# I-10 MOBILE RIVER BRIDGE

## MAIN SPAN BRIDGE, GEOTECHNICAL MEMO

**SEPTEMBER 8, 2023**

This Main Span Bridge Geotechnical Memo was prepared by Shannon & Wilson, Inc., which is a member of the Kiewit-Massman-Traylor Design Team.

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## Attachments

# 1 PURPOSE

This memo contains preliminary recommendations and a summary of available data for the proposed Main Span bridge of the I-10 Mobile River Bridge Project. This Geotechnical Memo is based on the available 30% design documents developed by the Kiewit-Massman-Traylor (KMT) team, and the results of borings, laboratory testing, and foundation load test results provided by the Alabama Department of Transportation (ALDOT) as part of the Request for Proposal documents. No additional explorations or testing were accomplished by the Kiewit Team to support this memo.

# 2 PROJECT DESCRIPTION

ALDOT selected the KMT Team to design and construct modifications to the existing Interstate-10 (I-10) in Mobile, Alabama. The project includes roadway modifications, new interchange bridges located along the west side of the Mobile River, and a new cable-stayed bridge spanning over the Mobile River that will connect to West and East high level approaches (WHLA and EHLA). The cable-stayed bridge will be about 220 feet above the Mobile River and extend between Stations 508+90.05 and 534+65.05. The bridge will be supported by two main span pylon foundations (designated Pylon P35 on the west and P36 on the east), with a tie-down pier and a transition pier located on the west (designated Piers P34 and P34A) and east (designated Piers P37 and Pier P37A) sides of the bridge. The main span of the bridge is about 1,400 feet long, and the west and east approach spans are each about 590 feet long. There is about 105 feet between the tie-down and transition piers located on the west and east sides of the main span.

On the west side of the Mobile River, new on- and off-ramps and bridges will be constructed from I-10 to Tennessee Street, South Carolina Street, Virginia Street, Texas Street, and the WHLA. The WHLA extends from I-10 near the Texas Street Bridge to the Main Span bridge over the Mobile River. The Main Span bridge connects the WHLA and the EHLA. The EHLA extends into Polecat Bay then transitions into the I-10 Bayway.

This memo provides preliminary foundation recommendations for the Main Span bridge. Each pylon foundation will be supported by 56, 72-inch diameter, driven steel pipe pipes with a 1-1/4-inch wall thickness. The foundation cap will be 119 feet wide in the transverse direction and 104 feet long in the direction of the roadway. The cap will vary in thickness from 15.5 feet at its edge, increasing to 20 feet at the pylon interface. The bottom of the pile cap will be located at elevation -1.5 feet. The tip elevations of the piles that support P35 (west side, located at Station 514+80.05) and P36 (east side, located at Station 528+75.05) are estimated to be -250 feet and -260 feet, respectively. Concrete plugs with lengths of 90 and 110 feet will be constructed inside the steel pipes for the west and east pylons, respectively.

Each transition pier will be supported by two, pile-supported foundations. The pile caps supporting each foundation of Pier P34 (west side, located at Station 508+90.05) will be 40.5 feet wide in the transverse direction and 34.5 feet long in the direction of the roadway. The pile caps supporting each foundation of Pier P37 (east side, located at Station 534+65.05) will be 52.5 feet wide in the transverse direction

and 40.5 feet long in the direction of the roadway. The center-to-center distance between each pile supported cap is 80 feet. The caps will be 10 feet thick. The bottom of the pile caps will be located at elevation -12 feet. Each foundation of Piers P34 and P37 will be supported by 42 and 49, respectively, 24-inch square prestressed concrete piles (PSCP). The estimated tip elevations of the piles are -110 feet.

Each tiedown pier will be supported by two, pile-supported foundations. The pile caps supporting each foundation of Pier P34A (west side, located at Station 509+94.88) will be 48.5 feet wide in the transverse direction and 48.5 feet long in the direction of the roadway. The pile caps supporting each foundation of Pier P37A (east side, located at Station 533+60.22) will be 48.5 feet wide in the transverse direction and 49.5 feet long in the direction of the roadway. The center-to-center distance between each pile supported cap is 116 feet. The caps will be 10 feet thick. The bottom of the pile caps will be located at elevation -12 feet. Each foundation of Piers P34A and P37A will be supported by 25 and 30, respectively, 24-inch square PSCP. The estimated tip elevations of the piles are -110 feet.

# 3 INFORMATION PROVIDED BY ALDOT

Preliminary geotechnical engineering recommendations were developed by the KMT Team based on information provided by ALDOT as part of the Request for Proposal. This information includes the results of subsurface explorations, laboratory testing, and a foundation load test program.

### Subsurface Explorations and Laboratory Testing

ALDOT provided the results of explorations completed in the Main Span bridge area. The explorations included borings completed in 2016-2017 by Thompson. The Thompson 2016-2017 deep borings drilled along the Main Span bridge alignment used in our analyses include TH-13, WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA13, as shown on Figure 1.

The results of these explorations and laboratory testing performed on selected samples retrieved from the borings were used to characterize the subsurface conditions along the alignment. In addition, nominal pile resistances were estimated using the results of these borings. The exploration logs and the results of lab testing performed on selected samples retrieved from the borings are included in Appendices A and B, respectively. This information was reproduced directly from the reports provided by ALDOT.

### Foundation Load Testing Program

ALDOT performed a Pile/Drilled Shaft Load Test program in early 2018 in advance of project design and construction. The test program included installing and testing two HP14x89 steel H-piles, two 18-inch-square PSCPs, one 30-inch-square PSCP, five 54-inch-diameter spun-cast concrete cylinder piles, one 60-inch-diameter steel pipe pile, and one 72-inch-diameter drilled shaft. All the piles included high-strain dynamic pile testing (pile driving analyzer [PDA]) during initial drive and at multiple restrikes after initial drive. In addition, one of the H-piles and one of the 18-inch-square PSCPs were tested using a static load test frame; and the 30-inch-square PSCP, two 54-inch-diameter spun-cast concrete cylinder piles, and

the 60-inch-diameter steel pipe pile were tested using Statnamic load testing methods. The 72-inch-diameter drilled shaft was tested using a bi-directional Applied Foundation Testing hydraulic load cell.

The test program identified the following:

1. The nominal pile resistance, as determined by the PDA testing, increased with each restrike after the initial drive of a test pile. The greatest increase (compared to the end of initial drive [EOID] resistance, as determined by the PDA testing) is generally between the EOID and the one day restrike. Additional resistance increase was also observed between the restrike performed after 1 day and multiple days (7 to 17 days) after initial drive; but the resistance increase over this period was generally less than the additional resistance gained between EOID and the 1-day restrike.
2. The nominal resistance of the pile determined by static testing is always greater for the six piles tested using either a conventional load frame or Statnamic load testing, than that determined from the dynamic testing alone (PDA/CAPWAP analyses). The maximum resistance of the PSCP determined by the PDA testing (maximum resistance of the multiple restrikes, which always corresponded to the last restrike performed no matter how long the setup time between restrikes which ranged between about 7 and 17 days after EOID) varies between about 60 and 86%, with an average of 76% of the resistance estimated from the static/Statnamic load testing using the Davisson failure criteria. The resistance using the Davisson criteria was not determined for the steel H-pile and steel pipe pile, but the nominal resistance of these steel piles, determined by the PDA testing (maximum resistance of the multiple restrikes), varies between about 65 and 91% of the maximum pile failure load estimated from the static/Statnamic load testing.
3. For most of the PSCPs, the dynamic pile testing measurements indicate that the maximum tensile stress in the pile exceeded the allowable stress limits for portions of the initial drive and for restrike. In general, the high tensile stresses occurred early in the initial drive, during softer driving conditions. During restrikes, the maximum tensile stress values often exceeded the allowable values during the early part of the restrike, as the hammer was generally set at the highest fuel setting to transfer maximum energies to the pile in an attempt to fully mobilize resistance. Additional pile cushion material and/or modification to the driving procedures, such as reducing hammer energy setting during driving in soft soils, would be one method to reduce the potential for the tensile stresses to exceed the allowable stress limits during production pile driving and restrikes.

The ALDOT load test results were used to develop design parameters to estimate pile embedments at existing exploration locations provided by ALDOT for the proposed Main Span bridge.

# 4 SUBSURFACE CONDITIONS ALONG THE MAIN SPAN BRIDGE ALIGNMENT

The subsurface conditions along the Main Span bridge alignment were evaluated based on the results of the explorations and laboratory testing provided by ALDOT, as summarized in Section 3. No additional explorations or lab testing were performed by KMT for this Geotechnical Memo.

The subsurface conditions along the Main Span bridge alignment were generally separated into four layers, as described below. The upper two layers, however, were subdivided into an upper and lower sublayer based on the differences noted in the relative density of the material. A typical subsurface profile is presented on Figure 2. Note that five generalized layers are shown on Figure 2. The sand layer, as described below, is shown as two distinct layers (different shades of green) on the subsurface profile. Although the material types are generally similar for these two sand sublayers, the relative density appears to be greater for the lower sand sublayer, as described below.

A series of plots of the energy-corrected Standard Penetration Test (SPT) value versus elevation, normal and lognormal N-value distributions, and USCS (Unified Soil Classification System) classification are presented in Appendix C for the different soil layers.

### Surficial Layer

The surficial soil layer is about 15 to 55 feet thick and extends from the existing ground surface, located between about elevation +3 feet and +15 feet, to about elevation -3 to -60 feet. Note that this layer was previously described as the "Overburden Layer," but is now changed to "Surficial Layer" based on a reviewer's comment on the WHLA and EHLA memos previously submitted. "Overburden Layer" is still used as a designation for this surficial layer in the tables and statistical summaries presented in the Appendices of this memo. The material generally consists of very loose to medium dense silty sand with layers of very soft to soft clay with organics.

The surficial layer was subdivided into upper and lower sublayers for the material encountered above and below elevation 0 feet, respectively. The upper layer encountered above about elevation 0 feet, generally consists of granular fill that was placed during the development of the area and the construction of the adjacent infrastructure. The existing ground surface elevation in these areas ranges between about elevation +3 and +15 feet. The material generally consists of very loose to medium dense, silty sand. The mean and median energy-corrected SPT value for this portion of the layer is 29 and 22 (30 data points), respectively. As shown in Appendix C (Figure C-15), 100% of the drill footage within the granular fill encountered (as presented in the bore logs) is classified (USCS) as SP, SP-SM, SM, and SC-SM.

The lower sublayer is located below about elevation 0 feet and extends to about elevation -10 to -60 feet. The material generally consists of very loose to loose, silty sand with layers of very soft to soft clay with organics. The mean and median energy-corrected SPT values for this portion of the layer are 7 and 6 (70 data points), respectively. As shown in Appendix C (Figure C-16), approximately 94% of the drill footage within this portion of the layer encountered (as presented in the bore logs) is classified (USCS) as SM, SP, SP-SM, SC, GP-GM, GP, and SC-SM, with the remaining 6% classified as CH, CL, and MH.

### Sand Layer

The surficial soil layer is underlain by a sand layer that is approximately 60 to 125 feet thick and extends to about elevation -130 to -190 feet. The material generally consists of medium dense to very dense silty sand, with occasional layers of silt and low and high plasticity clay.

The sand layer was subdivided into upper sand and lower sand sublayers for the material encountered above and below about elevation -85 feet, respectively. The upper sand layer is about 25 to 70 feet thick and extends to about elevation -80 to -90 feet. The upper sand layer material generally consists of medium dense to very dense silty sand, with occasional layers of low plasticity clay. The mean and median energy-corrected SPT values for this material are 48 and 42 (65 data points), respectively. As shown in Appendix C (Figure C-17), approximately 98% of the drill footage within the upper sand layer encountered (as presented in the bore logs) is classified (USCS) as SP-SM, SP, SM, and SW-SM, with the remaining 2% classified as CL-ML.

The lower sand layer is about 35 to 100 feet thick and extends to about elevation -120 to -190 feet. The lower sand layer material generally consists of medium dense to very dense silty sand, with occasional layers of low and high plasticity clay. The mean and median energy-corrected SPT values for this material are 63 and 58 (63 data points), respectively. As shown in Appendix C (Figure C-18), approximately 75% of the drill footage within the lower sand layer encountered (as presented in the bore logs) is classified (USCS) as SP-SM, SM, SP, SC, and SC-SM, with the remaining 25% classified as CH, CL, and ML.

### Clay/Silt Layer

The sand layer is underlain by a clay/silt layer that is approximately 30 to 105 feet thick and extends to about elevation -215 to -230 feet. The material generally consists of stiff to hard clay and silt, with occasional layers of silty sand. The mean and median energy-corrected SPT values for this material are 63 and 51 (52 data points), respectively. As shown in Appendix C (Figure C-19), approximately 77% of the drill footage within the clay/silt layer encountered (as presented in the bore logs) is classified (USCS) as CL, CH, CL-ML, and ML, with the remaining 23% classified as SM, SC, SP-SM, and SP.

### Basal Silt/Sand Layer

The clay/silt layer is underlain to the bottom of the borings by loose to very dense, silty sand with occasional low plasticity silt and clay layers. This layer is about 15 to 90 feet thick, as it extends to the bottom of the borings. The mean and median energy-corrected SPT value for this material are 85 and 47 (38 data points), respectively. As shown in Appendix C (Figure C-20), approximately 82% of the drill footage within the basal silt/sand layer encountered (as presented in the bore logs) is classified (USCS) as SM and SP-SM, with the remaining 18% classified as ML and CL.

# 5 POTENTIAL VARIATION OF SUBSURFACE CONDITIONS

Our site interpretation, engineering analyses, and recommendations are based on the results of borings, laboratory testing, and foundation load tests that were performed by others. Our interpretations are specific to the locations and depths noted on the exploration logs and may not be applicable to all areas of the project alignment. No number of explorations and testing can precisely predict the characteristics, quality, or distribution of subsurface and site conditions.

Potential variation includes, but is not limited to:

- There are some areas where there is limited to no available subsurface data, such that there is a potential for high variability in the foundation embedments.
- The conditions between and below explorations may be different. The thickness of the geologic units will vary across the site, and in some cases, subsurface conditions can vary in relatively short distances.
- The passage of time or intervening causes (natural and manmade) may result in changes to site and subsurface conditions.
- Groundwater levels will likely fluctuate due to seasonal and tidal changes.
- We did not observe the samples in the previous borings performed along the Main Span bridge alignment by ALDOT. Therefore, we cannot confirm that the soil conditions shown on the ALDOT logs are representative of in situ conditions.
- The ALDOT load tests were performed on different size PSCPs than those proposed by KMT for this project, and they were generally performed at locations away from the Main Span bridge. The results of the ALDOT load tests may therefore not be representative of the soil conditions and pile sizes being considered for the main span foundations.

If conditions different from those considered in our analyses are encountered during the exploration program that will be completed during the final design phase and during construction, we should review our understanding of the subsurface conditions and reconsider our recommendations presented in this report, as appropriate.

# 6 MAIN SPAN BRIDGE FOUNDATIONS

### General

We performed a series of axial resistance analyses on potential foundation types and sizes to support the transition and tiedown piers, and the main span pylons. In addition, we developed FB-MultiPier (FBMP) parameters for use by the structural designers to evaluate the lateral resistance of the foundations. In general, the purpose of this study was to provide preliminary design information to the structural engineers and to develop an estimate of the pile embedments and resistances based on the

available data. The structural designers with input from the KMT constructors used these results to develop suitable and cost-effective foundations.

Our analyses assume that the piles and shafts will be spaced a minimum of 3.0 foundation diameters, center-to-center, and that no drag loads act on the piles/shafts. We assume that the foundation construction and any required fill placement activities will be timed so that any adverse settlements that may occur as a result of the fill placement activities will occur prior to foundation installation. This assumption will be confirmed as the bridge design progresses.

Axial resistance analyses were performed for several PSCP sizes to support the transition and tie-down piers. Axial resistance analyses were also performed for 72-inch diameter driven steel pipe piles, and 72-inch and 96-inch-diameter drilled shafts to support the main span pylon foundations. Based on KMT's analyses using the results of our preliminary analyses, it was decided that 24-inch square piles will be used to support both the east and west transition and tiedown piers, and that 72-inch diameter driven steel pipe piles would be used to support the main span pylons. As a result, axial resistance plots developed for the other foundation sizes and types are not included in this memo, as these foundations are no longer being considered by KMT for support of the Main Span bridge.

### Assumed Resistance Factor

Per Section 10.4.1.2 of the Technical Provisions (TP), the factored resistance of the piles shall depend upon the level of dynamic and static testing accomplished on production piles. To use the highest RF, 0.8, AASHTO and the TPs require that the driving criteria be established by a successful static load test of at least one pile per site condition and dynamic testing of at least two piles per site condition, but no less than 2% of the production piles. Table 10-3 of the TPs increases the minimum dynamic testing frequency to 5% of the production piles for concrete prestressed or post-tensioned piles greater than 36 inches in size. If a static load test is not performed, AASHTO indicates that a RF equal to 0.65 may be used provided that dynamic testing of at least two piles per site condition, but no less than 2% of the production piles is performed. Considering that the TPs specify this minimum level of dynamic testing, a RF equal to 0.65 is the lowest RF considered in our analyses.

As indicated in Section 3, the nominal resistance of the pile determined by static testing in the ALDOT load testing program was greater for the six piles tested using either a conventional load frame or Statnamic load testing, than that measured in the PDA/CAPWAP (dynamic) analyses. The resistance of the PSCP determined by the dynamic testing (greatest resistance of the multiple restrikes) varied between about 60 and 86%, with an average of 76% of the resistance estimated from the static/Statnamic load testing considering the Davisson failure criteria. As a result, for estimating the pile embedments using a RF equal to 0.65 because only dynamic testing would be performed during production pile installation, it was decided to use 90% of the RF, 0.585 (0.65 × 0.90 = 0.585), considering the reduced resistance that may be determined using dynamic testing only. As a result, the pile resistances and the corresponding estimated pile embedments assume RFs equal to 0.585 and 0.80. The reduction in pile length considering a RF equal to 0.80 (assumes that a static load test is performed) can be considered by the KMT Team to determine if performing a static load test is beneficial to the

project by reducing the pile footage required for the project and/or by reducing the PSCP length required to achieve the factored axial resistance to the preferred 120 feet.

Recommendations for a load testing program are being developed and summarized in a separate report.

**Transition and Tiedown Pier Foundation Support**

We performed axial resistance analyses for 24-, 30-, and 36-inch-square PSCPs to support the transition and tiedown piers using the results of borings WHLA-03, HLA-12, MB-02, and MB-02A. Note that the east transition and tiedown piers are located about midway between borings HLA-12 and MB-02/MB-02A. The subsurface conditions encountered in these borings vary, such that the estimated axial pile resistances at the east transition and tiedown pier locations may vary from those estimated for the available borings.

As requested by the KIE structural designers, for each axial resistance analysis performed for the driven PSCPs, we assumed the following factored axial compression demands for the piles:

- 24-inch square – 939 kips,
- 30-inch square – 1,400 kips, and
- 36-inch square – 1,760 kips.

We understand that these loads correspond to the Strength Limit State. We used these top of pile loads in our axial resistance analyses. These factored axial compression demands correspond to the approximate maximum structural capacity of the PSCP allowed by ALDOT assuming a concrete compressive strength equal to 6,000 psi. These values include an additional phi factor equal to 0.65 relative to the maximum structural capacity allowed by the American Association of State Highway and Transportation Officials (AASHTO). We understand that per RFI 015, ALDOT has agreed to increase the phi factor from 0.65 to 1.0, such that the maximum structural capacity allowed by ALDOT for this project is equal to that allowed by AASHTO. We estimated the pile embedments assuming two different resistance factors (RF), 0.585 and 0.80.

In addition to these analyses, we understand that KMT would prefer to limit the pile length to about 120 feet. As a result, we also evaluated the estimated nominal axial compression resistance for a pile length equal to 120 feet for 24-, 30-, and 36-inch square piles. The factored axial compression resistance was then estimated considering geotechnical RFs equal to 0.585 and 0.80.

Based on KMT's analyses, it was decided that 24-inch square piles will be used to support both the east and west transition and tiedown piers.

**Main Span Bridge Pylon Foundation Support**

We performed axial resistance analyses for 72-inch diameter driven steel pipe piles, and 72-inch- and 96-inch-diameter drilled shafts to support the main span pylon foundations using the results of borings MB-01, MB-02, and MB-02A.

The axial resistance analyses performed for the 72-inch diameter driven steel pipe piles evaluated the nominal resistance of the piles for the depth (about 300-feet) of the borings (MB-01, MB-02, and MB-02A) located near the pylon foundations. The structural designers used the results of these analyses in conjunction with input from the KMT constructors to develop an appropriate pylon foundation design. Two geotechnical RFs, 0.585 and 0.80, were considered in the evaluation of the factored axial resistance.

In addition to the driven pile foundations, we also evaluated the axial resistance of 72-inch- and 96-inch-diameter drilled shafts to support the main span pylon foundations. The axial resistance evaluations were performed for a shaft embedment of 175 feet, which was considered to be the maximum shaft embedment that KMT constructors would install without excessive risk. We recommended that the KIE structural designers consider two different RFs, 0.50 and 0.70. A RF equal to 0.70 assumes that a static load test is performed to confirm the drilled shaft resistances.

Based on KMT's analyses, it was decided that 72-inch diameter driven steel pipe piles will be used to support the main span pylons.

# 7 RESULTS OF ANALYSES

### FB-MultiPier Parameters

Engineering properties of the soil were developed for the purposes of performing deep foundation analyses based on a review of available logs of borings, published correlations between SPT N-values and soil material properties, results of laboratory testing accomplished on samples retrieved from the available explorations accomplished along the project alignment, the results of the ALDOT load test program, and our experience on similar projects with similar subsurface conditions.

Our recommended axial soil input models for FBMP analyses are in the form of custom (or user-defined) side and base resistance load transfer curves, also referred to as T-z and Q-z curves, respectively, which describe mobilized side ("T") and base ("Q") resistance for a corresponding foundation displacement ("z").

We recommend that the built-in FBMP lateral soil models be used by the structural designers for the FBMP analyses, which require the input of soil strength and stiffness properties. For cohesionless soil layers, the recommended internal angle of friction ($\phi'$) and modulus of subgrade reaction (k) input values are based on published literature correlations to SPT N-value in addition to our experience in similar soil and project conditions. For cohesive soil layers, the recommended strain at 50% maximum stress ($\varepsilon_{50}$) input values are also based on published literature correlations. In general, to develop the recommended undrained shear strength ($S_u$) input properties for cohesive soil layers, we first considered the results of available laboratory triaxial compression test data. In the absence of triaxial compression test data, we used the available natural water content results and correlations of average SPT N-value data to estimate $S_u$ input values.

Our recommended FBMP soil input parameters are presented in Tables 1 and 2. Table 3 presents our recommended custom T-z and Q-z curves. Our recommended lateral soil models presented in Tables 1 and 2 represent lateral soil resistance for a single foundation element or pile. For groups of piles, the mobilized lateral soil resistance is dependent on the number, proximity, and diameter/width of adjacent piles. At center-to-center pile spacings less than 6.0 pile diameters/widths, the pile group efficiency is reduced, and reduction factors, or P-multipliers less than 1.0, should be applied to the lateral soil models. The reduction factors may vary within a pile group, depending on the pile spacing, pile width/diameter, position of a pile within the group, the direction of loading, and the total number of piles in a group. At this stage of the project, we recommend that the P-multipliers generated by the FBMP program be used for group analysis.

### Axial Resistance Analyses

The axial resistance plots for the driven, 24-inch square PSCP and 72-inch diameter steel pipe piles are presented in Appendix D. Axial resistance plots for the 30-inch and 36-inch square piles, and the drilled shafts are not included in Appendix D, because these foundations are no longer being considered by KMT for support of the Main Span bridge. The axial resistance plots with appropriate RFs were used by the structural designers with input from the KMT constructors to develop appropriate foundations to support the Main Span bridge.

The KMT Team did not evaluate potential settlements and/or vibrations as a result of the pile driving activities. Depending upon the proximity of the adjacent infrastructure to the pile driving activities, it may not be practical to drive displacement PSCPs without exceeding the settlement and vibration limits, unless mitigation measures such as predrilling, jetting, and/or driving the piles within a sheet pile enclosure are implemented. It should be noted that the axial resistance plots provided in this memo assume that the piles will be driven with impact hammers. If jetting and/or predrilling are used to install the piles, the actual pile lengths driven will likely be greater than those provided in this report to achieve the required pile resistance.

The KMT Team should drill additional borings to evaluate the subsurface conditions to limit risks associated with pile embedments and resistances for the Main Span bridge. We recommend that a foundation load testing program be developed and implemented prior to final design to confirm the design parameters used in estimating pile embedments. In addition, the reduction in foundation length considering the higher RF that can be used if a load test is performed can be considered by the KMT Team to determine if performing additional static load tests is cost effective and beneficial to the project. The higher RF will reduce the foundation footage required for the project and will increase the probability that the required axial pile resistance can be achieved with the preferred 120-feet pile length.

## Table 1 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Tower Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location: Soil Layer | USCS | Top Elev. | Bottom Elev. | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | | | | | | | | | | | | | | | | | Drilled Shaft | Driven Steel Pipe Pile | Drilled Shaft | Driven Steel Pipe Pile |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| West Tower | MB-01 | 2.9 | -0.2 | Overburden | SM | 2.9 | -0.2 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.31 | 31 | 65 | - | - | 0.34 | 0.15 | - | - |
| | | | | Overburden | GP-GM | -0.2 | -14.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.25 | 3.56 | 33 | 20 | - | - | 0.37 | 0.17 | - | - |
| | | | | Overburden | SP | -14.1 | -24.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.82 | 32 | 40 | - | - | 0.65 | 0.29 | - | - |
| | | | | Overburden | SP | -24.1 | -29.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 125 | 0.35 | 2.88 | 37 | 85 | - | - | 1.1 | 0.5 | - | - |
| | | | | Overburden | SP | -29.1 | -44.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.96 | 33 | 50 | - | - | 0.92 | 0.41 | - | - |
| | | | | Overburden | GP | -44.1 | -47.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 4.43 | 36 | 40 | - | - | 0.91 | 0.41 | - | - |
| | | | | Overburden | GP | -47.1 | -54.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.3 | 4.27 | 35 | 30 | - | - | 0.84 | 0.39 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP-SM | -54.1 | -64.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.76 | 35 | 70 | - | - | 1.36 | 0.63 | 32 | 64 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP-SM | -64.1 | -77.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 2.65 | 1.19 | 60 | 144 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP-SM | -77.1 | -84.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.57 | 34 | 65 | - | - | 1.47 | 0.66 | 26 | 52 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH | -84.1 | -99.1 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.4 | 2.19 | - | - | 1,750 | 0.008 | 0.98 | 0.89 | 16 | 16 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP/SC-SM | -99.1 | -124.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 3.03 | 1.38 | 60 | 144 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH | -124.1 | -129.1 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 3.29 | - | - | 2,750 | 0.007 | 1.53 | 1.39 | 25 | 25 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM | -129.1 | -144.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.13 | 36 | 85 | - | - | 2.46 | 1.1 | 52 | 87 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM/SC | -144.1 | -184.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 3.81 | 1.75 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -184.1 | -211.1 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 5,100 | 0.004 | 2.34 | 2.55 | 45 | 45 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -211.1 | -222.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -222.1 | -252.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.35 | 1.8 | 35 | 75 | - | - | 2.99 | 1.34 | 43 | 72 |
| | | | | Basal Silt/Sand with Clay Interbeds | SP-SM | -252.1 | -297.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 4 | 2 | 110 | 144 |

## Table 1 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Tower Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location | | | | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | Soil Layer | USCS | Top Elev. | Bottom Elev. | | | | | | | | | | | | | Drilled Shaft | Driven Steel Pipe Pile | Drilled Shaft | Driven Steel Pipe Pile |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| East Tower | MB-02 | 7.4 | 2.7 | Overburden | SP | 7.4 | 2.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.74 | 32 | 55 | - | - | 0.38 | 0.17 | - | - |
| | | | | Overburden | SP | 2.7 | -4.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.66 | 31 | 30 | - | - | 0.53 | 0.24 | - | - |
| | | | | Overburden | SP-SM | -4.6 | -48.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.25 | 0.84 | 29 | 15 | - | - | 0.51 | 0.24 | - | - |
| | | | | Overburden | SP | -48.6 | -60.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.62 | 31 | 30 | - | - | 0.87 | 0.4 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP/SP-SM | -60.6 | -84.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.26 | 37 | 90 | - | - | 1.85 | 0.85 | 46 | 93 |
| | | | | Lower Sand with Clay/Silt Interbeds | ML | -84.6 | -89.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.57 | 27 | 35 | - | - | 1.01 | 0.45 | 14 | 28 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM | -89.6 | -119.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.63 | 38 | 105 | - | - | 2.41 | 1.07 | 55 | 110 |
| | | | | Clay with Sand/Silt Interbeds | ML | -119.6 | -132.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 0.87 | 31 | 75 | - | - | 1.76 | 0.8 | 33 | 67 |
| | | | | Clay with Sand/Silt Interbeds | CL/CL-ML | -132.6 | -144.6 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 3.23 | - | - | 2,700 | 0.007 | 1.5 | 1.36 | 24 | 24 |
| | | | | Clay with Sand/Silt Interbeds | SM | -144.6 | -159.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.62 | 1.62 | 27 | 27 |
| | | | | Clay with Sand/Silt Interbeds | CL | -159.6 | -164.6 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.07 | - | - | 3,400 | 0.004 | 1.85 | 1.72 | 31 | 31 |
| | | | | Clay with Sand/Silt Interbeds | SM | -164.6 | -174.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.95 | 1.82 | 38 | 38 |
| | | | | Clay with Sand/Silt Interbeds | CL | -174.6 | -217.6 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 4,950 | 0.004 | 2.32 | 2.49 | 44 | 44 |
| | | | | Basal Silt/Sand with Clay Interbeds | ML | -217.6 | -227.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 1.02 | 32 | 90 | - | - | 2.66 | 1.26 | 44 | 88 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -227.6 | -247.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.76 | 34 | 70 | - | - | 2.83 | 1.19 | 39 | 64 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -247.6 | -257.6 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 120 | 0.45 | 4.79 | - | - | 4,100 | 0.005 | 2.08 | 2.06 | 37 | 37 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -257.6 | -292.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |

## Table 1 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Tower Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location: Soil Layer | USCS | Top Elev. | Bottom Elev. | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | | | | | | | | | | | | | | | | | Drilled Shaft | Driven Steel Pipe Pile | Drilled Shaft | Driven Steel Pipe Pile |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| East Tower | MB-02A | -2.0 | -2.0 | Overburden | SC/SM | -2.0 | -29.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 110 | 0.25 | 0.53 | 26 | 1 | - | - | 0.08 | 0.04 | - | - |
| | | | | Overburden | SP | -29.0 | -50.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.25 | 1.36 | 30 | 20 | - | - | 0.5 | 0.22 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -50.0 | -74.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 2.5 | 35 | 70 | - | - | 1.17 | 0.52 | 32 | 64 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -74.0 | -84.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.82 | 32 | 40 | - | - | 1.02 | 0.45 | 16 | 33 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH/CL | -84.0 | -99.0 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 2.45 | - | - | 2,050 | 0.01 | 1.15 | 1.05 | 18 | 18 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM/SP | -99.0 | -119.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 2.5 | 1.1 | 60 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL/CH | -119.0 | -149.0 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 2.69 | - | - | 2,250 | 0.006 | 1.25 | 1.14 | 20 | 20 |
| | | | | Clay with Sand/Silt Interbeds | SM/SP-SM | -149.0 | -166.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.11 | 1.38 | 97 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -166.0 | -226.0 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 5,850 | 0.004 | 2.48 | 2.93 | 52 | 52 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -226.0 | -246.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.46 | 32 | 55 | - | - | 2.17 | 0.95 | 27 | 45 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -246.0 | -256.0 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 4.55 | - | - | 3,800 | 0.006 | 1.99 | 1.92 | 34 | 34 |
| | | | | Basal Silt/Sand with Clay Interbeds | SP-SM/SM | -256.0 | -296.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Basal Silt/Sand with Clay Interbeds | ML | -296.0 | -306.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.57 | 27 | 35 | - | - | 1.76 | 0.88 | 14 | 28 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -306.0 | -322.0 | Cohesive | Stiff Clay w/o Free Water (Reese) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 5 | - | - | 4,350 | 0.004 | 2.16 | 2.18 | 39 | 39 |

NOTES:

deg = degrees; Elev. = elevation; GWT = groundwater table; ksf = kips per square foot; pcf = pounds per cubic foot; pci = pounds per cubic inch; psf = pounds per square foot; USCS = Unified Soil Classification Designation

## Table 2 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Transition Pier Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location | | | | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | Soil Layer | USCS | Top Elev. | Bottom Elev. | | | | | | | | | | | | | Drilled Shaft | Driven PSCP | Drilled Shaft | Driven PSCP |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| West Transition Pier | WHLA-03 | 7.1 | 1.1 | Overburden | SM | 7.1 | 4.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.74 | 34 | 110 | - | - | 0.43 | 0.37 | - | - |
| | | | | Overburden | SM/SP-SM | 4.1 | 1.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.18 | 30 | 50 | - | - | 0.51 | 0.44 | - | - |
| | | | | Overburden | SP-SM | 1.1 | -4.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 110 | 0.25 | 0.6 | 27 | 5 | - | - | 0.23 | 0.2 | - | - |
| | | | | Overburden | CH | -4.9 | -9.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | - | 115 | 0.4 | 1.21 | - | - | 900 | 0.01 | 0.5 | 0.7 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -9.9 | -29.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.88 | 37 | 85 | - | - | 1.19 | 1.02 | 40 | 81 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -29.9 | -44.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 4.11 | 39 | 110 | - | - | 1.73 | 1.5 | 60 | 120 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP-SM | -44.9 | -84.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.79 | 35 | 75 | - | - | 1.61 | 1.38 | 33 | 66 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH | -84.9 | -89.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.4 | 1.67 | - | - | 1,300 | 0.006 | 0.74 | 0.77 | 12 | 12 |
| | | | | Lower Sand with Clay/Silt Interbeds | SC | -89.9 | -101.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.46 | 32 | 55 | - | - | 1.59 | 1.34 | 22 | 45 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH | -101.9 | -104.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.4 | 2.36 | - | - | 1,900 | 0.006 | 1.05 | 0.95 | 17 | 17 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM/SM | -104.9 | -129.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.17 | 2 | 103 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL/CH | -129.9 | -147.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 120 | 0.45 | 3.77 | - | - | 3,150 | 0.005 | 1.74 | 1.58 | 28 | 28 |
| | | | | Clay with Sand/Silt Interbeds | SM | -147.9 | -154.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -154.9 | -169.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.19 | - | - | 3,500 | 0.004 | 1.89 | 1.77 | 31 | 31 |
| | | | | Clay with Sand/Silt Interbeds | SP-SM/SM | -169.9 | -184.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -184.9 | -216.9 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 5,050 | 0.004 | 2.33 | 2.53 | 45 | 45 |
| | | | | Basal Silt/Sand with Clay Interbeds | ML | -216.9 | -226.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.53 | 27 | 30 | - | - | 1.57 | 1.29 | 12 | 24 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -226.9 | -247.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.25 | 31 | 40 | - | - | 2.12 | 1.82 | 19 | 32 |
| | | | | Basal Silt/Sand with Clay Interbeds | SP-SM/SM | -247.9 | -292.9 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |

## Table 2 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Transition Pier Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location | | | | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | Soil Layer | USCS | Top Elev. | Bottom Elev. | | | | | | | | | | | | | Drilled Shaft | Driven PSCP | Drilled Shaft | Driven PSCP |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| East Transition Pier | HLA-12 | 16.3 | 15.1 | Overburden | SP | 16.3 | 15.1 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.77 | 32 | 55 | - | - | 0.2 | 0.17 | - | - |
| | | | | Overburden | SP | 15.1 | -0.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 2.12 | 33 | 60 | - | - | 0.51 | 0.43 | - | - |
| | | | | Overburden | CH | -0.7 | -5.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | - | 115 | 0.4 | 1.5 | - | - | 1,150 | 0.009 | 0.63 | 0.76 | - | - |
| | | | | Overburden | SP | -5.7 | -36.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.75 | 32 | 40 | - | - | 0.75 | 0.64 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -36.7 | -46.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 2 | 33 | 50 | - | - | 1.09 | 0.92 | 21 | 42 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -46.7 | -70.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 3.62 | 38 | 100 | - | - | 1.86 | 1.59 | 52 | 104 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP-SM | -70.7 | -87.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 3.11 | 2 | 60 | 144 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH | -87.7 | -95.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 120 | 0.4 | 2.36 | - | - | 1,900 | 0.005 | 1.07 | 0.97 | 17 | 17 |
| | | | | Lower Sand with Clay/Silt Interbeds | ML | -95.7 | -100.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.59 | 28 | 40 | - | - | 1.18 | 0.97 | 15 | 31 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM | -100.7 | -130.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 3.63 | 2 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -130.7 | -147.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 4,300 | 0.004 | 2.14 | 2.15 | 38 | 38 |
| | | | | Clay with Sand/Silt Interbeds | CL | -147.7 | -157.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 4,000 | 0.004 | 2.05 | 2 | 36 | 36 |
| | | | | Clay with Sand/Silt Interbeds | SP | -157.7 | -167.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 4.11 | 40 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -167.7 | -197.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 5,250 | 0.004 | 2.38 | 2.63 | 47 | 47 |
| | | | | Clay with Sand/Silt Interbeds | SM | -197.7 | -207.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -207.7 | -217.7 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 120 | 0.45 | 4.13 | - | - | 3,450 | 0.005 | 1.86 | 1.74 | 31 | 31 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -217.7 | -233.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.76 | 34 | 70 | - | - | 2.86 | 2 | 39 | 64 |

## Table 2 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Transition Pier Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location: Soil Layer | USCS | Top Elev. | Bottom Elev. | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | | | | | | | | | | | | | | | | | Drilled Shaft | Driven PSCP | Drilled Shaft | Driven PSCP |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| East Transition Pier | MB-02 | 7.4 | 2.7 | Overburden | SP | 7.4 | 2.7 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.74 | 32 | 55 | - | - | 0.38 | 0.33 | - | - |
| | | | | Overburden | SP | 2.7 | -4.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.66 | 31 | 30 | - | - | 0.53 | 0.45 | - | - |
| | | | | Overburden | SP-SM | -4.6 | -48.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.25 | 0.84 | 29 | 15 | - | - | 0.51 | 0.43 | - | - |
| | | | | Overburden | SP | -48.6 | -60.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 120 | 0.3 | 1.62 | 31 | 30 | - | - | 0.87 | 0.77 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP/SP-SM | -60.6 | -84.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.26 | 37 | 90 | - | - | 1.85 | 1.56 | 46 | 93 |
| | | | | Lower Sand with Clay/Silt Interbeds | ML | -84.6 | -89.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.57 | 27 | 35 | - | - | 1.01 | 0.84 | 14 | 28 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM | -89.6 | -119.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 2.63 | 38 | 105 | - | - | 2.41 | 2 | 55 | 110 |
| | | | | Clay with Sand/Silt Interbeds | ML | -119.6 | -132.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 0.87 | 31 | 75 | - | - | 1.76 | 1.52 | 33 | 67 |
| | | | | Clay with Sand/Silt Interbeds | CL/CL-ML | -132.6 | -144.6 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 3.23 | - | - | 2,700 | 0.007 | 1.5 | 1.36 | 24 | 24 |
| | | | | Clay with Sand/Silt Interbeds | SM | -144.6 | -159.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.62 | 2 | 27 | 27 |
| | | | | Clay with Sand/Silt Interbeds | CL | -159.6 | -164.6 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.07 | - | - | 3,400 | 0.004 | 1.85 | 1.72 | 31 | 31 |
| | | | | Clay with Sand/Silt Interbeds | SM | -164.6 | -174.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.95 | 2 | 38 | 38 |
| | | | | Clay with Sand/Silt Interbeds | CL | -174.6 | -217.6 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 4,950 | 0.004 | 2.32 | 2.49 | 44 | 44 |
| | | | | Basal Silt/Sand with Clay Interbeds | ML | -217.6 | -227.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 125 | 0.35 | 1.02 | 32 | 90 | - | - | 2.66 | 2 | 44 | 88 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -227.6 | -247.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.76 | 34 | 70 | - | - | 2.83 | 2 | 39 | 64 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -247.6 | -257.6 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 120 | 0.45 | 4.79 | - | - | 4,100 | 0.005 | 2.08 | 2.06 | 37 | 37 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -257.6 | -292.6 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |

## Table 2 - Recommended Soil Properties and Parameters for FB-MultiPier Analyses, Main Span Bridge Transition Pier Foundations

| Subsurface Soil Conditions | | | | | | | | Soil Design Parameters | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foundation Location | Nearby Exploration | Ground Surface Elev. at Boring Location | GWT Elev. | Generalized Stratigraphy Beneath Ground Surface Elev. at Boring Location: Soil Layer | USCS | Top Elev. | Bottom Elev. | Soil Type | Lateral Model | Axial Model | Torsional Model | Tip Model | Total Unit Weight, γ | Poisson's Ratio, ν | Shear Modulus, G | Internal Angle of Friction, φ | Initial Modulus of Subgrade Reaction, k | Undrained Shear Strength, $S_u$ | Strain at 50% Maximum Stress, $\varepsilon_{50}$ | Nominal (Ultimate) Unit Skin Friction / Torsional Shear Stress, $T_{ult}$ | | Nominal (Ultimate) Unit Tip Resistance, $Q_{ult}$ | |
| | | | | | | | | | | | | | | | | | | | | Drilled Shaft | Driven PSCP | Drilled Shaft | Driven PSCP |
| | | (feet) | (feet) | | | (feet) | (feet) | | | | | | (pcf) | ( - ) | (ksi) | (deg) | (pci) | (psf) | ( - ) | (ksf) | (ksf) | (ksf) | (ksf) |
| East Transition Pier | MB-02A | -2.0 | -2.0 | Overburden | SC/SM | -2.0 | -29.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 110 | 0.25 | 0.53 | 26 | 1 | - | - | 0.08 | 0.07 | - | - |
| | | | | Overburden | SP | -29.0 | -50.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | - | 115 | 0.25 | 1.36 | 30 | 20 | - | - | 0.5 | 0.42 | - | - |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -50.0 | -74.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 2.5 | 35 | 70 | - | - | 1.17 | 0.99 | 32 | 64 |
| | | | | Upper Sand with Clay/Silt Interbeds | SP | -74.0 | -84.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.82 | 32 | 40 | - | - | 1.02 | 0.85 | 16 | 33 |
| | | | | Lower Sand with Clay/Silt Interbeds | CH/CL | -84.0 | -99.0 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 2.45 | - | - | 2,050 | 0.01 | 1.15 | 1.05 | 18 | 18 |
| | | | | Lower Sand with Clay/Silt Interbeds | SP-SM/SP | -99.0 | -119.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 40 | 125 | - | - | 2.5 | 2 | 60 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL/CH | -119.0 | -149.0 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 2.69 | - | - | 2,250 | 0.006 | 1.25 | 1.14 | 20 | 20 |
| | | | | Clay with Sand/Silt Interbeds | SM/SP-SM | -149.0 | -166.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 3.11 | 2 | 97 | 144 |
| | | | | Clay with Sand/Silt Interbeds | CL | -166.0 | -226.0 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 4.79 | - | - | 5,850 | 0.004 | 2.48 | 2.93 | 52 | 52 |
| | | | | Basal Silt/Sand with Clay Interbeds | SM | -226.0 | -246.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 120 | 0.3 | 1.46 | 32 | 55 | - | - | 2.17 | 1.9 | 27 | 45 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -246.0 | -256.0 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 115 | 0.45 | 4.55 | - | - | 3,800 | 0.006 | 1.99 | 1.92 | 34 | 34 |
| | | | | Basal Silt/Sand with Clay Interbeds | SP-SM/SM | -256.0 | -296.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 130 | 0.35 | 2.83 | 39 | 125 | - | - | 4 | 2 | 110 | 144 |
| | | | | Basal Silt/Sand with Clay Interbeds | ML | -296.0 | -306.0 | Cohesionless | Sand (Reese) | Cohesionless Custom T-z Curve | Hyperbolic | Cohesionless Custom Q-z Curve | 115 | 0.3 | 0.57 | 27 | 35 | - | - | 1.76 | 1.59 | 14 | 28 |
| | | | | Basal Silt/Sand with Clay Interbeds | CL | -306.0 | -322.0 | Cohesive | Clay (Stiff, without free water) | Cohesive Custom T-z Curve | Hyperbolic | Cohesive Custom Q-z Curve | 125 | 0.45 | 5 | - | - | 4,350 | 0.004 | 2.16 | 2.18 | 39 | 39 |

NOTES:

deg = degrees; Elev. = elevation; GWT = groundwater table; ksf = kips per square foot; pcf = pounds per cubic foot; pci = pounds per cubic inch; PSCP = prestressed concrete pile; psf = pounds per square foot; USCS = Unified Soil Classification System Designation

## Table 3 - Recommended Custom T-z and Q-z Curves for FB-MultiPier Analyses, Main Span Bridge Foundations

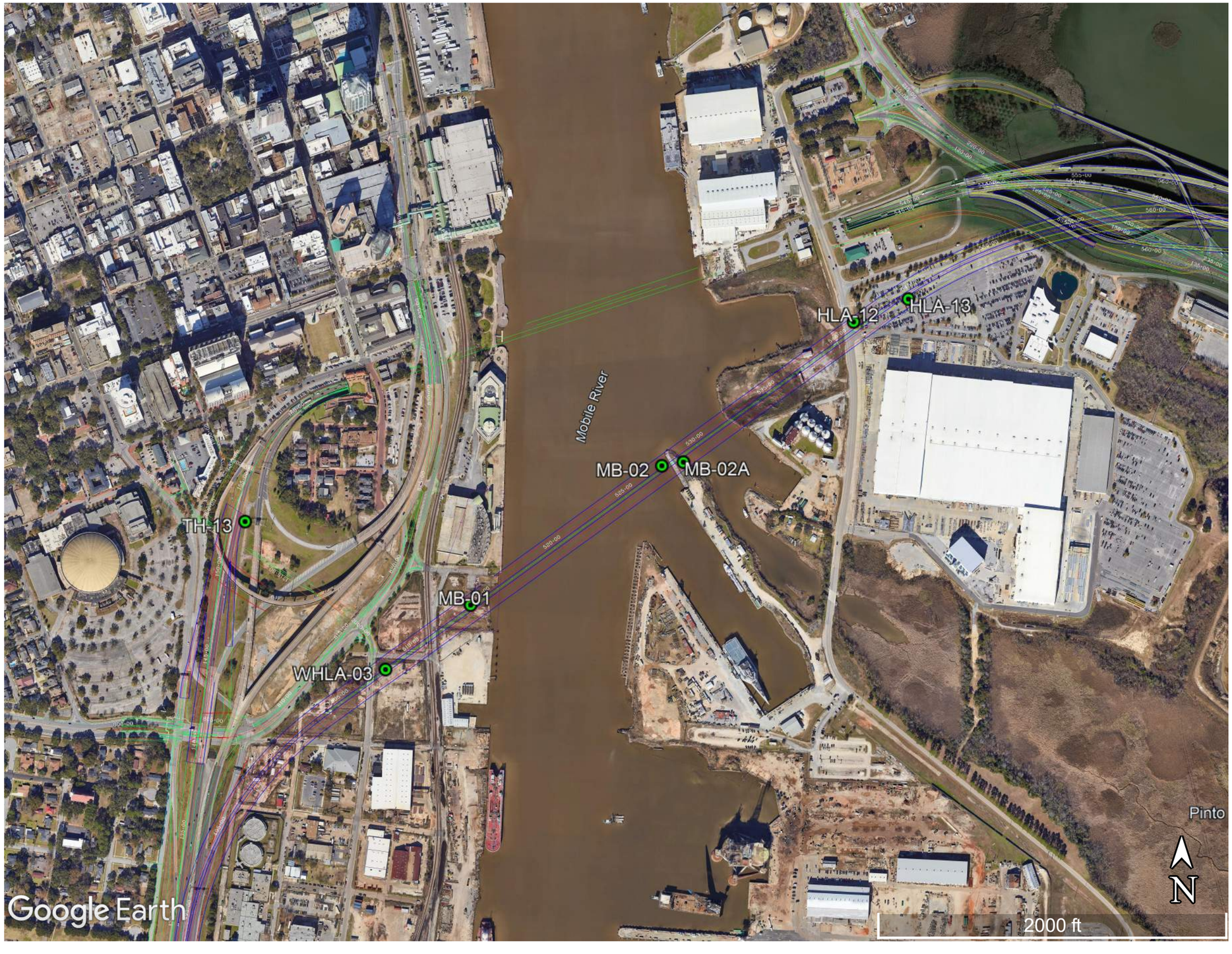
| Drilled Shafts [1] | | | | | | | | Driven Piles [2] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cohesionless Soil | | | | Cohesive Soil | | | | Cohesionless Soil | | | | Cohesive Soil | | | |
| Custom T-z Curve [3] | | Custom Q-z Curve [3] | | Custom T-z Curve [3] | | Custom Q-z Curve [3] | | Custom T-z Curve [3] | | Custom Q-z Curve [3] | | Custom T-z Curve [3] | | Custom Q-z Curve [3] | |
| z / D | $T / T_{ult}$ | z / D | $Q / Q_{ult}$ | z / D | $T / T_{ult}$ | z / D | $Q / Q_{ult}$ | z | $T / T_{ult}$ | z / D | $Q / Q_{ult}$ | z / D | $T / T_{ult}$ | z / D | $Q / Q_{ult}$ |
| ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | (inch) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) | ( - ) |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.00125 | 0.4 | 0.01 | 0.31 | 0.0008 | 0.42 | 0.0042 | 0.3 | 0.1 | 1 | 0.002 | 0.25 | 0.0016 | 0.3 | 0.002 | 0.25 |
| 0.0022 | 0.6 | 0.02 | 0.56 | 0.0015 | 0.65 | 0.0092 | 0.57 | 12 | 1 | 0.013 | 0.5 | 0.0031 | 0.5 | 0.013 | 0.5 |
| 0.0035 | 0.8 | 0.025 | 0.67 | 0.00225 | 0.79 | 0.0145 | 0.72 | - | - | 0.042 | 0.75 | 0.0057 | 0.75 | 0.042 | 0.75 |
| 0.0042 | 0.86 | 0.032 | 0.784 | 0.0029 | 0.855 | 0.02 | 0.81 | - | - | 0.073 | 0.9 | 0.008 | 0.9 | 0.073 | 0.9 |
| 0.00585 | 0.93 | 0.04 | 0.882 | 0.0038 | 0.91 | 0.025 | 0.87 | - | - | 0.1 | 1 | 0.01 | 1 | 0.1 | 1 |
| 0.0084 | 0.974 | 0.05 | 1 | 0.0055 | 0.96 | 0.0315 | 0.92 | - | - | - | - | 0.02 | 1 | - | - |
| 0.012 | 0.976 | 0.1 | 1 | 0.0083 | 0.968 | 0.042 | 0.957 | - | - | - | - | 0.1 | 1 | - | - |
| 0.05 | 1 | - | - | 0.05 | 1 | 0.05 | 1 | - | - | - | - | - | - | - | - |
| 0.1 | 1 | - | - | 0.1 | 1 | 0.1 | 1 | - | - | - | - | - | - | - | - |

NOTES:

1 Drilled shaft custom T-z and Q-z curve recommendations are based on AASHTO LRFD BDS (2020) Figures 10.8.2.2.2-1 through 10.8.2.2.2-4.

2 Driven pile custom T-z and Q-z curve recommendations are based on API Recommended Practice 2A-LRFD (1993) Sections G.7.2 and G.7.3 axial load transfer curve recommendations.

3 D = foundation diameter / width
T = mobilized unit skin friction
$T_{ult}$ = nominal (ultimate) unit skin friction (See Tables 1 and 2)
Q = mobilized unit tip resistance
$Q_{ult}$ = nominal (ultimate) unit tip resistance (See Tables 1 and 2)
z = foundation displacement




Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**SITE PLAN**

September 2023 110704-016

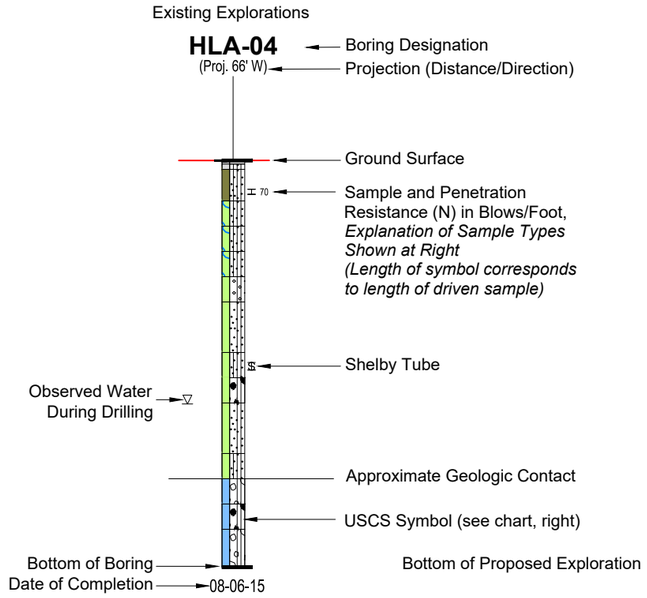
Kiewit | Massman | Traylor
a joint venture

**FIG. 1**

## SUBSURFACE UNITS

- An upper granular layer consisting of medium dense, silty sand with occasional soft clay layers (some of this material is embankment fill).
- As the alignment extends to the east towards Mobile Bay, this granular layer transitions to very soft, low and high plasticity Clay.
- A granular layer consisting of loose to dense sand and silty sand.
- Interbedded soft to medium stiff, clay and silt and medium dense to very dense, silty sand.
- Stiff to hard, low to high plasticity clay with interbedded sand and silt.
- Medium dense to very dense sandy silt and silt.

## EXPLORATION LEGEND




## RELATIVE DENSITY / CONSISTENCY

| COARSE-GRAINED SOILS | | FINE-GRAINED/COHESIVE SOILS | |
|---|---|---|---|
| N, SPT, BLOWS/FT. | RELATIVE DENSITY | N, SPT, BLOWS/FT. | RELATIVE CONSISTENCY |
| 0 - 4 | Very loose | <2 | Very soft |
| 4 - 10 | Loose | 2 - 4 | Soft |
| 10 - 30 | Medium dense | 4 - 8 | Medium stiff |
| 30 - 50 | Dense | 8 - 15 | Stiff |
| Over 50 | Very dense | 15 - 30 | Very stiff |
| | | Over 30 | Hard |

## UNIFIED SOIL CLASSIFICATION SYSTEM

(From USACE Tech Memo 3-357)

| | |
|---|---|
| GP | SM |
| GW | SC |
| GP-GM | CL |
| GW-GM | ML |
| GM | OL |
| GC | CH |
| SW | MH |
| SP | OH |
| SW-SM | PT |
| SP-SM | |

## SAMPLE TYPES

- 2" O.D. Split Spoon Sampler Driven with 140 lb. Hammer
- Shelby Tube

1. Dual Symbols (symbols separated by a hyphen) are used for soils with between 5% and 12% fines (such as SP-SM for slightly silty fine SAND) or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.
2. Borderline symbols (symbols separated by a slash, i.e., CL/ML, silty CLAY/clayey SILT; GW/SW, sandy GRAVEL/gravelly SAND) indicate that the soil may fall into one of two possible basic groups, based on ASTM D 2488-93 Visual Manual Classification System. The graphic symbol of only the first group symbol is shown on the profile.

## NOTES

1. Subsurface contacts should be considered approximate. Variations between the profile and actual conditions are likely to exist.
2. Groundwater levels may fluctuate seasonally and may have changed since the last shown reading. Groundwater fluctuations should be expected.
3. N > 100 is shown for samples where refusal was encountered or samples where N-values exceed 100 blows/foot.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

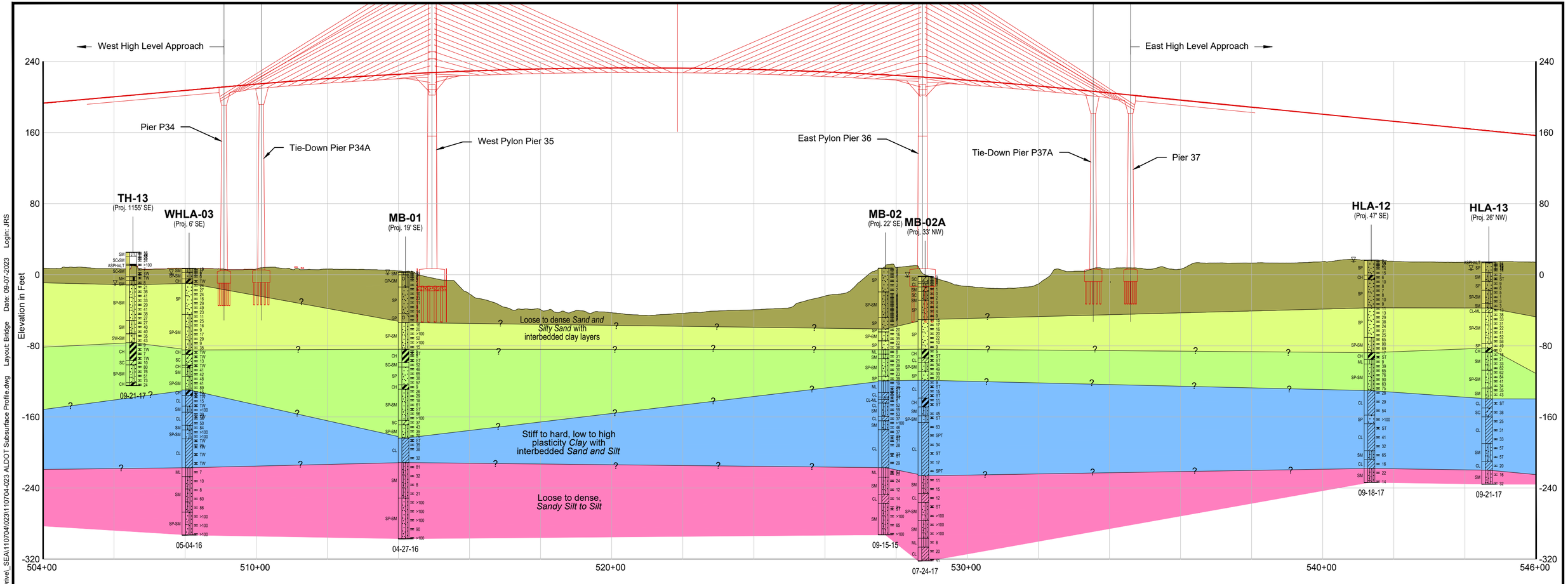
**GENERALIZED SUBSURFACE PROFILE LEGEND AND NOTES**

September 2023 110704-023

**Kiewit | Massman | Traylor**
a joint venture

**FIG. 2**
Sheet 1 of 2

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive_SEA\110704\023\110704-023 Legend.dwg Date: 09-01-2023 Login: JRS




NOTE

See Figure 1, Sheet 1 of 2 for profile legend and notes.

0 80 160
Vertical Scale in Feet

0 200 400
Horizontal Scale in Feet

Vertical Exaggeration = 2.5X

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**GENERALIZED SUBSURFACE PROFILE**

September 2023 110704-023

**Kiewit | Massman | Traylor**
a joint venture

**FIG. 2**
Sheet 2 of 2

Filename: C:\Users\jrs\CAD Group Dropbox\JDrive_SEA\110704\023\110704-023 ALDOT Subsurface Profile.dwg Layout: Bridge Date: 09-07-2023 Login: JRS

APPENDIX A

# Exploration Results Provided by ALDOT

**Contents:**

- Thompson Boring Logs
  - HLA-12
  - HLA-13
  - MB-01
  - MB-02
  - MB-02A
  - TH-13
  - WHLA-03

# KEY TO SYMBOLS

Thompson Engineering, Inc

**PROJECT NAME** I-10 Mobile River Bridge and Bayway **CLIENT** ALDOT

**ALDOT PROJECT NO:** DPI-0030(005) **TE PROJECT NO:** 15-1101-0228 **PROJECT LOCATION** Baldwin, Baldwin

## LITHOLOGIC SYMBOLS


ASPHALT: Asphalt


AUGER


CH: USCS High Plasticity Clay


CL: USCS Low Plasticity Clay


CL-ML: USCS Low Plasticity Silty Clay


CONCRETE: Concrete


GM: USCS Silty Gravel


GP: USCS Poorly-graded Gravel


GP-GM: USCS Poorly-graded Gravel with Silt


GW: USCS Well-graded Gravel


MH: USCS Elastic Silt


ML: USCS Silt


SC: USCS Clayey Sand


SC-SM: USCS Clayey Sand


SM: USCS Silty Sand


SP: USCS Poorly-graded Sand

## SAMPLER TYPE

SS - Split Spoon

T - Shelby Tube

DCP - Dynamic Cone Penetrometer

AC - Auger Cuttings

GB - Grab Bag

NQ - Rock Core

## GROUNDWATER LEGEND

▽ Delayed Groundwater Level

▼ Groundwater Level at TOB (Time of Boring). Water levels at the time of boring may have not been obtained due to mud rotary drilling techniques.

