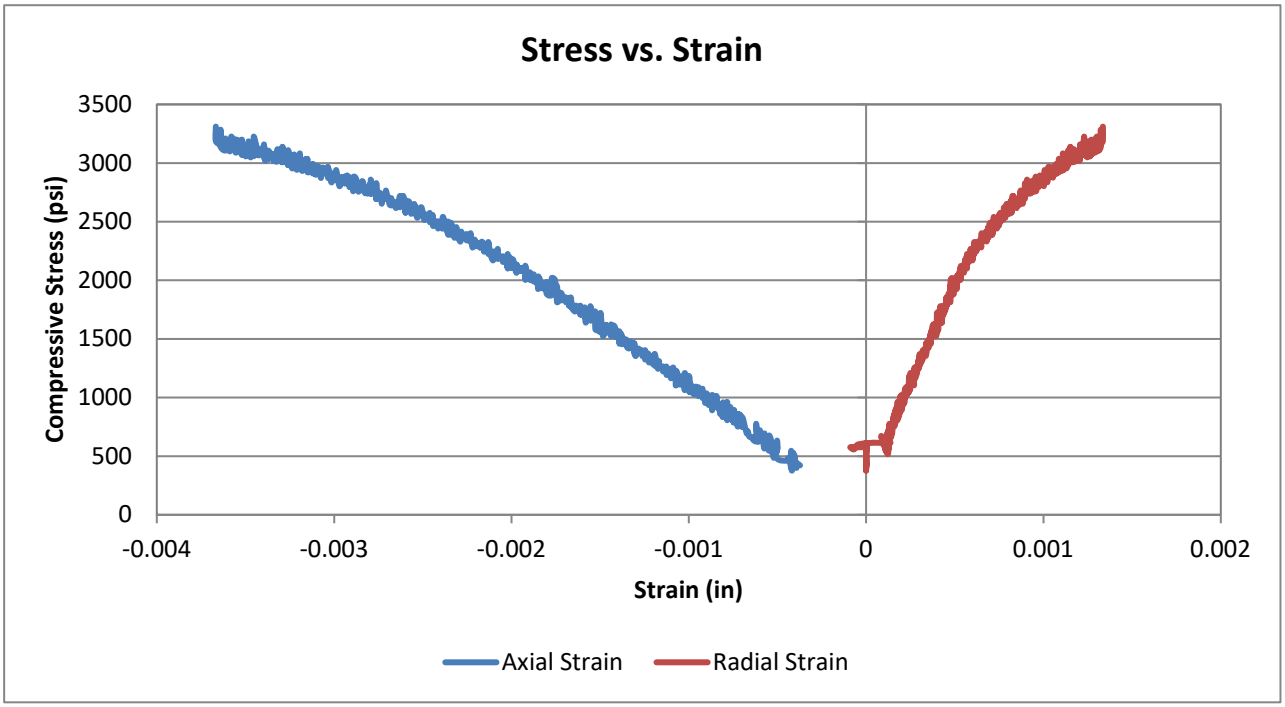
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

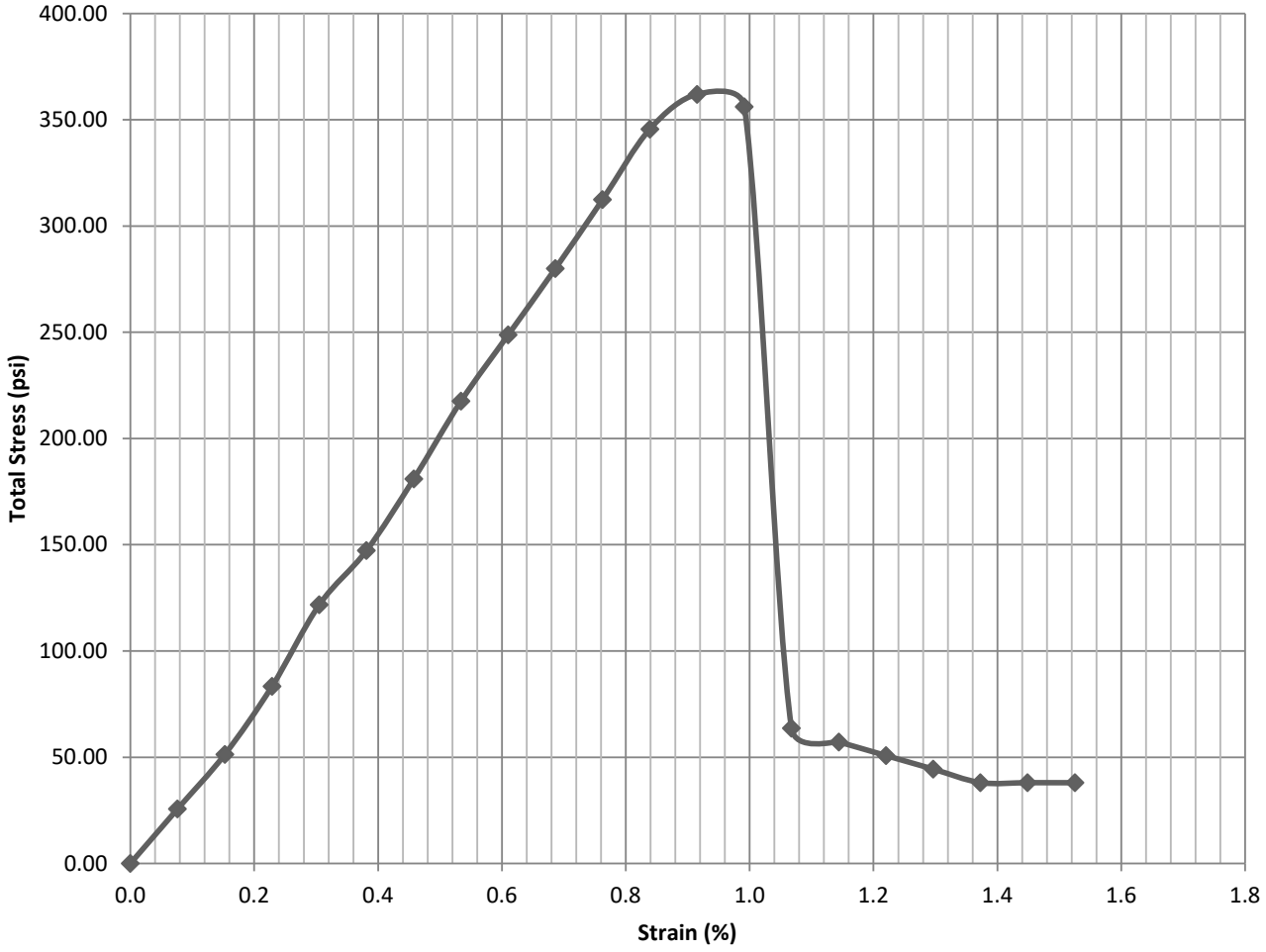
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.853	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.967	Reviewed By	WJG
Boring	B-8	Unit Weight (pcf)	147.5	Core Size	NQ
Sample No.	NQ-2 / 23-0952	L/D Ratio	2.14	Recovery	96%
Depth	51.8' - 52.1'	Load Rate (psi/sec)	10	RQD	83%
Description	Gray/Brown/White Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0952



Average Initial Diameter (Do):	1.842 in.	Sample Volume:	10.48 in^3
Average Initial Height (Lo):	3.934 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.665 in^2	Sample Weight:	0.720 lbs.
In-Situ Unit Weight:	118.6 pcf	L/D Ratio:	2.136
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/9/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-8 / NQ-3		
Depth/Elevation	56.8' - 57.1'		

Sample Type : Soil Core
Target Strain Rate : 0.60% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 360 psi ε_{ULT} = 0.9%

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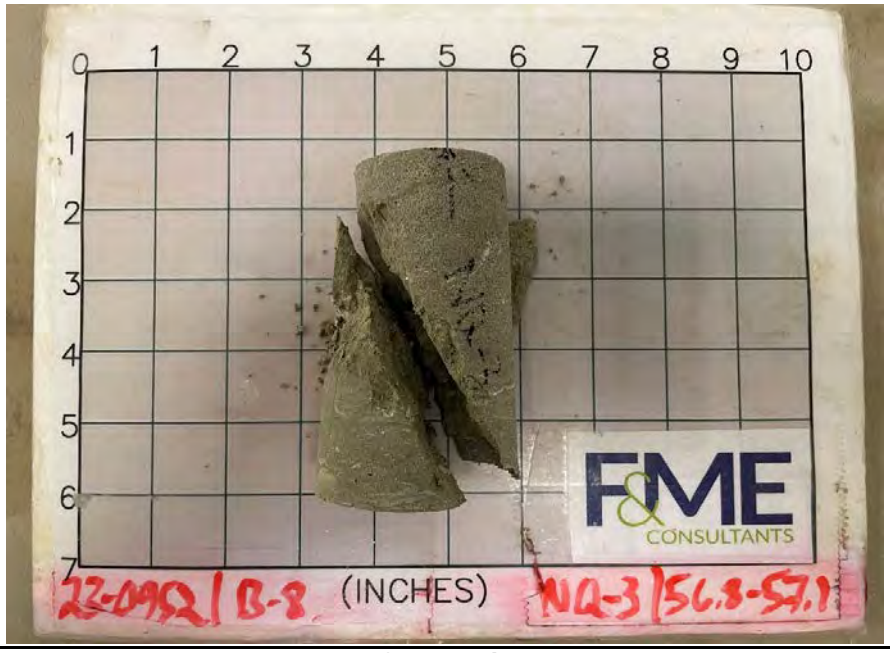
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0952
Sample Location:	B-8 / NQ-3		Depth of Sample:	56.8' - 57.1'
Tested By:	W. Pitts	Date Tested:	5/9/2023	

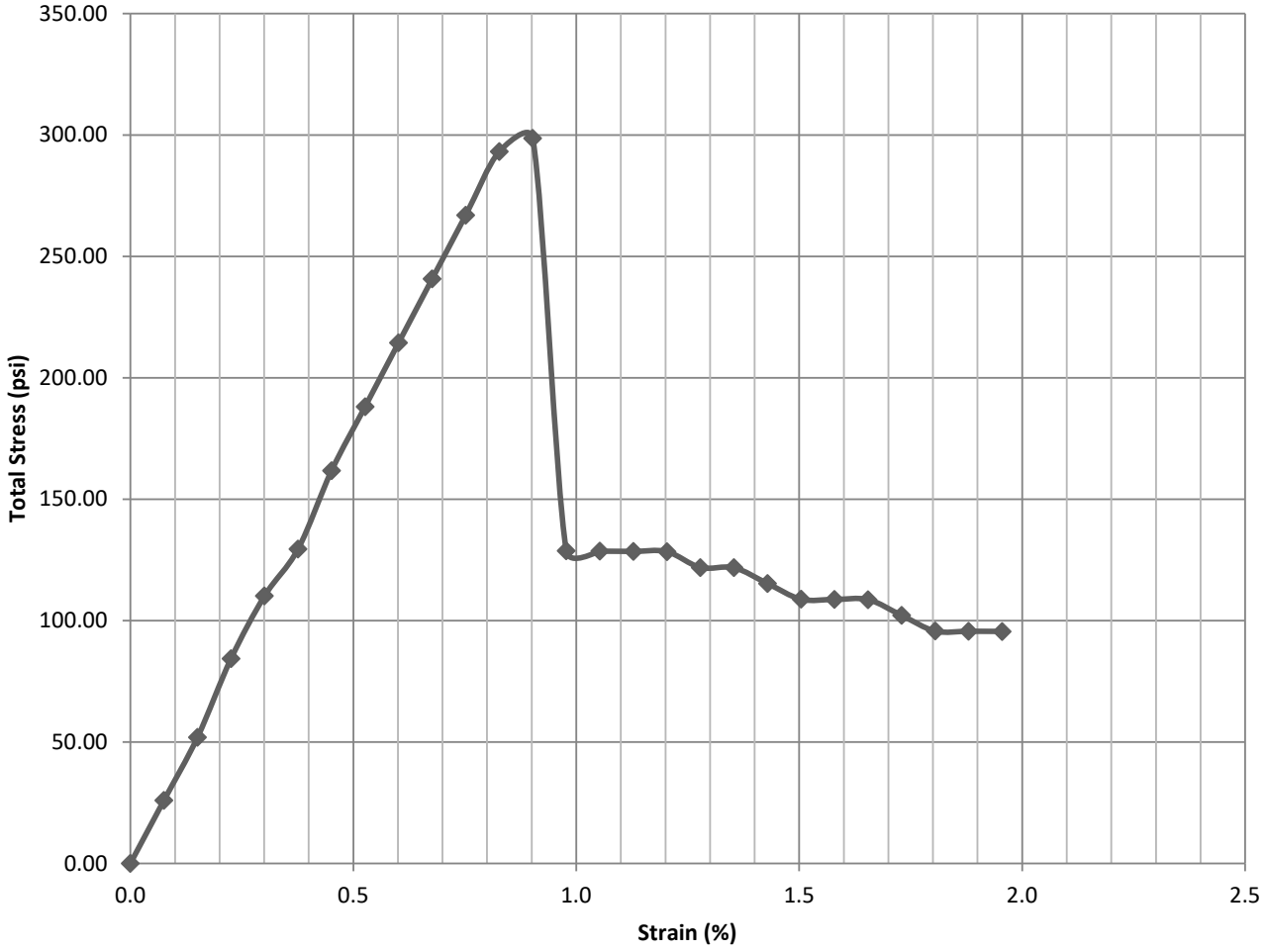
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0952



Average Initial Diameter (Do):	1.832 in.	Sample Volume:	10.51 in^3
Average Initial Height (Lo):	3.989 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.636 in^2	Sample Weight:	0.708 lbs.
In-Situ Unit Weight:	116.3 pcf	L/D Ratio:	2.177
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/9/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-8 / NQ-6		
Depth/Elevation	70.2' - 70.5'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 300 psi ε_{ULT} = 0.9%

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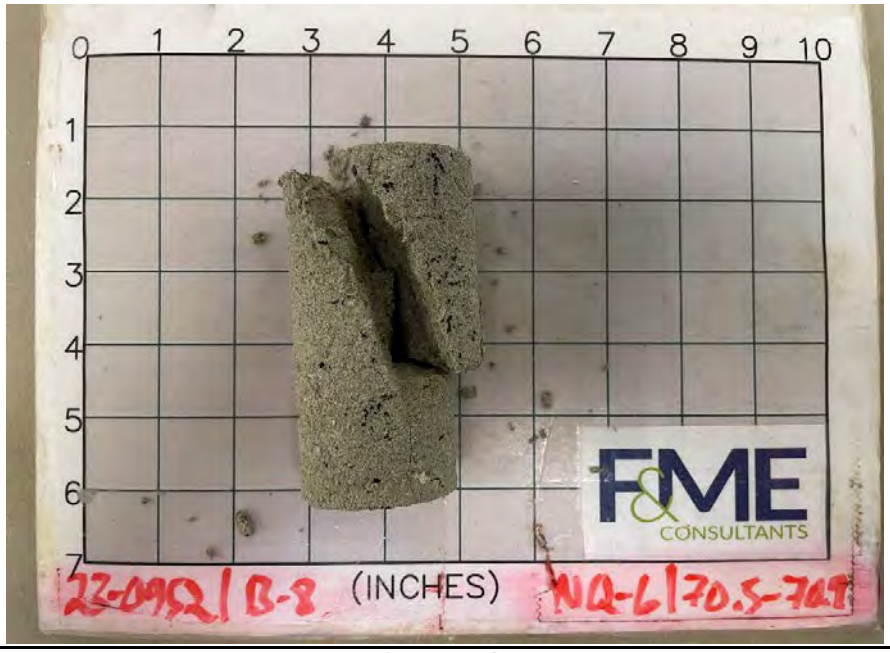
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0952
Sample Location:	B-8 / NQ-6		**Depth of Sample:**	70.2' - 70.5'
Tested By:	W. Pitts	**Date Tested:**	5/9/2023	

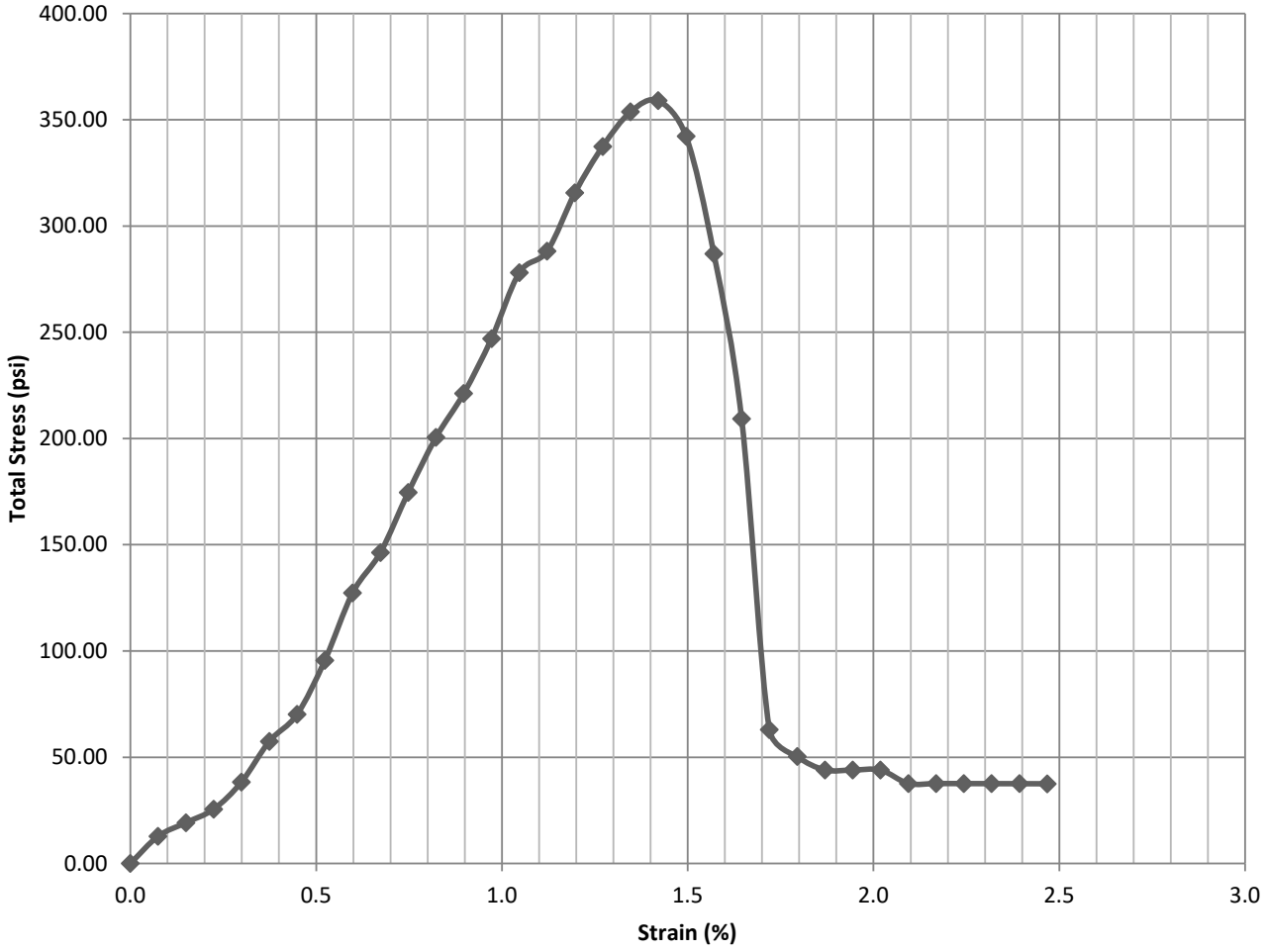
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0952



Average Initial Diameter (Do):	1.845 in.	Sample Volume:	10.73 in^3
Average Initial Height (Lo):	4.012 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.674 in^2	Sample Weight:	0.861 lbs.
In-Situ Unit Weight:	138.7 pcf	L/D Ratio:	2.175
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/9/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-8 / NQ-8		
Depth/Elevation	79.9' - 80.2'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 360 psi ε_{ULT} = 1.4%

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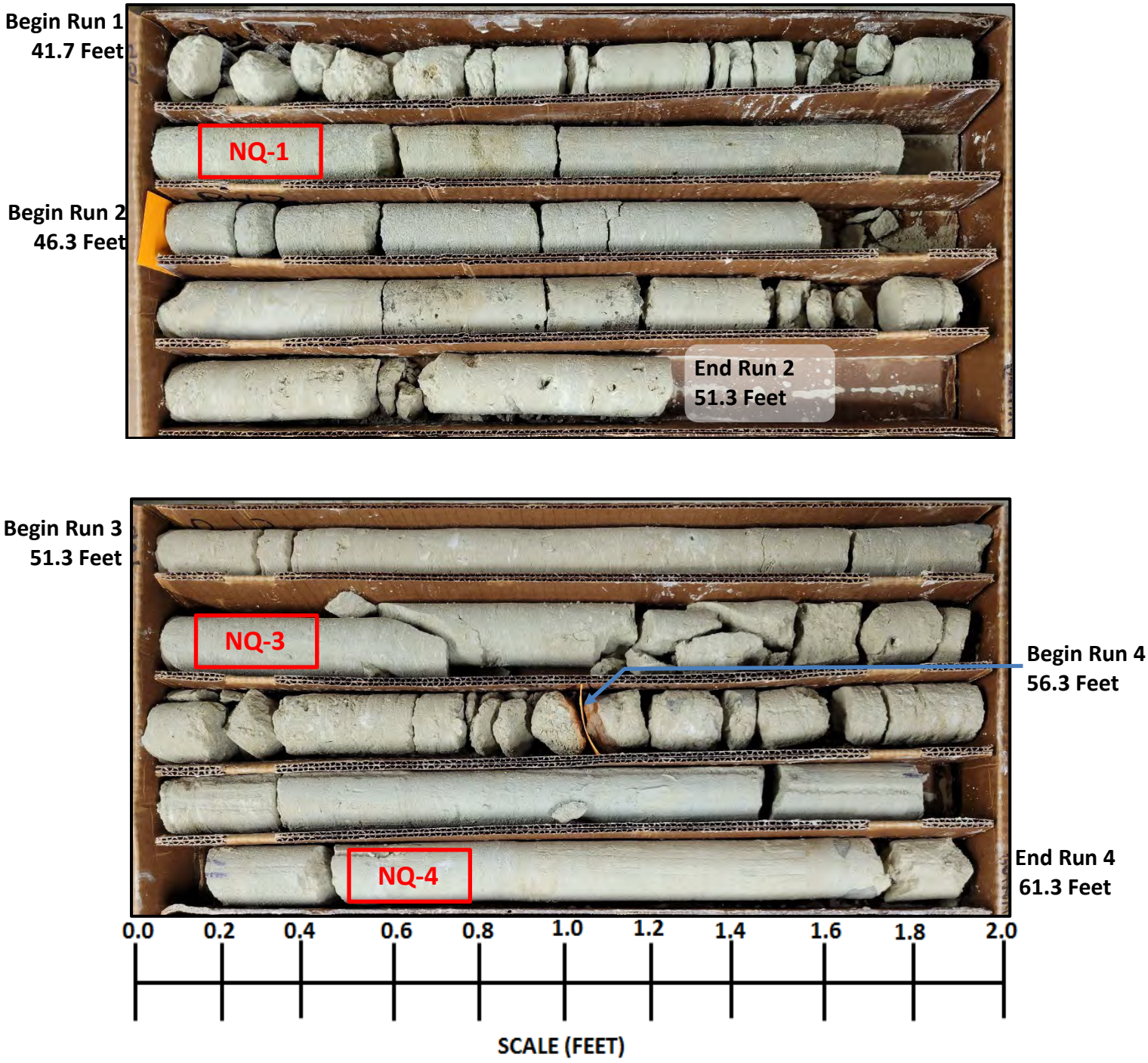
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0952
Sample Location:	B-8 / NQ-8		**Depth of Sample:**	79.9' - 80.2'
Tested By:	W. Pitts	**Date Tested:**	5/9/2023	

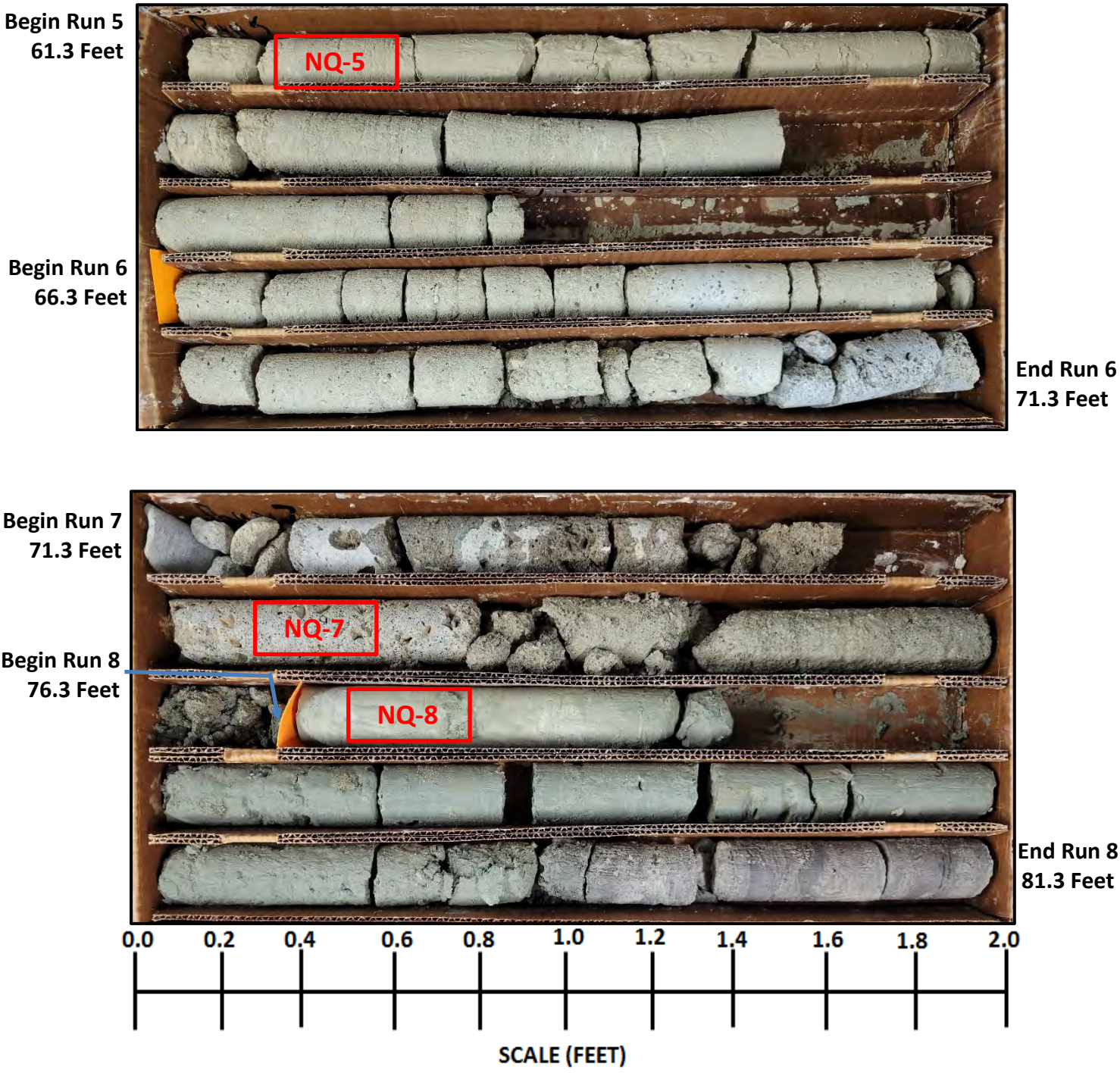
Before Break

After Break

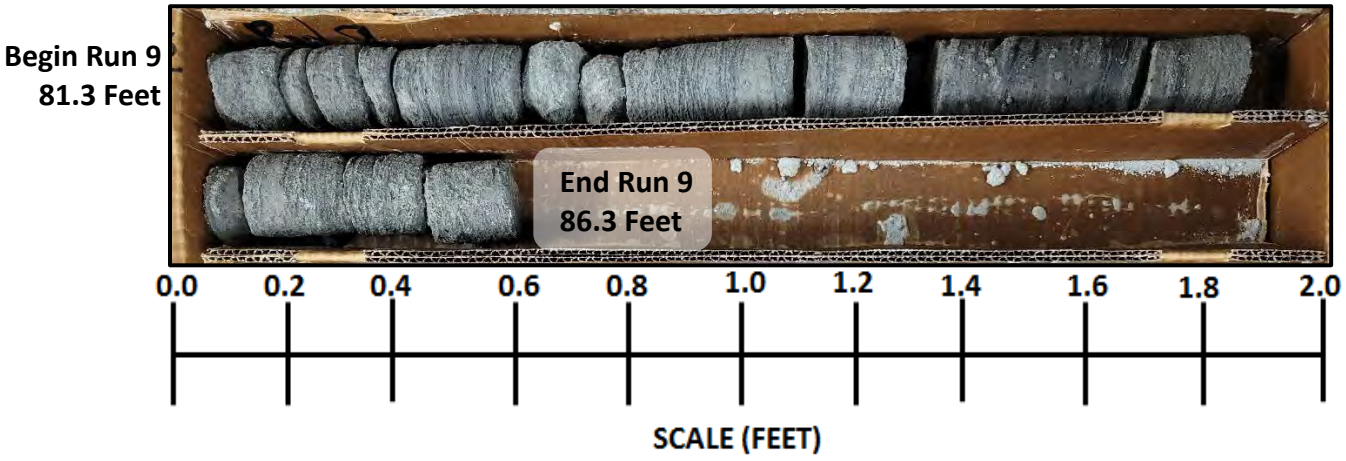
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-9



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-9

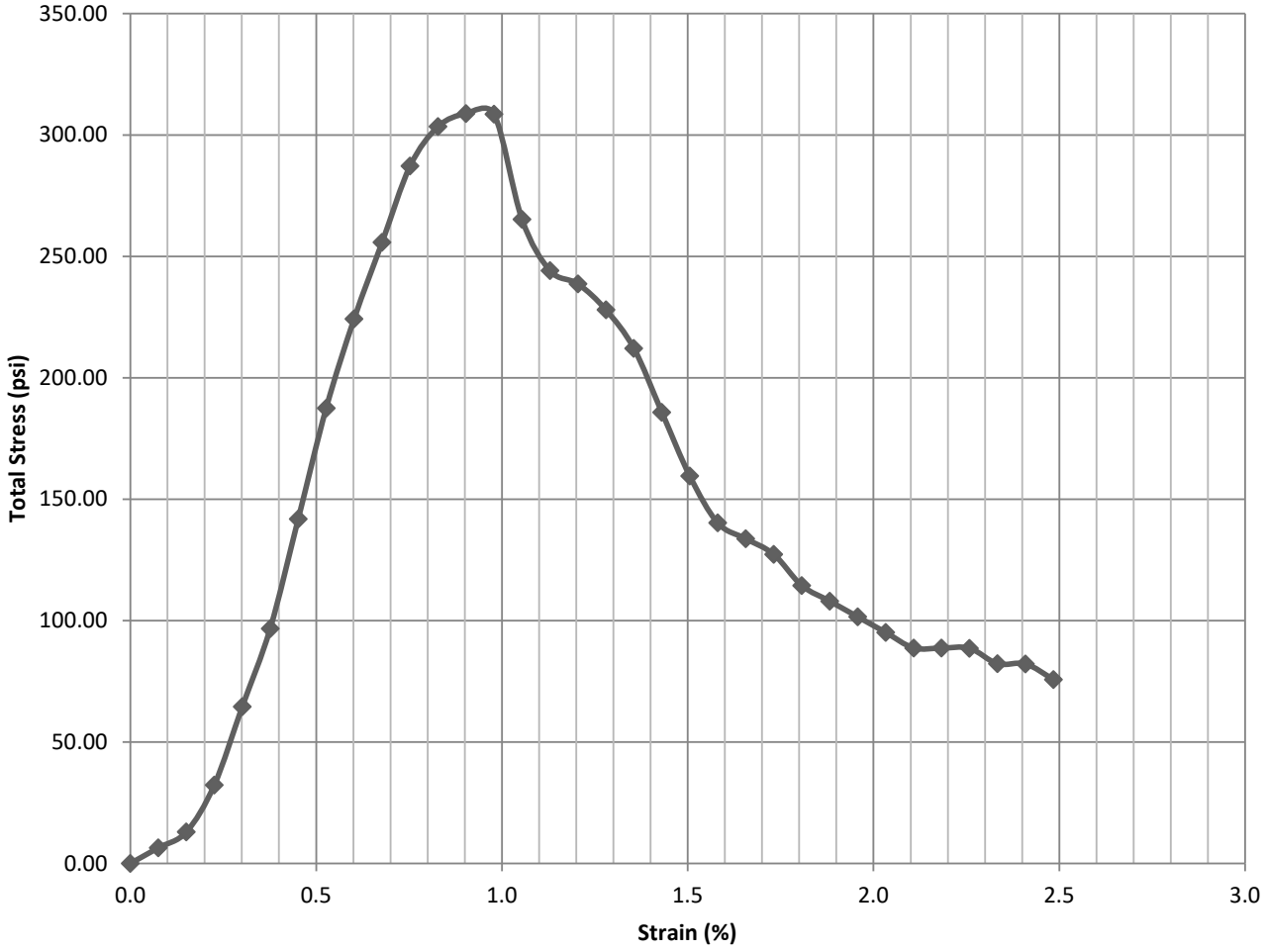


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-9



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1831



Average Initial Diameter (Do):	1.835 in.	Sample Volume:	10.54 in^3
Average Initial Height (Lo):	3.985 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.645 in^2	Sample Weight:	0.726 lbs.
In-Situ Unit Weight:	119.1 pcf	L/D Ratio:	2.172
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-9 / NQ-1		
Depth/Elevation	43.8' - 44.1'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 310 psi ε_{ULT} = 0.9%

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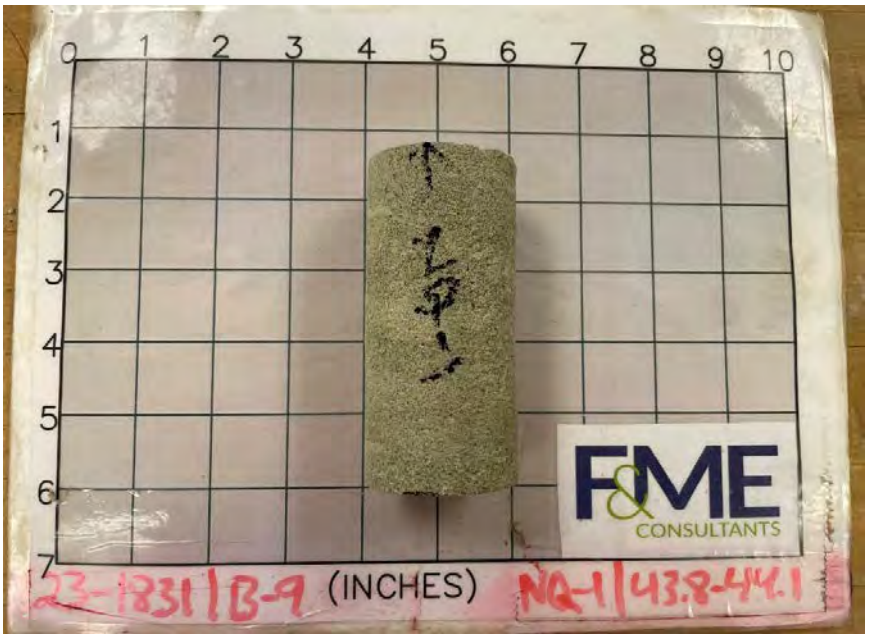
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1831
Sample Location:	B-9 / NQ-1		**Depth of Sample:**	43.8' - 44.1'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	

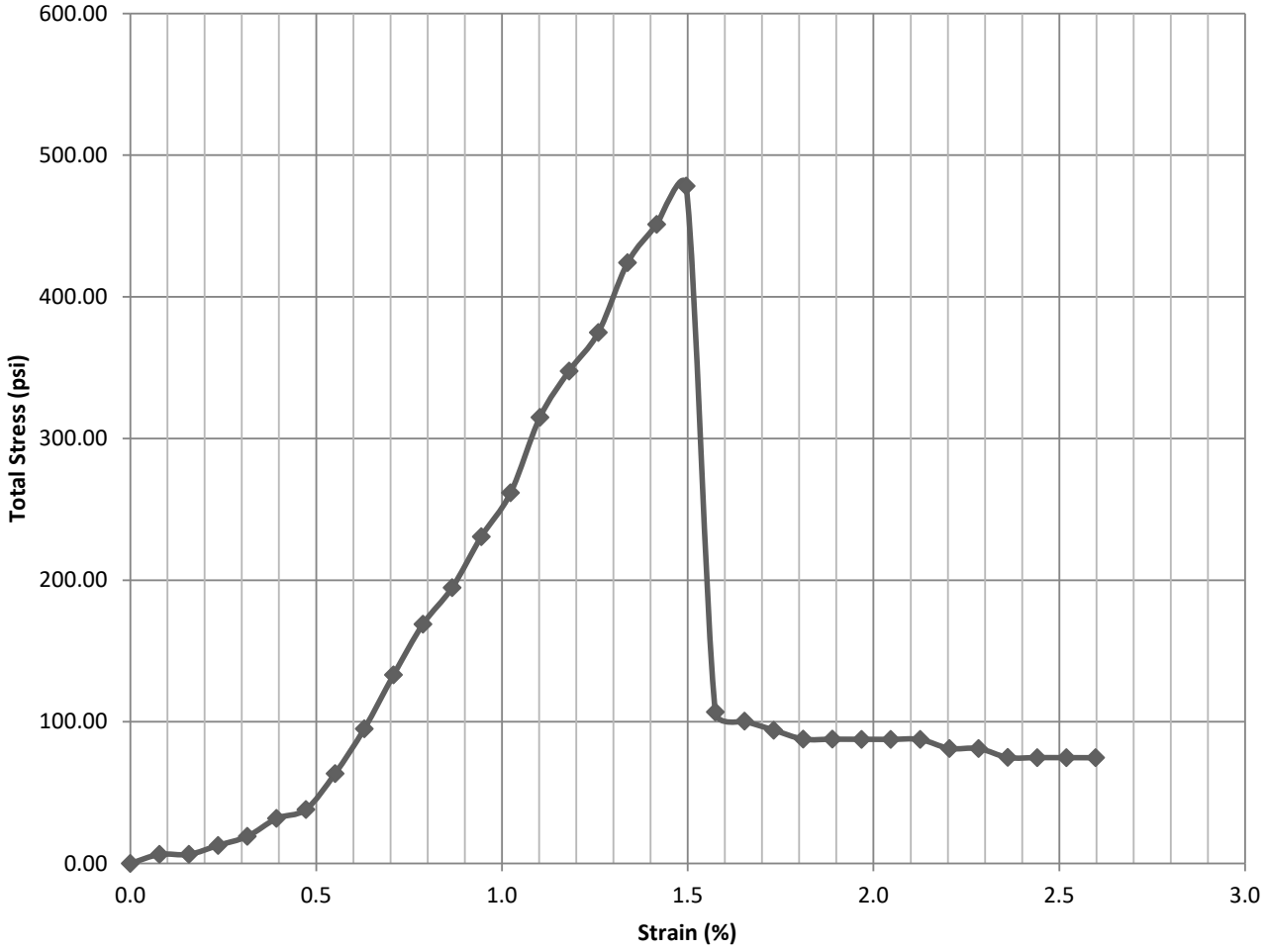


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1831



Average Initial Diameter (Do):	1.848 in.	Sample Volume:	10.22 in^3
Average Initial Height (Lo):	3.811 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.682 in^2	Sample Weight:	0.713 lbs.
In-Situ Unit Weight:	120.5 pcf	L/D Ratio:	2.062
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-9 / NQ-3		
Depth/Elevation	53.4' - 53.7'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 480 psi ε_{ULT} = 1.5%

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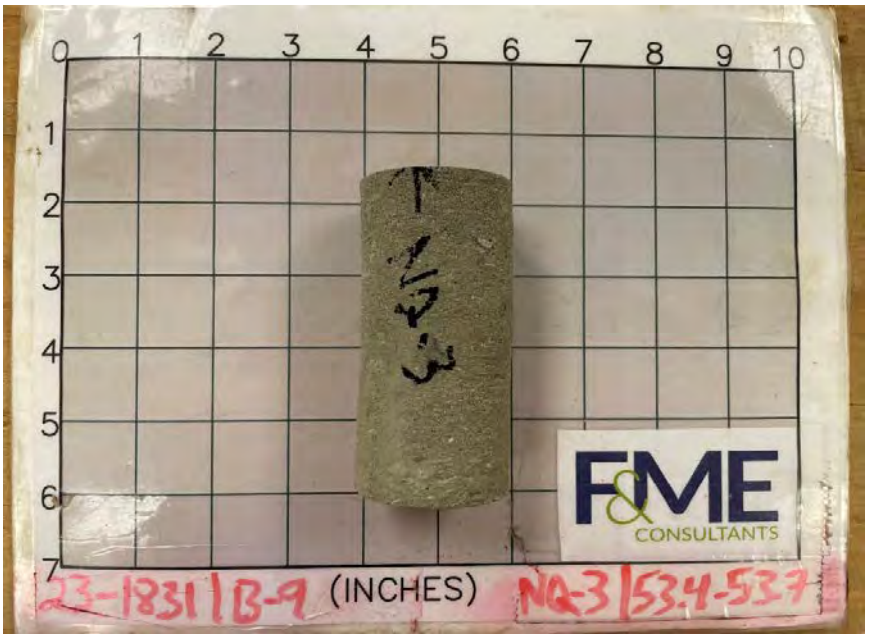
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1831
Sample Location:	B-9 / NQ-3		**Depth of Sample:**	53.4' - 53.7'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	

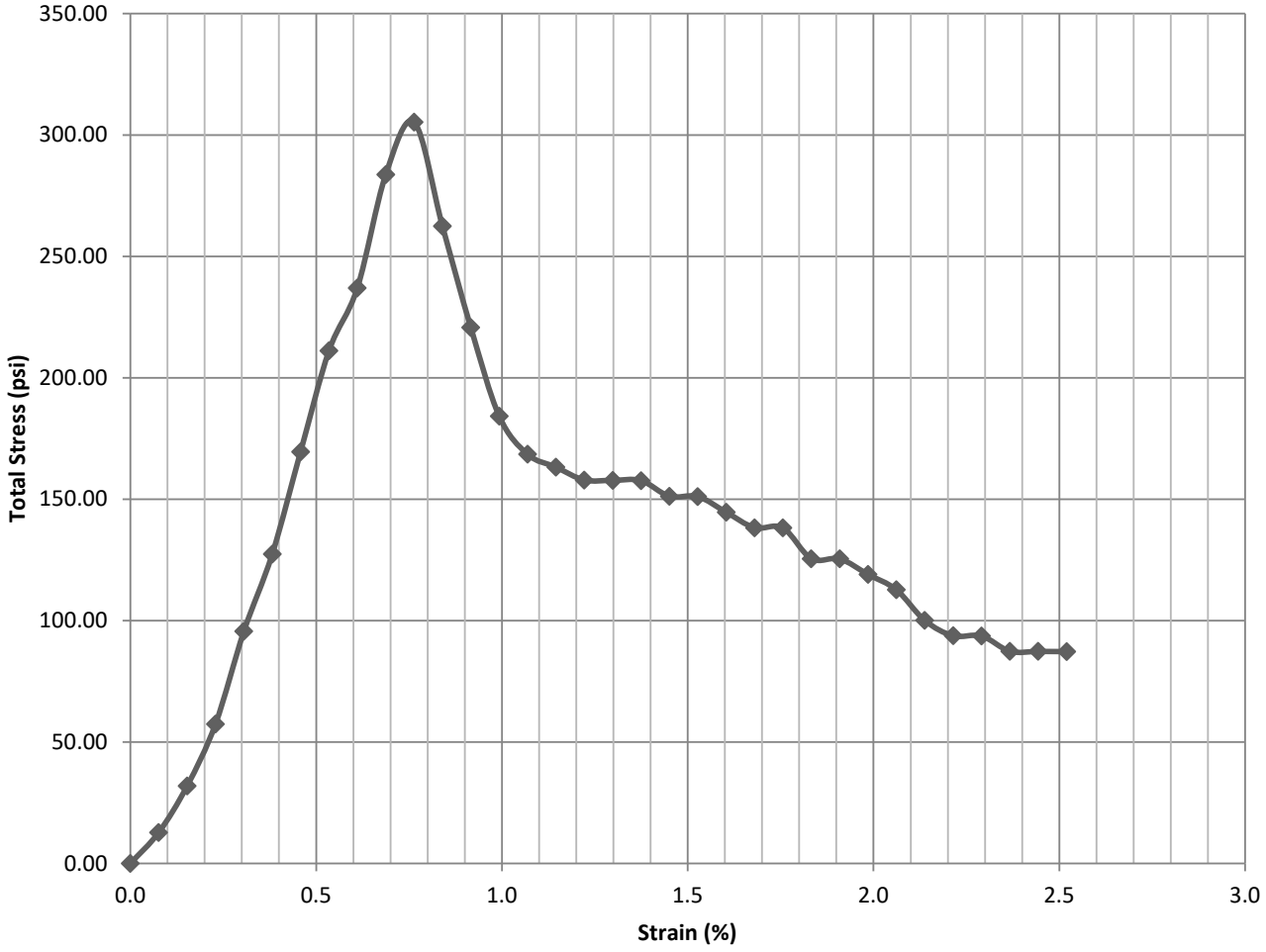


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1831



Average Initial Diameter (Do):	1.847 in.	Sample Volume:	10.53 in^3
Average Initial Height (Lo):	3.929 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.679 in^2	Sample Weight:	0.741 lbs.
In-Situ Unit Weight:	121.7 pcf	L/D Ratio:	2.127
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-9 / NQ-4		
Depth/Elevation	59.7' - 60.1'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 305 psi ε_{ULT} = 0.8%

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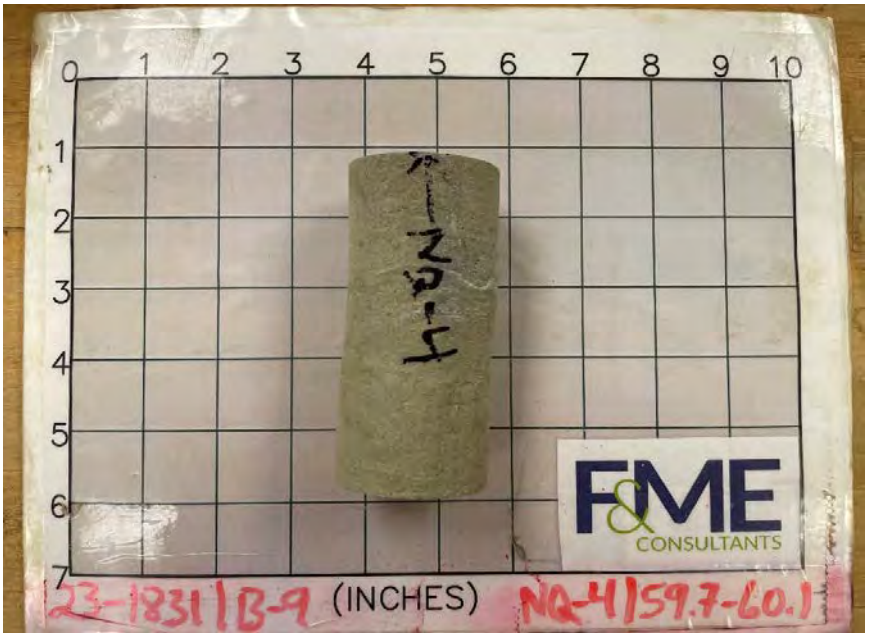
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1831
Sample Location:	B-9 / NQ-4		Depth of Sample:	59.7' - 60.1'
Tested By:	W. Pitts	Date Tested:	6/15/2023	

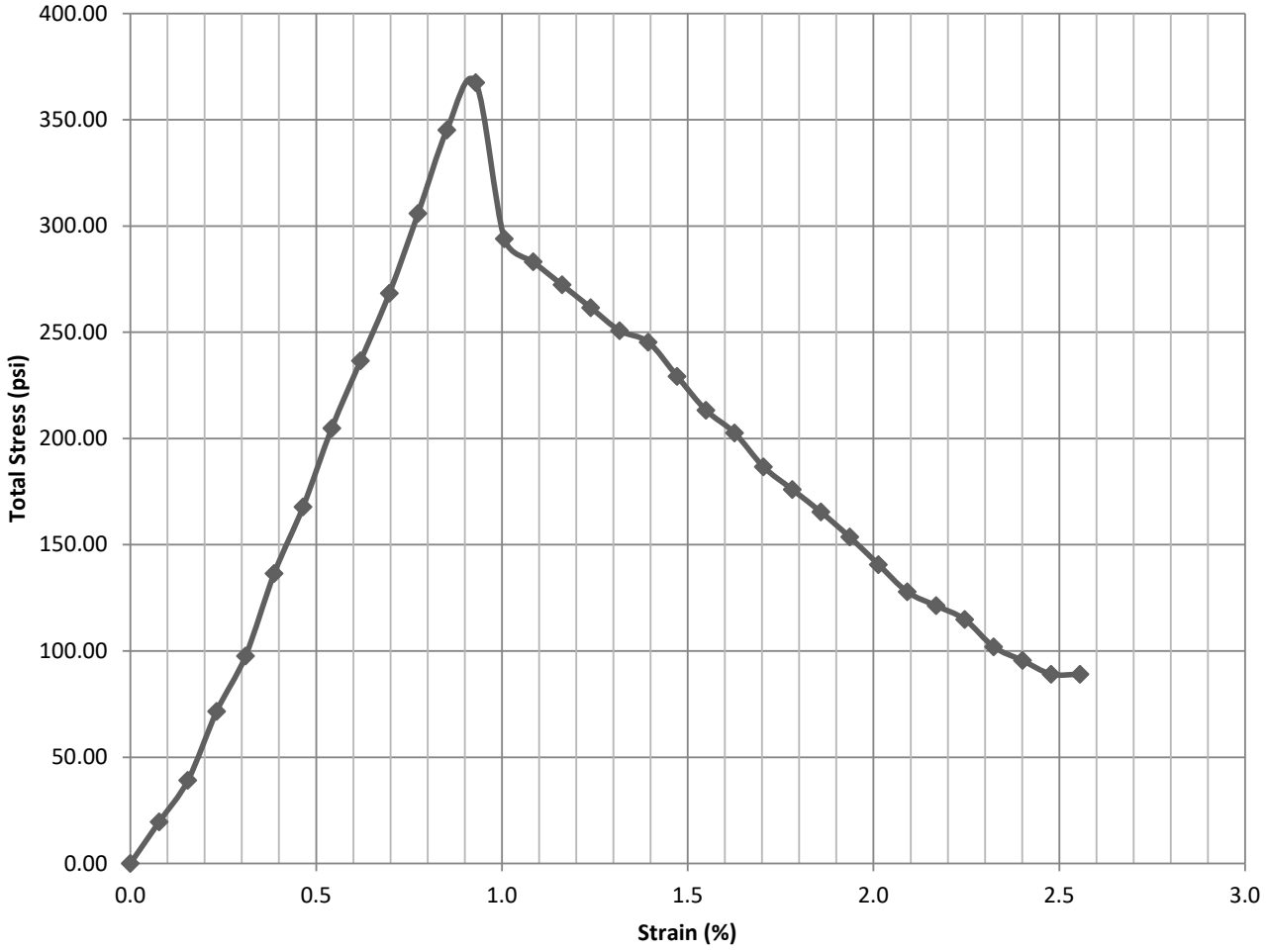


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1831



Average Initial Diameter (Do):	1.828 in.	Sample Volume:	10.17 in^3
Average Initial Height (Lo):	3.874 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.624 in^2	Sample Weight:	0.717 lbs.
In-Situ Unit Weight:	121.9 pcf	L/D Ratio:	2.119
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-9 / NQ-5		
Depth/Elevation	64.1' - 64.4'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 370 psi ε_{ULT} = 0.9%

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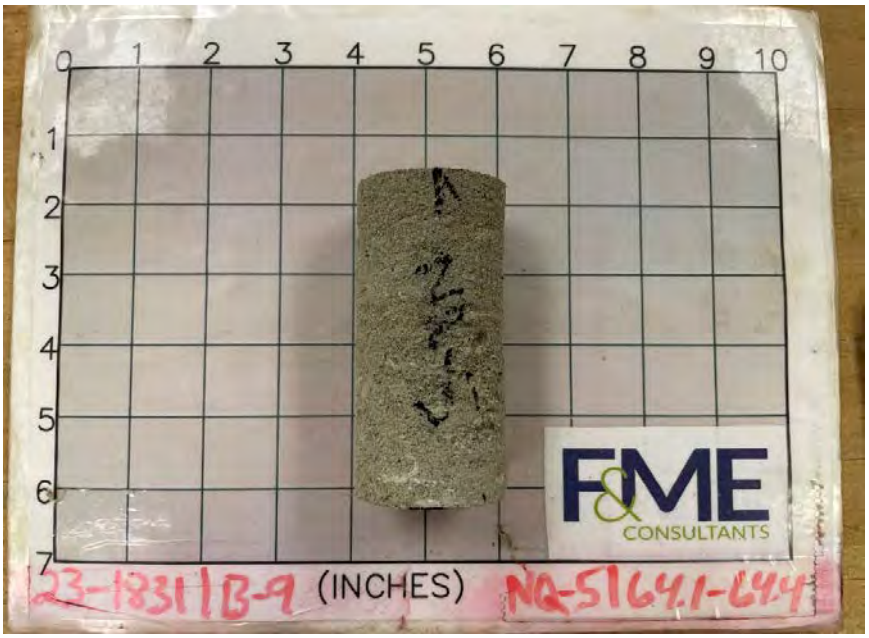
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1831
Sample Location:	B-9 / NQ-5		**Depth of Sample:**	64.1' - 64.4'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	



Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.858	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.056	Reviewed By	WJG
Boring	B-9	Unit Weight (pcf)	145.5	Core Size	NQ
Sample No.	NQ-7 / 23-1831A	L/D Ratio	2.18	Recovery	73%
Depth	73.1' - 73.4'	Load Rate (psi/sec)	10	RQD	43%
Description	Gray/Black/Brown Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-234	9	1,099	405	3.47	-0.04
30%	-330	32	1,655	610	3.70	-0.10
40%	-535	47	2,186	806	3.01	-0.09
50%	-710	54	2,733	1,008	2.84	-0.08
60%	-922	25	3,291	1,214	2.63	-0.03
70%	-1142	22	3,833	1,414	2.47	-0.02
80%	-1391	-10	4,358	1,607	2.31	0.01
90%	-1807	-239	4,925	1,816	2.01	0.13
100%	-2119	-467	5,472	2,018		

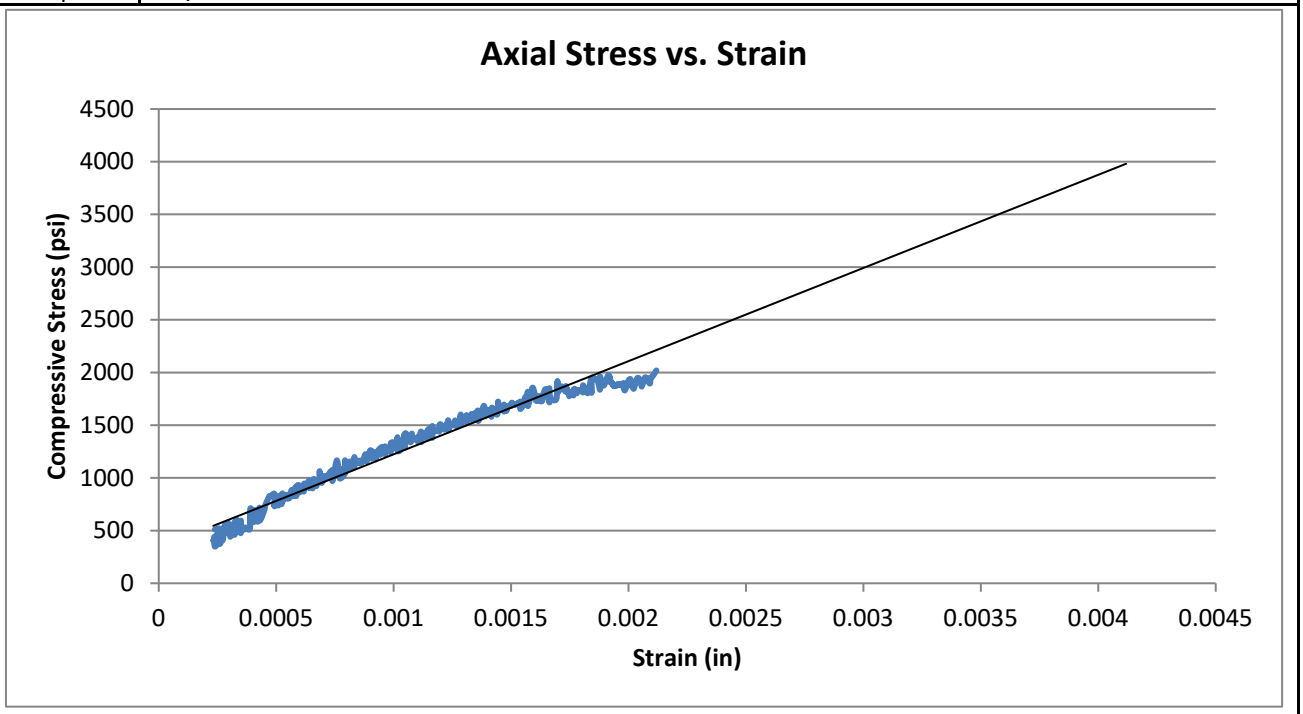
Sample Photos

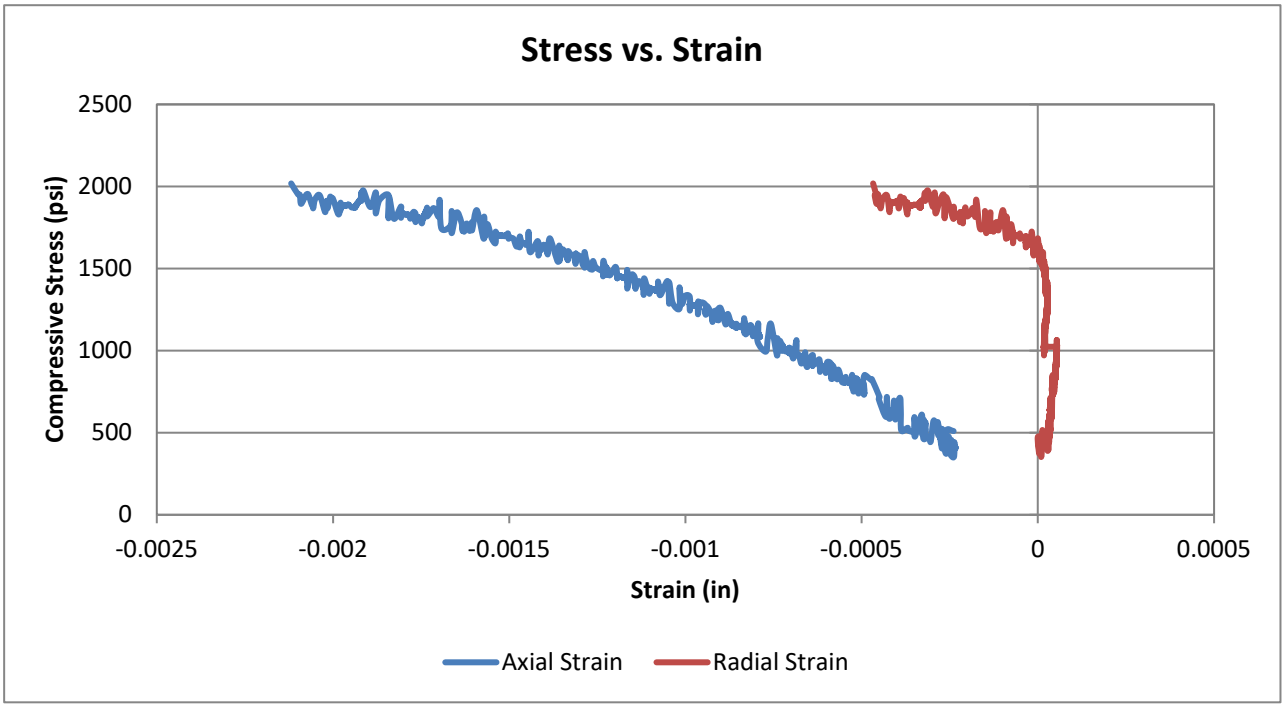
Test Results

Unconfined Compressive Strength (psi)	**2,020**	Elastic Modulus (psi)	2.65E+06
		Poisson's Ratio in Elastic Range	N/A
Comments	Elastic range was taken as between 0.0005 and 0.0015 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range. Lateral strain data does not appear reasonable. As such, Poission's Ratio data is not presented.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.858	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.056	Reviewed By	WJG
Boring	B-9	Unit Weight (pcf)	145.5	Core Size	NQ
Sample No.	NQ-7 / 23-1831A	L/D Ratio	2.18	Recovery	73%
Depth	73.1' - 73.4'	Load Rate (psi/sec)	10	RQD	43%
Description	Gray/Black/Brown Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.861	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.914	Reviewed By	WJG
Boring	B-9	Unit Weight (pcf)	145.9	Core Size	NQ
Sample No.	NQ-8 / 23-1831B	L/D Ratio	2.10	Recovery	98%
Depth	76.4' - 76.7'	Load Rate (psi/sec)	10	RQD	68%
Description	Brown/Gray/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%	-1471	218	887	326	0.44	0.15
40%	-2016	318	1,158	426	0.42	0.16
50%	-2482	372	1,445	531	0.43	0.15
60%	-3623	391	1,774	652	0.36	0.11
70%	-4203	421	2,104	774	0.37	0.10
80%	-4935	390	2,370	871	0.35	0.08
90%	-6516	398	2,682	986	0.30	0.06
100%	-8431	640	2,996	1,101		

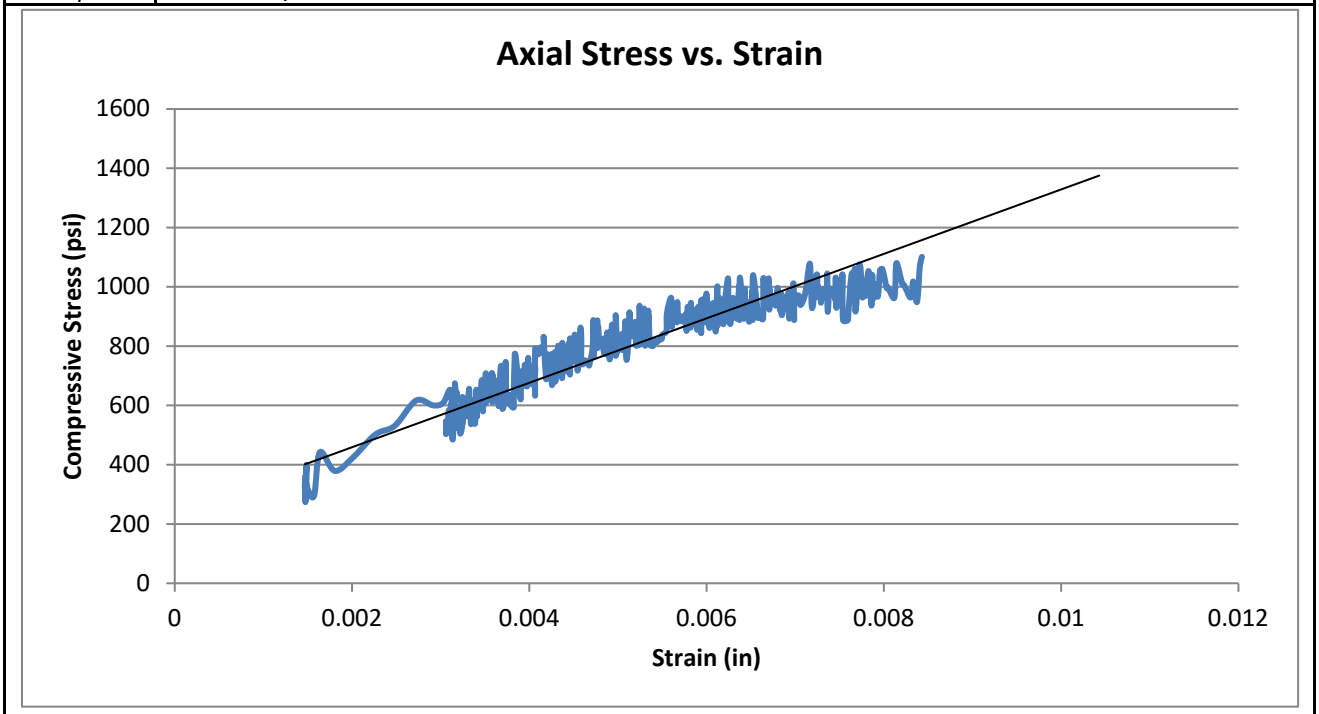
Sample Photos

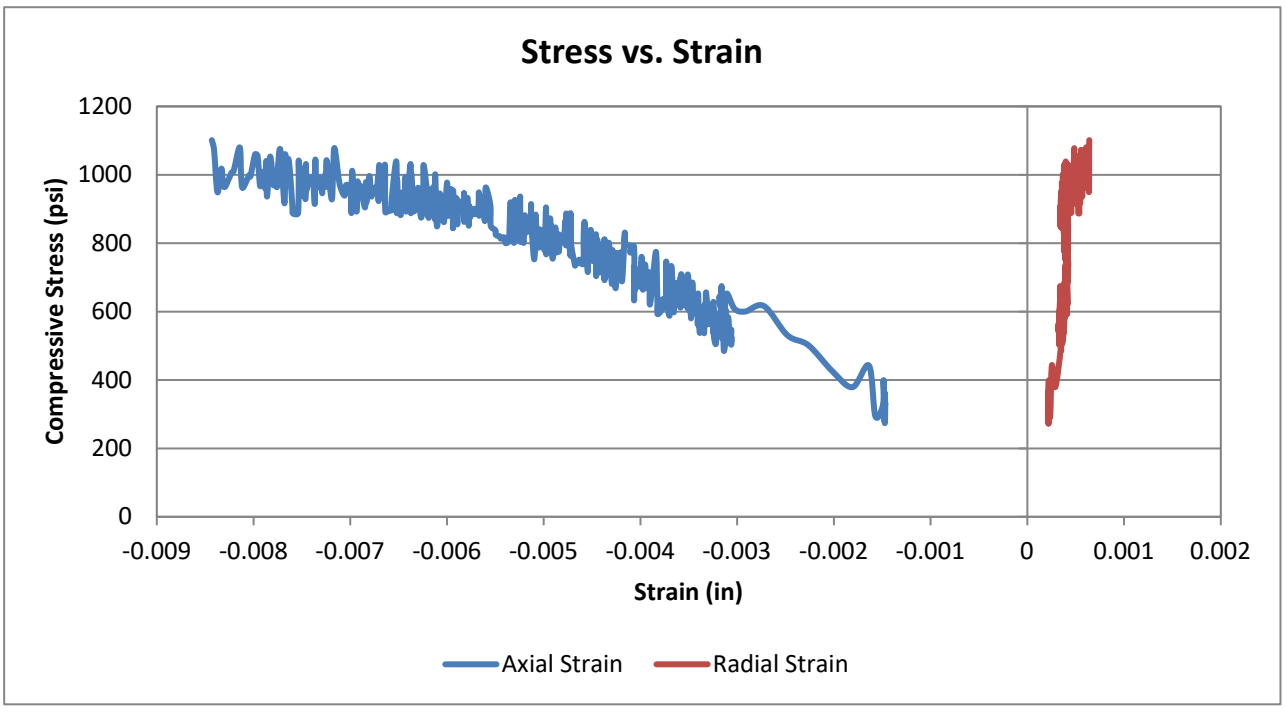
Test Results

Unconfined Compressive Strength (psi)	**1,100**	Elastic Modulus (psi)	3.45E+05
		Poisson's Ratio in Elastic Range	0.10
Comments	Elastic range was taken as between 0.003 and 0.006 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

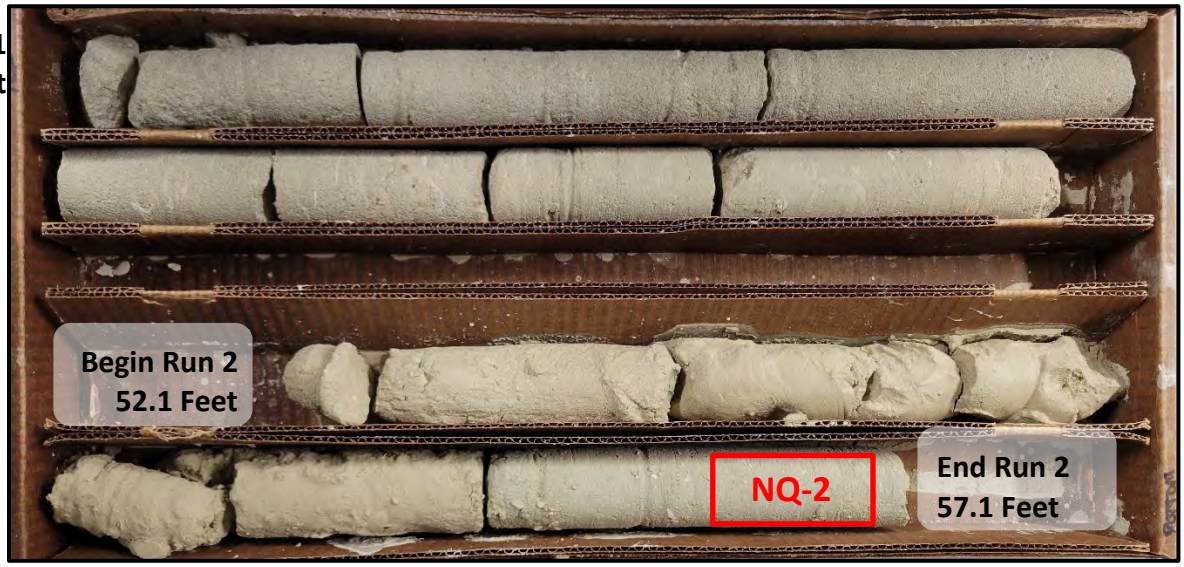
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

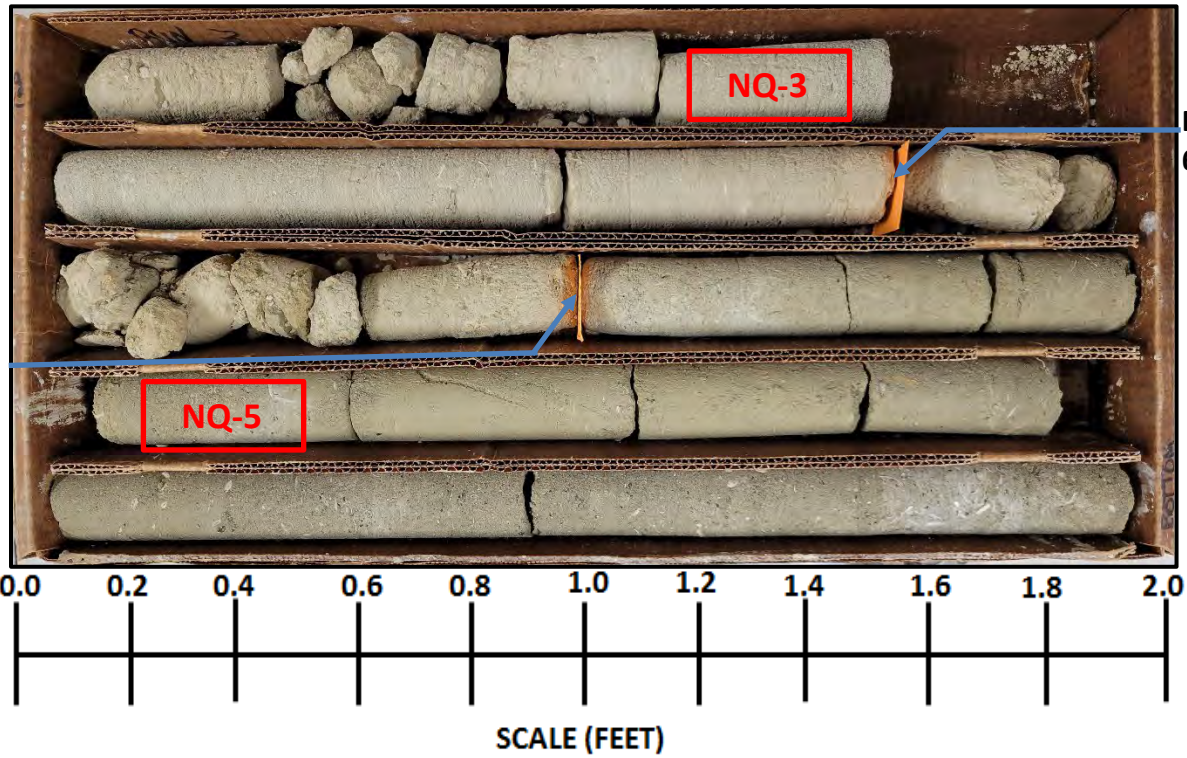
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.861	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.914	Reviewed By	WJG
Boring	B-9	Unit Weight (pcf)	145.9	Core Size	NQ
Sample No.	NQ-8 / 23-1831B	L/D Ratio	2.10	Recovery	98%
Depth	76.4' - 76.7'	Load Rate (psi/sec)	10	RQD	68%
Description	Brown/Gray/Black Limestone				



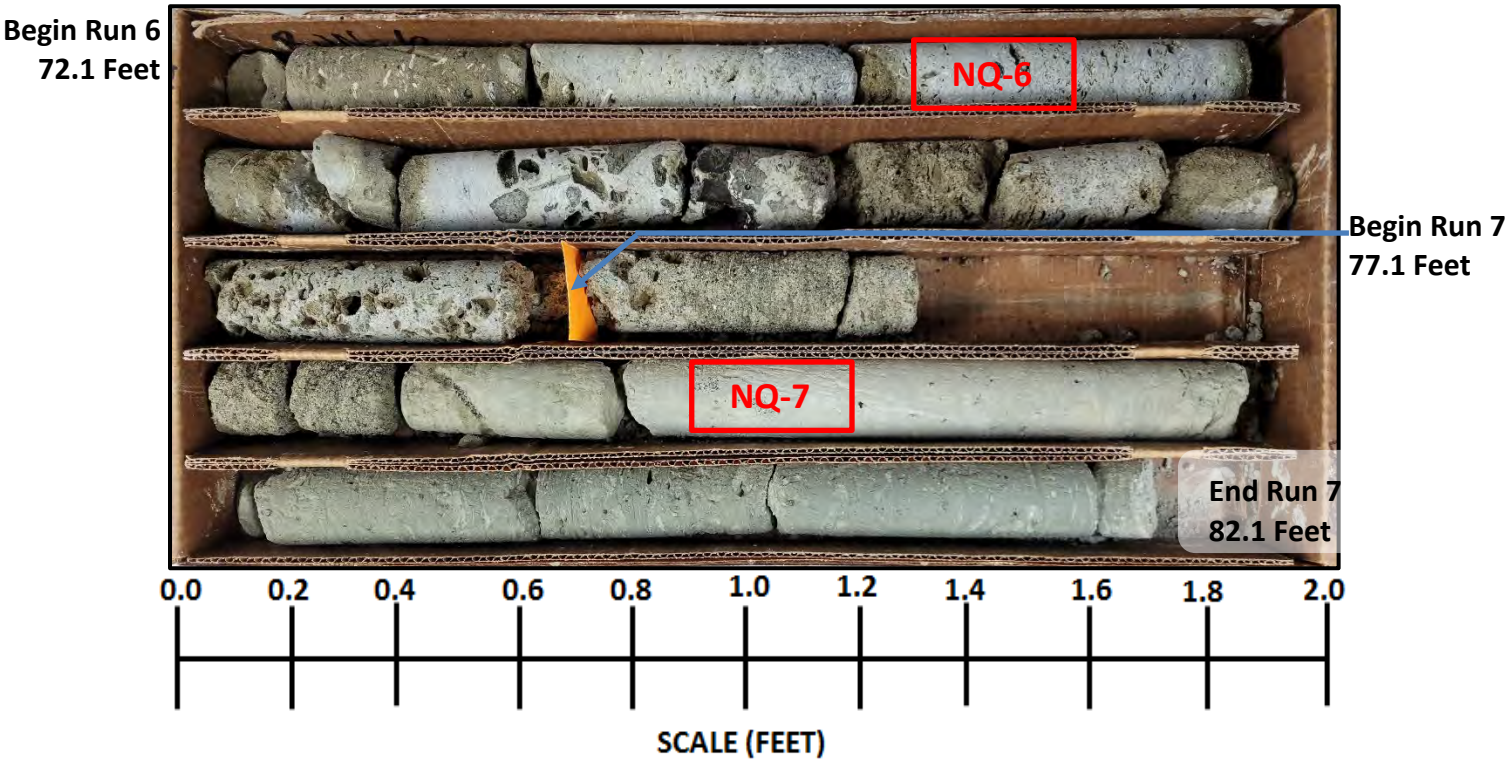


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-10



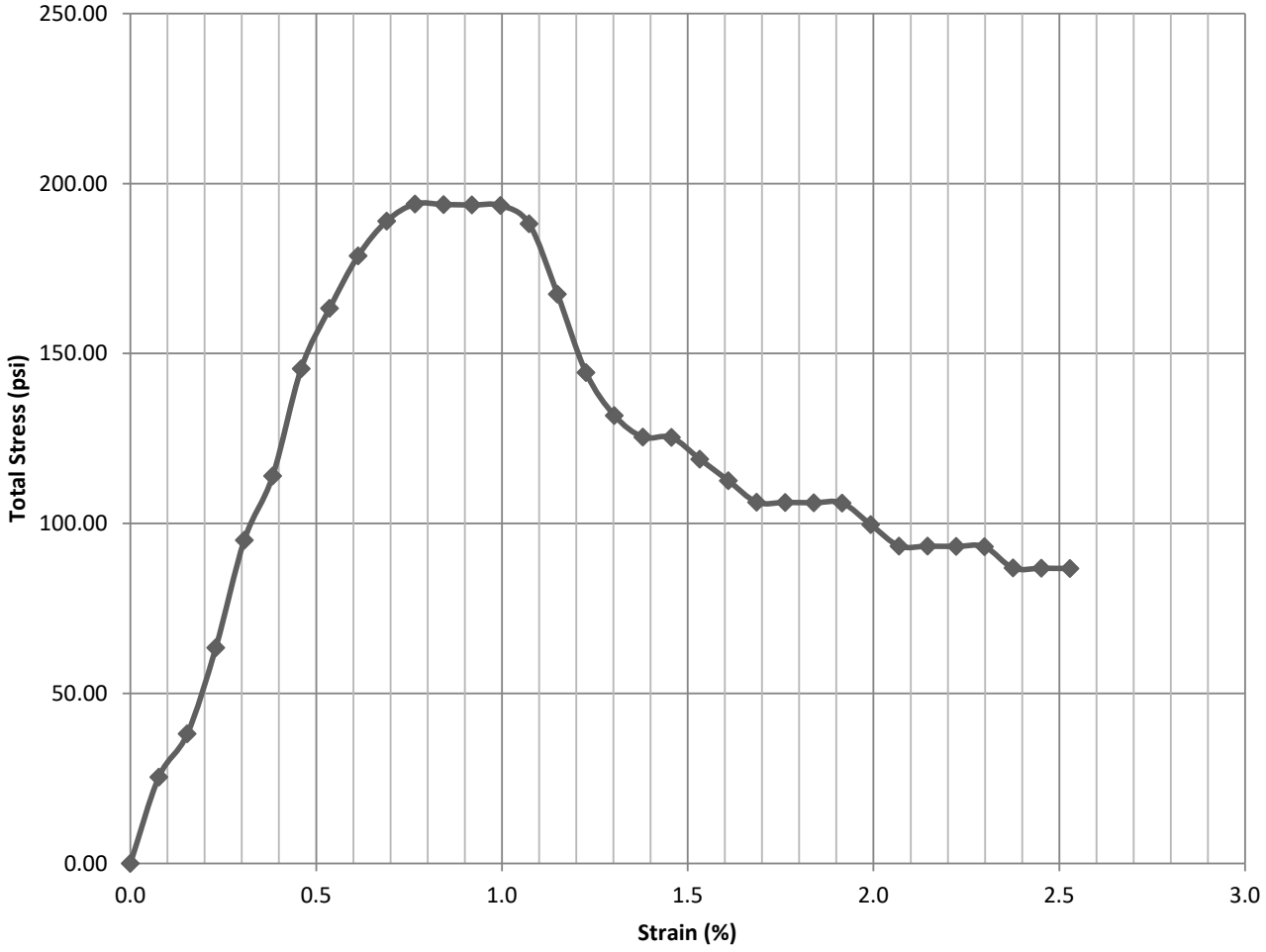


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-10



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0951



Average Initial Diameter (Do):	1.852 in.	Sample Volume:	10.55 in^3
Average Initial Height (Lo):	3.915 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.694 in^2	Sample Weight:	0.739 lbs.
In-Situ Unit Weight:	121.0 pcf	L/D Ratio:	2.114
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-10 / NQ-2		
Depth/Elevation	54.8' - 55.1'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 195 psi ε_{ULT} = 0.8%

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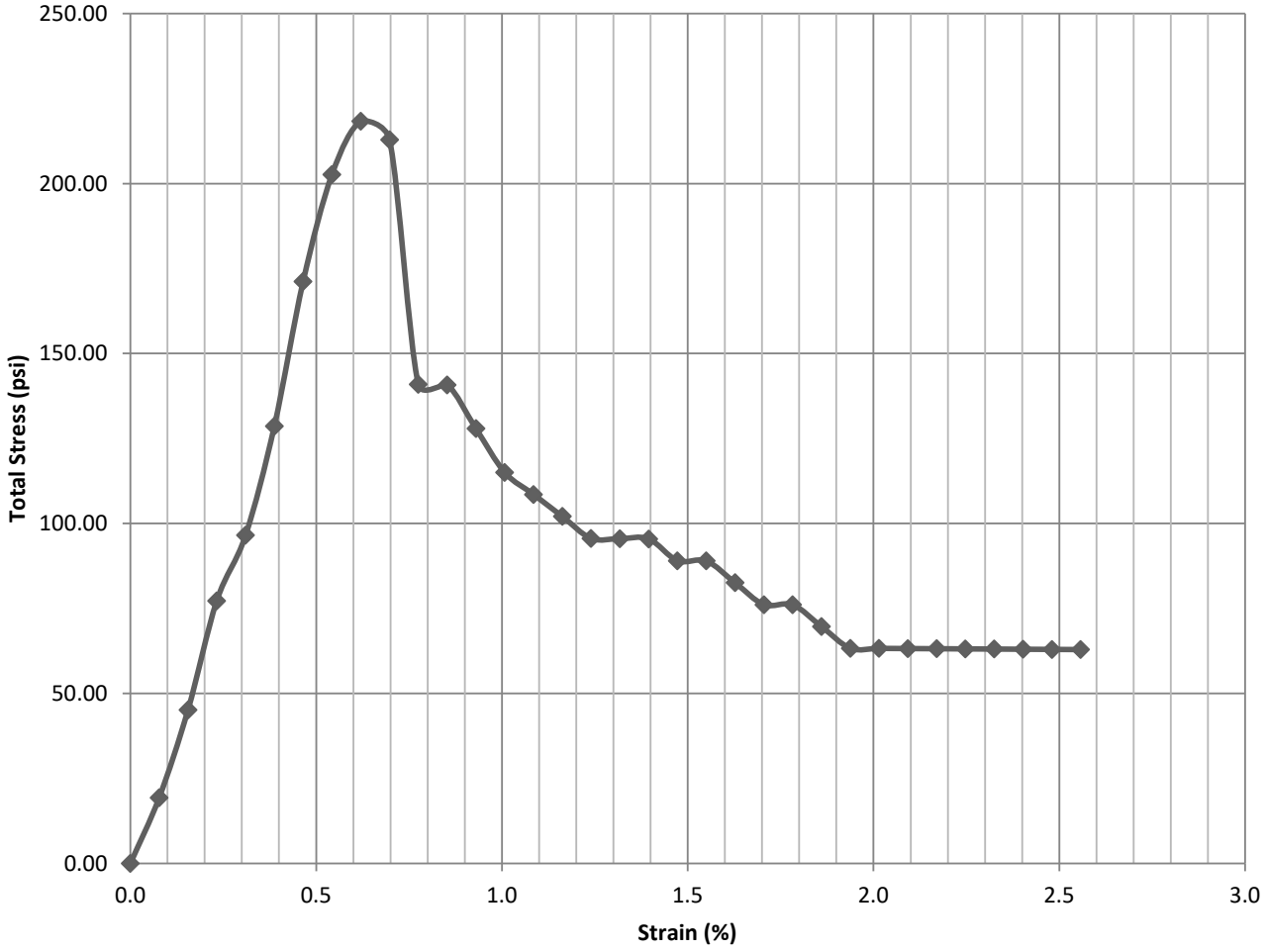
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0951
Sample Location:	B-10 / NQ-2		**Depth of Sample:**	54.8' - 55.1'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0951



Average Initial Diameter (Do):	1.838 in.	Sample Volume:	10.27 in^3
Average Initial Height (Lo):	3.871 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.653 in^2	Sample Weight:	0.696 lbs.
In-Situ Unit Weight:	117.0 pcf	L/D Ratio:	2.106
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-10 / NQ-3		
Depth/Elevation	58.3' - 58.6'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 220 psi ε_{ULT} = 0.6%

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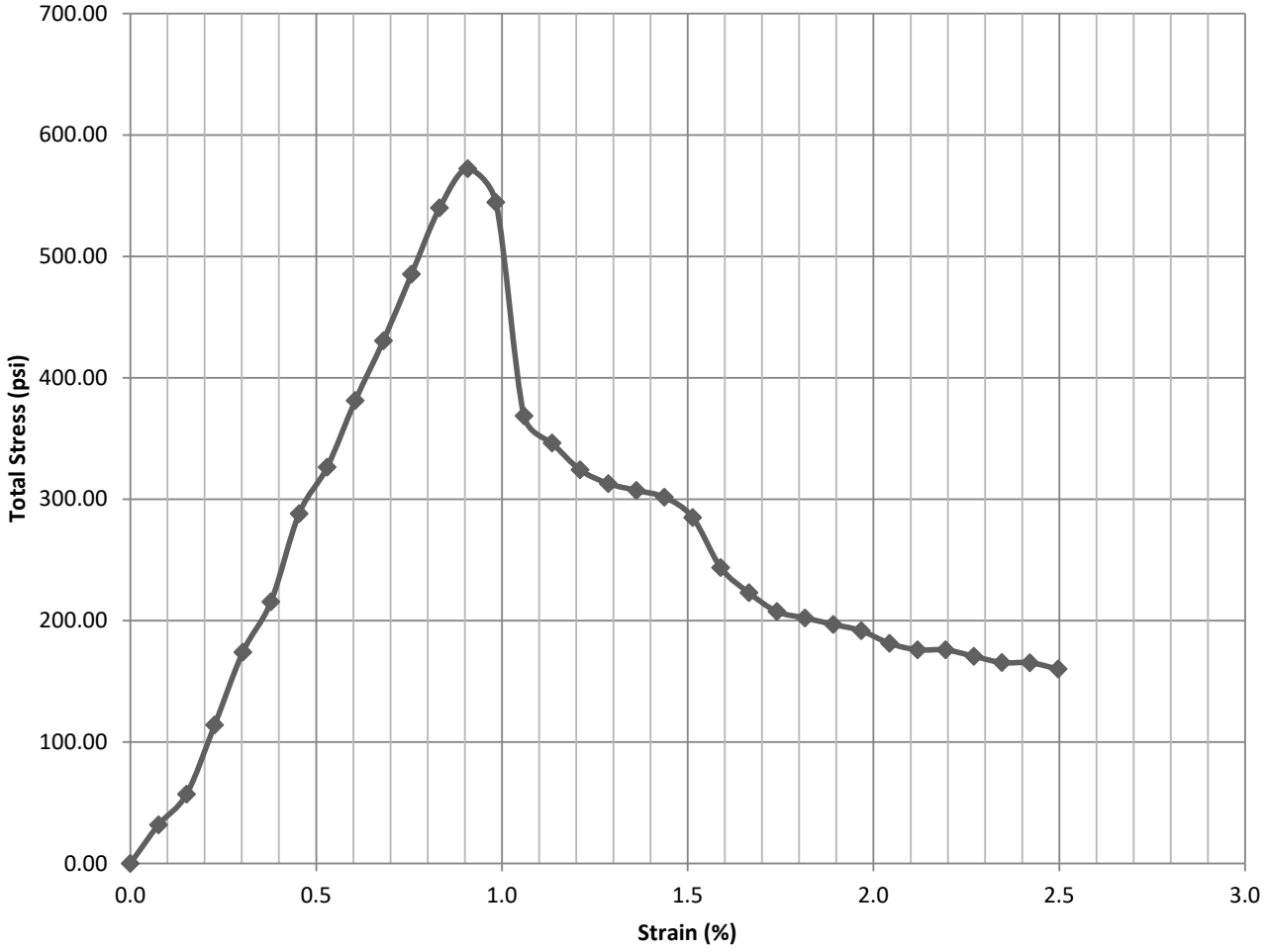
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0951
Sample Location:	B-10 / NQ-3		**Depth of Sample:**	58.3' - 58.6'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0951



Average Initial Diameter (Do):	1.852 in.	Sample Volume:	10.68 in^3
Average Initial Height (Lo):	3.965 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.694 in^2	Sample Weight:	0.807 lbs.
In-Situ Unit Weight:	130.6 pcf	L/D Ratio:	2.141
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-10 / NQ-5		
Depth/Elevation	68.2' - 68.5'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 570 psi ε_{ULT} = 0.9%

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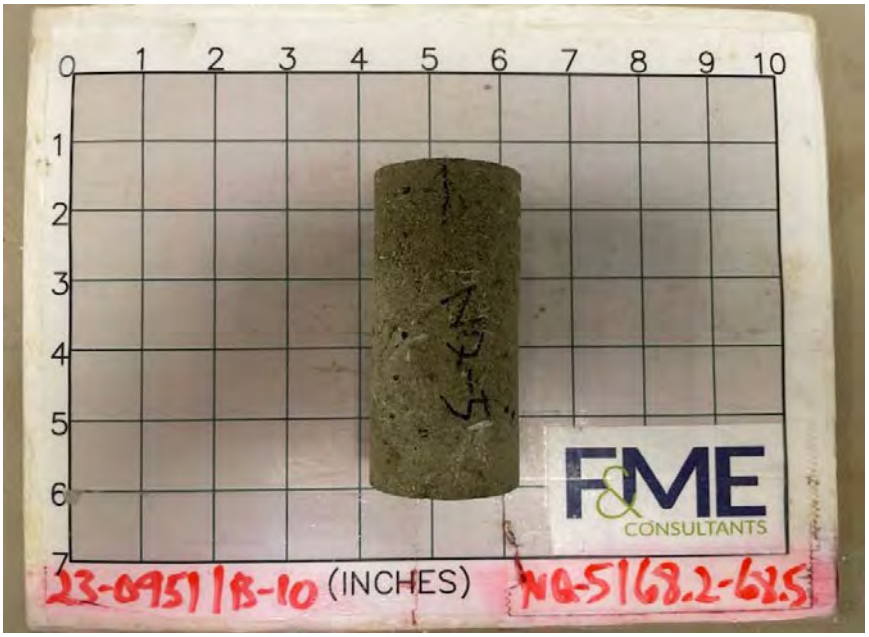
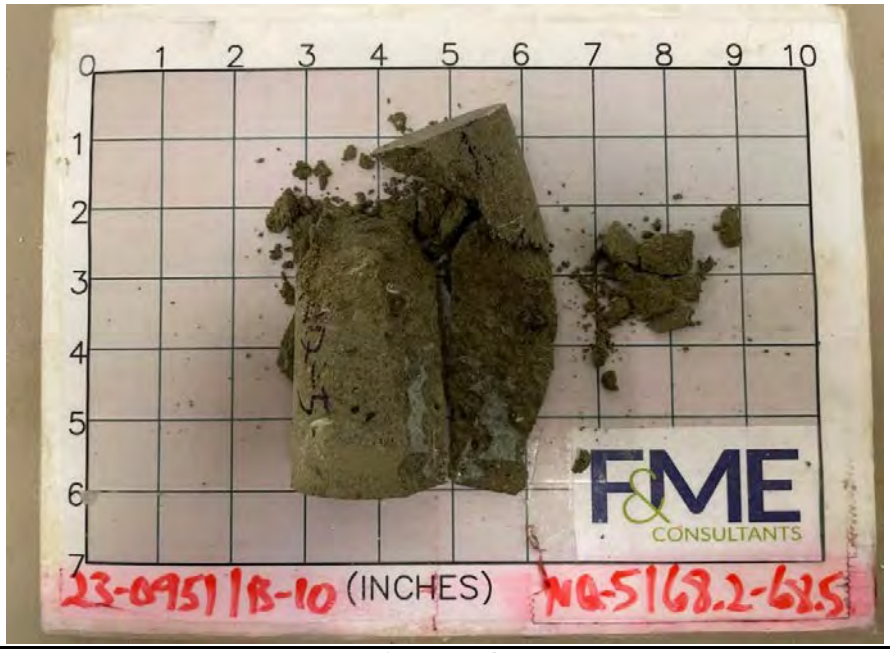
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0951
Sample Location:	B-10 / NQ-5		**Depth of Sample:**	68.2' - 68.5'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	



Before Break



After Break

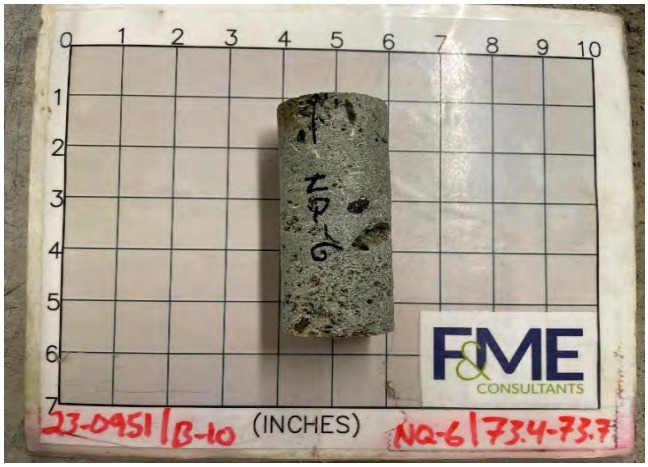
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.884	Reviewed By	WJG
Boring	B-10	Unit Weight (pcf)	146.8	Core Size	NQ
Sample No.	NQ-6 /23-0951	L/D Ratio	2.08	Recovery	88%
Depth	73.4' - 73.7'	Load Rate (psi/sec)	10	RQD	55%
Description	Gray/White/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-313	48	1,731	633	4.04	0.15
30%	-473	77	2,594	950	4.02	0.16
40%	-617	103	3,418	1,251	4.06	0.17
50%	-771	133	4,259	1,559	4.04	0.17
60%	-924	161	5,086	1,862	4.03	0.17
70%	-1045	184	5,904	2,161	4.14	0.18
80%	-1239	221	6,848	2,507	4.05	0.18
90%	-1422	257	7,621	2,790	3.92	0.18
100%	-1403	407	8,515	3,117		

Sample Photos

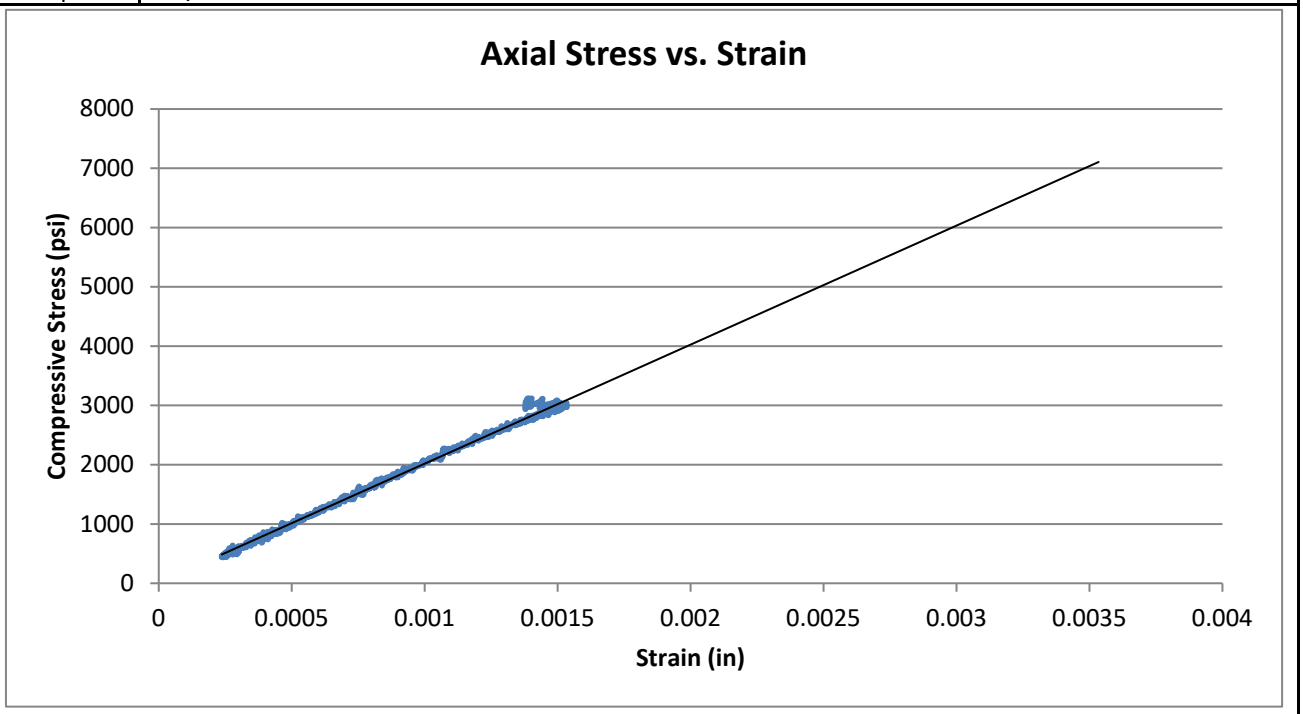


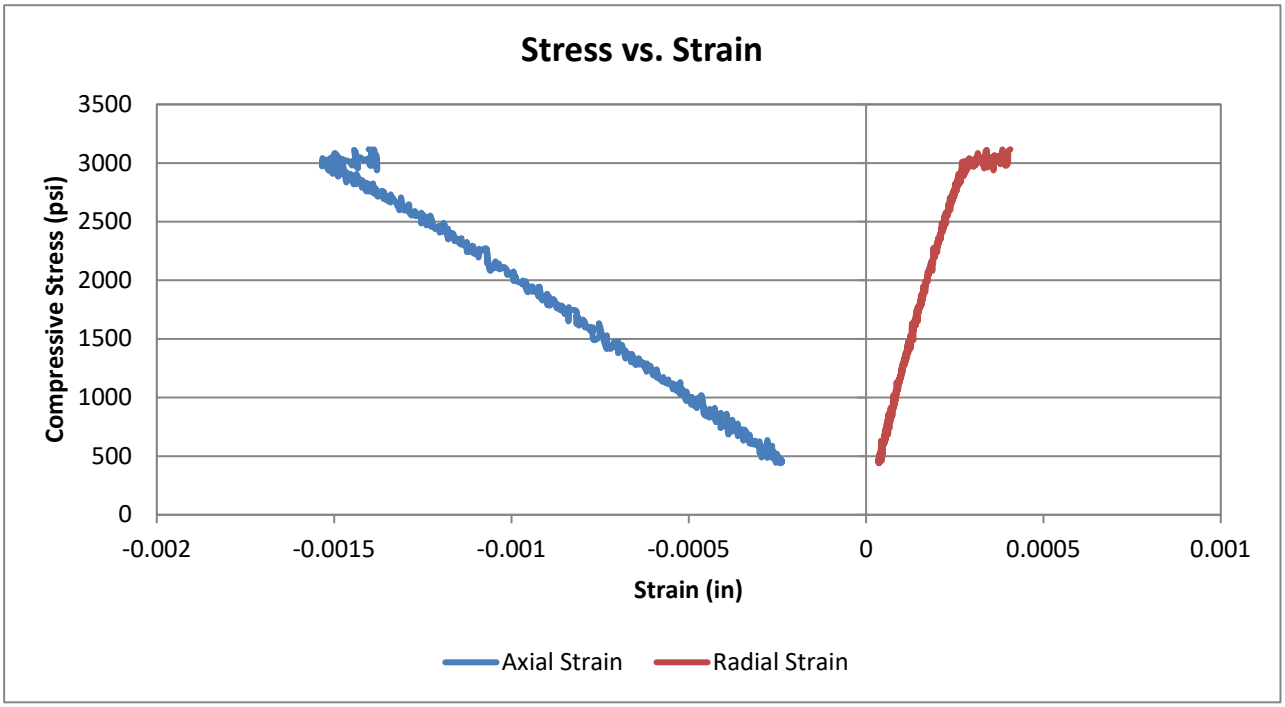
Test Results

Unconfined Compressive Strength (psi)	**3,120**	Elastic Modulus (psi)	4.07E+06
		Poisson's Ratio in Elastic Range	0.17
Comments	Elastic range was taken as between 0.0005 and 0.0012 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

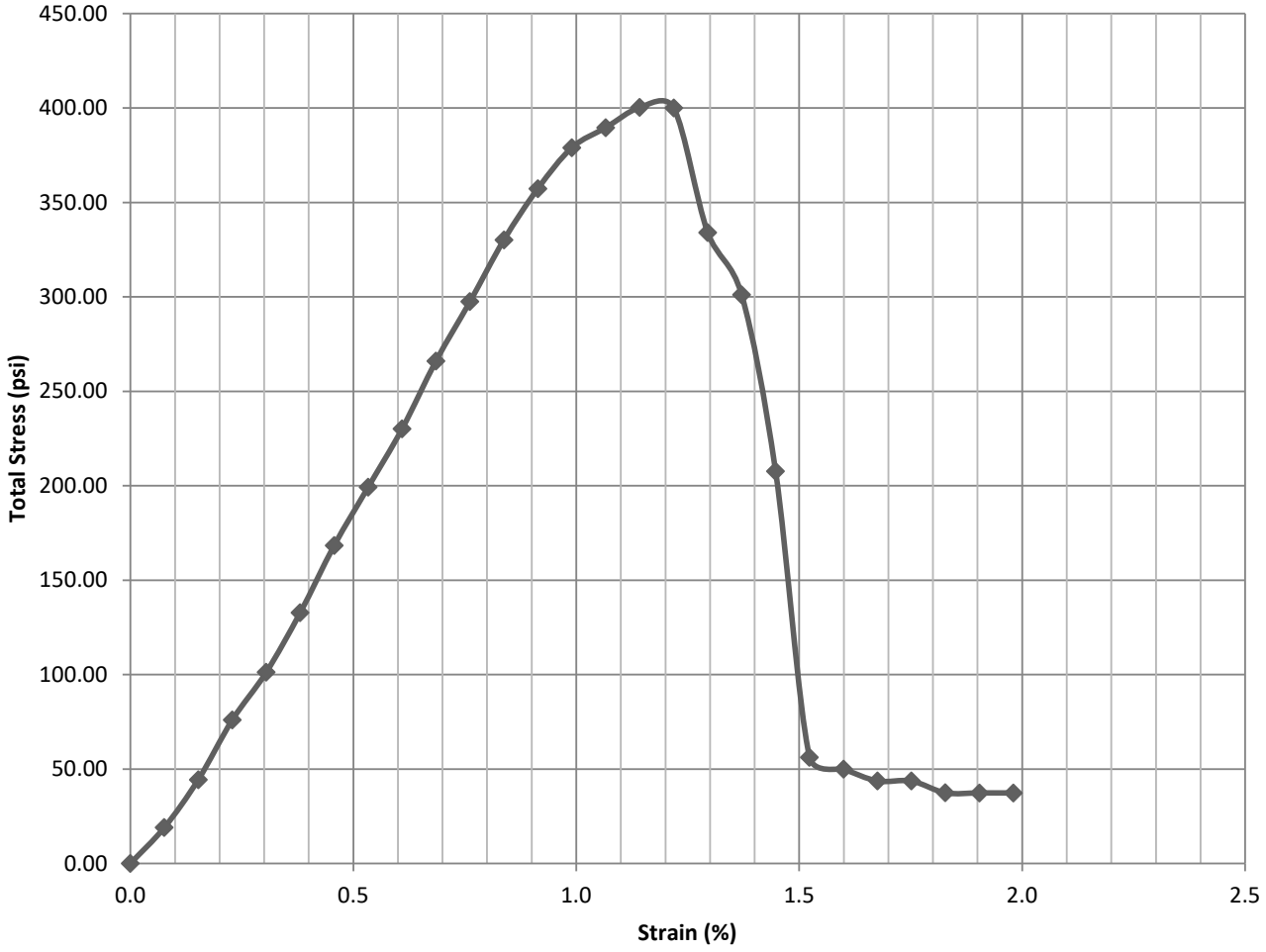
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.884	Reviewed By	WJG
Boring	B-10	Unit Weight (pcf)	146.8	Core Size	NQ
Sample No.	NQ-6 /23-0951	L/D Ratio	2.08	Recovery	88%
Depth	73.4' - 73.7'	Load Rate (psi/sec)	10	RQD	55%
Description	Gray/White/Black Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0951



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.63 in^3
Average Initial Height (Lo):	3.939 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.863 lbs.
In-Situ Unit Weight:	140.2 pcf	L/D Ratio:	2.125
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-10 / NQ-7		
Depth/Elevation	78.7' - 79.0'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 400 psi ε_{ULT} = 1.1%

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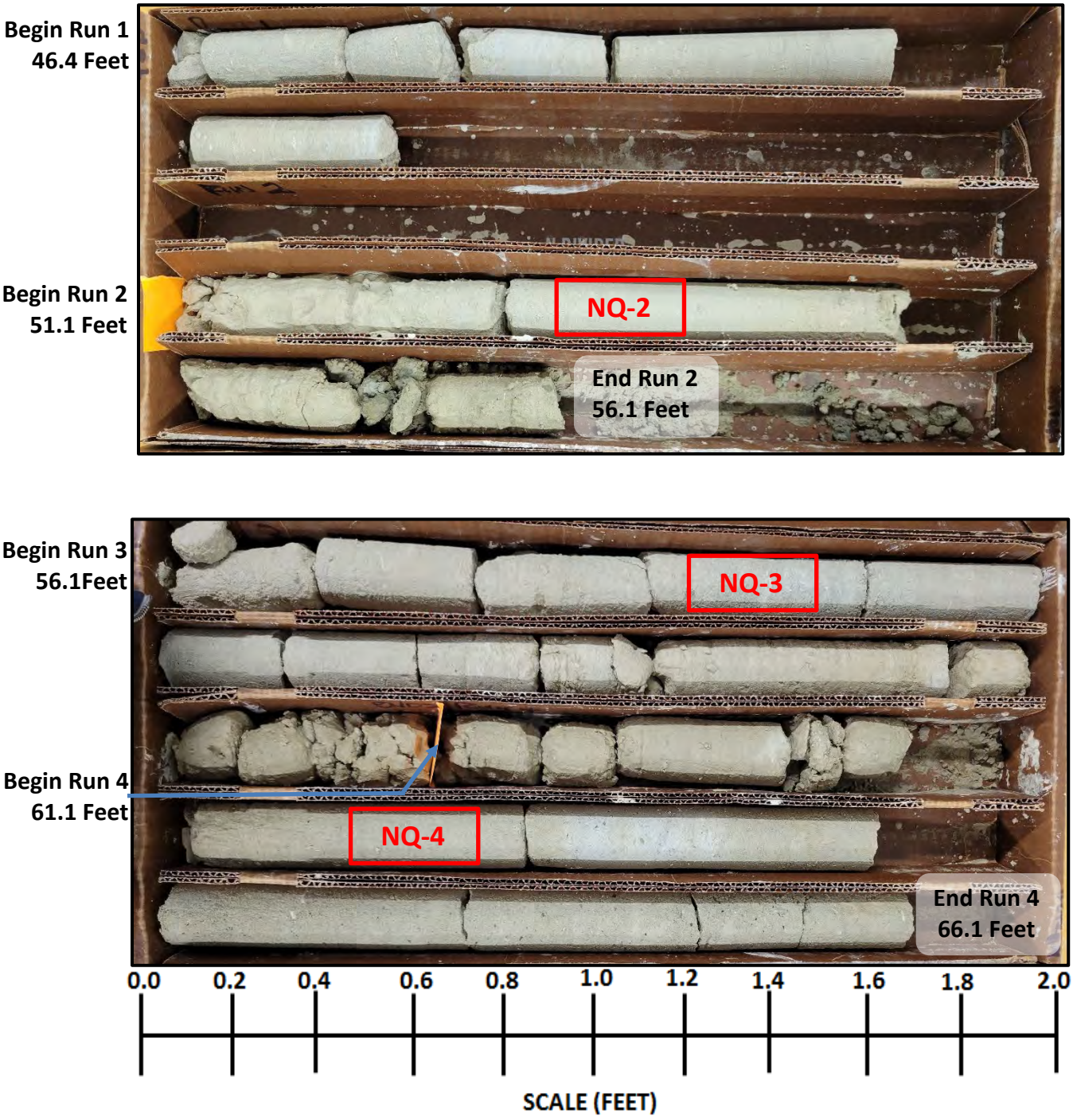
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0951
Sample Location:	B-10 / NQ-7		**Depth of Sample:**	78.7' - 79.0'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

Before Break

After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-11



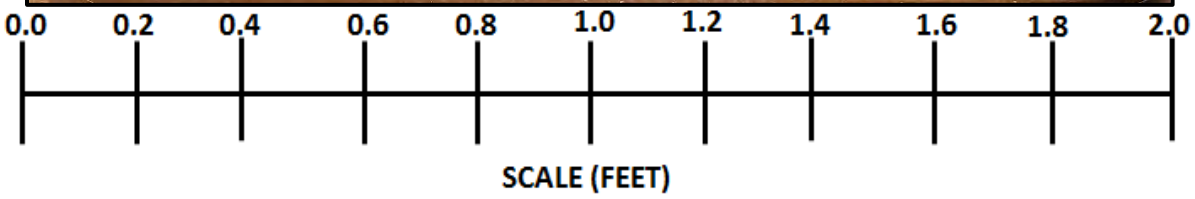
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-11

Begin Run 5
66.1 Feet

Begin Run 6
71.1 Feet

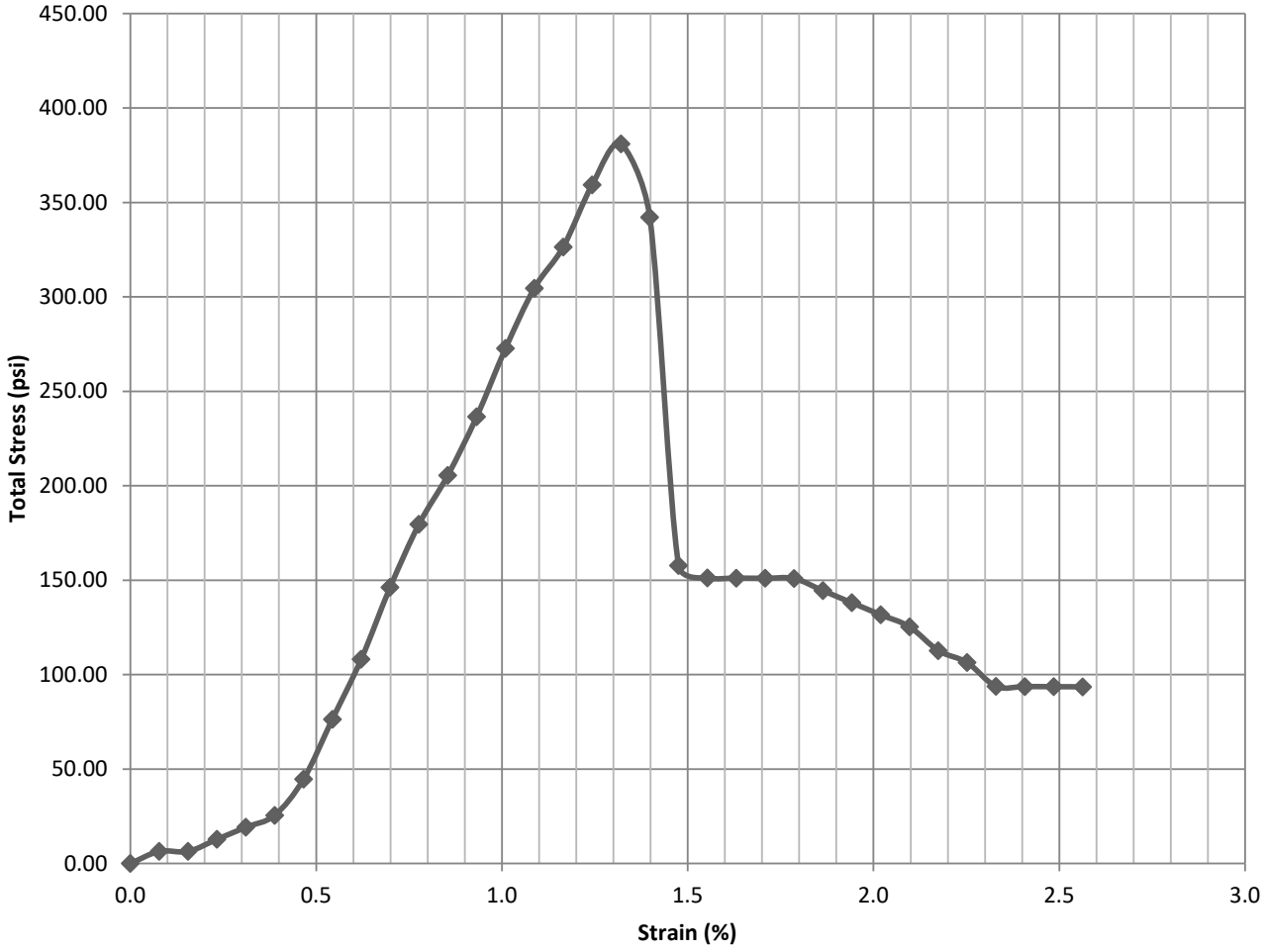
End Run 6
76.1 Feet

Begin Run 7
76.1 Feet



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1662



Average Initial Diameter (Do):	1.846 in.	Sample Volume:	10.34 in^3
Average Initial Height (Lo):	3.863 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.676 in^2	Sample Weight:	0.742 lbs.
In-Situ Unit Weight:	123.9 pcf	L/D Ratio:	2.093
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-11 / NQ-2		
Depth/Elevation	52.0' - 52.4'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 380 psi ε_{ULT} = 1.3%

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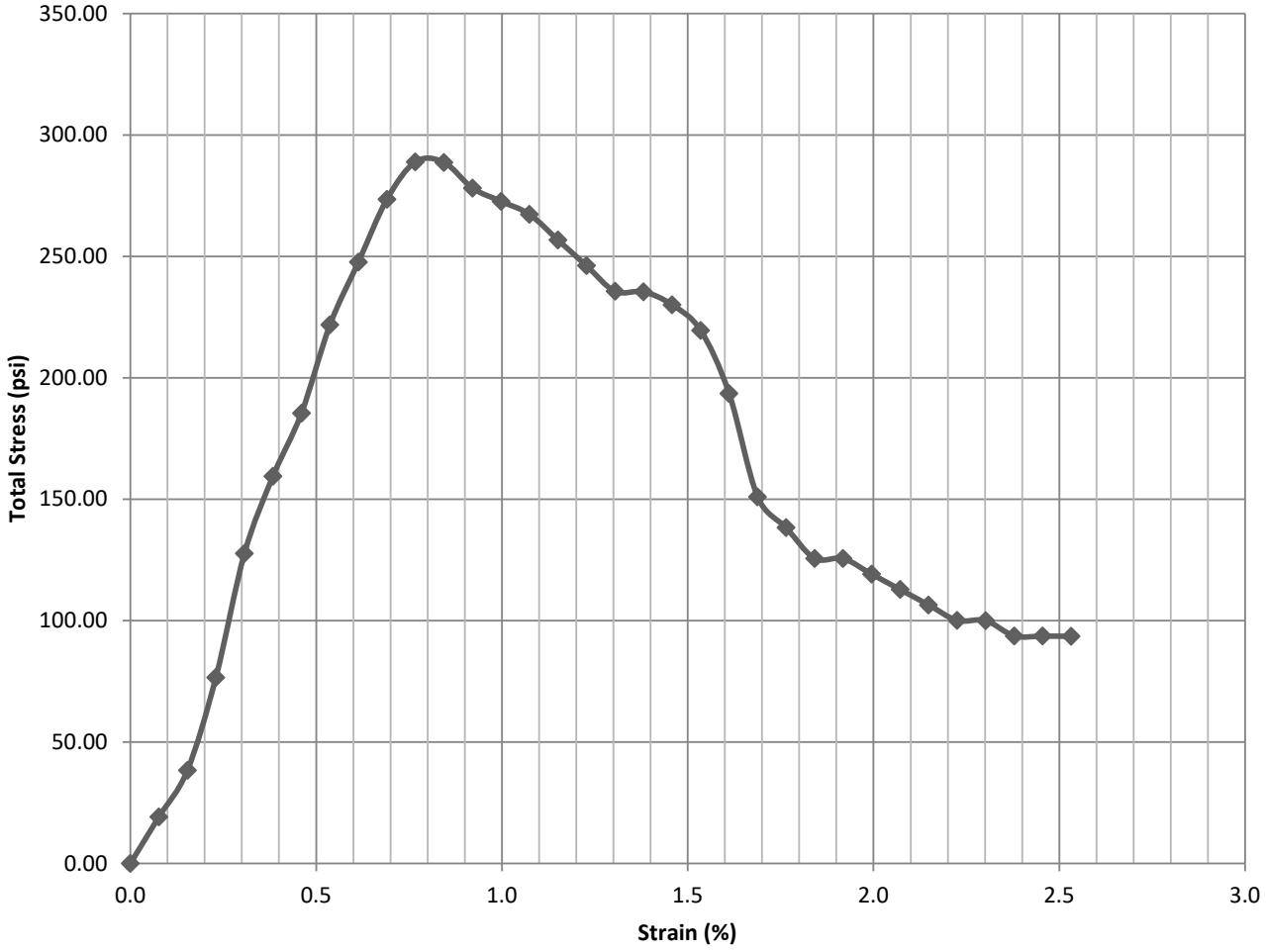
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1662
Sample Location:	B-11 / NQ-2		**Depth of Sample:**	52.0' - 52.4'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1662



Average Initial Diameter (Do):	1.846 in.	Sample Volume:	10.46 in^3
Average Initial Height (Lo):	3.910 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.676 in^2	Sample Weight:	0.762 lbs.
In-Situ Unit Weight:	125.8 pcf	L/D Ratio:	2.118
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-11 / NQ-3		
Depth/Elevation	57.4' - 57.7'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 290 psi ε_{ULT} = 0.8%

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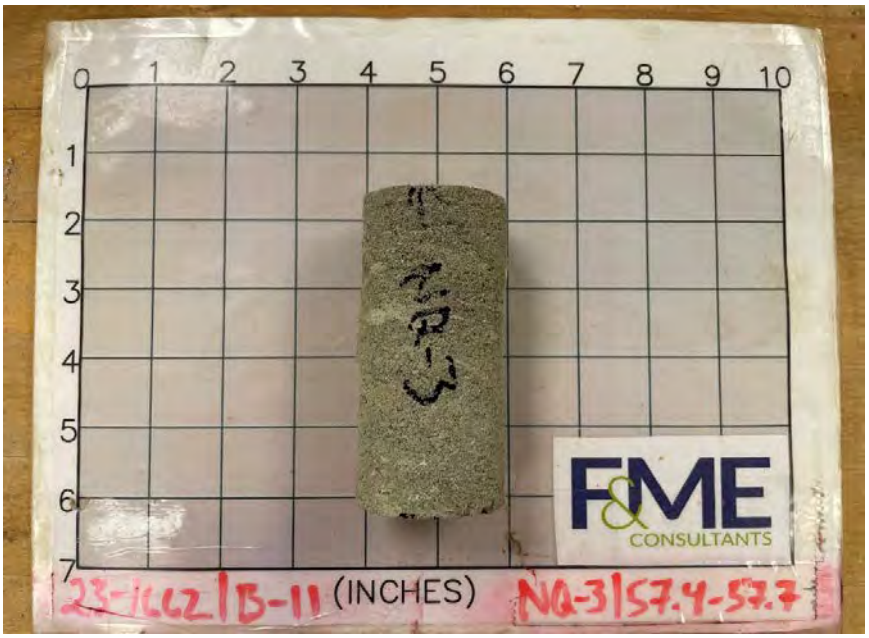
Geotechnical · Environmental · Materials

Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1662
Sample Location:	B-11 / NQ-3		**Depth of Sample:**	57.4' - 57.7'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	

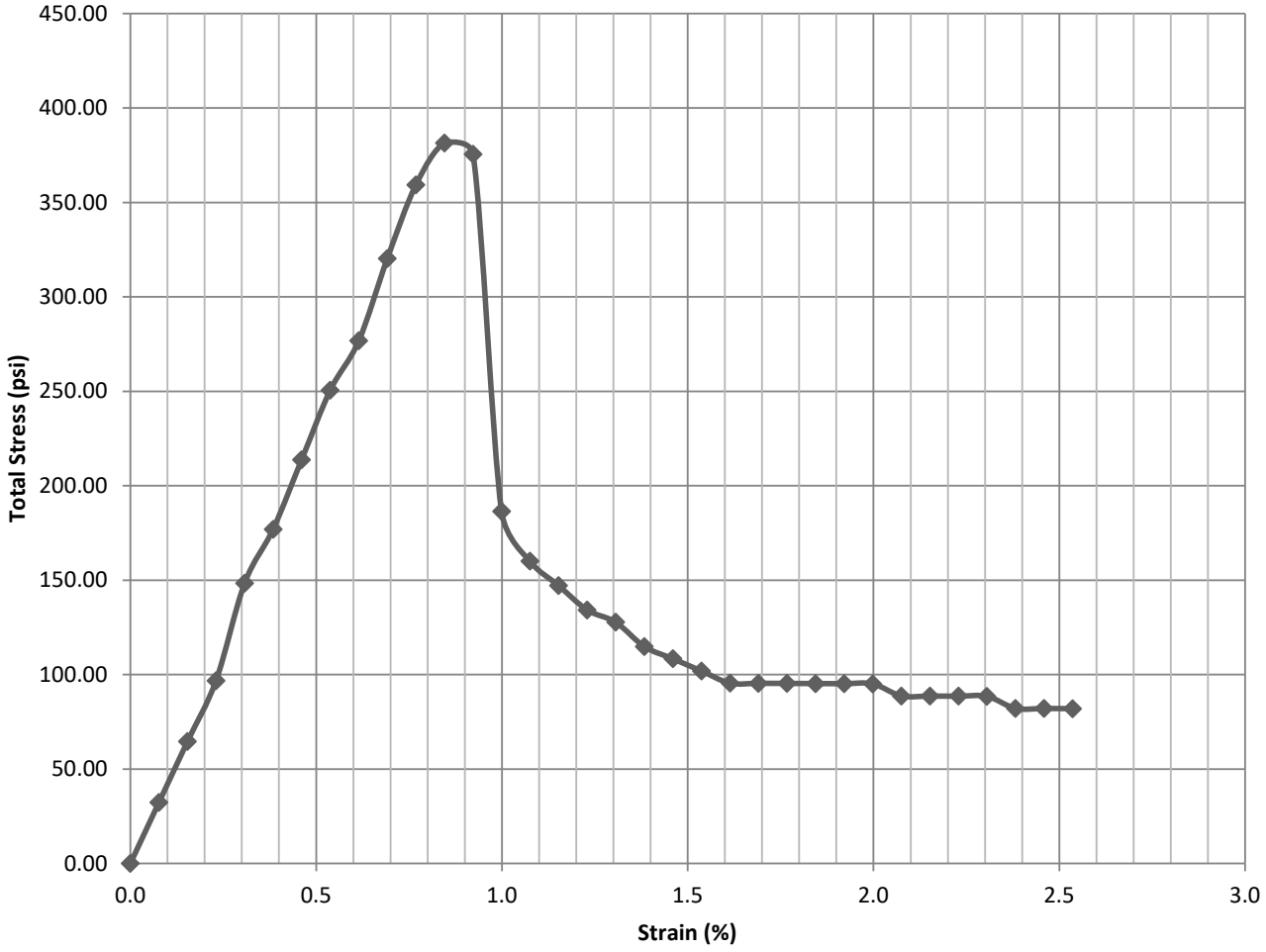


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1662



Average Initial Diameter (Do):	1.836 in.	Sample Volume:	10.34 in^3
Average Initial Height (Lo):	3.904 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.647 in^2	Sample Weight:	0.732 lbs.
In-Situ Unit Weight:	122.4 pcf	L/D Ratio:	2.126
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-11 / NQ-4		
Depth/Elevation	62.4' - 62.8'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 380 psi ε_{ULT} = 0.8%

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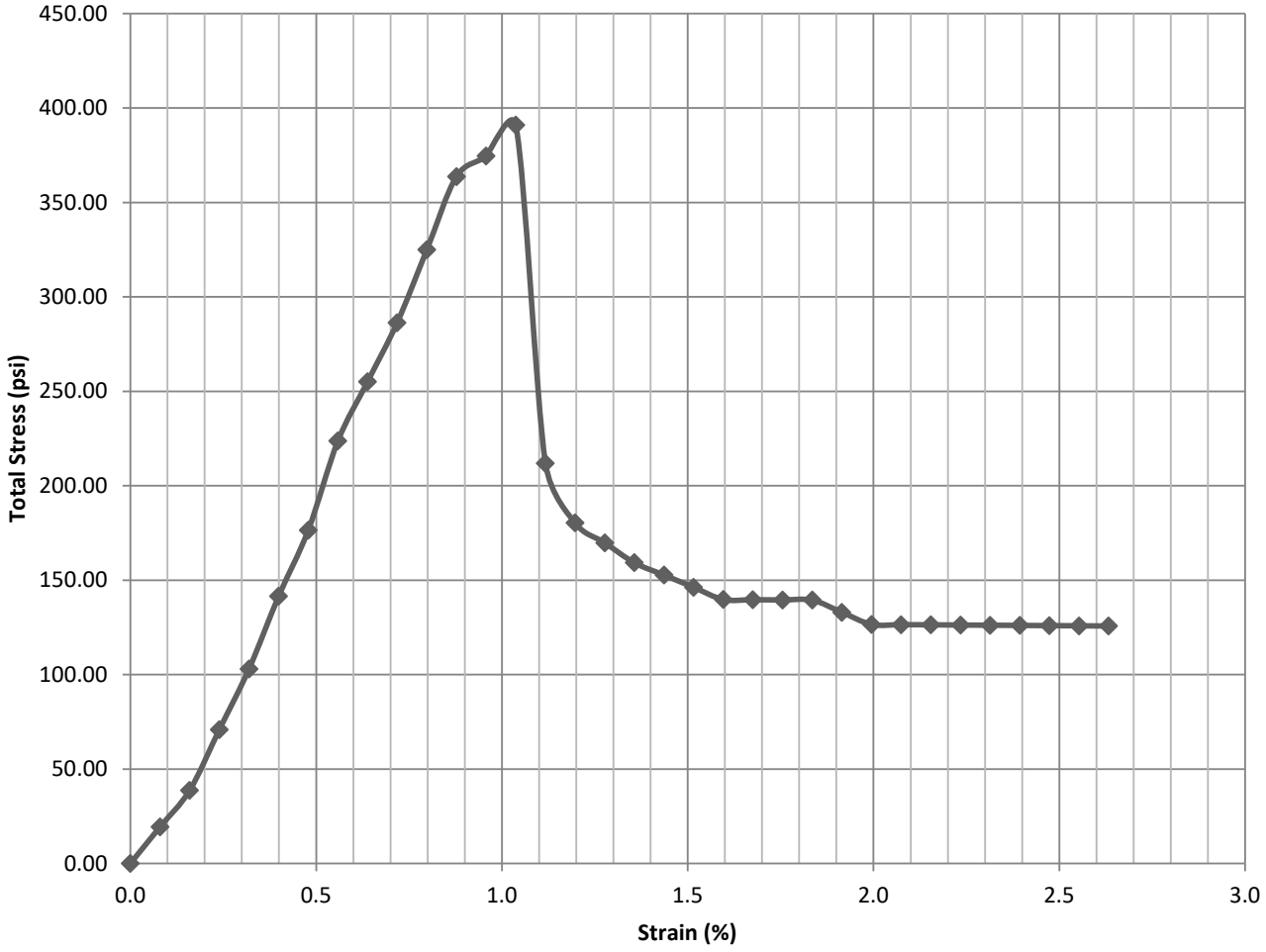
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1662
Sample Location:	B-11 / NQ-4		Depth of Sample:	62.4' - 62.8'
Tested By:	W. Pitts	Date Tested:	6/15/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1662



Average Initial Diameter (Do):	1.838 in.	Sample Volume:	9.98 in^3
Average Initial Height (Lo):	3.760 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.653 in^2	Sample Weight:	0.697 lbs.
In-Situ Unit Weight:	120.8 pcf	L/D Ratio:	2.046
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-11 / NQ-5		
Depth/Elevation	67.3' - 67.6'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 390 psi ε_{ULT} = 1.0%

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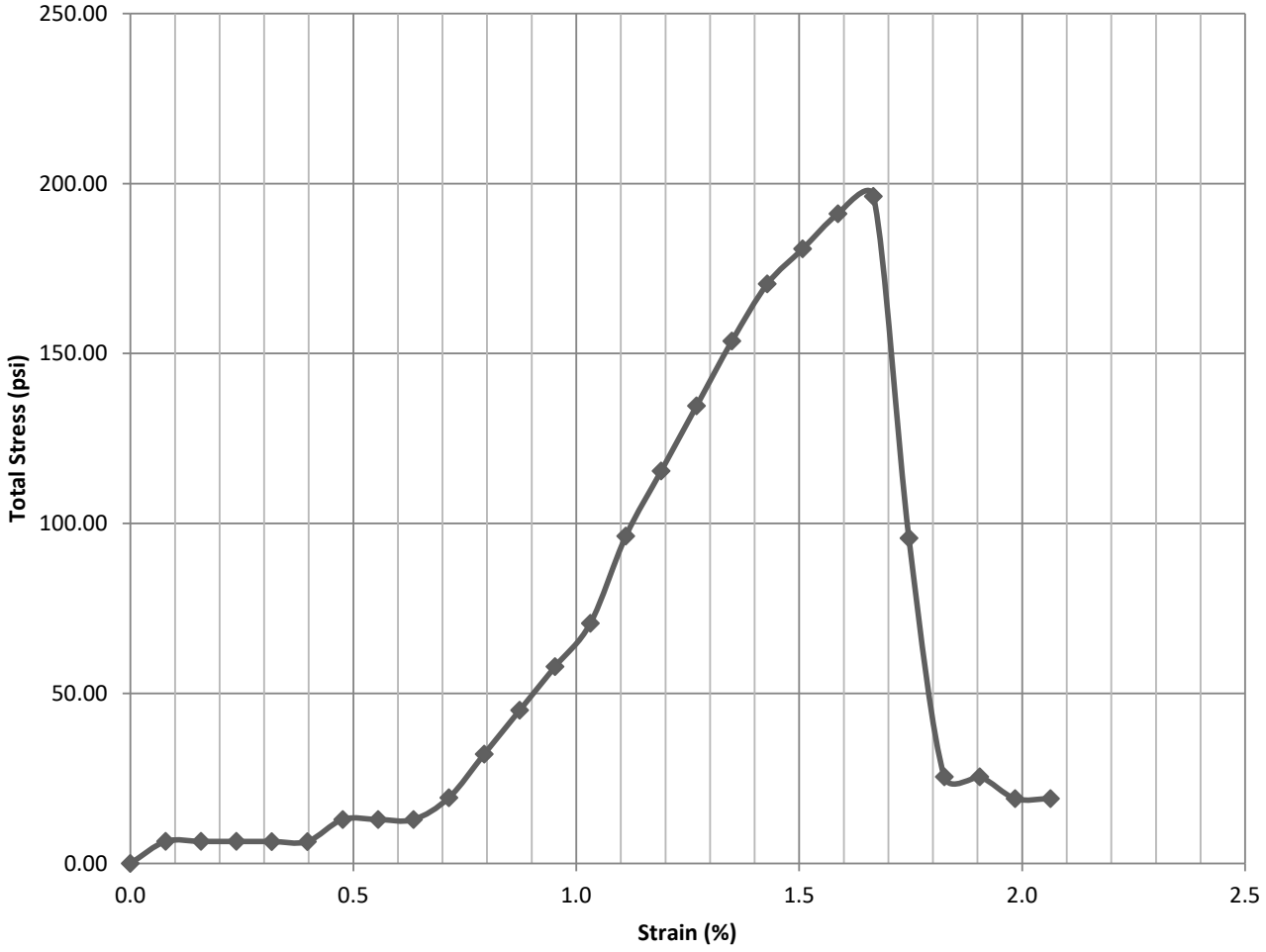
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1662
Sample Location:	B-11 / NQ-5		Depth of Sample:	67.3' - 67.6'
Tested By:	W. Pitts	Date Tested:	6/15/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1662



Average Initial Diameter (Do):	1.833 in.	Sample Volume:	9.97 in^3
Average Initial Height (Lo):	3.780 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.639 in^2	Sample Weight:	0.775 lbs.
In-Situ Unit Weight:	134.3 pcf	L/D Ratio:	2.062
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/15/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-11 / NQ-7		
Depth/Elevation	76.4' - 76.7'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 195 psi ε_{ULT} = 1.7%

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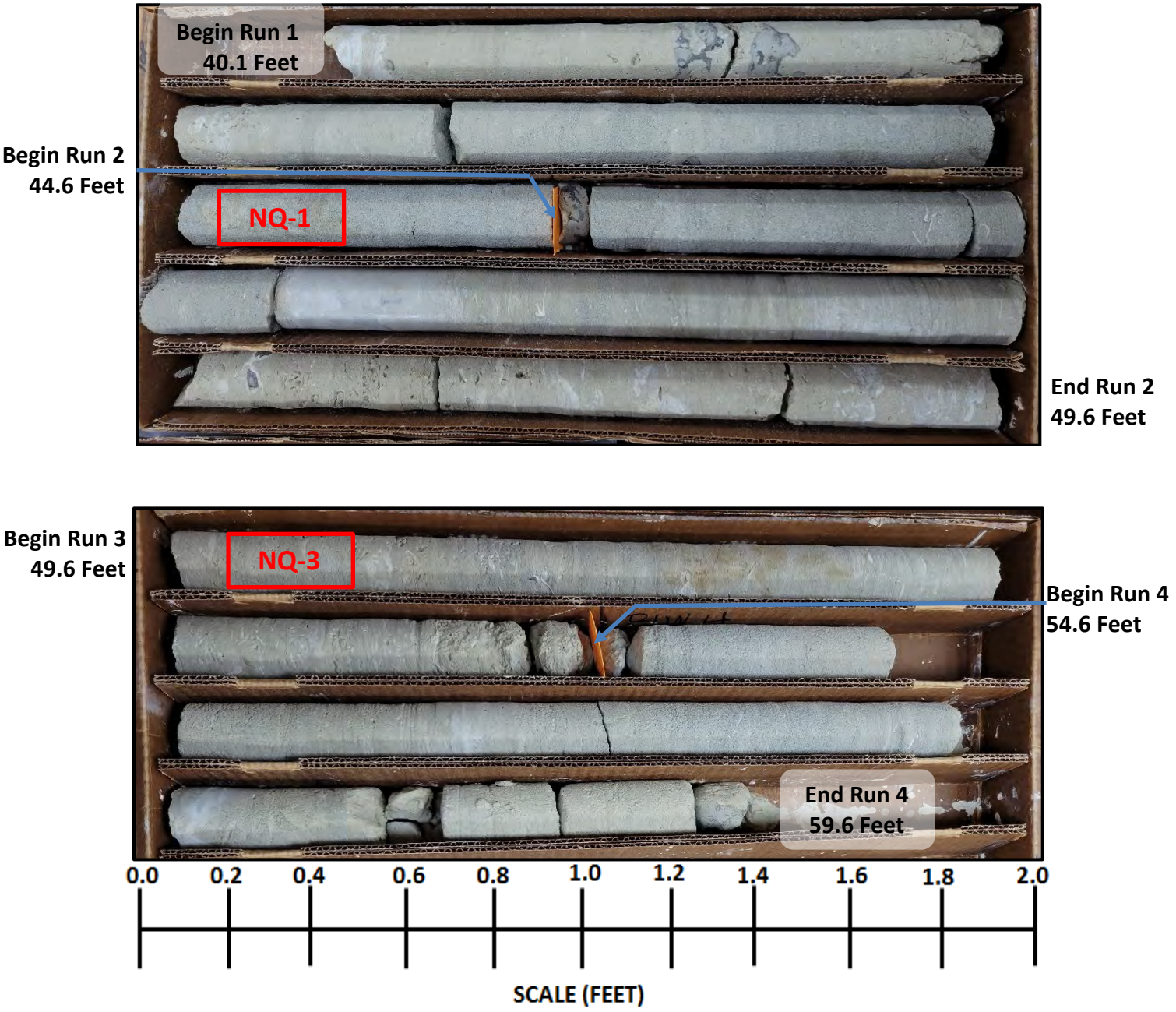
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1662
Sample Location:	B-11 / NQ-7		**Depth of Sample:**	76.4' - 76.7'
Tested By:	W. Pitts	**Date Tested:**	6/15/2023	

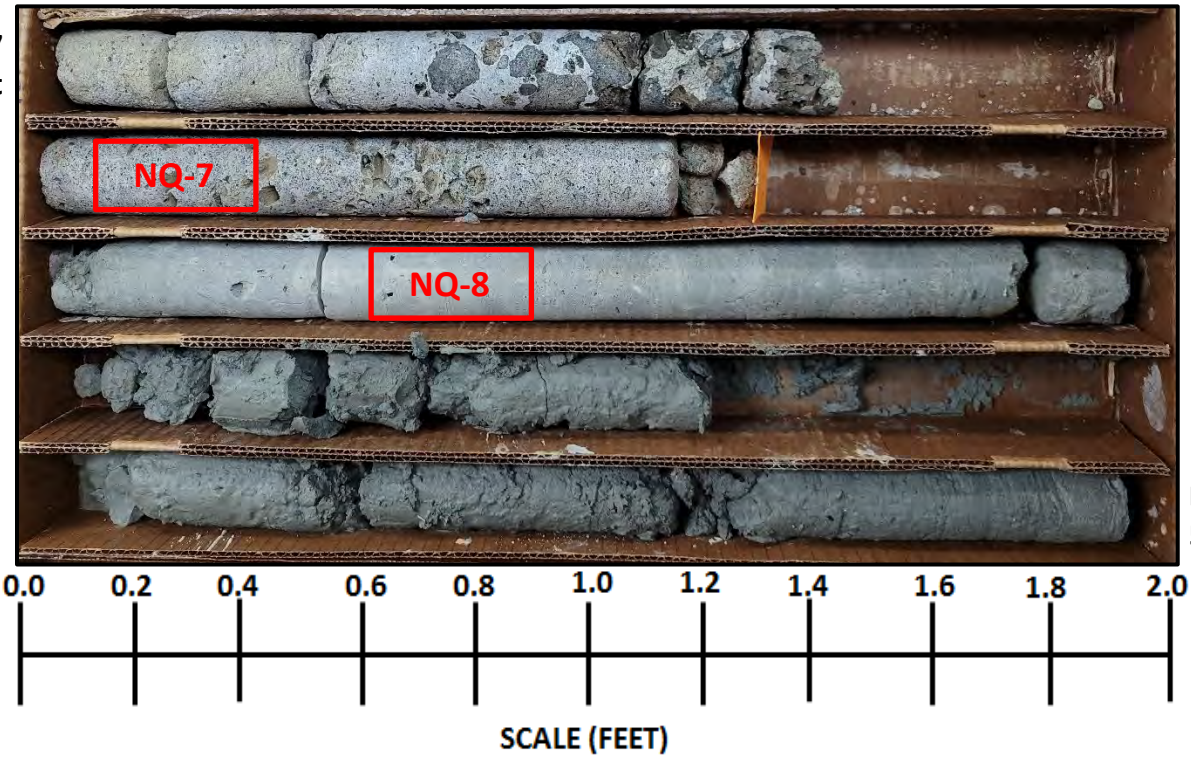
Before Break

After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-12

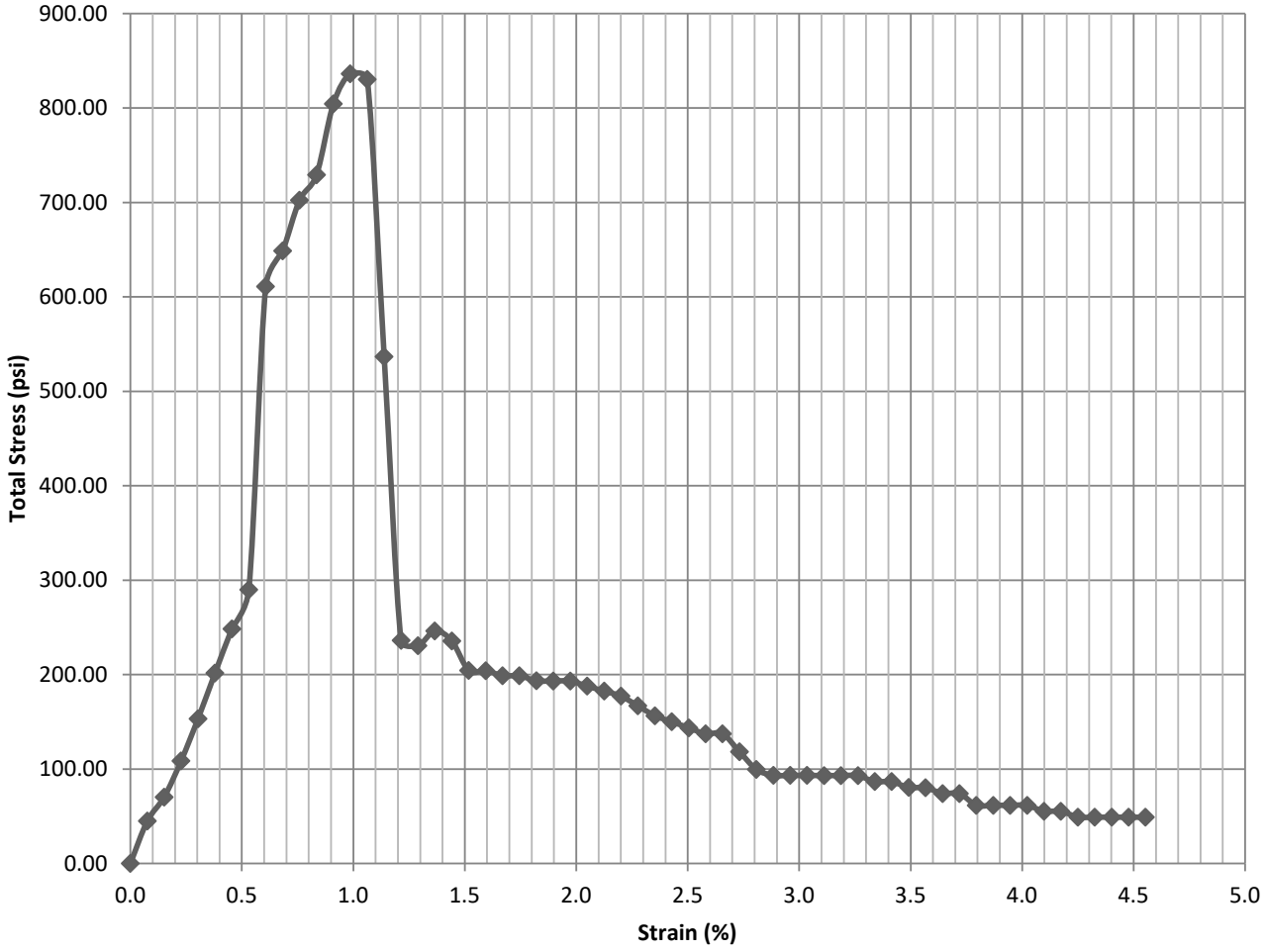


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-12



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0887



Average Initial Diameter (Do):	1.845 in.	Sample Volume:	10.57 in^3
Average Initial Height (Lo):	3.953 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.674 in^2	Sample Weight:	0.764 lbs.
In-Situ Unit Weight:	124.9 pcf	L/D Ratio:	2.143
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/12/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-12 / NQ-1		
Depth/Elevation	43.9' - 44.2'		

Sample Type : Soil Core
Target Strain Rate : 0.7% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 835 psi ε_{ULT} = 1.0%