N.E. - Not Encountered

N.O. - Not Obtained

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| LL | - LIQUID LIMIT (%) | %#200 | - PERCENT PASSING NO. 200 SIEVE |
| PL | - PLASTIC LIMIT (%) | PP | - POCKET PENETROMETER (TSF) |
| PI | - PLASTIC INDEX (%) | TV | - TORVANE |
| NMC | - MOISTURE CONTENT (%) | UC | - UNCONFINED COMPRESSION |
| DD | - DRY DENSITY (PCF) | | |
| NP | - NON PLASTIC | | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 15.0 | Approximately 17 inches of topsoil.<br>Loose, dry, tan, medium grained, POORLY GRADED SAND (SP) | | 0.0 | SS-1 | 3 | 4 | 5 | 9 |
| | | | | 1.5 | SS-2 | 8 | 6 | 8 | 14 |
| | | Medium dense, dry, white and tan, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=3.1 %#200=3.9 | | 3.0 | SS-3 | 3 | 6 | 4 | 10 |
| 5.0 | | Loose, moist, tan<br>Medium dense, wet | | 4.5 | SS-4 | 8 | 10 | 12 | 22 |
| | 10.0 | Very loose, fine to medium grained | | 6.0 | SS-5 | 1 | 1 | 3 | 4 |
| | | | | 8.5 | SS-6 | 4 | 7 | 7 | 14 |
| 10.0 | 5.0 | Medium dense, wet, tan, medium to fine and coarse grained, POORLY GRADED SAND with GRAVEL (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=11.3 %#200=2.5 | | | | | | | |
| | | Medium dense, tan and pale brown | | 13.5 | SS-7 | 5 | 6 | 9 | 15 |
| 15.0 | 0.0 | | | | | | | | |
| | | Firm, wet, gray, with trace wood, GRAVELLY FAT CLAY (CH) | | 18.5 | SS-8 | 9 | 3 | 3 | 6 |
| 20.0 | -5.0 | | | | | | | | |
| | | Loose, wet, gray, fine to medium grained, POORLY GRADED SAND (SP) | | 23.5 | SS-9 | 4 | 5 | 5 | 10 |
| 25.0 | -10.0 | | | | | | | | |
| | | Loose, medium to fine grained | | 28.5 | SS-10 | 3 | 4 | 4 | 8 |
| 30.0 | | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

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| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot); PL MC LL; ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | | | | | | | | | |
| | -15.0 | | | | | | | | | |
| | | Loose, wet, brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=22.3 %#200=3.8 | | 33.5 | SS-11 | 3 | 3 | 4 | 7 | ×▲● ○ |
| 35.0 | -20.0 | | | | | | | | | |
| | | Loose, pale brown, medium to fine grained | | 38.5 | SS-12 | 4 | 4 | 4 | 8 | ● |
| 40.0 | -25.0 | | | | | | | | | |
| | | Loose, dark brown | | 43.5 | SS-13 | 3 | 4 | 6 | 10 | ● |
| 45.0 | -30.0 | | | | | | | | | |
| | | Loose, brown | | 48.5 | SS-14 | 3 | 4 | 5 | 9 | ● |
| 50.0 | -35.0 | | | | | | | | | |
| | | Medium dense, wet, pale brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=23.6 %#200=4.5 | | 53.5 | SS-15 | 4 | 5 | 6 | 11 | ×▲● ○ |
| 55.0 | -40.0 | | | | | | | | | |
| | | Medium dense, white and pale brown | | 58.5 | SS-16 | 5 | 5 | 8 | 13 | ● |
| 60.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
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| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot); PL ⨯ MC ○ LL; ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | | | | | | | | | |
| | -45.0 | | | | | | | | | |
| | | Medium dense, pale brown | | 63.5 | SS-17 | 10 | 14 | 15 | 29 | ● |
| 65.0 | | | | | | | | | | |
| | -50.0 | | | | | | | | | |
| | | Dense | | 68.5 | SS-18 | 16 | 18 | 20 | 38 | ● |
| 70.0 | | | | | | | | | | |
| | -55.0 | | | | | | | | | |
| | | Medium dense, brown and pale brown | | 73.5 | SS-19 | 11 | 11 | 13 | 24 | ● |
| 75.0 | | | | | | | | | | |
| | -60.0 | | | | | | | | | |
| | | Dense, wet, white and pale brown, medium to fine grained, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=15.8 %#200=4.9 | | 78.5 | SS-20 | 14 | 17 | 14 | 31 | ⨯▲ ○ ● |
| 80.0 | | | | | | | | | | |
| | -65.0 | | | | | | | | | |
| | | Medium dense | | 83.5 | SS-21 | 9 | 13 | 12 | 25 | ● |
| 85.0 | | | | | | | | | | |
| | -70.0 | | | | | | | | | |
| | | Very dense, wet, white and pale brown, fine to medium grained, with trace gravel, POORLY | | 88.5 | SS-22 | 19 | 28 | 37 | 65 | ⨯▲ ○ ● |
| 90.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 90.0 | -75.0 | GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=18.4 %#200=5.4 | | | | | | | |
| | | Very dense, pale brown, fine to medium grained | | 93.5 | SS-23 | 15 | 40 | 50 | 90 |
| 95.0 | -80.0 | | | | | | | | |
| | | Very dense | | 98.5 | SS-24 | 21 | 32 | 37 | 69 |
| 100.0 | -85.0 | | | | | | | | |
| | | Top of spoon: Medium dense, brown, with trace wood | | 103.5 | SS-25 | 17 | 8 | 9 | 17 |
| 105.0 | | Bottom of spoon: Very stiff, wet, very dark gray, FAT CLAY (CH) | | | | | | | |
| | -90.0 | | | | | | | | |
| | | Undisturbed sample obtained from 108.0 to 110.0 feet. Approximately 24 inches of recovery. Stiff, wet, gray, with trace sand, FAT CLAY (CH, A-7-6(79)), LL=97 PL=26 PI=71 NMC=36.6 %#200=96.2 | | 108.0 | T-1 | | | | |
| 110.0 | -95.0 | | | | | | | | |
| | | Stiff, wet, gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=25.6 %#200=50.1 | | 113.5 | SS-26 | 5 | 4 | 5 | 9 |
| 115.0 | -100.0 | | | | | | | | |
| | | Dense, wet, brown and gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) | | 118.5 | SS-27 | 15 | 17 | 22 | 39 |
| 120.0 | | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

SAMPLER TYPE

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

DRILLING METHOD

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 120.0 | -105.0 | | | | | | | | |
| | | Very dense, pale brown, medium to fine grained | | 123.5 | SS-28 | 17 | 27 | 38 | 65 |
| 125.0 | -110.0 | | | | | | | | |
| | | Very dense | | 128.5 | SS-29 | 21 | 36 | 40 | 76 |
| 130.0 | -115.0 | | | | | | | | |
| | | Very dense | | 133.5 | SS-30 | 25 | 40 | 50 | 90 |
| 135.0 | -120.0 | | | | | | | | |
| | | Very dense, wet, pale brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.9 %#200=6.3 | | 138.5 | SS-31 | 20 | 32 | 31 | 63 |
| 140.0 | -125.0 | | | | | | | | |
| | | Very dense | | 143.5 | SS-32 | 29 | 38 | 37 | 75 |
| 145.0 | -130.0 | | | | | | | | |
| | | Very stiff, wet, bluish gray, with few sand, LEAN CLAY (CL, A-6(22)), LL=39 PL=15 PI=24 NMC=21.4 | | 148.5 | SS-33 | 9 | 11 | 17 | 28 |
| 150.0 | | | | | | | | | |

● SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

SAMPLER TYPE

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

DRILLING METHOD

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 150.0 | -135.0 | %#200=92.6 | | | | | | | |
| 155.0 | -140.0 | | | | | | | | |
| 160.0 | -145.0 | Very stiff, wet, bluish gray, SANDY LEAN CLAY (CL, A-7-6(18)), LL=46 PL=15 PI=31 NMC=22.4 %#200=66.1 | | 158.5 | SS-34 | 9 | 13 | 16 | 29 |
| 165.0 | -150.0 | | | | | | | | |
| 170.0 | -155.0 | Hard | | 168.5 | SS-35 | 13 | 22 | 32 | 54 |
| 175.0 | -160.0 | | | | | | | | |
| 180.0 | | Very dense, wet, light gray, fine to medium grained, POORLY GRADED SAND (SP) | | 178.5 | SS-36 | 44 | 50/5 | X | 50+ |

● SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

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| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 180.0 | -165.0 | | | | | | | | |
| 185.0 | -170.0 | | | | | | | | |
| | | Undisturbed sample obtained from 188.0 to 190.0 feet. Approximately 24 inches of recovery. Hard, wet, gray, with few sand, LEAN CLAY (CL, A-6(11)), LL=29 PL=15 PI=14 NMC=20.4 %#200=89.0 | | 188.0 | T-2 | | | | |
| 190.0 | -175.0 | | | | | | | | |
| 195.0 | -180.0 | | | | | | | | |
| | | Hard, bluish gray, with few sand | | 198.5 | SS-37 | 15 | 19 | 22 | 41 |
| 200.0 | -185.0 | | | | | | | | |
| 205.0 | -190.0 | | | | | | | | |
| | | Hard, wet, bluish gray, SANDY LEAN CLAY (CL, A-6(5)), LL=32 PL=16 PI=16 NMC=19.8 %#200=51.3 | | 208.5 | SS-38 | 15 | 14 | 18 | 32 |
| 210.0 | | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

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|---|---|---|---|
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| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 210.0 | -195.0 | | | | | | | | |
| 215.0 | -200.0 | | | | | | | | |
| 220.0 | -205.0 | Very dense, wet, bluish gray, fine grained, SILTY SAND (SM) | | 218.5 | SS-39 | 42 | 39 | 26 | 65 |
| 225.0 | -210.0 | | | | | | | | |
| 230.0 | -215.0 | Firm, wet, bluish gray, LEAN CLAY with SAND (CL, A-6(10)), LL=34 PL=19 PI=15 NMC=25.7 %#200=74.0 | | 228.5 | SS-40 | 11 | 9 | 7 | 16 |
| 235.0 | -220.0 | | | | | | | | |
| 240.0 | | Medium dense, wet, bluish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP | | 238.5 | SS-41 | 12 | 11 | 11 | 22 |

● SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-12 | **Boring Location:** | 541+43.3 | **Offset:** | LT 45.4 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 16.3 ft. | **Northing:** | 251274.32 | **Easting:** | 1801615.13 | **Date Started:** | 9/13/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/18/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 1.2 ft. | **Delayed:** | 15.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | | | | | | | | | |
| | -225.0 | NMC=22.2 %#200=31.0 | | | | | | | | |
| 245.0 | | | | | | | | | | |
| | -230.0 | | | | | | | | | |
| | | | | 248.5 | | | | | | |
| 250.0 | | Medium dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.3 %#200=23.3 | | | SS-42 | 10 | 6 | 8 | 14 | |
| | | Boring Terminated at 250.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Approximately 2.5 inches of asphalt and 10 inches of crushed aggregate. | | 1.0 | | | | | |
| | 10.0 | Medium dense, dry, white and light tan, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=12.5 %#200=2.8 | | | SS-1 | 6 | 9 | 15 | 24 |
| | | Medium dense, moist, white and tan | | 2.5 | | | | | |
| 5.0 | | Medium dense, moist, white and tan, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=15.9 %#200=3.0 | | 4.0 | SS-2 | 8 | 11 | 10 | 21 |
| | | | | | SS-3 | 5 | 9 | 10 | 19 |
| | | Medium dense, tan and pale brown | | 5.5 | | | | | |
| | | Medium dense | | | SS-4 | 6 | 7 | 9 | 16 |
| | | | | 7.0 | | | | | |
| | | | | | SS-5 | 5 | 6 | 8 | 14 |
| | 5.0 | Medium dense, wet, pale brown | | 8.5 | | | | | |
| 10.0 | | | | | SS-6 | 5 | 7 | 7 | 14 |
| | | | | | | | | | |
| | 0.0 | Very loose, wet, pale brown and gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=42.5 %#200=43.9 | | 13.5 | SS-7 | 2 | 1 | 1 | 2 |
| 15.0 | | | | | | | | | |
| | | | | 18.0 | | | | | |
| | -5.0 | Undisturbed sample obtained from 18.0 to 20.0 feet. Approximately 24 inches of recovery. Medium dense, wet, dark brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=33.9 %#200=25.3 | | | T-1 | | | | |
| 20.0 | | | | | | | | | |
| | | | | | | | | | |
| | -10.0 | Loose, wet, brown, fine grained, POORLY GRADED SAND (SP) | | 23.5 | SS-8 | 3 | 4 | 5 | 9 |
| 25.0 | | | | | | | | | |
| | | | | | | | | | |
| | -15.0 | Loose, fine to medium grained | | 28.5 | SS-9 | 3 | 3 | 5 | 8 |
| 30.0 | | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | | | | | | | | | |
| 35.0 | -20.0 | Loose, wet, dark brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.7 %#200=5.2 | | 33.5 | SS-10 | 2 | 2 | 3 | 5 | |
| 40.0 | -25.0 | Very loose, wet, dark brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.1 %#200=5.5 | | 38.5 | SS-11 | 1 | 0 | 1 | 1 | |
| 45.0 | -30.0 | Very loose, brown | | 43.5 | SS-12 | 1 | 1 | 2 | 3 | |
| 50.0 | -35.0 | Very loose, wet, dark brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=17.8 %#200=34.3 | | 48.5 | SS-13 | 2 | 1 | 2 | 3 | |
| 55.0 | -40.0 | Stiff, wet, reddish brown and gray, SANDY SILTY CLAY (CL-ML, A-4(1)), LL=24 PL=17 PI=7 NMC=22.2 %#200=53.2 | | 53.5 | SS-14 | 4 | 6 | 7 | 13 | |
| 60.0 | -45.0 | Dense, wet, bluish gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 58.5 | SS-15 | 1 | 16 | 22 | 38 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | | | | | | | | | |
| 65.0 | -50.0 | Dense, wet, pale brown and brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=26.0 %#200=5.8 | | 63.5 | SS-16 | 11 | 15 | 18 | 33 | |
| 70.0 | -55.0 | Dense, pale brown, with trace gravel | | 68.5 | SS-17 | 12 | 14 | 17 | 31 | |
| 75.0 | -60.0 | Medium dense, wet, white and pale gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=19.7 %#200=9.1 | | 73.5 | SS-18 | 8 | 9 | 13 | 22 | |
| 80.0 | -65.0 | Dense, pale brown | | 78.5 | SS-19 | 8 | 18 | 23 | 41 | |
| 85.0 | -70.0 | Very dense | | 83.5 | SS-20 | 18 | 24 | 28 | 52 | |
| 90.0 | -75.0 | Very dense | | 88.5 | SS-21 | 17 | 25 | 33 | 58 | |

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90.0 | | | | | | | | | | |
| 95.0 | -80.0 | Dense, wet, pale brown and light tan, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=20.8 %#200=3.9 | | 93.5 | SS-22 | 17 | 23 | 26 | 49 | |
| 100.0 | -85.0 | Very soft, wet, dark gray, with trace wood and few sand, FAT CLAY (CH, A-7-5(39)), LL=68 PL=30 PI=38 NMC=47.2 %#200=89.4 | | 98.5 | SS-23 | 0 | 0 | 0 | 0 | |
| 105.0 | -90.0 | Very stiff, wet, gray, fine to medium grained, SILTY SAND (SM) | | 103.5 | SS-24 | 7 | 9 | 9 | 18 | |
| 110.0 | -95.0 | Medium dense, wet, light gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=24.7 %#200=18.8 | | 108.5 | SS-25 | 6 | 6 | 15 | 21 | |
| 115.0 | -100.0 | Dense, gray, with trace clay | | 113.5 | SS-26 | 12 | 19 | 14 | 33 | |
| 120.0 | -105.0 | Very dense, pale brown, medium to fine grained | | 118.5 | SS-27 | 21 | 36 | 46 | 82 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 120.0 | | | | | | | | | | |
| 125.0 | -110.0 | Very dense, wet, pale brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) | | 123.5 | SS-28 | 24 | 31 | 31 | 62 | |
| 130.0 | -115.0 | Very dense, wet, pale brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.9 %#200=7.0 | | 128.5 | SS-29 | 27 | 40 | 44 | 84 | |
| 135.0 | -120.0 | Dense | | 133.5 | SS-30 | 12 | 17 | 24 | 41 | |
| 140.0 | -125.0 | Dense | | 138.5 | SS-31 | 19 | 18 | 16 | 34 | |
| 145.0 | -130.0 | Dense, wet, bluish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.8 %#200=27.2 | | 143.5 | SS-32 | 11 | 16 | 19 | 35 | |
| 150.0 | -135.0 | Dense, bluish gray and brown | | 148.5 | SS-33 | 15 | 20 | 23 | 43 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 150.0 | | | | | | | | | | |
| | -140.0 | | | | | | | | | |
| 155.0 | | | | | | | | | | |
| | | Undisturbed sample obtained from 158.0 to 160.0 feet. Approximately 24 inches of recovery. Wet, bluish gray and brown, LEAN CLAY with SAND (CL, A-7-6(20)), LL=41 PL=16 PI=25 NMC=20.3 %#200=83.1 | | 158.0 | T-2 | | | | | |
| | -145.0 | | | | | | | | | |
| 160.0 | | | | | | | | | | |
| | -150.0 | | | | | | | | | |
| 165.0 | | | | | | | | | | |
| | | Dense, wet, bluish gray, fine grained, CLAYEY SAND (SC, A-6(3)), LL=25 PL=12 PI=13 NMC=16.6 %#200=48.6 | | 168.5 | SS-34 | 15 | 18 | 20 | 38 | |
| | -155.0 | | | | | | | | | |
| 170.0 | | | | | | | | | | |
| | -160.0 | | | | | | | | | |
| 175.0 | | | | | | | | | | |
| | | Very stiff, wet, bluish gray, SANDY LEAN CLAY (CL, A-6(6)), LL=29 PL=11 PI=18 NMC=23.2 %#200=56.0 | | 178.5 | SS-35 | 8 | 11 | 14 | 25 | |
| | -165.0 | | | | | | | | | |
| 180.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.0 | | | | | | | | | | |
| | -170.0 | | | | | | | | | |
| 185.0 | | | | | | | | | | |
| | -175.0 | Hard, wet, bluish gray, with few sand, LEAN CLAY (CL, A-6(18)), LL=34 PL=14 PI=20 NMC=20.4 %#200=93.9 | | 188.5 | SS-36 | 0 | 14 | 17 | 31 | |
| 190.0 | | | | | | | | | | |
| | -180.0 | | | | | | | | | |
| 195.0 | | | | | | | | | | |
| | -185.0 | Hard, wet, bluish gray and brown, SANDY LEAN CLAY (CL, A-6(7)), LL=28 PL=14 PI=14 NMC=17.5 %#200=68.2 | | 198.5 | SS-37 | 13 | 15 | 18 | 33 | |
| 200.0 | | | | | | | | | | |
| | -190.0 | | | | | | | | | |
| 205.0 | | | | | | | | | | |
| | -195.0 | Very dense, wet, bluish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP | | 208.5 | SS-38 | 17 | 26 | 31 | 57 | |
| 210.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 210.0 | | | | | | | | | | |
| | -200.0 | NMC=21.4 %#200=20.5 | | | | | | | | |
| 215.0 | | | | | | | | | | |
| | -205.0 | Very dense | | 218.5 | SS-39 | 30 | 31 | 26 | 57 | ● |
| 220.0 | | | | | | | | | | |
| | -210.0 | | | | | | | | | |
| 225.0 | | | | | | | | | | |
| | -215.0 | Very stiff, wet, bluish gray, with trace sand, LEAN CLAY (CL, A-6(17)), LL=37 PL=20 PI=17 NMC=28.7 %#200=97.1 | | 228.5 | SS-40 | 8 | 8 | 12 | 20 | ● ▲ |
| 230.0 | | | | | | | | | | |
| | -220.0 | | | | | | | | | |
| 235.0 | | | | | | | | | | |
| | -225.0 | Medium dense, wet, bluish gray, fine grained, SILTY SAND (SM) | | 238.5 | SS-41 | 10 | 9 | 7 | 16 | ● |
| 240.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | HLA-13 | **Boring Location:** | 544+74.9 | **Offset:** | RT 27.7 | **Alignment:** | High Level Approach |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | S.Howard |
| **Elev.:** | 14.3 ft. | **Northing:** | 251402.66 | **Easting:** | 1801928.72 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 250.0 ft. | **Soil Depth:** | 250.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 8.5 ft. | **Delayed:** | 7.8 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | | | | | | | | | |
| 245.0 | -230.0 | | | | | | | | | |
| 250.0 | -235.0 | Dense, wet, bluish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.2 %#200=24.4 | | 248.5 | SS-42 | 11 | 15 | 17 | 32 | |
| | | Boring Terminated at 250.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|
| 0.0 | | Loose, moist, dark brown, fine to coarse grained, SILTY SAND with GRAVEL (SM) | 0.0 | SS-1 | 4 | 4 | 4 | 8 |
| | 0.0 | Medium dense, wet, dark brown, fine to medium grained, with wood, SILTY SAND with GRAVEL (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=57.0 %#200=17.6 | 1.5 | SS-2 | 4 | 5 | 7 | 12 |
| | | | 3.0 | SS-3 | 4 | 2 | 2 | 4 |
| 5.0 | | Very loose, wet, dark brown, fine to coarse grained, POORLY GRADED GRAVEL with SILT and SAND (GP-GM) | 4.5 | SS-4 | 2 | 2 | 5 | 7 |
| | | Loose, most likely fall in | 6.0 | SS-5 | 3 | 3 | 3 | 6 |
| | -5.0 | Loose, most likely fall in | | | | | | |
| | | Very loose, most likely fall in | 8.5 | SS-6 | 2 | 1 | 1 | 2 |
| 10.0 | | | | | | | | |
| | -10.0 | | | | | | | |
| | | Very loose, wet, dark brown, fine and coarse grained, POORLY GRADED GRAVEL with SILT and SAND (GP-GM, A-1-a(0)), LL=NP PL=NP PI=NP NMC=18.9 %#200=10.9 | 13.5 | SS-7 | 1 | 2 | 2 | 4 |
| 15.0 | | | | | | | | |
| | -15.0 | | | | | | | |
| | | Loose, wet, gray and brown, fine grained, POORLY GRADED SAND with GRAVEL (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=16.9 %#200=4.7 | 18.5 | SS-8 | 5 | 5 | 4 | 9 |
| 20.0 | | | | | | | | |
| | -20.0 | | | | | | | |
| | | Loose, dark brown and gray, fine to medium grained | 23.5 | SS-9 | 4 | 5 | 5 | 10 |
| 25.0 | | | | | | | | |
| | -25.0 | | | | | | | |
| | | Medium dense, gray and light gray | 28.5 | SS-10 | 8 | 12 | 11 | 23 |
| 30.0 | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | | | | | | | | | |
| 35.0 | -30.0 | Medium dense, wet, yellowish brown and brown, fine grained, POORLY GRADED SAND with GRAVEL (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=28.7 %#200=3.4 | | 33.5 | SS-11 | 6 | 5 | 6 | 11 | |
| 40.0 | -35.0 | Loose, with trace shells | | 38.5 | SS-12 | 5 | 4 | 5 | 9 | |
| 45.0 | -40.0 | Medium dense, wet, pale brown, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=22.2 %#200=2.1 | | 43.5 | SS-13 | 4 | 6 | 8 | 14 | |
| 50.0 | -45.0 | Loose, wet, pale brown, fine to medium grained, POORLY GRADED GRAVEL with SAND (GP, A-1-a(0)), LL=NP PL=NP PI=NP NMC=11.7 %#200=3.1 | | 48.5 | SS-14 | 6 | 5 | 4 | 9 | |
| 55.0 | -50.0 | Loose, light brown | | 53.5 | SS-15 | 4 | 3 | 4 | 7 | |
| 60.0 | -55.0 | Medium dense, wet, pale brown, fine to medium grained, POORLY GRADED SAND with SILT | | 58.5 | SS-16 | 8 | 10 | 6 | 16 | |

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

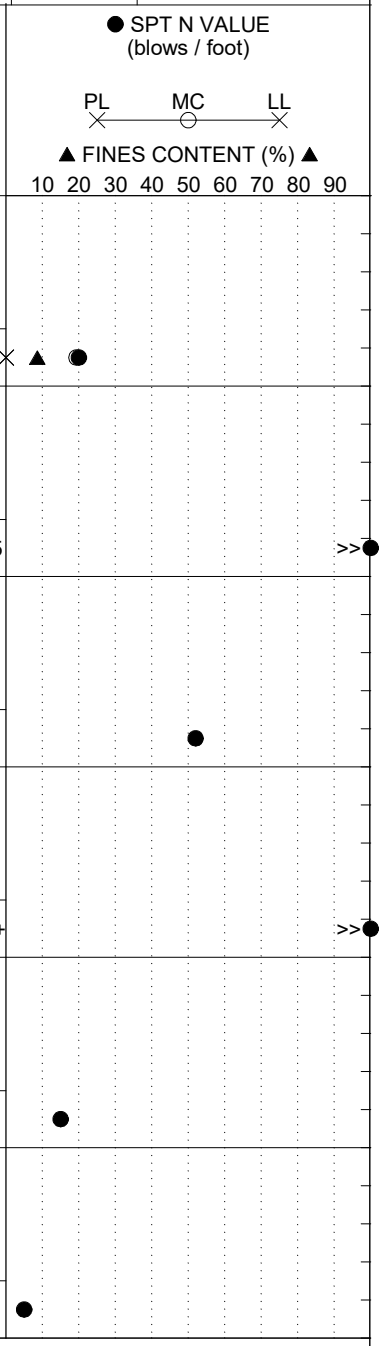
HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | (SP-SM) | | | | | | | |
| | -60.0 | | | 63.5 | | | | | |
| 65.0 | | Medium dense, wet, reddish brown and brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=19.3 %#200=8.6 | | | SS-17 | 6 | 8 | 12 | 20 |
| | -65.0 | | | 68.5 | | | | | |
| 70.0 | | Very dense, No Recovery | | | SS-18 | 35 | 50/5 | X | 50/5 |
| | -70.0 | | | 73.5 | | | | | |
| 75.0 | | Very dense, light brown | | | SS-19 | 12 | 28 | 24 | 52 |
| | -75.0 | | | 78.5 | | | | | |
| 80.0 | | Very dense | | | SS-20 | 50 | X | X | 100+ |
| | -80.0 | | | 83.5 | | | | | |
| 85.0 | | Medium dense, wet, medium to fine grained, with trace gravel | | | SS-21 | 7 | 8 | 7 | 15 |
| | -85.0 | | | 88.5 | | | | | |
| 90.0 | | Firm, moist, dark gray, FAT CLAY (CH) NOTE: Sample rods slipped through hoisting ring and | | | SS-22 | 0 | 0 | 5 | 5 |




## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL; ▲ FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90.0 | | | | | | | | | | |
| | -90.0 | penetrated the first 12 inches of the sample length. Undisturbed sample obtained from 90.5 to 92.5 feet. Approximately 24 inches of recovery. Very stiff, moist, dark grayish brown, with trace sand, FAT CLAY with SAND (CH, A-7-6(23)), LL=52 PL=22 PI=30 NMC=40.1 %#200=75.7 Firm | | 90.5 | T-1 | | | | | |
| 95.0 | | | | 93.5 | SS-23 | 2 | 4 | 4 | 8 | |
| | -95.0 | | | | | | | | | |
| | | Undisturbed sample obtained from 98.5 to 100.5 feet. Approximately 24 inches of recovery. Very stiff, moist, dark brown and light gray, FAT CLAY (CH, A-7-6(71)), LL=89 PL=28 PI=61 NMC=44.0 %#200=99.4 | | 98.5 | T-2 | | | | | |
| 100.0 | | | | | | | | | | |
| | -100.0 | | | 103.5 | SS-24 | 3 | 20 | 32 | 52 | |
| 105.0 | | Very dense, wet, gray and light gray, fine grained, SILTY, CLAYEY SAND (SC-SM, A-2-4(0)), LL=21 PL=17 PI=4 NMC=23.9 %#200=26.7 | | | | | | | | |
| | -105.0 | | | | | | | | | |
| | | Dense, wet, light gray, fine grained, POORLY GRADED SAND (SP) | | 108.5 | SS-25 | 14 | 20 | 28 | 48 | |
| 110.0 | | | | | | | | | | |
| | -110.0 | | | | | | | | | |
| | | Very dense, wet, light gray, fine to coarse and medium grained, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=19.5 %#200=3.3 | | 113.5 | SS-26 | 19 | 32 | 33 | 65 | |
| 115.0 | | | | | | | | | | |
| | -115.0 | | | | | | | | | |
| | | Dense, fine grained, with trace gravel | | 118.5 | SS-27 | 9 | 15 | 23 | 38 | |
| 120.0 | | | | | | | | | | |

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 120.0 | | | | | | | | | | |
| 125.0 | -120.0 | Very dense | | 123.5 | SS-28 | 15 | 29 | 28 | 57 | |
| 130.0 | -125.0 | Stiff, moist, gray, with trace sand, FAT CLAY (CH, A-7-6(34)), LL=53 PL=21 PI=32 NMC=23.7 %#200=95.0 | | 128.5 | SS-29 | 4 | 5 | 4 | 9 | |
| 135.0 | -130.0 | Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 133.5 | SS-30 | 3 | 7 | 19 | 26 | |
| 140.0 | -135.0 | Medium dense | | 138.5 | SS-31 | 15 | 14 | 15 | 29 | |
| 145.0 | -140.0 | Medium dense | | 143.5 | SS-32 | 7 | 8 | 10 | 18 | |
| 150.0 | -145.0 | Very dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP | | 148.5 | SS-33 | 28 | 34 | 27 | 61 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 150.0 | | PL=NP PI=NP NMC=22.5 %#200=10.5 | | | | | | | |
| | -150.0 | | | 153.5 | | | | | |
| 155.0 | | Undisturbed sample obtained from 153.5 to 155.5 feet. Approximately 24 inches of recovery. With trace clay | | | T-3 | | | | |
| | -155.0 | | | 158.5 | | | | | |
| 160.0 | | Very dense | | | SS-34 | 26 | 24 | 32 | 56 |
| | -160.0 | | | 163.5 | | | | | |
| 165.0 | | Very dense, wet, greenish gray, fine grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=23.8 %#200=11.5 | | | SS-35 | 23 | 47 | 50+ | 100+ |
| | -165.0 | | | 168.5 | | | | | |
| 170.0 | | Dense, wet, greenish gray, fine grained, CLAYEY SAND (SC, A-6(7)), LL=36 PL=13 PI=23 NMC=23.2 %#200=48.4 | | | SS-36 | 11 | 19 | 18 | 37 |
| | -170.0 | | | 173.5 | | | | | |
| 175.0 | | Dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | | SS-37 | 11 | 18 | 25 | 43 |
| | -175.0 | | | 178.5 | | | | | |
| 180.0 | | Dense | | | SS-38 | 16 | 19 | 20 | 39 |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.0 | | | | | | | | | | 10 20 30 40 50 60 70 80 90 |
| | -180.0 | Very dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=26.5 %#200=9.7 | | 183.5 | SS-39 | 43 | 41 | 29 | 70 | |
| 185.0 | -185.0 | Undisturbed sample obtained from 188.5 to 190.5 feet. Approximately 24 inches of recovery. Hard, wet, bluish gray, SANDY LEAN CLAY (CL, A-6(6)), LL=28 PL=14 PI=14 NMC=17.8 %#200=62.9 | | 188.5 | T-4 | | | | | |
| 190.0 | -190.0 | Hard, wet, bluish gray, with few sand, LEAN CLAY (CL, A-7-6(29)), LL=46 PL=16 PI=30 NMC=21.0 %#200=91.7 | | 193.5 | SS-40 | 12 | 14 | 21 | 35 | |
| 195.0 | -195.0 | Hard | | 198.5 | SS-41 | 22 | 18 | 20 | 38 | |
| 200.0 | -200.0 | | | | | | | | | |
| 205.0 | -205.0 | | | 208.5 | SS-42 | 12 | 15 | 17 | 32 | |
| 210.0 | | Hard, wet, bluish gray, with few sand, LEAN CLAY (CL, A-6(21)), LL=39 PL=15 PI=24 NMC=17.0 | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 210.0 | | %#200=88.7 | | | | | | | | |
| 215.0 | -210.0 | | | | | | | | | |
| 220.0 | -215.0 | Very dense, wet, bluish gray, fine grained, SILTY SAND (SM) | | 218.5 | SS-43 | 23 | 33 | 48 | 81 | |
| 225.0 | -220.0 | | | | | | | | | |
| 230.0 | -225.0 | Dense, gray | | 228.5 | SS-44 | 6 | 13 | 19 | 32 | |
| 235.0 | -230.0 | | | | | | | | | |
| 240.0 | -235.0 | Loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.3 | | 238.5 | SS-45 | 4 | 4 | 4 | 8 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / FINES CONTENT (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | %#200=28.0 | | | | | | | | PL MC LL; 10 20 30 40 50 60 70 80 90 |
| | -240.0 | | | | | | | | | |
| 245.0 | | | | | | | | | | |
| | -245.0 | Medium dense | | 248.5 | SS-46 | 5 | 10 | 11 | 21 | ● |
| 250.0 | | | | | | | | | | |
| | -250.0 | | | | | | | | | |
| 255.0 | | | | | | | | | | |
| | -255.0 | Very dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 258.5 | SS-47 | 30 | 50/0 | X | 50/0 | >>● |
| 260.0 | | | | | | | | | | |
| | -260.0 | | | | | | | | | |
| 265.0 | | | | | | | | | | |
| | -265.0 | Very dense, with trace gravel | | 268.5 | SS-48 | 43 | 50 | X | 50/6 | >>● |
| 270.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 270.0 | | | | | | | | | | |
| 275.0 | -270.0 | | | | | | | | | |
| 280.0 | -275.0 | Very dense | | 278.5 | SS-49 | 24 | 50/4 | X | 50/4 | >> |
| 285.0 | -280.0 | | | | | | | | | |
| 290.0 | -285.0 | Very dense, wet, light gray, fine grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.1 %#200=10.9 | | 288.5 | SS-50 | 43 | 41 | 49 | 90 | |
| 295.0 | -290.0 | | | | | | | | | |
| 300.0 | -295.0 | Very dense, gray, with trace clay | | 298.5 | SS-51 | 25 | 50 | X | 50/6 | >> |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-01 | **Boring Location:** | 514+25.9 | **Offset:** | LT 18.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 2.9 ft. | **Northing:** | 249675.65 | **Easting:** | 1799417.497 | **Date Started:** | 4/20/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 4/27/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 2.0 ft. | **Delayed:** | 3.1 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boring Terminated at 300.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | | | | | | | |
| | 5.0 | Loose, dry, dark brown gray and light brown, fine to medium grained, with Mobile Abrasives particles, POORLY GRADED SAND (SP), FILL | | 0.0 | SS-1 | 3 | 4 | 5 | 9 | |
| | | Loose, brown and black, fine to coarse grained, with Mobile Abrasives particles, FILL | | 3.0 | SS-2 | 5 | 3 | 5 | 8 | |
| 5.0 | | | | | | | | | | |
| | 0.0 | Loose, moist, brown and black, fine to medium grained, with Mobile Abrasive particles and trace gravel, POORLY GRADED SAND (SP, A-3(0)), FILL, LL=NP PL=NP PI=NP NMC=18.7 %#200=3.8 | | 6.0 | SS-3 | 3 | 4 | 5 | 9 | |
| 10.0 | | Loose, FILL | | 9.0 | SS-4 | 4 | 3 | 3 | 6 | |
| | -5.0 | | | | | | | | | |
| 15.0 | | Very loose, moist to wet, light brown, fine to medium grained | | 13.5 | SS-5 | 2 | 2 | 2 | 4 | |
| | -10.0 | | | | | | | | | |
| 20.0 | | Very loose, wet, greenish gray and brown, fine grained | | 18.5 | SS-6 | 2 | 1 | 1 | 2 | |
| | -15.0 | | | | | | | | | |
| 25.0 | | Very loose | | 23.5 | SS-7 | 1 | 1 | 1 | 2 | |
| | -20.0 | | | | | | | | | |
| 30.0 | | Very loose, wet, greenish gray and brown, fine to medium grained, POORLY GRADED SAND with SILT | | 28.5 | SS-8 | 2 | 1 | 1 | 2 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | | | | | | | | | |
| | | (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.7 %#200=7.6 | | 30.0 | SS-9 | 1 | 1 | 1 | 2 | ● |
| | -25.0 | Very loose, fine grained, with trace Mobile Abrasive particles | | 31.5 | SS-10 | 1 | 1 | 1 | 2 | ● |
| | | Very loose | | 33.0 | SS-11 | 2 | 1 | 1 | 2 | ● |
| | | Very loose, brown and black, with trace Mobile Abrasive particles | | 34.5 | SS-12 | 1 | 1 | 1 | 2 | ● |
| 35.0 | | Very loose, greenish gray and brown | | 36.0 | SS-13 | 1 | 1 | 1 | 2 | ● |
| | | Very loose, No Recovery | | 37.5 | SS-14 | 2 | 1 | 2 | 3 | ×● ▲ ○ |
| | -30.0 | | | 39.0 | SS-15 | 2 | 2 | 3 | 5 | ● |
| | | Very loose, wet, grayish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=28.4 %#200=10.1 | | 40.5 | SS-16 | 1 | 2 | 3 | 5 | ● |
| 40.0 | | Loose, light brown to brown | | 42.0 | SS-17 | 0 | 1 | 2 | 3 | ● |
| | | Loose, fine to medium grained | | 43.5 | SS-18 | 3 | 3 | 3 | 6 | ● |
| | -35.0 | Very loose, light brown, medium grained | | 45.0 | SS-19 | 1 | 1 | 2 | 3 | ● |
| | | Loose, brown, fine grained, with trace gravel | | 46.5 | SS-20 | 2 | 2 | 3 | 5 | ● |
| 45.0 | | Loose, light brown, fine to medium grained, with trace gravel | | 48.0 | SS-21 | 3 | 2 | 3 | 5 | ● |
| | -40.0 | Loose, with trace gravel | | 49.5 | SS-22 | 1 | 2 | 3 | 5 | ×▲ ○ |
| | | Loose | | 51.0 | SS-23 | 3 | 3 | 2 | 5 | ● |
| 50.0 | | Loose, wet, light brown, fine to medium grained, with few gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.2 %#200=6.0 | | 52.5 | SS-24 | 2 | 2 | 2 | 4 | ● |
| | -45.0 | Loose, fine grained | | 54.0 | SS-25 | 2 | 1 | 4 | 5 | ● |
| | | Very loose | | 55.5 | SS-26 | 3 | 3 | 5 | 8 | ×▲● ○ |
| 55.0 | | Loose | | 57.0 | SS-27 | 3 | 4 | 3 | 7 | ● |
| | | Loose, wet, light brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=29.4 %#200=3.8 | | 58.5 | SS-28 | 2 | 2 | 4 | 6 | ● |
| | -50.0 | Loose | | | | | | | | |
| | | Loose, fine to medium grained | | | | | | | | |
| 60.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot); PL MC LL; ▲ FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | | | | | | | | | |
| | -55.0 | Loose | | 63.5 | SS-29 | 3 | 3 | 4 | 7 | ● |
| 65.0 | | | | | | | | | | |
| | -60.0 | Medium dense, wet, light brown, fine to medium grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=25.3 %#200=4.9 | | 68.5 | SS-30 | 8 | 10 | 10 | 20 | ×▲ ●○ |
| 70.0 | | | | | | | | | | |
| | -65.0 | Medium dense, wet, red and light brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) | | 73.5 | SS-31 | 2 | 6 | 10 | 16 | ● |
| 75.0 | | | | | | | | | | |
| | -70.0 | Dense, wet, red and light brown, fine to medium grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=22.3 %#200=6.8 | | 78.5 | SS-32 | 11 | 15 | 20 | 35 | × ▲ ○ ● |
| 80.0 | | | | | | | | | | |
| | -75.0 | Medium dense, wet, light brown, fine to medium grained, POORLY GRADED SAND (SP) | | 83.5 | SS-33 | 12 | 10 | 12 | 22 | ● |
| 85.0 | | | | | | | | | | |
| | -80.0 | Dense | | 88.5 | SS-34 | 15 | 18 | 20 | 38 | ● |
| 90.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90.0 | | | | | | | | | | |
| | -85.0 | | | | | | | | | |
| 95.0 | | Firm, wet, greenish gray, with few sand, SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=37.7 %#200=91.9 | | 93.5 | SS-35 | 2 | 3 | 5 | 8 | |
| | -90.0 | | | | | | | | | |
| 100.0 | | Dense, wet, green, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.9 %#200=12.3 | | 98.5 | SS-36 | 13 | 16 | 15 | 31 | |
| | -95.0 | | | | | | | | | |
| 105.0 | | Medium dense, wet, green, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 103.5 | SS-37 | 5 | 8 | 17 | 25 | |
| | -100.0 | | | | | | | | | |
| 110.0 | | Dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=29.5 %#200=6.9 | | 108.5 | SS-38 | 15 | 18 | 21 | 39 | |
| | -105.0 | | | | | | | | | |
| 115.0 | | Medium dense, greenish gray | | 113.5 | SS-39 | 14 | 15 | 15 | 30 | |
| | -110.0 | | | | | | | | | |
| 120.0 | | Medium dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP | | 118.5 | SS-40 | 15 | 10 | 13 | 23 | |

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 120.0 | | | | | | | | | | |
| | | PL=NP PI=NP NMC=26.6 %#200=10.7 | | | | | | | | |
| | -115.0 | Possible gravel layer at approximately 122.0 ft. | | | | | | | | |
| | | Dense, wet, brown, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP) | | 123.5 | SS-41 | 26 | 19 | 20 | 39 | ● |
| 125.0 | | | | | | | | | | |
| | -120.0 | | | | | | | | | |
| | | Very stiff, wet, greenish gray, SILT (ML, A-4) | | 128.5 | SS-42 | 7 | 7 | 12 | 19 | ● |
| 130.0 | | | | | | | | | | |
| | -125.0 | | | | | | | | | |
| | | Very stiff | | 133.5 | SS-43 | 14 | 15 | 14 | 29 | ● |
| 135.0 | | Undisturbed sample could not be obtained from 135.0 to 137.0 feet. No Recovery | | 135.0 | T-1 | | | | | |
| | -130.0 | | | | | | | | | |
| | | Stiff, wet, greenish gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=27.1 %#200=66.5 | | 138.5 | SS-44 | 7 | 5 | 4 | 9 | ● ○ ▲ |
| 140.0 | | Undisturbed sample obtained from 140.0 to 142.0 feet. Approximately 24 inches of recovery. Stiff, wet, greenish gray, LEAN CLAY with SAND (CL, A-6(6)), LL=29 PL=18 PI=11 NMC=23.8 %#200=71.6 | | 140.0 | T-2 | | | | | ⊗ ▲ |
| | -135.0 | | | | | | | | | |
| | | Stiff, gray | | 143.5 | SS-45 | 5 | 6 | 7 | 13 | ● |
| 145.0 | | Undisturbed sample obtained from 145.0 to 147.0 feet. Approximately 24 inches of recovery. Very stiff, wet, greenish gray, SILTY CLAY with SAND (CL-ML, A-4(2)), LL=23 PL=18 PI=5 NMC=21.0 %#200=81.6 | | 145.0 | T-3 | | | | | ⊗ ▲ |
| | -140.0 | | | | | | | | | |
| | | Firm, wet, greenish gray, LEAN CLAY with SAND (CL, A-6(7)), LL=26 PL=14 PI=12 NMC=22.6 %#200=78.9 | | 148.5 | SS-46 | 0 | 2 | 4 | 6 | ● ⊗ ▲ |
| 150.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 150.0 | | | | | | | | | | |
| | -145.0 | | | | | | | | | |
| 155.0 | | Very dense, wet, greenish gray, fine grained, with trace clay, SILTY SAND (SM) | | 153.5 | SS-47 | 23 | 16 | 36 | 52 | |
| | -150.0 | | | | | | | | | |
| 160.0 | | Very dense, wet, light brown and gray, fine to medium grained, SILTY SAND (SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=22.7 %#200=17.6 | | 158.5 | SS-48 | 16 | 25 | 34 | 59 | |
| | -155.0 | | | | | | | | | |
| 165.0 | | Very dense, fine to medium grained | | 163.5 | SS-49 | 15 | 20 | 33 | 53 | |
| | -160.0 | | | | | | | | | |
| 170.0 | | Hard, wet, greenish gray, SANDY LEAN CLAY (CL, A-6(4)), LL=28 PL=15 PI=13 NMC=29.9 %#200=56.0 | | 168.5 | SS-50 | 8 | 16 | 21 | 37 | |
| | -165.0 | | | | | | | | | |
| 175.0 | | Very dense, wet, gray, fine grained, SILTY SAND (SM) | | 173.5 | SS-51 | 32 | 43 | 50/5 | 100+ | >> |
| | -170.0 | | | | | | | | | |
| 180.0 | | Dense, wet, greenish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=28.5 | | 178.5 | SS-52 | 18 | 23 | 23 | 46 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.0 | | %#200=24.5 | | | | | | | | |
| | -175.0 | | | | | | | | | |
| | | Hard, wet, gray, LEAN CLAY with SAND (CL, A-6) | | 183.5 | SS-53 | 28 | 25 | 12 | 37 | |
| 185.0 | | | | | | | | | | |
| | -180.0 | | | | | | | | | |
| | | Hard, wet, greenish gray, LEAN CLAY with SAND (CL, A-6(11)), LL=32 PL=16 PI=16 NMC=17.6 %#200=78.1 | | 188.5 | SS-54 | 9 | 13 | 20 | 33 | |
| 190.0 | | Undisturbed sample obtained from 190.0 to 190.7 feet. Approximately 14 inches of recovery. | | 190.0 | T-4 | | | | | |
| | -185.0 | Very stiff, wet, greenish gray, SANDY LEAN CLAY (CL, A-6(11)), LL=35 PL=14 PI=21 NMC=42.2 %#200=67.4 | | | | | | | | |
| | | Hard | | 193.5 | SS-55 | 13 | 14 | 17 | 31 | |
| 195.0 | | | | | | | | | | |
| | -190.0 | | | | | | | | | |
| | | Very stiff, wet, greenish gray, LEAN CLAY with SAND (CL, A-6(6)), LL=26 PL=15 PI=11 NMC=23.0 %#200=75.8 | | 198.5 | SS-56 | 9 | 10 | 18 | 28 | |
| 200.0 | | | | | | | | | | |
| | -195.0 | | | | | | | | | |
| 205.0 | | | | | | | | | | |
| | -200.0 | | | | | | | | | |
| | | Hard | | 208.5 | SS-57 | 15 | 17 | 20 | 37 | |
| 210.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 210.0 | | | | | | | | | | |
| | -205.0 | Undisturbed sample obtained from 210.0 to 212.0 feet. Approximately 22 inches of recovery. Hard, wet, greenish gray, SANDY LEAN CLAY (CL, A-6(11)), LL=33 PL=13 PI=20 NMC=14.4 %#200=69.2 | | 210.0 | T-5 | | | | | |
| 215.0 | | | | | | | | | | |
| | -210.0 | | | 218.5 | SS-58 | 8 | 12 | 17 | 29 | |
| 220.0 | | Very stiff, wet, greenish gray, with few sand, LEAN CLAY (CL, A-6(19)), LL=36 PL=15 PI=21 NMC=17.2 %#200=94.2 | | | | | | | | |
| | -215.0 | | | | | | | | | |
| 225.0 | | | | | | | | | | |
| | -220.0 | | | 228.5 | T-6 | | | | | |
| 230.0 | | Undisturbed sample obtained from 228.5.0 to 230.0 feet. Approximately 18 inches of recovery. Hard, wet, greenish gray, SILT with SAND (ML, A-4(3)), LL=29 PL=23 PI=6 NMC=26.2 %#200=72.8 Very stiff | | 230.5 | SS-59 | 7 | 7 | 18 | 25 | |
| | -225.0 | | | | | | | | | |
| 235.0 | | | | | | | | | | |
| | -230.0 | | | 238.5 | SS-60 | 11 | 11 | 13 | 24 | |
| 240.0 | | Medium dense, wet, greenish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | | | | | | | | | |
| | -235.0 | NMC=23.1 %#200=27.7 | | | | | | | | |
| 245.0 | | | | | | | | | | |
| | -240.0 | | | | | | | | | |
| | | Medium dense | | 248.5 | SS-61 | 6 | 5 | 7 | 12 | ● |
| 250.0 | | | | | | | | | | |
| | -245.0 | | | | | | | | | |
| 255.0 | | | | | | | | | | |
| | -250.0 | | | 258.5 | SS-62 | 0 | 5 | 9 | 14 | ●⊖× ▲ |
| | | Stiff, wet, greenish gray, LEAN CLAY with SAND (CL, A-6(8)), LL=29 PL=16 PI=13 NMC=21.7 %#200=80.1 | | | | | | | | |
| 260.0 | | | | | | | | | | |
| | -255.0 | | | | | | | | | |
| 265.0 | | | | | | | | | | |
| | -260.0 | | | 268.5 | SS-63 | 4 | 6 | 15 | 21 | ● |
| | | Medium dense, wet, greenish gray, fine grained, SILTY SAND (SM) | | | | | | | | |
| 270.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 270.0 | | | | 270.0 | T-7 | | | | | |
| | -265.0 | Undisturbed sample obtained from 270.0 to 272.0 feet. Approximately 8 inches of recovery. Medium dense, wet, greenish gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=19.6 %#200=45.6 | | | | | | | | |
| 275.0 | | | | | | | | | | |
| | -270.0 | | | 278.5 | | | | | | |
| 280.0 | | Very dense, wet, light greenish gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.3 %#200=16.5 | | | SS-64 | 27 | 50/4 | X | 50/4 | >> |
| | -275.0 | | | | | | | | | |
| 285.0 | | | | | | | | | | |
| | -280.0 | | | 288.5 | | | | | | |
| 290.0 | | Very dense, with trace wood | | | SS-65 | 24 | 29 | 36 | 65 | |
| | -285.0 | | | | | | | | | |
| 295.0 | | | | | | | | | | |
| | -290.0 | | | 298.5 | | | | | | |
| 300.0 | | Very dense, wet, pale brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP | | | SS-66 | 48 | 38 | 50/4 | 100+ | >> |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02 | **Boring Location:** | 527+75.9 | **Offset:** | LT 22.0 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | 7.4 ft. | **Northing:** | 250461.65 | **Easting:** | 1800515.058 | **Date Started:** | 9/8/2015 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/15/2015 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** N.O. | **Delayed:** | 4.7 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | NMC=23.4 %#200=22.2<br>Boring Terminated at 300.0 ft. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Very loose, brown, fine grained, with trace gravel, CLAYEY SAND (SC) | | 0.0 | SS-1 | 0 | 0 | 0 | 0 | |
| | | Very loose, No Recovery | | 1.5 | SS-2 | 0 | 0 | 0 | 0 | |
| | -5.0 | Very loose, No Recovery | | 3.0 | SS-3 | 0 | 0 | 0 | 0 | |
| 5.0 | | Very loose, No Recovery | | 4.5 | SS-4 | 0 | 0 | 0 | 0 | |
| | | Very soft, dark gray, with trace gravel, SANDY LEAN CLAY (CL, A-6(5)), LL=33 PL=18 PI=15 NMC=73.4 %#200=54.6 | | 6.0 | SS-5 | 0 | 0 | 0 | 0 | |
| | -10.0 | | | | | | | | | |
| | | Very loose, dark gray, fine grained, SILTY SAND (SM) | | 8.5 | SS-6 | 0 | 0 | 0 | 0 | |
| 10.0 | | | | | | | | | | |
| | -15.0 | | | | | | | | | |
| | | Very loose, gray, fine grained, CLAYEY SAND (SC) | | 13.5 | SS-7 | 0 | 0 | 1 | 1 | |
| 15.0 | | | | | | | | | | |
| | -20.0 | | | | | | | | | |
| | | Very loose, light gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=26.4 %#200=16.8 | | 18.5 | SS-8 | 0 | 0 | 0 | 0 | |
| 20.0 | | | | | | | | | | |
| | -25.0 | | | | | | | | | |
| | | Very loose, brown, with trace clay | | 23.5 | SS-9 | 1 | 1 | 1 | 2 | |
| 25.0 | | | | | | | | | | |
| | -30.0 | | | | | | | | | |
| | | Very loose, brown, fine grained, POORLY GRADED SAND (SP) | | 28.5 | SS-10 | 1 | 1 | 2 | 3 | |
| 30.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | | | | | | | | | |
| 35.0 | -35.0 | Very loose, white | | 33.5 | SS-11 | 1 | 2 | 2 | 4 | ● |
| 40.0 | -40.0 | Very loose, tan, fine to medium grained, with trace gravel | | 38.5 | SS-12 | 2 | 2 | 2 | 4 | ● |
| 45.0 | -45.0 | Loose, fine grained | | 43.5 | SS-13 | 3 | 4 | 5 | 9 | ● |
| 50.0 | -50.0 | Medium dense, tan, medium to fine grained, with trace gravel, POORLY GRADED SAND (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=21.7 %#200=1.5 | | 48.5 | SS-14 | 4 | 6 | 9 | 15 | ▲ ● ○ |
| 55.0 | -55.0 | Medium dense | | 53.5 | SS-15 | 6 | 8 | 9 | 17 | ● |
| 60.0 | -60.0 | Medium dense, wet | | 58.5 | SS-16 | 6 | 6 | 10 | 16 | ● |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | | | | | | | | | |
| 65.0 | -65.0 | Medium dense | | 63.5 | SS-17 | 7 | 9 | 11 | 20 | |
| 70.0 | -70.0 | Medium dense | | 68.5 | SS-18 | 9 | 11 | 11 | 22 | |
| 75.0 | -75.0 | Loose | | 73.5 | SS-19 | 4 | 5 | 5 | 10 | |
| 80.0 | -80.0 | Loose, wet, tan, fine to medium grained, with trace gravel, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP NMC=21.2 %#200=2.3 | | 78.5 | SS-20 | 5 | 5 | 4 | 9 | |
| 85.0 | -85.0 | Firm, moist, gray, with trace organics and trace gravel, FAT CLAY with SAND (CH, A-7-6(50)), LL=87 PL=29 PI=58 NMC=37.5 %#200=78.7 | | 83.5 | SS-21 | 9 | 2 | 3 | 5 | |
| 90.0 | -90.0 | Undisturbed sample could not be obtained from 88.5 to 90.5 feet. No Recovery. | | 88.5 | T-1 | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90.0 | | | | | | | | | | |
| | -95.0 | | | | | | | | | |
| 95.0 | | Undisturbed sample obtained from 93.5 to 95.5 feet. Approximately 24 inches of recovery. Moist, brown, SANDY LEAN CLAY (CL, A-7-6(12)), LL=45 PL=18 PI=27 NMC=25.7 %#200=56.4 | | 93.5 | T-2 | | | | | |
| | -100.0 | | | | | | | | | |
| 100.0 | | Dense, wet, brown, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=23.6 %#200=7.0 | | 98.5 | SS-22 | 7 | 15 | 19 | 34 | |
| | -105.0 | | | | | | | | | |
| 105.0 | | Dense | | 103.5 | SS-23 | 17 | 24 | 25 | 49 | |
| | -110.0 | | | | | | | | | |
| 110.0 | | Dense, wet, brown, fine grained, POORLY GRADED SAND (SP) | | 108.5 | SS-24 | 6 | 14 | 19 | 33 | |
| | -115.0 | | | | | | | | | |
| 115.0 | | Very dense, wet, brown, medium to fine grained, POORLY GRADED SAND with GRAVEL (SP, A-1-b(0)), LL=NP PL=NP PI=NP NMC=10.7 %#200=3.8 | | 113.5 | SS-25 | 24 | 33 | 37 | 70 | |
| | -120.0 | | | | | | | | | |
| 120.0 | | Stiff, wet, gray, with trace sand, LEAN CLAY (CH) | | 118.5 | SS-26 | 0 | 4 | 5 | 9 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 120.0 | | | | | | | | | | |
| 125.0 | -125.0 | Undisturbed sample obtained from 123.0 to 125.0 feet. Approximately 24 inches of recovery. Wet, greenish gray, with trace sand, LEAN CLAY (CL, A-6(18)), LL=35 PL=17 PI=18 NMC=26.0 %#200=97.7 | | 123.0 | T-3 | | | | | |
| 130.0 | -130.0 | Stiff | | 128.5 | SS-27 | 0 | 7 | 8 | 15 | |
| 135.0 | -135.0 | Undisturbed sample could not be obtained from 133.0 to 135.0 feet. No Recovery. | | 133.0 | T-4 | | | | | |
| 140.0 | -140.0 | Stiff, wet, gray, with few sand, FAT CLAY (CH, A-7-6(59)), LL=77 PL=20 PI=57 NMC=23.0 %#200=92.6 | | 138.5 | SS-28 | 2 | 4 | 7 | 11 | |
| 145.0 | -145.0 | Undisturbed sample obtained from 143.0 to 145.0 feet. Approximately 11 inches of recovery. Wet, gray, with trace sand, FAT CLAY (CH, A-7-6(35)), LL=51 PL=16 PI=35 NMC=47.7 %#200=95.1 | | 143.0 | T-5 | | | | | |
| 150.0 | -150.0 | Dense, No Recovery NOTE: Shoe came off of Split Spoon and sample was | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 150.0 | | lost | | | | | | | | |
| | -155.0 | | | 153.5 | | | | | | |
| 155.0 | | Dense, brown, fine grained, with few gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=30.4 %#200=16.2 | | | SS-29 | 50 | 23 | 22 | 45 | |
| | -160.0 | | | 158.0 | | | | | | |
| 160.0 | | Undisturbed sample obtained from 158.0 to 160.0 feet. Approximately 24 inches of recovery. Gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=26.7 %#200=7.4 | | | T-6 | | | | | |
| | -165.0 | | | | | | | | | |
| 165.0 | | | | | | | | | | |
| | -170.0 | | | 168.5 | | | | | | |
| 170.0 | | Hard, gray, SANDY LEAN CLAY (CL, A-6(7)), LL=33 PL=15 PI=18 NMC=18.6 %#200=55.6 | | | SS-30 | 17 | 29 | 34 | 63 | |
| | -175.0 | | | | | | | | | |
| 175.0 | | | | | | | | | | |
| | -180.0 | | | 178.0 | | | | | | |
| 180.0 | | Undisturbed sample could not be obtained from 178.0 to 180.0 feet. Split Spoon sample taken at 178.0 feet. Hard, light greenish gray | | | SS-31 | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.0 | | | | | | | | | | |
| | -185.0 | | | | | | | | | |
| 185.0 | | | | | | | | | | |
| | -190.0 | | | | | | | | | |
| | | Hard, green | | 188.5 | | | | | | |
| 190.0 | | | | | SS-32 | 12 | 14 | 20 | 34 | ● |
| | -195.0 | | | | | | | | | |
| 195.0 | | | | | | | | | | |
| | -200.0 | | | 198.0 | | | | | | |
| | | Undisturbed sample obtained from 198.0 to 200.0 feet. Approximately 24 inches of recovery. Green, LEAN CLAY with SAND (CL, A-6(16)), LL=39 PL=14 PI=25 NMC=31.2 %#200=74.2 | | | T-8 | | | | | ▲ |
| 200.0 | | | | | | | | | | |
| | -205.0 | | | | | | | | | |
| 205.0 | | | | | | | | | | |
| | -210.0 | | | 208.5 | | | | | | |
| | | Very stiff, green, with few sand, LEAN CLAY (CL, A-6(14)), LL=33 PL=18 PI=15 NMC=22.1 %#200=94.8 | | | SS-33 | 12 | 8 | 9 | 17 | ● ▲ |
| 210.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 210.0 | | | | | | | | | | |
| 215.0 | -215.0 | | | | | | | | | |
| 220.0 | -220.0 | Undisturbed sample could not be obtained from 218.0 to 220.0 feet. Split Spoon sample taken at 218.0 feet. Very stiff, green, with few sand, LEAN CLAY (CL, A-6(19)), LL=39 PL=18 PI=21 NMC=24.8 %#200=89.4 | | 218.0 | SS-34 | | | | | |
| 225.0 | -225.0 | | | | | | | | | |
| 230.0 | -230.0 | Medium dense, gray, fine grained, SILTY SAND (SM) | | 228.5 | SS-35 | 6 | 6 | 5 | 11 | |
| 235.0 | -235.0 | | | | | | | | | |
| 240.0 | -240.0 | Medium dense, gray, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=24.4 | | 238.5 | SS-36 | 7 | 7 | 8 | 15 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | %#200=41.8 | | | | | | | | |
| | -245.0 | | | | | | | | | |
| 245.0 | | | | | | | | | | |
| | -250.0 | Stiff, greenish gray, SANDY LEAN CLAY (CL, A-6(5)), LL=25 PL=14 PI=11 NMC=22.1 %#200=69.6 | | 248.5 | SS-37 | 4 | 6 | 6 | 12 | ● ▲ |
| 250.0 | | | | | | | | | | |
| | -255.0 | | | | | | | | | |
| 255.0 | | | | | | | | | | |
| | -260.0 | | | 258.0 | | | | | | |
| 260.0 | | Undisturbed sample obtained from 258.0 to 260.0 feet. Approximately 20 inches of recovery. Gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | | T-10 | | | | | |
| | -265.0 | | | | | | | | | |
| 265.0 | | | | | | | | | | |
| | -270.0 | | | 268.5 | | | | | | |
| 270.0 | | Very dense, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP | | | SS-38 | 35 | 45 | 50/5 | 100+ | ▲ ○ >>● |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 270.0 | | | | | | | | | | |
| | -275.0 | PI=NP NMC=22.5 %#200=9.7 | | | | | | | | |
| 275.0 | | | | | | | | | | |
| | -280.0 | Very dense, gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=22.0 %#200=13.1 | | 278.5 | SS-39 | 19/4 | 39 | X | 100+ | >> |
| 280.0 | | | | | | | | | | |
| | -285.0 | | | | | | | | | |
| 285.0 | | | | | | | | | | |
| | -290.0 | Very dense | | 288.5 | SS-40 | 48 | 50/5 | X | 50/5 | >> |
| 290.0 | | | | | | | | | | |
| | -295.0 | | | | | | | | | |
| 295.0 | | | | | | | | | | |
| | -300.0 | Firm, greenish gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=24.6 %#200=63.8 | | 298.5 | SS-41 | 5 | 3 | 5 | 8 | |
| 300.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | MB-02A | **Boring Location:** | 528+88.0 | **Offset:** | RT 32.9 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | Chris L\Charles T |
| **Elev.:** | -2.0 ft. | **Northing:** | 250481.989 | **Easting:** | 1800638.256 | **Date Started:** | 6/20/2017 |
| **Total Depth:** | 320.0 ft. | **Soil Depth:** | 320.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 7/24/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 90% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 0.0 ft. | **Delayed:** | 0.0 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 300.0 | | | | | | | | | | |
| | -305.0 | | | | | | | | | |
| 305.0 | | | | | | | | | | |
| | -310.0 | | | 308.5 | | | | | | |
| 310.0 | | Very stiff, greenish gray, LEAN CLAY with SAND (CL, A-7-6(24)), LL=49 PL=12 PI=37 NMC=17.0 %#200=70.6 | | | SS-42 | 7 | 9 | 11 | 20 | |
| | -315.0 | | | | | | | | | |
| 315.0 | | | | | | | | | | |
| | -320.0 | | | 318.5 | | | | | | |
| 320.0 | | Hard, green, LEAN CLAY with SAND (CL, A-7-6(22)), LL=45 PL=14 PI=31 NMC=35.6 %#200=76.2 | | | SS-43 | 11 | 17 | 24 | 41 | |
| | | Boring Terminated at 320.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 25.0 | Approximately 3 inches of topsoil. Medium dense, dry, brown, fine grained, with trace shells, SILTY SAND (SM) | | 0.0 | SS-1 | 10 | 8 | 8 | 16 | |
| | | Dense, dry, red, fine to medium grained, with trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=9.2 %#200=24.7 | | 1.5 | SS-2 | 17 | 16 | 20 | 36 | |
| | | Medium dense, dry, red, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=15.1 %#200=20.6 | | 3.0 | SS-3 | 9 | 10 | 8 | 18 | |
| 5.0 | 20.0 | | | 4.5 | SS-4 | 8 | 12 | 20 | 32 | |
| | | Dense, dry, red, fine to medium grained, SILTY, CLAYEY SAND (SC-SM) | | 6.0 | SS-5 | 7 | 10 | 15 | 25 | |
| | | Medium dense, moist, red, fine to medium grained, SILTY, CLAYEY SAND (SC-SM, A-2-4(0)), LL=18 PL=13 PI=5 NMC=13.9 %#200=24.5 | | 8.5 | SS-6 | 11 | 14 | 10 | 24 | |
| 10.0 | 15.0 | Medium dense | | | | | | | | |
| | | Asphalt encountered from 13.5 to 15.0 feet. Hard, black | | 13.5 | SS-7 | 50/5 | X | X | 100+ | >> |
| 15.0 | 10.0 | | | | | | | | | |
| | | Loose, moist, gray, fine grained, SILTY, CLAYEY SAND (SC-SM) | | 18.5 | SS-8 | 5 | 4 | 3 | 7 | |
| 20.0 | 5.0 | | | | | | | | | |
| ▽ | | Undisturbed sample could not be obtained from 23.0 to 25.0 feet. No Recovery. | | 23.0 | T-1 | | | | | |
| 25.0 | 0.0 | Very loose, wet, gray, fine grained, with wood, SILTY, CLAYEY SAND (SC-SM, A-2-4(0)), LL=24 PL=18 PI=6 NMC=28.6 %#200=28.2 | | 25.0 | SS-9 | 0 | 1 | 1 | 2 | |
| | | Undisturbed sample obtained from 28.0 to 30.0 feet. Approximately 24 inches of recovery. | | 28.0 | T-2 | | | | | |
| 30.0 | | Moist, dark gray, with trace wood, ELASTIC SILT with | | | | | | | | |

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | -5.0 | SAND (MH, A-7-5(33)), LL=83 PL=46 PI=37 NMC=98.2 %#200=75.9 | | | | | | | | |
| | | Loose, moist, light gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=25.9 %#200=28.9 | | 33.5 | SS-10 | 5 | 4 | 4 | 8 | |
| 35.0 | -10.0 | | | | | | | | | |
| 40.0 | -15.0 | Medium dense, moist, reddish brown, fine grained, with trace clay, POORLY GRADED SAND with SILT (SP-SM) | | 38.5 | SS-11 | 4 | 9 | 12 | 21 | |
| | | Dense | | 43.5 | SS-12 | 15 | 17 | 19 | 36 | |
| 45.0 | -20.0 | | | | | | | | | |
| 50.0 | -25.0 | Dense, moist, white and brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.2 %#200=6.6 | | 48.5 | SS-13 | 14 | 19 | 22 | 41 | |
| | | Dense, white | | 53.5 | SS-14 | 12 | 14 | 19 | 33 | |
| 55.0 | -30.0 | | | | | | | | | |
| | | Medium dense | | 58.5 | SS-15 | 9 | 12 | 17 | 29 | |
| 60.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | -35.0 | | | | | | | | | |
| 65.0 | -40.0 | Dense, moist, white and brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=21.9 %#200=6.8 | | 63.5 | SS-16 | 12 | 21 | 20 | 41 | |
| 70.0 | -45.0 | Dense | | 68.5 | SS-17 | 16 | 16 | 22 | 38 | |
| 75.0 | -50.0 | Medium dense, medium to coarse grained, with trace gravel | | 73.5 | SS-18 | 12 | 13 | 14 | 27 | |
| 80.0 | -55.0 | Medium dense, moist, tan, fine to medium grained, with trace clay and trace gravel, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=21.2 %#200=13.5 | | 78.5 | SS-19 | 11 | 11 | 16 | 27 | |
| 85.0 | -60.0 | Dense, white, with trace gravel | | 83.5 | SS-20 | 16 | 19 | 21 | 40 | |
| 90.0 | | Dense | | 88.5 | SS-21 | 16 | 21 | 19 | 40 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 90.0 | -65.0 | | | | | | | | | |
| 95.0 | -70.0 | Dense, moist, pale brown, medium to fine and coarse grained, with few gravel, WELL-GRADED SAND with SILT (SW-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=13.8 %#200=5.7 | | 93.5 | SS-22 | 14 | 18 | 17 | 35 | |
| 100.0 | -75.0 | Dense, light reddish brown and brown, fine to medium grained | | 98.5 | SS-23 | 17 | 16 | 27 | 43 | |
| 105.0 | -80.0 | Stiff, moist, gray and light gray, with trace organics and trace sand, FAT CLAY (CH) | | 103.5 | SS-24 | 3 | 4 | 5 | 9 | |
| 110.0 | -85.0 | Undisturbed sample obtained from 108.5 to 110.5 feet. Approximately 24 inches of recovery. Stiff, moist, gray, with few sand, FAT CLAY (CH, A-7-6(47)), LL=67 PL=22 PI=45 NMC=40.8 %#200=93.4 | | 108.5 | T-3 | | | | | |
| 115.0 | -90.0 | Firm, gray, with trace organics and trace sand | | 113.5 | SS-25 | 2 | 3 | 4 | 7 | |
| 120.0 | | Undisturbed sample obtained from 118.5 to 120.5 feet. Approximately 24 inches of recovery. | | 118.5 | T-4 | | | | | |

## LEGEND

**SAMPLER TYPE**

- SS - Split Spoon
- T - Shelby Tube
- DCP - Dynamic Cone Penetrometer
- AC - Auger Cuttings
- GB - Grab Bag
- NQ - Rock Core

**DRILLING METHOD**

- HSA - Hollow Stem Augers
- SSA - Solid Stem Augers
- HA - Hand Auger
- MR - Mud Rotary Wash
- RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 120.0 | -95.0 | Stiff, moist, gray, with little sand, FAT CLAY (CH, A-7-6(32)), LL=54 PL=18 PI=36 NMC=30.4 %#200=86.3 | | | | | | | | |
| 125.0 | -100.0 | Loose, wet, bluish gray, fine grained, CLAYEY SAND (SC, A-4(1)), LL=22 PL=13 PI=9 NMC=23.8 %#200=42.1 | | 123.5 | SS-26 | 4 | 4 | 6 | 10 | |
| 130.0 | -105.0 | Very dense, moist, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 128.5 | SS-27 | 14 | 30 | 50 | 80 | |
| 135.0 | -110.0 | Very dense, white, fine to medium grained | | 133.5 | SS-28 | 22 | 35 | 41 | 76 | |
| 140.0 | -115.0 | Very dense | | 138.5 | SS-29 | 16 | 22 | 29 | 51 | |
| 145.0 | -120.0 | Very dense, moist, tan, medium to fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=18.8 %#200=7.6 | | 143.5 | SS-30 | 21 | 31 | 42 | 73 | |
| 150.0 | | Very stiff, moist, gray, with trace sand, FAT CLAY (CH) | | 148.5 | SS-31 | 5 | 10 | 14 | 24 | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | TH-13 | **Boring Location:** | 153+01.7 | **Offset:** | RT 78.9 | **Alignment:** | West Area |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | C. Tisher |
| **Elev.:** | 25.3 ft. | **Northing:** | 250156.58 | **Easting:** | 1798133.78 | **Date Started:** | 9/19/2017 |
| **Total Depth:** | 150.0 ft. | **Soil Depth:** | 150.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 9/21/2017 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | AASHTO T206 & T207 | | | | |
| **Drill Machine:** | D50 | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 94% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 36.3 ft. | **Delayed:** | 23.3 ft. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boring Terminated at 150.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | | | | | | | | |
| | 5.0 | Medium dense, dry, black, fine grained, with glass, metal and debris, SILTY SAND (SM) | | 0.0 | SS-1 | 6 | 13 | 6 | 19 |
| | | Medium dense, dry, black and reddish yellow, fine grained, with some debris, SILTY SAND with GRAVEL (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=34.6 %#200=17.8 | | 1.5 | SS-2 | 6 | 7 | 10 | 17 |
| | | | | 3.0 | SS-3 | 3 | 3 | 4 | 7 |
| 5.0 | | Loose, wet, gray and brown, fine grained, with trace gravel | | 4.5 | SS-4 | 4 | 4 | 5 | 9 |
| | 0.0 | Loose, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=24.5 %#200=8.3 | | 6.0 | SS-5 | 1 | 1 | 1 | 2 |
| | | Very loose | | | | | | | |
| 10.0 | | Very loose | | 8.5 | SS-6 | 0 | 0 | 0 | 0 |
| | -5.0 | | | | | | | | |
| | | Undisturbed sample obtained 13.5 to 15.5 feet. Approximately 19 inches of recovery. Moist, gray and dark gray, with trace organics, FAT CLAY (CH) | | 13.5 | T-1 | | | | |
| 15.0 | -10.0 | | | | | | | | |
| | | Medium dense, wet, tan, fine grained, POORLY GRADED SAND (SP) | | 18.5 | SS-7 | 7 | 10 | 14 | 24 |
| 20.0 | -15.0 | | | | | | | | |
| | | Medium dense | | 23.5 | SS-8 | 8 | 11 | 16 | 27 |
| 25.0 | -20.0 | | | | | | | | |
| | | Medium dense, wet, white, fine grained, POORLY GRADED SAND (SP, A-3(0)), LL=NP PL=NP PI=NP | | 28.5 | SS-9 | 8 | 10 | 14 | 24 |
| 30.0 | | | | | | | | | |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

**SAMPLER TYPE**

SS - Split Spoon
T - Shelby Tube
DCP - Dynamic Cone Penetrometer
AC - Auger Cuttings
GB - Grab Bag
NQ - Rock Core

**DRILLING METHOD**

HSA - Hollow Stem Augers
SSA - Solid Stem Augers
HA - Hand Auger
MR - Mud Rotary Wash
RC - Rock Coring

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 30.0 | | NMC=25.6 %#200=3.4 | | | | | | | | |
| | -25.0 | | | | | | | | | |
| | | Medium dense, light tan | | 33.5 | SS-10 | 4 | 6 | 10 | 16 | ● |
| 35.0 | | | | | | | | | | |
| | -30.0 | | | | | | | | | |
| | | Medium dense, light tan and white | | 38.5 | SS-11 | 10 | 12 | 17 | 29 | ● |
| 40.0 | | | | | | | | | | |
| | -35.0 | | | | | | | | | |
| | | Dense | | 43.5 | SS-12 | 13 | 21 | 28 | 49 | ● |
| 45.0 | | | | | | | | | | |
| | -40.0 | | | | | | | | | |
| | | Medium dense, white and brown, fine to medium grained | | 48.5 | SS-13 | 10 | 11 | 12 | 23 | ● |
| 50.0 | | | | | | | | | | |
| | -45.0 | | | | | | | | | |
| | | Medium dense, wet, tan, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) | | 53.5 | SS-14 | 5 | 5 | 6 | 11 | ● |
| 55.0 | | | | | | | | | | |
| | -50.0 | | | | | | | | | |
| | | Medium dense, wet, tan, fine grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP | | 58.5 | SS-15 | 7 | 10 | 15 | 25 | ▲ ● |
| 60.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 60.0 | | PL=NP PI=NP NMC=23.7 %#200=9.9 | | | | | | | | |
| | -55.0 | | | | | | | | | |
| | | Medium dense | | 63.5 | SS-16 | 9 | 7 | 9 | 16 | ● |
| 65.0 | | | | | | | | | | |
| | -60.0 | | | | | | | | | |
| | | Loose, wet, reddish brown, medium to fine grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-1-b(0)), LL=NP PL=NP PI=NP NMC=18.3 %#200=10.9 | | 68.5 | SS-17 | 3 | 3 | 6 | 9 | ×●○ |
| 70.0 | | | | | | | | | | |
| | -65.0 | | | | | | | | | |
| | | Medium dense, fine grained | | 73.5 | SS-18 | 6 | 9 | 8 | 17 | ● |
| 75.0 | | | | | | | | | | |
| | -70.0 | | | | | | | | | |
| | | Medium dense, light brown | | 78.5 | SS-19 | 11 | 13 | 16 | 29 | ● |
| 80.0 | | | | | | | | | | |
| | -75.0 | | | | | | | | | |
| | | Loose, light brown and brown, fine to medium grained | | 83.5 | SS-20 | 5 | 4 | 5 | 9 | ● |
| 85.0 | | | | | | | | | | |
| | -80.0 | | | | | | | | | |
| | | Dense, wet, reddish brown, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), | | 88.5 | SS-21 | 10 | 19 | 16 | 35 | ×▲○● |
| 90.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 90.0 | | LL=NP PL=NP PI=NP NMC=22.5 %#200=7.1 | | | | | | | |
| | -85.0 | | | | | | | | |
| 95.0 | | Undisturbed sample obtained from 93.5 to 95.5 feet. Approximately 24 inches of recovery. Stiff, moist, dark grayish brown, with trace sand, FAT CLAY (CH, A-7-6(65)), LL=81 PL=25 PI=56 NMC=46.9 %#200=98.5 | | 93.5 | T-2 | | | | |
| | -90.0 | | | | | | | | |
| 100.0 | | Undisturbed sample obtained from 98.5 to 100.5 feet. Approximately 7 inches of recovery. Wet, brown, fine to medium grained, CLAYEY SAND (SC) | | 98.5 | T-3 | | | | |
| | -95.0 | | | | | | | | |
| 105.0 | | Medium dense, moist, dark gray, with organics, CLAYEY SAND (SC, A-7-5(11)), LL=82 PL=32 PI=50 NMC=77.0 %#200=38.6 | | 103.5 | SS-22 | 1 | 6 | 7 | 13 |
| | -100.0 | | | | | | | | |
| 110.0 | | Undisturbed sample obtained from 108.5 to 110.5 feet. Approximately 24 inches of recovery. Top of tube: Brown | | 108.5 | T-4 | | | | |
| | -105.0 | Bottom of tube: Moist, gray, FAT CLAY with SAND (CH) | | | | | | | |
| 115.0 | | Dense, wet, gray and grayish brown, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=29.7 %#200=23.1 | | 113.5 | SS-23 | 19 | 20 | 21 | 41 |
| | -110.0 | | | | | | | | |
| 120.0 | | Dense, wet, dark gray, fine grained, with trace organics, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP | | 118.5 | SS-24 | 11 | 15 | 27 | 42 |

● SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 120.0 | | PI=NP NMC=23.6 %#200=14.4 | | | | | | | |
| | -115.0 | | | | | | | | |
| 125.0 | | Dense, wet, gray, fine to medium grained, with few gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=13.8 %#200=8.9 | | 123.5 | SS-25 | 23 | 23 | 25 | 48 |
| | -120.0 | | | | | | | | |
| 130.0 | | Dense, fine to coarse grained, with trace gravel | | 128.5 | SS-26 | 16 | 18 | 23 | 41 |
| | -125.0 | | | | | | | | |
| 135.0 | | Very dense, with trace gravel | | 133.5 | SS-27 | 42 | 45 | 44 | 89 |
| | -130.0 | | | | | | | | |
| 140.0 | | Stiff, moist, bluish gray, with trace sand, FAT CLAY (CH, A-7-6(40)), LL=60 PL=18 PI=42 NMC=20.9 %#200=89.0 | | 138.5 | SS-28 | 2 | 8 | 7 | 15 |
| | -135.0 | Undisturbed sample obtained from 140.5 to 141.9 feet. Approximately 17 inches of recovery. Gray, with trace sand and trace silt lenses | | 140.5 | T-5 | | | | |
| 145.0 | | Undisturbed sample obtained from 143.5 to 145.3 feet. Approximately 21 inches of recovery. Very stiff, moist, bluish gray and gray, with few sand lenses, LEAN CLAY (CL, A-6(14)), LL=32 PL=16 PI=16 NMC=27.0 %#200=91.5 | | 143.5 | T-6 | | | | |
| | -140.0 | | | | | | | | |
| 150.0 | | Stiff | | 148.5 | SS-29 | 5 | 6 | 9 | 15 |

SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

thompson ENGINEERING

# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) |
|---|---|---|---|---|---|---|---|---|---|
| 150.0 | | | | | | | | | |
| | -145.0 | | | | | | | | |
| 155.0 | | Undisturbed sample obtained from 153.5 to 155.5 feet. Approximately 24 inches of recovery. Top of tube: Gray | | 153.5 | T-7 | | | | |
| | -150.0 | Bottom of tube: Wet, gray, fine to medium grained, SILTY SAND (SM) | | | | | | | |
| 160.0 | | Very dense, wet, gray, fine to medium grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=19.5 %#200=12.4 | | 158.5 | SS-30 | 30 | 54 | 50/4 | 100+ |
| | -155.0 | | | | | | | | |
| 165.0 | | Hard, wet, gray, LEAN CLAY (CL) | | 163.5 | SS-31 | 29 | 23 | 16 | 39 |
| | -160.0 | Undisturbed sample obtained from 166.0 to 168.0 feet. Approximately 24 inches of recovery. Very stiff, wet, bluish gray, LEAN CLAY with SAND (CL, A-7-6(25)), LL=48 PL=16 PI=32 NMC=29.5 %#200=79.5 | | 166.0 | T-8 | | | | |
| 170.0 | | Hard, wet, bluish gray, with trace sand, LEAN CLAY (CL, A-7-6(26)), LL=45 PL=19 PI=26 NMC=31.0 %#200=92.5 | | 168.0 | SS-32 | 6 | 7 | 29 | 36 |
| | -165.0 | | | | | | | | |
| 175.0 | | Hard | | 173.5 | SS-33 | 22 | 26 | 24 | 50 |
| | -170.0 | | | | | | | | |
| 180.0 | | Very dense, wet, green, fine grained, SILTY SAND (SM, A-4(0)), LL=NP PL=NP PI=NP NMC=27.4 | | 178.5 | SS-34 | 19 | 40 | 44 | 84 |

● SPT N VALUE (blows / foot)

PL MC LL

▲ FINES CONTENT (%) ▲

10 20 30 40 50 60 70 80 90

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 180.0 | | %#200=47.0 | | | | | | | | |
| | -175.0 | | | | | | | | | |
| | | Very dense, wet, dark gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM) | | 183.5 | SS-35 | 44 | 50/5 | X | 50/5 | >> |
| 185.0 | -180.0 | | | | | | | | | |
| | | Very dense, wet, gray, fine to medium grained, with trace gravel, POORLY GRADED SAND with SILT (SP-SM, A-3(0)), LL=NP PL=NP PI=NP NMC=17.5 %#200=8.4 | | 188.5 | SS-36 | 50 | 50/4 | X | 50/4 | ▲ ○ >> |
| 190.0 | -185.0 | | | | | | | | | |
| | | Undisturbed sample obtained from 193.0 to 195.0 feet. Approximately 24 inches of recovery. Hard, wet to moist, bluish gray, SANDY LEAN CLAY (CL, A-4(3)), LL=28 PL=20 PI=8 NMC=19.9 %#200=63.4 | | 193.0 | T-9 | | | | | ⊗ ▲ |
| 195.0 | -190.0 | | | | | | | | | |
| | | Very stiff | | 198.5 | SS-37 | 8 | 12 | 14 | 26 | ● |
| 200.0 | | Undisturbed sample could not be obtained from 200.0 to 202.0 feet. No recovery. | | 200.0 | T-10 | | | | | |
| | -195.0 | | | | | | | | | |
| 205.0 | | | | | | | | | | |
| | -200.0 | | | | | | | | | |
| | | Undisturbed sample obtained from 208.5 to 210.5 feet. Approximately 10 inches of recovery. | | 208.5 | T-11 | | | | | ○ ▲ |
| 210.0 | | | | | | | | | | |

## LEGEND

**SAMPLER TYPE**

- SS - Split Spoon
- T - Shelby Tube
- DCP - Dynamic Cone Penetrometer
- AC - Auger Cuttings
- GB - Grab Bag
- NQ - Rock Core

**DRILLING METHOD**

- HSA - Hollow Stem Augers
- SSA - Solid Stem Augers
- HA - Hand Auger
- MR - Mud Rotary Wash
- RC - Rock Coring

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 210.0 | | | | | | | | | | |
| | -205.0 | Very stiff, wet to moist, bluish gray, SANDY LEAN CLAY (CL, A-6(8)), LL=32 PL=11 PI=21 NMC=13.1 %#200=54.9 | | | | | | | | |
| 215.0 | | | | | | | | | | |
| | -210.0 | | | | | | | | | |
| | | Undisturbed sample obtained from 218.5 to 220.5 feet. Approximately 9 inches of recovery. Moist to wet, SANDY LEAN CLAY (CL) | | 218.5 | T-12 | | | | | |
| 220.0 | | | | | | | | | | |
| | -215.0 | | | | | | | | | |
| 225.0 | | | | | | | | | | |
| | -220.0 | | | | | | | | | |
| | | Firm, wet, gray, SANDY SILT (ML, A-4(0)), LL=NP PL=NP PI=NP NMC=27.5 %#200=60.5 | | 228.5 | SS-38 | 6 | 3 | 4 | 7 | |
| 230.0 | | | | | | | | | | |
| | -225.0 | | | | | | | | | |
| 235.0 | | | | | | | | | | |
| | -230.0 | | | | | | | | | |
| | | Loose, wet, gray, fine grained, SILTY SAND (SM) | | 238.5 | SS-39 | 2 | 5 | 5 | 10 | |
| 240.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) / PL MC LL / FINES CONTENT (%) 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 240.0 | | | | | | | | | | |
| | -235.0 | | | | | | | | | |
| 245.0 | | | | | | | | | | |
| | -240.0 | | | | | | | | | |
| | | Loose, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=27.5 %#200=29.2 | | 248.5 | SS-40 | 7 | 3 | 5 | 8 | |
| 250.0 | | | | | | | | | | |
| | -245.0 | | | | | | | | | |
| 255.0 | | | | | | | | | | |
| | -250.0 | | | | | | | | | |
| | | Very dense | | 258.5 | SS-41 | 20 | 30 | 30 | 60 | |
| 260.0 | | | | | | | | | | |
| | -255.0 | | | | | | | | | |
| 265.0 | | | | | | | | | | |
| | -260.0 | | | | | | | | | |
| | | Very dense, wet, gray, fine grained, SILTY SAND (SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=19.7 | | 268.5 | SS-42 | 38 | 36 | 50/6 | 100+ | >> |
| 270.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| 270.0 | | | | | | | | | | |
| | -265.0 | %#200=17.3 | | | | | | | | |
| 275.0 | | | | | | | | | | |
| | -270.0 | | | | | | | | | |
| | | Very dense, wet, gray, fine grained, POORLY GRADED SAND with SILT (SP-SM) | | 278.5 | SS-43 | 29 | 46 | 50/5 | 100+ | >> |
| 280.0 | | | | | | | | | | |
| | -275.0 | | | | | | | | | |
| 285.0 | | | | | | | | | | |
| | -280.0 | | | | | | | | | |
| | | Very dense, wet, gray, fine to medium grained, POORLY GRADED SAND with SILT (SP-SM, A-2-4(0)), LL=NP PL=NP PI=NP NMC=20.8 %#200=11.1 | | 288.5 | SS-44 | 30 | 50 | X | 50/6 | ▲ ○ >> |
| 290.0 | | | | | | | | | | |
| | -285.0 | | | | | | | | | |
| 295.0 | | | | | | | | | | |
| | -290.0 | | | | | | | | | |
| | | Very dense, light gray and white | | 298.5 | SS-45 | 50 | X | X | 100+ | >> |
| 300.0 | | | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

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# RECORD OF TEST BORING

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site Description:** | I-10 Mobile River Bridge and Bayway | | | | | **County:** | Mobile |
| **Boring No.:** | WHLA-03 | **Boring Location:** | 509+17.5 | **Offset:** | LT 5.8 | **Alignment:** | I-10 Main Span |
| **ALDOT PE No.:** | DPI-0030(005) | **TE Project No.:** | 15-1101-0228 | | | **Eng./Geo.:** | B.Ellis/C.Tisher |
| **Elev.:** | 7.1 ft. | **Northing:** | 249311.95 | **Easting:** | 1798929.585 | **Date Started:** | 4/29/2016 |
| **Total Depth:** | 300.0 ft. | **Soil Depth:** | 300.0 ft. | **Core Depth:** | 0.0 ft. | **Date Completed:** | 5/4/2016 |
| **Bore Hole Diameter (in):** | 4-inch | **AASHTO / ASTM Sampling Methods:** | | AASHTO T206 & T207 | | | |
| **Drill Machine:** | CME 550X | **Drill Method:** | MR | **Hammer Type:** | Automatic | **Energy Ratio:** | 88% |
| **Core Size:** | N/A | **Driller:** | Thompson Eng | **Groundwater:** | **TOB** 6.0 ft. | **Delayed:** | N.O. |

| Depth (ft) | Elevation (ft) | MATERIAL DESCRIPTION | Graphic Log | Sample Depth (ft.) | Sample No./Type | 1st 6" | 2nd 6" | 3rd 6" | N Value (Field) | ● SPT N VALUE (blows / foot) PL MC LL ▲ FINES CONTENT (%) ▲ 10 20 30 40 50 60 70 80 90 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boring Terminated at 300.0 feet. | | | | | | | | |

## LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|---|---|---|---|
| SS - Split Spoon | AC - Auger Cuttings | HSA - Hollow Stem Augers | MR - Mud Rotary Wash |
| T - Shelby Tube | GB - Grab Bag | SSA - Solid Stem Augers | RC - Rock Coring |
| DCP - Dynamic Cone Penetrometer | NQ - Rock Core | HA - Hand Auger | |

APPENDIX B

# Laboratory Results Provided by ALDOT

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 495+05.3 RT 39.0 | HLA-10A | SS-27 | 159.3 | 28.8 | 72 | 21 | 51 | 5.7 | 33.5 | 60.8 | | | CH | A-7-6(28) |
| 495+05.3 RT 39.0 | HLA-10A | SS-30 | 189.3 | 20.6 | NP | NP | NP | 5.5 | 70.4 | 24.2 | | 0.1899 | SM | A-2-4(0) |
| 495+05.3 RT 39.0 | HLA-10A | T-2 | 198.8 | 24.4 | 50 | 16 | 34 | 0.0 | 25.2 | 74.8 | | | CH | A-7-6(24) |
| 495+05.3 RT 39.0 | HLA-10A | T-3 | 218.8 | 16.8 | 30 | 17 | 13 | 0.0 | 22.1 | 59.8 | 18.0 | 0.0442 | CL | A-6(8) |
| 495+05.3 RT 39.0 | HLA-10A | - | 228.5 | 23.8 | 30 | 18 | 12 | 0.0 | 40.9 | 59.1 | | | CL | A-6(4) |
| 495+05.3 RT 39.0 | HLA-10A | SS-36 | 249.3 | 25.4 | NP | NP | NP | 0.0 | 36.1 | 63.9 | | | ML | A-4(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-2 | 1.5 | 3.1 | NP | NP | NP | 3.5 | 92.6 | 3.9 | | 0.4151 | SP | A-3(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-6 | 8.5 | 11.3 | NP | NP | NP | 22.7 | 74.8 | 2.5 | | 1.1886 | SP | A-1-b(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-11 | 33.5 | 22.3 | NP | NP | NP | 0.1 | 96.1 | 3.8 | | 0.2510 | SP | A-3(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-15 | 53.5 | 23.6 | NP | NP | NP | 0.2 | 95.3 | 4.5 | | 0.3211 | SP | A-3(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-20 | 78.5 | 15.8 | NP | NP | NP | 0.7 | 94.5 | 4.9 | | 0.4861 | SP | A-1-b(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-22 | 88.5 | 18.4 | NP | NP | NP | 1.9 | 92.6 | 5.4 | | 0.3569 | SP-SM | A-3(0) |
| 541+43.3 LT 45.4 | HLA-12 | T-1 | 108.0 | 36.6 | 97 | 26 | 71 | 0.0 | 3.8 | 96.2 | | | CH | A-7-6(79) |
| 541+43.3 LT 45.4 | HLA-12 | SS-26 | 113.5 | 25.6 | NP | NP | NP | 0.3 | 49.6 | 50.1 | | | ML | A-4(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-31 | 138.5 | 21.9 | NP | NP | NP | 0.5 | 93.2 | 6.3 | | 0.3223 | SP-SM | A-3(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-33 | 148.5 | 21.4 | 39 | 15 | 24 | 0.0 | 7.4 | 92.6 | | | CL | A-6(22) |
| 541+43.3 LT 45.4 | HLA-12 | SS-34 | 158.5 | 22.4 | 46 | 15 | 31 | 0.0 | 33.9 | 66.1 | | | CL | A-7-6(18) |
| 541+43.3 LT 45.4 | HLA-12 | T-2 | 188.0 | 20.4 | 29 | 15 | 14 | 0.0 | 11.0 | 89.0 | | | CL | A-6(11) |
| 541+43.3 LT 45.4 | HLA-12 | SS-38 | 208.5 | 19.8 | 32 | 16 | 16 | 0.0 | 48.7 | 51.3 | | | CL | A-6(5) |
| 541+43.3 LT 45.4 | HLA-12 | SS-40 | 228.5 | 25.7 | 34 | 19 | 15 | 0.0 | 26.0 | 74.0 | | | CL | A-6(10) |
| 541+43.3 LT 45.4 | HLA-12 | SS-41 | 238.5 | 22.2 | NP | NP | NP | 0.0 | 69.0 | 31.0 | | 0.1142 | SM | A-2-4(0) |
| 541+43.3 LT 45.4 | HLA-12 | SS-42 | 248.5 | 24.3 | NP | NP | NP | 0.0 | 76.7 | 23.3 | | 0.1308 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-1 | 1.0 | 12.5 | NP | NP | NP | 0.7 | 96.5 | 2.8 | | 0.3846 | SP | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-3 | 4.0 | 15.9 | NP | NP | NP | 3.1 | 93.9 | 3.0 | | 0.3937 | SP | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-7 | 13.5 | 42.5 | NP | NP | NP | | | 43.9 | | | SM | A-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | T-1 | 18.0 | 33.9 | NP | NP | NP | 0.0 | 74.7 | 17.9 | 7.4 | 0.0996 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-10 | 33.5 | 23.7 | NP | NP | NP | 0.2 | 94.6 | 5.2 | | 0.2435 | SP-SM | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-11 | 38.5 | 23.1 | NP | NP | NP | 0.0 | 94.5 | 5.5 | | 0.2440 | SP-SM | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-13 | 48.5 | 17.8 | NP | NP | NP | 0.0 | 65.7 | 34.3 | | 0.1402 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-14 | 53.5 | 22.2 | 24 | 17 | 7 | 0.0 | 46.8 | 53.2 | | | CL-ML | A-4(1) |

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**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 544+74.9 RT 27.7 | HLA-13 | SS-16 | 63.5 | 26.0 | NP | NP | NP | 0.3 | 93.9 | 5.8 | | 0.2899 | SP-SM | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-18 | 73.5 | 19.7 | NP | NP | NP | 0.8 | 90.1 | 9.1 | | 0.3136 | SP-SM | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-22 | 93.5 | 20.8 | NP | NP | NP | 0.4 | 95.7 | 3.9 | | 0.3683 | SP | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-23 | 98.5 | 47.2 | 68 | 30 | 38 | | | 89.4 | | | CH | A-7-5(39) |
| 544+74.9 RT 27.7 | HLA-13 | SS-25 | 108.5 | 24.7 | NP | NP | NP | 0.0 | 81.2 | 18.8 | | 0.1426 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-29 | 128.5 | 22.9 | NP | NP | NP | 0.0 | 93.0 | 7.0 | | 0.2674 | SP-SM | A-3(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-32 | 143.5 | 22.8 | NP | NP | NP | 0.0 | 72.8 | 27.2 | | 0.1564 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | T-2 | 158.0 | 20.3 | 41 | 16 | 25 | 0.0 | 16.9 | 40.8 | 42.3 | 0.0143 | CL | A-7-6(20) |
| 544+74.9 RT 27.7 | HLA-13 | SS-34 | 168.5 | 16.6 | 25 | 12 | 13 | 0.0 | 51.4 | 48.6 | | 0.0785 | SC | A-6(3) |
| 544+74.9 RT 27.7 | HLA-13 | SS-35 | 178.5 | 23.2 | 29 | 11 | 18 | 0.0 | 44.0 | 56.0 | | | CL | A-6(6) |
| 544+74.9 RT 27.7 | HLA-13 | SS-36 | 188.5 | 20.4 | 34 | 14 | 20 | | | 93.9 | | | CL | A-6(18) |
| 544+74.9 RT 27.7 | HLA-13 | SS-37 | 198.5 | 17.5 | 28 | 14 | 14 | 0.0 | 31.8 | 68.2 | | | CL | A-6(7) |
| 544+74.9 RT 27.7 | HLA-13 | SS-38 | 208.5 | 21.4 | NP | NP | NP | 0.0 | 79.5 | 20.5 | | 0.1462 | SM | A-2-4(0) |
| 544+74.9 RT 27.7 | HLA-13 | SS-40 | 228.5 | 28.7 | 37 | 20 | 17 | | | 97.1 | | | CL | A-6(17) |
| 544+74.9 RT 27.7 | HLA-13 | SS-42 | 248.5 | 23.2 | NP | NP | NP | 0.0 | 75.6 | 24.4 | | 0.1313 | SM | A-2-4(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-1 | 1.0 | 6.8 | NP | NP | NP | 8.3 | 83.7 | 8.0 | | 0.3631 | SP-SM | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-2 | 2.5 | 14.2 | NP | NP | NP | 0.6 | 92.9 | 6.5 | | 0.3820 | SP-SM | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-4 | 5.5 | 19.3 | NP | NP | NP | 4.0 | 93.1 | 2.9 | | 0.5122 | SP | A-1-b(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-6 | 8.5 | 16.8 | NP | NP | NP | 8.8 | 89.2 | 2.1 | | 0.3678 | SP | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-8 | 18.5 | 36.5 | 26 | 21 | 5 | 0.0 | 52.8 | 47.2 | | 0.0797 | SC-SM | A-4(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-10 | 28.5 | 20.5 | NP | NP | NP | 0.0 | 95.4 | 4.6 | | 0.2326 | SP | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-13 | 43.5 | 22.2 | NP | NP | NP | 0.2 | 91.2 | 8.6 | | 0.2586 | SP-SM | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-15 | 53.5 | 19.9 | NP | NP | NP | 0.0 | 72.2 | 27.8 | | 0.1664 | SM | A-2-4(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-16 | 58.5 | 41.8 | 25 | 19 | 6 | 0.0 | 37.6 | 39.1 | 23.3 | 0.0492 | CL-ML | A-4(1) |
| 547+39.7 LT 40.3 | HLA-14 | SS-17 | 63.5 | 28.5 | 26 | 20 | 6 | 0.0 | 23.4 | 76.6 | | | CL-ML | A-4(3) |
| 547+39.7 LT 40.3 | HLA-14 | T-1 | 68.0 | 22.3 | 24 | 15 | 9 | 0.0 | 43.9 | 56.1 | | | CL | A-4(2) |
| 547+39.7 LT 40.3 | HLA-14 | SS-19 | 78.5 | 21.0 | NP | NP | NP | 0.8 | 94.8 | 4.3 | | 0.3192 | SP | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-21 | 88.5 | 20.9 | NP | NP | NP | 5.6 | 90.0 | 4.4 | | 0.3889 | SP | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-23 | 98.5 | 21.0 | NP | NP | NP | 1.1 | 94.0 | 4.9 | | 0.3677 | SP | A-3(0) |
| 547+39.7 LT 40.3 | HLA-14 | SS-29 | 128.5 | 23.3 | NP | NP | NP | 0.0 | 95.2 | 4.8 | | 0.3357 | SP | A-3(0) |

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**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 % Silt (if hydrometer data available) | % Pass 200 % Clay (if hydrometer data available) | D50 (mm) | USCS | AASHTO Classification |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 514+25.9 LT 18.8 | MB-1 | SS-2 | 1.5 | 57.0 | NP | NP | NP | 19.9 | 62.6 | 11.3 | 6.2 | 0.2928 | SM | A-2-4(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-7 | 13.5 | 18.9 | NP | NP | NP | 50.1 | 39.0 | 8.4 | 2.5 | 4.7614 | GP-GM | A-1-a(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-8 | 18.5 | 16.9 | NP | NP | NP | 38.4 | 56.9 | 3.2 | 1.5 | 0.5977 | SP | A-1-b(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-11 | 33.5 | 28.7 | NP | NP | NP | 16.6 | 80.0 | 3.4 | | 0.3261 | SP | A-3(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-13 | 43.5 | 22.2 | NP | NP | NP | 3.9 | 94.0 | 2.1 | | 0.4741 | SP | A-1-b(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-14 | 48.5 | 11.7 | NP | NP | NP | 55.6 | 41.3 | 3.1 | | 6.0176 | GP | A-1-a(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-17 | 63.5 | 19.3 | NP | NP | NP | 9.7 | 81.7 | 8.6 | | 0.4055 | SP-SM | A-3(0) |
| 514+25.9 LT 18.8 | MB-1 | T-1 | 90.5 | 40.1 | 52 | 22 | 30 | 0.0 | 24.3 | 39.4 | 36.3 | 0.0185 | CH | A-7-6(23) |
| 514+25.9 LT 18.8 | MB-1 | T-2 | 98.5 | 44.0 | 89 | 28 | 61 | 0.0 | 0.7 | 20.0 | 79.3 | --- | CH | A-7-6(71) |
| 514+25.9 LT 18.8 | MB-1 | SS-24 | 103.5 | 23.9 | 21 | 17 | 4 | 0.0 | 73.3 | 26.7 | | 0.1545 | SC-SM | A-2-4(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-26 | 113.5 | 19.5 | NP | NP | NP | 8.9 | 87.8 | 3.3 | | 0.7445 | SP | A-1-b(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-29 | 128.5 | 23.7 | 53 | 21 | 32 | 0.2 | 4.8 | 95.0 | | --- | CH | A-7-6(34) |
| 514+25.9 LT 18.8 | MB-1 | SS-33 | 148.5 | 22.5 | NP | NP | NP | 0.0 | 89.5 | 10.5 | | 0.1997 | SP-SM | A-2-4(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-35 | 163.5 | 23.8 | NP | NP | NP | 3.6 | 84.9 | 11.5 | | 0.1583 | SP-SM | A-2-4(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-36 | 168.5 | 23.2 | 36 | 13 | 23 | 0.0 | 51.6 | 48.4 | | 0.0895 | SC | A-6(7) |
| 514+25.9 LT 18.8 | MB-1 | SS-39 | 183.5 | 26.5 | NP | NP | NP | 0.0 | 90.3 | 9.7 | | 0.1758 | SP-SM | A-3(0) |
| 514+25.9 LT 18.8 | MB-1 | T-4 | 188.5 | 17.8 | 28 | 14 | 14 | 0.0 | 37.1 | 62.9 | | --- | CL | A-6(6) |
| 514+25.9 LT 18.8 | MB-1 | SS-40 | 193.5 | 21.0 | 46 | 16 | 30 | 0.0 | 8.3 | 91.7 | | --- | CL | A-7-6(29) |
| 514+25.9 LT 18.8 | MB-1 | SS-42 | 208.5 | 17.0 | 39 | 15 | 24 | 0.0 | 11.3 | 88.7 | | --- | CL | A-6(21) |
| 514+25.9 LT 18.8 | MB-1 | SS-45 | 238.5 | 25.3 | NP | NP | NP | 0.0 | 72.0 | 28.0 | | 0.1152 | SM | A-2-4(0) |
| 514+25.9 LT 18.8 | MB-1 | SS-50 | 288.5 | 21.1 | NP | NP | NP | 2.4 | 86.7 | 10.9 | | 0.2976 | SP-SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-3 | 6.0 | 18.7 | NP | NP | NP | 2.1 | 94.1 | 3.8 | | 0.4165 | SP | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-8 | 28.5 | 22.7 | NP | NP | NP | 0.1 | 92.3 | 7.6 | | 0.289 | SP-SM | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-14 | 37.5 | 28.4 | NP | NP | NP | 0.0 | 89.9 | 10.1 | | 0.274 | SP-SM | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-22 | 49.5 | 23.2 | NP | NP | NP | 5.3 | 88.7 | 6.0 | | 0.3947 | SP-SM | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-26 | 55.5 | 29.4 | NP | NP | NP | 0.3 | 95.9 | 3.8 | | 0.3456 | SP | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-30 | 68.5 | 25.3 | NP | NP | NP | 0.0 | 95.1 | 4.9 | | 0.3281 | SP | A-3(0) |

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**Soil Classification Summary**

**Alabama Department of Transportation**

ALDOT PE Project No.: DPI-0030(005)

Project Name: Mobile River Bridge - Main Span Unit

Thompson Project No.: 17-1101-0145

Mobile, Mobile County, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 % Silt (if hydrometer data available) | % Pass 200 % Clay (if hydrometer data available) | D50 (mm) | USCS | AASHTO Classification |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 527+75.9 LT 22.0 | MB-2 | SS-32 | 78.5 | 22.3 | NP | NP | NP | 1.4 | 91.8 | 6.8 | | 0.3907 | SP-SM | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-35 | 93.5 | 37.7 | NP | NP | NP | 0.0 | 8.1 | 29.1 | 62.8 | 0.0011 | ML | A-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-36 | 98.5 | 25.9 | NP | NP | NP | 0.0 | 87.7 | 12.3 | | 0.2101 | SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-38 | 108.5 | 29.5 | NP | NP | NP | 0.0 | 93.1 | 6.9 | | 0.2576 | SP-SM | A-3(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-40 | 118.5 | 26.6 | NP | NP | NP | 0.0 | 89.3 | 10.7 | | 0.1889 | SP-SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-44 | 138.5 | 27.1 | NP | NP | NP | 0.0 | 33.5 | 50.8 | 15.7 | 0.0533 | ML | A-4(0) |
| 527+75.9 LT 22.0 | MB-2 | T-2 | 140.0 | 23.8 | 29 | 18 | 11 | 0.0 | 28.4 | 52.2 | 19.4 | 0.0416 | CL | A-6(6) |
| 527+75.9 LT 22.0 | MB-2 | T-3 | 145.0 | 21.0 | 23 | 18 | 5 | 0.0 | 18.3 | 57.8 | 23.9 | 0.0371 | CL-ML | A-4(2) |
| 527+75.9 LT 22.0 | MB-2 | SS-46 | 148.5 | 22.6 | 26 | 14 | 12 | 0.0 | 21.1 | 52.6 | 26.3 | 0.0251 | CL | A-6(7) |
| 527+75.9 LT 22.0 | MB-2 | SS-48 | 158.5 | 22.7 | NP | NP | NP | 0.0 | 82.4 | 17.6 | | 0.4834 | SM | A-1-b(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-50 | 168.5 | 29.9 | 28 | 15 | 13 | 0.0 | 44.1 | 38.3 | 17.6 | 0.0613 | CL | A-6(4) |
| 527+75.9 LT 22.0 | MB-2 | SS-52 | 178.5 | 28.5 | NP | NP | NP | 0.6 | 74.9 | 24.5 | | 0.1107 | SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-54 | 188.5 | 17.6 | 32 | 16 | 16 | 0.0 | 21.9 | 58.4 | 19.7 | 0.0296 | CL | A-6(11) |
| 527+75.9 LT 22.0 | MB-2 | T-4 | 190.0 | 42.2 | 35 | 14 | 21 | 0.0 | 32.6 | 39.8 | 27.6 | 0.0413 | CL | A-6(11) |
| 527+75.9 LT 22.0 | MB-2 | SS-56 | 198.5 | 23.0 | 26 | 15 | 11 | 0.0 | 24.2 | 56.6 | 19.2 | 0.0396 | CL | A-6(6) |
| 527+75.9 LT 22.0 | MB-2 | T-5 | 210.0 | 14.4 | 33 | 13 | 20 | 0.0 | 30.8 | 30.1 | 39.1 | 0.0167 | CL | A-6(11) |
| 527+75.9 LT 22.0 | MB-2 | SS-58 | 218.5 | 17.2 | 36 | 15 | 21 | 0.0 | 5.9 | 53.0 | 41.1 | 0.0099 | CL | A-6(19) |
| 527+75.9 LT 22.0 | MB-2 | ST-6 | 228.5 | 26.2 | 29 | 23 | 6 | 0.0 | 27.2 | 61.5 | 11.3 | 0.0529 | ML | A-4(3) |
| 527+75.9 LT 22.0 | MB-2 | SS-60 | 238.5 | 23.1 | NP | NP | NP | 0.0 | 72.3 | 27.7 | | 0.1176 | SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-62 | 258.5 | 21.7 | 29 | 16 | 13 | 0.0 | 19.8 | 60.0 | 20.2 | 0.0341 | CL | A-6(8) |
| 527+75.9 LT 22.0 | MB-2 | T-7 | 270.0 | 19.6 | NP | NP | NP | 0.0 | 54.4 | 34.3 | 11.3 | 0.0865 | SM | A-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-64 | 278.5 | 25.3 | NP | NP | NP | 0.0 | 83.5 | 16.5 | | 0.2302 | SM | A-2-4(0) |
| 527+75.9 LT 22.0 | MB-2 | SS-66 | 298.5 | 23.4 | NP | NP | NP | 0.0 | 77.8 | 22.2 | | 0.2083 | SM | A-2-4(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-5 | 6.0 | 73.4 | 33 | 18 | 15 | 3.0 | 42.4 | 54.6 | | --- | CL | A-6(5) |
| 528+88.0 RT 32.9 | MB-2A | SS-8 | 18.5 | 26.4 | NP | NP | NP | 0.0 | 83.2 | 16.8 | | 0.2754 | SM | A-2-4(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-14 | 48.5 | 21.7 | NP | NP | NP | 1.4 | 97.1 | 1.5 | | 0.5527 | SP | A-1-b(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-20 | 78.5 | 21.2 | NP | NP | NP | 1.0 | 96.7 | 2.3 | | 0.3799 | SP | A-3(0) |

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**Soil Classification Summary**

**Alabama Department of Transportation**

ALDOT PE Project No.: DPI-0030(005)

Project Name: Mobile River Bridge - Main Span Unit

Thompson Project No.: 17-1101-0145

Mobile, Mobile County, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 % Silt % Clay (if hydrometer data available) | D50 (mm) | USCS | AASHTO Classification |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 528+88.0 RT 32.9 | MB-2A | SS-21 | 83.5 | 37.5 | 87 | 29 | 58 | 1.2 | 20.1 | 78.7 | --- | CH | A-7-6(50) |
| 528+88.0 RT 32.9 | MB-2A | T-2 | 93.5 | 25.7 | 45 | 18 | 27 | 0.0 | 43.6 | 56.4 | --- | CL | A-7-6(12) |
| 528+88.0 RT 32.9 | MB-2A | SS-22 | 98.5 | 23.6 | NP | NP | NP | 0.0 | 93.0 | 7.0 | 0.2772 | SP-SM | A-3(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-25 | 113.5 | 10.7 | NP | NP | NP | 35.9 | 60.3 | 3.8 | 1.5827 | SP | A-1-b(0) |
| 528+88.0 RT 32.9 | MB-2A | T-3 | 123.0 | 26.0 | 35 | 17 | 18 | 0.0 | 2.3 | 97.7 | --- | CL | A-6(18) |
| 528+88.0 RT 32.9 | MB-2A | SS-28 | 138.5 | 23.0 | 77 | 20 | 57 | 0.3 | 7.1 | 92.6 | --- | CH | A-7-6(59) |
| 528+88.0 RT 32.9 | MB-2A | T-5 | 143.0 | 47.7 | 51 | 16 | 35 | 0.0 | 4.9 | 95.1 | --- | CH | A-7-6(35) |
| 528+88.0 RT 32.9 | MB-2A | SS-29 | 153.5 | 30.4 | NP | NP | NP | 6.6 | 77.2 | 16.2 | 0.1764 | SM | A-2-4(0) |
| 528+88.0 RT 32.9 | MB-2A | T-6 | 158.0 | 26.7 | NP | NP | NP | 0.6 | 92.0 | 7.4 | 0.1564 | SP-SM | A-3(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-30 | 168.5 | 18.6 | 33 | 15 | 18 | 0.0 | 44.4 | 55.6 | --- | CL | A-6(7) |
| 528+88.0 RT 32.9 | MB-2A | T-8 | 198.0 | 31.2 | 39 | 14 | 25 | 0.0 | 25.8 | 74.2 | --- | CL | A-6(16) |
| 528+88.0 RT 32.9 | MB-2A | SS-33 | 208.5 | 22.1 | 33 | 18 | 15 | 0.0 | 5.2 | 94.8 | --- | CL | A-6(14) |
| 528+88.0 RT 32.9 | MB-2A | SS-34 | 218.0 | 24.8 | 39 | 18 | 21 | 0.0 | 10.6 | 89.4 | --- | CL | A-6(19) |
| 528+88.0 RT 32.9 | MB-2A | SS-36 | 238.5 | 24.4 | NP | NP | NP | 0.0 | 58.2 | 41.8 | 0.0873 | SM | A-4(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-37 | 248.5 | 22.1 | 25 | 14 | 11 | 0.2 | 30.2 | 69.6 | --- | CL | A-6(5) |
| 528+88.0 RT 32.9 | MB-2A | SS-38 | 268.5 | 22.5 | NP | NP | NP | 0.0 | 90.3 | 9.7 | 0.184 | SP-SM | A-3(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-39 | 278.5 | 22.0 | NP | NP | NP | 0.0 | 86.9 | 13.1 | 0.2985 | SM | A-2-4(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-41 | 298.5 | 24.6 | NP | NP | NP | 0.0 | 36.2 | 63.8 | --- | ML | A-4(0) |
| 528+88.0 RT 32.9 | MB-2A | SS-42 | 308.5 | 17.0 | 49 | 12 | 37 | 0.0 | 29.4 | 70.6 | --- | CL | A-7-6(24) |
| 528+88.0 RT 32.9 | MB-2A | SS-43 | 318.5 | 35.6 | 45 | 14 | 31 | 0.0 | 23.8 | 76.2 | --- | CL | A-7-6(22) |
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**Soil Classification Summary**

**Alabama Department of Transportation**

ALDOT PE Project No.: DPI-0030(005)

Project Name: Mobile River Bridge - Main Span Unit

Thompson Project No.: 17-1101-0145

Mobile, Mobile County, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 141+91.2 LT 7.3 | TH-11 | SS-11 | 38.5 | 21.5 | NP | NP | NP | 0.6 | 95.9 | 3.5 | | 0.3511 | SP | A-3(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-16 | 63.5 | 20.2 | NP | NP | NP | 8.3 | 84.4 | 7.3 | | 0.6244 | SP-SM | A-1-b(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-20 | 83.5 | 34.9 | 60 | 16 | 44 | 0.0 | 22.9 | 77.1 | | | CH | A-7-6(34) |
| 141+91.2 LT 7.3 | TH-11 | SS-21 | 88.0 | 23.6 | NP | NP | NP | 0.0 | 90.9 | 9.1 | | 0.2338 | SP-SM | A-3(0) |
| 141+91.2 LT 7.3 | TH-11 | T-3 | 93.0 | 41.9 | 59 | 24 | 35 | 0.0 | 7.5 | 92.5 | | | CH | A-7-6(36) |
| 141+91.2 LT 7.3 | TH-11 | SS-22 | 98.5 | 65.9 | 110 | 35 | 75 | 0.0 | 4.1 | 95.9 | | | CH | A-7-5(86) |
| 141+91.2 LT 7.3 | TH-11 | SS-23 | 103.5 | 22.7 | NP | NP | NP | 0.0 | 64.2 | 35.8 | | 0.1015 | SM | A-4(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-25 | 113.5 | 25.0 | NP | NP | NP | 0.0 | 89.9 | 10.1 | | 0.1855 | SP-SM | A-3(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-26 | 118.5 | 29.6 | NP | NP | NP | 0.0 | 75.5 | 24.5 | | 0.1275 | SM | A-2-4(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-27 | 123.5 | 26.2 | NP | NP | NP | 0.0 | 81.2 | 18.8 | | 0.1548 | SM | A-2-4(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-29 | 133.5 | 21.6 | NP | NP | NP | 0.1 | 94.7 | 5.1 | | 0.2721 | SP-SM | A-3(0) |
| 141+91.2 LT 7.3 | TH-11 | SS-31 | 143.5 | 20.9 | NP | NP | NP | 0.8 | 92.7 | 6.4 | | 0.3073 | SP-SM | A-3(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-2 | 1.5 | 12.8 | NP | NP | NP | 0.1 | 79.0 | 20.9 | | 0.1888 | SM | A-2-4(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-5 | 6.0 | 16.1 | 18 | 13 | 5 | 2.3 | 72.6 | 25.1 | | 0.1600 | SC-SM | A-2-4(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-8 | 18.5 | 28.8 | NP | NP | NP | 0.0 | 73.1 | 26.9 | | 0.1700 | SM | A-2-4(0) |
| 1206+11.1 LT 2.5 | TH-12 | T-1 | 28.0 | 73.6 | 111 | 37 | 74 | 0.0 | 1.0 | 99.0 | | | CH | A-7-5(89) |
| 1206+11.1 LT 2.5 | TH-12 | SS-11 | 38.5 | 27.9 | NP | NP | NP | 0.0 | 80.8 | 19.2 | | 0.1593 | SM | A-2-4(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-14 | 53.5 | 24.0 | NP | NP | NP | 0.0 | 94.1 | 5.9 | | 0.2838 | SP-SM | A-3(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-18 | 73.5 | 23.8 | NP | NP | NP | 3.0 | 88.2 | 8.8 | | 0.4616 | SW-SM | A-1-b(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-20 | 83.5 | 23.3 | NP | NP | NP | 0.1 | 95.6 | 4.3 | | 0.3541 | SP | A-3(0) |
| 1206+11.1 LT 2.5 | TH-12 | SS-22 | 93.5 | 25.0 | NP | NP | NP | 0.0 | 95.0 | 5.0 | | 0.3913 | SP-SM | A-3(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-2 | 1.5 | 9.2 | NP | NP | NP | 1.5 | 73.8 | 24.7 | | 0.2113 | SM | A-2-4(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-3 | 3.0 | 15.1 | NP | NP | NP | 0.3 | 79.2 | 20.6 | | 0.2592 | SM | A-2-4(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-5 | 6.0 | 13.9 | 18 | 13 | 5 | 0.0 | 75.5 | 24.5 | | 0.2194 | SC-SM | A-2-4(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-9 | 25.0 | 28.6 | 24 | 18 | 6 | 0.0 | 71.8 | 28.2 | | 0.1635 | SC-SM | A-2-4(0) |
| 153+01.7 RT 78.9 | TH-13 | T-2 | 28.0 | 98.2 | 83 | 46 | 37 | 0.0 | 24.1 | 75.9 | | | MH | A-7-5(33) |
| 153+01.7 RT 78.9 | TH-13 | SS-10 | 33.5 | 25.9 | NP | NP | NP | 0.0 | 71.1 | 28.9 | | 0.1134 | SM | A-2-4(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-13 | 48.5 | 24.2 | NP | NP | NP | 0.0 | 93.4 | 6.6 | | 0.3123 | SP-SM | A-3(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-16 | 63.5 | 21.9 | NP | NP | NP | 0.1 | 93.2 | 6.8 | | 0.3322 | SP-SM | A-3(0) |
| 153+01.7 RT 78.9 | TH-13 | SS-19 | 78.5 | 21.2 | NP | NP | NP | 2.2 | 84.3 | 13.5 | | 0.2636 | SM | A-2-4(0) |

thompson
ENGINEERING

**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 153+01.7 RT 78.9 | TH-13 | SS-22 | 93.5 | 13.8 | NP | NP | NP | 11.8 | 82.5 | 5.7 | | 0.8108 | SW-SM | A-1-b(0) |
| 153+01.7 RT 78.9 | TH-13 | T-3 | 108.5 | 40.8 | 67 | 22 | 45 | 0.0 | 6.6 | 93.4 | | | CH | A-7-6(47) |
| 153+01.7 RT 78.9 | TH-13 | T-4 | 118.5 | 30.4 | 54 | 18 | 36 | 0.0 | 13.7 | 86.3 | | | CH | A-7-6(32) |
| 153+01.7 RT 78.9 | TH-13 | SS-26 | 123.5 | 23.8 | 22 | 13 | 9 | 0.0 | 57.9 | 42.1 | | 0.0915 | SC | A-4(1) |
| 153+01.7 RT 78.9 | TH-13 | SS-30 | 143.5 | 18.8 | NP | NP | NP | 0.7 | 91.7 | 7.6 | | 0.4167 | SP-SM | A-3(0) |
| 9014+62.1 LT 4.9 | TH-24 | SS-2 | 1.5 | 11.5 | NP | NP | NP | 1.8 | 78.4 | 19.9 | | 0.2429 | SM | A-2-4(0) |
| 9014+62.1 LT 4.9 | TH-24 | SS-4 | 4.5 | 22.1 | 27 | 16 | 11 | 16.1 | 64.1 | 19.8 | | 0.2386 | SC | A-2-6(0) |
| 9014+62.1 LT 4.9 | TH-24 | SS-7 | 13.5 | 23.4 | NP | NP | NP | 0.0 | 76.1 | 23.9 | | 0.1940 | SM | A-2-4(0) |
| 906+09.3 LT 1.4 | TH-25 | SS-2 | 2.6 | 16.5 | NP | NP | NP | 11.0 | 72.9 | 16.1 | | 0.3121 | SM | A-2-4(0) |
| 906+09.3 LT 1.4 | TH-25 | SS-4 | 5.6 | 19.1 | 31 | 13 | 18 | 0.0 | 67.8 | 32.2 | | 0.1620 | SC | A-2-6(1) |
| 906+09.3 LT 1.4 | TH-25 | SS-7 | 14.6 | 23.1 | NP | NP | NP | 0.0 | 81.4 | 18.6 | | 0.2095 | SM | A-2-4(0) |
| 906+09.3 LT 1.4 | TH-25 | SS-9 | 24.6 | 26.9 | NP | NP | NP | 0.2 | 88.8 | 11.0 | | 0.2803 | SP-SM | A-2-4(0) |
| 23+83.8 LT 52.0 | TH-26 | SS-1 | 0.0 | 22.2 | NP | NP | NP | 9.2 | 69.2 | 21.6 | | 0.2147 | SM | A-2-4(0) |
| 23+83.8 LT 52.0 | TH-26 | SS-2 | 1.5 | 13.7 | NP | NP | NP | 2.7 | 74.0 | 23.3 | | 0.1438 | SM | A-2-4(0) |
| 23+83.8 LT 52.0 | TH-26 | SS-4 | 4.5 | 18.9 | NP | NP | NP | 0.0 | 78.9 | 21.1 | | 0.1512 | SM | A-2-4(0) |
| 23+83.8 LT 52.0 | TH-26 | SS-6 | 10.5 | 43.6 | NP | NP | NP | 0.0 | 46.4 | 53.6 | | | ML | A-4(0) |
| 23+83.8 LT 52.0 | TH-26 | SS-9 | 25.5 | 27.2 | 29 | 18 | 11 | 0.0 | 50.5 | 49.5 | | 0.0756 | SC | A-6(3) |
| 23+83.8 LT 52.0 | TH-26 | SS-11 | 33.5 | 24.3 | NP | NP | NP | 0.0 | 92.8 | 7.2 | | 0.2775 | SP-SM | A-3(0) |
| 919+00.1 RT 7.6 | TH-27 | SS-1 | 1.7 | 8.7 | NP | NP | NP | 5.2 | 87.3 | 7.5 | | 0.3177 | SP-SM | A-3(0) |
| 919+00.1 RT 7.6 | TH-27 | SS-4 | 6.2 | 3.9 | NP | NP | NP | 1.3 | 91.3 | 7.5 | | 0.2652 | SP-SM | A-3(0) |
| 919+00.1 RT 7.6 | TH-27 | SS-7 | 15.2 | 18.1 | NP | NP | NP | 0.0 | 81.6 | 18.4 | | 0.1620 | SM | A-2-4(0) |
| 919+00.1 RT 7.6 | TH-27 | SS-8 | 20.2 | 31.3 | NP | NP | NP | 0.0 | 52.1 | 47.9 | | 0.0779 | SM | A-4(0) |
| 919+00.1 RT 7.6 | TH-27 | SS-9 | 25.2 | 126.3 | 67 | 31 | 36 | 0.0 | 33.7 | 66.3 | | | CH | A-7-5(24) |
| 919+00.1 RT 7.6 | TH-27 | T-1 | 27.2 | 167.5 | 80 | 49 | 31 | 0.0 | 68.1 | 31.9 | | 0.3056 | SM | A-2-7(4) |
| 919+00.1 RT 7.6 | TH-27 | SS-11 | 35.2 | 51.7 | 68 | 24 | 44 | 0.0 | 9.6 | 90.4 | | | CH | A-7-6(44) |
| 4233+05.5 LT 83.3 | W-01 | SS-1 | 1.0 | 14.8 | NP | NP | NP | 6.5 | 72.6 | 20.8 | | 0.2209 | SM | A-2-4(0) |
| 4233+05.5 LT 83.3 | W-01 | SS-2 | 2.5 | 21.8 | NP | NP | NP | 6.4 | 71.8 | 21.8 | | 0.1970 | SM | A-2-4(0) |
| 4233+05.5 LT 83.3 | W-01 | SS-4 | 5.5 | 16.7 | NP | NP | NP | 0.0 | 80.2 | 19.8 | | 0.1549 | SM | A-2-4(0) |
| 4233+05.5 LT 83.3 | W-01 | SS-5 | 7.0 | 20.0 | NP | NP | NP | 0.0 | 83.0 | 17.0 | | 0.1554 | SM | A-2-4(0) |
| 4233+05.5 LT 83.3 | W-01 | SS-7 | 14.5 | 25.9 | NP | NP | NP | 0.0 | 71.0 | 29.0 | | 0.1600 | SM | A-2-4(0) |

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**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 564+40.6 LT 21.7 | HLA-21 | SS-31 | 148.5 | 19.3 | 49 | 17 | 32 | 0.0 | 13.8 | 86.2 | | | CL | A-7-6(28) |
| 564+40.6 LT 21.7 | HLA-21 | SS-34 | 178.5 | 20.2 | 47 | 16 | 31 | 0.0 | 7.2 | 92.8 | | | CL | A-7-6(30) |
| 564+40.6 LT 21.7 | HLA-21 | SS-35 | 188.5 | 21.9 | 35 | 17 | 18 | 0.0 | 2.5 | 97.5 | | | CL | A-6(17) |
| 564+40.6 LT 21.7 | HLA-21 | SS-36 | 198.5 | 18.8 | 39 | 13 | 26 | 0.0 | 18.1 | 81.9 | | | CL | A-6(20) |
| 564+40.6 LT 21.7 | HLA-21 | SS-39 | 228.5 | 19.2 | NP | NP | NP | 0.0 | 71.5 | 28.5 | | 0.1413 | SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-2 | 1.5 | 16.1 | NP | NP | NP | 0.0 | 87.8 | 12.2 | | 0.1820 | SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-4 | 4.5 | 24.2 | NP | NP | NP | 0.0 | 88.4 | 11.6 | | 0.1845 | SP-SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-7 | 13.5 | 31.8 | NP | NP | NP | 0.0 | 66.8 | 33.2 | | 0.1258 | SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-8 | 18.5 | 66.5 | 69 | 45 | 24 | | | 46.2 | | | SM | A-7-5(8) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-9 | 28.5 | 23.3 | NP | NP | NP | 0.0 | 94.5 | 5.5 | | 0.3132 | SP-SM | A-3(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-11 | 38.5 | 18.9 | NP | NP | NP | 0.3 | 92.6 | 7.1 | | 0.3081 | SP-SM | A-3(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-15 | 58.5 | 24.4 | NP | NP | NP | 0.2 | 83.3 | 16.5 | | 0.2729 | SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-20 | 83.5 | 26.7 | NP | NP | NP | 0.6 | 91.2 | 8.2 | | 0.1674 | SP-SM | A-3(0) |
| 497+92.5 LT 26.8 | WHLA-01 | ST-4 | 113.5 | 44.3 | 87 | 29 | 58 | 0.0 | 1.1 | 18.3 | 80.6 | | CH | A-7-6(68) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-28 | 133.5 | 11.1 | NP | NP | NP | 0.7 | 93.4 | 5.9 | | 0.3467 | SP-SM | A-3(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-36 | 178.5 | 19.5 | NP | NP | NP | 0.0 | 91.3 | 8.7 | | 0.2151 | SP-SM | A-3(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-39 | 193.5 | 29.1 | 38 | 21 | 17 | 0.0 | 54.1 | 45.9 | | 0.0848 | SC | A-6(4) |
| 497+92.5 LT 26.8 | WHLA-01 | ST-6 | 198.5 | 56.2 | 30 | 14 | 16 | 0.0 | 16.7 | 54.4 | 28.9 | 0.0404 | CL | A-6(11) |
| 497+92.5 LT 26.8 | WHLA-01 | ST-7 | 218.5 | 18.8 | 36 | 16 | 20 | 0.0 | 17.1 | 53.7 | 29.2 | 0.0355 | CL | A-6(15) |
| 497+92.5 LT 26.8 | WHLA-01 | ST-8 | 238.5 | 24.9 | NP | NP | NP | 0.0 | 74.0 | 13.4 | 12.6 | 0.1789 | SM | A-2-4(0) |
| 497+92.5 LT 26.8 | WHLA-01 | SS-43 | 258.5 | 21.6 | NP | NP | NP | 0.0 | 57.8 | 42.2 | | 0.0918 | SM | A-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-2 | 1.5 | 34.6 | NP | NP | NP | 15.4 | 66.8 | 17.8 | | 0.2102 | SM | A-2-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-4 | 4.5 | 24.5 | NP | NP | NP | 0.0 | 91.7 | 8.3 | | 0.1820 | SP-SM | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-9 | 28.5 | 25.6 | NP | NP | NP | 0.0 | 96.6 | 3.4 | | 0.2889 | SP | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-15 | 58.5 | 23.7 | NP | NP | NP | 0.0 | 90.1 | 9.9 | | 0.2508 | SP-SM | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-17 | 68.5 | 18.3 | NP | NP | NP | 1.2 | 87.9 | 10.9 | | 0.5673 | SP-SM | A-1-b(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-21 | 88.5 | 22.5 | NP | NP | NP | 0.5 | 92.4 | 7.1 | | 0.3353 | SP-SM | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | ST-2 | 93.5 | 46.9 | 81 | 25 | 56 | 0.0 | 1.5 | 36.0 | 62.5 | 0.0014 | CH | A-7-6(65) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-22 | 103.5 | 77.0 | 82 | 32 | 50 | | | 38.6 | | | SC | A-7-5(11) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-23 | 113.5 | 29.7 | NP | NP | NP | 0.0 | 76.9 | 23.1 | | 0.1957 | SM | A-2-4(0) |

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**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

| Station & Offset | Boring No. | Sample ID | Depth (ft) | Water Content (%) | Liquid Limit | Plastic Limit | Plasticity Index | % Gravel | % Sand | % Pass 200 | | D50 (mm) | USCS | AASHTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | % Silt | % Clay | | | |
| 509+17.5 LT 5.8 | WHLA-03 | SS-24 | 118.5 | 23.6 | NP | NP | NP | 0.0 | 85.6 | 14.4 | | 0.1814 | SM | A-2-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-25 | 123.5 | 13.8 | NP | NP | NP | 5.3 | 85.7 | 8.9 | | 0.3423 | SP-SM | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-28 | 138.5 | 20.9 | 60 | 18 | 42 | 0.0 | 11.0 | 89.0 | | | CH | A-7-6(40) |
| 509+17.5 LT 5.8 | WHLA-03 | ST-6 | 143.5 | 27.0 | 32 | 16 | 16 | 0.0 | 8.5 | 66.1 | 25.4 | 0.0194 | CL | A-6(14) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-30 | 158.5 | 19.5 | NP | NP | NP | 0.3 | 87.4 | 12.4 | | 0.2915 | SM | A-2-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | ST-8 | 166.0 | 29.5 | 48 | 16 | 32 | 0.0 | 20.5 | 58.1 | 21.4 | 0.0424 | CL | A-7-6(25) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-32 | 168.0 | 31.0 | 45 | 19 | 26 | 0.0 | 7.5 | 92.5 | | | CL | A-7-6(26) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-34 | 178.5 | 27.4 | NP | NP | NP | 0.0 | 53.0 | 47.0 | | 0.0795 | SM | A-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-36 | 188.5 | 17.5 | NP | NP | NP | 1.0 | 90.6 | 8.4 | | 0.3448 | SP-SM | A-3(0) |
| 509+17.5 LT 5.8 | WHLA-03 | ST-9 | 193.0 | 19.9 | 28 | 20 | 8 | 0.0 | 36.6 | 46.3 | 17.1 | 0.0517 | CL | A-4(3) |
| 509+17.5 LT 5.8 | WHLA-03 | ST-11 | 208.5 | 13.1 | 32 | 11 | 21 | 0.0 | 45.1 | 27.9 | 27.0 | 0.0551 | CL | A-6(8) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-38 | 228.5 | 27.5 | NP | NP | NP | 0.0 | 39.5 | 60.5 | | | ML | A-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-40 | 248.5 | 27.5 | NP | NP | NP | 0.0 | 70.8 | 29.2 | | 0.1169 | SM | A-2-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-42 | 268.5 | 19.7 | NP | NP | NP | 0.0 | 82.7 | 17.3 | | 0.1731 | SM | A-2-4(0) |
| 509+17.5 LT 5.8 | WHLA-03 | SS-44 | 288.5 | 20.8 | NP | NP | NP | 0.0 | 88.9 | 11.1 | | 0.2914 | SP-SM | A-2-4(0) |

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ENGINEERING

**Soil Classification Summary**

ALDOT
ALDOT Project No.: 15-1101-0228
Project Name: I-10 Mobile River Bridge and Bayway
Mobile, Alabama

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-12 | HLA-12 | HLA-12 | HLA-12 | HLA-12 | HLA-12 |
|---|---|---|---|---|---|---|
| Station | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 |
| Offset | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 |
| Sample ID | SS-2 | SS-6 | SS-11 | SS-15 | SS-20 | SS-22 |
| Depth (ft) | 1.5 | 8.5 | 33.5 | 53.5 | 78.5 | 88.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 89.4 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 89.4 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 98.7 | 86.6 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 96.5 | 77.3 | 99.9 | 99.8 | 99.3 | 98.1 |
| #10 SIEVE (2.00mm) | 94.1 | 60.0 | 98.9 | 99.2 | 97.5 | 96.1 |
| #20 SIEVE (0.85mm) | 84.4 | 43.5 | 97.1 | 97.5 | 79.7 | 87.1 |
| #40" SIEVE (425um) | 51.5 | 24.5 | 84.6 | 81.1 | 42.9 | 61.5 |
| #60 SIEVE (250um) | 18.7 | 8.9 | 49.7 | 22.3 | 22.7 | 26.6 |
| #100 SIEVE (150um) | 6.4 | 3.6 | 10.7 | 8.0 | 9.9 | 10.1 |
| #140 SIEVE (106um) | 4.7 | 2.9 | 5.4 | 5.8 | 6.6 | 7.1 |
| #200 SIEVE (75um) | 3.9 | 2.5 | 3.8 | 4.5 | 4.9 | 5.4 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 92.6 | 74.8 | 96.1 | 95.3 | 94.5 | 92.6 |
| Total Gravel | 3.5 | 22.7 | 0.1 | 0.2 | 0.7 | 1.9 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | NP | NP | NP | NP |
| Plastic Limit | NP | NP | NP | NP | NP | NP |
| Plasticity Index | NP | NP | NP | NP | NP | NP |
| | | | | | | |
| USCS | SP | SP | SP | SP | SP | SP-SM |
| AASHTO | A-3(0) | A-1-b(0) | A-3(0) | A-3(0) | A-1-b(0) | A-3(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-12 | HLA-12 | HLA-12 | HLA-12 | HLA-12 | HLA-12 |
|---|---|---|---|---|---|---|
| Station | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 |
| Offset | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 |
| Sample ID | T-1 | SS-26 | SS-31 | SS-33 | SS-34 | T-2 |
| Depth (ft) | 108.0 | 113.5 | 138.5 | 148.5 | 158.5 | 188.0 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 99.7 | 99.5 | 100.0 | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | 100.0 | 98.8 | 98.8 | 99.9 | 98.6 | 100.0 |
| #20 SIEVE (0.85mm) | 99.9 | 98.4 | 95.2 | 99.8 | 97.0 | 99.9 |
| #40" SIEVE (425um) | 99.5 | 97.7 | 69.9 | 99.0 | 91.9 | 99.8 |
| #60 SIEVE (250um) | 99.0 | 96.3 | 31.8 | 97.8 | 86.5 | 99.7 |
| #100 SIEVE (150um) | 98.0 | 89.0 | 11.1 | 96.9 | 81.1 | 98.6 |
| #140 SIEVE (106um) | 97.0 | 71.8 | 8.1 | 95.6 | 74.9 | 95.6 |
| #200 SIEVE (75um) | 96.2 | 50.1 | 6.3 | 92.6 | 66.1 | 89.0 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 3.8 | 49.6 | 93.2 | 7.4 | 33.9 | 11.0 |
| Total Gravel | 0.0 | 0.3 | 0.5 | 0.0 | 0.0 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | 97 | NP | NP | 39 | 46 | 29 |
| Plastic Limit | 26 | NP | NP | 15 | 15 | 15 |
| Plasticity Index | 71 | NP | NP | 24 | 31 | 14 |
| | | | | | | |
| USCS | CH | ML | SP-SM | CL | CL | CL |
| AASHTO | A-7-6(79) | A-4(0) | A-3(0) | A-6(22) | A-7-6(18) | A-6(11) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-12 | HLA-12 | HLA-12 | HLA-12 | HLA-13 | HLA-13 |
|---|---|---|---|---|---|---|
| Station | 541+43.3 | 541+43.3 | 541+43.3 | 541+43.3 | 544+74.9 | 544+74.9 |
| Offset | LT 45.4 | LT 45.4 | LT 45.4 | LT 45.4 | RT 27.7 | RT 27.7 |
| Sample ID | SS-38 | SS-40 | SS-41 | SS-42 | SS-1 | SS-3 |
| Depth (ft) | 208.5 | 228.5 | 238.5 | 248.5 | 1.0 | 4.0 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 99.3 | 96.9 |
| #10 SIEVE (2.00mm) | 100.0 | 100.0 | 100.0 | 100.0 | 97.6 | 94.5 |
| #20 SIEVE (0.85mm) | 99.4 | 99.2 | 99.9 | 99.9 | 90.6 | 87.1 |
| #40" SIEVE (425um) | 98.2 | 98.1 | 99.0 | 98.8 | 57.5 | 55.4 |
| #60 SIEVE (250um) | 94.9 | 94.7 | 91.0 | 87.9 | 17.5 | 18.0 |
| #100 SIEVE (150um) | 79.5 | 87.5 | 65.1 | 57.2 | 5.1 | 5.3 |
| #140 SIEVE (106um) | 64.2 | 82.3 | 45.9 | 38.9 | 3.7 | 3.7 |
| #200 SIEVE (75um) | 51.3 | 74.0 | 31.0 | 23.3 | 2.8 | 3.0 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 48.7 | 26.0 | 69.0 | 76.7 | 96.5 | 93.9 |
| Total Gravel | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 3.1 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | 32 | 34 | NP | NP | NP | NP |
| Plastic Limit | 16 | 19 | NP | NP | NP | NP |
| Plasticity Index | 16 | 15 | NP | NP | NP | NP |
| | | | | | | |
| USCS | CL | CL | SM | SM | SP | SP |
| AASHTO | A-6(5) | A-6(10) | A-2-4(0) | A-2-4(0) | A-3(0) | A-3(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 |
|---|---|---|---|---|---|---|
| Station | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 |
| Offset | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 |
| Sample ID | SS-7 | T-1 | SS-10 | SS-11 | SS-13 | SS-14 |
| Depth (ft) | 13.5 | 18.0 | 33.5 | 38.5 | 48.5 | 53.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | | 100.0 | 99.8 | 100.0 | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | | 100.0 | 99.8 | 99.9 | 100.0 | 100.0 |
| #20 SIEVE (0.85mm) | | 99.9 | 98.9 | 99.1 | 99.5 | 99.9 |
| #40" SIEVE (425um) | | 98.4 | 88.4 | 89.1 | 92.4 | 98.9 |
| #60 SIEVE (250um) | | 92.5 | 52.1 | 51.8 | 71.2 | 95.1 |
| #100 SIEVE (150um) | | 77.1 | 12.4 | 13.2 | 51.6 | 88.1 |
| #140 SIEVE (106um) | | 55.4 | 6.6 | 6.9 | 43.6 | 75.5 |
| #200 SIEVE (75um) | 43.9 | 25.3 | 5.2 | 5.5 | 34.3 | 53.2 |
| | | | | | | |
| Clay | | 7.4 | | | | |
| Silt | | 17.9 | | | | |
| Total Sand | | 74.7 | 94.6 | 94.5 | 65.7 | 46.8 |
| Total Gravel | | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | NP | NP | NP | 24 |
| Plastic Limit | NP | NP | NP | NP | NP | 17 |
| Plasticity Index | NP | NP | NP | NP | NP | 7 |
| | | | | | | |
| USCS | SM | SM | SP-SM | SP-SM | SM | CL-ML |
| AASHTO | A-4(0) | A-2-4(0) | A-3(0) | A-3(0) | A-2-4(0) | A-4(1) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 |
|---|---|---|---|---|---|---|
| Station | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 |
| Offset | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 |
| Sample ID | SS-16 | SS-18 | SS-22 | SS-23 | SS-25 | SS-29 |
| Depth (ft) | 63.5 | 73.5 | 93.5 | 98.5 | 108.5 | 128.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 99.2 | 100.0 | | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 99.7 | 99.2 | 99.6 | | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | 99.5 | 99.2 | 99.1 | | 100.0 | 100.0 |
| #20 SIEVE (0.85mm) | 98.7 | 98.4 | 95.3 | | 100.0 | 99.8 |
| #40" SIEVE (425um) | 87.0 | 75.3 | 60.0 | | 99.8 | 93.1 |
| #60 SIEVE (250um) | 35.6 | 31.1 | 23.0 | | 92.5 | 43.7 |
| #100 SIEVE (150um) | 10.1 | 16.5 | 7.7 | | 53.5 | 14.2 |
| #140 SIEVE (106um) | 7.4 | 12.3 | 5.3 | | 29.7 | 9.5 |
| #200 SIEVE (75um) | 5.8 | 9.1 | 3.9 | 89.4 | 18.8 | 7.0 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 93.9 | 90.1 | 95.7 | | 81.2 | 93.0 |
| Total Gravel | 0.3 | 0.8 | 0.4 | | 0.0 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | NP | 68 | NP | NP |
| Plastic Limit | NP | NP | NP | 30 | NP | NP |
| Plasticity Index | NP | NP | NP | 38 | NP | NP |
| | | | | | | |
| USCS | SP-SM | SP-SM | SP | CH | SM | SP-SM |
| AASHTO | A-3(0) | A-3(0) | A-3(0) | A-7-5(39) | A-2-4(0) | A-3(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 | HLA-13 |
|---|---|---|---|---|---|---|
| Station | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 | 544+74.9 |
| Offset | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 | RT 27.7 |
| Sample ID | SS-32 | T-2 | SS-34 | SS-35 | SS-36 | SS-37 |
| Depth (ft) | 143.5 | 158.0 | 168.5 | 178.5 | 188.5 | 198.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| #10 SIEVE (2.00mm) | 100.0 | 100.0 | 100.0 | 99.7 | | 100.0 |
| #20 SIEVE (0.85mm) | 99.8 | 100.0 | 99.9 | 99.2 | | 99.2 |
| #40" SIEVE (425um) | 99.1 | 99.7 | 99.6 | 97.9 | | 96.0 |
| #60 SIEVE (250um) | 82.1 | 99.1 | 97.5 | 92.8 | | 92.8 |
| #100 SIEVE (150um) | 47.1 | 96.2 | 77.3 | 78.3 | | 83.6 |
| #140 SIEVE (106um) | 34.8 | 91.4 | 59.1 | 64.0 | | 76.0 |
| #200 SIEVE (75um) | 27.2 | 83.1 | 48.6 | 56.0 | 93.9 | 68.2 |
| | | | | | | |
| Clay | | 42.3 | | | | |
| Silt | | 40.8 | | | | |
| Total Sand | 72.8 | 16.9 | 51.4 | 44.0 | | 31.8 |
| Total Gravel | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | 41 | 25 | 29 | 34 | 28 |
| Plastic Limit | NP | 16 | 12 | 11 | 14 | 14 |
| Plasticity Index | NP | 25 | 13 | 18 | 20 | 14 |
| | | | | | | |
| USCS | SM | CL | SC | CL | CL | CL |
| AASHTO | A-2-4(0) | A-7-6(20) | A-6(3) | A-6(6) | A-6(18) | A-6(7) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | HLA-13 | HLA-13 | HLA-13 | HLA-14 | HLA-14 | HLA-14 |
|---|---|---|---|---|---|---|
| Station | 544+74.9 | 544+74.9 | 544+74.9 | 547+39.7 | 547+39.7 | 547+39.7 |
| Offset | RT 27.7 | RT 27.7 | RT 27.7 | LT 40.3 | LT 40.3 | LT 40.3 |
| Sample ID | SS-38 | SS-40 | SS-42 | SS-1 | SS-2 | SS-4 |
| Depth (ft) | 208.5 | 228.5 | 248.5 | 1.0 | 2.5 | 5.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | | 100.0 | 97.7 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | | 100.0 | 94.2 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | | 100.0 | 91.7 | 99.4 | 96.0 |
| #10 SIEVE (2.00mm) | 100.0 | | 100.0 | 89.5 | 96.3 | 91.0 |
| #20 SIEVE (0.85mm) | 99.9 | | 99.9 | 82.7 | 87.3 | 77.0 |
| #40" SIEVE (425um) | 99.5 | | 99.8 | 59.2 | 57.9 | 40.0 |
| #60 SIEVE (250um) | 97.4 | | 87.6 | 28.1 | 18.8 | 12.4 |
| #100 SIEVE (150um) | 51.8 | | 56.5 | 12.4 | 11.7 | 4.5 |
| #140 SIEVE (106um) | 27.3 | | 39.6 | 9.6 | 8.6 | 3.5 |
| #200 SIEVE (75um) | 20.5 | 97.1 | 24.4 | 8.0 | 6.5 | 2.9 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 79.5 | | 75.6 | 83.7 | 92.9 | 93.1 |
| Total Gravel | 0.0 | | 0.0 | 8.3 | 0.6 | 4.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | 37 | NP | NP | NP | NP |
| Plastic Limit | NP | 20 | NP | NP | NP | NP |
| Plasticity Index | NP | 17 | NP | NP | NP | NP |
| | | | | | | |
| USCS | SM | CL | SM | SP-SM | SP-SM | SP |
| AASHTO | A-2-4(0) | A-6(17) | A-2-4(0) | A-3(0) | A-3(0) | A-1-b(0) |

**BMT-5**

thompson ENGINEERING



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Boring No. | | | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 |
| Station | | | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 |
| Offset | | | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 |
| Sample ID | | | SS-2 | SS-7 | SS-8 | SS-11 | SS-13 | SS-14 |
| Depth (ft) | | | 1.5 | 13.5 | 18.5 | 33.5 | 43.5 | 48.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | 100.0 | --- | --- | --- |
| 3/4" | " | (19mm) | 100.0 | 100.0 | 89.2 | 100.0 | --- | 100.0 |
| 1/2" | " | (12.5mm) | 92.3 | 89.8 | 78.8 | 90.6 | 100.0 | 79.9 |
| 3/8" | " | (9.5mm) | 87.9 | 78.6 | 69.3 | 86.2 | 98.1 | 60.8 |
| #4 | " | (4.75mm) | 80.1 | 49.9 | 61.6 | 83.4 | 96.1 | 44.4 |
| #10 | " | (2.00mm) | 71.6 | 33.2 | 55.8 | 81.9 | 95.2 | 36.0 |
| #20 | " | (0.85mm) | 66.3 | 28.4 | 51.3 | 80.2 | 90.0 | 30.5 |
| #40 | " | (425um) | 59.5 | 25.0 | 48.8 | 73.9 | 42.5 | 19.2 |
| #60 | " | (250um) | 46.0 | 20.4 | 25.2 | 26.0 | 7.3 | 8.5 |
| #100 | " | (150um) | 28.4 | 14.9 | 9.1 | 5.8 | 3.0 | 4.2 |
| #140 | " | (106um) | 21.7 | 12.6 | 6.3 | 4.2 | 2.5 | 3.5 |
| #200 | " | (75um) | 17.6 | 10.9 | 4.7 | 3.4 | 2.1 | 3.1 |
| Clay | | | 6.2 | 2.5 | 1.5 | 3.4 | 2.1 | 3.1 |
| Silt | | | 11.3 | 8.4 | 3.2 | | | |
| Total Sand | | | 62.6 | 39.0 | 56.9 | 80.0 | 94.0 | 41.3 |
| Total Gravel | | | 19.9 | 50.1 | 38.4 | 16.6 | 3.9 | 55.6 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | NP | NP | NP | NP | NP |
| Plastic Limit | | | NP | NP | NP | NP | NP | NP |
| Plasticity Index | | | NP | NP | NP | NP | NP | NP |
| USCS | | | SM | GP-GM | SP | SP | SP | GP |
| AASHTO | | | A-2-4(0) | A-1-a(0) | A-1-b(0) | A-3(0) | A-1-b(0) | A-1-a(0) |

**BMT-5**

thompson ENGINEERING



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| Boring No. | | | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 |
|---|---|---|---|---|---|---|---|---|
| Station | | | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 |
| Offset | | | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 |
| Sample ID | | | SS-17 | T-1 | T-2 | SS-24 | SS-26 | SS-29 |
| Depth (ft) | | | 63.5 | 90.5 | 98.5 | 103.5 | 113.5 | 128.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | 100.0 | --- | --- | --- | 100.0 | --- |
| 3/8" | " | (9.5mm) | 98.9 | --- | --- | --- | 95.0 | 100.0 |
| #4 | " | (4.75mm) | 90.3 | --- | --- | 100.0 | 91.1 | 99.8 |
| #10 | " | (2.00mm) | 85.3 | --- | 100.0 | 99.7 | 63.5 | 99.3 |
| #20 | " | (0.85mm) | 77.1 | 100.0 | 100.0 | 98.5 | 53.9 | 98.9 |
| #40 | " | (425um) | 53.1 | 99.9 | 99.9 | 91.5 | 33.7 | 98.6 |
| #60 | " | (250um) | 18.0 | 98.5 | 99.7 | 77.2 | 10.8 | 98.3 |
| #100 | " | (150um) | 9.9 | 83.3 | 99.5 | 48.3 | 4.4 | 97.9 |
| #140 | " | (106um) | 9.1 | 79.6 | 99.4 | 33.8 | 3.6 | 97.3 |
| #200 | " | (75um) | 8.6 | 75.7 | 99.4 | 26.7 | 3.3 | 95.0 |
| Clay | | | 8.6 | 36.3 | 79.3 | 26.7 | 3.3 | 95.0 |
| Silt | | | | 39.4 | 20.0 | | | |
| Total Sand | | | 81.7 | 24.3 | 0.7 | 73.3 | 87.8 | 4.8 |
| Total Gravel | | | 9.7 | 0.0 | 0.0 | 0.0 | 8.9 | 0.2 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | 52 | 89 | 21 | NP | 53 |
| Plastic Limit | | | NP | 22 | 28 | 17 | NP | 21 |
| Plasticity Index | | | NP | 30 | 61 | 4 | NP | 32 |
| USCS | | | SP-SM | CH | CH | SC-SM | SP | CH |
| AASHTO | | | A-3(0) | A-7-6(23) | A-7-6(71) | A-2-4(0) | A-1-b(0) | A-7-6(34) |

**BMT-5**



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Boring No. | | | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 | MB-1 |
| Station | | | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 | 514+25.9 |
| Offset | | | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 | LT 18.8 |
| Sample ID | | | SS-33 | SS-35 | SS-36 | SS-39 | T-4 | SS-40 |
| Depth (ft) | | | 148.5 | 163.5 | 168.5 | 183.5 | 188.5 | 193.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | 100.0 | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | 96.4 | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | 96.4 | --- | --- | --- | --- |
| #4 | " | (4.75mm) | --- | 96.4 | 100.0 | 100.0 | --- | --- |
| #10 | " | (2.00mm) | 100.0 | 96.2 | 99.5 | 100.0 | 100.0 | 100.0 |
| #20 | " | (0.85mm) | 99.9 | 96.0 | 98.3 | 99.8 | 99.8 | 99.9 |
| #40 | " | (425um) | 96.4 | 95.4 | 92.9 | 98.2 | 99.4 | 99.5 |
| #60 | " | (250um) | 68.4 | 80.4 | 77.4 | 85.5 | 96.5 | 98.5 |
| #100 | " | (150um) | 26.6 | 46.4 | 57.9 | 34.0 | 89.1 | 96.7 |
| #140 | " | (106um) | 15.7 | 22.0 | 51.5 | 16.6 | 78.1 | 94.3 |
| #200 | " | (75um) | 10.5 | 11.5 | 48.4 | 9.7 | 62.9 | 91.7 |
| Clay<br>Silt | | | 10.5 | 11.5 | 48.4 | 9.7 | 62.9 | 91.7 |
| Total Sand | | | 89.5 | 84.9 | 51.6 | 90.3 | 37.1 | 8.3 |
| Total Gravel | | | 0.0 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | NP | 36 | NP | 28 | 46 |
| Plastic Limit | | | NP | NP | 13 | NP | 14 | 16 |
| Plasticity Index | | | NP | NP | 23 | NP | 14 | 30 |
| USCS | | | SP-SM | SP-SM | SC | SP-SM | CL | CL |
| AASHTO | | | A-2-4(0) | A-2-4(0) | A-6(7) | A-3(0) | A-6(6) | A-7-6(29) |

**BMT-5**

thompson ENGINEERING



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Boring No. | | | MB-1 | MB-1 | MB-1 | MB-2 | MB-2 | MB-2 |
| Station | | | 514+25.9 | 514+25.9 | 514+25.9 | 527+75.9 | 527+75.9 | 527+75.9 |
| Offset | | | LT 18.8 | LT 18.8 | LT 18.8 | LT 22.0 | LT 22.0 | LT 22.0 |
| Sample ID | | | SS-42 | SS-45 | SS-50 | SS-3 | SS-8 | SS-14 |
| Depth (ft) | | | 208.5 | 238.5 | 288.5 | 6.0 | 28.5 | 37.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- | 100.0 | 100.0 | 100.0 | --- |
| #4 | " | (4.75mm) | 100.0 | --- | 97.6 | 97.9 | 99.9 | 100.0 |
| #10 | " | (2.00mm) | 100.0 | 100.0 | 97.6 | 89.5 | 99.2 | 99.8 |
| #20 | " | (0.85mm) | 99.9 | 99.9 | 97.1 | 76.8 | 95.5 | 97.9 |
| #40 | " | (425um) | 99.5 | 99.0 | 89.6 | 51.4 | 77.9 | 85.1 |
| #60 | " | (250um) | 98.6 | 90.5 | 30.6 | 15.7 | 39.5 | 42.7 |
| #100 | " | (150um) | 97.5 | 65.2 | 17.6 | 5.2 | 11.4 | 16.9 |
| #140 | " | (106um) | 95.1 | 45.2 | 13.6 | 4.2 | 8.6 | 12.3 |
| #200 | " | (75um) | 88.7 | 28.0 | 10.9 | 3.8 | 7.6 | 10.1 |
| Clay<br>Silt | | | 88.7 | 28.0 | 10.9 | 3.8 | 7.6 | 10.1 |
| Total Sand | | | 11.3 | 72.0 | 86.7 | 94.1 | 92.3 | 89.9 |
| Total Gravel | | | 0.0 | 0.0 | 2.4 | 2.1 | 0.1 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | 39 | NP | NP | NP | NP | NP |
| Plastic Limit | | | 15 | NP | NP | NP | NP | NP |
| Plasticity Index | | | 24 | NP | NP | NP | NP | NP |
| USCS | | | CL | SM | SP-SM | SP | SP-SM | SP-SM |
| AASHTO | | | A-6(21) | A-2-4(0) | A-2-4(0) | A-3(0) | A-3(0) | A-3(0) |

**BMT-5**



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| Boring No. | | | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 |
|---|---|---|---|---|---|---|---|---|
| Station | | | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 |
| Offset | | | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 |
| Sample ID | | | SS-22 | SS-26 | SS-30 | SS-32 | SS-35 | SS-36 |
| Depth (ft) | | | 49.5 | 55.5 | 68.5 | 78.5 | 93.5 | 98.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | 100.0 | --- | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | 98.9 | 100.0 | --- | 100.0 | --- | --- |
| #4 | " | (4.75mm) | 94.7 | 99.7 | 100.0 | 98.6 | --- | 100.0 |
| #10 | " | (2.00mm) | 90.6 | 99.5 | 100.0 | 95.9 | 100.0 | 99.9 |
| #20 | " | (0.85mm) | 85.8 | 98.4 | 98.7 | 89.9 | 98.0 | 99.7 |
| #40 | " | (425um) | 55.5 | 83.4 | 82.7 | 56.4 | 97.1 | 98.5 |
| #60 | " | (250um) | 16.1 | | 15.6 | 15.9 | 95.7 | 63.8 |
| #100 | " | (150um) | 7.3 | 5.7 | 6.4 | 9.2 | 93.6 | 23.2 |
| #140 | " | (106um) | 6.5 | 4.3 | 5.5 | 7.8 | 92.4 | 16.5 |
| #200 | " | (75um) | 6.0 | 3.8 | 4.9 | 6.8 | 91.9 | 12.3 |
| Clay | | | 6.0 | 3.8 | 4.9 | 6.8 | 62.8 | 12.3 |
| Silt | | | | | | | 29.1 | |
| Total Sand | | | 88.7 | 95.9 | 95.1 | 91.8 | 8.1 | 87.7 |
| Total Gravel | | | 5.3 | 0.3 | 0.0 | 1.4 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | NP | NP | NP | NP | NP |
| Plastic Limit | | | NP | NP | NP | NP | NP | NP |
| Plasticity Index | | | NP | NP | NP | NP | NP | NP |
| USCS | | | SP-SM | SP | SP | SP-SM | ML | SM |
| AASHTO | | | A-3(0) | A-3(0) | A-3(0) | A-3(0) | A-4(0) | A-2-4(0) |

**BMT-5**



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| Boring No. | | | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 |
|---|---|---|---|---|---|---|---|---|
| Station | | | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 |
| Offset | | | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 |
| Sample ID | | | SS-38 | SS-40 | SS-44 | T-2 | T-3 | SS-46 |
| Depth (ft) | | | 108.5 | 118.5 | 138.5 | 140.0 | 145.0 | 148.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- | --- | --- | --- | --- |
| #4 | " | (4.75mm) | --- | --- | --- | --- | --- | --- |
| #10 | " | (2.00mm) | 100.0 | 100.0 | --- | 100.0 | 100.0 | 100.0 |
| #20 | " | (0.85mm) | 99.9 | 99.8 | 100.0 | 99.7 | 99.8 | 100.0 |
| #40 | " | (425um) | 98.0 | 98.4 | 99.7 | 98.5 | 99.8 | 99.8 |
| #60 | " | (250um) | 47.1 | 75.3 | 99.2 | 95.3 | 99.7 | 99.5 |
| #100 | " | (150um) | 16.5 | 29.2 | 98.3 | 91.2 | 97.0 | 95.7 |
| #140 | " | (106um) | 9.4 | 16.7 | 89.5 | 84.8 | 89.9 | 87.3 |
| #200 | " | (75um) | 6.9 | 10.7 | 66.5 | 71.6 | 81.6 | 78.9 |
| Clay | | | 6.9 | 10.7 | 15.7 | 19.4 | 23.9 | 26.3 |
| Silt | | | | | 50.8 | 52.2 | 57.8 | 52.6 |
| Total Sand | | | 93.1 | 89.3 | 33.5 | 28.4 | 18.3 | 21.1 |
| Total Gravel | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | NP | NP | 29 | 23 | 26 |
| Plastic Limit | | | NP | NP | NP | 18 | 18 | 14 |
| Plasticity Index | | | NP | NP | NP | 11 | 5 | 12 |
| USCS | | | SP-SM | SP-SM | ML | CL | CL-ML | CL |
| AASHTO | | | A-3(0) | A-2-4(0) | A-4(0) | A-6(6) | A-4(2) | A-6(7) |

**BMT-5**



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Boring No. | | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 |
| Station | | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 |
| Offset | | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 |
| Sample ID | | SS-48 | SS-50 | SS-52 | SS-54 | T-4 | SS-56 |
| Depth (ft) | | 158.5 | 168.5 | 178.5 | 188.5 | 190.0 | 198.5 |
| TOTAL PASSING (%) | | | | | | | |
| 3" | SIEVE (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " (12.5mm) | --- | --- | --- | --- | --- | --- |
| 3/8" | " (9.5mm) | --- | --- | 100.0 | --- | --- | --- |
| #4 | " (4.75mm) | 100.0 | --- | 99.4 | --- | --- | --- |
| #10 | " (2.00mm) | 99.8 | 100.0 | 99.3 | 100.0 | 100.0 | 100.0 |
| #20 | " (0.85mm) | 99.5 | 99.8 | 99.1 | 99.7 | 98.7 | 100.0 |
| #40 | " (425um) | 38.7 | 99.6 | 98.9 | 97.2 | 93.3 | 99.7 |
| #60 | " (250um) | 18.5 | 99.2 | 98.2 | 94.0 | 86.8 | 97.0 |
| #100 | " (150um) | 18.0 | 92.0 | 84.7 | 91.0 | 80.9 | 92.2 |
| #140 | " (106um) | 17.8 | 72.9 | 45.0 | 85.6 | 74.4 | 84.8 |
| #200 | " (75um) | 17.6 | 56.0 | 24.5 | 78.1 | 67.4 | 75.8 |
| Clay | | 17.6 | 17.6 | 24.5 | 19.7 | 27.6 | 19.2 |
| Silt | | | 38.3 | | 58.4 | 39.8 | 56.6 |
| Total Sand | | 82.4 | 44.1 | 74.9 | 21.9 | 32.6 | 24.2 |
| Total Gravel | | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | |
| Liquid Limit | | NP | 28 | NP | 32 | 35 | 26 |
| Plastic Limit | | NP | 15 | NP | 16 | 14 | 15 |
| Plasticity Index | | NP | 13 | NP | 16 | 21 | 11 |
| USCS | | SM | CL | SM | CL | CL | CL |
| AASHTO | | A-1-b(0) | A-6(4) | A-2-4(0) | A-6(11) | A-6(11) | A-6(6) |

Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| Boring No. | | | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 | MB-2 |
|---|---|---|---|---|---|---|---|---|
| Station | | | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 | 527+75.9 |
| Offset | | | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 | LT 22.0 |
| Sample ID | | | T-5 | SS-58 | T-6 | SS-60 | SS-62 | T-7 |
| Depth (ft) | | | 210.0 | 218.5 | 228.5 | 238.5 | 258.5 | 270.0 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- | --- | --- | --- | --- |
| #4 | " | (4.75mm) | --- | --- | --- | --- | --- | --- |
| #10 | " | (2.00mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | --- |
| #20 | " | (0.85mm) | 95.9 | 99.6 | 99.3 | 99.9 | 99.1 | 100.0 |
| #40 | " | (425um) | 94.1 | 99.2 | 99.1 | 99.2 | 98.0 | 98.9 |
| #60 | " | (250um) | 91.4 | 98.6 | 96.6 | 90.9 | 92.6 | 80.9 |
| #100 | " | (150um) | 82.9 | 96.8 | 88.7 | 65.1 | 89.2 | 64.3 |
| #140 | " | (106um) | 75.3 | 95.8 | 82.3 | 43.5 | 85.8 | 56.3 |
| #200 | " | (75um) | 69.2 | 94.2 | 72.8 | 27.7 | 80.1 | 45.6 |
| Clay | | | 39.1 | 41.1 | 11.3 | 27.7 | 20.2 | 11.3 |
| Silt | | | 30.1 | 53.0 | 61.5 | | 60.0 | 34.3 |
| Total Sand | | | 30.8 | 5.9 | 27.2 | 72.3 | 19.8 | 54.4 |
| Total Gravel | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | 33 | 36 | 29 | NP | 29 | NP |
| Plastic Limit | | | 13 | 15 | 23 | NP | 16 | NP |
| Plasticity Index | | | 20 | 21 | 6 | NP | 13 | NP |
| USCS | | | CL | CL | ML | SM | CL | SM |
| AASHTO | | | A-6(11) | A-6(19) | A-4(3) | A-2-4(0) | A-6(8) | A-4(0) |

**BMT-5**



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

## ALABAMA DEPARTMENT OF TRANSPORTATION
## SOILS AND BASE COURSE ANALYSIS

| Boring No. | | | MB-2 | MB-2 | MB-2A | MB-2A | MB-2A | MB-2A |
|---|---|---|---|---|---|---|---|---|
| Station | | | 527+75.9 | 527+75.9 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 |
| Offset | | | LT 22.0 | LT 22.0 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 |
| Sample ID | | | SS-64 | SS-66 | SS-5 | SS-8 | SS-14 | SS-20 |
| Depth (ft) | | | 278.5 | 298.5 | 6.0 | 18.5 | 48.5 | 78.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | 100.0 | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- | 99.4 | --- | 100.0 | 100.0 |
| #4 | " | (4.75mm) | --- | 100.0 | 97.0 | 100.0 | 98.6 | 99.0 |
| #10 | " | (2.00mm) | 100.0 | 99.8 | 93.8 | 98.7 | 97.9 | 96.2 |
| #20 | " | (0.85mm) | 99.9 | 98.9 | 91.9 | 95.1 | 93.3 | 87.7 |
| #40 | " | (425um) | 98.9 | 92.9 | 87.1 | 79.2 | 23.6 | 59.9 |
| #60 | " | (250um) | 55.5 | 60.2 | 73.7 | 43.5 | 4.7 | 12.9 |
| #100 | " | (150um) | 21.2 | 31.6 | 61.6 | 19.0 | 2.2 | 3.6 |
| #140 | " | (106um) | 18.1 | 26.1 | 57.9 | 17.3 | 1.8 | 2.7 |
| #200 | " | (75um) | 16.5 | 22.2 | 54.6 | 16.8 | 1.5 | 2.3 |
| Clay | | | | | | | | |
| Silt | | | 16.5 | 22.2 | 54.6 | 16.8 | 1.5 | 2.3 |
| Total Sand | | | 83.5 | 77.8 | 42.4 | 83.2 | 97.1 | 96.7 |
| Total Gravel | | | 0.0 | 0.0 | 3.0 | 0.0 | 1.4 | 1.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | NP | NP | 33 | NP | NP | NP |
| Plastic Limit | | | NP | NP | 18 | NP | NP | NP |
| Plasticity Index | | | NP | NP | 15 | NP | NP | NP |
| USCS | | | SM | SM | CL | SM | SP | SP |
| AASHTO | | | A-2-4(0) | A-2-4(0) | A-6(5) | A-2-4(0) | A-1-b(0) | A-3(0) |

Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Boring No. | | | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A |
| Station | | | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 |
| Offset | | | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 |
| Sample ID | | | SS-21 | T-2 | SS-22 | SS-25 | T-3 | SS-28 |
| Depth (ft) | | | 83.5 | 93.5 | 98.5 | 113.5 | 123.0 | 138.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | 100.0 | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | --- | 91.9 | --- | --- |
| 3/8" | " | (9.5mm) | 100.0 | --- | --- | 87.3 | --- | 100.0 |
| #4 | " | (4.75mm) | 98.8 | 100.0 | 100.0 | 64.1 | 100.0 | 99.7 |
| #10 | " | (2.00mm) | 97.6 | 97.5 | 99.8 | 53.3 | 99.8 | 99.7 |
| #20 | " | (0.85mm) | 94.3 | 91.1 | 98.9 | 41.1 | 99.7 | 99.3 |
| #40 | " | (425um) | 86.2 | 73.5 | 95.0 | 23.3 | 99.7 | 98.8 |
| #60 | " | (250um) | 80.8 | 61.9 | 39.2 | 10.3 | 99.6 | 98.0 |
| #100 | " | (150um) | 79.4 | 58.3 | 10.6 | 5.9 | 99.5 | 94.9 |
| #140 | " | (106um) | 79.1 | 57.3 | 8.0 | 4.7 | 99.3 | 93.7 |
| #200 | " | (75um) | 78.7 | 56.4 | 7.0 | 3.8 | 97.7 | 92.6 |
| Clay | | | 78.7 | 56.4 | 7.0 | 3.8 | 97.7 | 92.6 |
| Silt | | | | | | | | |
| Total Sand | | | 20.1 | 43.6 | 93.0 | 60.3 | 2.3 | 7.1 |
| Total Gravel | | | 1.2 | 0.0 | 0.0 | 35.9 | 0.0 | 0.3 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | 87 | 45 | NP | NP | 35 | 77 |
| Plastic Limit | | | 29 | 18 | NP | NP | 17 | 20 |
| Plasticity Index | | | 58 | 27 | NP | NP | 18 | 57 |
| USCS | | | CH | CL | SP-SM | SP | CL | CH |
| AASHTO | | | A-7-6(50) | A-7-6(12) | A-3(0) | A-1-b(0) | A-6(18) | A-7-6(59) |

Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| Boring No. | | | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A |
|---|---|---|---|---|---|---|---|---|
| Station | | | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 |
| Offset | | | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 |
| Sample ID | | | T-5 | SS-29 | T-6 | SS-30 | T-8 | SS-33 |
| Depth (ft) | | | 143.0 | 153.5 | 158.0 | 168.5 | 198.0 | 208.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | 100.0 | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | 95.3 | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | 95.3 | 100.0 | --- | --- | --- |
| #4 | " | (4.75mm) | --- | 93.4 | 99.4 | 100.0 | 100.0 | 100.0 |
| #10 | " | (2.00mm) | 100.0 | 92.9 | 99.3 | 100.0 | 99.7 | 99.9 |
| #20 | " | (0.85mm) | 99.8 | 91.7 | 99.2 | 99.7 | 99.4 | 99.6 |
| #40 | " | (425um) | 99.3 | 89.4 | 98.9 | 99.4 | 98.1 | 99.4 |
| #60 | " | (250um) | 98.9 | 83.5 | 97.1 | 98.4 | 96.6 | 99.1 |
| #100 | " | (150um) | 98.5 | 34.4 | 45.8 | 90.0 | 89.9 | 98.3 |
| #140 | " | (106um) | 97.7 | 22.6 | 14.0 | 72.5 | 81.1 | 97.2 |
| #200 | " | (75um) | 95.1 | 16.2 | 7.4 | 55.6 | 74.2 | 94.8 |
| Clay | | | 95.1 | 16.2 | 7.4 | 55.6 | 74.2 | 94.8 |
| Silt | | | | | | | | |
| Total Sand | | | 4.9 | 77.2 | 92.0 | 44.4 | 25.8 | 5.2 |
| Total Gravel | | | 0.0 | 6.6 | 0.6 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | 51 | NP | NP | 33 | 39 | 33 |
| Plastic Limit | | | 16 | NP | NP | 15 | 14 | 18 |
| Plasticity Index | | | 35 | NP | NP | 18 | 25 | 15 |
| USCS | | | CH | SM | SP-SM | CL | CL | CL |
| AASHTO | | | A-7-6(35) | A-2-4(0) | A-3(0) | A-6(7) | A-6(16) | A-6(14) |

**BMT-5**

thompson ENGINEERING



Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| Boring No. | | | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A | MB-2A |
|---|---|---|---|---|---|---|---|---|
| Station | | | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 | 528+88.0 |
| Offset | | | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 | RT 32.9 |
| Sample ID | | | SS-34 | SS-36 | SS-37 | SS-38 | SS-39 | SS-41 |
| Depth (ft) | | | 218.0 | 238.5 | 248.5 | 268.5 | 278.5 | 298.5 |
| TOTAL PASSING (%) | | | | | | | | |
| 3" | SIEVE | (75mm) | --- | --- | --- | --- | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- | --- | --- | --- | --- |
| 2 | " | (50mm) | --- | --- | --- | --- | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- | --- | --- | --- | --- |
| 1" | " | (25mm) | --- | --- | --- | --- | --- | --- |
| 3/4" | " | (19mm) | --- | --- | --- | --- | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- | --- | --- | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- | 100.0 | --- | --- | --- |
| #4 | " | (4.75mm) | 100.0 | 100.0 | 99.8 | 100.0 | 100.0 | 100.0 |
| #10 | " | (2.00mm) | 99.9 | 99.9 | 99.4 | 99.9 | 99.8 | 100.0 |
| #20 | " | (0.85mm) | 99.9 | 99.9 | 99.2 | 99.8 | 97.2 | 99.9 |
| #40 | " | (425um) | 99.8 | 99.4 | 98.7 | 99.6 | 76.2 | 99.7 |
| #60 | " | (250um) | 99.5 | 93.6 | 94.6 | 93.8 | 36.9 | 97.9 |
| #100 | " | (150um) | 98.4 | 77.4 | 86.4 | 20.7 | 18.0 | 91.8 |
| #140 | " | (106um) | 96.4 | 60.6 | 79.1 | 13.1 | 15.0 | 82.9 |
| #200 | " | (75um) | 89.4 | 41.8 | 69.6 | 9.7 | 13.1 | 63.8 |
| Clay<br>Silt | | | 89.4 | 41.8 | 69.6 | 9.7 | 13.1 | 63.8 |
| Total Sand | | | 10.6 | 58.2 | 30.2 | 90.3 | 86.9 | 36.2 |
| Total Gravel | | | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | | | | | |
| Liquid Limit | | | 39 | NP | 25 | NP | NP | NP |
| Plastic Limit | | | 18 | NP | 14 | NP | NP | NP |
| Plasticity Index | | | 21 | NP | 11 | NP | NP | NP |
| USCS | | | CL | SM | CL | SP-SM | SM | ML |
| AASHTO | | | A-6(19) | A-4(0) | A-6(5) | A-3(0) | A-2-4(0) | A-4(0) |

Client: Alabama Department of Transportation
Project: Mobile River Bridge - Main Span Unit
ALDOT PE Project No.: DPI-0030(005)

Project No.: 17-1101-0145
Region: Southwest Region
Date: 9/29/2017

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COURSE ANALYSIS**

| | | | | |
|---|---|---|---|---|
| Boring No. | | | MB-2A | MB-2A |
| Station | | | 528+88.0 | 528+88.0 |
| Offset | | | RT 32.9 | RT 32.9 |
| Sample ID | | | SS-42 | SS-43 |
| Depth (ft) | | | 308.5 | 318.5 |
| TOTAL PASSING (%) | | | | |
| 3" | SIEVE | (75mm) | --- | --- |
| 2 1/2" | " | (63mm) | --- | --- |
| 2 | " | (50mm) | --- | --- |
| 1 1/2" | " | (37.5mm) | --- | --- |
| 1" | " | (25mm) | --- | --- |
| 3/4" | " | (19mm) | --- | --- |
| 1/2" | " | (12.5mm) | --- | --- |
| 3/8" | " | (9.5mm) | --- | --- |
| #4 | " | (4.75mm) | --- | 100.0 |
| #10 | " | (2.00mm) | 100.0 | 100.0 |
| #20 | " | (0.85mm) | 99.8 | 99.9 |
| #40 | " | (425um) | 99.3 | 99.6 |
| #60 | " | (250um) | 97.4 | 98.8 |
| #100 | " | (150um) | 91.2 | 94.8 |
| #140 | " | (106um) | 81.7 | 87.2 |
| #200 | " | (75um) | 70.6 | 76.2 |
| Clay | | | 70.6 | 76.2 |
| Silt | | | | |
| Total Sand | | | 29.4 | 23.8 |
| Total Gravel | | | 0.0 | 0.0 |
| ATTERBERG LIMITS | | | | |
| Liquid Limit | | | 49 | 45 |
| Plastic Limit | | | 12 | 14 |
| Plasticity Index | | | 37 | 31 |
| USCS | | | CL | CL |
| AASHTO | | | A-7-6(24) | A-7-6(22) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/15/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | TH-12 | TH-12 | TH-12 | TH-13 | TH-13 | TH-13 |
|---|---|---|---|---|---|---|
| Station | 1206+11.1 | 1206+11.1 | 1206+11.1 | 153+01.7 | 153+01.7 | 153+01.7 |
| Offset | LT 2.5 | LT 2.5 | LT 2.5 | RT 78.9 | RT 78.9 | RT 78.9 |
| Sample ID | SS-18 | SS-20 | SS-22 | SS-2 | SS-3 | SS-5 |
| Depth (ft) | 73.5 | 83.5 | 93.5 | 1.5 | 3.0 | 6.0 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 97.0 | 99.9 | 100.0 | 98.5 | 99.7 | 100.0 |
| #10 SIEVE (2.00mm) | 82.8 | 99.3 | 100.0 | 95.0 | 98.5 | 98.7 |
| #20 SIEVE (0.85mm) | 68.8 | 96.5 | 98.3 | 91.4 | 94.1 | 93.9 |
| #40" SIEVE (425um) | 47.5 | 66.0 | 55.7 | 78.6 | 75.9 | 79.0 |
| #60 SIEVE (250um) | 26.9 | 19.6 | 19.2 | 57.2 | 48.1 | 55.5 |
| #100 SIEVE (150um) | 13.9 | 7.5 | 8.9 | 35.2 | 28.5 | 33.9 |
| #140 SIEVE (106um) | 10.6 | 5.4 | 6.5 | 28.6 | 23.4 | 27.9 |
| #200 SIEVE (75um) | 8.8 | 4.3 | 5.0 | 24.7 | 20.6 | 24.5 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 88.2 | 95.6 | 95.0 | 73.8 | 79.2 | 75.5 |
| Total Gravel | 3.0 | 0.1 | 0.0 | 1.5 | 0.3 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | NP | NP | NP | 18 |
| Plastic Limit | NP | NP | NP | NP | NP | 13 |
| Plasticity Index | NP | NP | NP | NP | NP | 5 |
| | | | | | | |
| USCS | SW-SM | SP | SP-SM | SM | SM | SC-SM |
| AASHTO | A-1-b(0) | A-3(0) | A-3(0) | A-2-4(0) | A-2-4(0) | A-2-4(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/15/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | TH-13 | TH-13 | TH-13 | TH-13 | TH-13 | TH-13 |
|---|---|---|---|---|---|---|
| Station | 153+01.7 | 153+01.7 | 153+01.7 | 153+01.7 | 153+01.7 | 153+01.7 |
| Offset | RT 78.9 | RT 78.9 | RT 78.9 | RT 78.9 | RT 78.9 | RT 78.9 |
| Sample ID | SS-9 | T-2 | SS-10 | SS-13 | SS-16 | SS-19 |
| Depth (ft) | 25.0 | 28.0 | 33.5 | 48.5 | 63.5 | 78.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.3 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 99.9 | 97.8 |
| #10 SIEVE (2.00mm) | 99.3 | 92.7 | 100.0 | 100.0 | 99.5 | 96.9 |
| #20 SIEVE (0.85mm) | 98.5 | 85.2 | 100.0 | 99.8 | 97.1 | 92.8 |
| #40" SIEVE (425um) | 96.5 | 80.8 | 99.8 | 81.7 | 70.6 | 71.7 |
| #60 SIEVE (250um) | 83.8 | 78.6 | 97.0 | 27.1 | 26.3 | 47.6 |
| #100 SIEVE (150um) | 43.1 | 77.1 | 68.3 | 11.3 | 11.1 | 20.4 |
| #140 SIEVE (106um) | 32.5 | 76.4 | 45.6 | 8.3 | 8.3 | 15.6 |
| #200 SIEVE (75um) | 28.2 | 75.9 | 28.9 | 6.6 | 6.8 | 13.5 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 71.8 | 24.1 | 71.1 | 93.4 | 93.2 | 84.3 |
| Total Gravel | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 2.2 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | 24 | 83 | NP | NP | NP | NP |
| Plastic Limit | 18 | 46 | NP | NP | NP | NP |
| Plasticity Index | 6 | 37 | NP | NP | NP | NP |
| | | | | | | |
| USCS | SC-SM | MH | SM | SP-SM | SP-SM | SM |
| AASHTO | A-2-4(0) | A-7-5(33) | A-2-4(0) | A-3(0) | A-3(0) | A-2-4(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/15/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | TH-13 | TH-13 | TH-13 | TH-13 | TH-13 | TH-24 |
|---|---|---|---|---|---|---|
| Station | 153+01.7 | 153+01.7 | 153+01.7 | 153+01.7 | 153+01.7 | 9014+62.1 |
| Offset | RT 78.9 | RT 78.9 | RT 78.9 | RT 78.9 | RT 78.9 | LT 4.9 |
| Sample ID | SS-22 | T-3 | T-4 | SS-26 | SS-30 | SS-2 |
| Depth (ft) | 93.5 | 108.5 | 118.5 | 123.5 | 143.5 | 1.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 97.4 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 88.2 | 100.0 | 100.0 | 100.0 | 99.3 | 98.2 |
| #10 SIEVE (2.00mm) | 72.2 | 100.0 | 100.0 | 100.0 | 96.9 | 96.4 |
| #20 SIEVE (0.85mm) | 51.7 | 100.0 | 100.0 | 99.8 | 86.5 | 93.5 |
| #40" SIEVE (425um) | 26.1 | 99.8 | 99.5 | 99.2 | 51.1 | 78.0 |
| #60 SIEVE (250um) | 14.2 | 99.8 | 98.2 | 96.5 | 21.6 | 51.2 |
| #100 SIEVE (150um) | 9.0 | 99.5 | 93.8 | 74.2 | 11.9 | 30.2 |
| #140 SIEVE (106um) | 7.1 | 97.1 | 89.9 | 55.8 | 9.3 | 23.7 |
| #200 SIEVE (75um) | 5.7 | 93.4 | 86.3 | 42.1 | 7.6 | 19.9 |
| | | | | | | |
| Clay | | | | | | |
| Silt | | | | | | |
| Total Sand | 82.5 | 6.6 | 13.7 | 57.9 | 91.7 | 78.4 |
| Total Gravel | 11.8 | 0.0 | 0.0 | 0.0 | 0.7 | 1.8 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | 67 | 54 | 22 | NP | NP |
| Plastic Limit | NP | 22 | 18 | 13 | NP | NP |
| Plasticity Index | NP | 45 | 36 | 9 | NP | NP |
| | | | | | | |
| USCS | SW-SM | CH | CH | SC | SP-SM | SM |
| AASHTO | A-1-b(0) | A-7-6(47) | A-7-6(32) | A-4(1) | A-3(0) | A-2-4(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | WHLA-01 | WHLA-01 | WHLA-01 | WHLA-03 | WHLA-03 | WHLA-03 |
|---|---|---|---|---|---|---|
| Station | 497+92.5 | 497+92.5 | 497+92.5 | 509+17.5 | 509+17.5 | 509+17.5 |
| Offset | LT 26.8 | LT 26.8 | LT 26.8 | LT 5.8 | LT 5.8 | LT 5.8 |
| Sample ID | ST-7 | ST-8 | SS-43 | SS-2 | SS-4 | SS-9 |
| Depth (ft) | 218.5 | 238.5 | 258.5 | 1.5 | 4.5 | 28.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 93.7 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 91.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 100.0 | 84.6 | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | 100.0 | 100.0 | 100.0 | 75.5 | 99.3 | 100.0 |
| #20 SIEVE (0.85mm) | 100.0 | 99.6 | 99.9 | 75.5 | 98.4 | 100.0 |
| #40" SIEVE (425um) | 99.9 | 91.2 | 99.2 | 70.7 | 95.8 | 99.2 |
| #60 SIEVE (250um) | 99.3 | 67.4 | 91.1 | 58.8 | 82.8 | 31.6 |
| #100 SIEVE (150um) | 95.0 | 40.8 | 70.1 | 32.8 | 30.0 | 5.9 |
| #140 SIEVE (106um) | 89.8 | 31.1 | 55.6 | 23.8 | 14.9 | 4.2 |
| #200 SIEVE (75um) | 82.9 | 26.0 | 42.2 | 17.8 | 8.3 | 3.4 |
| | | | | | | |
| Clay | 29.2 | 12.6 | | | | |
| Silt | 53.7 | 13.4 | | | | |
| Total Sand | 17.1 | 74.0 | 57.8 | 66.8 | 91.7 | 96.6 |
| Total Gravel | 0.0 | 0.0 | 0.0 | 15.4 | 0.0 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | 36 | NP | NP | NP | NP | NP |
| Plastic Limit | 16 | NP | NP | NP | NP | NP |
| Plasticity Index | 20 | NP | NP | NP | NP | NP |
| | | | | | | |
| USCS | CL | SM | SM | SM | SP-SM | SP |
| AASHTO | A-6(15) | A-2-4(0) | A-4(0) | A-2-4(0) | A-3(0) | A-3(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 |
|---|---|---|---|---|---|---|
| Station | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 |
| Offset | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 |
| Sample ID | SS-15 | SS-17 | SS-21 | T-2 | SS-22 | SS-23 |
| Depth (ft) | 58.5 | 68.5 | 88.5 | 93.5 | 103.5 | 113.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 98.8 | 99.5 | 100.0 | | 100.0 |
| #10 SIEVE (2.00mm) | 100.0 | 90.1 | 97.2 | 99.8 | | 99.8 |
| #20 SIEVE (0.85mm) | 98.7 | 69.8 | 91.7 | 99.8 | | 98.9 |
| #40" SIEVE (425um) | 89.9 | 35.9 | 69.6 | 99.6 | | 88.6 |
| #60 SIEVE (250um) | 49.7 | 17.7 | 25.7 | 99.2 | | 63.0 |
| #100 SIEVE (150um) | 18.0 | 12.9 | 11.8 | 98.9 | | 35.9 |
| #140 SIEVE (106um) | 13.2 | 11.6 | 8.8 | 98.7 | | 27.0 |
| #200 SIEVE (75um) | 9.9 | 10.9 | 7.1 | 98.5 | 38.6 | 23.1 |
| | | | | | | |
| Clay | | | | 62.5 | | |
| Silt | | | | 36.0 | | |
| Total Sand | 90.1 | 87.9 | 92.4 | 1.5 | | 76.9 |
| Total Gravel | 0.0 | 1.2 | 0.5 | 0.0 | | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | NP | 81 | 82 | NP |
| Plastic Limit | NP | NP | NP | 25 | 32 | NP |
| Plasticity Index | NP | NP | NP | 56 | 50 | NP |
| | | | | | | |
| USCS | SP-SM | SP-SM | SP-SM | CH | SC | SM |
| AASHTO | A-3(0) | A-1-b(0) | A-3(0) | A-7-6(65) | A-7-5(11) | A-2-4(0) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 |
|---|---|---|---|---|---|---|
| Station | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 |
| Offset | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 |
| Sample ID | SS-24 | SS-25 | SS-28 | T-6 | SS-30 | T-8 |
| Depth (ft) | 118.5 | 123.5 | 138.5 | 143.5 | 158.5 | 166.0 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 94.7 | 100.0 | 100.0 | 99.7 | 100.0 |
| #10 SIEVE (2.00mm) | 99.9 | 86.9 | 100.0 | 100.0 | 98.1 | 100.0 |
| #20 SIEVE (0.85mm) | 99.1 | 82.2 | 99.7 | 99.8 | 95.3 | 99.8 |
| #40" SIEVE (425um) | 92.9 | 61.6 | 98.3 | 99.2 | 71.2 | 99.6 |
| #60 SIEVE (250um) | 77.1 | 33.2 | 96.5 | 98.7 | 41.4 | 99.2 |
| #100 SIEVE (150um) | 34.0 | 15.2 | 94.4 | 95.3 | 27.3 | 97.5 |
| #140 SIEVE (106um) | 19.4 | 10.8 | 92.0 | 93.9 | 17.7 | 91.2 |
| #200 SIEVE (75um) | 14.4 | 8.9 | 89.0 | 91.5 | 12.4 | 79.5 |
| | | | | | | |
| Clay | | | | 25.4 | | 21.4 |
| Silt | | | | 66.1 | | 58.1 |
| Total Sand | 85.6 | 85.7 | 11.0 | 8.5 | 87.4 | 20.5 |
| Total Gravel | 0.0 | 5.3 | 0.0 | 0.0 | 0.3 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | NP | NP | 60 | 32 | NP | 48 |
| Plastic Limit | NP | NP | 18 | 16 | NP | 16 |
| Plasticity Index | NP | NP | 42 | 16 | NP | 32 |
| | | | | | | |
| USCS | SM | SP-SM | CH | CL | SM | CL |
| AASHTO | A-2-4(0) | A-3(0) | A-7-6(40) | A-6(14) | A-2-4(0) | A-7-6(25) |

**BMT-5**

Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 | WHLA-03 |
|---|---|---|---|---|---|---|
| Station | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 | 509+17.5 |
| Offset | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 | LT 5.8 |
| Sample ID | SS-32 | SS-34 | SS-36 | T-9 | T-11 | SS-38 |
| Depth (ft) | 168.0 | 178.5 | 188.5 | 193.0 | 208.5 | 228.5 |
| TOTAL PASSING (%) | | | | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 99.5 | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 99.0 | 100.0 | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | 99.9 | 100.0 | 97.9 | 100.0 | 100.0 | 100.0 |
| #20 SIEVE (0.85mm) | 99.8 | 99.9 | 90.4 | 99.8 | 99.7 | 99.9 |
| #40" SIEVE (425um) | 99.4 | 98.5 | 65.8 | 98.9 | 99.3 | 99.3 |
| #60 SIEVE (250um) | 98.9 | 96.3 | 25.7 | 97.0 | 97.6 | 94.8 |
| #100 SIEVE (150um) | 97.3 | 82.5 | 13.7 | 89.3 | 74.7 | 82.5 |
| #140 SIEVE (106um) | 95.5 | 64.6 | 10.1 | 76.5 | 62.3 | 73.3 |
| #200 SIEVE (75um) | 92.5 | 47.0 | 8.4 | 63.4 | 54.9 | 60.5 |
| | | | | | | |
| Clay | | | | 17.1 | 27.0 | |
| Silt | | | | 46.3 | 27.9 | |
| Total Sand | 7.5 | 53.0 | 90.6 | 36.6 | 45.1 | 39.5 |
| Total Gravel | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| | | | | | | |
| ATTERBERG LIMITS | | | | | | |
| Liquid Limit | 45 | NP | NP | 28 | 32 | NP |
| Plastic Limit | 19 | NP | NP | 20 | 11 | NP |
| Plasticity Index | 26 | NP | NP | 8 | 21 | NP |
| | | | | | | |
| USCS | CL | SM | SP-SM | CL | CL | ML |
| AASHTO | A-7-6(26) | A-4(0) | A-3(0) | A-4(3) | A-6(8) | A-4(0) |

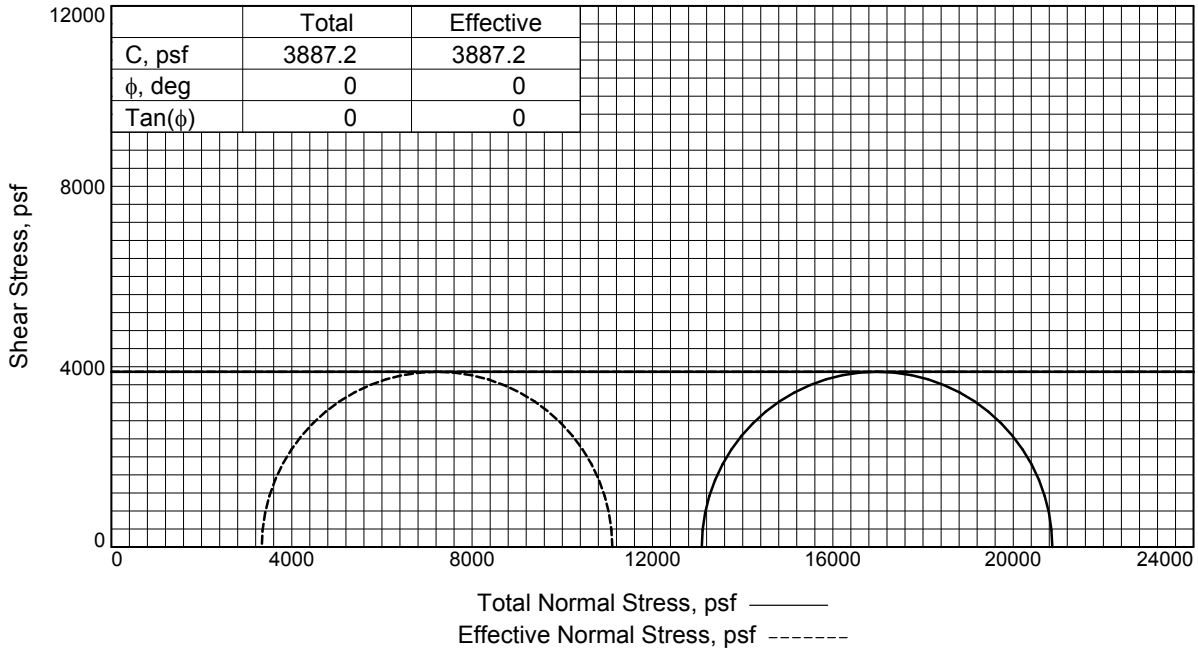
**BMT-5**

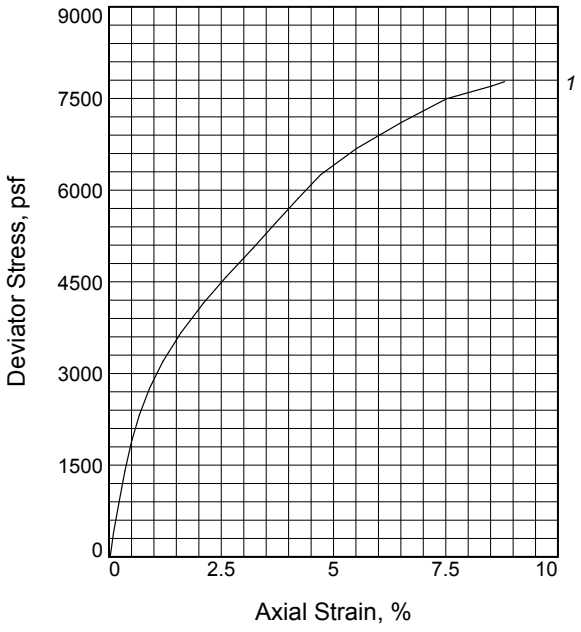
Client: ALDOT
Project: I-10 Mobile River Bridge and Bayway
ALDOT Project No.:15-1101-0228

Project No.: 15-1101-0228
Region: Southwest Region
Date: 01/16/2018

**ALABAMA DEPARTMENT OF TRANSPORTATION**
**SOILS AND BASE COARSE ANALYSIS**

| Boring No. | WHLA-03 | WHLA-03 | WHLA-03 |
|---|---|---|---|
| Station | 509+17.5 | 509+17.5 | 509+17.5 |
| Offset | LT 5.8 | LT 5.8 | LT 5.8 |
| Sample ID | SS-40 | SS-42 | SS-44 |
| Depth (ft) | 248.5 | 268.5 | 288.5 |
| TOTAL PASSING (%) | | | |
| 3" SIEVE (75mm) | 100.0 | 100.0 | 100.0 |
| 2 1/2" SIEVE (63mm) | 100.0 | 100.0 | 100.0 |
| 2" SIEVE (50mm) | 100.0 | 100.0 | 100.0 |
| 1 1/2" SIEVE (37.5mm) | 100.0 | 100.0 | 100.0 |
| 1" SIEVE (25mm) | 100.0 | 100.0 | 100.0 |
| 3/4" SIEVE (19mm) | 100.0 | 100.0 | 100.0 |
| 1/2" SIEVE (12.5mm) | 100.0 | 100.0 | 100.0 |
| 3/8" SIEVE (9.5mm) | 100.0 | 100.0 | 100.0 |
| #4 SIEVE (4.75mm) | 100.0 | 100.0 | 100.0 |
| #10 SIEVE (2.00mm) | 100.0 | 99.9 | 99.9 |
| #20 SIEVE (0.85mm) | 99.9 | 99.2 | 97.6 |
| #40" SIEVE (425um) | 99.0 | 94.4 | 81.0 |
| #60 SIEVE (250um) | 90.1 | 64.7 | 37.4 |
| #100 SIEVE (150um) | 62.6 | 44.3 | 17.3 |
| #140 SIEVE (106um) | 45.1 | 29.0 | 13.5 |
| #200 SIEVE (75um) | 29.2 | 17.3 | 11.1 |
| | | | |
| Clay | | | |
| Silt | | | |
| Total Sand | 70.8 | 82.7 | 88.9 |
| Total Gravel | 0.0 | 0.0 | 0.0 |
| | | | |
| ATTERBERG LIMITS | | | |
| Liquid Limit | NP | NP | NP |
| Plastic Limit | NP | NP | NP |
| Plasticity Index | NP | NP | NP |
| | | | |
| USCS | SM | SM | SP-SM |
| AASHTO | A-2-4(0) | A-2-4(0) | A-2-4(0) |




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 20.4 |
| | Dry Density, pcf | 109.4 |
| | Saturation, % | 105.0 |
| | Void Ratio | 0.5174 |
| | Diameter, in. | 2.838 |
| | Height, in. | 5.460 |
| At Test | Water Content, % | 19.5 |
| | Dry Density, pcf | 109.4 |
| | Saturation, % | 100.0 |
| | Void Ratio | 0.5174 |
| | Diameter, in. | 2.838 |
| | Height, in. | 5.460 |
| Strain at peak, % | | 8.8 |
| Eff. Cell Pressure, psf | | 13092.5 |
| Fail. Stress, psf | | 7774.5 |
| Excess Pore Pr., psf | | 9758.0 |
| Strain, % | | 8.8 |
| Ult. Stress, psf | | 7774.5 |
| Excess Pore Pr., psf | | 9758.0 |
| Strain, % | | 8.8 |
| $\bar{\sigma}_1$ Failure, psf | | 11108.9 |
| $\bar{\sigma}_3$ Failure, psf | | 3334.5 |

**Type of Test:**
CU with Pore Pressures

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY (CL,A-6(11))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

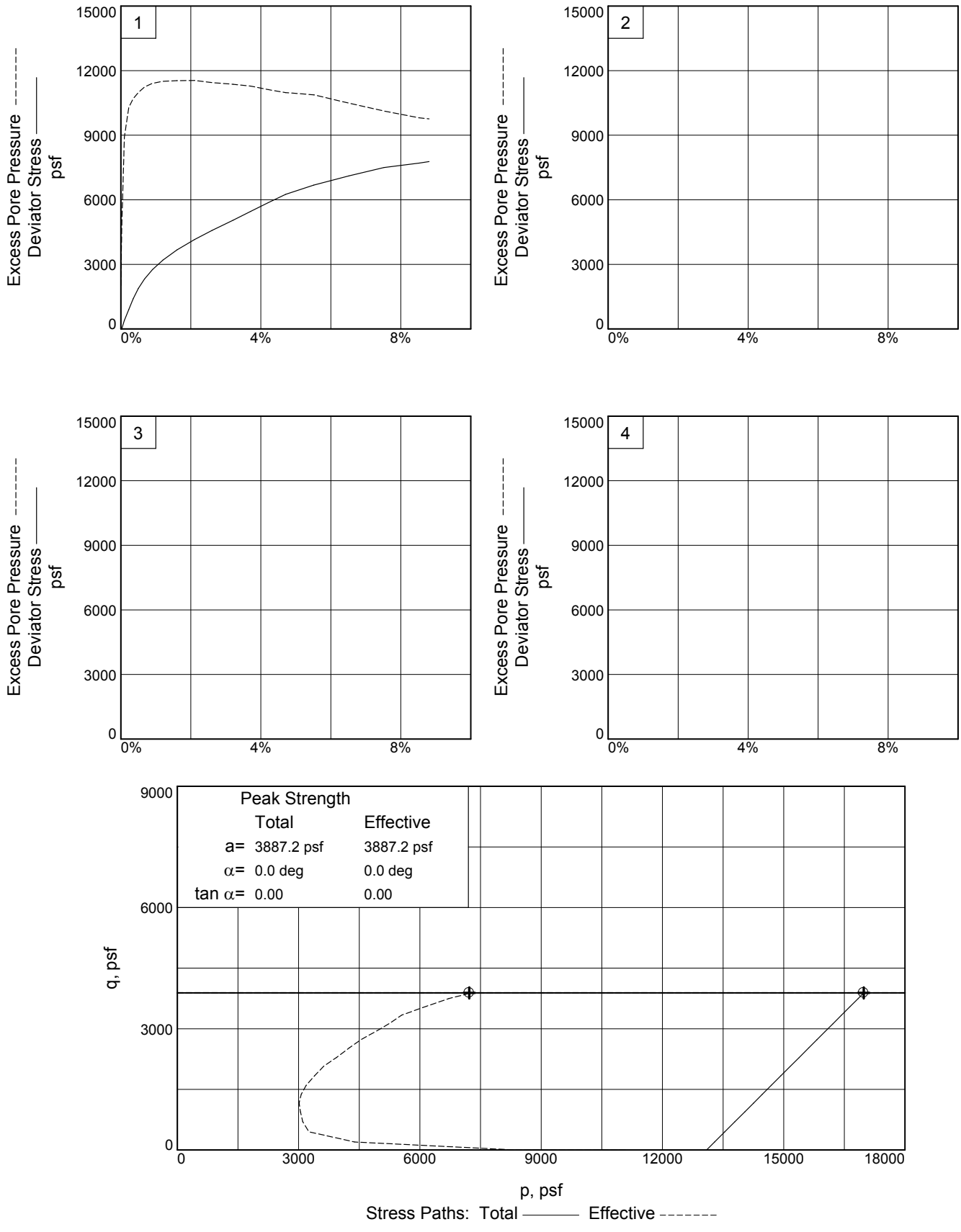
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 190.0-192.00

**Sample Number:** T-4

**Proj. No.:** 1511010228 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Thompson Engineering
Mobile, Alabama



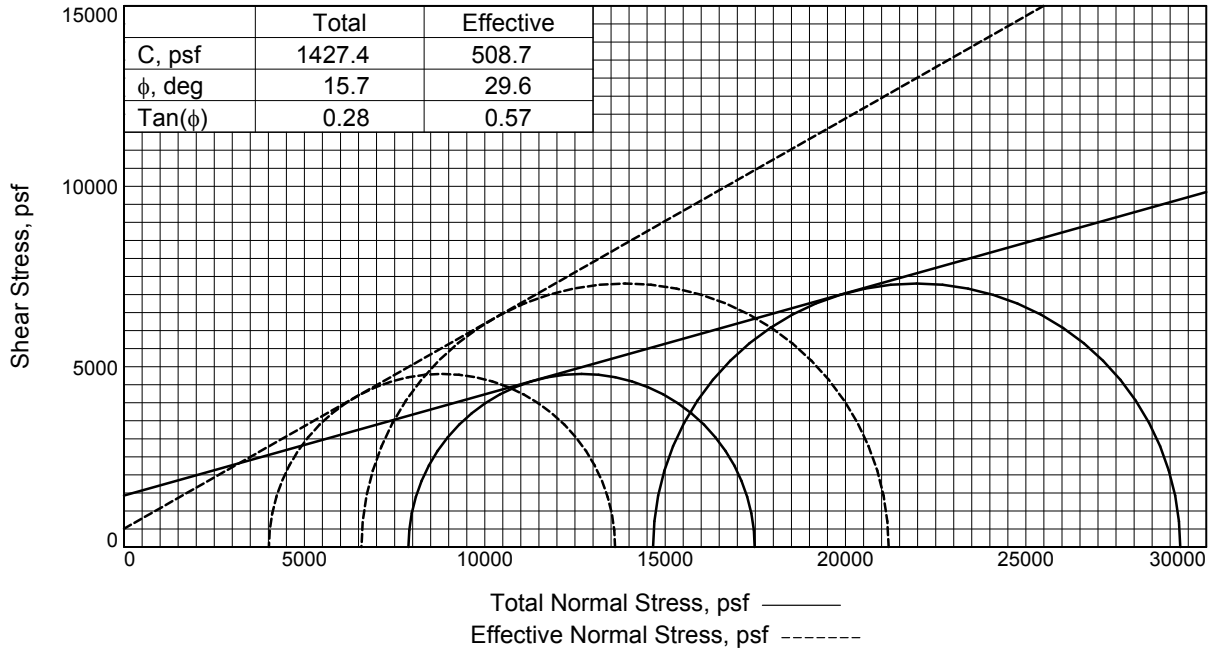

**Client:** ALDOT

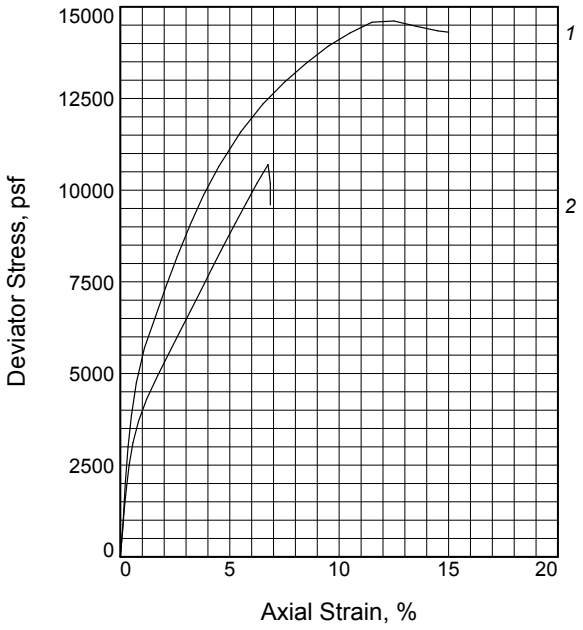
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 190.0-192.00 **Sample Number:** T-4

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| Specimen No. | | 1 | 2 |
|---|---|---|---|
| Initial | Water Content, % | 22.9 | 23.5 |
| | Dry Density, pcf | 104.5 | 101.9 |
| | Saturation, % | 103.4 | 101.6 |
| | Void Ratio | 0.5897 | 0.6050 |
| | Diameter, in. | 2.830 | 2.800 |
| | Height, in. | 5.490 | 5.400 |
| At Test | Water Content, % | 22.2 | 23.1 |
| | Dry Density, pcf | 104.5 | 101.9 |
| | Saturation, % | 100.0 | 100.0 |
| | Void Ratio | 0.5897 | 0.6050 |
| | Diameter, in. | 2.830 | 2.800 |
| | Height, in. | 5.490 | 5.400 |
| Strain at peak, % | | 12.5 | 6.9 |
| Eff. Cell Pressure, psf | | 14665.0 | 7884.0 |
| Fail. Stress, psf | | 14613.3 | 9597.3 |
| Excess Pore Pr., psf | | 8083.4 | 3868.6 |
| Strain, % | | 12.5 | 6.9 |
| Ult. Stress, psf | | 14613.3 | |
| Excess Pore Pr., psf | | 8083.4 | |
| Strain, % | | 12.5 | |
| $\bar{\sigma}_1$ Failure, psf | | 21194.9 | 13612.7 |
| $\bar{\sigma}_3$ Failure, psf | | 6581.6 | 4015.4 |

**Type of Test:**
CU with Pore Pressures

**Sample Type:** 3-in. Shelby Tube

**Description:** SILT with SAND (ML,A-4(3))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

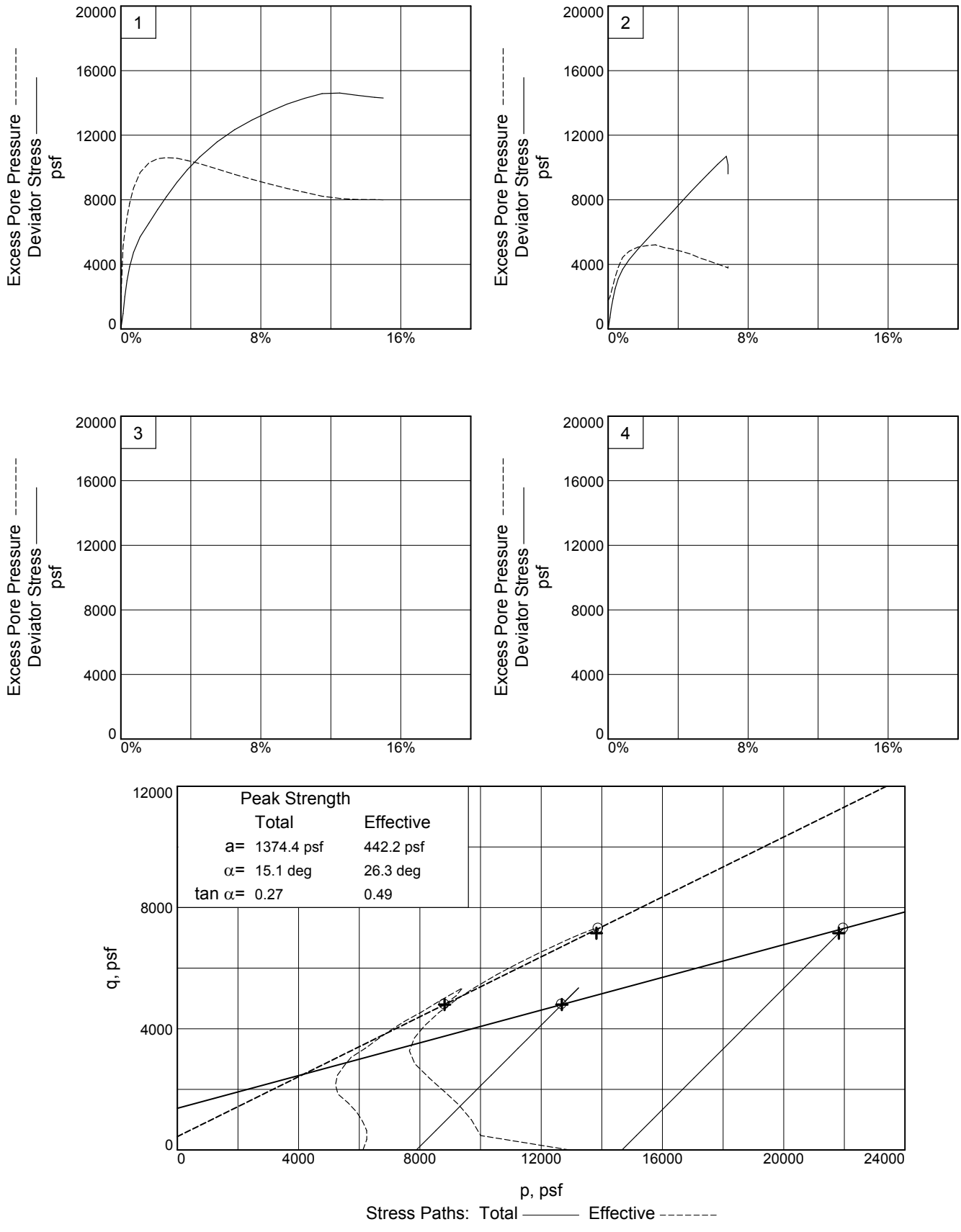
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 228.5'-230.0'

**Sample Number:** T-6

**Proj. No.:** 1511010228 **Date Sampled:**

TRIAXIAL SHEAR TEST REPORT
Thompson Engineering
Mobile, Alabama



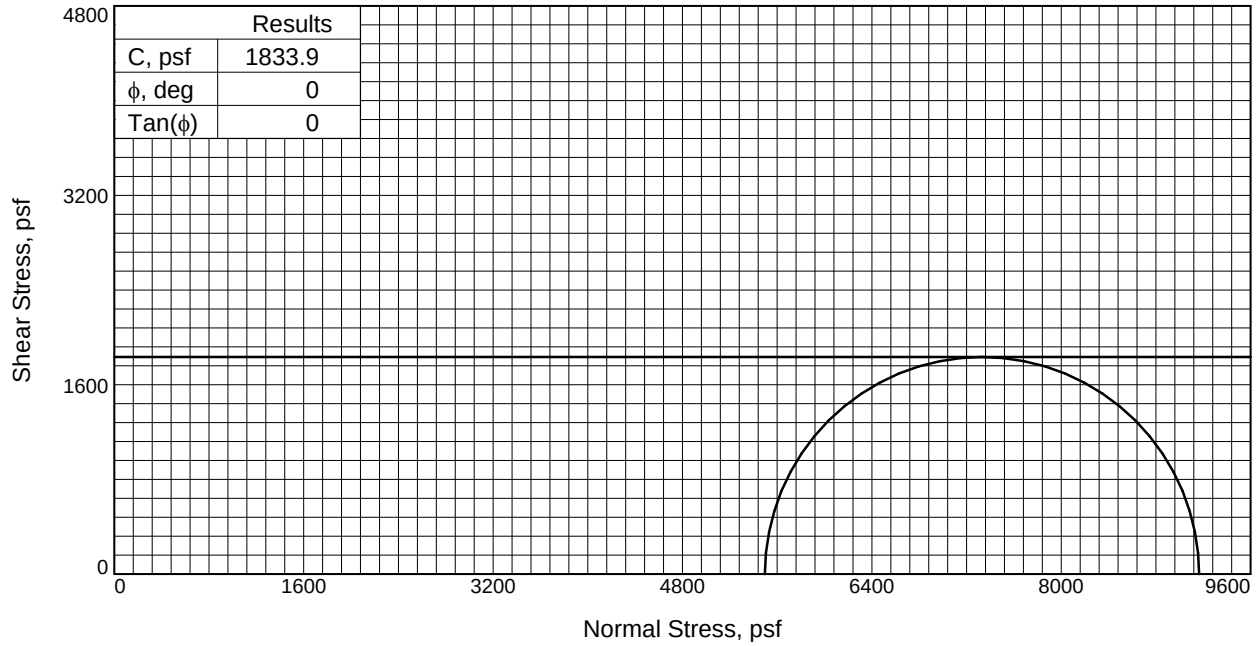

**Client:** ALDOT

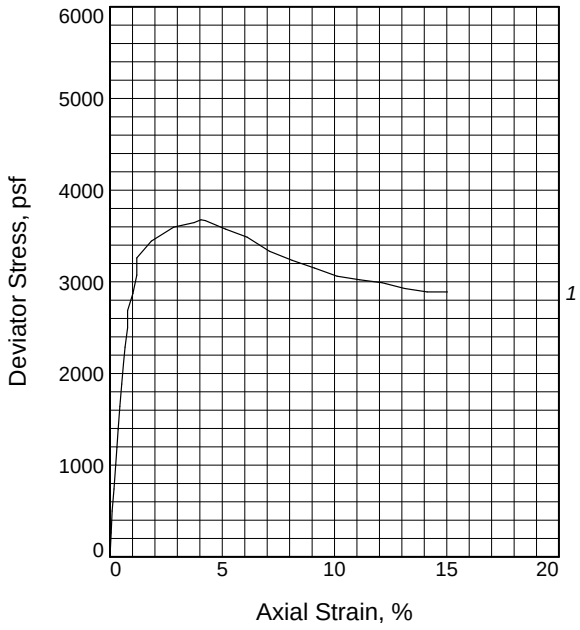
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 228.5'-230.0' **Sample Number:** T-6

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 35.1 |
| | Dry Density, pcf | 87.6 |
| | Saturation, % | 104.2 |
| | Void Ratio | 0.8962 |
| | Diameter, in. | 2.842 |
| | Height, in. | 5.743 |
| At Test | Water Content, % | 36.3 |
| | Dry Density, pcf | 87.6 |
| | Saturation, % | 107.6 |
| | Void Ratio | 0.8962 |
| | Diameter, in. | 2.842 |
| | Height, in. | 5.743 |
| Strain at peak, % | | 4.2 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 5496.5 |
| Fail. Stress, psf | | 3667.8 |
| Strain, % | | 4.2 |
| Ult. Stress, psf | | 3667.8 |
| Strain, % | | 4.2 |
| $\sigma_1$ Failure, psf | | 9164.3 |
| $\sigma_3$ Failure, psf | | 5496.5 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY(CH A-7-6(79))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** Lab #8060 **Depth:** 108.0'-110.0'

**Sample Number:** HLA-12 T-1

**Proj. No.:** 1511010228 **Date Sampled:**

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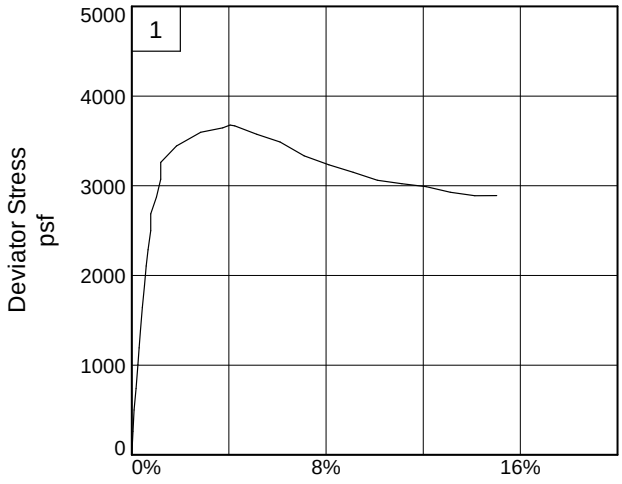
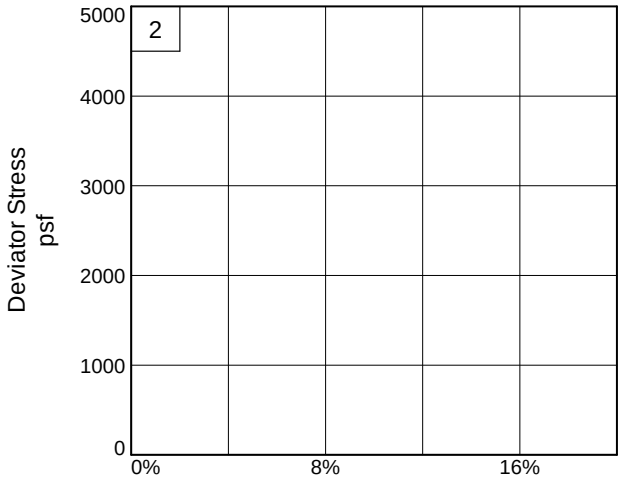
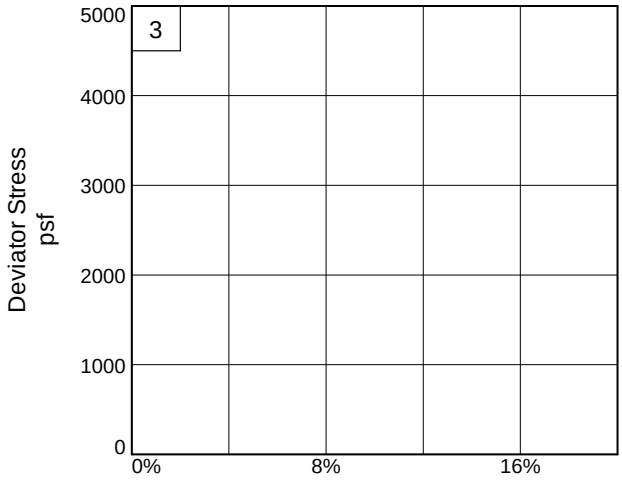
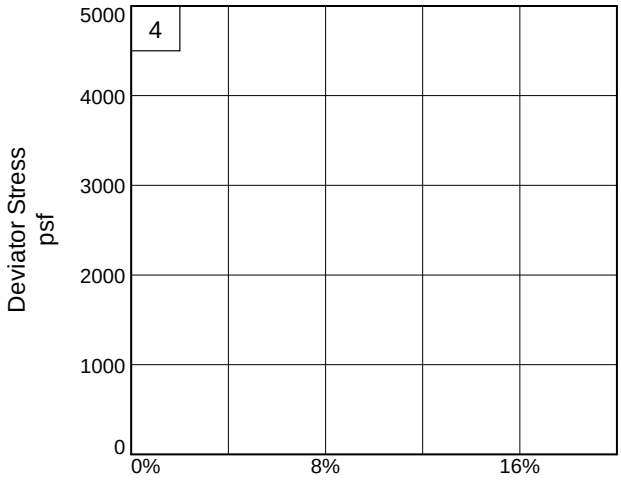
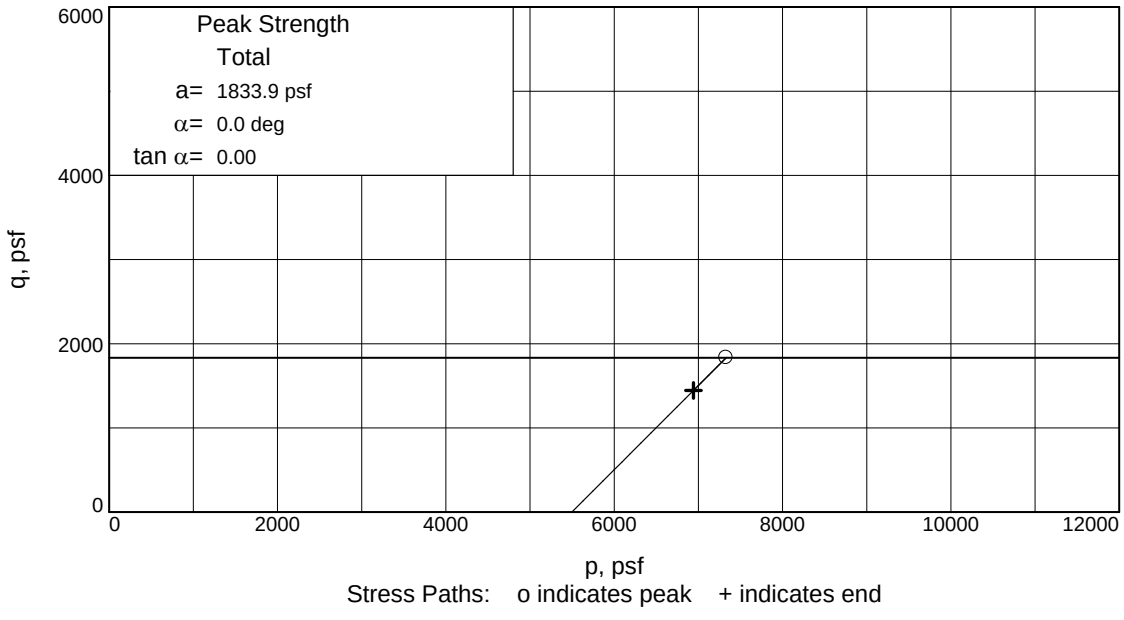