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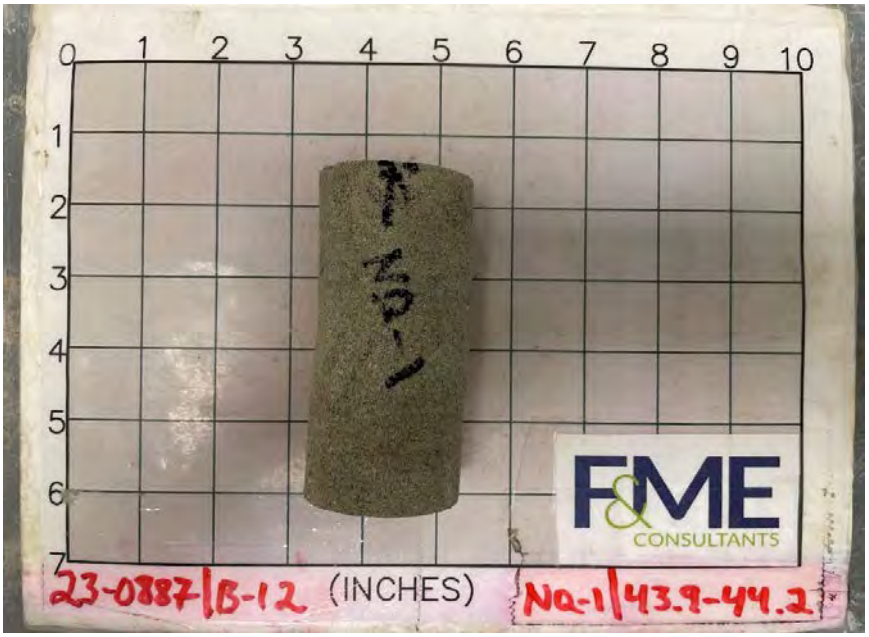
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0887
Sample Location:	B-12 / NQ-1		**Depth of Sample:**	43.9' - 44.2'
Tested By:	W. Pitts	**Date Tested:**	4/12/2023	

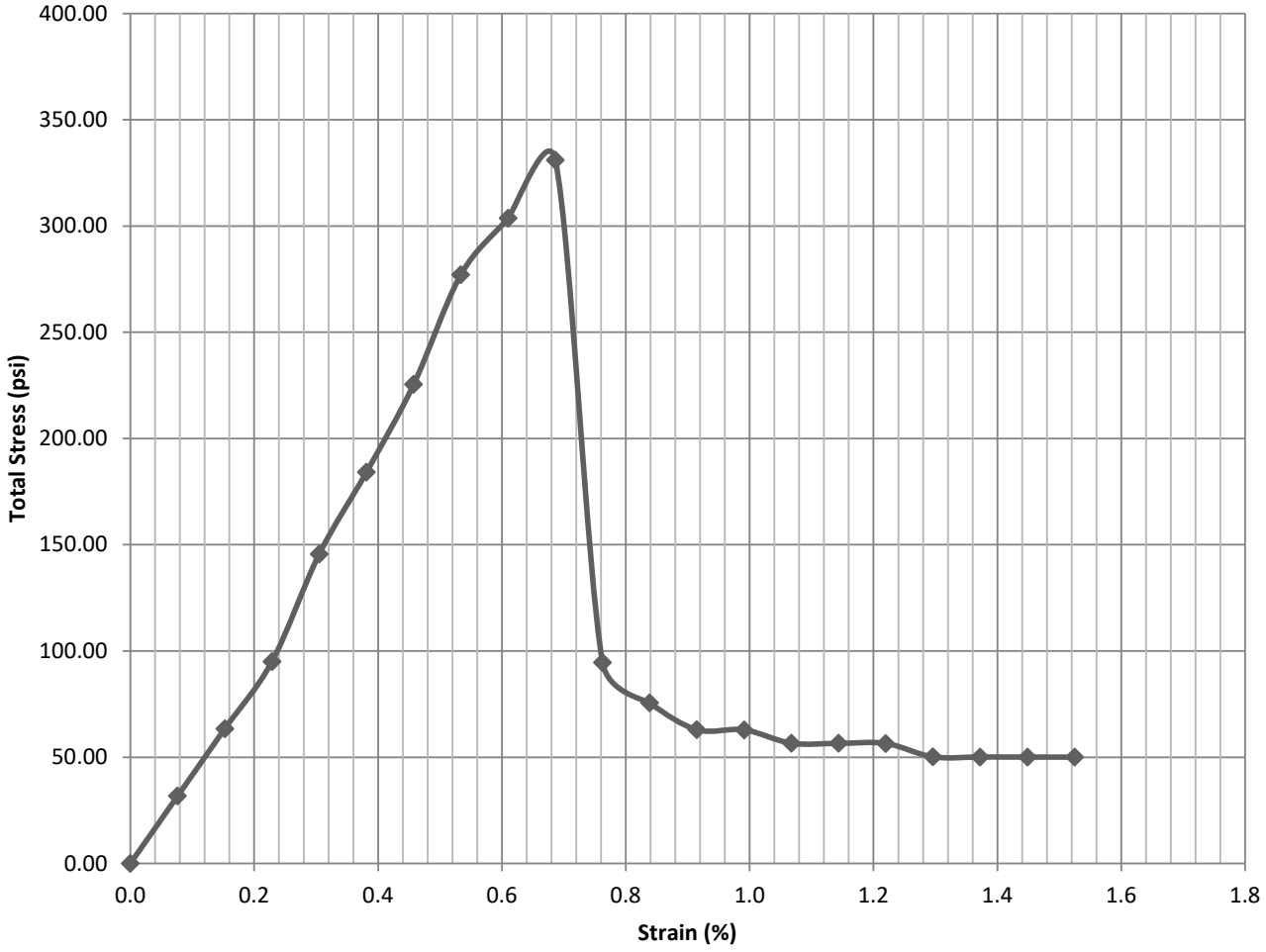


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0887



Average Initial Diameter (Do):	1.853 in.	Sample Volume:	10.61 in^3
Average Initial Height (Lo):	3.935 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.697 in^2	Sample Weight:	0.667 lbs.
In-Situ Unit Weight:	108.6 pcf	L/D Ratio:	2.124
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/12/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-12 / NQ-3		
Depth/Elevation	49.7' - 50.0'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 330 psi ε_{ULT} = 0.7%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0887
Sample Location:	B-12 / NQ-3		Depth of Sample:	49.7' - 50.0'
Tested By:	W. Pitts	Date Tested:	4/12/2023	

Before Break

After Break

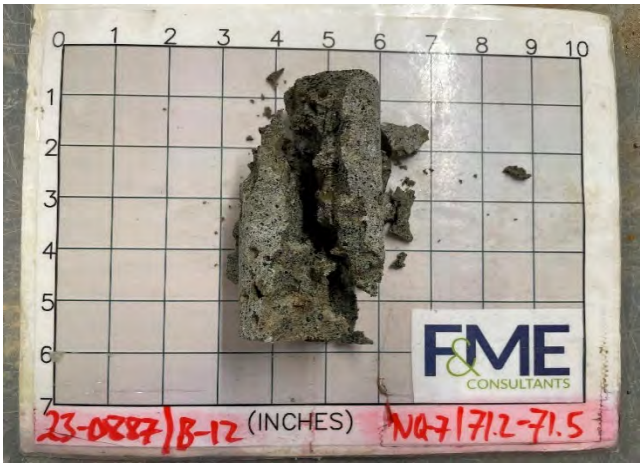
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.85	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.995	Reviewed By	WJG
Boring	B-12	Unit Weight (pcf)	150.1	Core Size	NQ
Sample No.	NQ-7 / 23-0887	L/D Ratio	2.16	Recovery	51%
Depth	71.2' - 71.5'	Load Rate (psi/sec)	10	RQD	43%
Description	Gray/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-562	52	1,642	611	2.17	0.09
30%	-853	89	2,459	915	2.14	0.10
40%	-1083	128	3,251	1,209	2.23	0.12
50%	-1321	173	4,042	1,504	2.28	0.13
60%	-1558	217	4,870	1,812	2.33	0.14
70%	-1768	251	5,641	2,099	2.37	0.14
80%	-2014	294	6,434	2,394	2.38	0.15
90%	-2370	342	7,243	2,695	2.27	0.14
100%	-3002	519	8,090	3,010		

Sample Photos

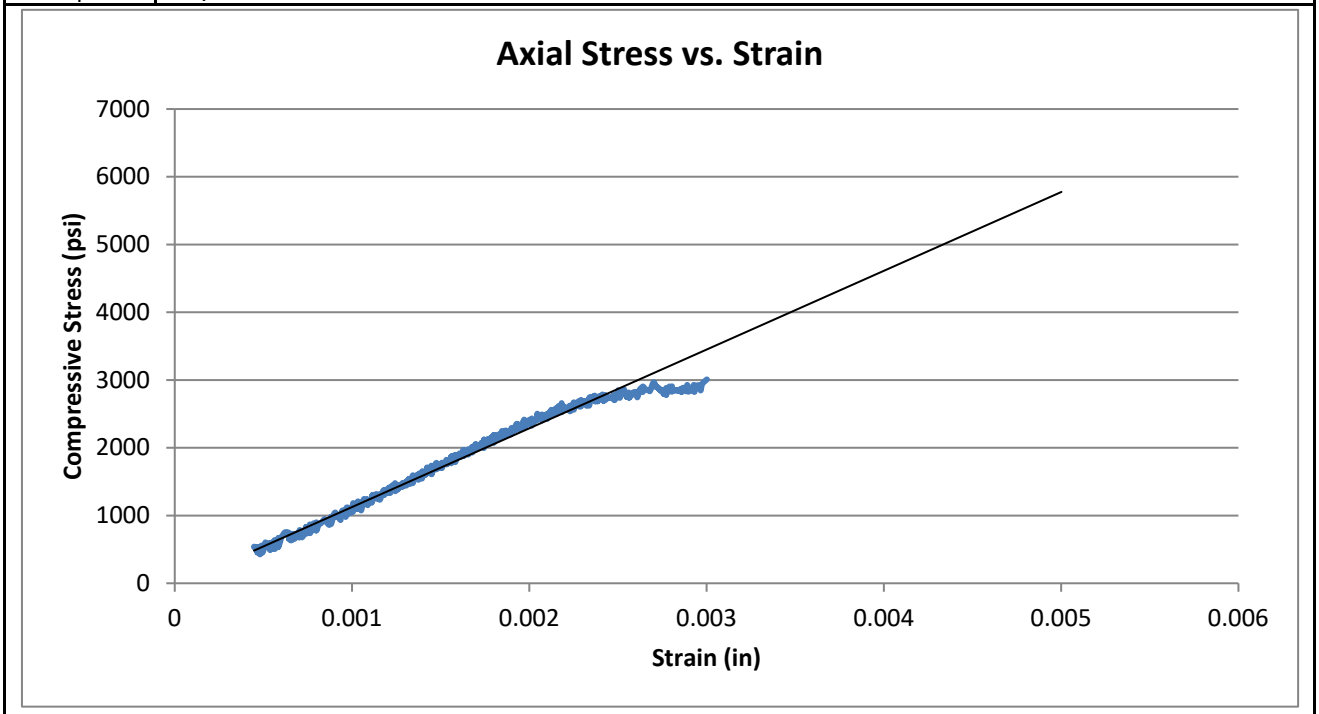


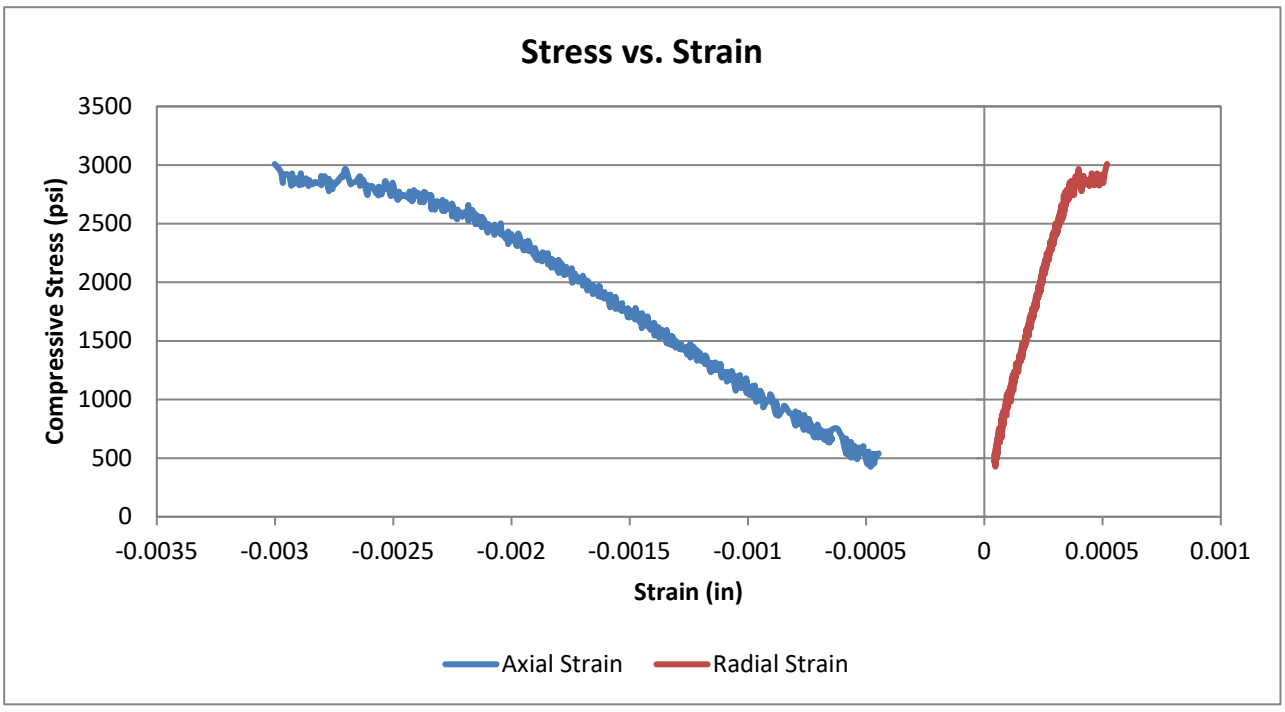
Test Results

Unconfined Compressive Strength (psi)	**3,010**	Elastic Modulus (psi)	2.31E+06
		Poisson's Ratio in Elastic Range	0.13
Comments	Elastic range was taken as between 0.001 and 0.002 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

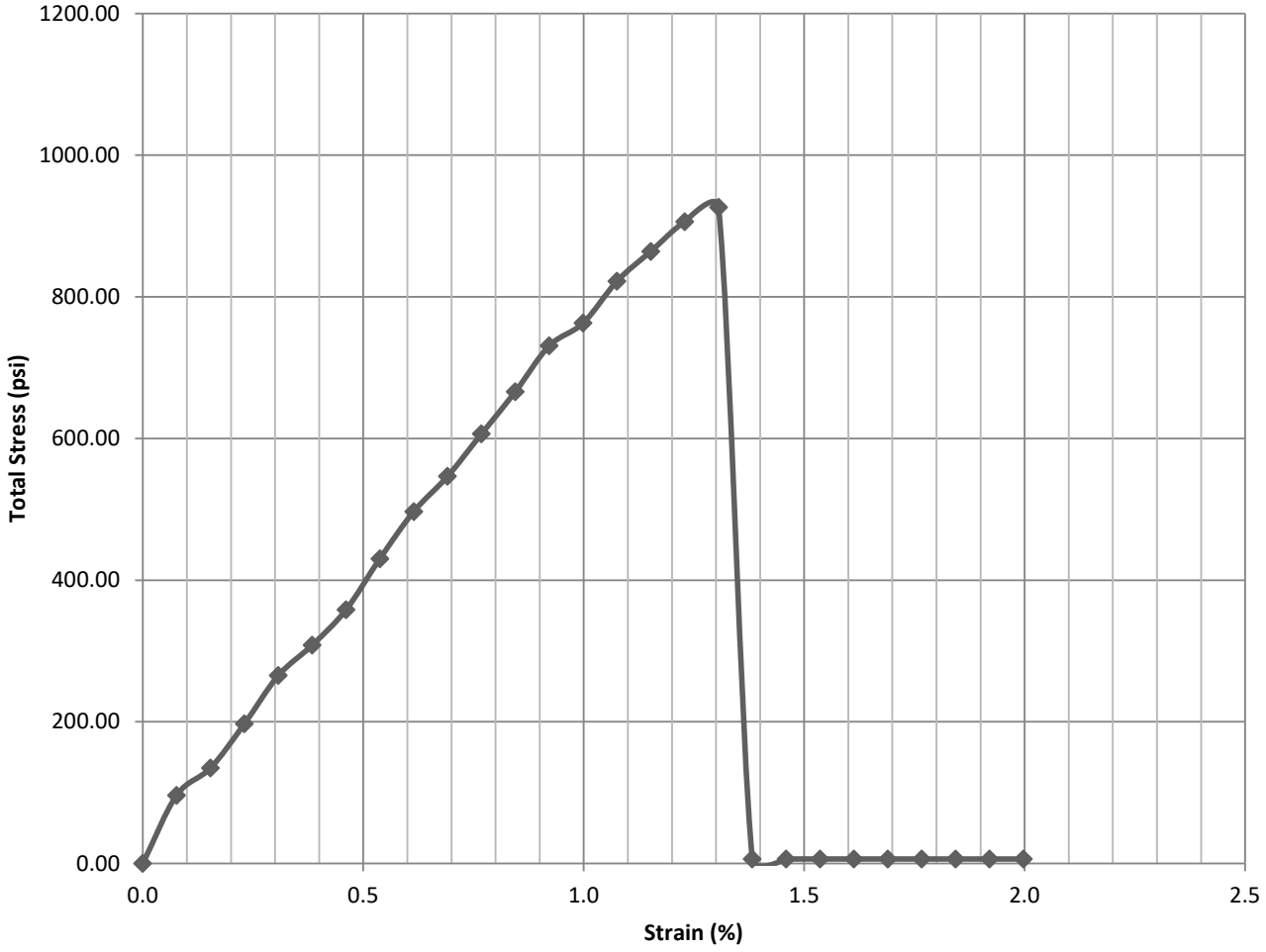
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.85	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.995	Reviewed By	WJG
Boring	B-12	Unit Weight (pcf)	150.1	Core Size	NQ
Sample No.	NQ-7 / 23-0887	L/D Ratio	2.16	Recovery	51%
Depth	71.2' - 71.5'	Load Rate (psi/sec)	10	RQD	43%
Description	Gray/Black Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0887



Average Initial Diameter (Do):	1.842 in.	Sample Volume:	10.41 in^3
Average Initial Height (Lo):	3.906 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.665 in^2	Sample Weight:	0.868 lbs.
In-Situ Unit Weight:	144.0 pcf	L/D Ratio:	2.121
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/12/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-12 / NQ-8		
Depth/Elevation	75.2' - 75.5'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 925 psi ε_{ULT} = 1.3%

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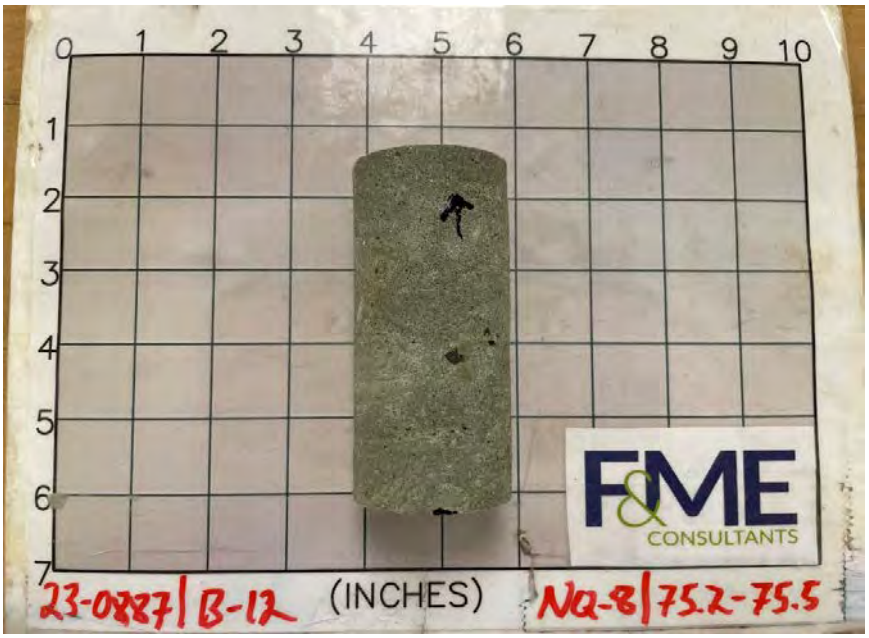
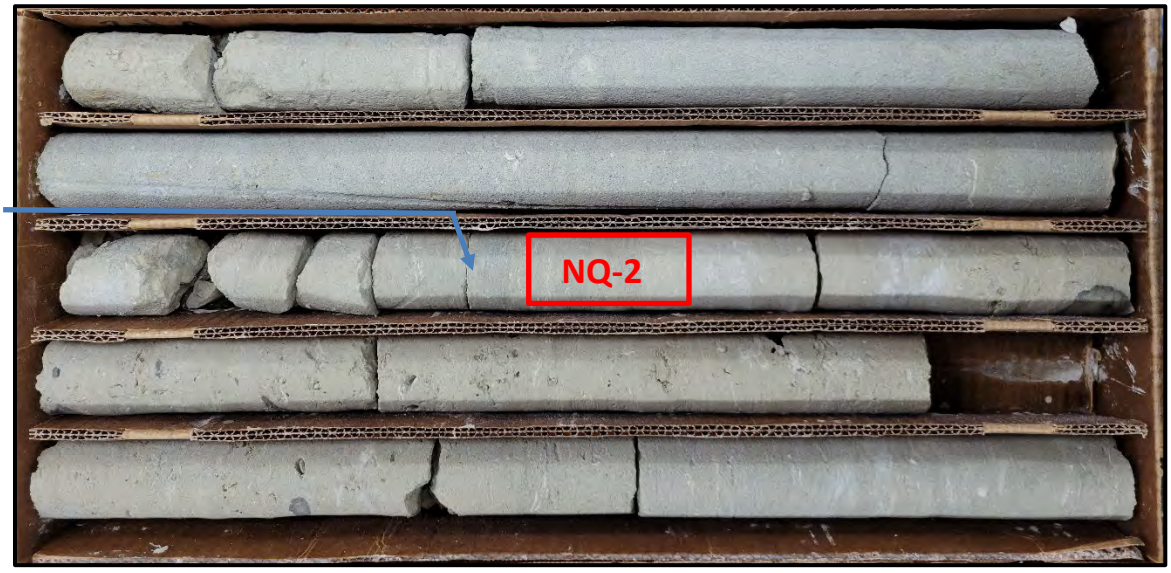
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0887
Sample Location:	B-12 / NQ-8		**Depth of Sample:**	75.2' - 75.5'
Tested By:	W. Pitts	**Date Tested:**	4/12/2023	

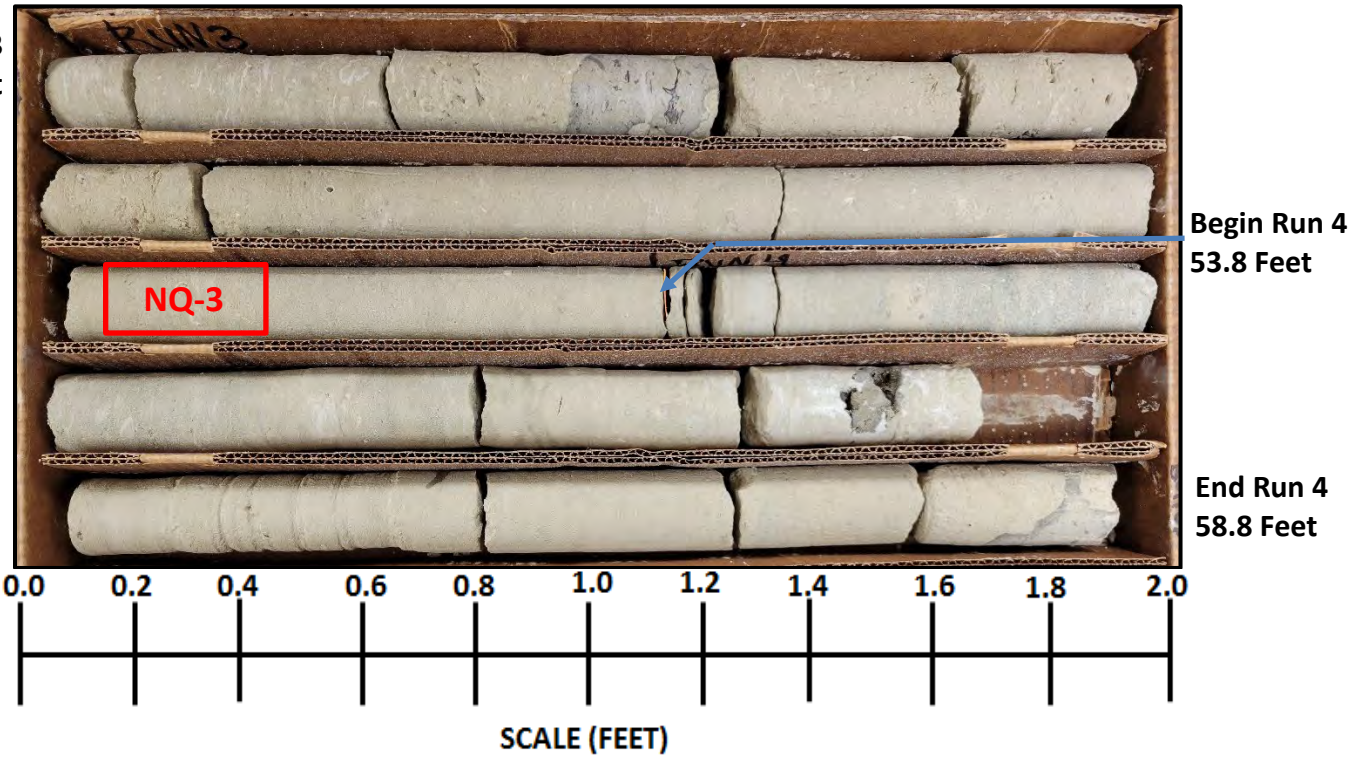


Before Break

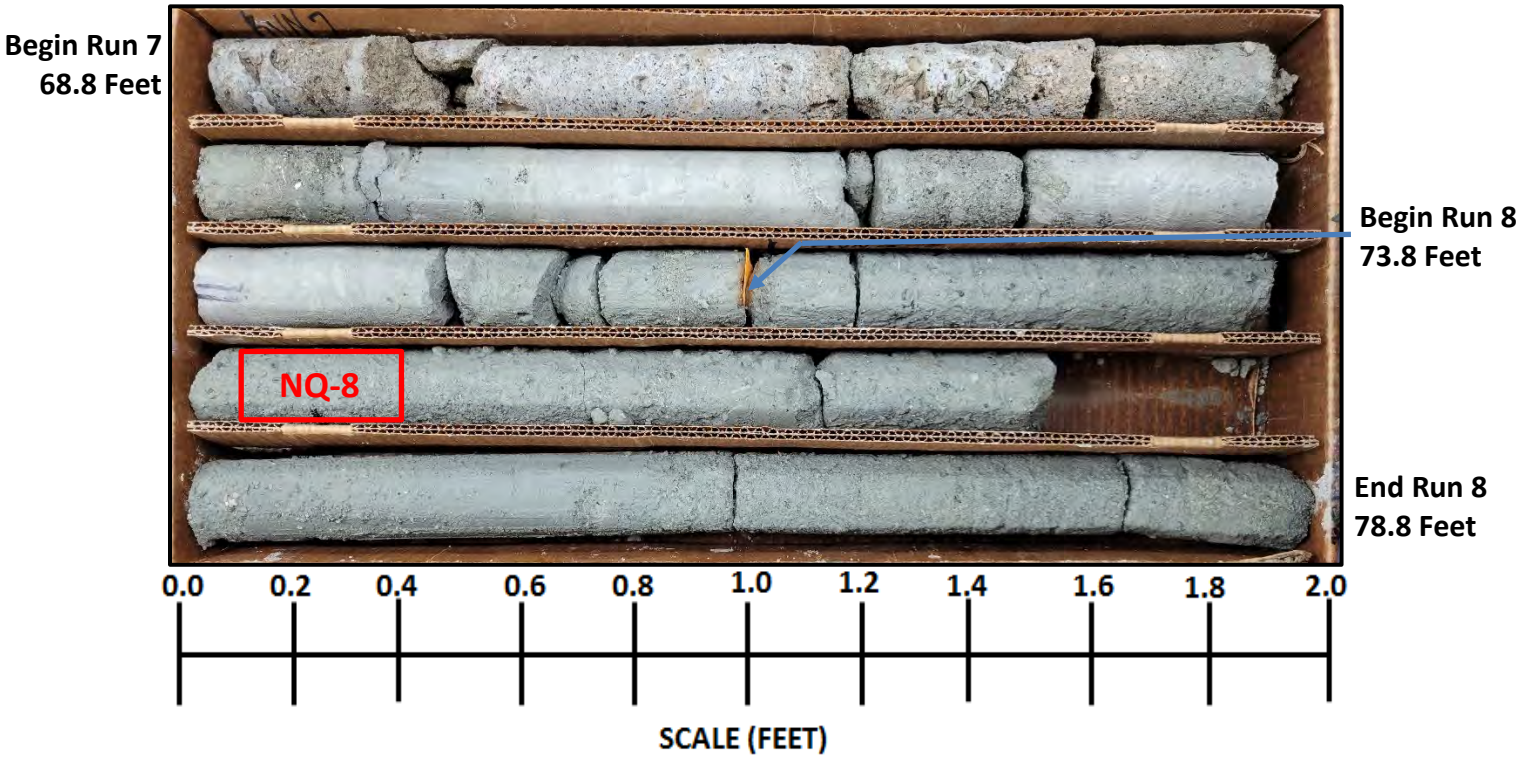
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-14

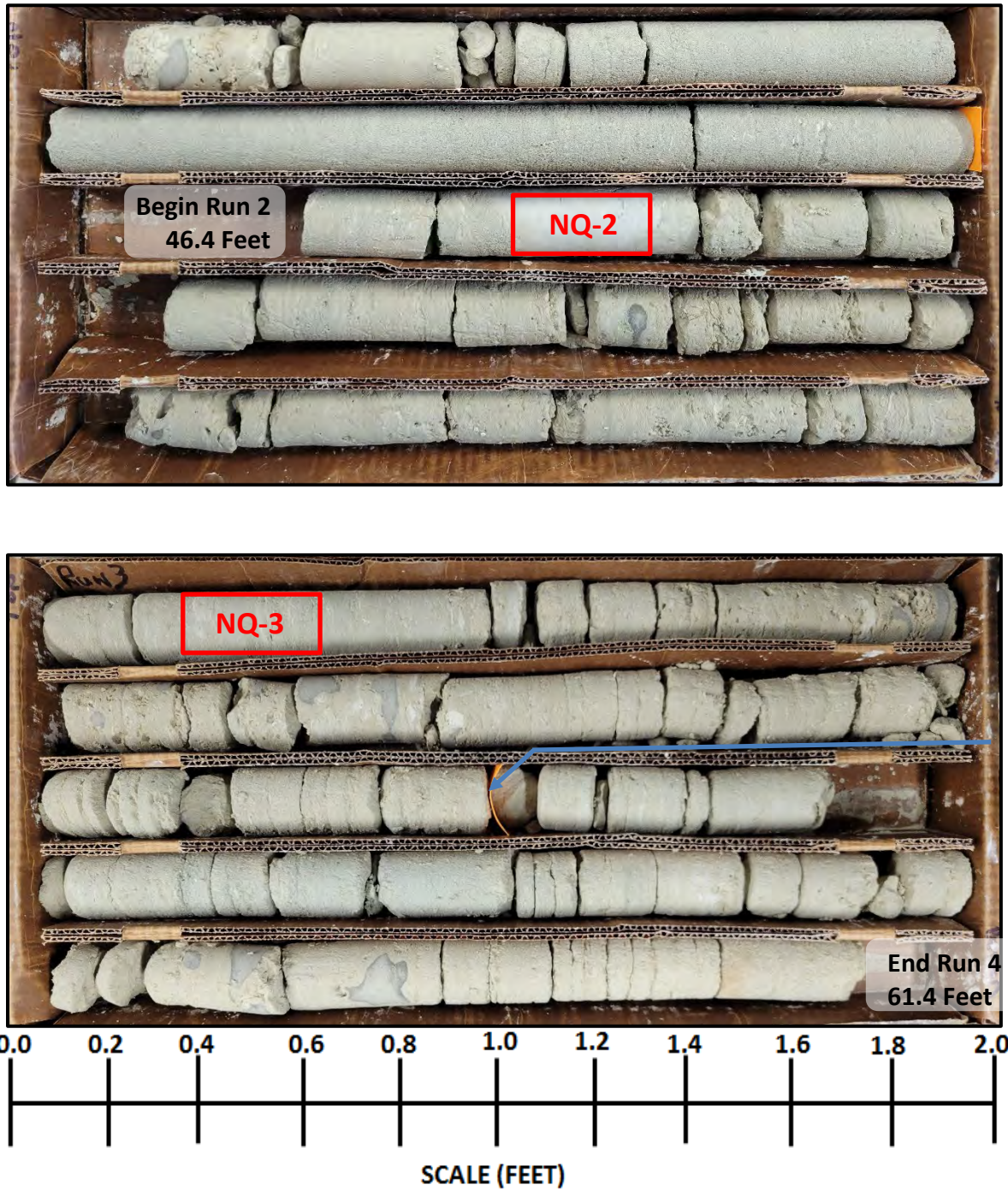




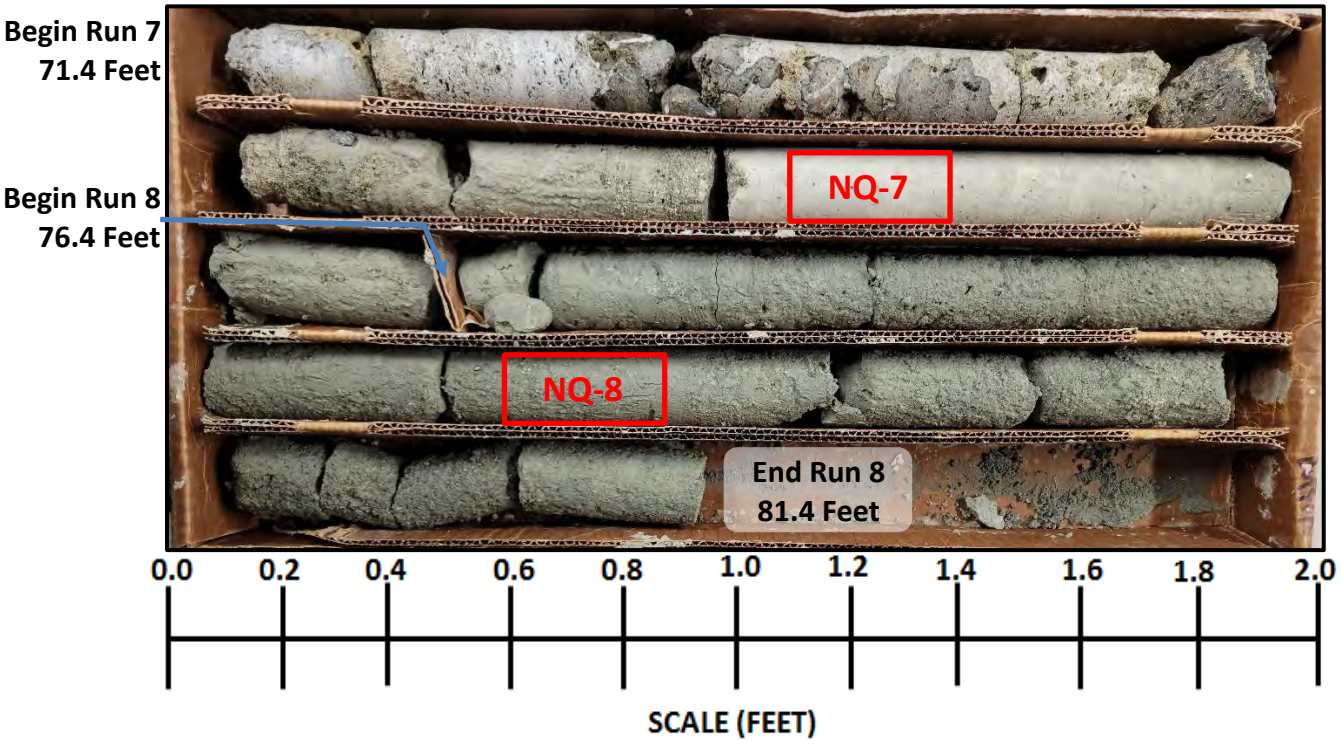
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-14



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-15



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-15



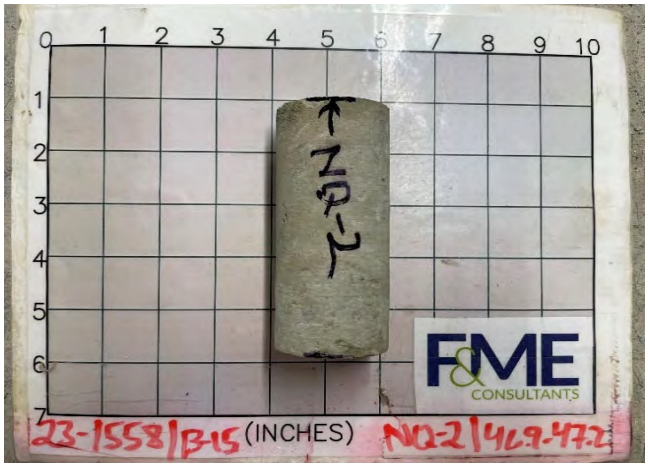
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.861	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.027	Reviewed By	WJG
Boring	B-15	Unit Weight (pcf)	149.3	Core Size	NQ
Sample No.	NQ-2 / 23-1558A	L/D Ratio	2.16	Recovery	95%
Depth	46.9' - 47.2'	Load Rate (psi/sec)	10	RQD	38%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	-204	55	1,258	462	4.54	0.27
20%	-487	135	2,512	924	3.79	0.28
30%	-783	237	3,781	1,390	3.55	0.30
40%	-1147	378	5,038	1,852	3.23	0.33
50%	-1592	593	6,298	2,315	2.91	0.37
60%	-2005	807	7,552	2,776	2.77	0.40
70%	-2515	1077	8,882	3,265	2.60	0.43
80%	-3084	1498	10,079	3,705	2.40	0.49
90%	-3816	2170	11,365	4,178	2.19	0.57
100%	-5360	3199	12,599	4,632		

Sample Photos

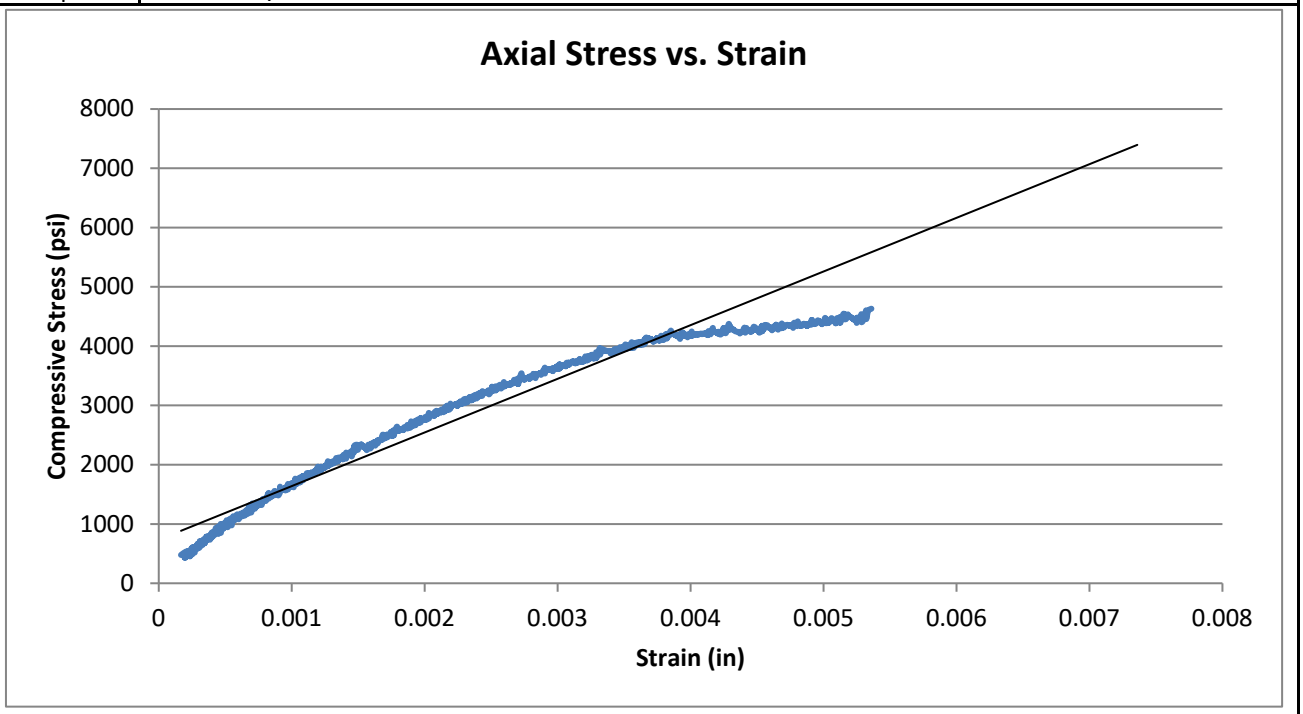


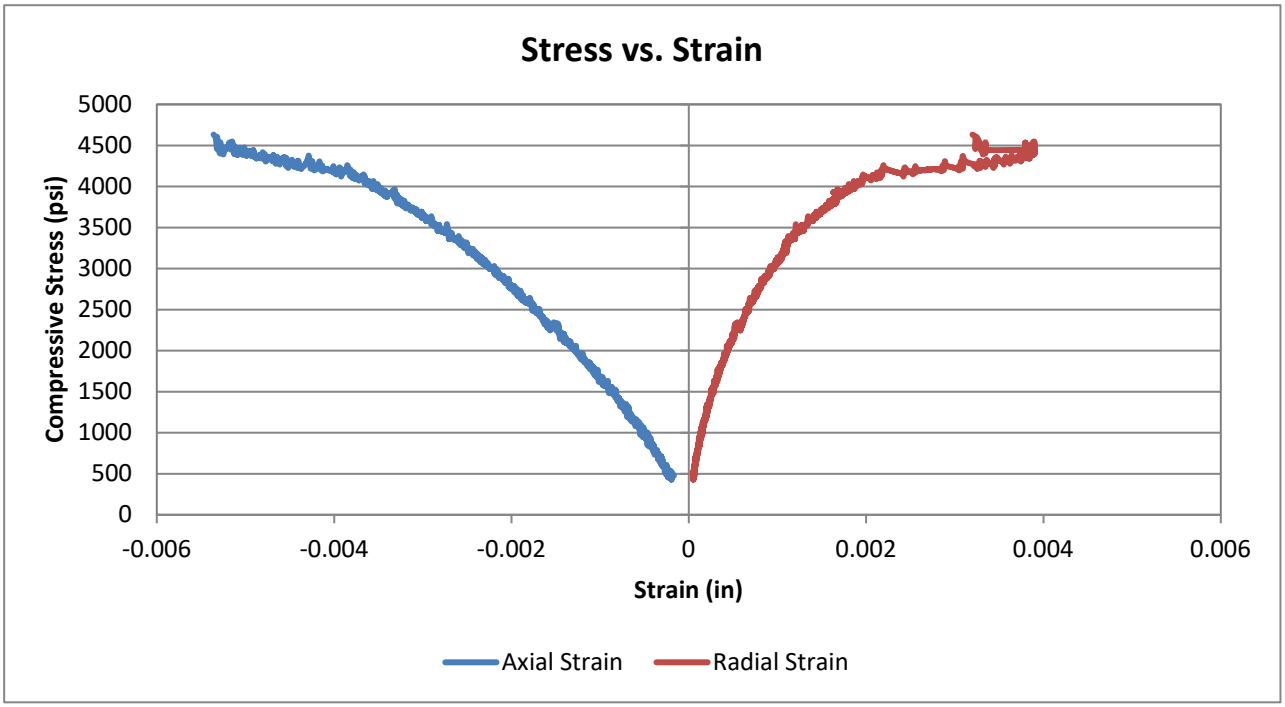
Test Results

Unconfined Compressive Strength (psi)	**4,630**	Elastic Modulus (psi)	2.84E+06
		Poisson's Ratio in Elastic Range	0.39
Comments	Elastic range was taken as between 0.001 and 0.003 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

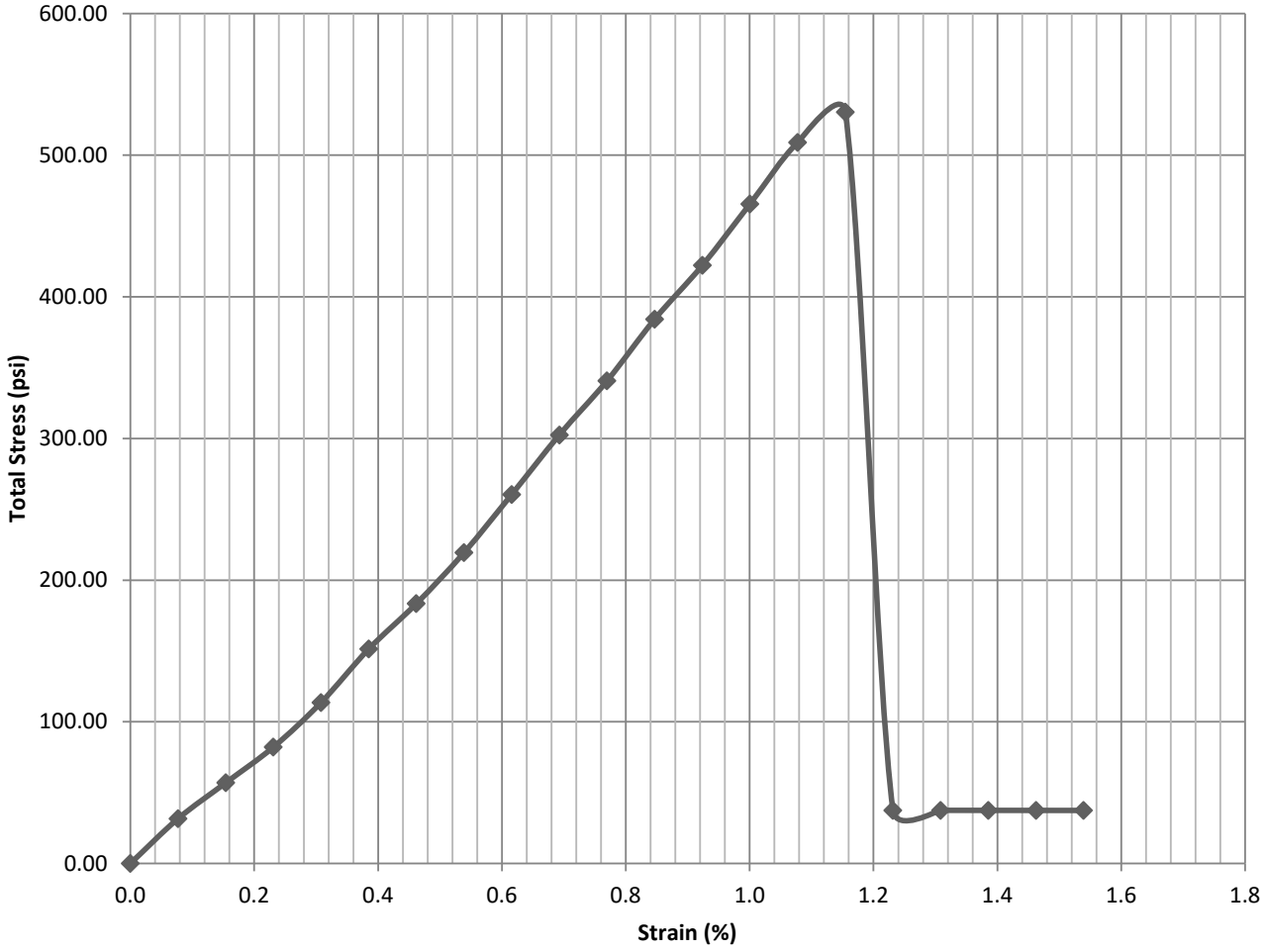
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.861	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.027	Reviewed By	WJG
Boring	B-15	Unit Weight (pcf)	149.3	Core Size	NQ
Sample No.	NQ-2 / 23-1558A	L/D Ratio	2.16	Recovery	95%
Depth	46.9' - 47.2'	Load Rate (psi/sec)	10	RQD	38%
Description	Brown/Gray Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1558



Average Initial Diameter (Do):	1.856 in.	Sample Volume:	10.55 in^3
Average Initial Height (Lo):	3.898 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.705 in^2	Sample Weight:	0.755 lbs.
In-Situ Unit Weight:	123.7 pcf	L/D Ratio:	2.100
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/19/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-15 / NQ-3		
Depth/Elevation	51.7' - 52.1'		

Sample Type : Soil Core
Target Strain Rate : 0.60% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 530 psi ε_{ULT} = 1.2%

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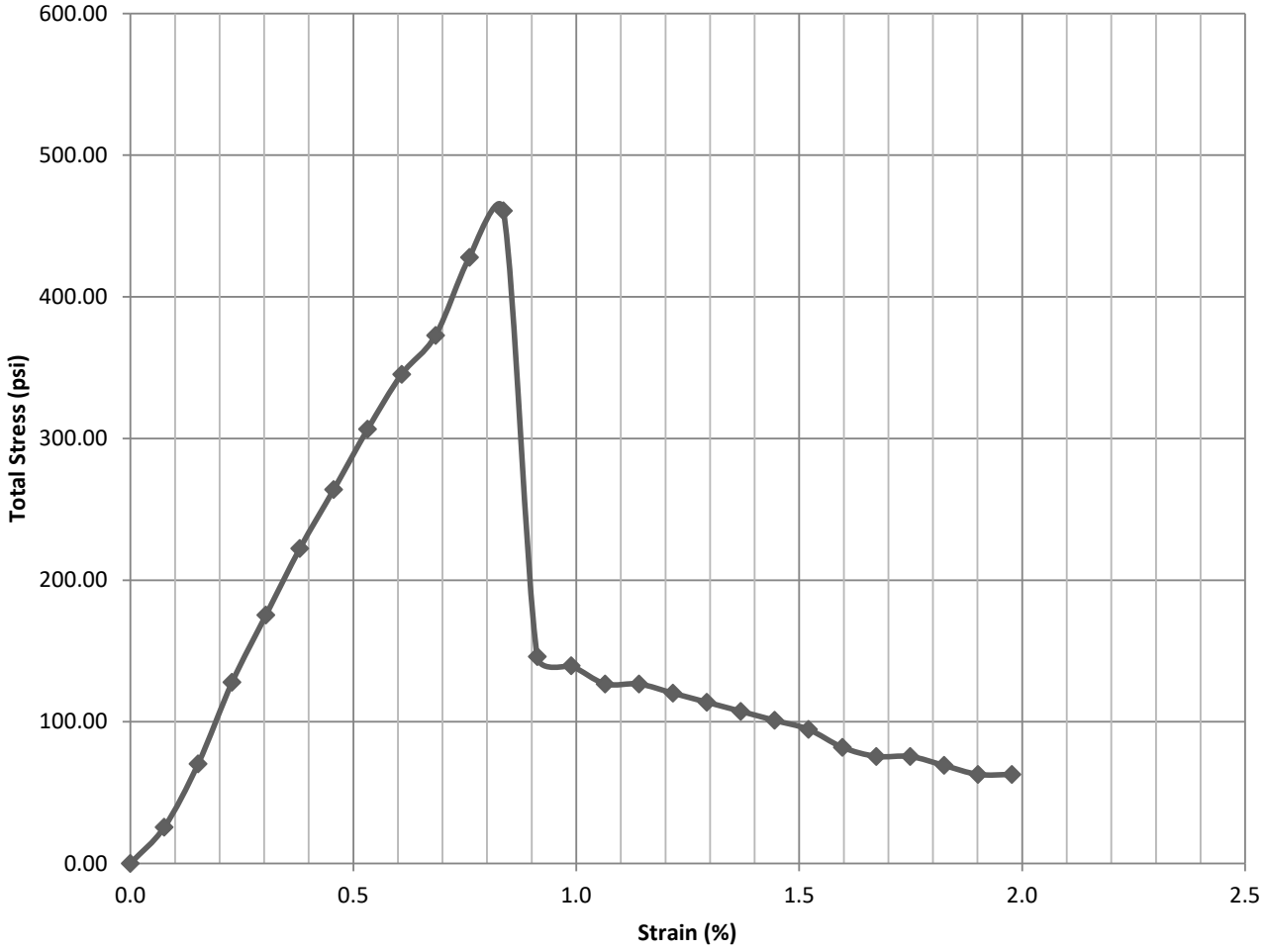
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1558
Sample Location:	B-15 / NQ-3		Depth of Sample:	51.7' - 52.1'
Tested By:	W. Pitts	Date Tested:	6/19/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1558



Average Initial Diameter (Do):	1.845 in.	Sample Volume:	10.55 in^3
Average Initial Height (Lo):	3.945 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.674 in^2	Sample Weight:	0.735 lbs.
In-Situ Unit Weight:	120.4 pcf	L/D Ratio:	2.138
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/19/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-15 / NQ-5		
Depth/Elevation	64.2' - 64.5'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 460 psi ε_{ULT} = 0.8%

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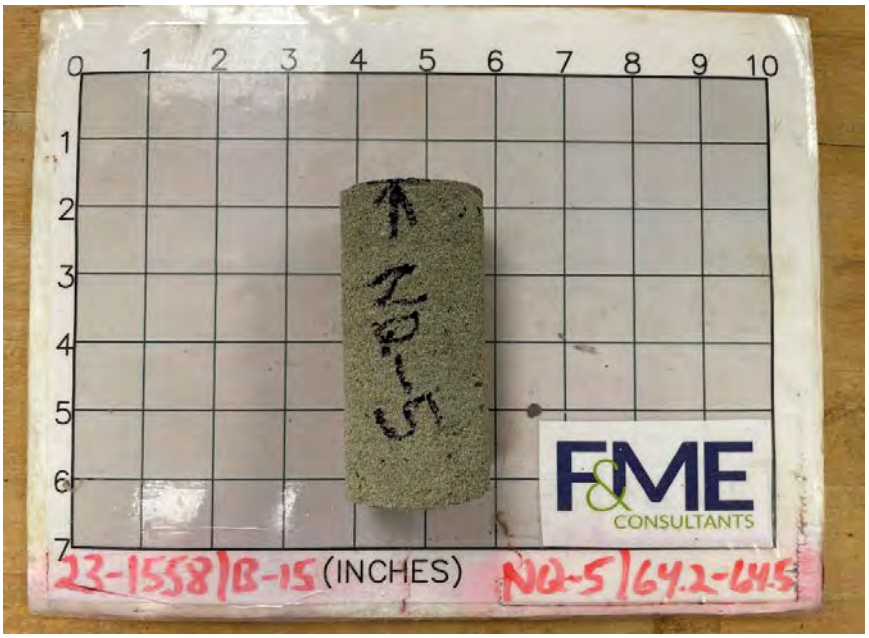
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1558
Sample Location:	B-15 / NQ-5		Depth of Sample:	64.2' - 64.5'
Tested By:	W. Pitts	Date Tested:	6/19/2023	

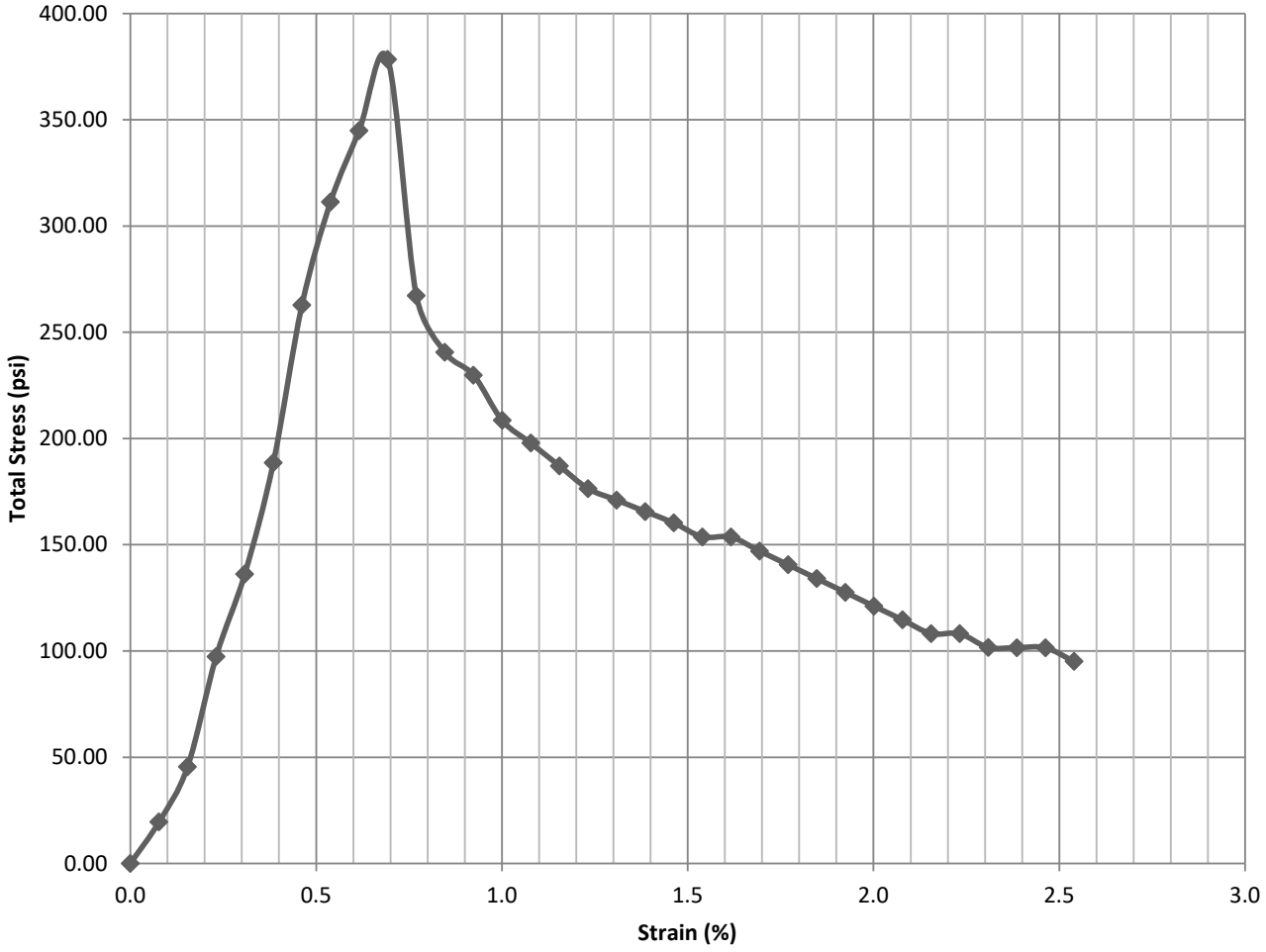


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1558



Average Initial Diameter (Do):	1.831 in.	Sample Volume:	10.26 in^3
Average Initial Height (Lo):	3.898 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.633 in^2	Sample Weight:	0.706 lbs.
In-Situ Unit Weight:	118.8 pcf	L/D Ratio:	2.129
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/19/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-15 / NQ-6		
Depth/Elevation	67.4' - 67.7'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 380 psi ε_{ULT} = 0.7%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1558
Sample Location:	B-15 / NQ-6		**Depth of Sample:**	67.4' - 67.7'
Tested By:	W. Pitts	**Date Tested:**	6/19/2023	

Before Break

After Break

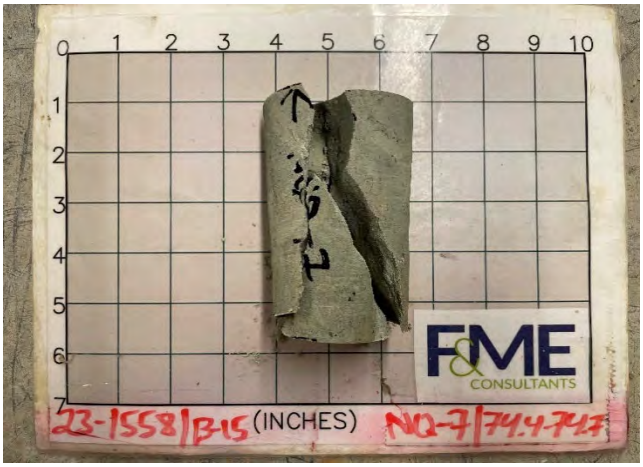
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.856	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.029	Reviewed By	WJG
Boring	B-15	Unit Weight (pcf)	146.8	Core Size	NQ
Sample No.	NQ-7 / 23-1558B	L/D Ratio	2.17	Recovery	87%
Depth	74.4' - 74.7'	Load Rate (psi/sec)	10	RQD	67%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-500	1187	913	337	1.35	2.38
30%	-1007	1757	1,437	531	1.06	1.75
40%	-1344	2211	1,941	717	1.07	1.64
50%	-1830	2697	2,365	874	0.96	1.47
60%	-2458	3396	2,875	1,063	0.86	1.38
70%	-2929	3974	3,369	1,245	0.85	1.36
80%	-3938	5355	3,816	1,411	0.72	1.36
90%	-5023	7289	4,372	1,616	0.64	1.45
100%	-5989	8917	4,798	1,774		

Sample Photos



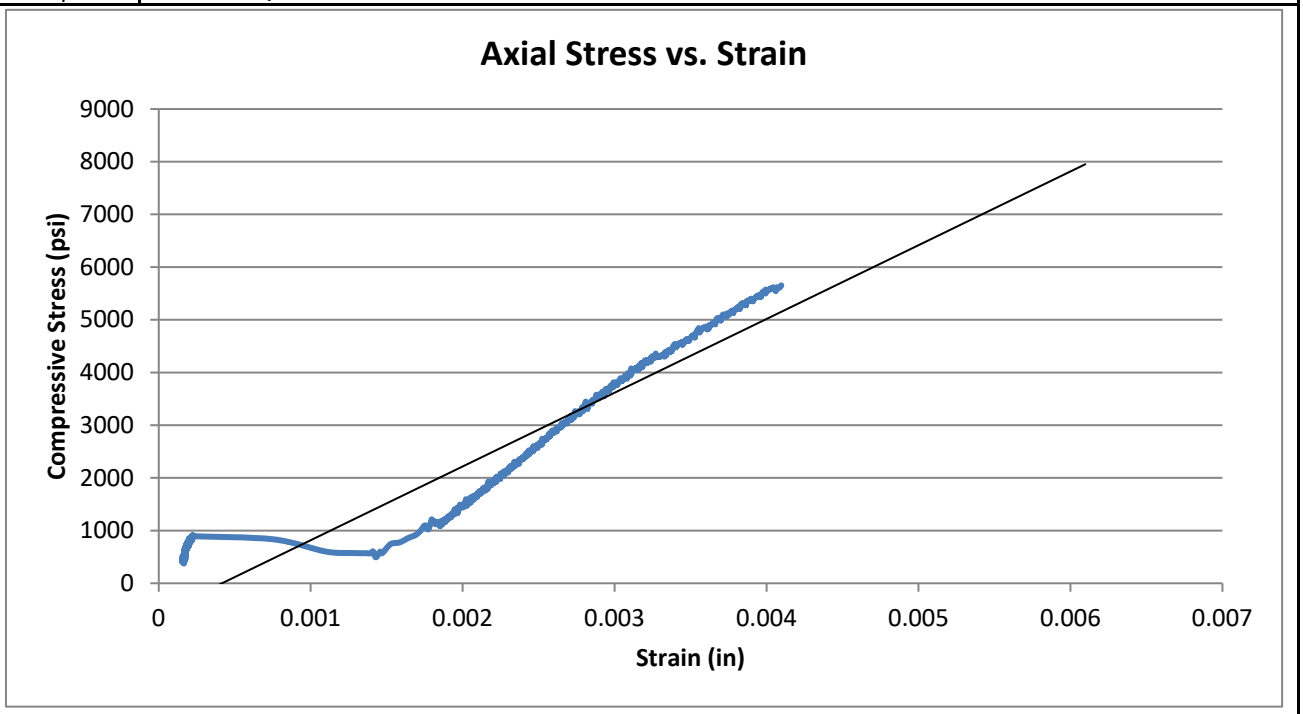
Test Results

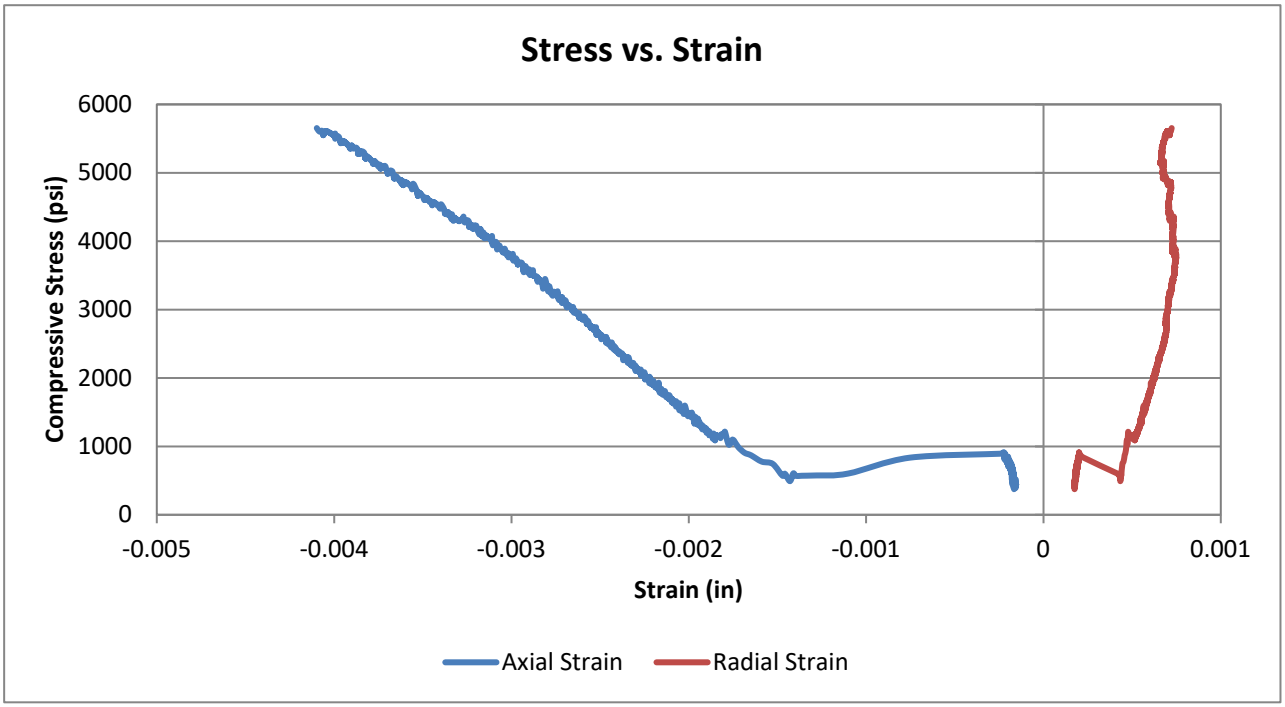
Unconfined Compressive Strength (psi)	**1,770**	Elastic Modulus (psi)	N/A
		Poisson's Ratio in Elastic Range	N/A
Comments	Based on the stress-strain data for this sample, a reasonable elastic modulus and Poission's Ratio cannot be determined.		

F&ME CONSULTANTS

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

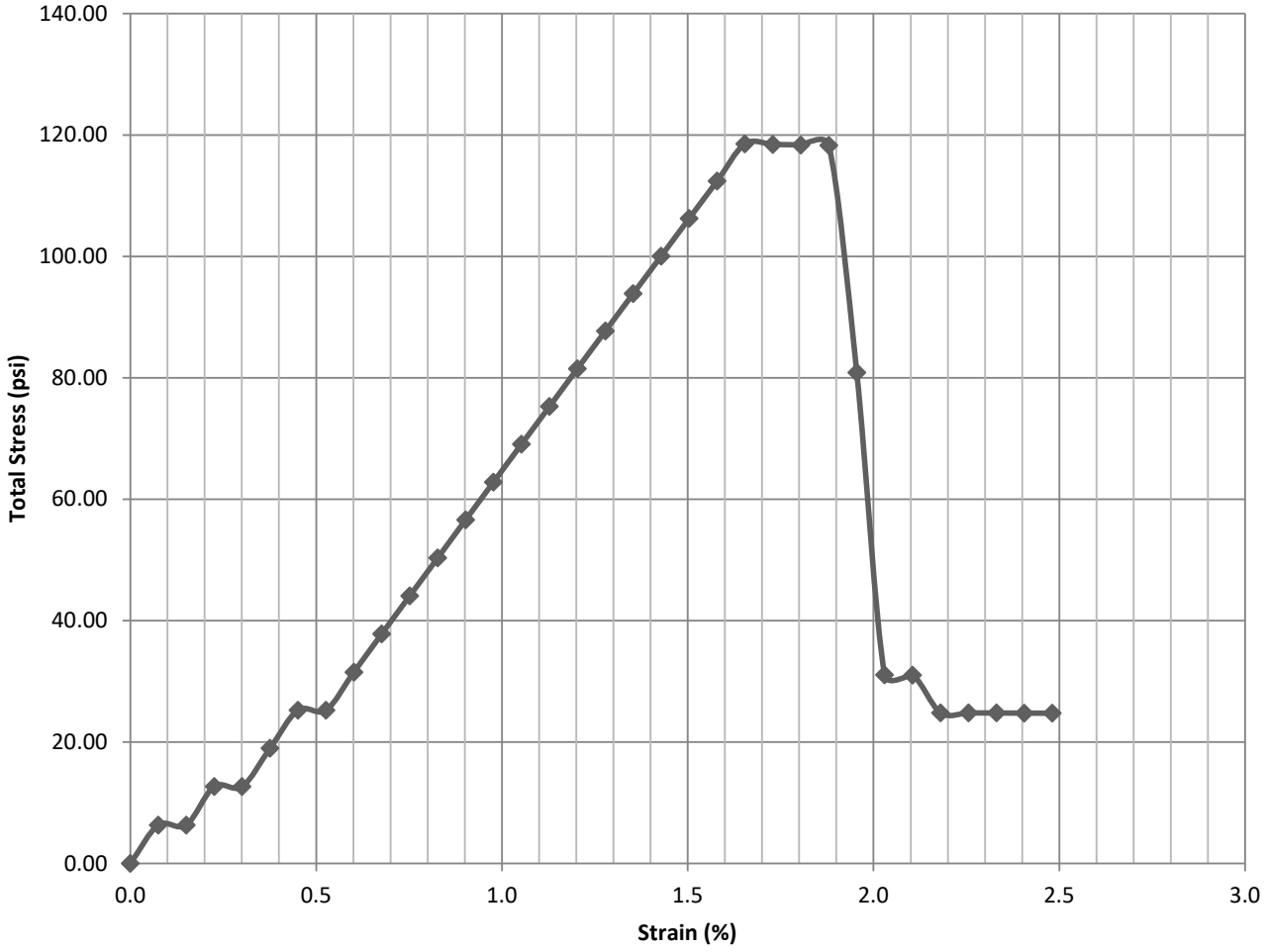
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.856	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.029	Reviewed By	WJG
Boring	B-15	Unit Weight (pcf)	146.8	Core Size	NQ
Sample No.	NQ-7 / 23-1558B	L/D Ratio	2.17	Recovery	87%
Depth	74.4' - 74.7'	Load Rate (psi/sec)	10	RQD	67%
Description	Brown/Gray Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1558



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.77 in^3
Average Initial Height (Lo):	3.990 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.759 lbs.
In-Situ Unit Weight:	121.8 pcf	L/D Ratio:	2.152
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/19/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-15 / NQ-8		
Depth/Elevation	78.6' - 78.9'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 120 psi ε_{ULT} = 1.7%

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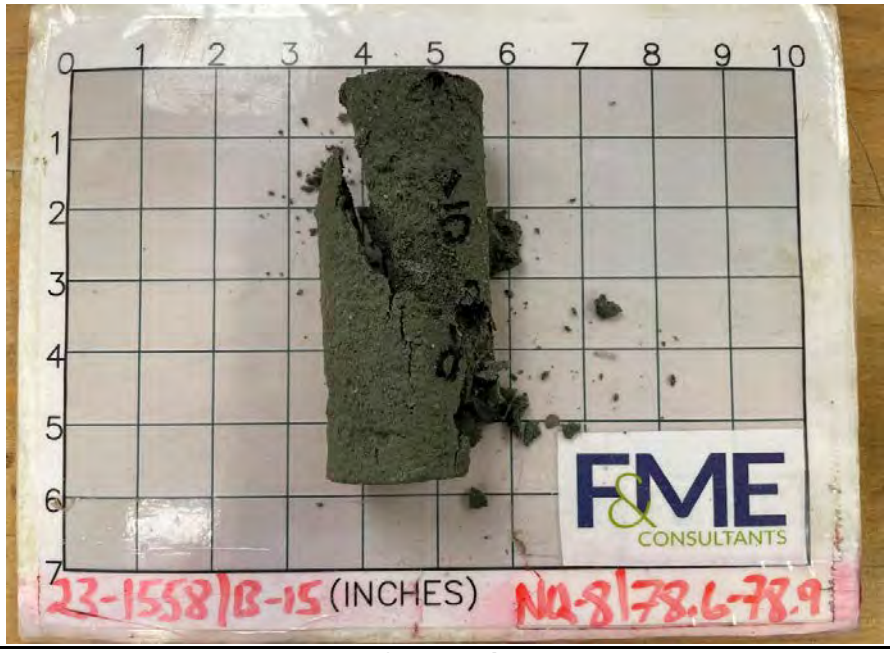
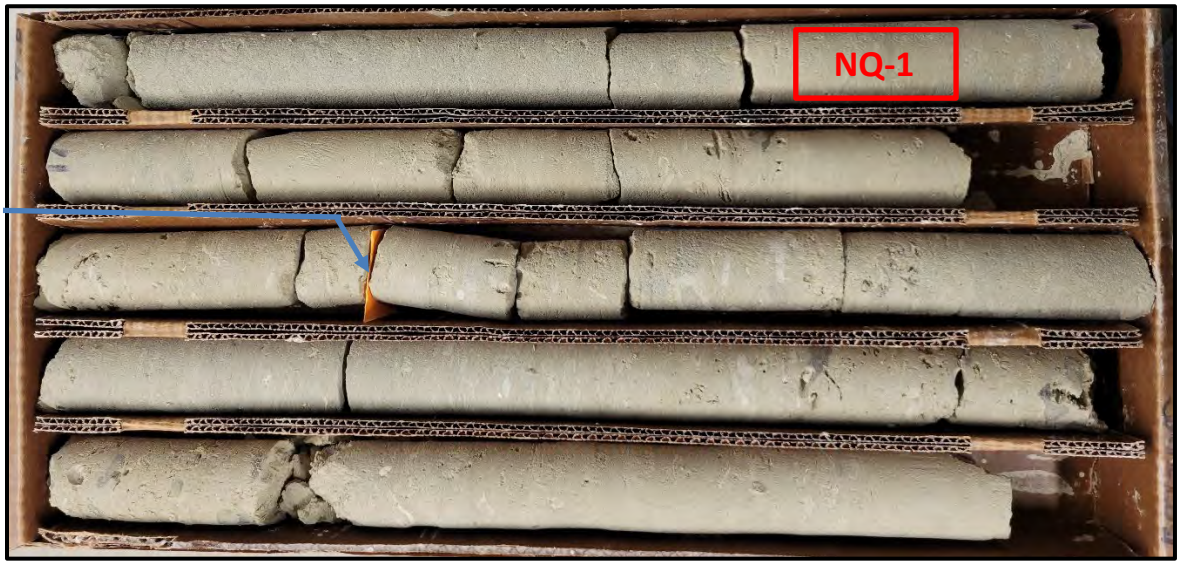
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1558
Sample Location:	B-15 / NQ-8		**Depth of Sample:**	78.6' - 78.9'
Tested By:	W. Pitts	**Date Tested:**	6/19/2023	

Before Break



After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-16



Begin Run 1
41.3 Feet

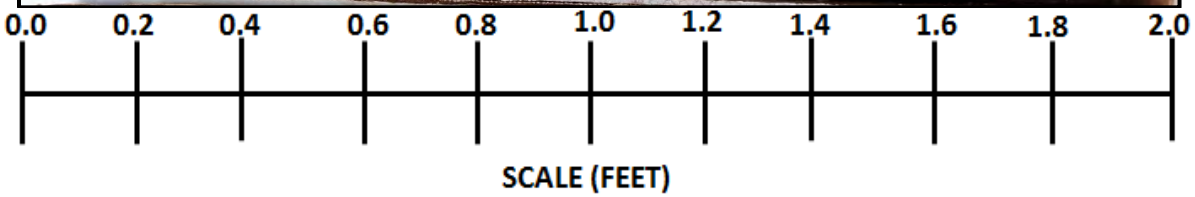
Begin Run 2
46.1 Feet

End Run 2
51.1 Feet

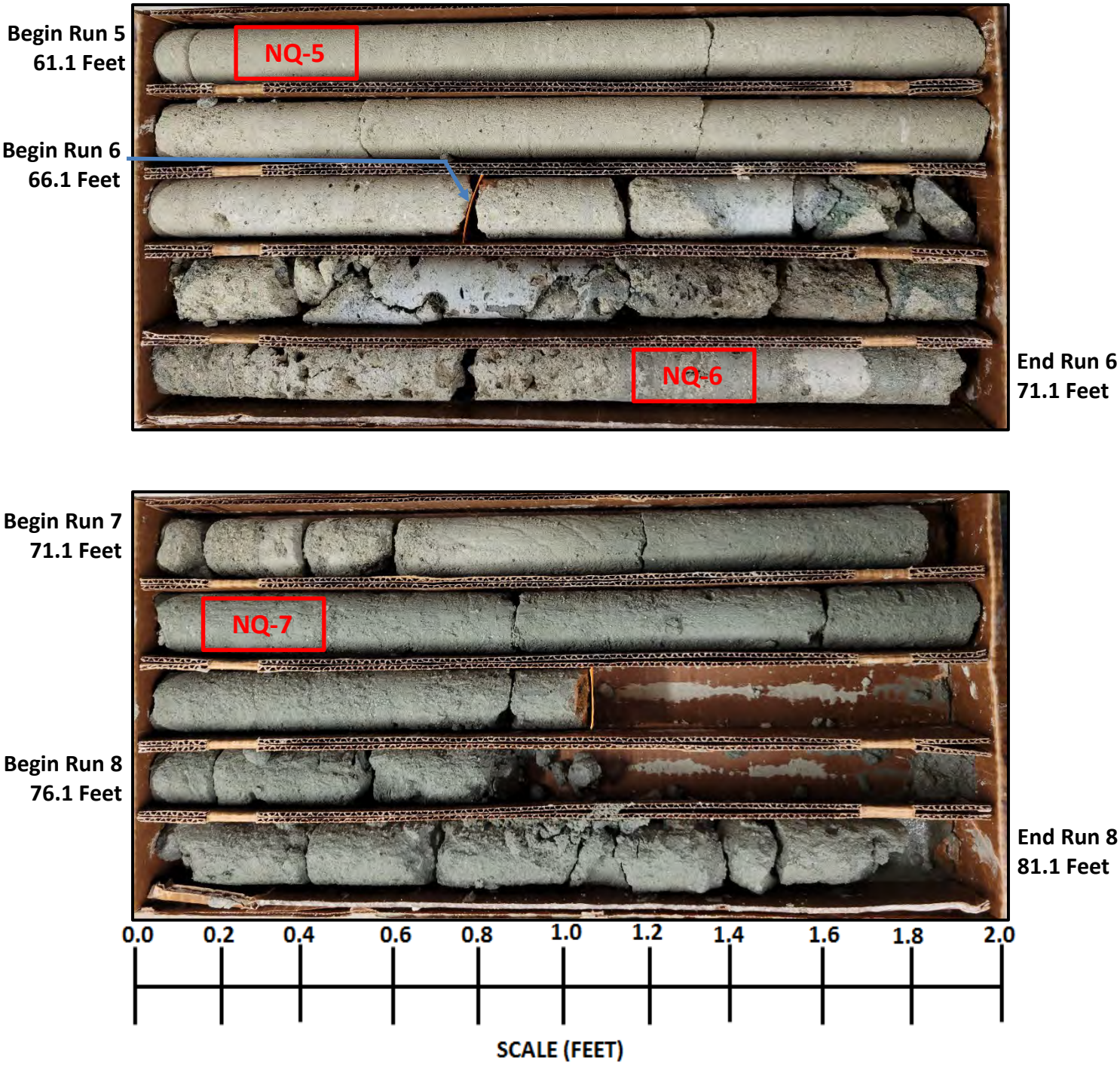
Begin Run 3
51.1 Feet

Begin Run 4
56.1 Feet

End Run 4
61.1 Feet

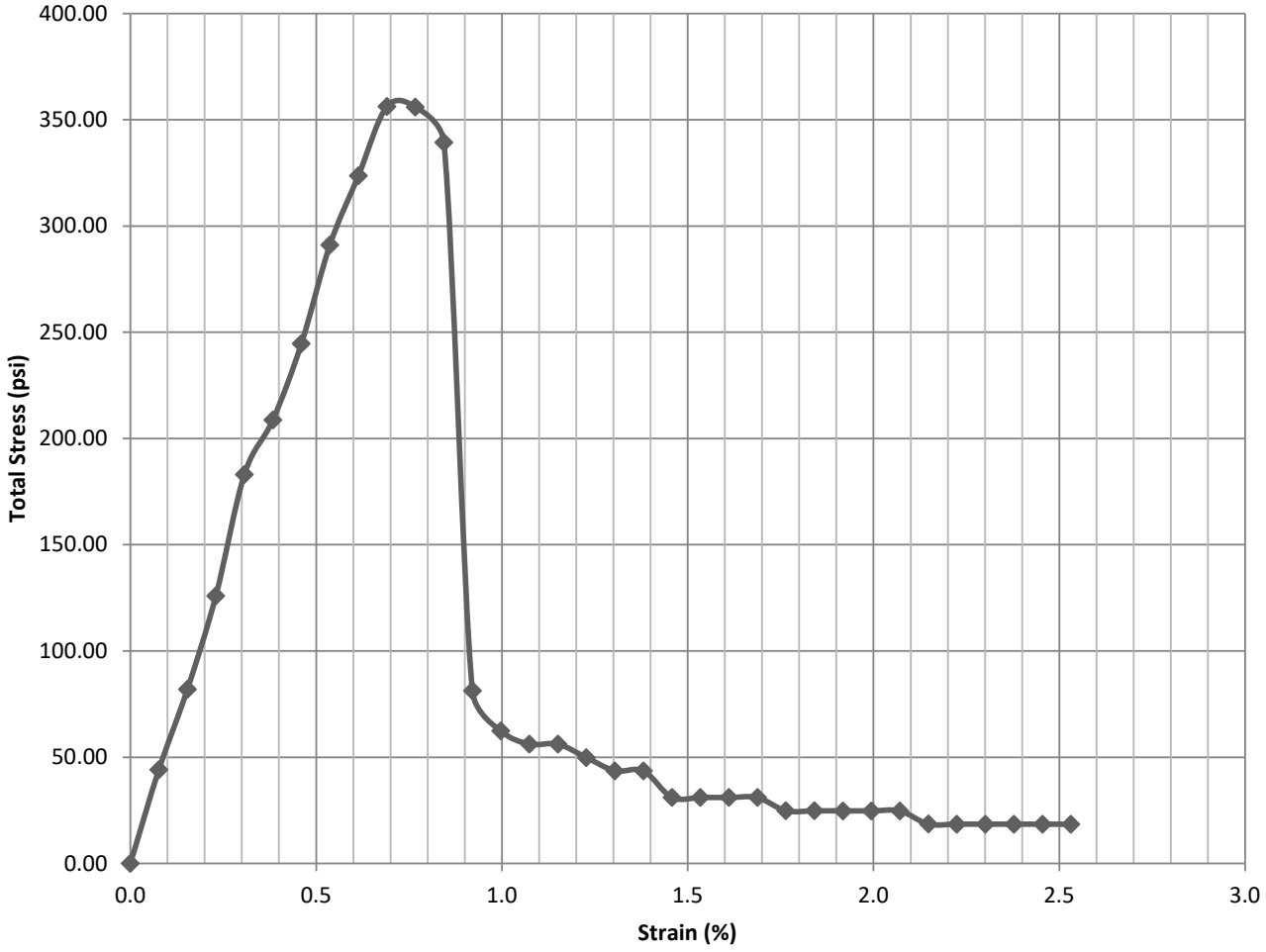


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-16



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0852



Average Initial Diameter (Do):	1.859 in.	Sample Volume:	10.62 in^3
Average Initial Height (Lo):	3.911 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.714 in^2	Sample Weight:	0.742 lbs.
In-Situ Unit Weight:	120.8 pcf	L/D Ratio:	2.104
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-16 / NQ-1		
Depth/Elevation	42.8' - 43.1'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 355 psi ε_{ULT} = 0.7%

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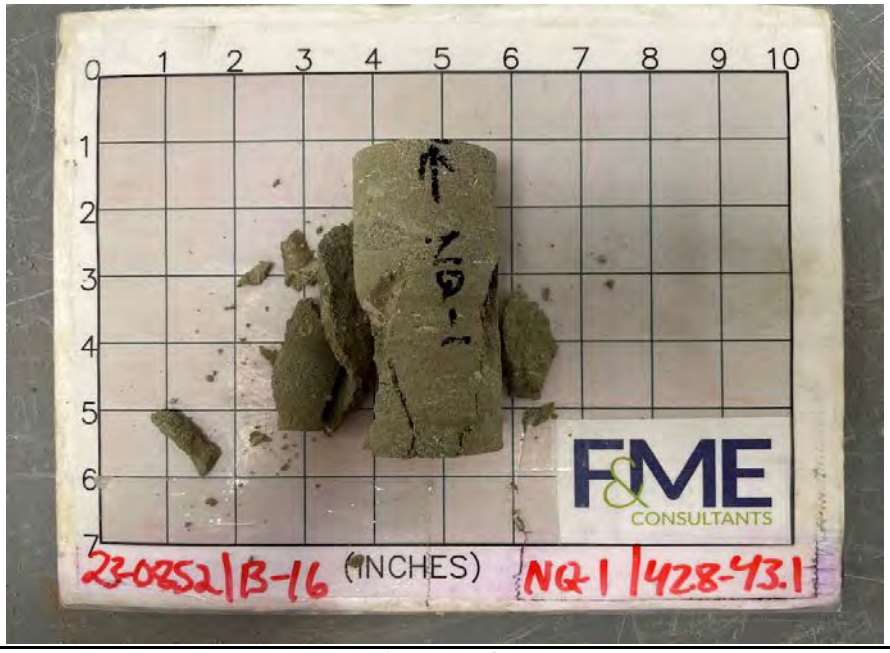
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0852
Sample Location:	B-16 / NQ-1		**Depth of Sample:**	42.8' - 43.1'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

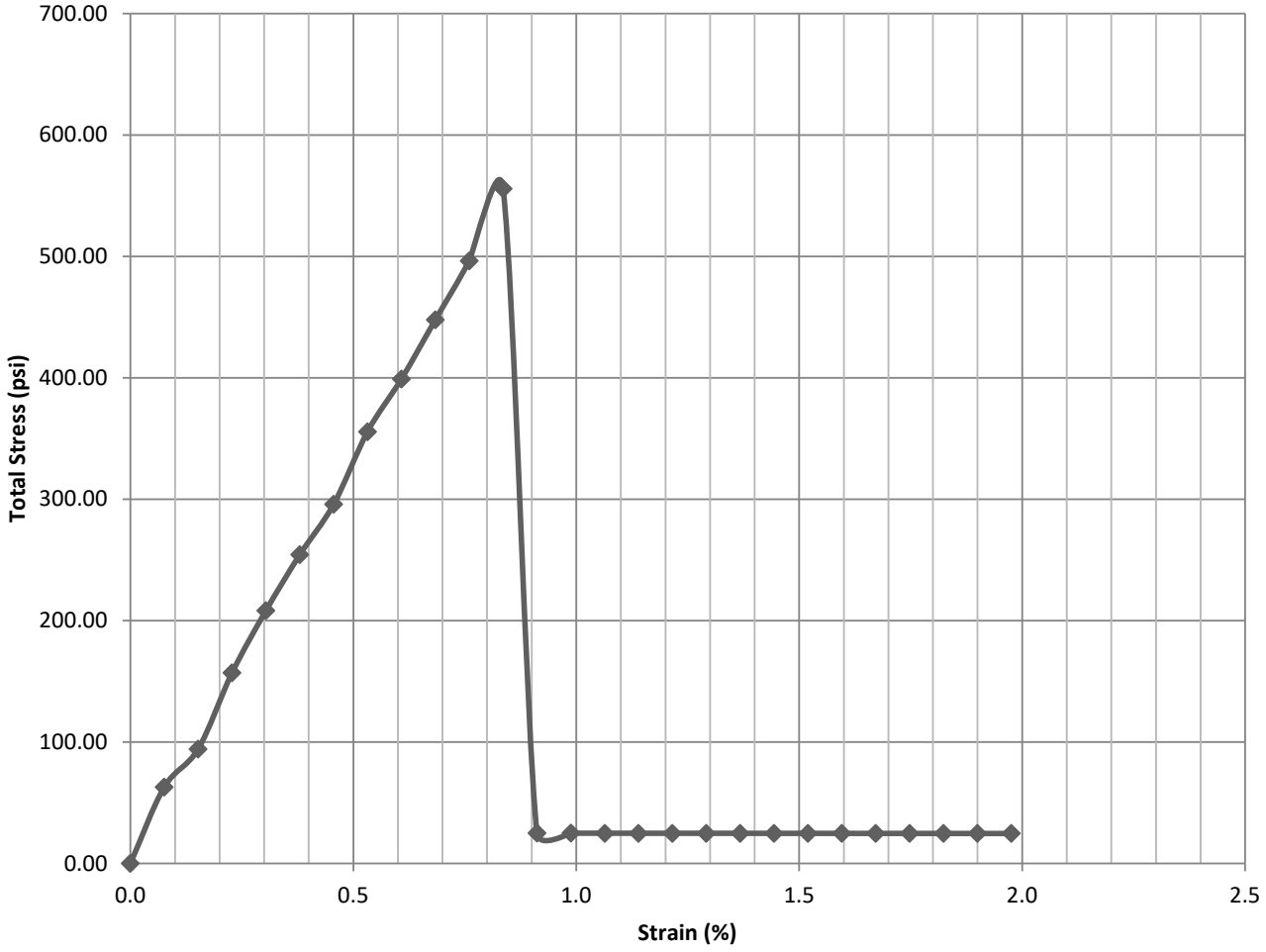
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0852



Average Initial Diameter (Do):	1.862 in.	Sample Volume:	10.75 in^3
Average Initial Height (Lo):	3.948 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.723 in^2	Sample Weight:	0.727 lbs.
In-Situ Unit Weight:	116.8 pcf	L/D Ratio:	2.120
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-16 / NQ-3		
Depth/Elevation	53.2' - 53.5'		

Sample Type : Soil Core
Target Strain Rate : 0.7% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 555 psi ε_{ULT} = 0.8%

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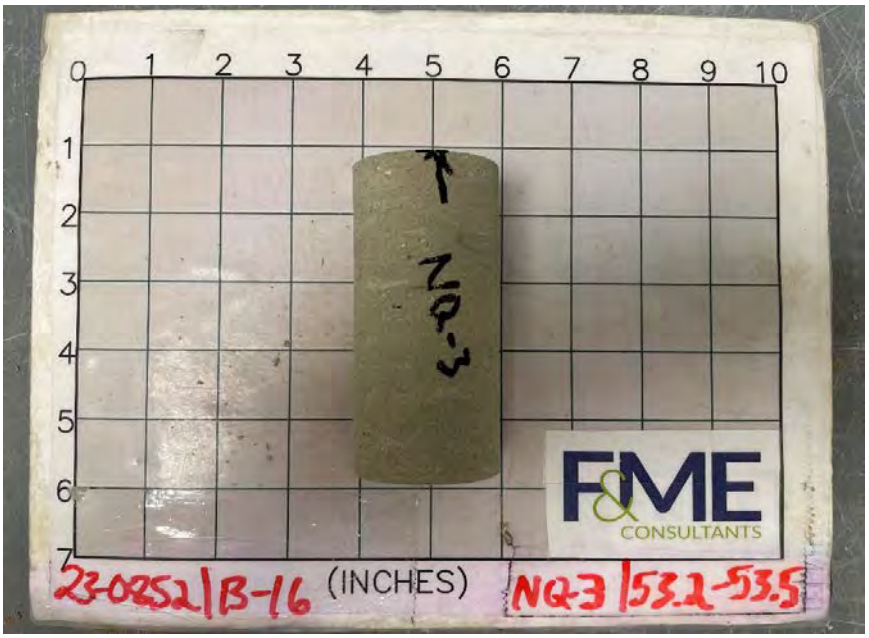
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0852
Sample Location:	B-16 / NQ-3		**Depth of Sample:**	53.2' - 53.5'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

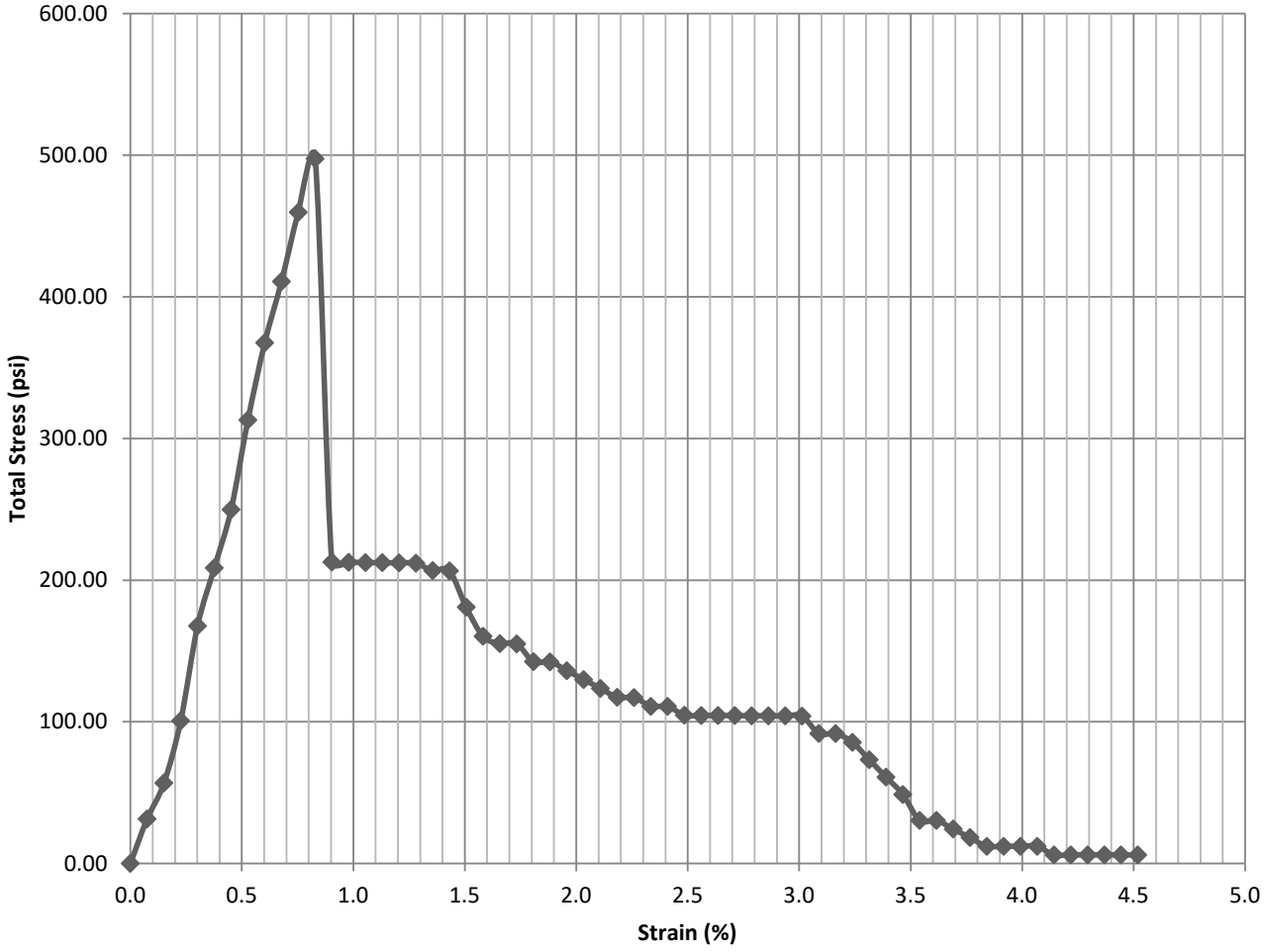


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0852



Average Initial Diameter (Do):	1.859 in.	Sample Volume:	10.81 in^3
Average Initial Height (Lo):	3.983 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.714 in^2	Sample Weight:	0.767 lbs.
In-Situ Unit Weight:	122.7 pcf	L/D Ratio:	2.143
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-16 / NQ-5		
Depth/Elevation	62.1' - 62.5'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 495 psi ε_{ULT} = 0.8%

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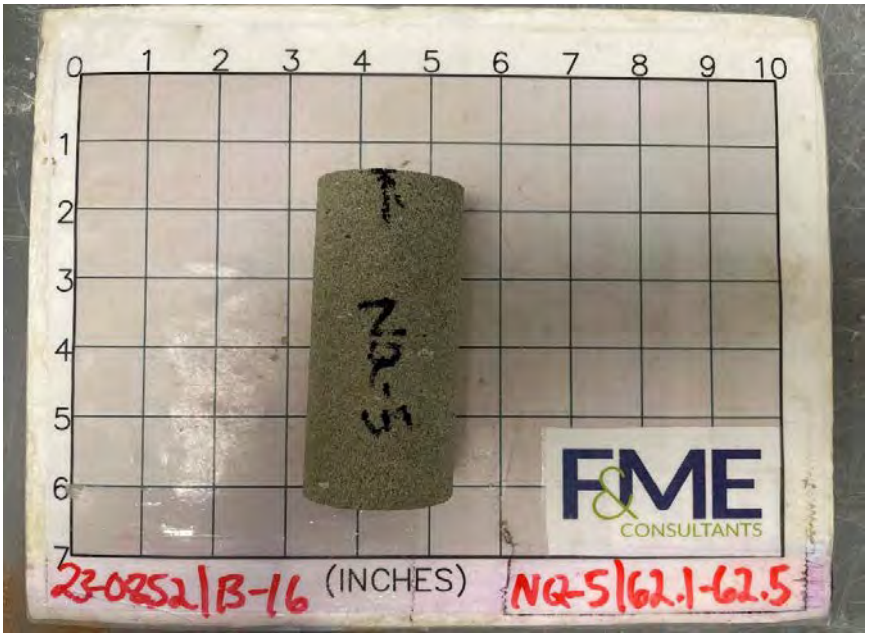
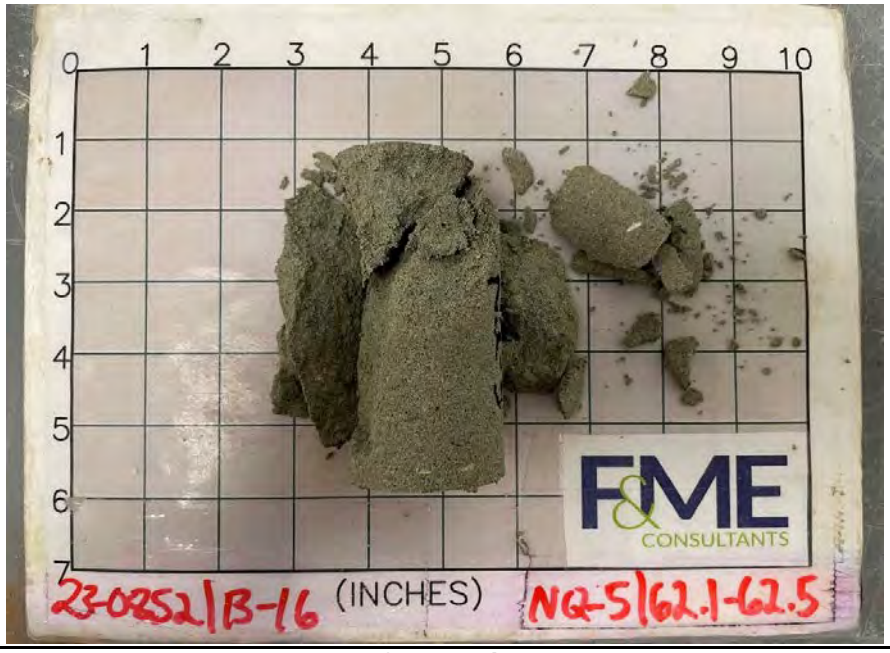
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0852
Sample Location:	B-16 / NQ-5		**Depth of Sample:**	62.1' - 62.5'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	



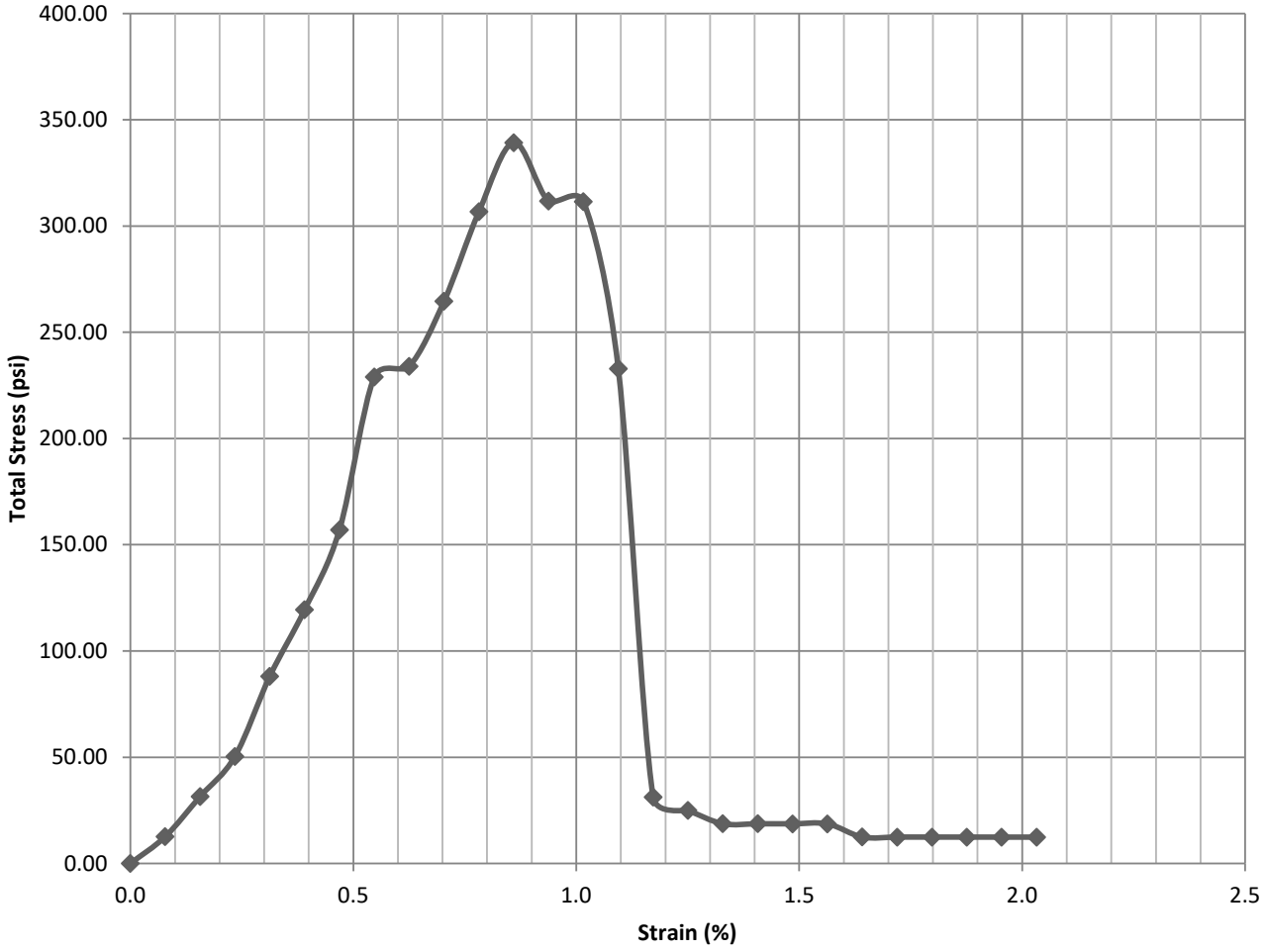
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0852



Average Initial Diameter (Do):	1.859 in.	Sample Volume:	10.42 in^3
Average Initial Height (Lo):	3.838 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.714 in^2	Sample Weight:	0.792 lbs.
In-Situ Unit Weight:	131.4 pcf	L/D Ratio:	2.065
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-16 / NQ-6		
Depth/Elevation	70.4' - 70.8'		

Sample Type : Soil Core
Target Strain Rate : 0.76% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 340 psi ε_{ULT} = 0.9%

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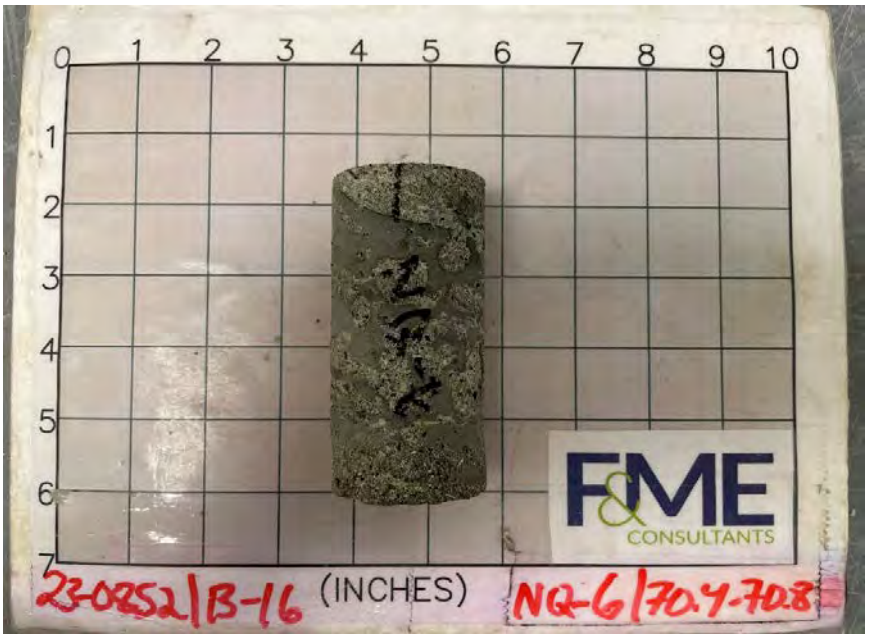
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0852
Sample Location:	B-16 / NQ-6		**Depth of Sample:**	70.4' - 70.8'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

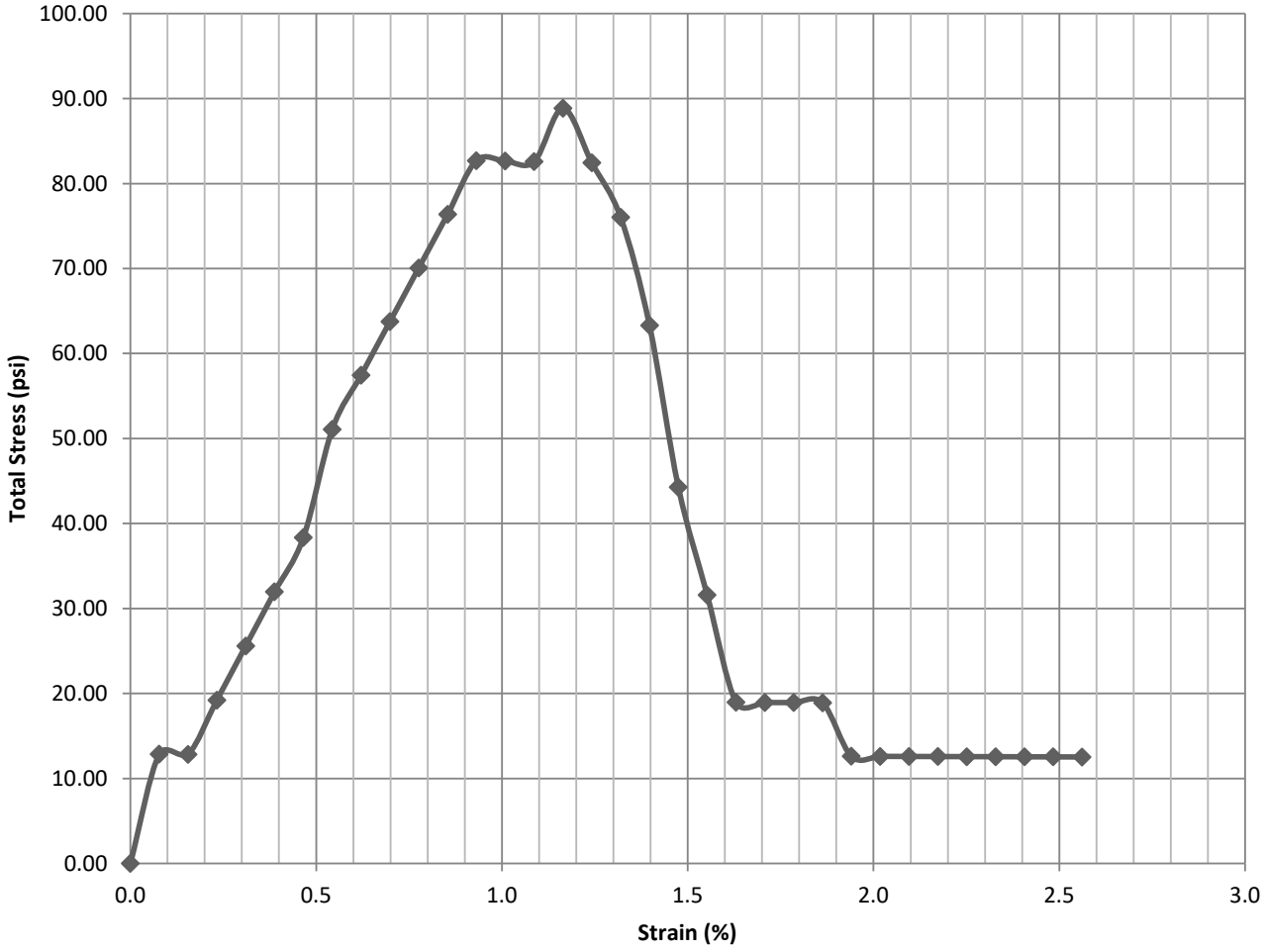


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0852



Average Initial Diameter (Do):	1.843 in.	Sample Volume:	10.31 in^3
Average Initial Height (Lo):	3.865 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.668 in^2	Sample Weight:	0.724 lbs.
In-Situ Unit Weight:	121.3 pcf	L/D Ratio:	2.097
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	23-0852
SCDOT File #	P041130	PIN #	
Sample/Location	B-16 / NQ-7		
Depth/Elevation	73.1 - 73.4		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 90 psi ε_{ULT} = 1.2%

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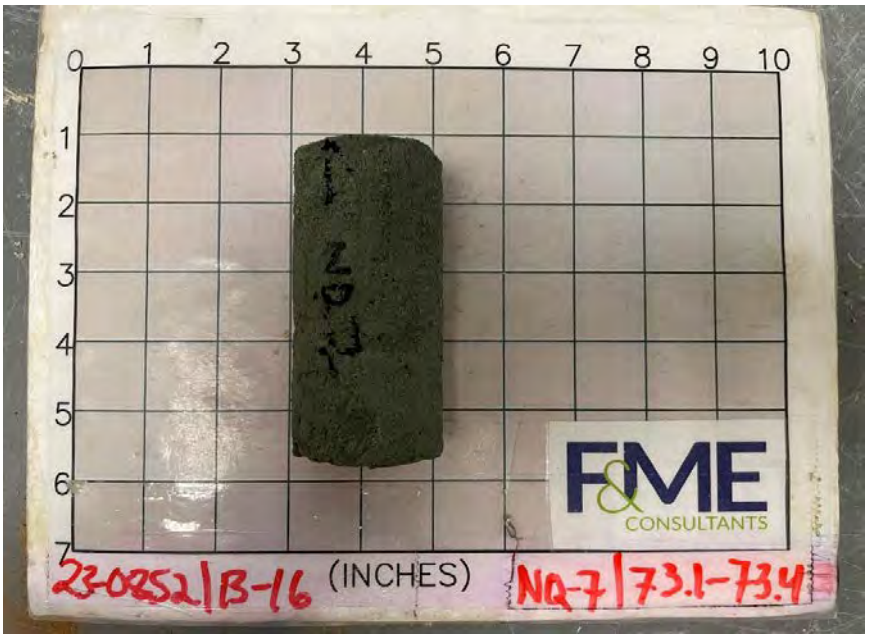
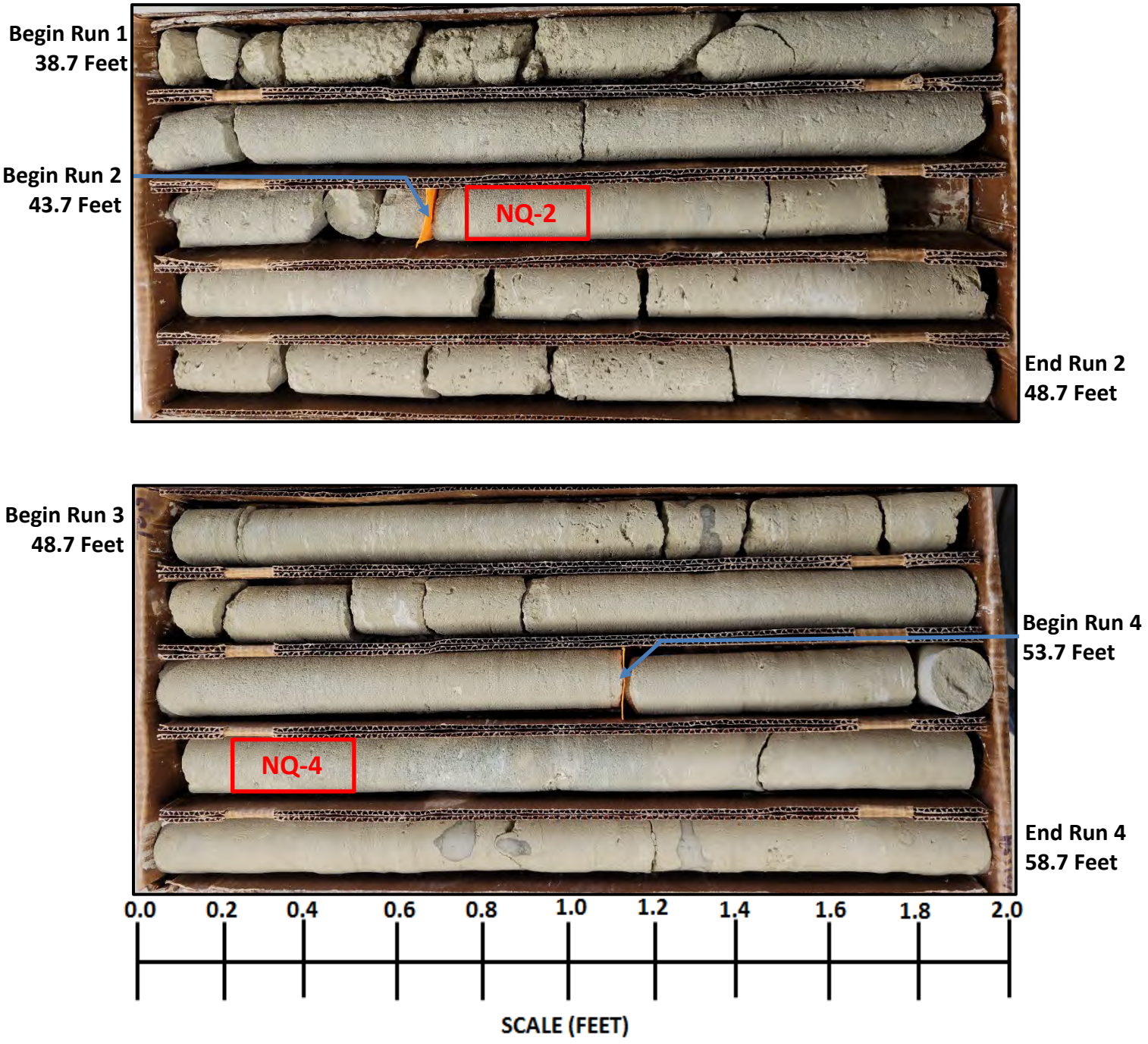
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0852
Sample Location:	B-16 / NQ-7		**Depth of Sample:**	73.1 - 73.4
Tested By:	W. Pitts	**Date Tested:**	23-0852	



Before Break

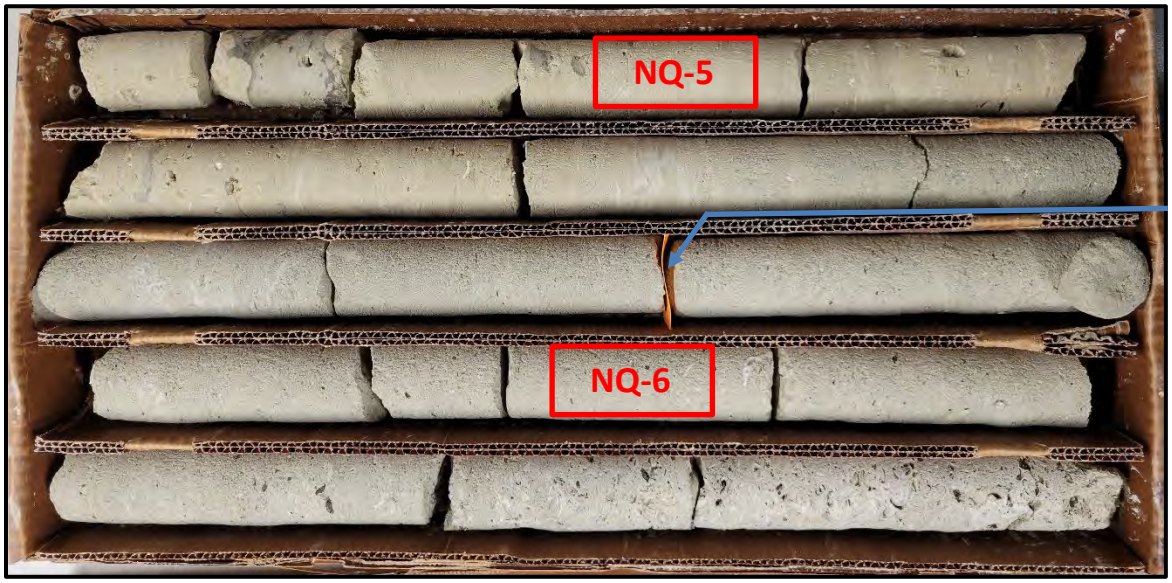
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-18



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-18

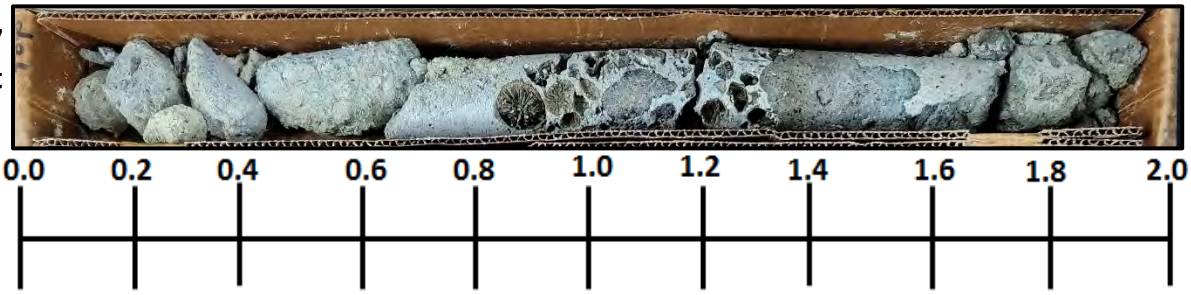
Begin Run 5
58.7 Feet



Begin Run 6
63.7 Feet

End Run 6
68.7 Feet

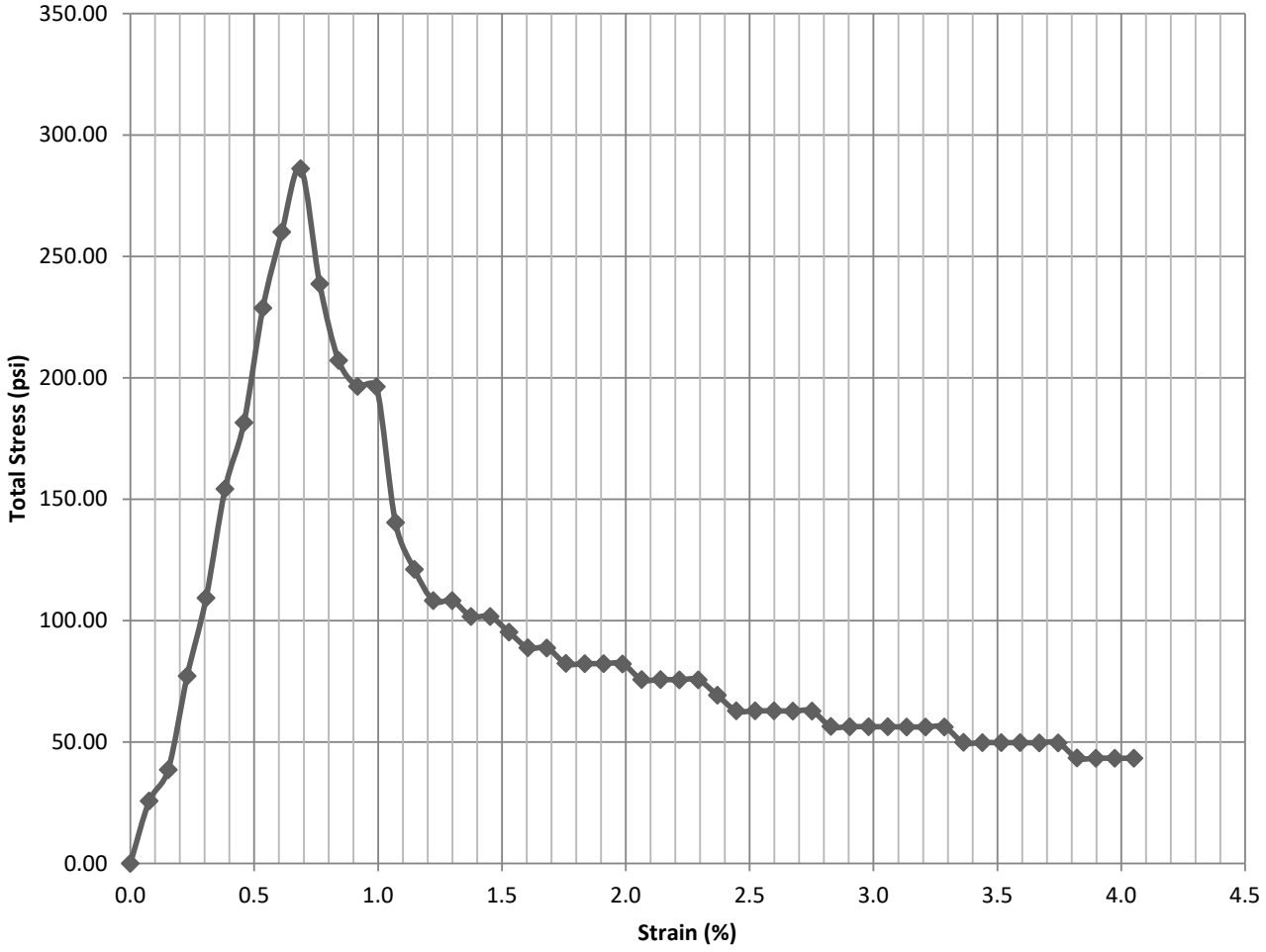
Begin Run 7
68.7 Feet



End Run 7
71.7 Feet

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0851



Average Initial Diameter (Do):	1.839 in.	Sample Volume:	10.43 in^3
Average Initial Height (Lo):	3.925 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.656 in^2	Sample Weight:	0.717 lbs.
In-Situ Unit Weight:	118.8 pcf	L/D Ratio:	2.134
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-18 / NQ-2		
Depth/Elevation	43.8' - 44.1'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 285 psi ε_{ULT} = 0.7%

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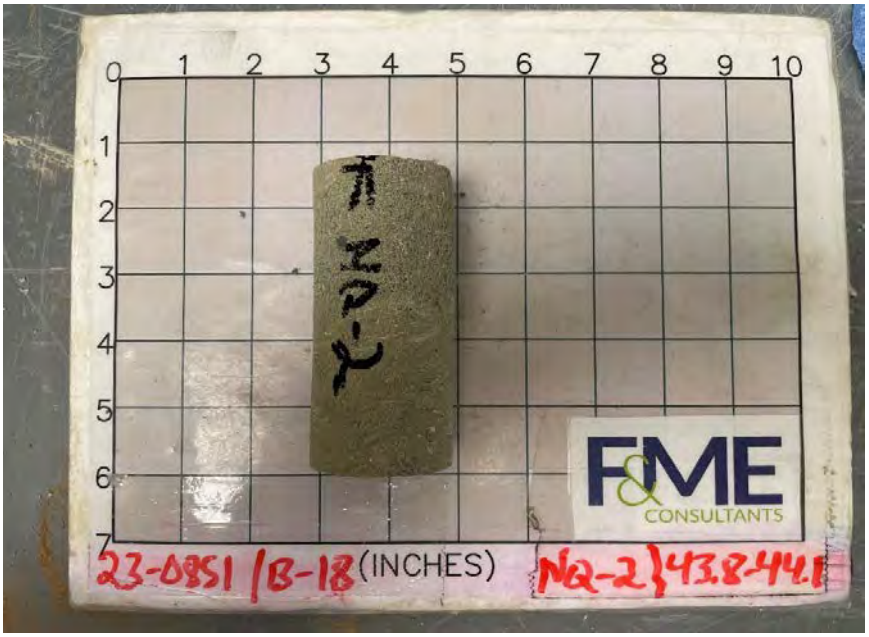
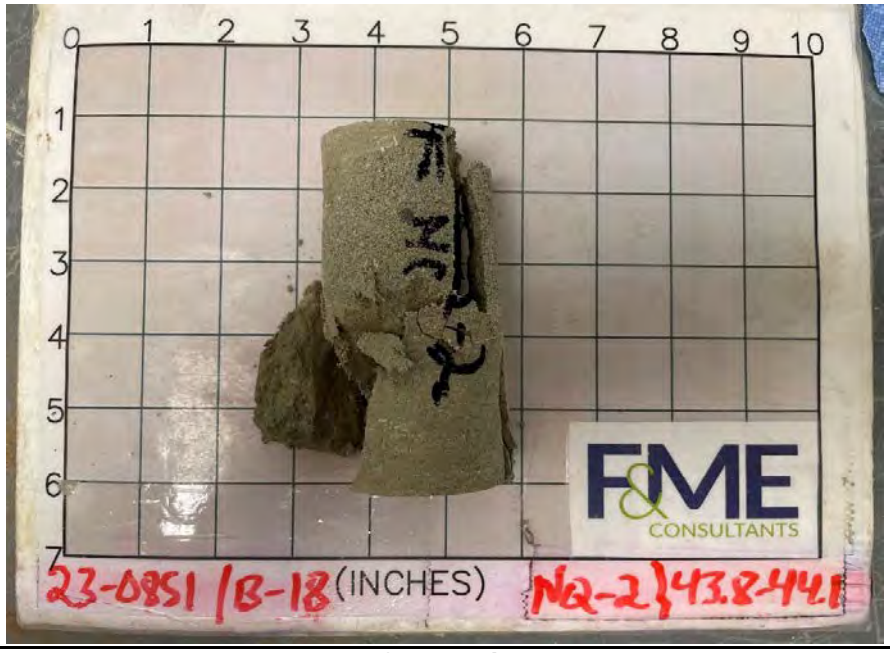
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0851
Sample Location:	B-18 / NQ-2		**Depth of Sample:**	43.8' - 44.1'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	



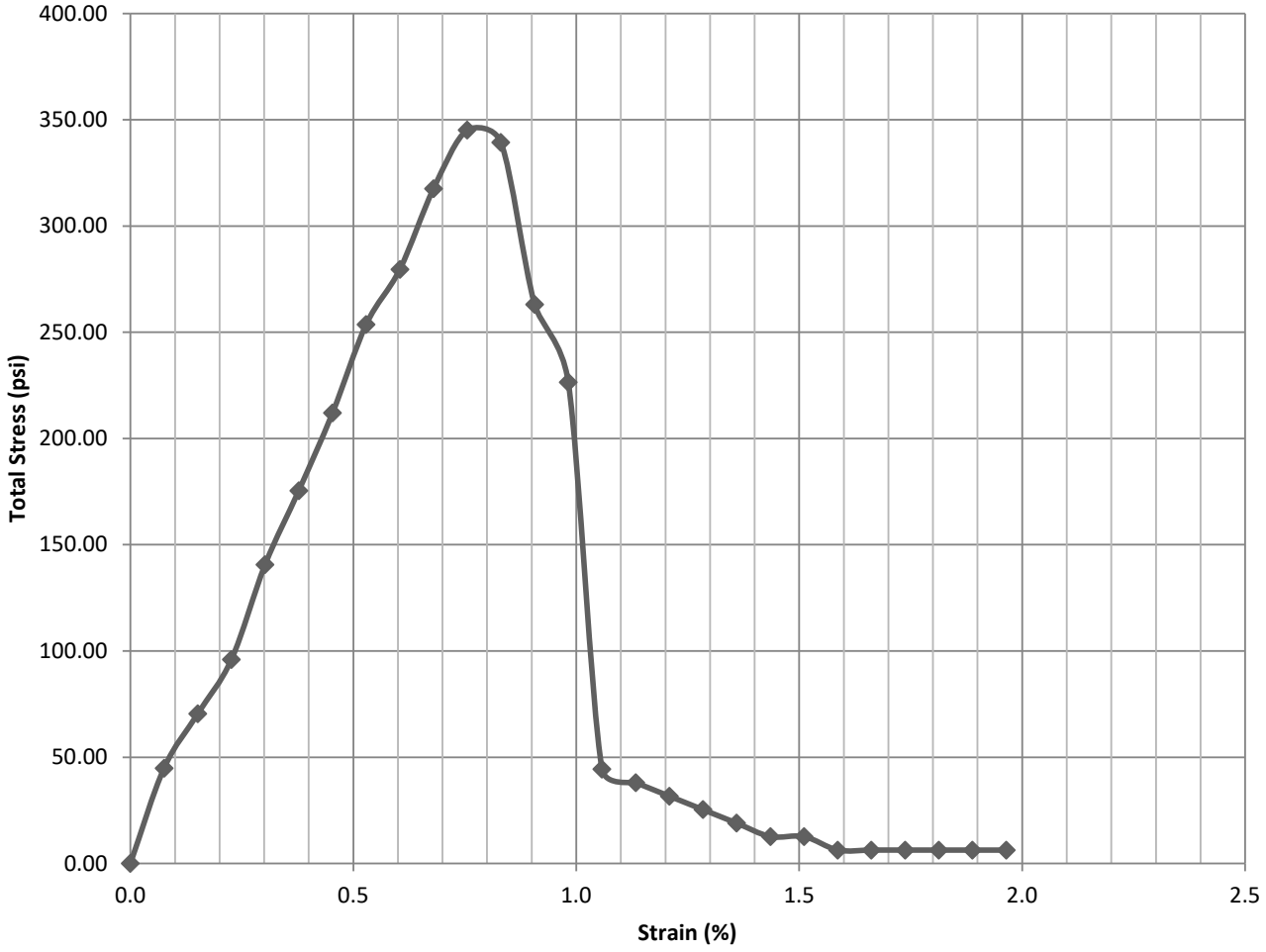
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0851



Average Initial Diameter (Do):	1.844 in.	Sample Volume:	10.61 in^3
Average Initial Height (Lo):	3.971 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.671 in^2	Sample Weight:	0.728 lbs.
In-Situ Unit Weight:	118.7 pcf	L/D Ratio:	2.153
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-18 / NQ-4		
Depth/Elevation	54.6' - 55.0'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 345 psi ε_{ULT} = 0.8%

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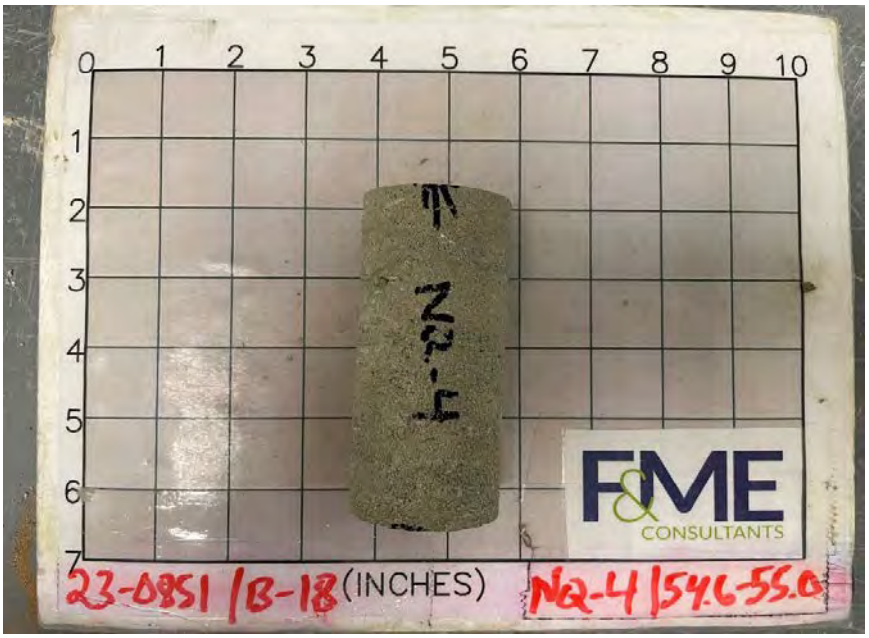
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0851
Sample Location:	B-18 / NQ-4		**Depth of Sample:**	54.6' - 55.0'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

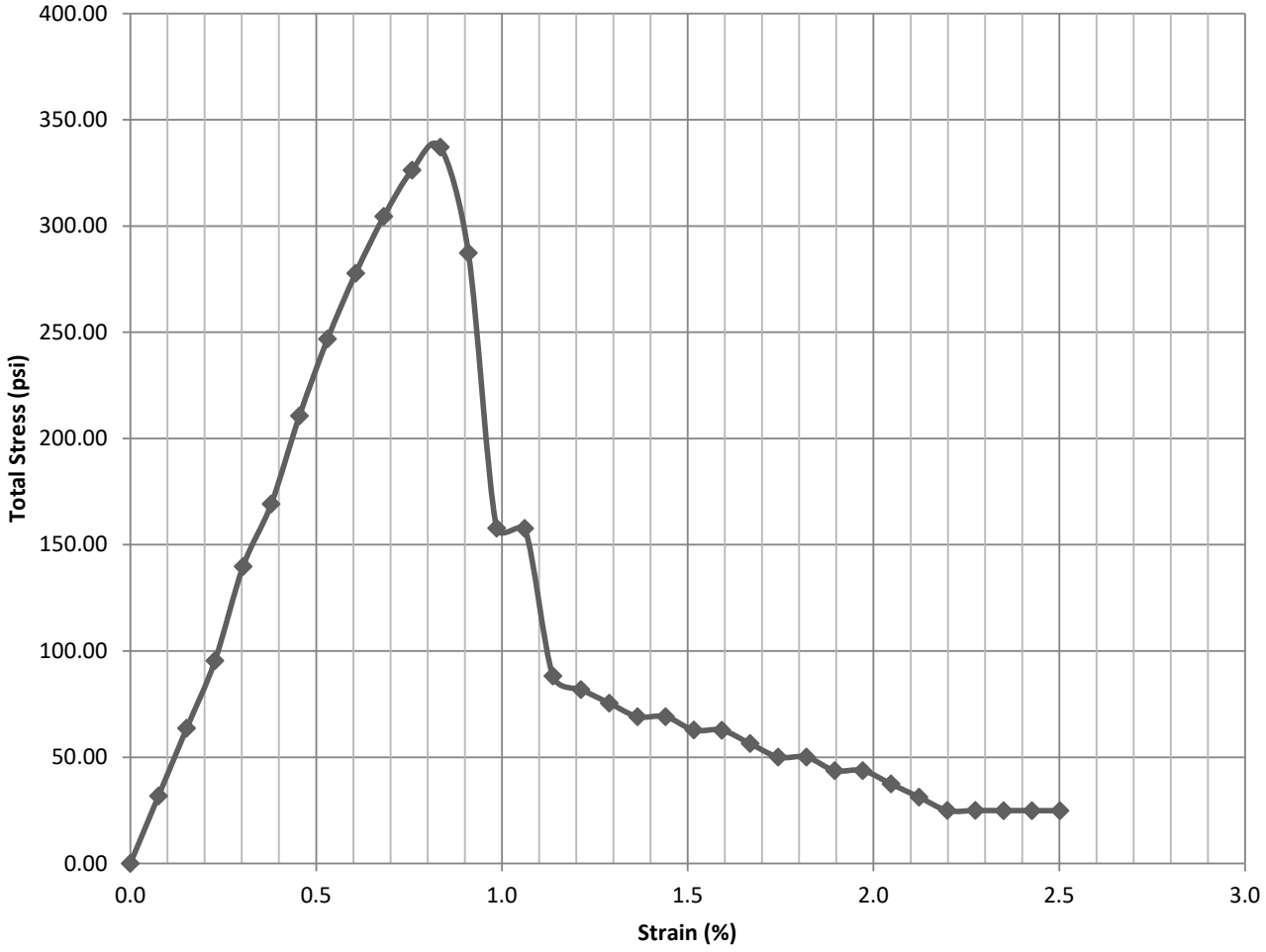


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0851



Average Initial Diameter (Do):	1.850 in.	Sample Volume:	10.64 in^3
Average Initial Height (Lo):	3.957 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.688 in^2	Sample Weight:	0.704 lbs.
In-Situ Unit Weight:	114.4 pcf	L/D Ratio:	2.139
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-18 / NQ-5		
Depth/Elevation	59.7' - 60.0'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 335 psi ε_{ULT} = 0.8%

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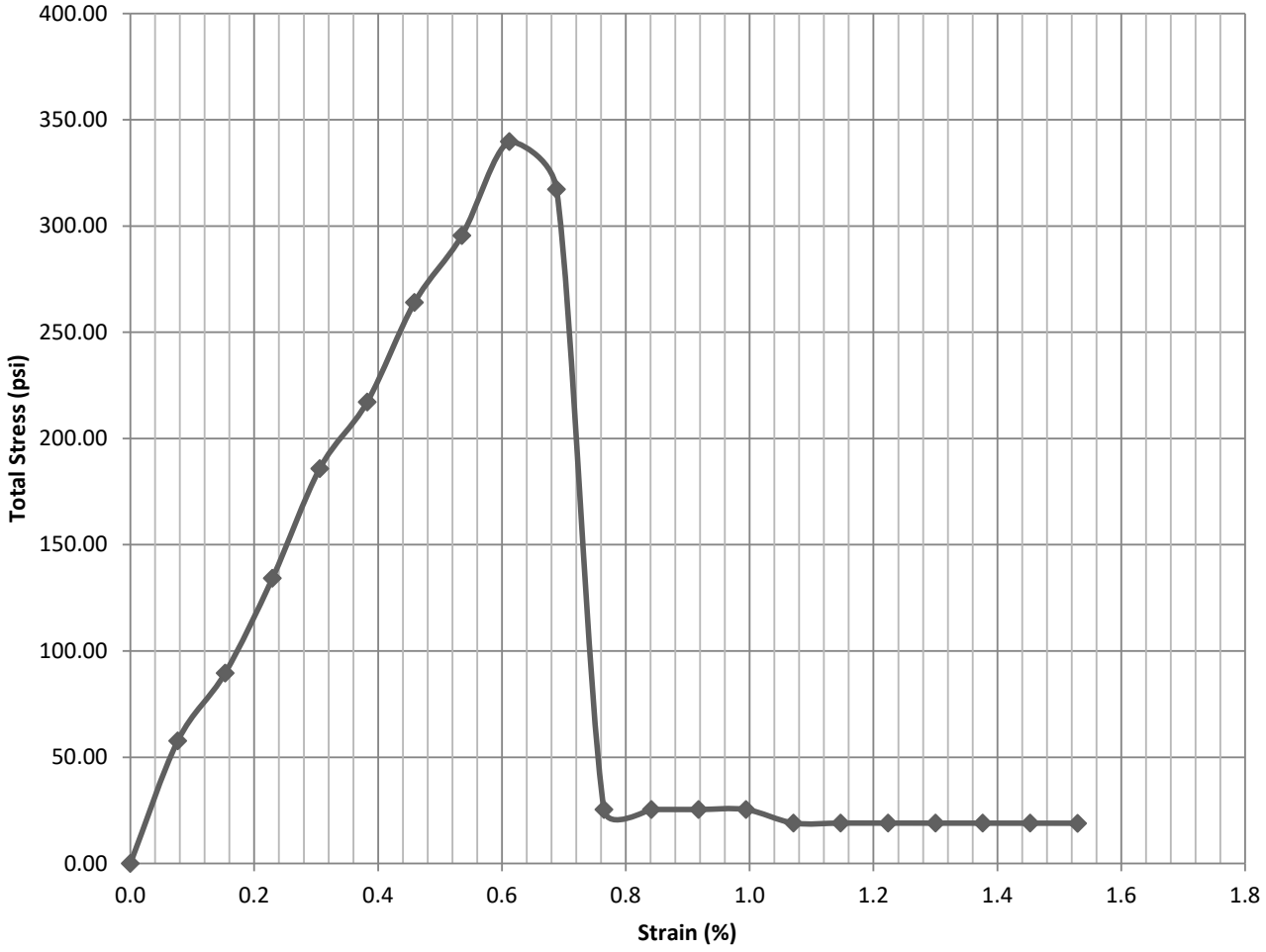
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0851
Sample Location:	B-18 / NQ-5		**Depth of Sample:**	59.7' - 60.0'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0851



Average Initial Diameter (Do):	1.845 in.	Sample Volume:	10.49 in^3
Average Initial Height (Lo):	3.923 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.674 in^2	Sample Weight:	0.719 lbs.
In-Situ Unit Weight:	118.4 pcf	L/D Ratio:	2.126
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/7/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-18 / NQ-6		
Depth/Elevation	65.5' - 65.8'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 340 psi ε_{ULT} = 0.6%

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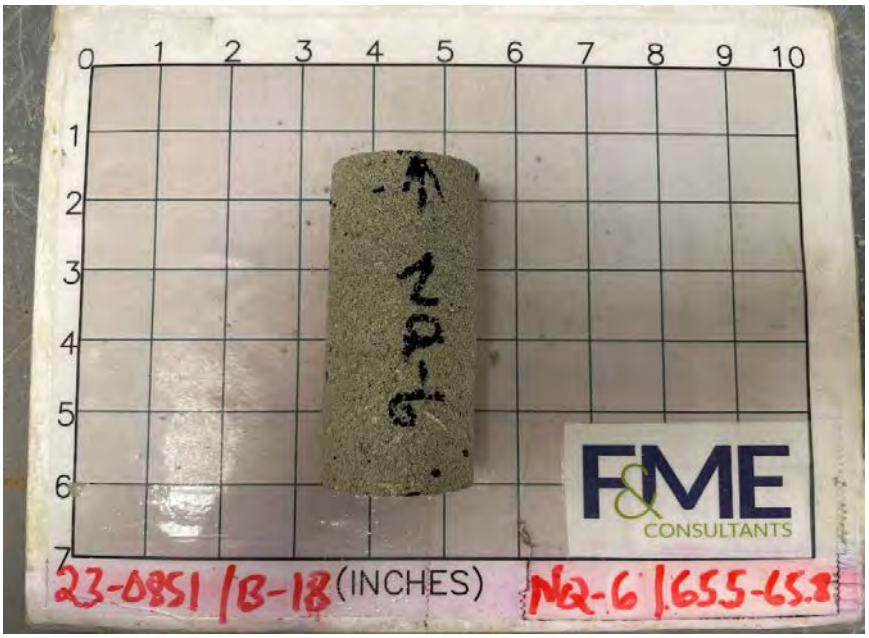
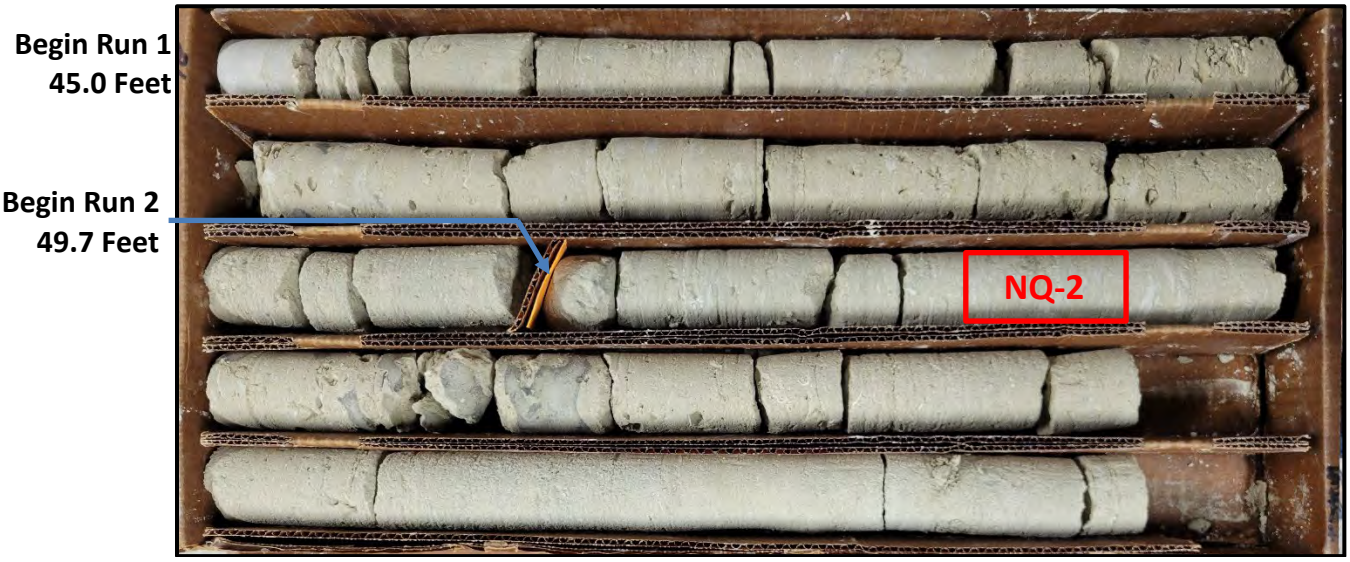
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0851
Sample Location:	B-18 / NQ-6		**Depth of Sample:**	65.5' - 65.8'
Tested By:	W. Pitts	**Date Tested:**	4/7/2023	