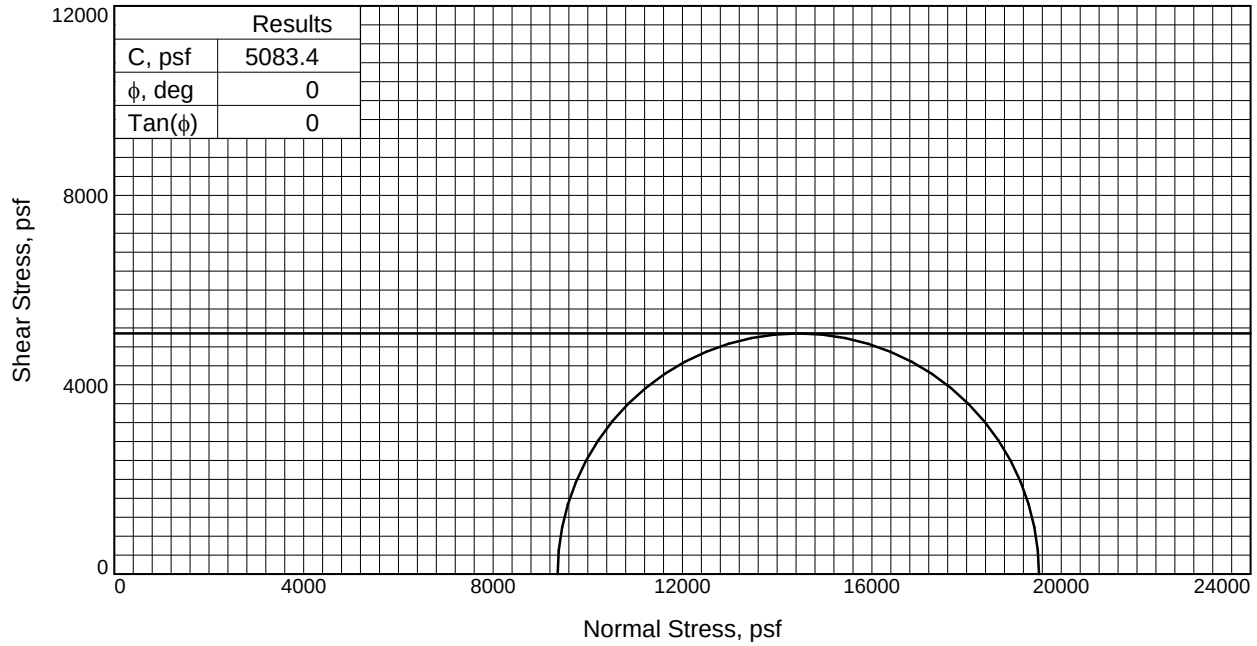



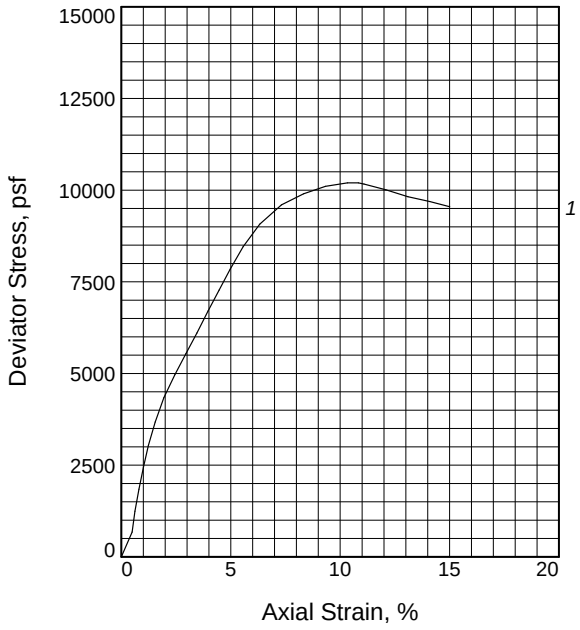




**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** Lab #8060 **Depth:** 108.0'-110.0' **Sample Number:** HLA-12 T-1
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 18.7 |
| | Dry Density, pcf | 113.4 |
| | Saturation, % | 107.1 |
| | Void Ratio | 0.4646 |
| | Diameter, in. | 2.742 |
| | Height, in. | 5.623 |
| At Test | Water Content, % | 18.4 |
| | Dry Density, pcf | 113.4 |
| | Saturation, % | 105.5 |
| | Void Ratio | 0.4646 |
| | Diameter, in. | 2.742 |
| | Height, in. | 5.623 |
| Strain at peak, % | | 11.1 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 9362.9 |
| Fail. Stress, psf | | 10166.8 |
| Strain, % | | 11.1 |
| Ult. Stress, psf | | 10166.8 |
| Strain, % | | 11.1 |
| $\sigma_1$ Failure, psf | | 19529.7 |
| $\sigma_3$ Failure, psf | | 9362.9 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** LEAN CLAY(CL A-6(11))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** Lab #8060 **Depth:** 185.0'-190.0'

**Sample Number:** HLA-12 T-2

**Proj. No.:** 1511010228 **Date Sampled:**

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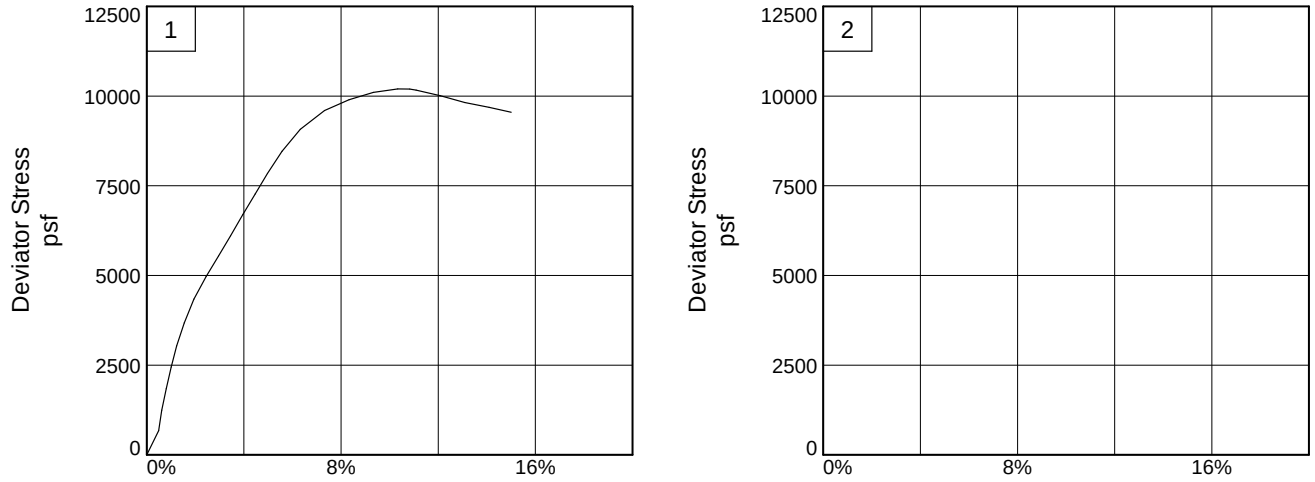
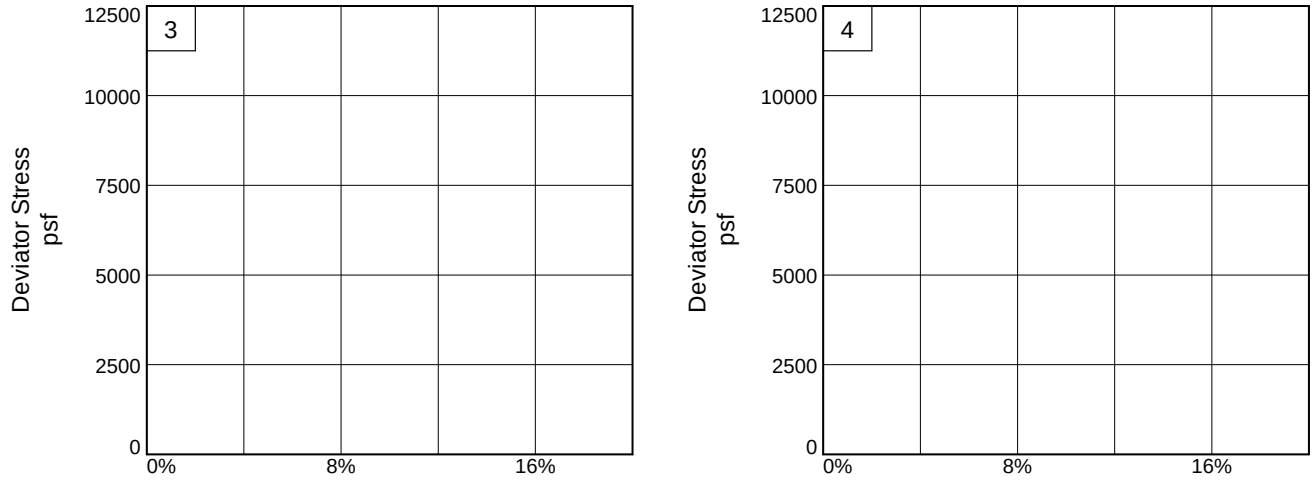
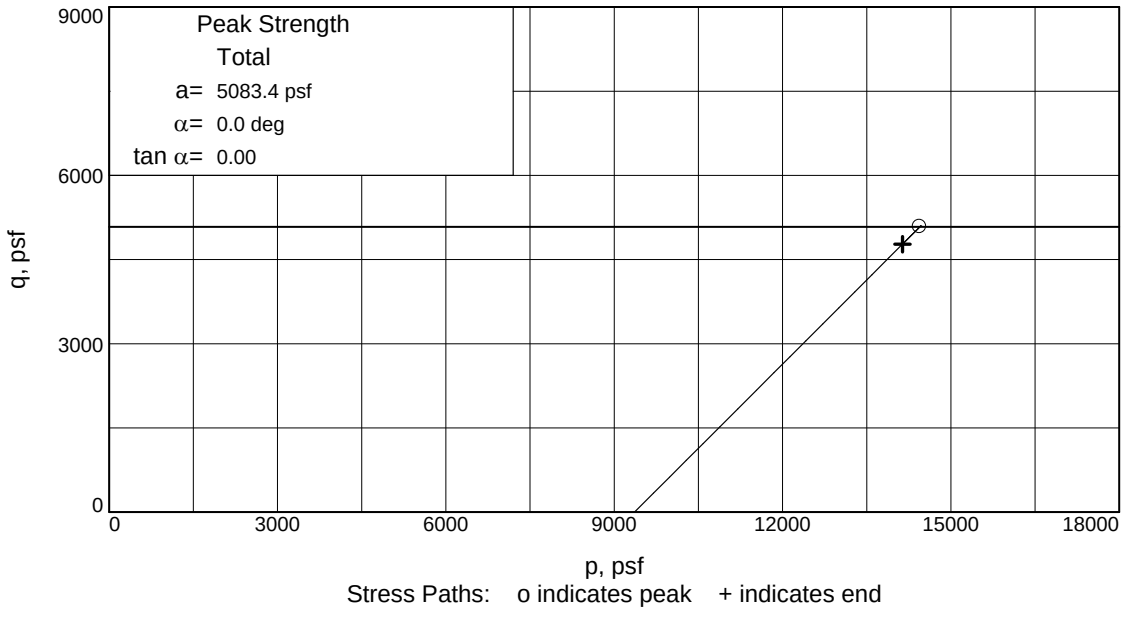


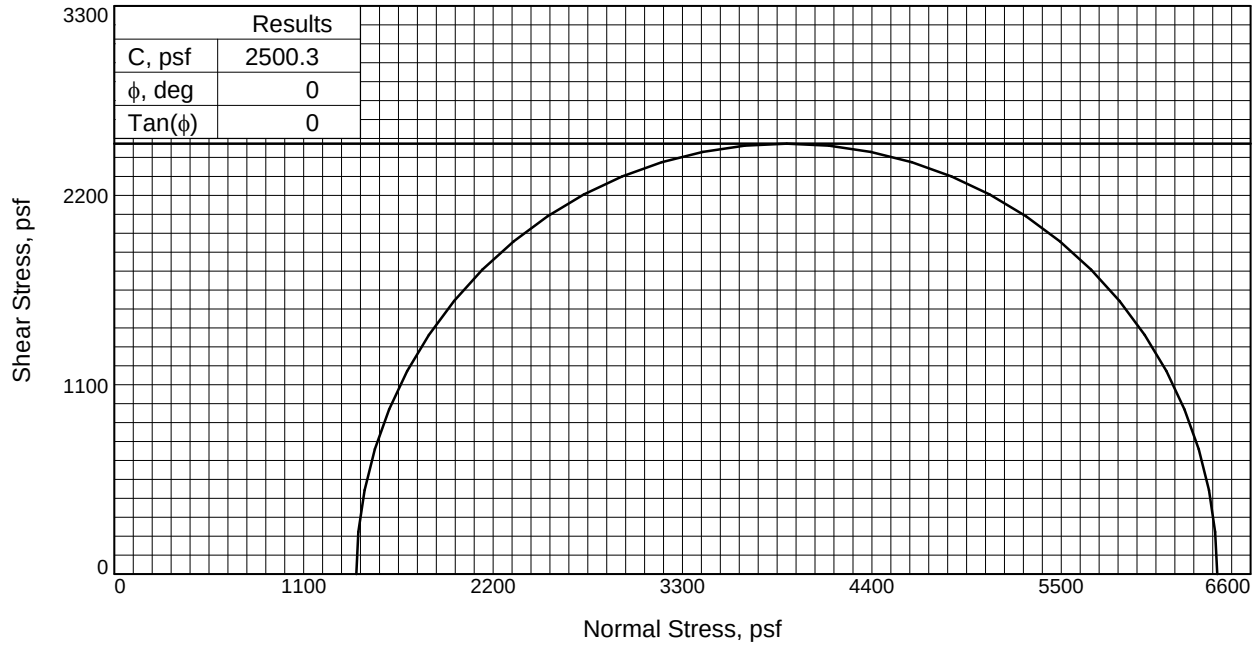



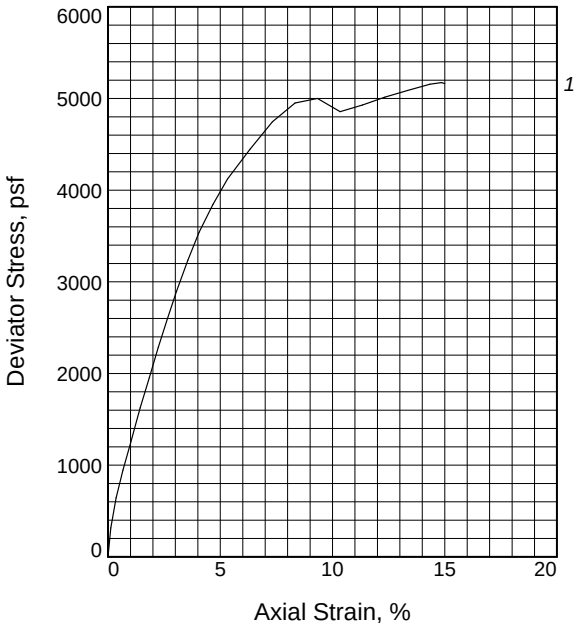




Stress Paths: o indicates peak + indicates end

**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** Lab #8060 **Depth:** 185.0'-190.0' **Sample Number:** HLA-12 T-2
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 17.2 |
| | Dry Density, pcf | 106.8 |
| | Saturation, % | 82.6 |
| | Void Ratio | 0.5543 |
| | Diameter, in. | 2.833 |
| | Height, in. | 5.363 |
| At Test | Water Content, % | 23.0 |
| | Dry Density, pcf | 106.8 |
| | Saturation, % | 110.6 |
| | Void Ratio | 0.5543 |
| | Diameter, in. | 2.833 |
| | Height, in. | 5.363 |
| Strain at peak, % | | 9.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 1405.4 |
| Fail. Stress, psf | | 5000.6 |
| Strain, % | | 9.3 |
| Ult. Stress, psf | | 5000.6 |
| Strain, % | | 9.3 |
| $\sigma_1$ Failure, psf | | 6406.0 |
| $\sigma_3$ Failure, psf | | 1405.4 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SILTY SAND(SM A-2-4(0))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** Lab #8068 **Depth:** 18.0'-20.0'

**Sample Number:** HLA-13 T-1

**Proj. No.:** 1511010228 **Date Sampled:**

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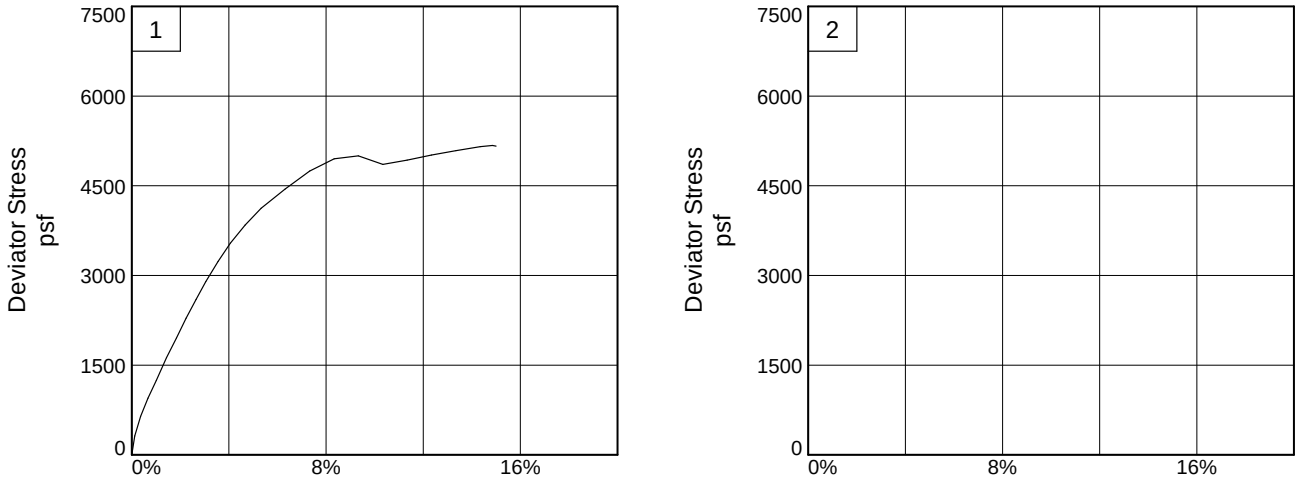
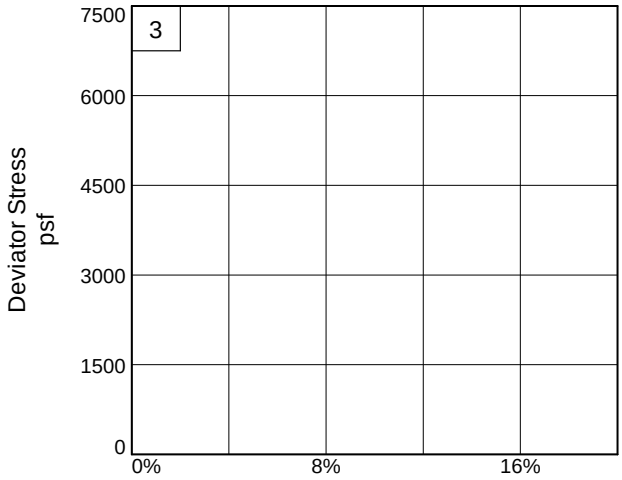
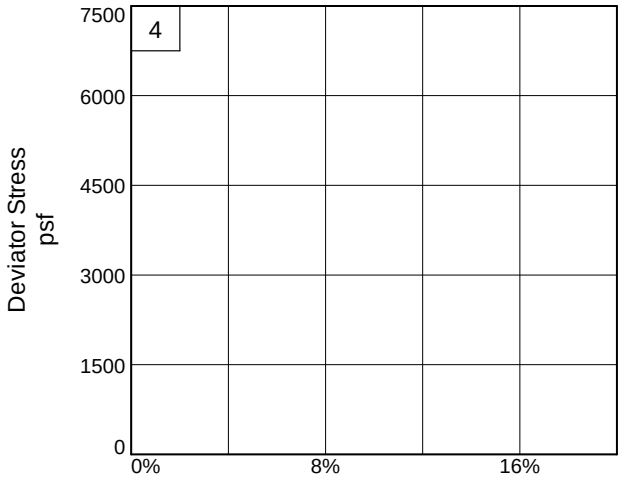
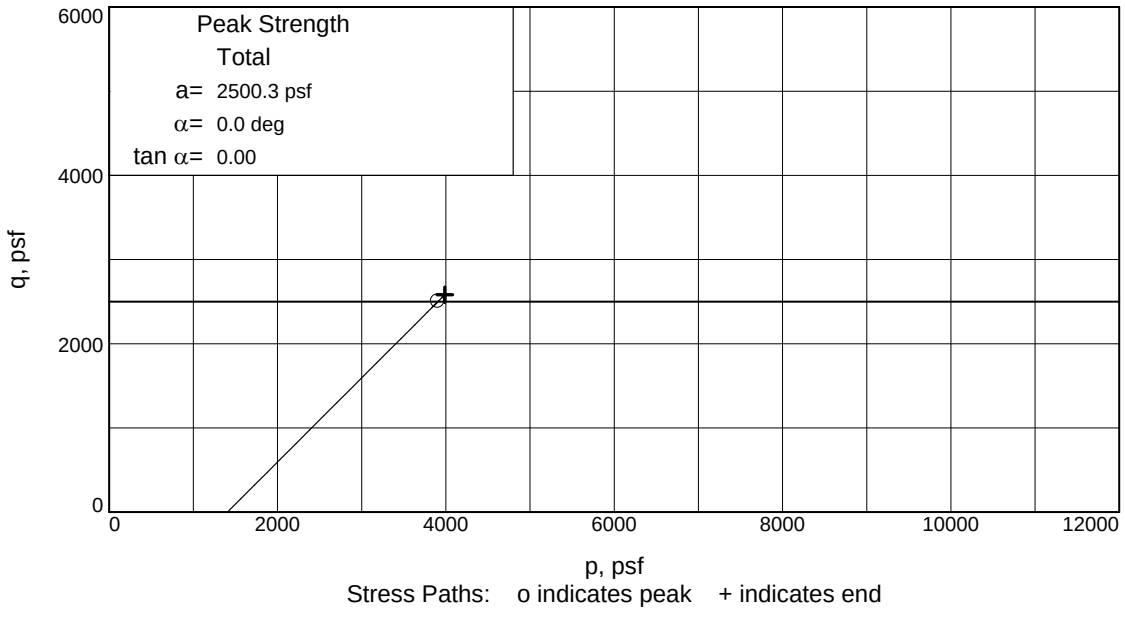








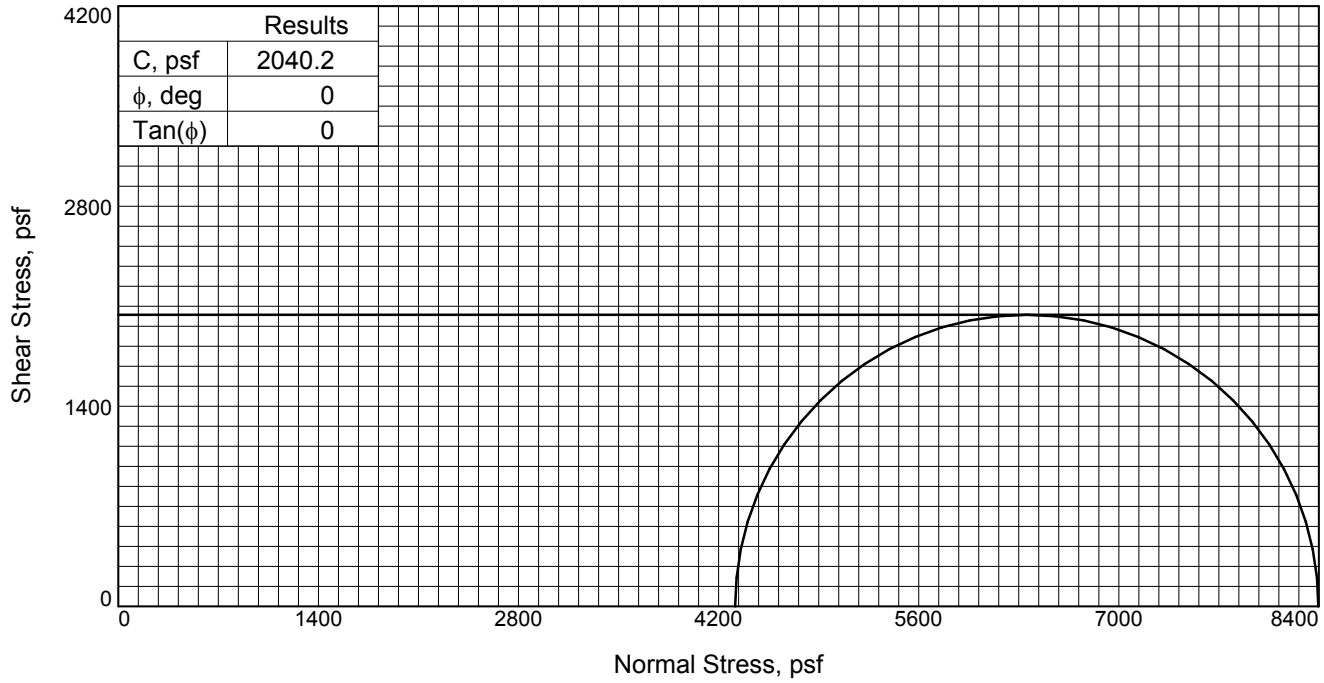



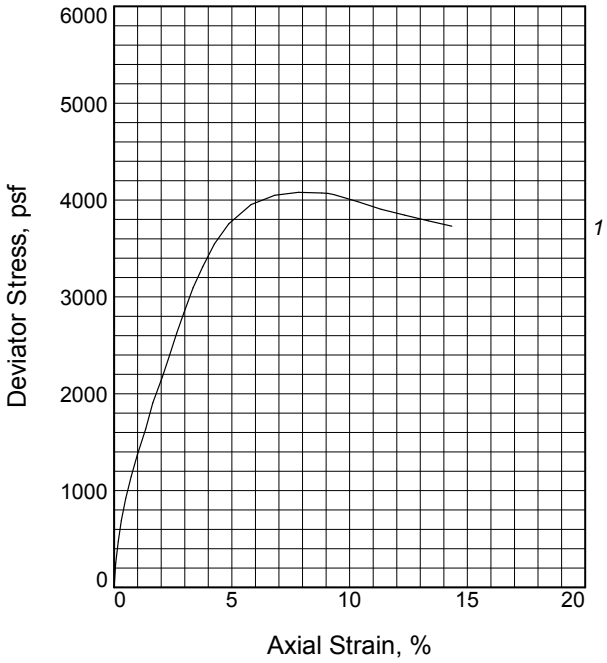




Stress Paths: o indicates peak + indicates end

**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** Lab #8068 **Depth:** 18.0'-20.0' **Sample Number:** HLA-13 T-1
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| Specimen No. | | 1 |
|---|---|---|
| Initial | Water Content, % | 29.6 |
| | Dry Density, pcf | 89.6 |
| | Saturation, % | 96.1 |
| | Void Ratio | 0.7945 |
| | Diameter, in. | 2.860 |
| | Height, in. | 5.071 |
| At Test | Water Content, % | 37.7 |
| | Dry Density, pcf | 89.6 |
| | Saturation, % | 122.2 |
| | Void Ratio | 0.7945 |
| | Diameter, in. | 2.860 |
| | Height, in. | 5.071 |
| Strain at peak, % | | 7.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 4315.7 |
| Fail. Stress, psf | | 4080.5 |
| Strain, % | | 7.8 |
| Ult. Stress, psf | | 4080.5 |
| Strain, % | | 7.8 |
| $\sigma_1$ Failure, psf | | 8396.2 |
| $\sigma_3$ Failure, psf | | 4315.7 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY (CH, A-7-6(29))

**Specific Gravity=** 2.577

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 90.5'-92.5'

**Sample Number:** T-1

**Proj. No.:** 1511010228 **Date Sampled:**

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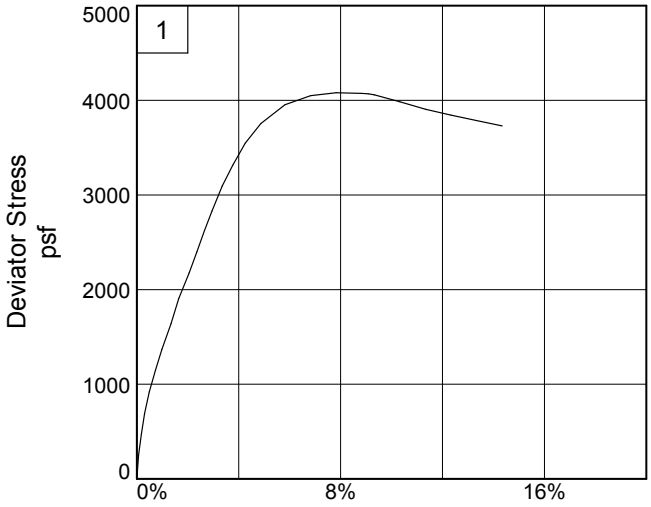
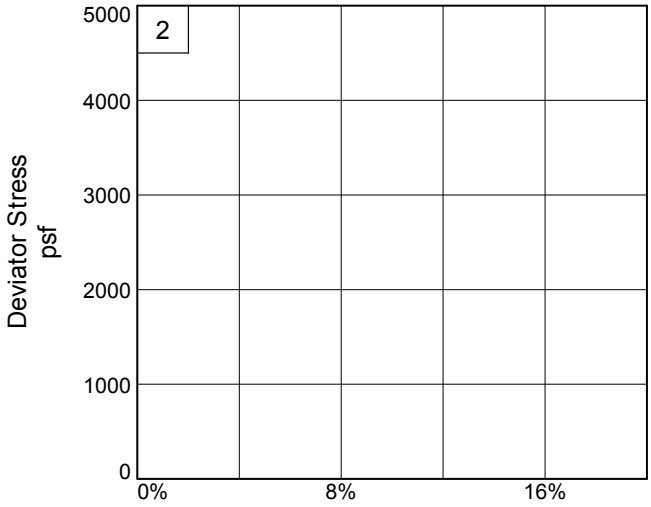
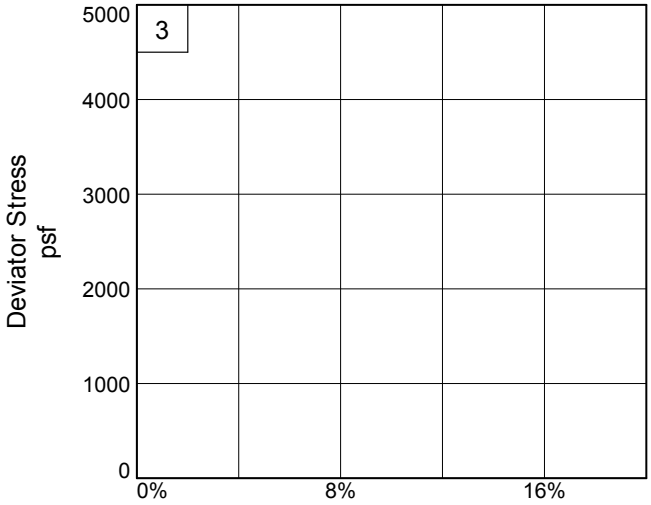
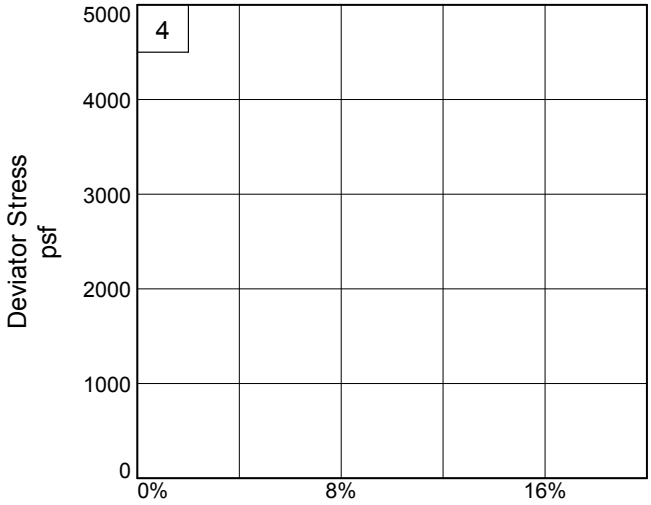
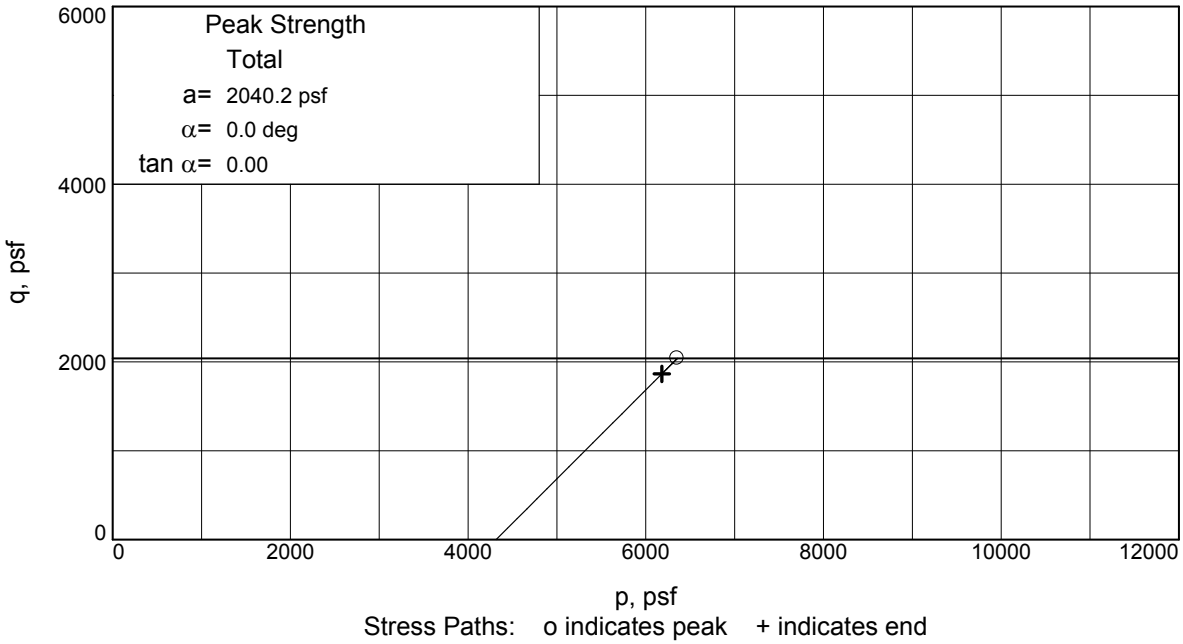



Stress Paths: o indicates peak + indicates end

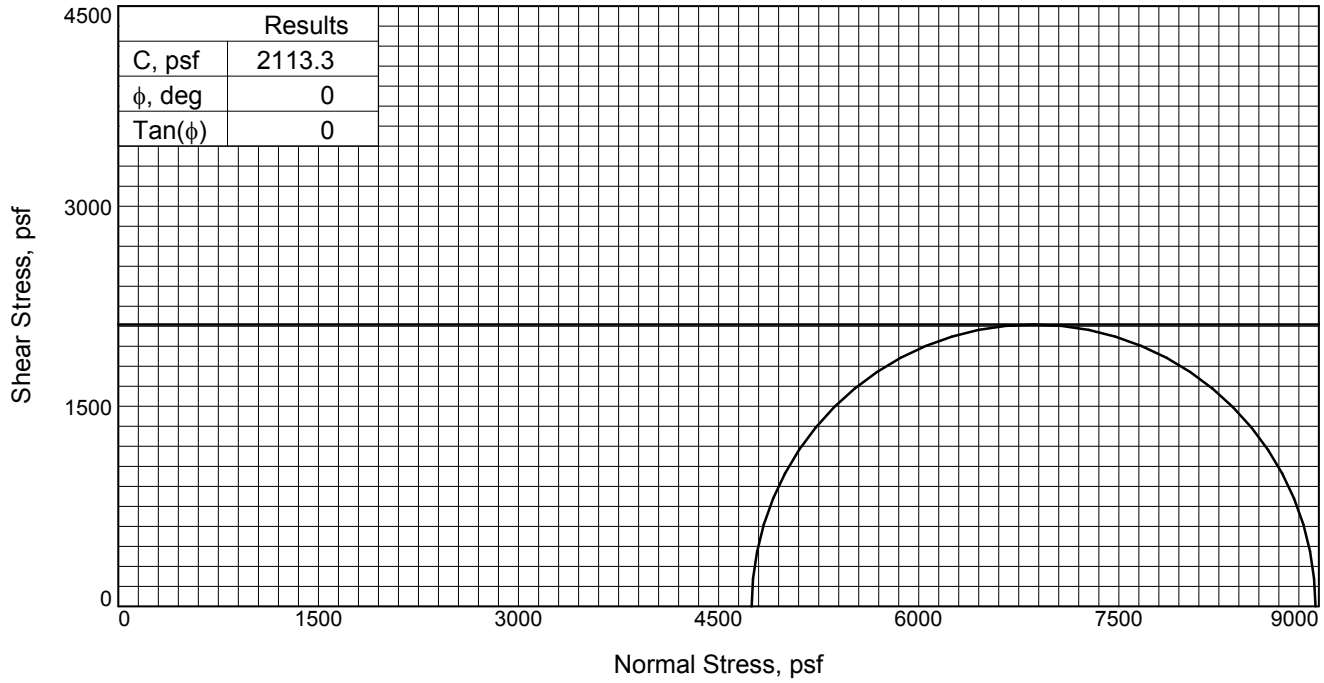
**Client:** ALDOT

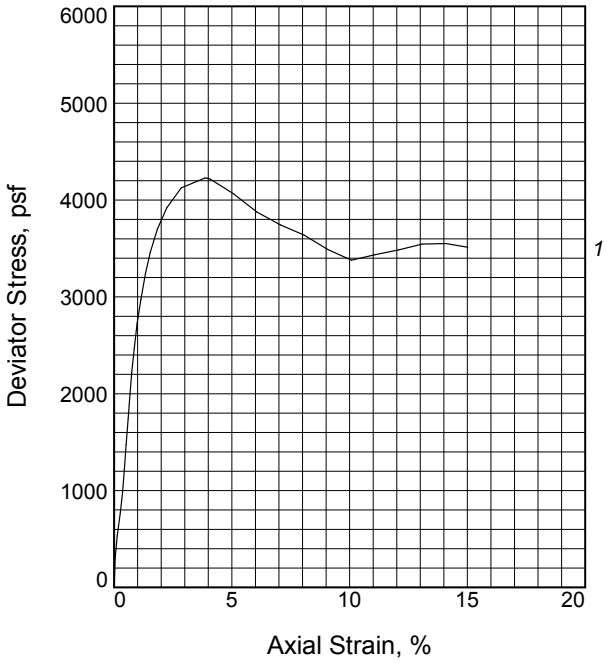
**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 90.5'-92.5' **Sample Number:** T-1

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 36.6 |
| | Dry Density, pcf | 86.5 |
| | Saturation, % | 141.2 |
| | Void Ratio | 0.5620 |
| | Diameter, in. | 2.826 |
| | Height, in. | 5.512 |
| At Test | Water Content, % | 35.4 |
| | Dry Density, pcf | 86.5 |
| | Saturation, % | 136.5 |
| | Void Ratio | 0.5620 |
| | Diameter, in. | 2.826 |
| | Height, in. | 5.512 |
| Strain at peak, % | | 3.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 4747.7 |
| Fail. Stress, psf | | 4226.6 |
| Strain, % | | 3.8 |
| Ult. Stress, psf | | 4226.6 |
| Strain, % | | 3.8 |
| $\sigma_1$ Failure, psf | | 8974.3 |
| $\sigma_3$ Failure, psf | | 4747.7 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY (CH, A-7-6(71))

**Specific Gravity=** 2.165

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 98.5'-100.5'

**Sample Number:** T-2

**Proj. No.:** 1511010228 **Date Sampled:**

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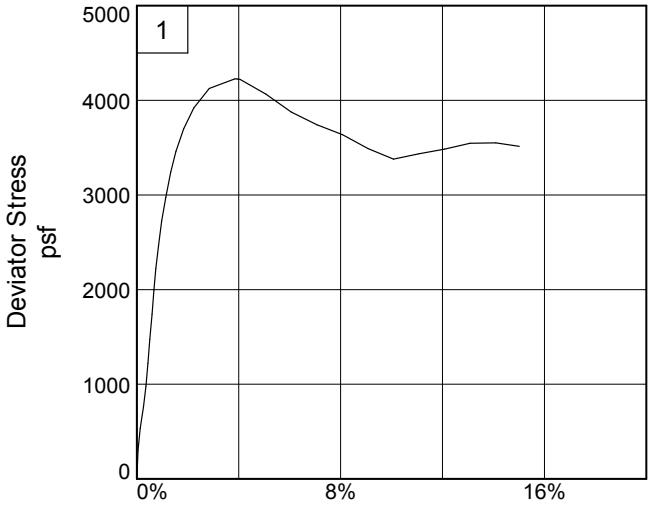
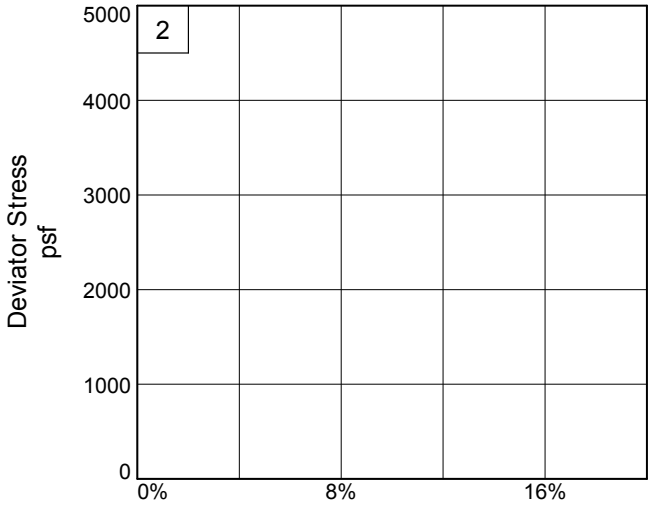
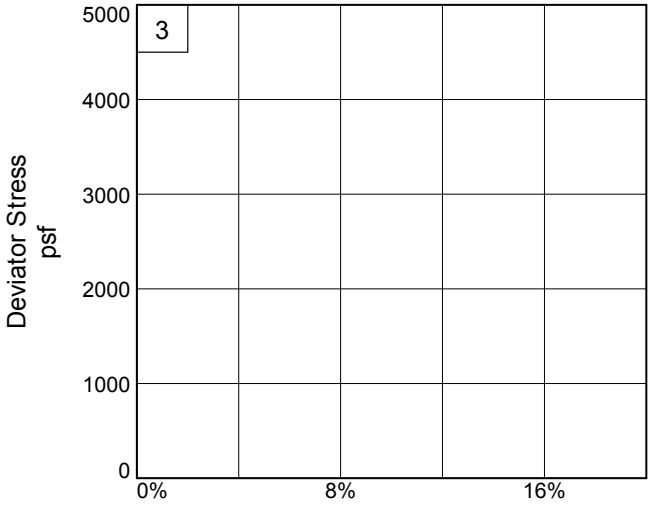
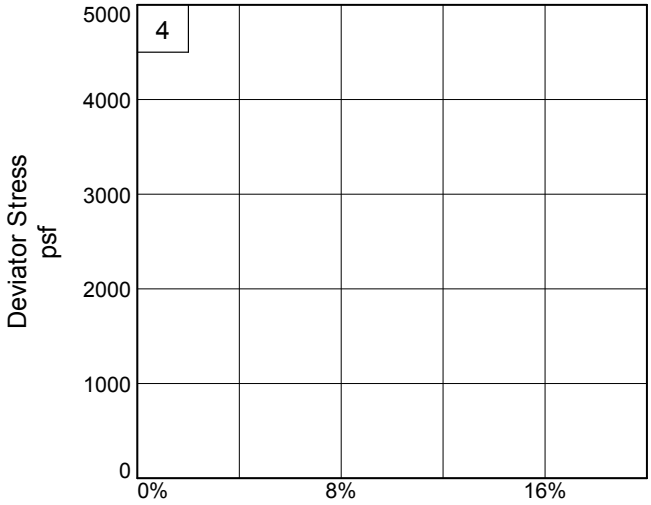
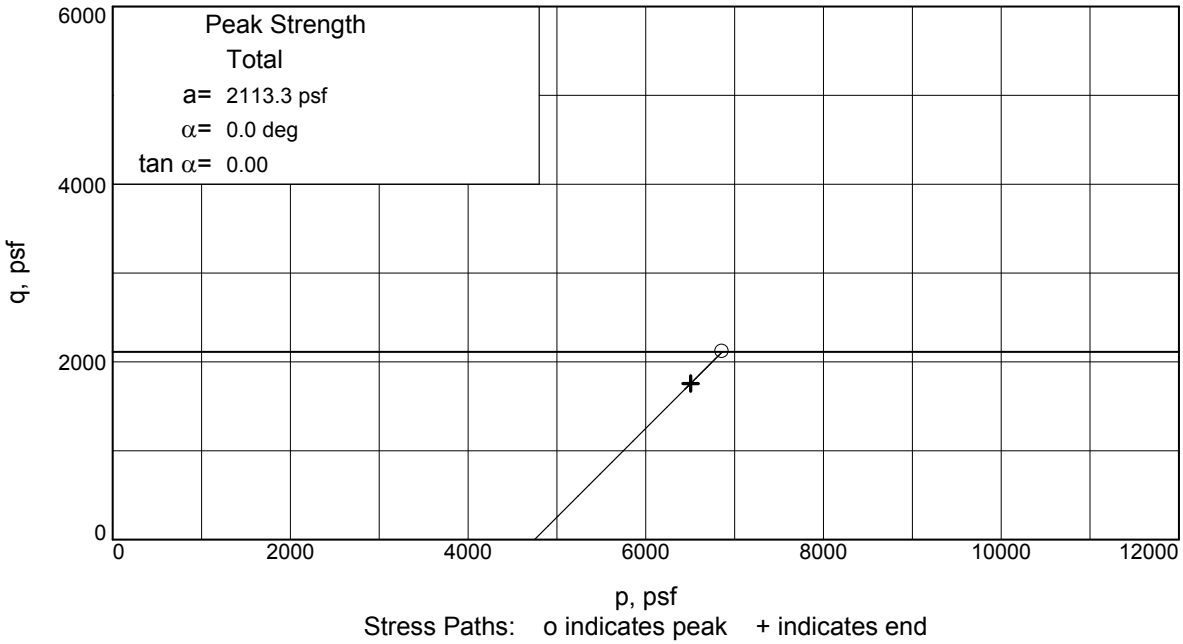
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

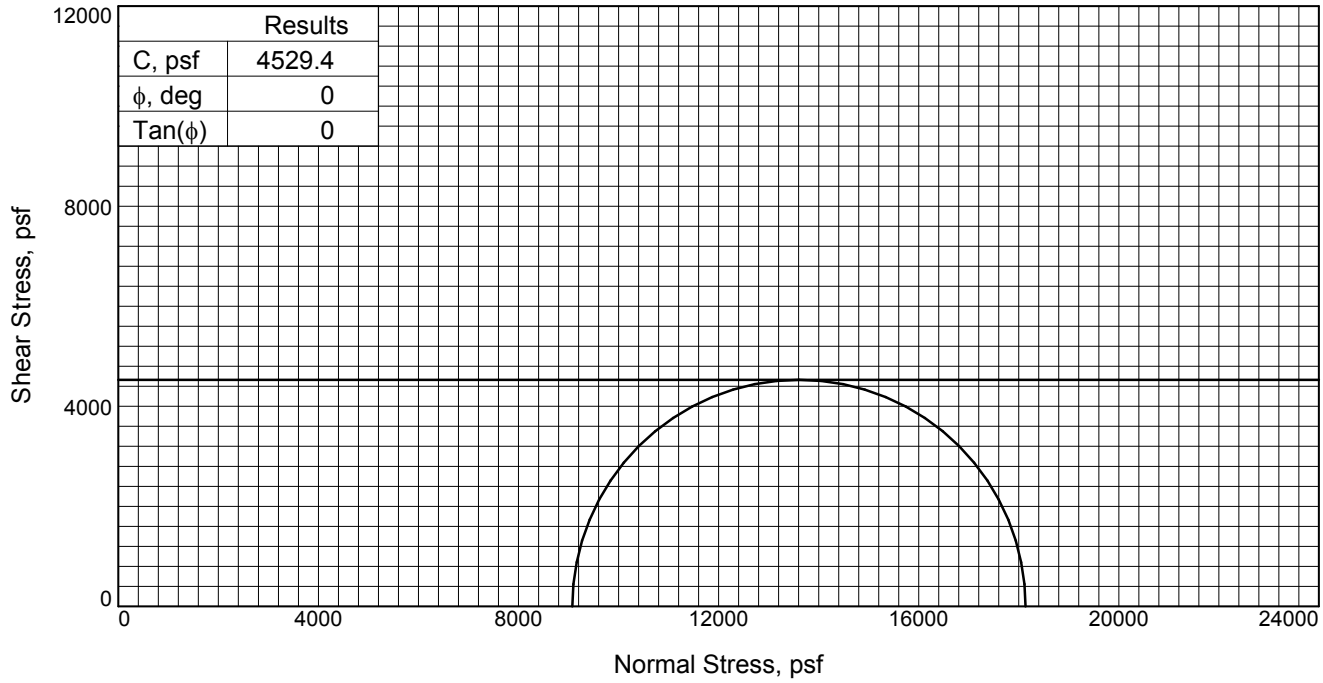
**Client:** ALDOT

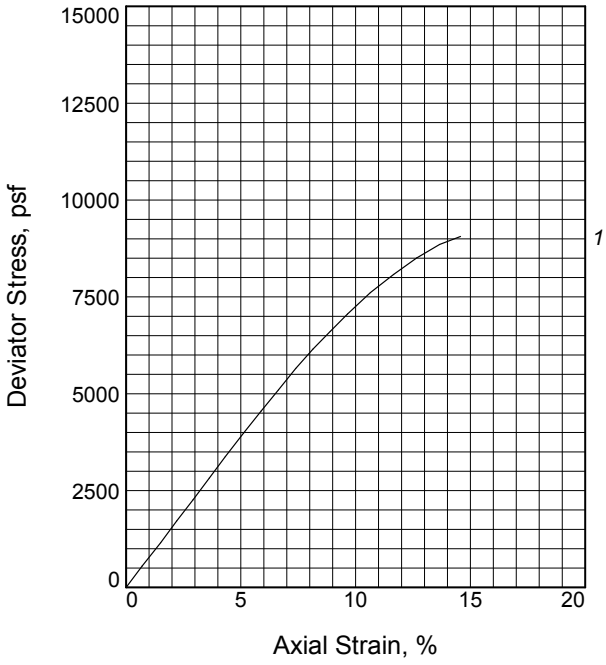
**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 98.5'-100.5' **Sample Number:** T-2

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 18.6 |
| | Dry Density, pcf | 114.8 |
| | Saturation, % | 111.1 |
| | Void Ratio | 0.4461 |
| | Diameter, in. | 2.848 |
| | Height, in. | 5.635 |
| At Test | Water Content, % | 18.4 |
| | Dry Density, pcf | 114.8 |
| | Saturation, % | 109.8 |
| | Void Ratio | 0.4461 |
| | Diameter, in. | 2.848 |
| | Height, in. | 5.635 |
| Strain at peak, % | | 14.6 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 9076.3 |
| Fail. Stress, psf | | 9058.9 |
| Strain, % | | 14.6 |
| Ult. Stress, psf | | 9058.9 |
| Strain, % | | 14.6 |
| $\sigma_1$ Failure, psf | | 18135.2 |
| $\sigma_3$ Failure, psf | | 9076.3 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY (CL, A-6(6))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 188.5'-190.5'

**Sample Number:** T-4

**Proj. No.:** 1511010228 **Date Sampled:**

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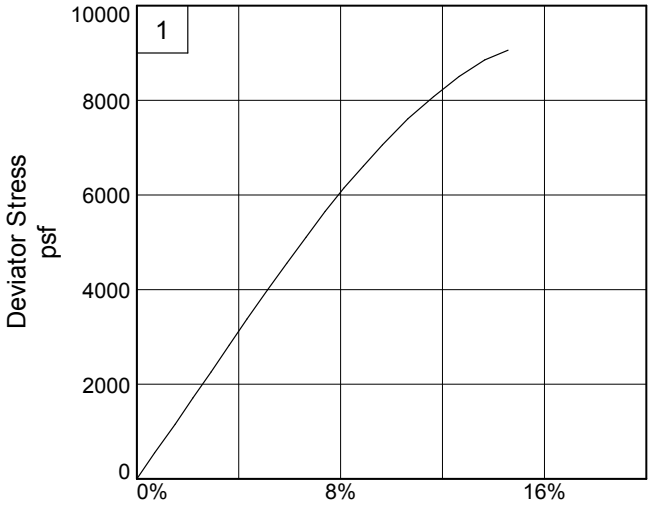
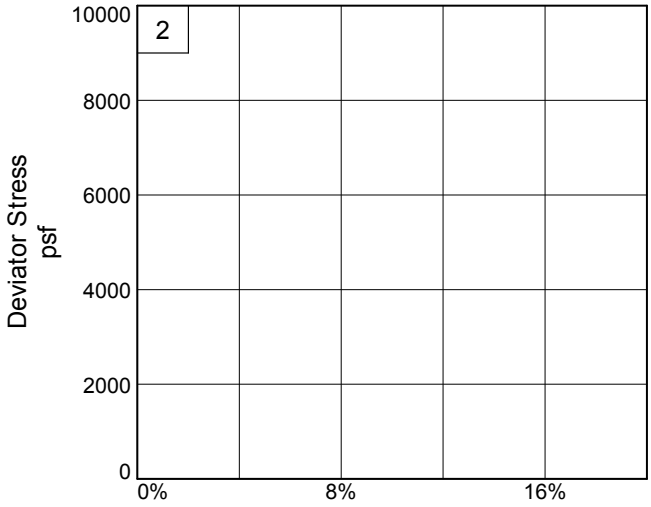
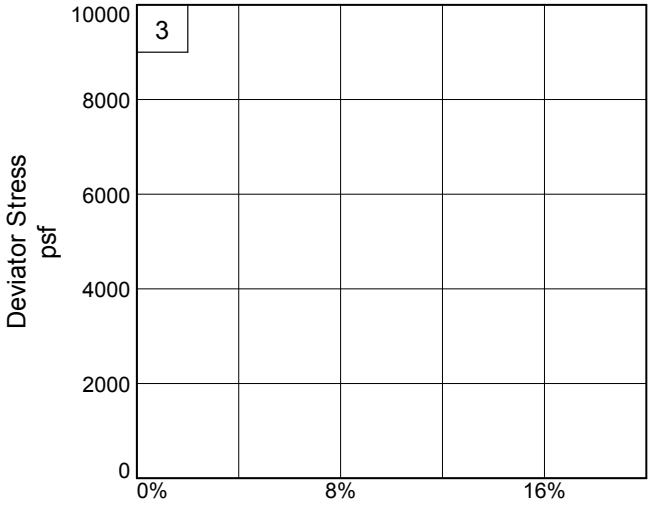
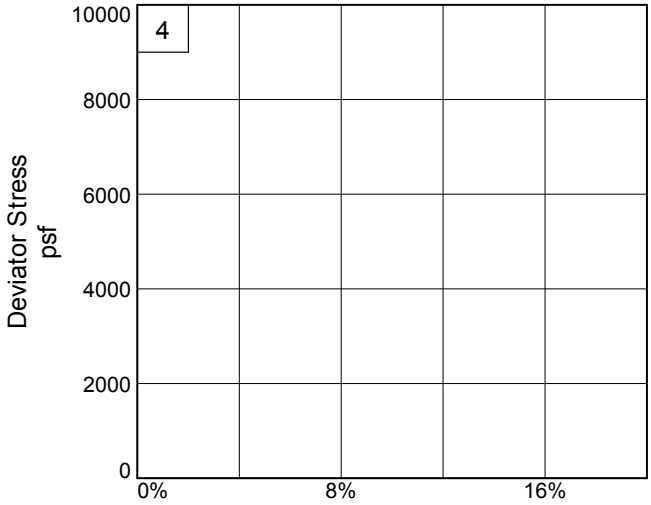
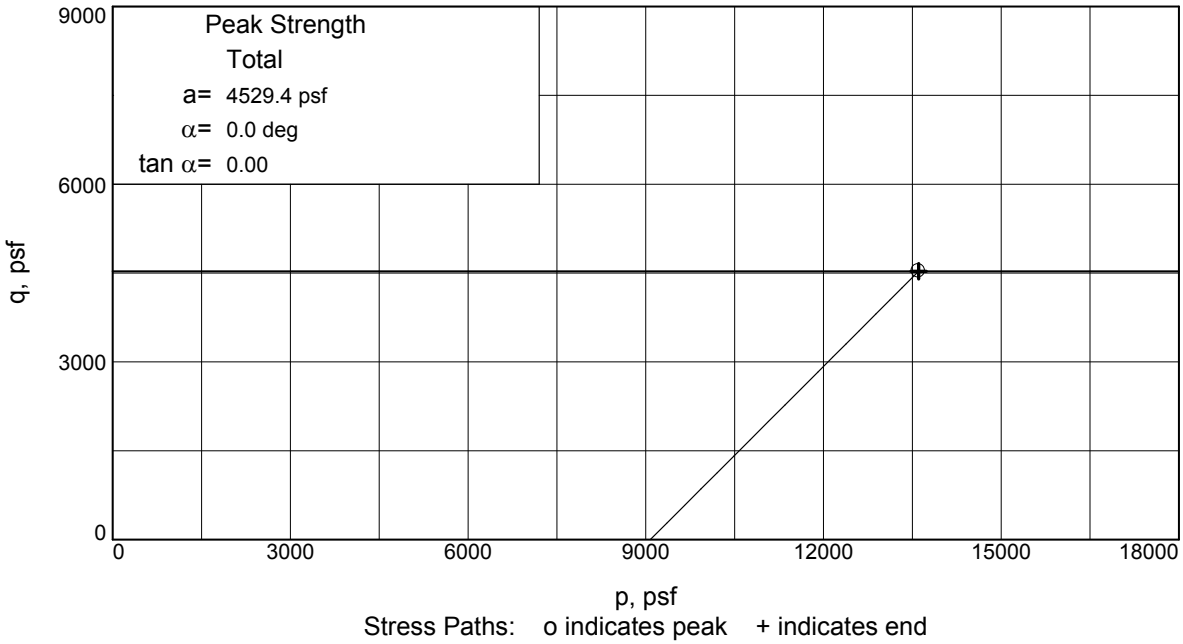
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

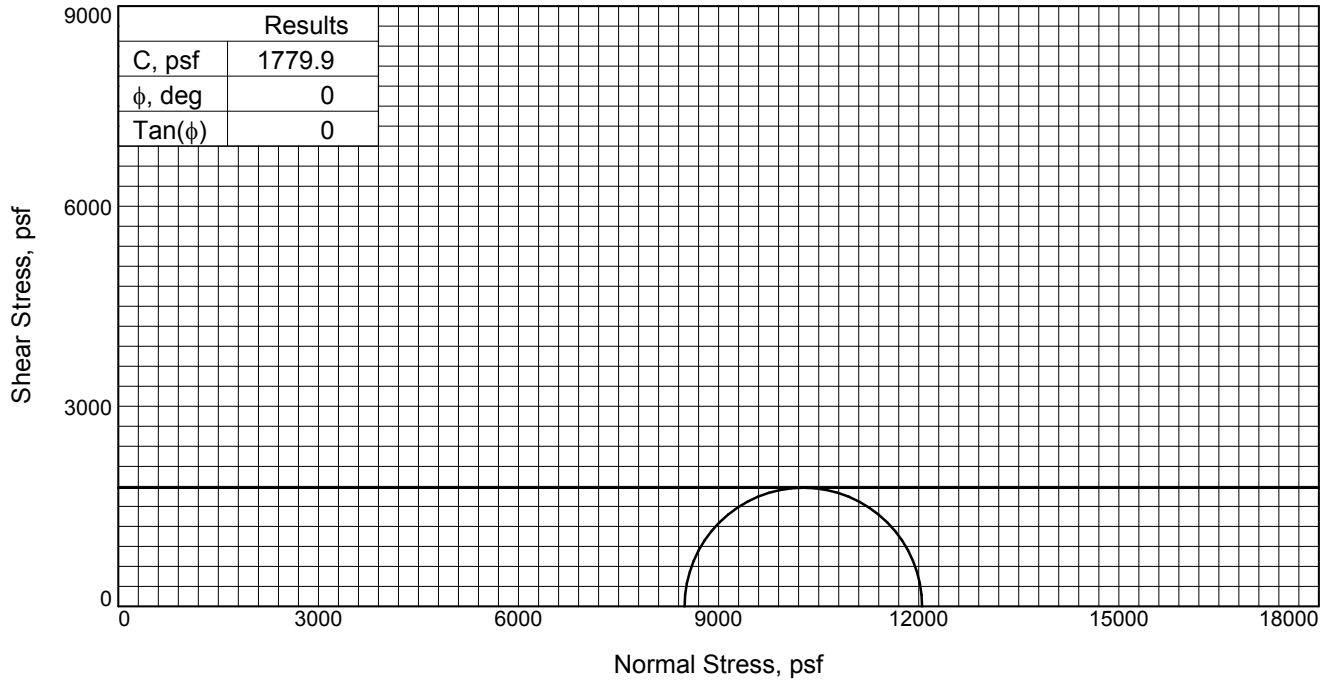
**Client:** ALDOT

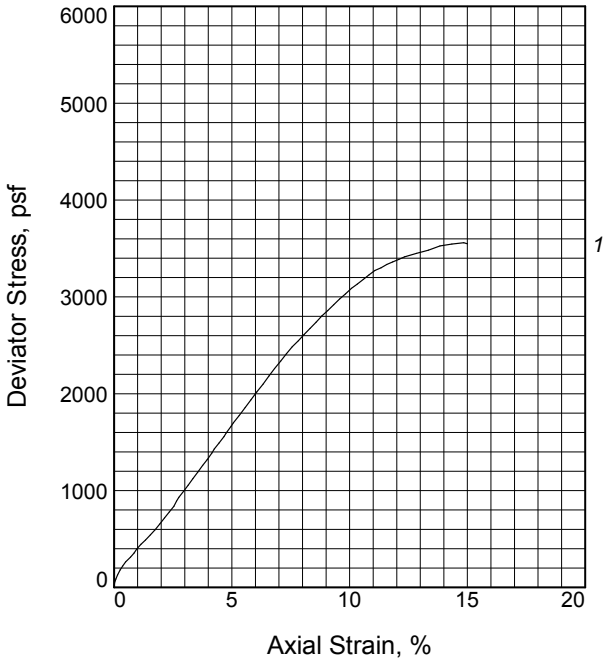
**Project:** Mobile River Bridge

**Source of Sample:** MB-1 **Depth:** 188.5'-190.5' **Sample Number:** T-4

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 21.6 |
| | Dry Density, pcf | 107.6 |
| | Saturation, % | 105.5 |
| | Void Ratio | 0.5435 |
| | Diameter, in. | 2.835 |
| | Height, in. | 5.367 |
| At Test | Water Content, % | 21.8 |
| | Dry Density, pcf | 107.6 |
| | Saturation, % | 106.8 |
| | Void Ratio | 0.5435 |
| | Diameter, in. | 2.835 |
| | Height, in. | 5.367 |
| Strain at peak, % | | 14.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 8490.2 |
| Fail. Stress, psf | | 3559.7 |
| Strain, % | | 14.8 |
| Ult. Stress, psf | | 3559.7 |
| Strain, % | | 14.8 |
| $\sigma_1$ Failure, psf | | 12050.0 |
| $\sigma_3$ Failure, psf | | 8490.2 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SNADY LEAN CLAY (CL,A-6(11))

**Assumed Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 140.0-141.5'

**Sample Number:** T-2

**Proj. No.:** 1511010228 **Date Sampled:**

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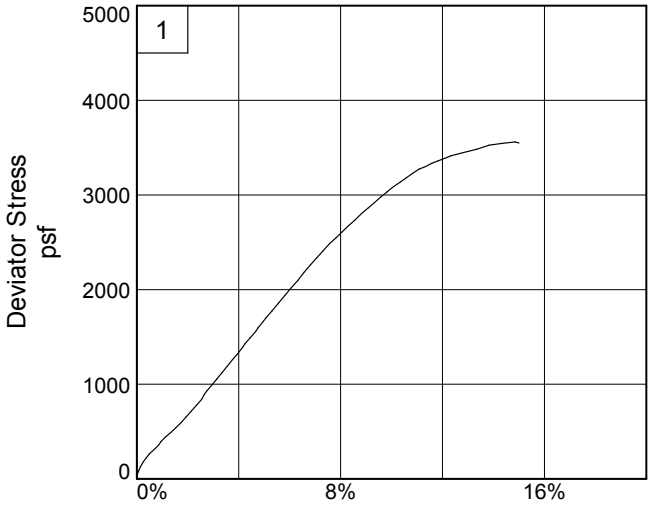
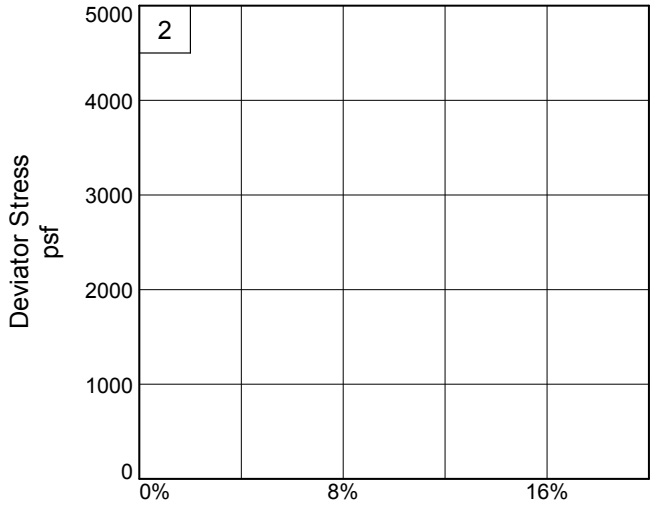
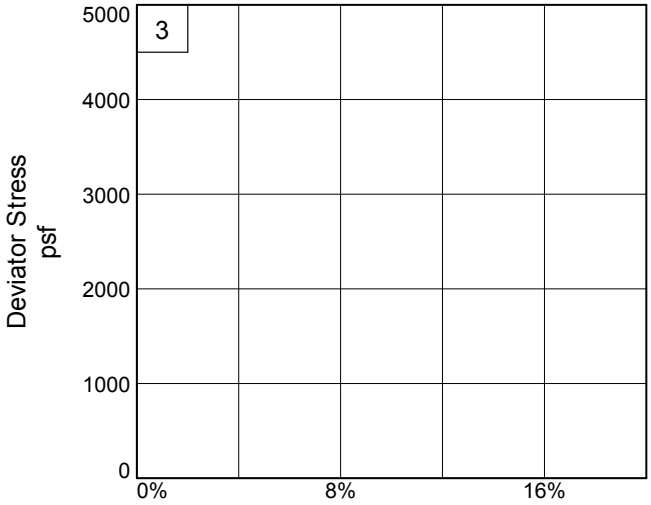
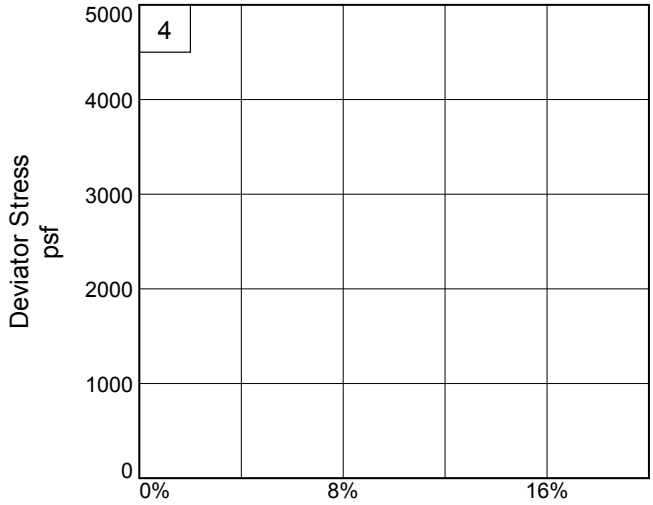
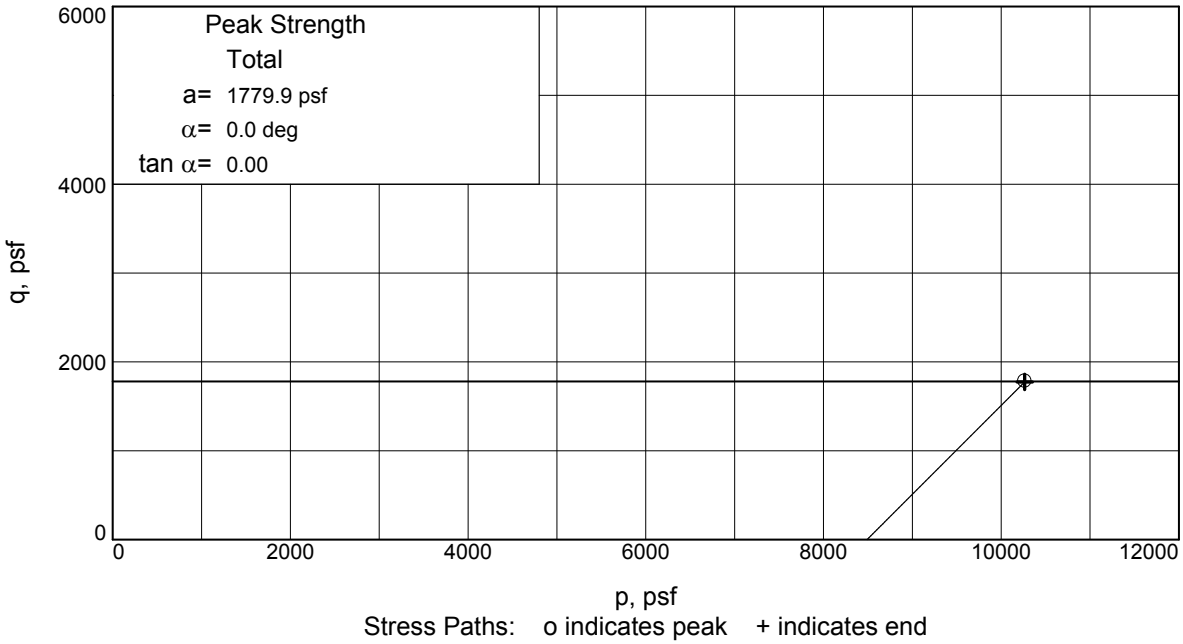



Stress Paths: o indicates peak + indicates end

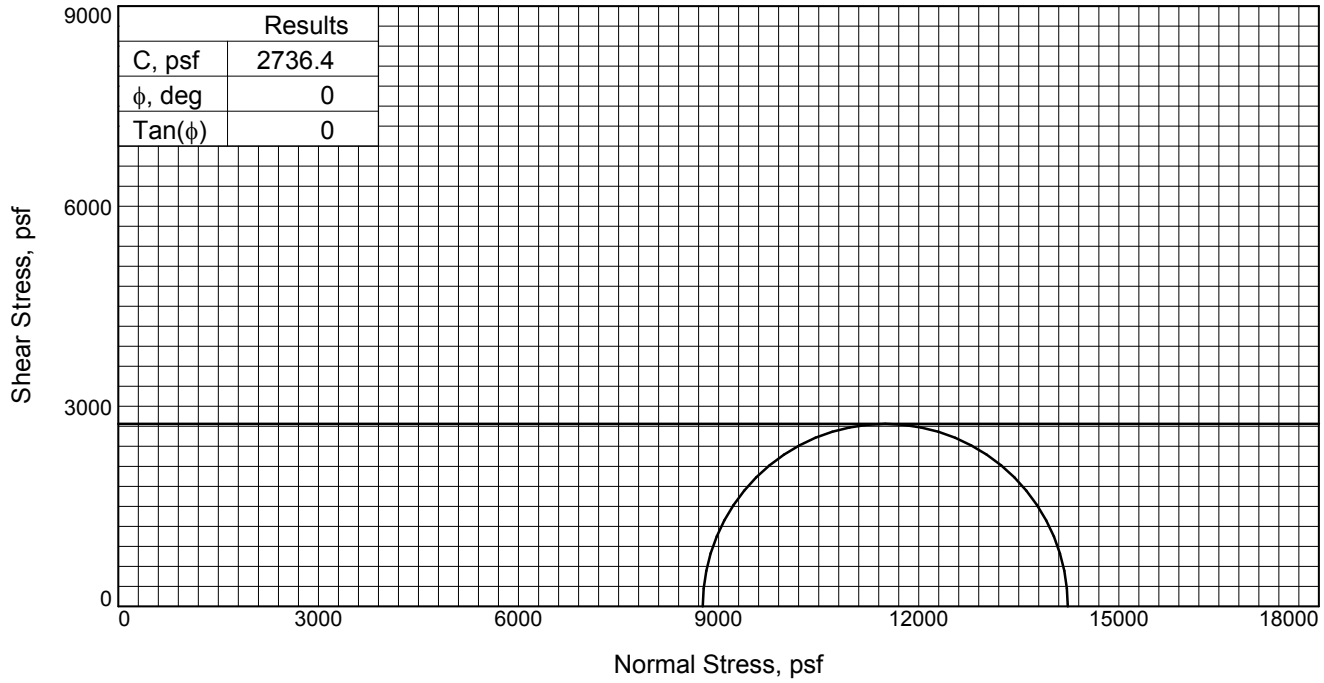
**Client:** ALDOT

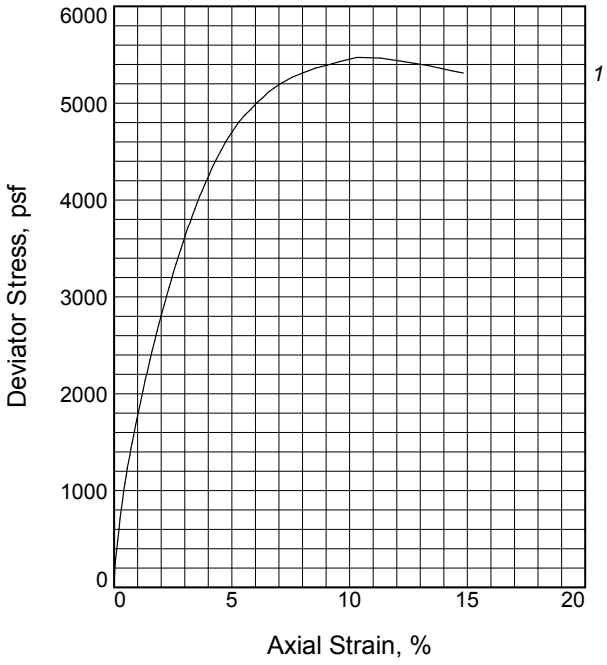
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 140.0-141.5' **Sample Number:** T-2

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 19.2 |
| | Dry Density, pcf | 108.5 |
| | Saturation, % | 96.3 |
| | Void Ratio | 0.5308 |
| | Diameter, in. | 2.850 |
| | Height, in. | 5.552 |
| At Test | Water Content, % | 22.2 |
| | Dry Density, pcf | 108.5 |
| | Saturation, % | 111.4 |
| | Void Ratio | 0.5308 |
| | Diameter, in. | 2.850 |
| | Height, in. | 5.552 |
| Strain at peak, % | | 10.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 8762.4 |
| Fail. Stress, psf | | 5472.8 |
| Strain, % | | 10.3 |
| Ult. Stress, psf | | 5472.8 |
| Strain, % | | 10.3 |
| $\sigma_1$ Failure, psf | | 14235.2 |
| $\sigma_3$ Failure, psf | | 8762.4 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SILTY CLAY, with SAND (CL-ML,A-4(2))

**Assumed Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 145.0-147.0'

**Sample Number:** T-3

**Proj. No.:** 1511010228 **Date Sampled:**

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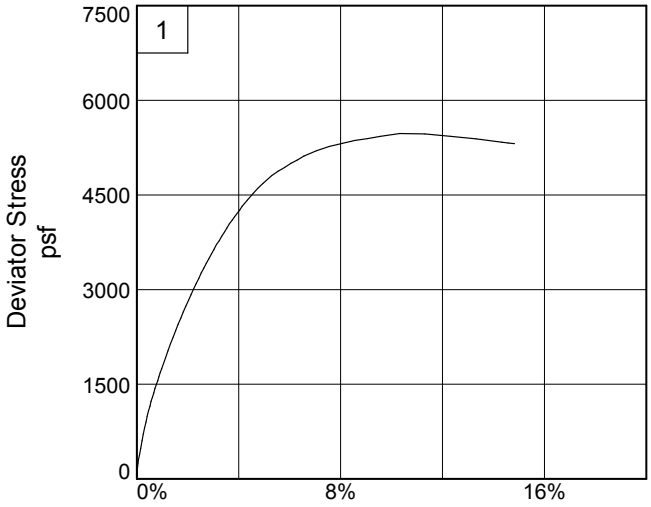
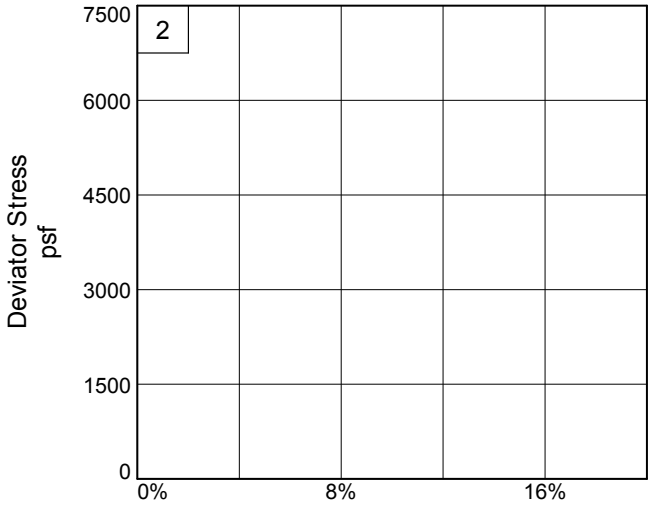
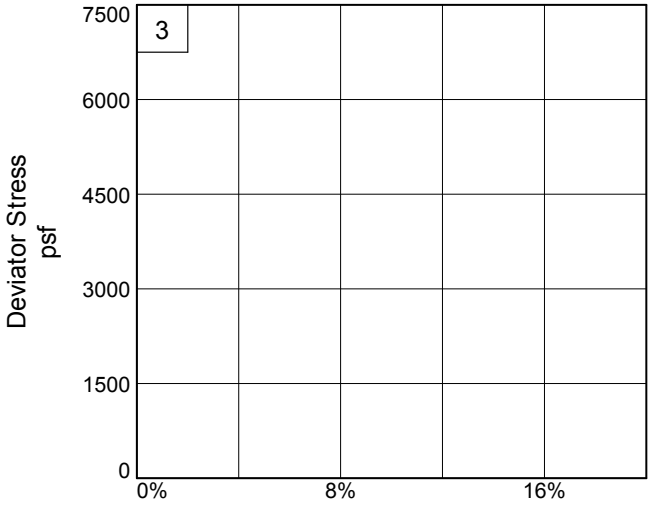
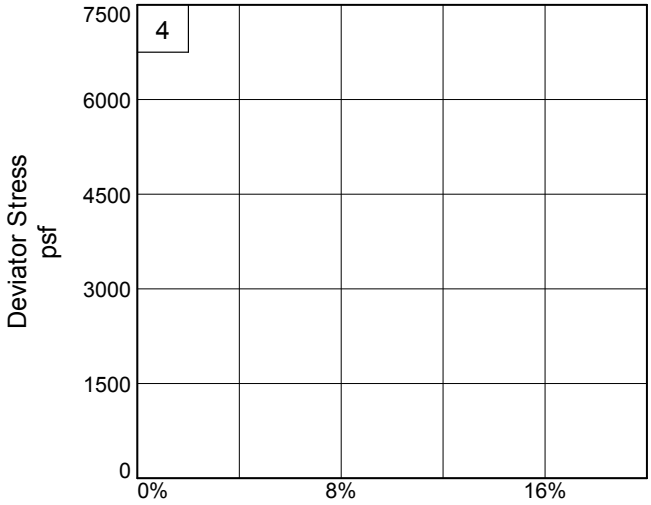
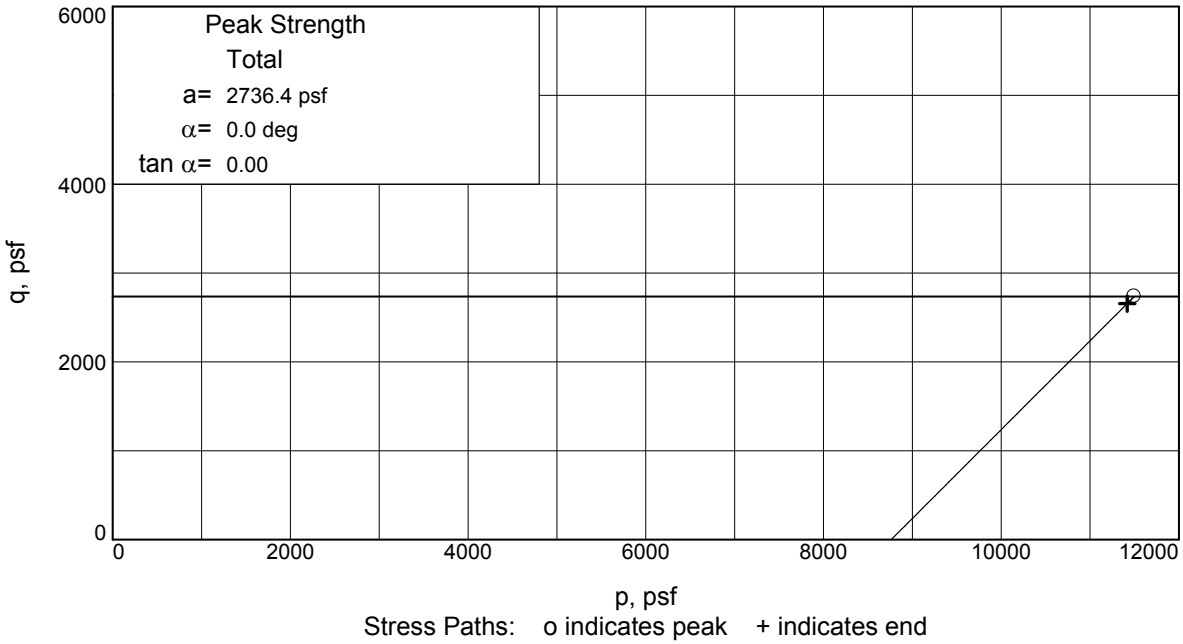



Stress Paths: o indicates peak + indicates end

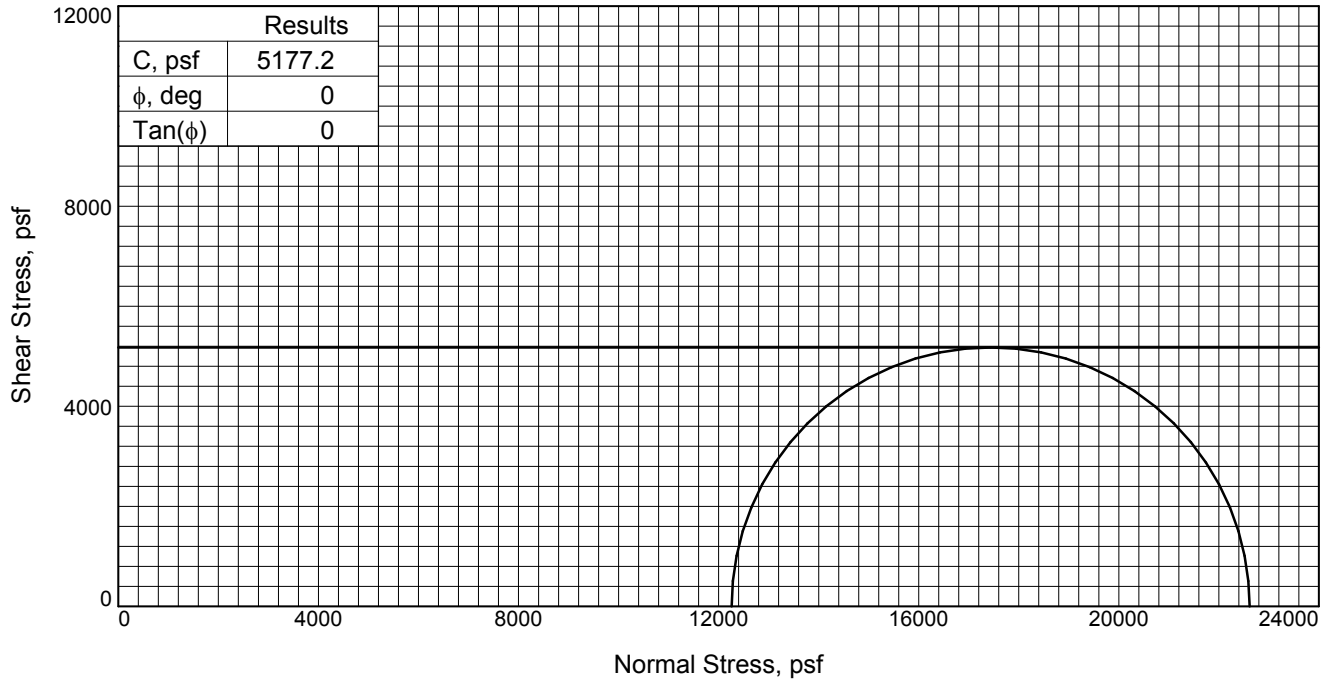
**Client:** ALDOT

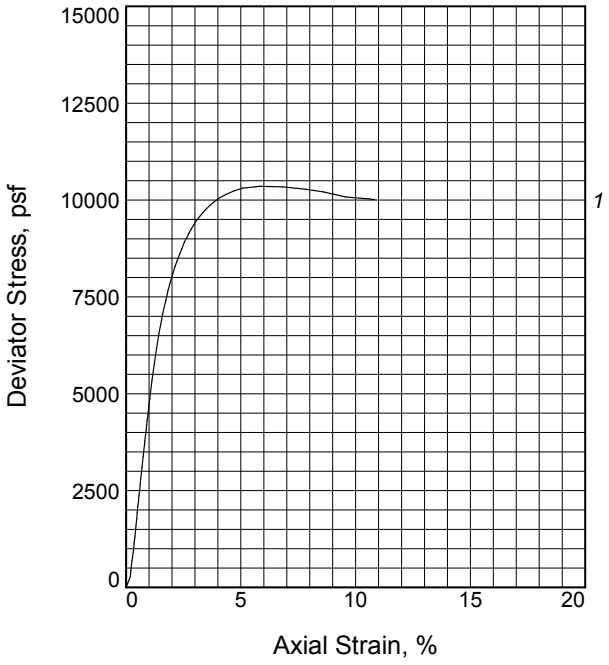
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 145.0-147.0' **Sample Number:** T-3

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 15.2 |
| | Dry Density, pcf | 119.1 |
| | Saturation, % | 102.3 |
| | Void Ratio | 0.3944 |
| | Diameter, in. | 2.856 |
| | Height, in. | 5.532 |
| At Test | Water Content, % | 15.7 |
| | Dry Density, pcf | 119.1 |
| | Saturation, % | 105.6 |
| | Void Ratio | 0.3944 |
| | Diameter, in. | 2.856 |
| | Height, in. | 5.532 |
| Strain at peak, % | | 5.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 12260.2 |
| Fail. Stress, psf | | 10354.4 |
| Strain, % | | 5.8 |
| Ult. Stress, psf | | 10354.4 |
| Strain, % | | 5.8 |
| $\sigma_1$ Failure, psf | | 22614.6 |
| $\sigma_3$ Failure, psf | | 12260.2 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY (CL,A-6(11))

**Assumed Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 210.0-212.0'

**Sample Number:** T-5

**Proj. No.:** 1511010228 **Date Sampled:**

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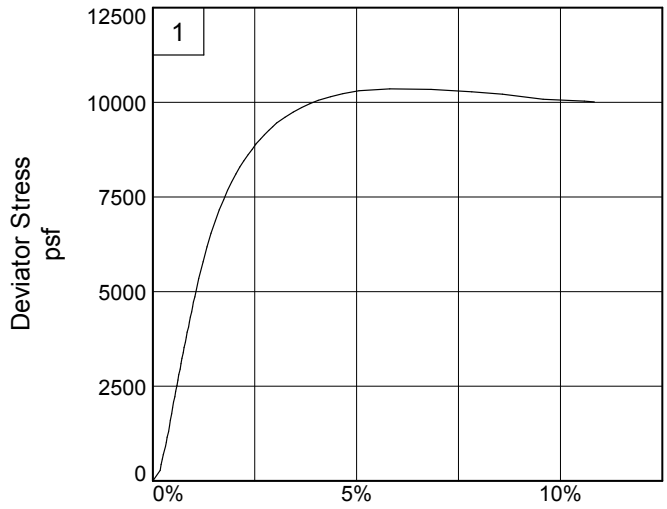
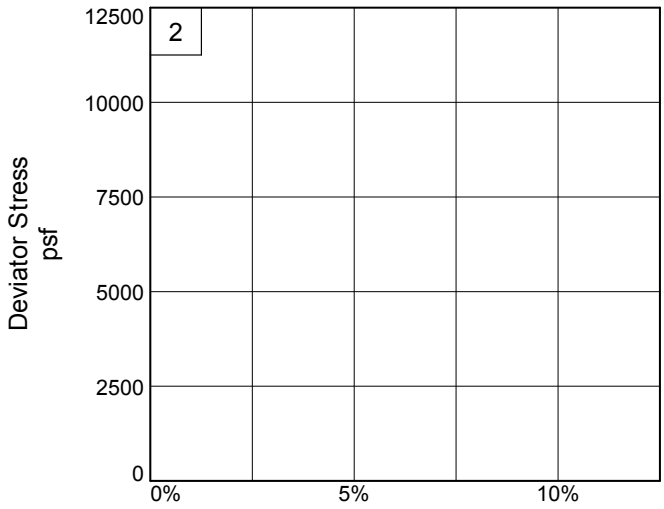
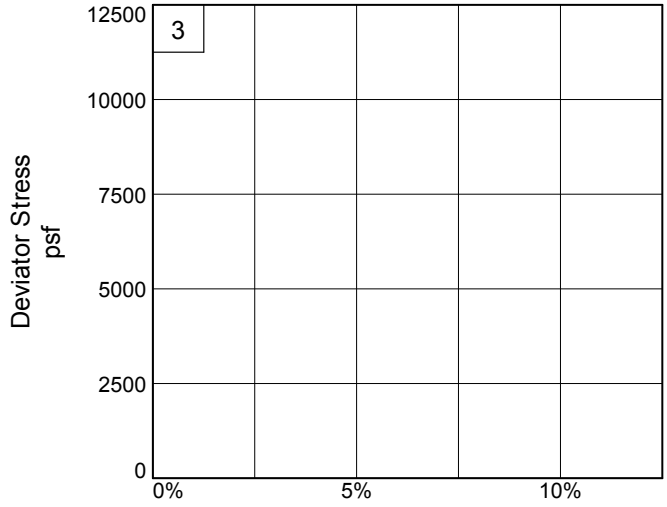
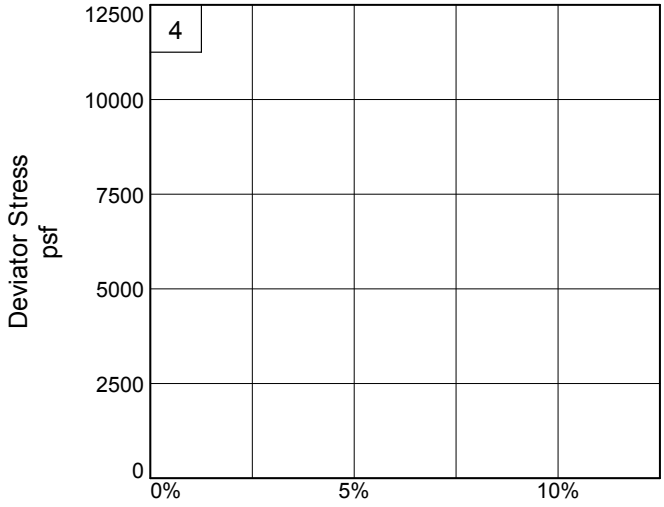
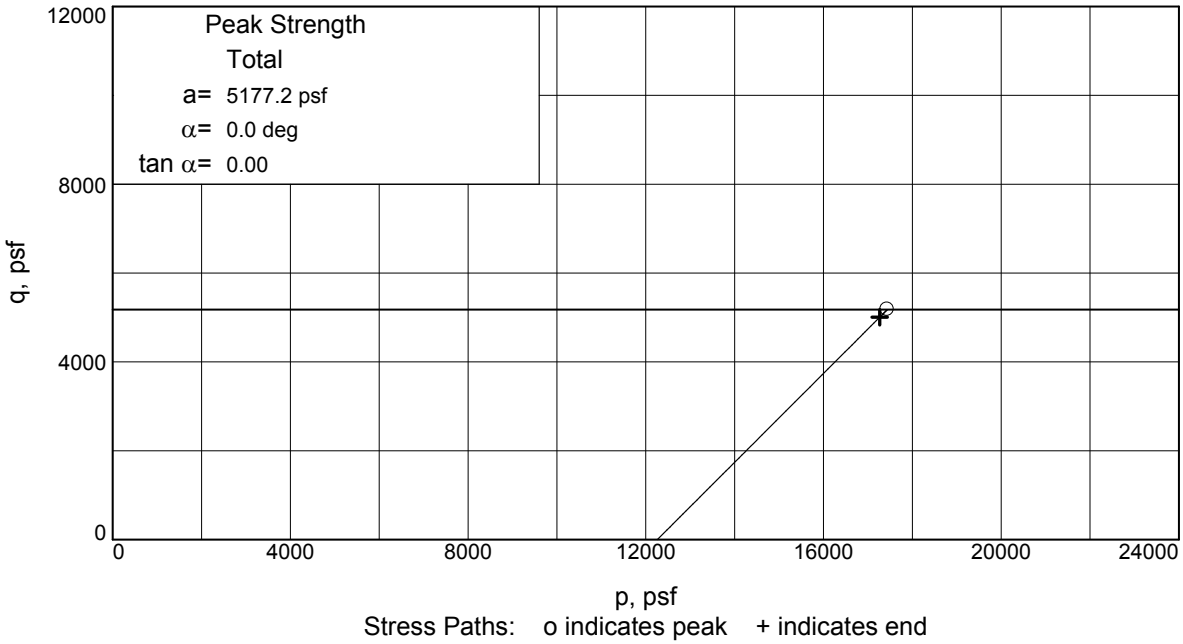
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

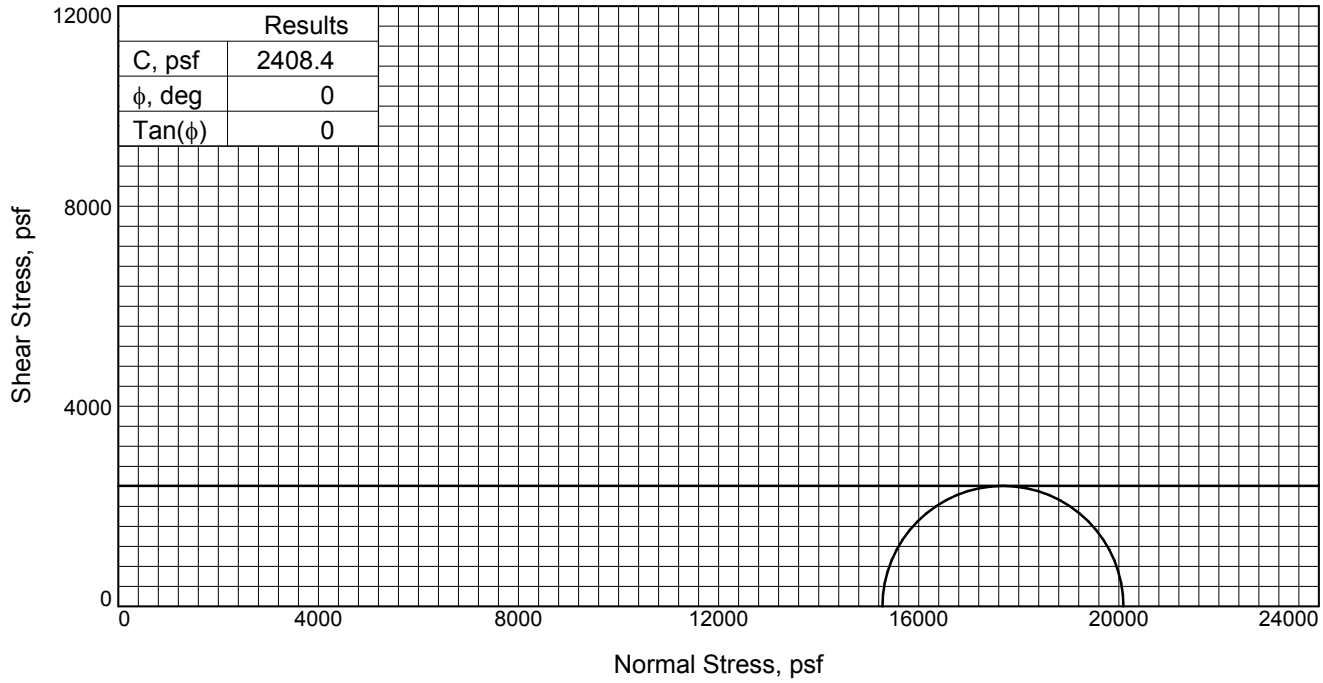
**Client:** ALDOT

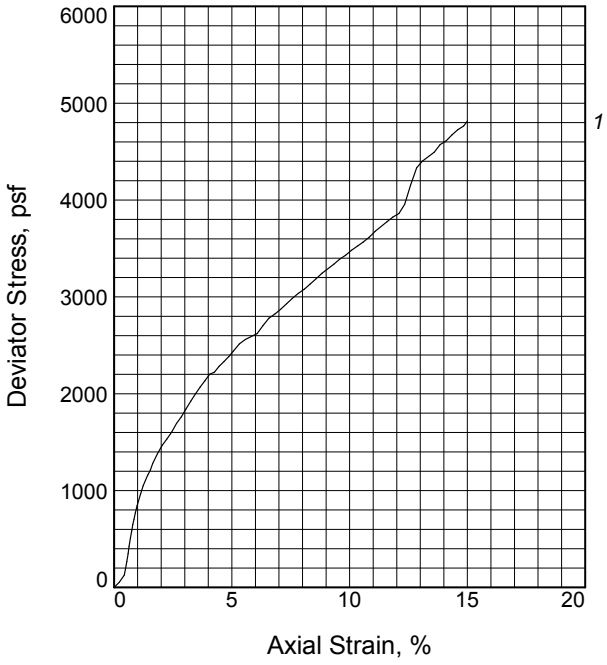
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 210.0-212.0' **Sample Number:** T-5

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 21.3 |
| | Dry Density, pcf | 105.4 |
| | Saturation, % | 98.6 |
| | Void Ratio | 0.5750 |
| | Diameter, in. | 2.809 |
| | Height, in. | 5.171 |
| At Test | Water Content, % | 20.1 |
| | Dry Density, pcf | 105.4 |
| | Saturation, % | 93.2 |
| | Void Ratio | 0.5750 |
| | Diameter, in. | 2.809 |
| | Height, in. | 5.171 |
| Strain at peak, % | | 15.0 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 15275.5 |
| Fail. Stress, psf | | 4816.9 |
| Strain, % | | 15.0 |
| Ult. Stress, psf | | 4816.9 |
| Strain, % | | 15.0 |
| $\sigma_1$ Failure, psf | | 20092.4 |
| $\sigma_3$ Failure, psf | | 15275.5 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SILTY SAND (SM,A-4(0))

**Assumed Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 270.0-272.0'

**Sample Number:** T-7

**Proj. No.:** 1511010228 **Date Sampled:**

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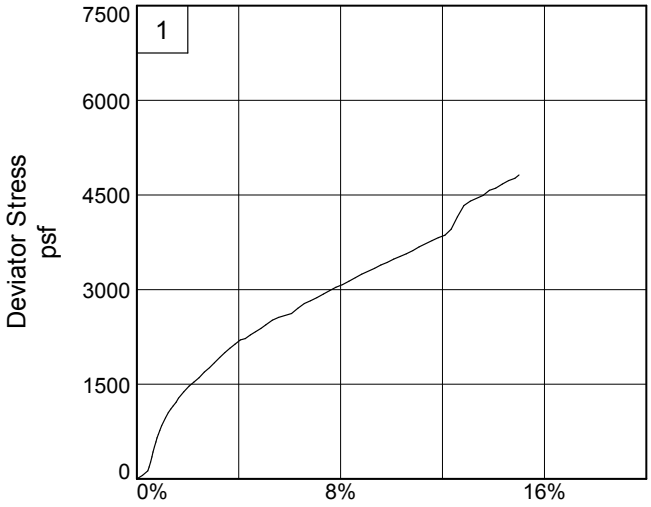
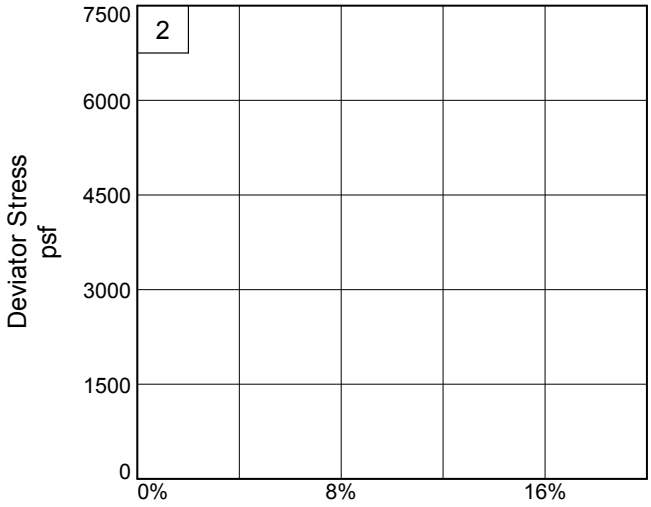
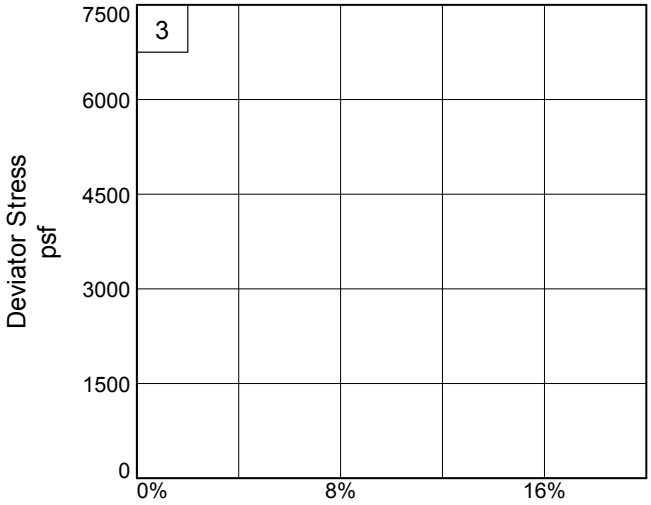
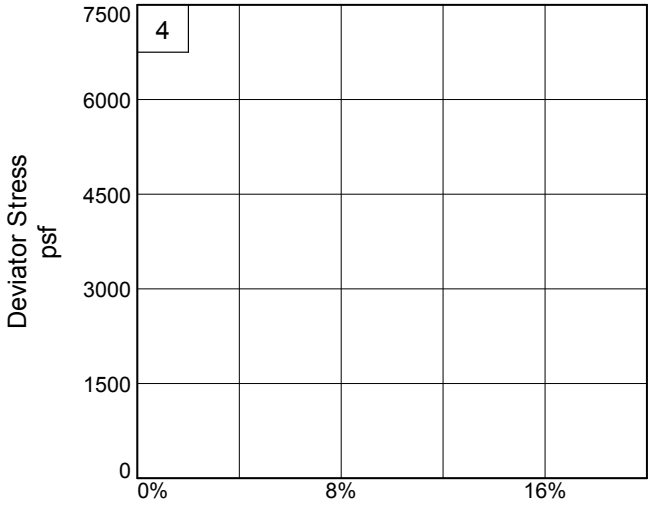
Thompson Engineering

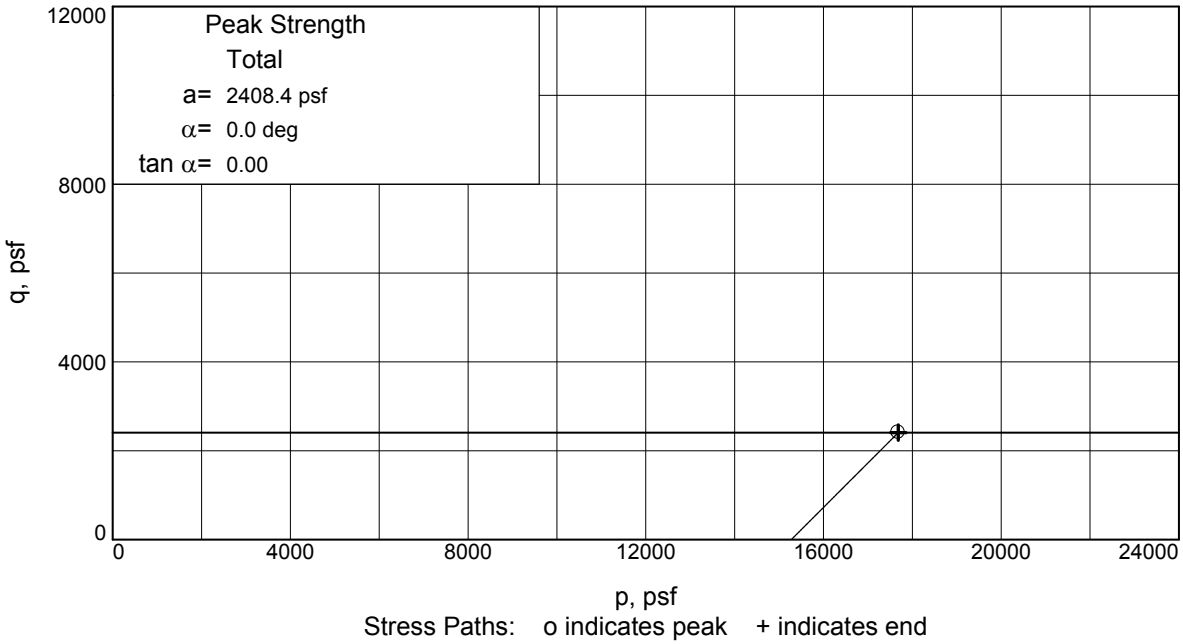
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

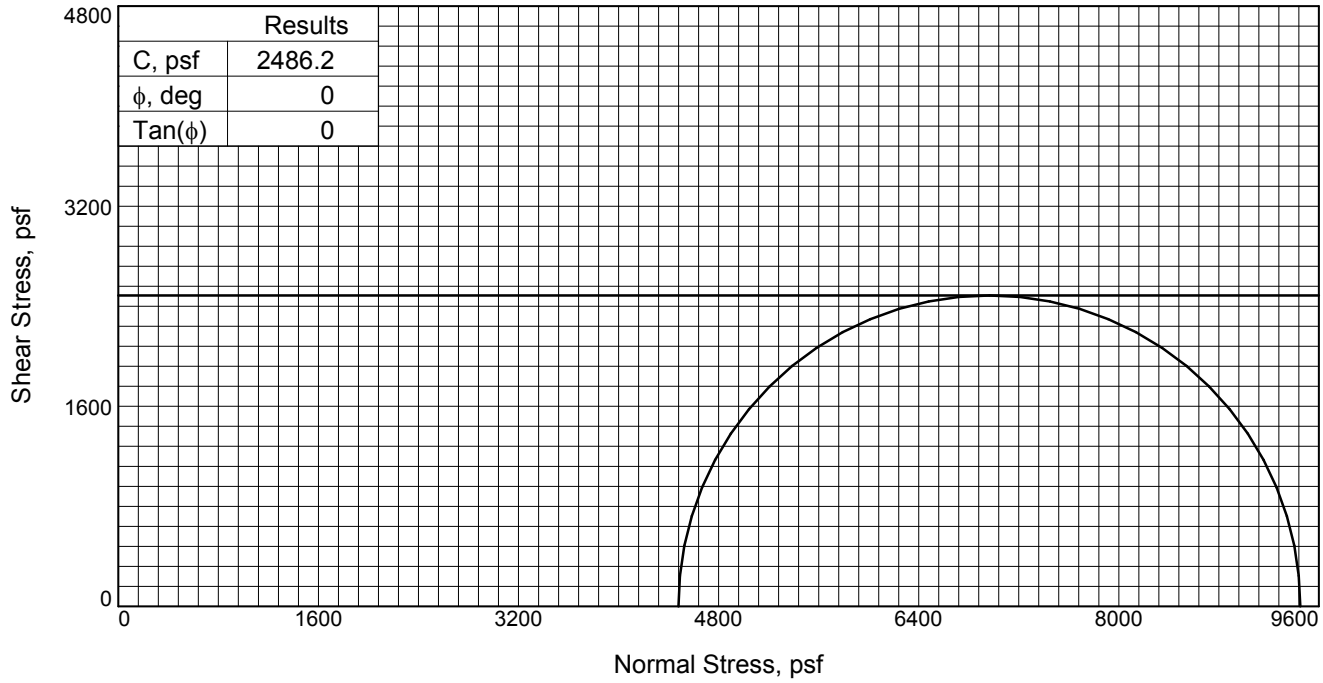
**Client:** ALDOT

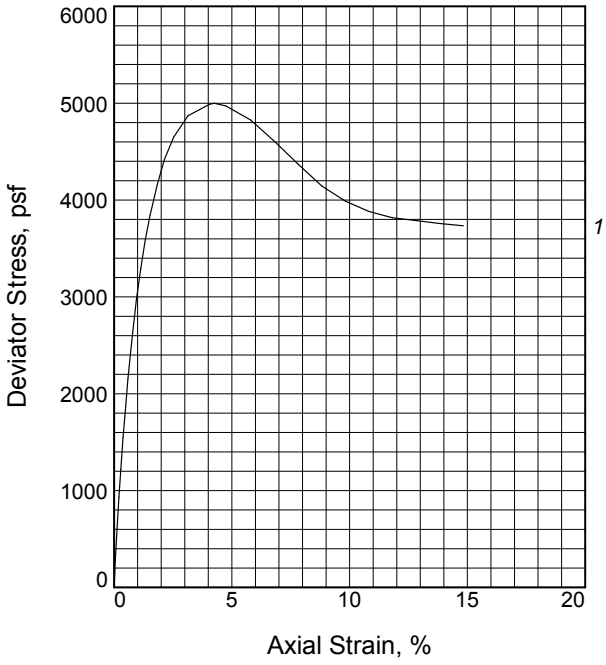
**Project:** Mobile River Bridge

**Source of Sample:** MB-2 **Depth:** 270.0-272.0' **Sample Number:** T-7

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 26.4 |
| | Dry Density, pcf | 100.2 |
| | Saturation, % | 106.7 |
| | Void Ratio | 0.6578 |
| | Diameter, in. | 2.860 |
| | Height, in. | 5.661 |
| At Test | Water Content, % | 27.5 |
| | Dry Density, pcf | 100.2 |
| | Saturation, % | 111.1 |
| | Void Ratio | 0.6578 |
| | Diameter, in. | 2.860 |
| | Height, in. | 5.661 |
| Strain at peak, % | | 4.7 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 4478.4 |
| Fail. Stress, psf | | 4972.5 |
| Strain, % | | 4.7 |
| Ult. Stress, psf | | 4972.5 |
| Strain, % | | 4.7 |
| $\sigma_1$ Failure, psf | | 9450.9 |
| $\sigma_3$ Failure, psf | | 4478.4 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY (CL,A-7-6(12))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 93.5'-95.5'

**Sample Number:** T-2

**Proj. No.:** 1511010228 **Date Sampled:**

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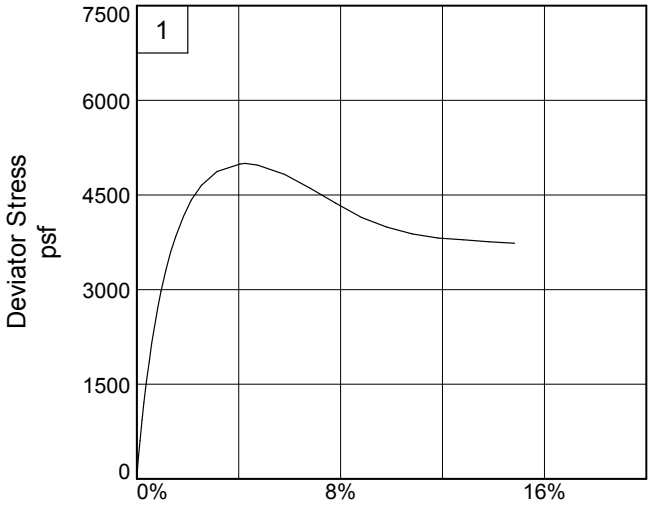
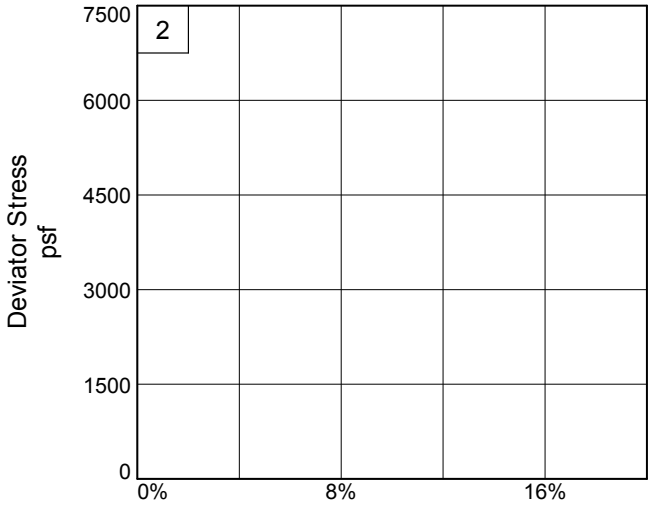
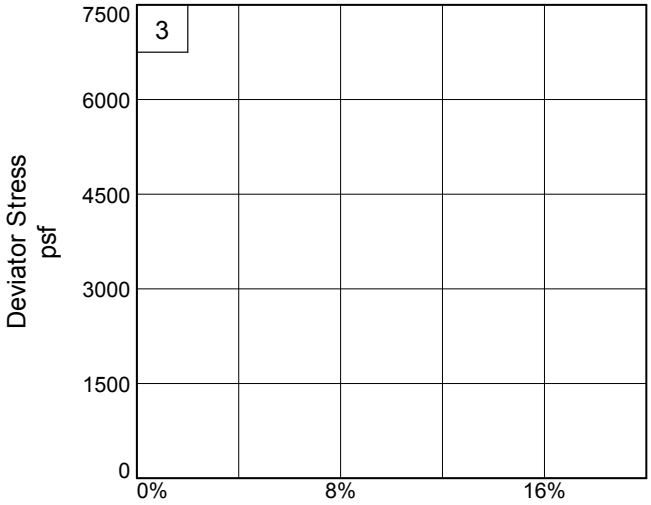
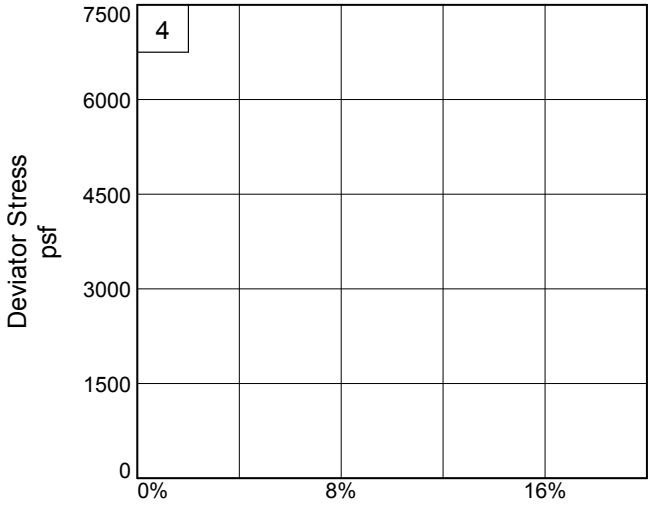
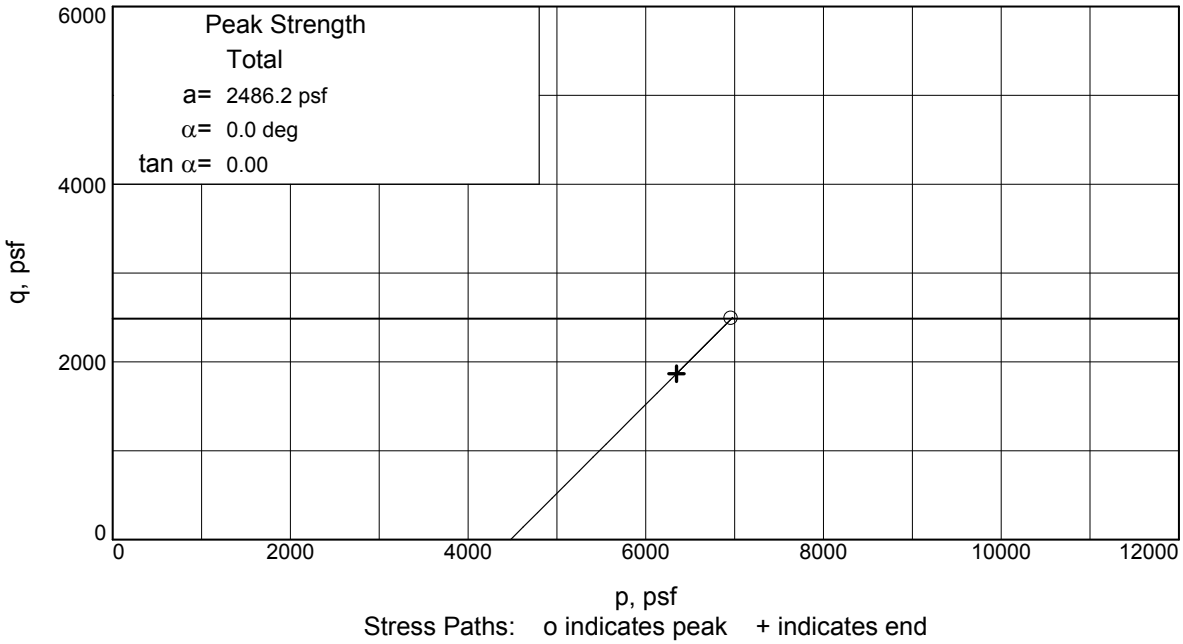



Stress Paths: o indicates peak + indicates end

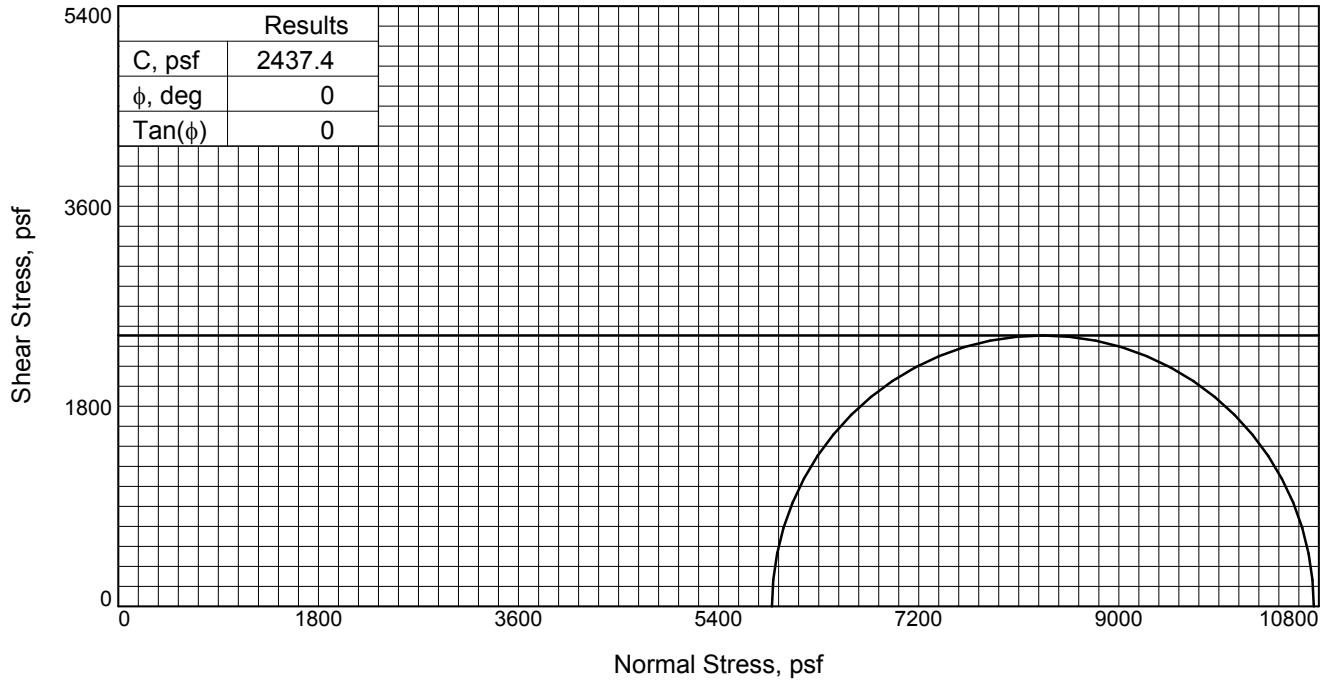
**Client:** ALDOT

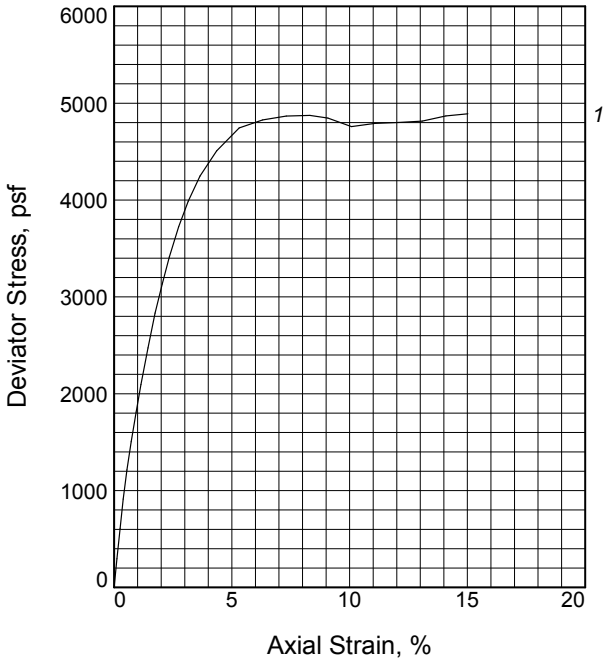
**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 93.5'-95.5' **Sample Number:** T-2

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 20.6 |
| | Dry Density, pcf | 106.7 |
| | Saturation, % | 98.4 |
| | Void Ratio | 0.5570 |
| | Diameter, in. | 2.844 |
| | Height, in. | 5.657 |
| At Test | Water Content, % | 24.3 |
| | Dry Density, pcf | 106.7 |
| | Saturation, % | 116.2 |
| | Void Ratio | 0.5570 |
| | Diameter, in. | 2.844 |
| | Height, in. | 5.657 |
| Strain at peak, % | | 8.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 5879.5 |
| Fail. Stress, psf | | 4874.8 |
| Strain, % | | 8.3 |
| Ult. Stress, psf | | 4874.8 |
| Strain, % | | 8.3 |
| $\sigma_1$ Failure, psf | | 10754.3 |
| $\sigma_3$ Failure, psf | | 5879.5 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** LEAN CLAY (CL,A-6(18))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 123'-125'

**Sample Number:** T-3

**Proj. No.:** 1511010228 **Date Sampled:**

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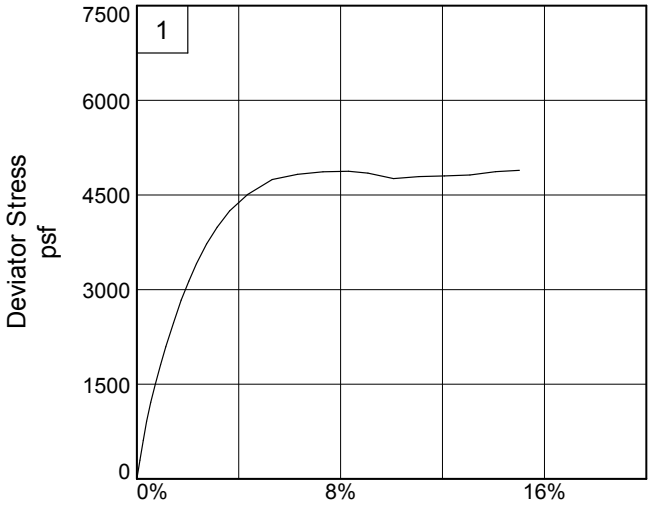
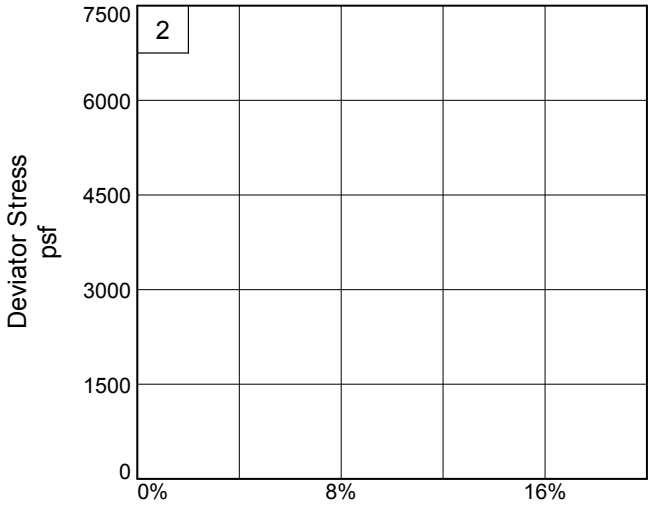
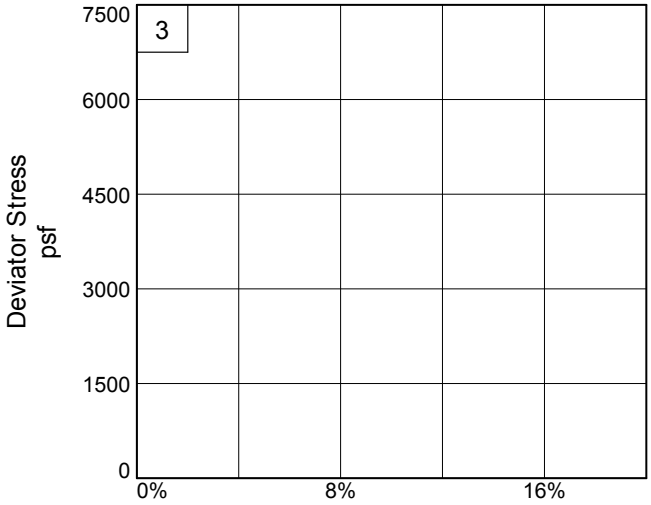
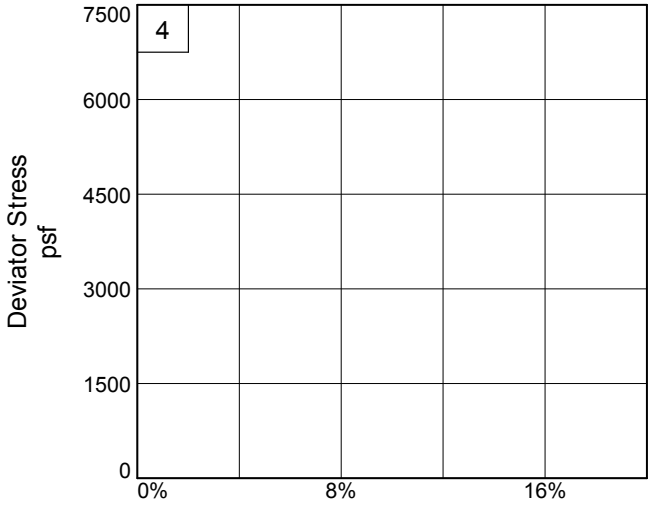
Thompson Engineering

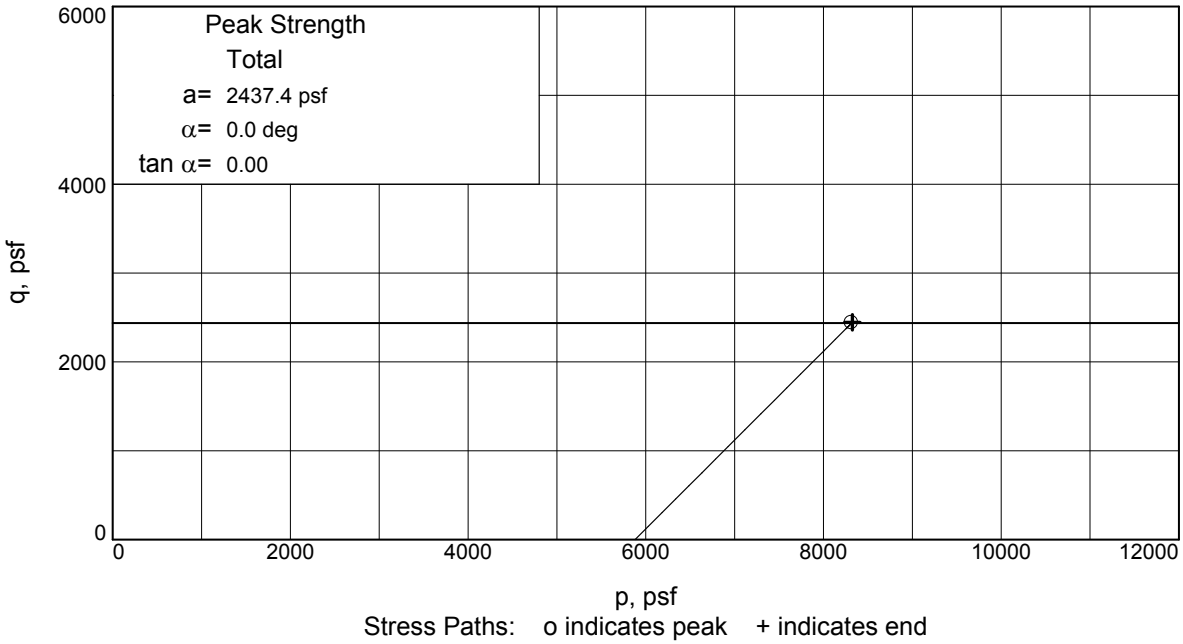
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

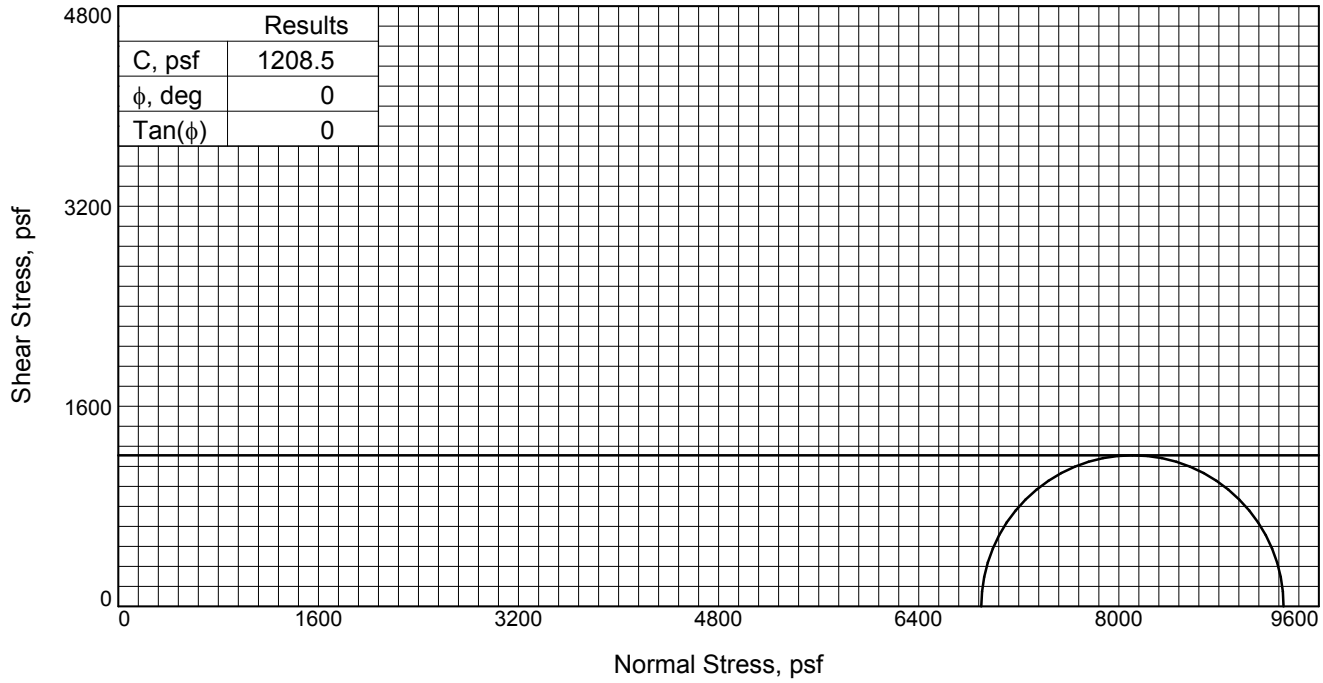
**Client:** ALDOT

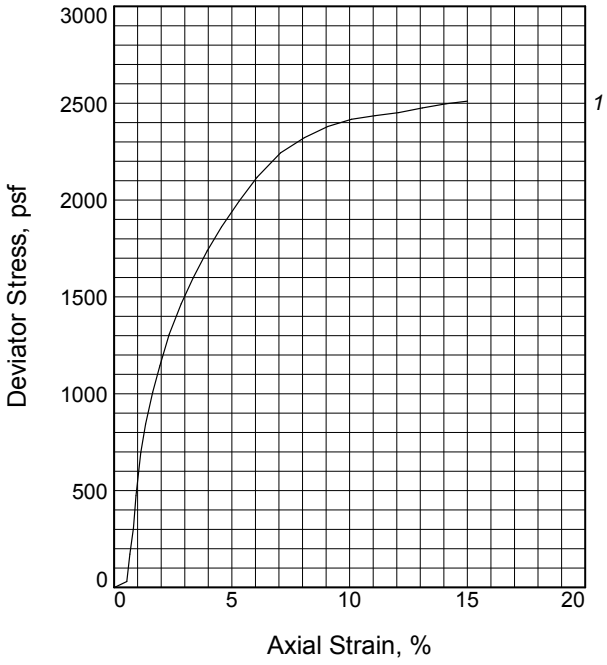
**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 123'-125' **Sample Number:** T-3

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 12.6 |
| | Dry Density, pcf | 110.3 |
| | Saturation, % | 66.6 |
| | Void Ratio | 0.5050 |
| | Diameter, in. | 2.741 |
| | Height, in. | 5.038 |
| At Test | Water Content, % | 27.6 |
| | Dry Density, pcf | 110.3 |
| | Saturation, % | 145.2 |
| | Void Ratio | 0.5050 |
| | Diameter, in. | 2.741 |
| | Height, in. | 5.038 |
| Strain at peak, % | | 10.1 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 6900.5 |
| Fail. Stress, psf | | 2417.0 |
| Strain, % | | 10.1 |
| Ult. Stress, psf | | 2417.0 |
| Strain, % | | 10.1 |
| $\sigma_1$ Failure, psf | | 9317.5 |
| $\sigma_3$ Failure, psf | | 6900.5 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** Gray, CLAY, with sand lense

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 143'-145'