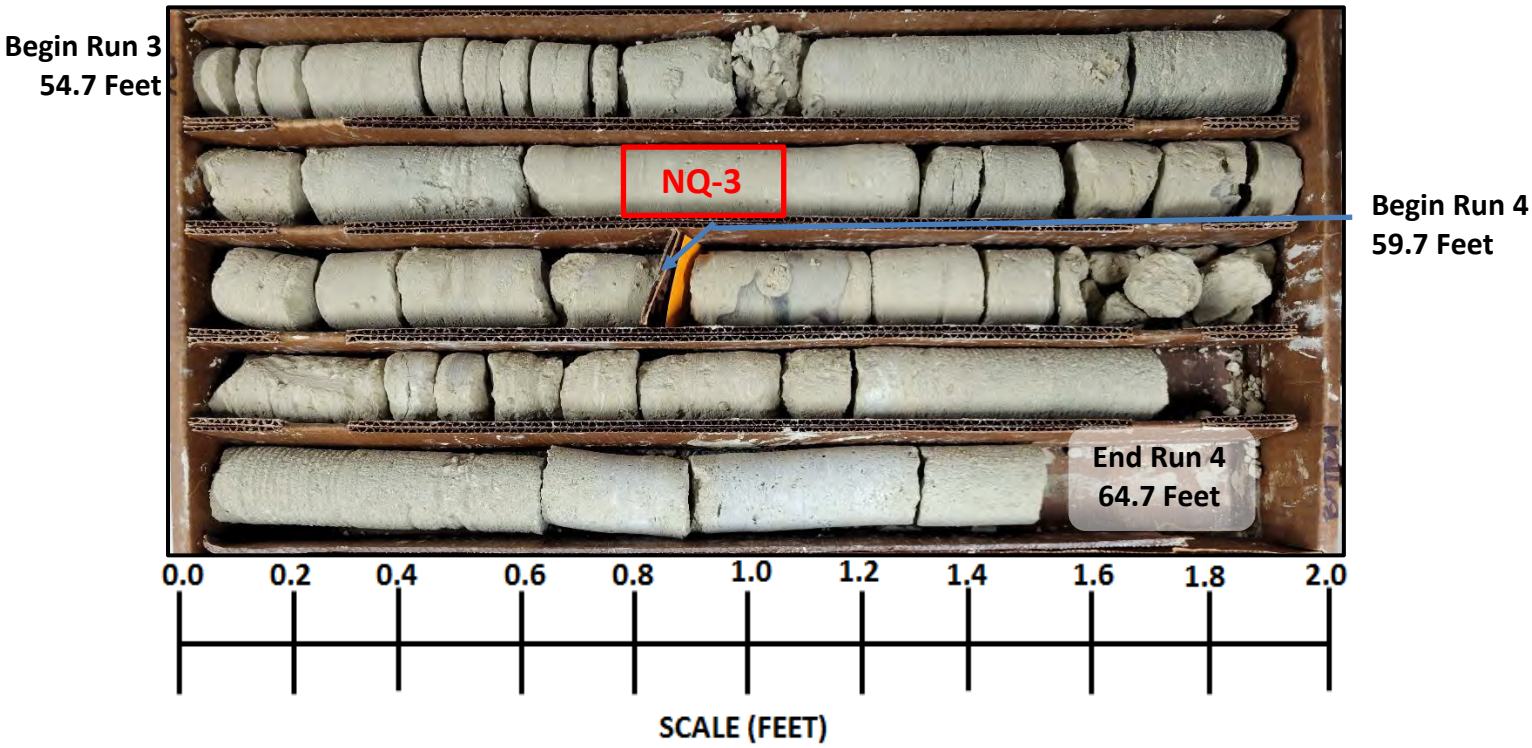


Before Break

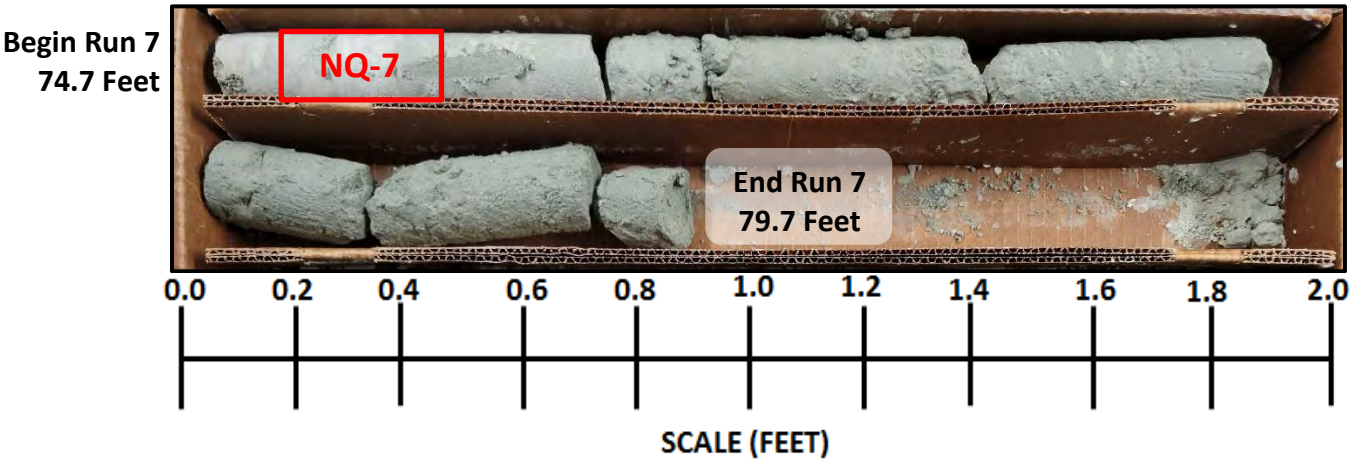
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-19



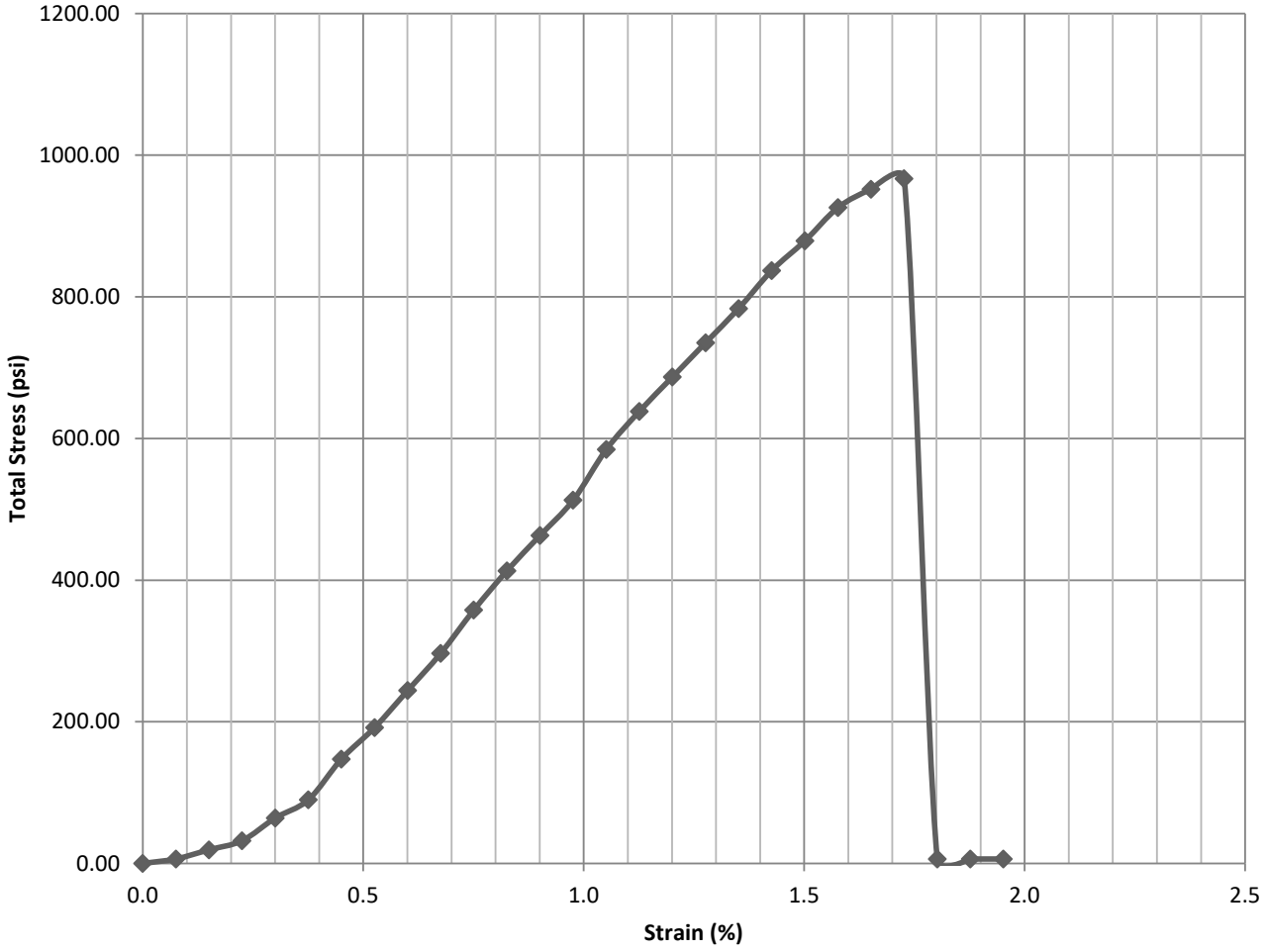


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-19



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1559



Average Initial Diameter (Do):	1.840 in.	Sample Volume:	10.63 in^3
Average Initial Height (Lo):	3.996 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.659 in^2	Sample Weight:	0.825 lbs.
In-Situ Unit Weight:	134.2 pcf	L/D Ratio:	2.172
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/20/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-19 / NQ-2		
Depth/Elevation	50.5' - 50.8'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 965 psi ε_{ULT} = 1.7%

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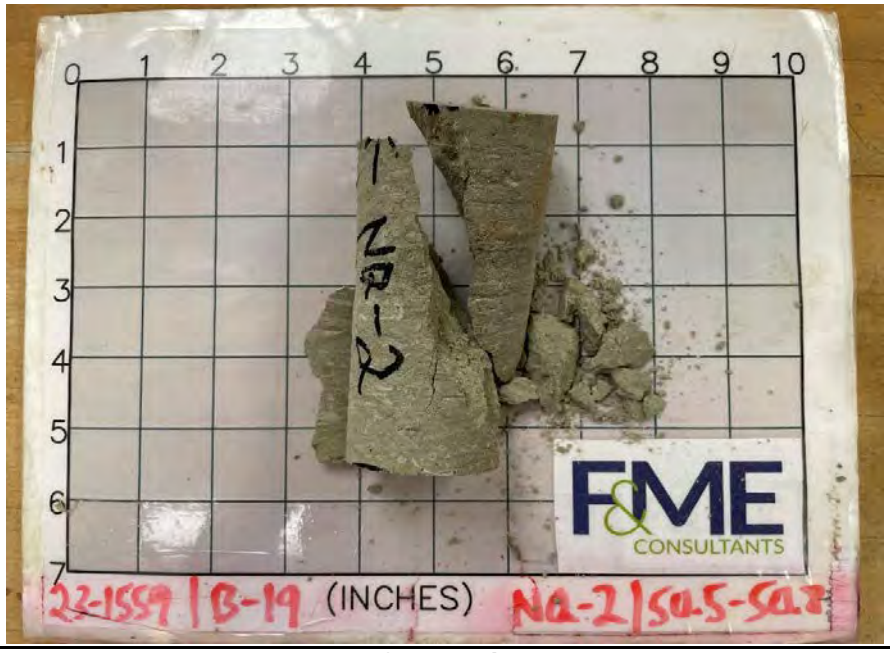
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1559
Sample Location:	B-19 / NQ-2		**Depth of Sample:**	50.5' - 50.8'
Tested By:	W. Pitts	**Date Tested:**	6/20/2023	

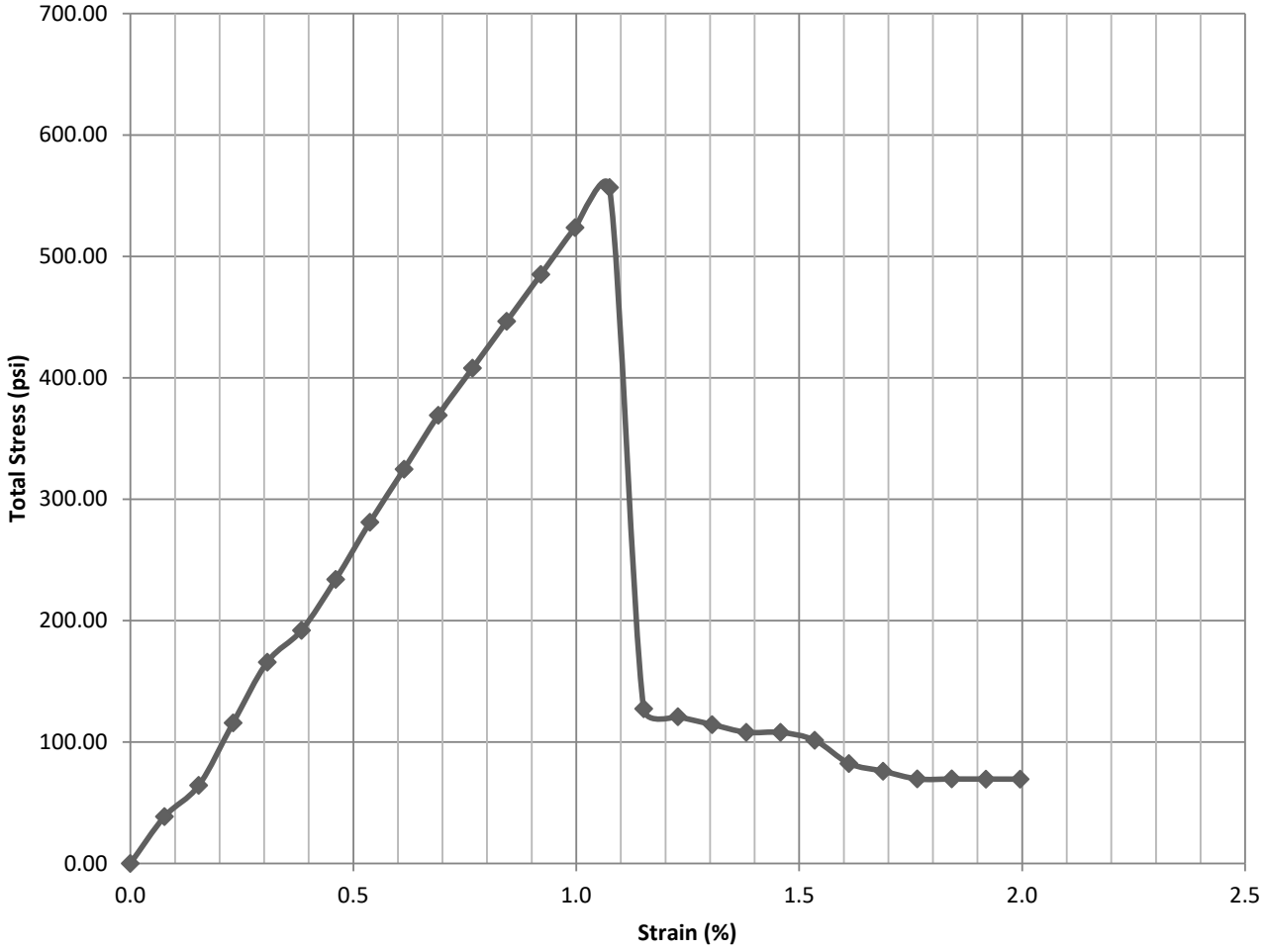
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1559



Average Initial Diameter (Do):	1.840 in.	Sample Volume:	10.39 in^3
Average Initial Height (Lo):	3.909 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.659 in^2	Sample Weight:	0.668 lbs.
In-Situ Unit Weight:	111.0 pcf	L/D Ratio:	2.124
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/20/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-19 / NQ-3		
Depth/Elevation	57.5' - 57.8'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 555 psi ε_{ULT} = 1.1%

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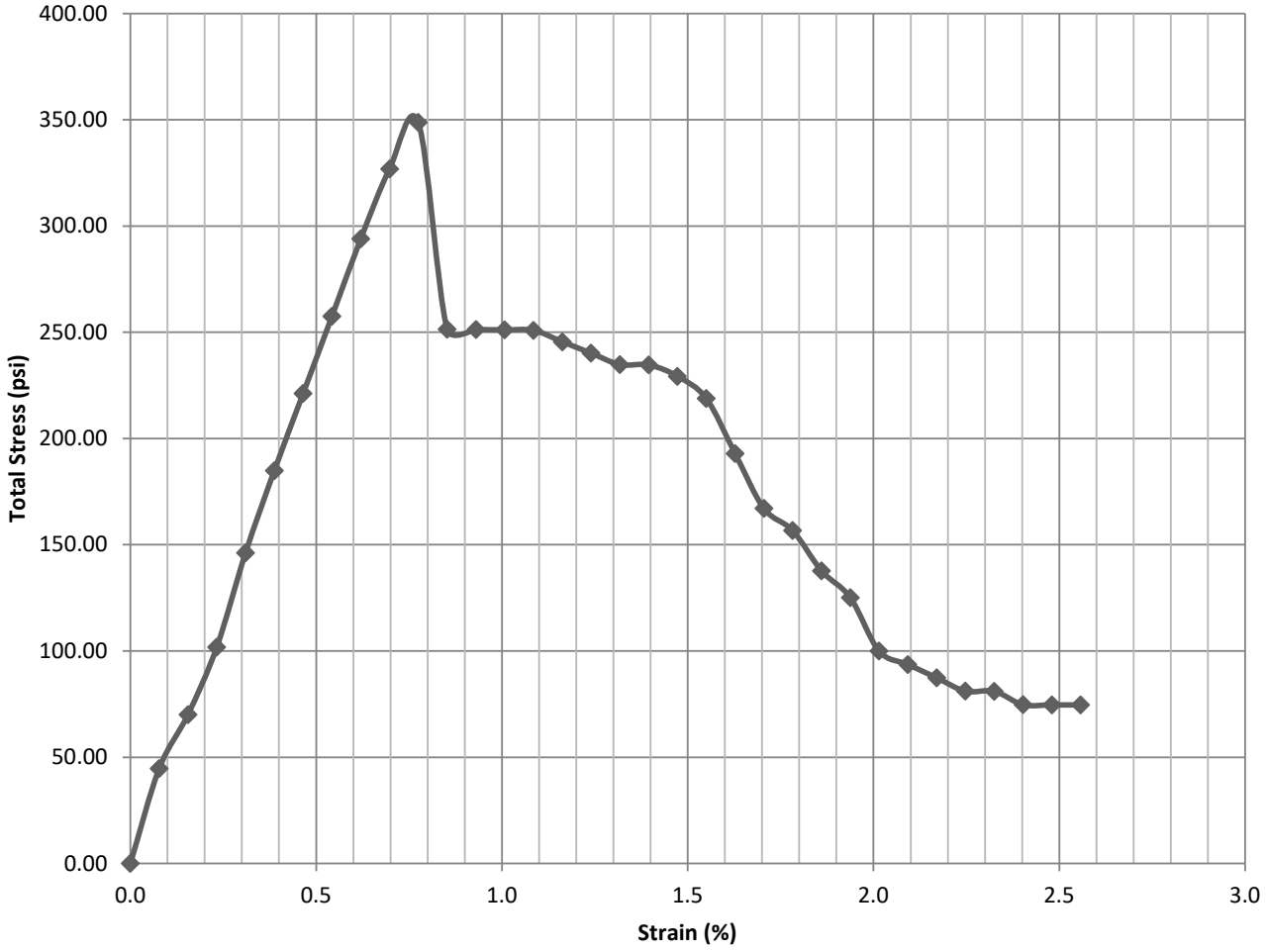
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1559
Sample Location:	B-19 / NQ-3		**Depth of Sample:**	57.5' - 57.8'
Tested By:	W. Pitts	**Date Tested:**	6/20/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1559



Average Initial Diameter (Do):	1.849 in.	Sample Volume:	10.39 in^3
Average Initial Height (Lo):	3.871 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.685 in^2	Sample Weight:	0.721 lbs.
In-Situ Unit Weight:	119.9 pcf	L/D Ratio:	2.094
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/20/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-19 / NQ-5		
Depth/Elevation	65.8' - 66.1'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 350 psi ε_{ULT} = 0.8%

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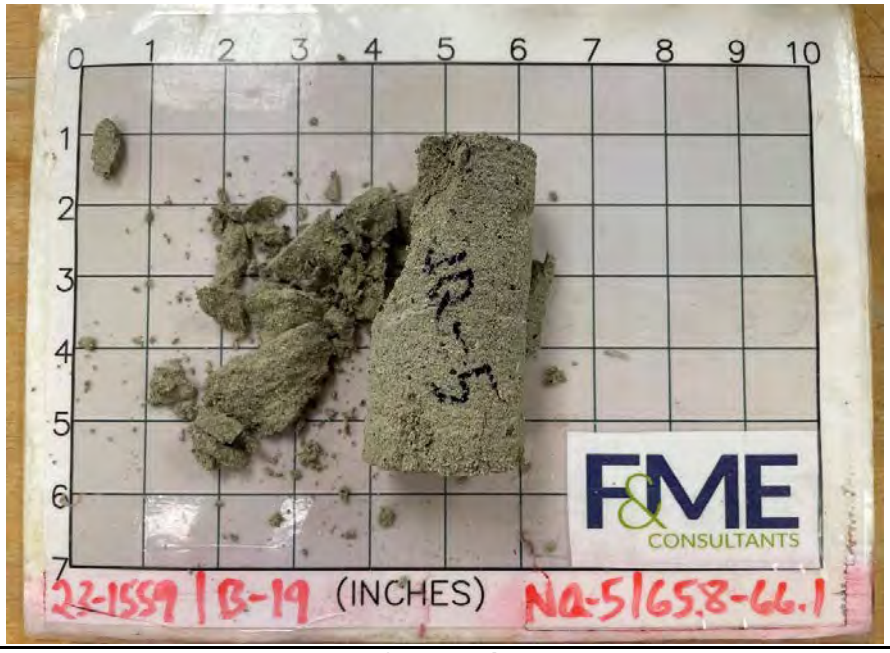
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1559
Sample Location:	B-19 / NQ-5		**Depth of Sample:**	65.8' - 66.1'
Tested By:	W. Pitts	**Date Tested:**	6/20/2023	

Before Break



After Break

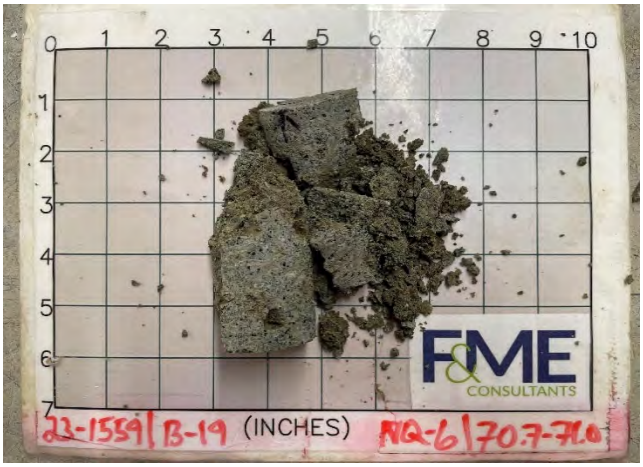
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.064	Reviewed By	WJG
Boring	B-19	Unit Weight (pcf)	139.6	Core Size	NQ
Sample No.	NQ-6 / 23-1559	L/D Ratio	2.19	Recovery	93%
Depth	70.7' - 71.0'	Load Rate (psi/sec)	10	RQD	53%
Description	Gray/Black/Brown Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-3806	180	751	278	0.15	0.05
30%	-4912	194	1,152	427	0.17	0.04
40%	-7205	267	1,550	574	0.16	0.04
50%	-11586	188	1,948	722	0.12	0.02
60%	-17744	417	2,308	855	0.10	0.02
70%	-18394	462	2,737	1,014	0.11	0.03
80%	-19315	552	3,089	1,144	0.12	0.03
90%	-20319	839	3,494	1,294	0.13	0.04
100%	-20820	1107	3,871	1,434		

Sample Photos

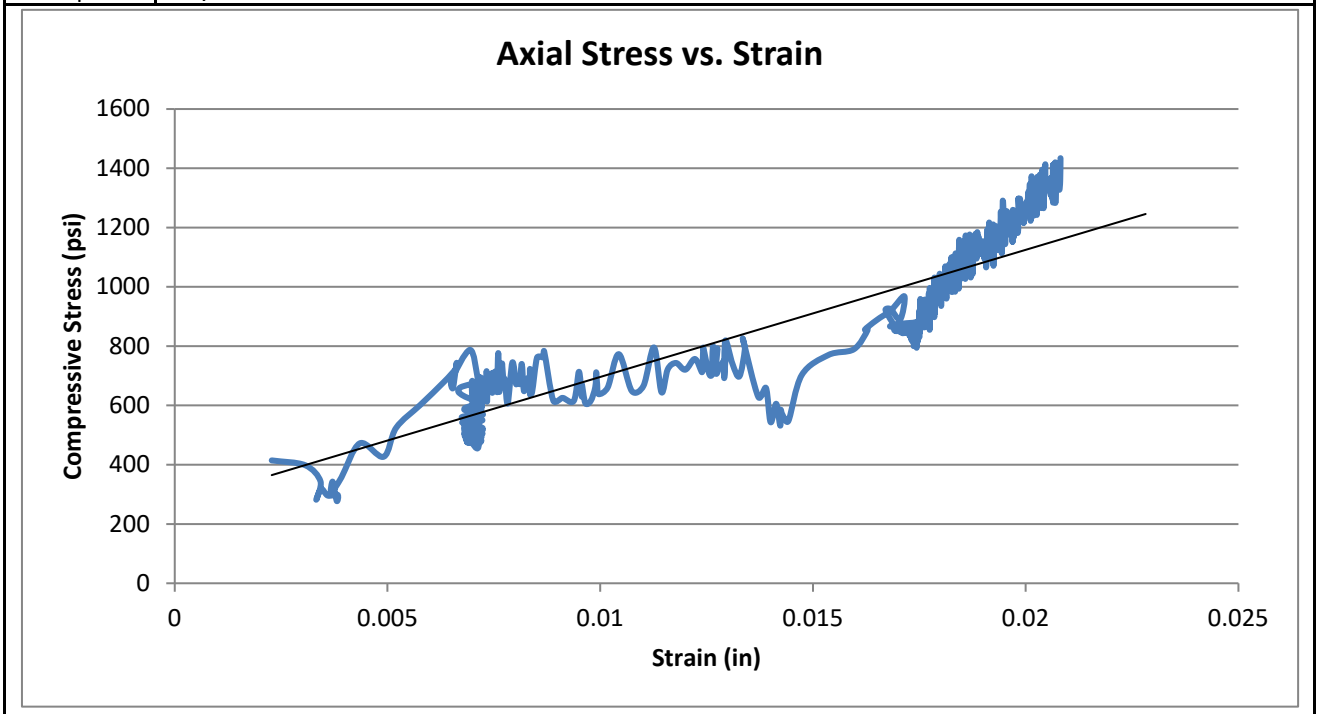


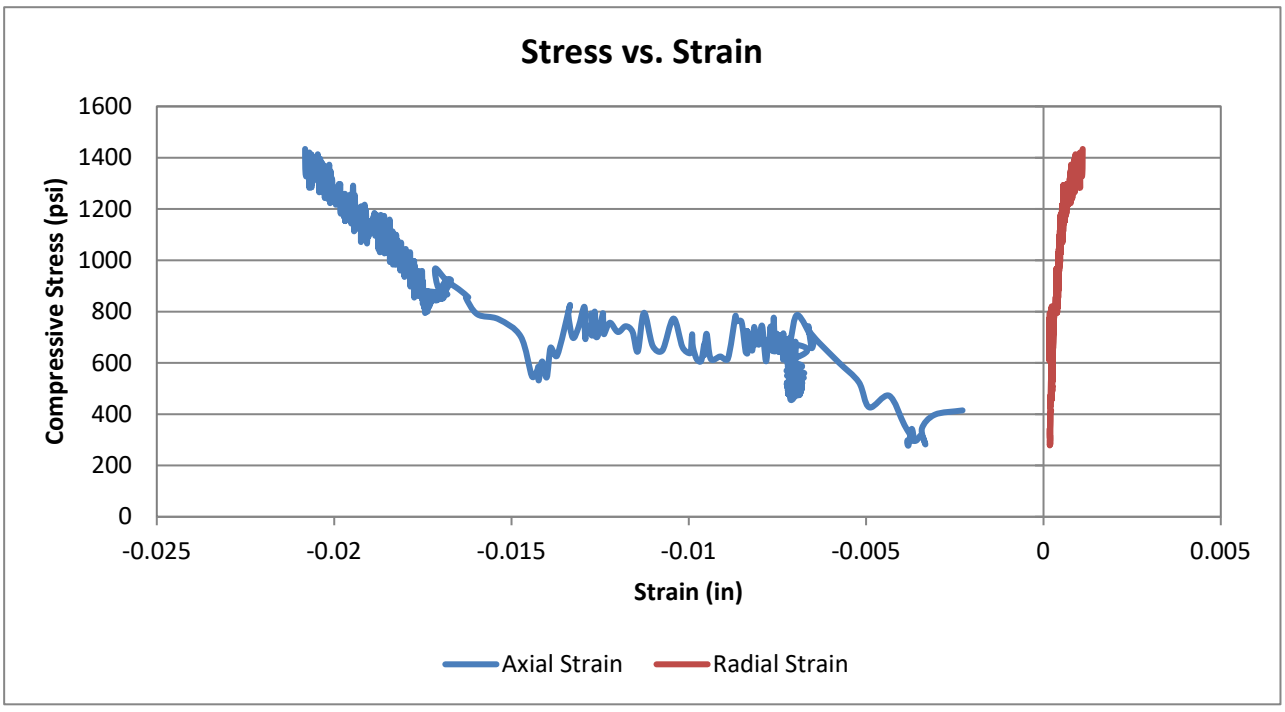
Test Results

Unconfined Compressive Strength (psi)	**1,430**	Elastic Modulus (psi)	1.66E+05
		Poisson's Ratio in Elastic Range	0.03
Comments	Elastic range was taken as between 0.007 and 0.013 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

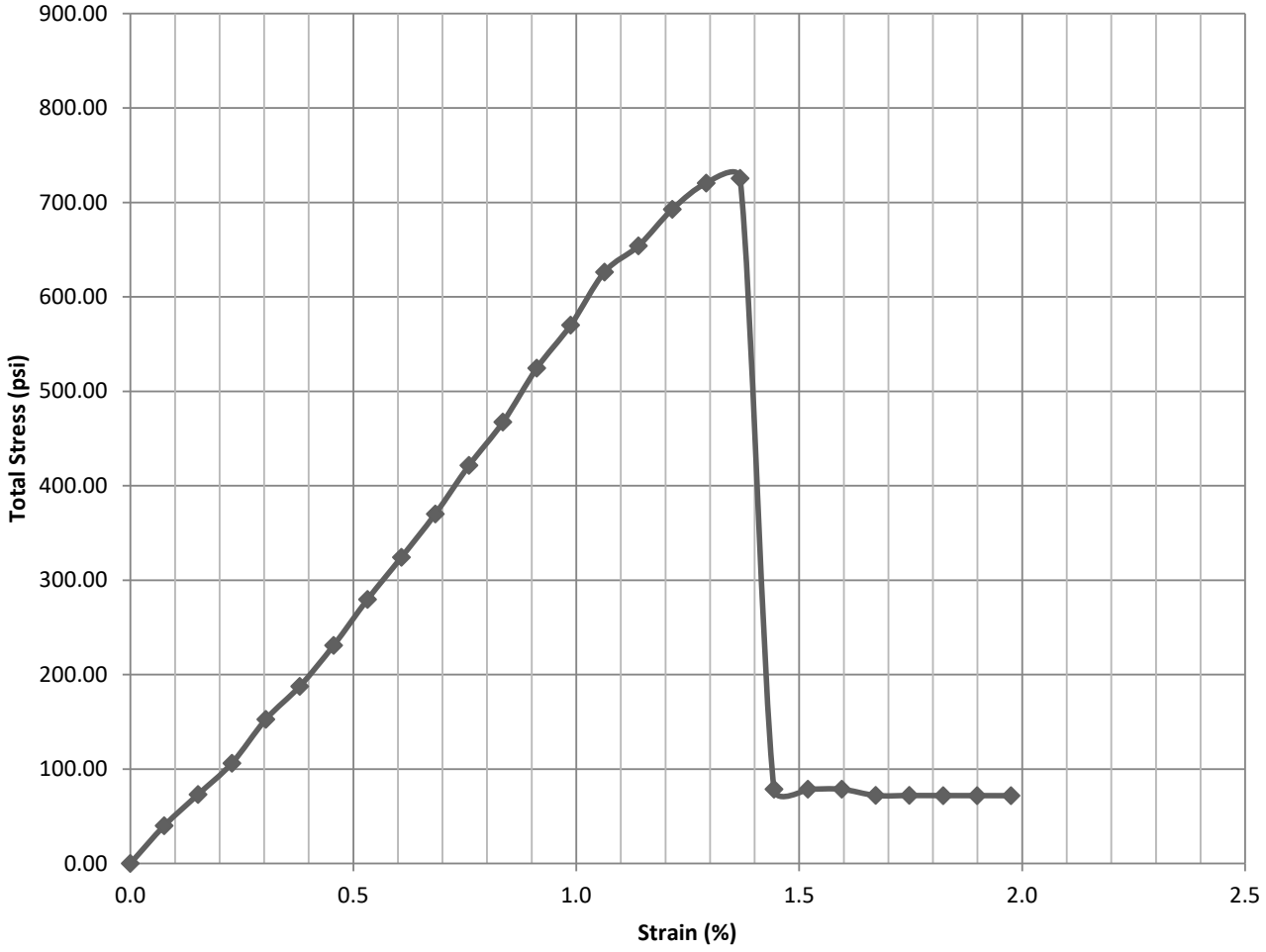
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.064	Reviewed By	WJG
Boring	B-19	Unit Weight (pcf)	139.6	Core Size	NQ
Sample No.	NQ-6 / 23-1559	L/D Ratio	2.19	Recovery	93%
Depth	70.7' - 71.0'	Load Rate (psi/sec)	10	RQD	53%
Description	Gray/Black/Brown Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1559



Average Initial Diameter (Do):	1.810 in.	Sample Volume:	10.16 in^3
Average Initial Height (Lo):	3.949 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.573 in^2	Sample Weight:	0.842 lbs.
In-Situ Unit Weight:	143.1 pcf	L/D Ratio:	2.182
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/20/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-19 / NQ-7		
Depth/Elevation	74.8' - 75.1'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 725 psi ε_{ULT} = 1.4%

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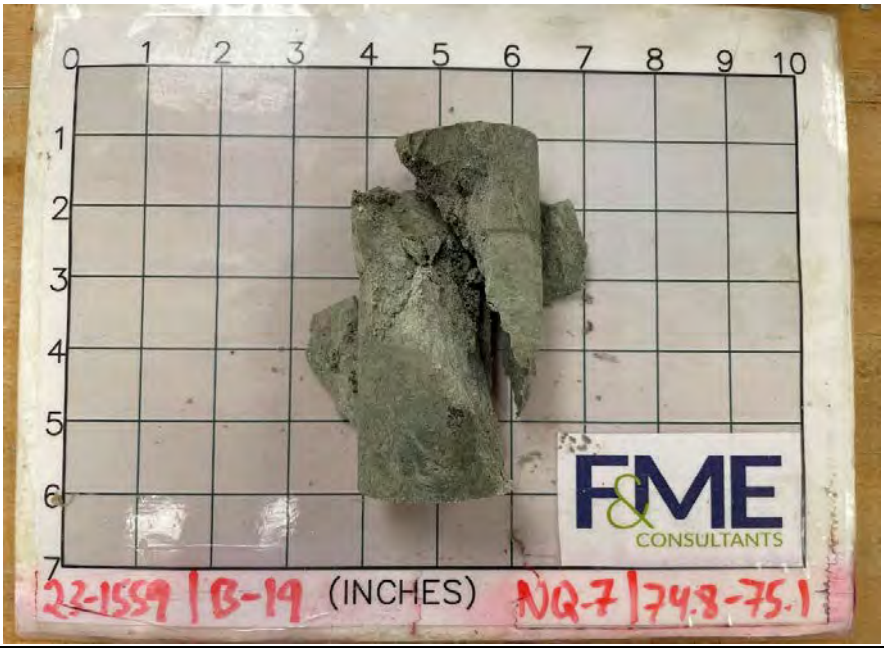
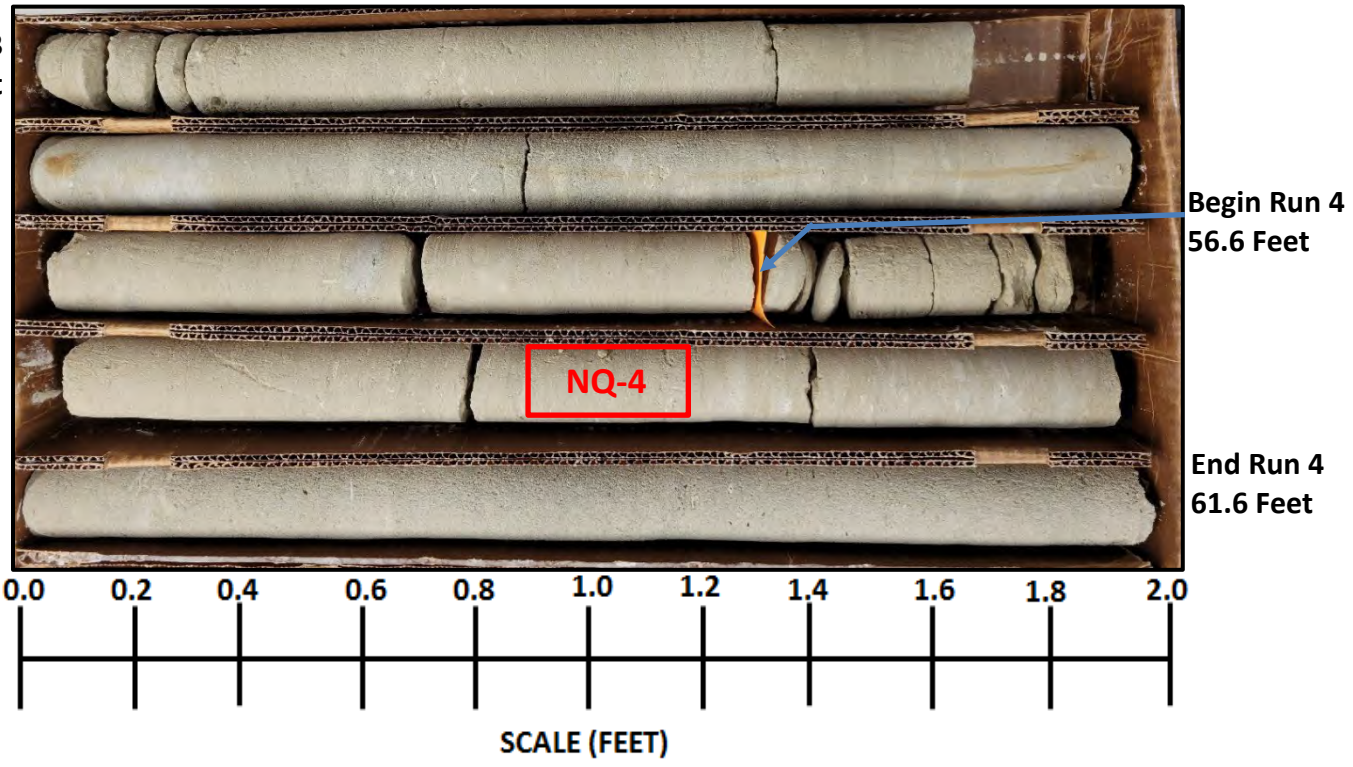
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1559
Sample Location:	B-19 / NQ-7		**Depth of Sample:**	74.8' - 75.1'
Tested By:	W. Pitts	**Date Tested:**	6/20/2023	

Before Break

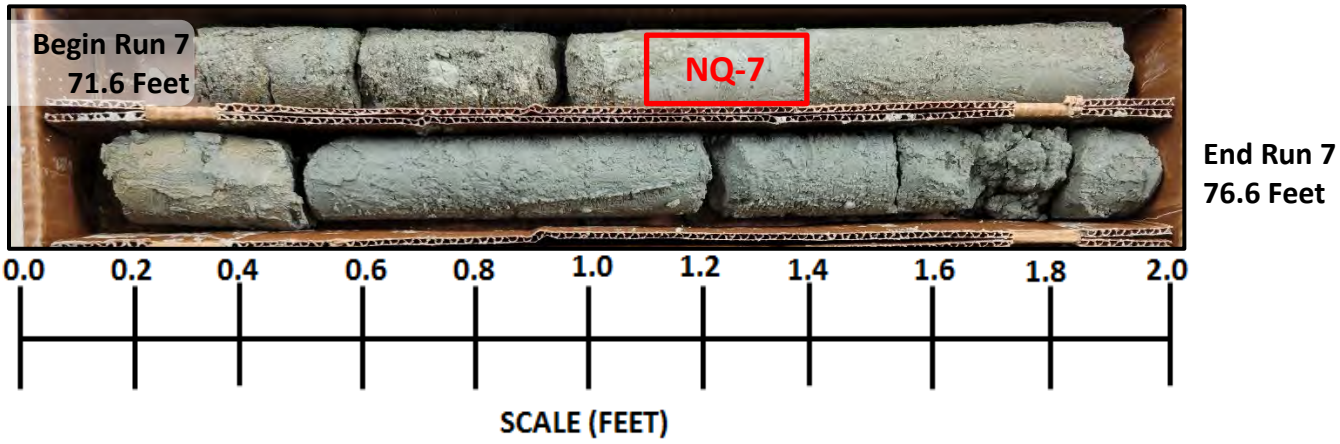


After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-20

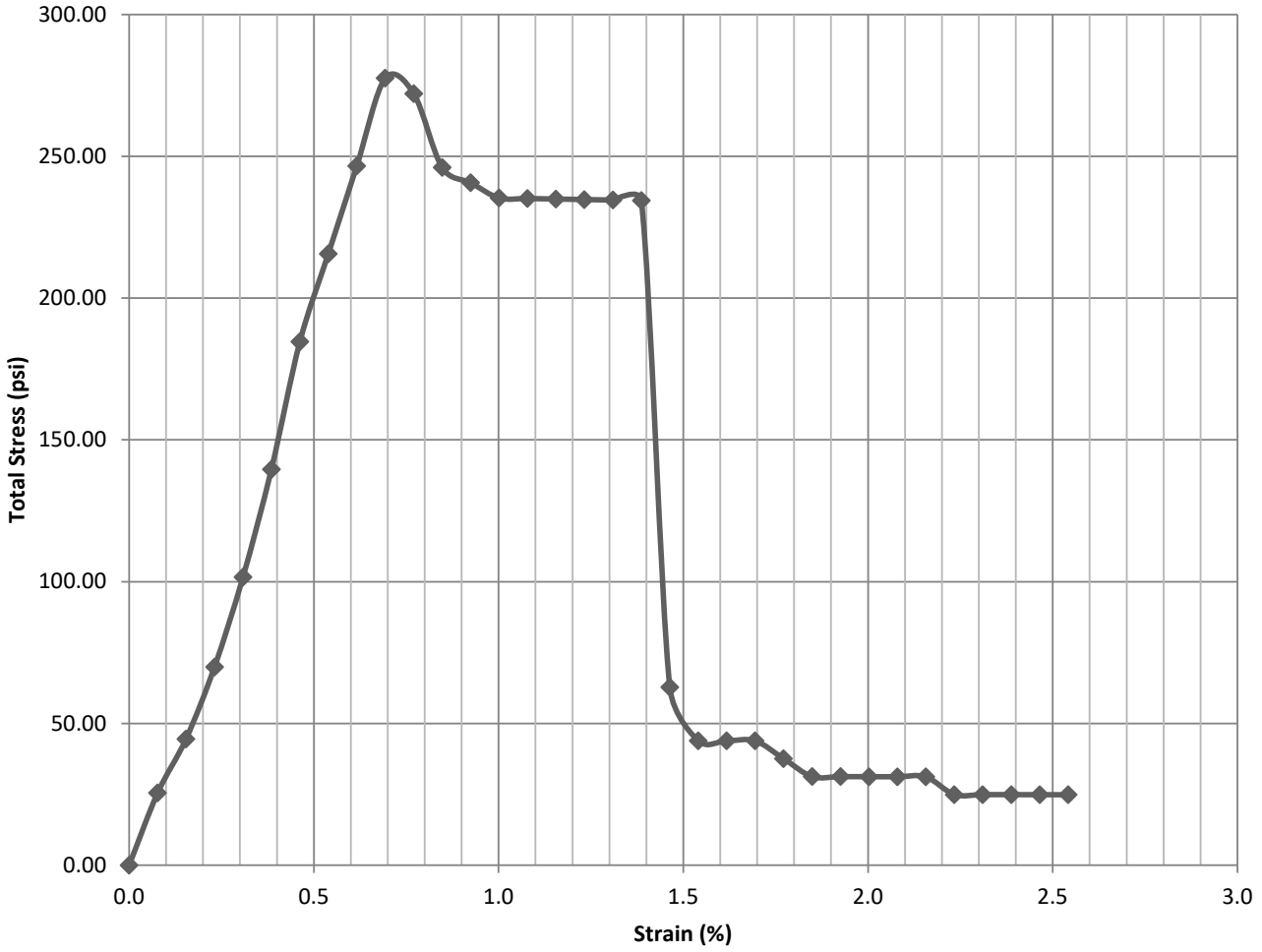


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-20



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0850



Average Initial Diameter (Do):	1.850 in.	Sample Volume:	10.47 in^3
Average Initial Height (Lo):	3.895 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.688 in^2	Sample Weight:	0.733 lbs.
In-Situ Unit Weight:	121.0 pcf	L/D Ratio:	2.105
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-20 / NQ-2		
Depth/Elevation	46.9' - 47.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 275 psi ε_{ULT} = 0.7%

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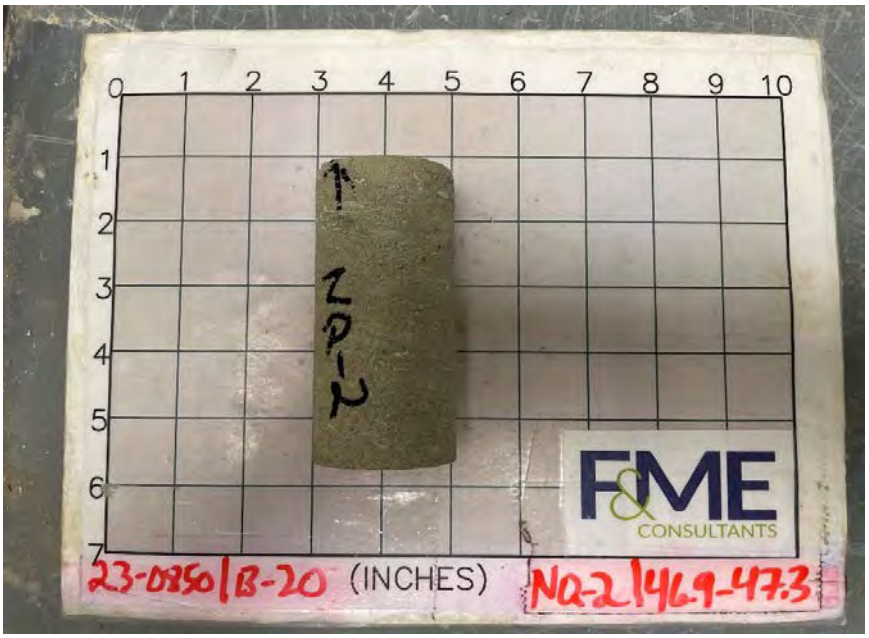
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0850
Sample Location:	B-20 / NQ-2		**Depth of Sample:**	46.9' - 47.3'
Tested By:	W. Pitts	**Date Tested:**	4/10/2023	

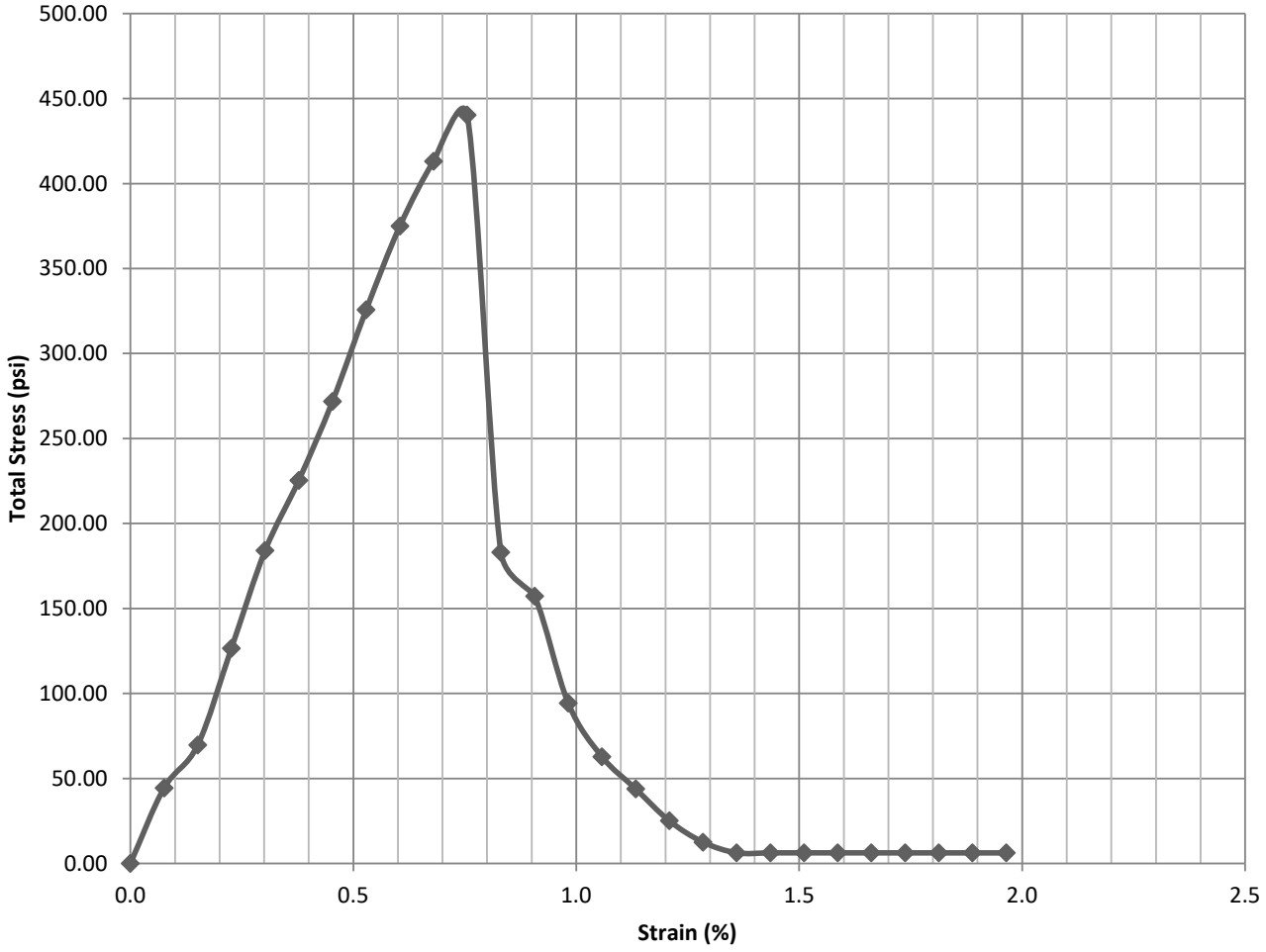


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0850



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.72 in^3
Average Initial Height (Lo):	3.971 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.770 lbs.
In-Situ Unit Weight:	124.0 pcf	L/D Ratio:	2.142
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-20 / NQ-4		
Depth/Elevation	58.1' - 58.4'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 440 psi ε_{ULT} = 0.8%

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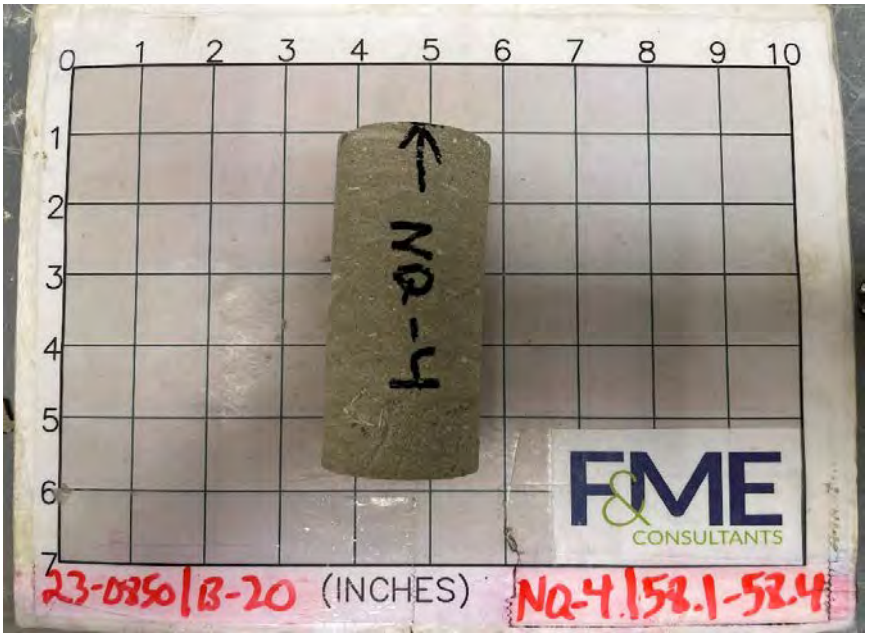
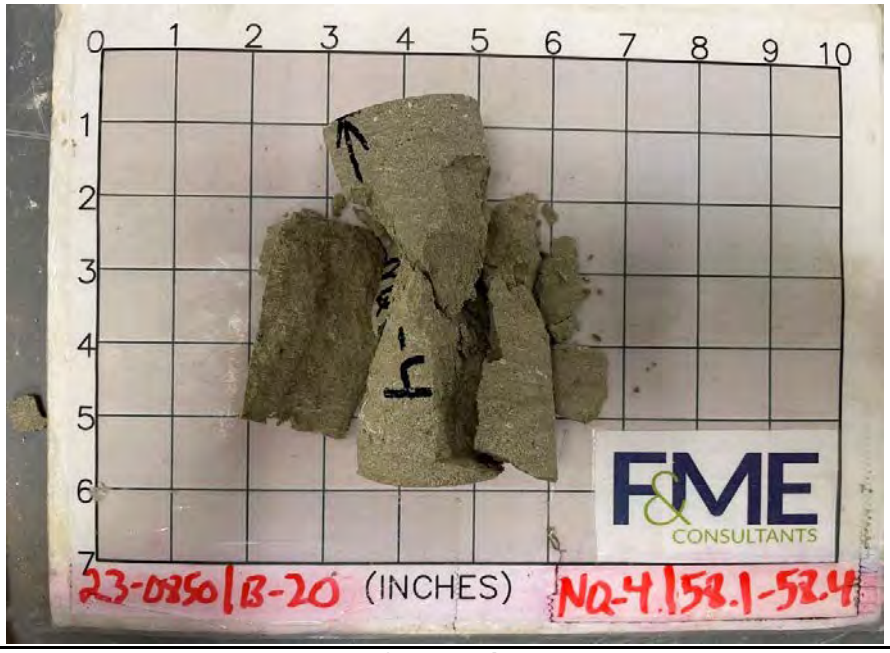
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0850
Sample Location:	B-20 / NQ-4		Depth of Sample:	58.1' - 58.4'
Tested By:	W. Pitts	Date Tested:	4/10/2023	



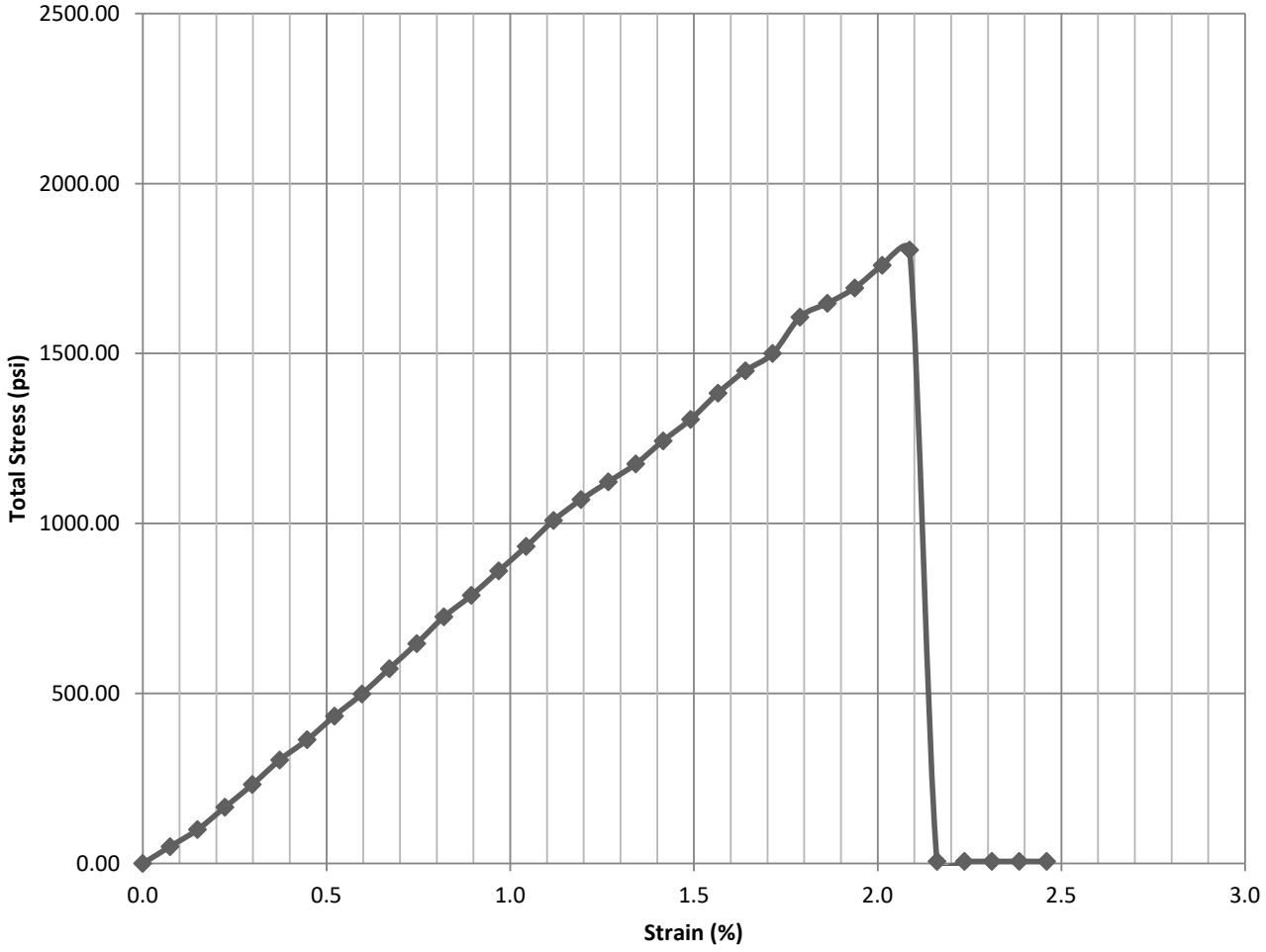
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0850



Average Initial Diameter (Do):	1.870 in.	Sample Volume:	11.05 in^3
Average Initial Height (Lo):	4.025 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.746 in^2	Sample Weight:	0.959 lbs.
In-Situ Unit Weight:	149.9 pcf	L/D Ratio:	2.152
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-20 - NQ-6		
Depth/Elevation	67.9' - 68.2'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1800 psi ε_{ULT} = 2.1%

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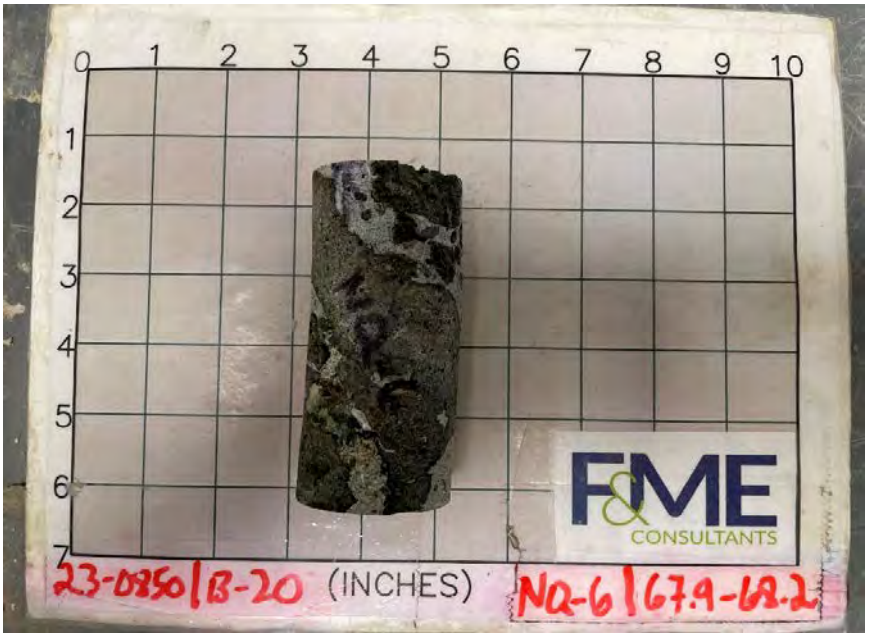
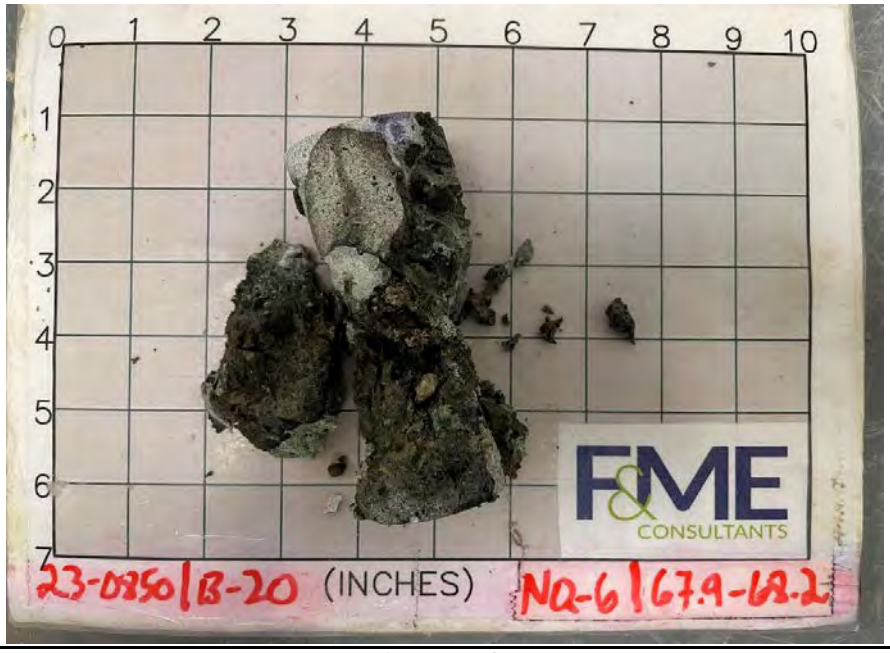
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0850
Sample Location:	B-20 - NQ-6		Depth of Sample:	67.9' - 68.2'
Tested By:	W. Pitts	Date Tested:	4/10/2023	



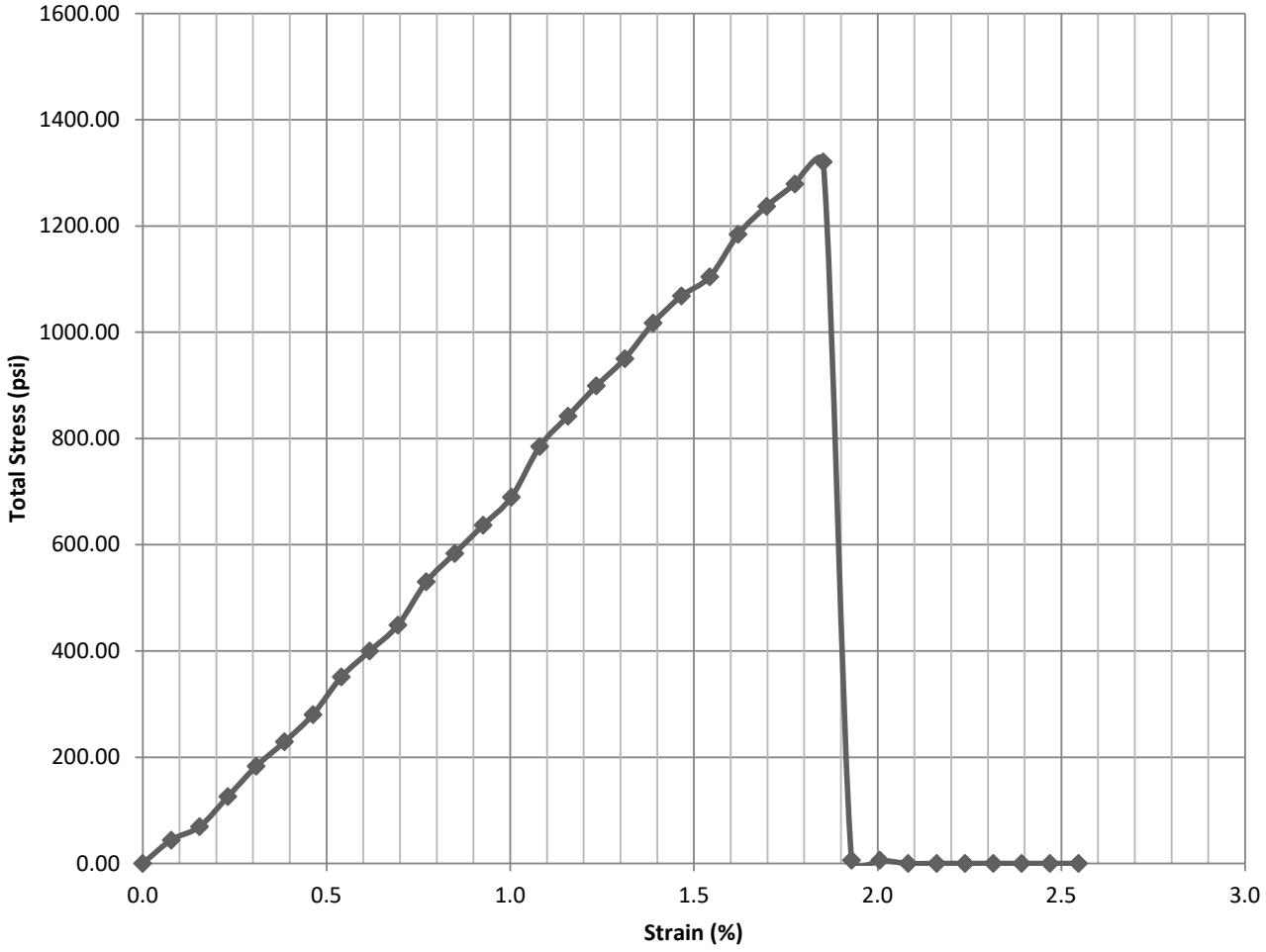
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0850



Average Initial Diameter (Do):	1.860 in.	Sample Volume:	10.56 in^3
Average Initial Height (Lo):	3.888 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.717 in^2	Sample Weight:	0.902 lbs.
In-Situ Unit Weight:	147.5 pcf	L/D Ratio:	2.090
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-20 / NQ-7		
Depth/Elevation	72.4' - 72.8'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1320 psi ε_{ULT} = 1.9%

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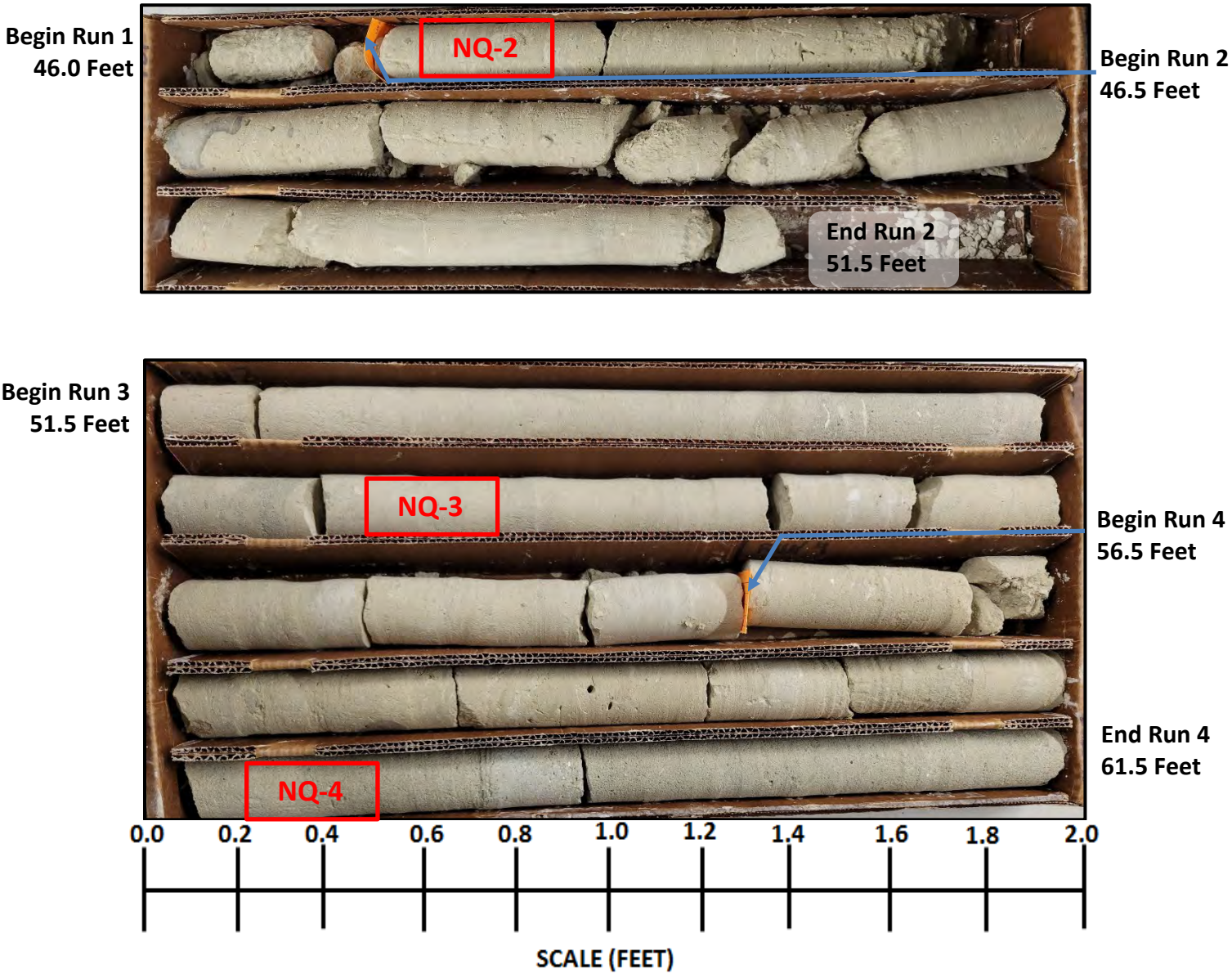
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0850
Sample Location:	B-20 / NQ-7		Depth of Sample:	72.4' - 72.8'
Tested By:	W. Pitts	Date Tested:	4/10/2023	

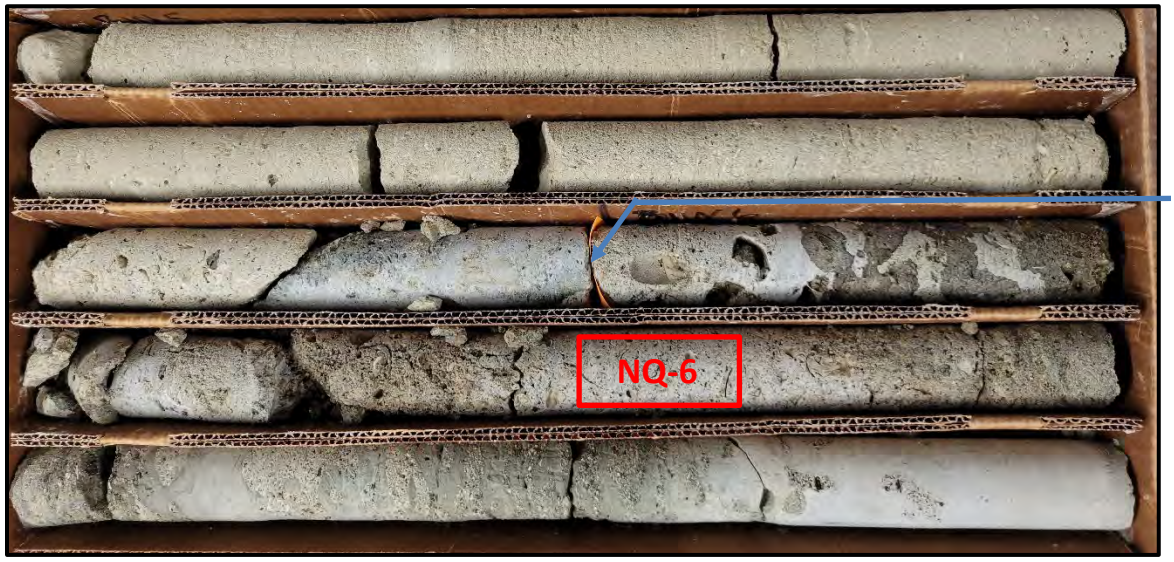
Before Break

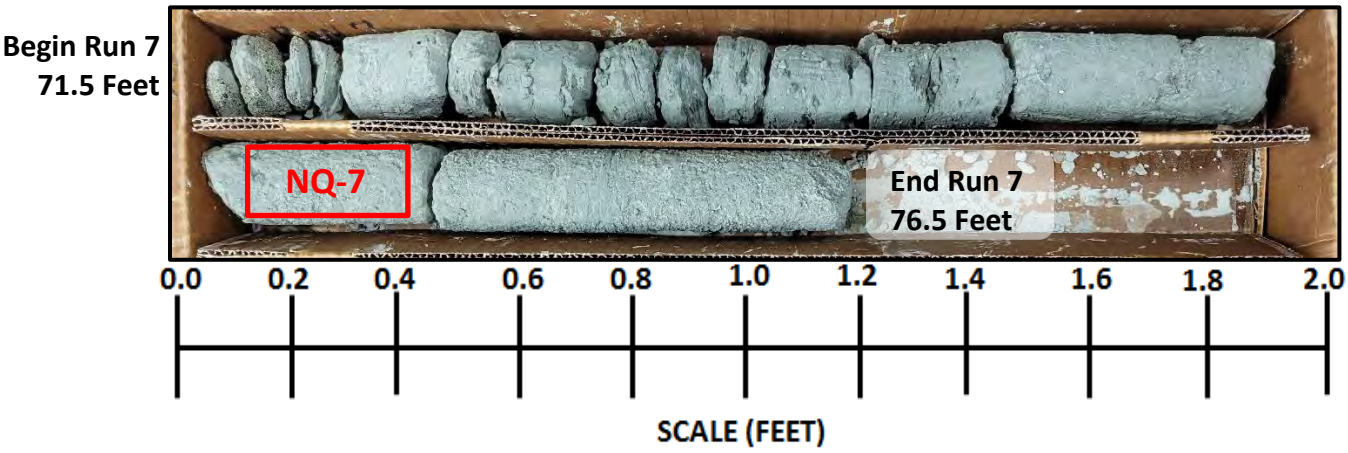
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-22



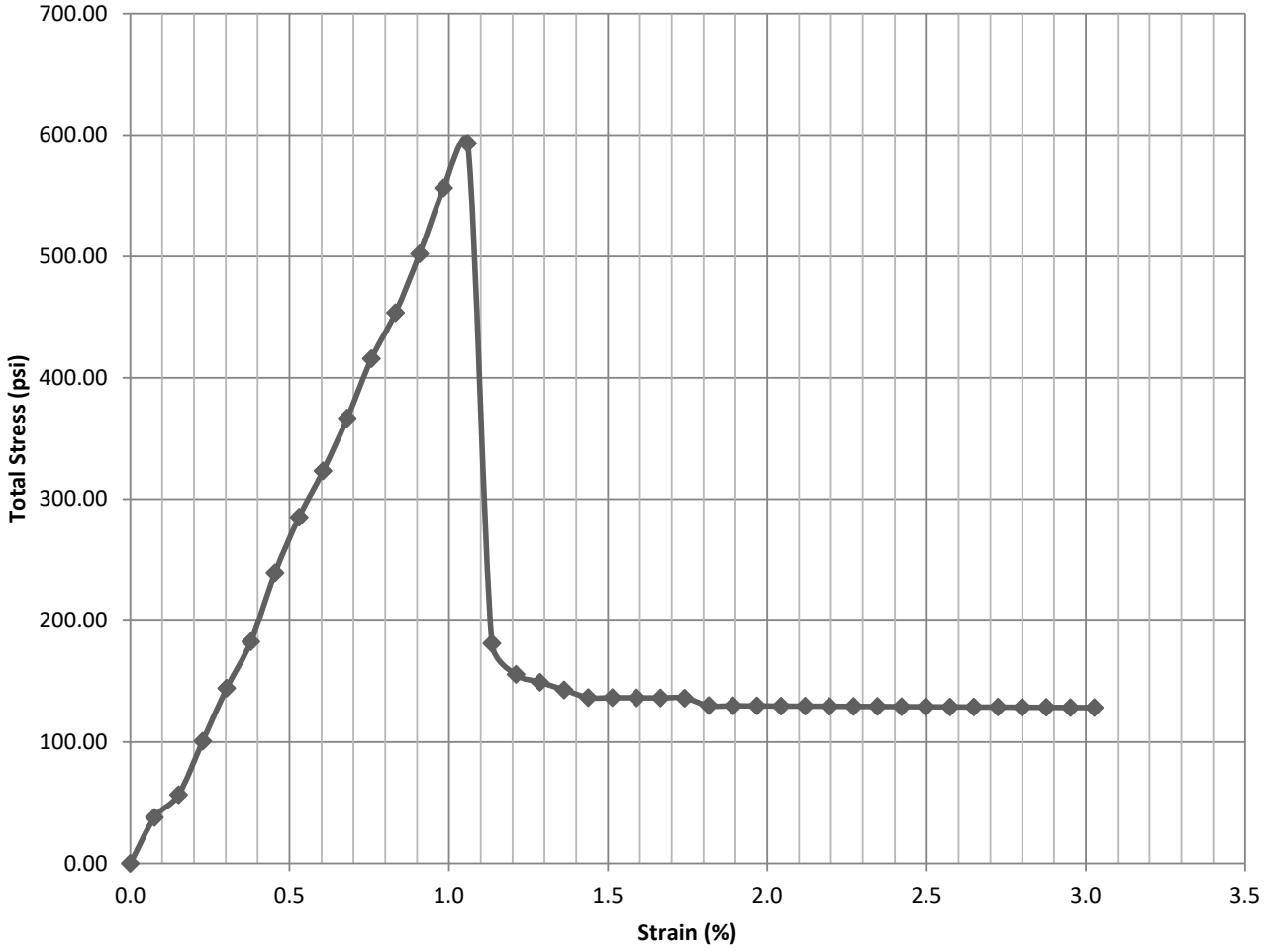
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-22





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0849



Average Initial Diameter (Do):	1.860 in.	Sample Volume:	10.77 in^3
Average Initial Height (Lo):	3.964 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.717 in^2	Sample Weight:	0.753 lbs.
In-Situ Unit Weight:	120.8 pcf	L/D Ratio:	2.131
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-22 / NQ-2		
Depth/Elevation	46.6' - 46.9'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 595 psi ε_{ULT} = 1.1%

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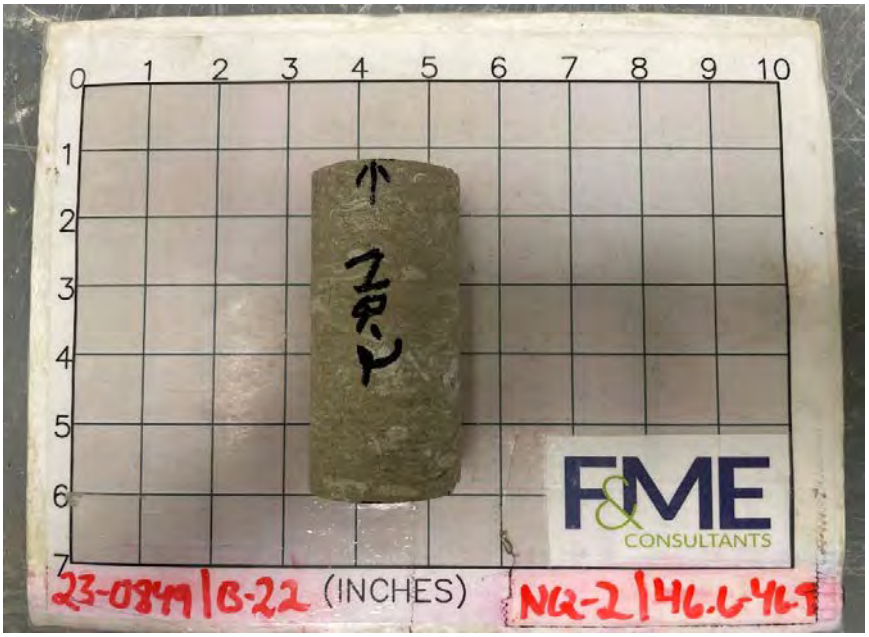
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0849
Sample Location:	B-22 / NQ-2		**Depth of Sample:**	46.6' - 46.9'
Tested By:	W. Pitts	**Date Tested:**	4/10/2023	

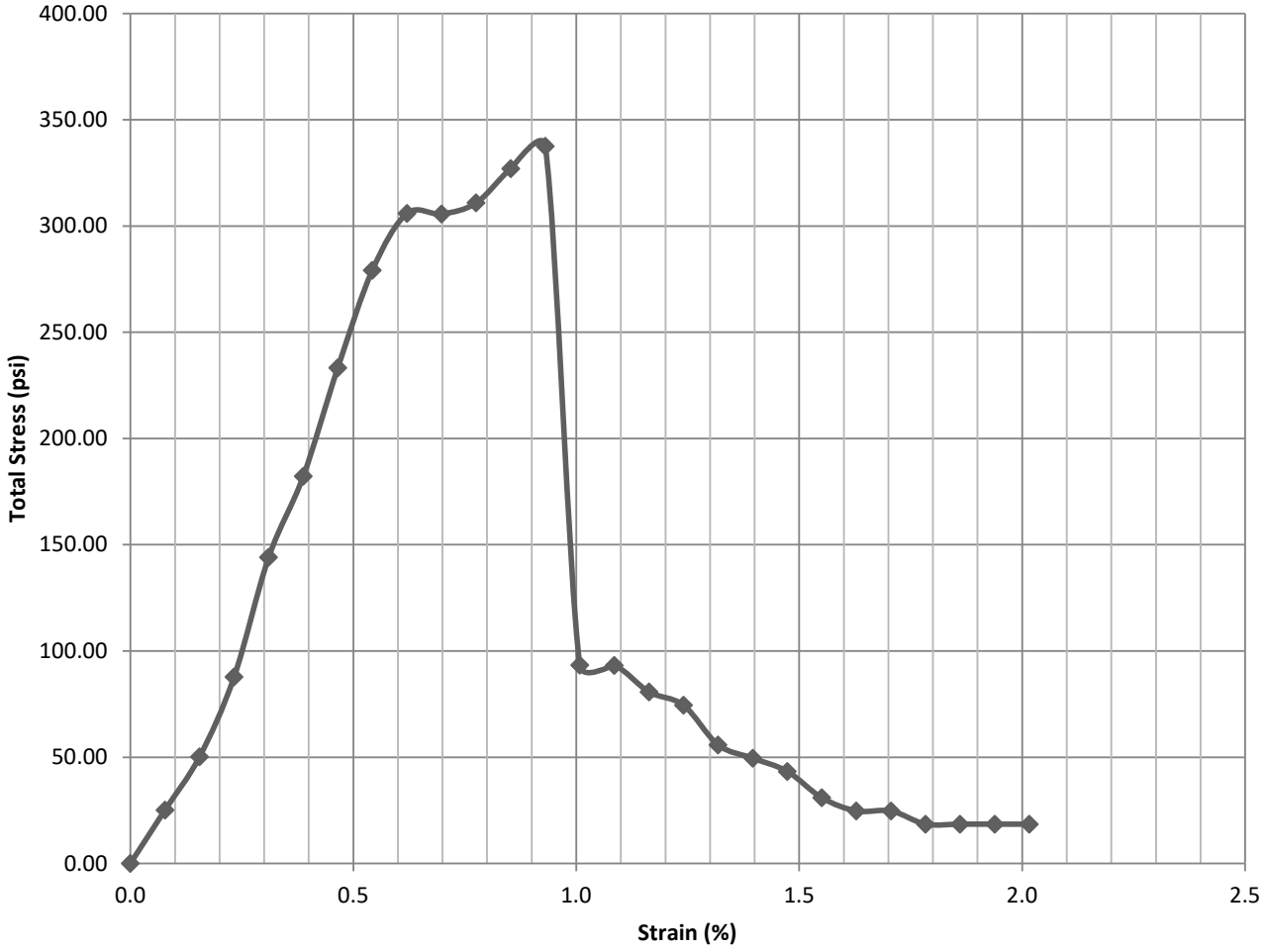


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0849



Average Initial Diameter (Do):	1.863 in.	Sample Volume:	10.55 in^3
Average Initial Height (Lo):	3.869 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.726 in^2	Sample Weight:	0.736 lbs.
In-Situ Unit Weight:	120.6 pcf	L/D Ratio:	2.077
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-22 / NQ-3		
Depth/Elevation	53.9' - 54.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 340 psi ε_{ULT} = 0.9%

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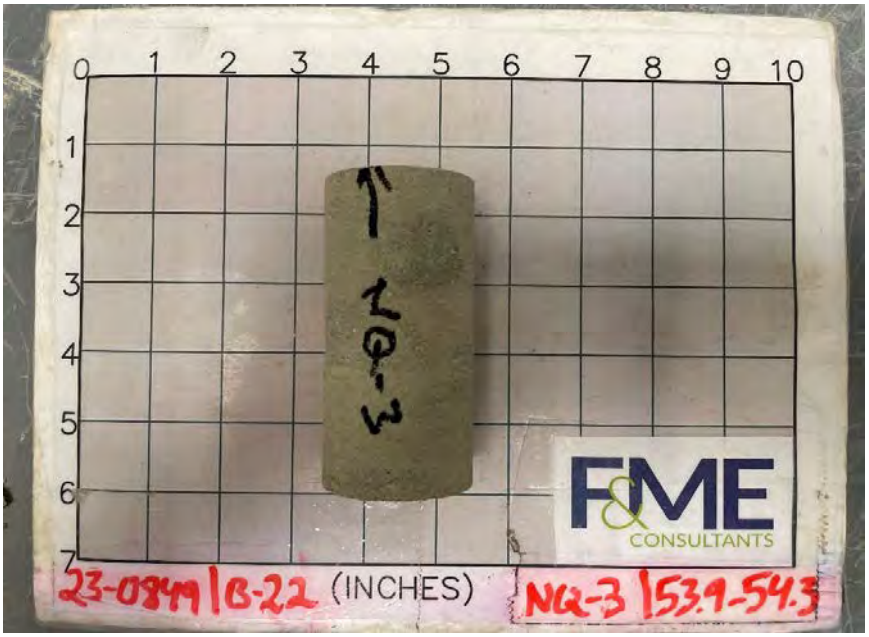
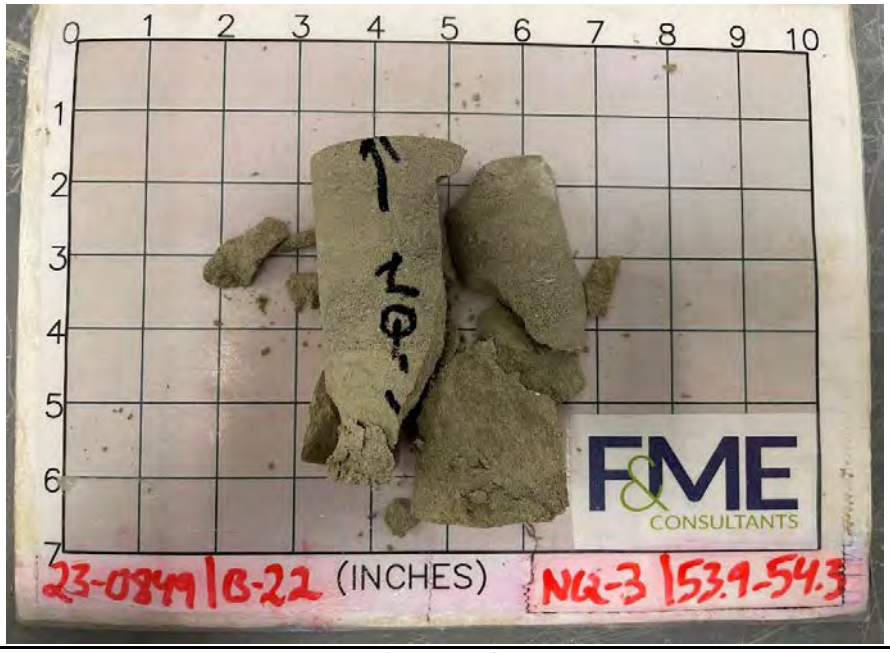
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0849
Sample Location:	B-22 / NQ-3		Depth of Sample:	53.9' - 54.3'
Tested By:	W. Pitts	Date Tested:	4/10/2023	



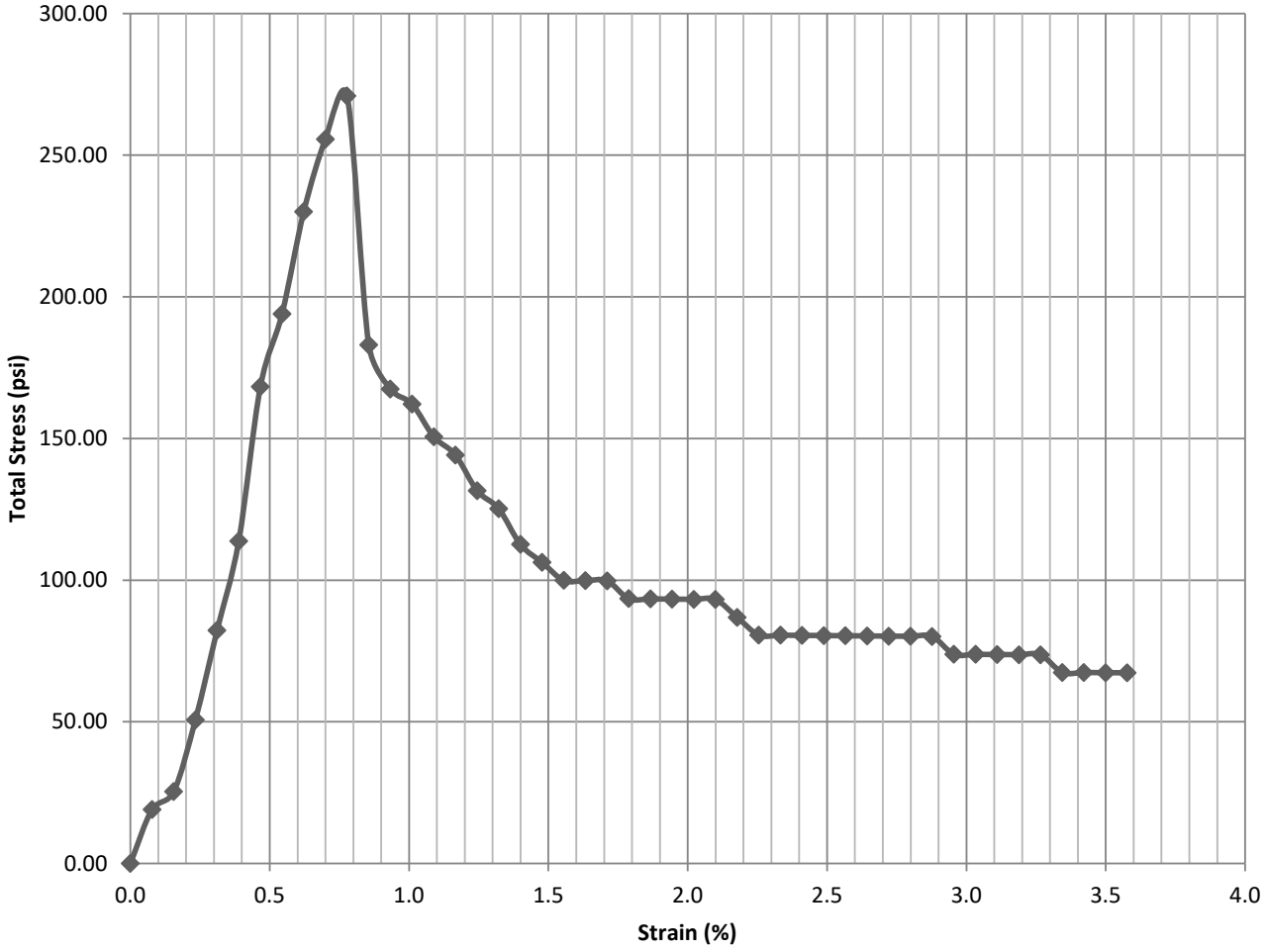
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0849



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.42 in^3
Average Initial Height (Lo):	3.858 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.725 lbs.
In-Situ Unit Weight:	120.2 pcf	L/D Ratio:	2.081
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-22 / NQ-4		
Depth/Elevation	59.3' - 59.7'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 270 psi ε_{ULT} = 0.8%

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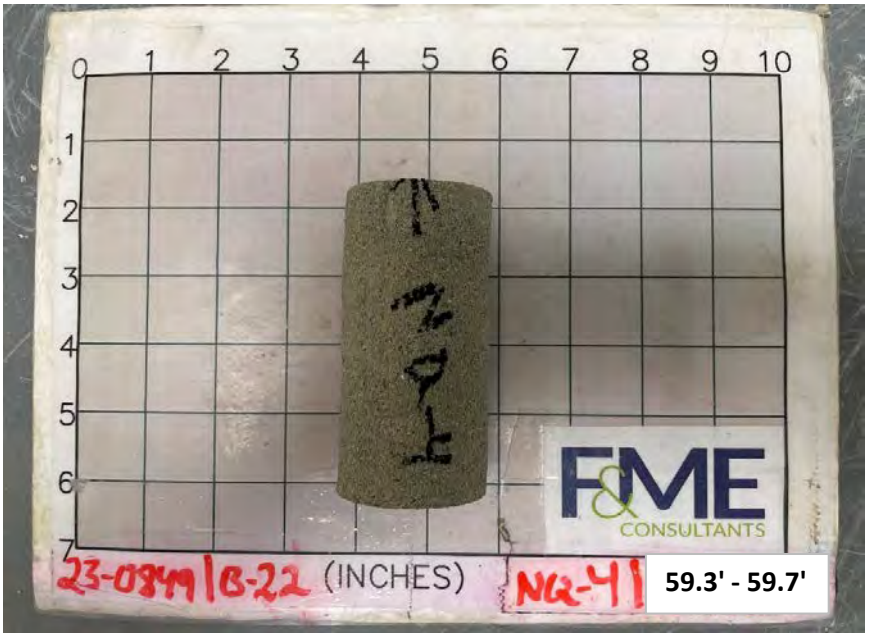
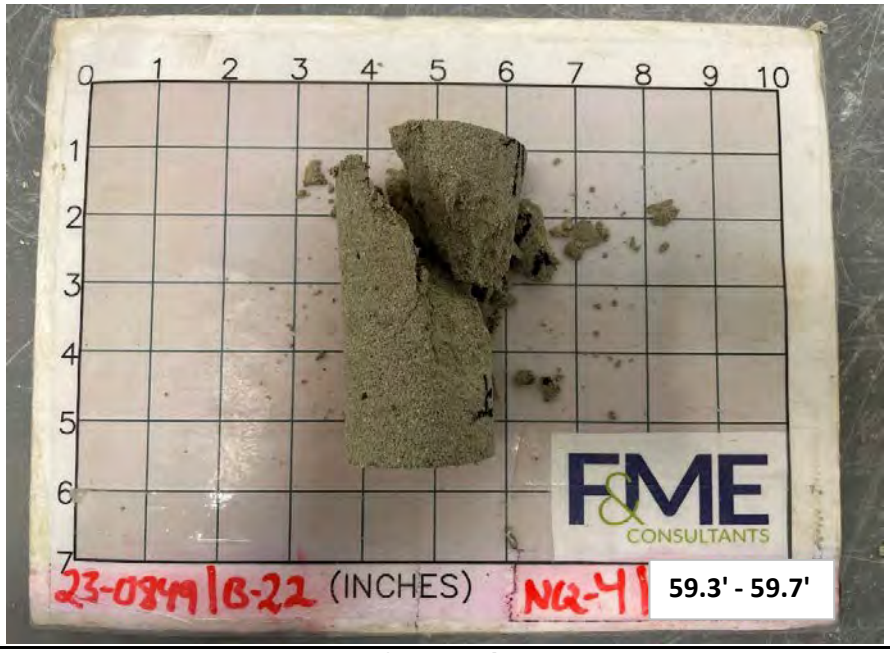
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0849
Sample Location:	B-22 / NQ-4		**Depth of Sample:**	59.3' - 59.7'
Tested By:	W. Pitts	**Date Tested:**	4/10/2023	



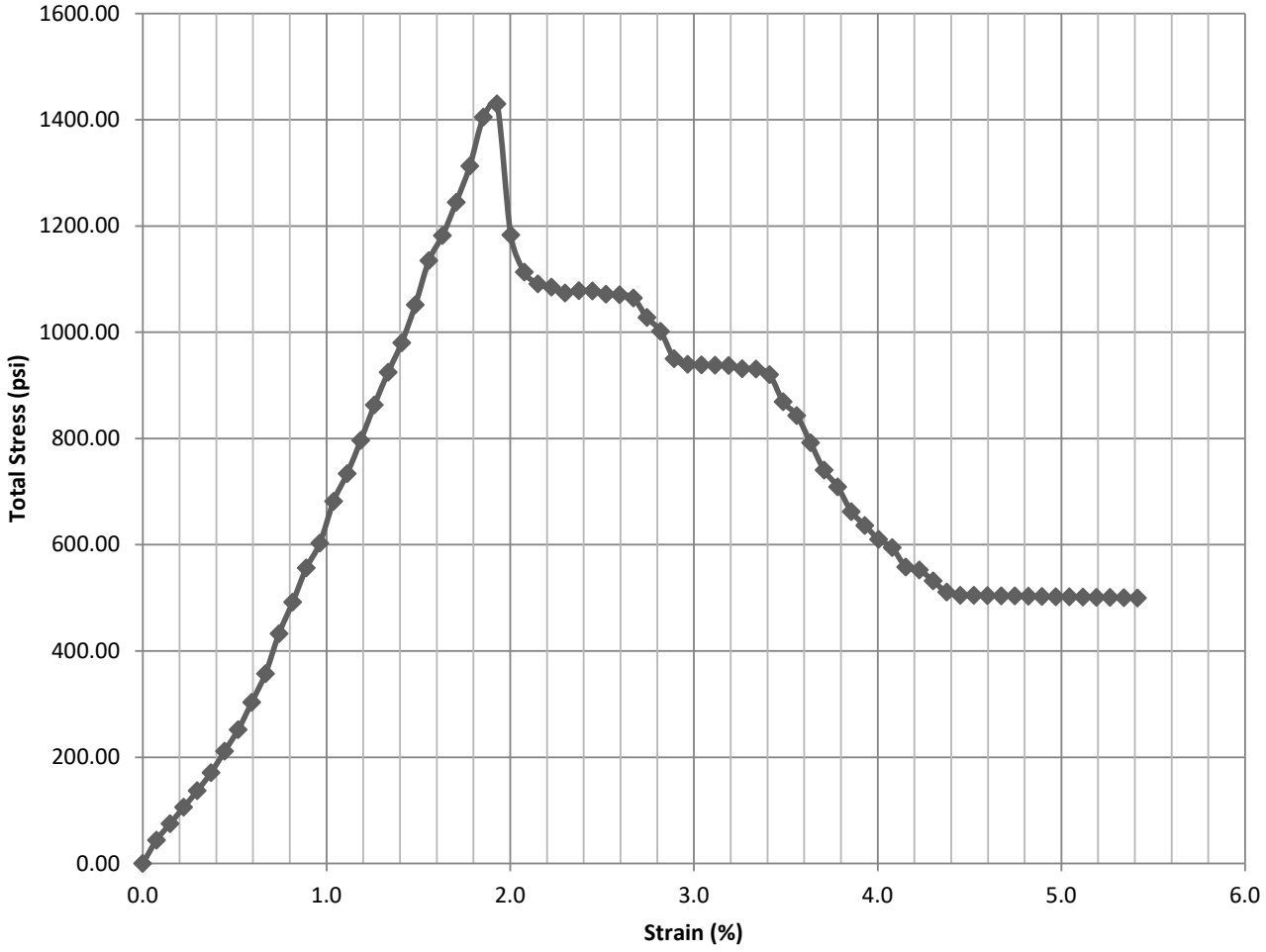
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0849



Average Initial Diameter (Do):	1.870 in.	Sample Volume:	11.11 in^3
Average Initial Height (Lo):	4.045 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.746 in^2	Sample Weight:	0.948 lbs.
In-Situ Unit Weight:	147.5 pcf	L/D Ratio:	2.163
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/12/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-22 / NQ-6		
Depth/Elevation	68.5' - 68.8'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1430 psi ε_{ULT} = 1.9%

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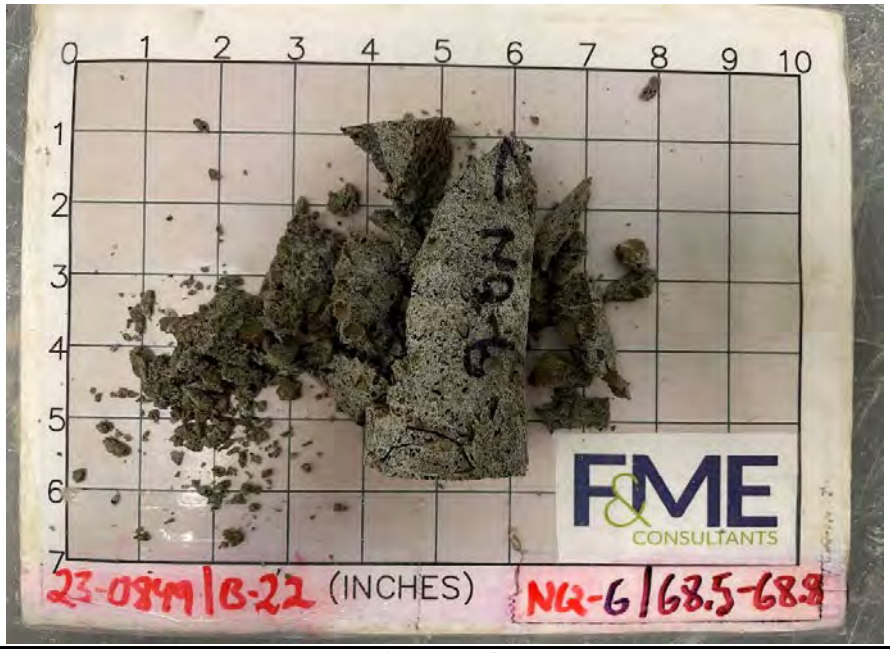
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0849
Sample Location:	B-22 / NQ-6		**Depth of Sample:**	68.5' - 68.8'
Tested By:	W. Pitts	**Date Tested:**	4/12/2023	

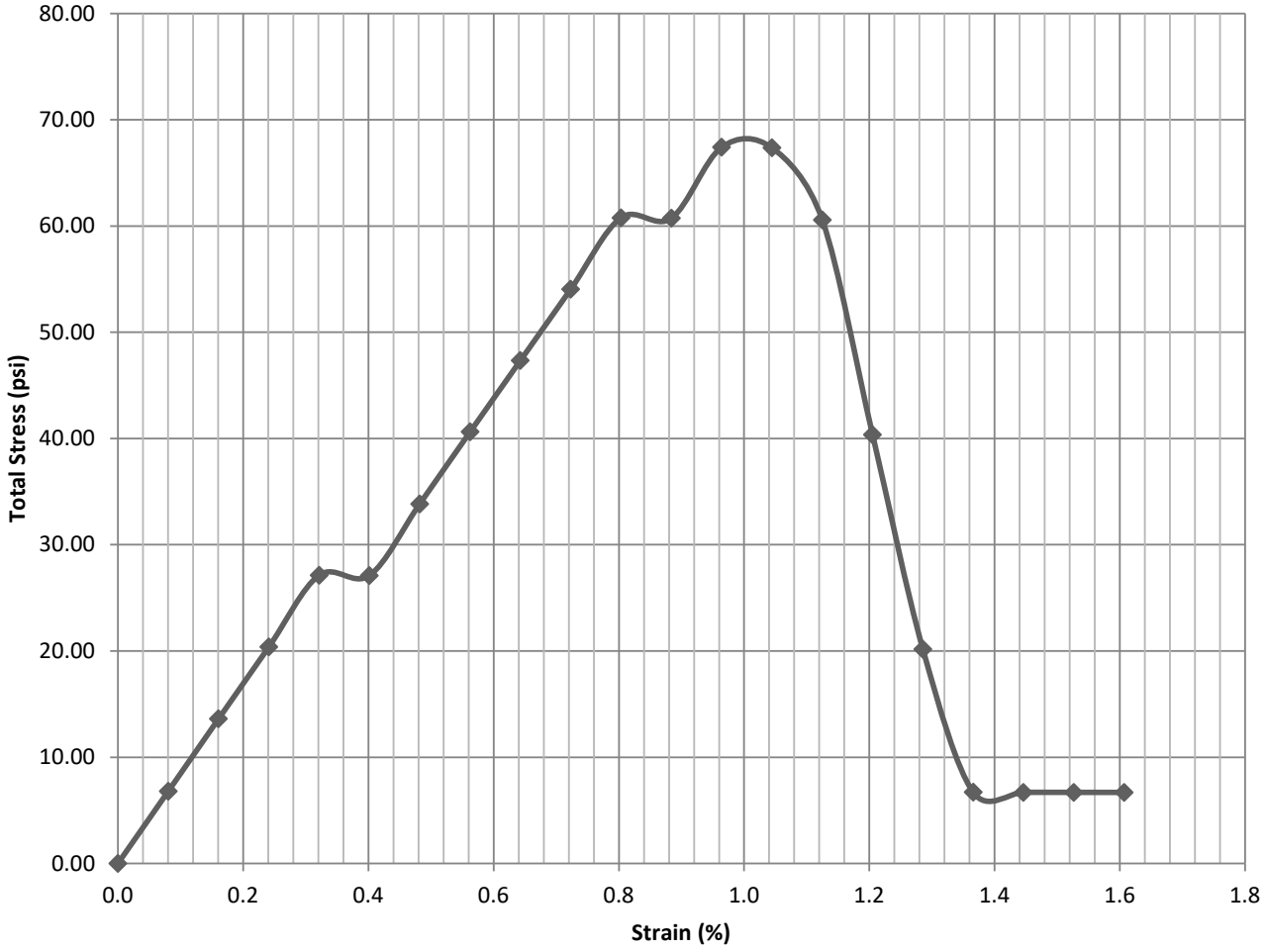
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0849



Average Initial Diameter (Do):	1.790 in.	Sample Volume:	9.40 in^3
Average Initial Height (Lo):	3.734 in.	Sample Volume:	0.005 ft^3
Average Initial Area (Ao):	2.516 in^2	Sample Weight:	0.663 lbs.
In-Situ Unit Weight:	121.8 pcf	L/D Ratio:	2.086
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	4/12/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-22 / NQ-7		
Depth/Elevation	73.6' - 73.9'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 65 psi ε_{ULT} = 1.0%

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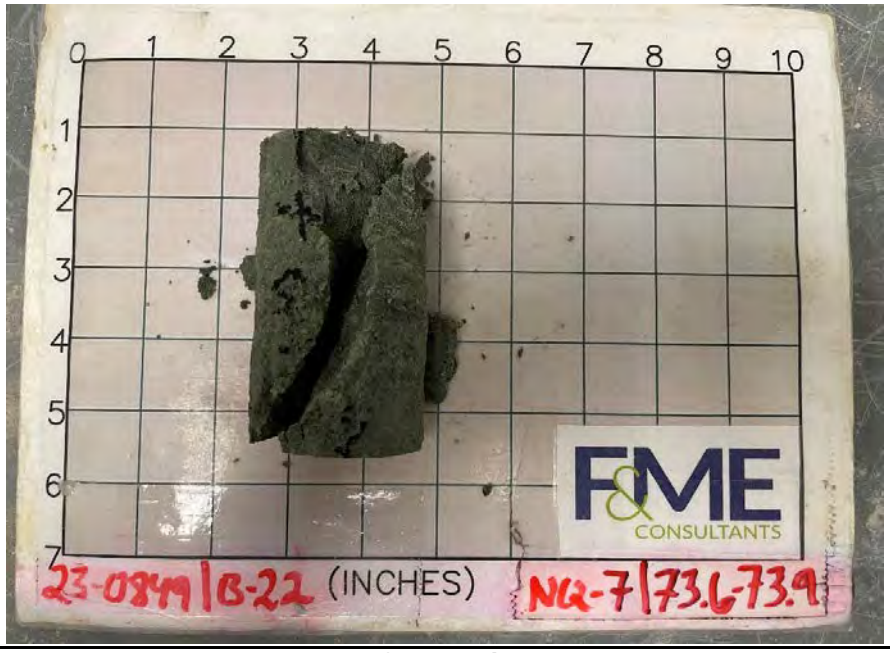
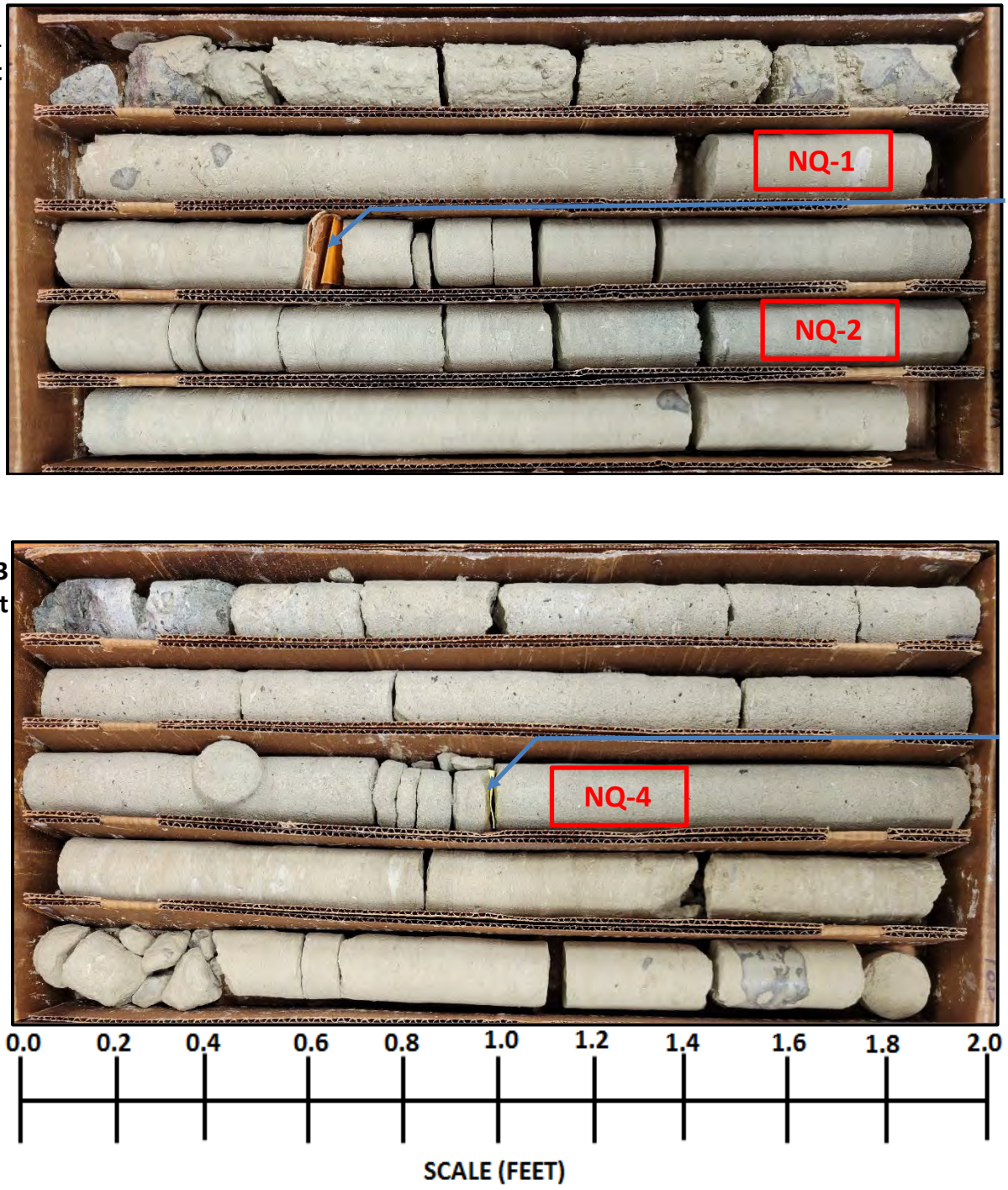
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0849
Sample Location:	B-22 / NQ-7		Depth of Sample:	73.6' - 73.9'
Tested By:	W. Pitts	Date Tested:	4/12/2023	

Before Break

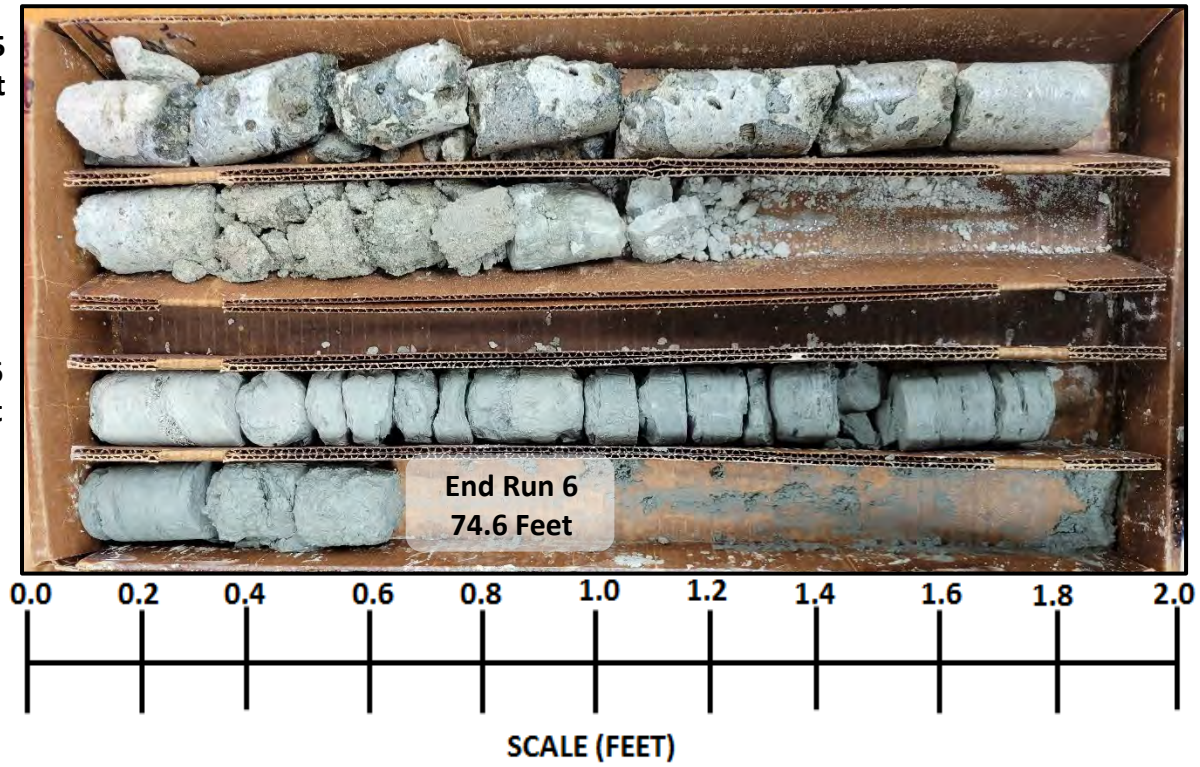


After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-23

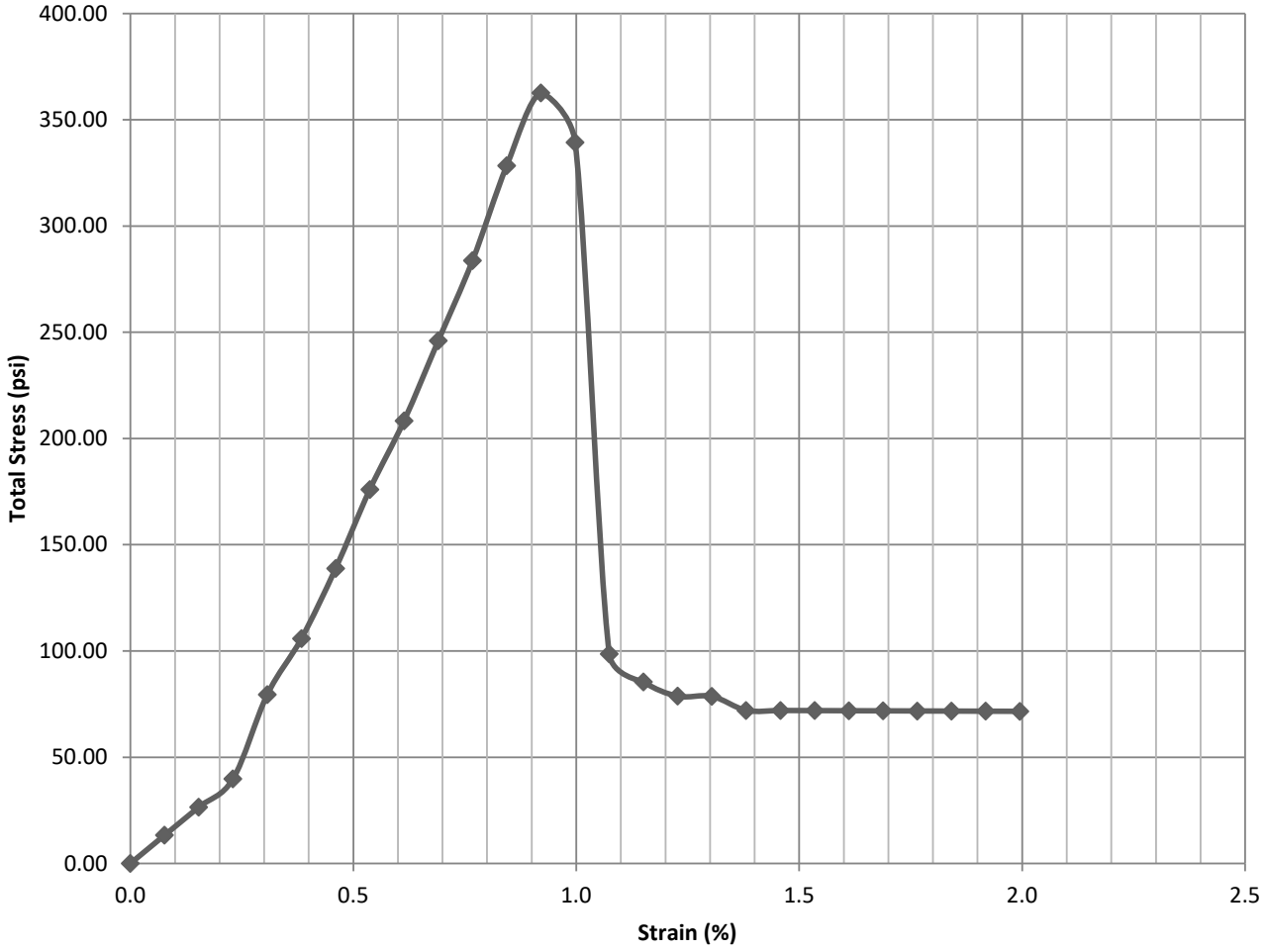


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-23



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1360



Average Initial Diameter (Do):	1.812 in.	Sample Volume:	10.08 in^3
Average Initial Height (Lo):	3.910 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.579 in^2	Sample Weight:	0.652 lbs.
In-Situ Unit Weight:	111.8 pcf	L/D Ratio:	2.158
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-23 / NQ-1		
Depth/Elevation	48.0' - 48.4'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 360 psi ε_{ULT} = 0.9%

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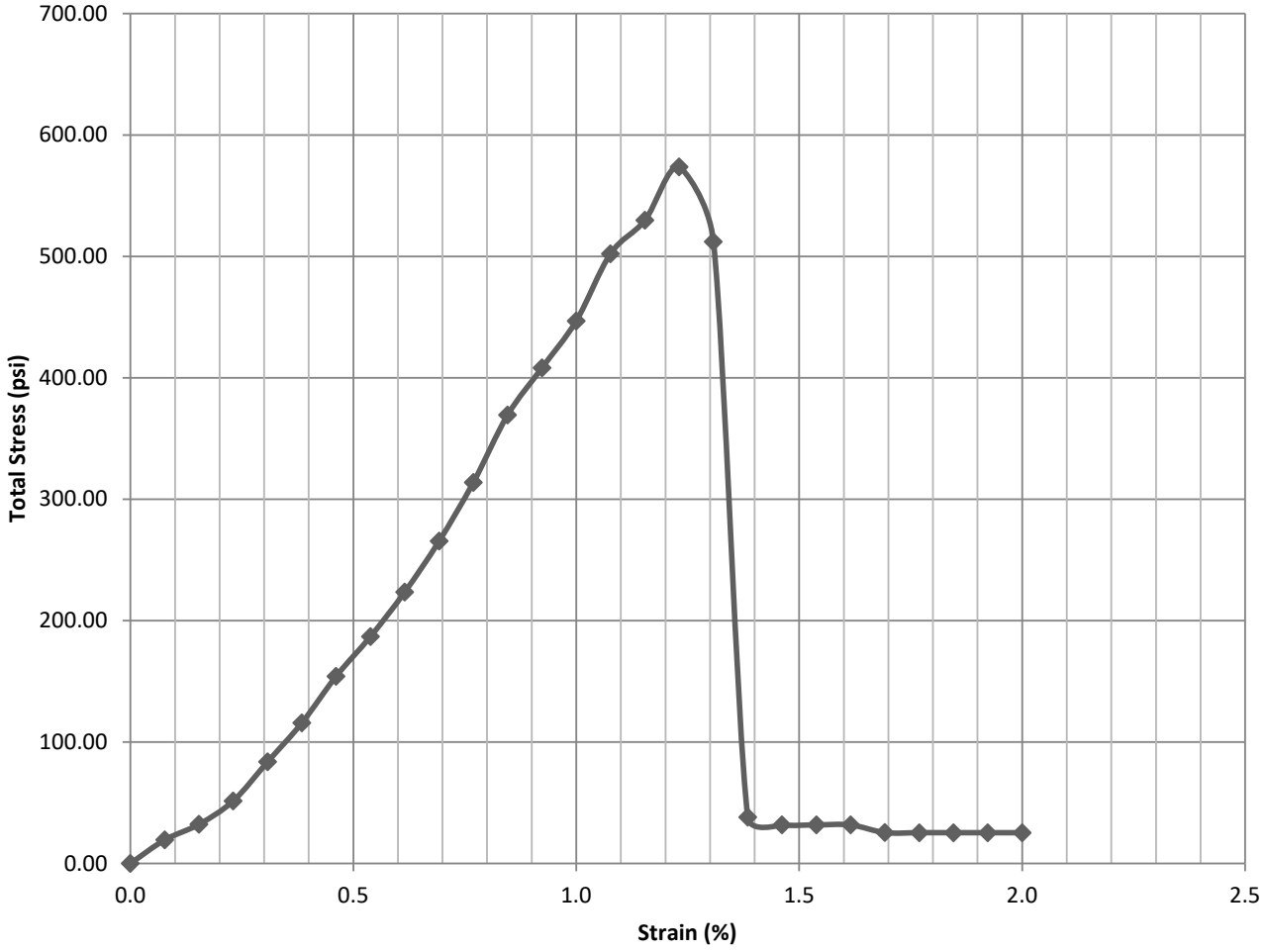
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1360
Sample Location:	B-23 / NQ-1		**Depth of Sample:**	48.0' - 48.4'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1360



Average Initial Diameter (Do):	1.838 in.	Sample Volume:	10.35 in^3
Average Initial Height (Lo):	3.900 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.653 in^2	Sample Weight:	0.761 lbs.
In-Situ Unit Weight:	127.1 pcf	L/D Ratio:	2.122
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-23 / NQ-2		
Depth/Elevation	52.4' - 52.8'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 575 psi ε_{ULT} = 1.2%

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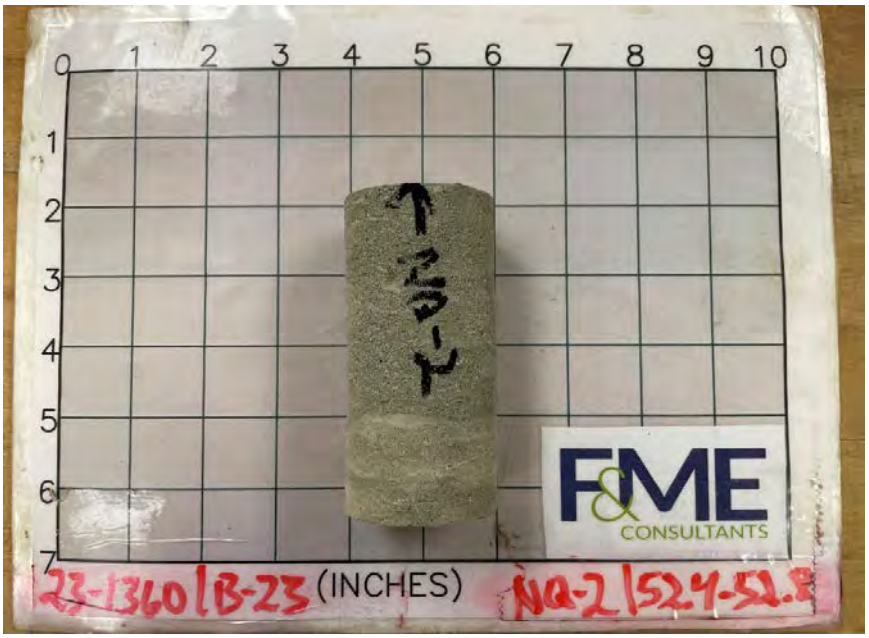
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1360
Sample Location:	B-23 / NQ-2		**Depth of Sample:**	52.4' - 52.8'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	

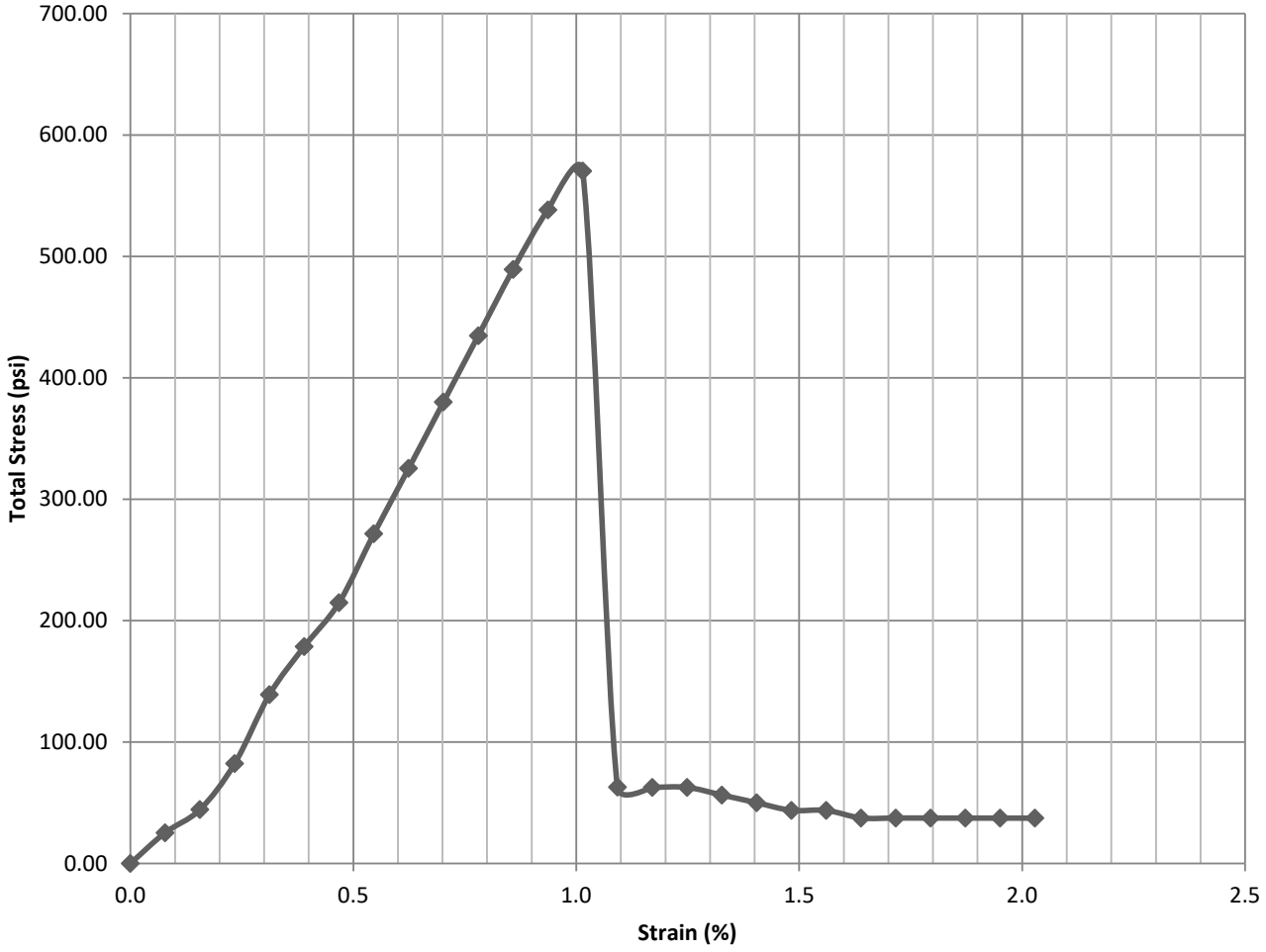


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1360



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.38 in^3
Average Initial Height (Lo):	3.845 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.740 lbs.
In-Situ Unit Weight:	123.3 pcf	L/D Ratio:	2.074
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-23 / NQ-4		
Depth/Elevation	59.7' - 60.0'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 570 psi ε_{ULT} = 1.0%

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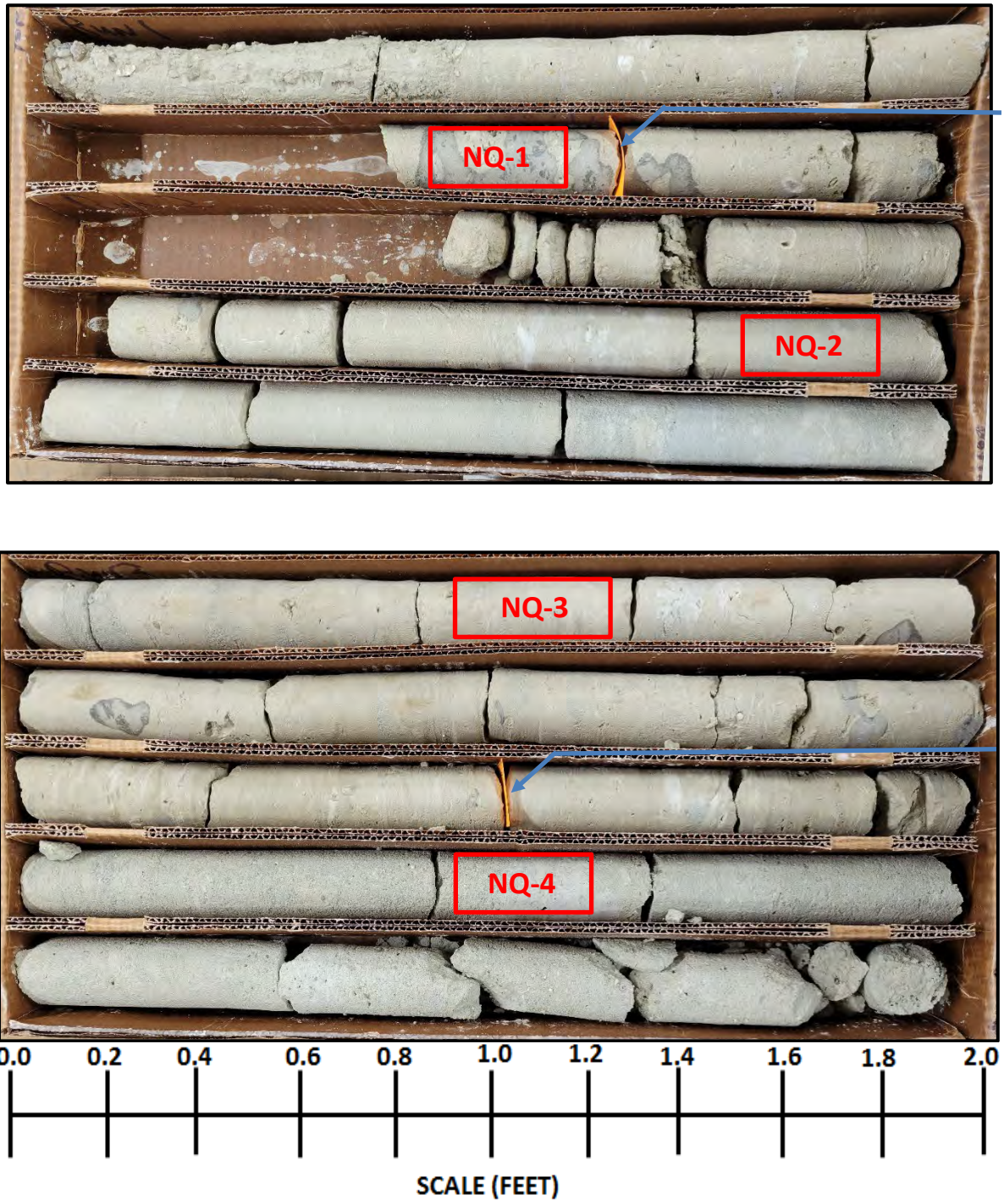
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1360
Sample Location:	B-23 / NQ-4		**Depth of Sample:**	59.7' - 60.0'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	

Before Break

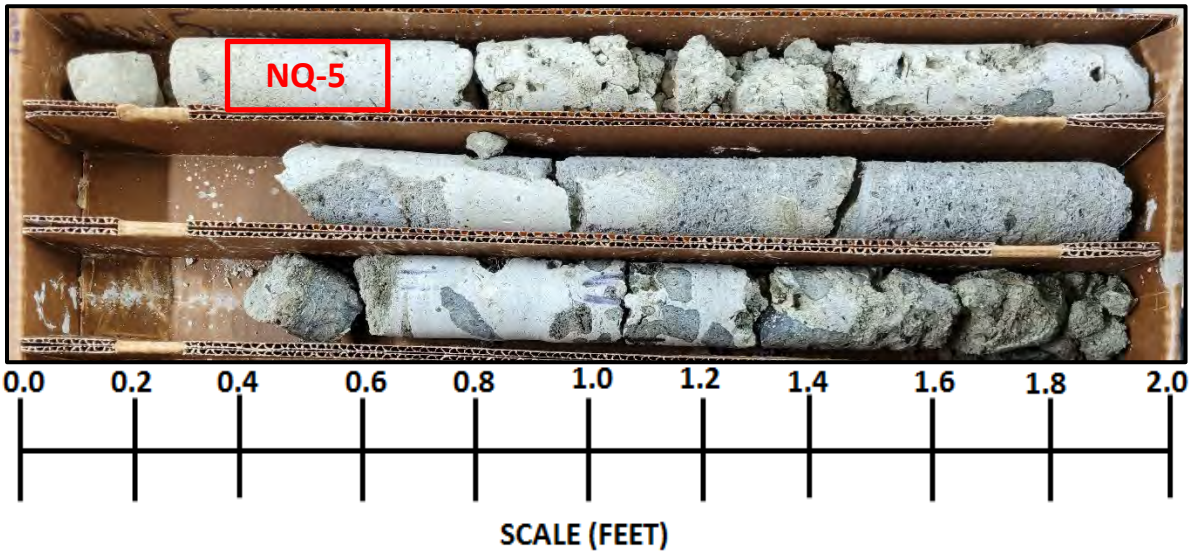
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-24



I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-24

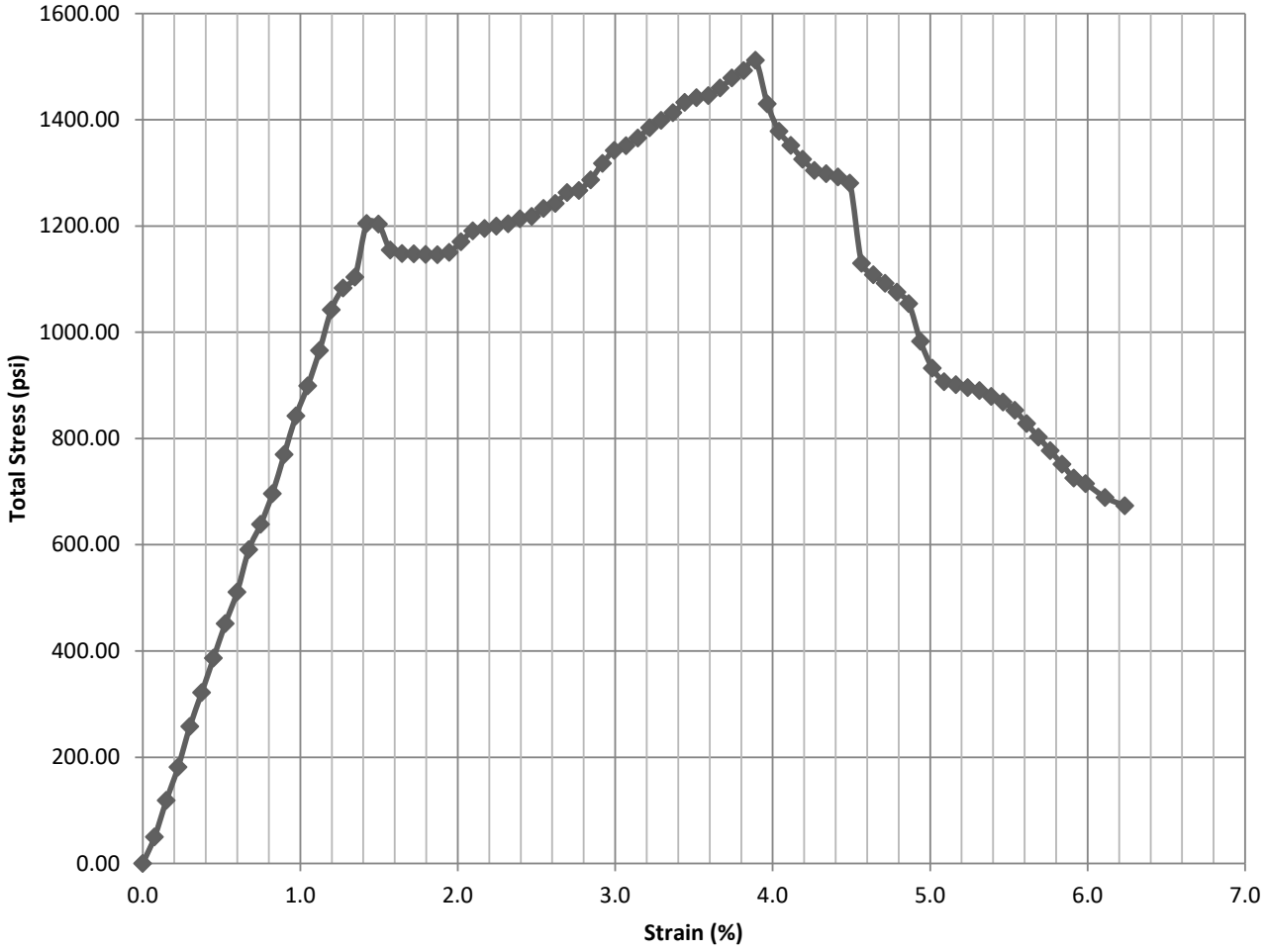
Begin Run 5
61.4 Feet



End Run 5
66.4 Feet

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0786



Average Initial Diameter (Do):	1.867 in.	Sample Volume:	10.98 in^3
Average Initial Height (Lo):	4.009 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.738 in^2	Sample Weight:	0.799 lbs.
In-Situ Unit Weight:	125.8 pcf	L/D Ratio:	2.147
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/28/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-24 / NQ-1		
Depth/Elevation	46.0' - 46.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1510 psi ε_{ULT} = 3.9%

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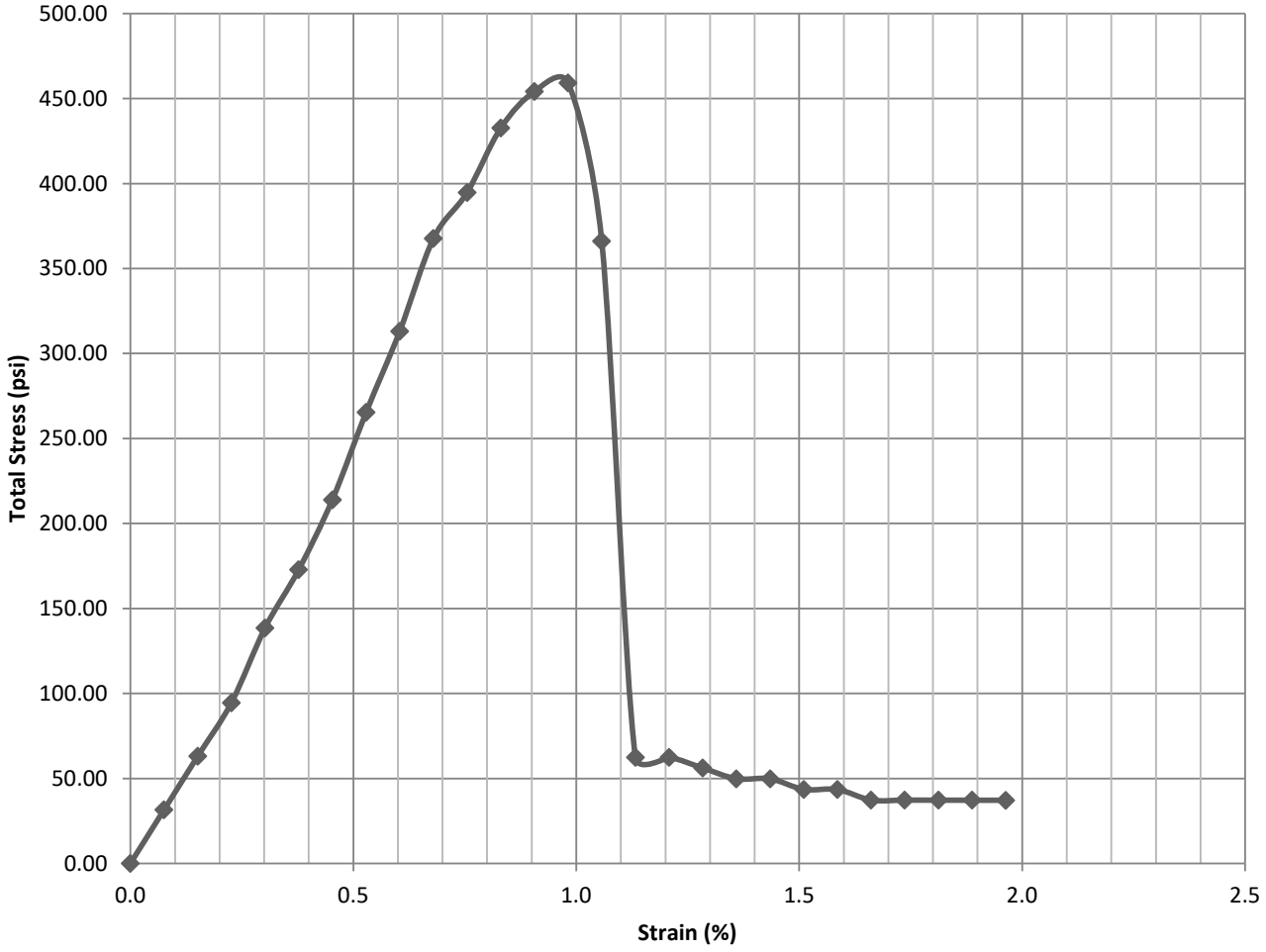
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0786
Sample Location:	B-24 / NQ-1		Depth of Sample:	46.0' - 46.3'
Tested By:	W. Pitts	Date Tested:	3/28/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0786