**Sample Number:** T-5

**Proj. No.:** 1511010228 **Date Sampled:**

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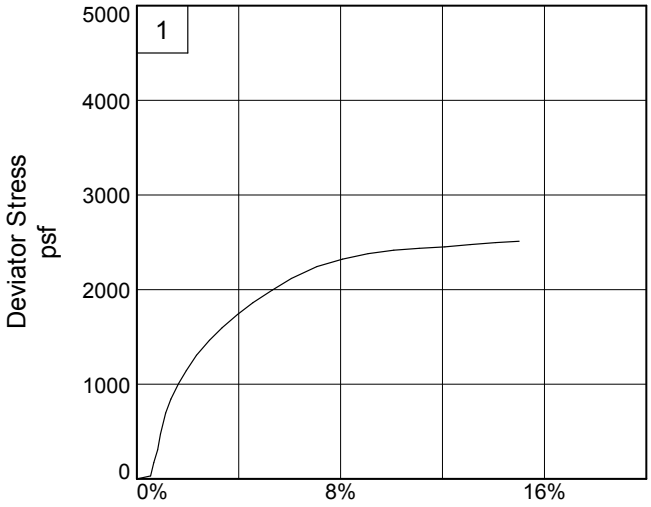
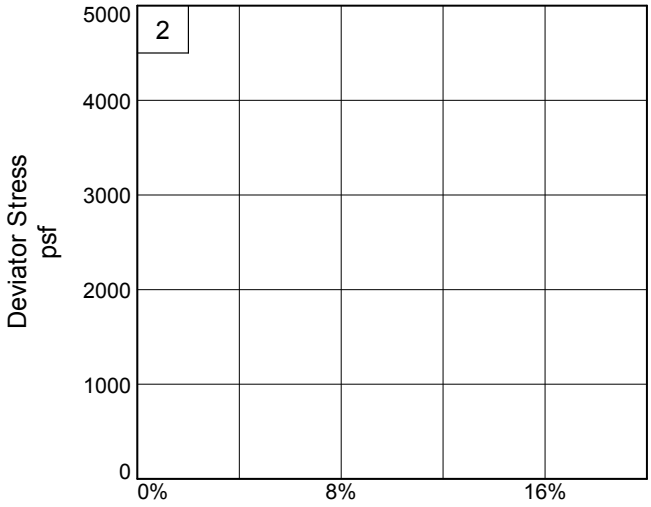
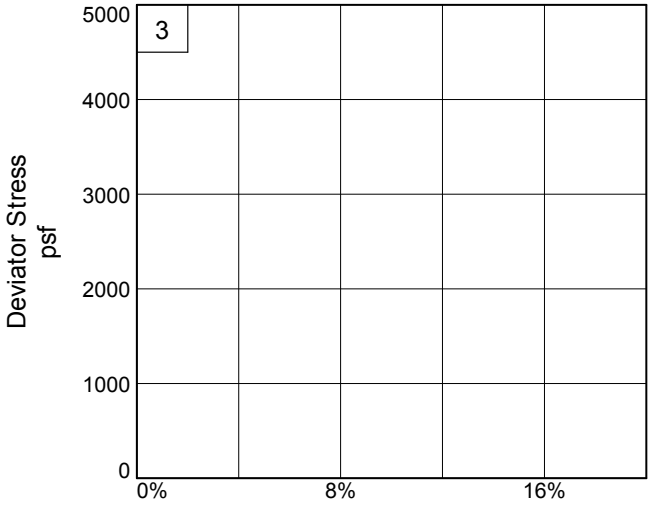
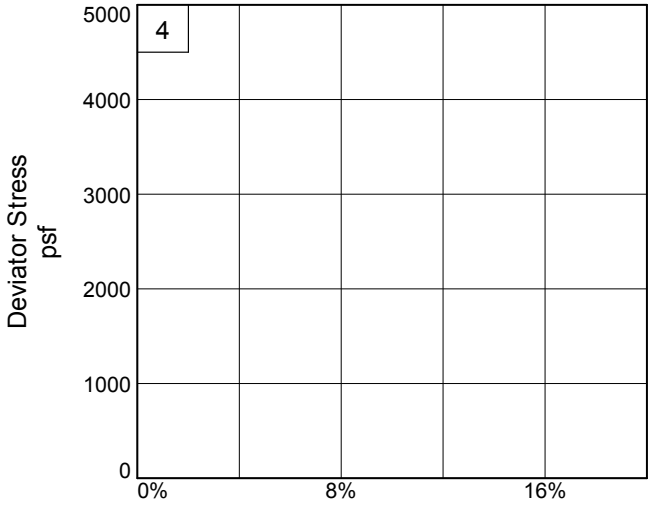
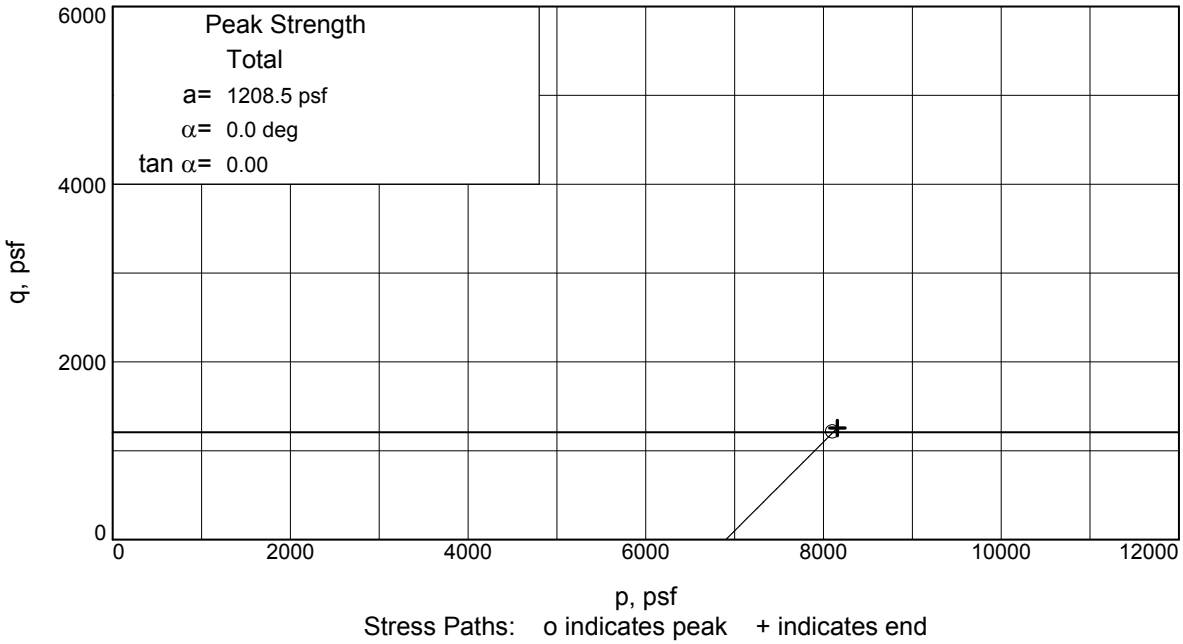
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

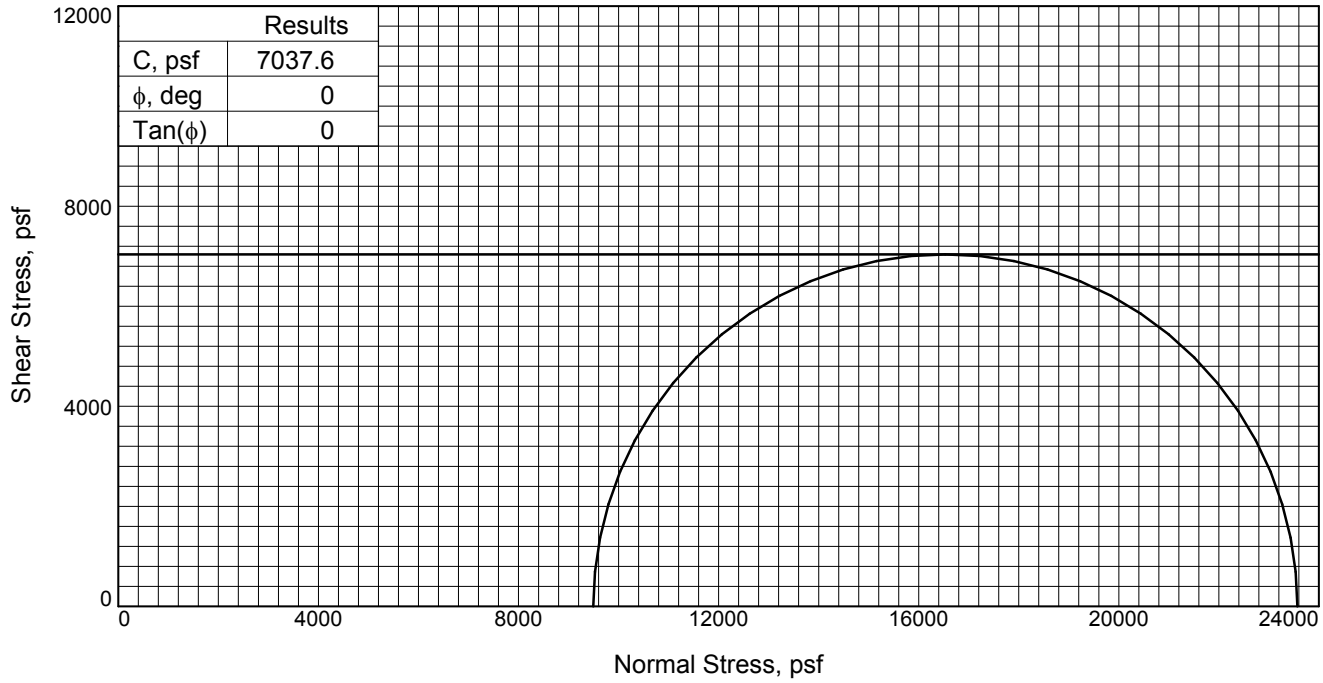
**Client:** ALDOT

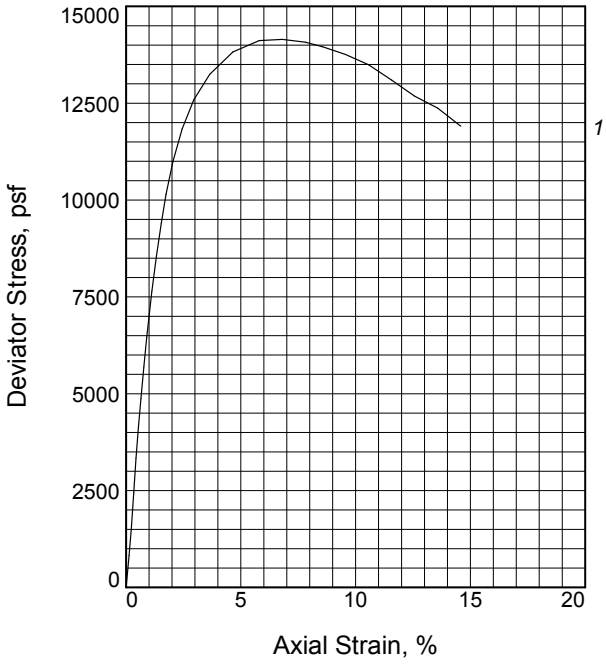
**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 143'-145' **Sample Number:** T-5

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 17.7 |
| | Dry Density, pcf | 114.4 |
| | Saturation, % | 104.0 |
| | Void Ratio | 0.4522 |
| | Diameter, in. | 2.739 |
| | Height, in. | 5.506 |
| At Test | Water Content, % | 16.8 |
| | Dry Density, pcf | 114.4 |
| | Saturation, % | 98.8 |
| | Void Ratio | 0.4522 |
| | Diameter, in. | 2.739 |
| | Height, in. | 5.506 |
| Strain at peak, % | | 7.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 9493.9 |
| Fail. Stress, psf | | 14075.3 |
| Strain, % | | 7.8 |
| Ult. Stress, psf | | 14075.3 |
| Strain, % | | 7.8 |
| $\sigma_1$ Failure, psf | | 23569.2 |
| $\sigma_3$ Failure, psf | | 9493.9 |

**Type of Test:** Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** LEAN CLAY with SAND (CL,A-6(16))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** MB-2A **Depth:** 198'-200'

**Sample Number:** T-8

**Proj. No.:** 1511010228 **Date Sampled:**

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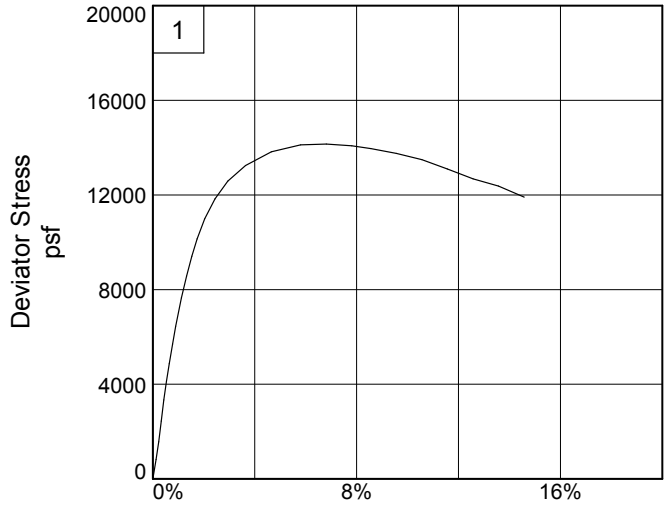
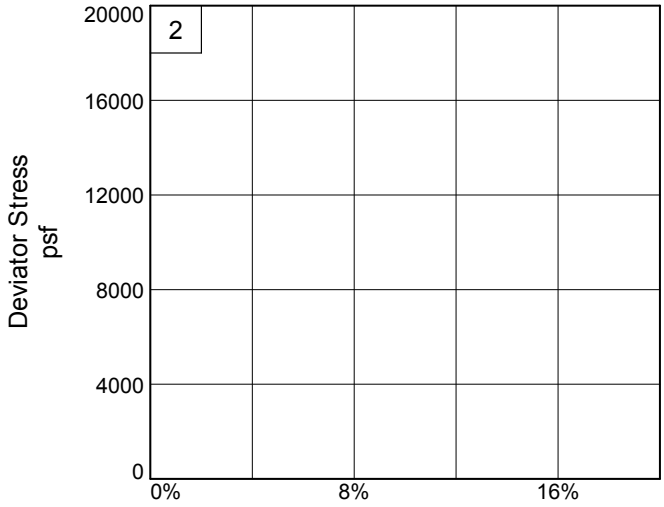
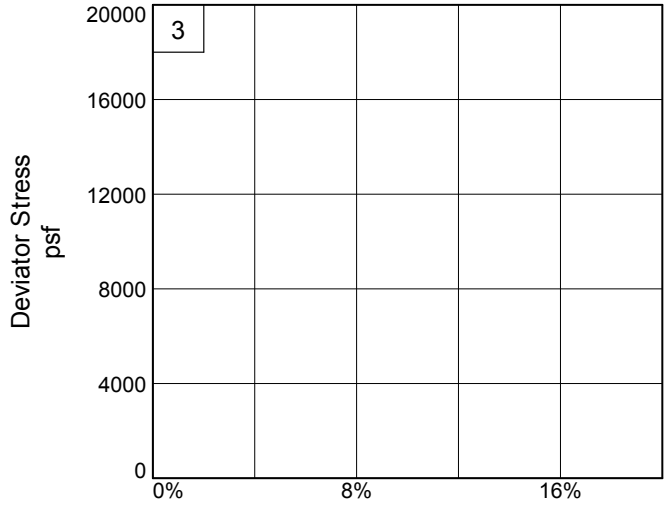
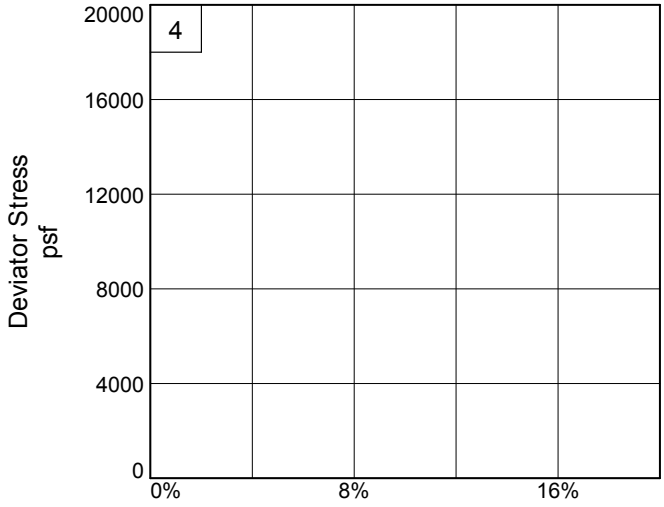
Thompson Engineering

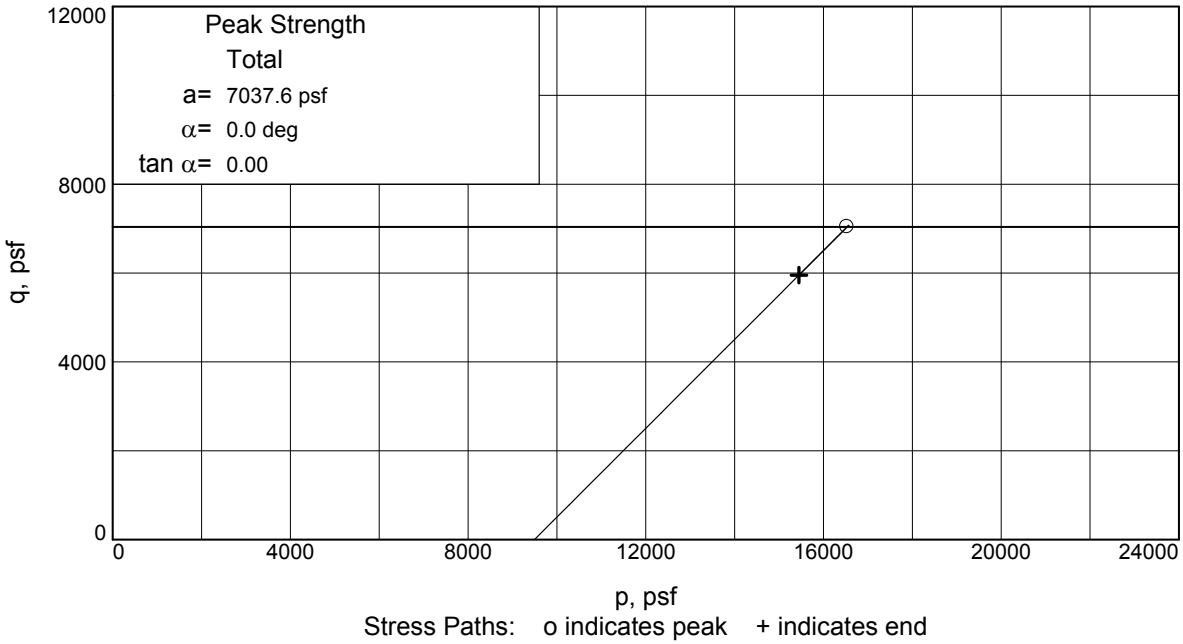
Mobile, Alabama



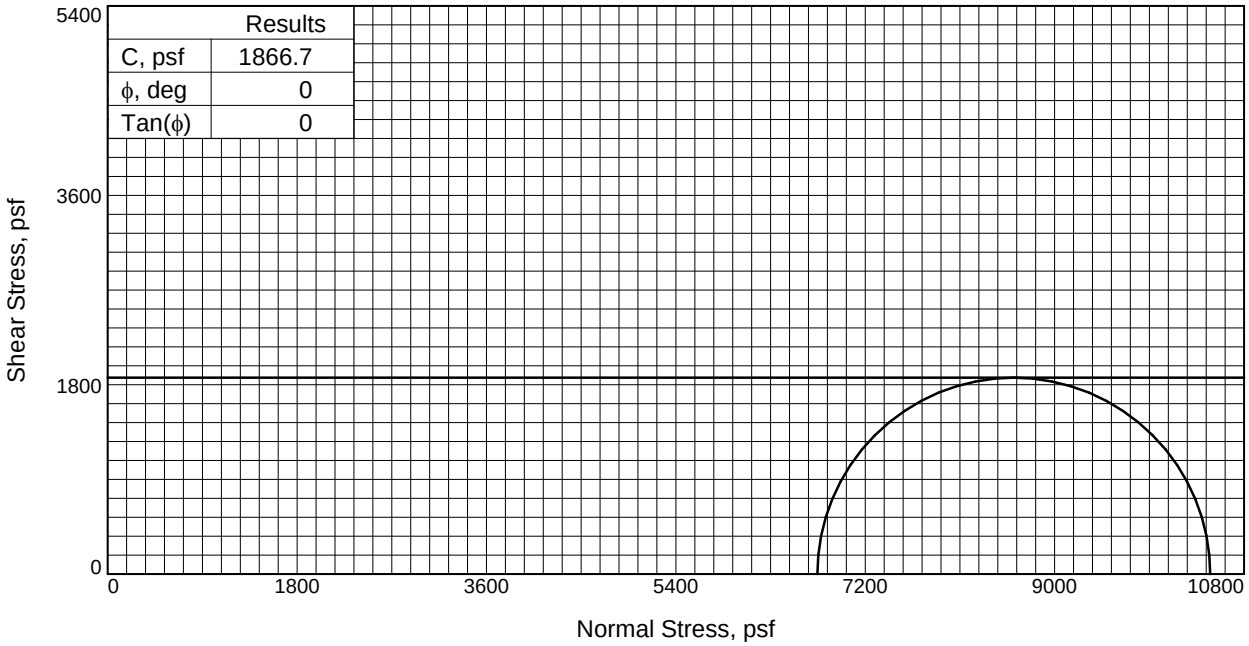



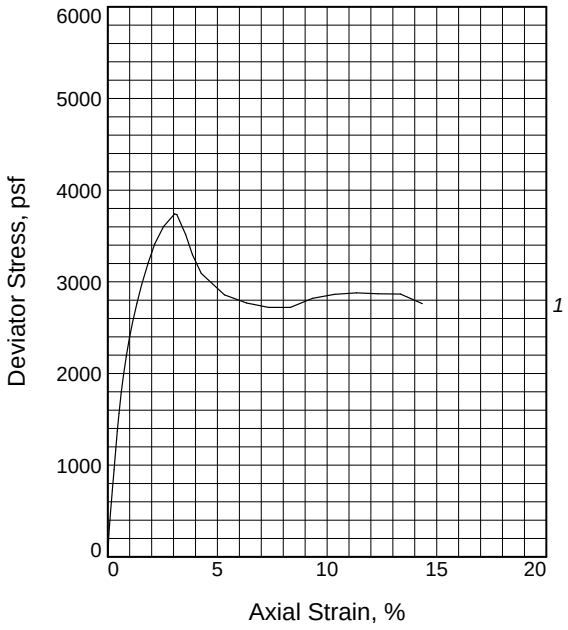




Stress Paths: o indicates peak + indicates end

**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** MB-2A **Depth:** 198'-200' **Sample Number:** T-8
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 45.2 |
| | Dry Density, pcf | 76.0 |
| | Saturation, % | 101.5 |
| | Void Ratio | 1.1839 |
| | Diameter, in. | 2.837 |
| | Height, in. | 5.641 |
| At Test | Water Content, % | 46.5 |
| | Dry Density, pcf | 76.0 |
| | Saturation, % | 104.5 |
| | Void Ratio | 1.1839 |
| | Diameter, in. | 2.837 |
| | Height, in. | 5.641 |
| Strain at peak, % | | 3.2 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 6745.0 |
| Fail. Stress, psf | | 3733.4 |
| Strain, % | | 3.2 |
| Ult. Stress, psf | | 3733.4 |
| Strain, % | | 3.2 |
| $\sigma_1$ Failure, psf | | 10478.4 |
| $\sigma_3$ Failure, psf | | 6745.0 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY(CH A-7-6(47))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** Lab #8063 **Depth:** 108.5'-110.5'

**Sample Number:** TH-13 T-3

**Proj. No.:** 1511010228 **Date Sampled:**

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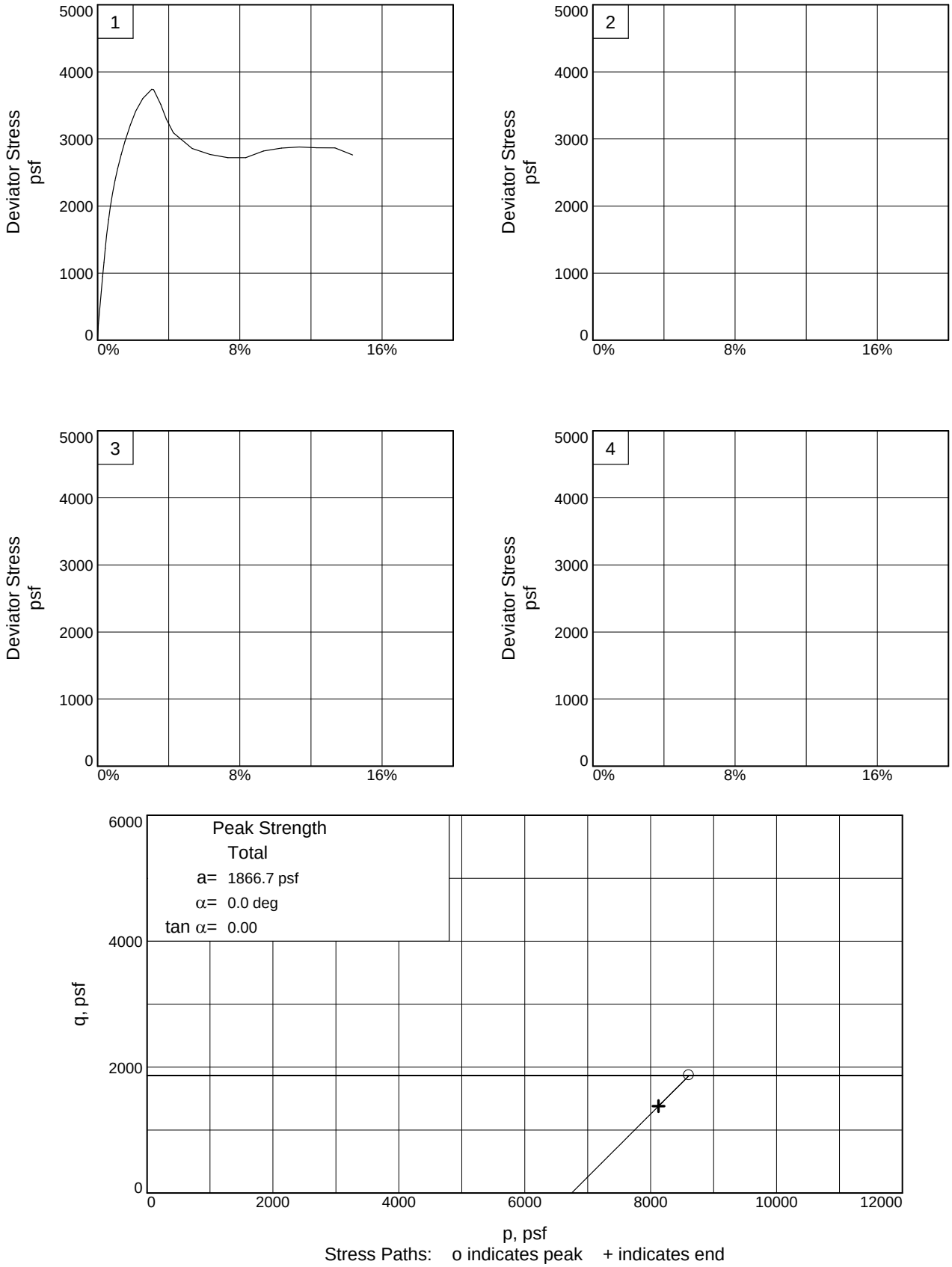
Mobile, Alabama



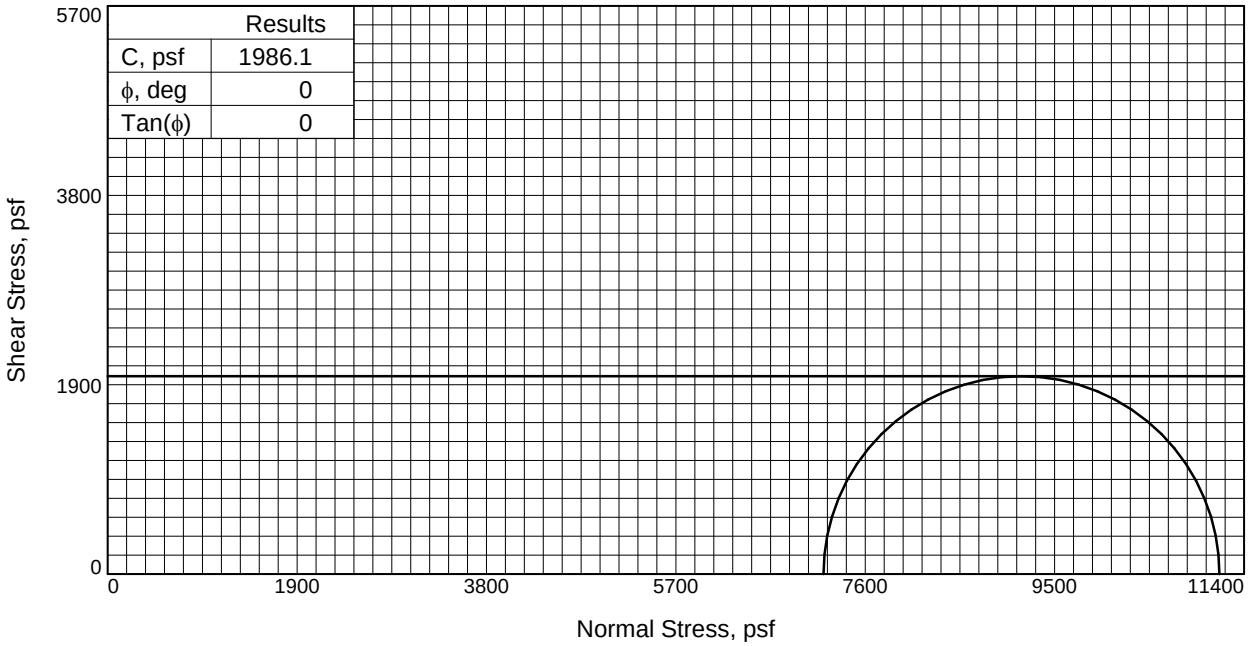

**Client:** ALDOT

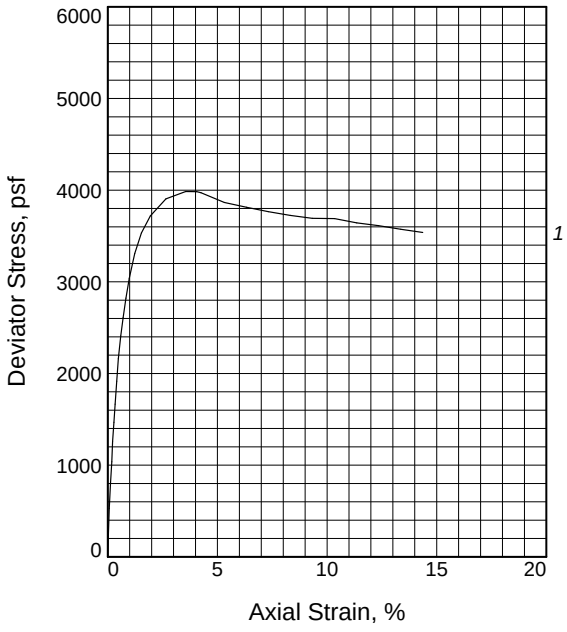
**Project:** Mobile River Bridge

**Source of Sample:** Lab #8063 **Depth:** 108.5'-110.5' **Sample Number:** TH-13 T-3

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 30.3 |
| | Dry Density, pcf | 95.1 |
| | Saturation, % | 107.9 |
| | Void Ratio | 0.7465 |
| | Diameter, in. | 2.846 |
| | Height, in. | 5.592 |
| At Test | Water Content, % | 27.9 |
| | Dry Density, pcf | 95.1 |
| | Saturation, % | 99.4 |
| | Void Ratio | 0.7465 |
| | Diameter, in. | 2.846 |
| | Height, in. | 5.592 |
| Strain at peak, % | | 4.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 7181.3 |
| Fail. Stress, psf | | 3972.2 |
| Strain, % | | 4.3 |
| Ult. Stress, psf | | 3972.2 |
| Strain, % | | 4.3 |
| $\sigma_1$ Failure, psf | | 11153.5 |
| $\sigma_3$ Failure, psf | | 7181.3 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY(CH A-7-6(32))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** Lab #8063 **Depth:** 118.5'-120.5'

**Sample Number:** TH-13 T-4

**Proj. No.:** 1511010228 **Date Sampled:**

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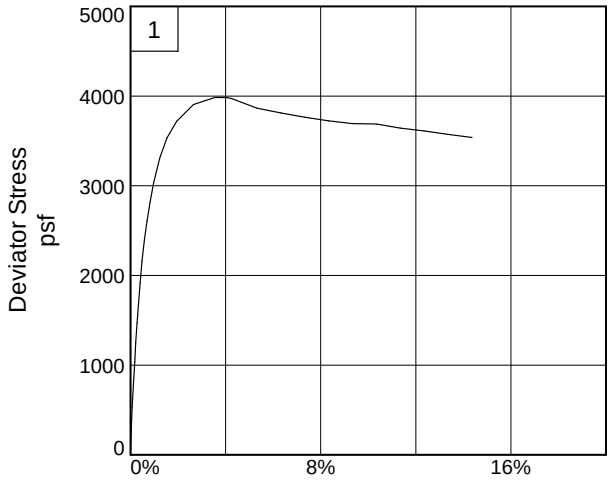
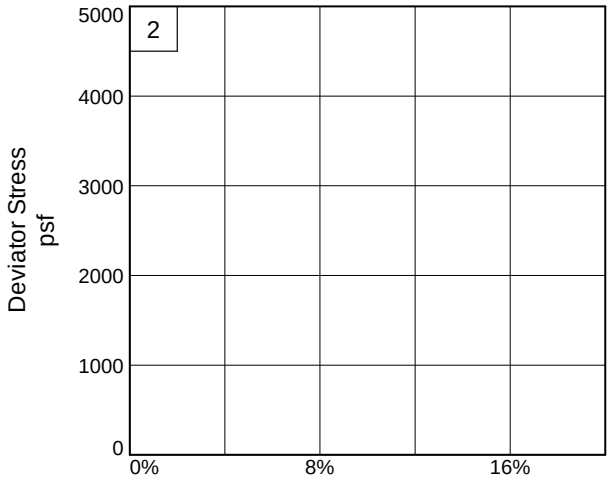
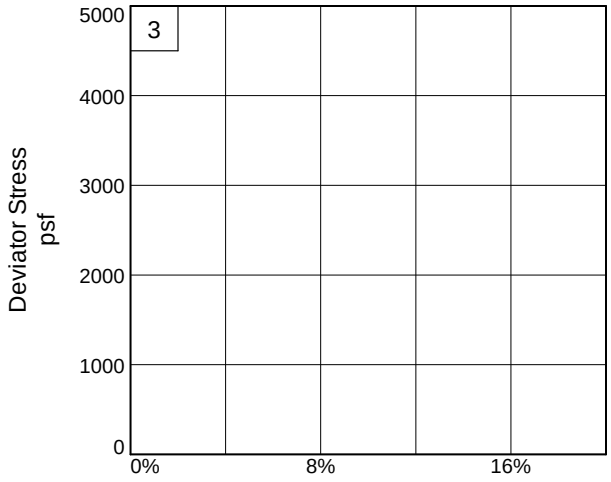
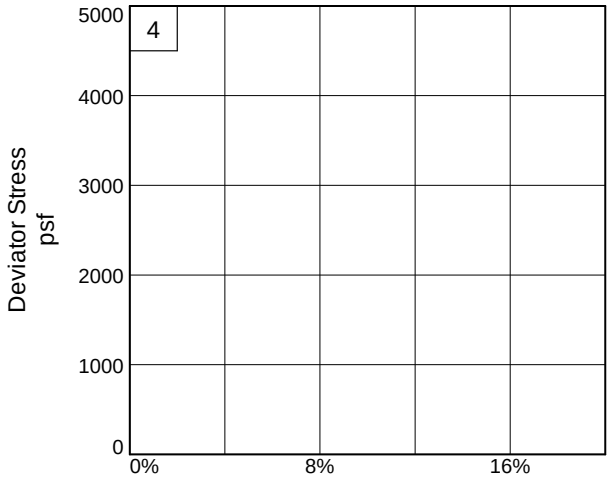
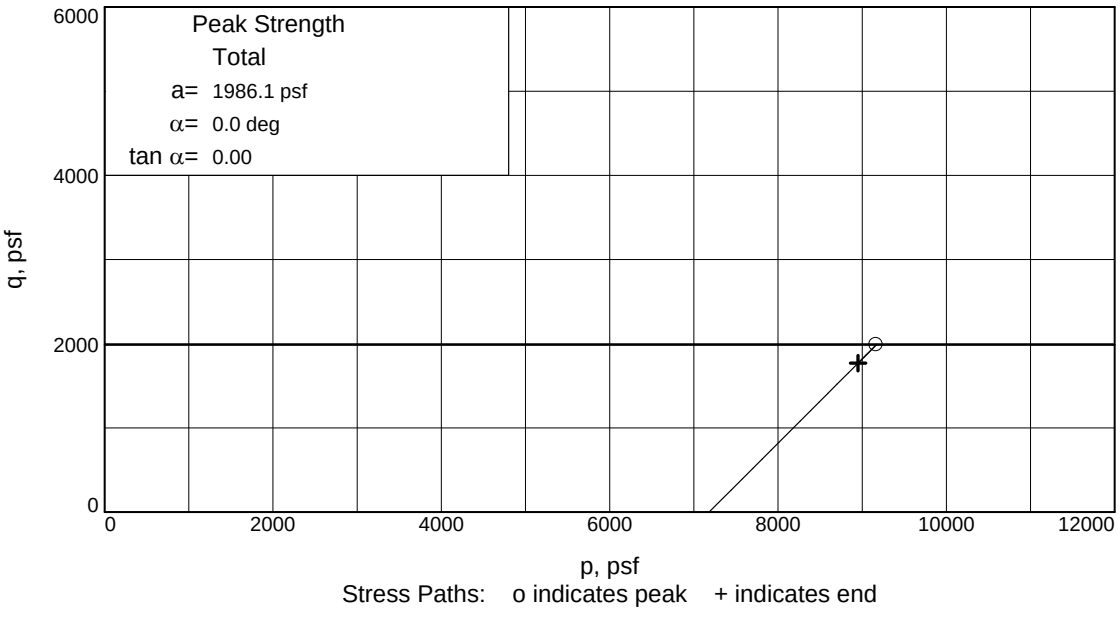
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

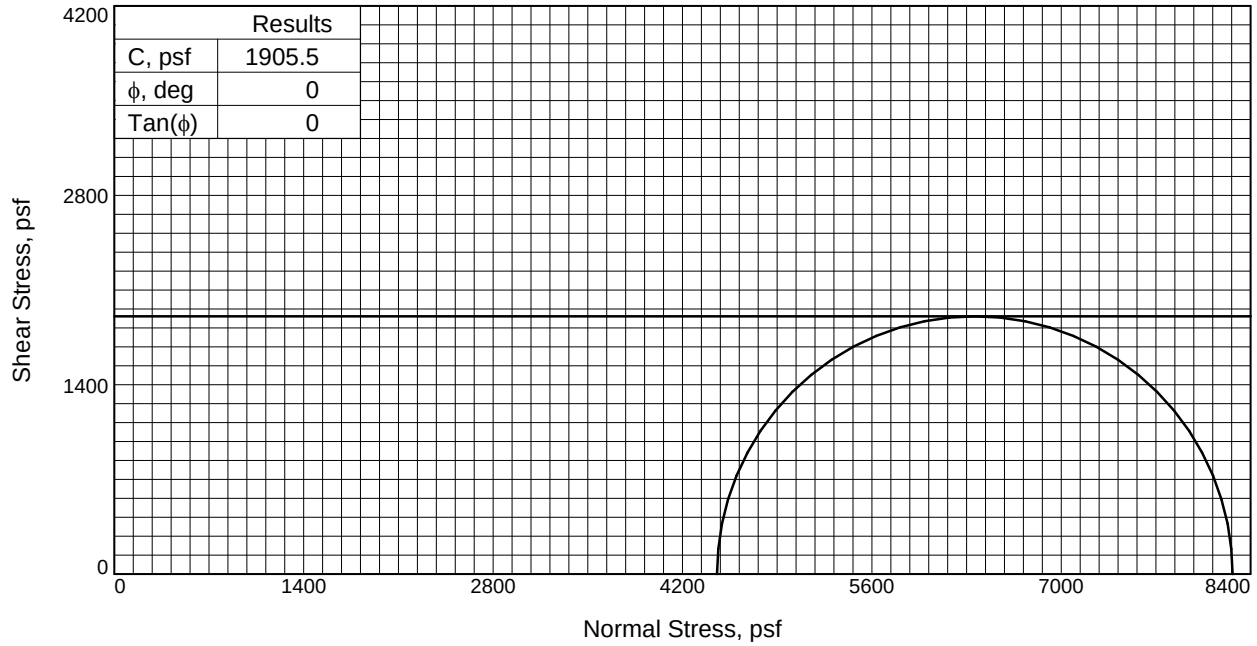
**Client:** ALDOT

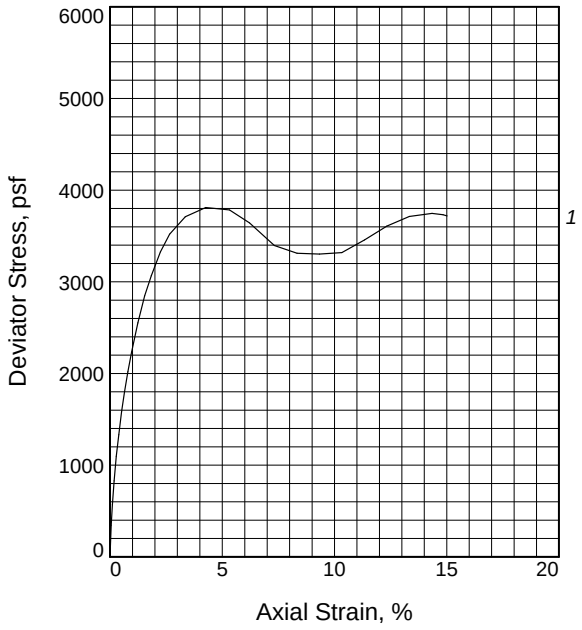
**Project:** Mobile River Bridge

**Source of Sample:** Lab #8063 **Depth:** 118.5'-120.5' **Sample Number:** TH-13 T-4

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 41.0 |
| | Dry Density, pcf | 80.4 |
| | Saturation, % | 107.2 |
| | Void Ratio | 0.9722 |
| | Diameter, in. | 2.799 |
| | Height, in. | 5.669 |
| At Test | Water Content, % | 45.3 |
| | Dry Density, pcf | 80.4 |
| | Saturation, % | 118.5 |
| | Void Ratio | 0.9722 |
| | Diameter, in. | 2.799 |
| | Height, in. | 5.669 |
| Strain at peak, % | | 4.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 4455.4 |
| Fail. Stress, psf | | 3811.0 |
| Strain, % | | 4.3 |
| Ult. Stress, psf | | 3811.0 |
| Strain, % | | 4.3 |
| $\sigma_1$ Failure, psf | | 8266.3 |
| $\sigma_3$ Failure, psf | | 4455.4 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** FAT CLAY(CH A-7-6(65))

**Specific Gravity=** 2.54

**Remarks:** Compression Failure Mode: Internal Conical

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 43.5'-45.5'

**Sample Number:** WHLA-3 T-2

**Proj. No.:** 1511010228 **Date Sampled:**

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Thompson Engineering
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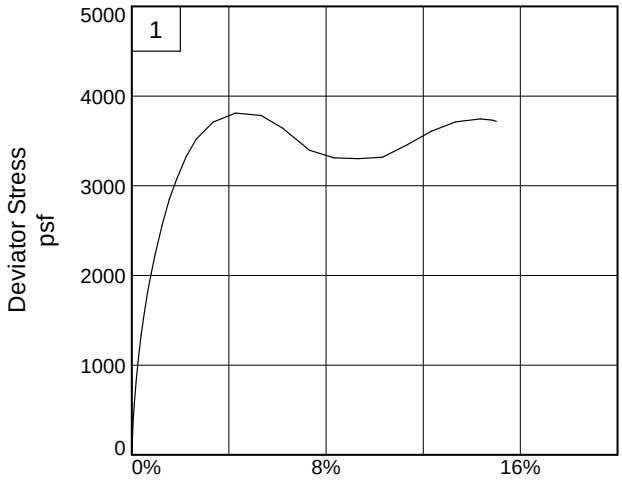
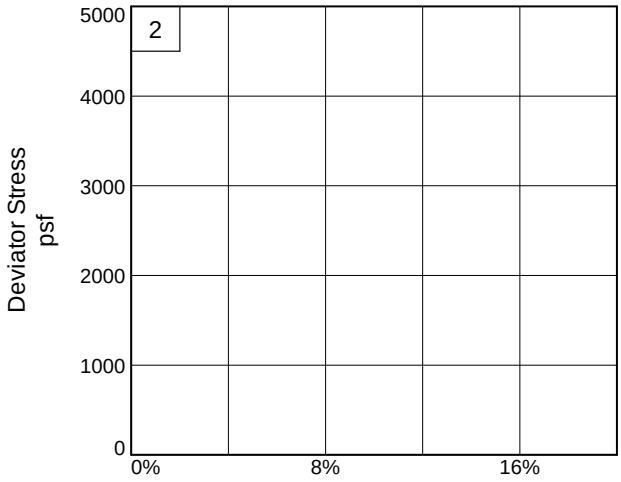
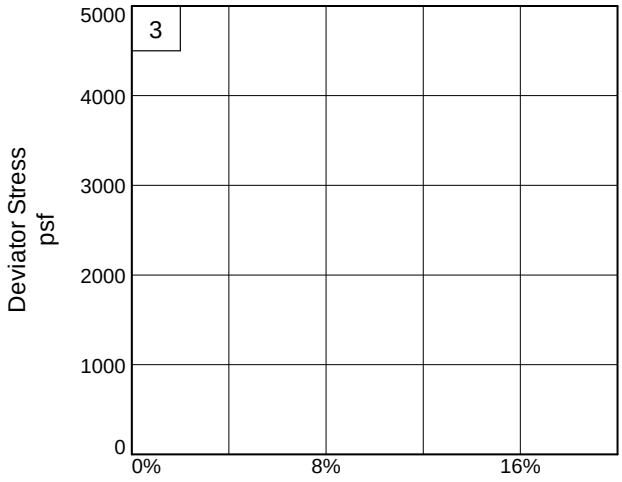
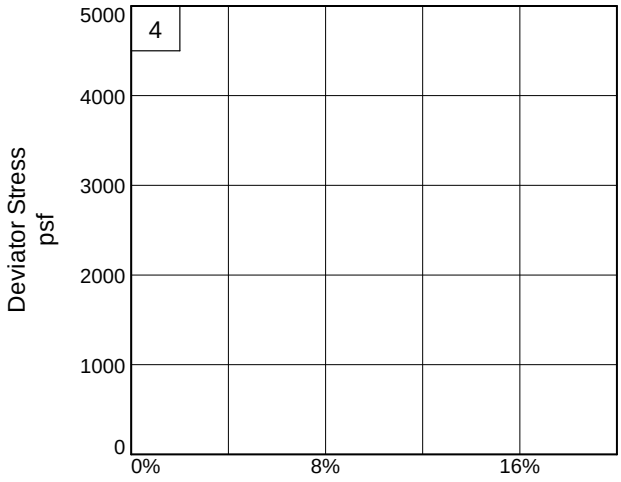
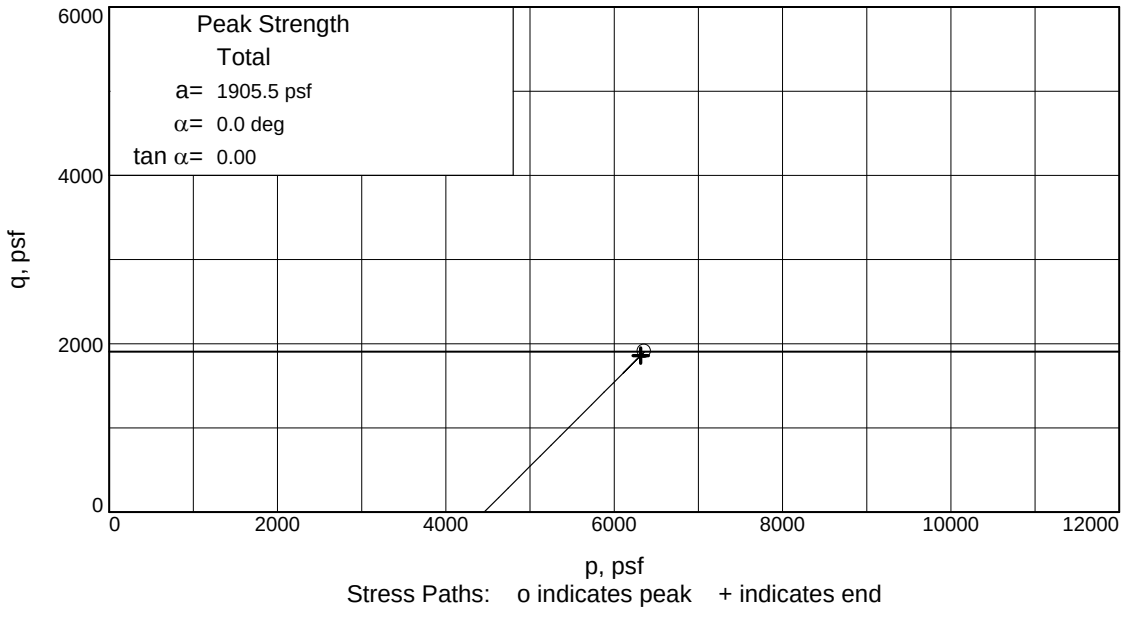


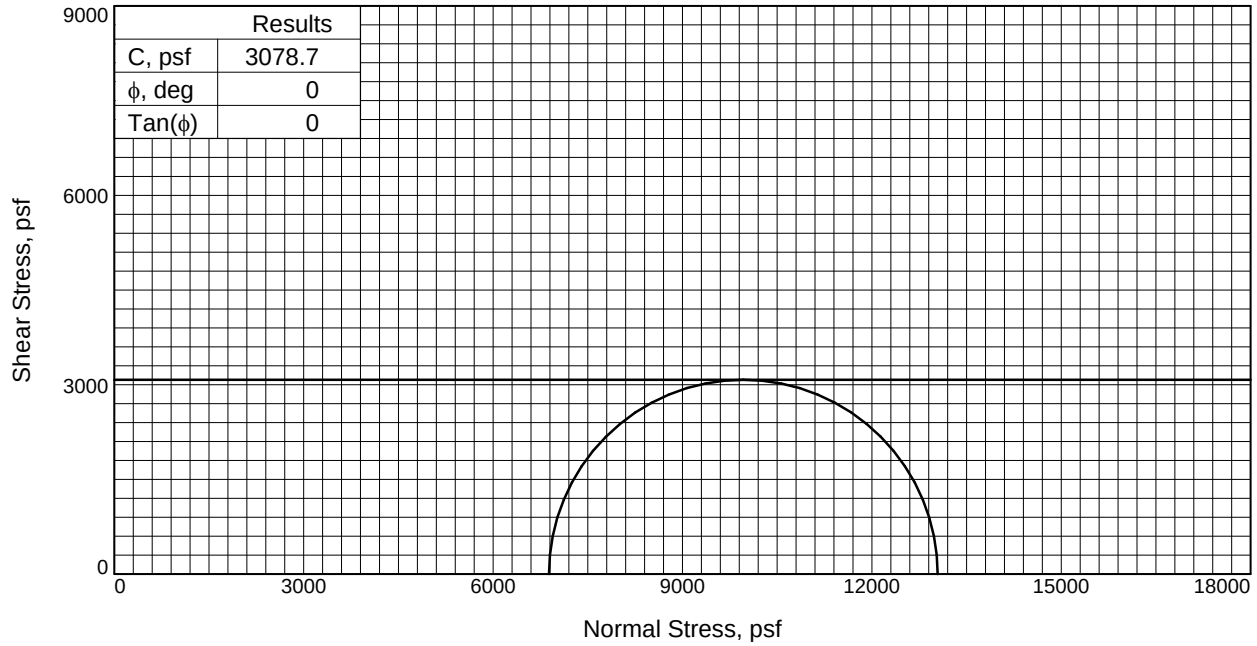

**Client:** ALDOT

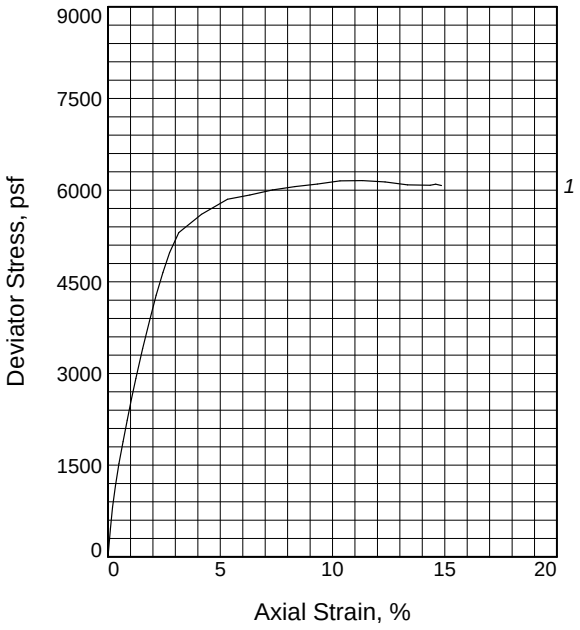
**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 43.5'-45.5' **Sample Number:** WHLA-3 T-2

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 33.5 |
| | Dry Density, pcf | 92.6 |
| | Saturation, % | 113.1 |
| | Void Ratio | 0.7859 |
| | Diameter, in. | 2.855 |
| | Height, in. | 5.498 |
| At Test | Water Content, % | 28.4 |
| | Dry Density, pcf | 92.6 |
| | Saturation, % | 95.6 |
| | Void Ratio | 0.7859 |
| | Diameter, in. | 2.855 |
| | Height, in. | 5.498 |
| Strain at peak, % | | 11.3 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 6884.6 |
| Fail. Stress, psf | | 6157.3 |
| Strain, % | | 11.3 |
| Ult. Stress, psf | | 6157.3 |
| Strain, % | | 11.3 |
| $\sigma_1$ Failure, psf | | 13042.0 |
| $\sigma_3$ Failure, psf | | 6884.6 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** LEAN CLAY(CL A-6(14))

**Specific Gravity=** 2.65

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 143.5'-145.5'

**Sample Number:** WHLA-3 T-6

**Proj. No.:** 1511010228 **Date Sampled:**

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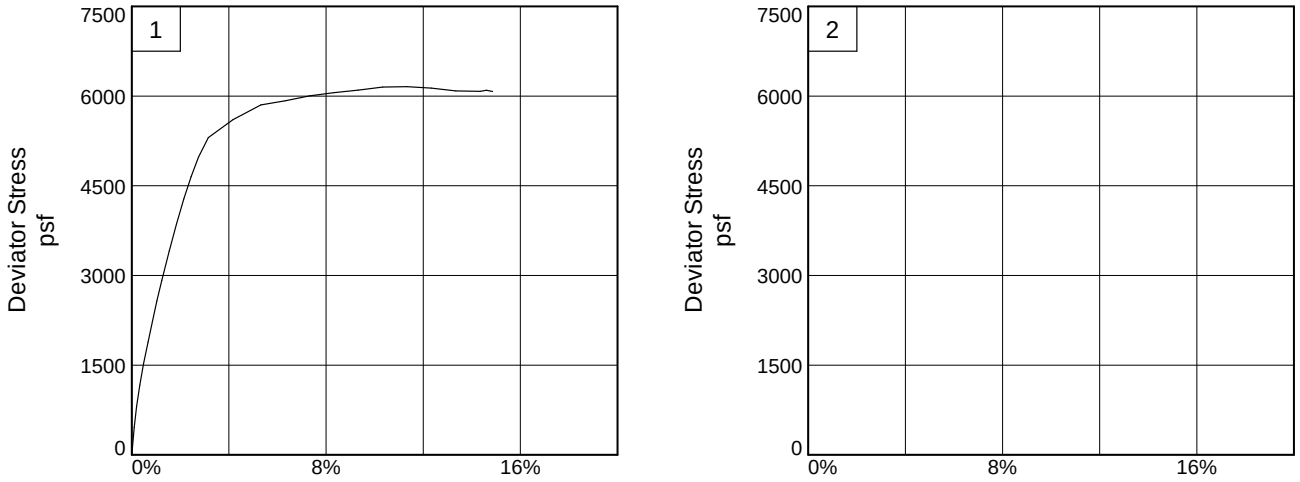
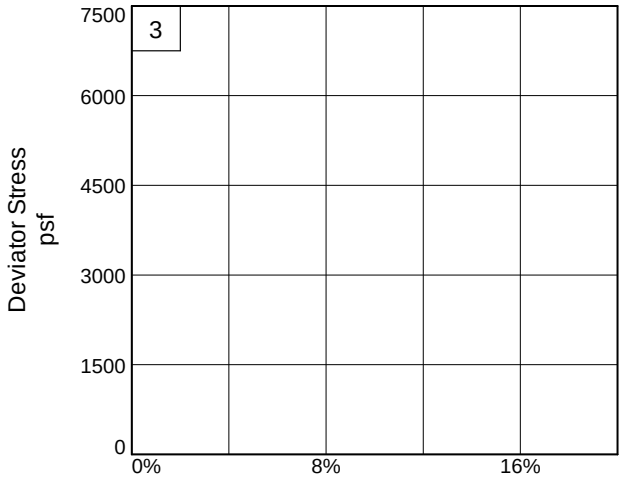
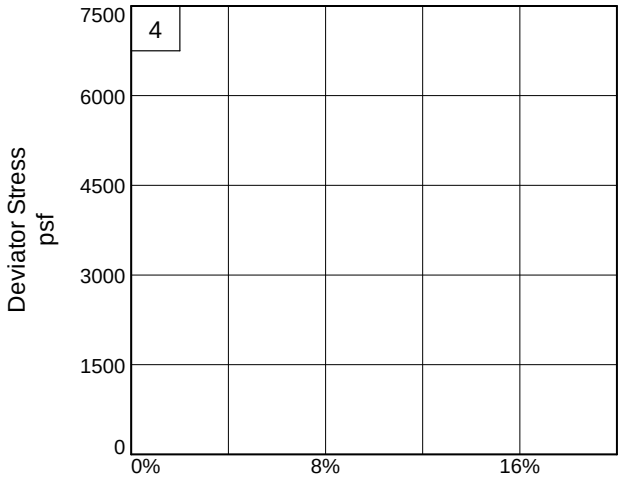
Thompson Engineering
Mobile, Alabama

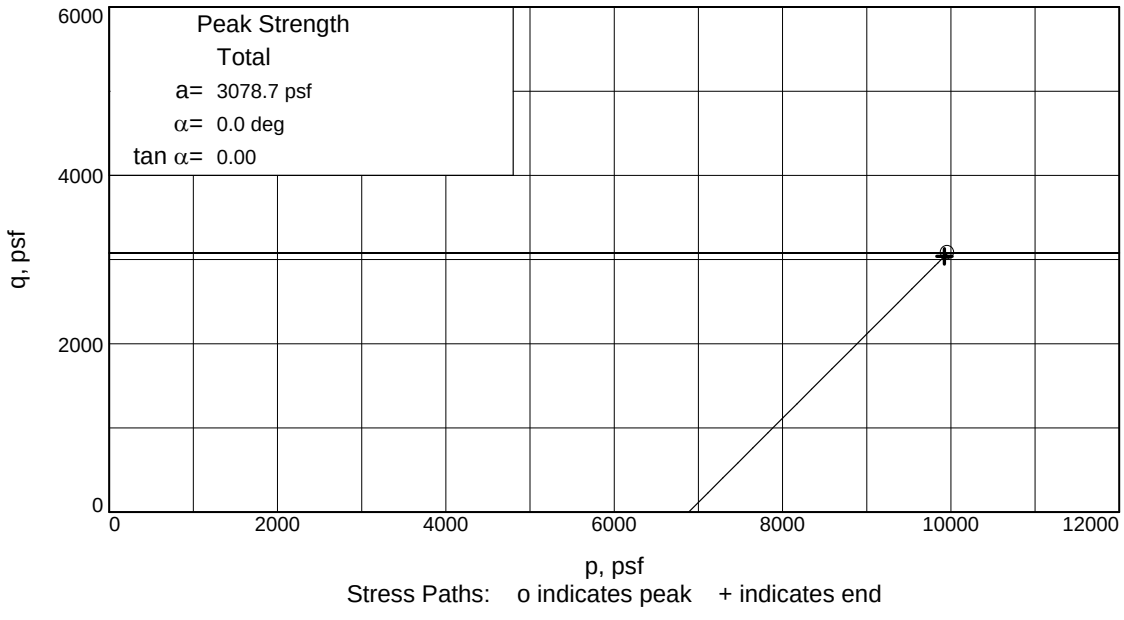






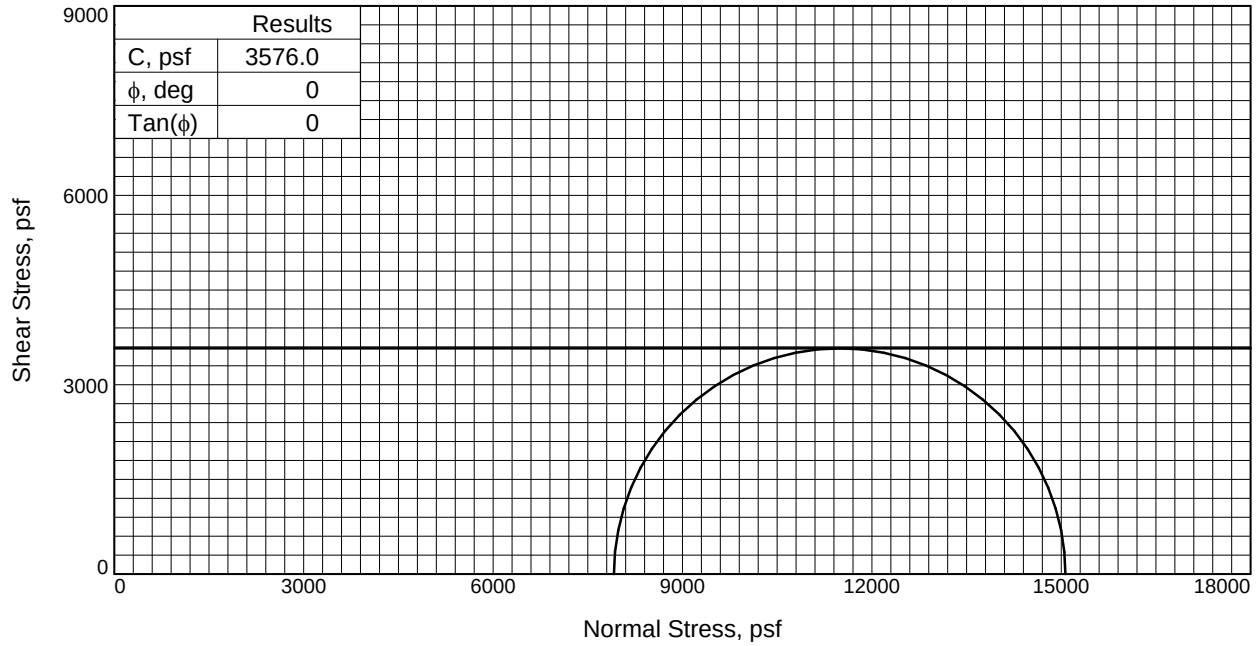


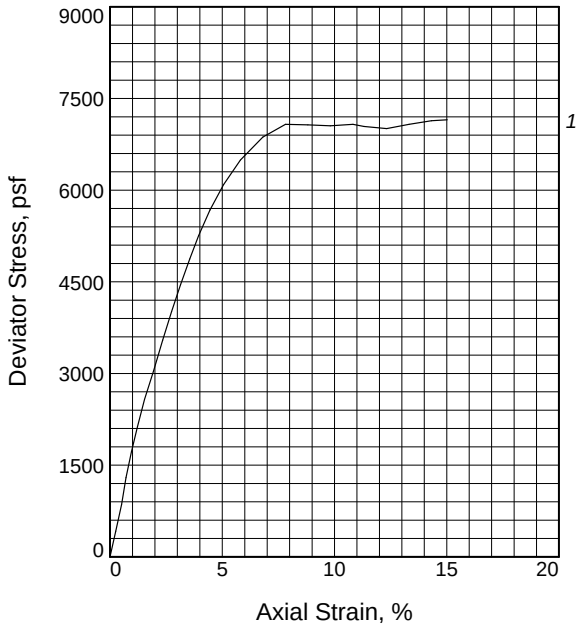




**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** WHLA **Depth:** 143.5'-145.5' **Sample Number:** WHLA-3 T-6
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 30.3 |
| | Dry Density, pcf | 94.2 |
| | Saturation, % | 104.4 |
| | Void Ratio | 0.7770 |
| | Diameter, in. | 2.853 |
| | Height, in. | 5.384 |
| At Test | Water Content, % | 27.8 |
| | Dry Density, pcf | 94.2 |
| | Saturation, % | 95.7 |
| | Void Ratio | 0.7770 |
| | Diameter, in. | 2.853 |
| | Height, in. | 5.384 |
| Strain at peak, % | | 15.0 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 7914.2 |
| Fail. Stress, psf | | 7151.9 |
| Strain, % | | 15.0 |
| Ult. Stress, psf | | 7151.9 |
| Strain, % | | 15.0 |
| $\sigma_1$ Failure, psf | | 15066.1 |
| $\sigma_3$ Failure, psf | | 7914.2 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** LEAN CLAY with SAND(CL A-7-6(25))

**Specific Gravity=** 2.68

**Remarks:** Compression Failure Mode: Asymmetrical Shear Plane

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 166.0'-168.0'

**Sample Number:** WHLA-3 T-8

**Proj. No.:** 1511010228 **Date Sampled:**

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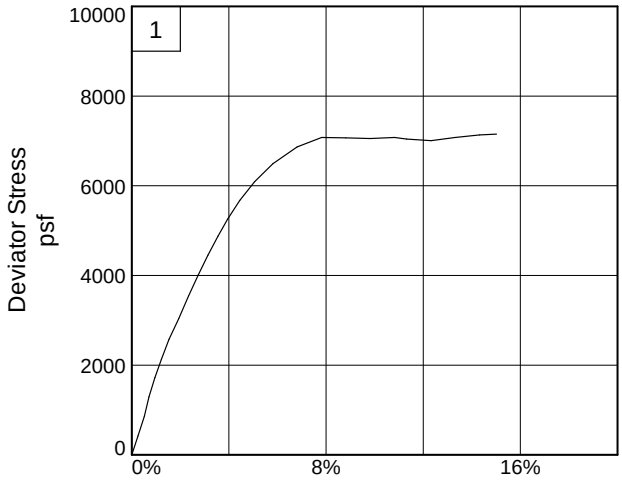
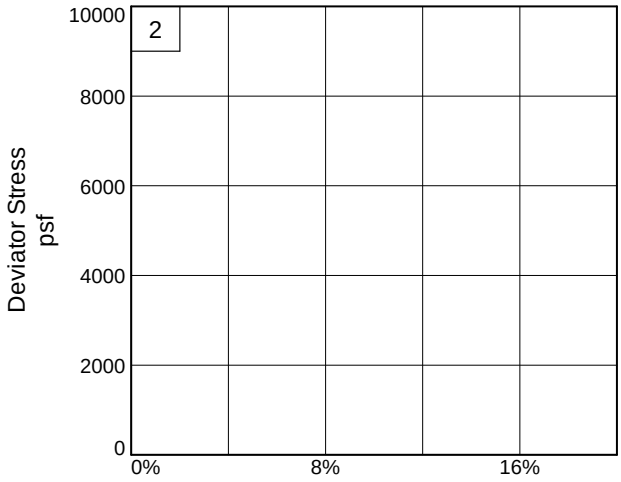
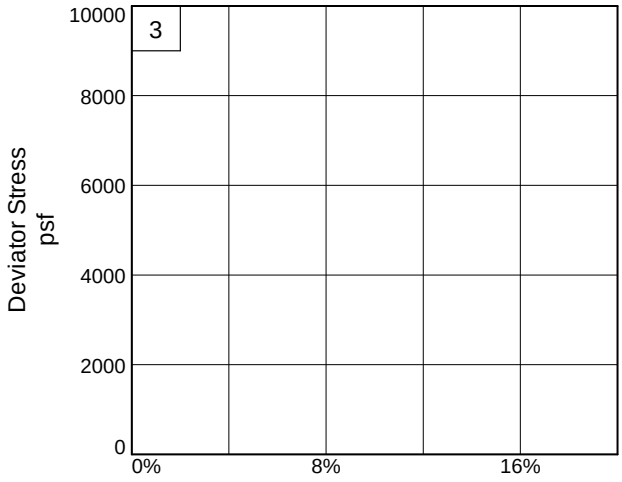
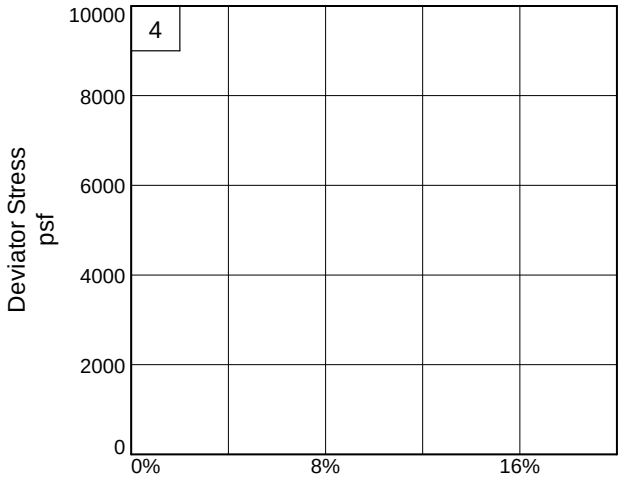
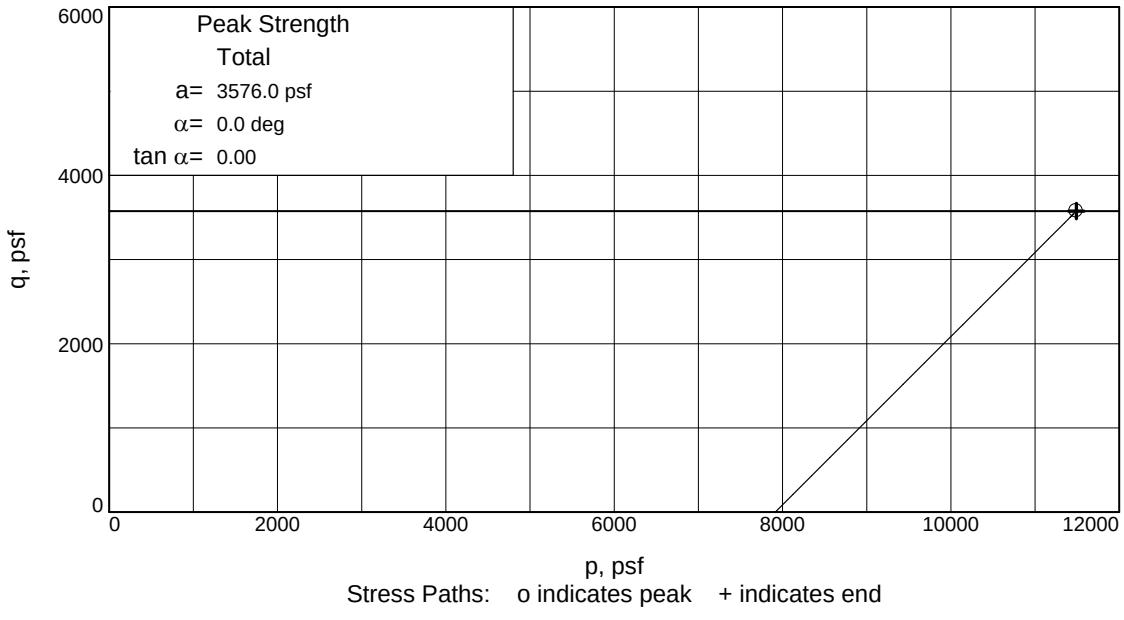
Thompson Engineering
Mobile, Alabama