Average Initial Diameter (Do):	1.858 in.	Sample Volume:	10.77 in^3
Average Initial Height (Lo):	3.973 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.711 in^2	Sample Weight:	0.742 lbs.
In-Situ Unit Weight:	119.0 pcf	L/D Ratio:	2.138
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/28/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-24 / NQ-2		
Depth/Elevation	48.9' - 49.2'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 460 psi ε_{ULT} = 1.0%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0786
Sample Location:	B-24 / NQ-2		**Depth of Sample:**	48.9' - 49.2'
Tested By:	W. Pitts	**Date Tested:**	3/28/2023	

Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.9	Reviewed By	WJG
Boring	B-24	Unit Weight (pcf)	140.9	Core Size	NQ
Sample No.	NQ-4 / 23-0786A	L/D Ratio	2.09	Recovery	100%
Depth	58.4' - 58.7'	Load Rate (psi/sec)	10	RQD	80%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%	-511	112	1,255	459	1.79	0.22
60%	-616	135	1,478	540	1.75	0.22
70%	-814	195	1,686	616	1.51	0.24
80%	-1009	251	1,934	707	1.40	0.25
90%	-1052	263	2,152	786	1.49	0.25
100%	-1441	323	2,407	879		

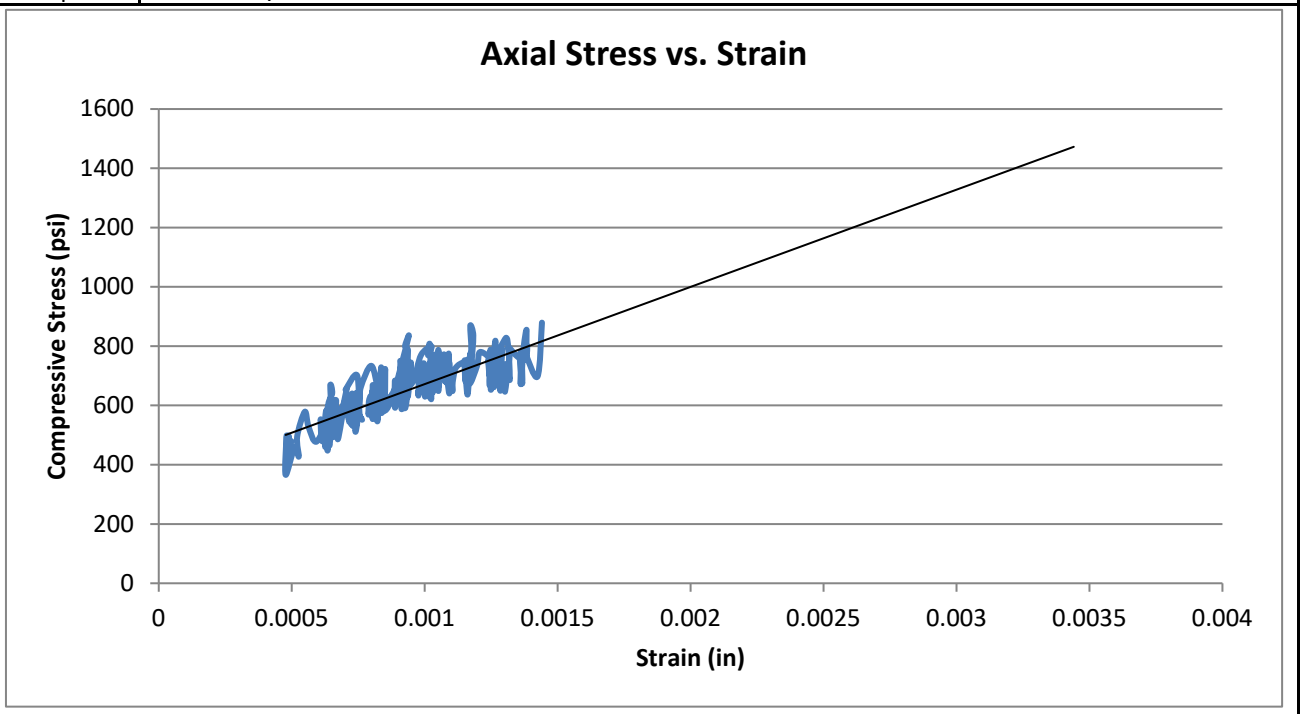
Sample Photos

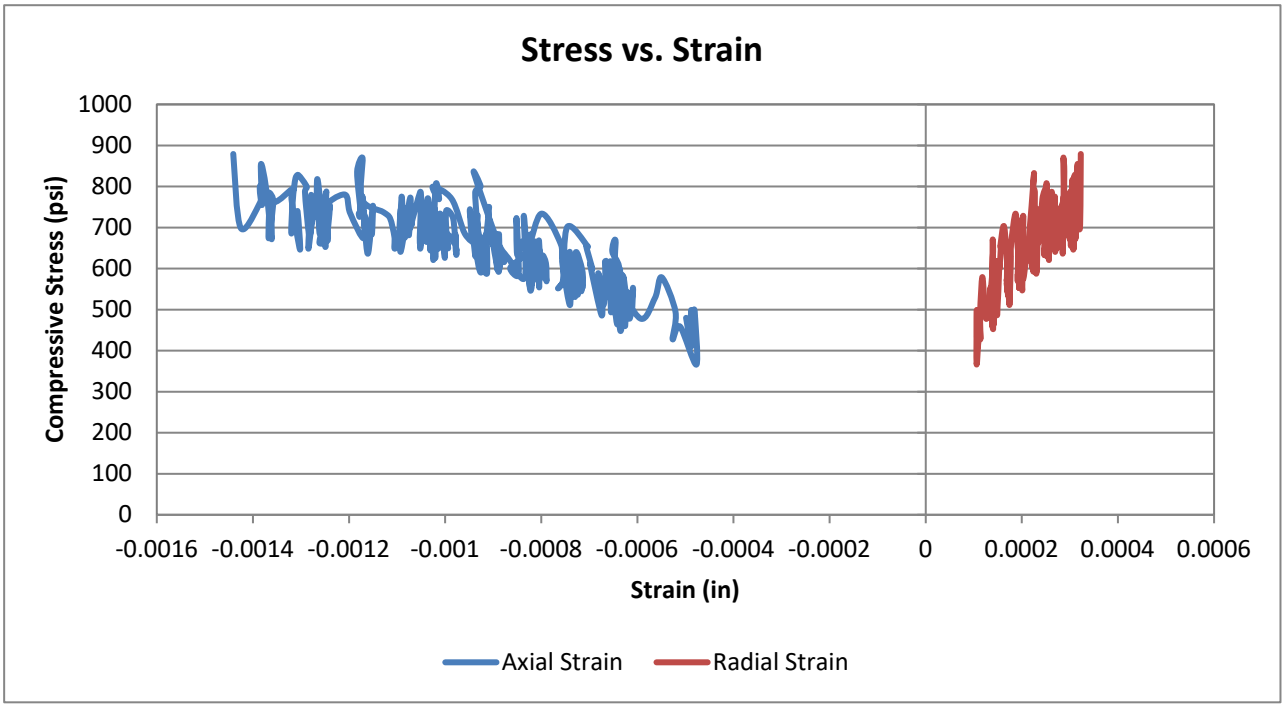
Test Results

Unconfined Compressive Strength (psi)	**880**	Elastic Modulus (psi)	1.45E+06
		Poisson's Ratio in Elastic Range	0.24
Comments	Elastic range was taken as between 0.0007 and 0.0012 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.9	Reviewed By	WJG
Boring	B-24	Unit Weight (pcf)	140.9	Core Size	NQ
Sample No.	NQ-4 / 23-0786A	L/D Ratio	2.09	Recovery	100%
Depth	58.4' - 58.7'	Load Rate (psi/sec)	10	RQD	80%
Description	Brown/Gray Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.859	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.954	Reviewed By	WJG
Boring	B-24	Unit Weight (pcf)	144.6	Core Size	NQ
Sample No.	NQ-5 / 23-0786B	L/D Ratio	2.13	Recovery	90%
Depth	61.7' - 62.1'	Load Rate (psi/sec)	10	RQD	70%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%	-491	43	1,250	461	1.88	0.09
60%	-673	56	1,484	547	1.62	0.08
70%	-749	64	1,746	643	1.72	0.09
80%	-969	88	1,972	727	1.50	0.09
90%	-1340	123	2,200	811	1.21	0.09
100%	-1554	141	2,414	890		

Sample Photos

Test Results

Unconfined Compressive Strength (psi)	**890**	Elastic Modulus (psi)	1.59E+06
		Poisson's Ratio in Elastic Range	0.09
Comments	Elastic range was taken as between 0.0006 and 0.0012 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

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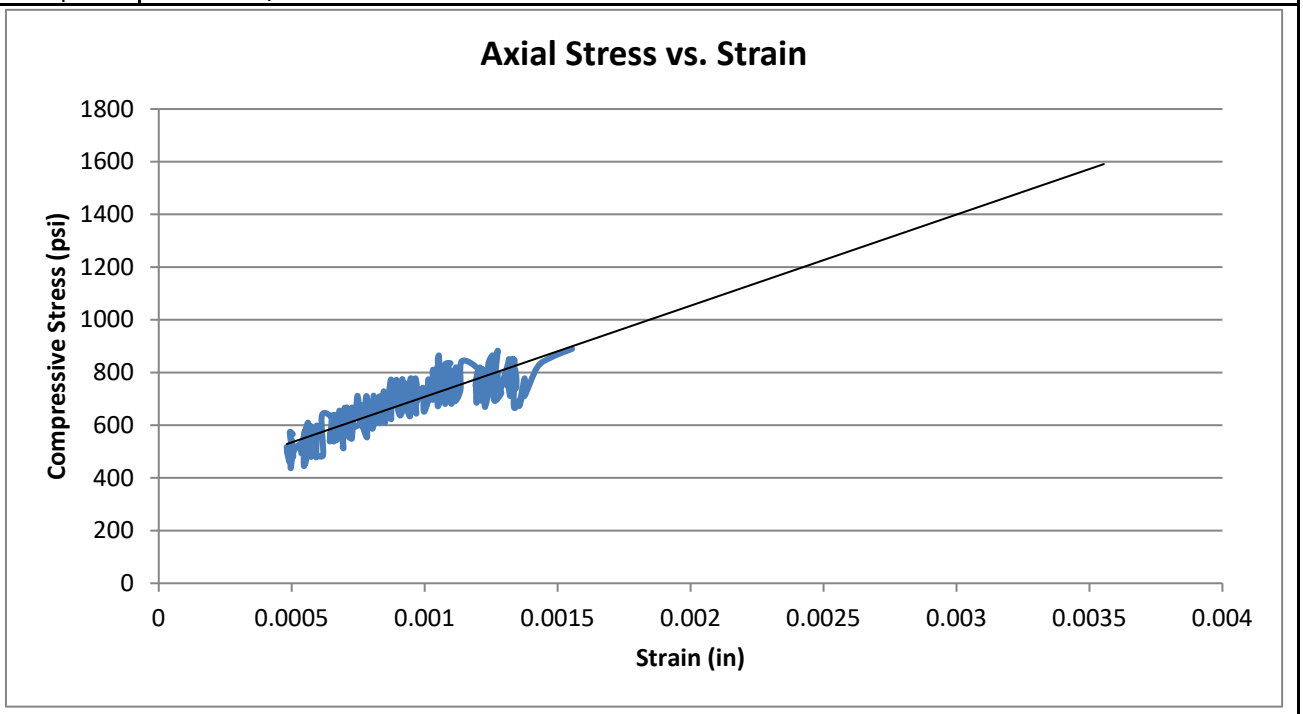
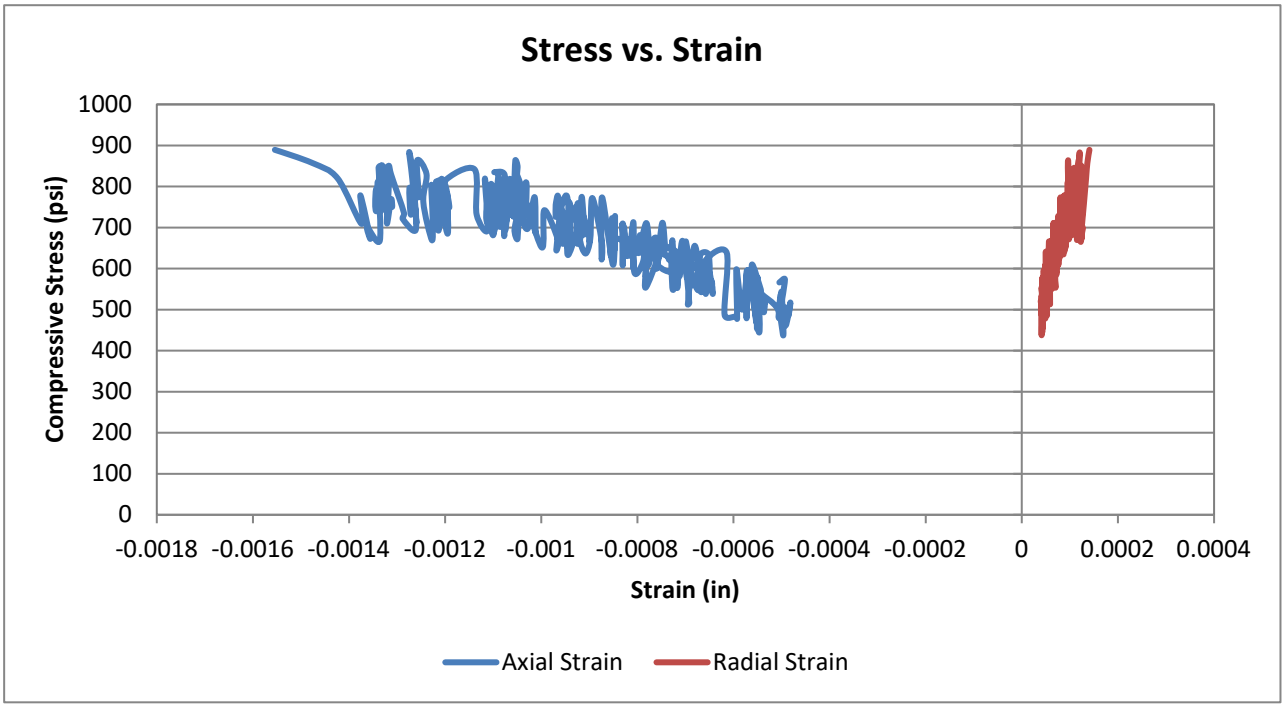
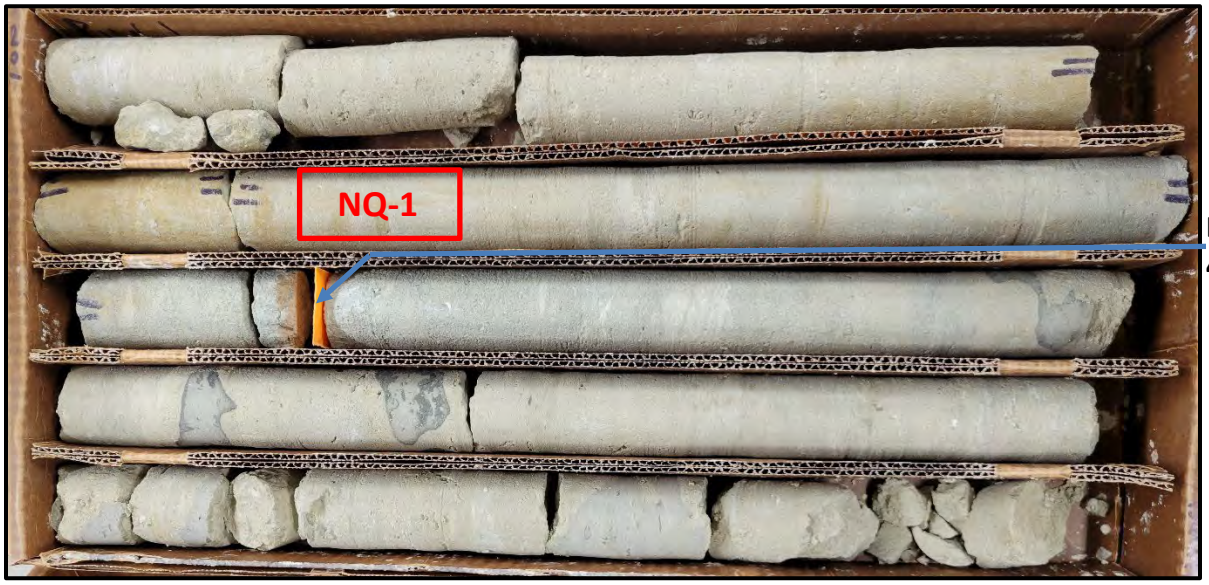
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.859	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.954	Reviewed By	WJG
Boring	B-24	Unit Weight (pcf)	144.6	Core Size	NQ
Sample No.	NQ-5 / 23-0786B	L/D Ratio	2.13	Recovery	90%
Depth	61.7' - 62.1'	Load Rate (psi/sec)	10	RQD	70%
Description	Brown/Gray Limestone				





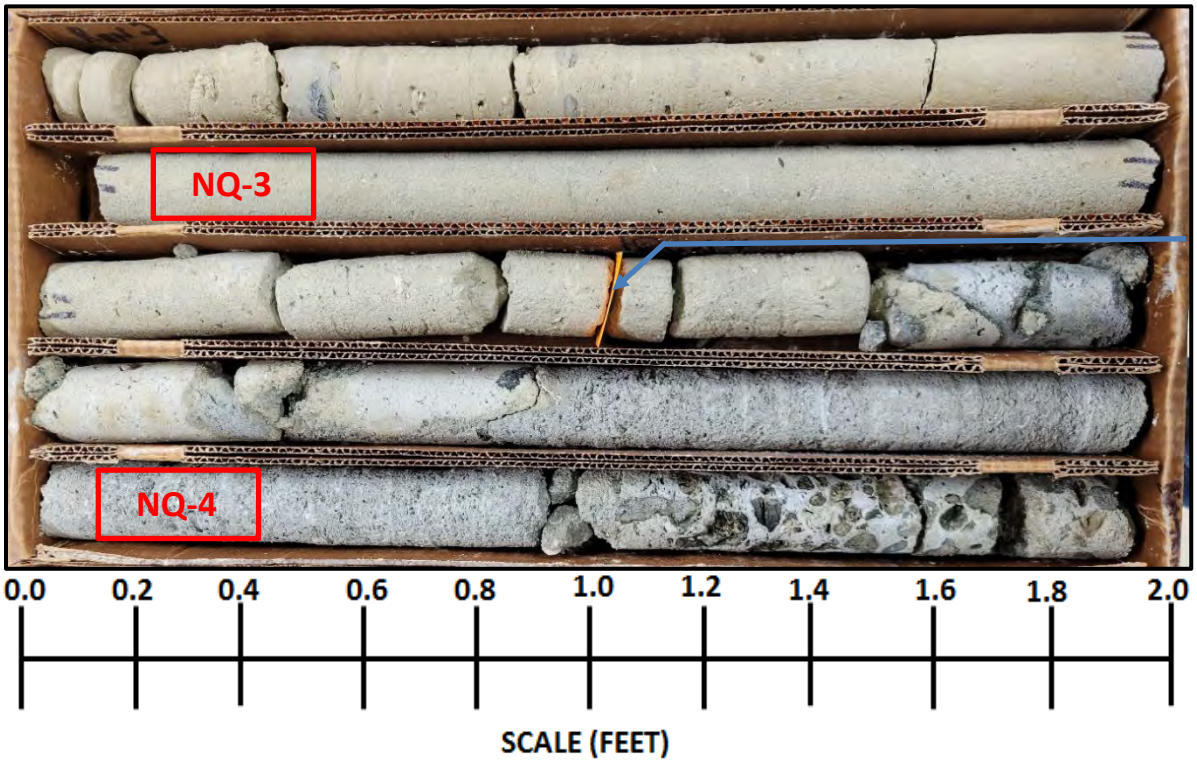
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-26



Begin Run 1
38.4 Feet

Begin Run 2
42.8 Feet

End Run 2
47.8 Feet

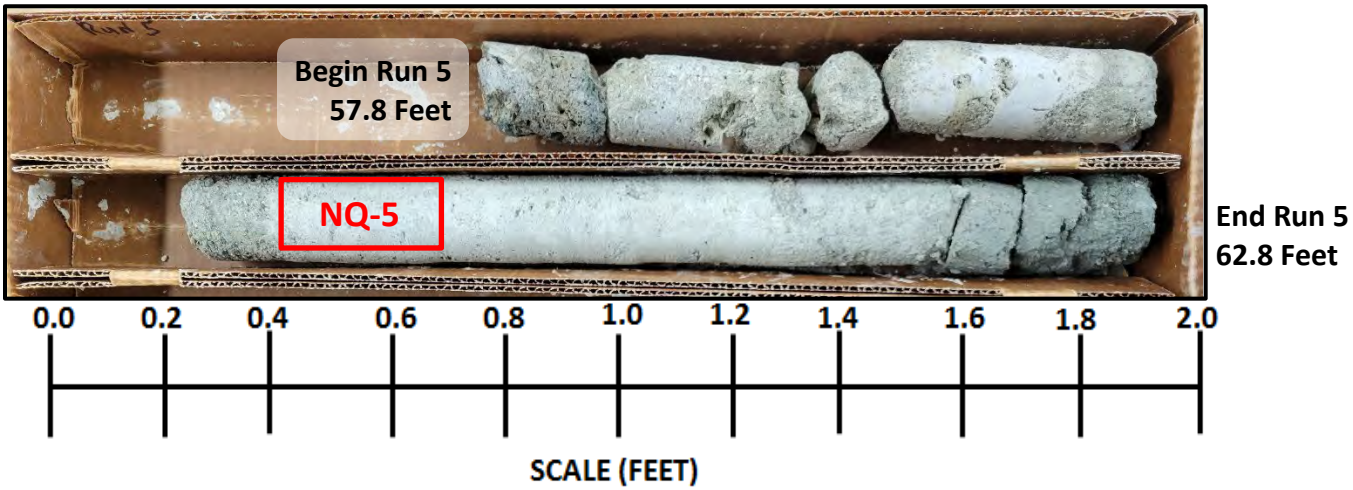


Begin Run 3
47.8 Feet

Begin Run 4
52.8 Feet

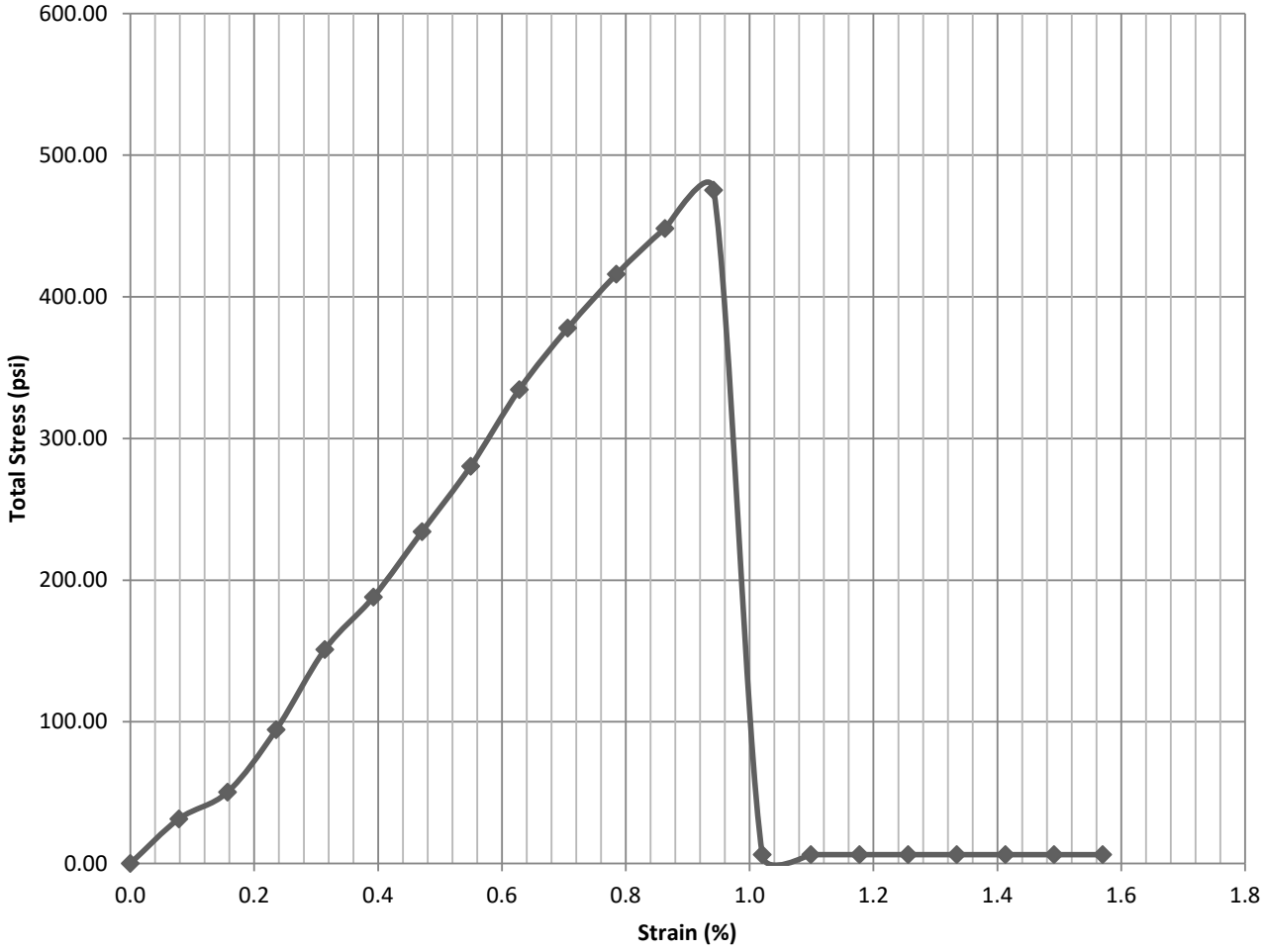
End Run 4
57.8 Feet

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-26



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0785



Average Initial Diameter (Do):	1.859 in.	Sample Volume:	10.37 in^3
Average Initial Height (Lo):	3.822 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.714 in^2	Sample Weight:	0.674 lbs.
In-Situ Unit Weight:	112.3 pcf	L/D Ratio:	2.056
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/28/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-26 / NQ-1		
Depth/Elevation	40.9' - 41.2'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 475 psi ε_{ULT} = 0.9%

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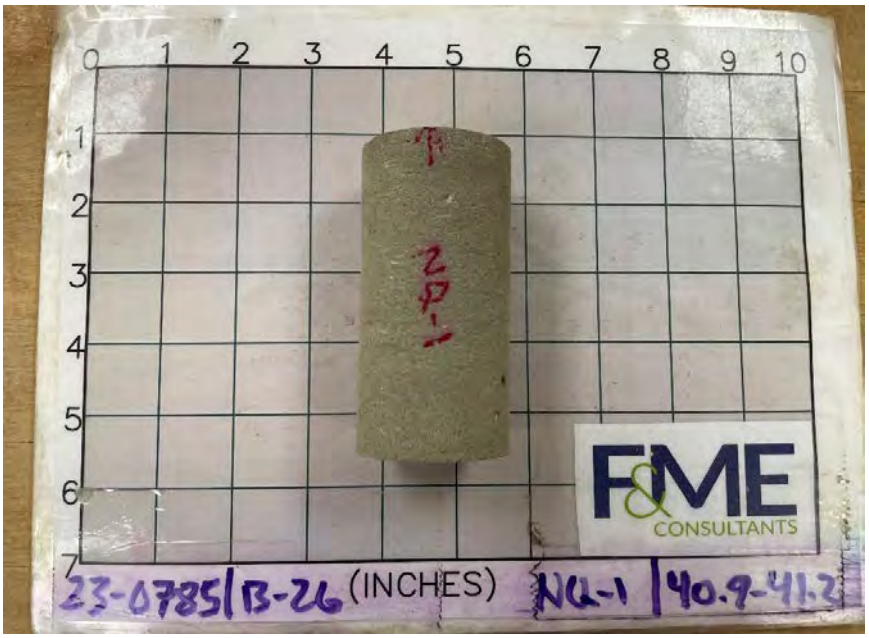
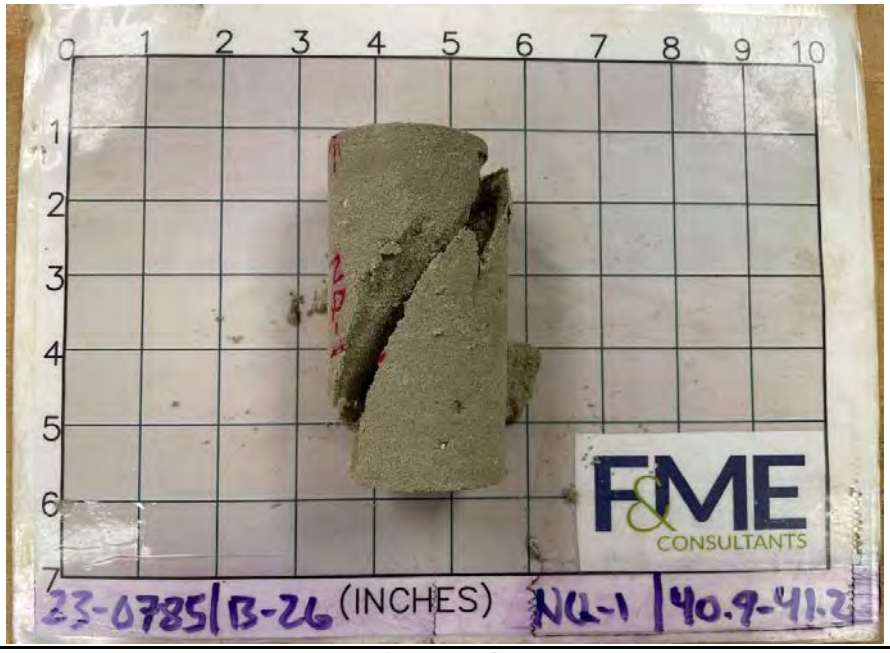
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0758
Sample Location:	B-26 / NQ-1		**Depth of Sample:**	40.9' - 41.2'
Tested By:	W. Pitts	**Date Tested:**	3/28/2023	



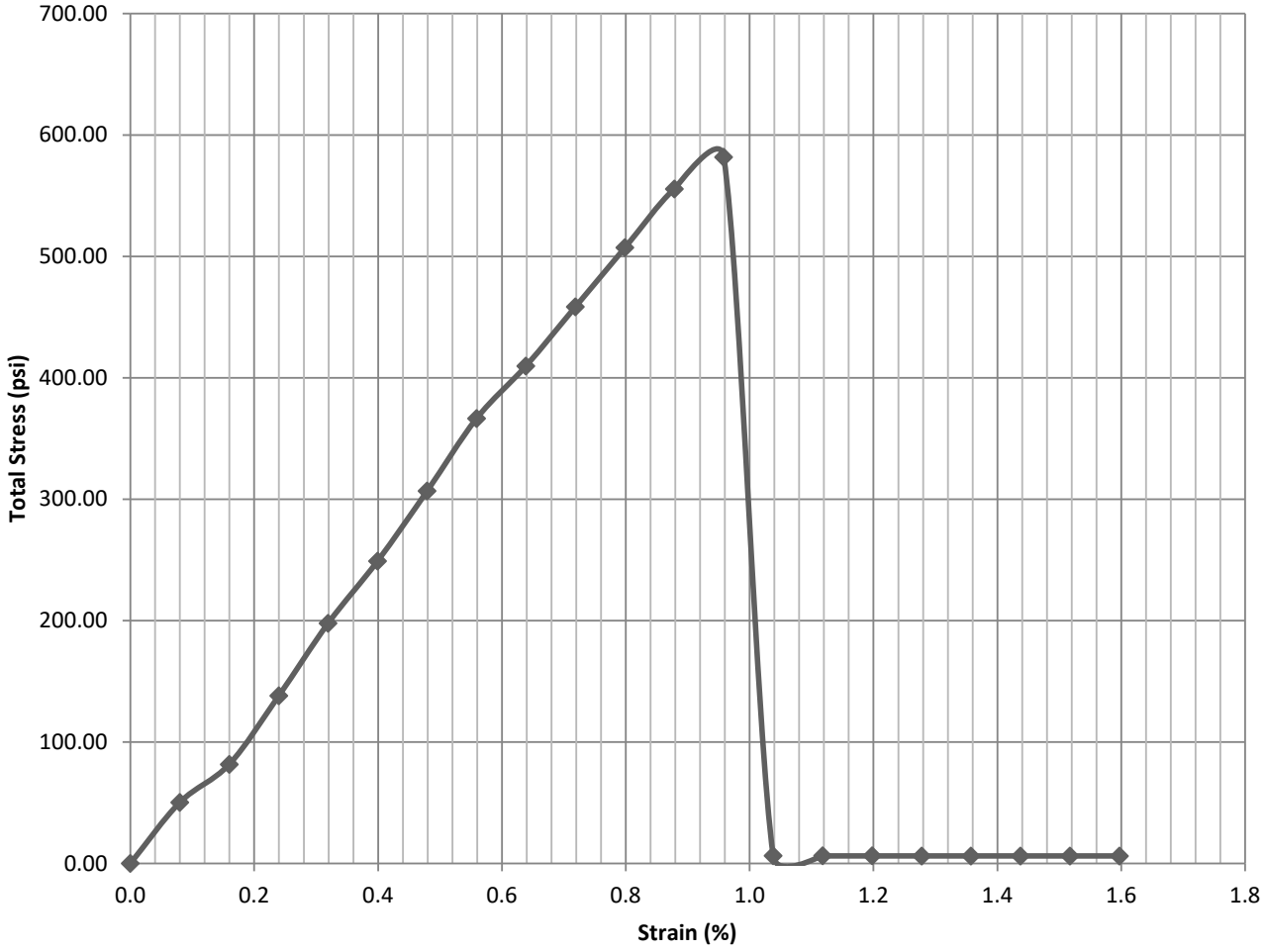
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0785



Average Initial Diameter (Do):	1.862 in.	Sample Volume:	10.23 in^3
Average Initial Height (Lo):	3.757 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.723 in^2	Sample Weight:	0.726 lbs.
In-Situ Unit Weight:	122.6 pcf	L/D Ratio:	2.018
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-26 / NQ-3		
Depth/Elevation	51.0' - 51.3'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 580 psi ε_{ULT} = 1.0%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0785
Sample Location:	B-26 / NQ-3		Depth of Sample:	51.0' - 51.3'
Tested By:	W. Pitts	Date Tested:	3/29/2023	

Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.849	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.791	Reviewed By	WJG
Boring	B-26	Unit Weight (pcf)	119.3	Core Size	NQ
Sample No.	NQ-5 / 23-0785A	L/D Ratio	2.05	Recovery	98%
Depth	55.8' - 56.1'	Load Rate (psi/sec)	10	RQD	87%
Description	Gray/Black/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Broke in Sample Preload					
20%						
30%						
40%						
50%						
60%						
70%						
80%						
90%						
100%						

Sample Photos

Test Results

Unconfined Compressive Strength (psi)	**410**	Elastic Modulus (psi)	N/A
		Poisson's Ratio in Elastic Range	N/A
Comments	Sample broke during initial sample loading. As such, value for elastic modulus and Poission's Ratio could not be measured.		

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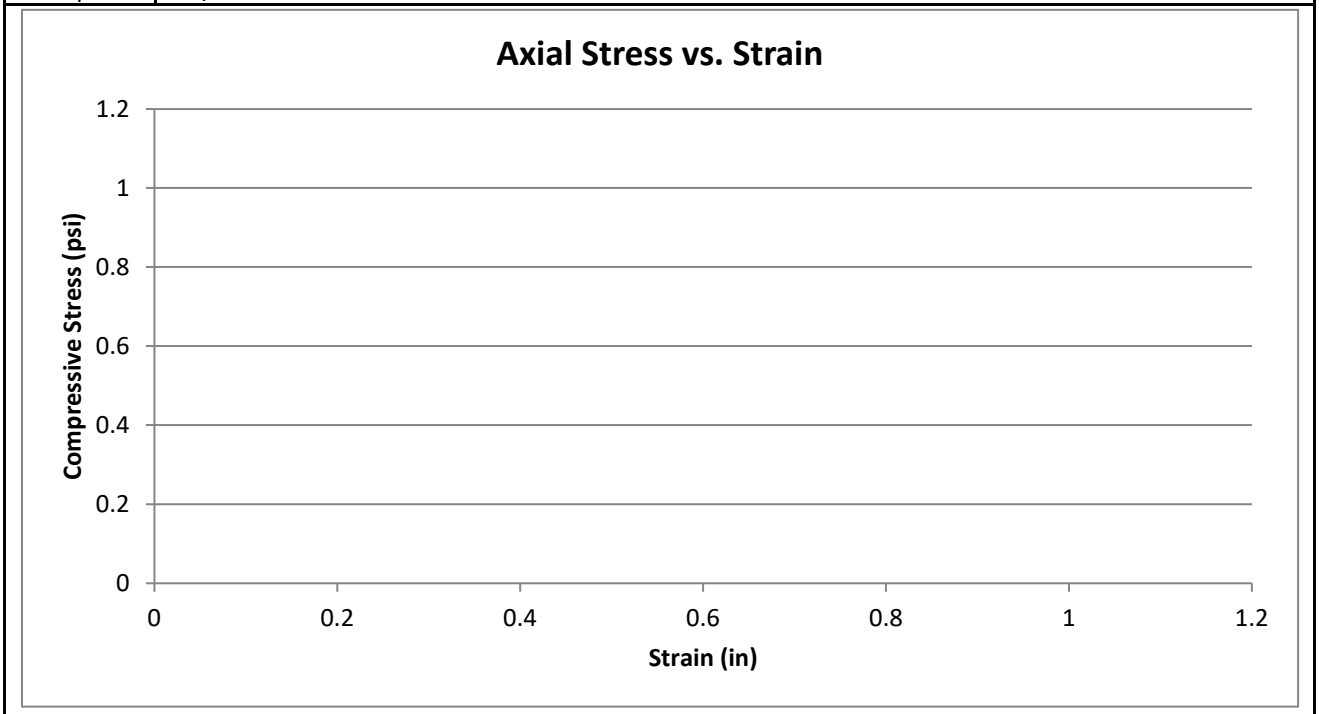
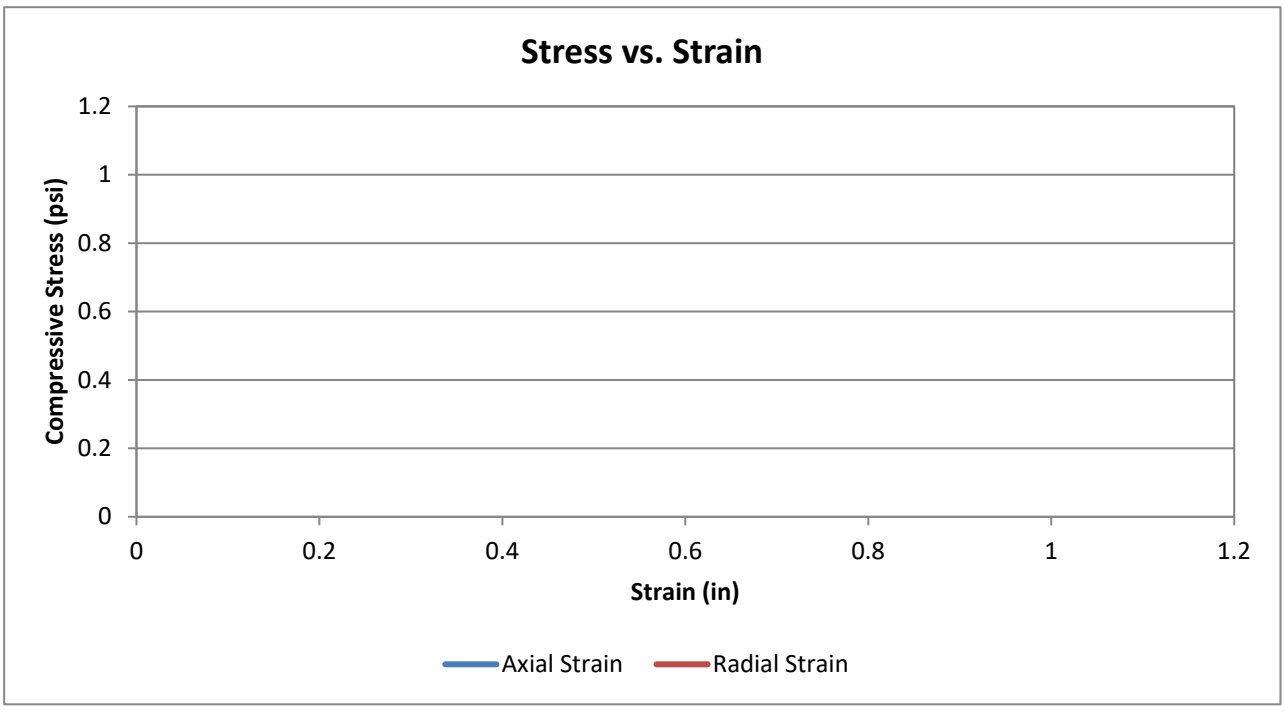
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.849	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.791	Reviewed By	WJG
Boring	B-26	Unit Weight (pcf)	119.3	Core Size	NQ
Sample No.	NQ-5 / 23-0785A	L/D Ratio	2.05	Recovery	98%
Depth	55.8' - 56.1'	Load Rate (psi/sec)	10	RQD	87%
Description	Gray/Black/White Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.863	Reviewed By	WJG
Boring	B-26	Unit Weight (pcf)	146.3	Core Size	NQ
Sample No.	NQ-5 / 23-0785B	L/D Ratio	2.08	Recovery	57%
Depth	59.2' - 59.6'	Load Rate (psi/sec)	10	RQD	43%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%	-1588	217	1,038	384	0.48	0.14
40%	325	426	1,350	500	3.08	1.31
50%	115	535	1,699	629	10.94	4.65
60%	118	1060	2,036	754	12.81	9.00
70%	-234	1420	2,364	876	7.48	6.07
80%	-623	2854	2,682	993	3.19	4.58
90%	-1155	5286	3,042	1,127	1.95	4.58
100%	-1267	5830	3,371	1,249		

Sample Photos

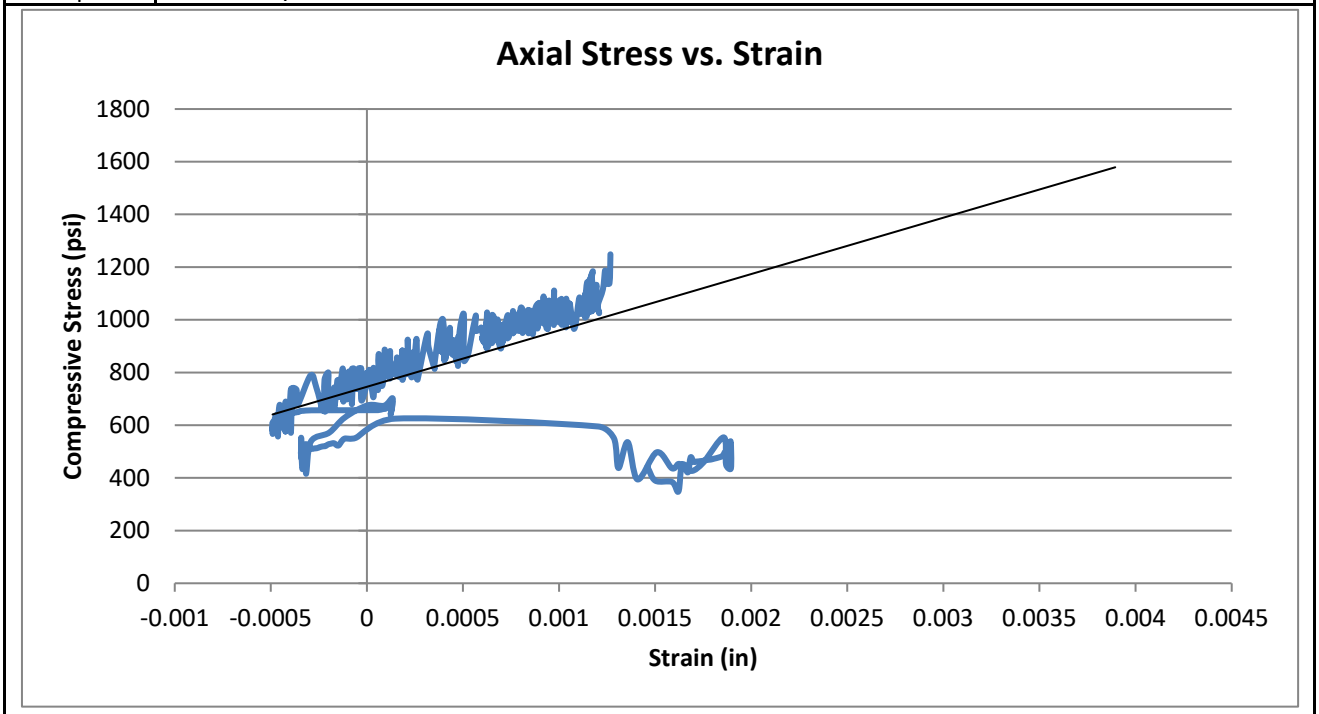
Test Results

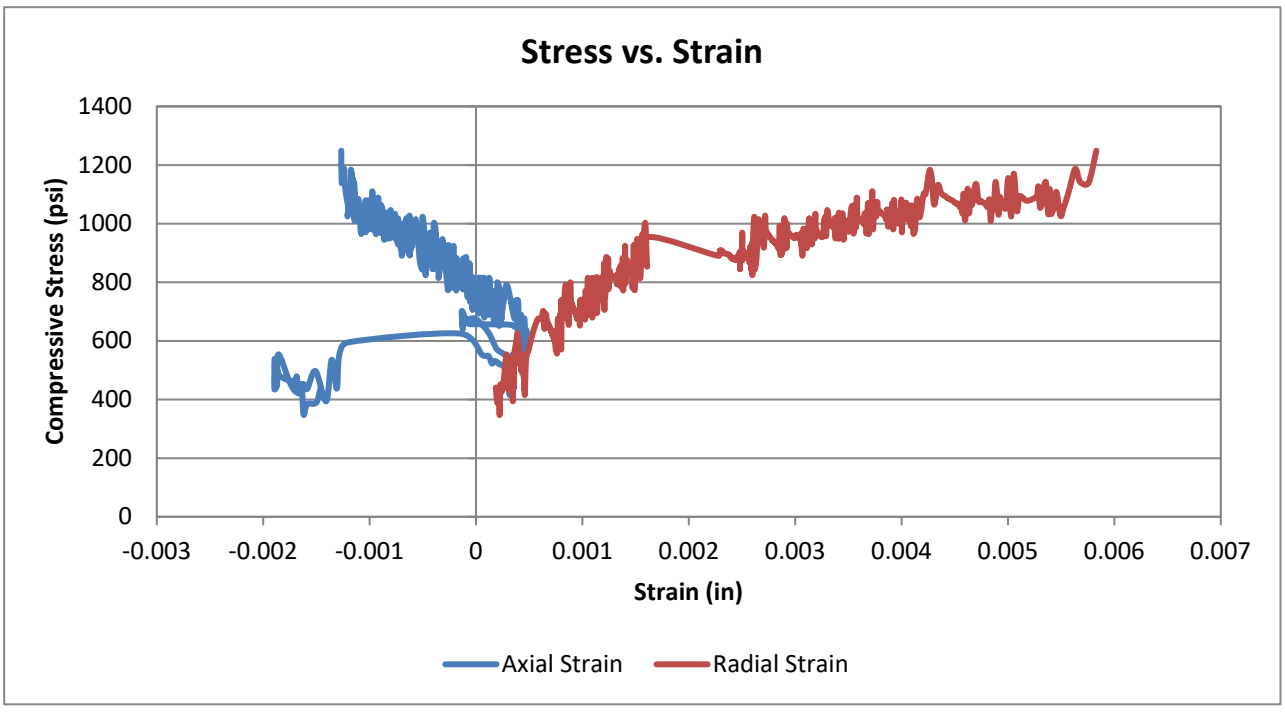
Unconfined Compressive Strength (psi)	**1,250**	Elastic Modulus (psi)	0.00E+00
		Poisson's Ratio in Elastic Range	0.00

Comments: Stress-strain behavior for this sample does not appear reasonable. As such, values for elastic modulus and Poission's Ratio are not provided. Data indicates a partial sample failure around 450 psi.

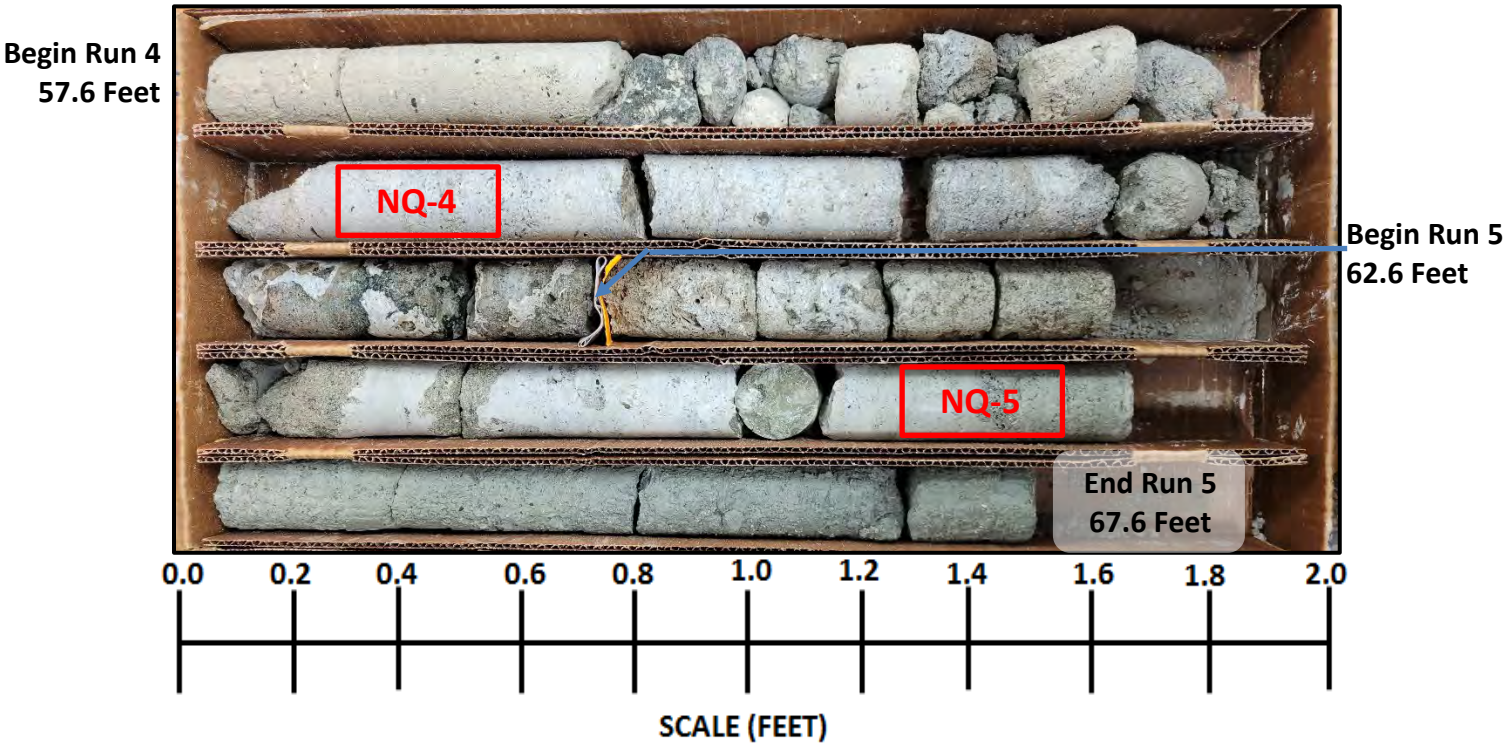
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.863	Reviewed By	WJG
Boring	B-26	Unit Weight (pcf)	146.3	Core Size	NQ
Sample No.	NQ-5 / 23-0785B	L/D Ratio	2.08	Recovery	57%
Depth	59.2' - 59.6'	Load Rate (psi/sec)	10	RQD	43%
Description	Brown/Gray Limestone				



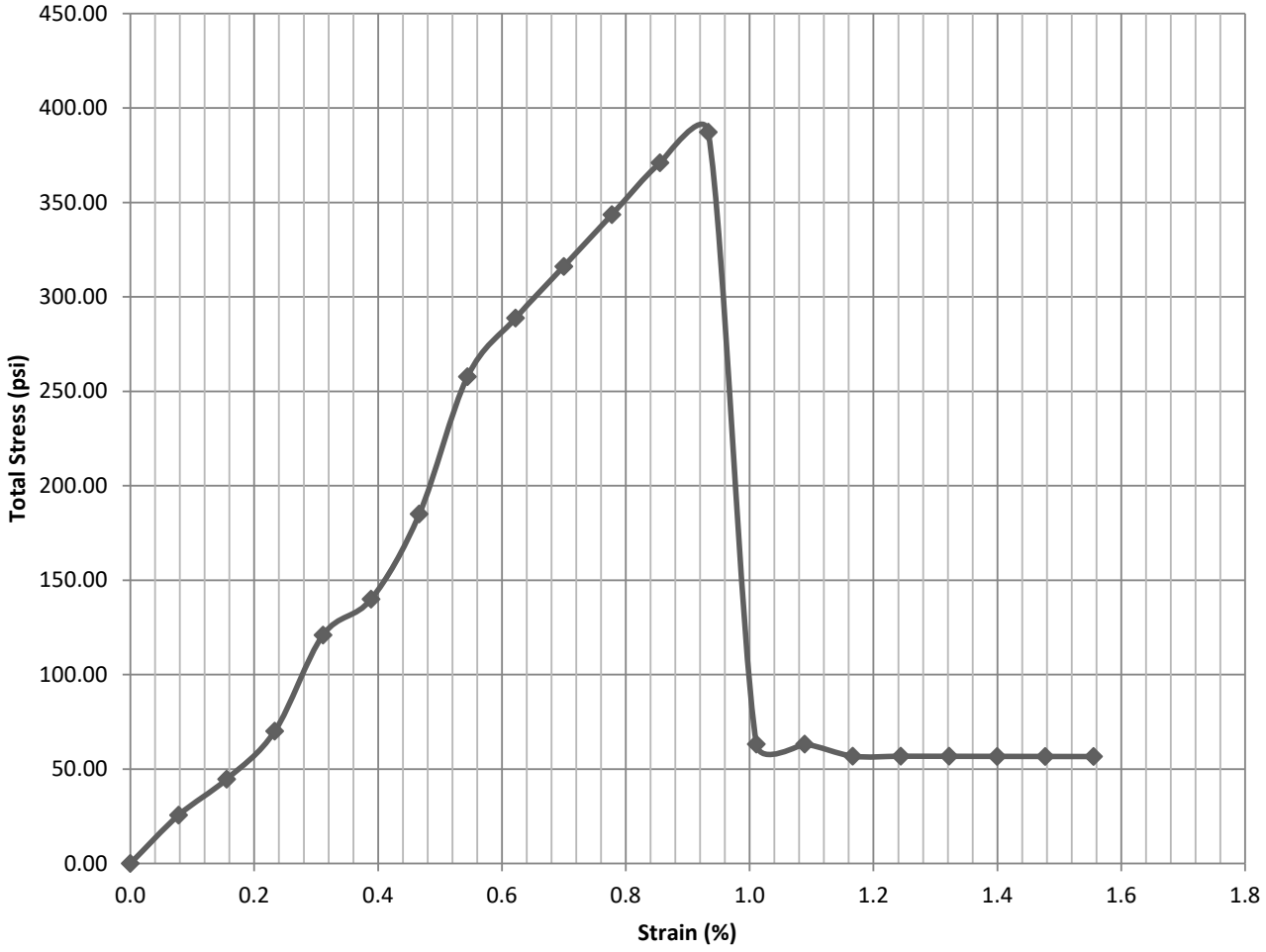


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-27



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1359



Average Initial Diameter (Do):	1.848 in.	Sample Volume:	10.35 in^3
Average Initial Height (Lo):	3.858 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.682 in^2	Sample Weight:	0.720 lbs.
In-Situ Unit Weight:	120.3 pcf	L/D Ratio:	2.088
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-27 / NQ-2		
Depth/Elevation	51.1' - 51.4'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 385 psi ε_{ULT} = 0.9%

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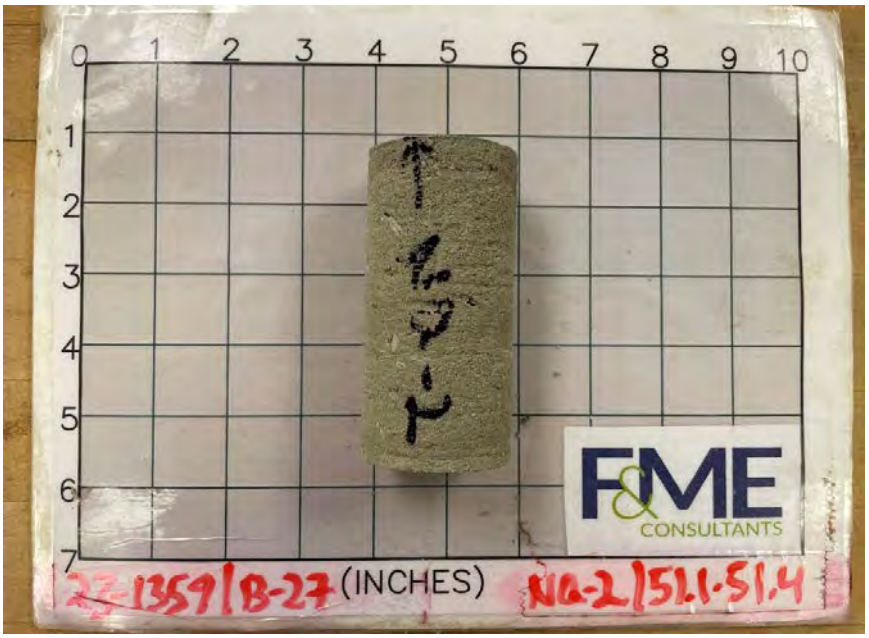
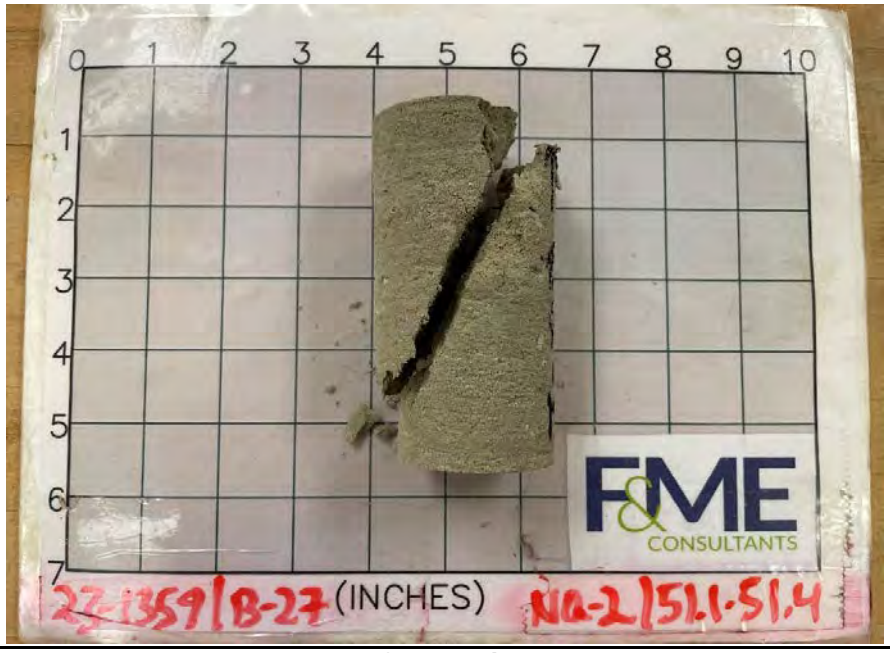
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1359
Sample Location:	B-27 / NQ-2		**Depth of Sample:**	51.1' - 51.4'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	



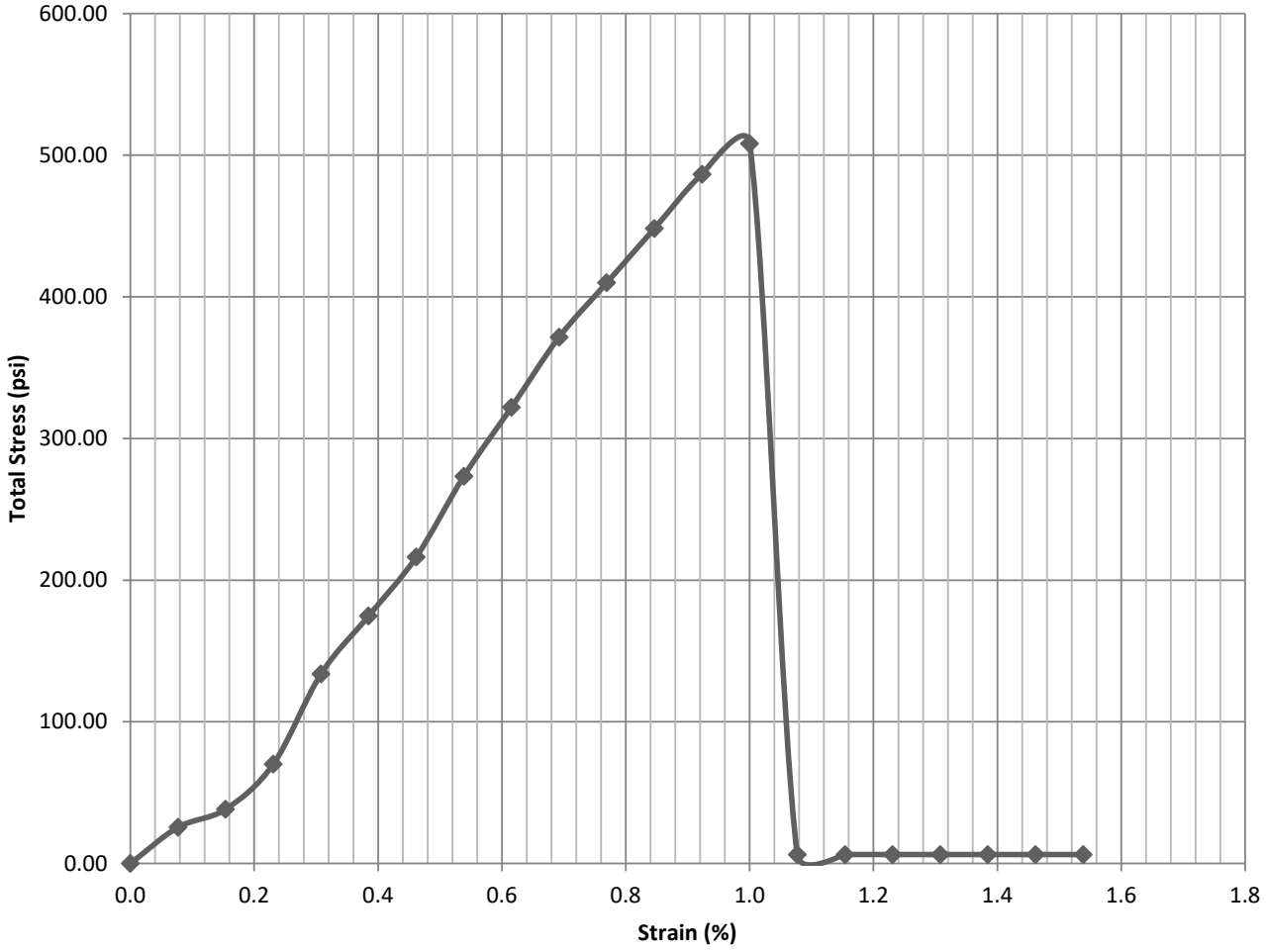
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1359



Average Initial Diameter (Do):	1.848 in.	Sample Volume:	10.46 in^3
Average Initial Height (Lo):	3.900 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.682 in^2	Sample Weight:	0.740 lbs.
In-Situ Unit Weight:	122.2 pcf	L/D Ratio:	2.110
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-27 / NQ-3		
Depth/Elevation	55.5' - 55.9'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 510 psi ε_{ULT} = 1.0%

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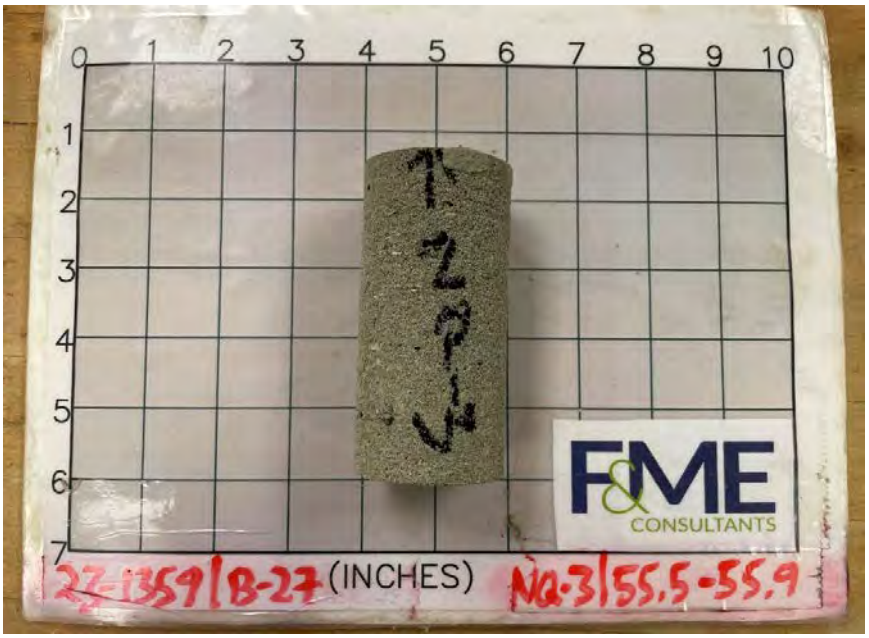
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1359
Sample Location:	B-27 / NQ-3		Depth of Sample:	55.5' - 55.9'
Tested By:	W. Pitts	Date Tested:	6/2/2023	



Before Break

After Break

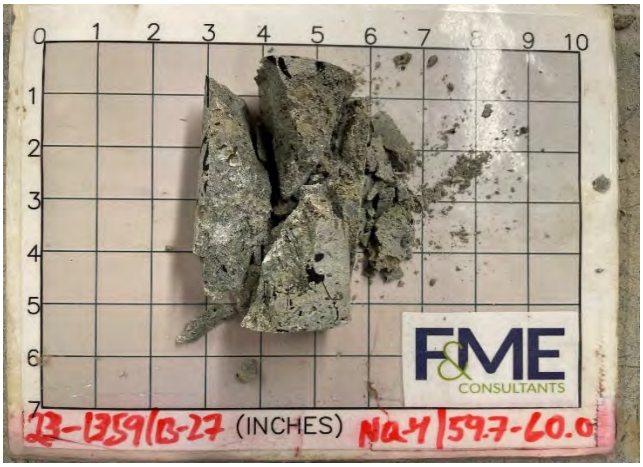
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.86	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.995	Reviewed By	WJG
Boring	B-27	Unit Weight (pcf)	155.1	Core Size	NQ
Sample No.	NQ-4 / 23-1359A	L/D Ratio	2.15	Recovery	88%
Depth	59.7' - 60.0'	Load Rate (psi/sec)	10	RQD	48%
Description	Gray/Black/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	-219	65	1,708	629	5.73	0.30
20%	-415	98	3,452	1,270	6.11	0.24
30%	-638	124	5,172	1,904	5.97	0.19
40%	-872	156	6,892	2,537	5.82	0.18
50%	-1125	199	8,655	3,185	5.66	0.18
60%	-1385	251	10,345	3,807	5.50	0.18
70%	-1659	326	12,035	4,429	5.34	0.20
80%	-1969	458	13,729	5,053	5.13	0.23
90%	-2329	755	15,488	5,700	4.89	0.32
100%	-2813	2349	17,208	6,333		

Sample Photos

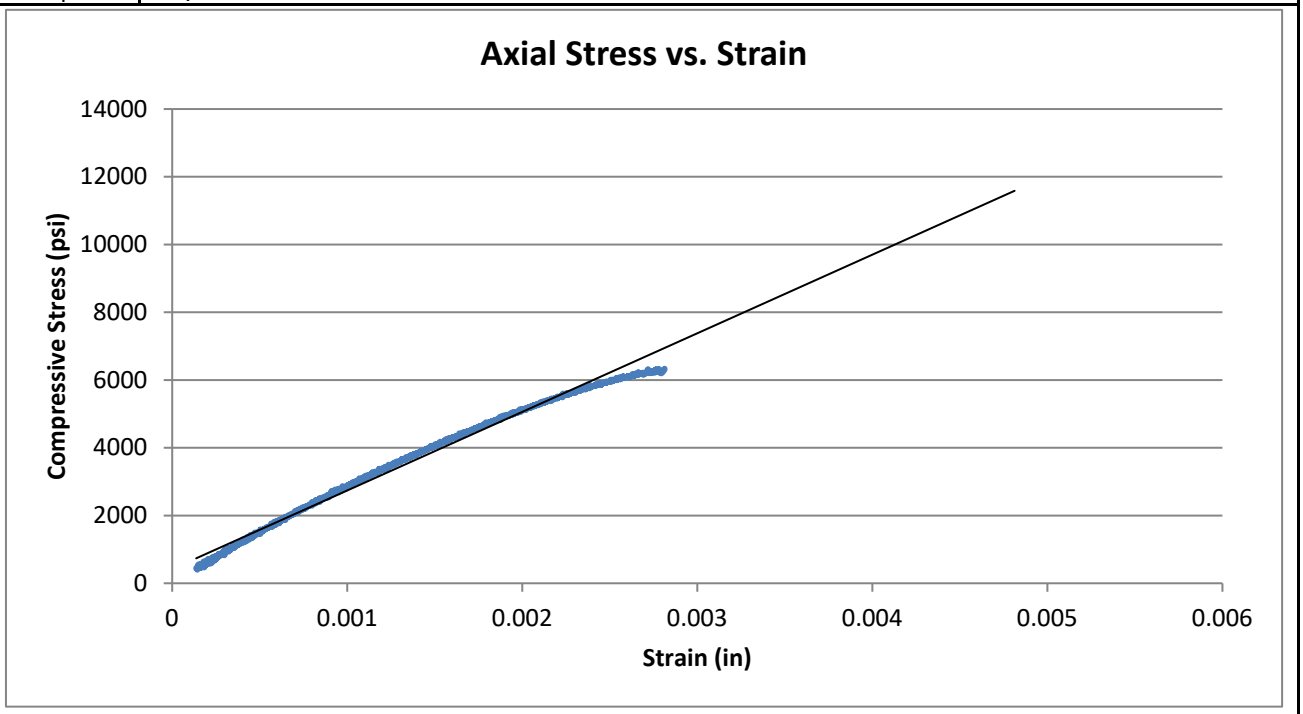


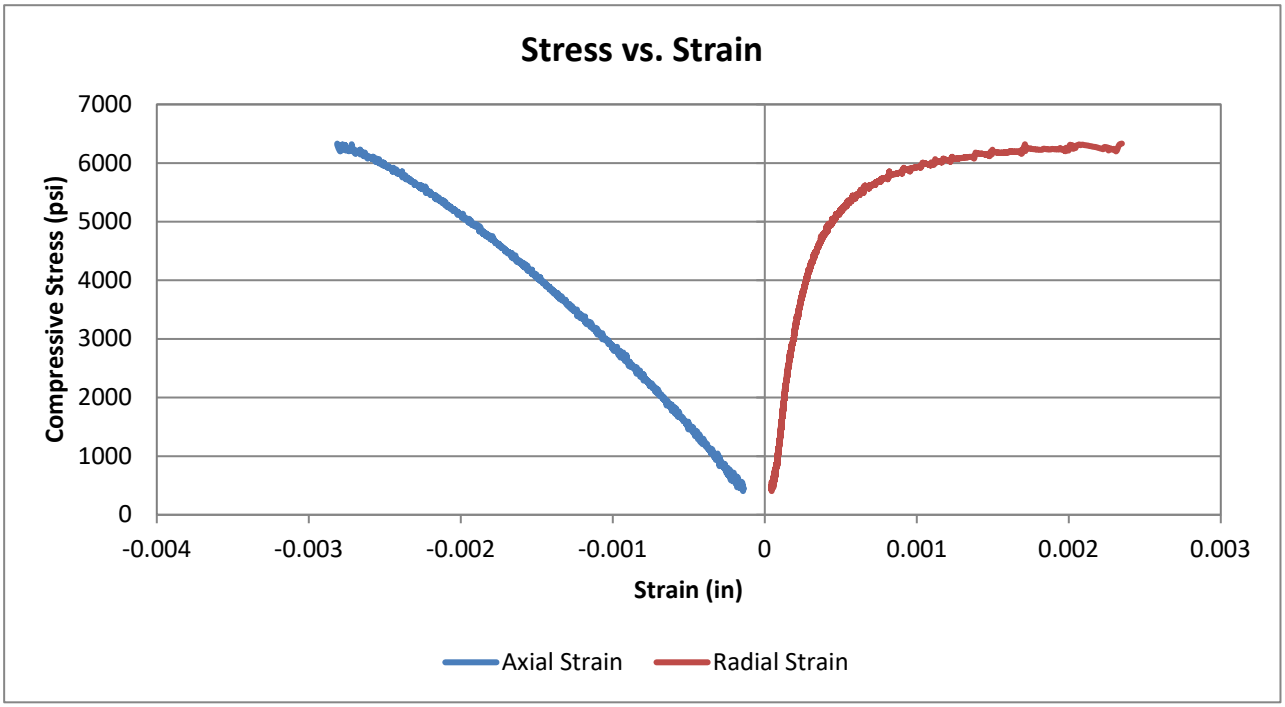
Test Results

Unconfined Compressive Strength (psi)	**6,330**	Elastic Modulus (psi)	5.43E+06
		Poisson's Ratio in Elastic Range	0.19
Comments	Elastic range was taken as between 0.001 and 0.002 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.86	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.995	Reviewed By	WJG
Boring	B-27	Unit Weight (pcf)	155.1	Core Size	NQ
Sample No.	NQ-4 / 23-1359A	L/D Ratio	2.15	Recovery	88%
Depth	59.7' - 60.0'	Load Rate (psi/sec)	10	RQD	48%
Description	Gray/Black/White Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.866	Reviewed By	WJG
Boring	B-27	Unit Weight (pcf)	148.6	Core Size	NQ
Sample No.	NQ-5 / 23-1359B	L/D Ratio	2.09	Recovery	83%
Depth	64.9' - 65.2'	Load Rate (psi/sec)	10	RQD	53%
Description	Brown/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%	-3752	467	988	366	0.20	0.12
60%	-4589	664	1,172	434	0.19	0.14
70%	-5170	624	1,324	490	0.19	0.12
80%	-5179	580	1,566	580	0.22	0.11
90%	-5295	951	1,792	664	0.25	0.18
100%	-6714	540	1,969	729		

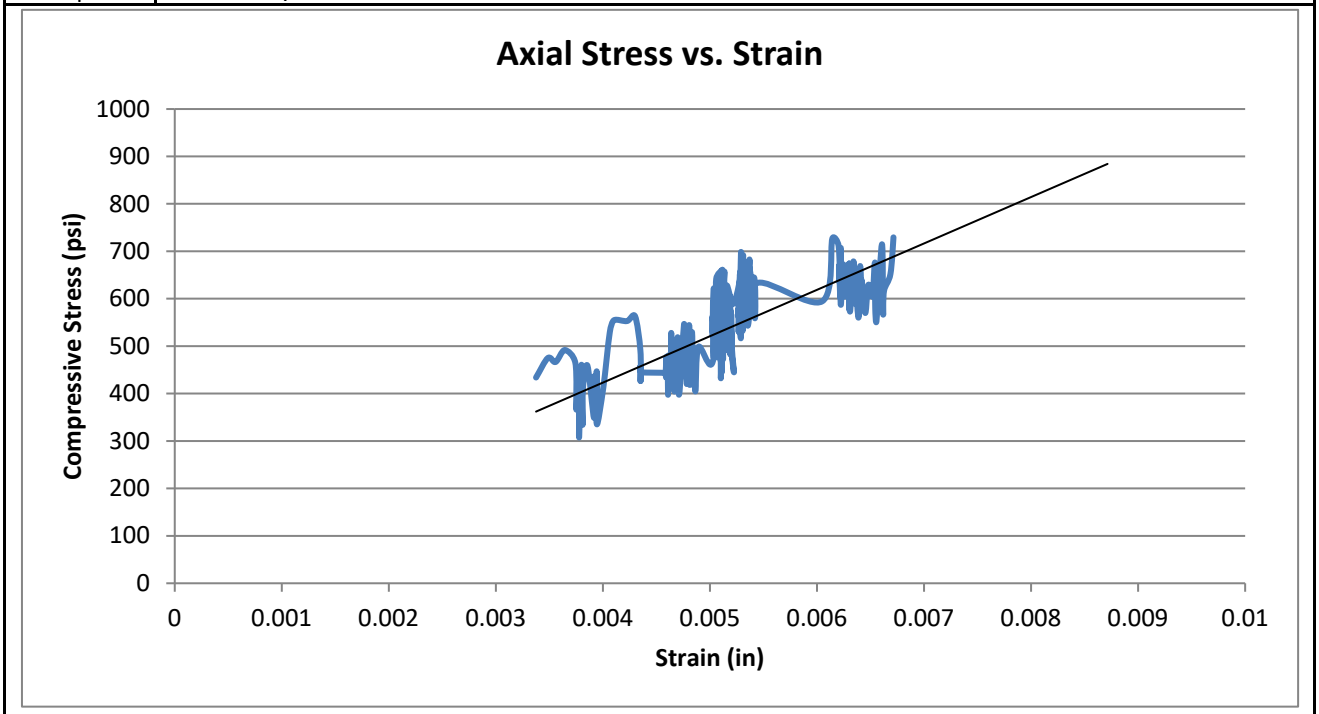
Sample Photos

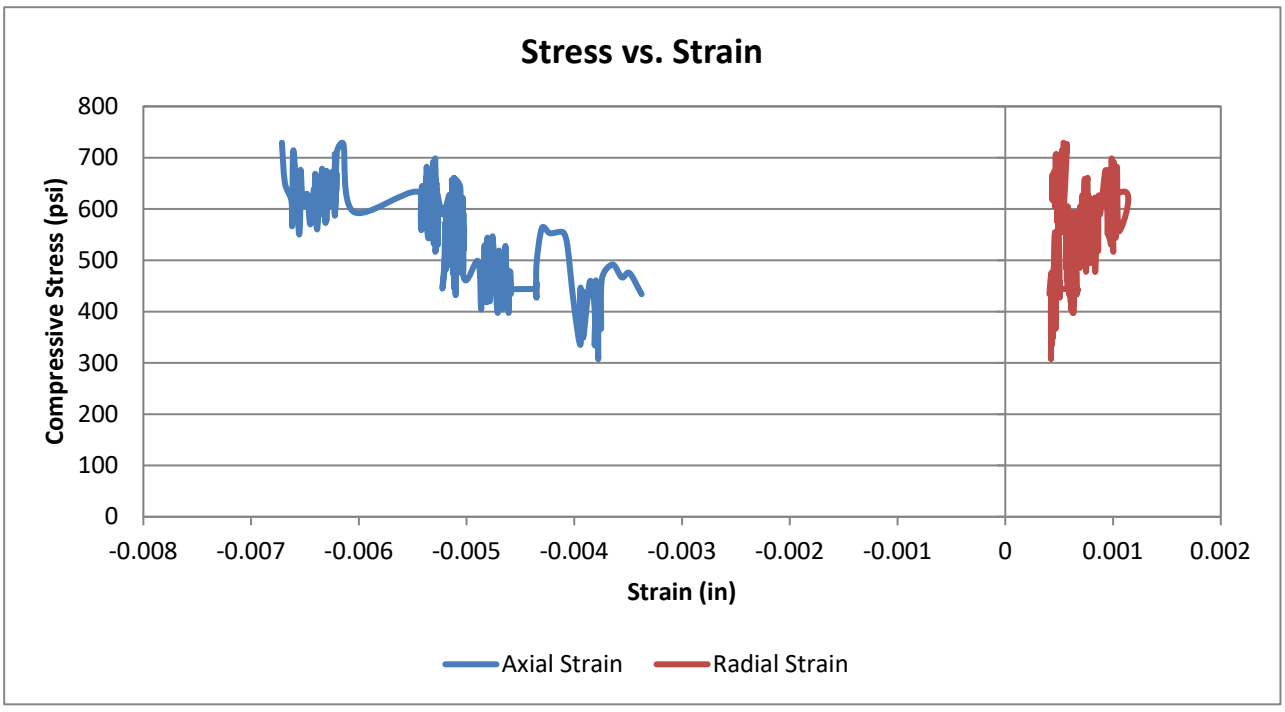
Test Results

Unconfined Compressive Strength (psi)	**730**	Elastic Modulus (psi)	2.09E+05
		Poisson's Ratio in Elastic Range	0.14
Comments	Elastic range was taken as between 0.004 and 0.006 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

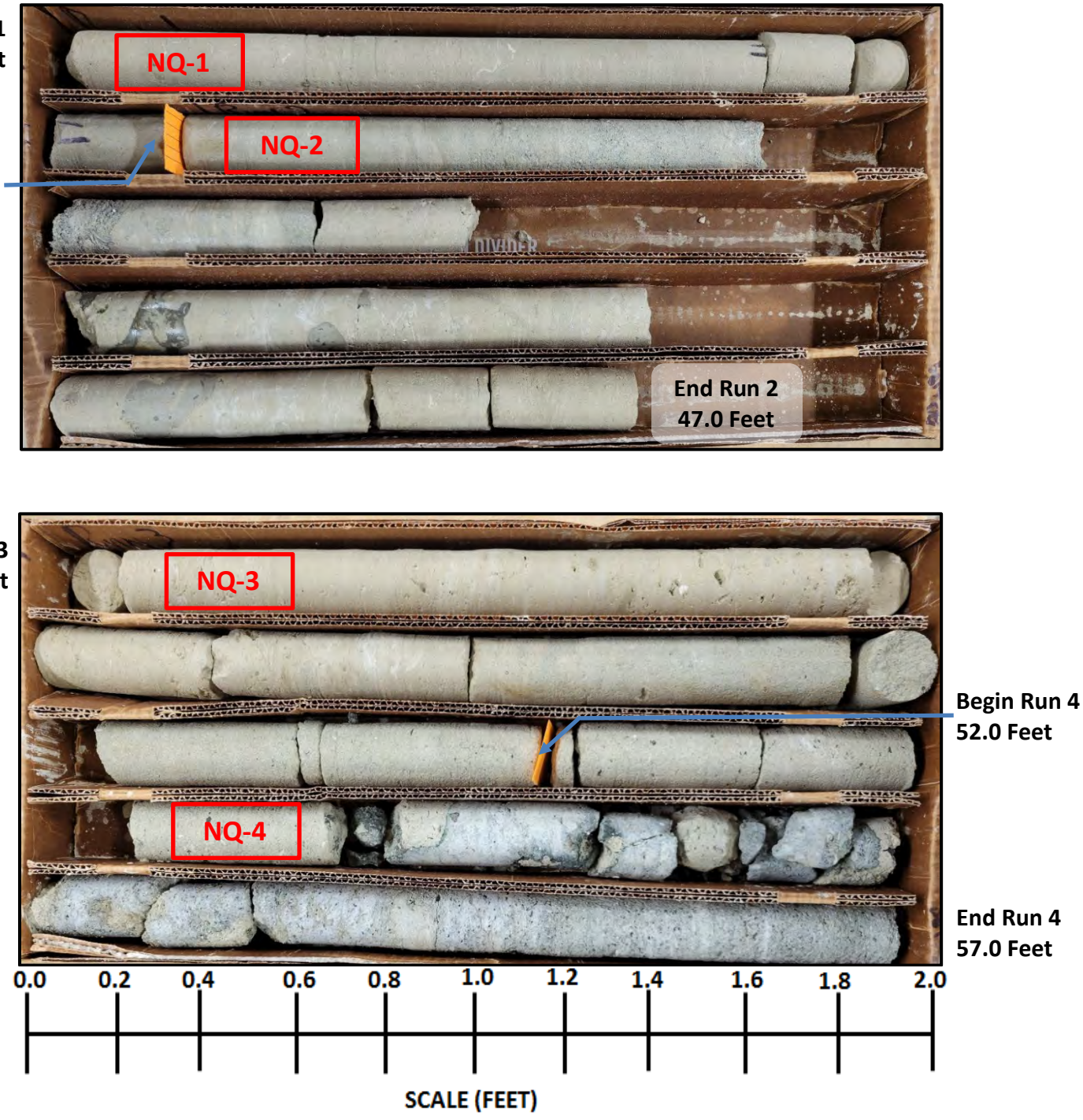
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.854	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.866	Reviewed By	WJG
Boring	B-27	Unit Weight (pcf)	148.6	Core Size	NQ
Sample No.	NQ-5 / 23-1359B	L/D Ratio	2.09	Recovery	83%
Depth	64.9' - 65.2'	Load Rate (psi/sec)	10	RQD	53%
Description	Brown/Gray/White Limestone				

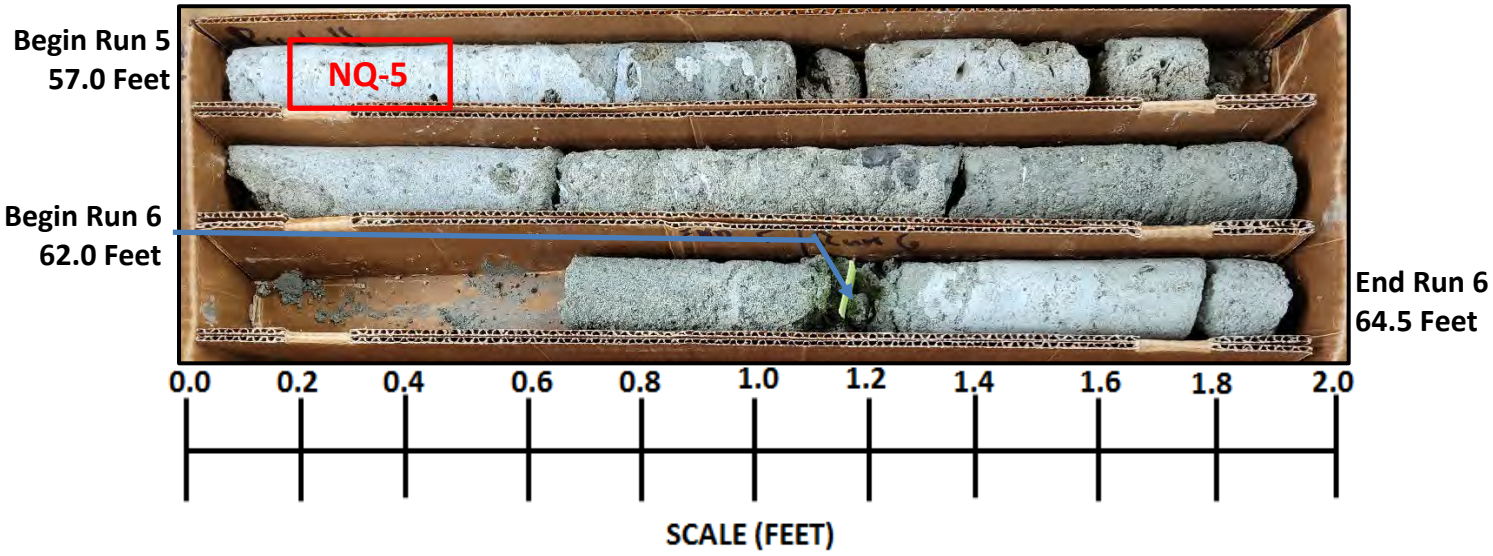




I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-28

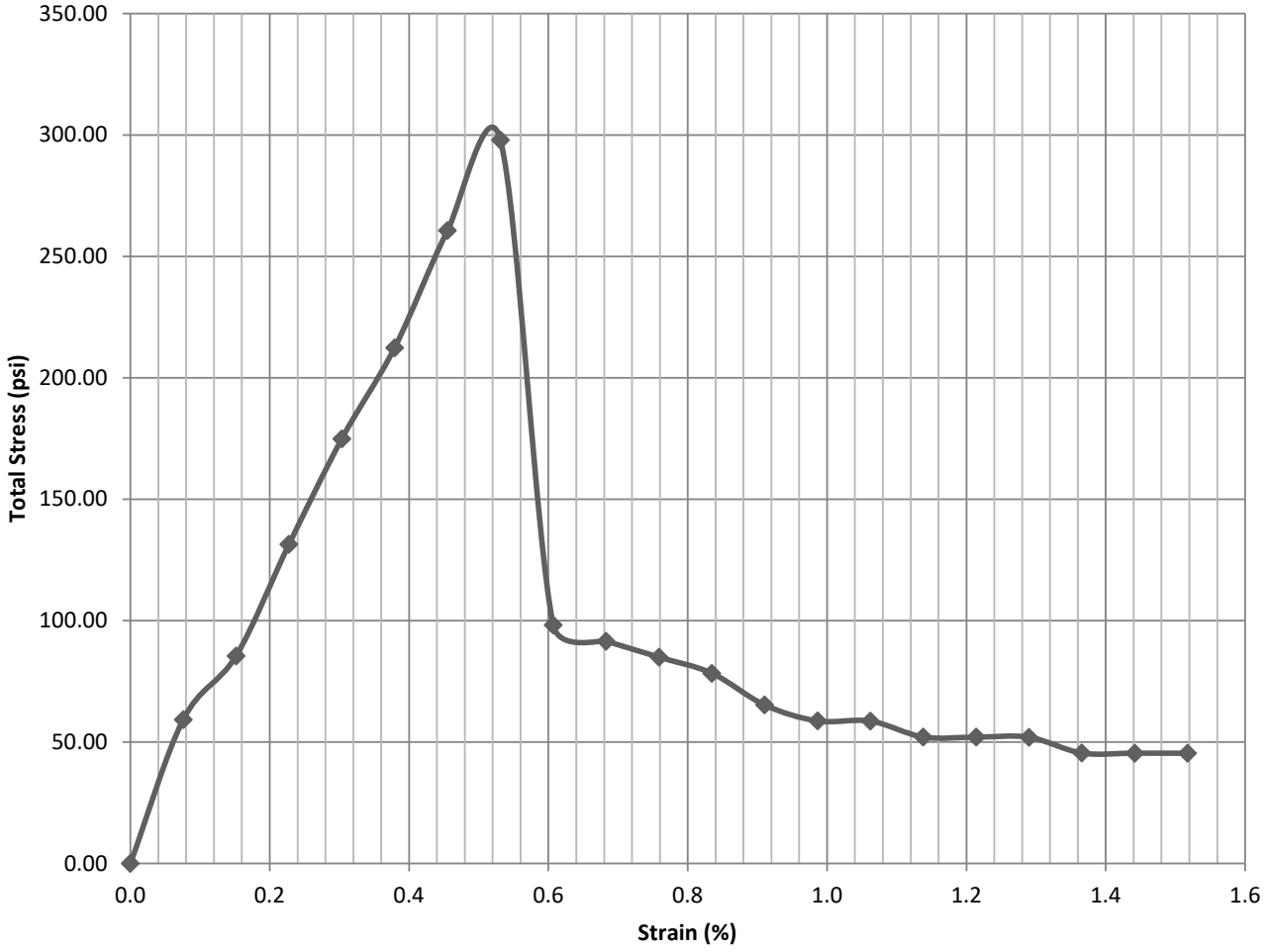


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-28



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0784



Average Initial Diameter (Do):	1.820 in.	Sample Volume:	10.29 in^3
Average Initial Height (Lo):	3.954 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.602 in^2	Sample Weight:	0.660 lbs.
In-Situ Unit Weight:	110.9 pcf	L/D Ratio:	2.173
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-28 / NQ-1		
Depth/Elevation	38.8' - 39.1'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 300 psi ε_{ULT} = 0.5%

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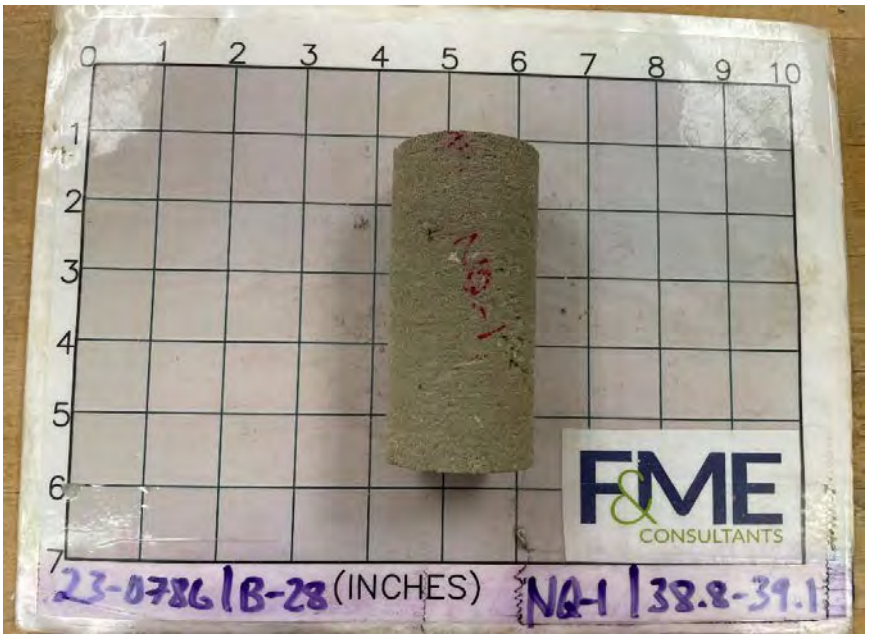
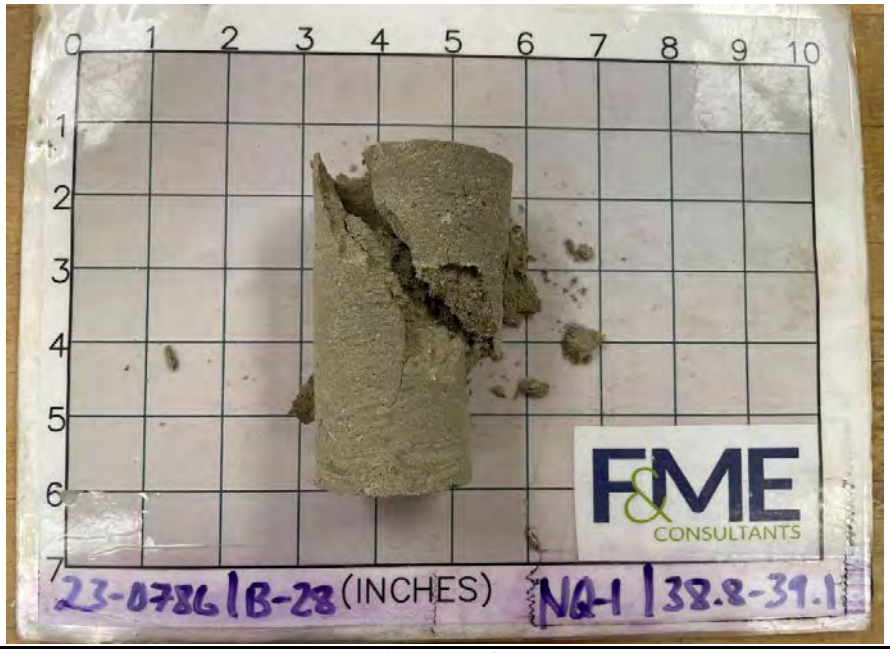
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0784
Sample Location:	B-28 / NQ-1		**Depth of Sample:**	38.8' - 39.1'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	



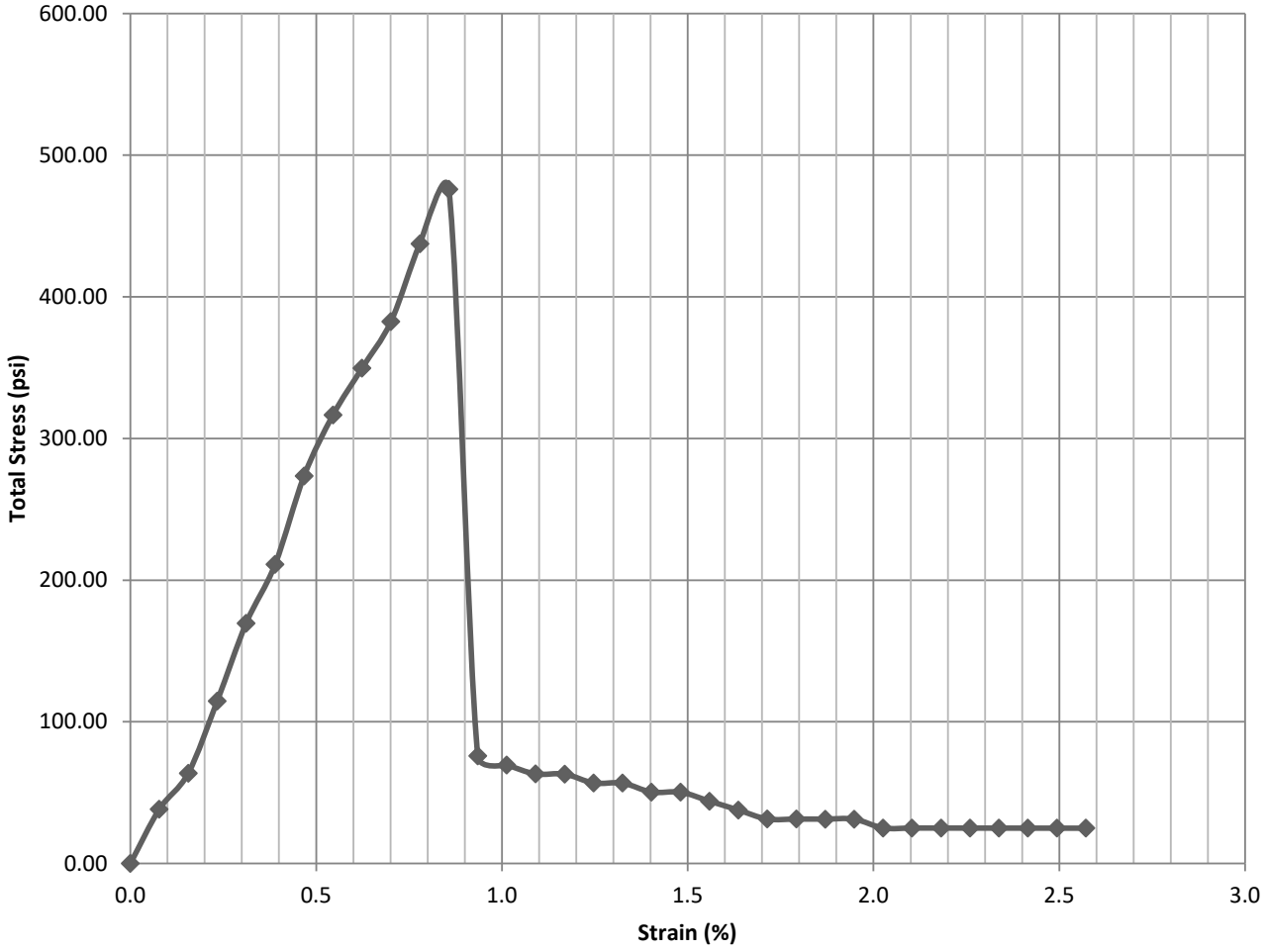
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0784



Average Initial Diameter (Do):	1.848 in.	Sample Volume:	10.33 in^3
Average Initial Height (Lo):	3.850 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.682 in^2	Sample Weight:	0.744 lbs.
In-Situ Unit Weight:	124.6 pcf	L/D Ratio:	2.083
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-28 / NQ-2		
Depth/Elevation	42.1' - 42.4'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 475 psi ε_{ULT} = 0.9%

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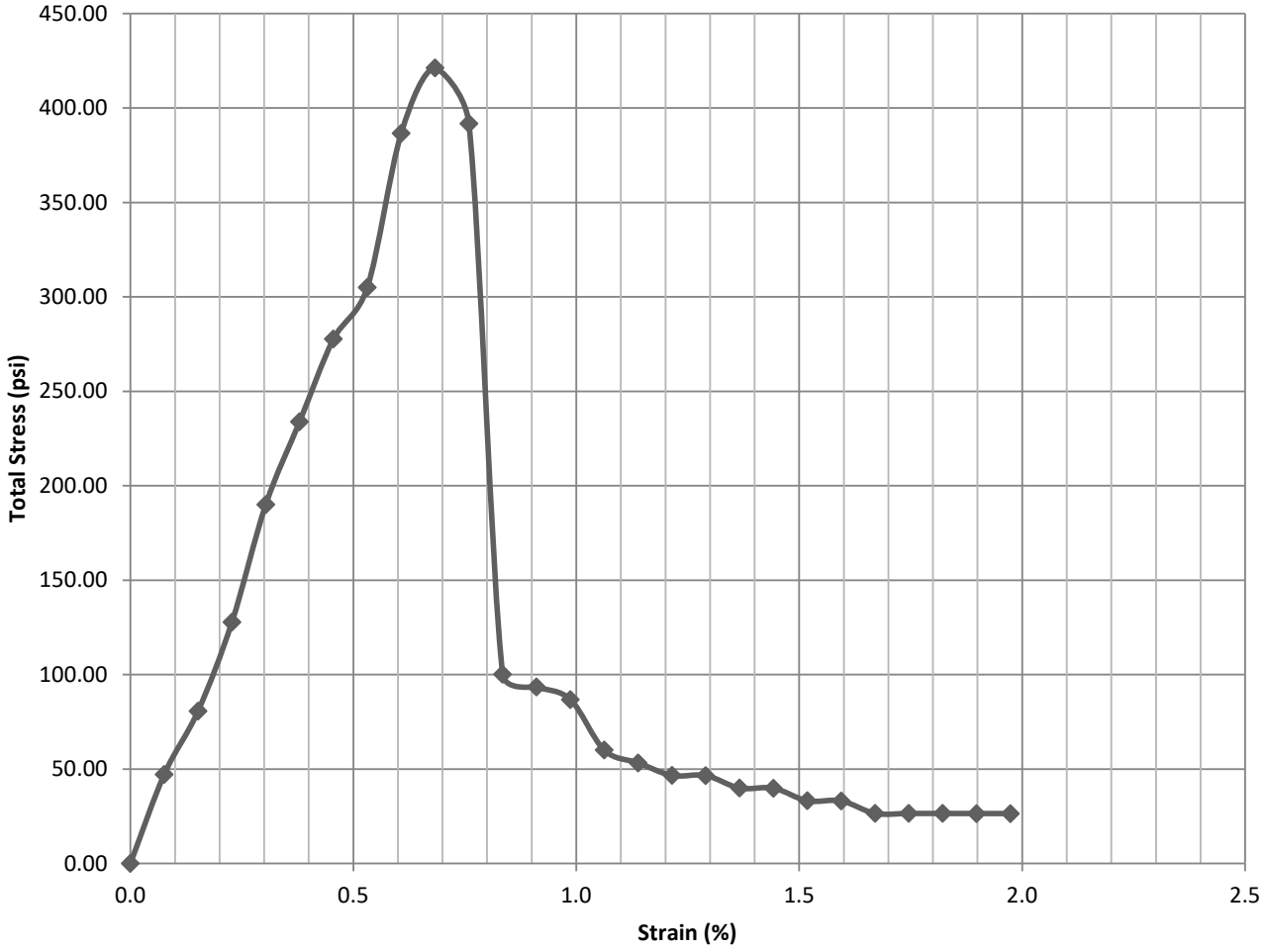
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0784
Sample Location:	B-28 / NQ-2		**Depth of Sample:**	42.1' - 42.4'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0784



Average Initial Diameter (Do):	1.799 in.	Sample Volume:	10.05 in^3
Average Initial Height (Lo):	3.952 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.542 in^2	Sample Weight:	0.693 lbs.
In-Situ Unit Weight:	119.2 pcf	L/D Ratio:	2.197
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-28 / NQ-3		
Depth/Elevation	47.3' - 47.6'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 420 psi ε_{ULT} = 0.7%

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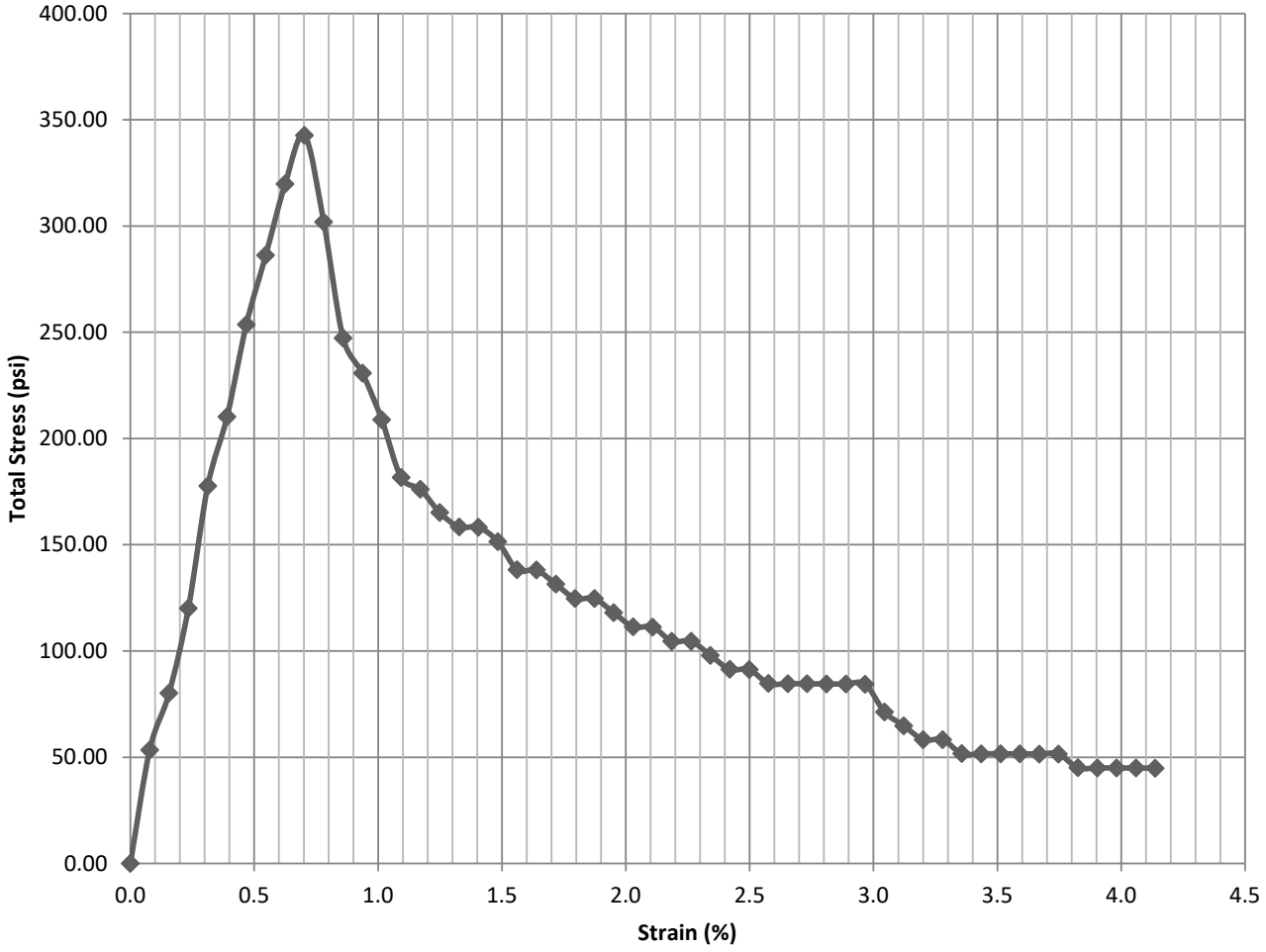
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0784
Sample Location:	B-28 / NQ-3		**Depth of Sample:**	47.3' - 47.6'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0784



Average Initial Diameter (Do):	1.806 in.	Sample Volume:	9.84 in^3
Average Initial Height (Lo):	3.843 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.562 in^2	Sample Weight:	0.693 lbs.
In-Situ Unit Weight:	121.6 pcf	L/D Ratio:	2.128
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-28 / NQ-4		
Depth/Elevation	52.9' - 53.3'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 340 psi ε_{ULT} = 0.7%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0784
Sample Location:	B-28 / NQ-4		Depth of Sample:	52.9' - 53.3'
Tested By:	W. Pitts	Date Tested:	3/29/2023	

Before Break

After Break

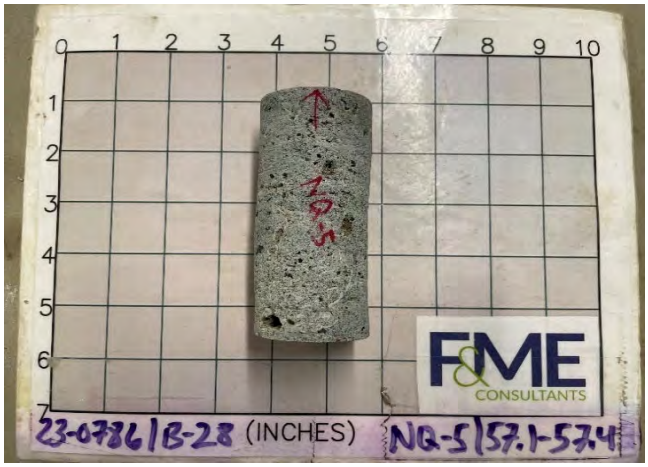
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

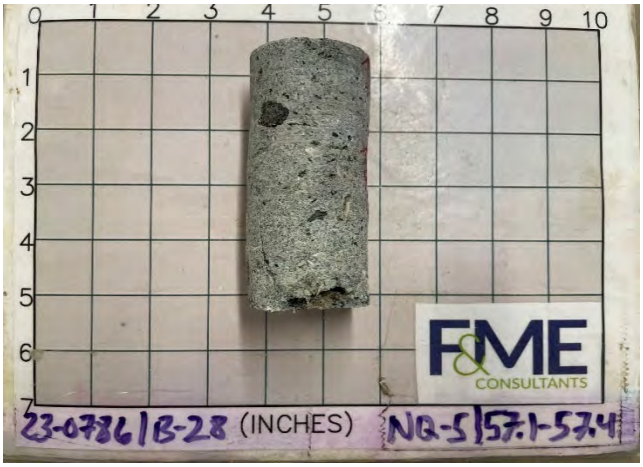
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.983	Reviewed By	WJG
Boring	B-28	Unit Weight (pcf)	151.1	Core Size	NQ
Sample No.	NQ-5 / 23-0784	L/D Ratio	2.13	Recovery	95%
Depth	57.1' - 57.4'	Load Rate (psi/sec)	10	RQD	90%
Description	Gray/Black/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-289	75	2,005	732	5.06	0.26
30%	-456	119	3,043	1,112	4.87	0.26
40%	-641	165	4,040	1,476	4.60	0.26
50%	-810	207	5,084	1,857	4.58	0.26
60%	-964	247	6,073	2,218	4.60	0.26
70%	-1187	305	7,027	2,567	4.32	0.26
80%	-1406	365	8,089	2,955	4.20	0.26
90%	-1675	461	9,065	3,311	3.95	0.28
100%	-2127	654	10,111	3,693		

Sample Photos





Test Results

Unconfined Compressive Strength (psi)	**3,690**	Elastic Modulus (psi)	4.49E+06
		Poisson's Ratio in Elastic Range	0.26
Comments	Elastic range was taken as between 0.0005 and 0.0015 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

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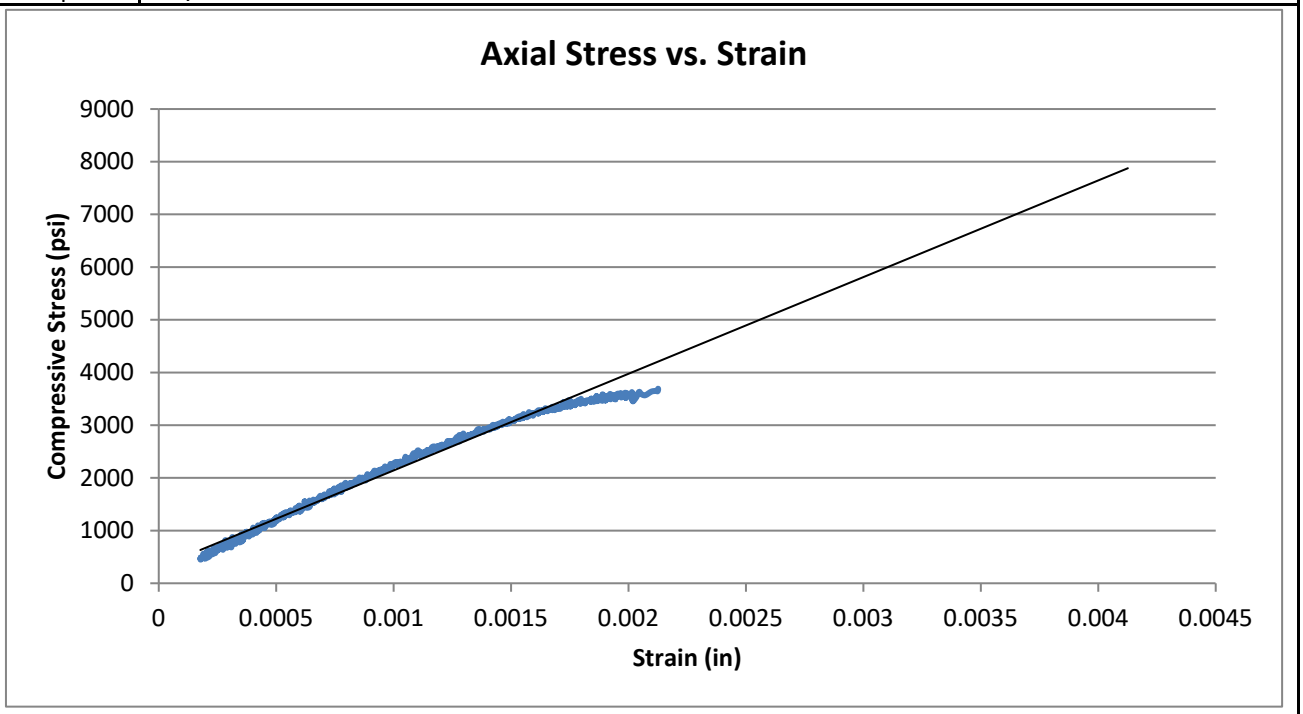
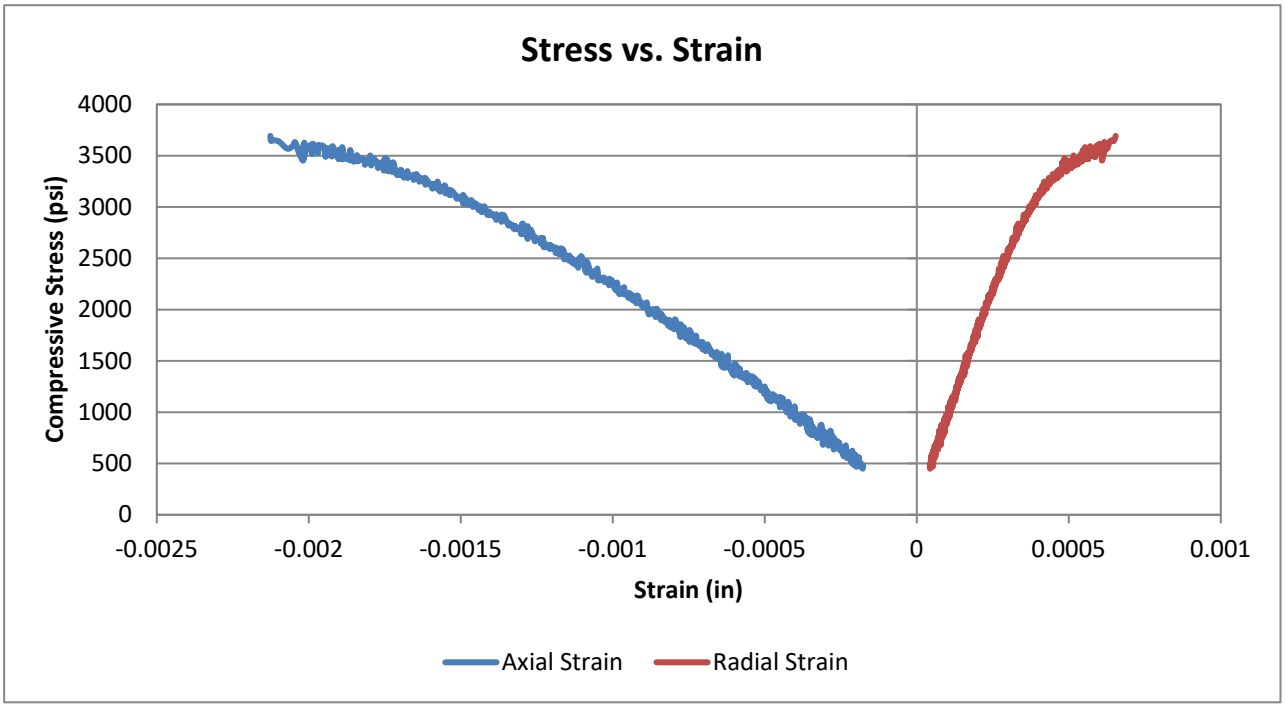
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.983	Reviewed By	WJG
Boring	B-28	Unit Weight (pcf)	151.1	Core Size	NQ
Sample No.	NQ-5 / 23-0784	L/D Ratio	2.13	Recovery	95%
Depth	57.1' - 57.4'	Load Rate (psi/sec)	10	RQD	90%
Description	Gray/Black/White Limestone				





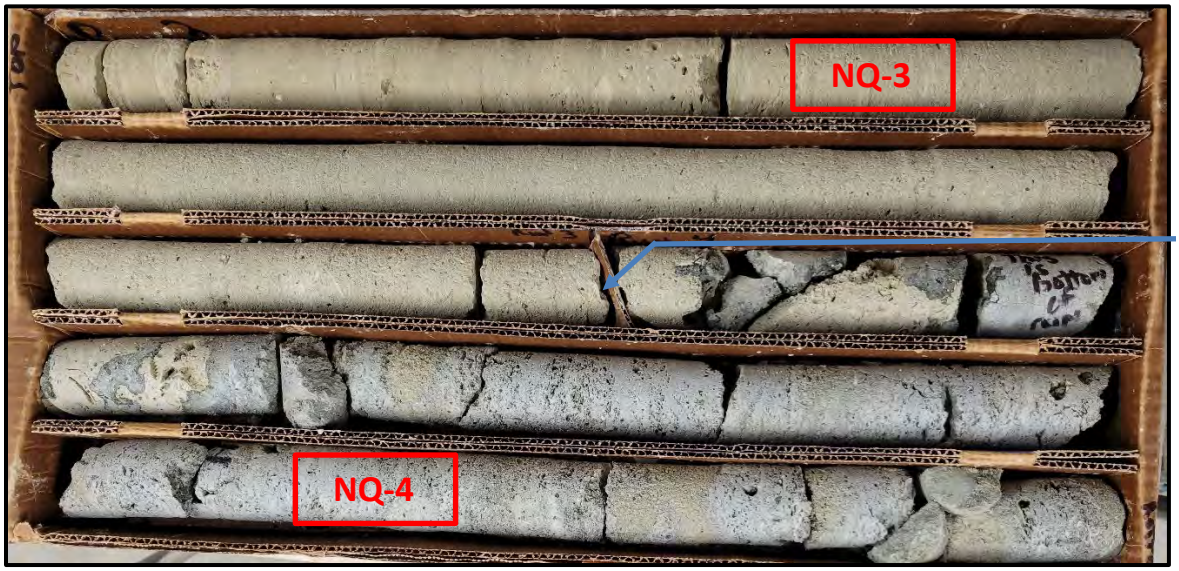
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-30

Begin Run 1
46.3 Feet

Begin Run 2
51.3 Feet

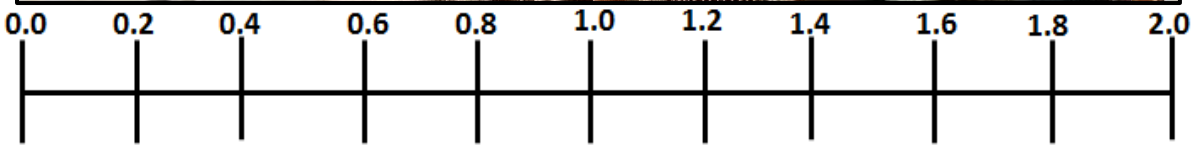
End Run 2
56.3 Feet

Begin Run 3
56.3 Feet



Begin Run 4
61.3 Feet

End Run 4
66.3 Feet

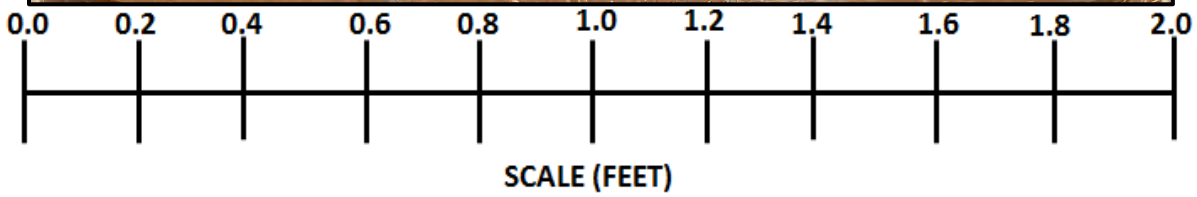


SCALE (FEET)

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-30

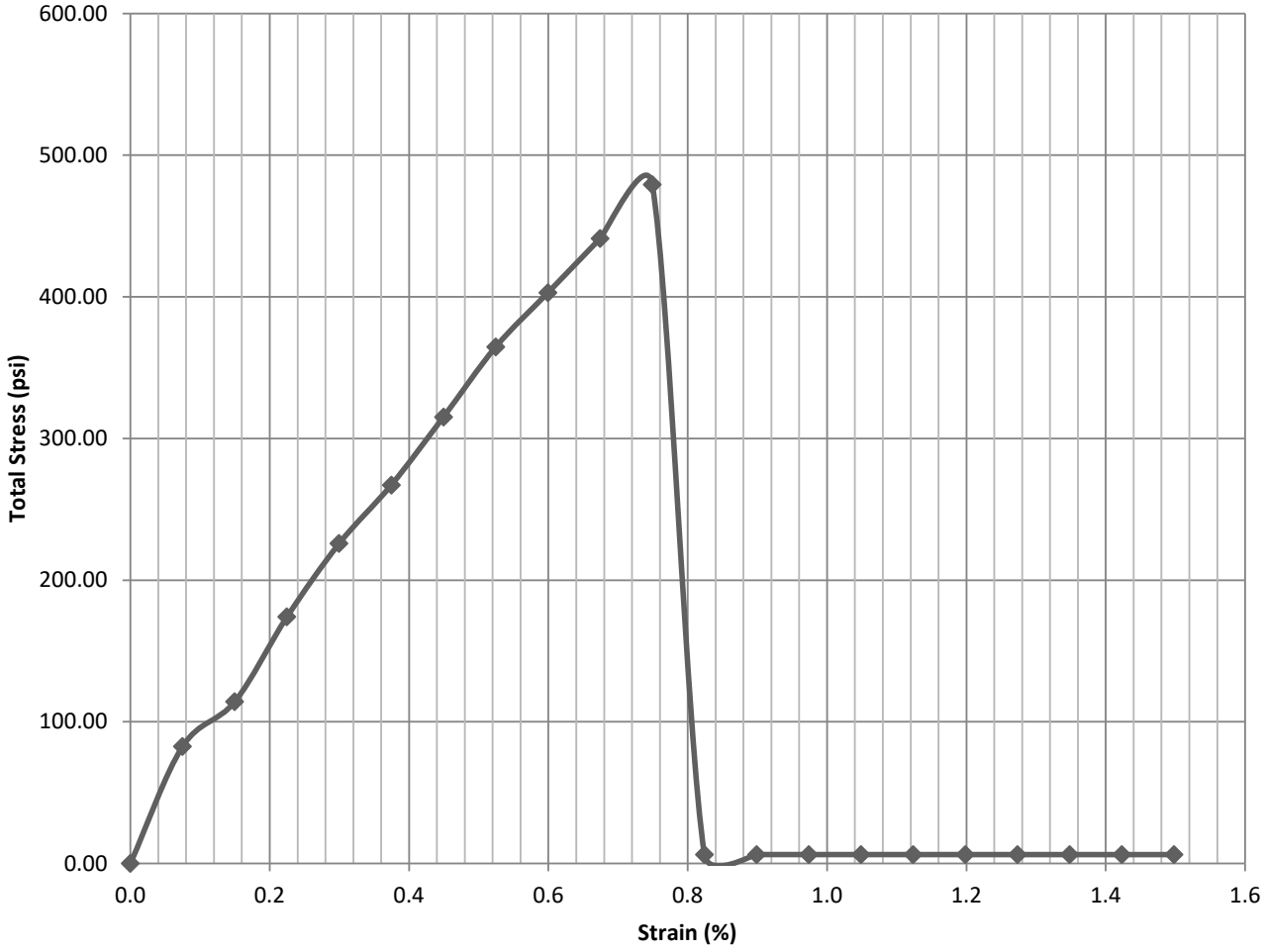
Begin Run 5
66.3 Feet

End Run 5
71.3 Feet



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0684



Average Initial Diameter (Do):	1.853 in.	Sample Volume:	10.80 in^3
Average Initial Height (Lo):	4.005 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.697 in^2	Sample Weight:	0.725 lbs.
In-Situ Unit Weight:	116.0 pcf	L/D Ratio:	2.161
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-30 / NQ-2		
Depth/Elevation	54.5' - 54.8'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 480 psi ε_{ULT} = 0.7%

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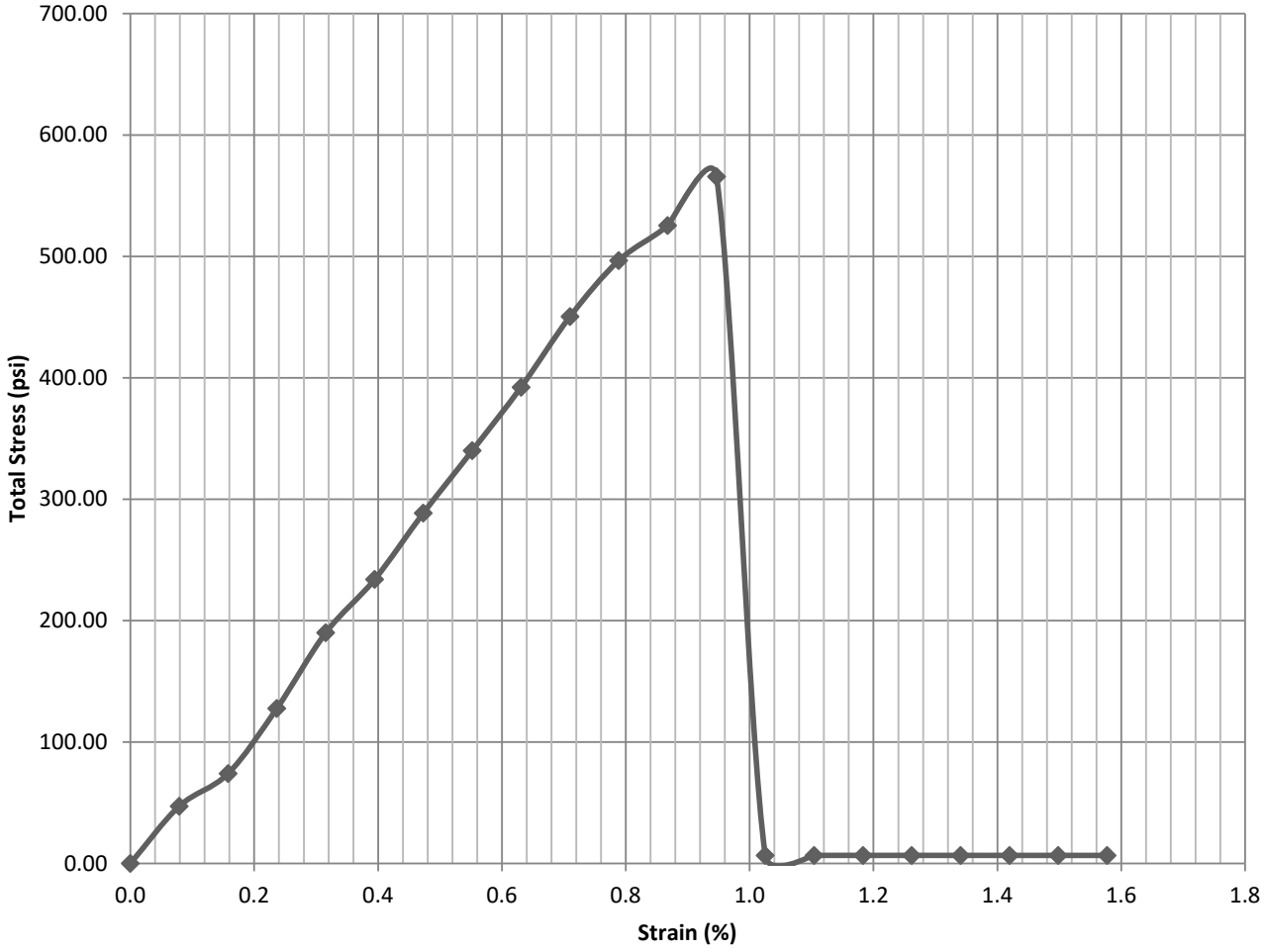
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0684
Sample Location:	B-30 / NQ-2		**Depth of Sample:**	54.5' - 54.8'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0684



Average Initial Diameter (Do):	1.799 in.	Sample Volume:	9.67 in^3
Average Initial Height (Lo):	3.804 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.542 in^2	Sample Weight:	0.651 lbs.
In-Situ Unit Weight:	116.3 pcf	L/D Ratio:	2.115
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-30 / NQ-3		
Depth/Elevation	57.7' - 58.1'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 565 psi ε_{ULT} = 0.9%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0684
Sample Location:	B-30 / NQ-3		**Depth of Sample:**	57.7' - 58.1'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	

Before Break

After Break

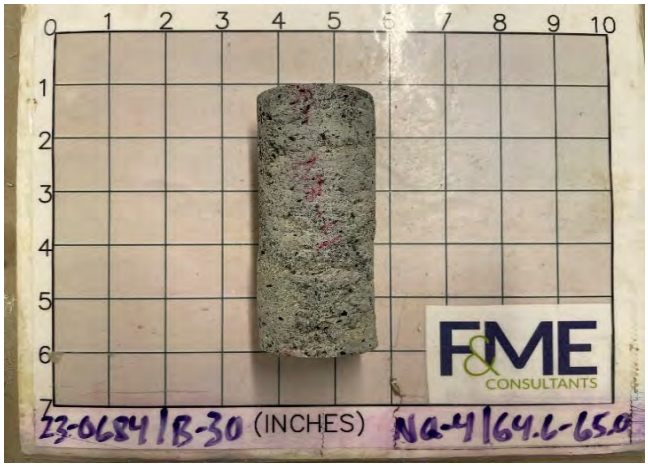
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.06	Reviewed By	WJG
Boring	B-30	Unit Weight (pcf)	144.3	Core Size	NQ
Sample No.	NQ-4 / 23-0684	L/D Ratio	2.18	Recovery	95%
Depth	64.6' - 65.0'	Load Rate (psi/sec)	10	RQD	53%
Description	Gray/White/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%	-770	115	1,913	700	1.82	0.15
40%	-1004	171	2,544	931	1.85	0.17
50%	-1258	242	3,197	1,170	1.86	0.19
60%	-1557	414	3,849	1,409	1.81	0.27
70%	-1812	611	4,483	1,641	1.81	0.34
80%	-2129	880	5,065	1,854	1.74	0.41
90%	-2573	1185	5,705	2,088	1.62	0.46
100%	-3508	2311	6,336	2,319		

Sample Photos

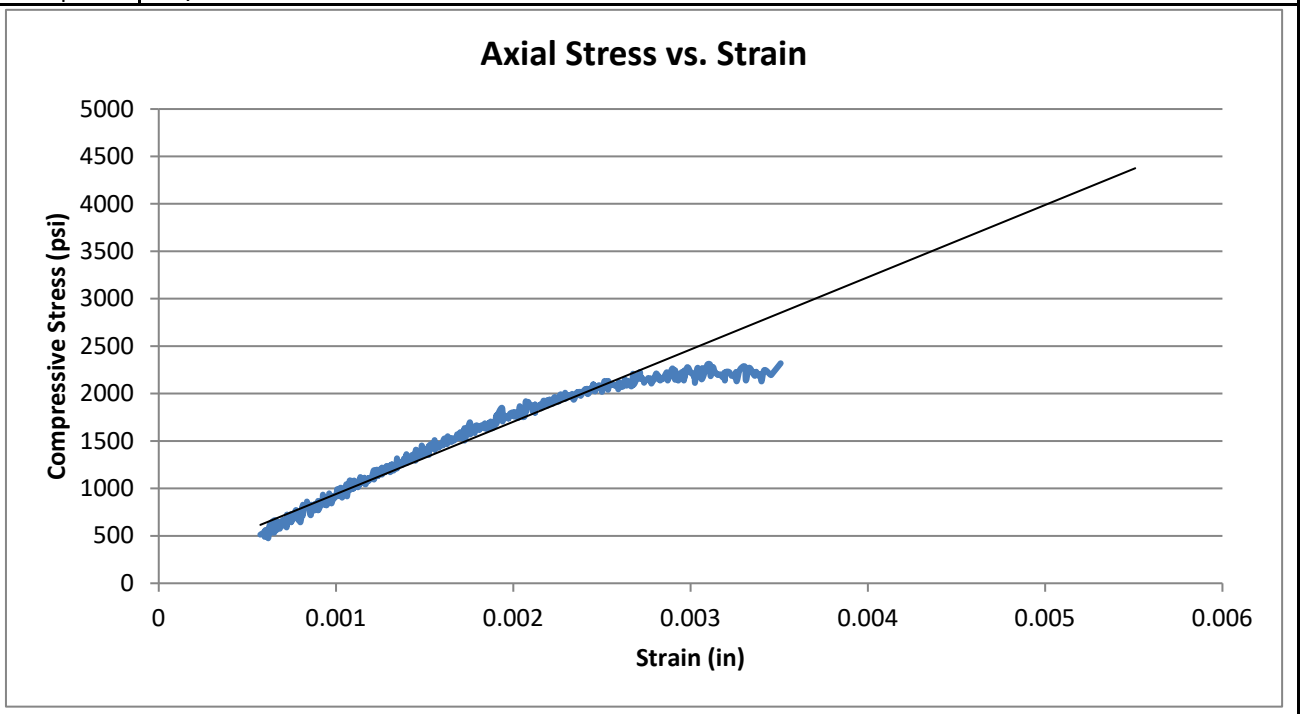


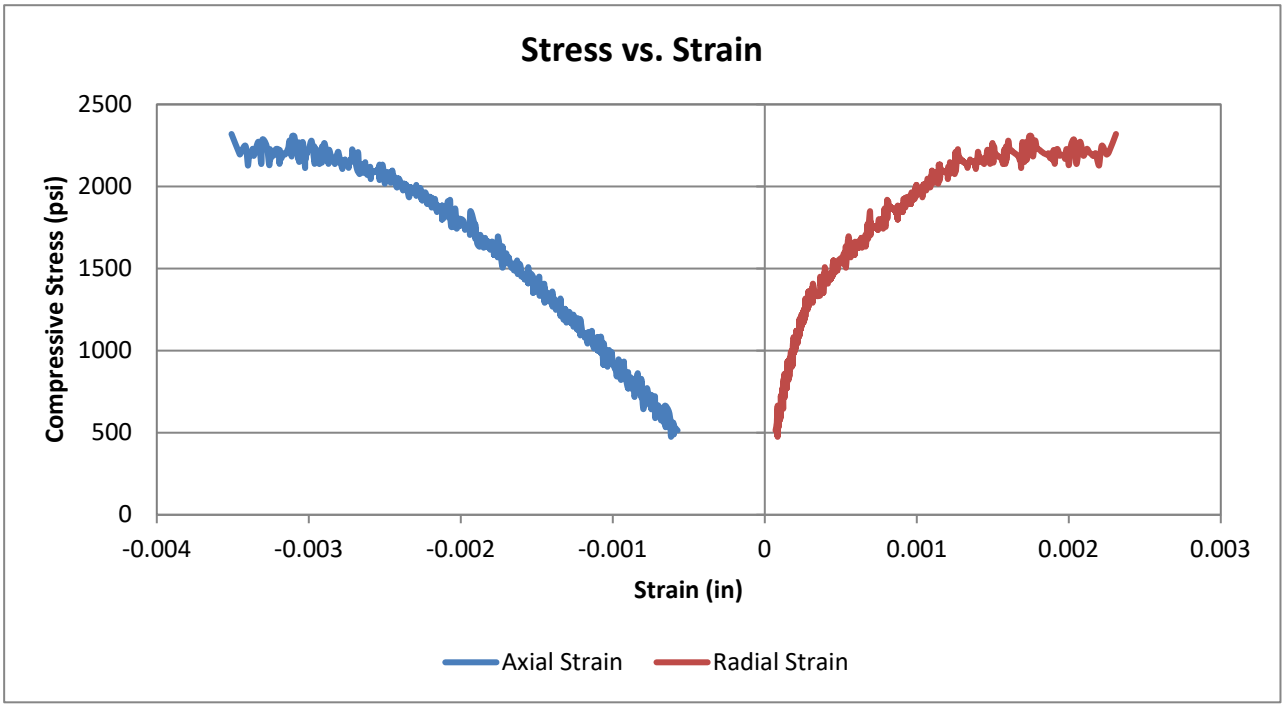
Test Results

Unconfined Compressive Strength (psi)	**2,320**	Elastic Modulus (psi)	1.84E+06
		Poisson's Ratio in Elastic Range	0.25
Comments	Elastic range was taken as between 0.001 and 0.002 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

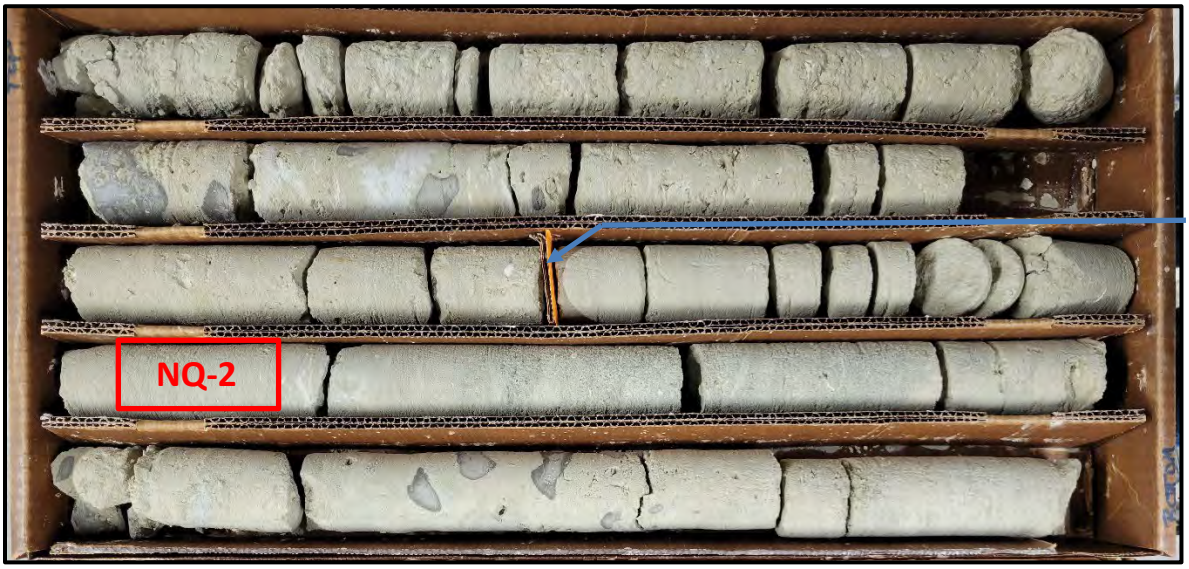
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

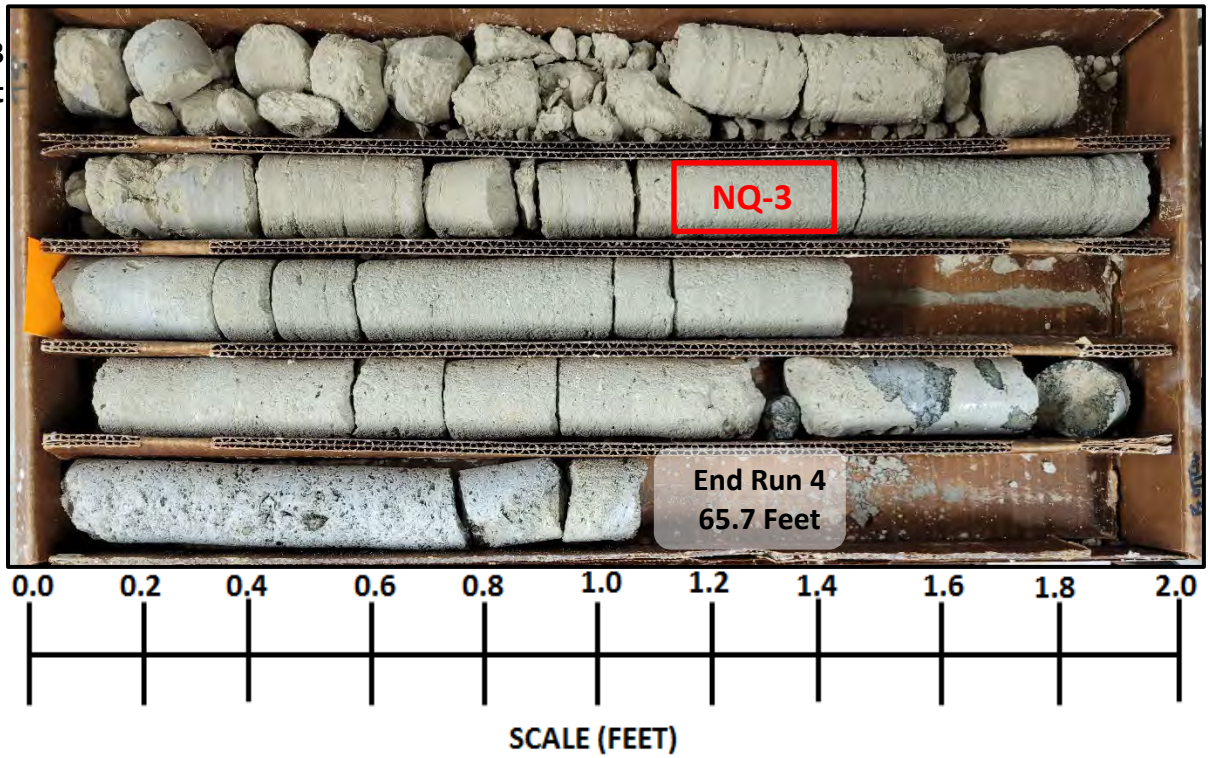
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.06	Reviewed By	WJG
Boring	B-30	Unit Weight (pcf)	144.3	Core Size	NQ
Sample No.	NQ-4 / 23-0684	L/D Ratio	2.18	Recovery	95%
Depth	64.6' - 65.0'	Load Rate (psi/sec)	10	RQD	53%
Description	Gray/White/Black Limestone				



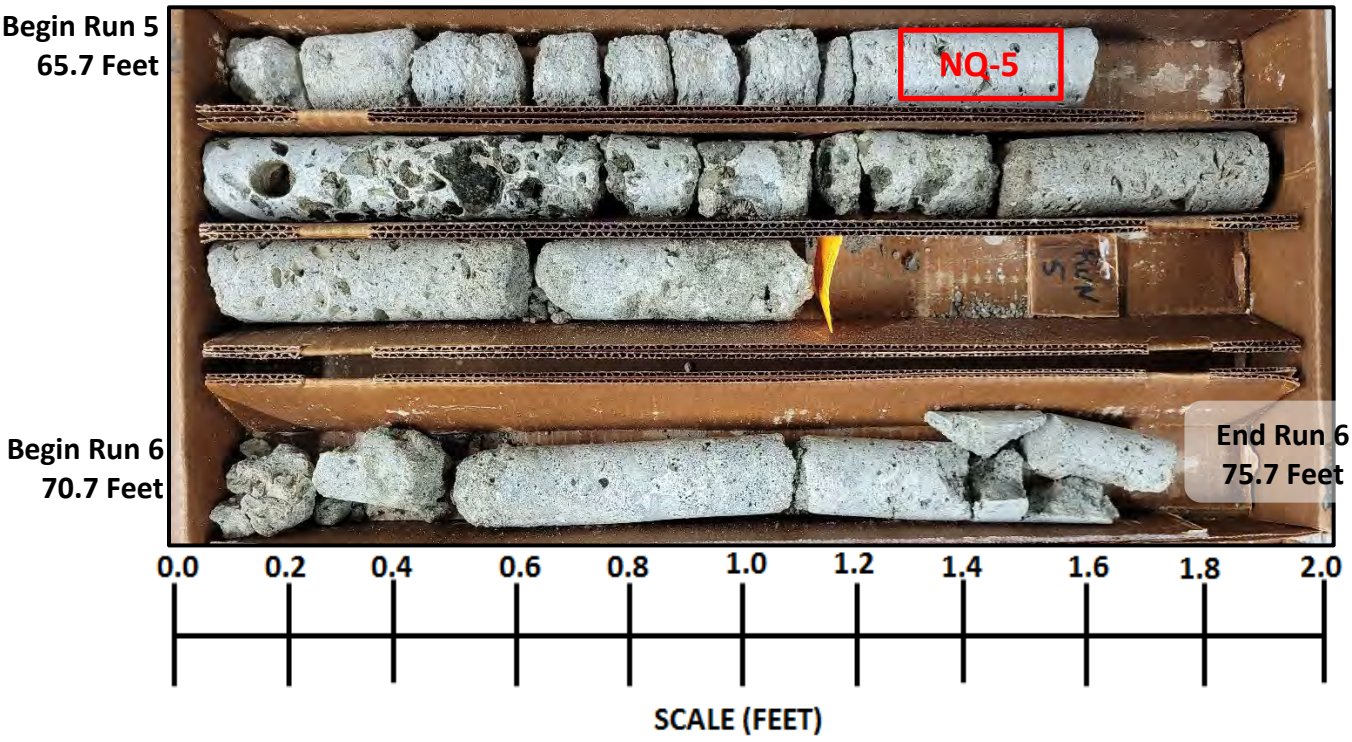


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-31





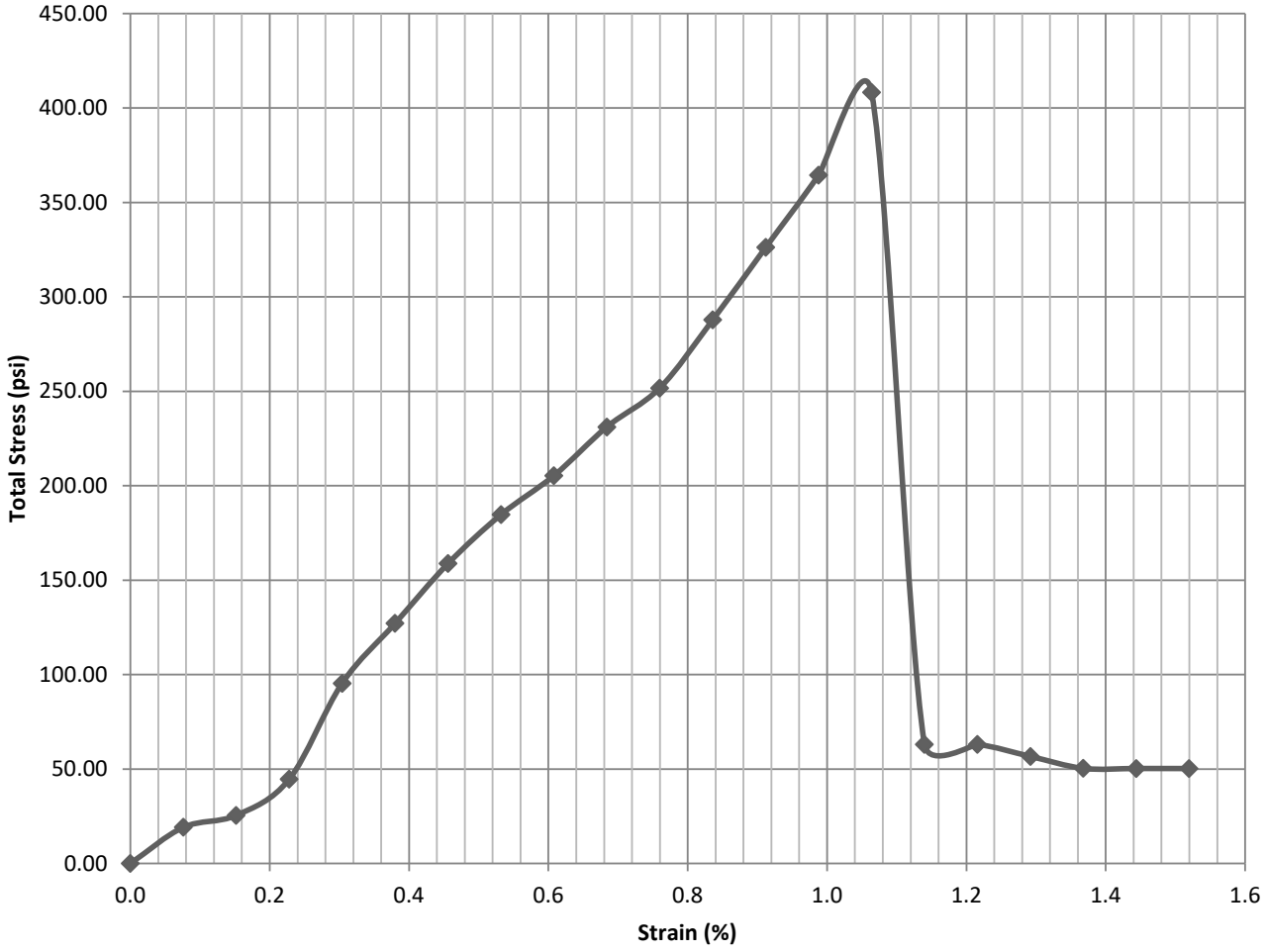
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-31



Run 7: %REC=0, %RQD=0

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1262



Average Initial Diameter (Do):	1.849 in.	Sample Volume:	10.60 in^3
Average Initial Height (Lo):	3.948 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.685 in^2	Sample Weight:	0.748 lbs.
In-Situ Unit Weight:	122.0 pcf	L/D Ratio:	2.135
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-31 / NQ-2		
Depth/Elevation	51.9' - 52.2'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 410 psi ε_{ULT} = 1.1%

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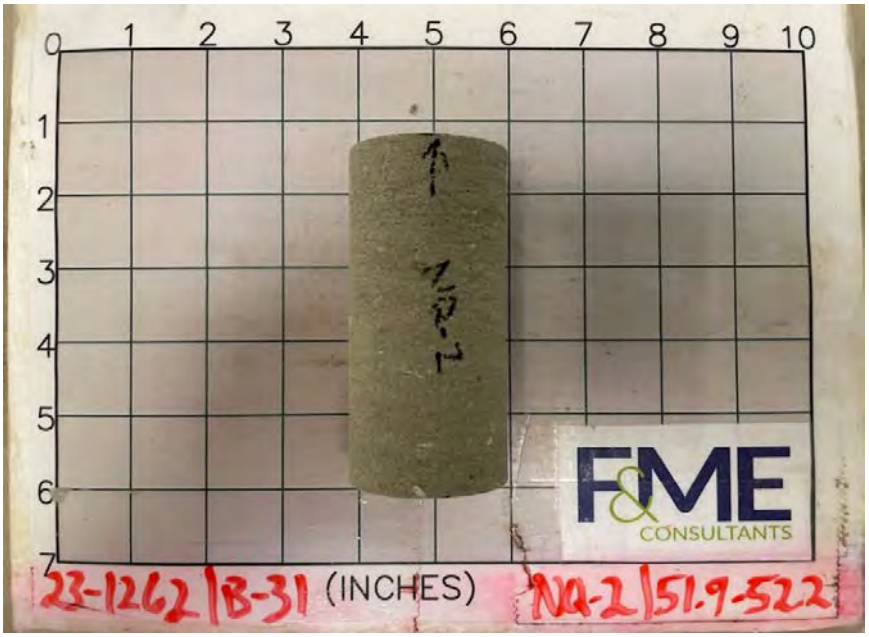
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1262
Sample Location:	B-31 / NQ-2		**Depth of Sample:**	51.9' - 52.2'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

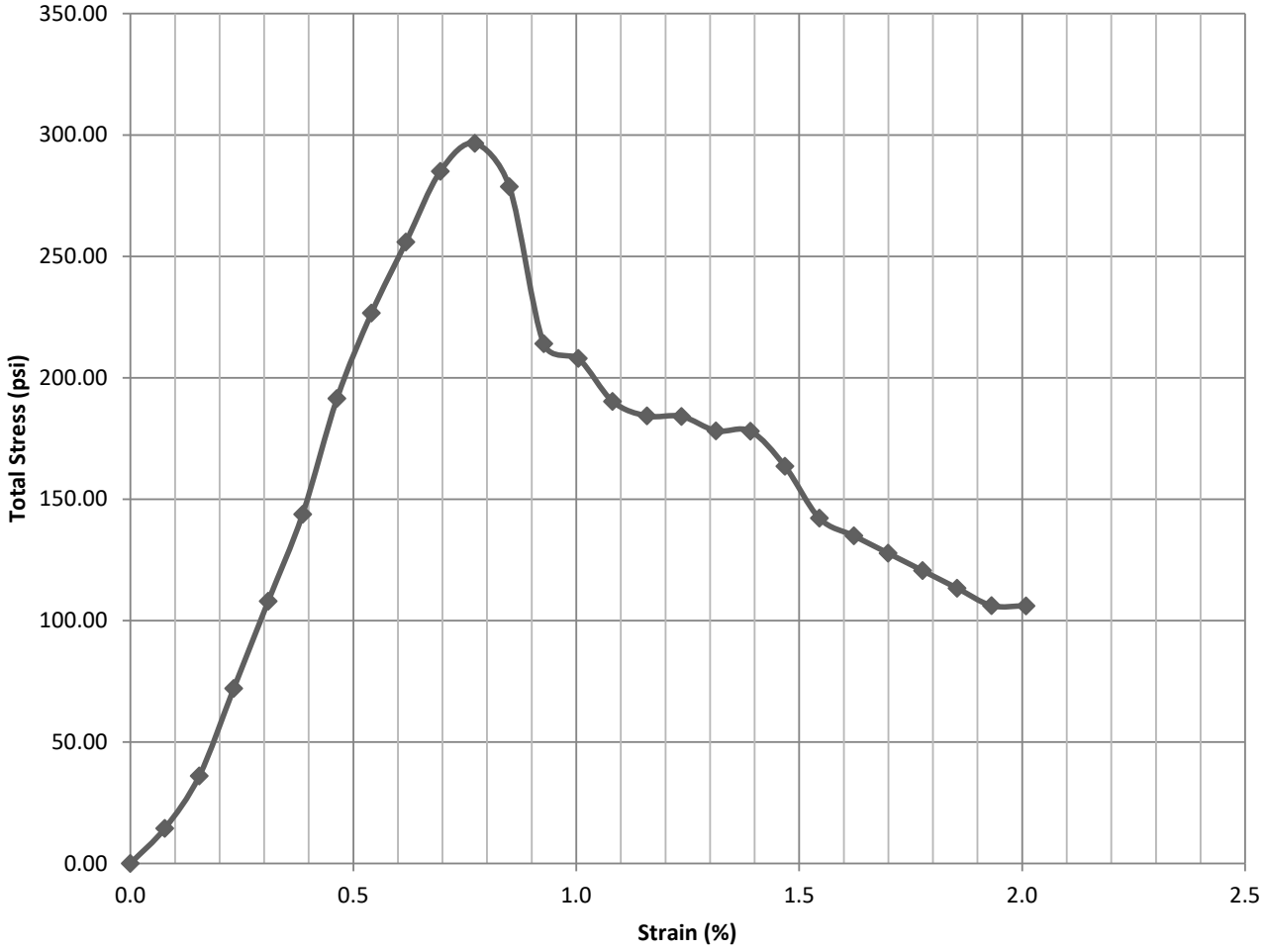


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1262



Average Initial Diameter (Do):	1.738 in.	Sample Volume:	9.21 in^3
Average Initial Height (Lo):	3.883 in.	Sample Volume:	0.005 ft^3
Average Initial Area (Ao):	2.372 in^2	Sample Weight:	0.635 lbs.
In-Situ Unit Weight:	119.1 pcf	L/D Ratio:	2.234
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-31 / NQ-3		
Depth/Elevation	58.6' - 59.0'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 300 psi ε_{ULT} = 0.8%

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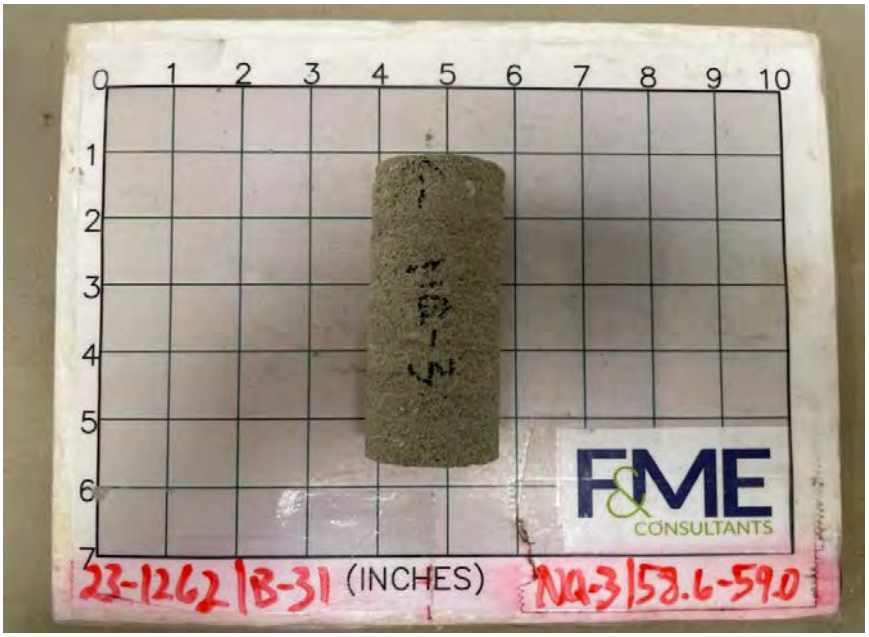
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1262
Sample Location:	B-31 / NQ-3		**Depth of Sample:**	58.6' - 59.0'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

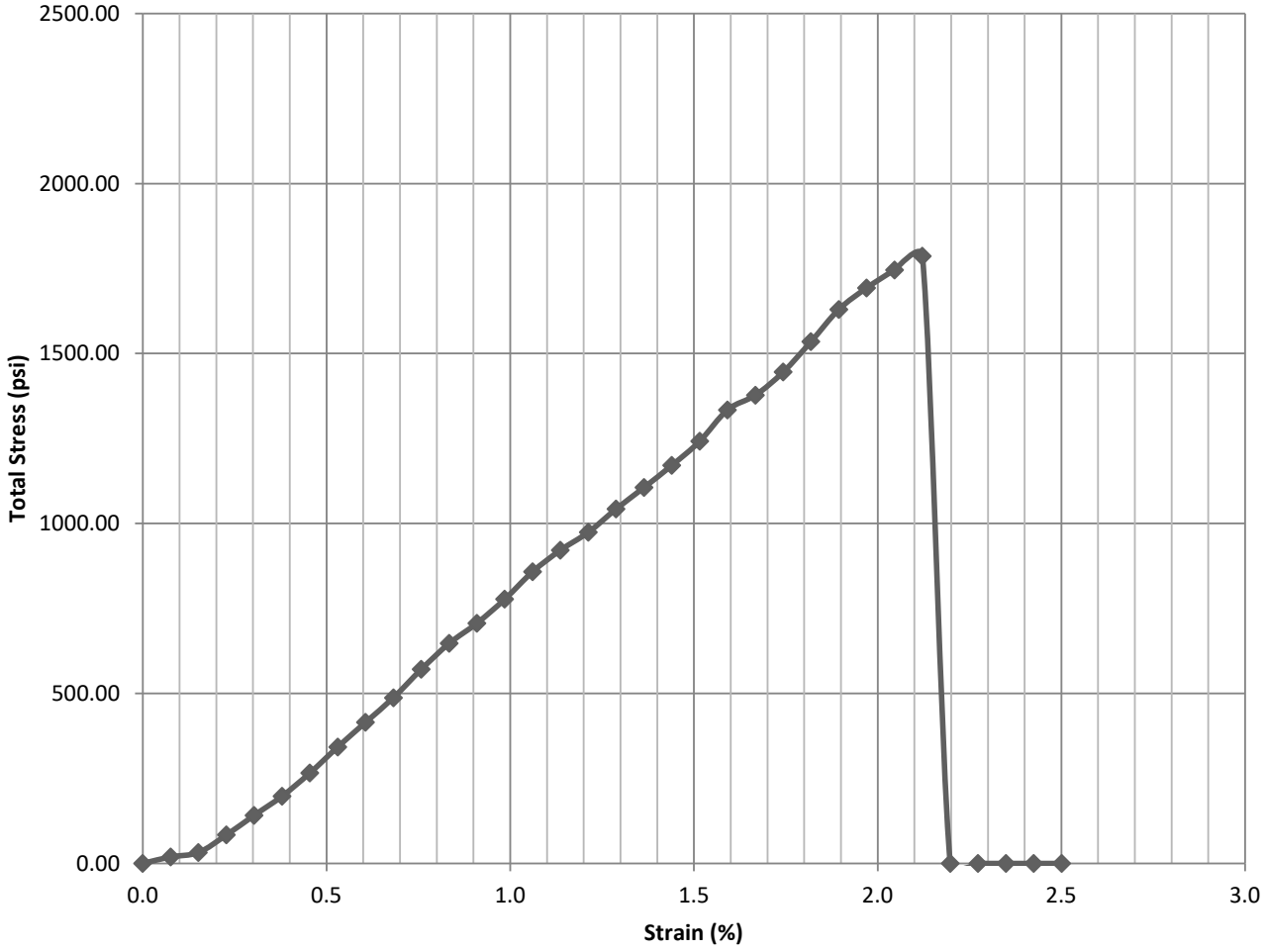


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1262



Average Initial Diameter (Do):	1.838 in.	Sample Volume:	10.50 in^3
Average Initial Height (Lo):	3.959 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.653 in^2	Sample Weight:	0.830 lbs.
In-Situ Unit Weight:	136.5 pcf	L/D Ratio:	2.154
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/10/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-31 / NQ-4		
Depth/Elevation	64.2' - 64.5'		

Sample Type : Soil Core
Target Strain Rate : 0.60% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 1785 psi ε_{ULT} = 2.1%

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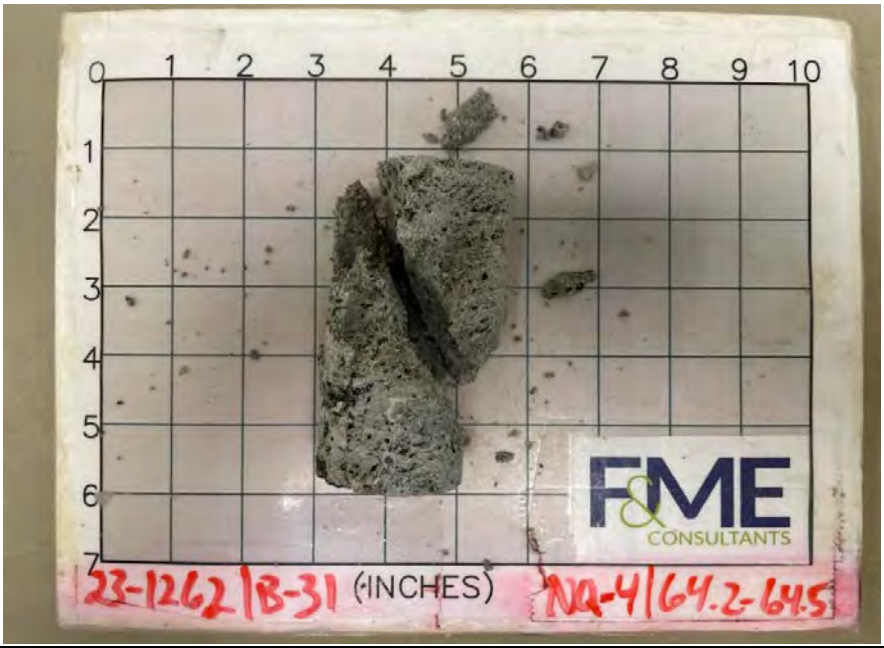
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1262
Sample Location:	B-31 / NQ-4		**Depth of Sample:**	64.2' - 64.5'
Tested By:	W. Pitts	**Date Tested:**	5/10/2023	

Before Break



After Break

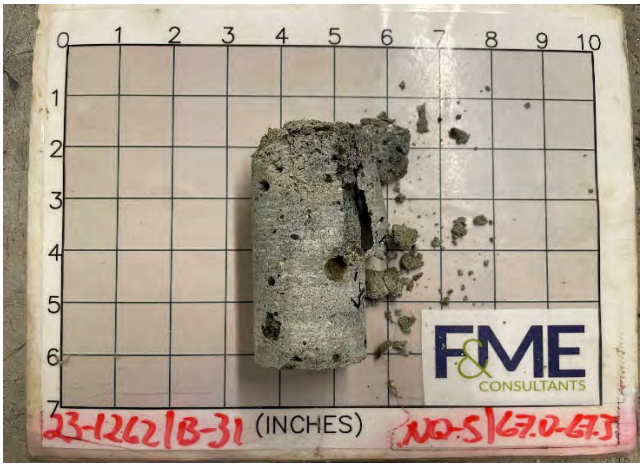
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.86	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.916	Reviewed By	WJG
Boring	B-31	Unit Weight (pcf)	150.8	Core Size	NQ
Sample No.	NQ-5 / 23-1262	L/D Ratio	2.11	Recovery	93%
Depth	67.0' - 67.3'	Load Rate (psi/sec)	10	RQD	71%
Description	Gray/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-181	50	1,221	449	4.97	0.28
30%	-242	95	1,848	680	5.63	0.39
40%	-318	142	2,484	914	5.75	0.45
50%	-412	198	3,073	1,131	5.49	0.48
60%	-510	248	3,695	1,360	5.33	0.49
70%	-619	284	4,307	1,585	5.12	0.46
80%	-709	307	4,930	1,814	5.12	0.43
90%	-840	337	5,536	2,037	4.85	0.40
100%	-962	535	6,158	2,266		

Sample Photos

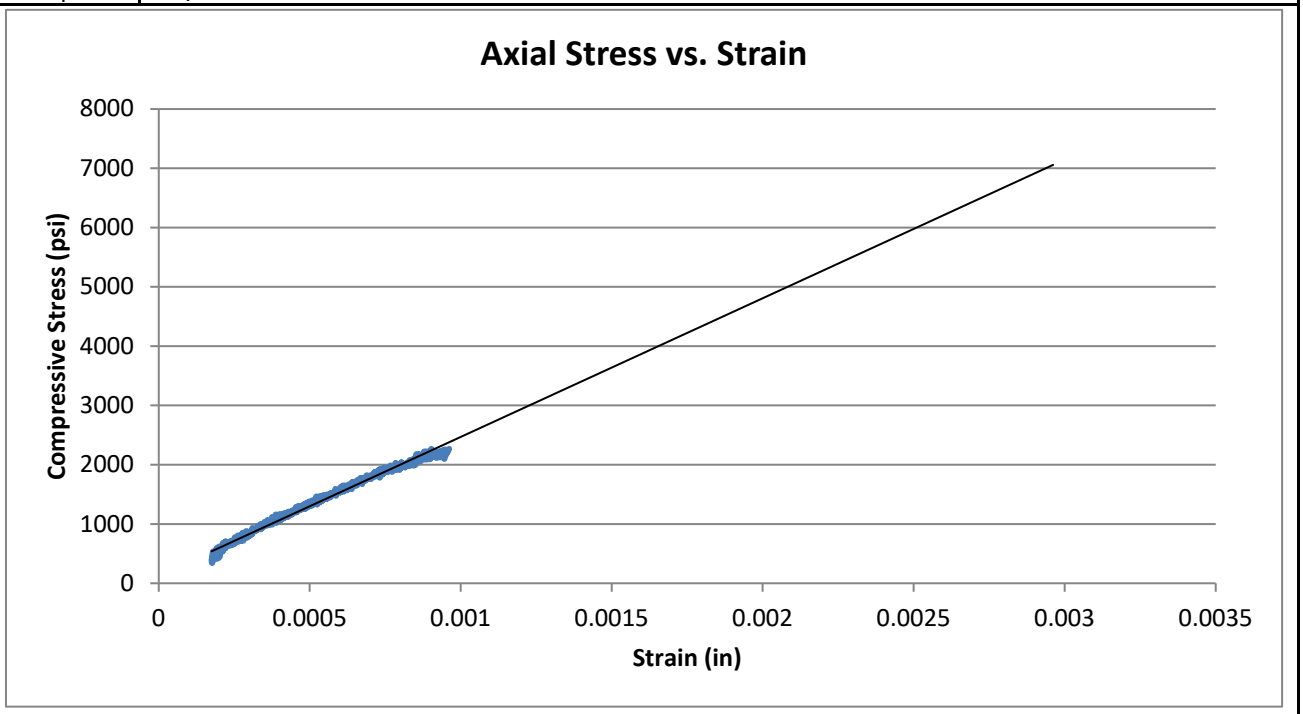


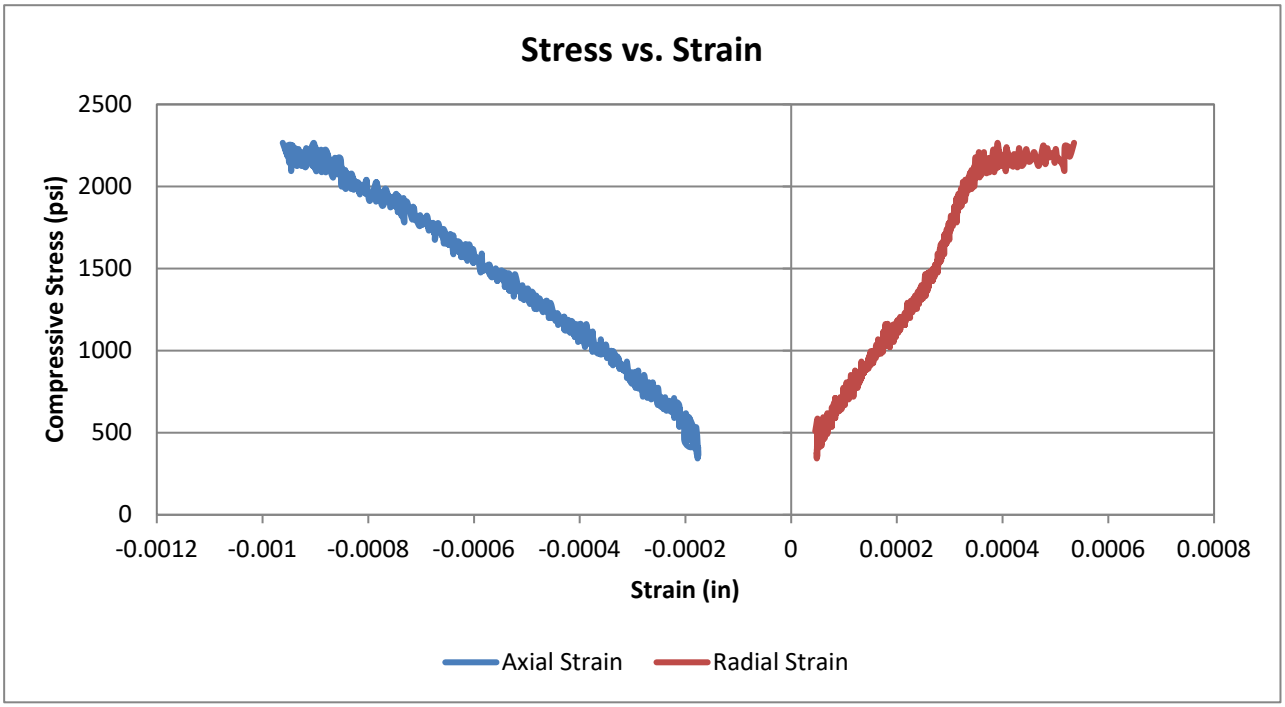
Test Results

Unconfined Compressive Strength (psi)	**2,270**	Elastic Modulus (psi)	5.23E+06
		Poisson's Ratio in Elastic Range	0.46
Comments	Elastic range was taken as between 0.0004 and 0.0008 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range. The measured Poission's Ratio is higher than typically observed values and should be used with care.		

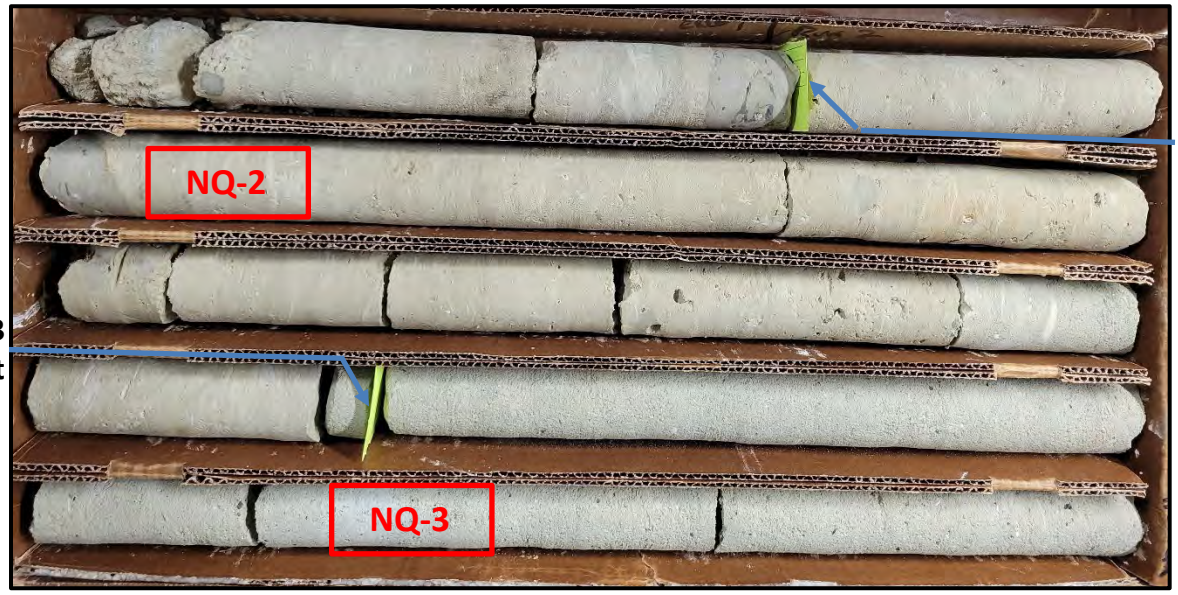
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

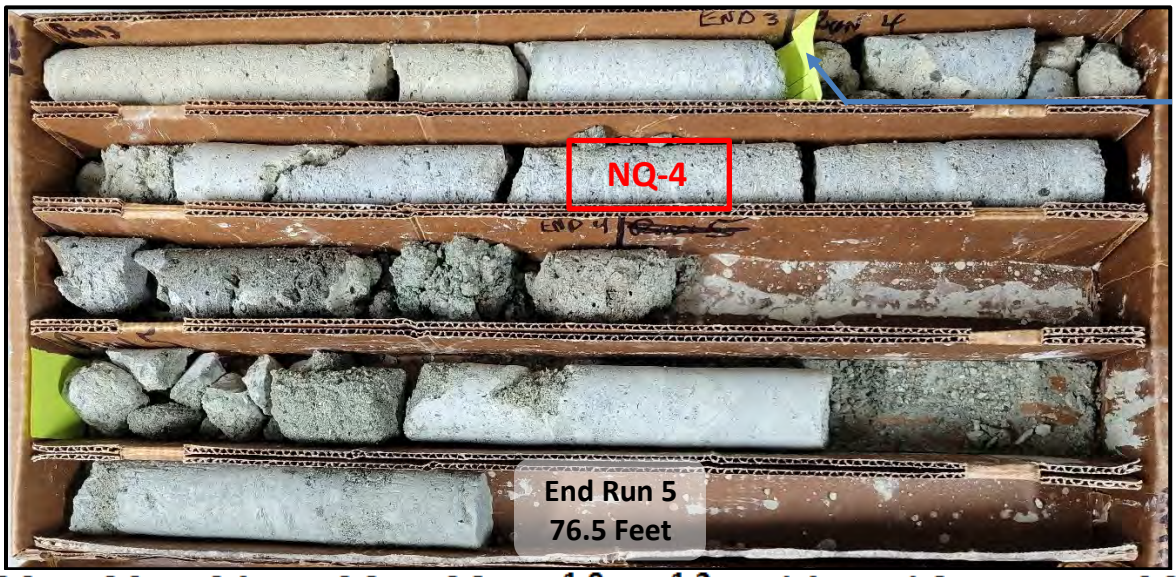
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.86	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.916	Reviewed By	WJG
Boring	B-31	Unit Weight (pcf)	150.8	Core Size	NQ
Sample No.	NQ-5 / 23-1262	L/D Ratio	2.11	Recovery	93%
Depth	67.0' - 67.3'	Load Rate (psi/sec)	10	RQD	71%
Description	Gray/Black Limestone				





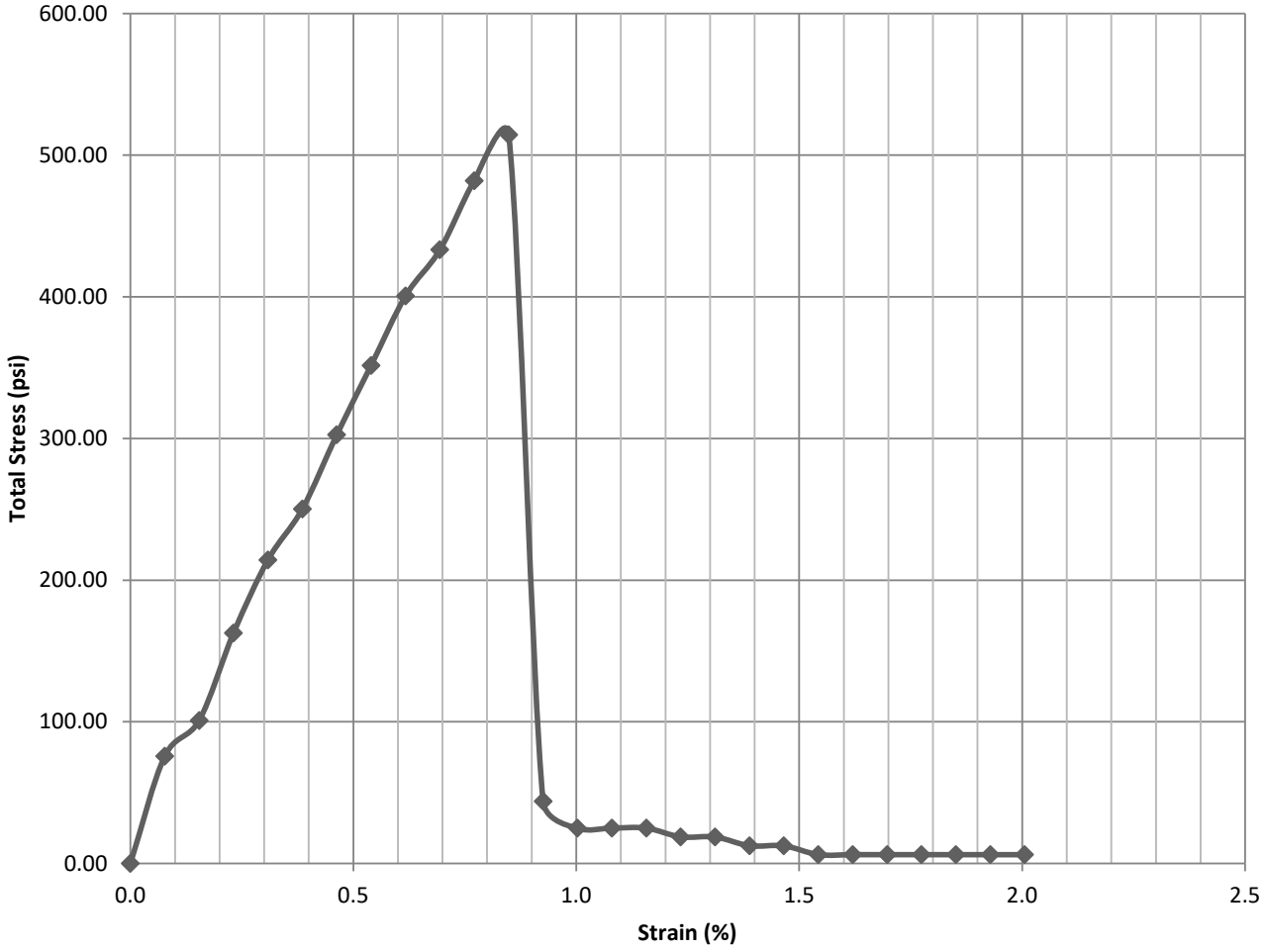
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-32





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0685



Average Initial Diameter (Do):	1.858 in.	Sample Volume:	10.54 in^3
Average Initial Height (Lo):	3.889 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.711 in^2	Sample Weight:	0.668 lbs.
In-Situ Unit Weight:	109.4 pcf	L/D Ratio:	2.093
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/29/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-32 / NQ-2		
Depth/Elevation	57.3' - 57.7'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 515 psi ε_{ULT} = 0.8%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0685
Sample Location:	B-32 / NQ-2		**Depth of Sample:**	57.3' - 57.7'
Tested By:	W. Pitts	**Date Tested:**	3/29/2023	

Before Break

After Break

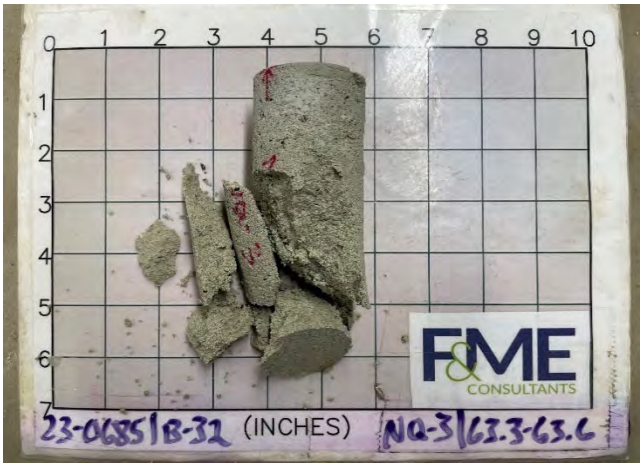
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.846	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.905	Reviewed By	WJG
Boring	B-32	Unit Weight (pcf)	132.4	Core Size	NQ
Sample No.	NQ-3 / 23-0685A	L/D Ratio	2.12	Recovery	95%
Depth	63.3' - 63.6'	Load Rate (psi/sec)	10	RQD	90%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%	-939	136	1,062	397	0.85	0.14
60%	-1059	167	1,237	462	0.87	0.16
70%	-1256	218	1,432	535	0.85	0.17
80%	-1611	330	1,648	616	0.76	0.20
90%	-1720	387	1,873	700	0.81	0.23
100%	-1945	463	2,063	771		

Sample Photos



Test Results

Unconfined Compressive Strength (psi)	**770**	Elastic Modulus (psi)	7.99E+05
		Poisson's Ratio in Elastic Range	0.19
Comments	Elastic range was taken as between 0.001 and 0.0018 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

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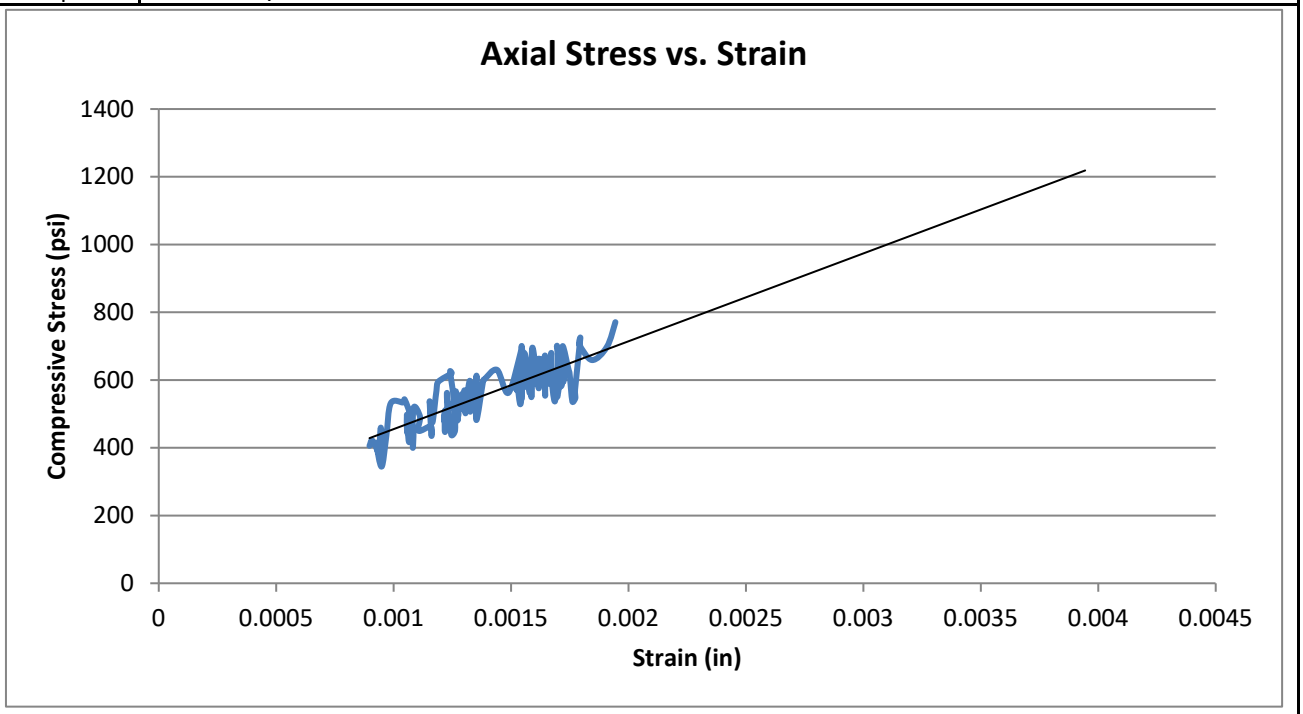
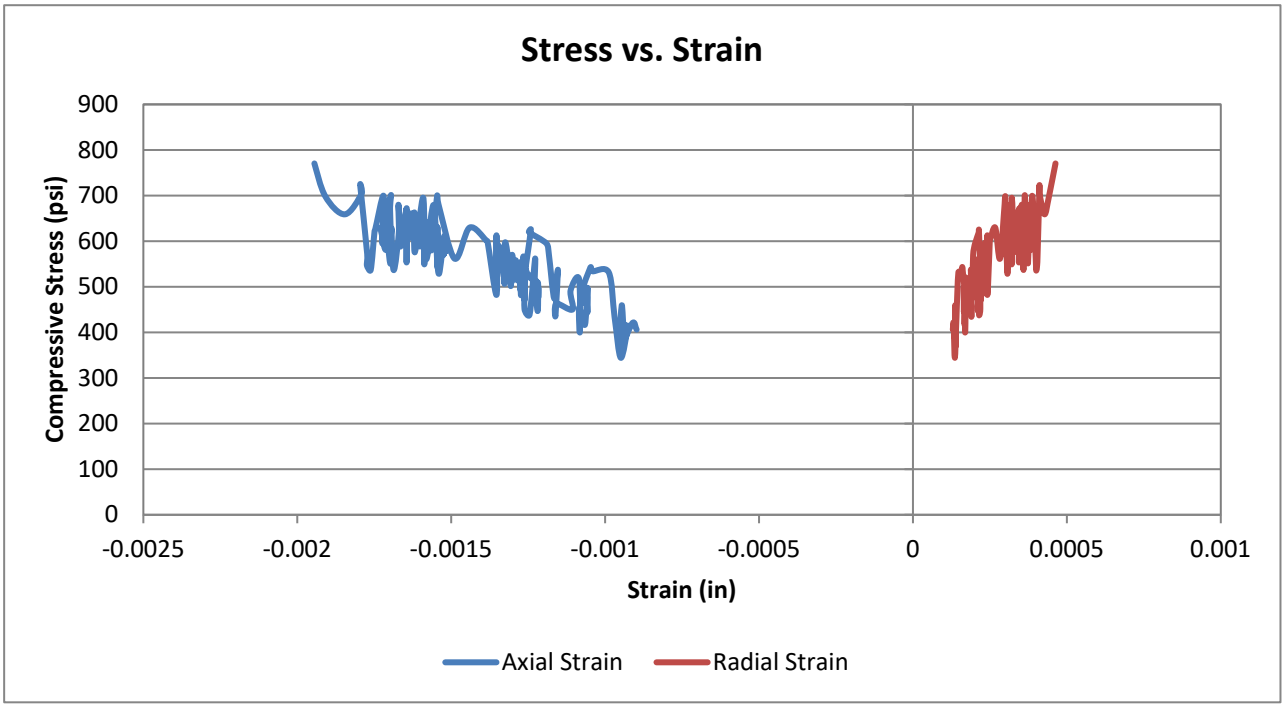
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.846	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.905	Reviewed By	WJG
Boring	B-32	Unit Weight (pcf)	132.4	Core Size	NQ
Sample No.	NQ-3 / 23-0685A	L/D Ratio	2.12	Recovery	95%
Depth	63.3' - 63.6'	Load Rate (psi/sec)	10	RQD	90%
Description	Brown/Gray Limestone				





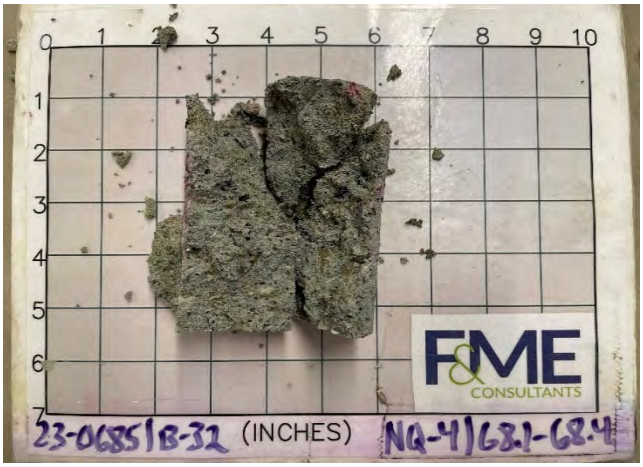
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.844	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.907	Reviewed By	WJG
Boring	B-32	Unit Weight (pcf)	126.5	Core Size	NQ
Sample No.	NQ-4 / 23-0685	L/D Ratio	2.12	Recovery	68%
Depth	68.1' - 68.4'	Load Rate (psi/sec)	10	RQD	35%
Description	Brown/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%						
60%	-499	467	875	328	1.31	0.94
70%	-438	687	1,047	392	1.79	1.57
80%	952	1956	1,169	438	0.92	2.06
90%	442	3460	1,344	503	2.28	7.82
100%	168	4538	1,457	546		

Sample Photos



Test Results

Unconfined Compressive Strength (psi)	**550**	Elastic Modulus (psi)	N/A
		Poisson's Ratio in Elastic Range	N/A
Comments	Stress-Strain behavior for this sample is not reasonable. As such, the test results could not be used to determine an elastic modulus or Poission's Ratio.		

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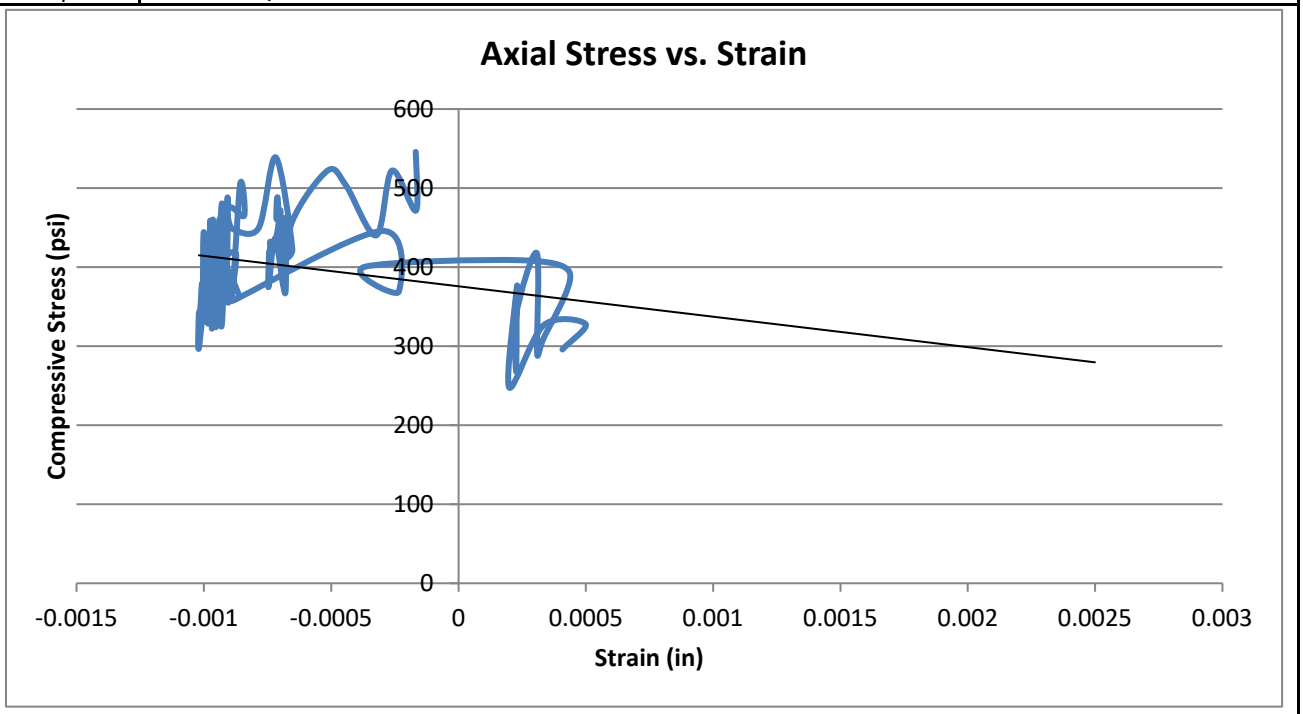
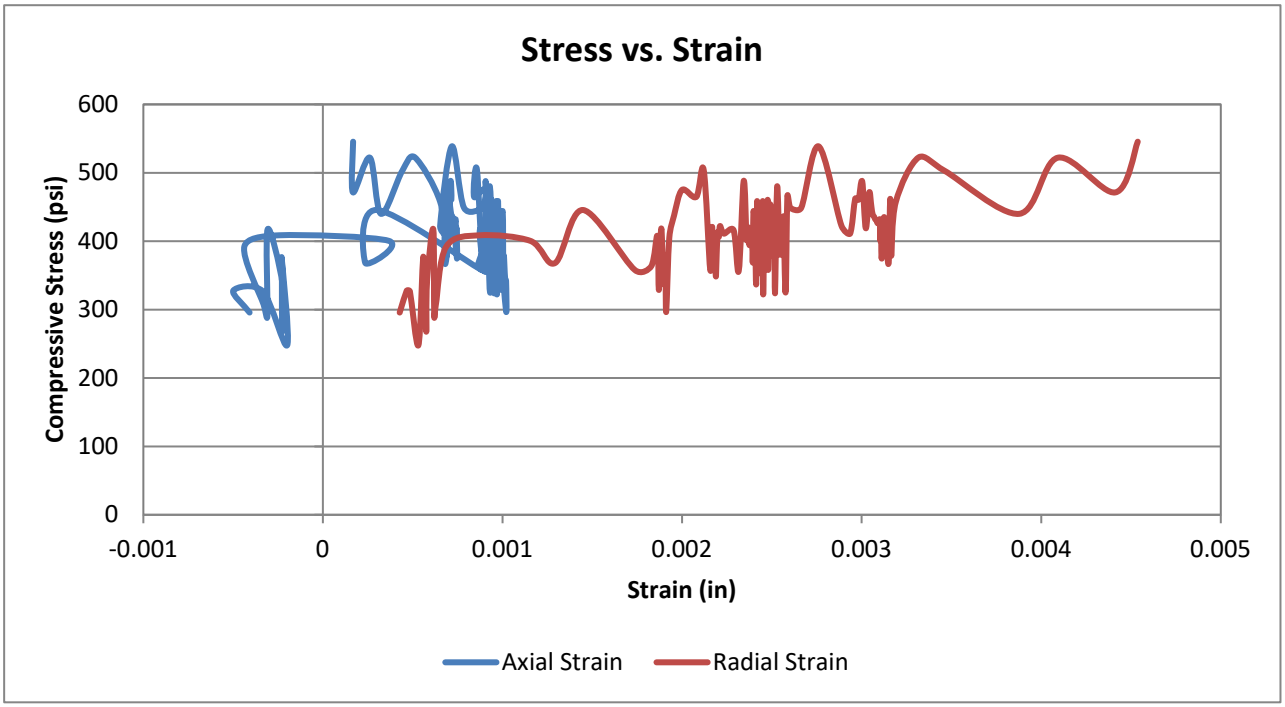
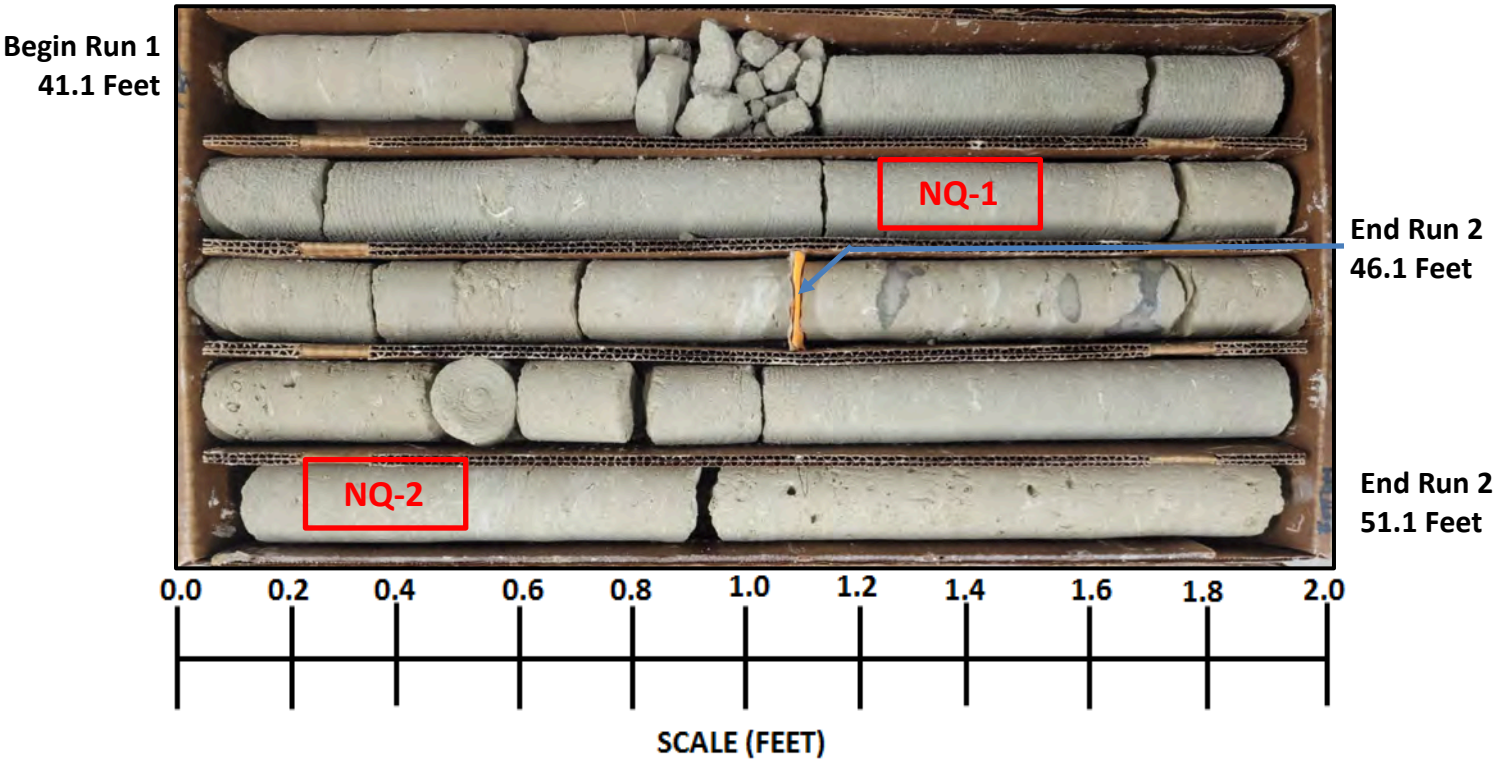
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.844	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.907	Reviewed By	WJG
Boring	B-32	Unit Weight (pcf)	126.5	Core Size	NQ
Sample No.	NQ-4 / 23-0685	L/D Ratio	2.12	Recovery	68%
Depth	68.1' - 68.4'	Load Rate (psi/sec)	10	RQD	35%
Description	Brown/Gray/White Limestone				





I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-35



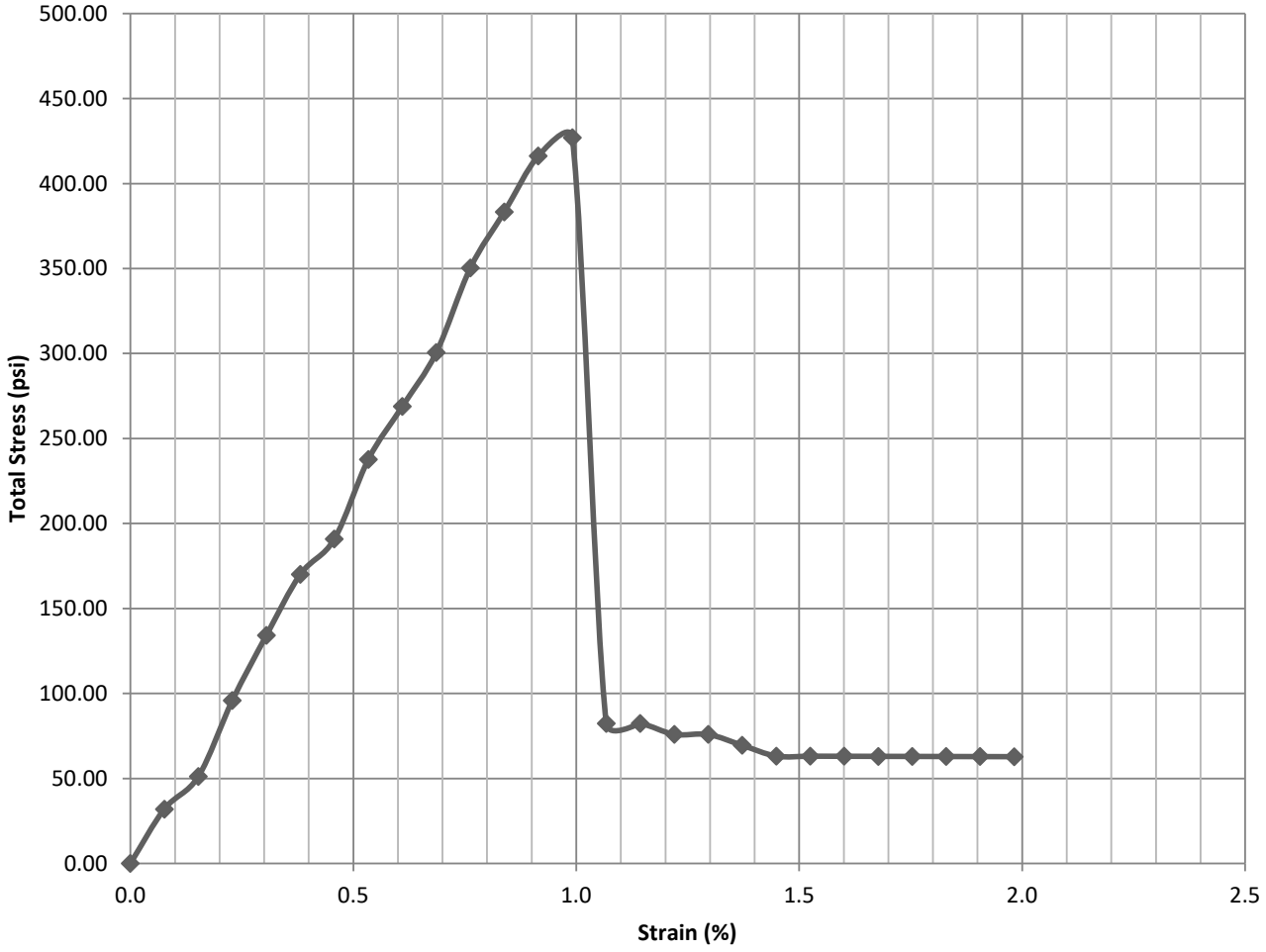
Run 3: %REC=0, %RQD=0

Run 4: %REC=0, %RQD=0

Run 5: %REC=0, %RQD=0

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1162



Average Initial Diameter (Do):	1.845 in.	Sample Volume:	10.52 in^3
Average Initial Height (Lo):	3.935 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.674 in^2	Sample Weight:	0.716 lbs.
In-Situ Unit Weight:	117.6 pcf	L/D Ratio:	2.133
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/25/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-35 / NQ-1		
Depth/Elevation	44.4' - 44.7'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 430 psi ε_{ULT} = 1.0%

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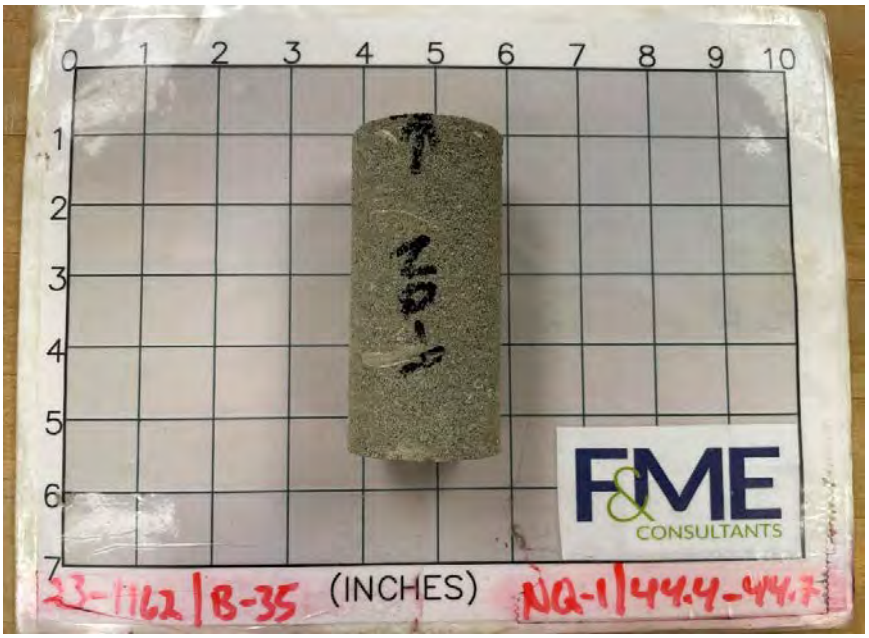
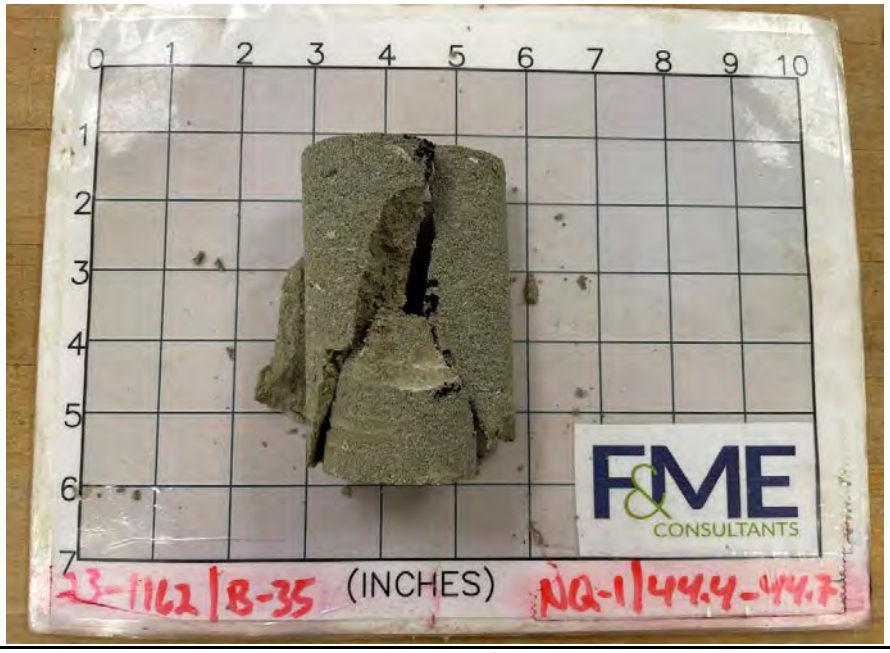
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1162
Sample Location:	B-35 / NQ-1		**Depth of Sample:**	44.4' - 44.7'
Tested By:	W. Pitts	**Date Tested:**	5/25/2023	



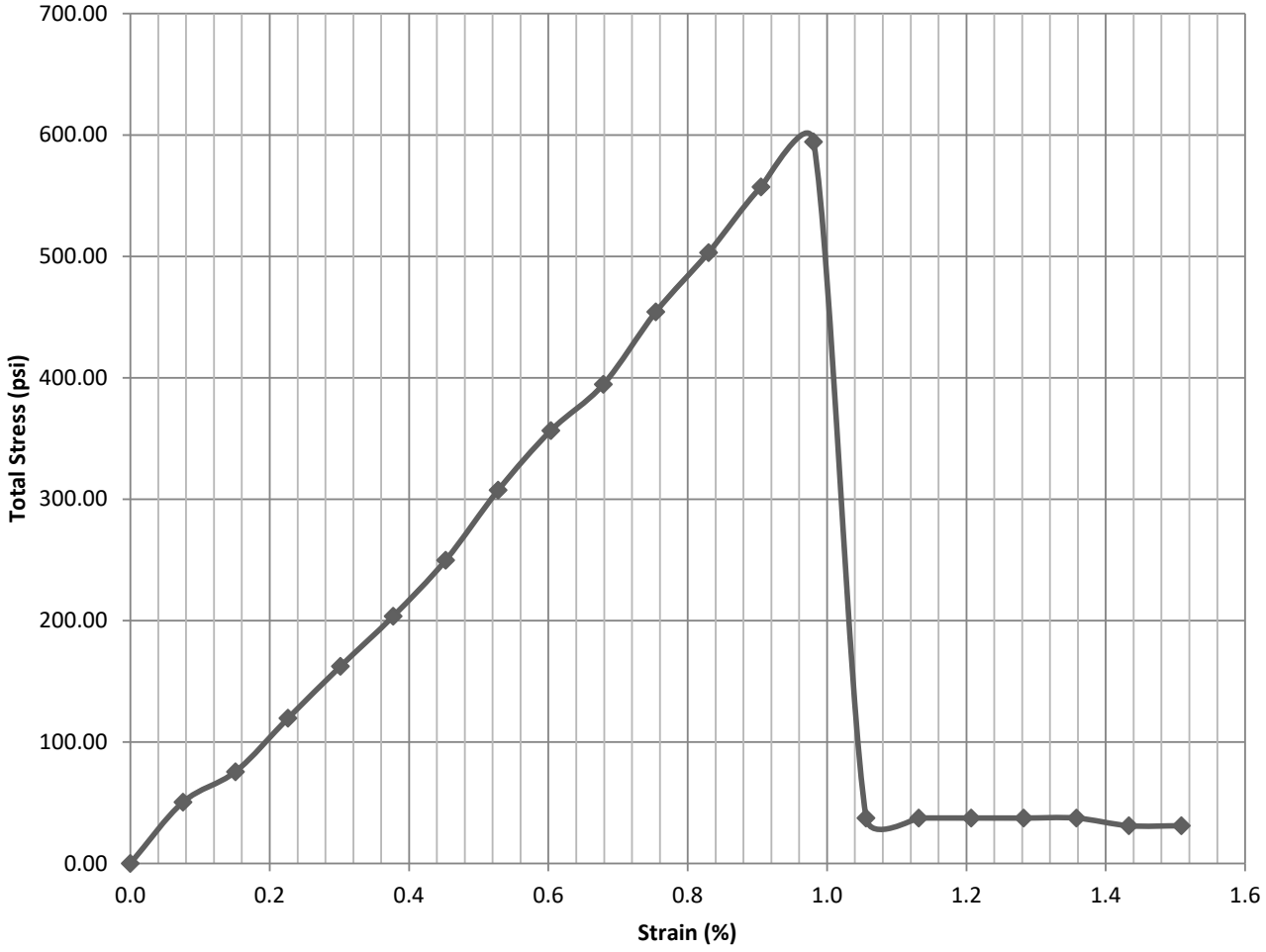
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1162



Average Initial Diameter (Do):	1.859 in.	Sample Volume:	10.79 in^3
Average Initial Height (Lo):	3.977 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.714 in^2	Sample Weight:	0.740 lbs.
In-Situ Unit Weight:	118.4 pcf	L/D Ratio:	2.139
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/25/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-35 / NQ-2		
Depth/Elevation	49.2' -49.5'		

Sample Type : Soil Core
Target Strain Rate : 0.60% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 595 psi ε_{ULT} = 1.0%

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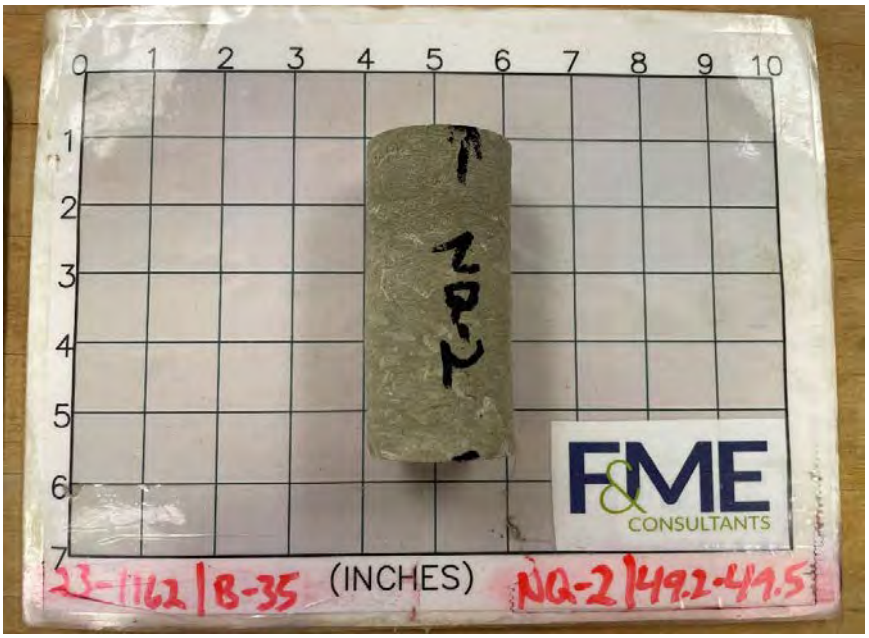
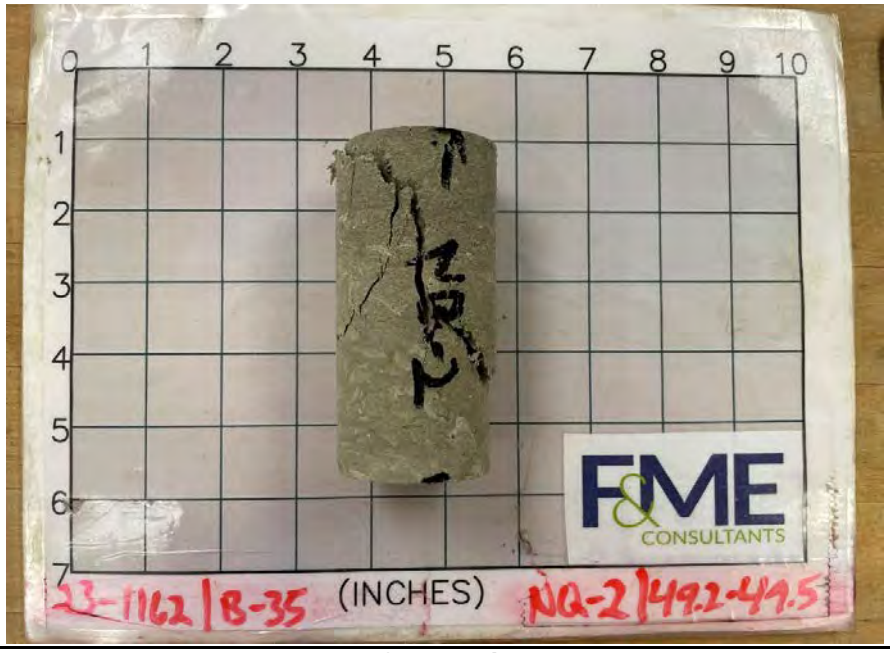
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1162
Sample Location:	B-35 / NQ-2		**Depth of Sample:**	49.2' -49.5'
Tested By:	W. Pitts	**Date Tested:**	5/25/2023	

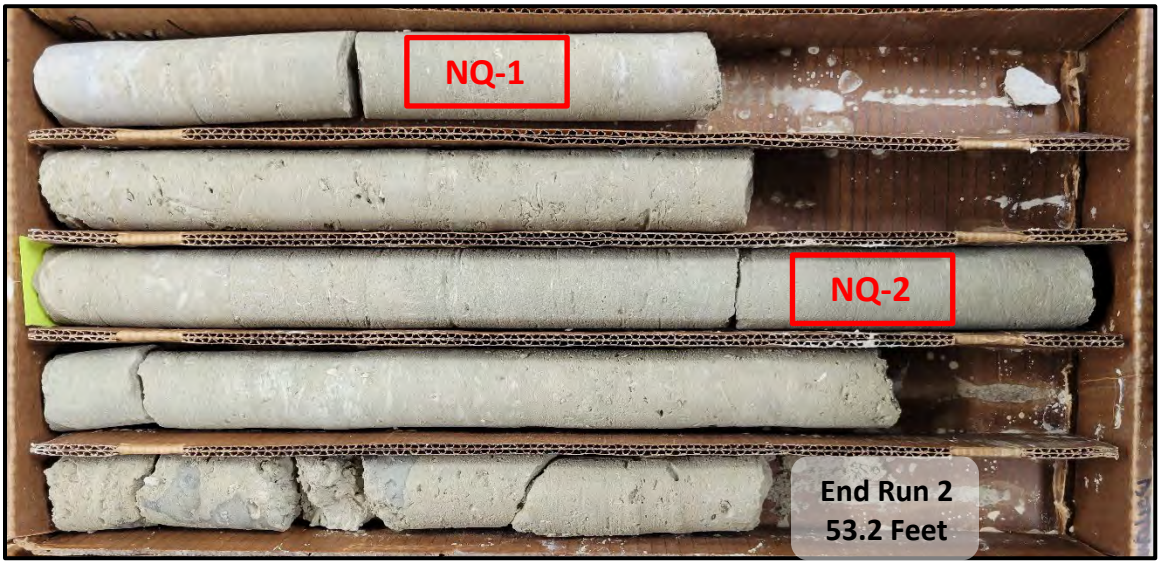


Before Break



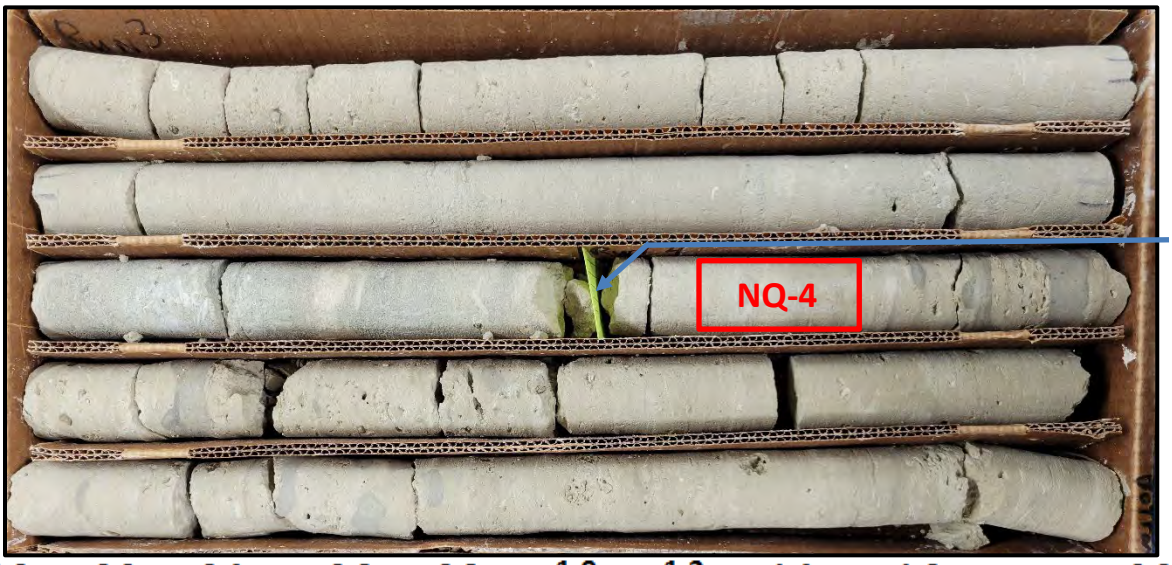
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-36



Begin Run 1
45.5 Feet

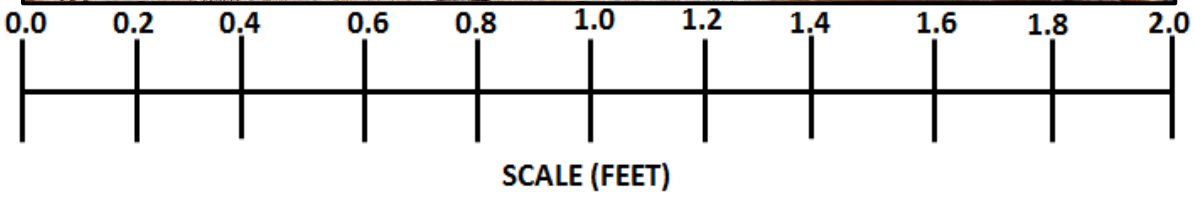
Begin Run 2
48.2 Feet



Begin Run 3
53.2 Feet

End Run 3
58.2 Feet

End Run 4
63.2 Feet



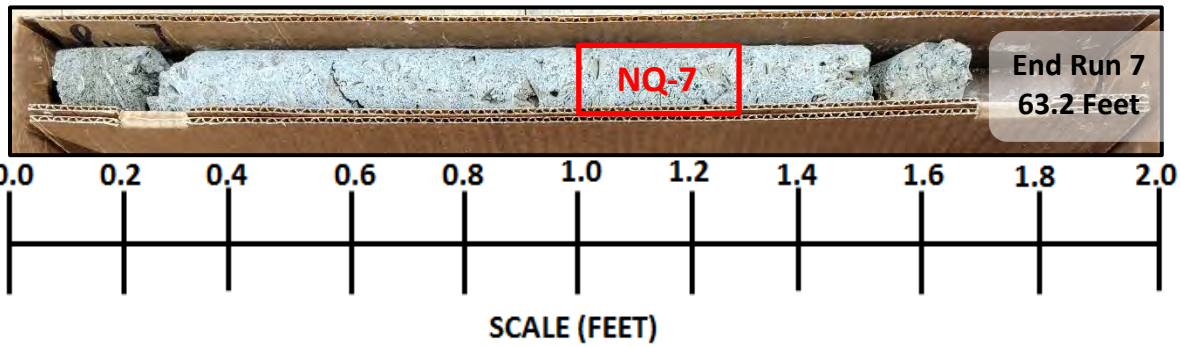
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-36

Begin Run 5
63.2 Feet

Begin Run 6
68.2 Feet

End Run 6
73.2 Feet

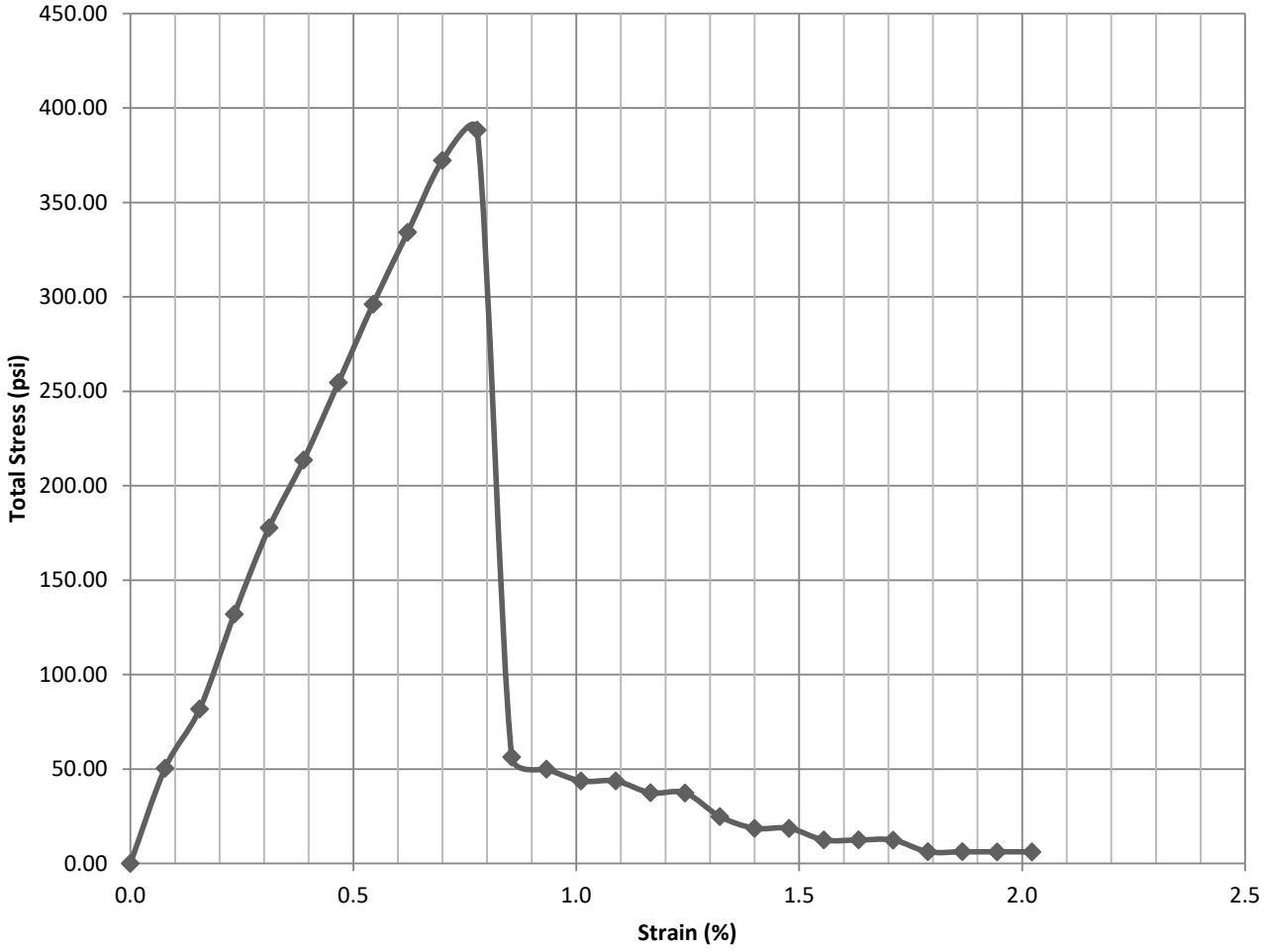
Begin Run 7
73.2 Feet



Run 8: %REC=0, %RQD=0

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0619



Average Initial Diameter (Do):	1.860 in.	Sample Volume:	10.48 in^3
Average Initial Height (Lo):	3.858 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.717 in^2	Sample Weight:	0.710 lbs.
In-Situ Unit Weight:	117.0 pcf	L/D Ratio:	2.074
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/24/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-36 / NQ-1		
Depth/Elevation	46.2' - 4.5'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 390 psi ε_{ULT} = 0.8%

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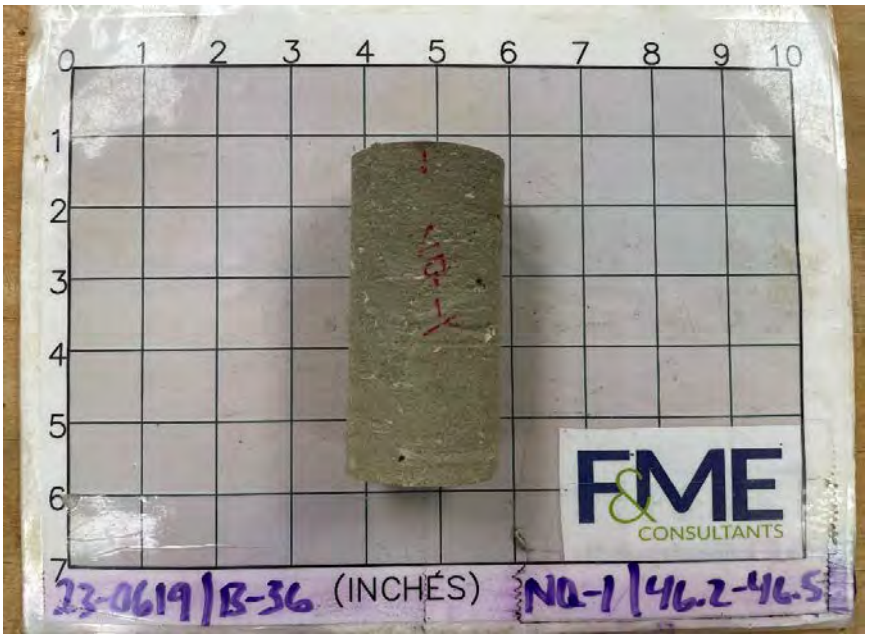
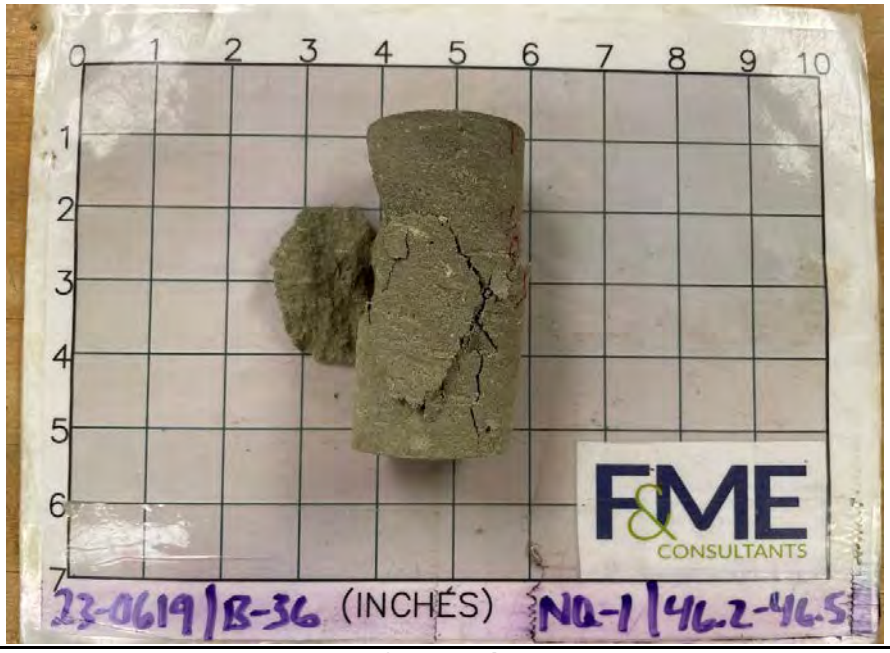
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0619
Sample Location:	B-36 / NQ-1		**Depth of Sample:**	46.2' - 4.5'
Tested By:	W. Pitts	**Date Tested:**	3/24/2023	



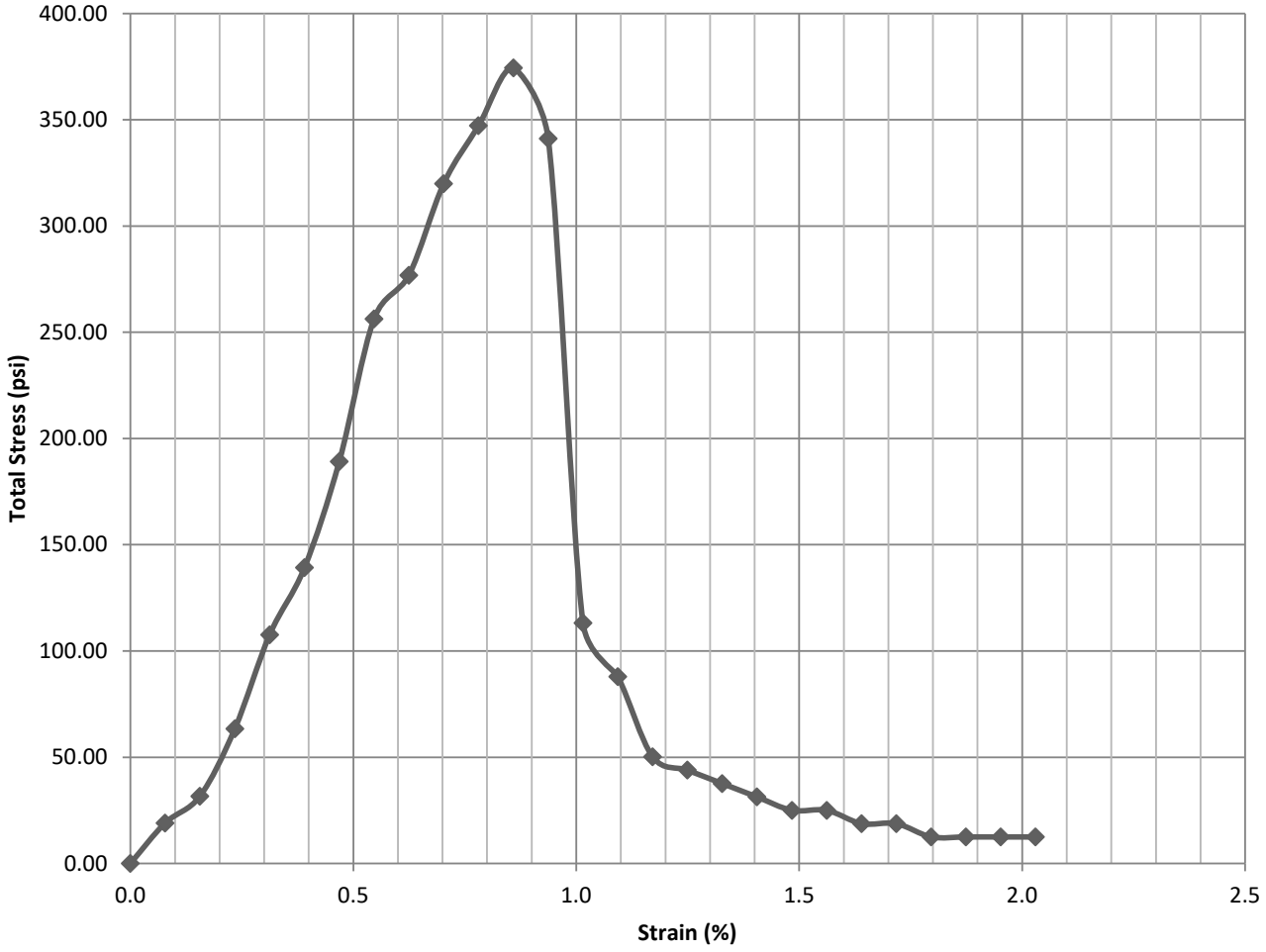
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0619



Average Initial Diameter (Do):	1.853 in.	Sample Volume:	10.36 in^3
Average Initial Height (Lo):	3.842 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.697 in^2	Sample Weight:	0.730 lbs.
In-Situ Unit Weight:	121.7 pcf	L/D Ratio:	2.073
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/24/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-36 / NQ-2		
Depth/Elevation	49.6' - 50.0'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 375 psi ε_{ULT} = 0.9%

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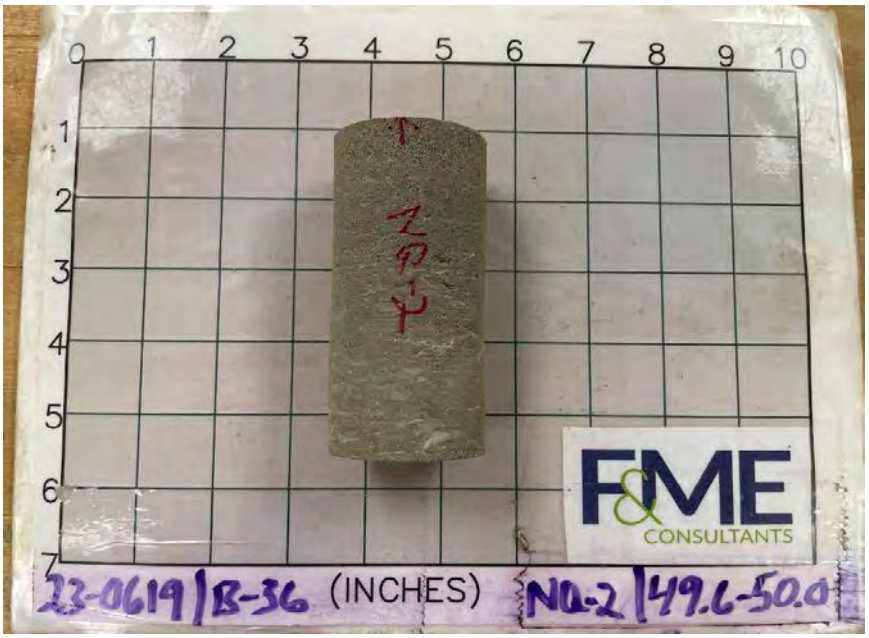
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-0619
Sample Location:	B-36 / NQ-2		Depth of Sample:	49.6' - 50.0'
Tested By:	W. Pitts	Date Tested:	3/24/2023	

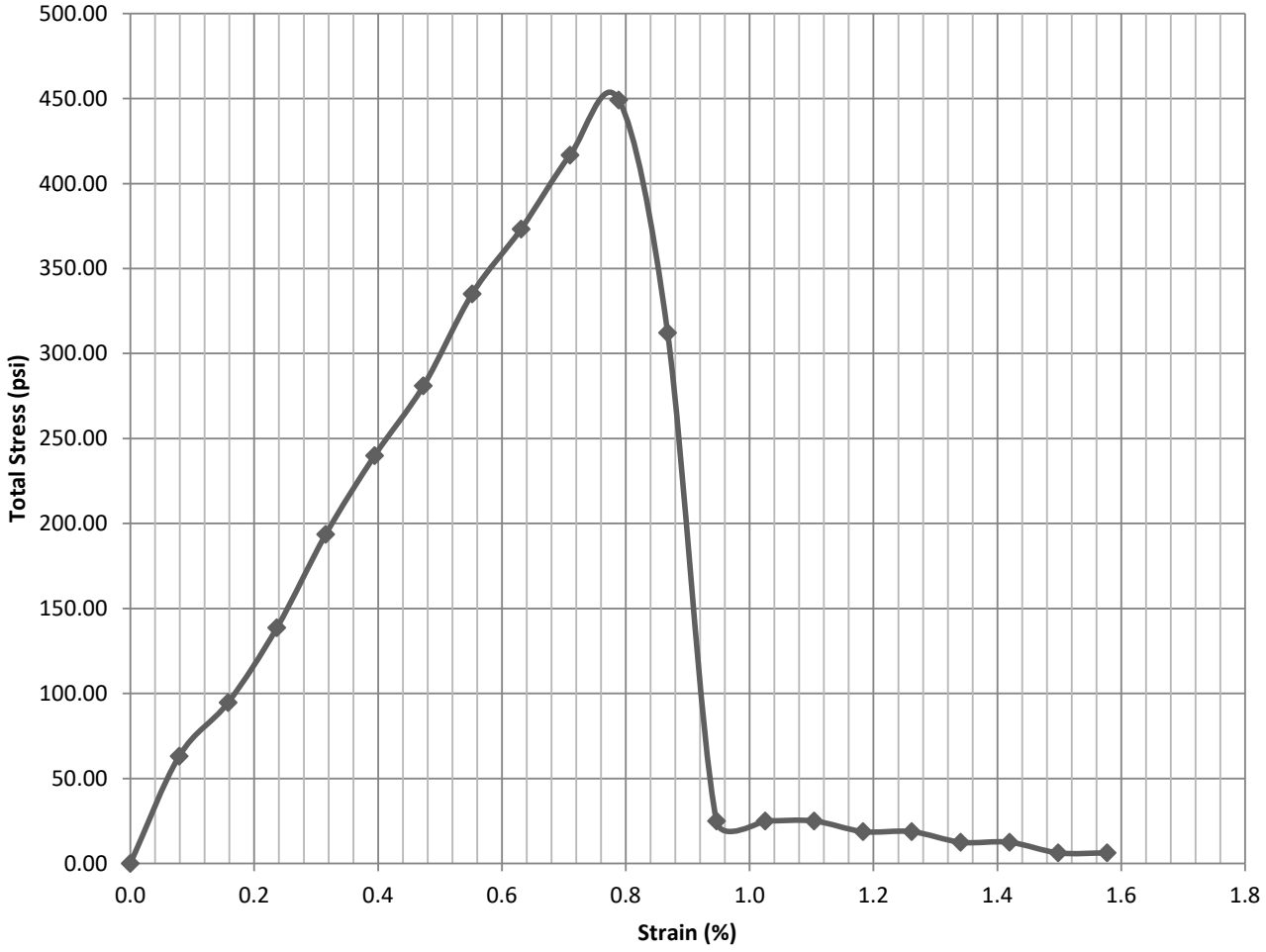


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0619



Average Initial Diameter (Do):	1.858 in.	Sample Volume:	10.31 in^3
Average Initial Height (Lo):	3.804 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.711 in^2	Sample Weight:	0.721 lbs.
In-Situ Unit Weight:	120.9 pcf	L/D Ratio:	2.047
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/24/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-36 / NQ-4		
Depth/Elevation	58.4' - 58.7'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 450 psi ε_{ULT} = 0.8%

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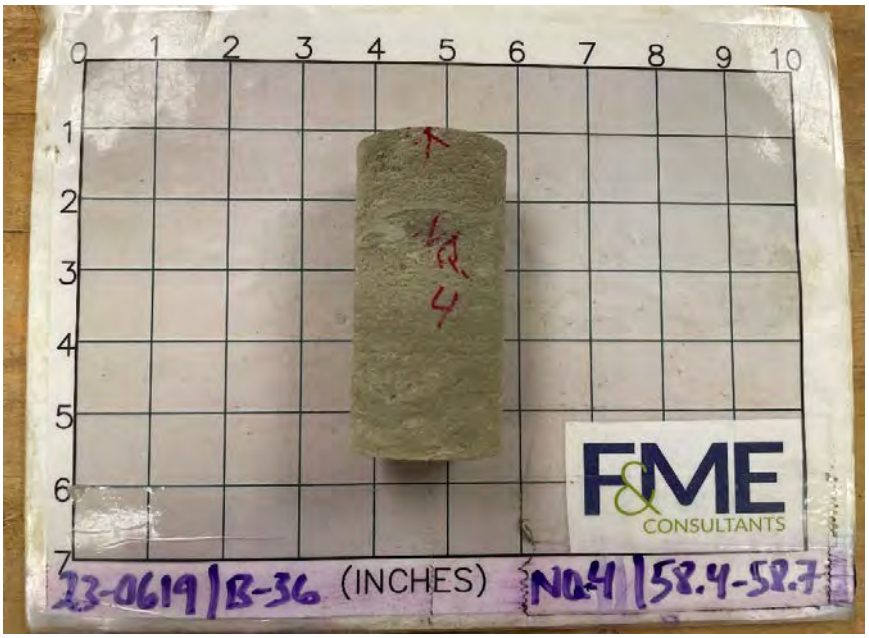
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0619
Sample Location:	B-36 / NQ-4		**Depth of Sample:**	58.4' - 58.7'
Tested By:	W. Pitts	**Date Tested:**	3/24/2023	

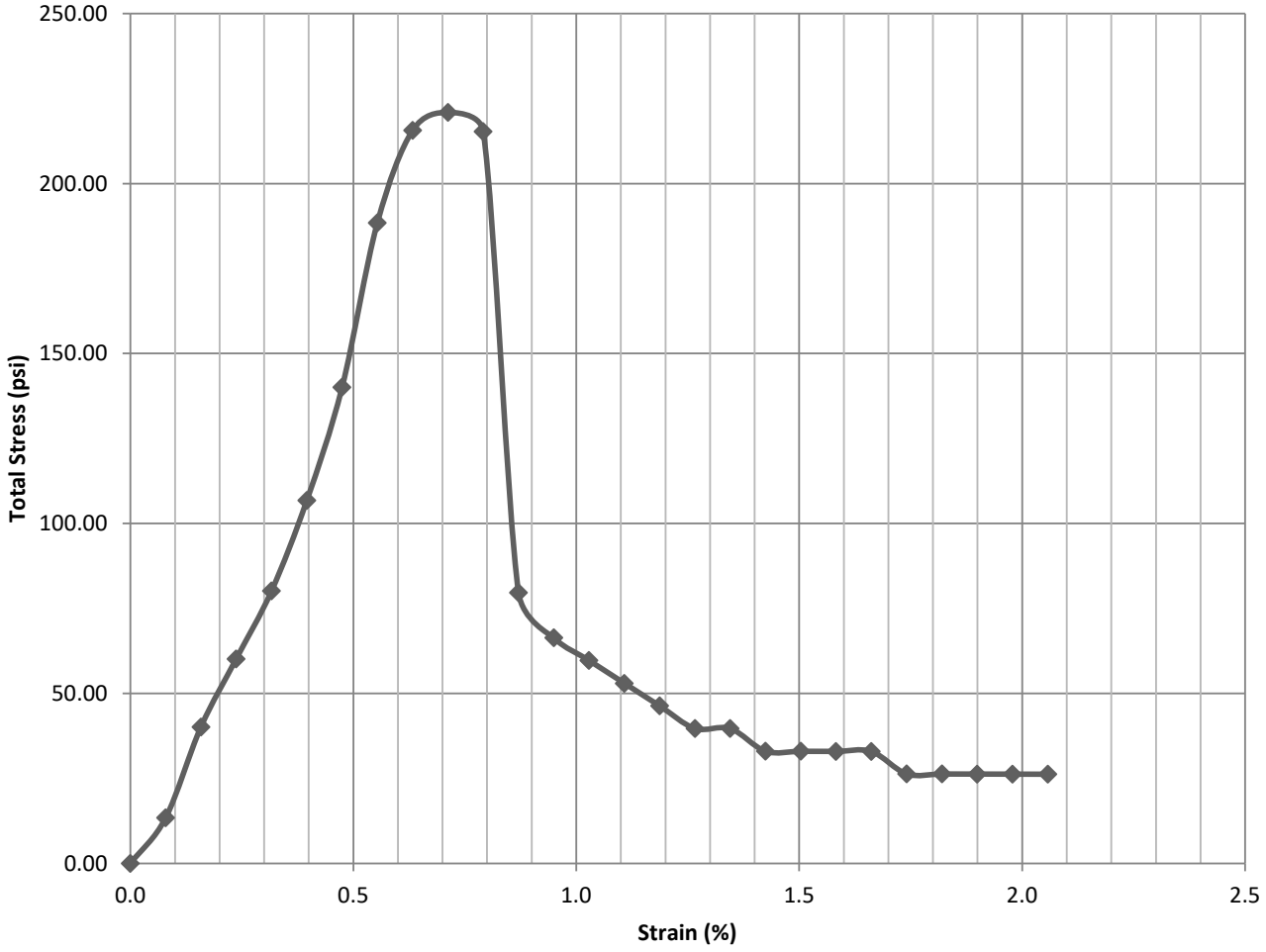


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0619



Average Initial Diameter (Do):	1.804 in.	Sample Volume:	9.69 in^3
Average Initial Height (Lo):	3.791 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.556 in^2	Sample Weight:	0.700 lbs.
In-Situ Unit Weight:	124.9 pcf	L/D Ratio:	2.101
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/24/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-36 / NQ-6		
Depth/Elevation	70.2' - 70.5'		

Sample Type : Soil Core
Target Strain Rate : 0.80% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 220 psi ε_{ULT} = 0.7%

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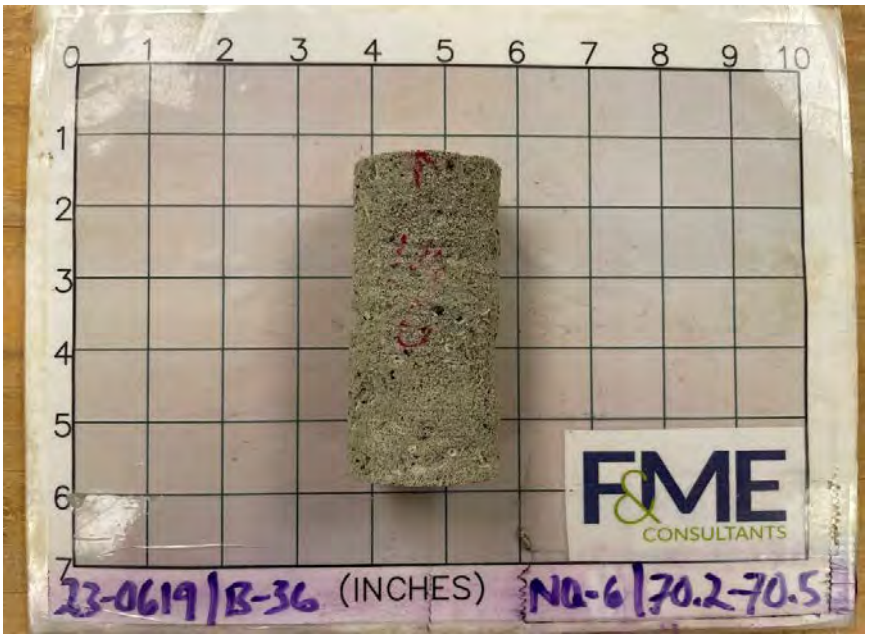
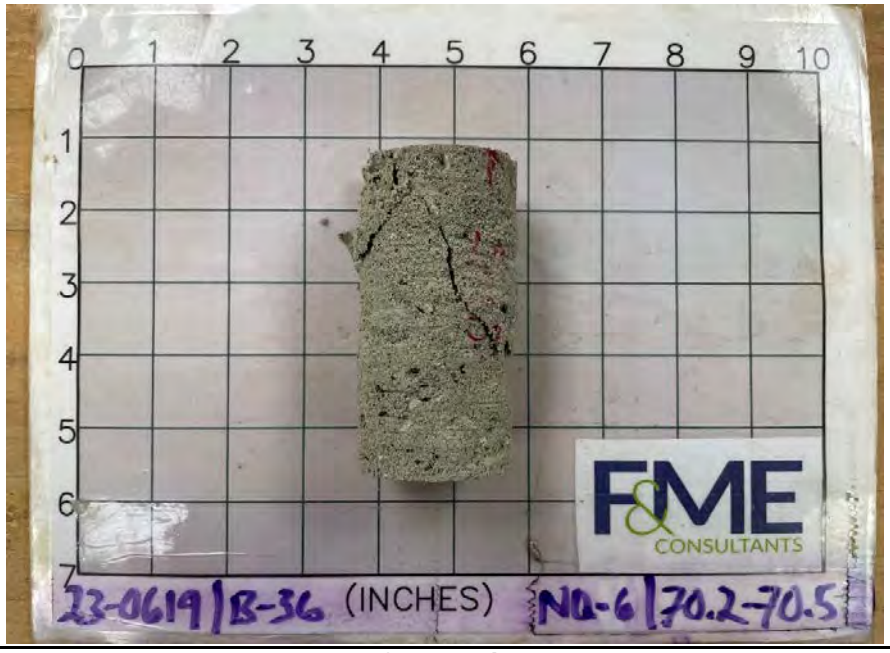
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0619
Sample Location:	B-36 / NQ-6		**Depth of Sample:**	70.2' - 70.5'
Tested By:	W. Pitts	**Date Tested:**	3/24/2023	



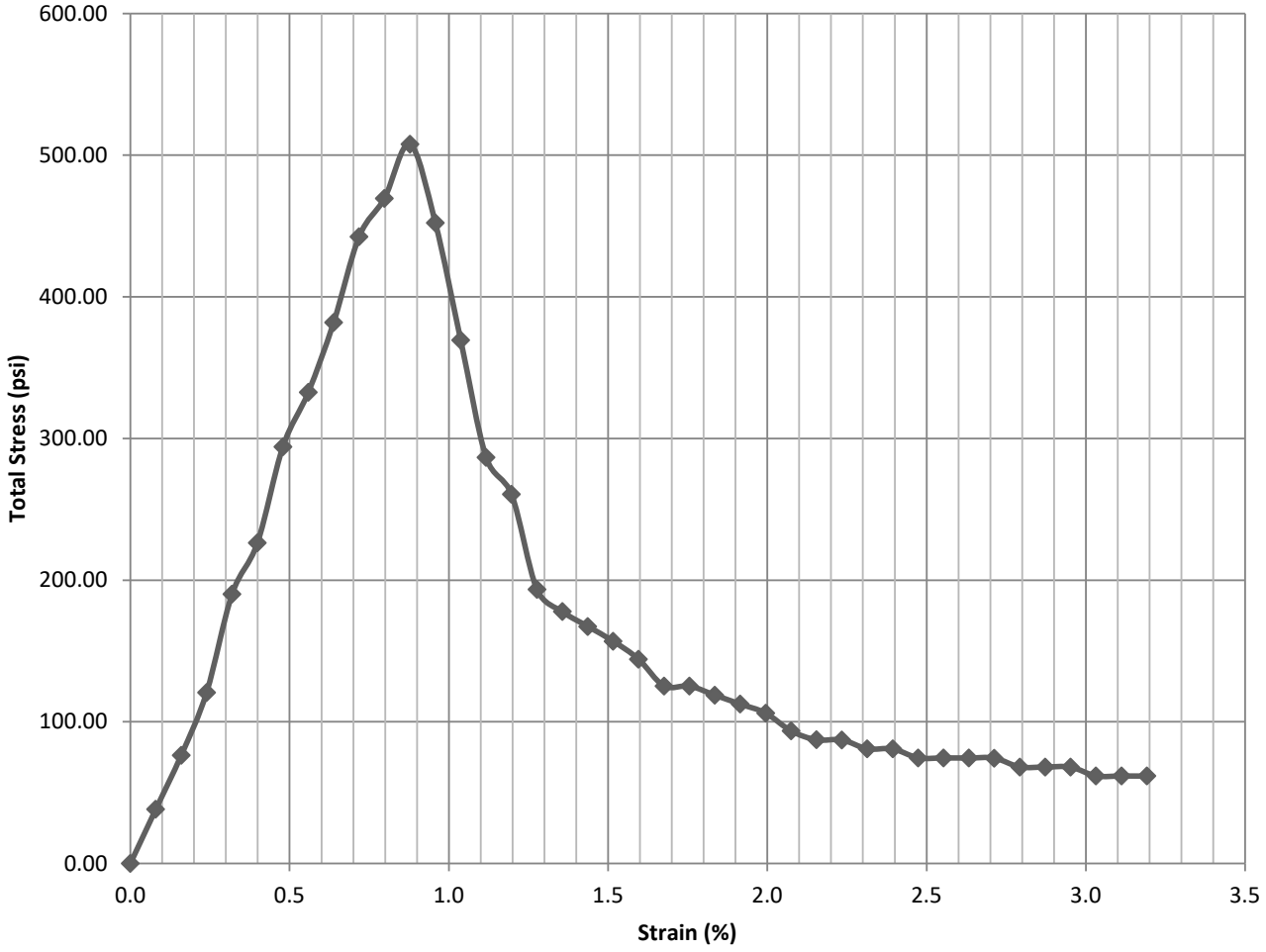
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0619



Average Initial Diameter (Do):	1.850 in.	Sample Volume:	10.11 in^3
Average Initial Height (Lo):	3.760 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.688 in^2	Sample Weight:	0.762 lbs.
In-Situ Unit Weight:	130.3 pcf	L/D Ratio:	2.032
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/24/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-36 / NQ-7		
Depth/Elevation	74.2' - 74.5'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 510 psi ε_{ULT} = 0.9%

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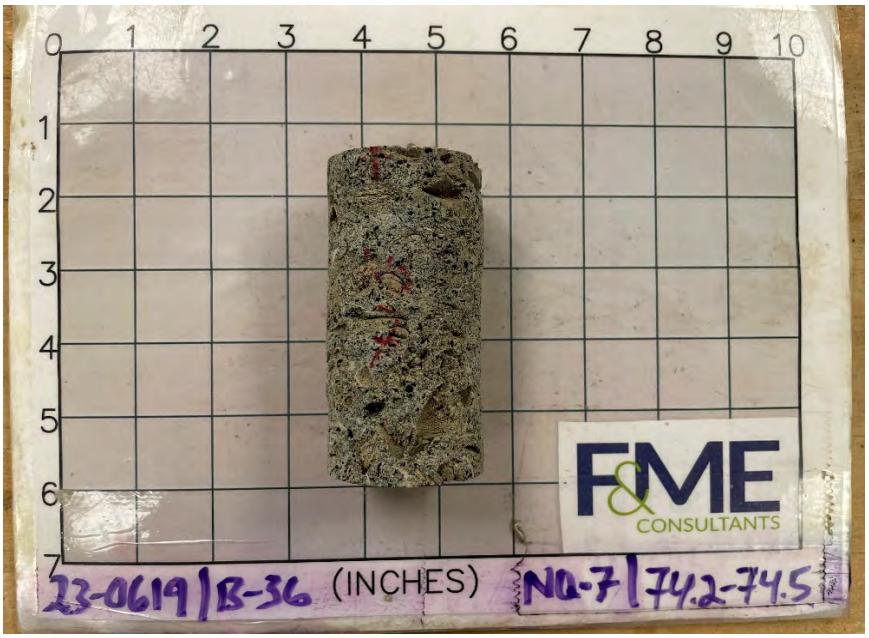
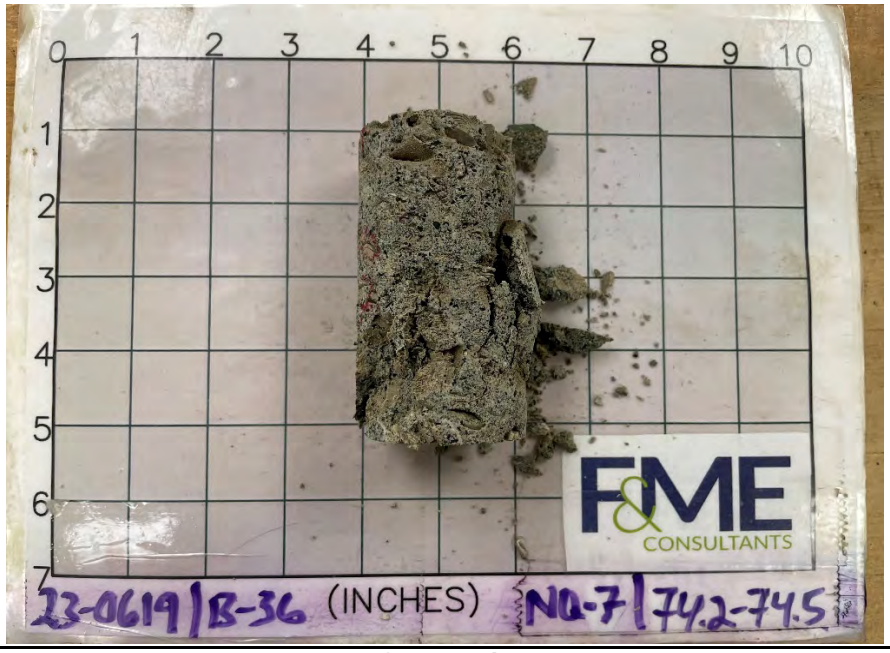
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0619
Sample Location:	B-36 / NQ-7		**Depth of Sample:**	74.2' - 74.5'
Tested By:	W. Pitts	**Date Tested:**	3/24/2023	



Before Break

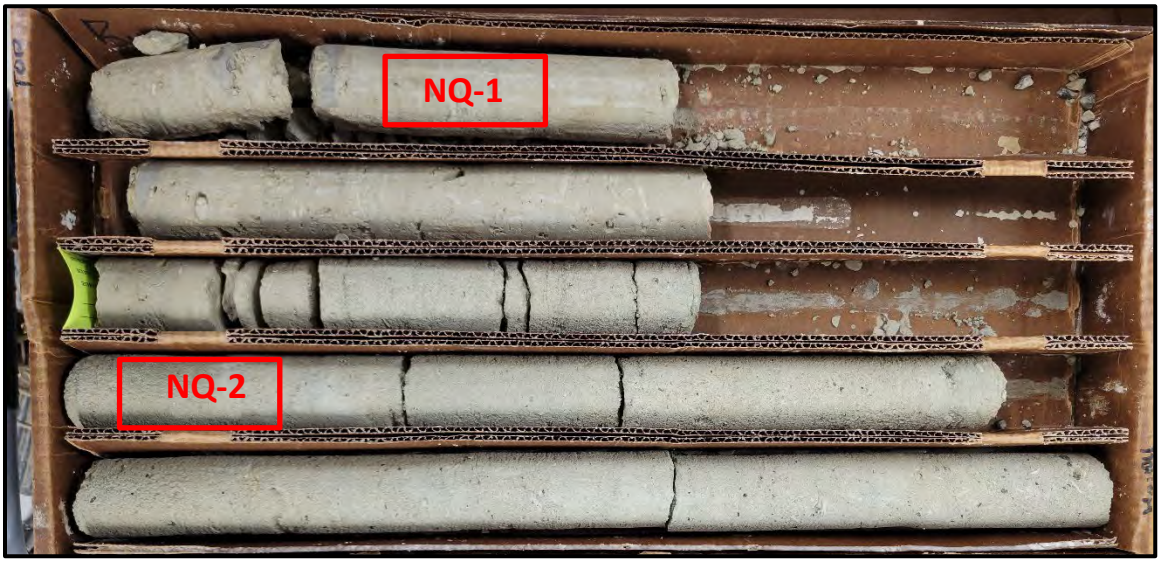


After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-38

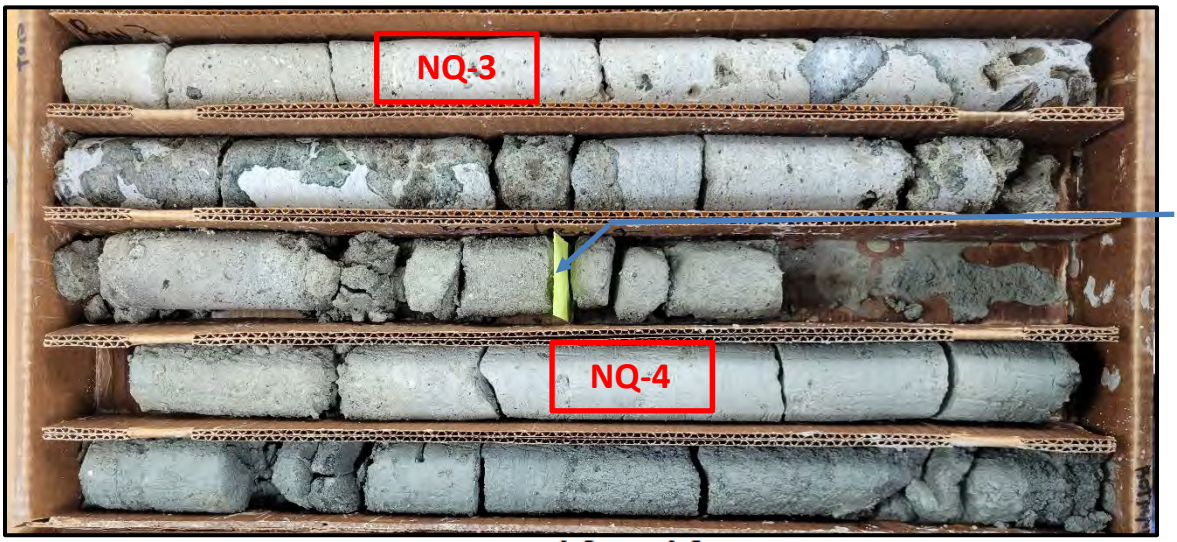
Begin Run 1
63.8Feet

Begin Run 2
66.1 Feet



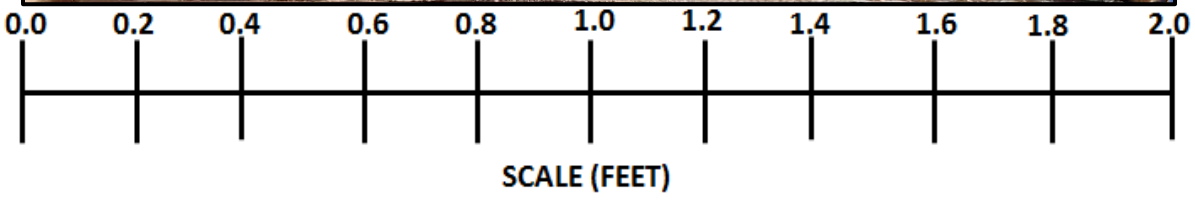
End Run 2
71.1 Feet

Begin Run 3
76.1 Feet

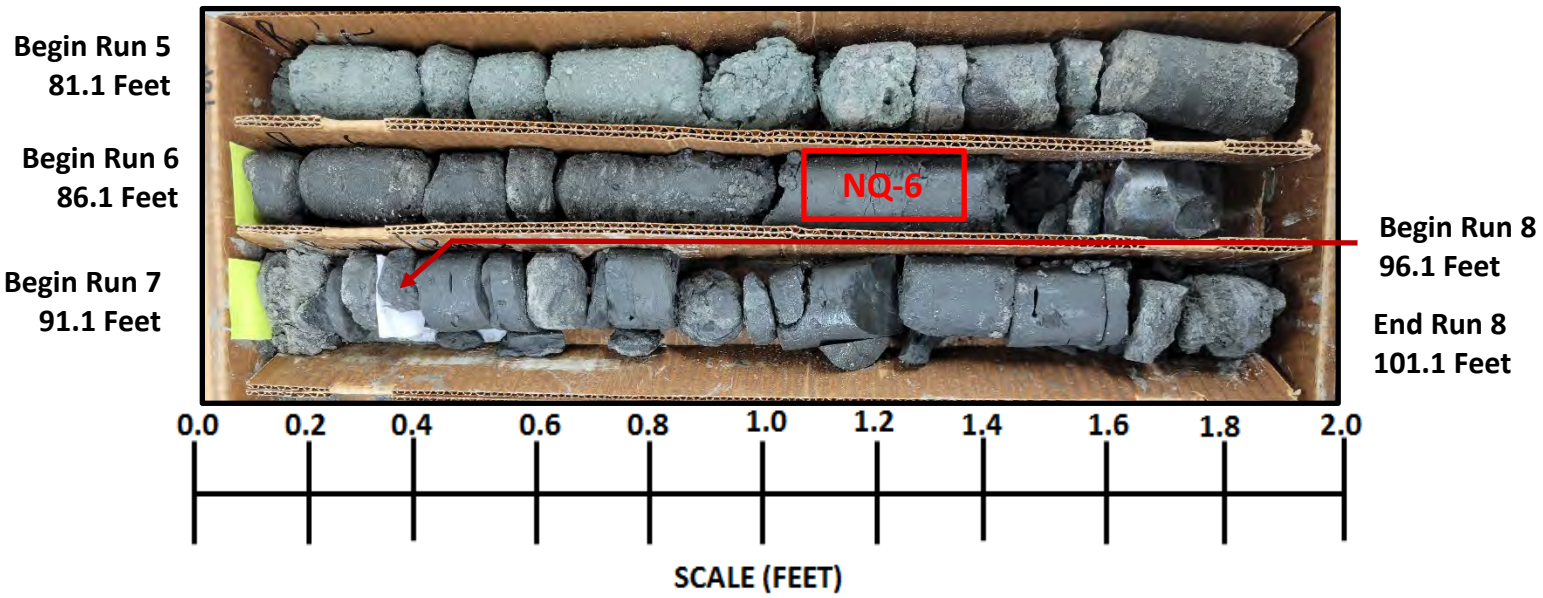


End Run 3
76.1 Feet

End Run 4
81.1 Feet



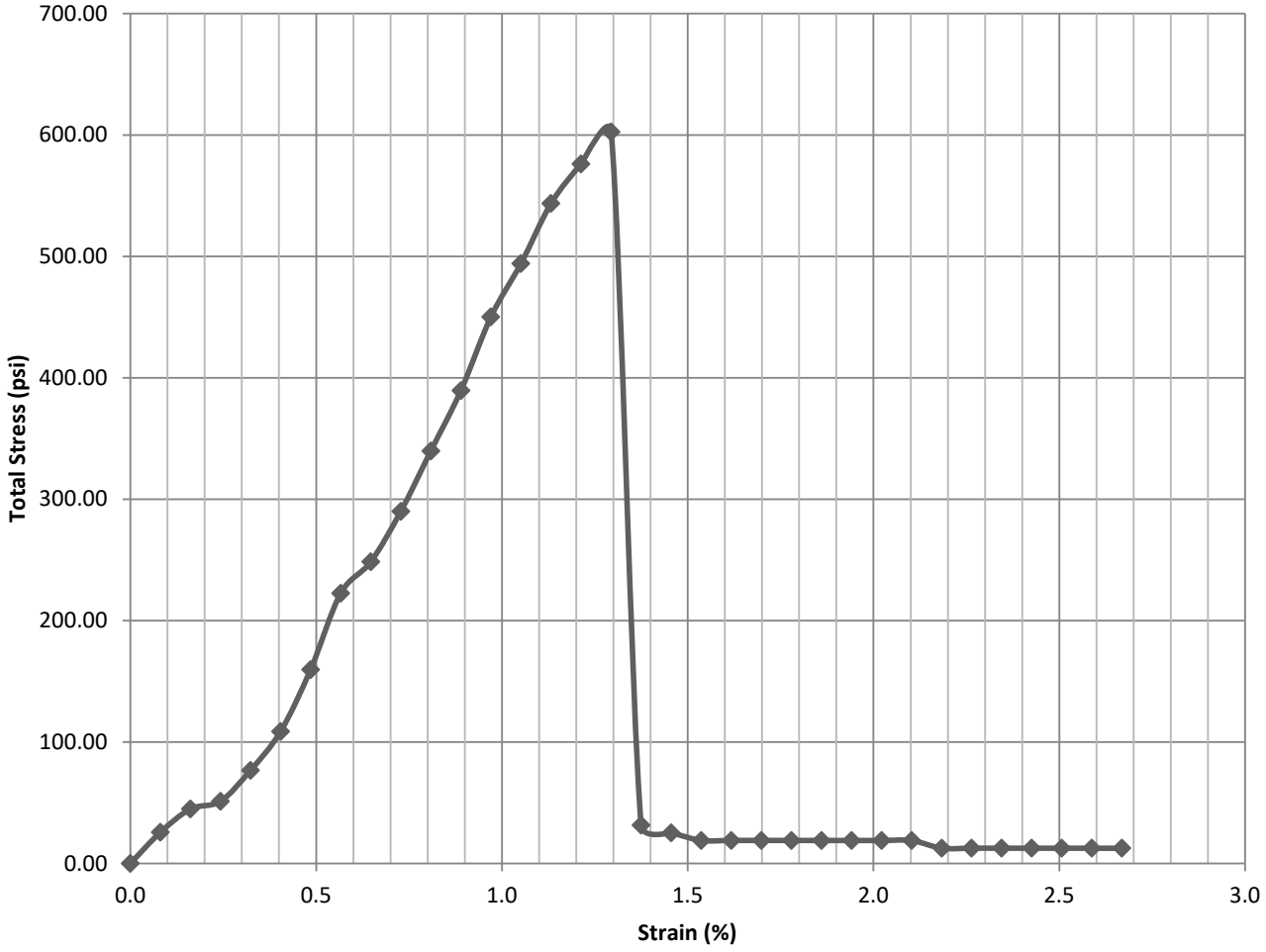
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-38



Run 9: %REC=0, %RQD=0

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0564



Average Initial Diameter (Do):	1.843 in.	Sample Volume:	9.897 in^3
Average Initial Height (Lo):	3.710 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.668 in^2	Sample Weight:	0.595 lbs.
In-Situ Unit Weight:	103.9 pcf	L/D Ratio:	2.013
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/8/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-38 / NQ-1		
Depth/Elevation	67.8 - 68.1		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 600 psi ε_{ULT} = 1.3%

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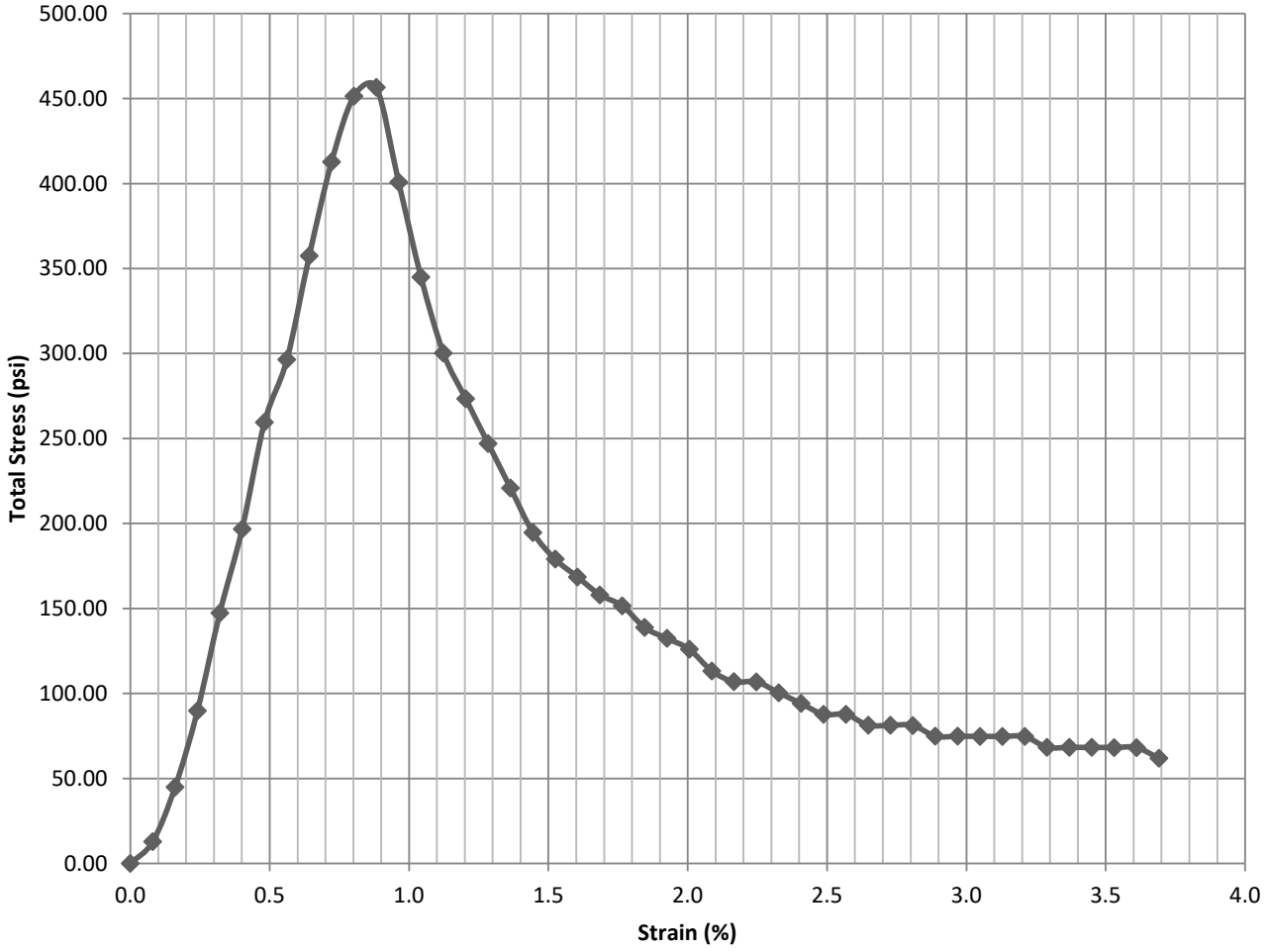
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0564
Sample Location:	B-38 / NQ-1		**Depth of Sample:**	67.8 - 68.1
Tested By:	W. Pitts	**Date Tested:**	3/8/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0564



Average Initial Diameter (Do):	1.842 in.	Sample Volume:	9.964 in^3
Average Initial Height (Lo):	3.739 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.665 in^2	Sample Weight:	0.734 lbs.
In-Situ Unit Weight:	127.2 pcf	L/D Ratio:	2.030
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/8/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-38 / NQ-2		
Depth/Elevation	70.9 - 71.2		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 460 psi ε_{ULT} = 0.9%

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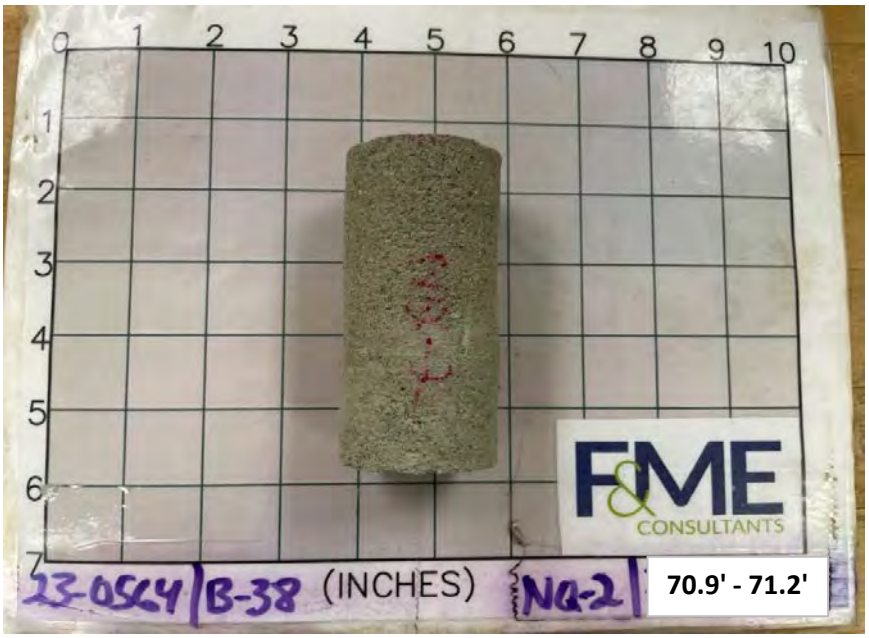
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0564
Sample Location:	B-38 / NQ-2		**Depth of Sample:**	70.9 - 71.2
Tested By:	W. Pitts	**Date Tested:**	3/8/2023	



Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.856	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.754	Reviewed By	WJG
Boring	B-38	Unit Weight (pcf)	138.8	Core Size	NQ
Sample No.	NQ-3 / 23-0564A	L/D Ratio	2.02	Recovery	97%
Depth	75.3' - 75.6'	Load Rate (psi/sec)	10	RQD	68%
Description	Brown/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%	-705	23	1,401	518	1.47	0.03
50%	-778	98	1,695	626	1.61	0.13
60%	-885	119	2,032	751	1.70	0.13
70%	-1087	158	2,361	873	1.61	0.15
80%	-1336	211	2,734	1,011	1.51	0.16
90%	-1714	292	3,058	1,130	1.32	0.17
100%	-1845	317	3,382	1,250		

Sample Photos

Test Results

Unconfined Compressive Strength (psi)	**1,250**	Elastic Modulus (psi)	1.56E+06
		Poisson's Ratio in Elastic Range	0.15
Comments	Elastic range was taken as between 0.0008 and 0.0015 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

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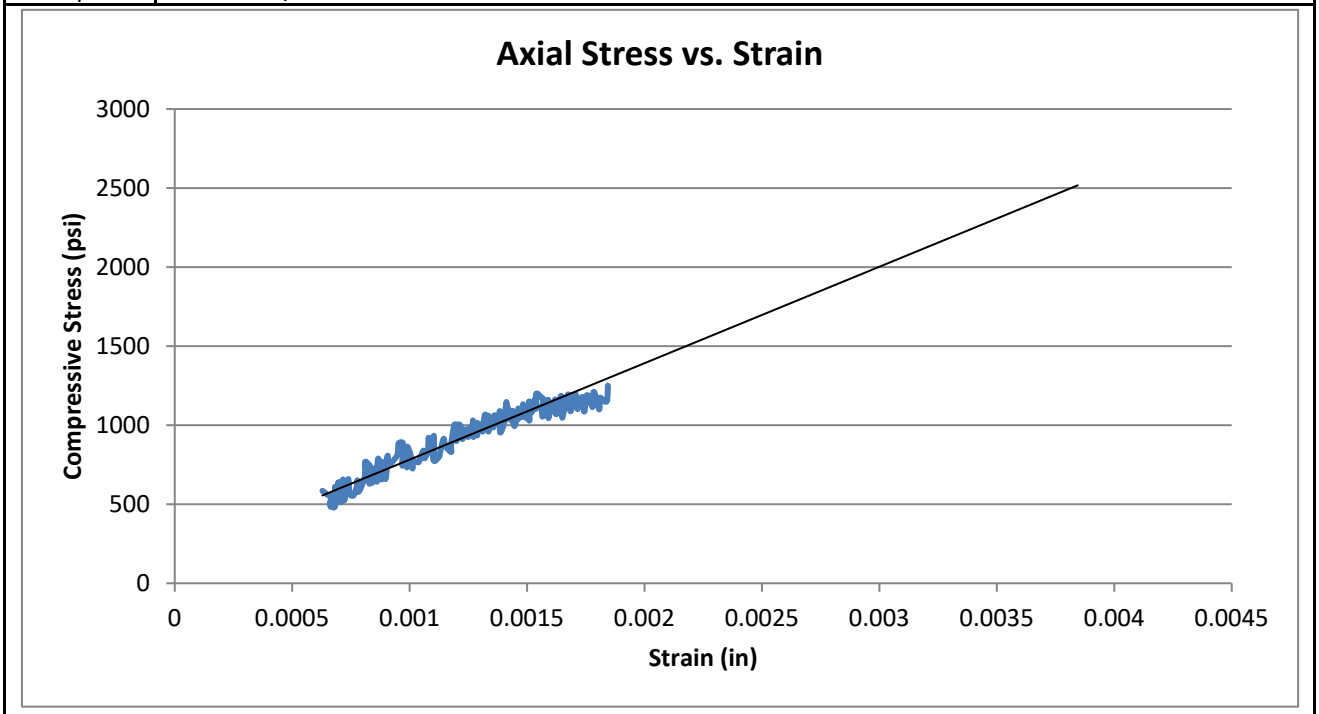
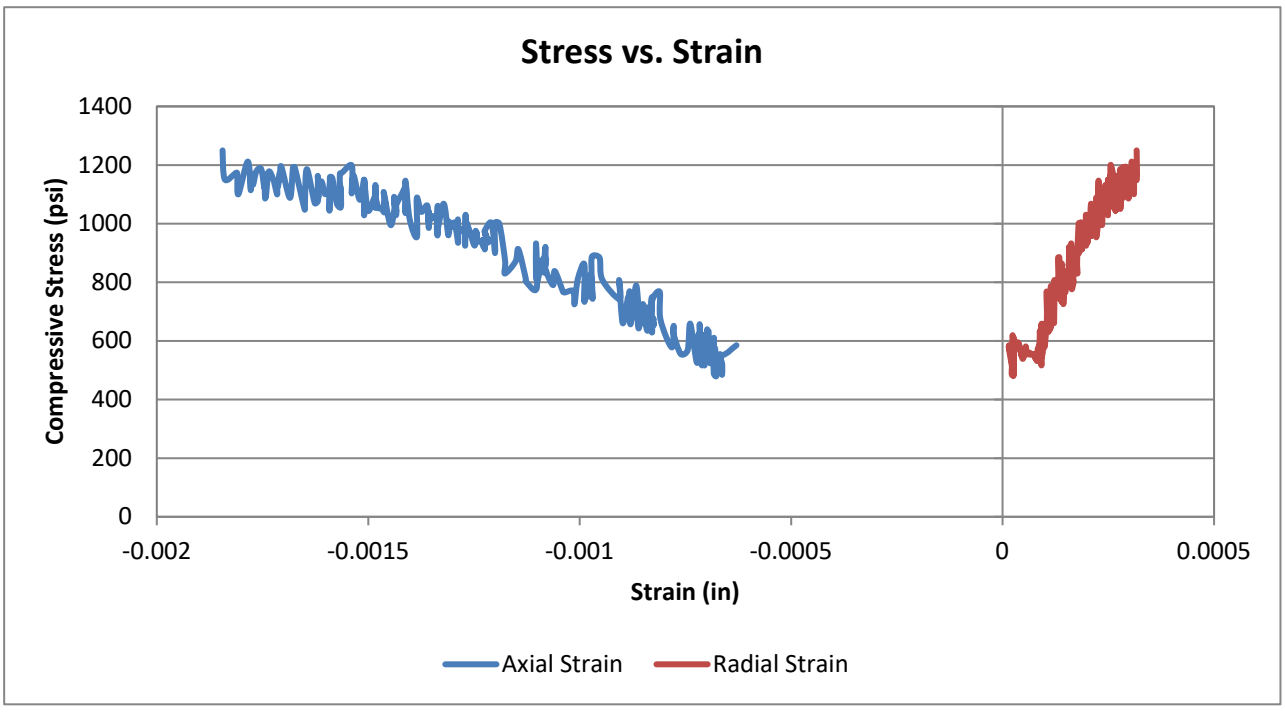
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.856	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.754	Reviewed By	WJG
Boring	B-38	Unit Weight (pcf)	138.8	Core Size	NQ
Sample No.	NQ-3 / 23-0564A	L/D Ratio	2.02	Recovery	97%
Depth	75.3' - 75.6'	Load Rate (psi/sec)	10	RQD	68%
Description	Brown/Gray/White Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.858	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.841	Reviewed By	WJG
Boring	B-38	Unit Weight (pcf)	143.5	Core Size	NQ
Sample No.	NQ-4 / 23-0564B	L/D Ratio	2.07	Recovery	80%
Depth	80.9' - 82.1'	Load Rate (psi/sec)	10	RQD	42%
Description	Brown/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%						
50%	-11682	1380	1,052	388	0.07	0.12
60%	-13172	1896	1,347	497	0.08	0.14
70%	-14026	2285	1,575	581	0.08	0.16
80%	-17373	3514	1,761	649	0.07	0.20
90%	-21516	6069	2,012	742	0.07	0.28
100%	-23876	6843	2,247	829		

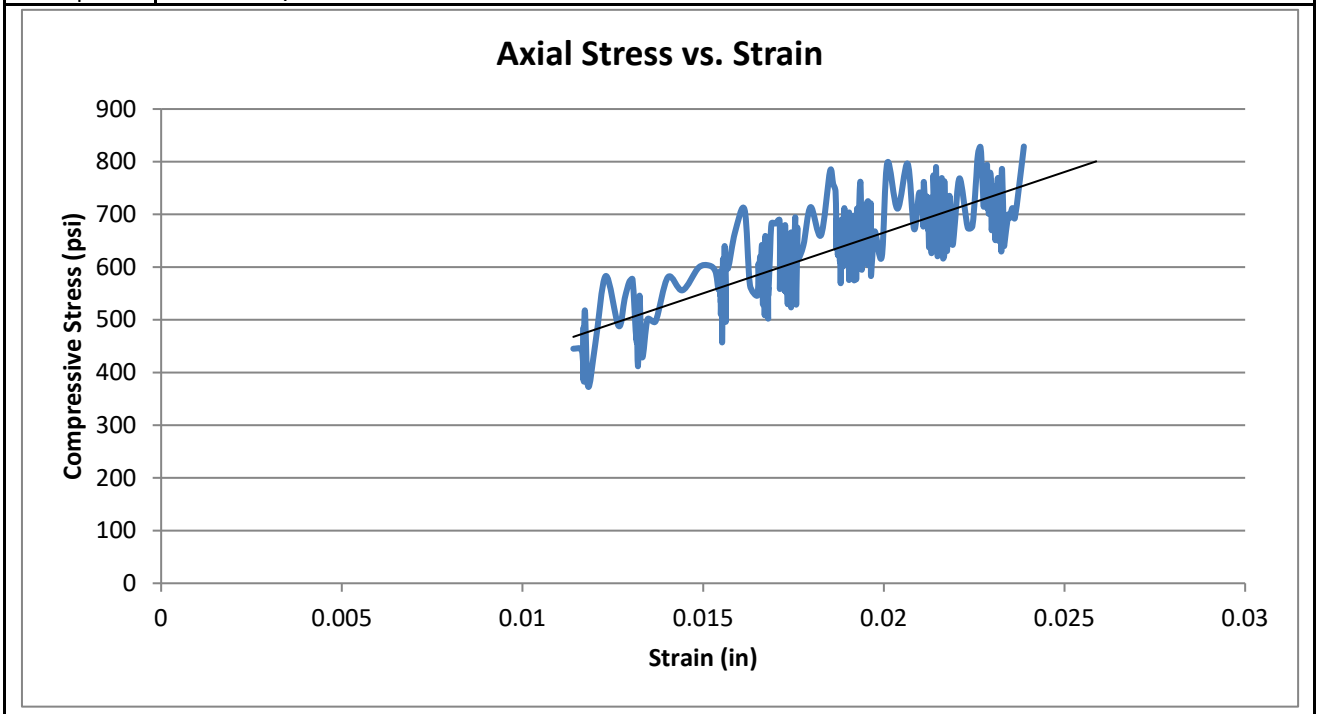
Sample Photos

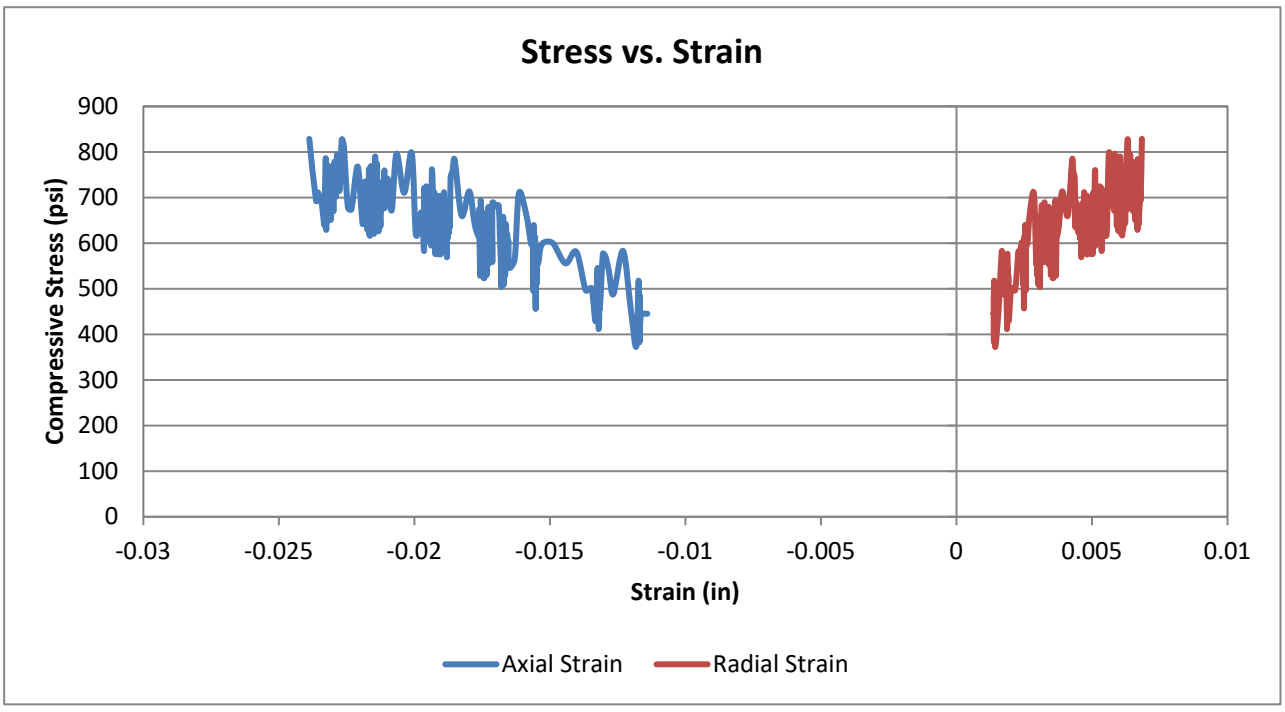
Test Results

Unconfined Compressive Strength (psi)	**830**	Elastic Modulus (psi)	7.03E+04
		Poisson's Ratio in Elastic Range	0.21
Comments	Elastic range was taken as between 0.012 and 0.021 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

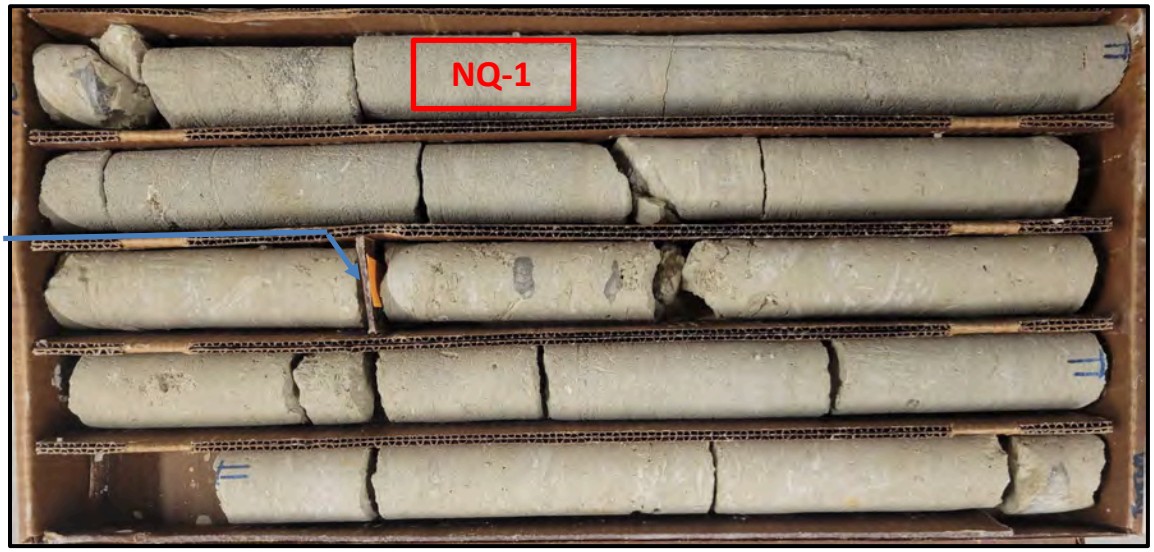
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.858	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.841	Reviewed By	WJG
Boring	B-38	Unit Weight (pcf)	143.5	Core Size	NQ
Sample No.	NQ-4 / 23-0564B	L/D Ratio	2.07	Recovery	80%
Depth	80.9' - 82.1'	Load Rate (psi/sec)	10	RQD	42%
Description	Brown/Gray Limestone				





I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-39

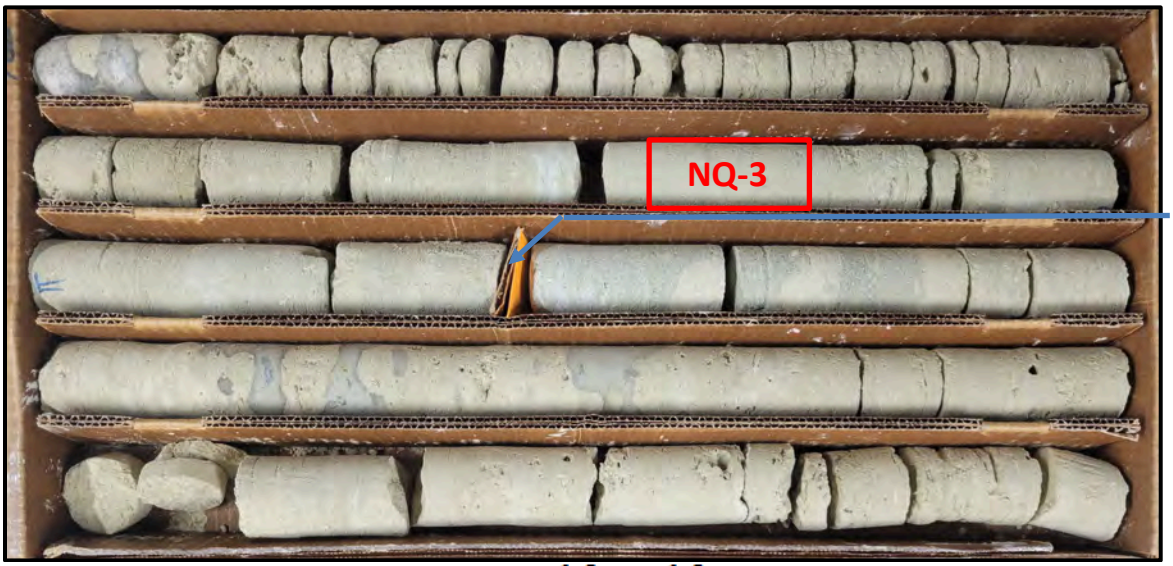


Begin Run 1
43.5 Feet

Begin Run 2
48.3 Feet

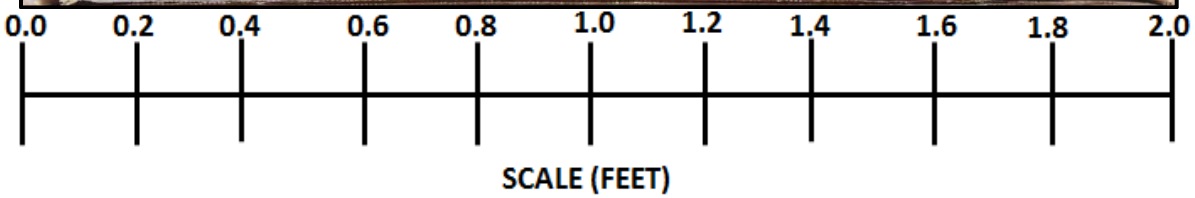
End Run 2
53.3 Feet

Begin Run 3
53.3 Feet

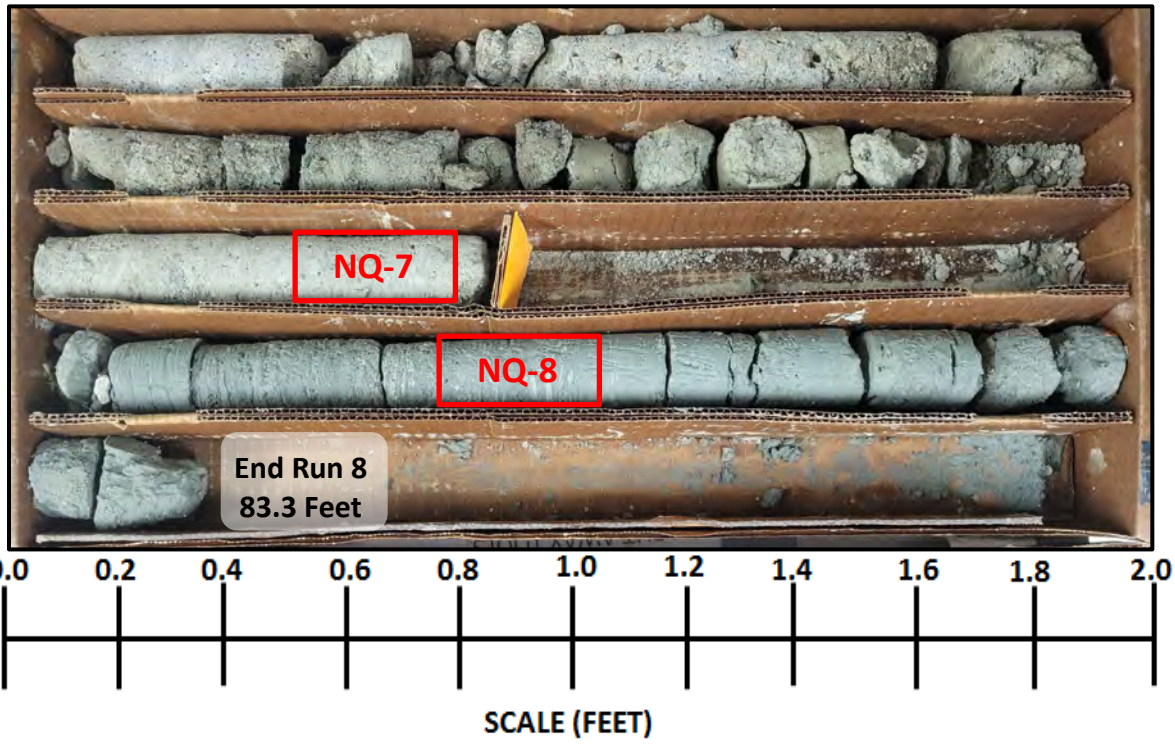


Begin Run 4
58.3 Feet

End Run 4
63.3 Feet

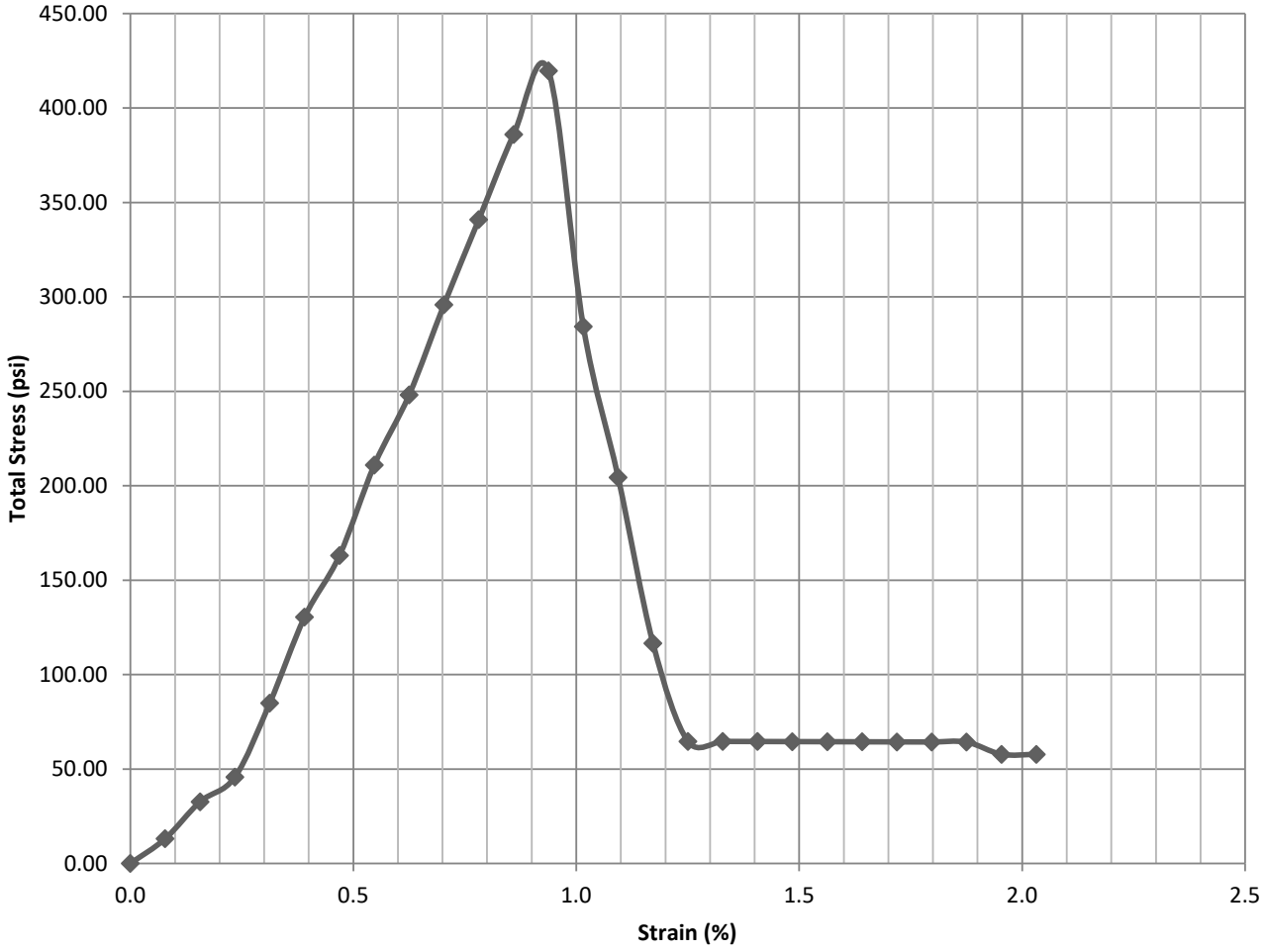


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-39



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1160



Average Initial Diameter (Do):	1.825 in.	Sample Volume:	10.04 in^3
Average Initial Height (Lo):	3.839 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.616 in^2	Sample Weight:	0.701 lbs.
In-Situ Unit Weight:	120.5 pcf	L/D Ratio:	2.104
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-39 / NQ-1		
Depth/Elevation	44.3' - 44.6'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 420 psi ε_{ULT} = 0.9%

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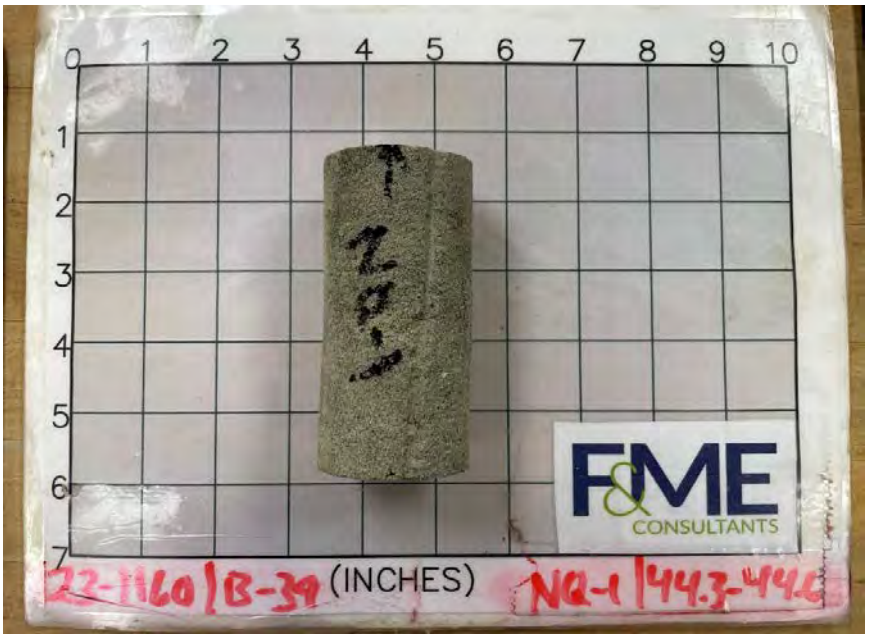
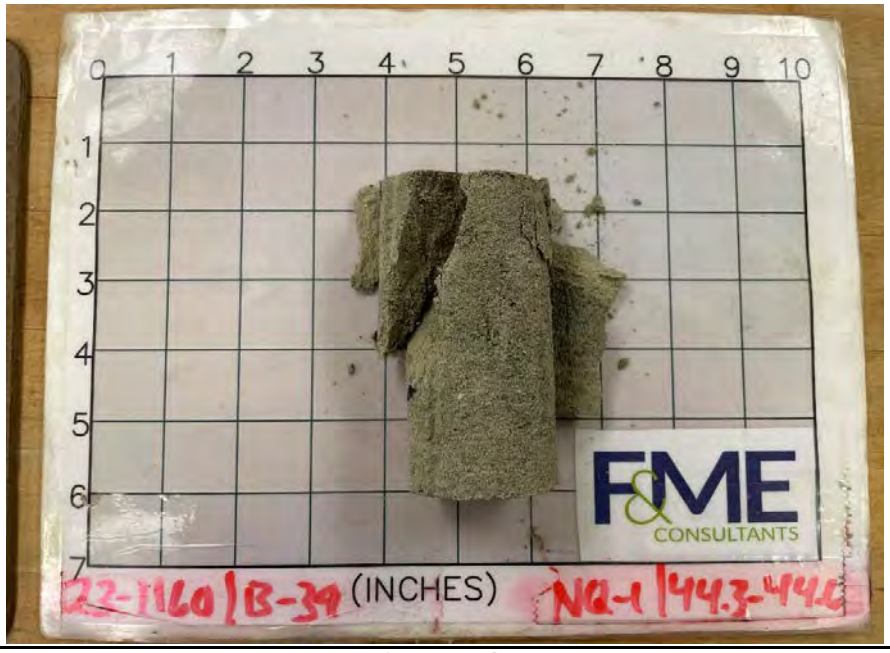
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1160
Sample Location:	B-39 / NQ-1		**Depth of Sample:**	44.3' - 44.6'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	



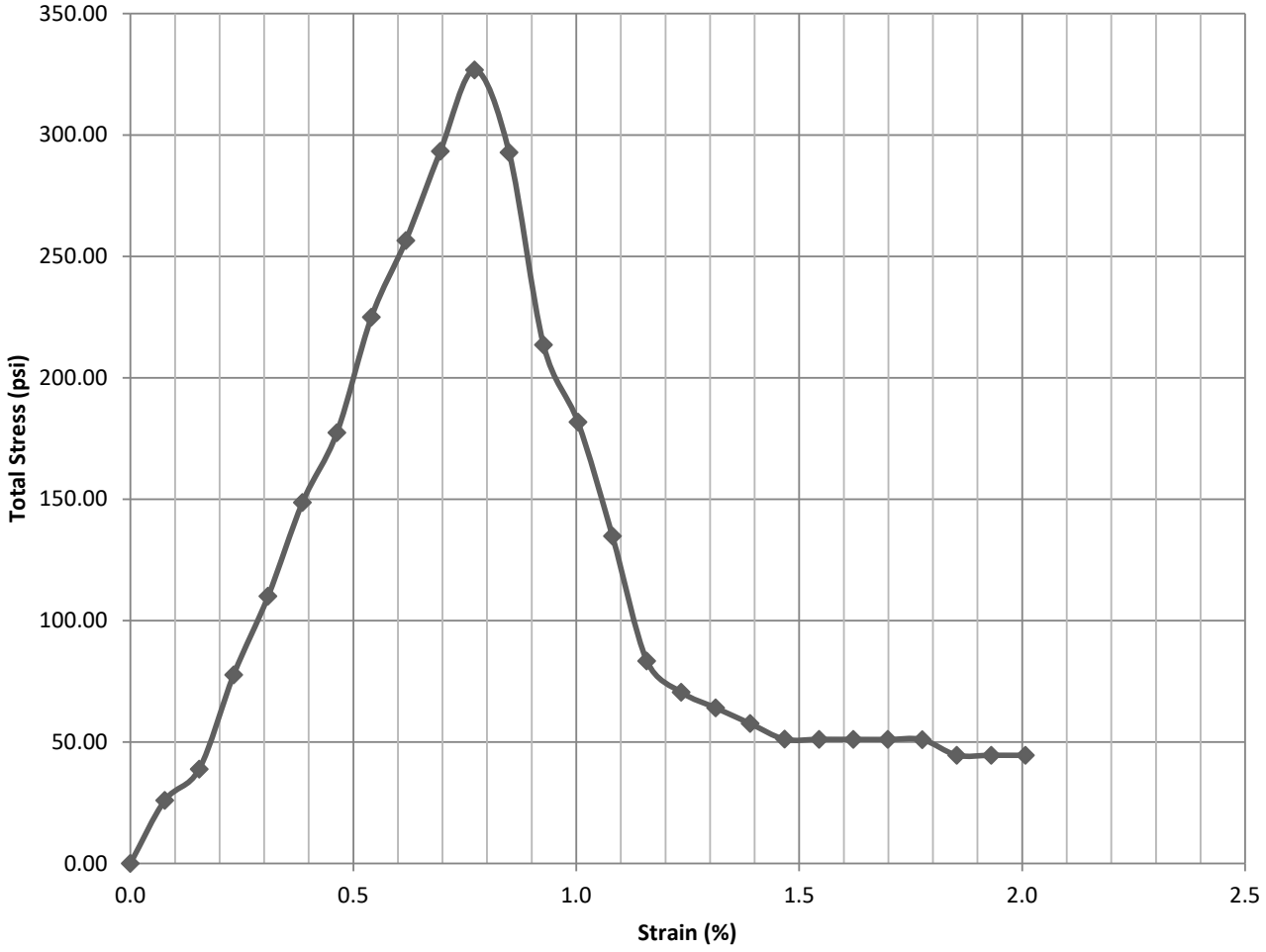
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1160



Average Initial Diameter (Do):	1.833 in.	Sample Volume:	10.25 in^3
Average Initial Height (Lo):	3.885 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.639 in^2	Sample Weight:	0.686 lbs.
In-Situ Unit Weight:	115.6 pcf	L/D Ratio:	2.119
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-39 / NQ-3		
Depth/Elevation	56.4' - 56.7'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 325 psi ε_{ULT} = 0.8%

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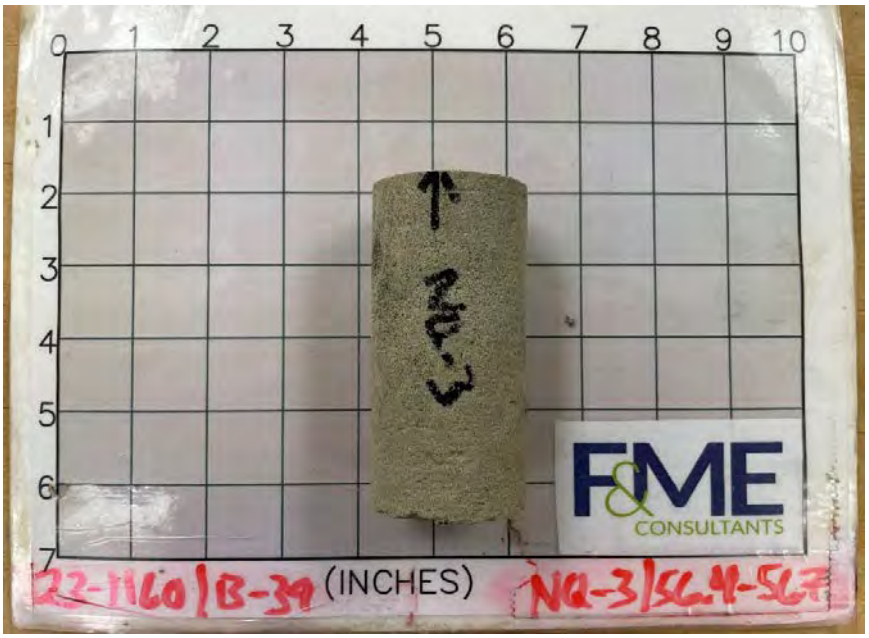
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1160
Sample Location:	B-39 / NQ-3		Depth of Sample:	56.4' - 56.7'
Tested By:	W. Pitts	Date Tested:	6/2/2023	

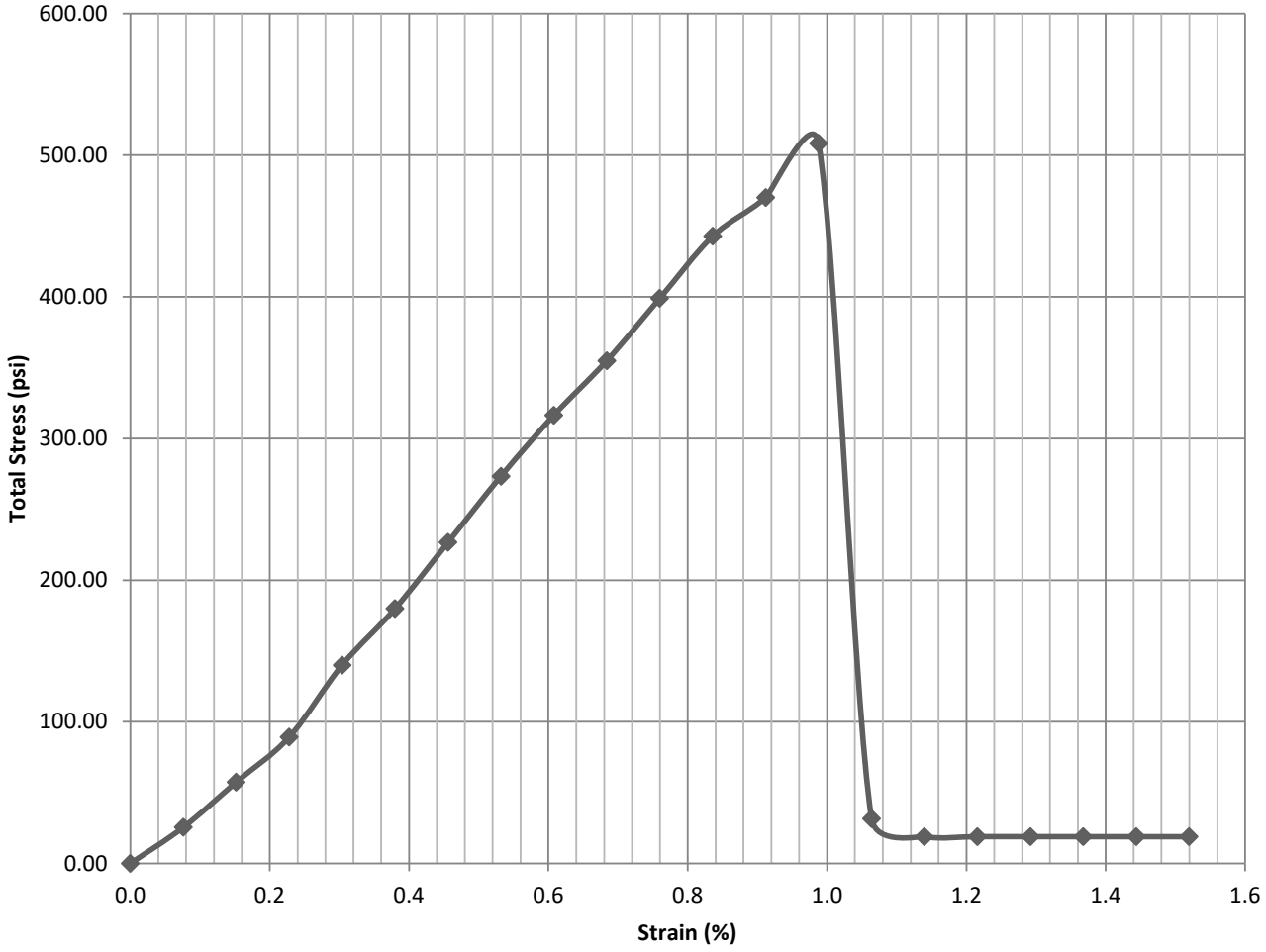


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1160



Average Initial Diameter (Do):	1.848 in.	Sample Volume:	10.59 in^3
Average Initial Height (Lo):	3.948 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.682 in^2	Sample Weight:	0.729 lbs.
In-Situ Unit Weight:	118.9 pcf	L/D Ratio:	2.136
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-39 / NQ-5		
Depth/Elevation	67.3' - 67.6'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 510 psi ε_{ULT} = 1.0%

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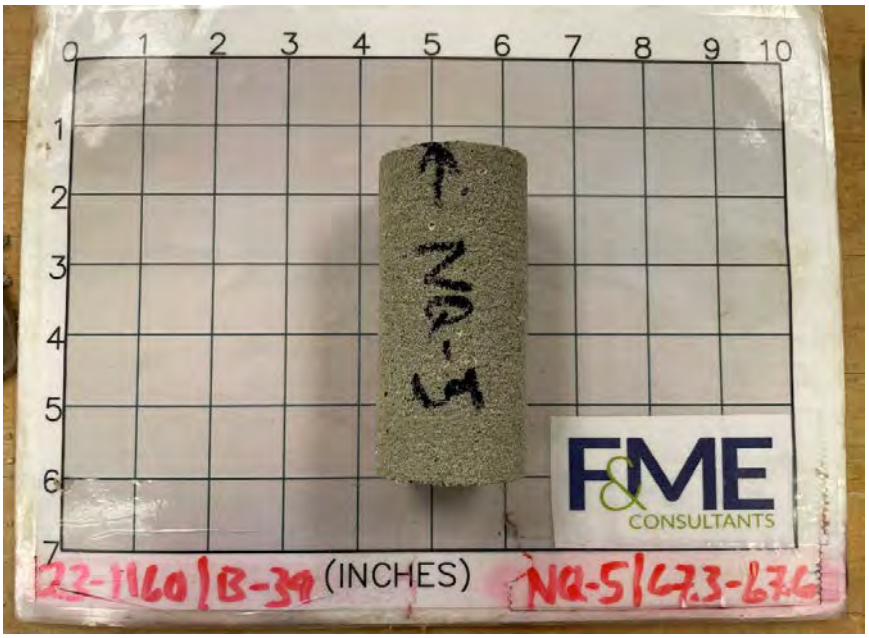
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1160
Sample Location:	B-39 / NQ-5		Depth of Sample:	67.3' - 67.6'
Tested By:	W. Pitts	Date Tested:	6/2/2023	



Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.853	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.811	Reviewed By	WJG
Boring	B-39	Unit Weight (pcf)	143.2	Core Size	NQ
Sample No.	NQ-7 / 23-1160	L/D Ratio	2.06	Recovery	88%
Depth	77.6' - 77.9'	Load Rate (psi/sec)	10	RQD	38%
Description	Gray/Brown Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	0	0	0	0	#DIV/0!	#DIV/0!
20%	0	0	0	0	#DIV/0!	#DIV/0!
30%	0	0	0	0	#DIV/0!	#DIV/0!
40%	-1394	332	947	351	0.50	0.24
50%	-1862	634	1,202	446	0.48	0.34
60%	-2293	1112	1,438	533	0.47	0.48
70%	-2540	1565	1,683	624	0.49	0.62
80%	-3289	3435	1,947	722	0.44	1.04
90%	-3614	4532	2,157	800	0.44	1.25
100%	-3875	5169	2,400	890		

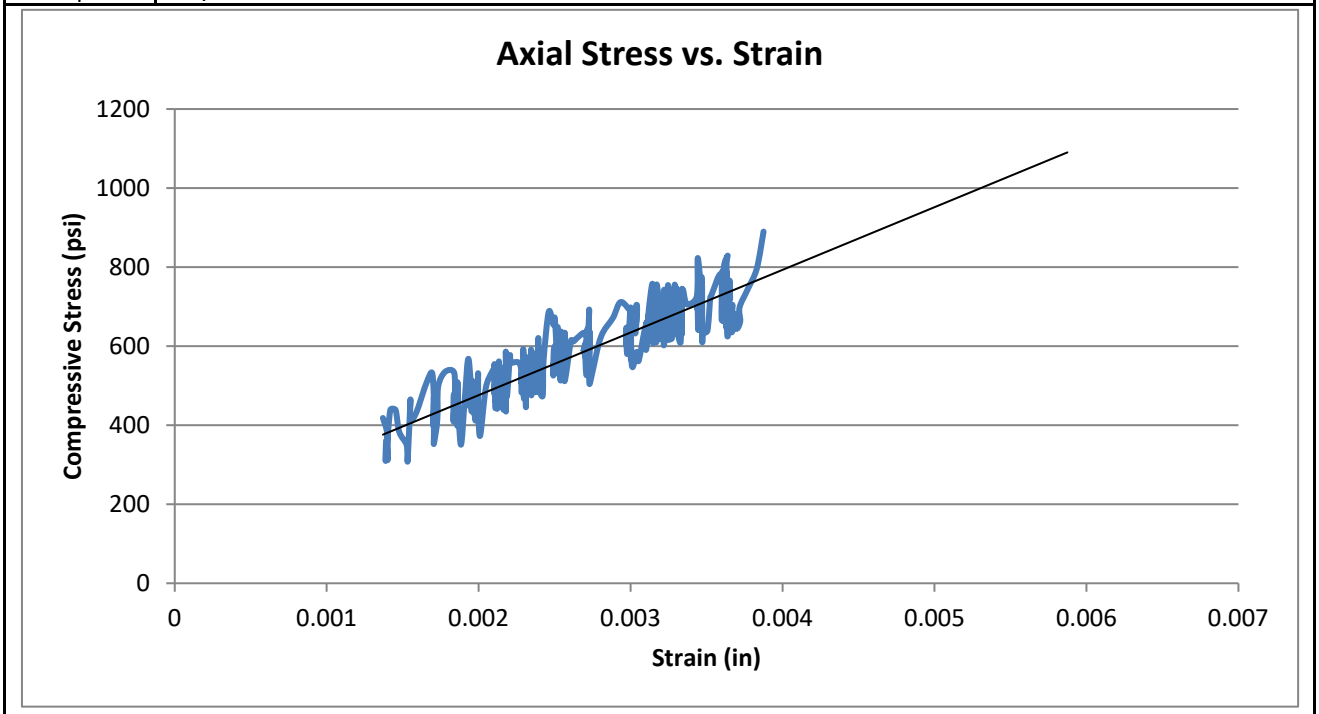
Sample Photos

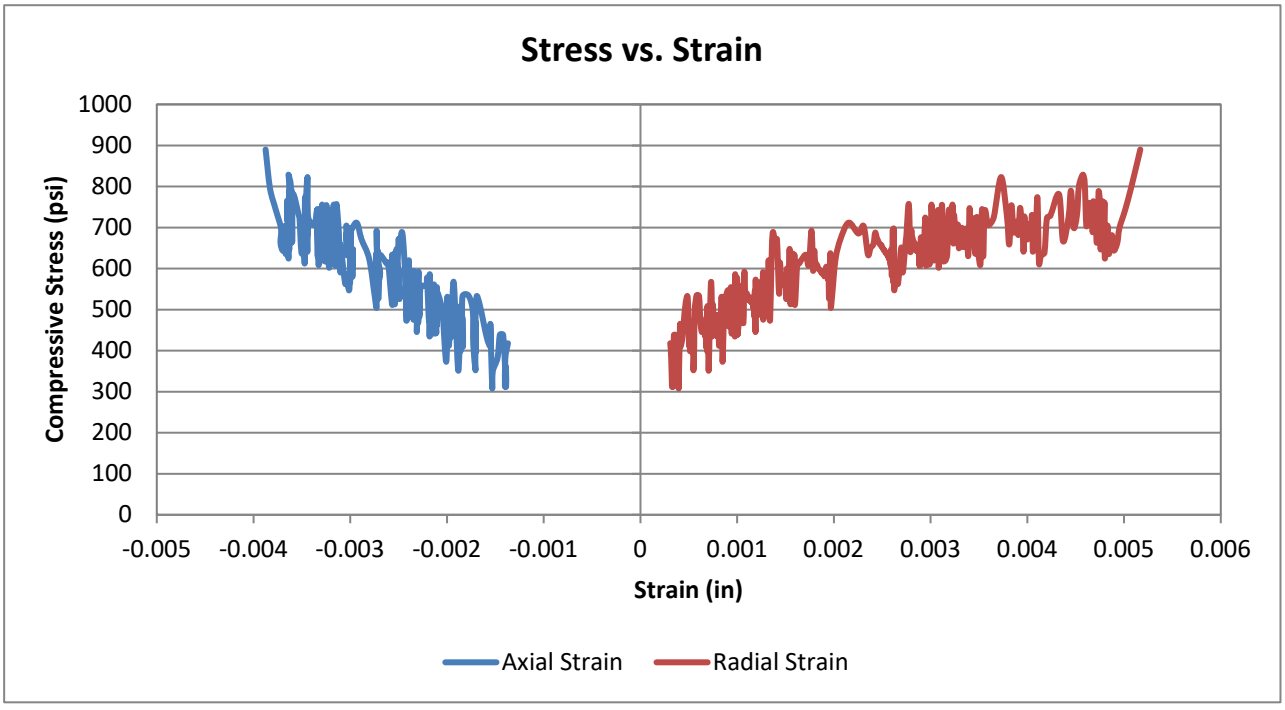
Test Results

Unconfined Compressive Strength (psi)	**890**	Elastic Modulus (psi)	4.45E+05
		Poisson's Ratio in Elastic Range	0.67
Comments	Elastic range was taken as between 0.0015 and 0.0035 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range. The Poission's Ratio for this sample is outside of the expected range and should be used with care.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

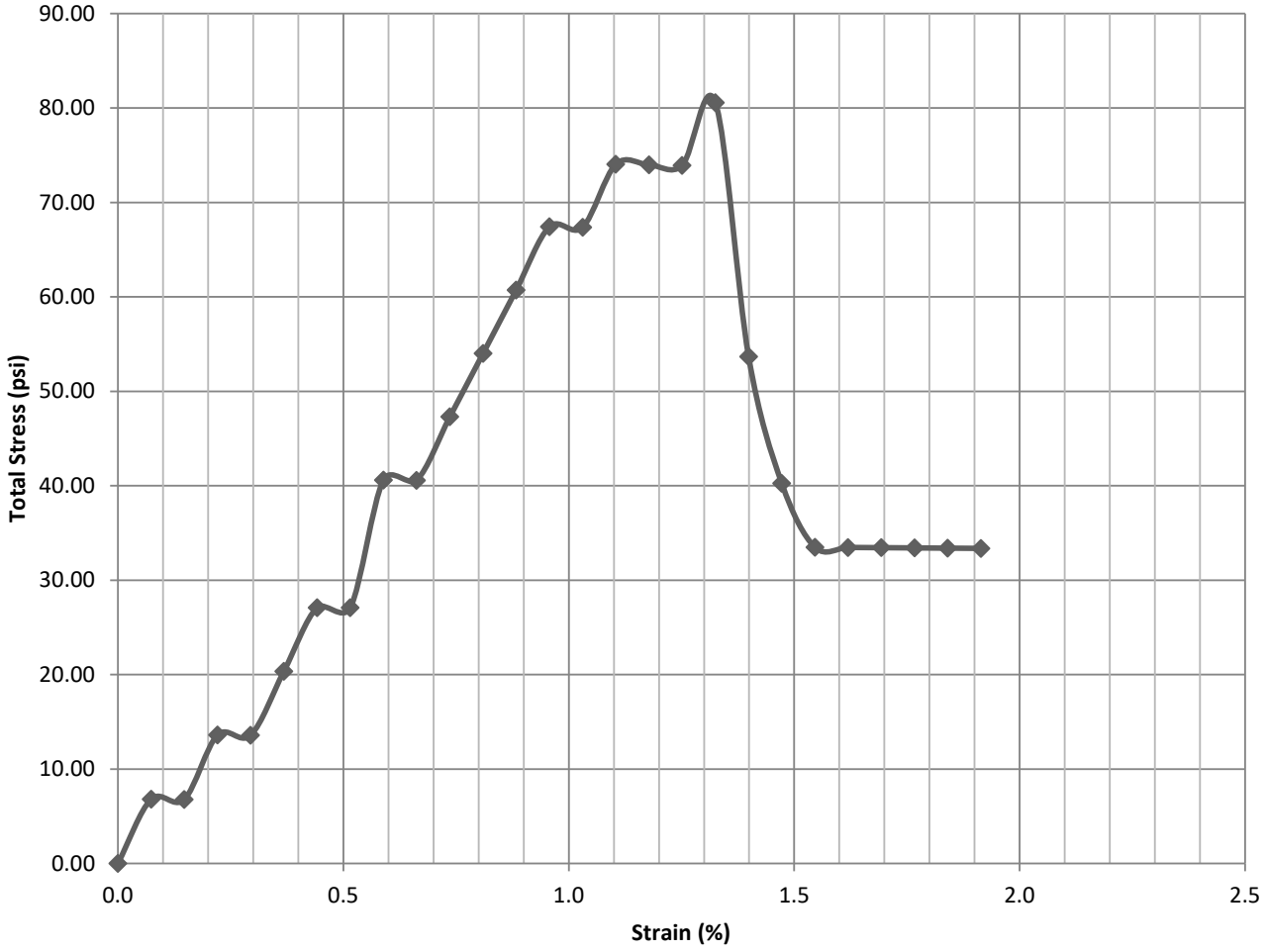
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.853	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.811	Reviewed By	WJG
Boring	B-39	Unit Weight (pcf)	143.2	Core Size	NQ
Sample No.	NQ-7 / 23-1160	L/D Ratio	2.06	Recovery	88%
Depth	77.6' - 77.9'	Load Rate (psi/sec)	10	RQD	38%
Description	Gray/Brown Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1160



Average Initial Diameter (Do):	1.790 in.	Sample Volume:	10.25 in^3
Average Initial Height (Lo):	4.075 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.516 in^2	Sample Weight:	0.712 lbs.
In-Situ Unit Weight:	119.9 pcf	L/D Ratio:	2.277
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	6/2/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-39 / NQ-8		
Depth/Elevation	79.0' - 79.3'		

Sample Type : Soil Core
Target Strain Rate : 0.60% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 80 psi ε_{ULT} = 1.3%

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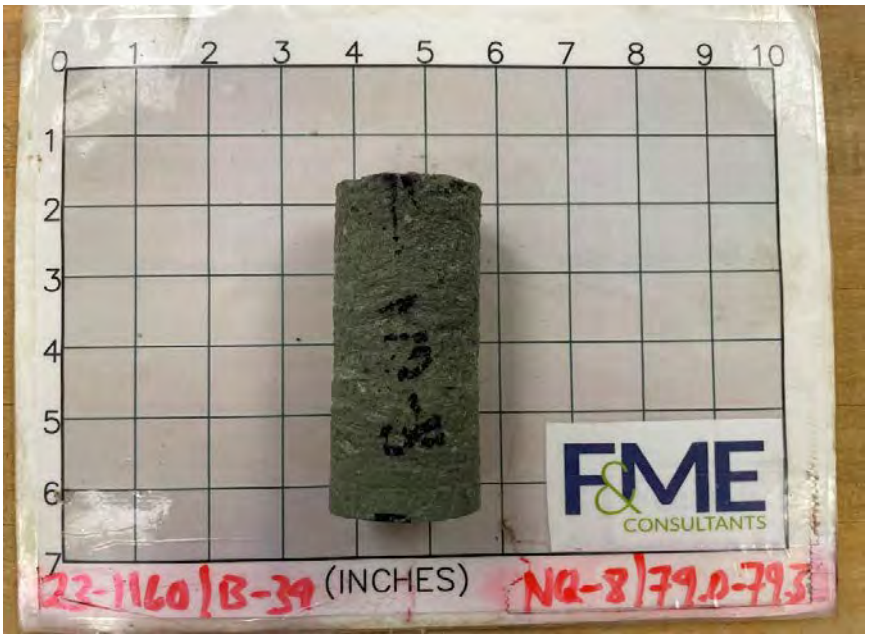
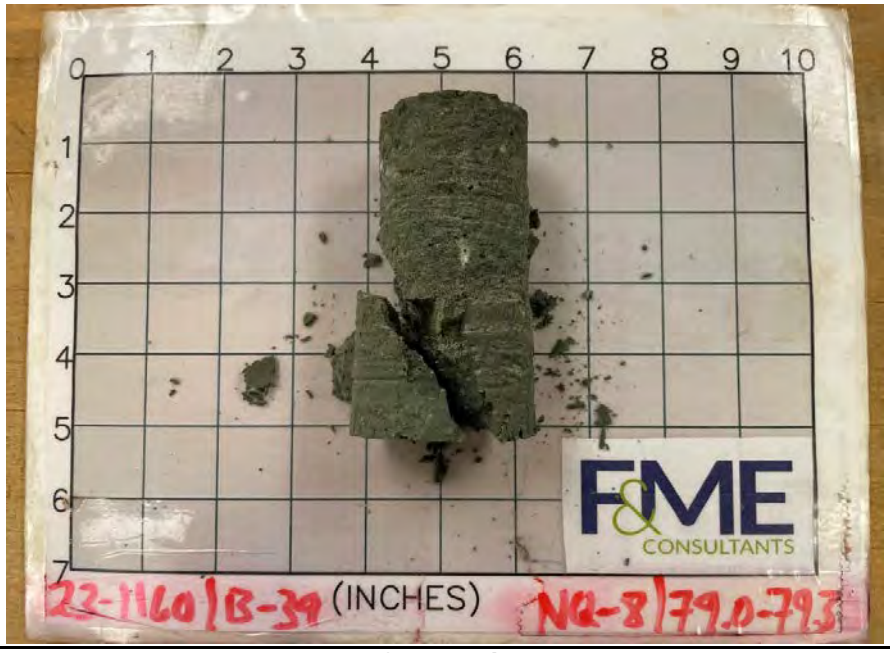
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1160
Sample Location:	B-39 / NQ-8		**Depth of Sample:**	79.0' - 79.3'
Tested By:	W. Pitts	**Date Tested:**	6/2/2023	

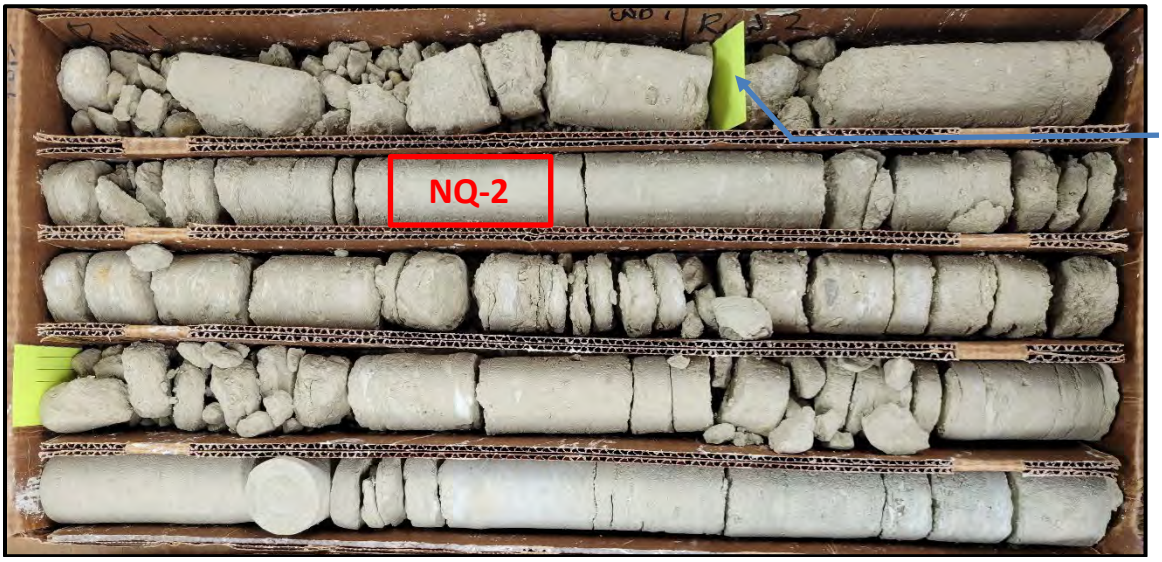


Before Break



After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-40



Begin Run 1
45.5 Feet

Begin Run 2
47.0 Feet

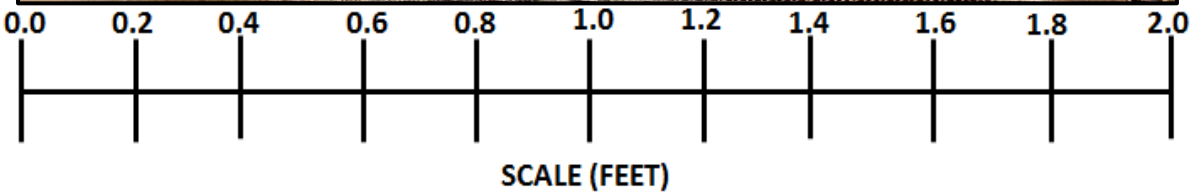
Begin Run 3
52.0 Feet

End Run 3
57.0 Feet

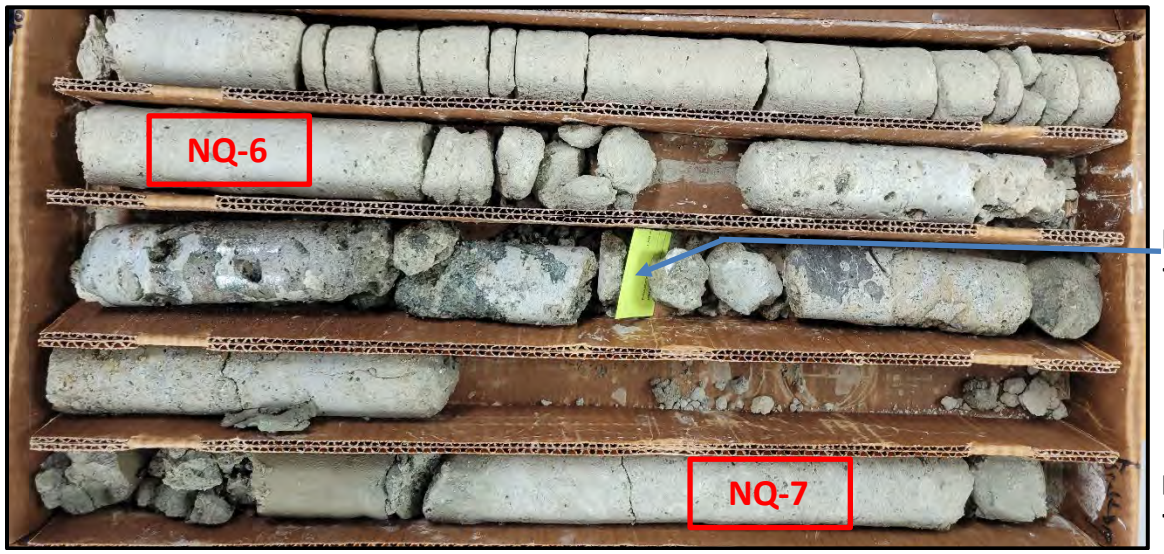
Begin Run 4
57.0 Feet

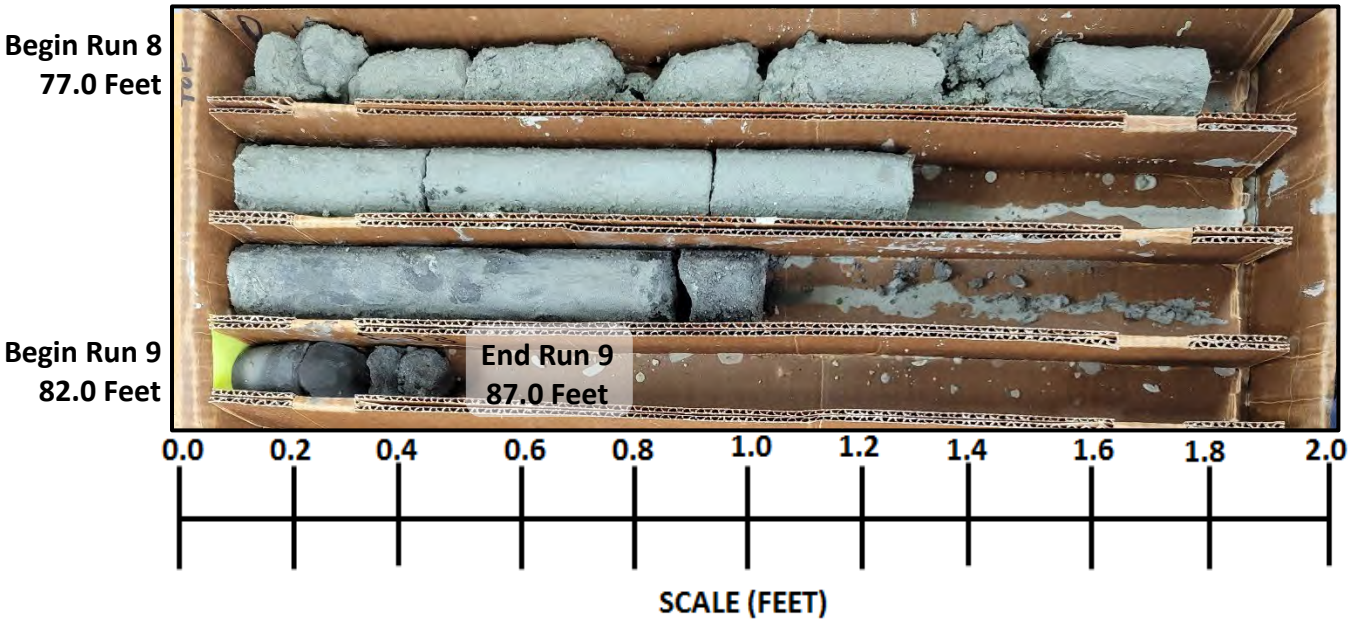
Begin Run 5
62.0 Feet

End Run 5
67.0 Feet



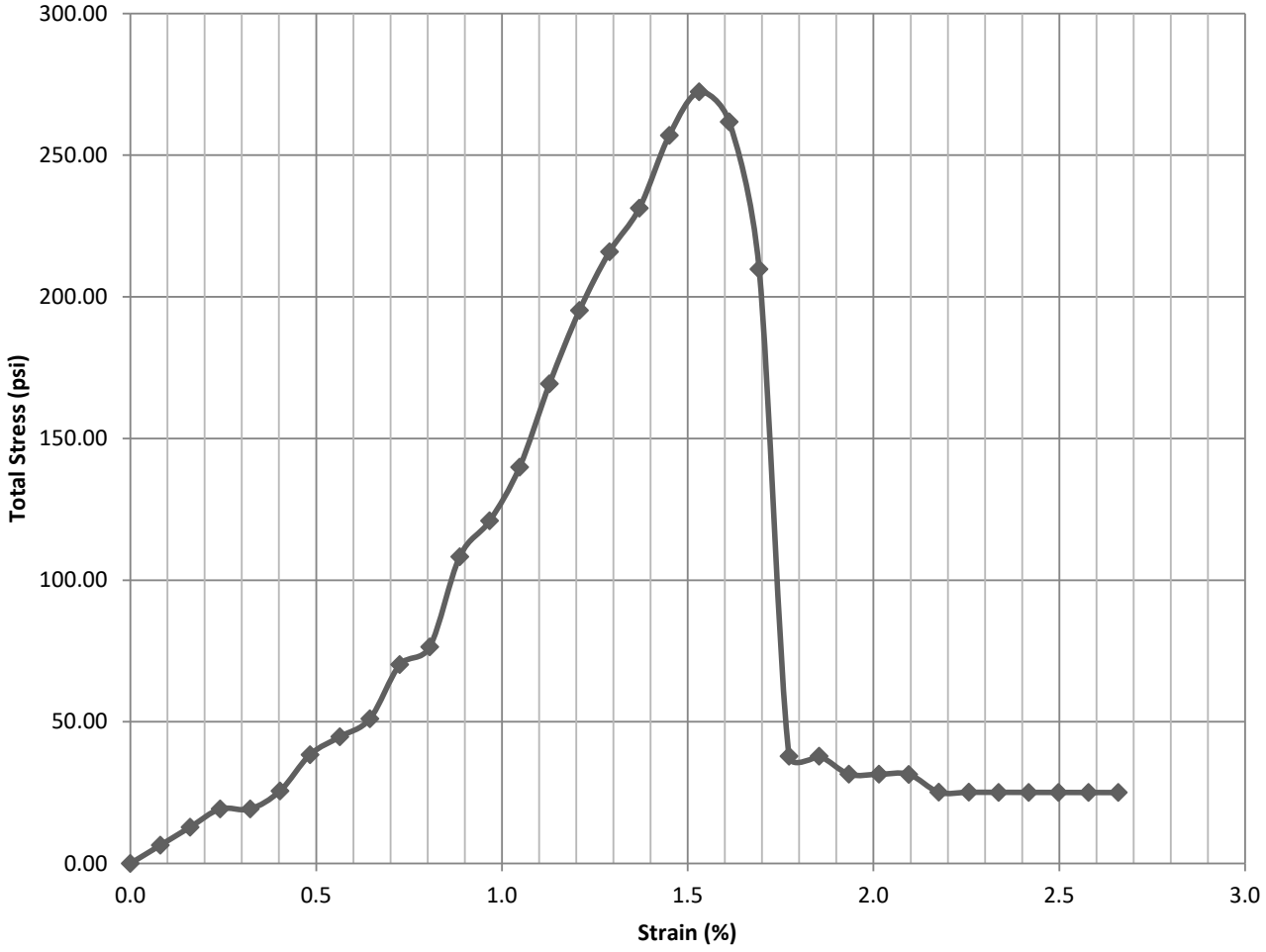
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-40





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0565



Average Initial Diameter (Do):	1.842 in.	Sample Volume:	9.921 in^3
Average Initial Height (Lo):	3.723 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.665 in^2	Sample Weight:	0.695 lbs.
In-Situ Unit Weight:	121.1 pcf	L/D Ratio:	2.021
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/8/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-40 / NQ-2		
Depth/Elevation	48.4' - 48.8'		

Sample Type : Soil Core
Target Strain Rate : 0.8% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 270 psi ε_{ULT} = 1.5%

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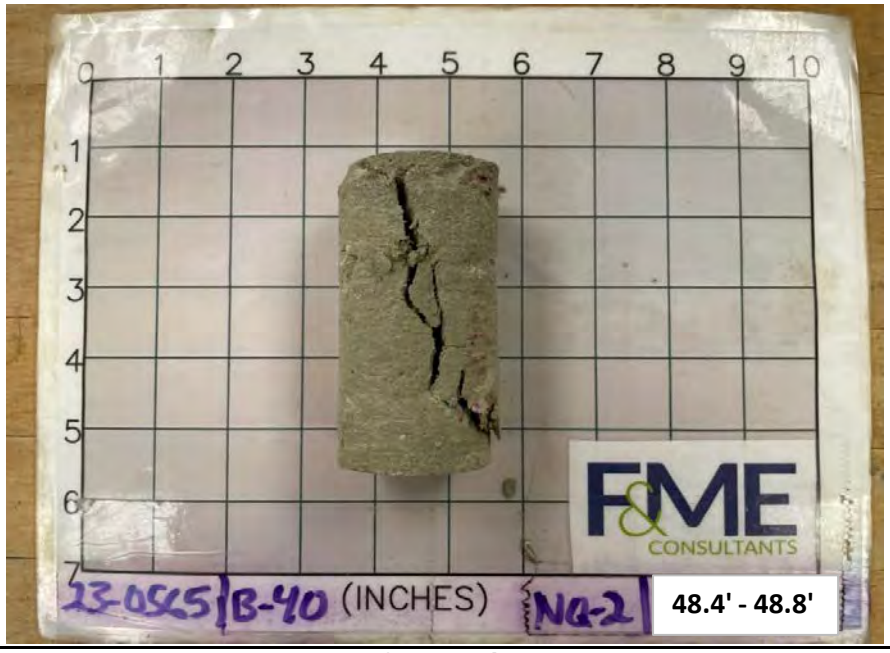
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0565
Sample Location:	B-40 / NQ-2		**Depth of Sample:**	48.4' - 48.8'
Tested By:	W. Pitts	**Date Tested:**	3/8/2023	

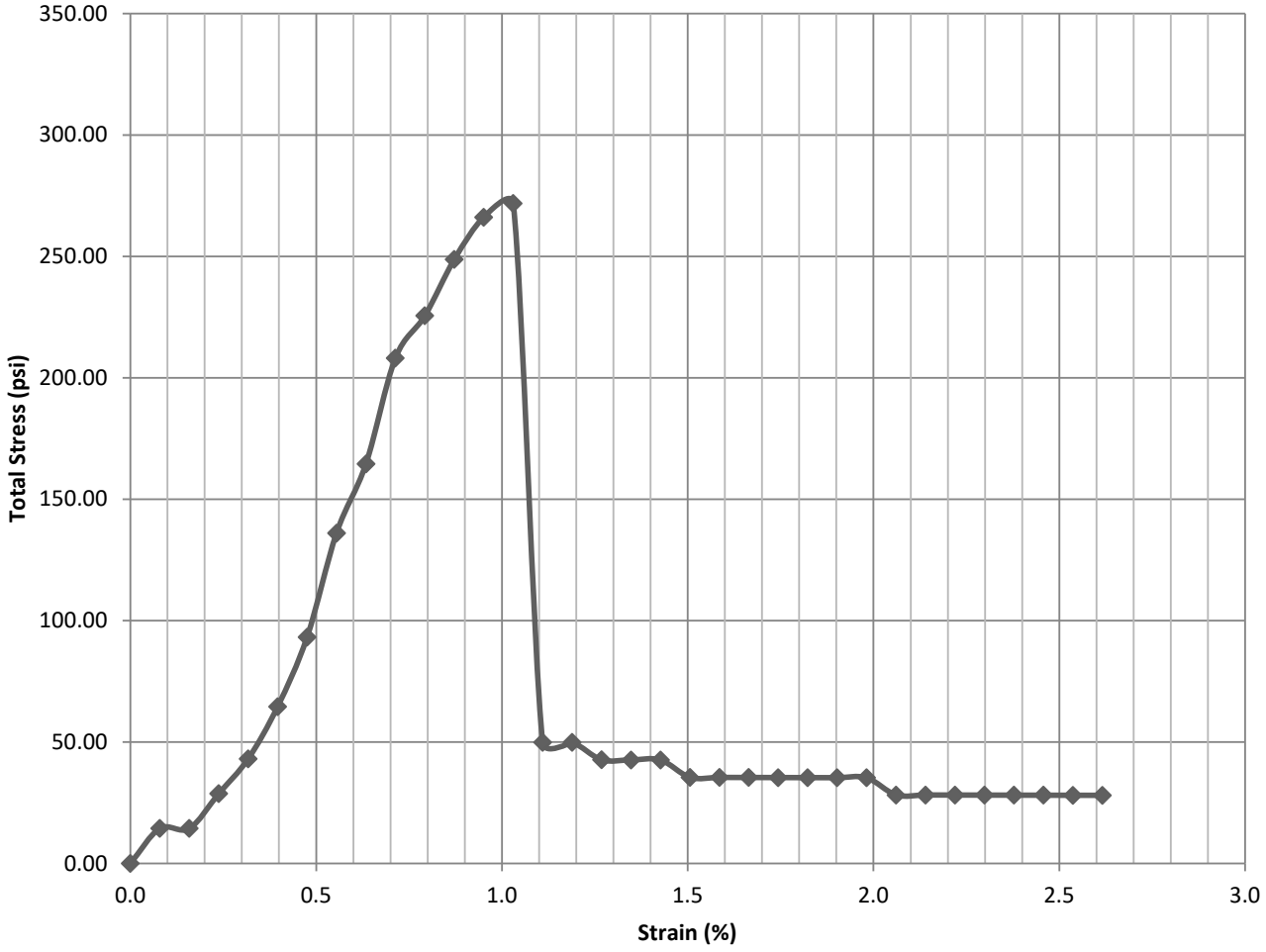
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0565



Average Initial Diameter (Do):	1.740 in.	Sample Volume:	9.000 in^3
Average Initial Height (Lo):	3.785 in.	Sample Volume:	0.005 ft^3
Average Initial Area (Ao):	2.378 in^2	Sample Weight:	0.613 lbs.
In-Situ Unit Weight:	117.7 pcf	L/D Ratio:	2.175
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/8/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-40 / NQ-4		
Depth/Elevation	61.3' - 61.7'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 270 psi ε_{ULT} = 1.0%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0565
Sample Location:	B-40 / NQ-4		**Depth of Sample:**	61.3' - 61.7'
Tested By:	W. Pitts	**Date Tested:**	3/8/2023	

Before Break

After Break

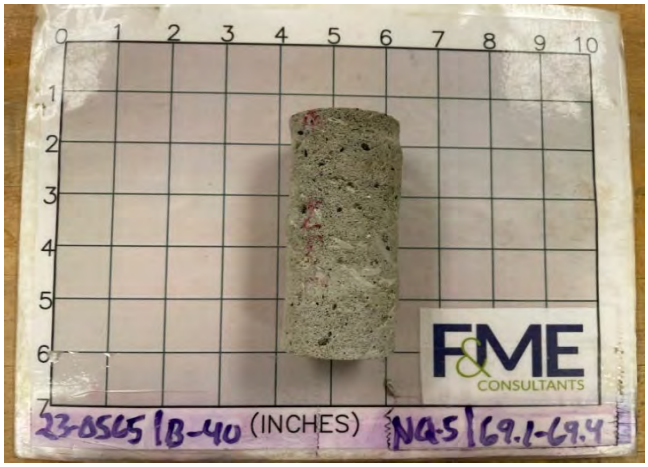
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

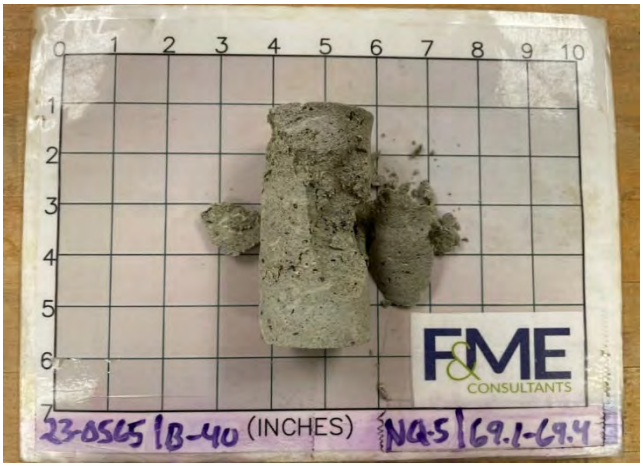
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.91	Reviewed By	WJG
Boring	B-40	Unit Weight (pcf)	139.5	Core Size	NQ
Sample No.	NQ-6 / 23-0565A	L/D Ratio	2.09	Recovery	93%
Depth	69.1' - 69.4'	Load Rate (psi/sec)	10	RQD	36%
Description	Bworn/White/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%	-834	-308	1,547	565	1.35	0.37
50%	-981	449	1,868	682	1.39	0.46
60%	-1599	1529	2,222	812	1.02	0.96
70%	-2089	1731	2,669	975	0.93	0.83
80%	-2887	2193	3,042	1,111	0.77	0.76
90%	-4336	3098	3,417	1,248	0.58	0.71
100%	-4541	3203	3,795	1,386		

Sample Photos





Test Results

Unconfined Compressive Strength (psi)	**1,390**	Elastic Modulus (psi)	8.28E+05
		Poisson's Ratio in Elastic Range	0.78
Comments	Elastic range was taken as between 0.002 and 0.0035 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range. The Poission's Ratio for this sample is outside of the expected range and should be used with care.		

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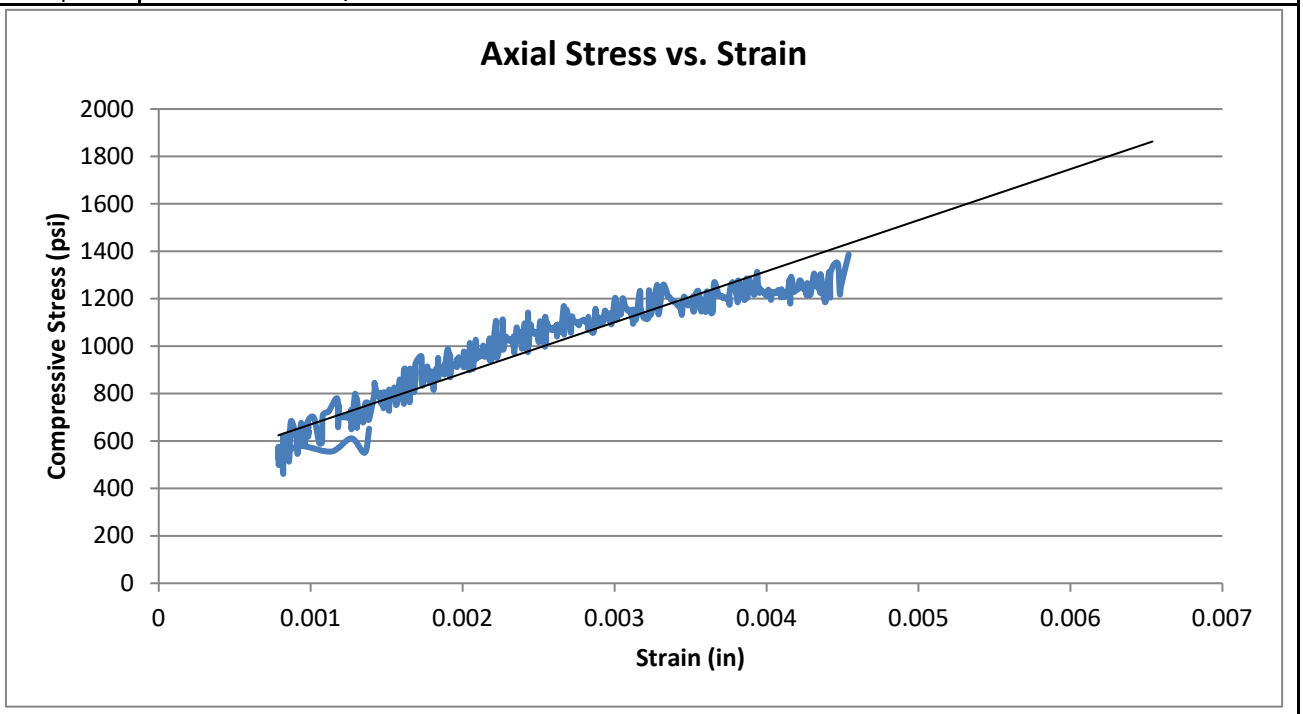
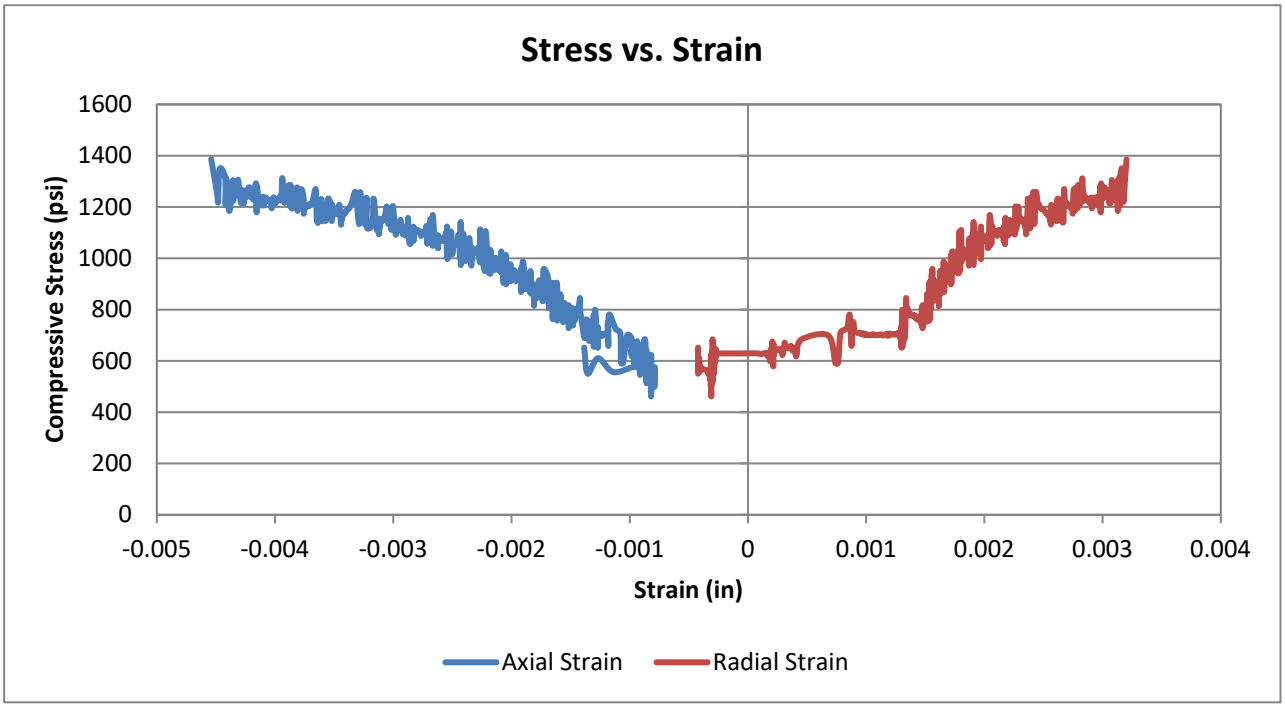
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.867	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.91	Reviewed By	WJG
Boring	B-40	Unit Weight (pcf)	139.5	Core Size	NQ
Sample No.	NQ-6 / 23-0565A	L/D Ratio	2.09	Recovery	93%
Depth	69.1' - 69.4'	Load Rate (psi/sec)	10	RQD	36%
Description	Bworn/White/Gray Limestone				





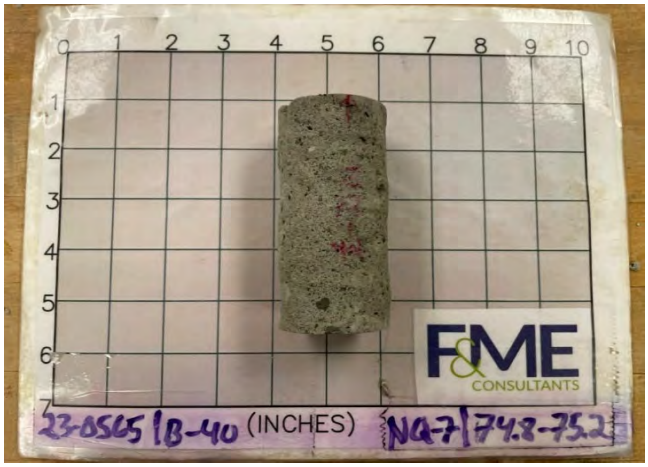
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.842	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.838	Reviewed By	WJG
Boring	B-40	Unit Weight (pcf)	144.0	Core Size	NQ
Sample No.	NQ-7 / 23-0565B	L/D Ratio	2.08	Recovery	68%
Depth	74.8' - 75.2'	Load Rate (psi/sec)	10	RQD	45%
Description	Brown/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%						
40%	-1222	238	1,496	561	0.92	0.19
50%	-1544	428	1,834	688	0.89	0.28
60%	-1730	560	2,178	817	0.94	0.32
70%	-2290	1098	2,574	966	0.84	0.48
80%	-2828	1749	2,927	1,098	0.78	0.62
90%	-3581	2865	3,287	1,233	0.69	0.80
100%	-4395	3703	3,661	1,374		

Sample Photos

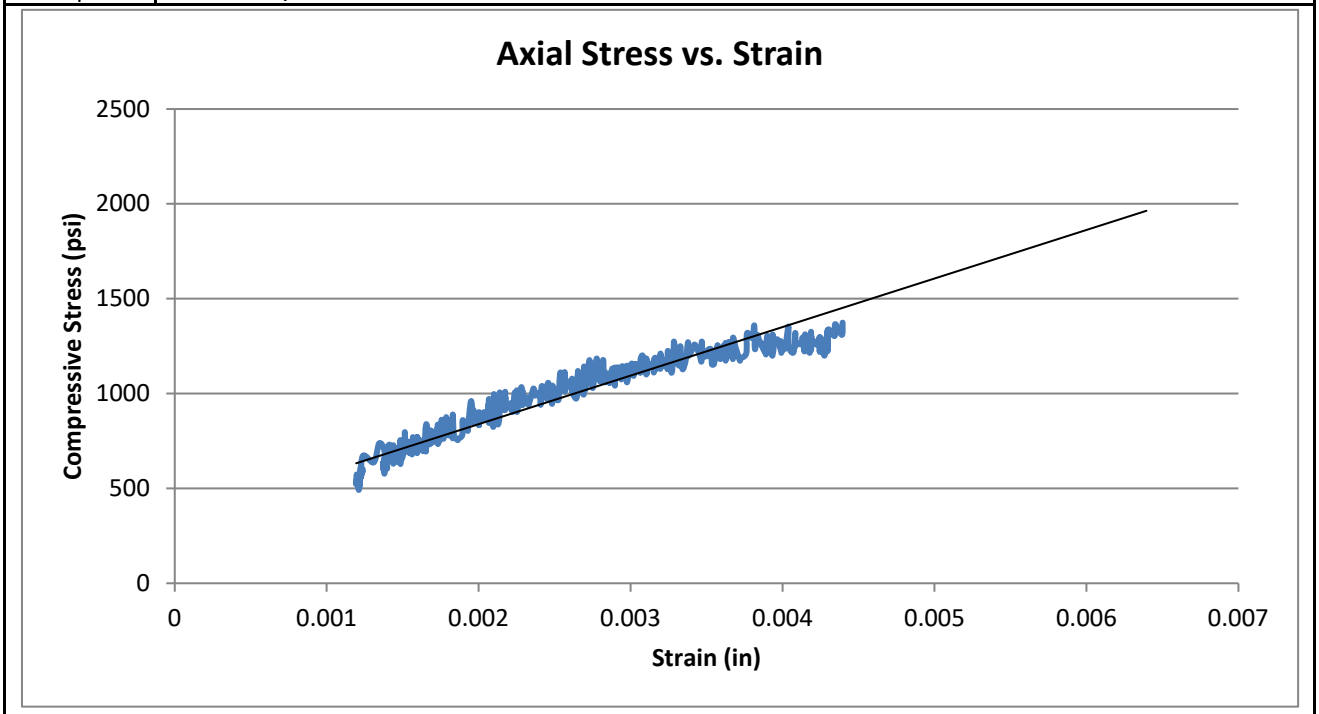


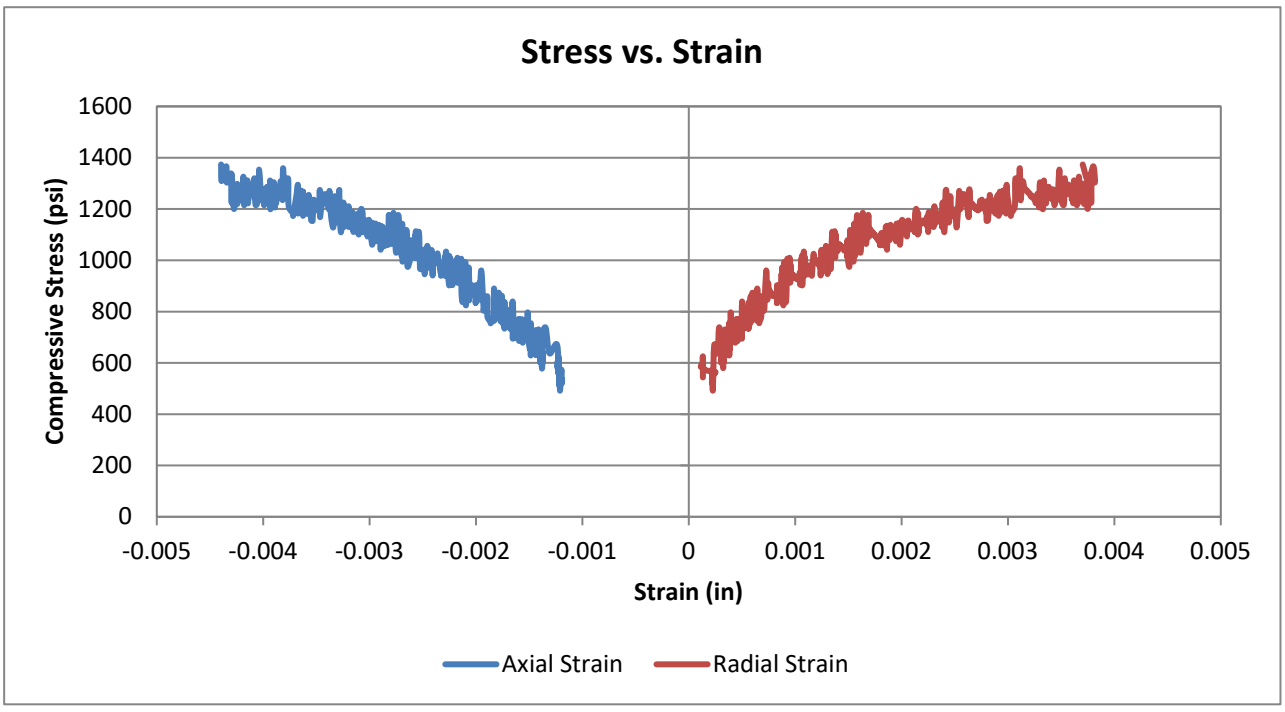
Test Results

Unconfined Compressive Strength (psi)	**1,370**	Elastic Modulus (psi)	8.31E+05
		Poisson's Ratio in Elastic Range	0.49
Comments	Elastic range was taken as between 0.0015 and 0.0035 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range. The Poission's Ratio for this sample is outside of the expected range and should be used with care.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

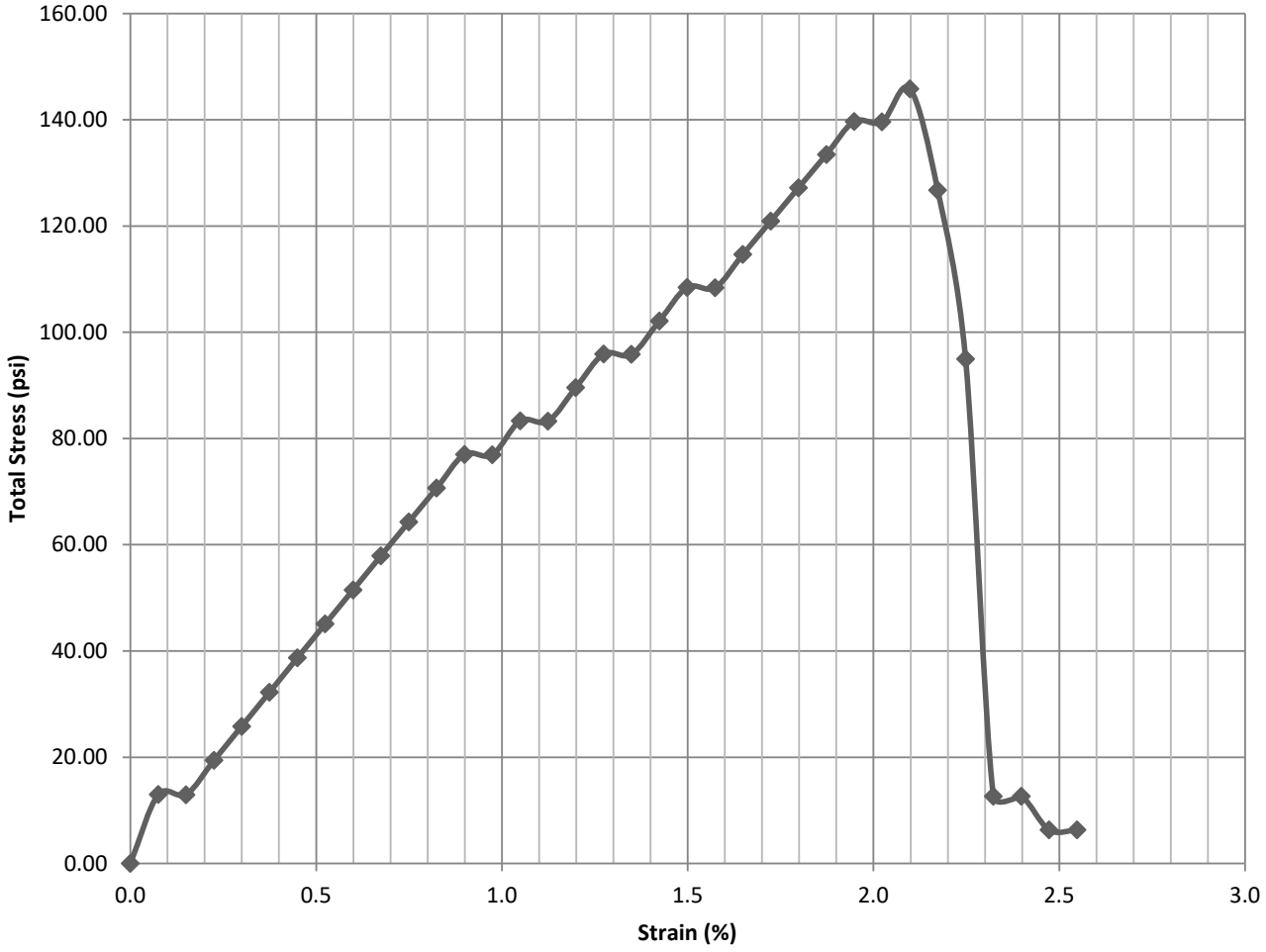
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.842	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.838	Reviewed By	WJG
Boring	B-40	Unit Weight (pcf)	144.0	Core Size	NQ
Sample No.	NQ-7 / 23-0565B	L/D Ratio	2.08	Recovery	68%
Depth	74.8' - 75.2'	Load Rate (psi/sec)	10	RQD	45%
Description	Brown/Gray/White Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0565



Average Initial Diameter (Do):	1.835 in.	Sample Volume:	10.59 in^3
Average Initial Height (Lo):	4.004 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.645 in^2	Sample Weight:	0.707 lbs.
In-Situ Unit Weight:	115.3 pcf	L/D Ratio:	2.182
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/20/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-40 / NQ-8		
Depth/Elevation	80.3' - 80.7'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Silty SAND (SM/A-2-4)

$\sigma_{c\text{-}ULT}$ = 145 psi ε_{ULT} = 2.1%

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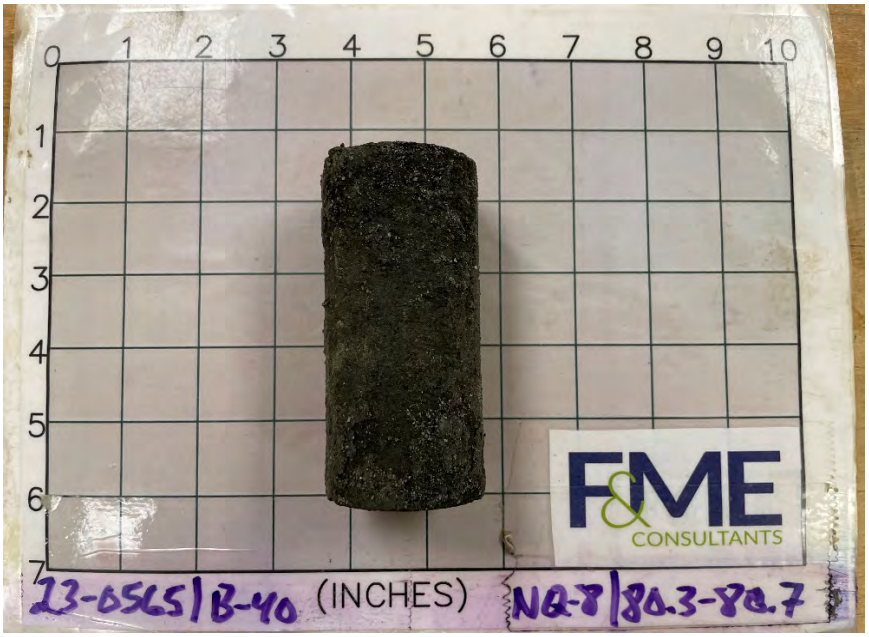
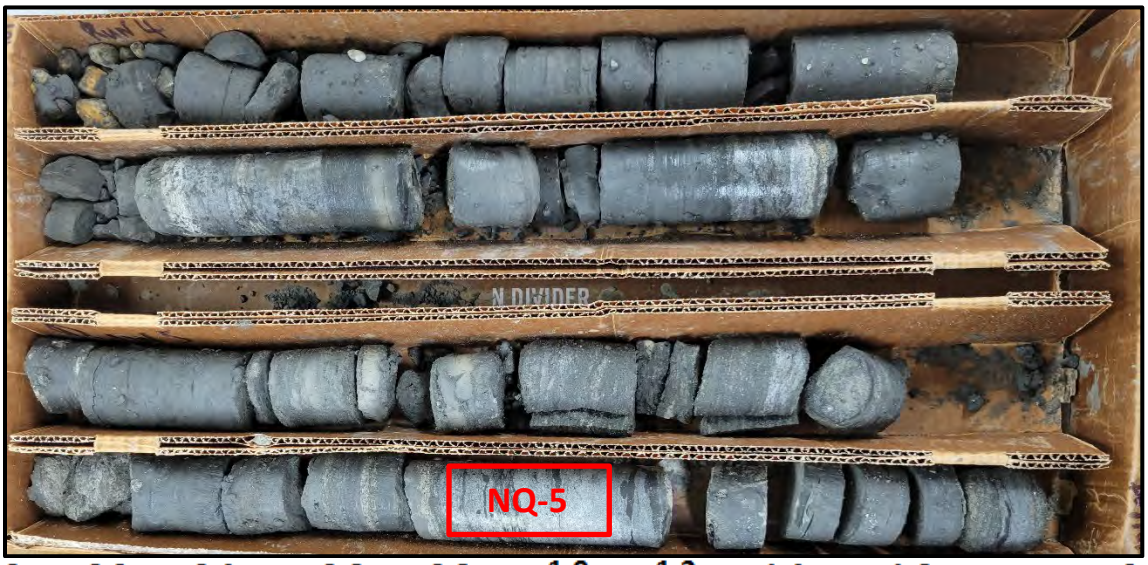
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0565
Sample Location:	B-40 / NQ-8		**Depth of Sample:**	80.3' - 80.7'
Tested By:	W. Pitts	**Date Tested:**	3/20/2023	



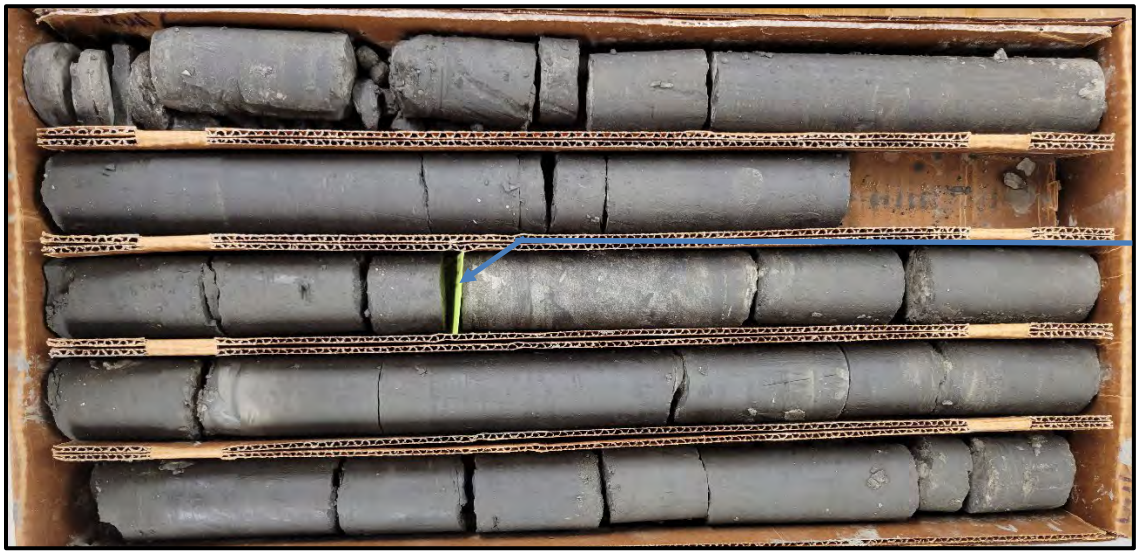
Before Break

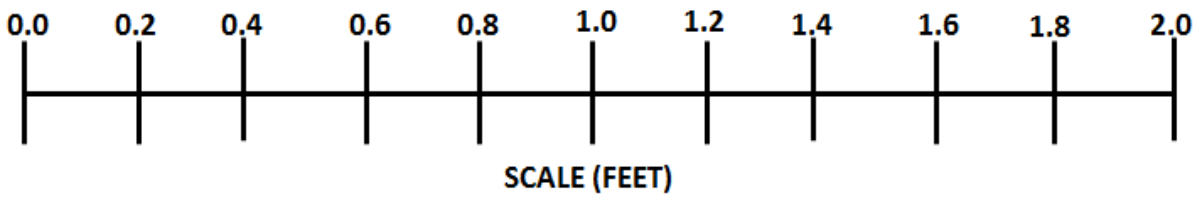
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-42



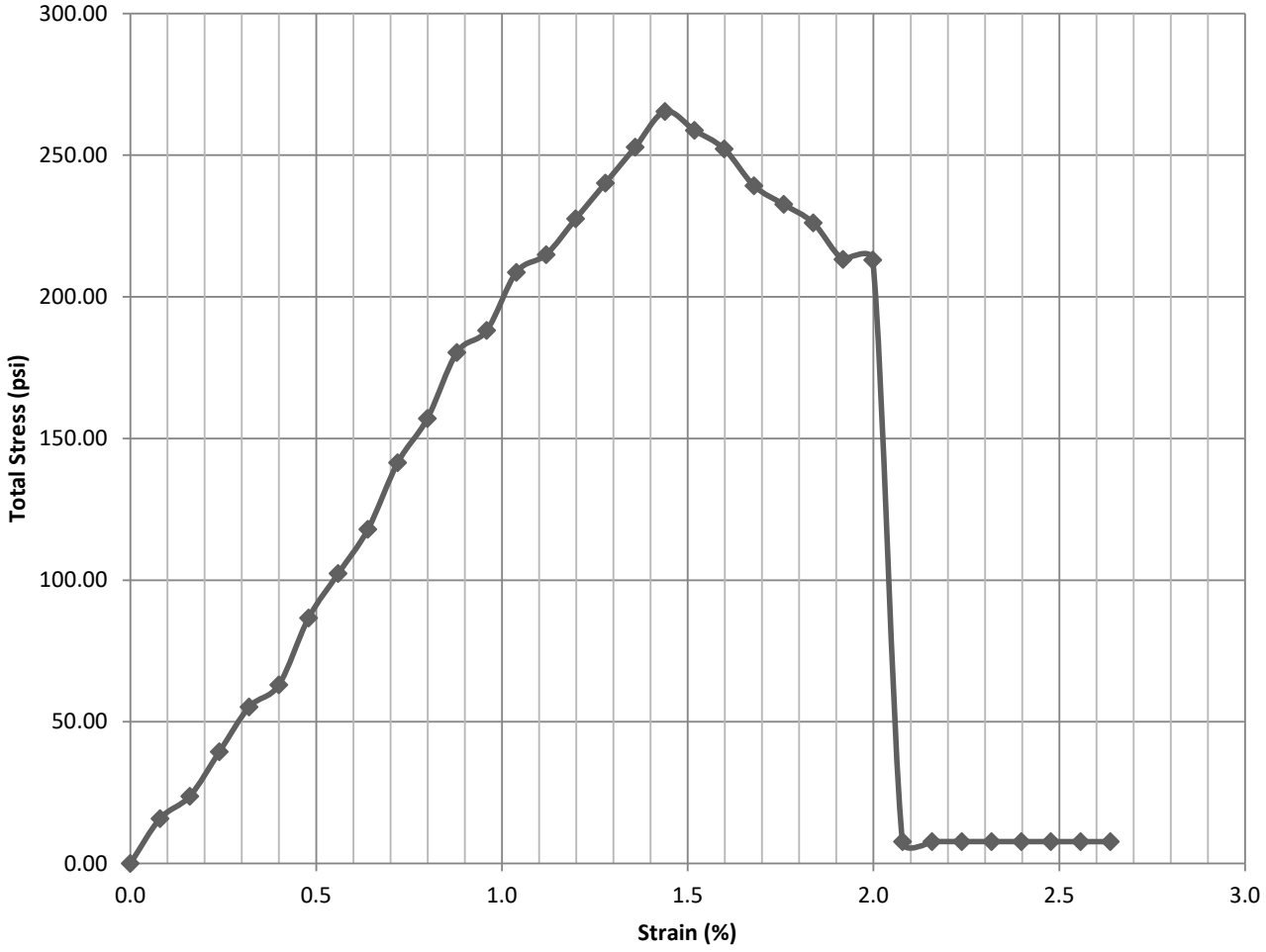
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-42





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0566



Average Initial Diameter (Do):	1.660 in.	Sample Volume:	8.12 in^3
Average Initial Height (Lo):	3.754 in.	Sample Volume:	0.005 ft^3
Average Initial Area (Ao):	2.164 in^2	Sample Weight:	0.537 lbs.
In-Situ Unit Weight:	114.2 pcf	L/D Ratio:	2.261
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/21/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-42 / NQ-3		
Depth/Elevation	83.1' - 83.4'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Silty SAND (SM/A-2-4)

$\sigma_{c\text{-}ULT}$ = 265 psi ε_{ULT} = 1.4%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0566
Sample Location:	B-42 / NQ-3		**Depth of Sample:**	83.1' - 83.4'
Tested By:	W. Pitts	**Date Tested:**	3/21/2023	

Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.871	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.908	Reviewed By	WJG
Boring	B-42	Unit Weight (pcf)	149.8	Core Size	NQ
Sample No.	NQ-5 / 23-0566	L/D Ratio	2.09	Recovery	63%
Depth	95.8' - 96.2'	Load Rate (psi/sec)	10	RQD	17%
Description	Black/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus $x10^6$ (psi)	Poisson's Ratio
10%	-566	29	2,224	809	2.86	0.05
20%	-1143	76	4,419	1,607	2.81	0.07
30%	-1727	112	6,627	2,410	2.79	0.06
40%	-2341	140	8,847	3,218	2.75	0.06
50%	-2986	173	11,054	4,020	2.69	0.06
60%	-3693	206	13,290	4,834	2.62	0.06
70%	-4471	238	15,438	5,615	2.51	0.05
80%	-5348	275	17,671	6,427	2.40	0.05
90%	-6430	341	19,883	7,232	2.25	0.05
100%	-13986	3087	22,118	8,045		

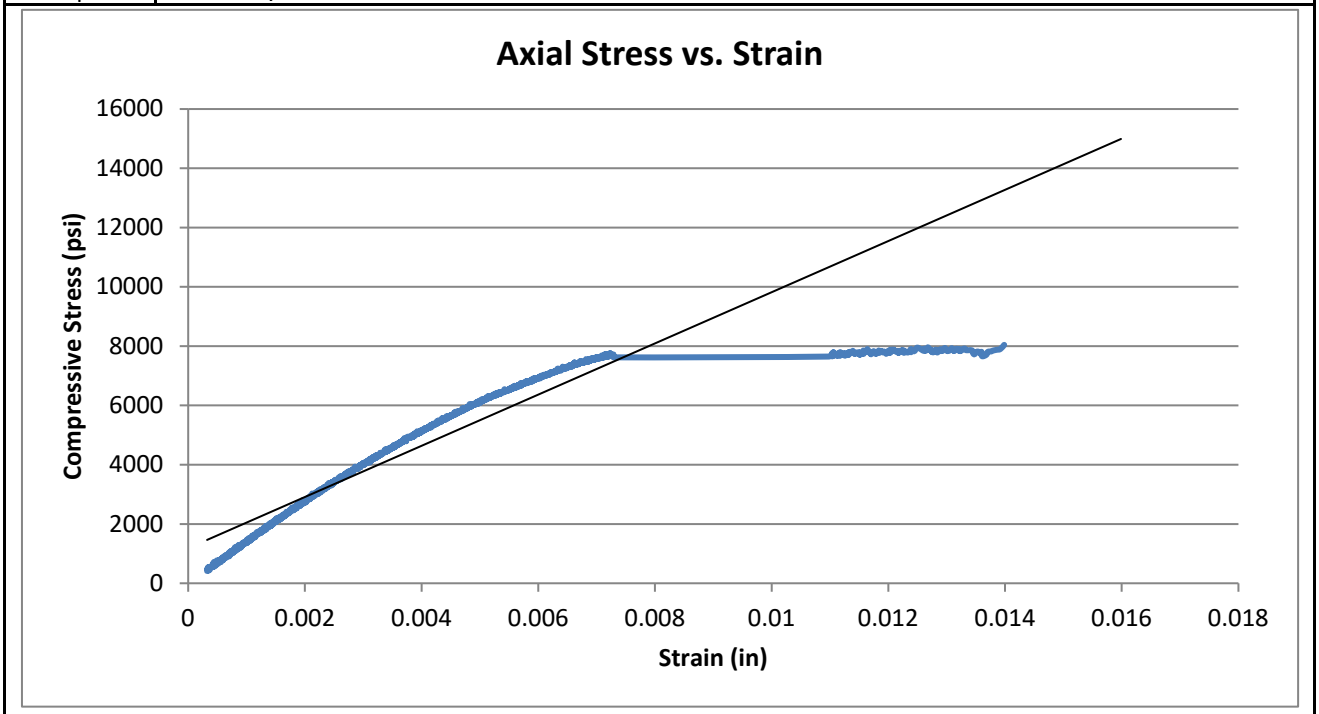
Sample Photos

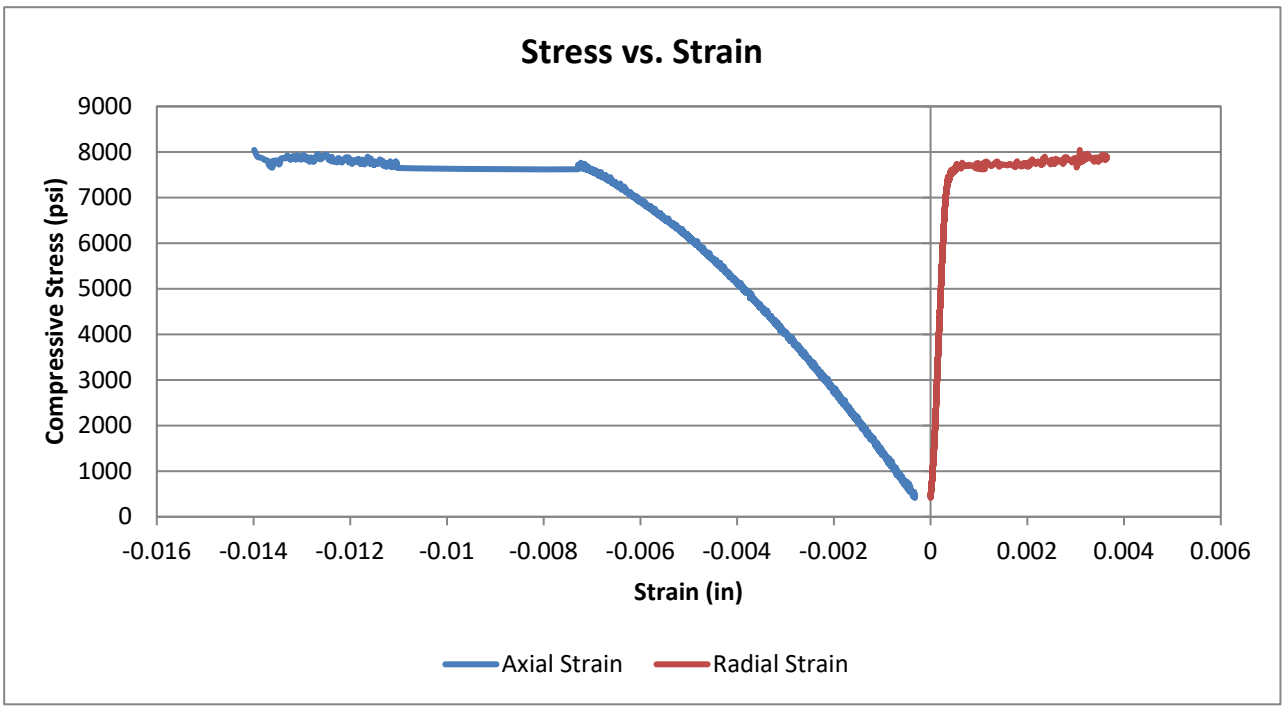
Test Results

Unconfined Compressive Strength (psi)	**8,040**	Elastic Modulus (psi)	2.68E+06
		Poisson's Ratio in Elastic Range	0.06
Comments	Elastic range was taken as between 0.001 and 0.005 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

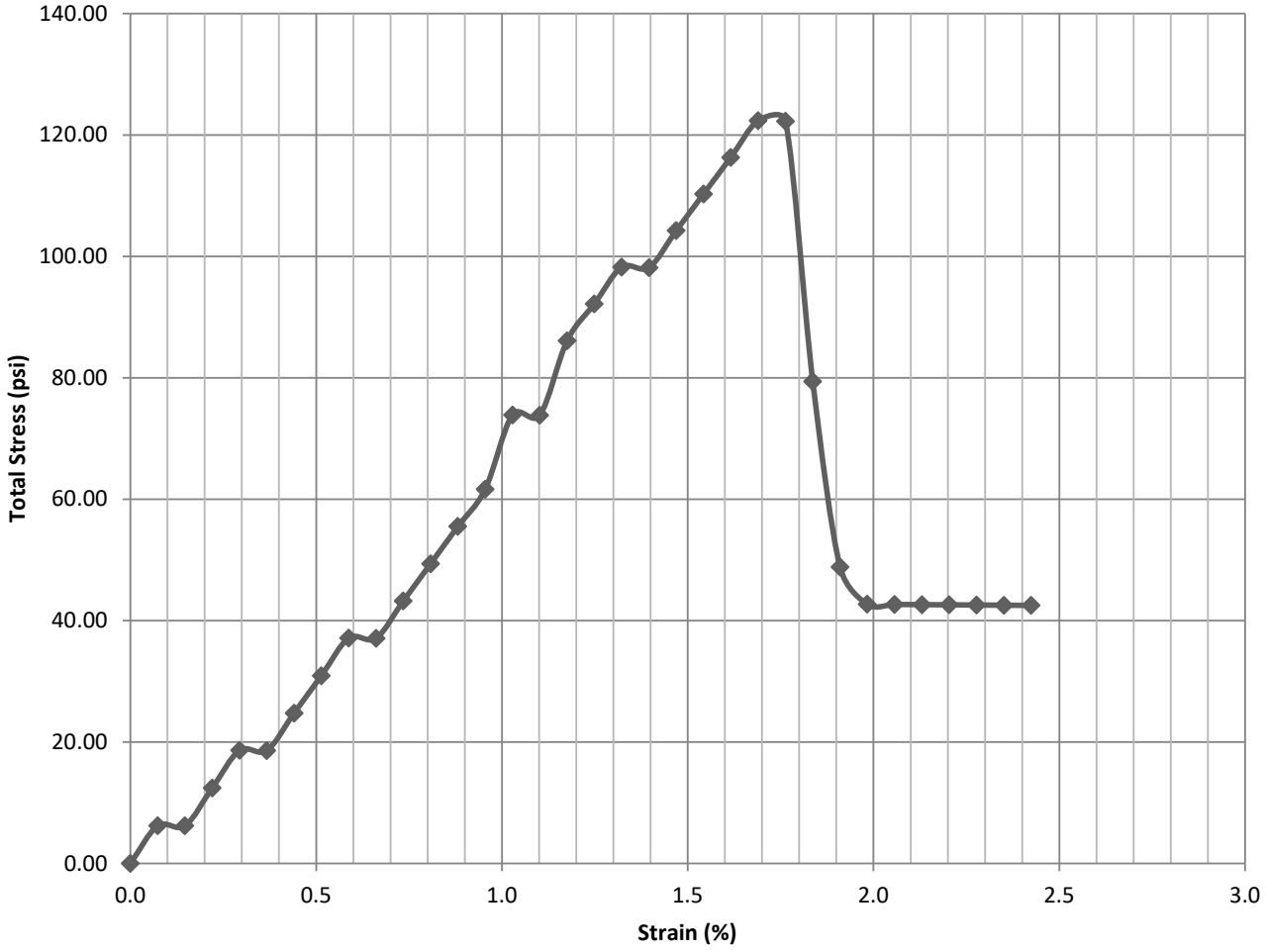
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.871	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.908	Reviewed By	WJG
Boring	B-42	Unit Weight (pcf)	149.8	Core Size	NQ
Sample No.	NQ-5 / 23-0566	L/D Ratio	2.09	Recovery	63%
Depth	95.8' - 96.2'	Load Rate (psi/sec)	10	RQD	17%
Description	Black/Gray/White Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0566



Average Initial Diameter (Do):	1.872 in.	Sample Volume:	11.24 in^3
Average Initial Height (Lo):	4.084 in.	Sample Volume:	0.007 ft^3
Average Initial Area (Ao):	2.752 in^2	Sample Weight:	0.658 lbs.
In-Situ Unit Weight:	101.2 pcf	L/D Ratio:	2.182
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/21/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-42 / NQ-6		
Depth/Elevation	100.4' - 100.7'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Sandy Elastic SILT (MH/A-7-5)

$\sigma_{c\text{-}ULT}$ = 120 psi ε_{ULT} = 1.7%

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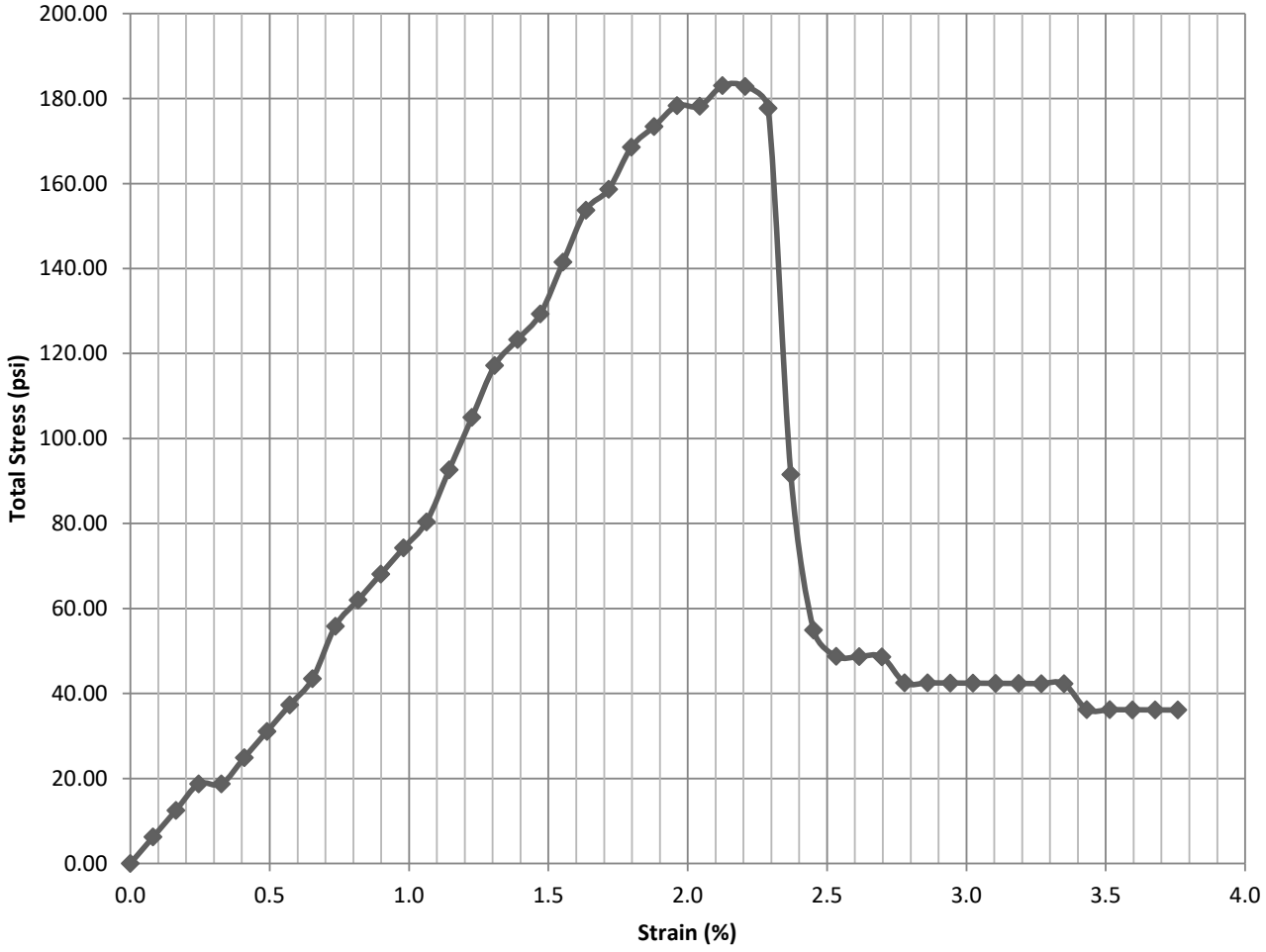
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0566
Sample Location:	B-42 / NQ-6		**Depth of Sample:**	100.4' - 100.7'
Tested By:	W. Pitts	**Date Tested:**	3/21/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0566



Average Initial Diameter (Do):	1.868 in.	Sample Volume:	10.06 in^3
Average Initial Height (Lo):	3.671 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.741 in^2	Sample Weight:	0.594 lbs.
In-Situ Unit Weight:	102.0 pcf	L/D Ratio:	1.965
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/21/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-42 / NQ-7		
Depth/Elevation	107.3' - 107.7'		

Sample Type : Soil Core
Target Strain Rate : 0.85% per minute
Description: Sandy Fat CLAY (CH/A-7-5)

$\sigma_{c\text{-}ULT}$ = 185 psi ε_{ULT} = 2.1%

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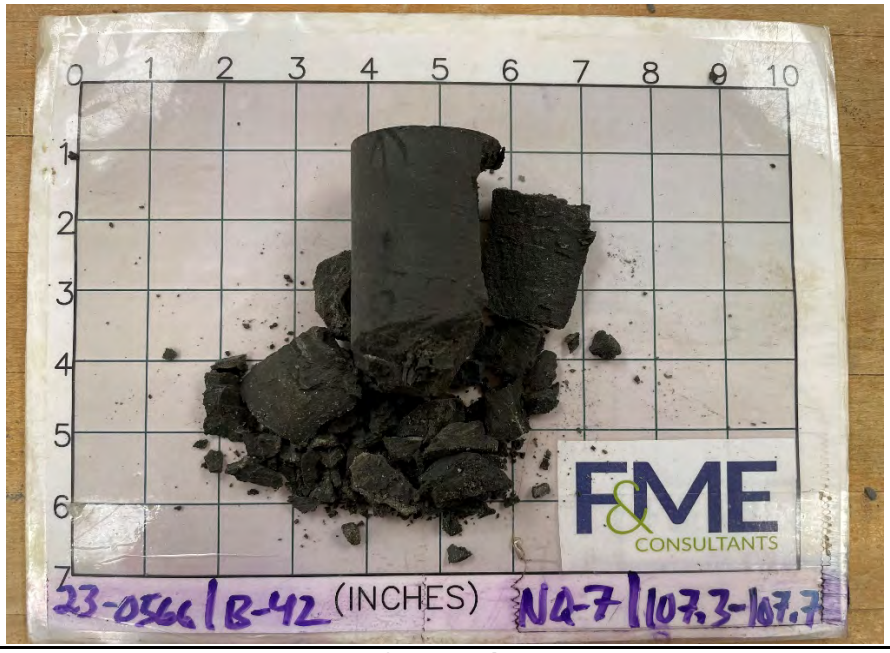
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0566
Sample Location:	B-42 / NQ-7		**Depth of Sample:**	107.3' - 107.7'
Tested By:	W. Pitts	**Date Tested:**	3/21/2023	

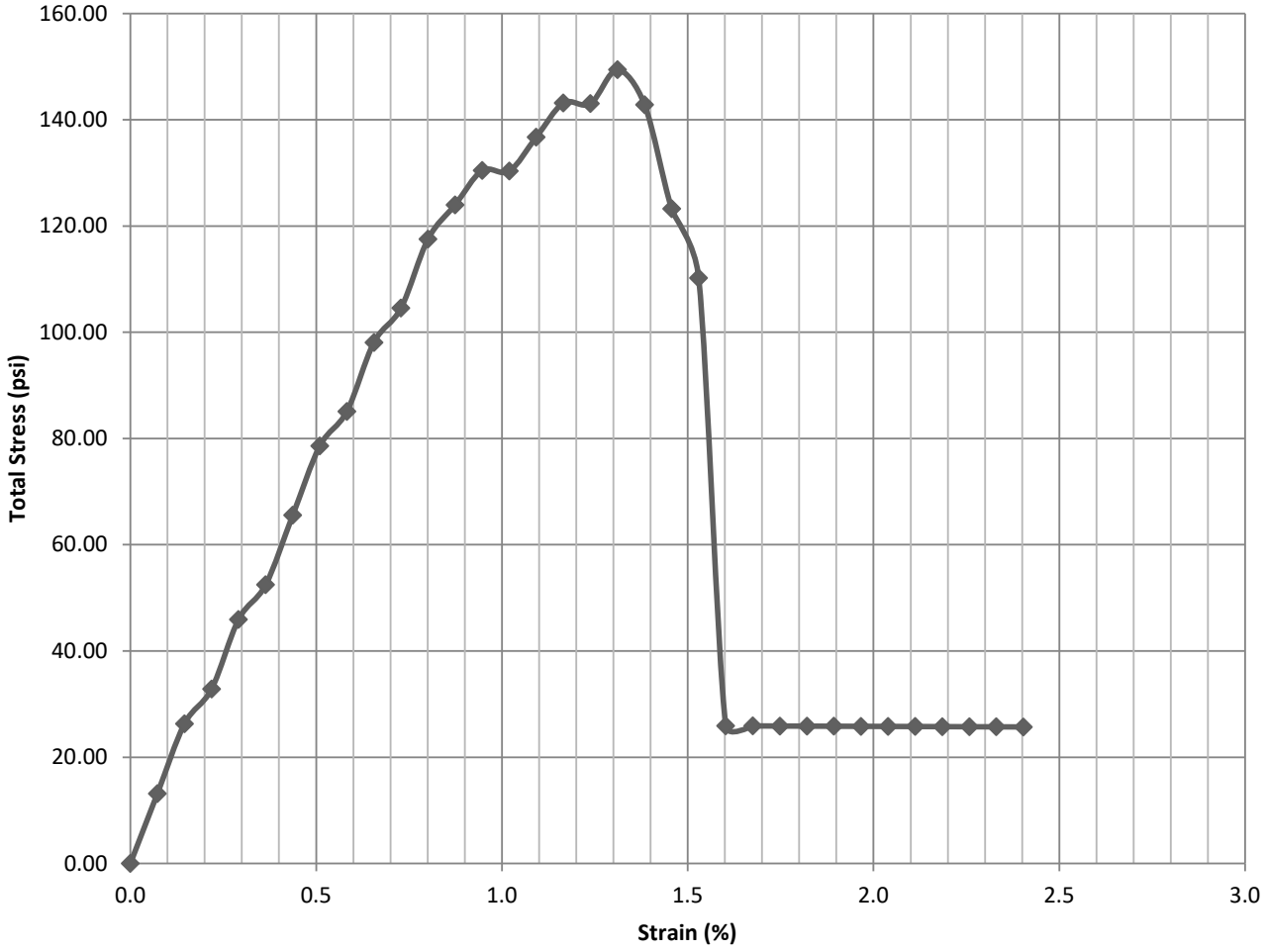
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0566



Average Initial Diameter (Do):	1.820 in.	Sample Volume:	10.72 in^3
Average Initial Height (Lo):	4.119 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.602 in^2	Sample Weight:	0.628 lbs.
In-Situ Unit Weight:	101.2 pcf	L/D Ratio:	2.263
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/21/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-42 / NQ-9		
Depth/Elevation	114.2' - 114.5'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Elastic SILT (MH/A-7-5)

$\sigma_{c\text{-}ULT}$ = 150 psi ε_{ULT} = 1.3%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0566
Sample Location:	B-42 / NQ-9		**Depth of Sample:**	114.2' - 114.5'
Tested By:	W. Pitts	**Date Tested:**	3/21/2023	

Before Break

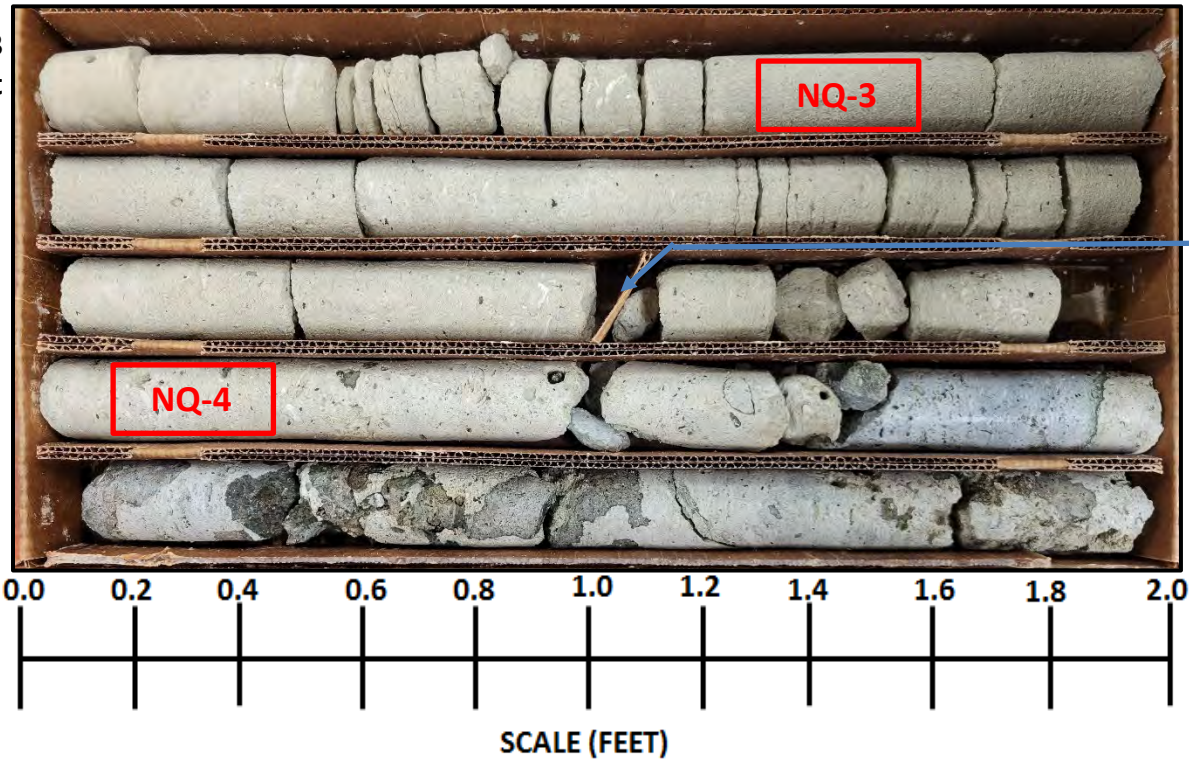
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-43

Begin Run 1
51.6 Feet

Begin Run 2
56.5 Feet

End Run 2
61.5 Feet



Begin Run 3
61.5 Feet

Begin Run 4
66.5 Feet

End Run 4
71.5 Feet

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-43

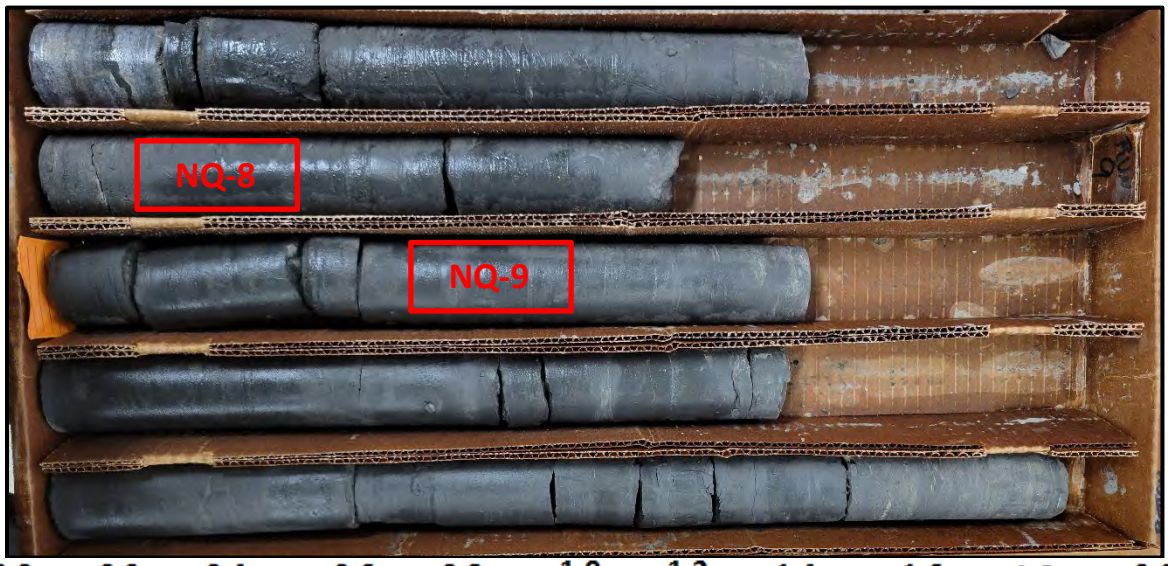
Begin Run 5
71.5 Feet

Begin Run 6
76.5 Feet

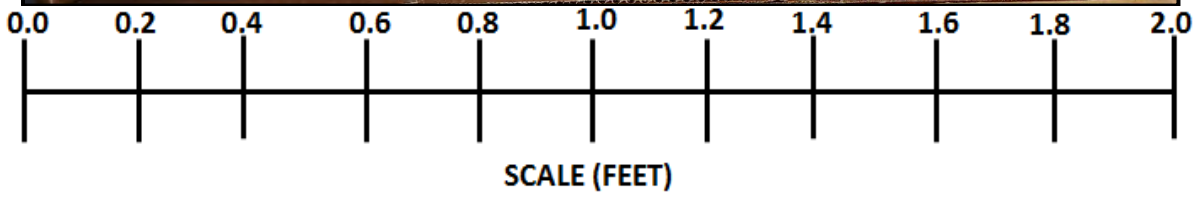
Run 7: %REC=0, %RQD=0

Begin Run 8
100.1 Feet

End Run 9
103.2 Feet

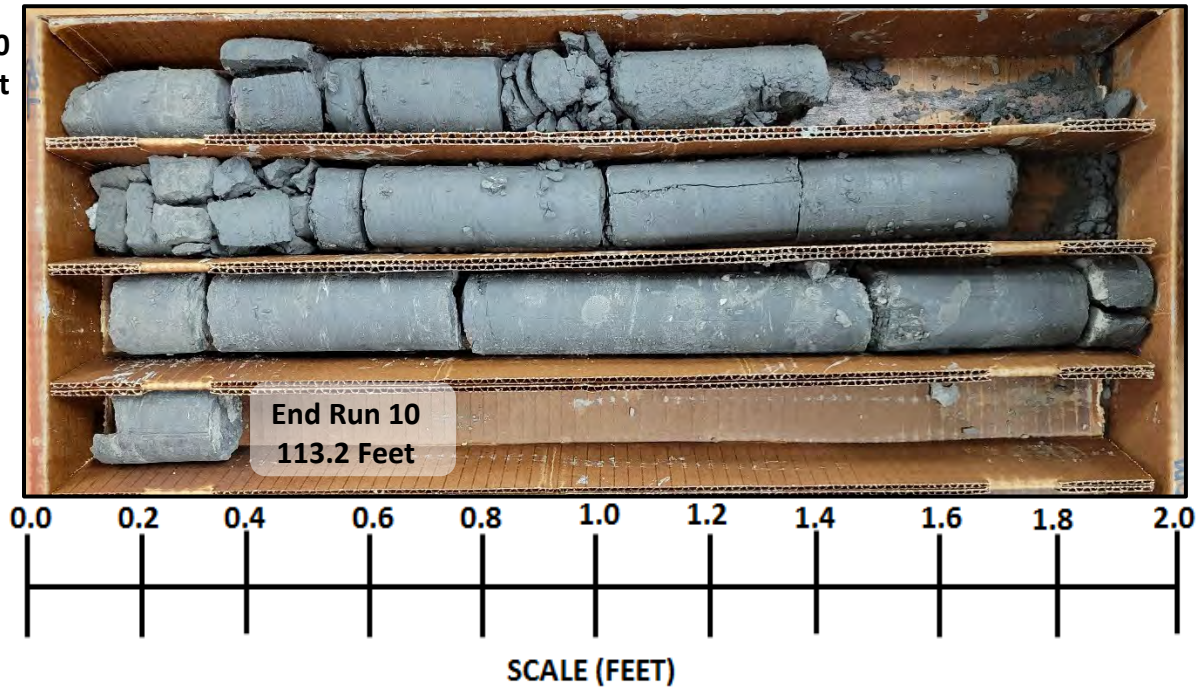


End Run 9
108.2 Feet



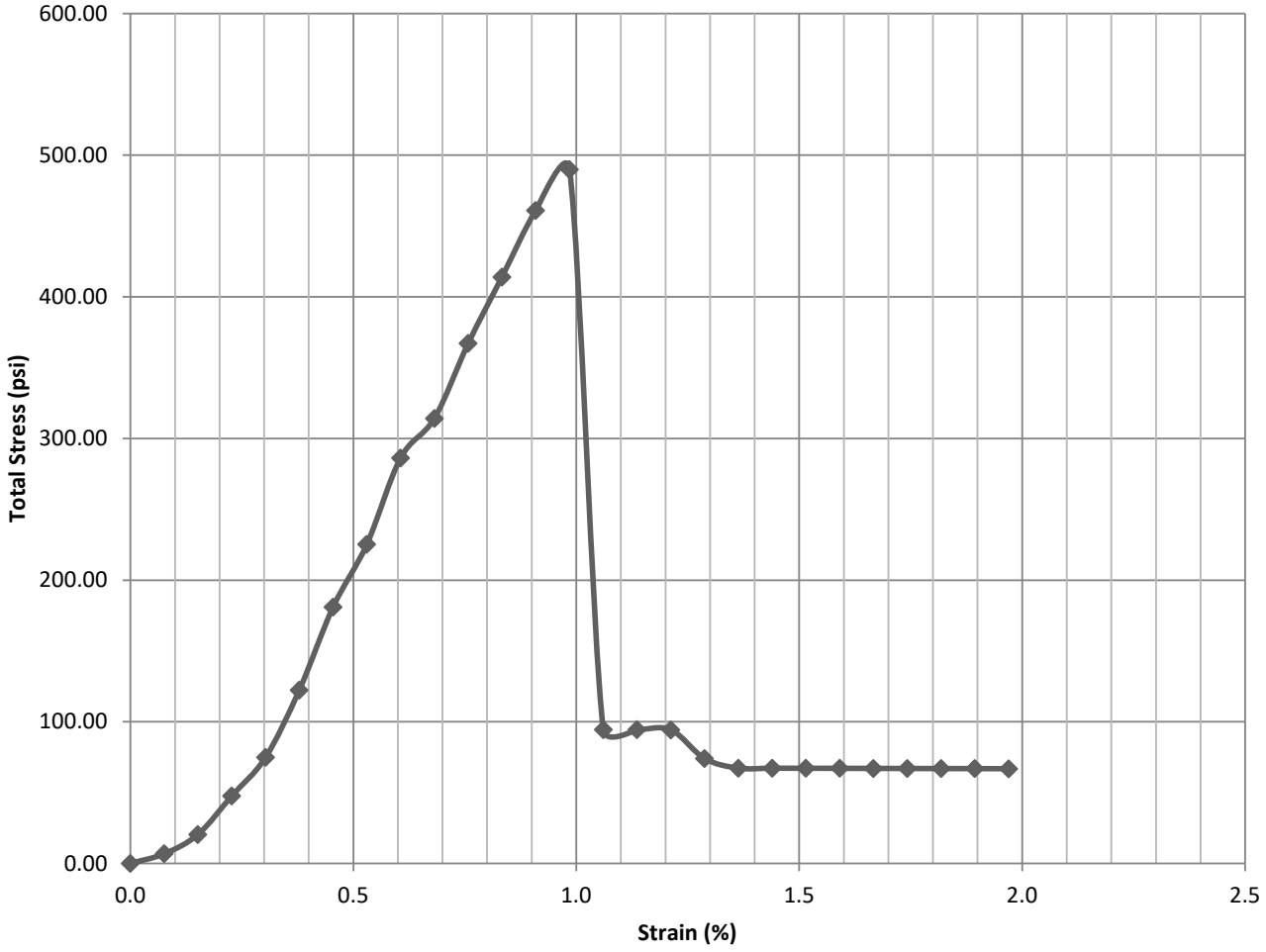
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-43

Begin Run 10
108.2 Feet



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1095



Average Initial Diameter (Do):	1.788 in.	Sample Volume:	9.94 in^3
Average Initial Height (Lo):	3.960 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.511 in^2	Sample Weight:	0.685 lbs.
In-Situ Unit Weight:	119.0 pcf	L/D Ratio:	2.215
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-43 / NQ-1		
Depth/Elevation	52.9' - 53.2'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 490 psi ε_{ULT} = 1.0%

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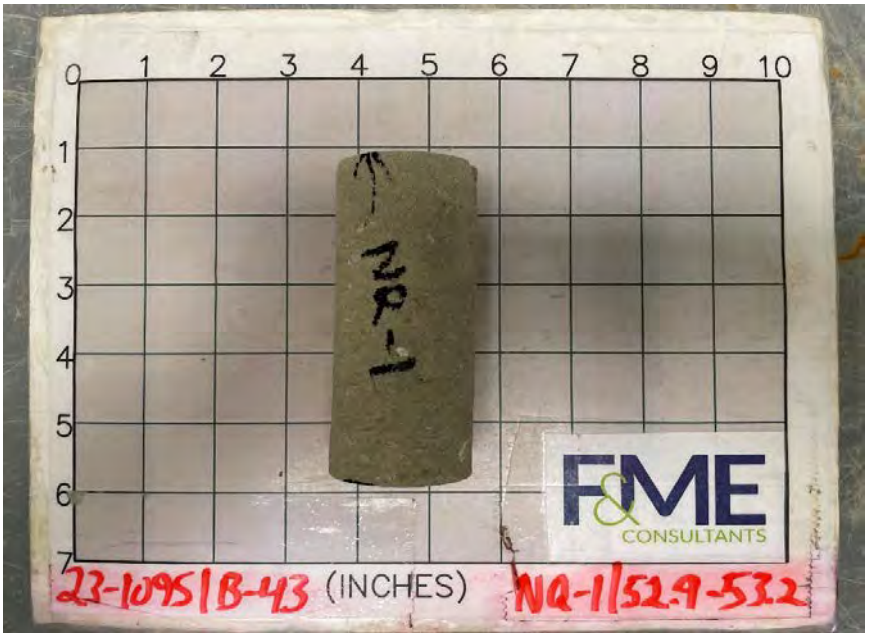
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1095
Sample Location:	B-43 / NQ-1		**Depth of Sample:**	52.9' - 53.2'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	

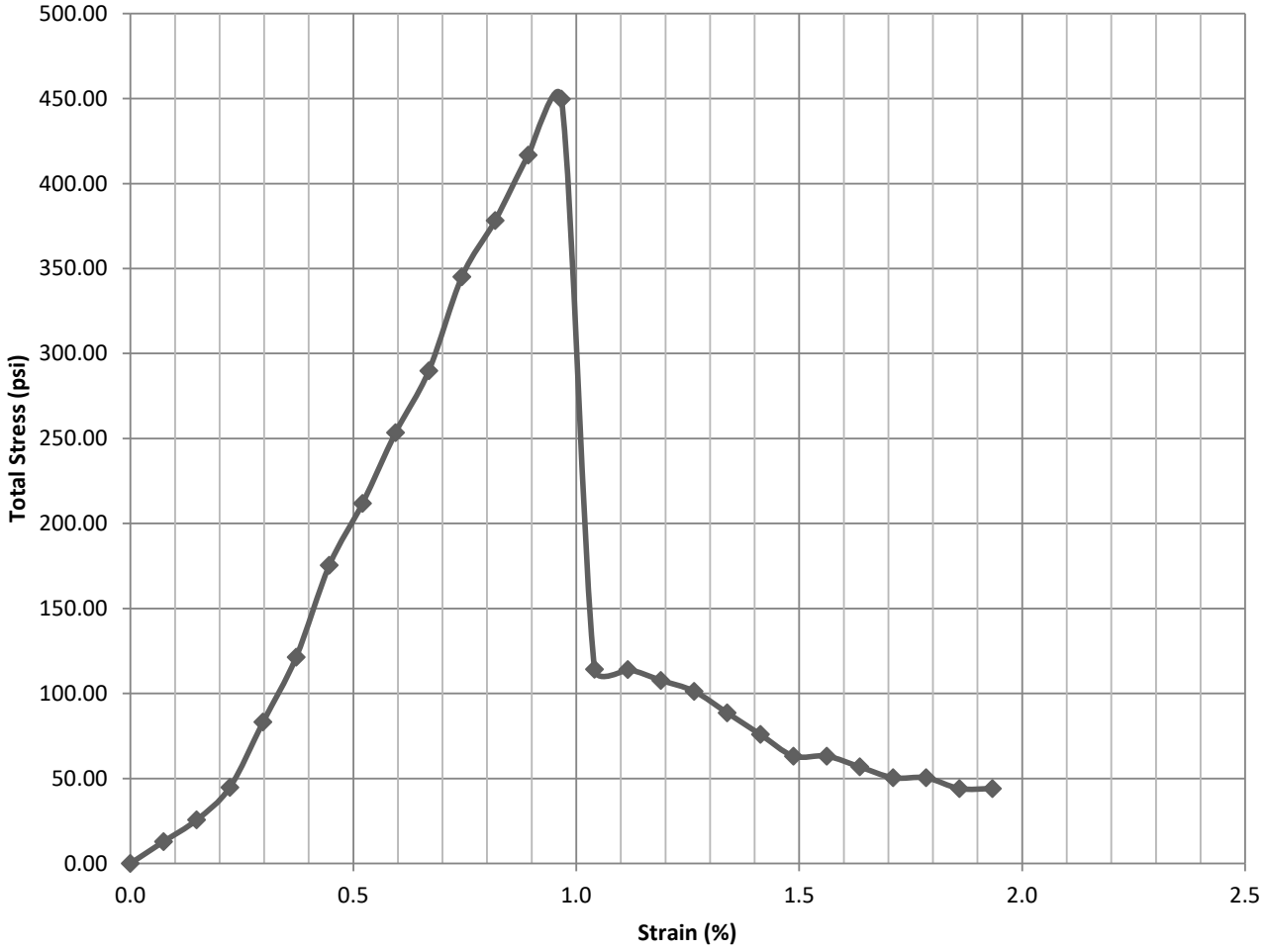


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1095



Average Initial Diameter (Do):	1.844 in.	Sample Volume:	10.77 in^3
Average Initial Height (Lo):	4.034 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.671 in^2	Sample Weight:	0.759 lbs.
In-Situ Unit Weight:	121.7 pcf	L/D Ratio:	2.188
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-43 / NQ-3		
Depth/Elevation	62.8' - 63.1'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 450 psi ε_{ULT} = 1.0%

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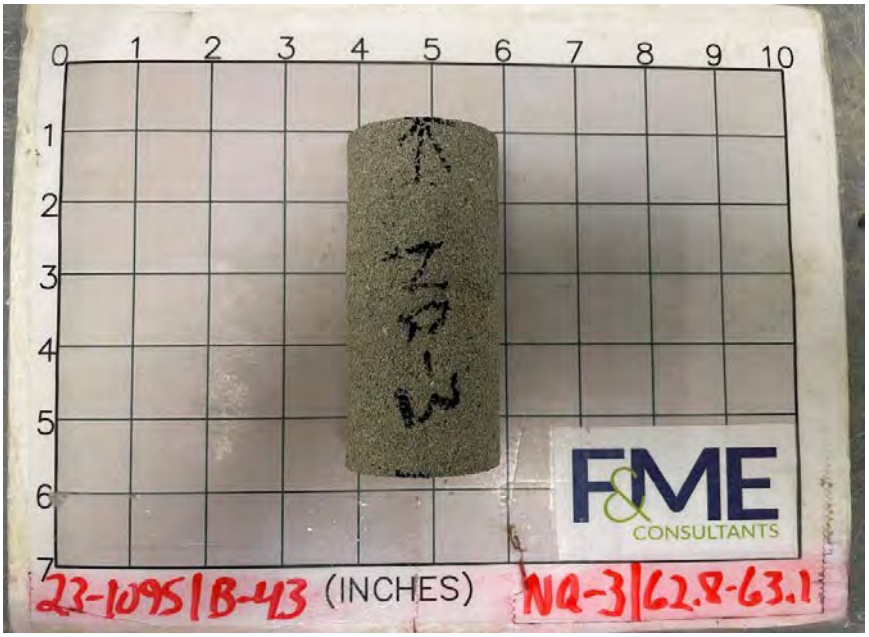
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1095
Sample Location:	B-43 / NQ-3		**Depth of Sample:**	62.8' - 63.1'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	

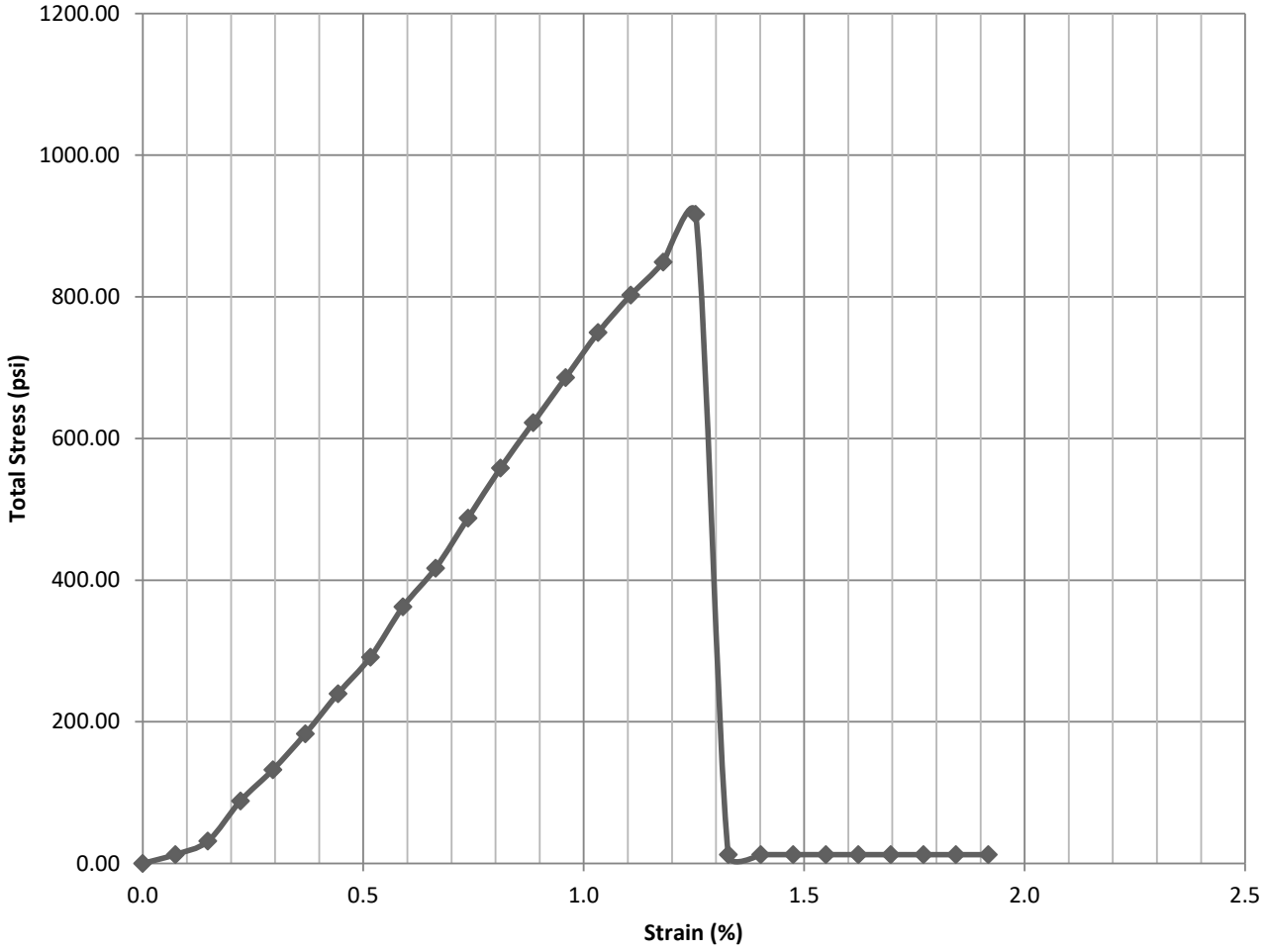


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1095



Average Initial Diameter (Do):	1.858 in.	Sample Volume:	11.03 in^3
Average Initial Height (Lo):	4.067 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.711 in^2	Sample Weight:	0.881 lbs.
In-Situ Unit Weight:	138.0 pcf	L/D Ratio:	2.189
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-43 / NQ-4		
Depth/Elevation	67.3' - 67.7'		

Sample Type : Soil Core
Target Strain Rate : 0.65% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 915 psi ε_{ULT} = 1.3%

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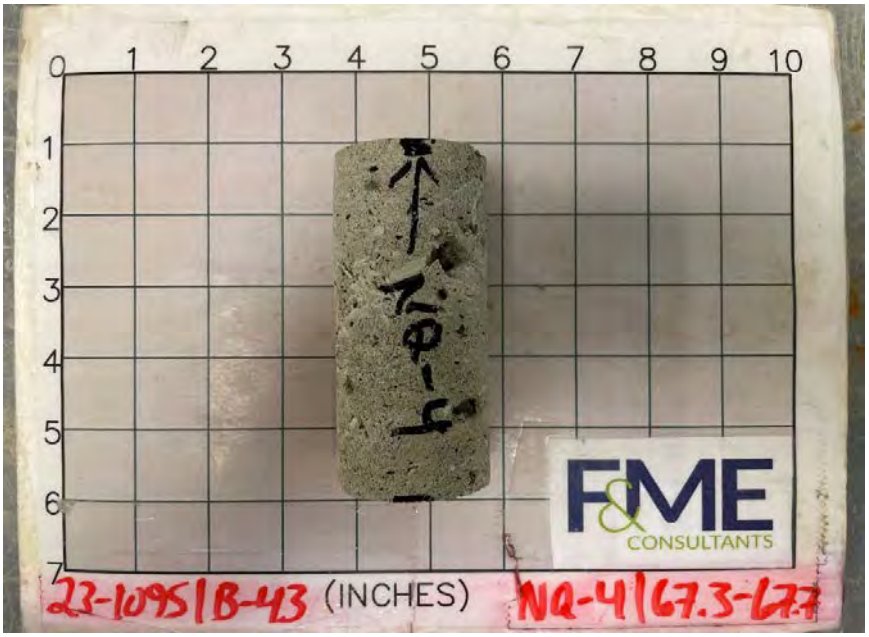
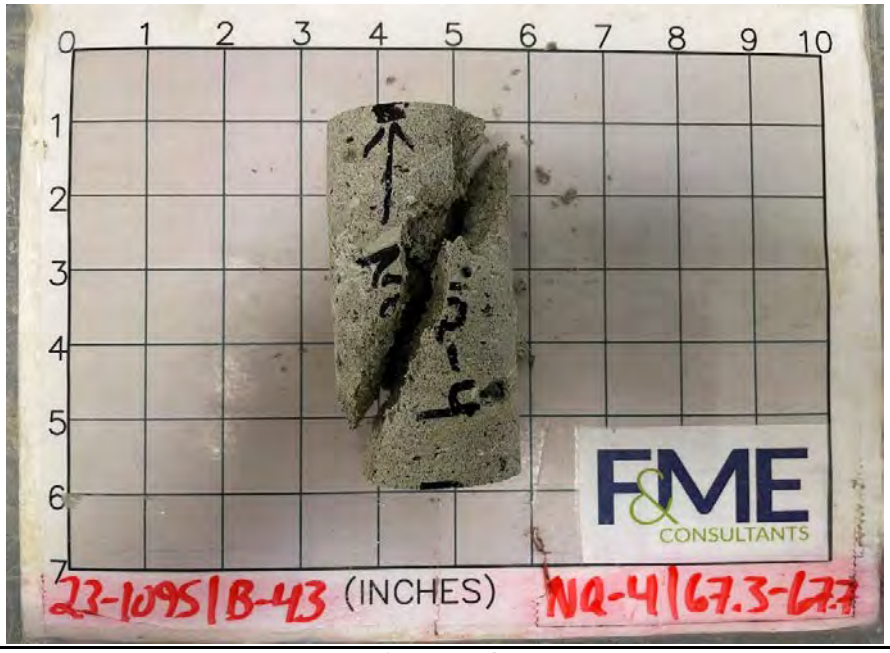
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1095
Sample Location:	B-43 / NQ-4		**Depth of Sample:**	67.3' - 67.7'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	



Before Break



After Break

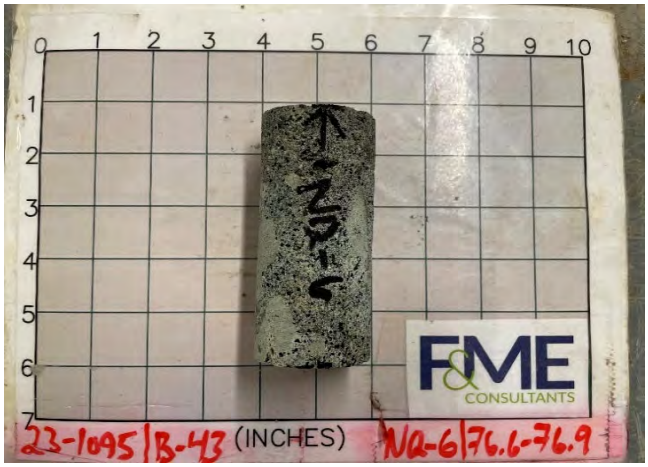
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.859	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.038	Reviewed By	WJG
Boring	B-43	Unit Weight (pcf)	152.7	Core Size	NQ
Sample No.	NQ-6 / 23-1095	L/D Ratio	2.17	Recovery	26%
Depth	76.6' - 76.9'	Load Rate (psi/sec)	10	RQD	11%
Description	Black/Gray/White Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%	-272	45	1,449	534	3.93	0.17
30%	-496	106	2,146	791	3.19	0.21
40%	-704	174	2,980	1,098	3.12	0.25
50%	-931	256	3,572	1,316	2.83	0.28
60%	-1174	352	4,268	1,572	2.68	0.30
70%	-1451	521	5,019	1,849	2.55	0.36
80%	-1842	800	5,787	2,132	2.31	0.43
90%	-2261	1090	6,429	2,368	2.10	0.48
100%	-2819	1443	7,153	2,635		

Sample Photos

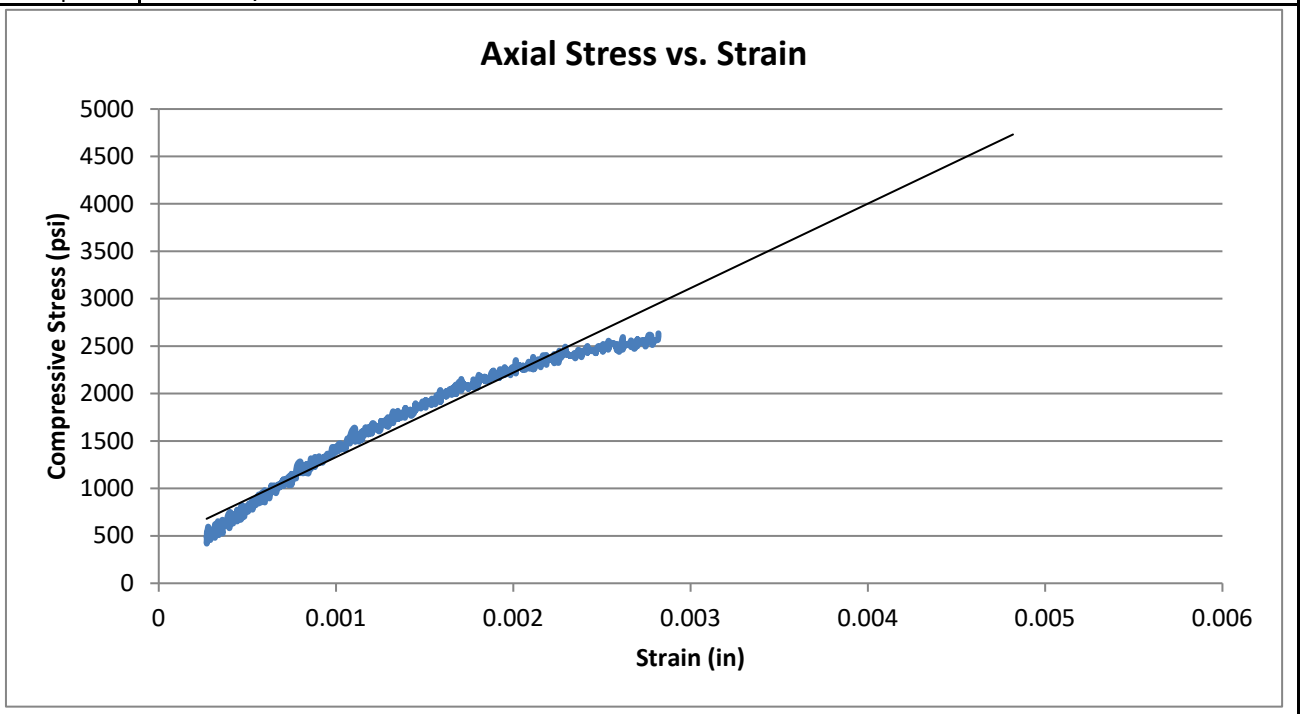


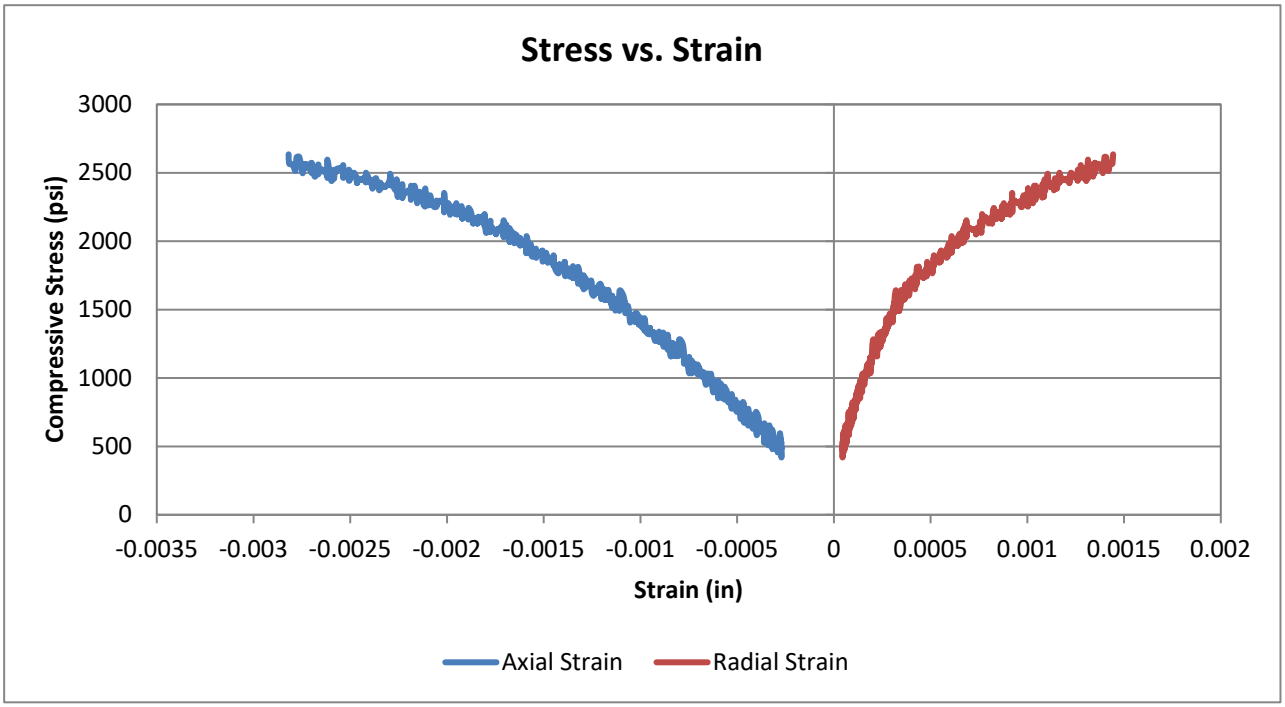
Test Results

Unconfined Compressive Strength (psi)	**2,640**	Elastic Modulus (psi)	2.54E+06
		Poisson's Ratio in Elastic Range	0.36
Comments	Elastic range was taken as between 0.001 and 0.002 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

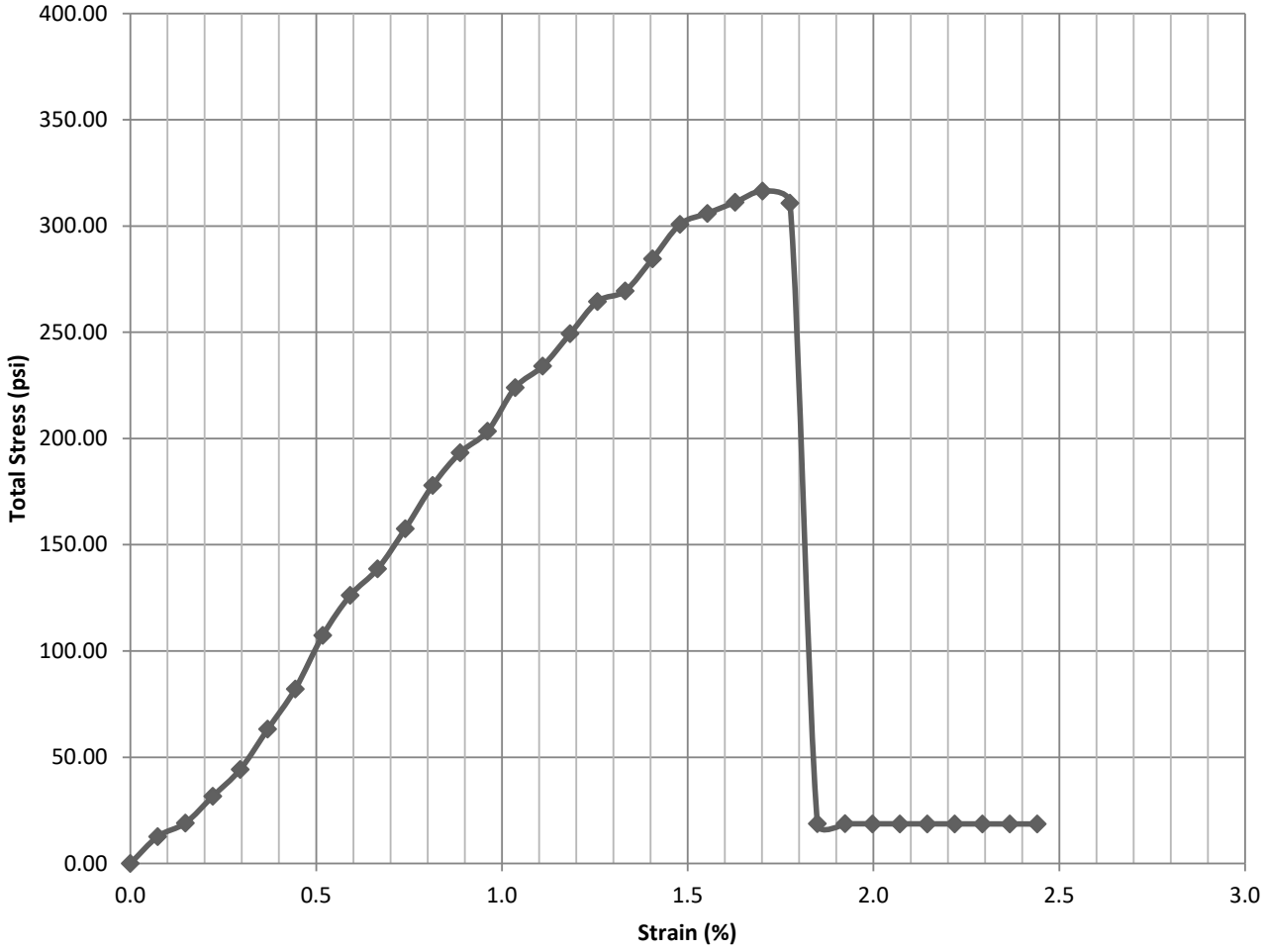
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.859	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	4.038	Reviewed By	WJG
Boring	B-43	Unit Weight (pcf)	152.7	Core Size	NQ
Sample No.	NQ-6 / 23-1095	L/D Ratio	2.17	Recovery	26%
Depth	76.6' - 76.9'	Load Rate (psi/sec)	10	RQD	11%
Description	Black/Gray/White Limestone				





UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1095



Average Initial Diameter (Do):	1.854 in.	Sample Volume:	10.95 in^3
Average Initial Height (Lo):	4.056 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.700 in^2	Sample Weight:	0.634 lbs.
In-Situ Unit Weight:	100.1 pcf	L/D Ratio:	2.188
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-43 / NQ-8		
Depth/Elevation	100.9' - 101.3'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Elastic SILT (MH/A-7-5)

$\sigma_{c\text{-}ULT}$ = 315 psi ε_{ULT} = 1.7%

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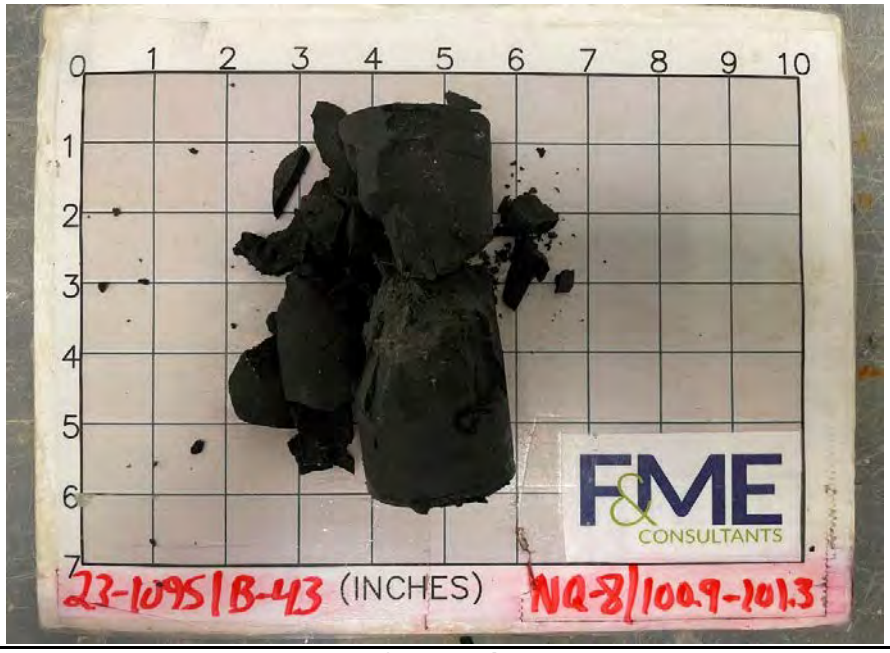
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-1095
Sample Location:	B-43 / NQ-8		**Depth of Sample:**	100.9' - 101.3'
Tested By:	W. Pitts	**Date Tested:**	5/4/2023	

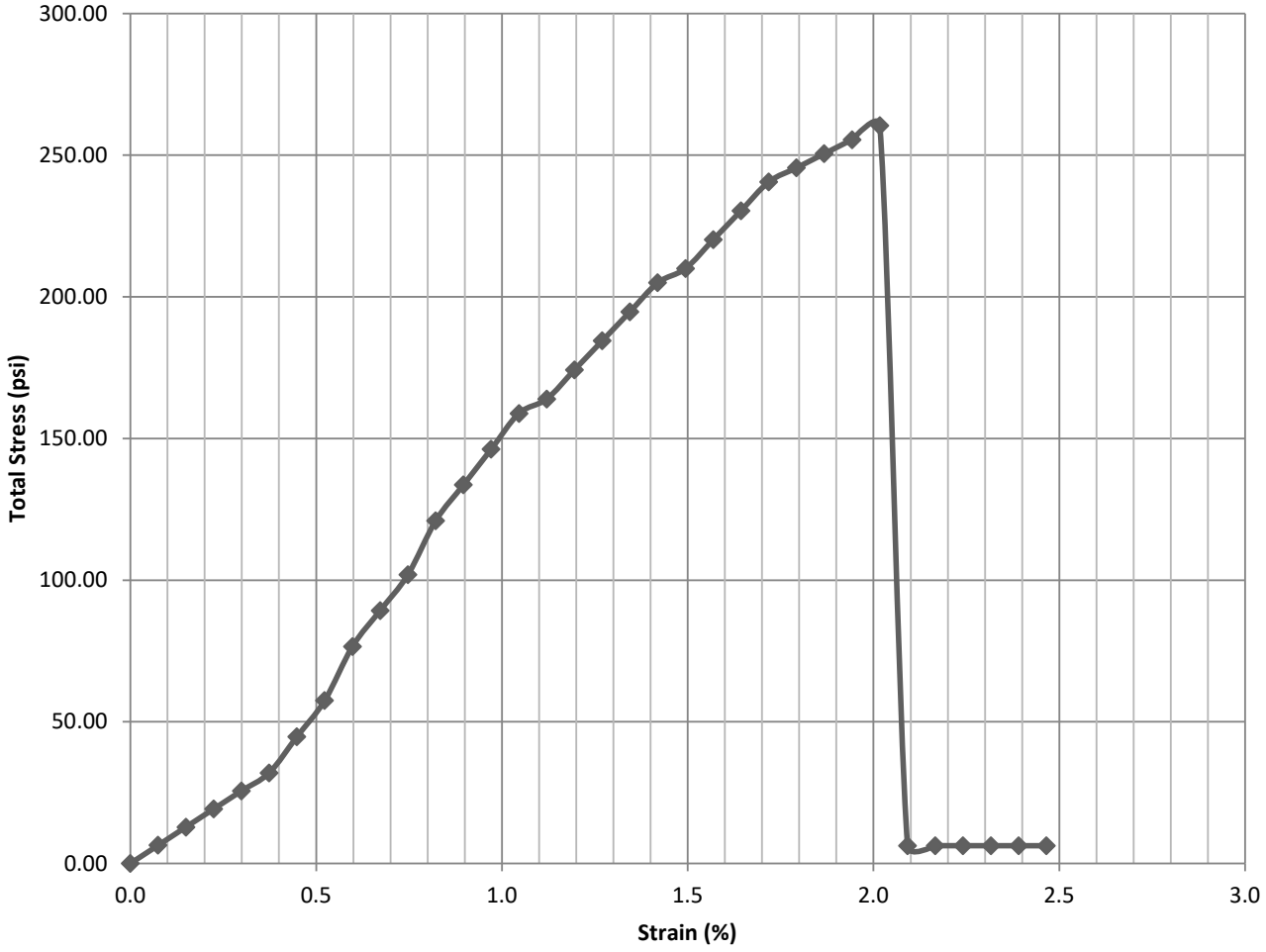
Before Break



After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-1095



Average Initial Diameter (Do):	1.843 in.	Sample Volume:	10.71 in^3
Average Initial Height (Lo):	4.016 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.668 in^2	Sample Weight:	0.632 lbs.
In-Situ Unit Weight:	101.9 pcf	L/D Ratio:	2.179
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	5/4/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-43 / NQ-9		
Depth/Elevation	103.8' - 104.1'		

Sample Type : Soil Core
Target Strain Rate : 0.70% per minute
Description: Elastic SILT (MH/A-7-5)

$\sigma_{c\text{-}ULT}$ = 260 psi ε_{ULT} = 2.0%

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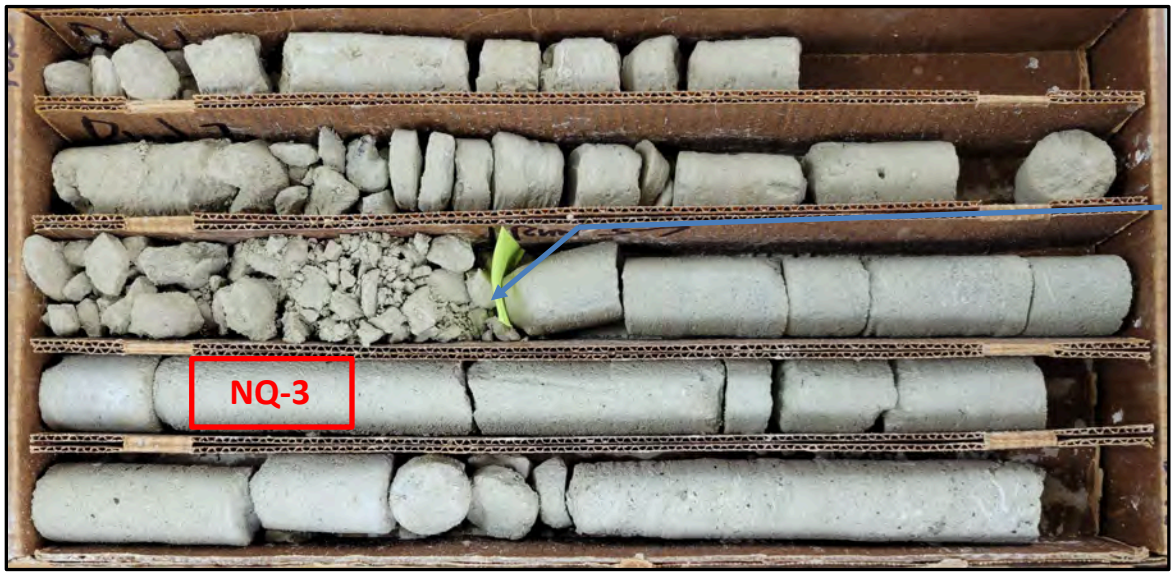
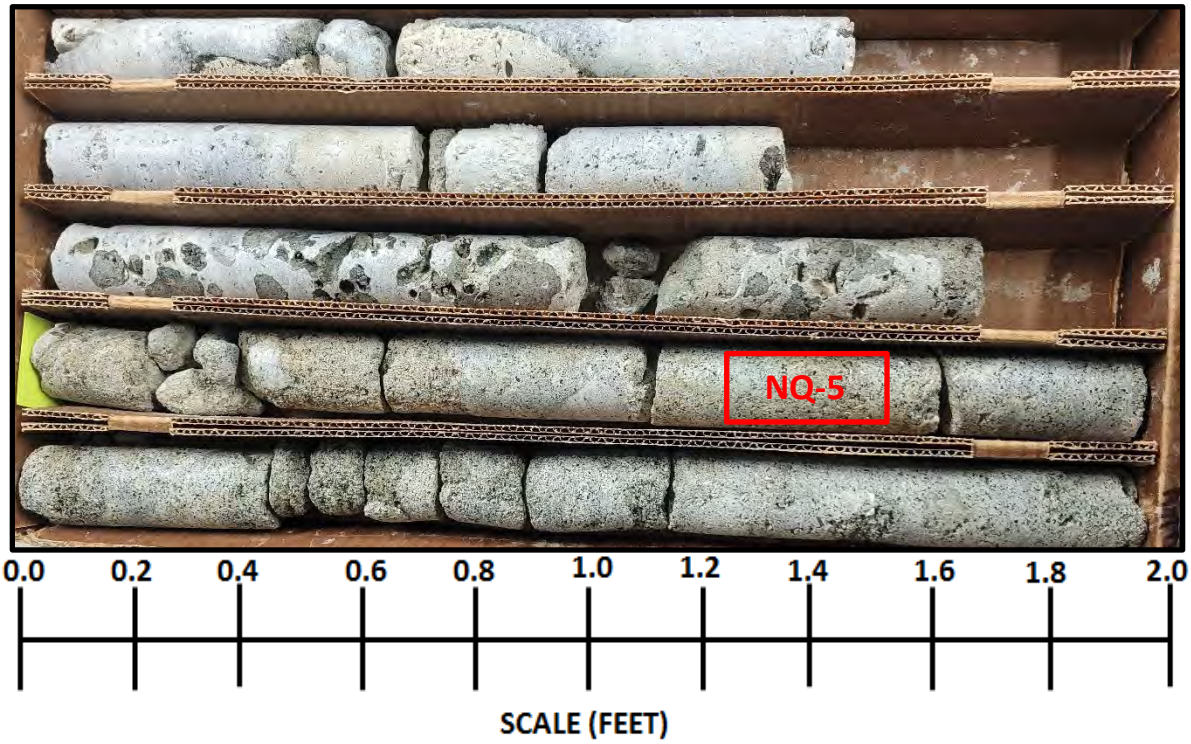
Project Name:	I-95 NB/SB Bridges over Lake Marion		Project #:	G6744.000
SCDOT File #:	P041130		F&ME Sample #:	23-1095
Sample Location:	B-43 / NQ-9		Depth of Sample:	103.8' - 104.1'
Tested By:	W. Pitts	Date Tested:	5/4/2023	

Before Break

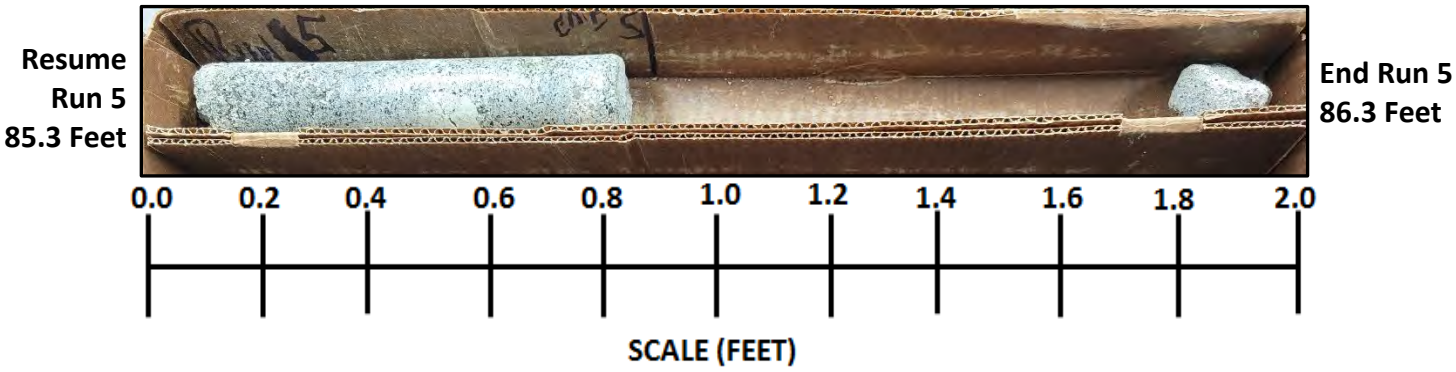
After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-44





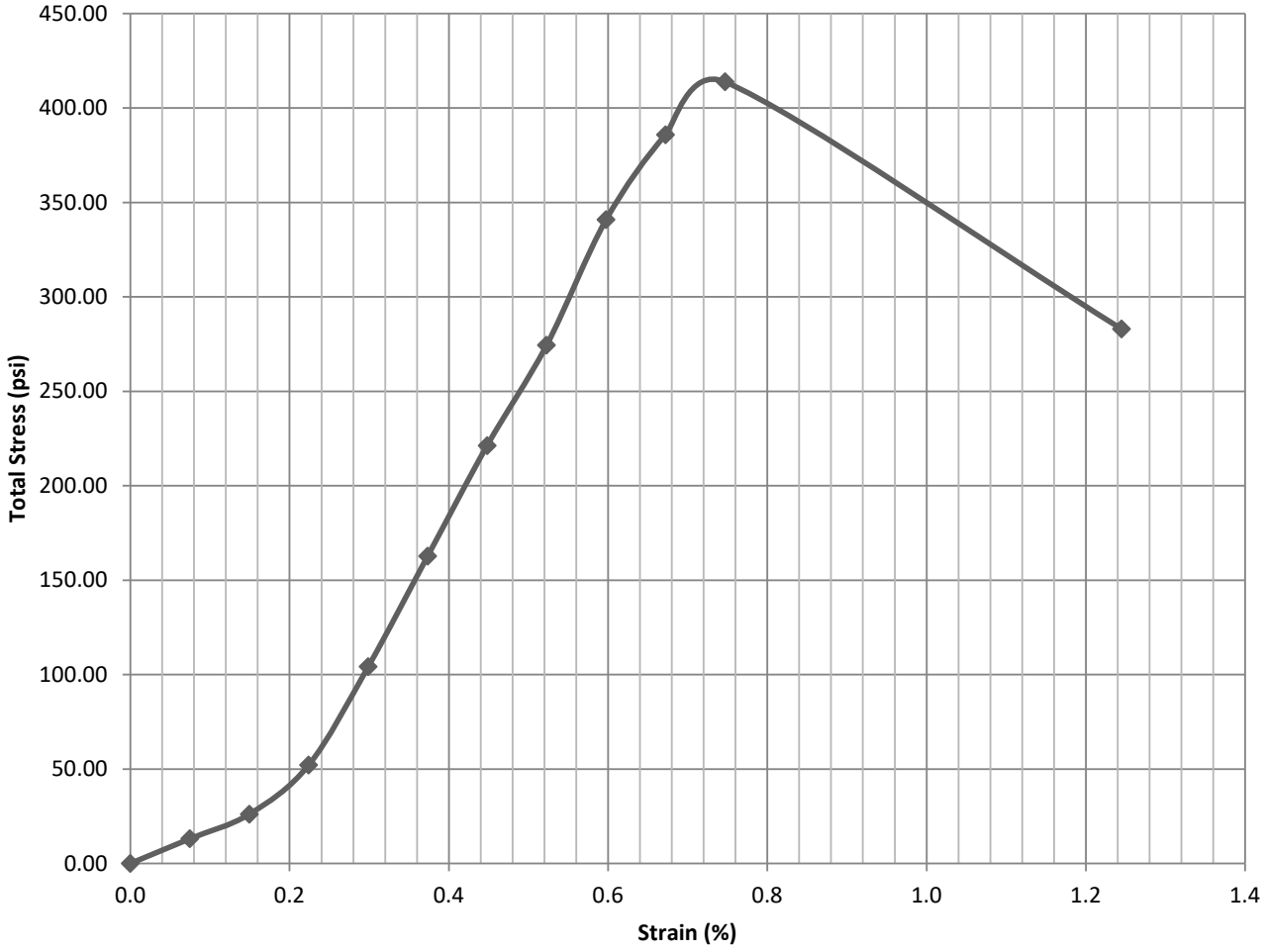
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-44



Run 6: %REC=0, %RQD=0

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0195



Average Initial Diameter (Do):	1.827 in.	Sample Volume:	10.53 in^3
Average Initial Height (Lo):	4.017 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.622 in^2	Sample Weight:	0.745 lbs.
In-Situ Unit Weight:	122.2 pcf	L/D Ratio:	2.199
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/1/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-44 / NQ-3		
Depth/Elevation	72.8' - 73.1'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 410 psi ε_{ULT} = 0.7%

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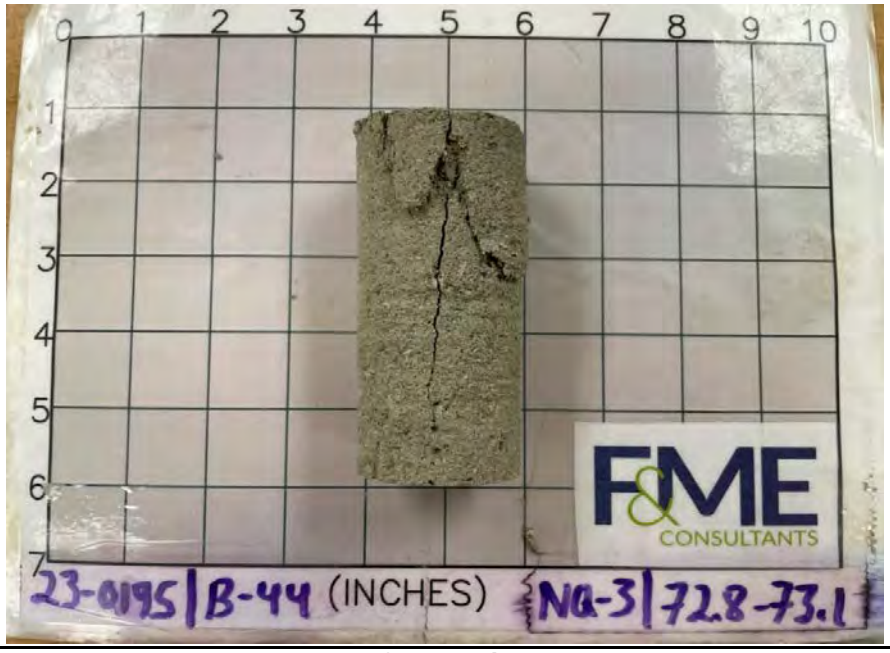
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0195
Sample Location:	B-44 / NQ-3		**Depth of Sample:**	72.8' - 73.1'
Tested By:	W. Pitts	**Date Tested:**	3/1/2023	

Before Break



After Break

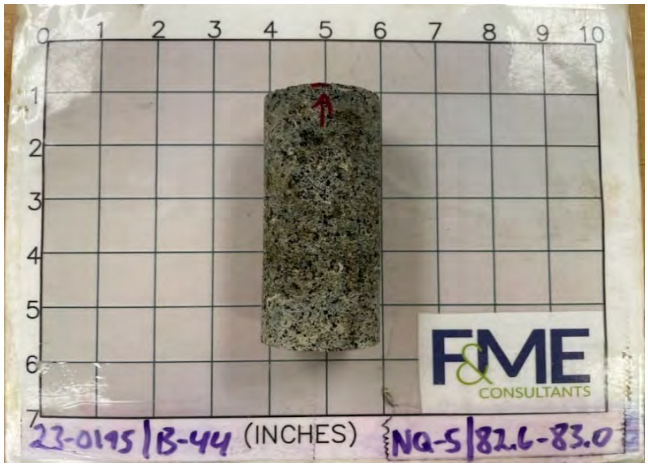
Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.987	Reviewed By	WJG
Boring	B-44	Unit Weight (pcf)	146.4	Core Size	NQ
Sample No.	NQ-5 / 23-0195	L/D Ratio	2.14	Recovery	98%
Depth	82.6' - 83.0'	Load Rate (psi/sec)	10	RQD	52%
Description	Black/White/Gray Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	-402	-9	647	237	1.18	0.02
20%	-811	70	1,365	500	1.23	0.09
30%	-982	119	1,969	721	1.47	0.12
40%	-1416	259	2,663	975	1.38	0.18
50%	-1683	370	3,366	1,232	1.46	0.22
60%	-2022	566	3,977	1,456	1.44	0.28
70%	-2350	769	4,639	1,698	1.45	0.33
80%	-2884	1227	5,287	1,935	1.34	0.43
90%	-3398	1870	5,973	2,186	1.29	0.55
100%	-3820	2422	6,624	2,425		

Sample Photos

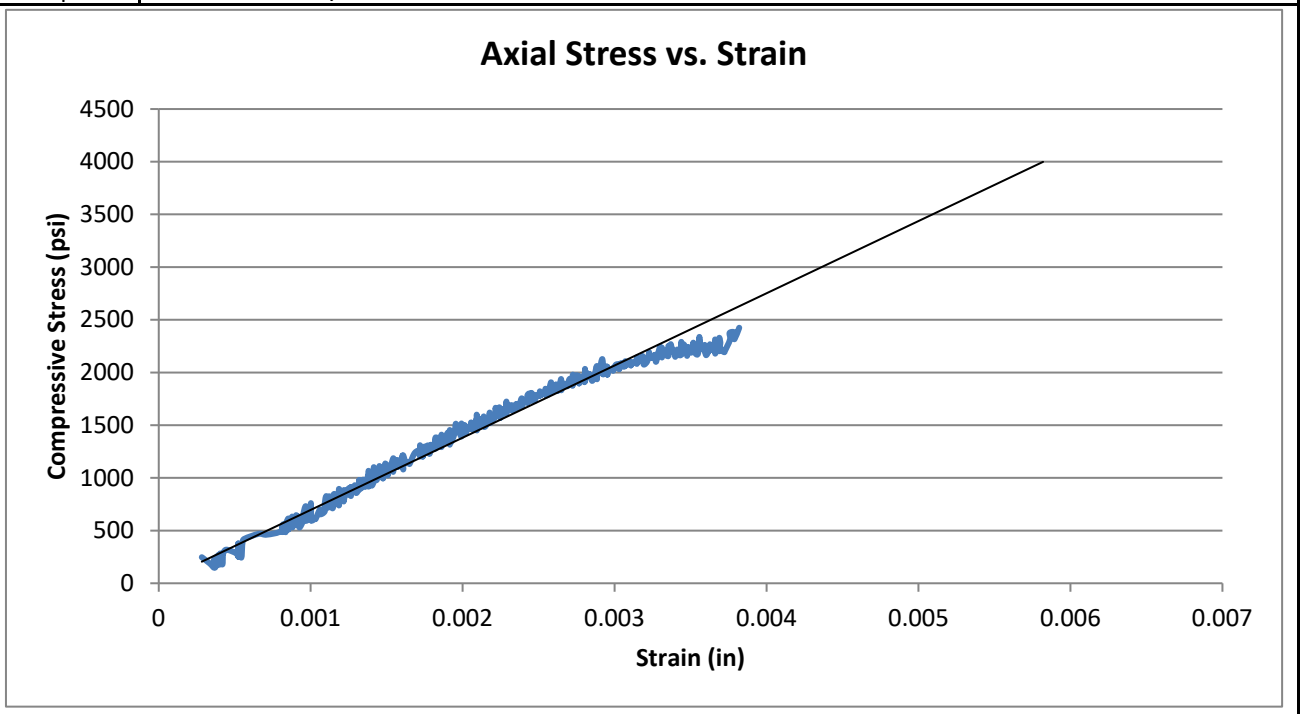


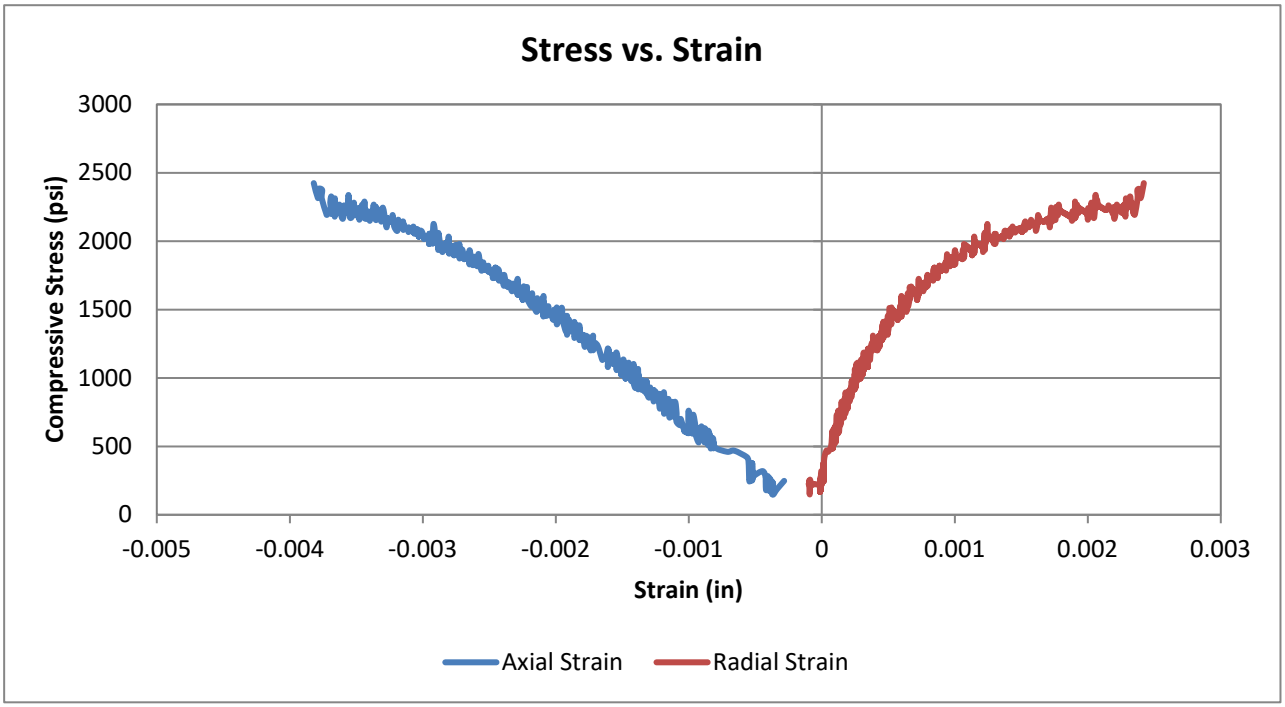
Test Results

Unconfined Compressive Strength (psi)	**2,420**	Elastic Modulus (psi)	1.42E+06
		Poisson's Ratio in Elastic Range	0.24
Comments	Elastic range was taken as between 0.001 and 0.0025 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.987	Reviewed By	WJG
Boring	B-44	Unit Weight (pcf)	146.4	Core Size	NQ
Sample No.	NQ-5 / 23-0195	L/D Ratio	2.14	Recovery	98%
Depth	82.6' - 83.0'	Load Rate (psi/sec)	10	RQD	52%
Description	Black/White/Gray Limestone				





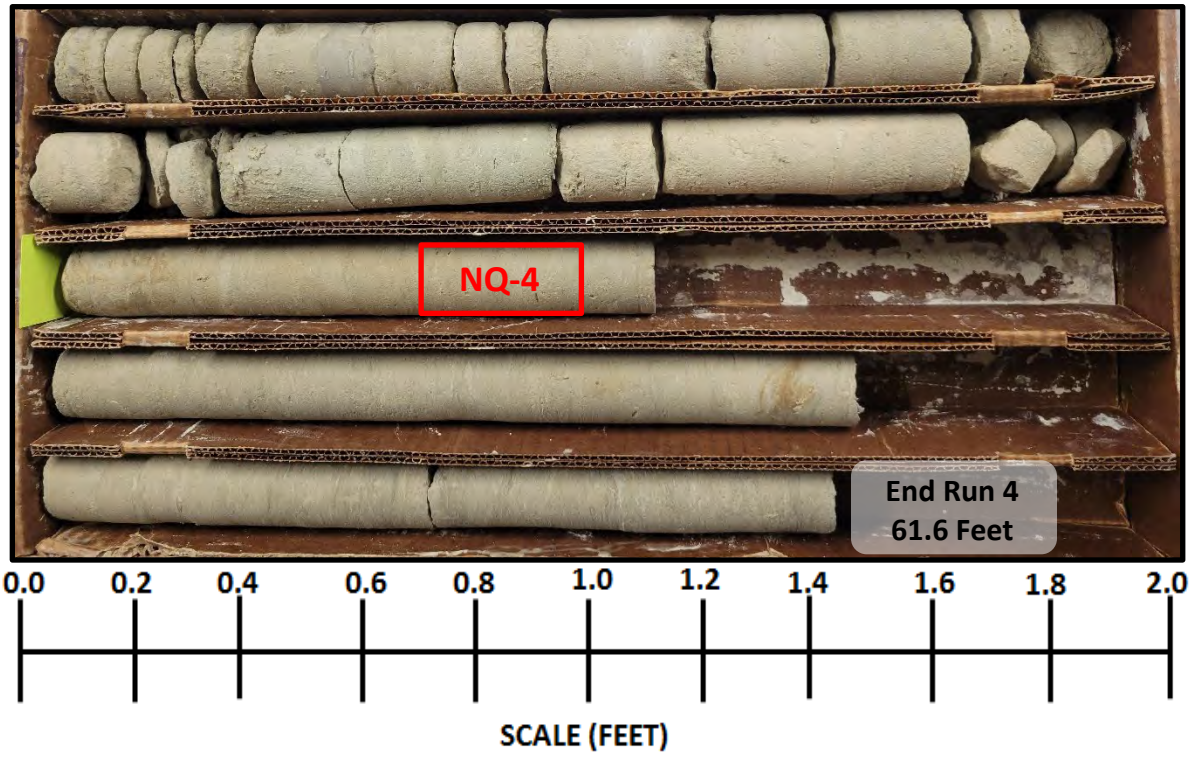
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-47

Begin Run 1
43.0 Feet

End Run 1
46.6 Feet

Begin Run 2
46.6 Feet

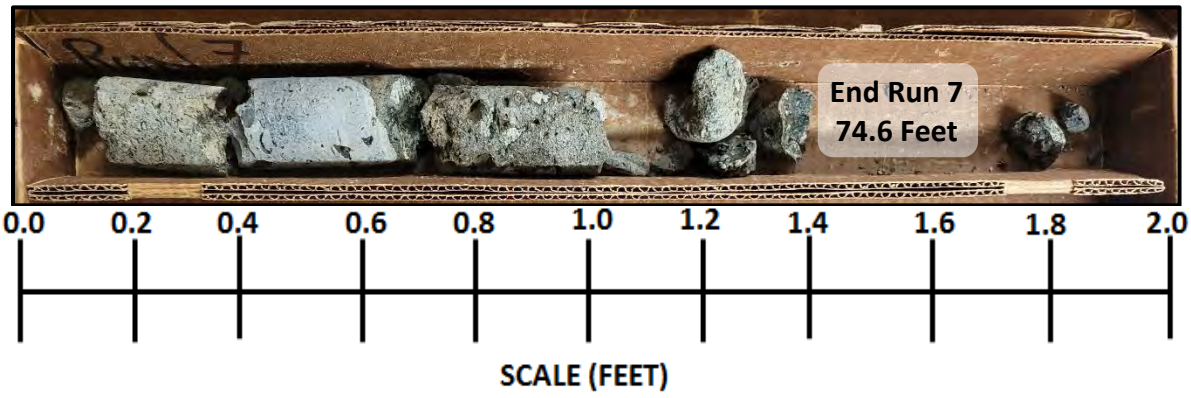
End Run 2
51.6 Feet



Begin Run 3
51.6 Feet

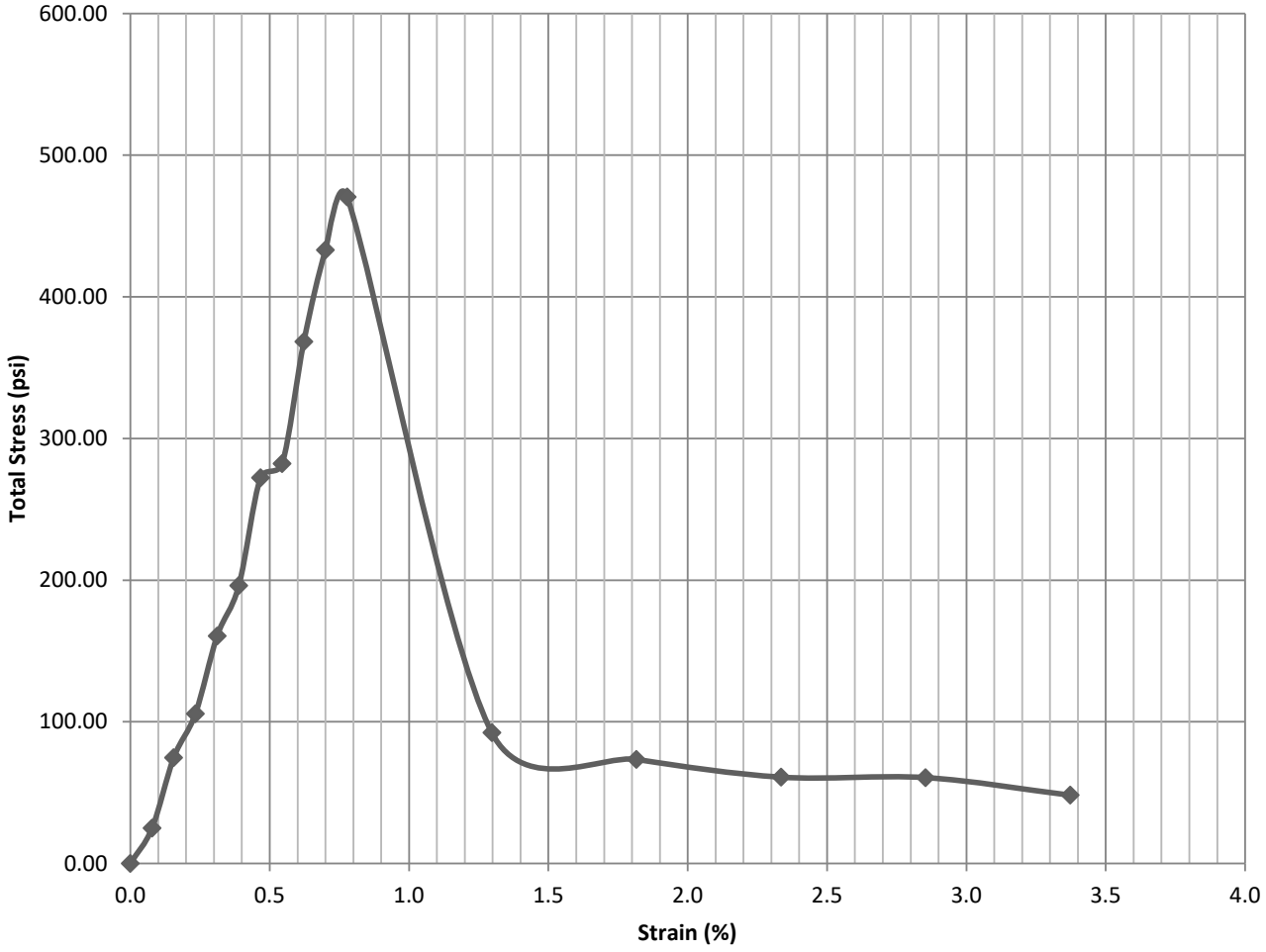
Begin Run 4
56.6 Feet

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-47



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0312



Average Initial Diameter (Do):	1.870 in.	Sample Volume:	10.59 in^3
Average Initial Height (Lo):	3.855 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.746 in^2	Sample Weight:	0.741 lbs.
In-Situ Unit Weight:	121.0 pcf	L/D Ratio:	2.061
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/1/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-47 / NQ-1		
Depth/Elevation	46.3' - 46.6'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 470 psi ε_{ULT} = 0.8%

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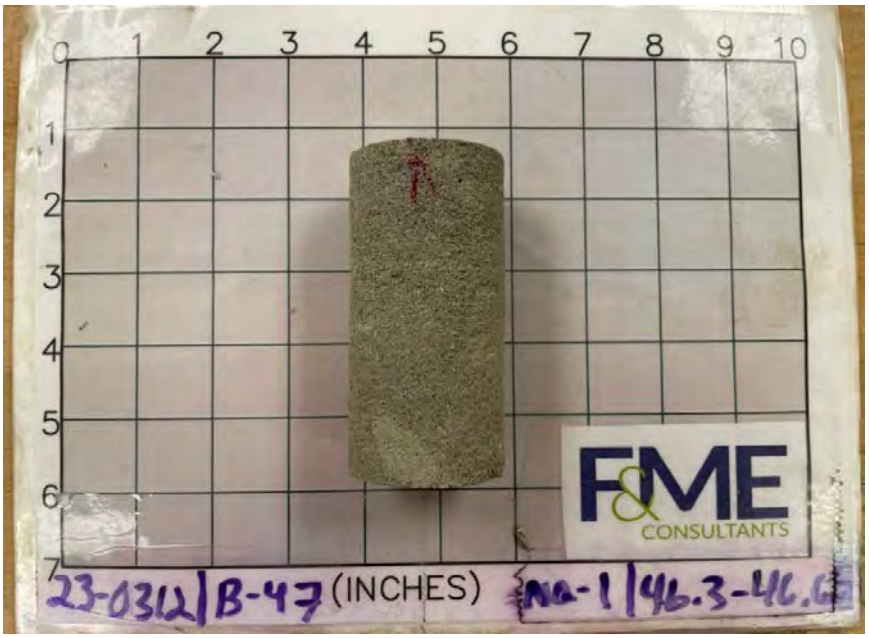
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0312
Sample Location:	B-47 / NQ-1		**Depth of Sample:**	46.3' - 46.6'
Tested By:	W. Pitts	**Date Tested:**	3/1/2023	

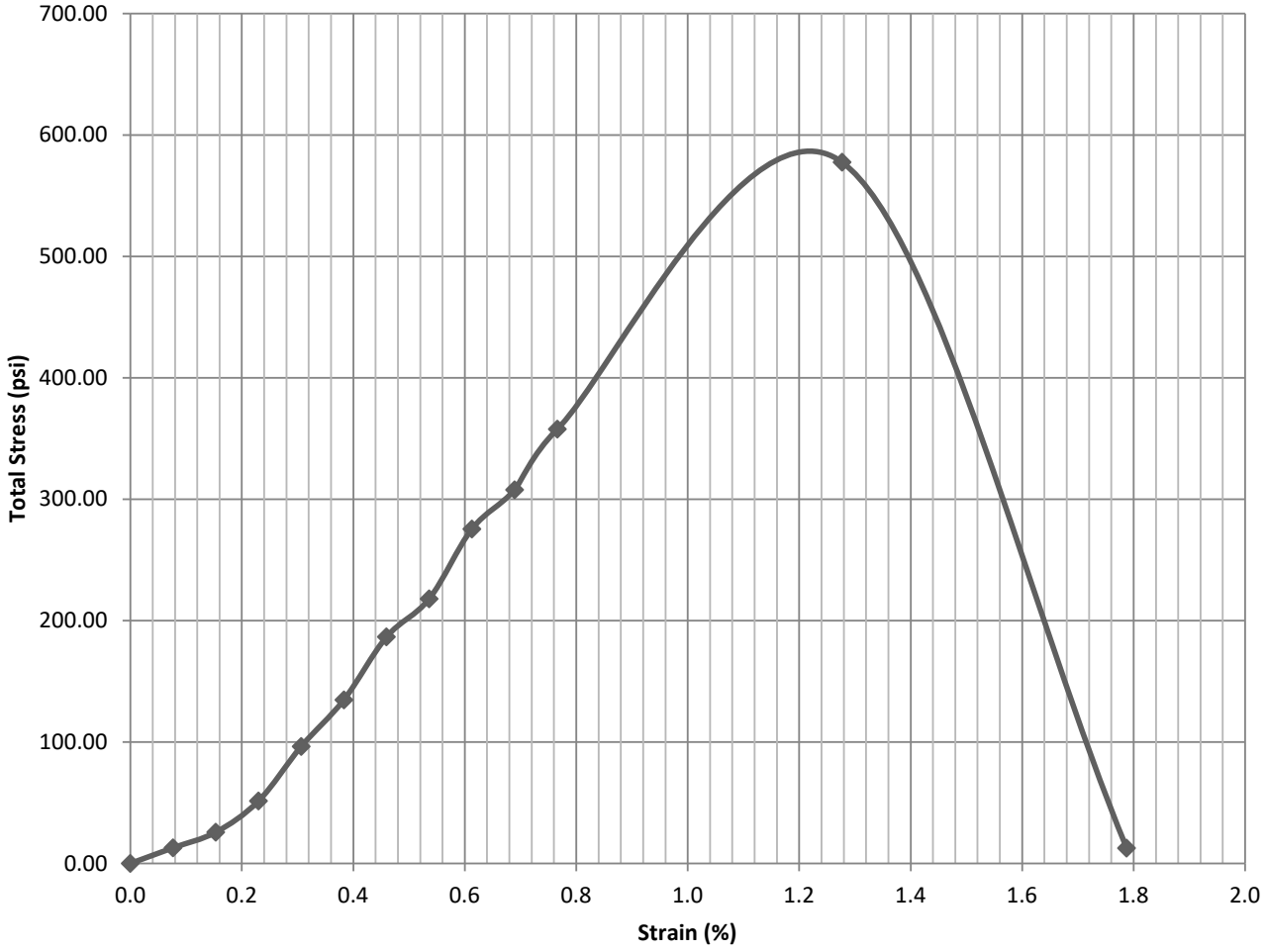


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0312



Average Initial Diameter (Do):	1.840 in.	Sample Volume:	10.41 in^3
Average Initial Height (Lo):	3.916 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.659 in^2	Sample Weight:	0.650 lbs.
In-Situ Unit Weight:	107.8 pcf	L/D Ratio:	2.128
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/1/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-47 / NQ-4		
Depth/Elevation	57.3' - 57.6'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 580 psi ε_{ULT} = 1.3%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0312
Sample Location:	B-47 / NQ-4		**Depth of Sample:**	57.3' - 57.6'
Tested By:	W. Pitts	**Date Tested:**	3/1/2023	

Before Break

After Break

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-48

Begin Run 1
35.3 Feet

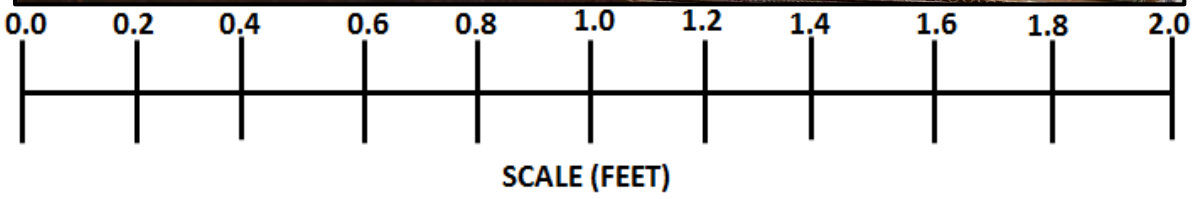
Begin Run 2
36.4 Feet

End Run 2
41.4 Feet

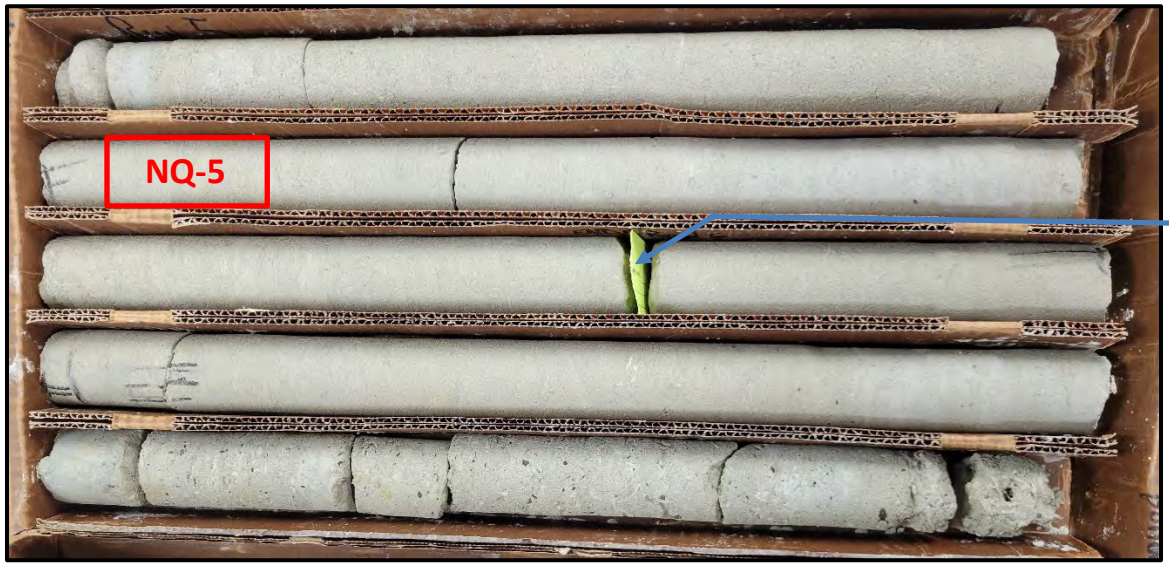
Begin Run 3
41.4 Feet

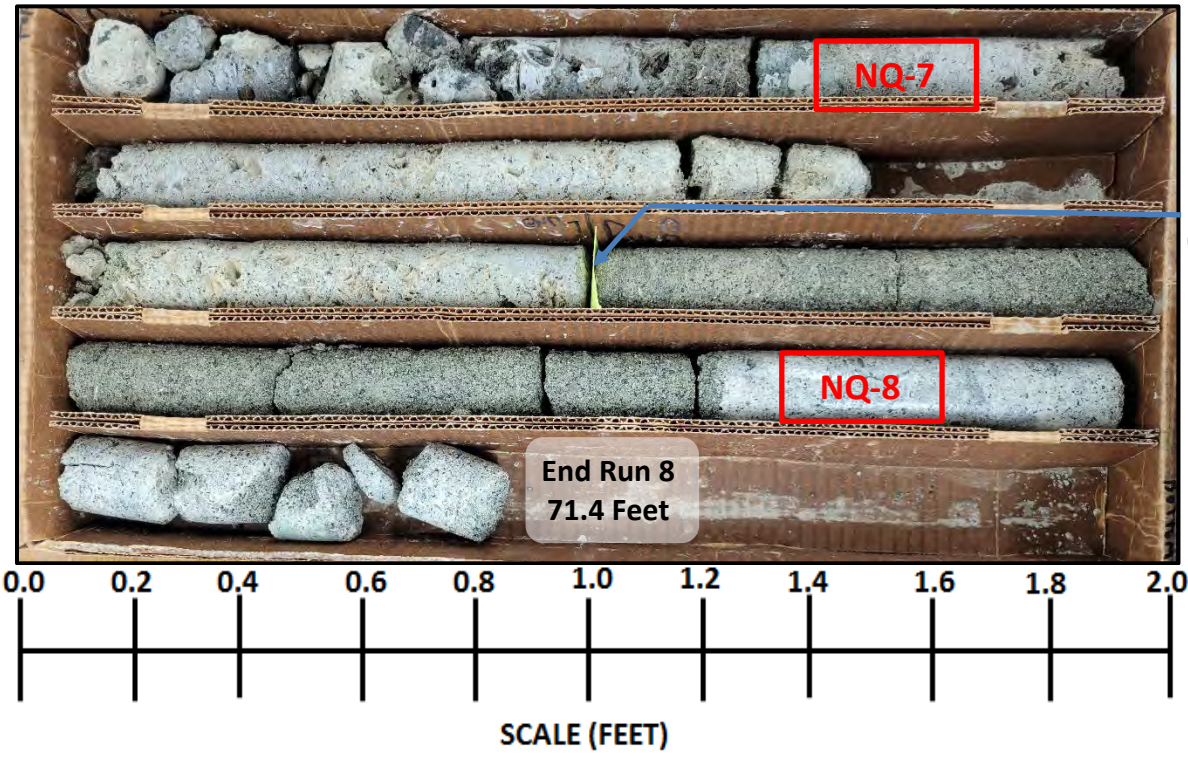
Begin Run 4
46.4 Feet

End Run 4
51.4 Feet

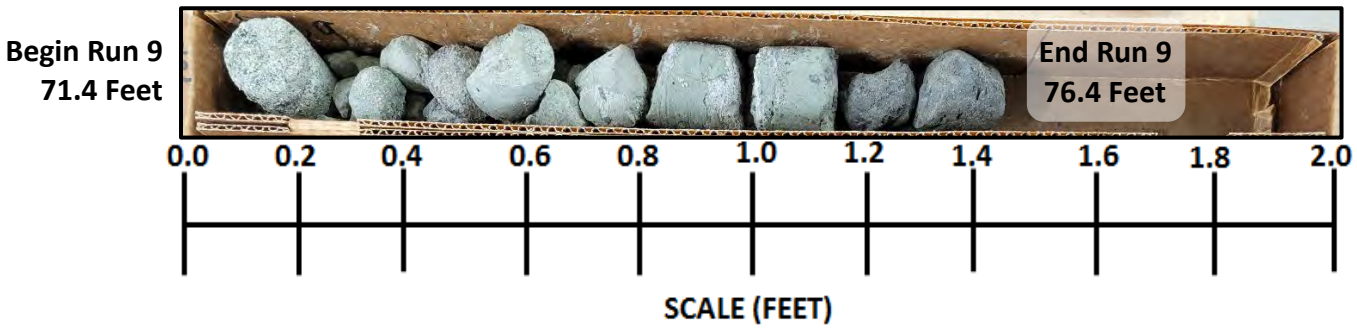


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-48



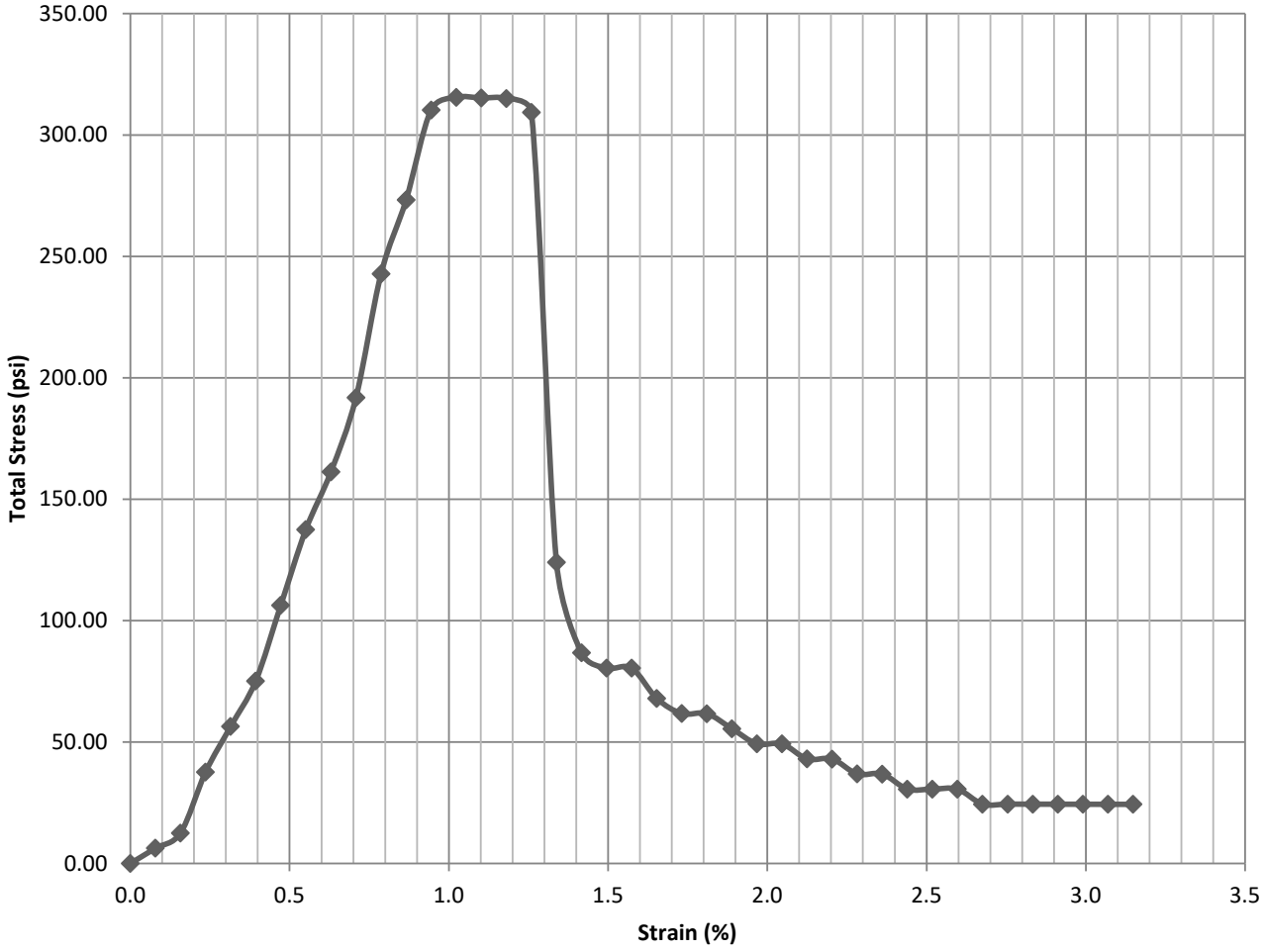


I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-48



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0567



Average Initial Diameter (Do):	1.863 in.	Sample Volume:	10.391 in^3
Average Initial Height (Lo):	3.812 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.726 in^2	Sample Weight:	0.797 lbs.
In-Situ Unit Weight:	132.6 pcf	L/D Ratio:	2.046
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/13/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-48 / NQ-1		
Depth/Elevation	35.5' - 35.8'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 315 psi ε_{ULT} = 1.1%

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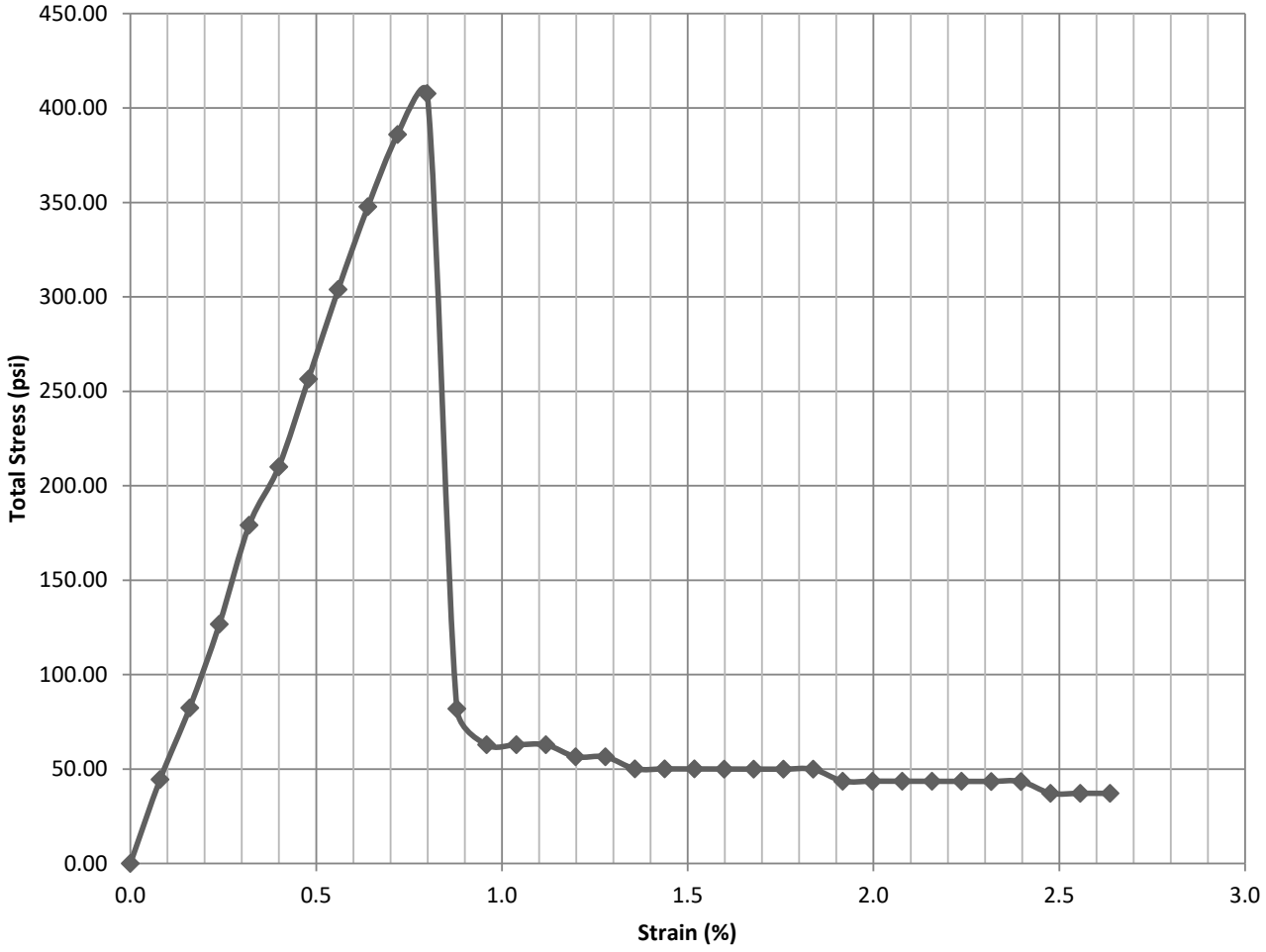
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0567
Sample Location:	B-48 / NQ-1		**Depth of Sample:**	35.5' - 35.8'
Tested By:	W. Pitts	**Date Tested:**	3/13/2023	

Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0567



Average Initial Diameter (Do):	1.853 in.	Sample Volume:	10.126 in^3
Average Initial Height (Lo):	3.755 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.697 in^2	Sample Weight:	0.709 lbs.
In-Situ Unit Weight:	121.0 pcf	L/D Ratio:	2.026
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/13/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-48 / NQ-2		
Depth/Elevation	38.7' - 39.0'		

Sample Type : Soil Core
Target Strain Rate : 0.75% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 410 psi ε_{ULT} = 0.8%

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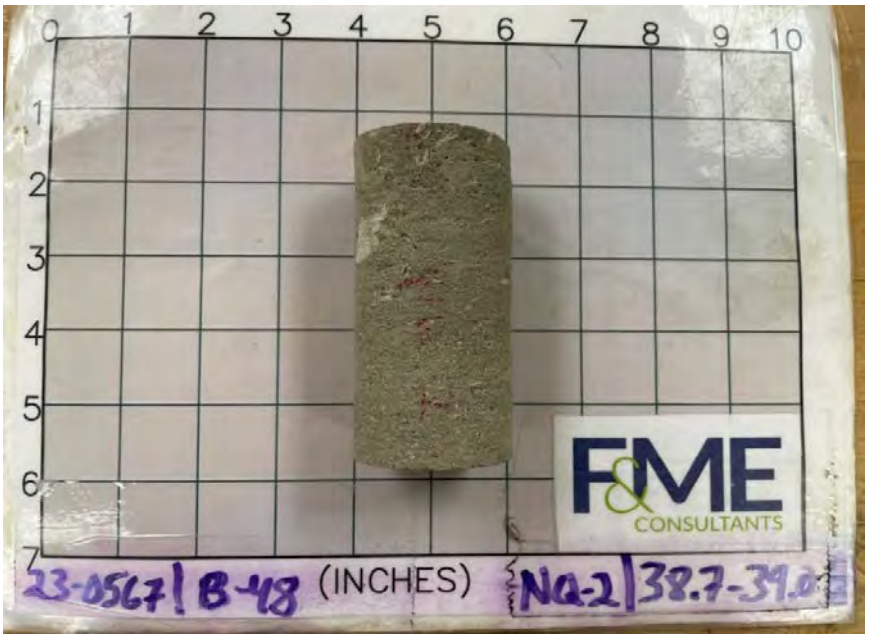
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0567
Sample Location:	B-48 / NQ-2		**Depth of Sample:**	38.7' - 39.0'
Tested By:	W. Pitts	**Date Tested:**	3/13/2023	

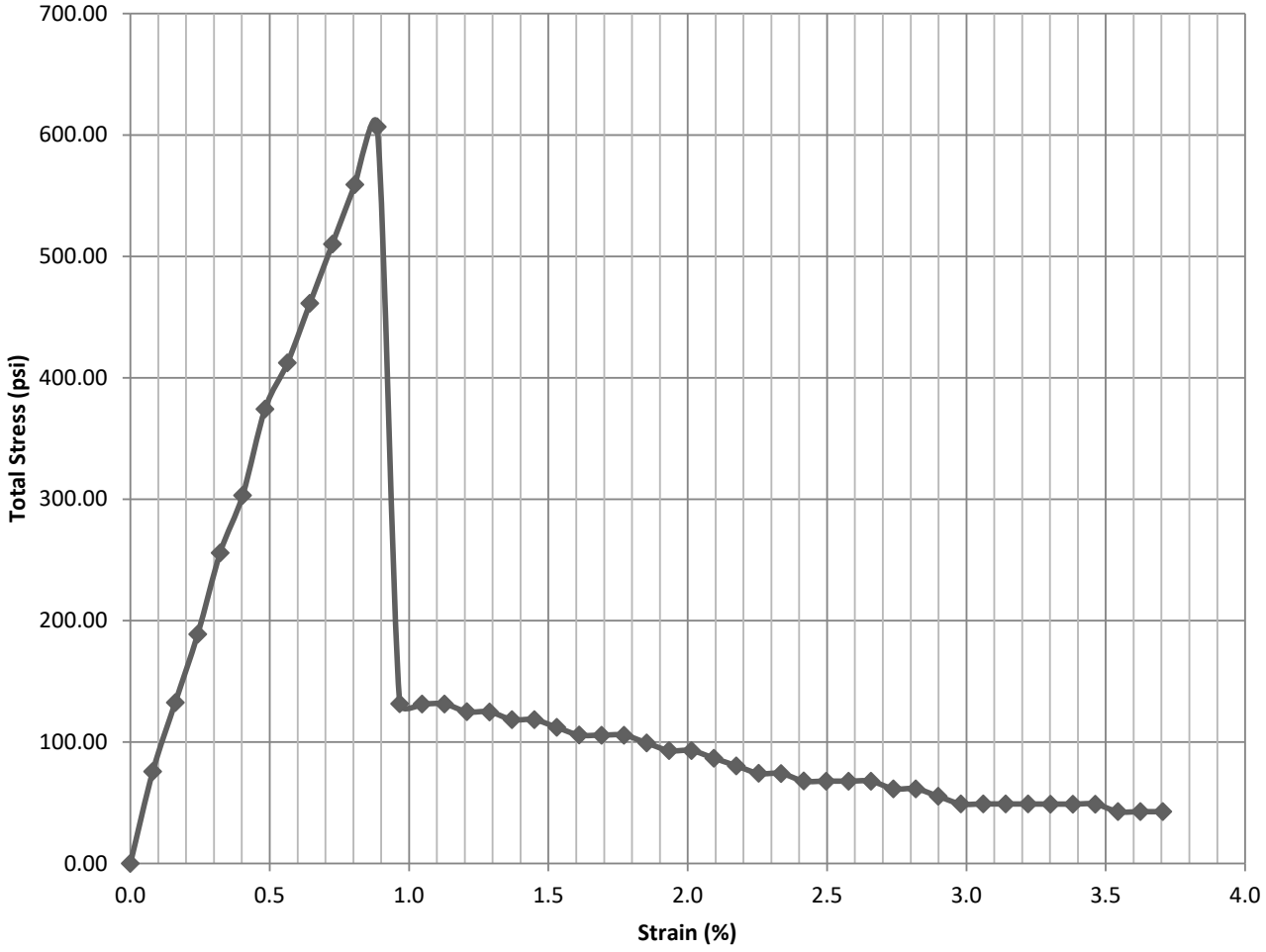


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0567



Average Initial Diameter (Do):	1.857 in.	Sample Volume:	10.089 in^3
Average Initial Height (Lo):	3.725 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.708 in^2	Sample Weight:	0.704 lbs.
In-Situ Unit Weight:	120.6 pcf	L/D Ratio:	2.006
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/13/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-48 / NQ-5		
Depth/Elevation	53.5' - 53.8'		

Sample Type : Soil Core
Target Strain Rate : 0.8% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 610 psi ε_{ULT} = 0.9%

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Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0567
Sample Location:	B-48 / NQ-5		**Depth of Sample:**	53.5' - 53.8'
Tested By:	W. Pitts	**Date Tested:**	3/13/2023	

Before Break

After Break

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.844	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.853	Reviewed By	WJG
Boring	B-48	Unit Weight (pcf)	146.2	Core Size	NQ
Sample No.	NQ-7 / 23-0567A	L/D Ratio	2.09	Recovery	90%
Depth	62.8' - 63.2'	Load Rate (psi/sec)	10	RQD	65%
Description	Gray/Brown/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%	-1246	65	1,330	498	0.80	0.05
40%	-1596	113	1,856	695	0.87	0.07
50%	-1864	138	2,255	845	0.91	0.07
60%	-2173	204	2,700	1,011	0.93	0.09
70%	-2462	320	3,155	1,182	0.96	0.13
80%	-2750	642	3,608	1,351	0.98	0.23
90%	-2989	1419	4,049	1,516	1.01	0.47
100%	-3097	1842	4,502	1,686		

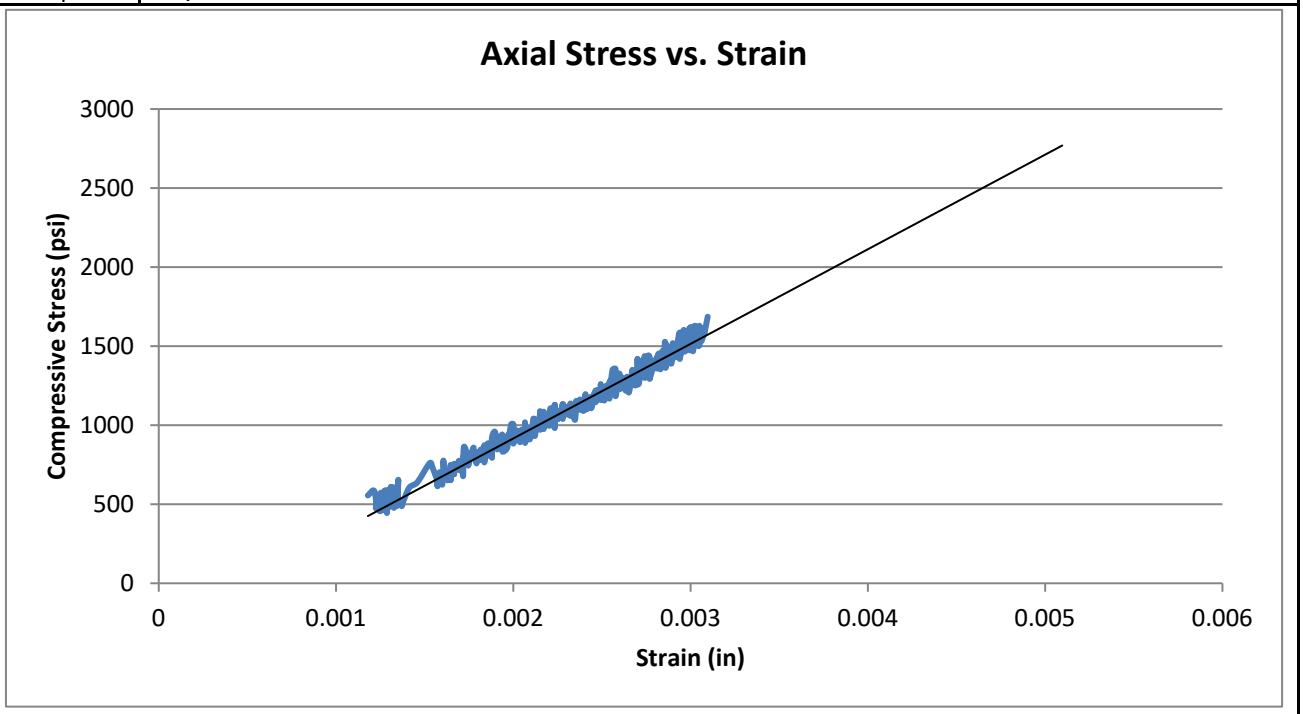
Sample Photos

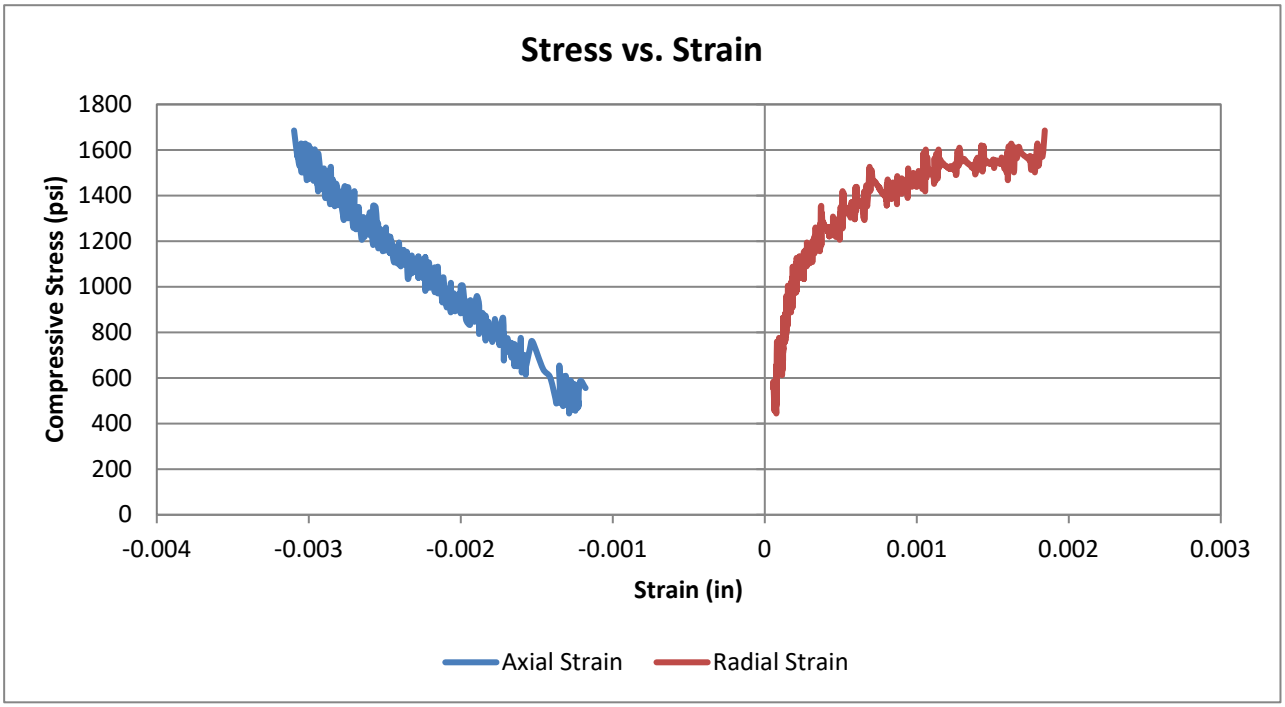
Test Results

Unconfined Compressive Strength (psi)	**1,690**	Elastic Modulus (psi)	9.00E+05
		Poisson's Ratio in Elastic Range	0.09
Comments	Elastic range was taken as between 0.0015 and 0.0025 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.844	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.853	Reviewed By	WJG
Boring	B-48	Unit Weight (pcf)	146.2	Core Size	NQ
Sample No.	NQ-7 / 23-0567A	L/D Ratio	2.09	Recovery	90%
Depth	62.8' - 63.2'	Load Rate (psi/sec)	10	RQD	65%
Description	Gray/Brown/Black Limestone				





Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.979	Reviewed By	WJG
Boring	B-48	Unit Weight (pcf)	155.6	Core Size	NQ
Sample No.	NQ-8 / 23-0567B	L/D Ratio	2.13	Recovery	73%
Depth	68.9' - 69.2'	Load Rate (psi/sec)	10	RQD	58%
Description	Gray/White/Black Limestone				

Test Data

Percent of Failure Load	Strain (10^{-6}) Axial	Strain (10^{-6}) Radial	Load (lbs)	Compressive Stress (psi)	Secant Modulus x10^{6} (psi)	Poisson's Ratio
10%	Sample Preload Range					
20%						
30%	-463	5	1,722	631	2.72	0.01
40%	-603	34	2,300	842	2.79	0.06
50%	-767	119	2,824	1,034	2.70	0.15
60%	-867	252	3,438	1,258	2.90	0.29
70%	-1037	676	4,025	1,473	2.84	0.65
80%	-1365	826	4,560	1,669	2.45	0.61
90%	-1687	1744	5,147	1,884	2.23	1.03
100%	-1803	2200	5,746	2,103		

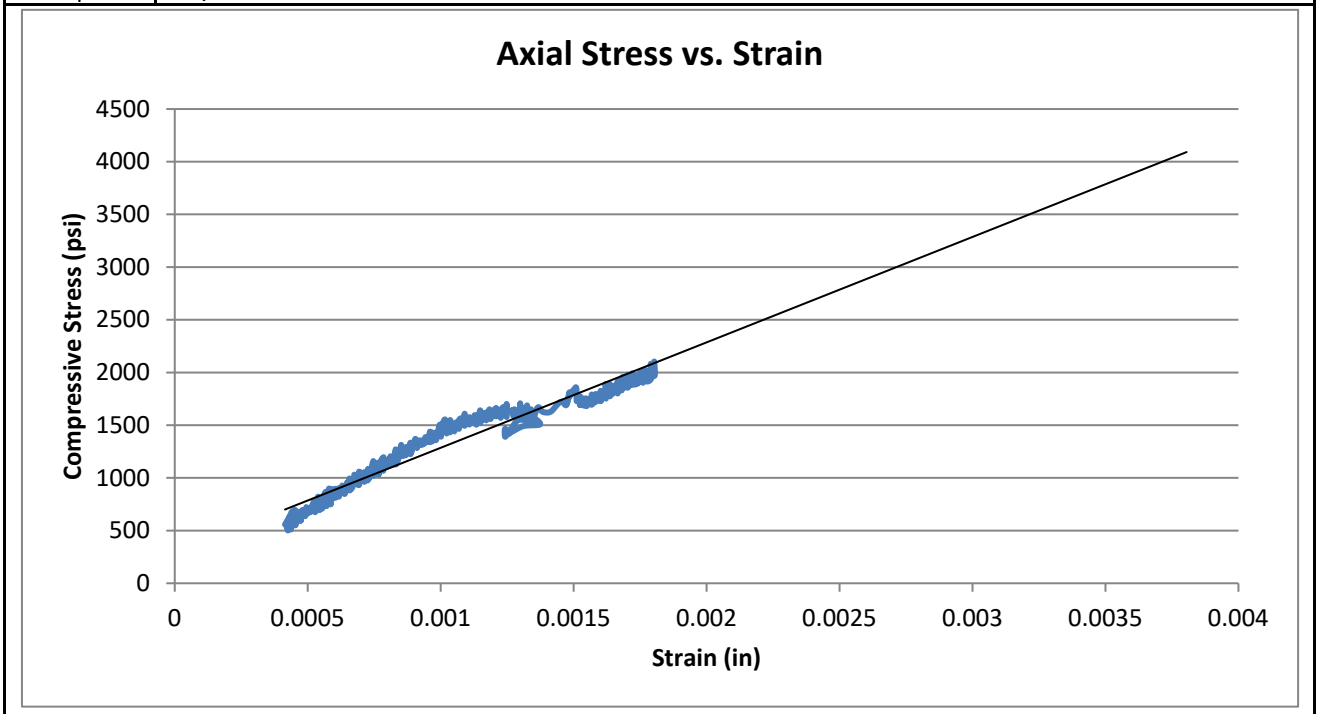
Sample Photos

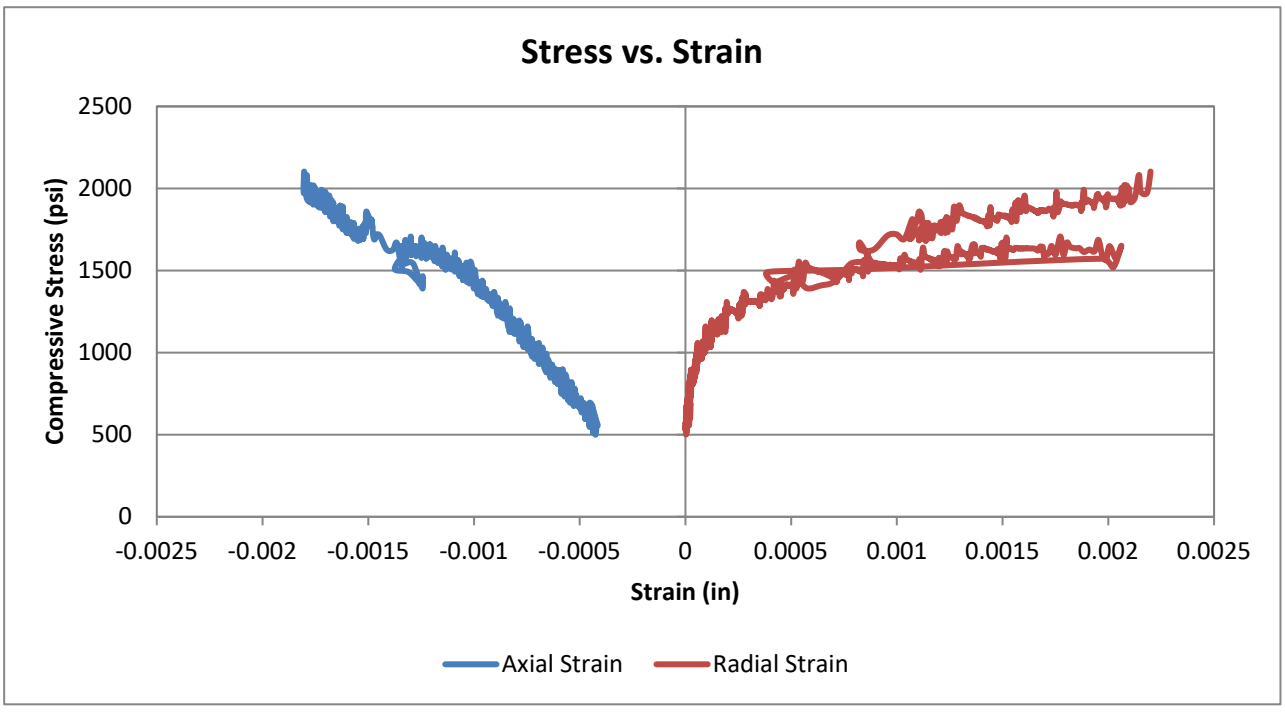
Test Results

Unconfined Compressive Strength (psi)	**2,100**	Elastic Modulus (psi)	2.84E+06
		Poisson's Ratio in Elastic Range	0.19
Comments	Elastic range was taken as between 0.0005 and 0.001 inches of axial strain. This range was chosen to avoid any non-linear behavior from the initial loading and the inflection point at the end of the elastic range.		

Compressive Strength and Elastic Moduli of Intact Rock Core Specimens
ASTM D7012 - Method D / SC-T-39

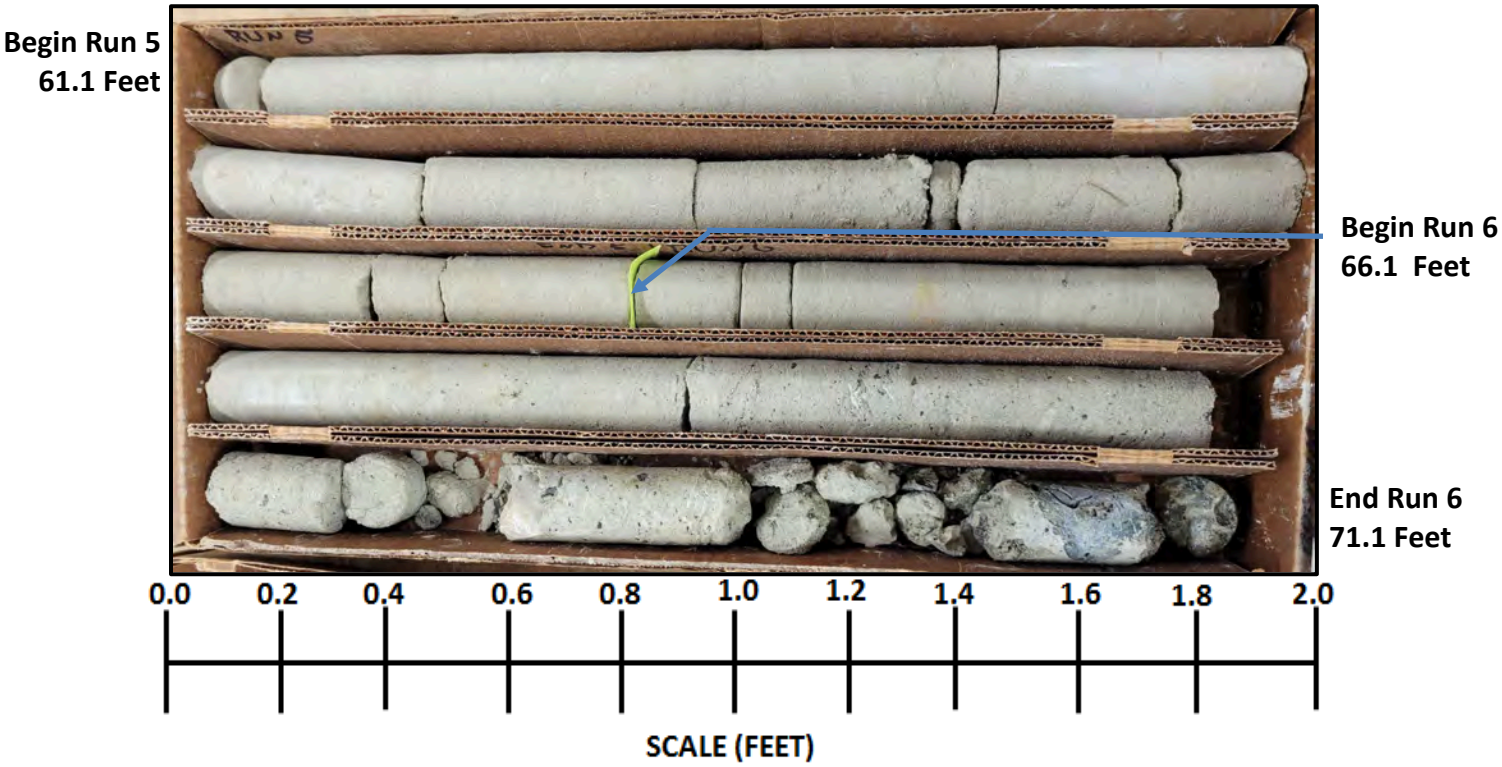
Project	I-95 NB/SB Bridges over Lake Marion			Date	7/25/2023
Project No.	G6744	Sample Diameter (in.)	1.865	Tested By	WAP
SCDOT ID	P041130	Sample Length (in.)	3.979	Reviewed By	WJG
Boring	B-48	Unit Weight (pcf)	155.6	Core Size	NQ
Sample No.	NQ-8 / 23-0567B	L/D Ratio	2.13	Recovery	73%
Depth	68.9' - 69.2'	Load Rate (psi/sec)	10	RQD	58%
Description	Gray/White/Black Limestone				





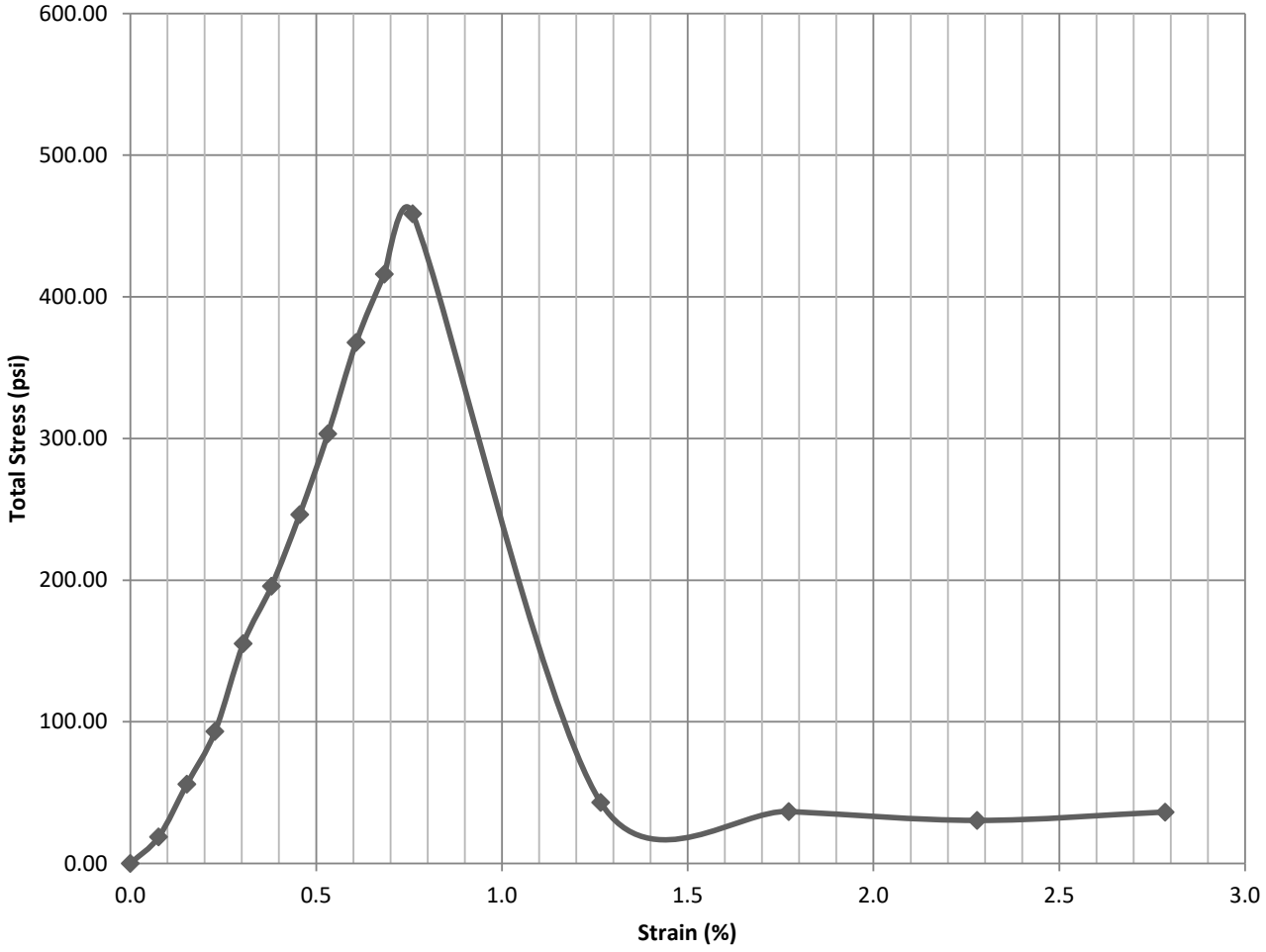
I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-51

I-95 Bridge over Lake Marion DB Prep
CORE PHOTOGRAPHS: B-51



UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0364



Average Initial Diameter (Do):	1.872 in.	Sample Volume:	10.87 in^3
Average Initial Height (Lo):	3.950 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.752 in^2	Sample Weight:	0.745 lbs.
In-Situ Unit Weight:	118.4 pcf	L/D Ratio:	2.110
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/1/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-51 / NQ-1		
Depth/Elevation	42.2' - 42.5'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 460 psi ε_{ULT} = 0.8%

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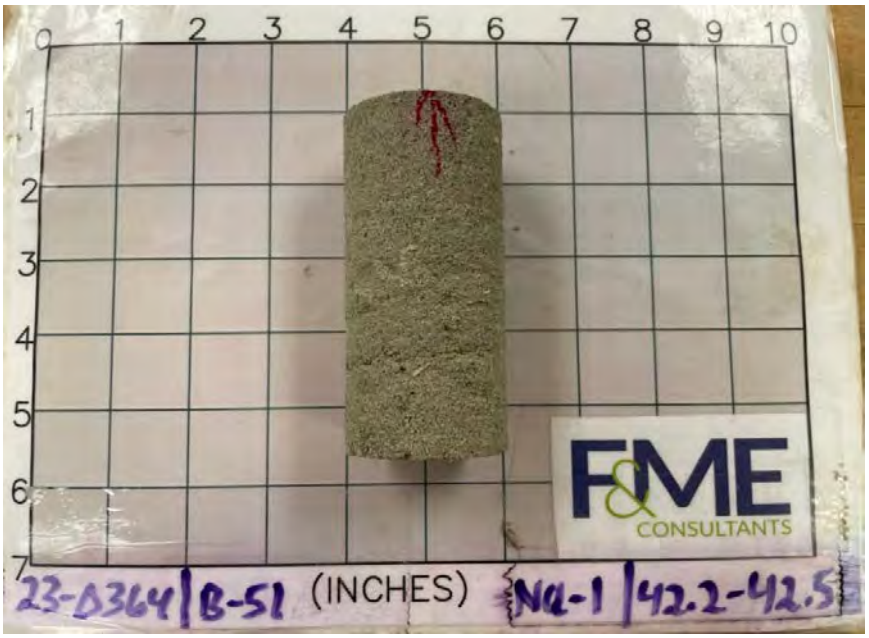
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0364
Sample Location:	B-51 / NQ-1		**Depth of Sample:**	42.2' - 42.5'
Tested By:	W. Pitts	**Date Tested:**	3/1/2023	

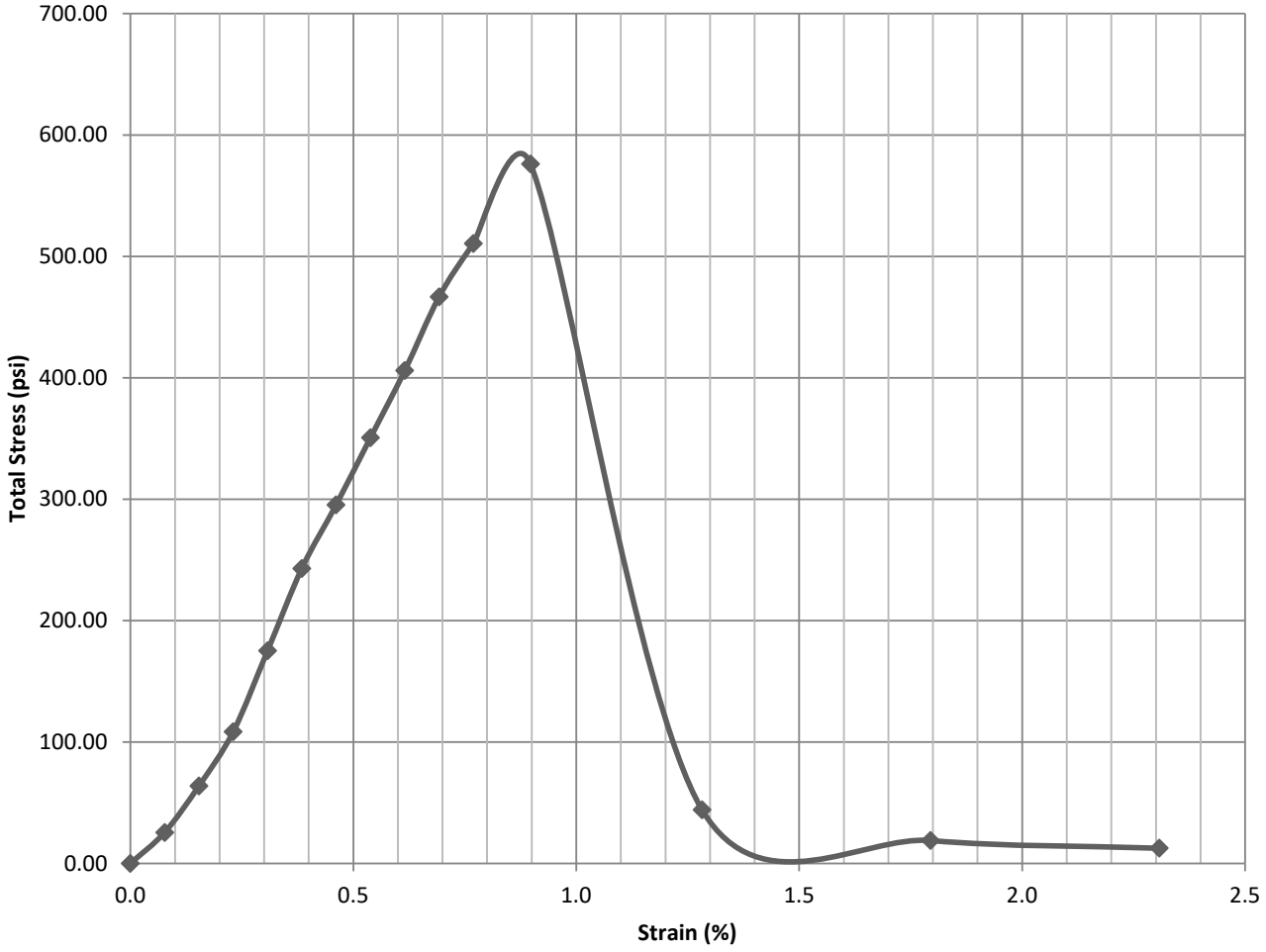


Before Break

After Break

UNCONFINED COMPRESSIVE STRENGTH TEST REPORT
ASTM D2166 / AASHTO T208

Stress/Strain Curve - Sample 23-0364



Average Initial Diameter (Do):	1.846 in.	Sample Volume:	10.44 in^3
Average Initial Height (Lo):	3.900 in.	Sample Volume:	0.006 ft^3
Average Initial Area (Ao):	2.676 in^2	Sample Weight:	0.757 lbs.
In-Situ Unit Weight:	125.3 pcf	L/D Ratio:	2.113
Failure Mode:	Plastic Failure		

Project Name	I-95 NB/SB Bridges over Lake Marion		
Project Number	G6744.000	Date	3/1/2023
SCDOT File #	P041130	PIN #	
Sample/Location	B-51 / NQ-4		
Depth/Elevation	58.9' - 59.2'		

Sample Type : Soil Core
Target Strain Rate : 0.5% per minute
Description: Limestone

$\sigma_{c\text{-}ULT}$ = 580 psi ε_{ULT} = 0.9%

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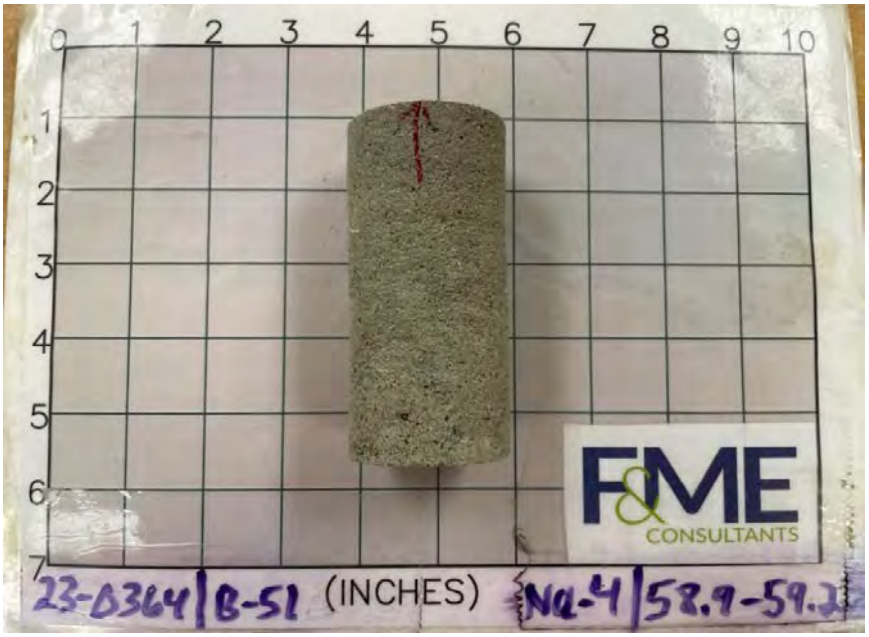
Project Name:	I-95 NB/SB Bridges over Lake Marion		**Project #:**	G6744.000
SCDOT File #:	P041130		**F&ME Sample #:**	23-0364
Sample Location:	B-51 / NQ-4		**Depth of Sample:**	58.9' - 59.2'
Tested By:	W. Pitts	**Date Tested:**	3/1/2023	



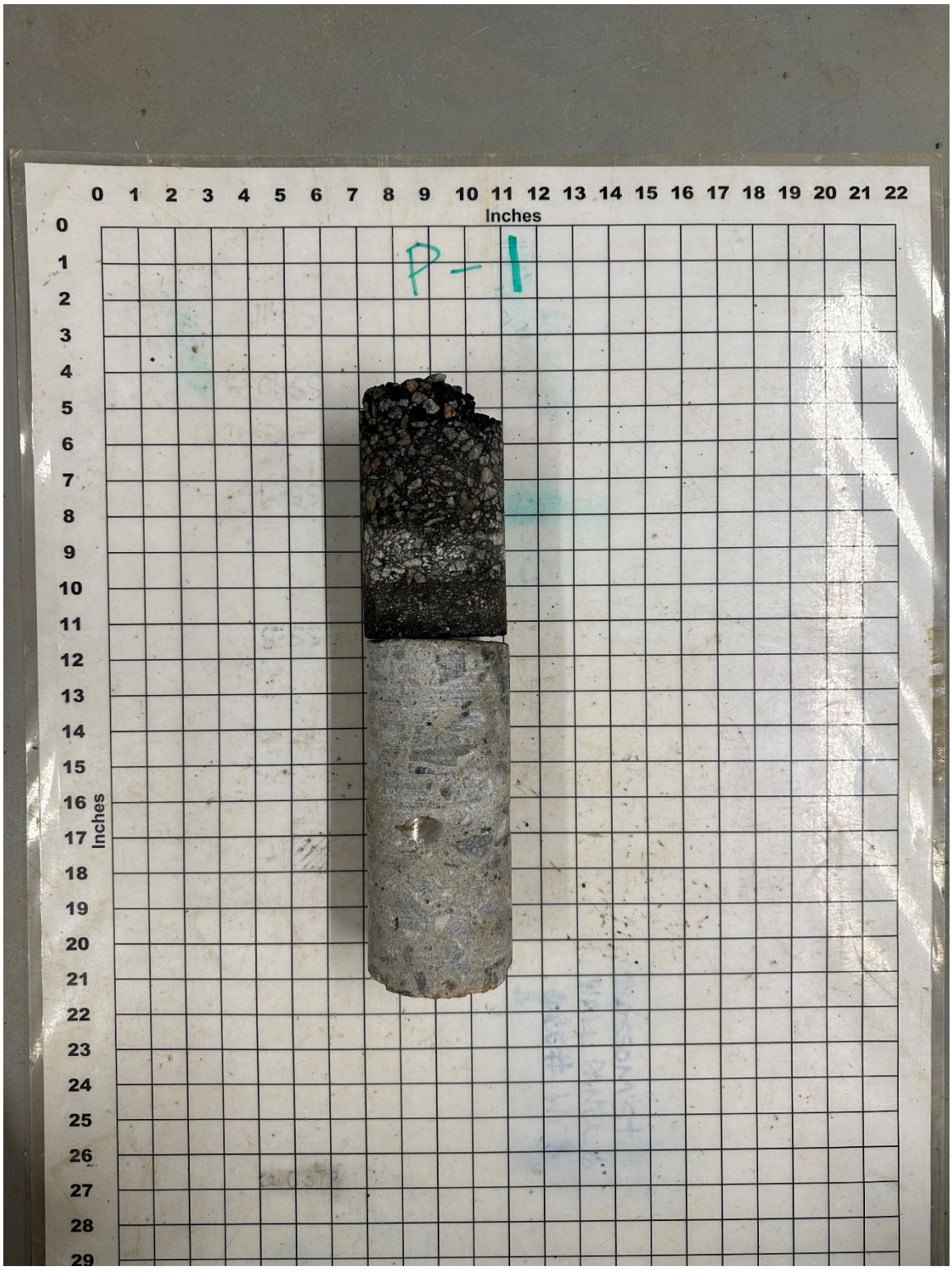
Before Break

After Break

APPENDIX

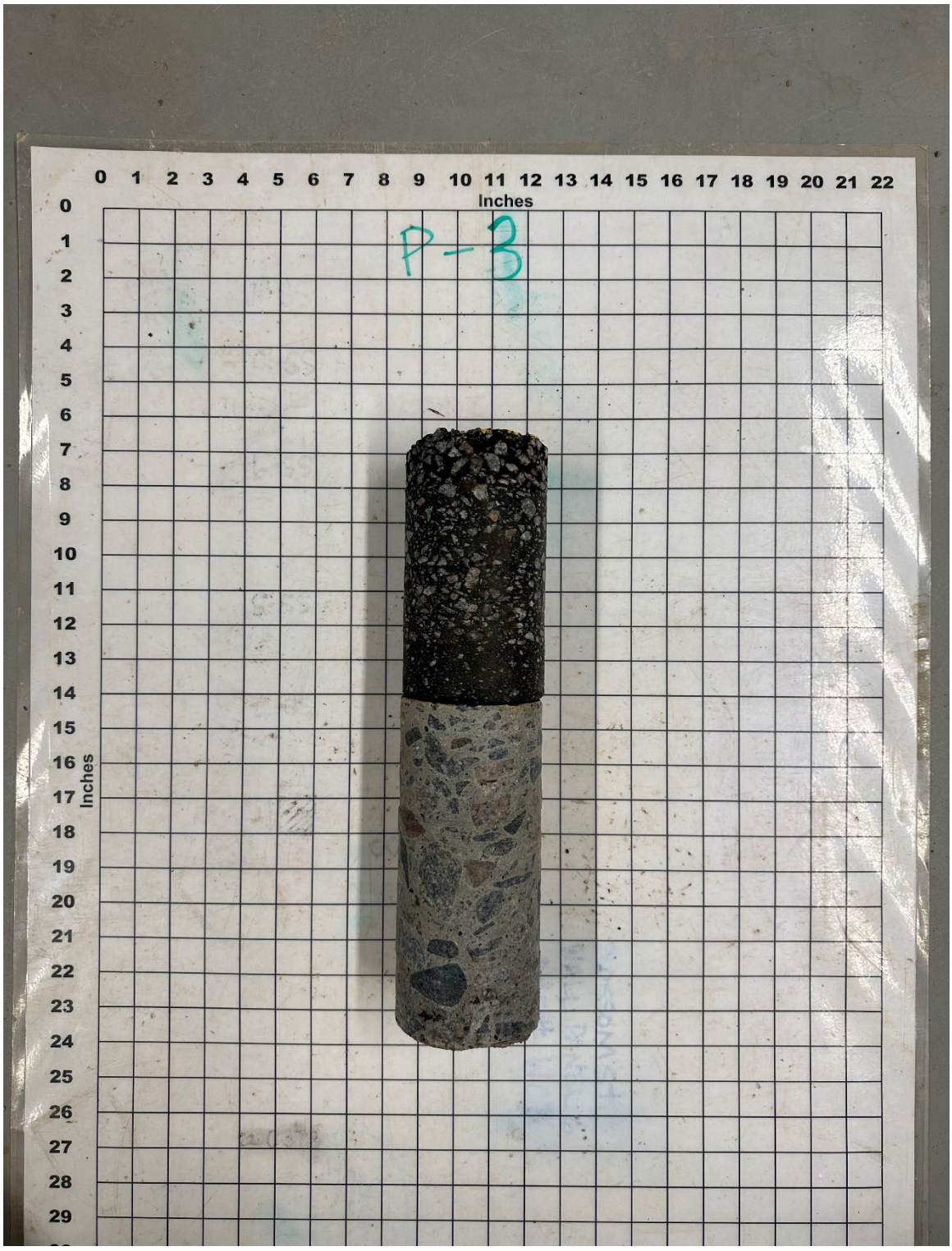
SECTION 6 EXISTING ASPHALT CORE PHOTOS

Pavement Core Photographs



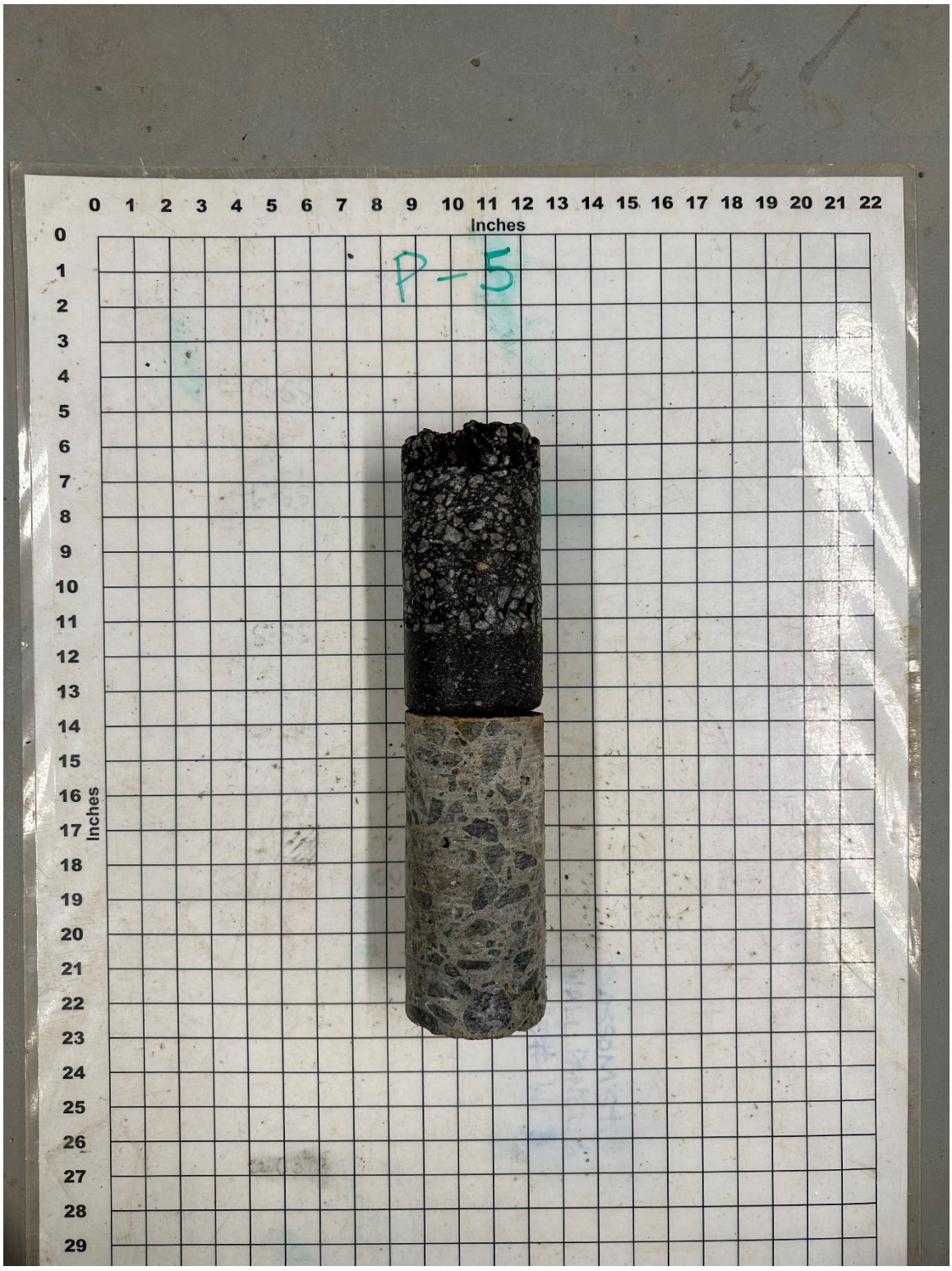
P-1

Pavement Core Photographs



P-3

Pavement Core Photographs



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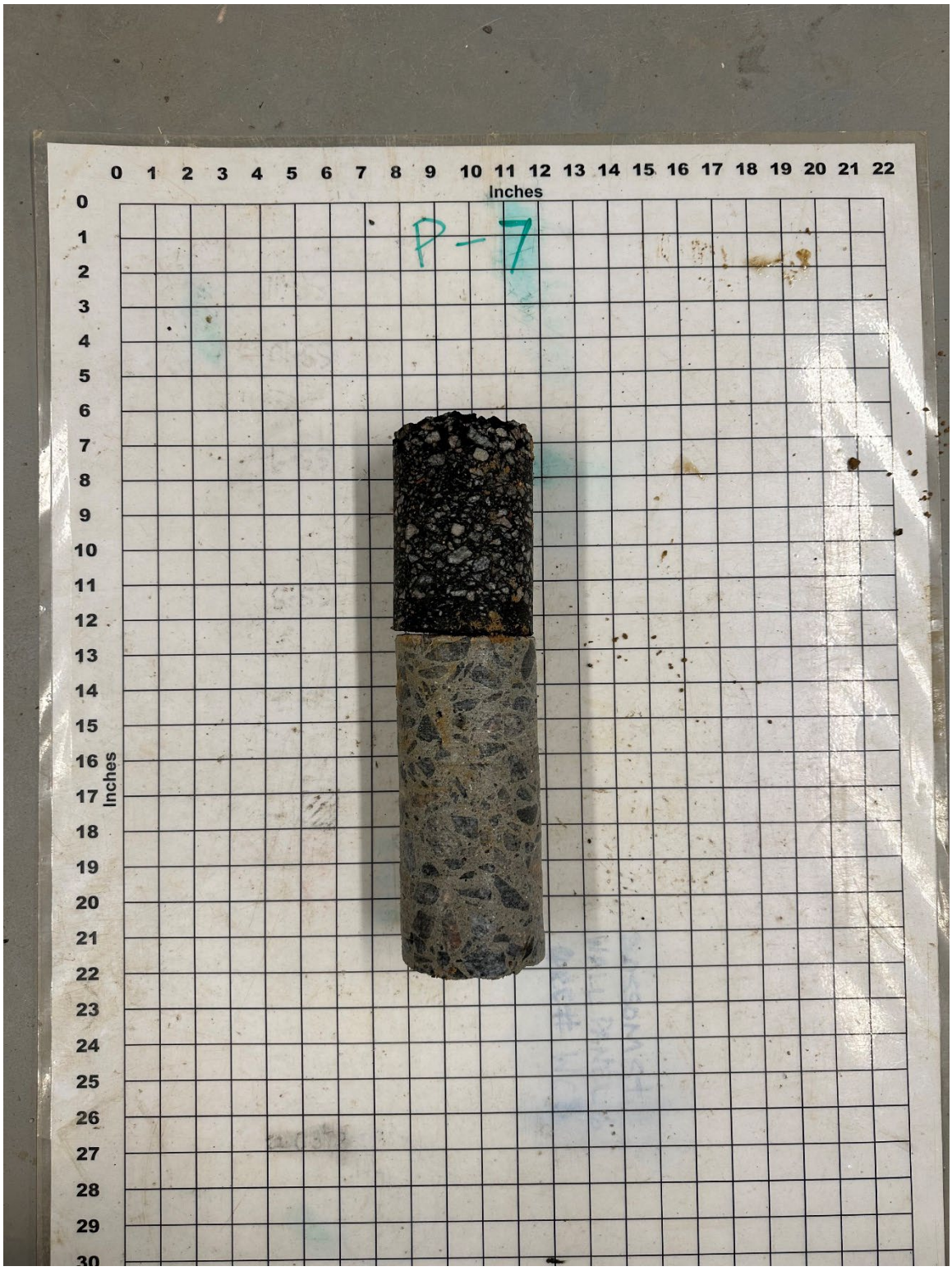

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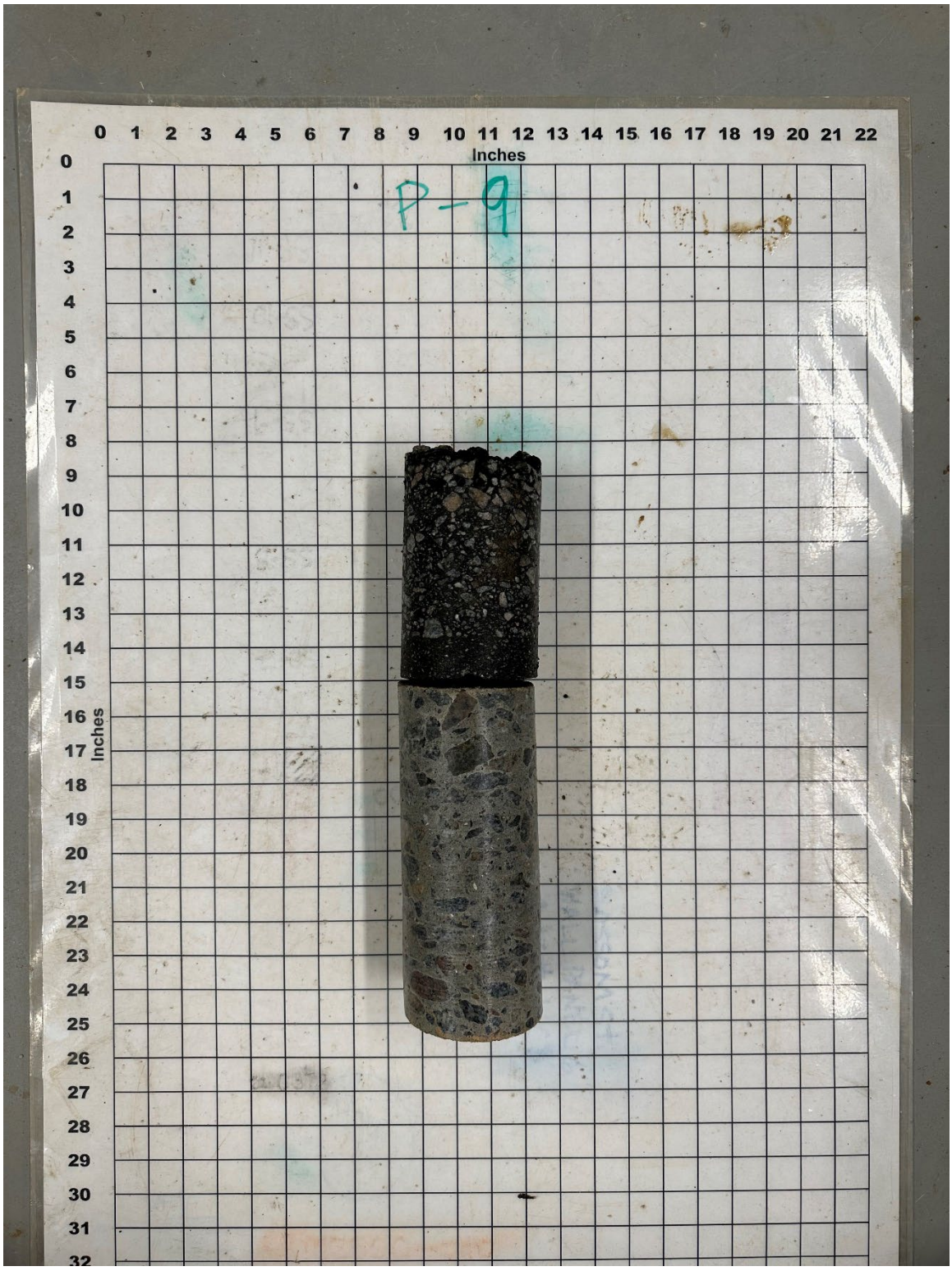

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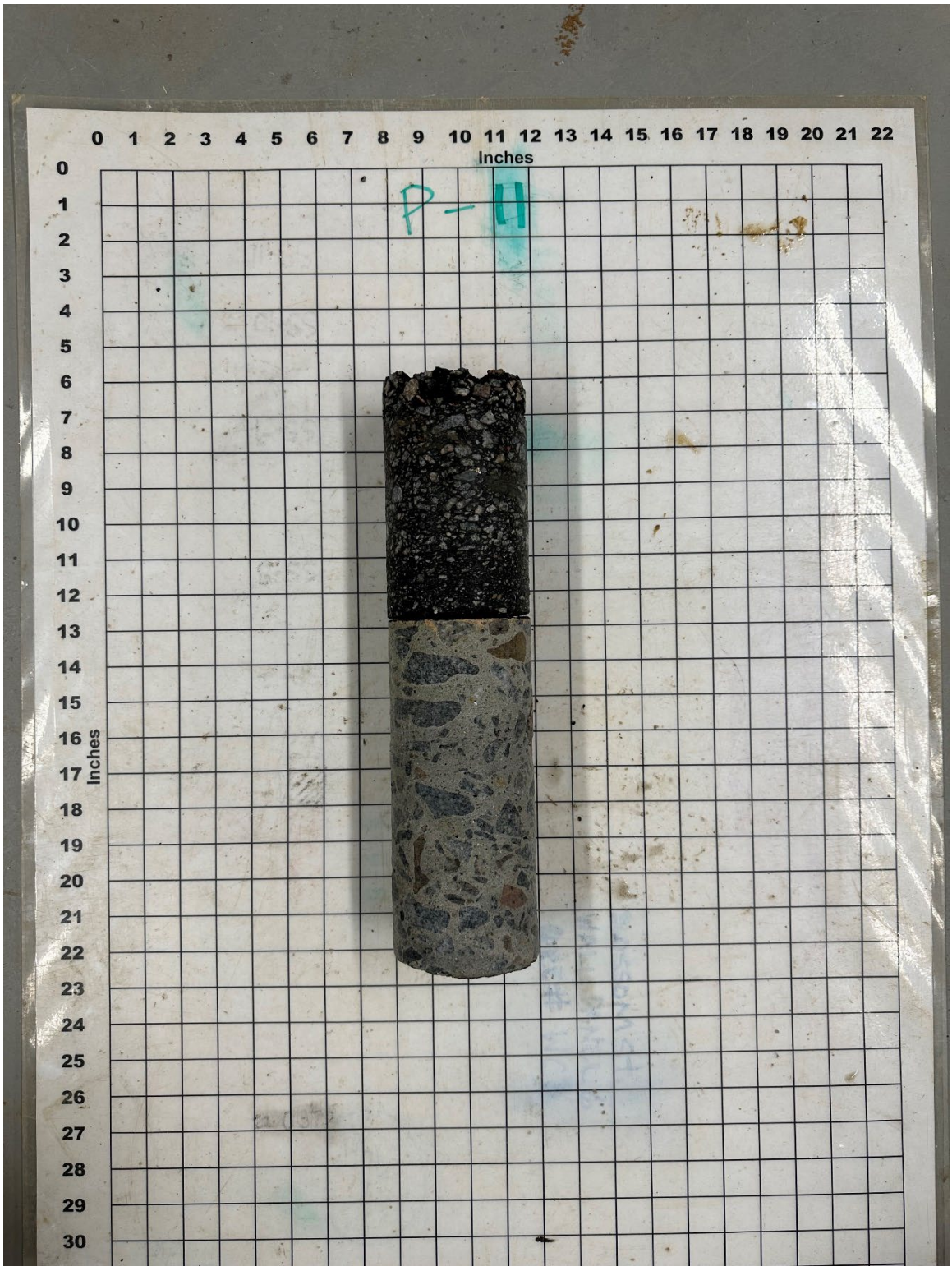

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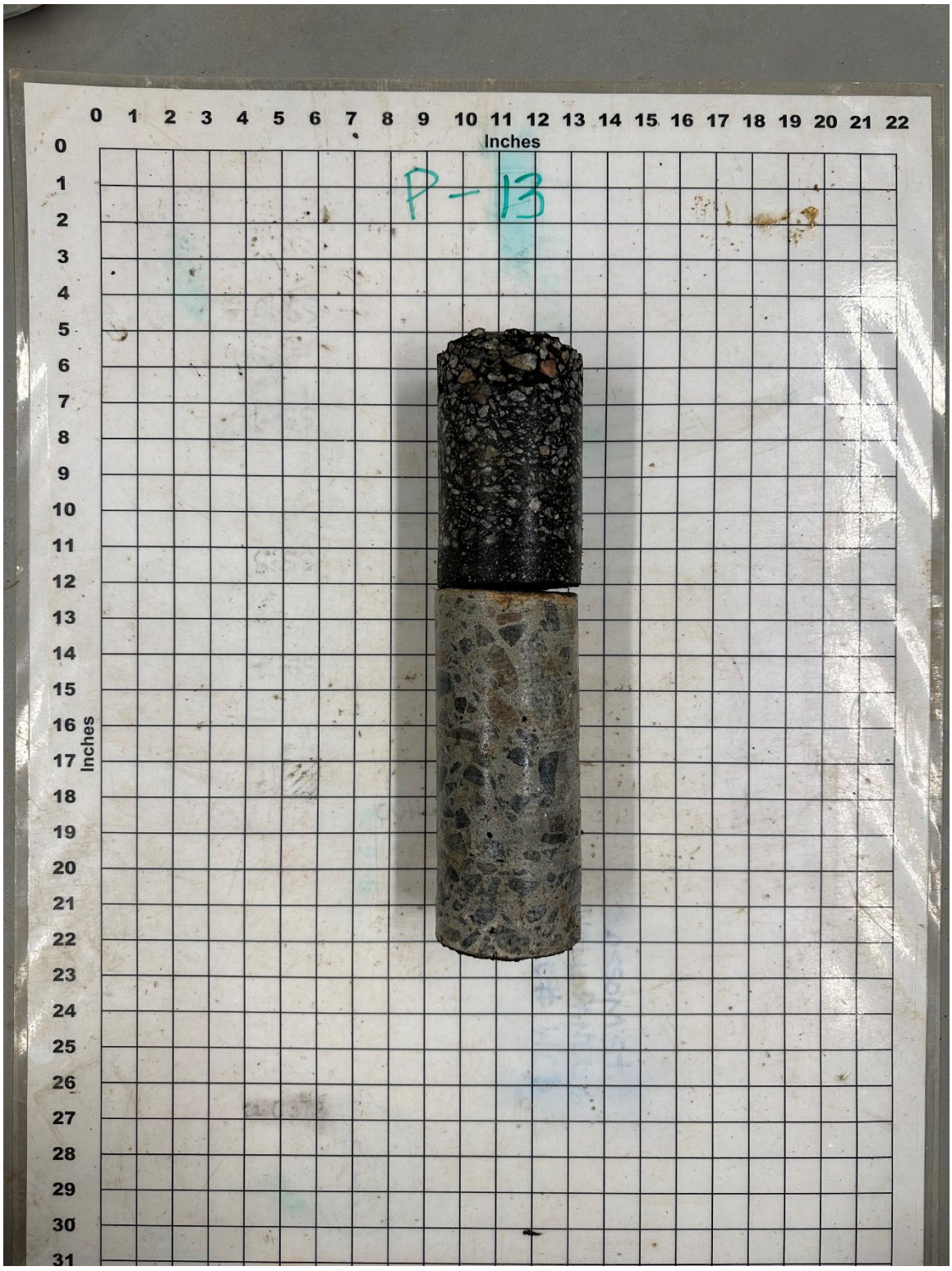

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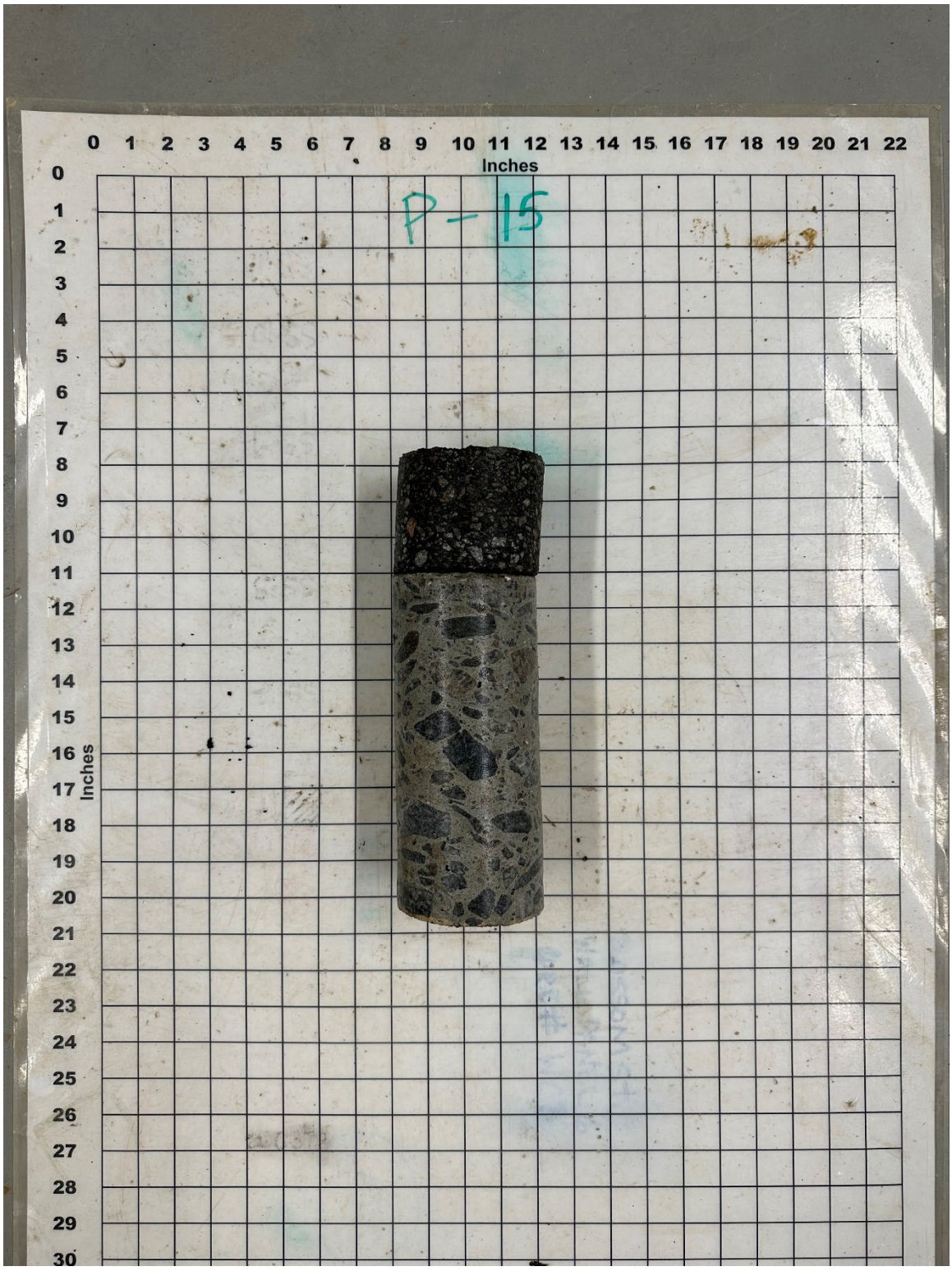
Pavement Core Photographs



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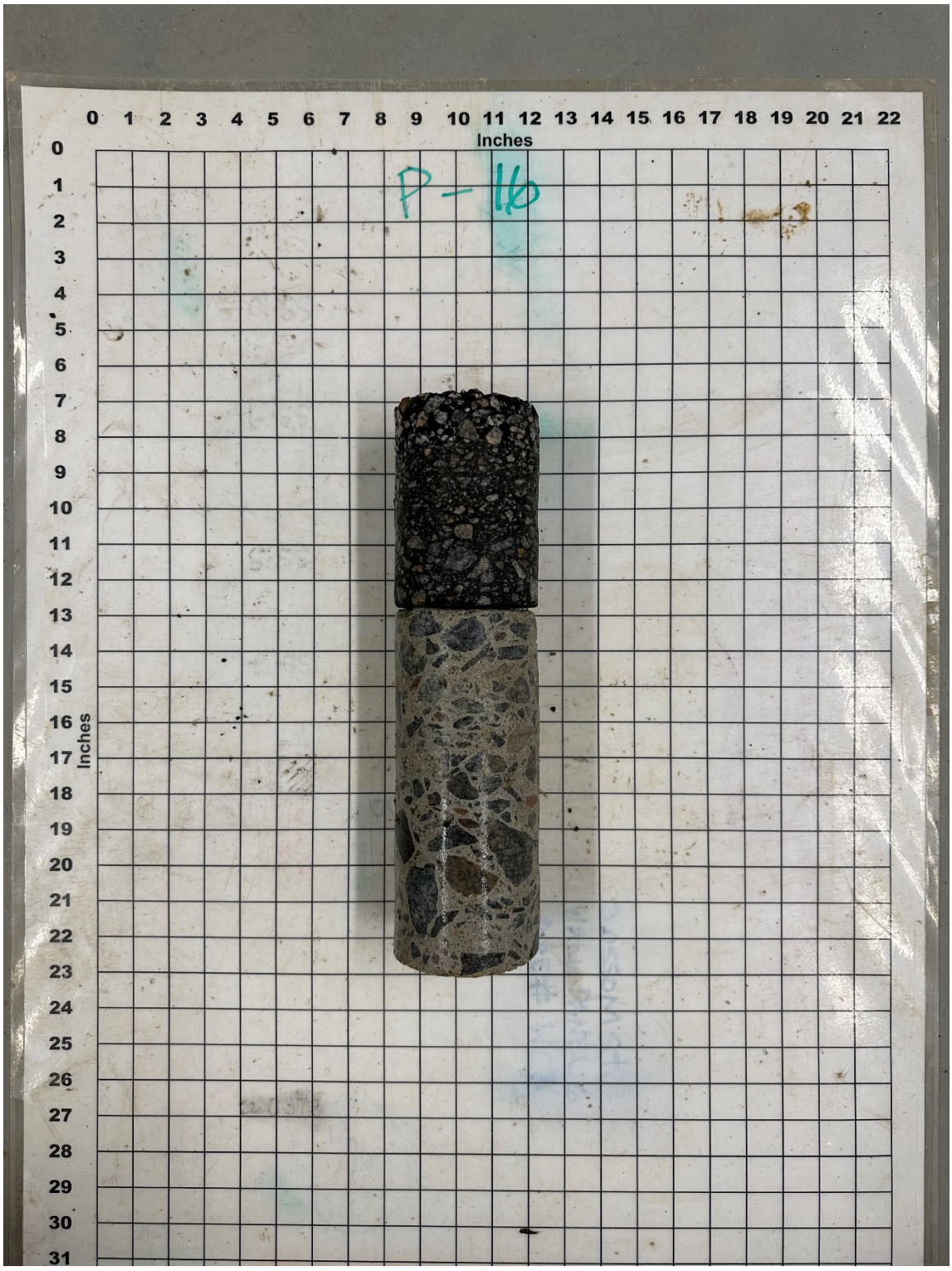
Pavement Core Photographs



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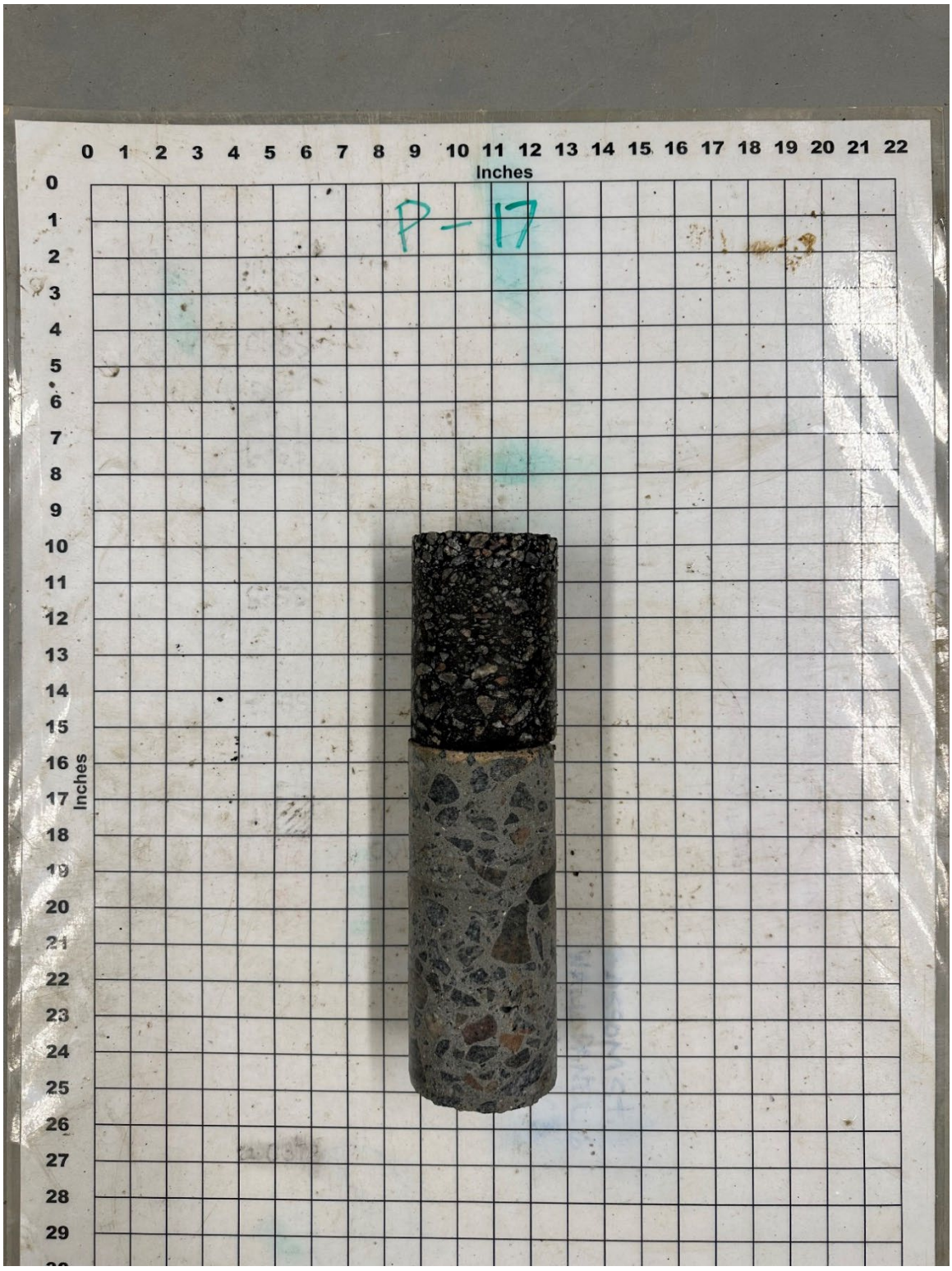
Pavement Core Photographs



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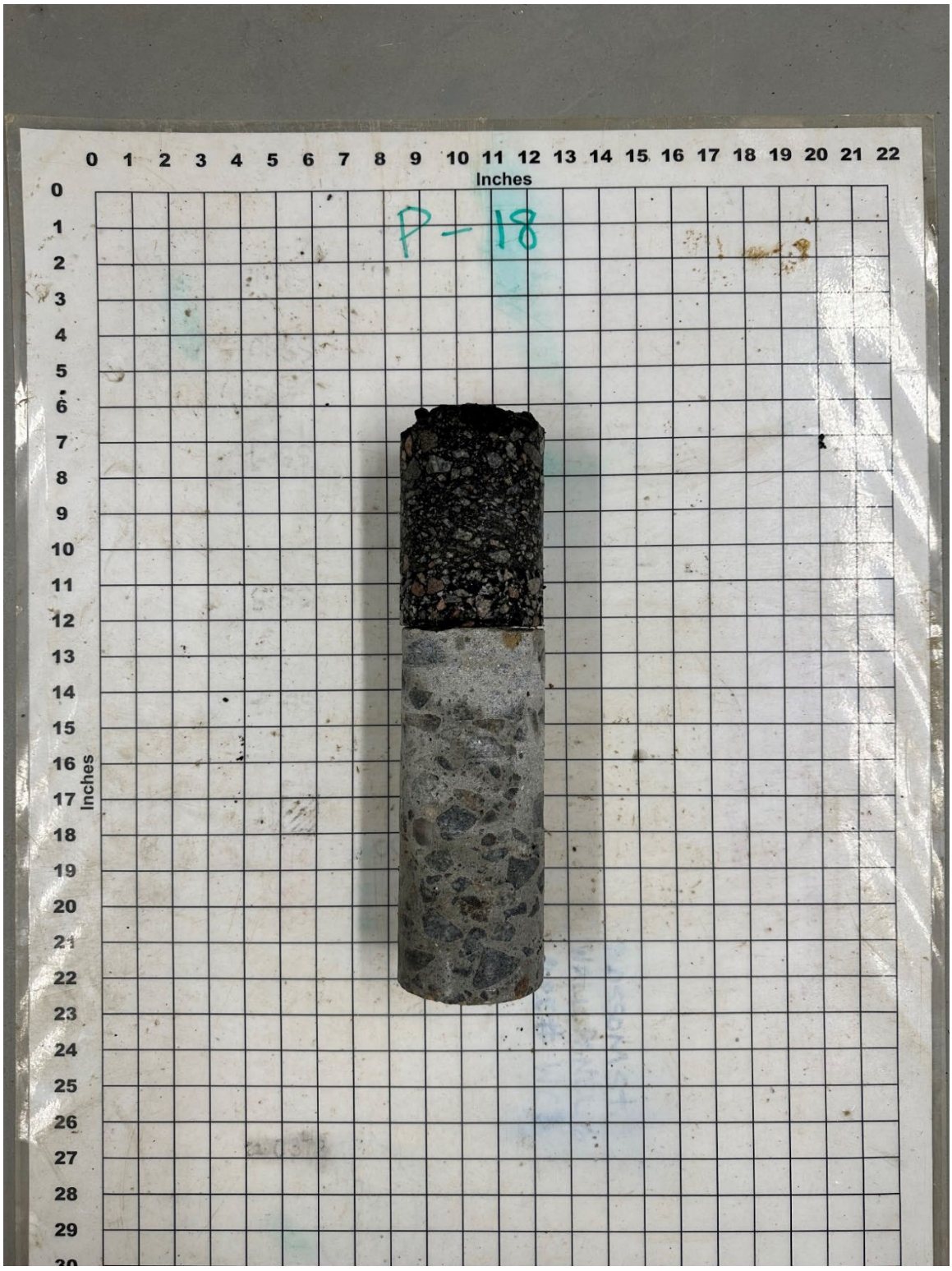
Pavement Core Photographs



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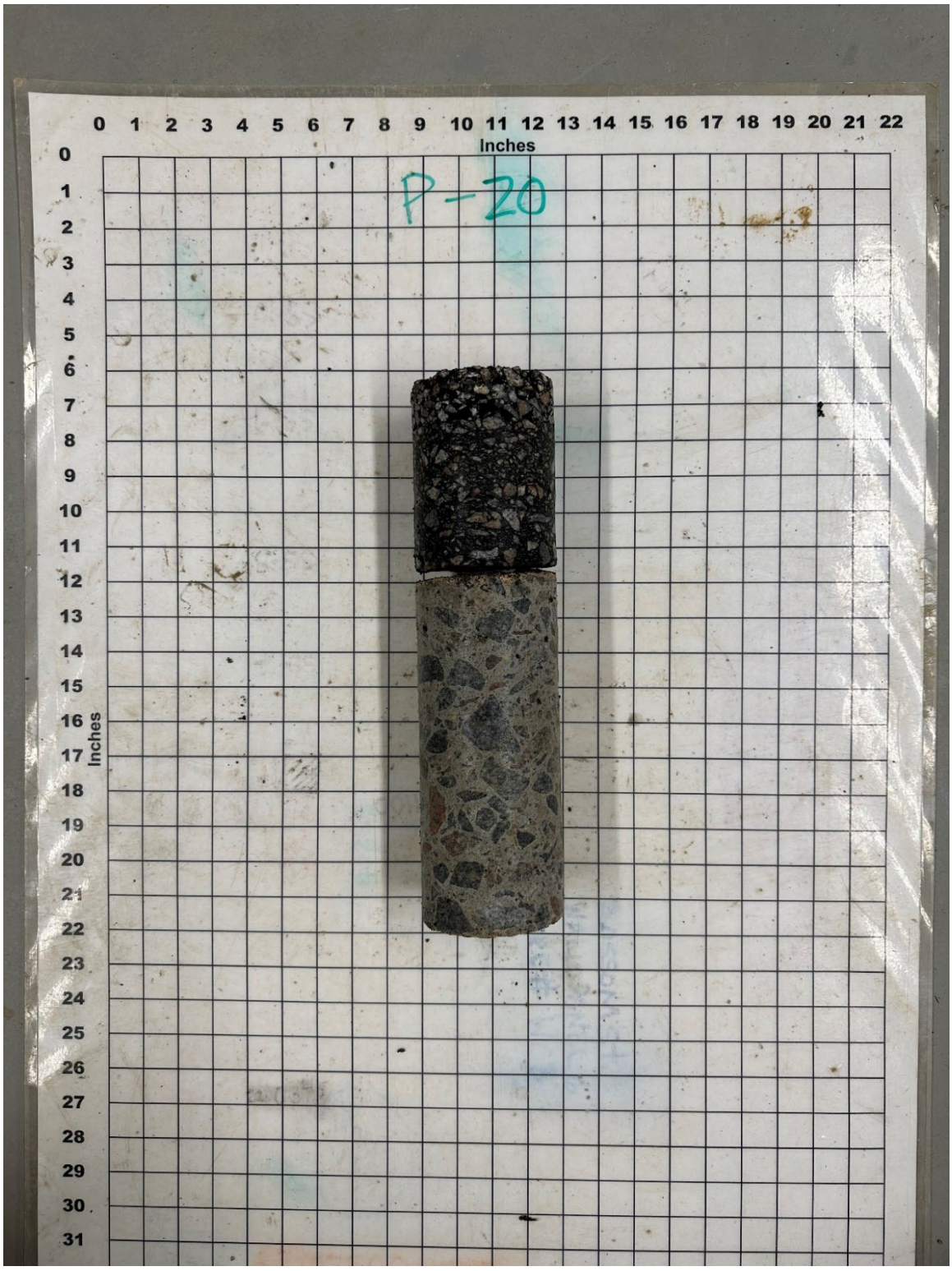

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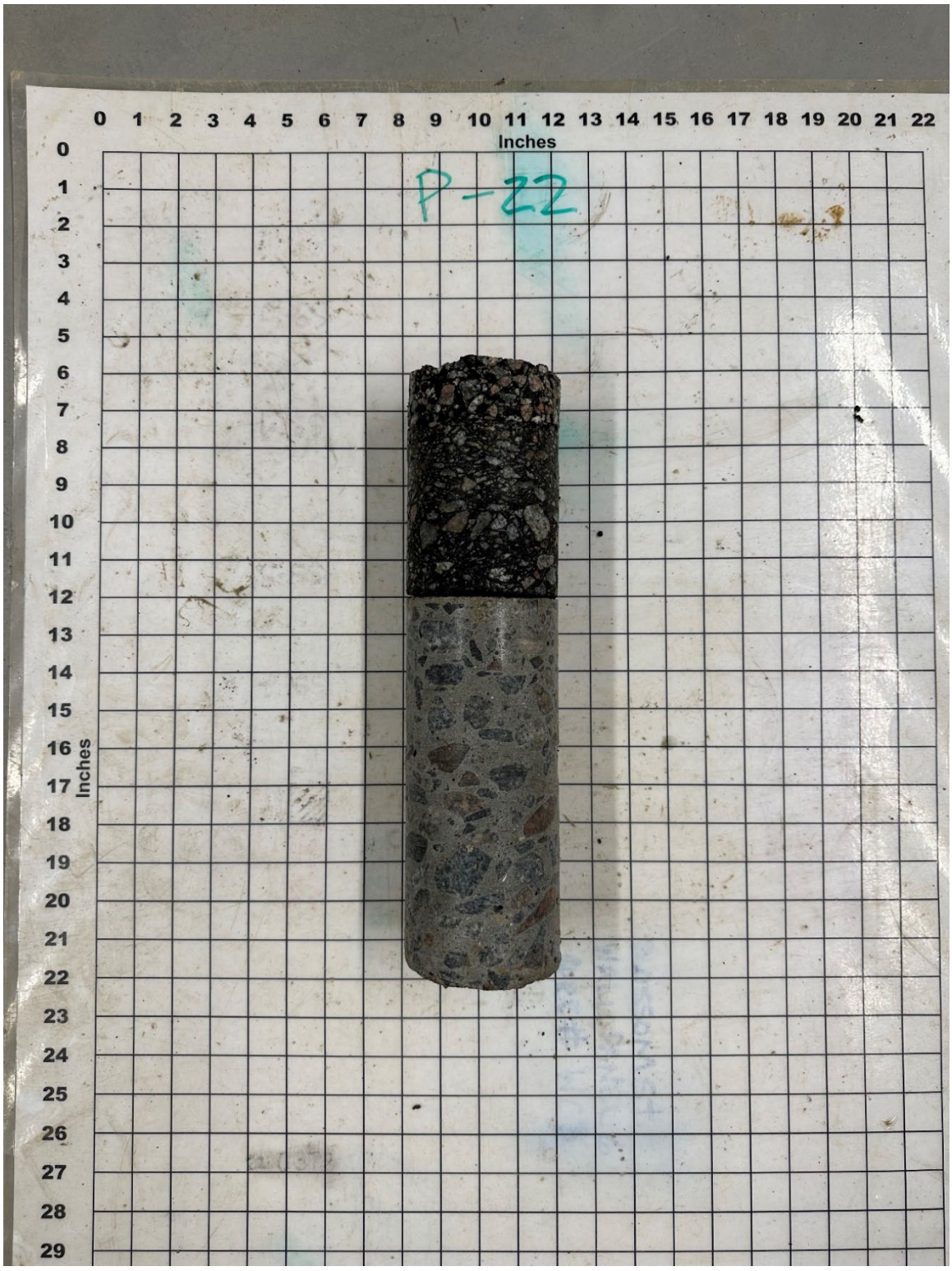


P-22

APPENDIX

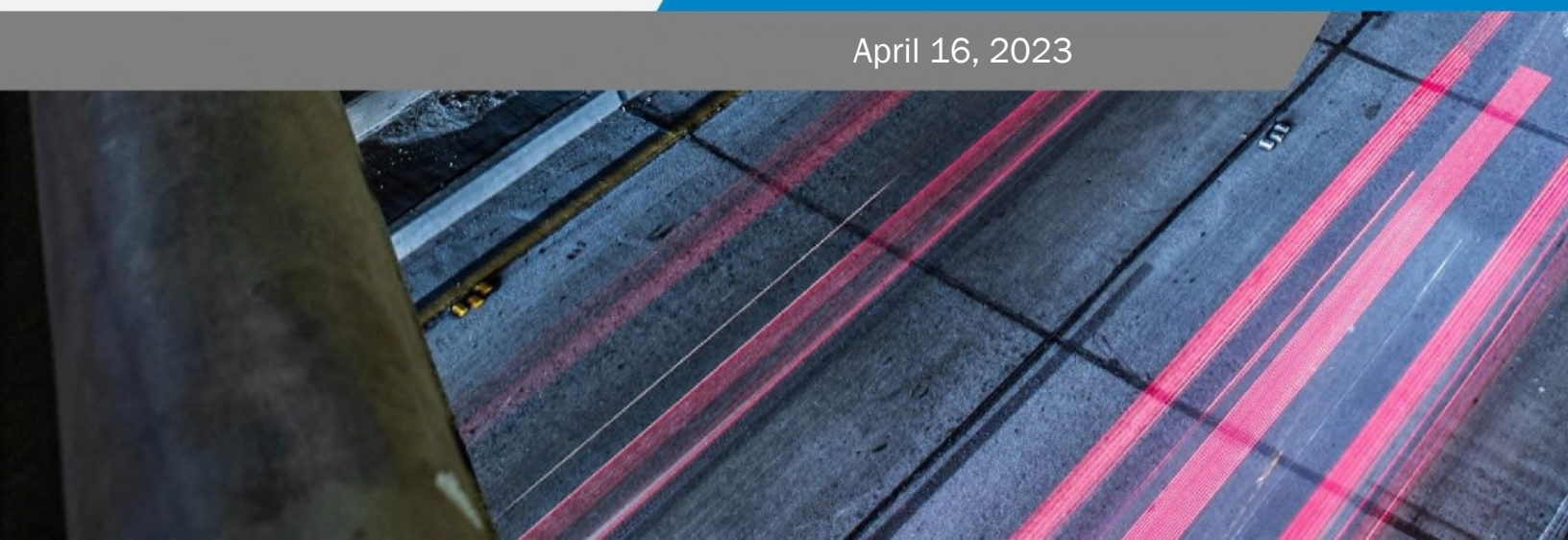
SECTION 7 SPT HAMMER CALIBRATION REPORT

CAROLINAS GEOTECHNICAL GROUP

Report of SPT Hammer Energy

Prepared for:
Breccia Construction, LLC
620-B Industrial Way
Chester, South Carolina 29706

April 16, 2023



CAROLINAS GEOTECHNICAL GROUP

N.C. Firm License: P-1904

2400 Crownpoint Executive Drive
Suite 800
Charlotte, NC 28227

(980) 339-8684
contact@carolinasgeotech.com
www.carolinasgeotech.com

April 16, 2023

Mr. Adam J. Shannon
Breccia Construction, LLC
620-B Industrial Way
Chester, South Carolina 29706

SUBJECT: **Report of SPT Hammer Energy**
Breccia Construction, LLC CME 550X ATV Rig (SN 249533)
Chester, South Carolina
CG2 Project No.: 240021095

Dear Mr. Shannon:

Carolinas Geotechnical Group, PLLC (CG2) has completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer mounted on a Breccia Construction, LLC (Breccia) CME 550X ATV-mounted drill rig with a serial number of 249533, see attached Drill Rig Photo Log. This service was performed by Mr. Robert E. Kral, PE on April 7, 2023. SPT energy testing was performed in general accordance with ASTM D4633 and the most recent revision of the North Carolina Department of Transportation (NCDOT), Geotechnical Engineering Unit's requirements. The testing procedures, equipment used during testing, and detailed results are presented in this report.

CG2 recommends Breccia submit this Report of SPT Hammer Energy to the NCDOT Geotechnical Engineering Unit for review and approval no later than May 5, 2023.

DYNAMIC TESTING METHODOLOGY

Testing was performed using a model SPT (Serial No. 4549 TB) Pile Driving Analyzer™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K10959 and K10960) bolted to a 2-foot long AWJ drill rod (SN 528AWJ) internally instrumented with two strain transducers. The instrumented AWJ drill rod has a cross-sectional area of 1.19 square inches, an outside diameter of approximately 1.75 inches, and an inside diameter of 1.25 inches at the gauge location. The accelerometers and strain gauges, which are mounted on opposing axis near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real-time for each blow. Calibration sheets for the PDA, accelerometers, and the instrumented rod are included in the Appendix III.

TESTING AND OBSERVATIONS

CG2 personnel was on site April 7, 2023 to observe and perform high-strain dynamic testing during SPT sampling on the CME 550X ATV-mounted drill rig operated by R. Huffstetler of Breccia. The measurements were taken during drilling operations at 1817 Lowrys Highway in Chester, South Carolina (Chester County). The approximate coordinates (not professionally surveyed) for the test location are 34.7704618, -81.2453211. No Soil Test Boring Log was maintained. SPT energy measurements were recorded during three intervals at depths of approximately 28½, 33½, and 38½ feet below the existing ground surface. The information presented in the table below summarizes the equipment tested and tooling used during the SPT energy measurements.

Table 1: SPT Field Data

Drill Rig Information	
Manufacturer	CME
Model	550X
Serial Number	249533
Operator	R. Huffstetler
Carrier	ATV
Hammer Information	
Model / Type	CME / Auto
Serial Number	249533
Anvil Height (inches)	11.5
Anvil Diameter (inches)	2.5
Drop Height (inches)	30
Ram Weight (pounds)	140
Ram Serial Number	N/A
Drilling and Instrumented Rod Information	
Drill Rod Type	AWJ
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Typical Lengths (feet)	5
Instrumented Rod Type	AWJ (SN 528)
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Total Instrumented Rod Length (feet)	2.00
Length Below Gages (feet)	0.70
Split-Spoon Length (feet)	2.85

DYNAMIC TESTING RESULTS

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.6 feet to the required drill rod length at each sample depth. Based on the test data, the automatic hammer on the CME 550X ATV-mounted drill rig operated at a rate of about 50.4 to 54.0 blows per minute (BPM) during dynamic testing. The measured transferred hammer energy (EFV) ranged from 246.9 to 272.9 foot-pounds, which corresponds to Energy Transfer Ratio (ETR) values of 70.6 to 78.0%, respectively. These data ranges are based on the overall minimum and maximum values for the last 12 inches of each sample interval.

The SPT Energy Measurement Data Summary tables in the Appendix present the test data from every hammer blow at each sampling interval along with representative force and velocity traces for each test interval. The reported blow counts, obtained by the drill rig personnel, a summary of the test data, and average computed BPM, EFV, and ETR values are provided in Table 2. The BPM, EFV, and ETR values presented in Table 2 were computed by averaging data from the last 12 inches of each sample interval. Plots and tables of the following are also included in the Appendix and present the test data with depth for each test interval:

- Penetration vs. BLC
- Penetration vs. FMX
- Penetration vs. EFV
- Penetration vs. CSX
- Penetration vs. VMX
- Penetration vs. ETR
- Average ETR vs. Rod Length
- ETR vs. Rod Length

Table 2: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description (Piedmont Residual)	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	28½ - 30	30	33.6	5-8-9 / 17	SA SILT	50.7	256.2	73.2
2	33½ - 35	35	38.6	7-7-11 / 18	SA SILT	53.5	265.0	75.7
3	38½ - 40	40	43.6	6-7-9 / 16	SA SILT	53.4	261.5	74.7
					Overall Average	**52.5**	**261.0**	**74.6**

The average hammer rate, transferred energy, and transfer ratio were calculated for each depth interval. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e., the blows that determine the N-value) were included when computing the average values shown in Table 2. The overall average transferred hammer energy for the automatic hammer on the CME 550X ATV-mounted drill rig (for the depth intervals presented in Table 2) was 261.0 foot-pounds, with an average ETR of 74.6%.

LIMITATIONS OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The information contained in this report were based on the applicable standards of our profession in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

CLOSING

CG2 is pleased to have the opportunity to provide these services to you. If you have questions concerning the content of this report, or if CG2 can be of further service, please contact CG2 at (980) 339-8684.

Sincerely,
Carolinas Geotechnical Group, PLLC

DocuSigned by:
D. Matthew Brewer
386129C0A4C1462...
D. Matthew Brewer, PE
Senior Project Engineer

DocuSigned by:
Robert E. Kral
8AD703B2A8484F4...
Robert E. Kral, PE
Senior Project Engineer
NC Registration No. 042642

Appendices:

- Appendix I - CME 550X ATV Rig (SN 249533) SPT Energy Measurements Summary Plots and Tables
- Appendix II - SPT Hammer Energy Field Form (Field Log) and Drill Rig Photo Log
- Appendix III - Instrumented Rod and Accelerometer Calibration Sheets
- Appendix IV - Certificate of Proficiency

APPENDIX I

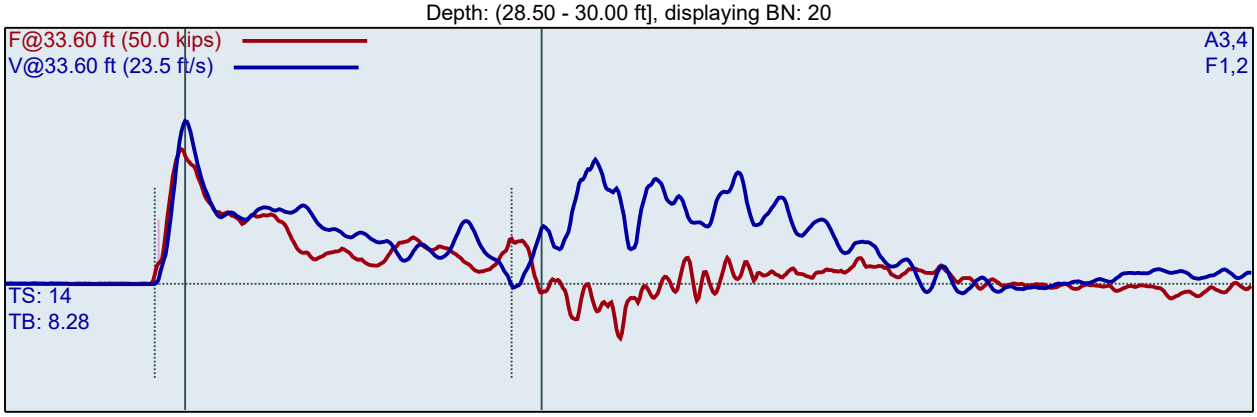
CME 550X (SN 249533)
REK
B-3

B-3
Interval start: 4/7/2023

AR: 1.19 in^2
LE: 33.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (28.50 - 30.00 ft], displaying BN: 20



F1 : [528AWJ-1] 203.51 PDICAL (1) FF1
F2 : [528AWJ-2] 203.28 PDICAL (1) FF1

A3 (PR): [K10960] 419.894 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 413.827 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
28.60	1	5	60.8	25.3	14.1	1.7	21.2	1.2	251.6	71.9
28.70	2	5	51.5	25.8	14.7	1.5	21.7	1.2	249.4	71.2
28.80	3	5	50.7	26.7	15.9	1.4	22.5	1.2	252.5	72.1
28.90	4	5	50.6	26.4	15.8	1.4	22.2	1.2	255.5	73.0
29.00	5	5	50.5	26.7	16.5	1.2	22.5	1.2	257.4	73.5
29.06	6	8	51.0	26.7	16.4	1.2	22.4	0.7	254.1	72.6
29.13	7	8	50.4	26.1	15.7	1.1	21.9	0.7	250.4	71.5
29.19	8	8	50.7	25.0	14.0	1.0	21.0	0.7	246.9	70.6
29.25	9	8	50.9	26.3	15.1	1.0	22.1	0.7	253.2	72.3
29.31	10	8	50.5	26.9	16.3	0.9	22.6	0.7	257.4	73.5
29.38	11	8	50.7	26.7	15.7	0.9	22.4	0.7	260.0	74.3
29.44	12	8	50.7	26.6	16.8	0.9	22.4	0.7	260.7	74.5
29.50	13	8	50.6	25.2	14.1	0.8	21.1	0.7	252.7	72.2
29.56	14	9	50.8	26.3	15.2	0.8	22.1	0.7	255.8	73.1
29.61	15	9	50.9	25.9	14.7	0.8	21.8	0.7	248.1	70.9
29.67	16	9	50.4	27.2	16.2	0.7	22.9	0.7	262.3	75.0
29.72	17	9	50.6	26.9	16.1	0.7	22.6	0.7	259.2	74.1
29.78	18	9	50.6	26.7	16.1	0.7	22.4	0.7	260.6	74.5
29.83	19	9	50.8	26.9	16.5	0.7	22.6	0.7	262.6	75.0
29.89	20	9	50.6	26.2	15.0	0.8	22.0	0.7	255.0	72.8
29.94	21	9	50.5	26.3	15.9	0.7	22.1	0.7	257.0	73.4
30.00	22	9	50.7	26.1	15.8	0.7	21.9	0.7	259.6	74.2

Average	50.7	26.4	15.6	0.8	22.1	0.7	256.2	73.2
Std Dev	0.2	0.6	0.8	0.1	0.5	0.0	4.7	1.3
Maximum	51.0	27.2	16.8	1.2	22.9	0.7	262.6	75.0
Minimum	50.4	25.0	14.0	0.7	21.0	0.7	246.9	70.6

N-value: 17

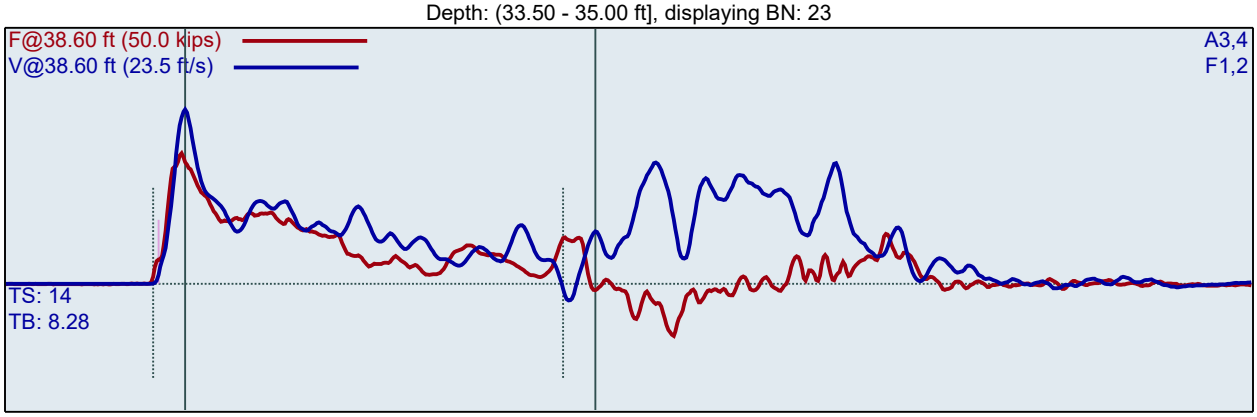
CME 550X (SN 249533)
REK
B-3

B-3
Interval start: 4/7/2023

AR: 1.19 in^2
LE: 38.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 23



F1 : [528AWJ-1] 203.51 PDICAL (1) FF1
F2 : [528AWJ-2] 203.28 PDICAL (1) FF1

A3 (PR): [K10960] 419.894 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 413.827 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
33.57	1	7	1.9	22.0	17.4	1.4	18.5	0.9	261.7	74.8
33.64	2	7	50.8	25.5	15.7	1.4	21.5	0.9	264.8	75.7
33.71	3	7	52.5	25.9	15.9	1.1	21.8	0.9	266.6	76.2
33.79	4	7	53.8	25.1	16.5	1.1	21.1	0.9	275.4	78.7
33.86	5	7	53.6	25.9	15.9	1.2	21.8	0.9	270.2	77.2
33.93	6	7	53.6	25.8	16.2	1.2	21.7	0.9	268.5	76.7
34.00	7	7	53.4	25.4	16.3	1.0	21.3	0.9	268.8	76.8
34.07	8	7	53.6	25.5	16.0	1.0	21.4	0.9	270.2	77.2
34.14	9	7	53.3	25.1	16.3	1.0	21.1	0.9	272.9	78.0
34.21	10	7	53.5	24.8	15.6	1.0	20.8	0.9	264.9	75.7
34.29	11	7	53.5	24.9	15.7	1.0	20.9	0.9	267.9	76.6
34.36	12	7	53.3	25.2	16.5	0.9	21.2	0.9	272.1	77.8
34.43	13	7	53.6	25.0	15.8	0.9	21.1	0.9	269.1	76.9
34.50	14	7	53.7	24.8	16.3	0.9	20.8	0.9	269.8	77.1
34.55	15	11	53.0	24.5	15.7	0.8	20.6	0.5	264.0	75.4
34.59	16	11	54.0	24.6	16.7	0.8	20.6	0.5	272.3	77.8
34.64	17	11	53.1	24.6	15.2	0.8	20.7	0.5	260.3	74.4
34.68	18	11	53.4	24.4	14.6	0.8	20.5	0.5	259.2	74.1
34.73	19	11	53.7	24.7	15.1	0.8	20.7	0.5	258.7	73.9
34.77	20	11	53.3	23.4	13.6	0.7	19.6	0.5	255.8	73.1
34.82	21	11	53.4	25.0	14.6	0.7	21.0	0.5	257.8	73.7
34.86	22	11	53.7	25.6	15.3	0.8	21.5	0.5	263.5	75.3
34.91	23	11	53.4	25.5	16.0	0.7	21.4	0.5	265.9	76.0
34.95	24	11	53.5	25.2	15.1	0.8	21.2	0.5	262.8	75.1
35.00	25	11	53.4	24.7	14.7	0.7	20.7	0.5	262.6	75.0
		Average	53.5	24.9	15.5	0.8	20.9	0.7	265.0	75.7
		Std Dev	0.2	0.5	0.8	0.1	0.4	0.2	5.2	1.5
		Maximum	54.0	25.6	16.7	1.0	21.5	0.9	272.9	78.0
		Minimum	53.0	23.4	13.6	0.7	19.6	0.5	255.8	73.1

N-value: 18

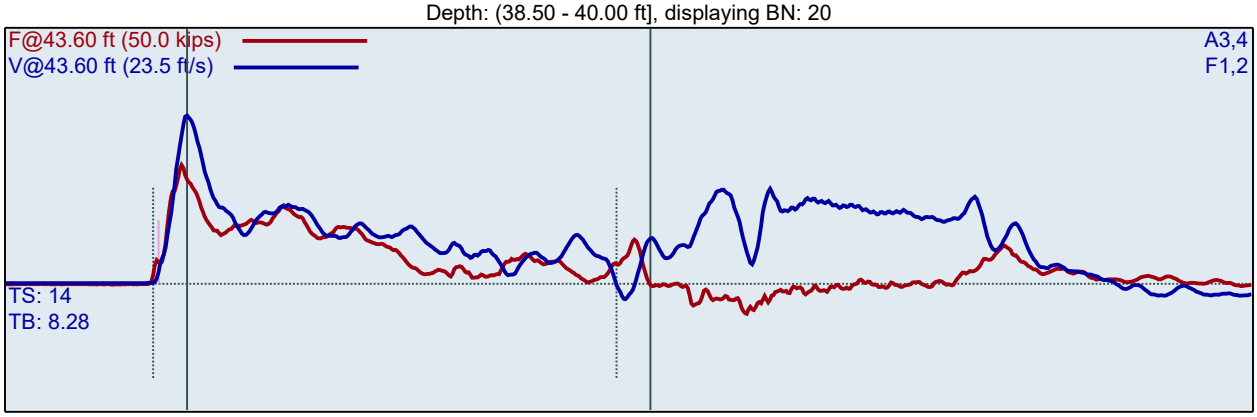
CME 550X (SN 249533)
REK
B-3

B-3
Interval start: 4/7/2023

AR: 1.19 in^2
LE: 43.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (38.50 - 40.00 ft], displaying BN: 20



F1 : [528AWJ-1] 203.51 PDICAL (1) FF1
F2 : [528AWJ-2] 203.28 PDICAL (1) FF1

A3 (PR): [K10960] 419.894 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 413.827 mv/6.4v/5000g (1) VF1

LP	BL#	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
ft		/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
38.58	1	6	58.5	23.1	17.2	1.9	19.4	1.0	264.9	75.7
38.67	2	6	53.8	23.3	17.0	1.2	19.6	1.0	261.1	74.6
38.75	3	6	53.4	23.3	16.9	1.2	19.6	1.0	264.5	75.6
38.83	4	6	53.2	22.5	17.5	1.1	18.9	1.0	265.6	75.9
38.92	5	6	53.4	22.8	17.3	1.1	19.1	1.0	267.2	76.3
39.00	6	6	53.6	22.4	17.6	1.1	18.8	1.0	266.4	76.1
39.07	7	7	53.3	22.7	17.7	1.0	19.1	0.9	265.0	75.7
39.14	8	7	53.5	23.0	17.2	1.1	19.3	0.9	265.7	75.9
39.21	9	7	53.4	23.1	17.6	1.0	19.4	0.9	264.5	75.6
39.29	10	7	53.6	23.3	17.3	0.9	19.6	0.9	265.6	75.9
39.36	11	7	53.1	23.1	16.8	1.0	19.4	0.9	261.9	74.8
39.43	12	7	53.4	23.1	17.7	0.9	19.4	0.9	267.5	76.4
39.50	13	7	53.8	23.4	17.0	0.9	19.7	0.9	259.1	74.0
39.56	14	9	53.4	23.4	17.0	0.8	19.7	0.7	262.6	75.0
39.61	15	9	53.5	23.4	16.7	0.9	19.7	0.7	261.0	74.6
39.67	16	9	53.5	23.5	17.1	0.8	19.7	0.7	259.5	74.2
39.72	17	9	53.3	21.7	14.8	0.9	18.2	0.7	253.9	72.5
39.78	18	9	53.5	22.8	15.3	0.9	19.1	0.7	250.6	71.6
39.83	19	9	53.4	23.6	17.1	0.8	19.8	0.7	266.9	76.3
39.89	20	9	53.5	23.2	15.5	0.9	19.5	0.7	254.6	72.7
39.94	21	9	53.6	23.7	16.2	0.8	19.9	0.7	260.5	74.4
40.00	22	9	53.2	23.0	16.8	0.8	19.3	0.7	265.2	75.8
		Average	53.4	23.1	16.7	0.9	19.4	0.7	261.5	74.7
		Std Dev	0.2	0.5	0.8	0.1	0.4	0.1	4.8	1.4
		Maximum	53.8	23.7	17.7	1.1	19.9	0.9	267.5	76.4
		Minimum	53.1	21.7	14.8	0.8	18.2	0.7	250.6	71.6

N-value: 16

Summary of SPT Test Results

Project: CME 550X (SN 249533), Test Date: 4/7/2023

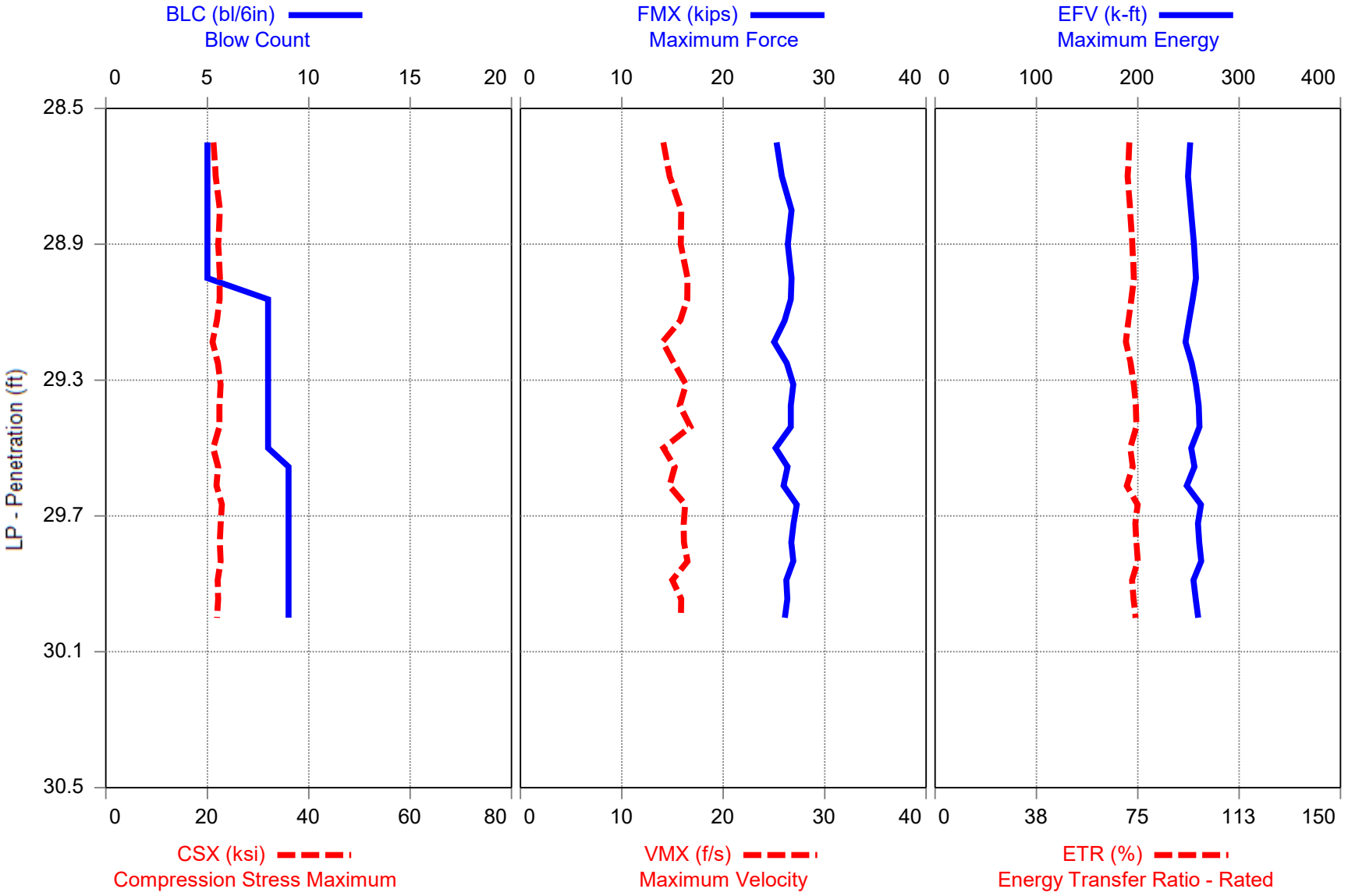
BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
33.60	28.50	30.00	**5-8-9**	**17**	**21**	50.7	26.4	15.6	0.8	22.1	0.7	256.2	73.2
38.60	33.50	35.00	**7-7-11**	**18**	**22**	53.5	24.9	15.5	0.8	20.9	0.7	265.0	75.7
43.60	38.50	40.00	**6-7-9**	**16**	**19**	53.4	23.1	16.7	0.9	19.4	0.7	261.5	74.7
				Overall Average Values:		52.5	24.8	15.9	0.9	20.9	0.7	261.0	74.6
				Standard Deviation:		1.3	1.4	1.0	0.1	1.2	0.1	6.1	1.7
				Overall Maximum Value:		54.0	27.2	17.7	1.2	22.9	0.9	272.9	78.0
				Overall Minimum Value:		50.4	21.7	13.6	0.7	18.2	0.5	246.9	70.6

GRL Engineers, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 15-April-2023 Test started: 07-April-2023

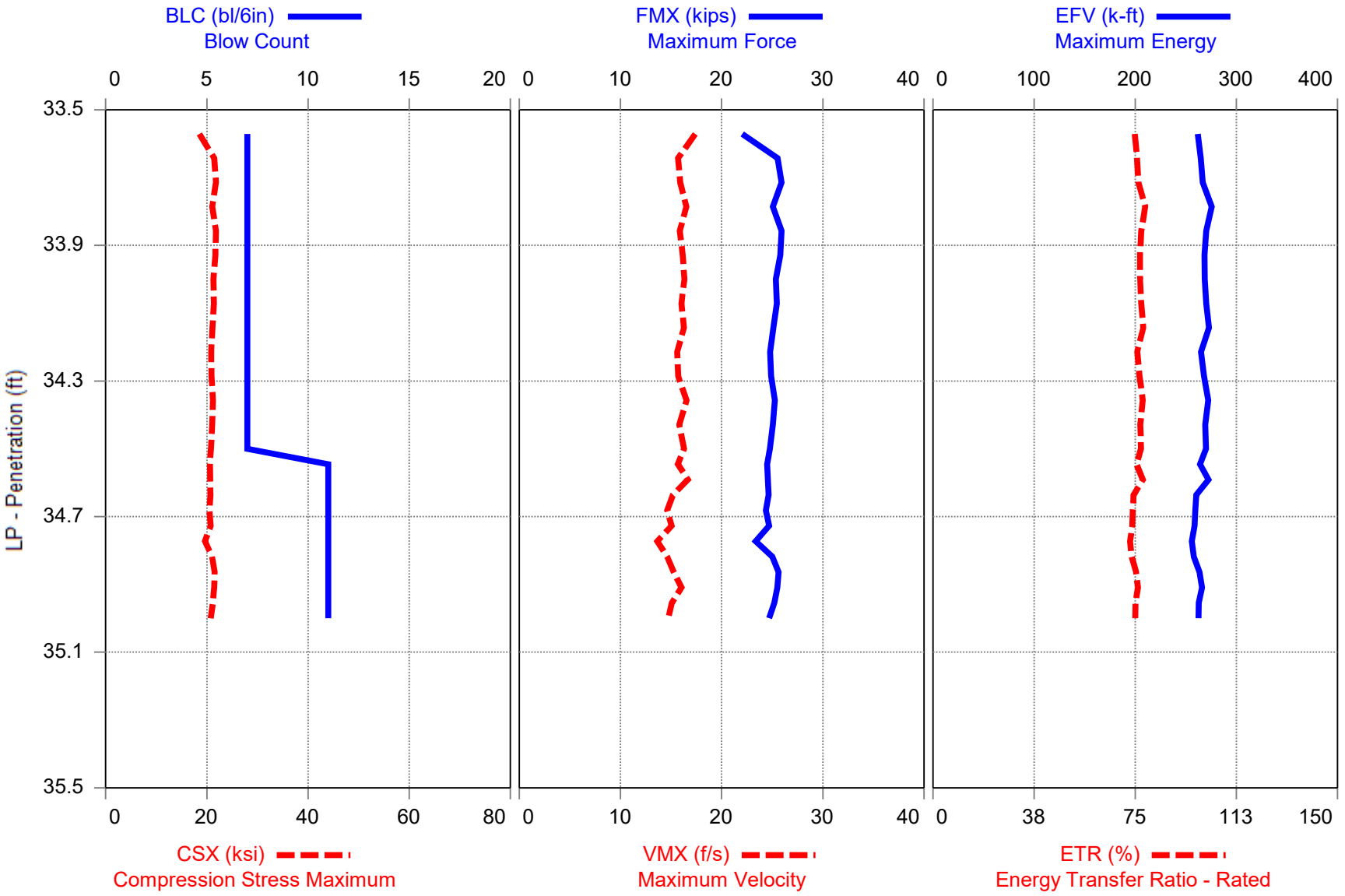
CME 550X (SN 249533) - 28.5 TO 30.0



GRL Engineers, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 15-April-2023 Test started: 07-April-2023

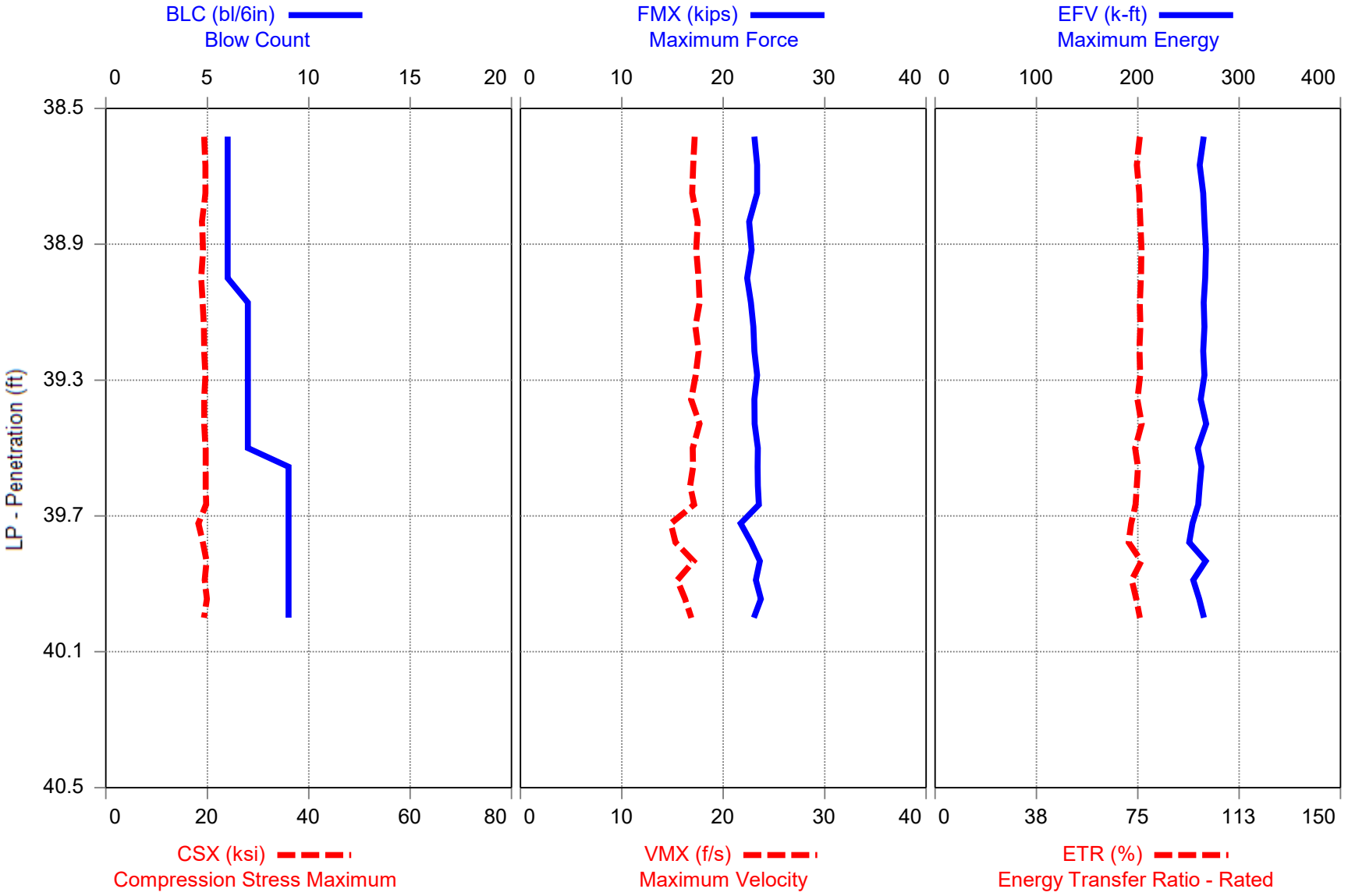
CME 550X (SN 249533) - 33.5 TO 35.0

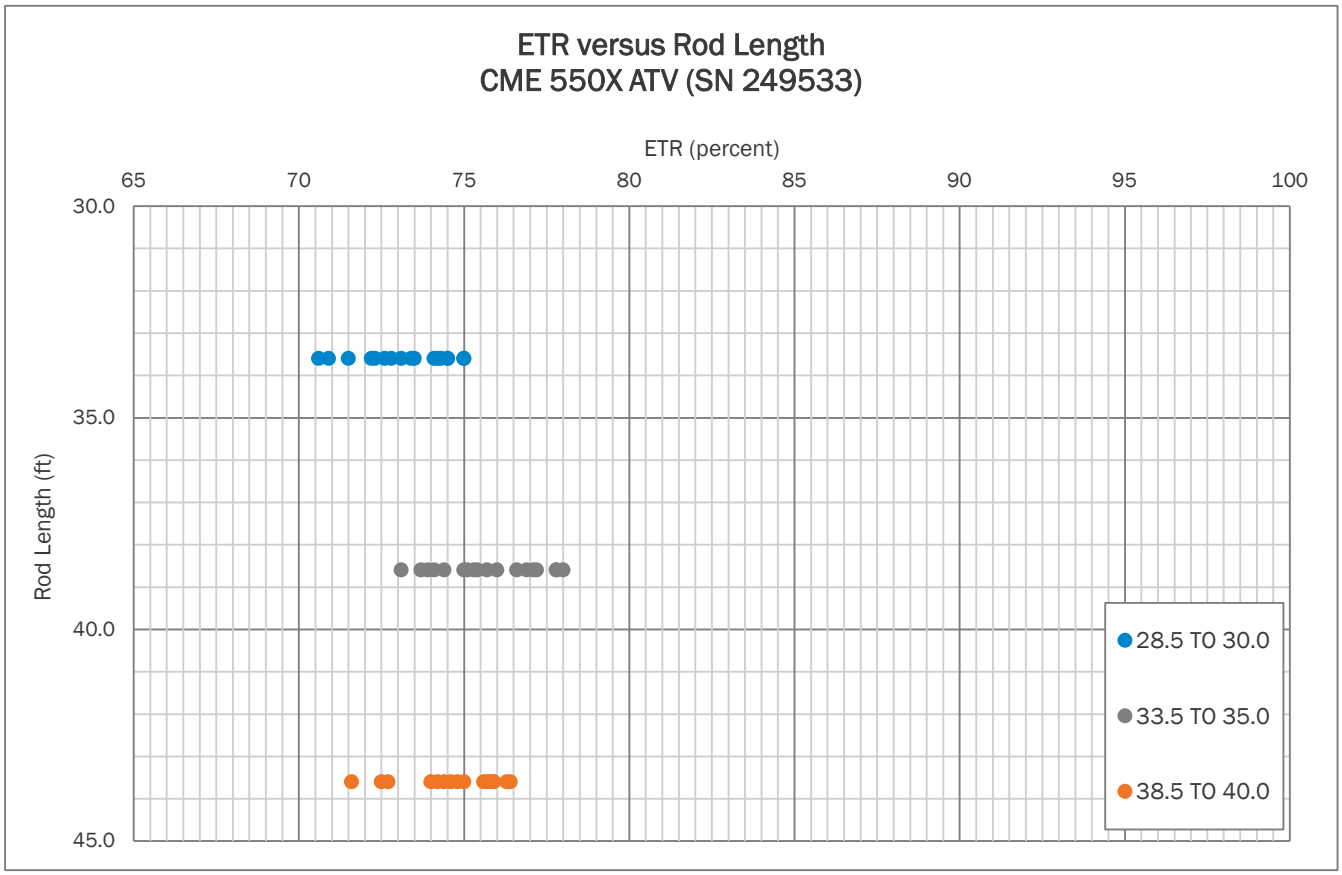


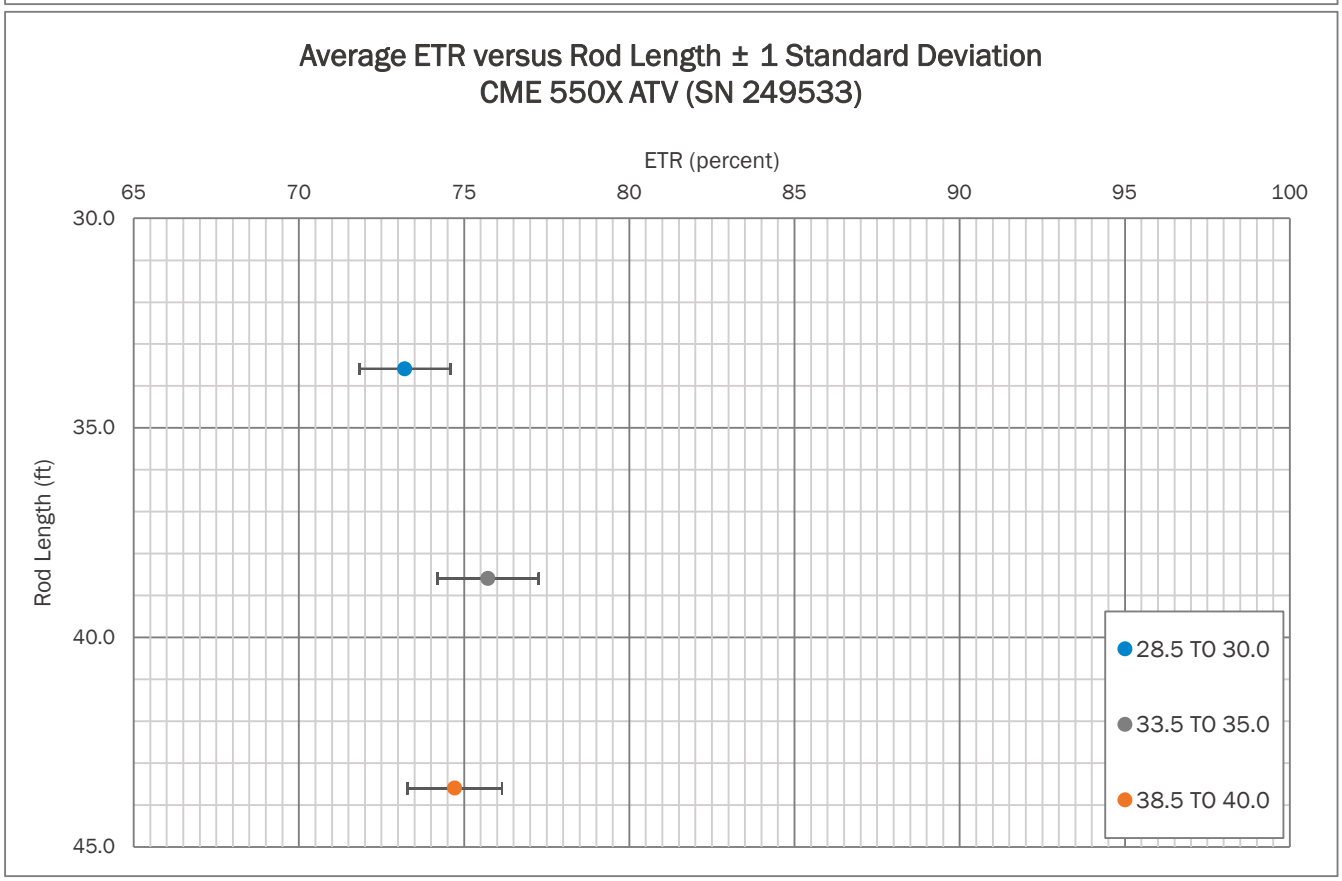
GRL Engineers, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 15-April-2023 Test started: 07-April-2023

CME 550X (SN 249533) - 38.5 TO 40.0




ETR versus Rod Length
CME 550X ATV (SN 249533)
ETR (percent)
65
70
75
80
85
90
95
100
30.0
35.0
40.0
45.0
Rod Length (ft)
28.5 TO 30.0
33.5 TO 35.0
38.5 TO 40.0


Average ETR versus Rod Length ± 1 Standard Deviation
CME 550X ATV (SN 249533)
ETR (percent)
65
70
75
80
85
90
95
100
30.0
35.0
40.0
45.0
Rod Length (ft)
28.5 TO 30.0
33.5 TO 35.0
38.5 TO 40.0

APPENDIX II

SPT Hammer Energy Field Form

Project:	SPT HAMMER ENERGY	**Date:**	4/7/2023
Project No.:	240021095	**Weather:**	50's CLOUDY
Boring No.:	B-3	**Drill Rod Type:**	AWJ

On-site Personnel

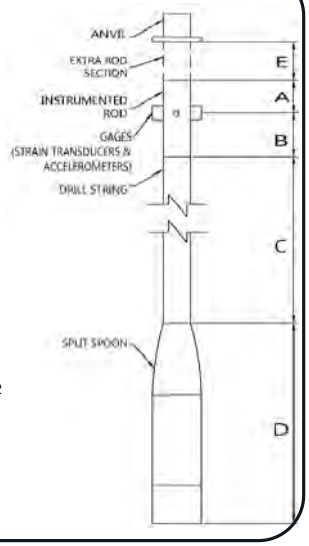
Drilling Company:	BRECCIA CONSTRUCTION, LLC
Rig Operator:	R. HUFFSTETLER
Engr/Geologist:	N/A
Client Rep.:	N/A
Analyzer Oper.:	R. KRAL

Rig/Hammer Info

Drill Rig Make/Model:	CME 550X
Carrier Type:	ATV
Rig Serial No.:	249533 (DR-2)
Hammer Type/Model:	CME
Hammer Serial No.:	N/A
Hammer Drop System:	AUTO
Lubrication Condition:	PER MANUFACTURER
Manufacturer Recommended Operation Rate (bpm):	55
Drop Height (in.):	30
Hammer Weight (lbs):	140
Anvil Dimension (in.):	11.5
Drilling Method:	3.25 HSA

Rod Info

(A + E) Impact Surface to Gages Length:	1.36	ft
(B) Instr. Rod Length below Gages:	0.70	ft
(A) + (B) Instr. Rod Length:	2.00	ft
(D) Spoon Length:	2.85	ft
(E) Rod Length Above Instr. Rod (if applicable):	0.06	ft
Instr. Rod S/N:	528AWJ	
Instr. Rod Outside Dia.:	1.75	in.
Instr. Rod Area:	1.19	in^2
PDA Make/Model:	SPT	
PDA Serial No.:	4549 TB	
Calib. Pulse Test (y/n):	Y	



Gage Info

Gage		Serial No.	Calibration No.
Accel.	A3	K10959	413.83
	A4	K10960	419.89
Strain	F3	528AWJ-1	205.26
	F4	528AWJ-2	205.86

Date of Test	Test Depth Increment (ft to ft)	Test Time Start / Stop (military)	Length of Drill String (ft) ***(C)***	(LE) Length below Gages (ft) ***(B) + (C) + (D)***	Avg. Meas. Hammer Rate (BPM)	SPT Blow Counts 6"	12"	18"	N-Value	Drop Height in Tolerance (y/n)	Soil Class.
7-Apr	28.5 TO 30.0	0841/0841	30	33.6	50	5	8	9	17	Y	SA SI
7-Apr	33.5 TO 35.0	0850/0851	35	38.6	53	7	7	11	18	Y	SA SI
7-Apr	38.5 TO 40.0	0857/0857	40	43.6	53	6	7	9	16	Y	SA SI

Notes:
TESTING PERFORMED AT 1817 LOWRYS HIGHWAY IN CHESTER, SOUTH CAROLINA (CHESTER COUNTY). THE APPROXIMATE COORDINATES ARE 34.7704618, -81.2453211.

NOTE: (1) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. veritcality, weather, or lubrication between trials). (2) Note any changes in rod diameter along drill string and record locations of short rod sections.

Prepared By (print/signature)

4/7/2023
Date

Figure No. 1: Rear View of Drill Rig

Figure No. 2: Side View of Drill Rig

Figure No. 3: Serial Number Plate

Figure No. 4: Automatic Hammer

APPENDIX III

Certificate of Calibration

Pile Dynamics, Inc. certifies that the

Pile Driving Analyzer®, Model SPT

Serial Number: 4549 TB

was calibrated on 14 July 2022

using a PDA Calibration Box whose output was calibrated with test equipment traceable to NIST.

This certificate is valid for 2 years from above date.

CORPORATE SEAL 1972 OHIO

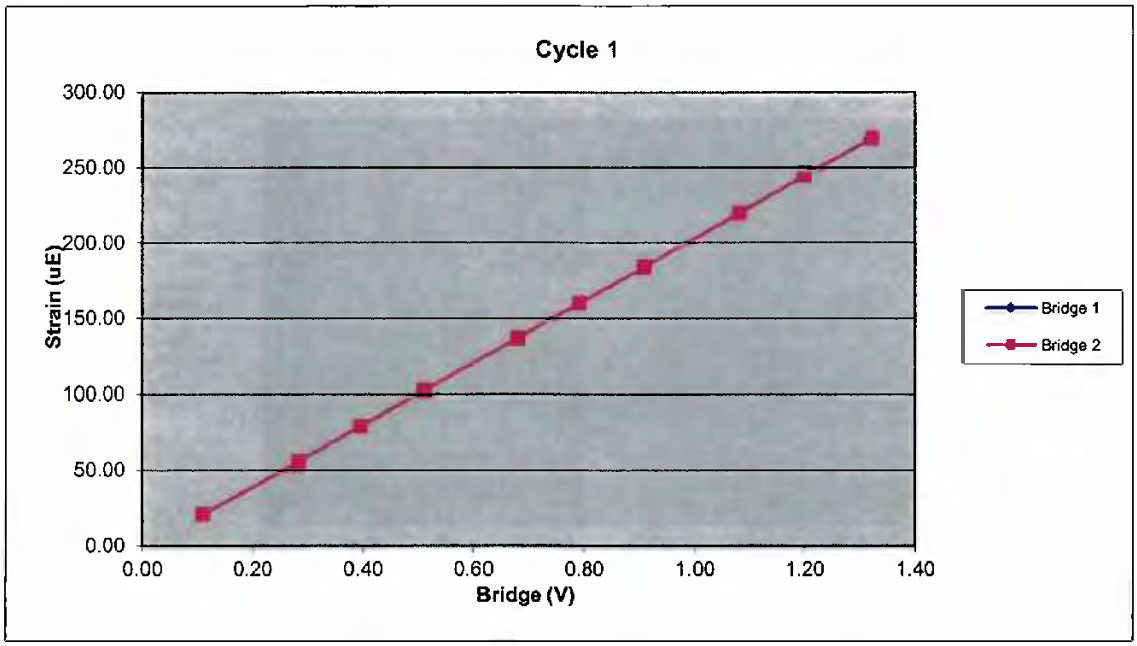
Tested by

Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, Ohio 44139 USA

528AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	803.20	21.15	0.11	0.11
3	2080.73	56.33	0.28	0.28
4	2904.01	79.79	0.39	0.39
5	3765.89	103.49	0.51	0.51
6	5005.11	138.03	0.68	0.68
7	5828.59	161.56	0.79	0.79
8	6692.71	185.68	0.91	0.91
9	7962.93	221.03	1.08	1.08
10	8831.54	245.89	1.20	1.20
11	9736.80	270.68	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7358.13**	**Force Calibration (lb/V)**	**7351.82**
Offset	3.52	Offset	6.26
Correlation	0.999999	Correlation	0.999999
Strain Calibration (µE/V)	**205.90**	**Strain Calibration (µE/V)**	**205.73**
Offset	-1.56	Offset	-1.48
Correlation	0.999995	Correlation	0.999996

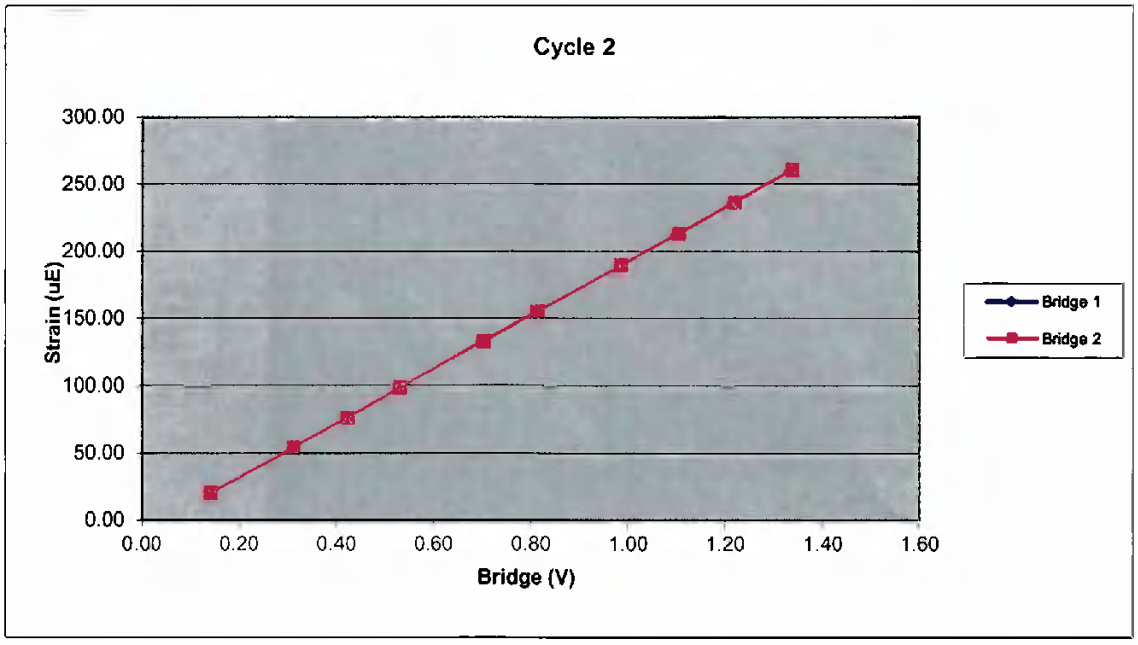
Force Strain Calibration	
EA (Kips)	**35735.87**
Offset	59.29
Correlation	0.999995



528AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1038.71	19.60	0.14	0.14
3	2288.25	53.30	0.31	0.31
4	3093.11	75.49	0.42	0.42
5	3893.00	97.84	0.53	0.53
6	5167.50	132.26	0.70	0.70
7	5988.25	154.39	0.81	0.81
8	7248.72	188.87	0.98	0.98
9	8125.71	212.29	1.10	1.10
10	8976.19	235.45	1.22	1.22
11	9854.85	259.50	1.33	1.34

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7381.92**	**Force Calibration (lb/V)**	**7365.94**
Offset	**-0.76**	Offset	**4.69**
Correlation	**0.999998**	Correlation	**0.999999**
Strain Calibration (µE/V)	**200.83**	**Strain Calibration (µE/V)**	**200.40**
Offset	**-8.59**	Offset	**-8.44**
Correlation	**0.999997**	Correlation	**0.999996**

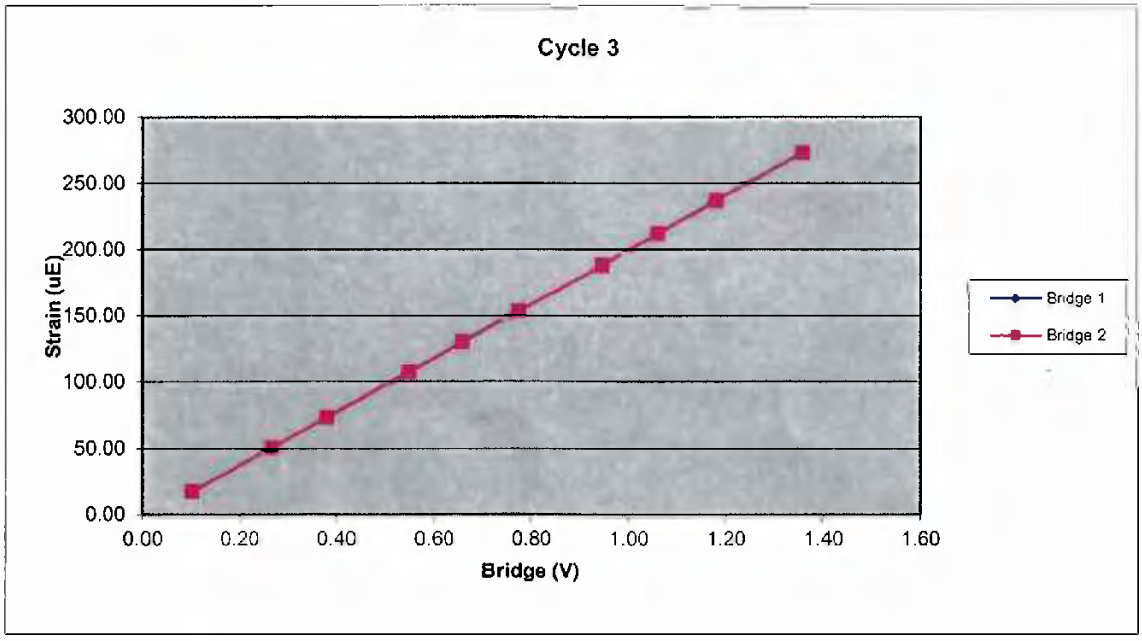
Force Strain Calibration	
EA (Kips)	**36756.34**
Offset	**315.07**
Correlation	**0.999995**



528AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	734.68	18.74	0.10	0.10
3	1943.58	51.94	0.26	0.26
4	2781.29	75.07	0.38	0.38
5	4027.81	108.88	0.55	0.55
6	4829.55	131.78	0.66	0.66
7	5689.29	155.36	0.77	0.77
8	6956.49	190.12	0.95	0.95
9	7799.46	214.09	1.06	1.06
10	8693.90	238.78	1.18	1.18
11	10007.88	275.06	1.36	1.36

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7366.71**	**Force Calibration (lb/V)**	**7364.49**
Offset	**-6.17**	Offset	**-9.40**
Correlation	**0.999998**	Correlation	**0.999999**
Strain Calibration (µE/V)	**203.78**	**Strain Calibration (µE/V)**	**203.72**
Offset	**-2.08**	Offset	**-2.17**
Correlation	**0.999989**	Correlation	**0.999993**

Force Strain Calibration	
EA (Kips)	**36149.33**
Offset	**69.26**
Correlation	**0.999994**



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	528AWJ		
Bridge 1 (µE/V)	203.51	Bridge 2 (µE/V)	203.28
EA Factor (Kips)	36213.85	Area (in^2)	1.21

Calibrated by: _____
Calibrated Date: 7/18/2022

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 14Jun2022

Serial No:	K10959	**Temperature:**	79.0 °F
Model:	PR	**Humidity:**	50%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72517! 1049 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72505! 1035 g's/volt	**Cal on:**	24Mar2022

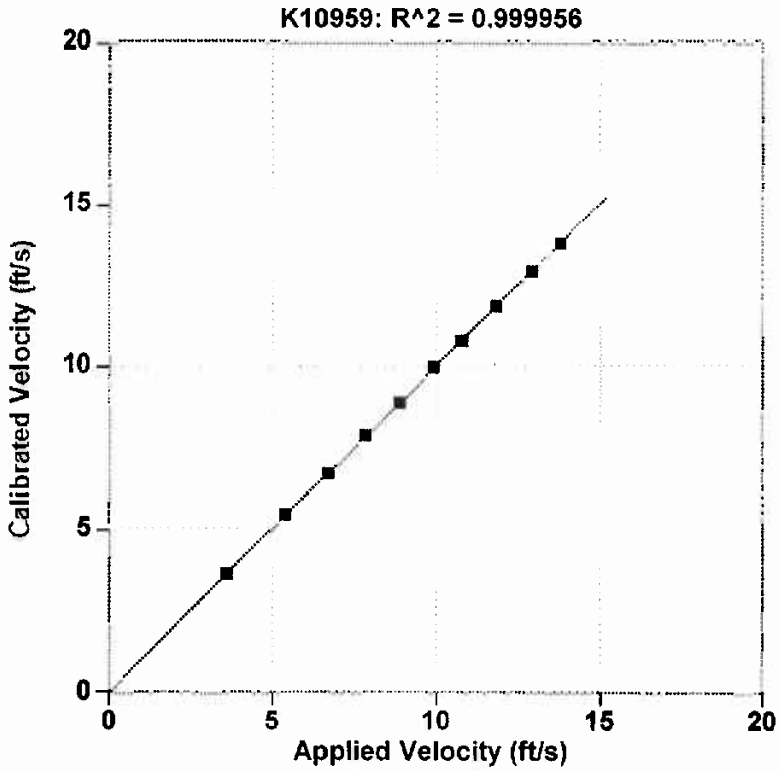
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

413.8 mv/5000g
(82.8 µv/g)
R^2: 0.999956 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K10959 Velocity
ft/s	ft/s
3.605	3.589
5.397	5.412
6.705	6.699
7.841	7.862
8.877	8.913
9.904	9.929
10.746	10.721
11.807	11.815
12.910	12.889
13.783	13.762

Maximum Acceleration: 935 g's

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 14Jun2022

Serial No:	K10960	**Temperature:**	79.0 °F
Model:	PR	**Humidity:**	50%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72517! 1049 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72505! 1035 g's/volt	**Cal on:**	24Mar2022

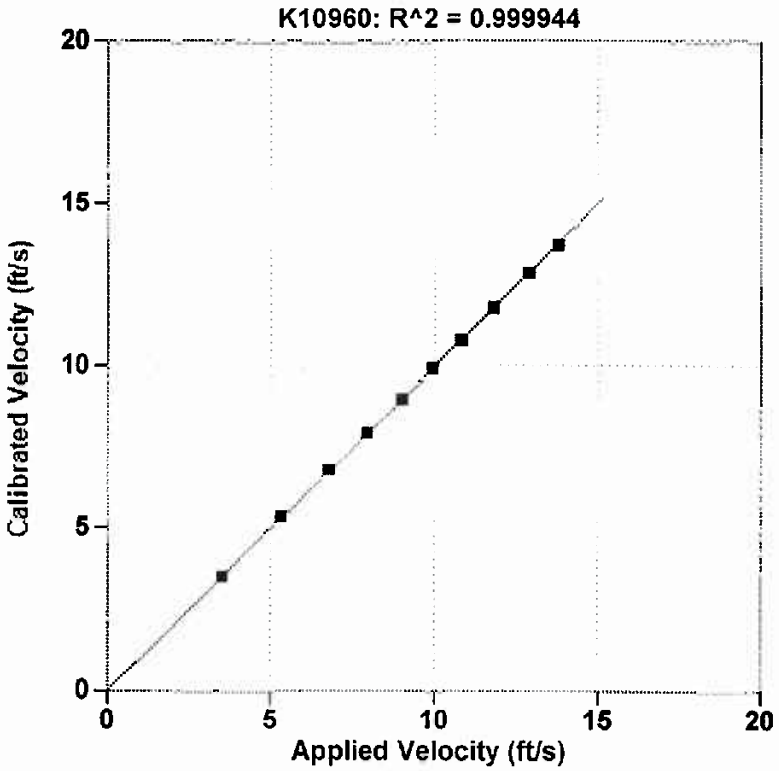
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

419.9 mv/5000g
(84.0 µv/g)
R^2: 0.999944 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K10960 Velocity
ft/s	ft/s
3.513	3.540
5.322	5.345
6.769	6.796
7.933	7.937
8.998	9.037
9.912	9.923
10.788	10.775
11.781	11.779
12.877	12.863
13.771	13.732

Maximum Acceleration: 934 g's

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 14Jun2022

Serial No:	K11957	**Temperature:**	79.0 °F
Model:	PR	**Humidity:**	50%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72517! 1049 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72505! 1035 g's/volt	**Cal on:**	24Mar2022

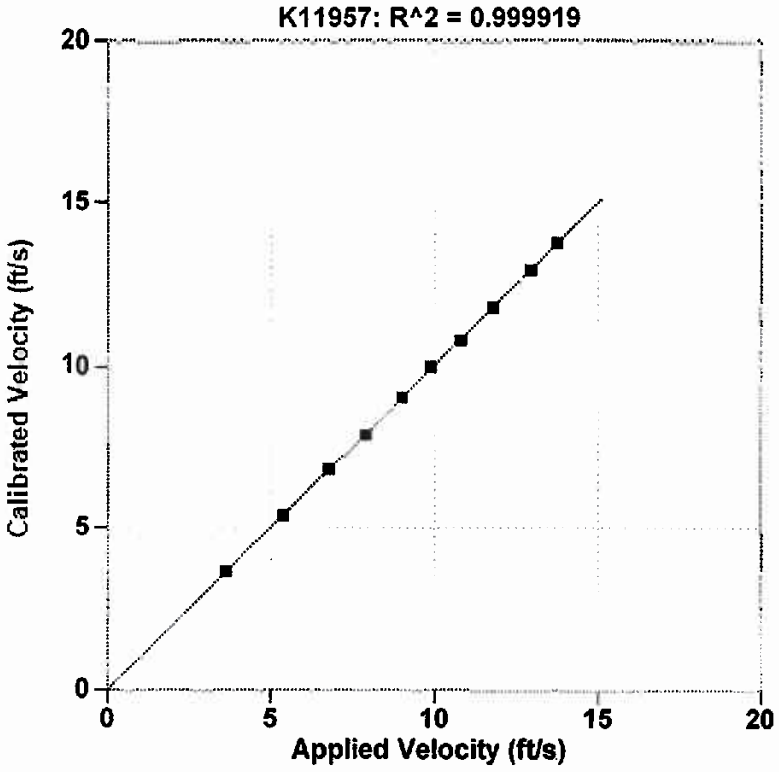
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

409.6 mv/5000g
(81.9 µv/g)
R^2: 0.999919 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity ft/s	S/N K11957 Velocity ft/s
3.643	3.661
5.377	5.363
6.761	6.783
7.895	7.905
8.973	8.989
9.864	9.918
10.780	10.730
11.763	11.749
12.920	12.894
13.735	13.746

Maximum Acceleration: 931 g's

APPENDIX IV

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Robert E. Kral
Carolinas Geotechnical Group

has on May 20, 2016 achieved the rank of

ADVANCED

on the **Dynamic Measurement and Analysis Proficiency Test.**

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended*** **that Individuals at the Advanced level seek Master or Expert levels through additional study within six years of the date of this document.**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. **This certificate can be verified at www.PDAproficiencytest.com.** The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate.

Steven A. Hall, Executive Director
Pile Driving Contractors Association

Garland Likins, Senior Partner
Pile Dynamics, Inc.

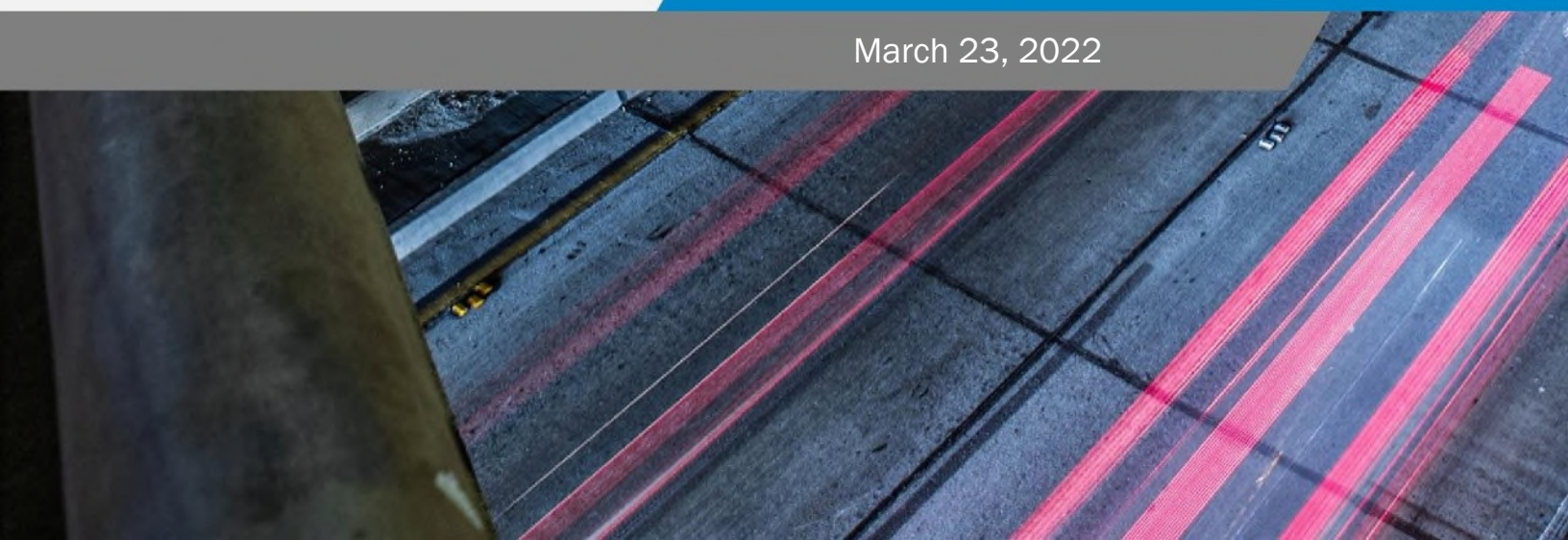
No. 2072

CAROLINAS GEOTECHNICAL GROUP

Report of SPT Hammer Energy

Prepared for:
Breccia Construction, LLC
620-B Industrial Way
Chester, South Carolina 29706

March 23, 2022



CAROLINAS GEOTECHNICAL GROUP

N.C. Firm License: P-1904

2400 Crownpoint Executive Drive
Suite 800
Charlotte, NC 28227

(980) 339-8684
contact@carolinasgeotech.com
www.carolinasgeotech.com

March 23, 2022

Mr. Jarod S. Ford
Breccia Construction, LLC
620-B Industrial Way
Chester, South Carolina 29706

SUBJECT: **Report of SPT Hammer Energy**
Breccia Construction, LLC CME 45B Trailer Rig (SN 303304)
Chester, South Carolina
CG2 Project No.: 240021095

Dear Mr. Ford:

Carolinas Geotechnical Group, PLLC (CG2) has completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer mounted on a Breccia Construction, LLC (Breccia) CME 45B trailer-mounted drill rig with a serial number of 303304, see attached Drill Rig Photo Log. This service was performed by Mr. Robert E. Kral, PE on March 11, 2022. SPT energy testing was performed in general accordance with ASTM D4633 and the most recent revision of the North Carolina Department of Transportation (NCDOT), Geotechnical Engineering Unit's requirements. The testing procedures, equipment used during testing, and detailed results are presented in this report.

CG2 recommends Breccia submit this Report of SPT Hammer Energy to the NCDOT Geotechnical Engineering Unit for review and approval no later than April 8, 2022.

DYNAMIC TESTING METHODOLOGY

Testing was performed using a model SPT (Serial No. 4549 TB) Pile Driving Analyzer™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K11957 and K10959) bolted to a 2-foot long AWJ drill rod (SN 528AWJ) internally instrumented with two strain transducers. The instrumented AWJ drill rod has a cross-sectional area of 1.19 square inches, an outside diameter of approximately 1.75 inches, and an inside diameter of 1.25 inches at the gauge location. The accelerometers and strain gauges, which are mounted on opposing axis near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real-time for each blow. Calibration sheets for the PDA, accelerometers, and the instrumented rod are included in the Appendix III.

TESTING AND OBSERVATIONS

CG2 personnel was on site March 11, 2022 to observe and perform high-strain dynamic testing during SPT sampling on the CME 45B trailer-mounted drill rig operated by D. Harris of Breccia. The measurements were taken during drilling operations at 1817 Lowrys Highway in Chester, South Carolina (Chester County). The approximate coordinates (not professionally surveyed) for the test location are 34.770585, -81.245517. No Soil Test Boring Log was maintained. SPT energy measurements were recorded during three intervals at depths of approximately 28½, 33½, and 38½ feet below the existing ground surface. The information presented in the table below summarizes the equipment tested and tooling used during the SPT energy measurements.

Table 1: SPT Field Data

Drill Rig Information	
Manufacturer	CME
Model	45B
Serial Number	303304
Operator	D. Harris
Carrier	Trailer
Hammer Information	
Model / Type	CME / Auto
Serial Number	N/A
Anvil Height (inches)	11.5
Anvil Diameter (inches)	2.5
Drop Height (inches)	30
Ram Weight (pounds)	140
Ram Serial Number	N/A
Drilling and Instrumented Rod Information	
Drill Rod Type	AWJ
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Typical Lengths (feet)	5
Instrumented Rod Type	AWJ (SN 528)
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Total Instrumented Rod Length (feet)	2.00
Length Below Gages (feet)	0.70
Split-Spoon Length (feet)	2.85

DYNAMIC TESTING RESULTS

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.6 feet to the required drill rod length at each sample depth. Based on the test data, the automatic hammer on the CME 45B Trailer-mounted drill rig operated at a rate of about 53.2 to 61.4 blows per minute (BPM) during dynamic testing. The measured transferred hammer energy (EFV) ranged from 273.5 to 298.0 foot-pounds, which corresponds to Energy Transfer Ratio (ETR) values of 78.2 to 85.1%, respectively.

The SPT Energy Measurement Data Summary tables in the Appendix present the test data from every hammer blow at each sampling interval along with representative force and velocity traces for each test interval. The reported blow counts, obtained by the drill rig personnel, and a summary of the test data and average computed hammer energy and transfer ratio values are provided in Table 2. Plots and tables of the following are also included in the Appendix and present the test data with depth for each test interval:

- Penetration vs. BLC
- Penetration vs. FMX
- Penetration vs. EFV
- Penetration vs. CSX
- Penetration vs. VMX
- Penetration vs. ETR
- Average ETR vs. Rod Length
- ETR vs. Rod Length

Table 2: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description (Piedmont Residual)	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	28½ - 30	30	33.6	4-6-7 / 13	SA SILT	53.4	277.5	79.3
2	33½ - 35	35	38.6	3-5-6 / 11	SA SILT	58.3	291.4	83.3
3	38½ - 40	40	43.6	4-6-9 / 15	SA SILT	55.5	286.8	81.9
					Overall Average	**55.6**	**285.0**	**81.4**

The average hammer rate, transferred energy, and transfer ratio were calculated for each depth interval. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e., the blows that determine the N-value) were included when computing the average values shown in Table 2. The overall average transferred hammer energy for the automatic hammer on the CME 45B trailer-mounted drill rig (for all the depth intervals tested) was 285.0 foot-pounds, with an average ETR of 81.4%.

LIMITATIONS OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The information contained in this report were based on the applicable standards of our profession in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

CLOSING

CG2 is pleased to have the opportunity to provide these services to you. If you have questions concerning the content of this report, or if CG2 can be of further service, please contact CG2 at (980) 339-8684.

Sincerely,
Carolinas Geotechnical Group, PLLC

DocuSigned by:
D. Matthew Brewer
386129C0A4C1462...
D. Matthew Brewer, PE
Senior Project Engineer

DocuSigned by:
Robert E Kral
8AD703B2A8484F4...
Robert E. Kral, PE
Senior Project Engineer
NC Registration No. 042642

Appendices:

- Appendix I - CME 45B Trailer Rig (SN 303304) SPT Energy Measurements Summary Plots and Tables
- Appendix II - SPT Hammer Energy Field Form (Field Log) and Drill Rig Photo Log
- Appendix III - Instrumented Rod and Accelerometer Calibration Sheets
- Appendix IV - Certificate of Proficiency

APPENDIX I

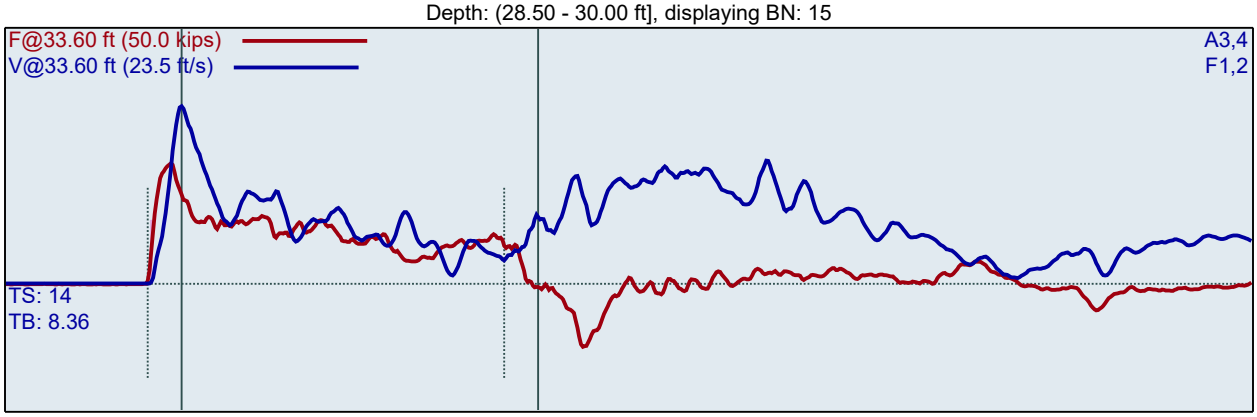
CME 45B (SN 303304)
REK
B-1

B-1
Interval start: 3/11/2022

AR: 1.19 in^2
LE: 33.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (28.50 - 30.00 ft], displaying BN: 15



F1 : [528AWJ1] 205.26 PDICAL (1) FF1
F2 : [528AWJ2] 205.86 PDICAL (1) FF1

A3 (PR): [K11957] 407.045 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 417.27 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

LP	BL#	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
ft		/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
28.63	1	4	1.9	23.8	15.1	2.0	20.0	1.5	258.9	74.0
28.75	2	4	52.7	25.1	15.4	1.6	21.1	1.5	269.5	77.0
28.88	3	4	53.1	25.1	15.7	1.6	21.1	1.5	272.5	77.8
29.00	4	4	53.5	24.6	15.4	1.5	20.7	1.5	269.5	77.0
29.08	5	6	53.4	25.0	15.6	1.2	21.0	1.0	273.5	78.2
29.17	6	6	53.3	24.8	15.7	1.1	20.8	1.0	274.5	78.4
29.25	7	6	53.4	24.6	15.7	1.1	20.7	1.0	277.2	79.2
29.33	8	6	53.3	24.7	16.0	1.1	20.8	1.0	274.8	78.5
29.42	9	6	53.4	24.6	16.0	1.1	20.6	1.0	275.4	78.7
29.50	10	6	53.7	24.3	15.9	1.1	20.4	1.0	276.7	79.1
29.57	11	7	53.3	24.6	16.3	1.0	20.7	0.9	281.6	80.4
29.64	12	7	53.3	24.1	16.2	1.1	20.2	0.9	279.6	79.9
29.71	13	7	53.5	23.8	16.1	1.1	20.0	0.9	280.2	80.0
29.79	14	7	53.7	23.7	16.5	1.0	19.9	0.9	278.2	79.5
29.86	15	7	53.2	23.6	16.3	1.0	19.8	0.9	277.1	79.2
29.93	16	7	53.4	23.3	15.7	0.9	19.6	0.9	278.7	79.6
30.00	17	7	53.5	23.2	17.1	0.9	19.5	0.9	280.6	80.2
		Average	53.4	24.2	16.1	1.1	20.3	0.9	277.5	79.3
		Std Dev	0.1	0.6	0.4	0.1	0.5	0.1	2.4	0.7
		Maximum	53.7	25.0	17.1	1.2	21.0	1.0	281.6	80.4
		Minimum	53.2	23.2	15.6	0.9	19.5	0.9	273.5	78.2

N-value: 13

Sample Interval Time: 17.92 seconds.

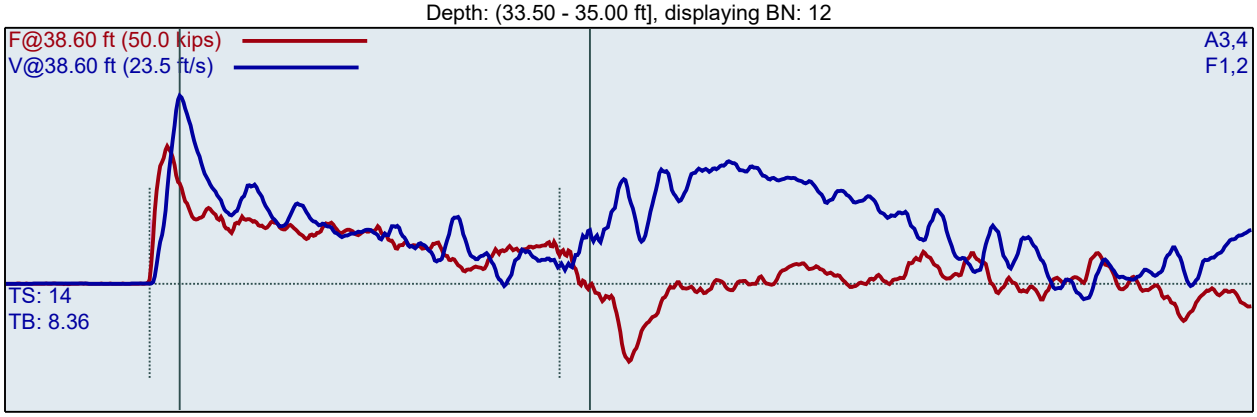
CME 45B (SN 303304)
REK
B-1

B-1
Interval start: 3/11/2022

AR: 1.19 in^2
LE: 38.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 12



F1 : [528AWJ1] 205.26 PDICAL (1) FF1
F2 : [528AWJ2] 205.86 PDICAL (1) FF1

A3 (PR): [K11957] 407.045 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 417.27 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
33.67	1	3	1.9	27.2	16.3	2.3	22.8	2.0	290.7	83.0
33.83	2	3	60.1	27.7	17.1	2.0	23.2	2.0	300.3	85.8
34.00	3	3	60.9	27.7	17.1	2.0	23.3	2.0	302.3	86.4
34.10	4	5	61.4	27.6	16.8	1.3	23.2	1.2	293.7	83.9
34.20	5	5	58.8	27.3	16.7	1.3	22.9	1.2	286.9	82.0
34.30	6	5	57.9	27.1	16.9	1.2	22.8	1.2	288.5	82.4
34.40	7	5	57.7	27.5	17.0	1.2	23.2	1.2	288.2	82.3
34.50	8	5	57.9	26.7	16.8	1.2	22.5	1.2	292.5	83.6
34.58	9	6	57.8	26.6	17.0	1.1	22.4	1.0	290.0	82.9
34.67	10	6	58.1	26.9	17.0	1.0	22.6	1.0	287.6	82.2
34.75	11	6	58.1	26.6	17.1	1.0	22.4	1.0	288.5	82.4
34.83	12	6	57.8	26.9	17.3	1.0	22.6	1.0	298.0	85.1
34.92	13	6	58.1	26.5	17.2	1.0	22.3	1.0	295.9	84.6
35.00	14	6	58.2	26.2	17.0	1.0	22.0	1.0	295.4	84.4
		Average	58.3	26.9	17.0	1.1	22.6	1.1	291.4	83.3
		Std Dev	1.0	0.4	0.2	0.1	0.4	0.1	3.7	1.1
		Maximum	61.4	27.6	17.3	1.3	23.2	1.2	298.0	85.1
		Minimum	57.7	26.2	16.7	1.0	22.0	1.0	286.9	82.0

N-value: 11

Sample Interval Time: 13.30 seconds.

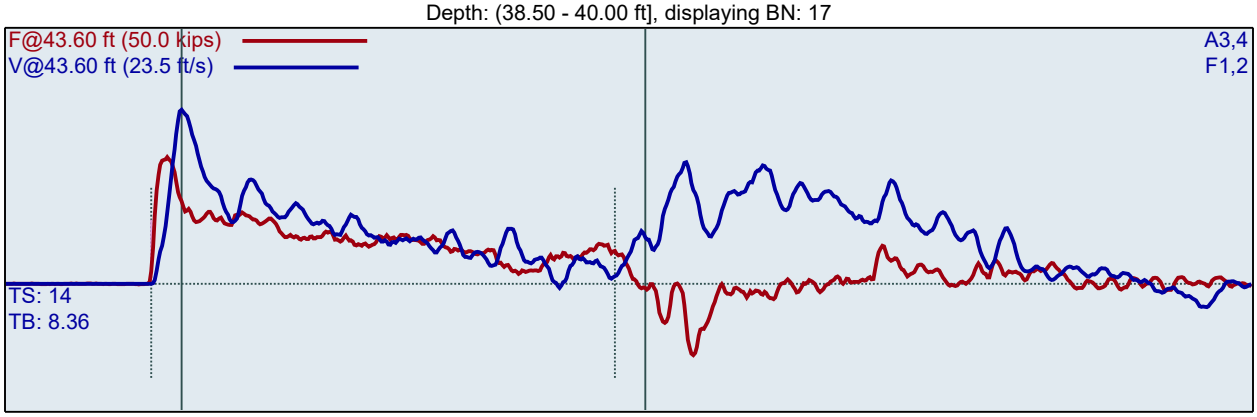
CME 45B (SN 303304)
REK
B-1

B-1
Interval start: 3/11/2022

AR: 1.19 in^2
LE: 43.60 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (38.50 - 40.00 ft], displaying BN: 17



F1 : [528AWJ1] 205.26 PDICAL (1) FF1
F2 : [528AWJ2] 205.86 PDICAL (1) FF1

A3 (PR): [K11957] 407.045 mv/6.4v/5000g (1) VF1
A4 (PR): [K10959] 417.27 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
38.63	1	4	1.9	26.6	16.9	2.2	22.3	1.5	303.5	86.7
38.75	2	4	59.6	25.2	16.8	1.8	21.2	1.5	301.7	86.2
38.88	3	4	59.9	25.2	16.3	1.5	21.2	1.5	295.2	84.3
39.00	4	4	56.8	24.6	16.3	1.5	20.7	1.5	291.6	83.3
39.08	5	6	55.7	24.9	16.0	1.2	20.9	1.0	290.3	82.9
39.17	6	6	55.5	24.9	16.0	1.2	21.0	1.0	290.4	83.0
39.25	7	6	56.0	24.7	16.2	1.2	20.8	1.0	288.0	82.3
39.33	8	6	55.4	25.2	16.2	1.1	21.2	1.0	287.7	82.2
39.42	9	6	55.7	25.1	15.8	1.0	21.1	1.0	283.1	80.9
39.50	10	6	55.3	24.9	15.8	1.0	21.0	1.0	288.5	82.4
39.56	11	9	55.5	24.5	16.0	0.8	20.6	0.7	286.8	82.0
39.61	12	9	55.7	24.6	16.0	0.8	20.7	0.7	284.4	81.3
39.67	13	9	55.4	24.4	16.2	0.8	20.5	0.7	289.2	82.6
39.72	14	9	55.4	24.4	15.9	0.8	20.5	0.7	283.6	81.0
39.78	15	9	55.3	24.7	15.9	0.8	20.7	0.7	287.0	82.0
39.83	16	9	55.5	24.0	15.6	0.8	20.2	0.7	284.1	81.2
39.89	17	9	55.6	24.8	16.0	0.7	20.8	0.7	283.9	81.1
39.94	18	9	55.6	24.4	15.7	0.7	20.5	0.7	284.9	81.4
40.00	19	9	55.4	24.2	16.2	0.8	20.3	0.7	289.6	82.7
		Average	55.5	24.7	16.0	0.9	20.7	0.8	286.8	81.9
		Std Dev	0.2	0.3	0.2	0.2	0.3	0.2	2.5	0.7
		Maximum	56.0	25.2	16.2	1.2	21.2	1.0	290.4	83.0
		Minimum	55.3	24.0	15.6	0.7	20.2	0.7	283.1	80.9
					N-value: 15					

Sample Interval Time: 19.28 seconds.

Summary of SPT Test Results

Project: CME 45B (SN 303304), Test Date: 3/11/2022

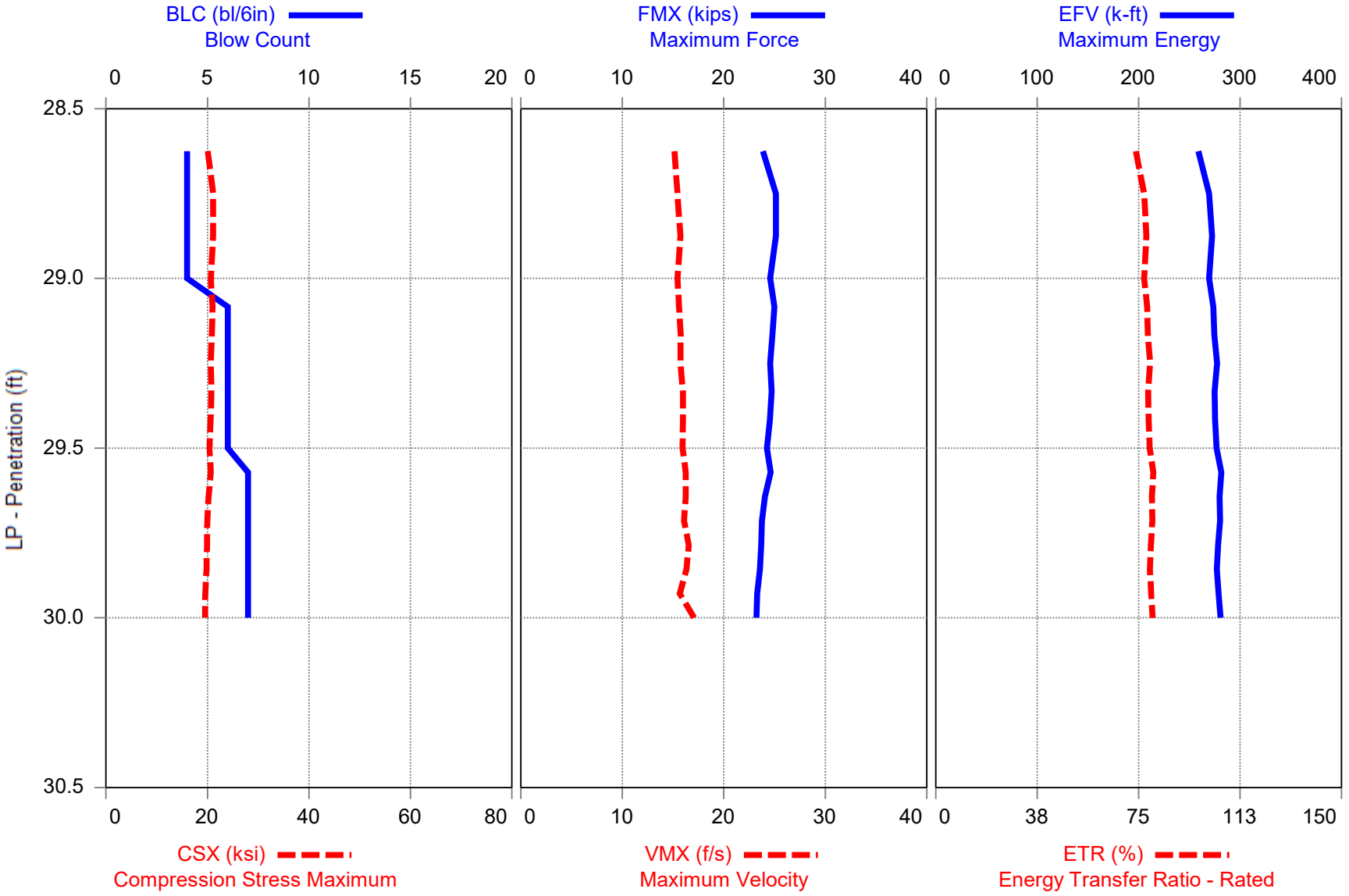
BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
33.60	28.50	30.00	**4-6-7**	**13**	**17**	53.4	24.2	16.1	1.1	20.3	0.9	277.5	79.3
38.60	33.50	35.00	**3-5-6**	**11**	**14**	58.3	26.9	17.0	1.1	22.6	1.1	291.4	83.3
43.60	38.50	40.00	**4-6-9**	**15**	**20**	55.5	24.7	16.0	0.9	20.7	0.8	286.8	81.9
				Overall Average Values:		55.6	25.1	16.3	1.0	21.1	0.9	285.0	81.4
				Standard Deviation:		2.0	1.2	0.5	0.2	1.0	0.2	6.3	1.8
				Overall Maximum Value:		61.4	27.6	17.3	1.3	23.2	1.2	298.0	85.1
				Overall Minimum Value:		53.2	23.2	15.6	0.7	19.5	0.7	273.5	78.2

Pile Dynamics, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 23-March-2022 Test started: 11-March-2022

CME 45B (SN 303304) - 28.5 TO 30.0

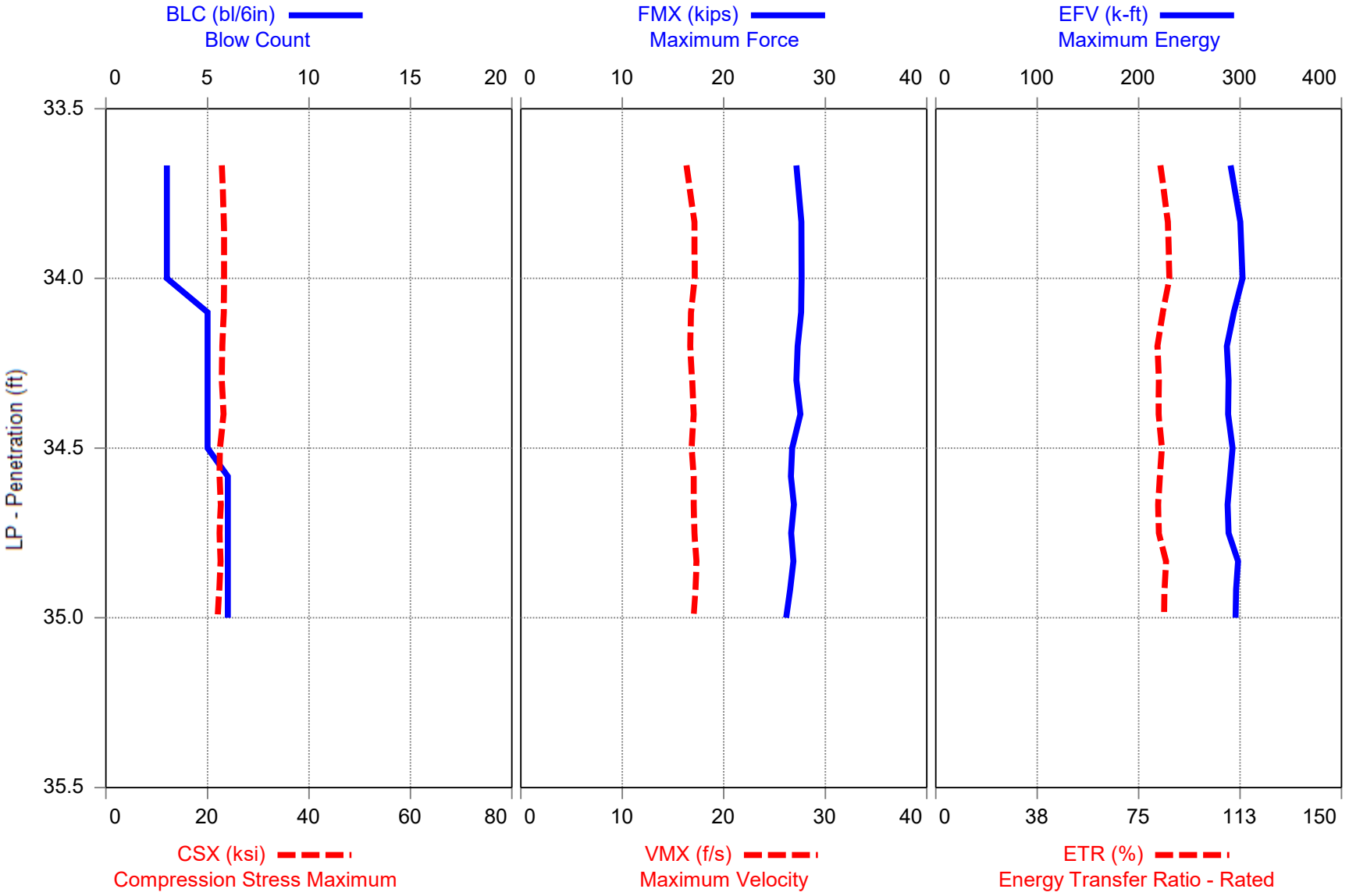


Pile Dynamics, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 23-March-2022

Test started: 11-March-2022

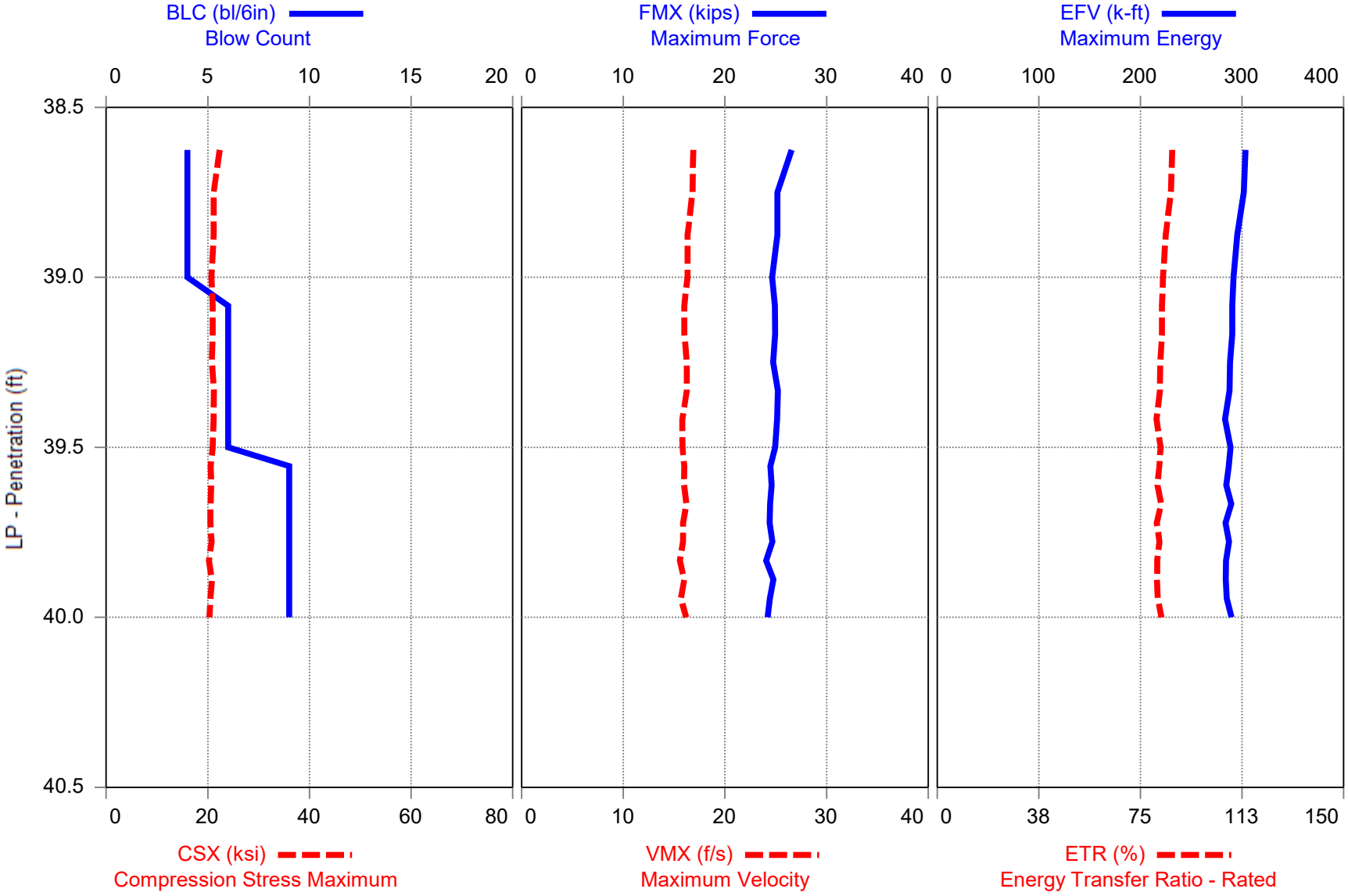
CME 45B (SN 303304) - 33.5 TO 35.0

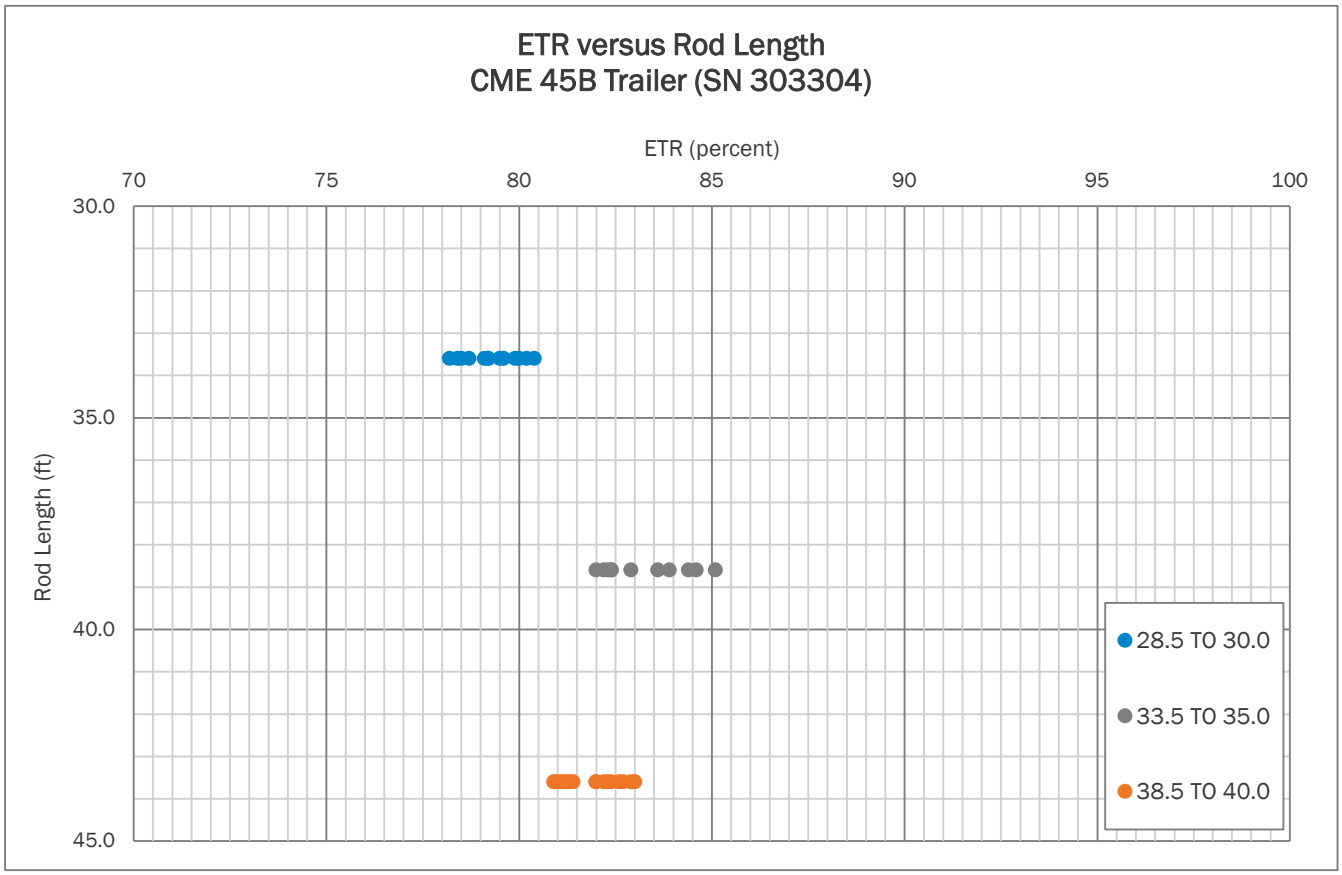


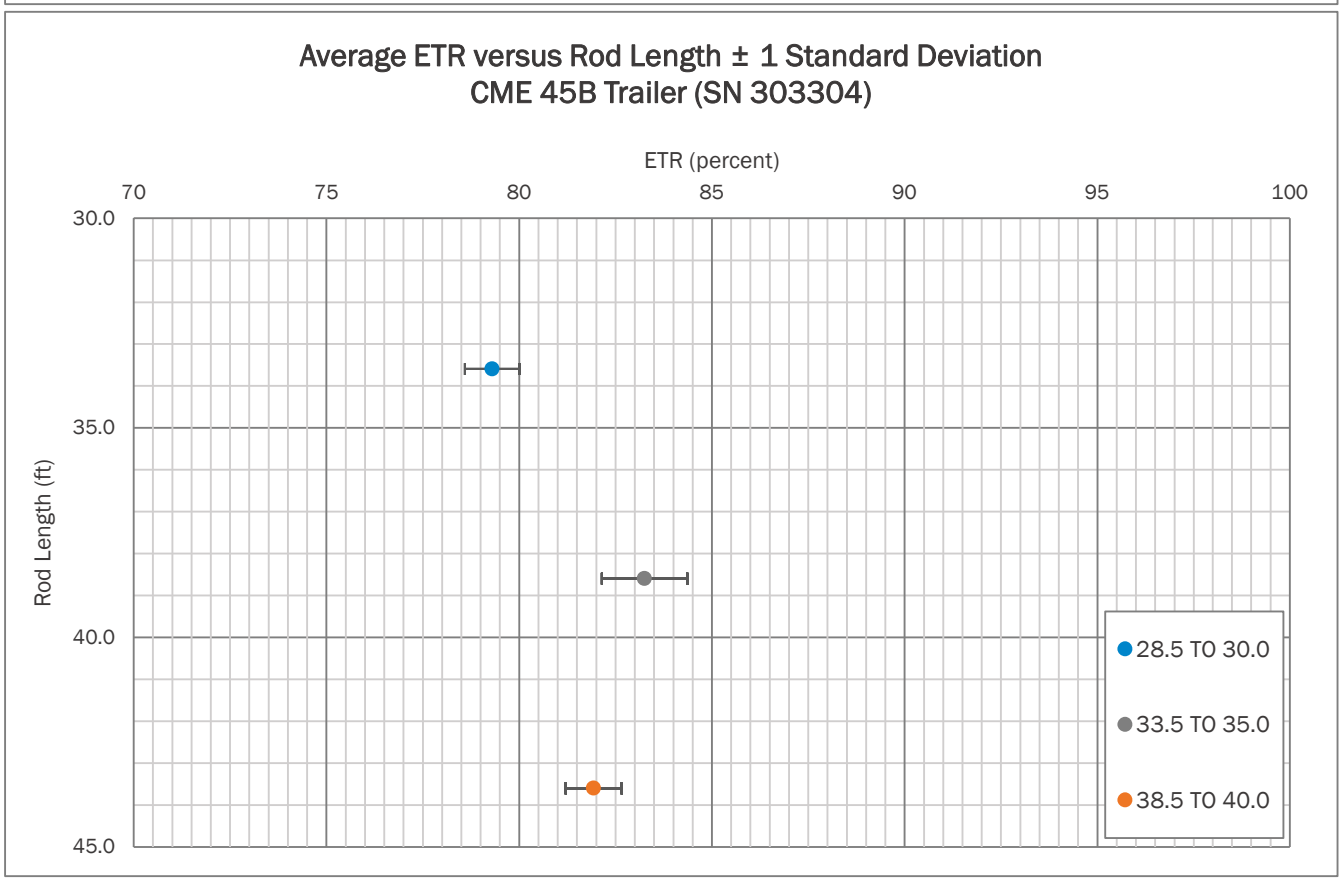
Pile Dynamics, Inc. - PDIPLOT2 Ver 2021.1.61.0 - Case Method & iCAP® Results

Printed: 23-March-2022 Test started: 11-March-2022

CME 45B (SN 303304) - 38.5 TO 40.0




ETR versus Rod Length
CME 45B Trailer (SN 303304)
ETR (percent)
70
75
80
85
90
95
100
Rod Length (ft)
30.0
35.0
40.0
45.0
28.5 TO 30.0
33.5 TO 35.0
38.5 TO 40.0


Average ETR versus Rod Length ± 1 Standard Deviation
CME 45B Trailer (SN 303304)
ETR (percent)
70
75
80
85
90
95
100
Rod Length (ft)
30.0
35.0
40.0
45.0
28.5 TO 30.0
33.5 TO 35.0
38.5 TO 40.0

APPENDIX II

SPT Hammer Energy Field Form

Project:	SPT HAMMER ENERGY	**Date:**	3/11/2022
Project No.:	240021095	**Weather:**	50's CLOUDY
Boring No.:	B-1	**Drill Rod Type:**	AWJ

On-site Personnel

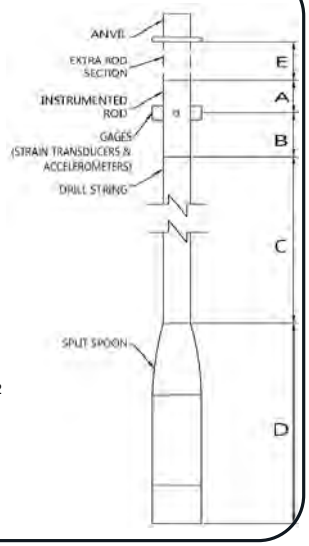
Drilling Company:	BRECCIA CONSTRUCTION, LLC
Rig Operator:	D. HARRIS
Engr/Geologist:	N/A
Client Rep.:	N/A
Analyzer Oper.:	R. KRAL

Rig/Hammer Info

Drill Rig Make/Model:	CME 45B
Carrier Type:	TRAILER
Rig Serial No.:	303304 (DR-1)
Hammer Type/Model:	CME
Hammer Serial No.:	N/A
Hammer Drop System:	AUTO
Lubrication Condition:	PER MANUFACTURER
Manufacturer Recommended Operation Rate (bpm):	55
Drop Height (in.):	30
Hammer Weight (lbs):	140
Anvil Dimension (in.):	11.5
Drilling Method:	2.25 HSA

Rod Info

(A + E) Impact Surface to Gages Length:	1.36	ft
(B) Instr. Rod Length below Gages:	0.70	ft
(A) + (B) Instr. Rod Length:	2.00	ft
(D) Spoon Length:	2.85	ft
(E) Rod Length Above Instr. Rod (if applicable):	0.06	ft
Instr. Rod S/N:	528AWJ	
Instr. Rod Outside Dia.:	1.75	in.
Instr. Rod Area:	1.19	in^2
PDA Make/Model:	SPT	
PDA Serial No.:	4549 TB	
Calib. Pulse Test (y/n):	Y	



Gage Info

Gage		Serial No.	Calibration No.
Accel.	A3	K11957	407.00
	A4	K10959	417.30
Strain	F3	528AWJ-1	205.26
	F4	528AWJ-2	205.86

Date of Test	Test Depth Increment (ft to ft)	Test Time Start / Stop (military)	Length of Drill String (ft) ***(C)***	(LE) Length below Gages (ft) ***(B) + (C) + (D)***	Avg. Meas. Hammer Rate (BPM)	SPT Blow Counts 6"	12"	18"	N-Value	Drop Height in Tolerance (y/n)	Soil Class.
11-Mar	28.5 TO 30.0	0830/0830	30	33.6	53	4	6	7	13	Y	SA SI
11-Mar	33.5 TO 35.0	0837/0837	35	38.6	57	3	5	6	11	Y	SA SI
11-Mar	38.5 TO 40.0	0842/0843	40	43.6	56	4	6	9	15	Y	SA SI

Notes:
TESTING PERFORMED AT 1817 LOWRYS HIGHWAY IN CHESTER, SOUTH CAROLINA (CHESTER COUNTY). THE APPROXIMATE COORDINATES ARE 34.770585, -81.245517.

NOTE: (1) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. veritcality, weather, or lubrication between trials). (2) Note any changes in rod diameter along drill string and record locations of short rod sections.

Prepared By (print/signature)

3/11/2022
Date

Figure No. 1: Rear View of Drill Rig

Figure No. 2: Side View of Drill Rig

Figure No. 3: Serial Number Plate

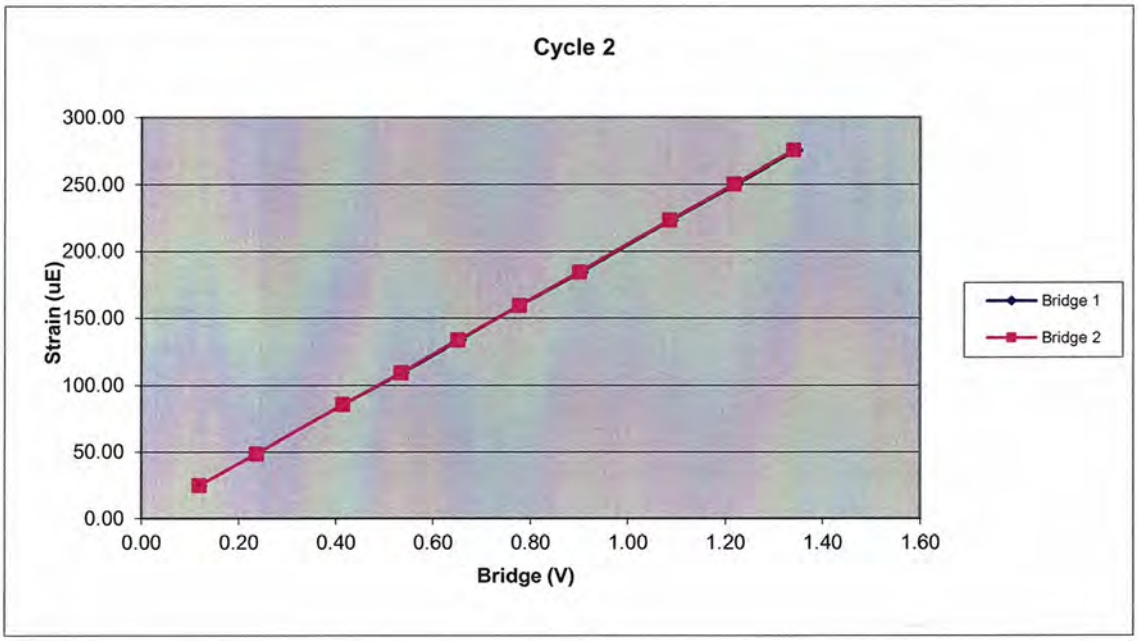
Figure No. 4: Automatic Hammer

APPENDIX III

528AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	905.16	24.61	0.12	0.12
3	1753.20	48.18	0.24	0.24
4	3064.74	84.99	0.42	0.41
5	3947.87	108.99	0.54	0.53
6	4813.36	133.40	0.65	0.65
7	5727.49	159.02	0.78	0.78
8	6643.67	184.17	0.90	0.90
9	8004.82	222.89	1.09	1.09
10	8980.07	249.70	1.22	1.22
11	9885.91	275.04	1.35	1.34

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7340.27**	**Force Calibration (lb/V)**	**7362.32**
Offset	**12.98**	Offset	**13.21**
Correlation	**1.000000**	Correlation	**0.999999**
Strain Calibration (µE/V)	**204.74**	**Strain Calibration (µE/V)**	**205.35**
Offset	**-0.39**	Offset	**-0.39**
Correlation	**0.999993**	Correlation	**0.999995**

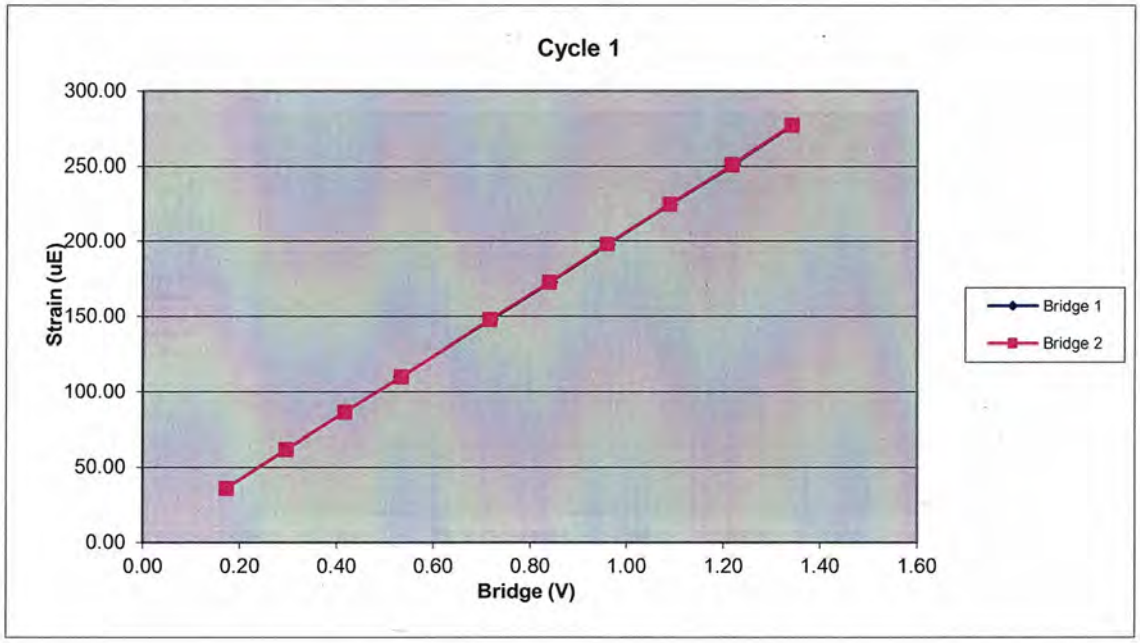
Force Strain Calibration	
EA (Kips)	**35851.72**
Offset	**27.08**
Correlation	**0.999996**



528AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1278.49	35.63	0.17	0.17
3	2188.92	61.59	0.30	0.30
4	3085.11	86.16	0.42	0.42
5	3944.56	110.01	0.53	0.54
6	5284.17	147.69	0.72	0.72
7	6199.57	172.59	0.84	0.84
8	7071.20	197.80	0.96	0.96
9	8023.54	224.47	1.09	1.09
10	8958.62	250.45	1.22	1.22
11	9876.55	276.81	1.34	1.34

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7346.16**	**Force Calibration (lb/V)**	**7359.87**
Offset	9.71	Offset	6.72
Correlation	0.999998	Correlation	0.999999
Strain Calibration (µE/V)	**205.65**	**Strain Calibration (µE/V)**	**206.03**
Offset	0.08	Offset	-0.01
Correlation	0.999990	Correlation	0.999993

Force Strain Calibration	
EA (Kips)	**35721.25**
Offset	7.11
Correlation	0.999990



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	528AWJ		
Bridge 1 (µE/V)	205.26	Bridge 2 (µE/V)	205.86
EA Factor (Kips)	35777.05	Area (in^2)	1.19

Calibrated by: _____
Calibrated Date: 1/28/2021

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 19Apr2021

Serial No:	K10959	**Temperature:**	21.0 °C
Model:	PR	**Humidity:**	38%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	69096! 978 g's/volt	**Cal on:**	27Jan2021
Ref Acc 2:	69132! 960 g's/volt	**Cal on:**	09Feb2021

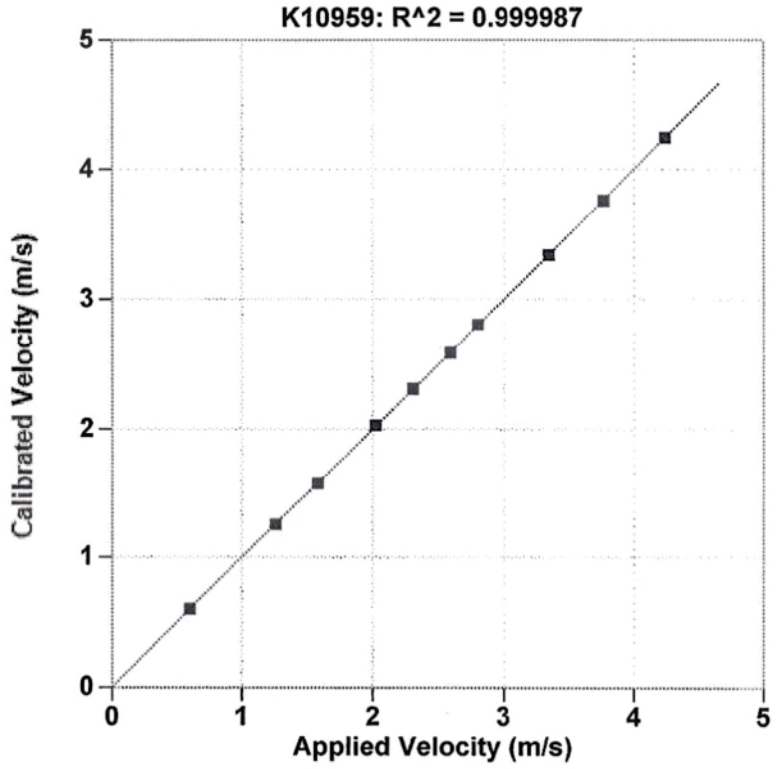
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

417.3 mv/5000g
(83.5 µv/g)
R^2: 0.999987 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K10959 Velocity
m/s	m/s
0.600	0.600
1.260	1.255
1.578	1.577
2.021	2.028
2.306	2.311
2.590	2.590
2.801	2.806
3.346	3.344
3.767	3.762
4.241	4.241

Maximum Acceleration: 938 g's

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 22Jan2021

Serial No:	K10960	**Temperature:**	20.0 °C
Model:	PR	**Humidity:**	28%
Calibrated on:	Channel 4 on 8G 5161 LE		

Ref Acc 1:	63479! 1080 g's/volt	**Cal on:**	09Sep2020
Ref Acc 2:	65538! 1040 g's/volt	**Cal on:**	27Jan2020

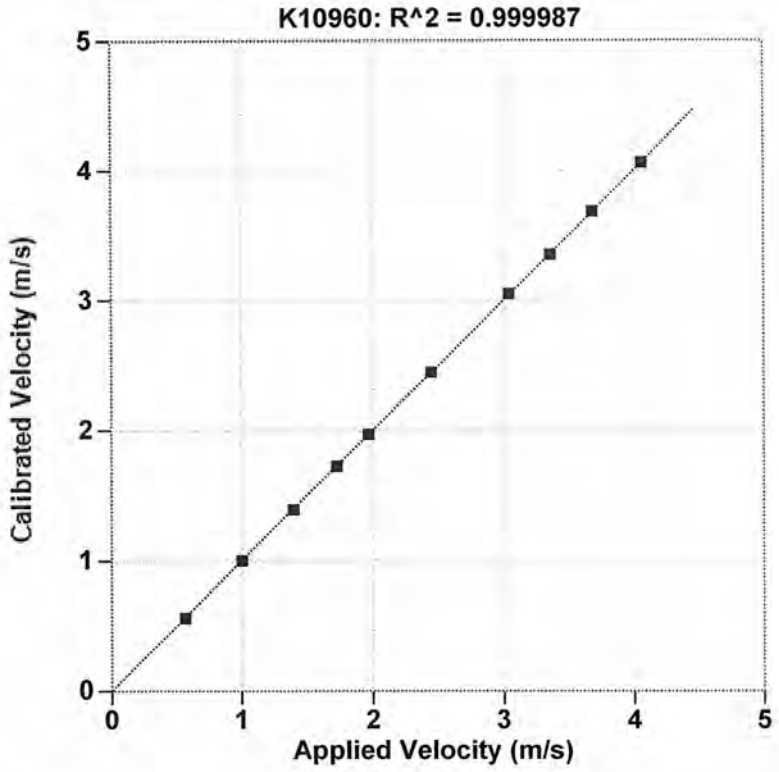
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

425.7 mv/5000g
(85.1 µv/g)
R^2: 0.999987 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K10960 Velocity
m/s	m/s
0.568	0.564
1.006	1.001
1.400	1.393
1.728	1.726
1.969	1.970
2.447	2.448
3.043	3.051
3.359	3.356
3.683	3.684
4.063	4.062

Maximum Acceleration: 889 g's

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on MAR 2 2021

Serial No:	K11957	**Temperature:**	20.0 °C
Model:	PR	**Humidity:**	27%
Calibrated on:	Channel 4 on 8G 5161 LE		

Ref Acc 1:	63479! 1079 g's/volt	**Cal on:**	22Jan2021
Ref Acc 2:	65538! 1043 g's/volt	**Cal on:**	22Jan2021

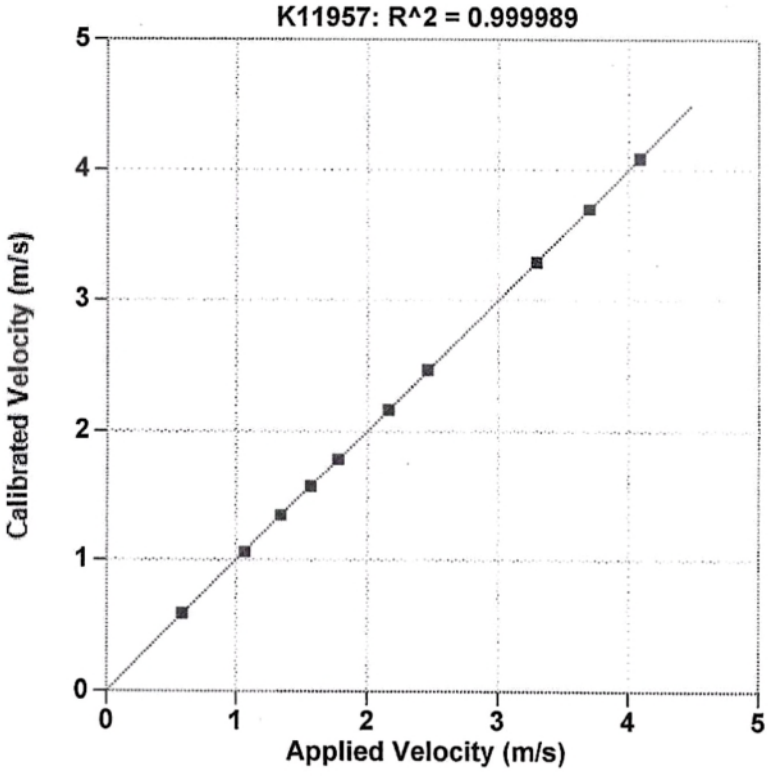
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

407.0 mv/5000g
(81.4 µv/g)
R^2: 0.999989 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K11957 Velocity
m/s	m/s
0.588	0.589
1.066	1.061
1.344	1.345
1.571	1.570
1.779	1.783
2.161	2.164
2.458	2.465
3.294	3.291
3.701	3.700
4.089	4.086

Maximum Acceleration: 894 g's

APPENDIX IV

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Robert E. Kral
Carolinas Geotechnical Group

has on May 20, 2016 achieved the rank of

ADVANCED

on the **Dynamic Measurement and Analysis Proficiency Test.**

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended*** **that Individuals at the Advanced level seek Master or Expert levels through additional study within six years of the date of this document.**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. **This certificate can be verified at www.PDAproficiencytest.com.** The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate.

Steven A. Hall, Executive Director
Pile Driving Contractors Association

Garland Likins, Senior Partner
Pile Dynamics, Inc.

No. 2072