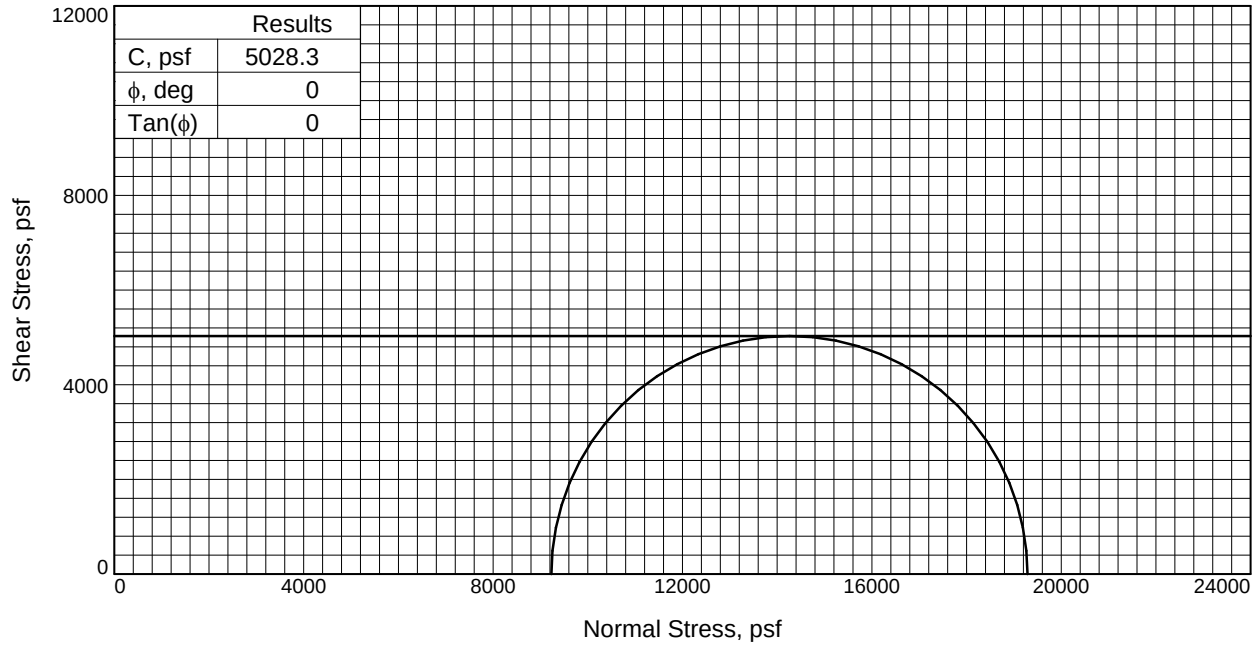



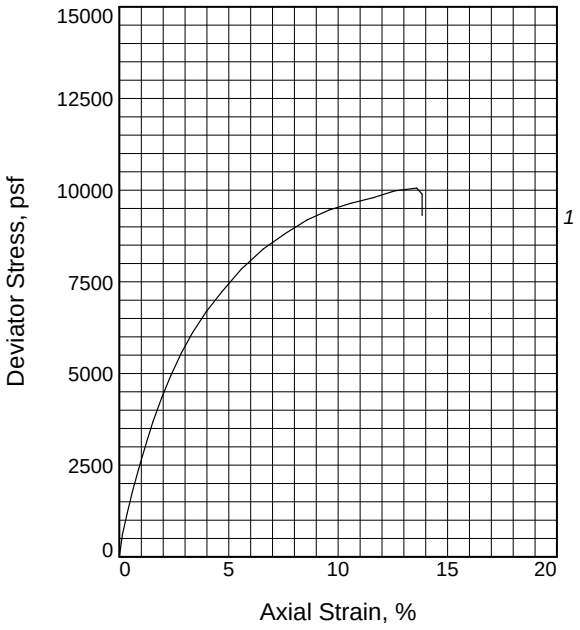




**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** WHLA **Depth:** 166.0'-168.0' **Sample Number:** WHLA-3 T-8
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 19.2 |
| | Dry Density, pcf | 112.2 |
| | Saturation, % | 107.3 |
| | Void Ratio | 0.4742 |
| | Diameter, in. | 2.798 |
| | Height, in. | 5.585 |
| At Test | Water Content, % | 19.6 |
| | Dry Density, pcf | 112.2 |
| | Saturation, % | 109.4 |
| | Void Ratio | 0.4742 |
| | Diameter, in. | 2.798 |
| | Height, in. | 5.585 |
| Strain at peak, % | | 13.6 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 9230.4 |
| Fail. Stress, psf | | 10056.6 |
| Strain, % | | 13.6 |
| Ult. Stress, psf | | 10056.6 |
| Strain, % | | 13.6 |
| $\sigma_1$ Failure, psf | | 19287.0 |
| $\sigma_3$ Failure, psf | | 9230.4 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY(CL A-4(3))

**Specific Gravity=** 2.65

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 193.0'-195.0'

**Sample Number:** WHLA-3 T-9

**Proj. No.:** 1511010228 **Date Sampled:**

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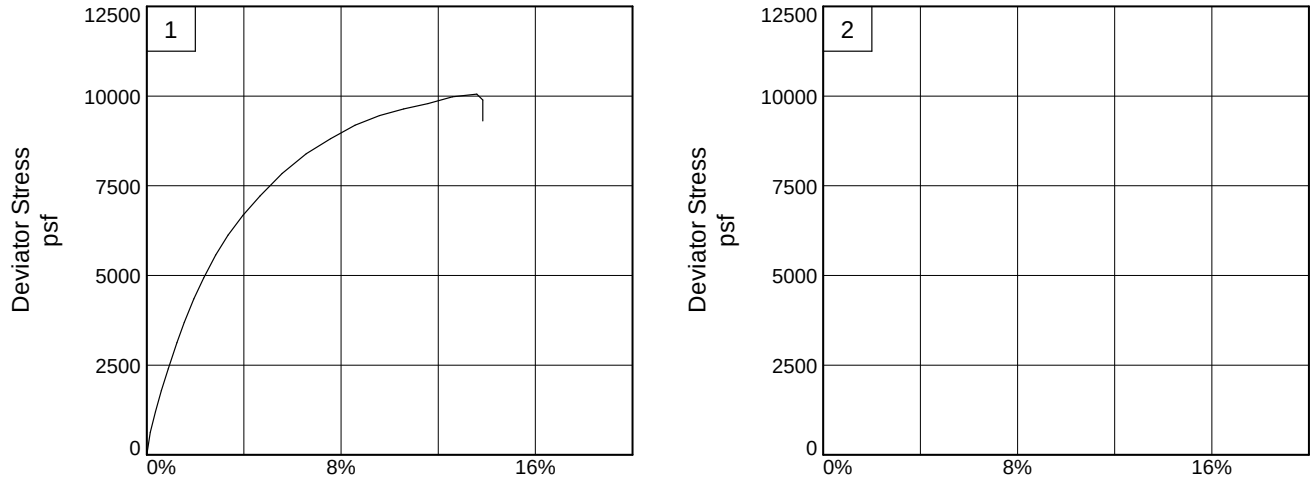
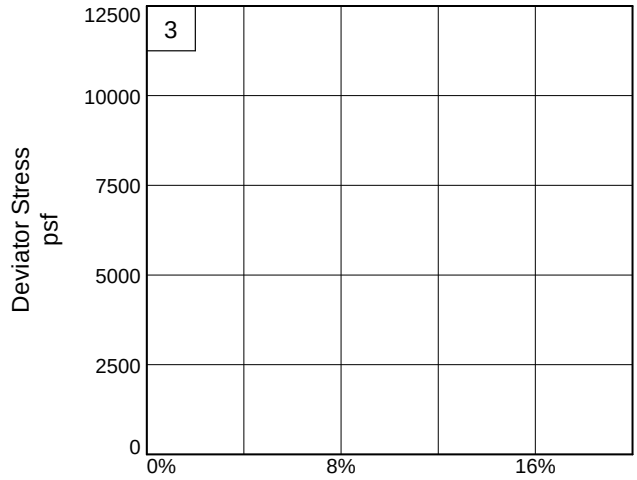
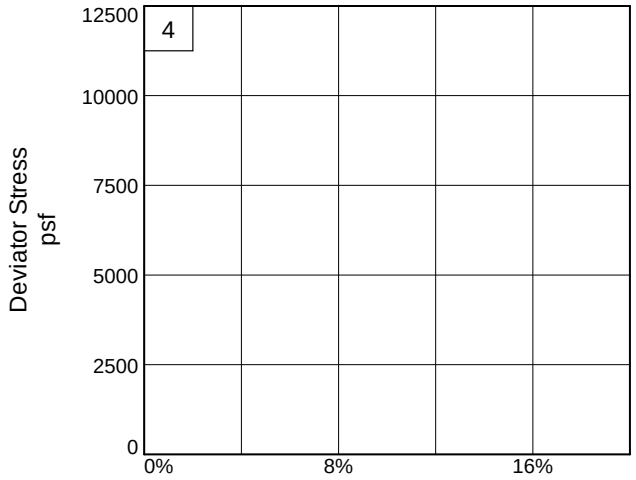
Thompson Engineering
Mobile, Alabama

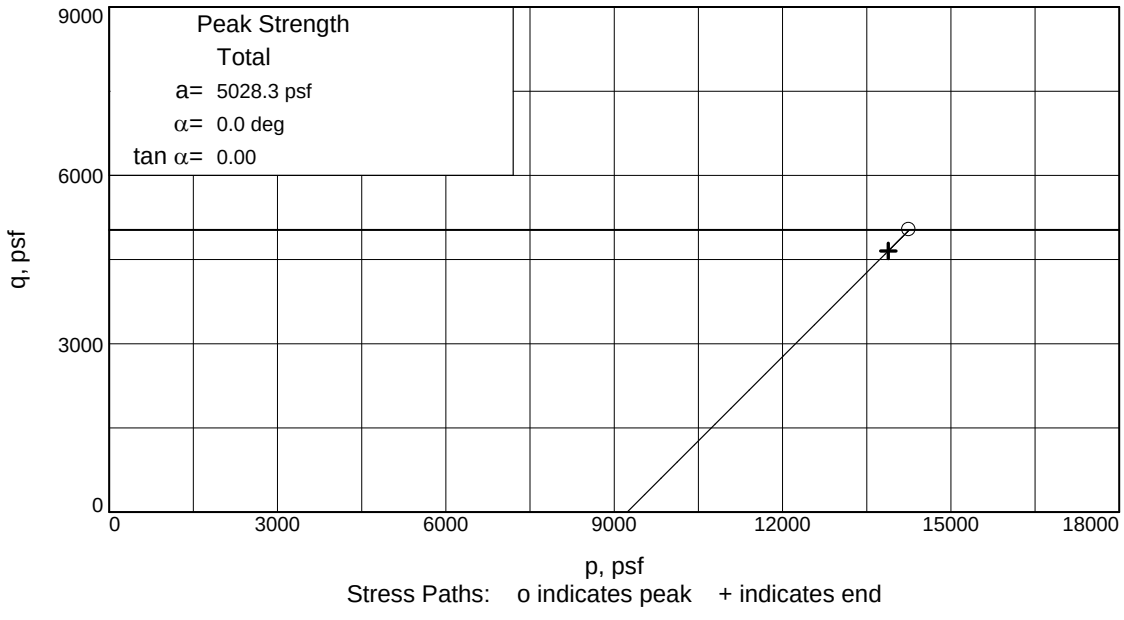






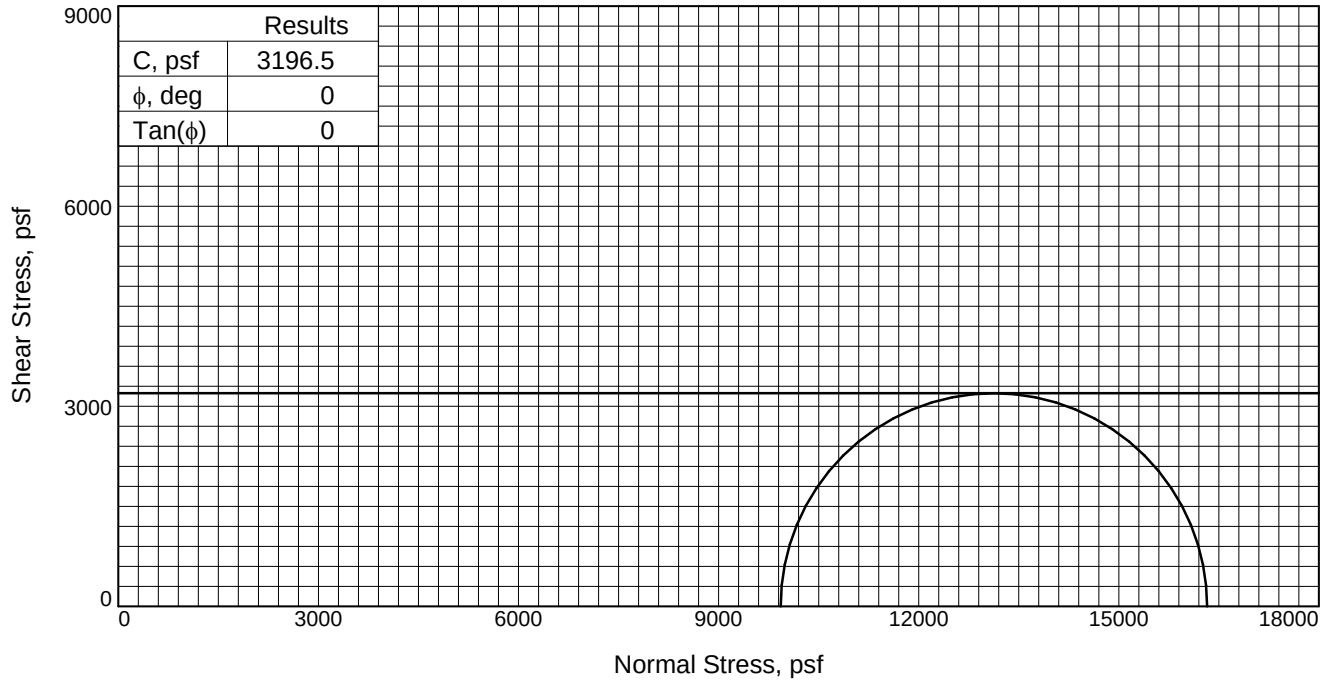


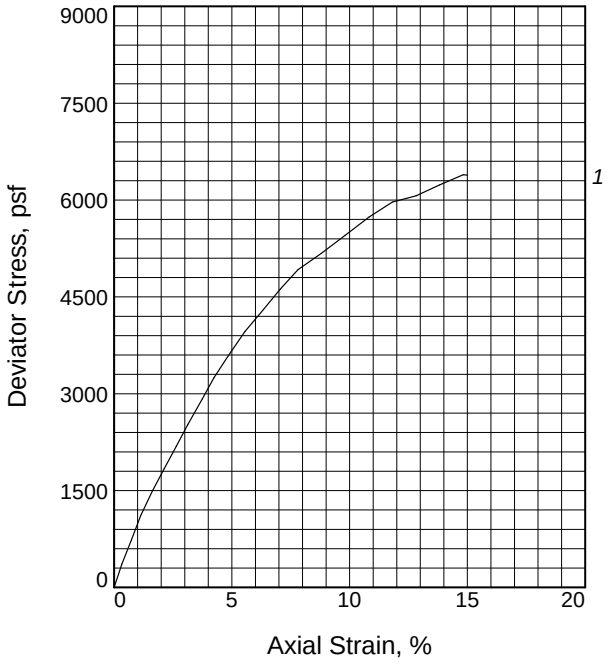




**Client:** ALDOT
**Project:** Mobile River Bridge
**Source of Sample:** WHLA **Depth:** 193.0'-195.0' **Sample Number:** WHLA-3 T-9
**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**




| | | |
|---|---|---|
| Specimen No. | | 1 |
| Initial | Water Content, % | 14.8 |
| | Dry Density, pcf | 121.2 |
| | Saturation, % | 106.5 |
| | Void Ratio | 0.3697 |
| | Diameter, in. | 2.812 |
| | Height, in. | 5.076 |
| At Test | Water Content, % | 13.8 |
| | Dry Density, pcf | 121.2 |
| | Saturation, % | 99.4 |
| | Void Ratio | 0.3697 |
| | Diameter, in. | 2.812 |
| | Height, in. | 5.076 |
| Strain at peak, % | | 14.8 |
| Back Pressure, psf | | 0.0 |
| Cell Pressure, psf | | 9930.2 |
| Fail. Stress, psf | | 6392.9 |
| Strain, % | | 14.8 |
| Ult. Stress, psf | | 6392.9 |
| Strain, % | | 14.8 |
| $\sigma_1$ Failure, psf | | 16323.1 |
| $\sigma_3$ Failure, psf | | 9930.2 |

**Type of Test:**
Unconsolidated Undrained

**Sample Type:** 3-in. Shelby Tube

**Description:** SANDY LEAN CLAY(CL A-6(8))

**Specific Gravity=** 2.66

**Remarks:** Compression Failure Mode: Symmetrical Bulge

**Figure** _____

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 208.5'-210.5'

**Sample Number:** WHLA-3 T-11

**Proj. No.:** 1511010228 **Date Sampled:**

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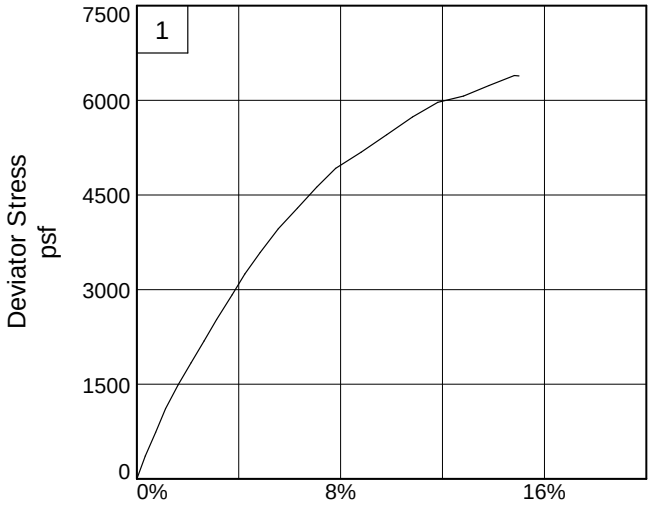
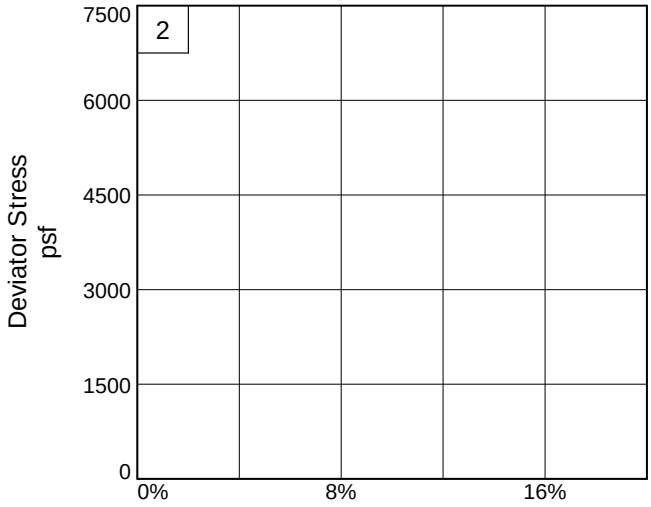
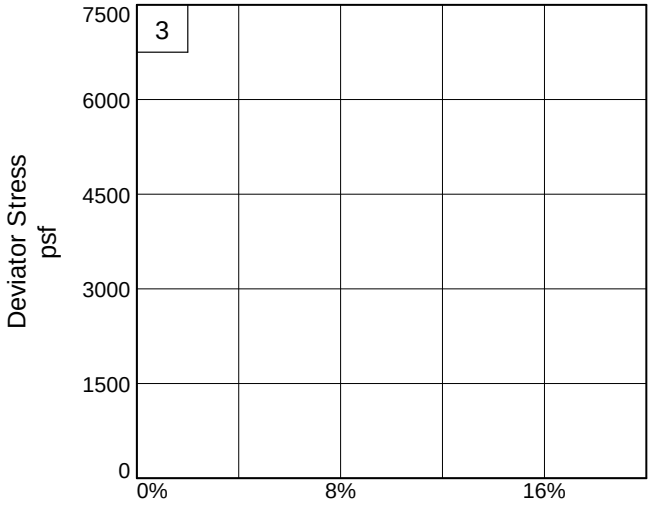
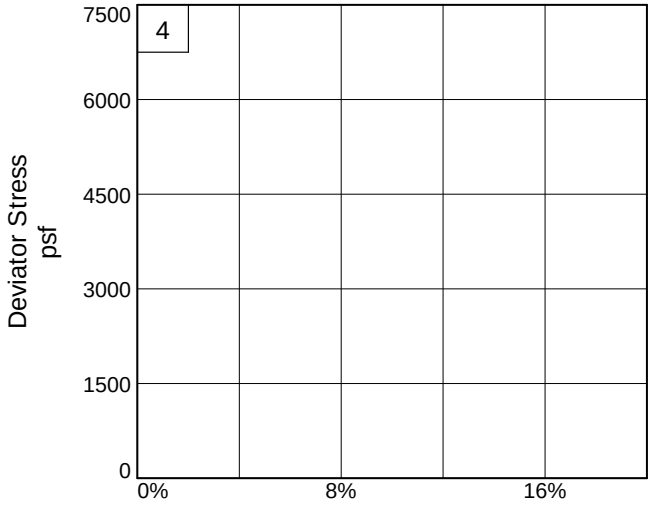
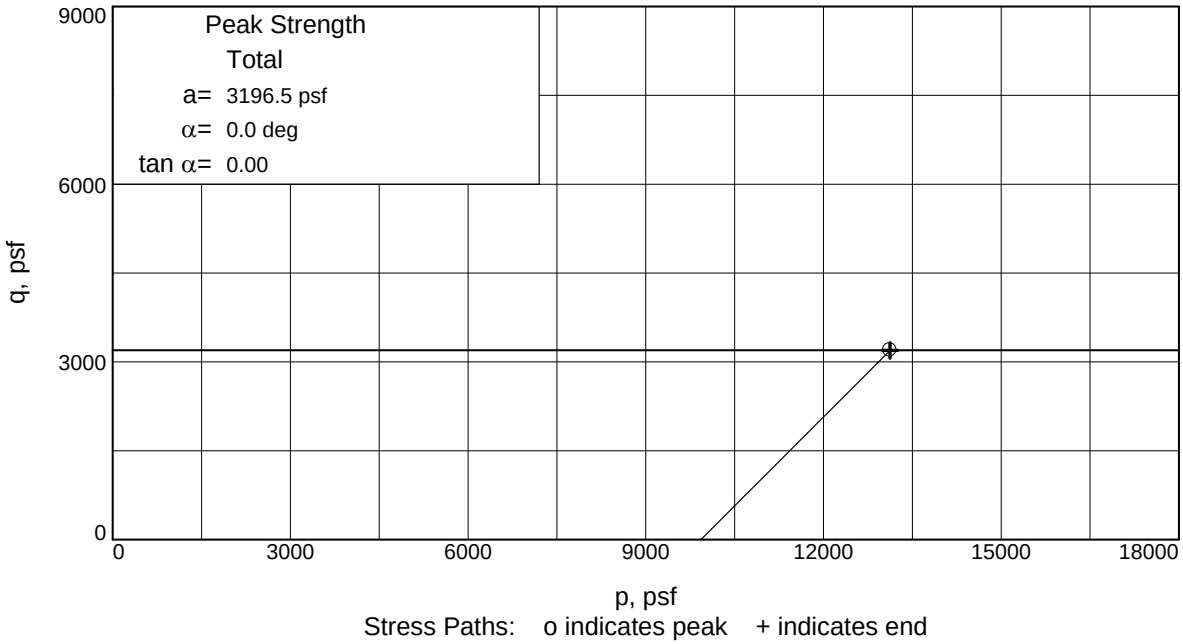
Thompson Engineering
Mobile, Alabama




Stress Paths: o indicates peak + indicates end

**Client:** ALDOT

**Project:** Mobile River Bridge

**Source of Sample:** WHLA **Depth:** 208.5'-210.5' **Sample Number:** WHLA-3 T-11

**Project No.:** 1511010228 **Figure** _____

**Thompson Engineering**

## Thompson Engineering

### Direct Shear Test (ASTM D3080)

Date

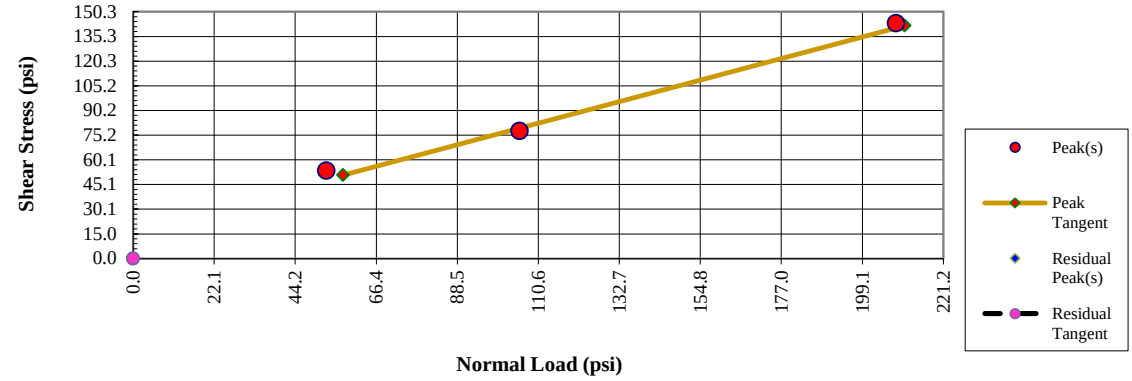
Checked By

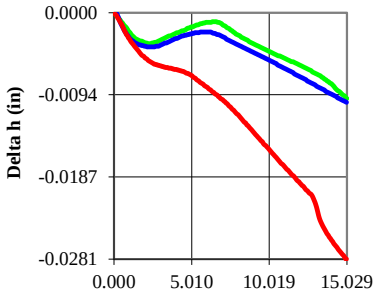
Date

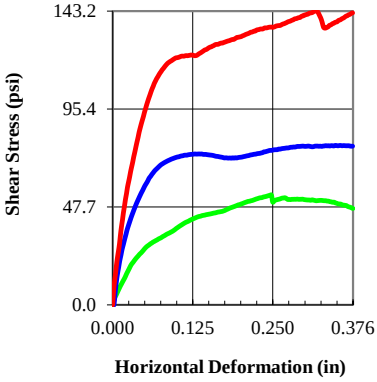
Date

Tested By

**Peak: Phi = 30.7  C = 16.9**




| Initial | Specimen A | B | C | D |
|---|---|---|---|---|
| Moisture (%) | 25.75 | 27.09 | 27.09 | |
| Density (pcf) | 94.08 | 94.76 | 95.09 | |
| Void Ratio | 0.725 | 0.713 | 0.707 | |
| Saturation (%) | 92.32 | 98.80 | 99.63 | |
| Diameter (in) | 2.500 | 2.500 | 2.500 | |
| Height (in) | 1.000 | 1.000 | 1.000 | |
| | | | | |

| Final | A | B | C | D |
|---|---|---|---|---|
| Moisture (%) | 31.09 | 30.53 | 29.72 | |
| Density (pcf) | 94.59 | 96.41 | 97.51 | |
| Void Ratio | 0.716 | 0.684 | 0.664 | |
| Saturation (%) | 100.00 | 100.00 | 100.00 | |
| Diameter (in) | 2.500 | 2.500 | 2.500 | |
| Height (in) | 0.965 | 0.954 | 0.947 | |
| Normal Stress (psi) | 52.8 | 105.6 | 208.3 | |
| Peak Stress (psi) | 53.5 | 77.7 | 143.2 | |
| Residual Stress (psi) | | | | |
| Strain (%) | 15.029 | 15.006 | 15.006 | |
| Rate (in/min) | 0.00857 | 0.00848 | 0.00716 | |
| | | | | |

| Project Date | |
|---|---|
| Date | 8/24/17 |

| | |
|---|---|
| **Project:** | Mobile River Bridge |
| **Location:** | Soils Lab |
| **Project Number:** | 8013 |
| **Boring Number** | MB-02A |
| **Sample Number:** | T-6 |
| **Depth:** | 158.0-160.0 ft. |
| **Sample Type:** | Undisturbed |
| **Description:** | POORLY GRADED SAND with SILT (SP-SM A-3(0)) |
| **Test Type:** | Direct Shear |
| **Remarks:** | |

Failure Photographs

**Thompson Engineering**

**Direct Shear Test (ASTM D3080)**

Date

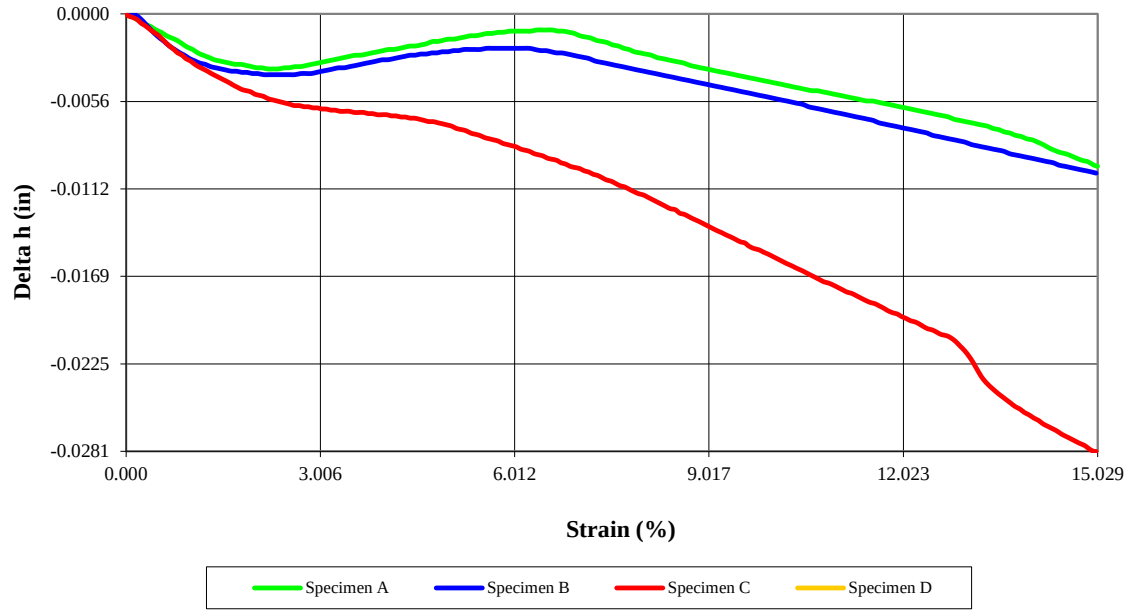
Checked By

Date

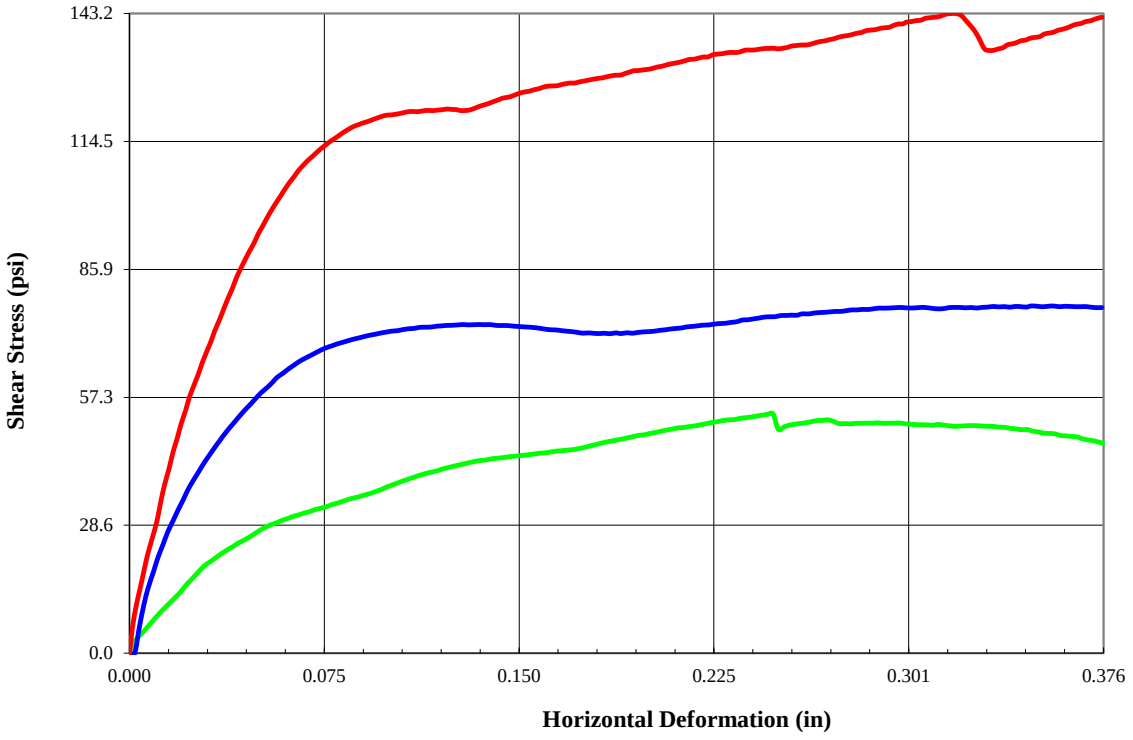
Date

Tested By

## Delta h




## Stress-Deformation



**Thompson Engineering**

**Direct Shear Test**

Date

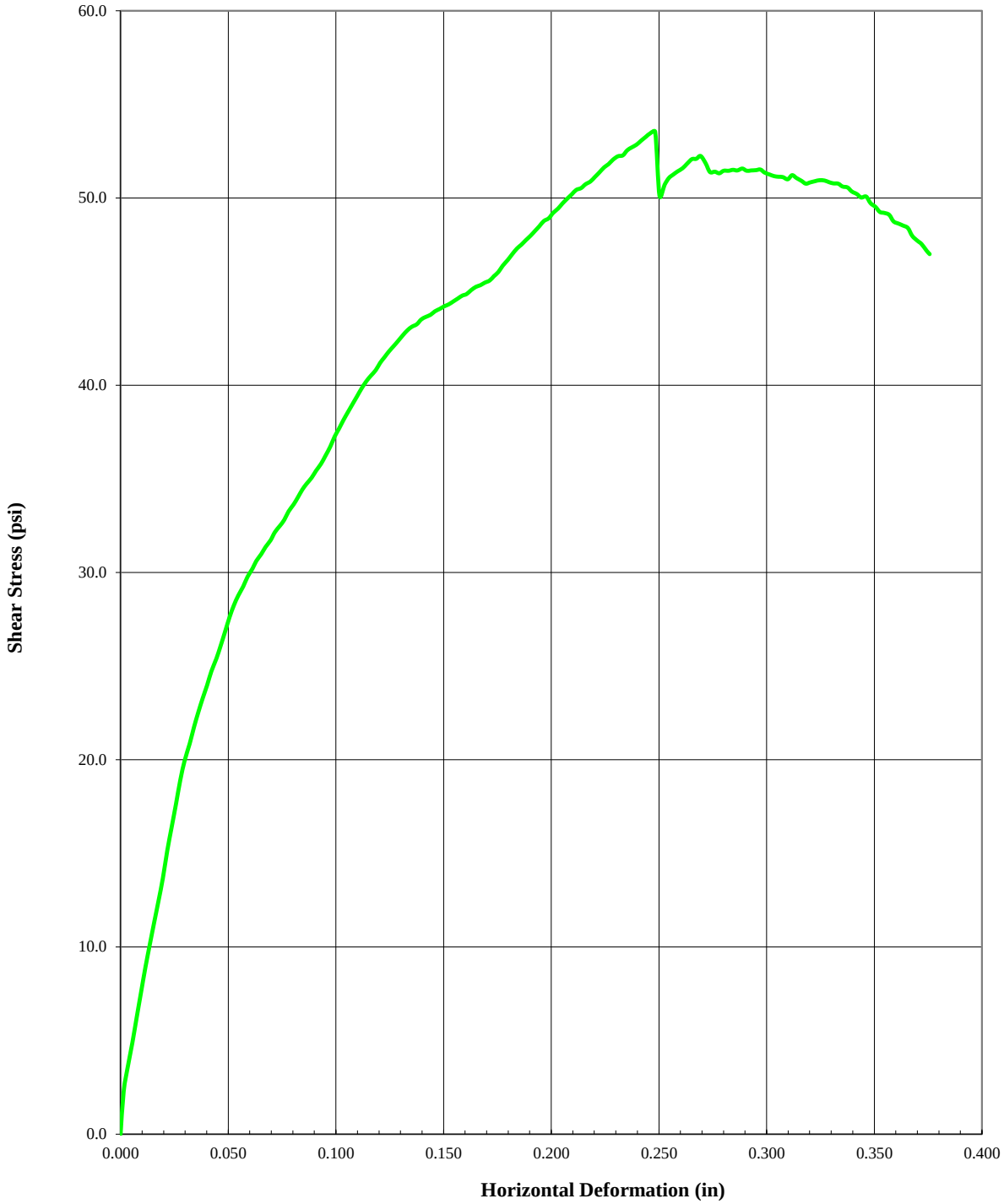
Checked By

Date

Date

Tested By

## Specimen A Stress-Deformation



**Thompson Engineering**

**Direct Shear Test**

Date

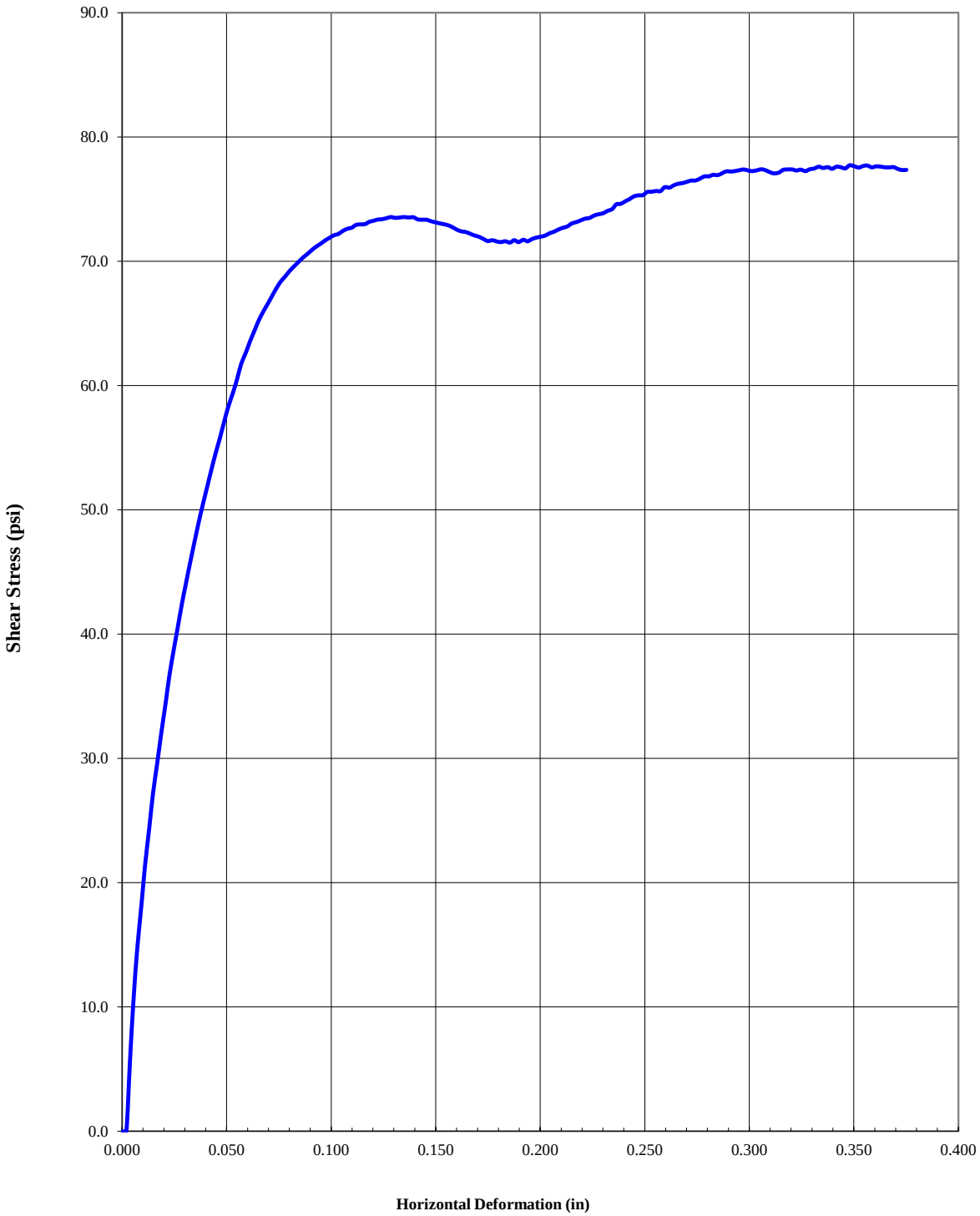
Checked By

Date

Date

Tested By

## Specimen B Stress-Deformation



**Thompson Engineering**

**Direct Shear Test**

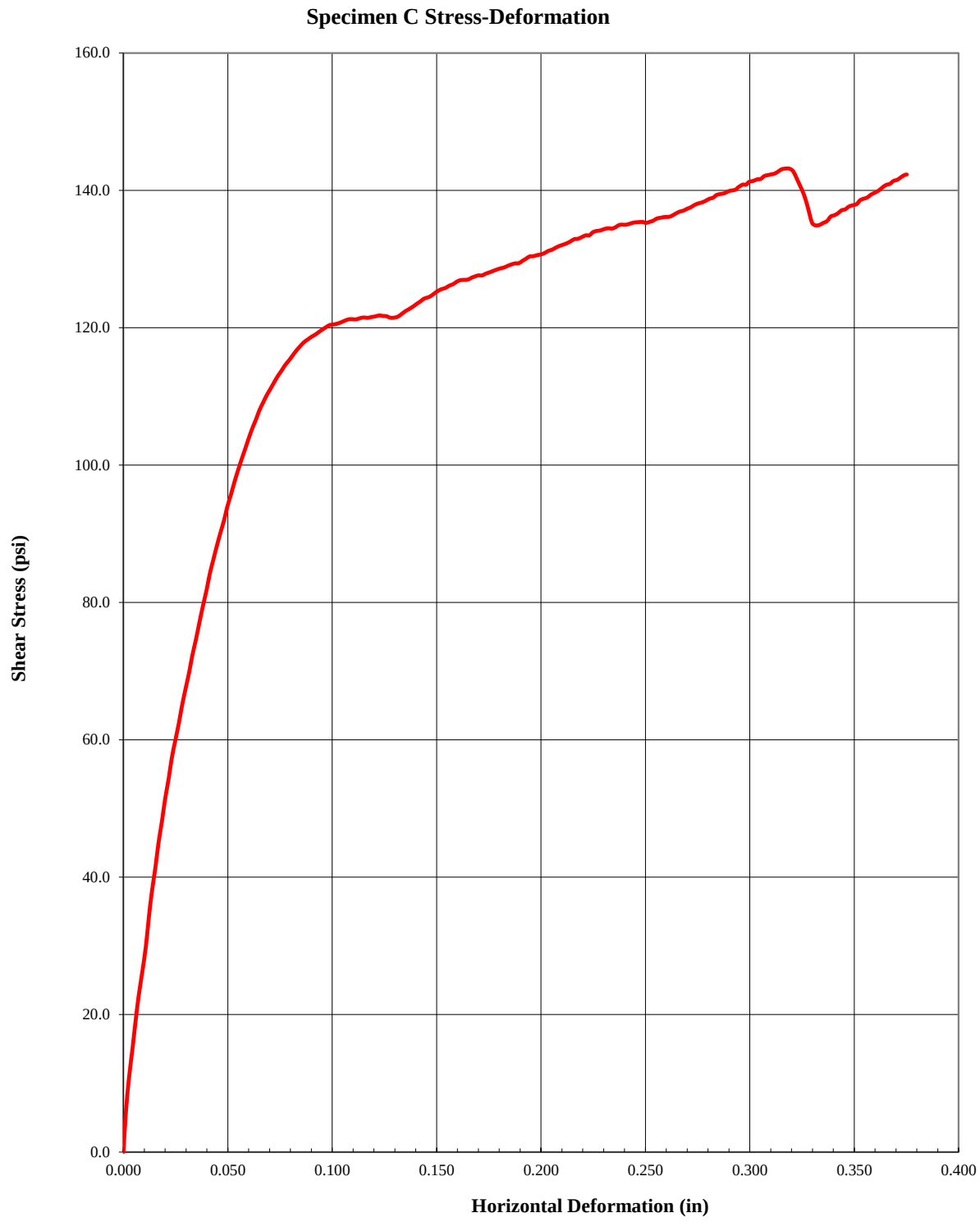
Date

Checked By

Date

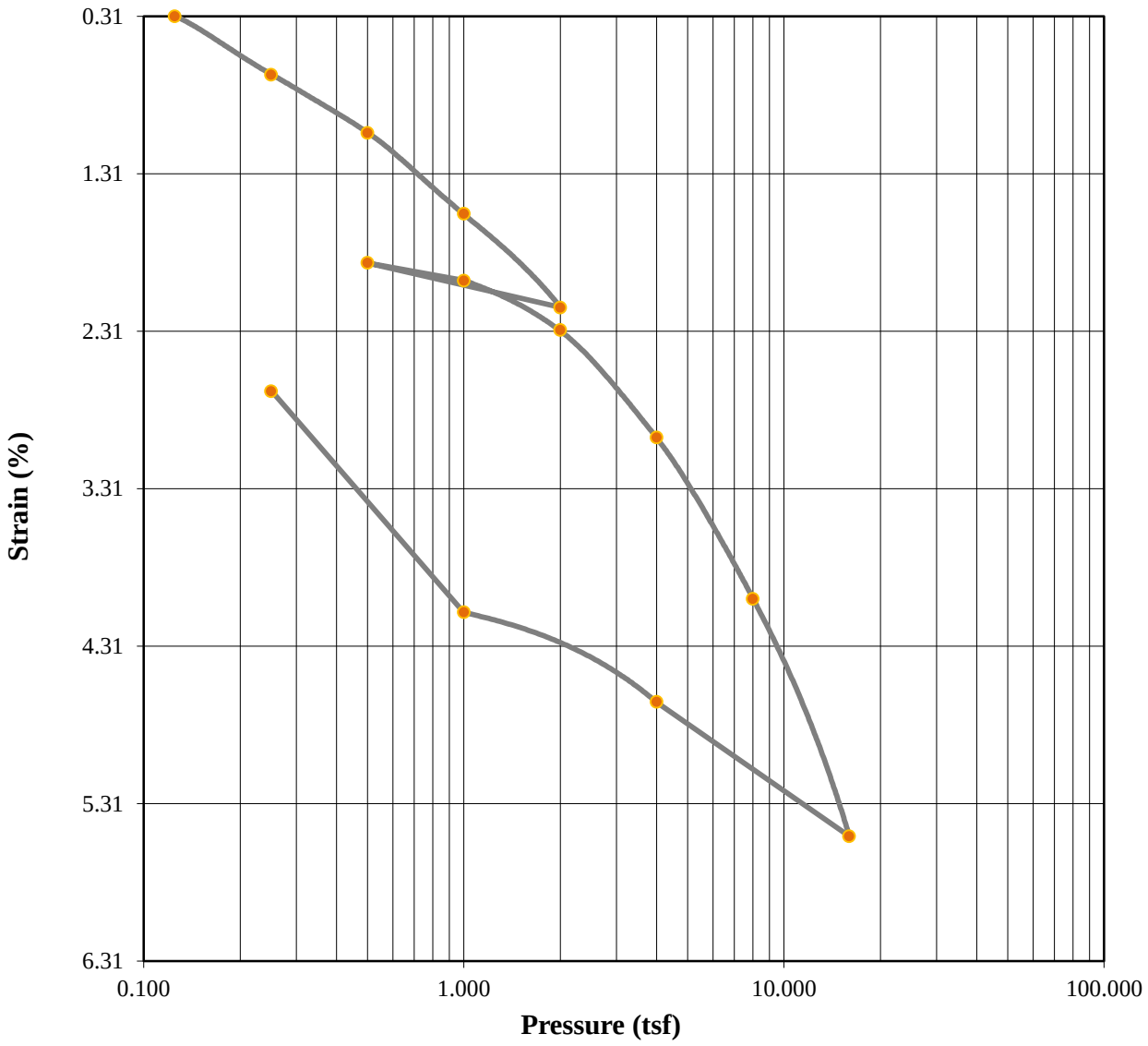
Date

Tested By




DS 17-1101-0067 MRB-MD024 T-6.HSD

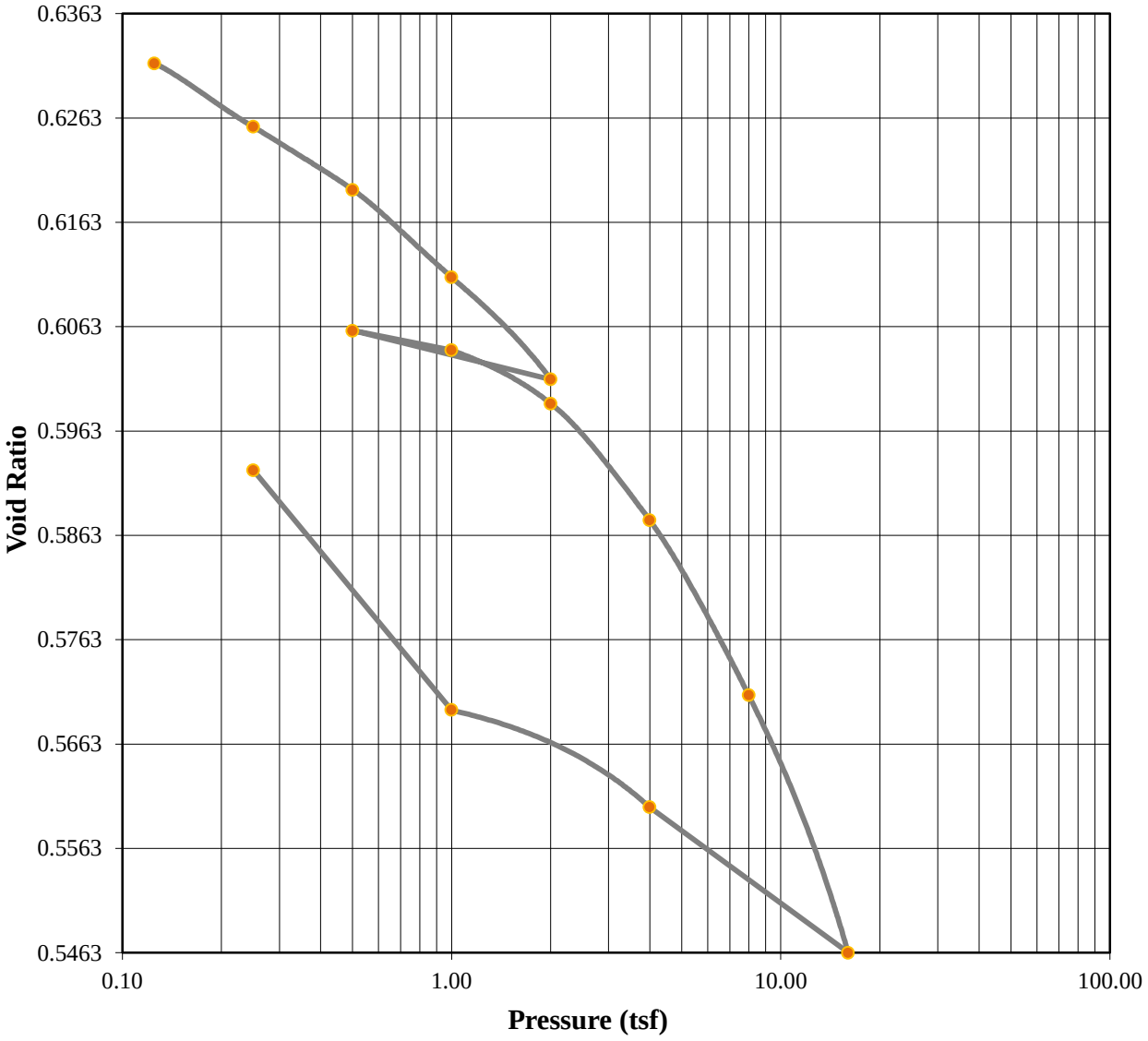
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 25.69 | 25.99 | **Liquid Limits:** | 0 | **Test Date:** | 11/1/17 |
| **Dry Density (pcf):** | 95.30 | 97.05 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 100.54 | 106.63 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6352 | 0.5911 | **Specific Gravity:** | 2.503 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | SILTY SAND(SM A-2-4(0)) | | | |
| **Project Number:** | 8068 | **Depth:** | 18.0-20.0 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | HLA-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 0 | **Test Date:** | 11/1/17 |
| **Moisture (%):** | 25.69 | 25.99 | **Plastic Limits:** | 0 | | |
| **Dry Density (pcf):** | 95.30 | 97.05 | **Plasticity Index (%):** | 0 | | |
| **Saturation (%):** | 100.54 | 106.63 | | | | |
| **Void Ratio:** | 0.6352 | 0.5911 | **Specific Gravity:** | 2.503 | Measured | |

**Soil Description:** SILTY SAND(SM A-2-4(0))

**Project Number:** 8068 **Depth:** 18.0-20.0 ft. **Remarks:**

**Sample Number:** T-1 **Boring Number:** HLA-13

**Project:** Mobile River Bridge

**Client:** ALDOT

**Location:** Soils Lab

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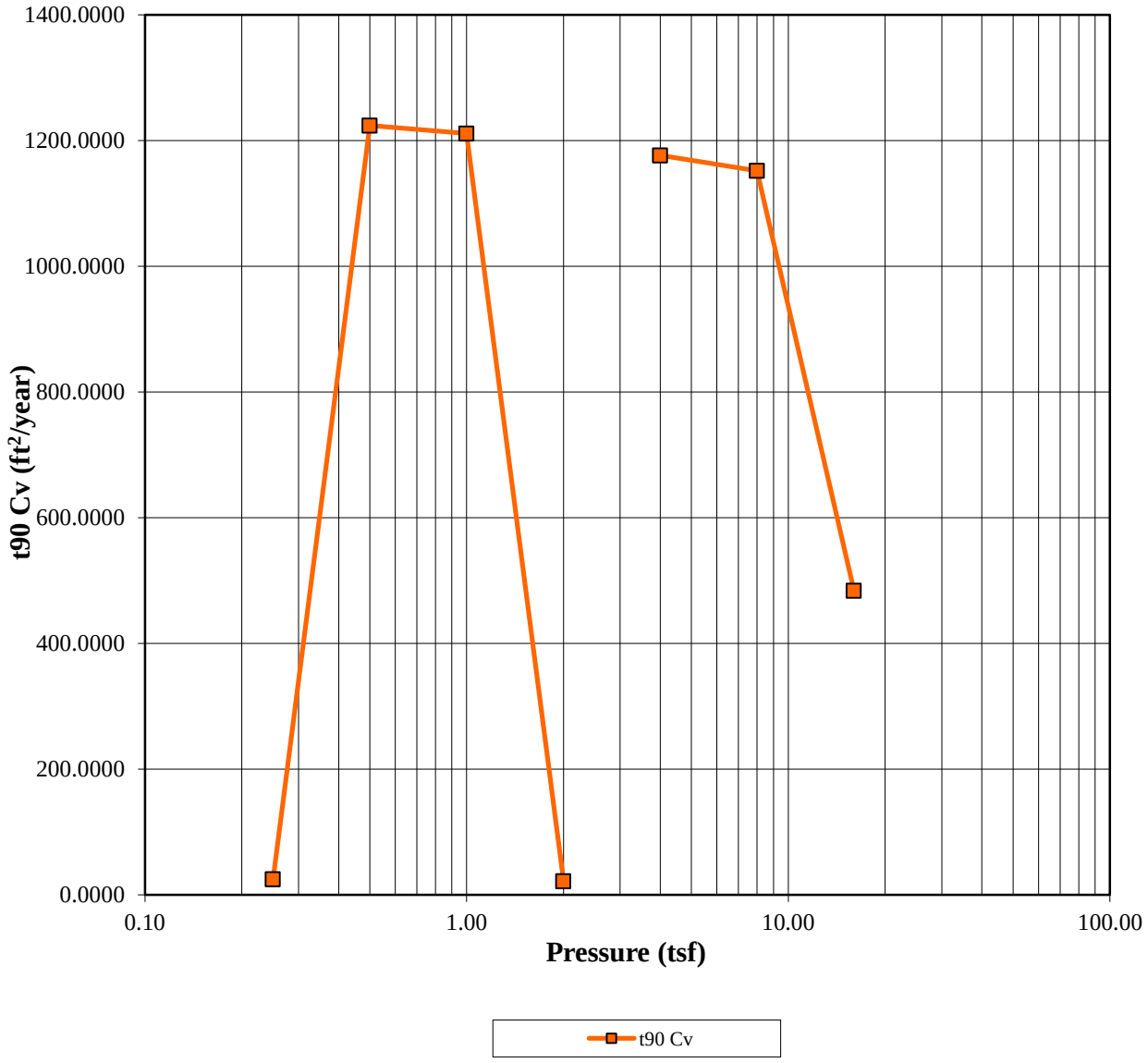
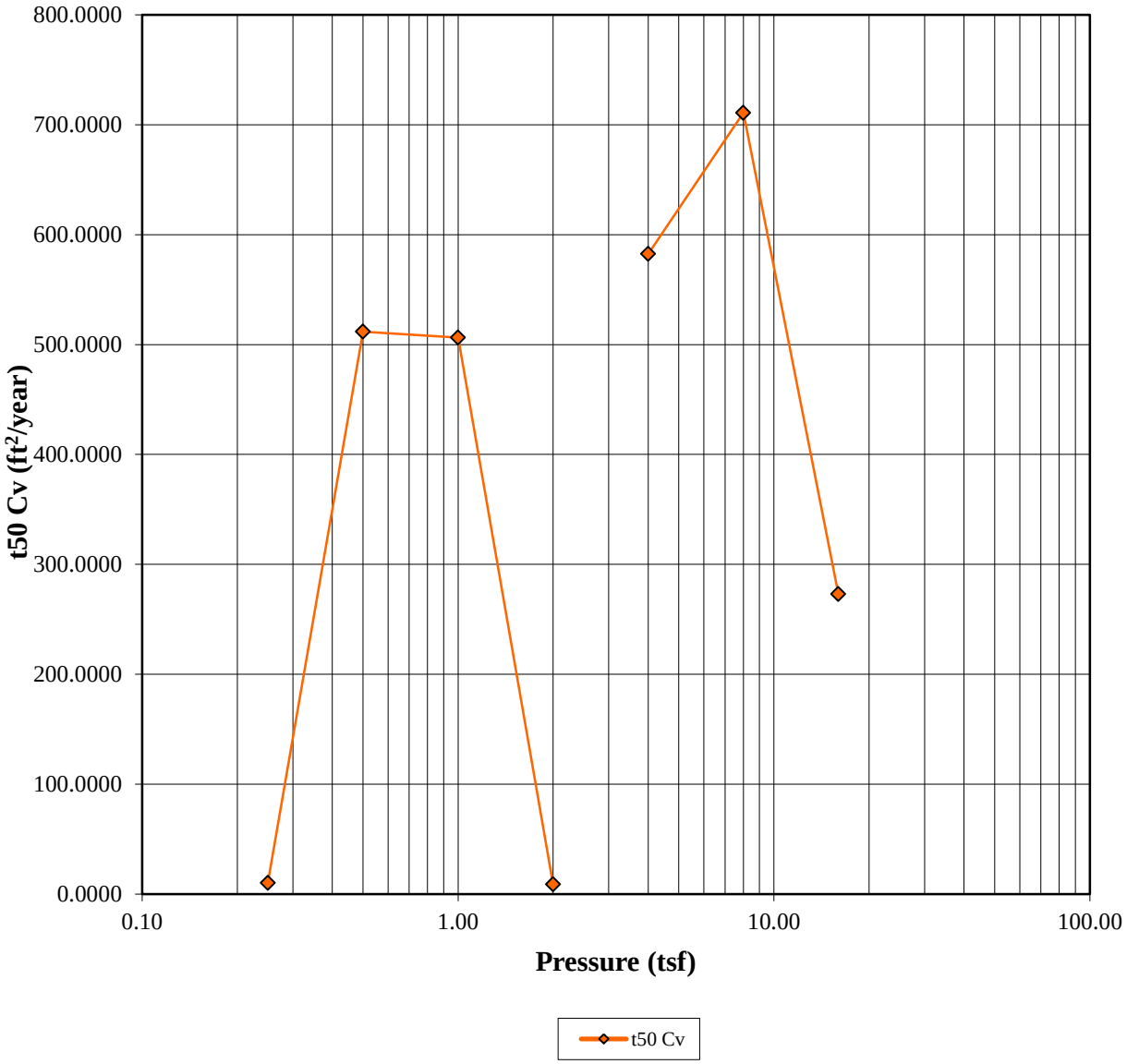
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 25.69 | 25.99 | **Liquid Limits:** | 0 | **Test Date:** | 11/1/17 |
| **Dry Density (pcf):** | 95.30 | 97.05 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 100.54 | 106.63 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6352 | 0.5911 | **Specific Gravity:** | 2.503 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY SAND(SM A-2-4(0)) | | | |
| **Project Number:** | 8068 | **Depth:** | 18.0-20.0 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | HLA-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

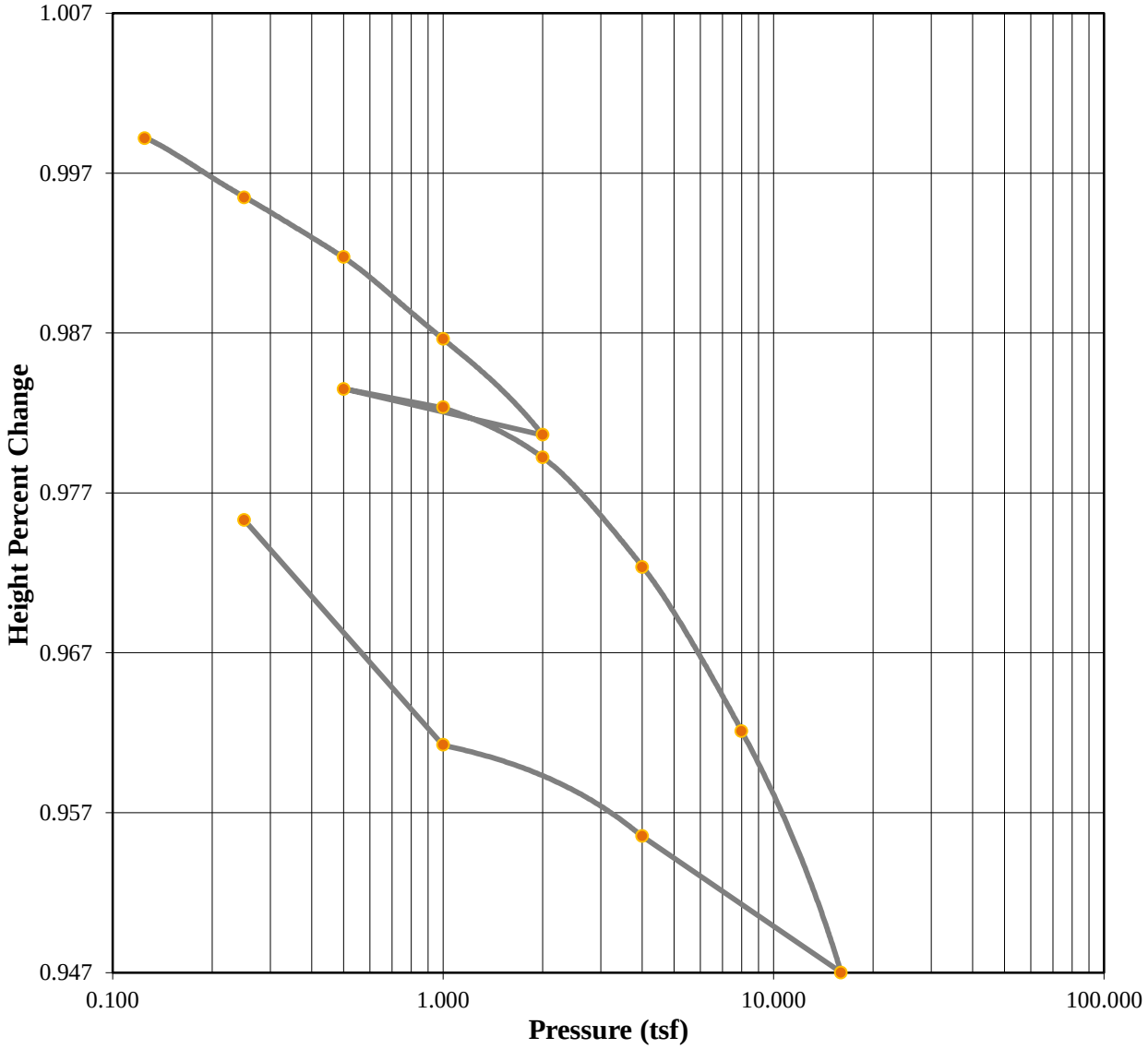
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 25.69 | 25.99 | **Liquid Limits:** | 0 | **Test Date:** | 11/1/17 |
| **Dry Density (pcf):** | 95.30 | 97.05 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 100.54 | 106.63 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6352 | 0.5911 | **Specific Gravity:** | 2.503 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY SAND(SM A-2-4(0)) | | | |
| **Project Number:** | 8068 | **Depth:** | 18.0-20.0 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | HLA-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 25.69 | 25.99 | **Liquid Limits:** | 0 | **Test Date:** | 11/1/17 |
| **Dry Density (pcf):** | 95.30 | 97.05 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 100.54 | 106.63 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6352 | 0.5911 | **Specific Gravity:** | 2.503 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY SAND(SM A-2-4(0)) | | | |
| **Project Number:** | 8068 | **Depth:** | 18.0-20.0 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | HLA-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 17-1101-0145

**Project Number:** 8068

**Sample Number:** T-1
**Boring Number:** HLA-13
**Depth:** 18.0-20.0 ft.
**Sample Type:** Undisturbed

**Sample Description:** SILTY SAND(SM A-2-4(0))
**Remarks:**

**Test Number:**
**Test Date:** 11/1/17

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 1.0020 | 0.3898 | 0.00 | 0.6366 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0031 | 0.9989 | 0.3866 | 0.31 | 0.6315 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0068 | 0.9952 | 0.3829 | 0.68 | 0.6254 | 30.656 | * 17.0312 | 24.997 | 10.453 |
| 3 | 0.500 | 0.0106 | 0.9914 | 0.3792 | 1.05 | 0.6194 | 0.622 | * 0.3453 | 1223.750 | 511.733 |
| 4 | 1.000 | 0.0157 | 0.9863 | 0.3741 | 1.57 | 0.6110 | 0.622 | * 0.3453 | 1211.113 | 506.449 |
| 5 | 2.000 | 0.0217 | 0.9803 | 0.3681 | 2.16 | 0.6012 | 34.273 | * 19.0405 | 21.698 | 9.073 |
| 6 | 0.500 | 0.0188 | 0.9832 | 0.3709 | 1.88 | 0.6059 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | 1.000 | 0.0200 | 0.9820 | 0.3698 | 1.99 | 0.6040 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8 | 2.000 | 0.0231 | 0.9789 | 0.3667 | 2.31 | 0.5989 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | 4.000 | 0.0299 | 0.9721 | 0.3598 | 2.99 | 0.5877 | 0.622 | 0.292 | 1176.351 | 582.508 |
| 10 | 8.000 | 0.0402 | 0.9618 | 0.3496 | 4.01 | 0.5709 | 0.622 | 0.234 | 1151.634 | 710.927 |
| 11 | 16.000 | 0.0553 | 0.9467 | 0.3344 | 5.52 | 0.5463 | 1.433 | 0.590 | 483.990 | 273.161 |
| 12 | 4.000 | 0.0468 | 0.9552 | 0.3430 | 4.67 | 0.5602 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13 | 1.000 | 0.0411 | 0.9609 | 0.3487 | 4.10 | 0.5695 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14 | 0.250 | 0.0270 | 0.9750 | 0.3628 | 2.69 | 0.5925 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 8068
**Location:** Soils Lab
**Job Number:** 17-1101-0145 **Test Date:** 11/1/17

**Sample Number:** T-1 **Sample Description:**
**Boring Number:** HLA-13 SILTY SAND(SM A-2-4(0))
**Depth:** 18.0-20.0 ft. **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 0.0000 **Initial Void Ratio:** 0.6352 **Initial Height (in):** 1.0020
**Plastic Limit:** 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5030
**Specific Gravity:** 2.5030 Measured **Weight of Ring (g):** 111.0700

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 123.25 | 282.54 |
| Dry Soil + Container (g) | 103.25 | 251.00 |
| Weight of Container (g) | 25.40 | 129.63 |
| Moisture Content (%) | 25.69 | 25.99 |
| Void Ratio | 0.6352 | 0.5911 |
| Saturation (%) | 100.54 | 106.63 |
| Dry Density (pcf) | 95.30 | 97.05 |

**Tested By:** B. Hak **Checked By:** C. Dugger

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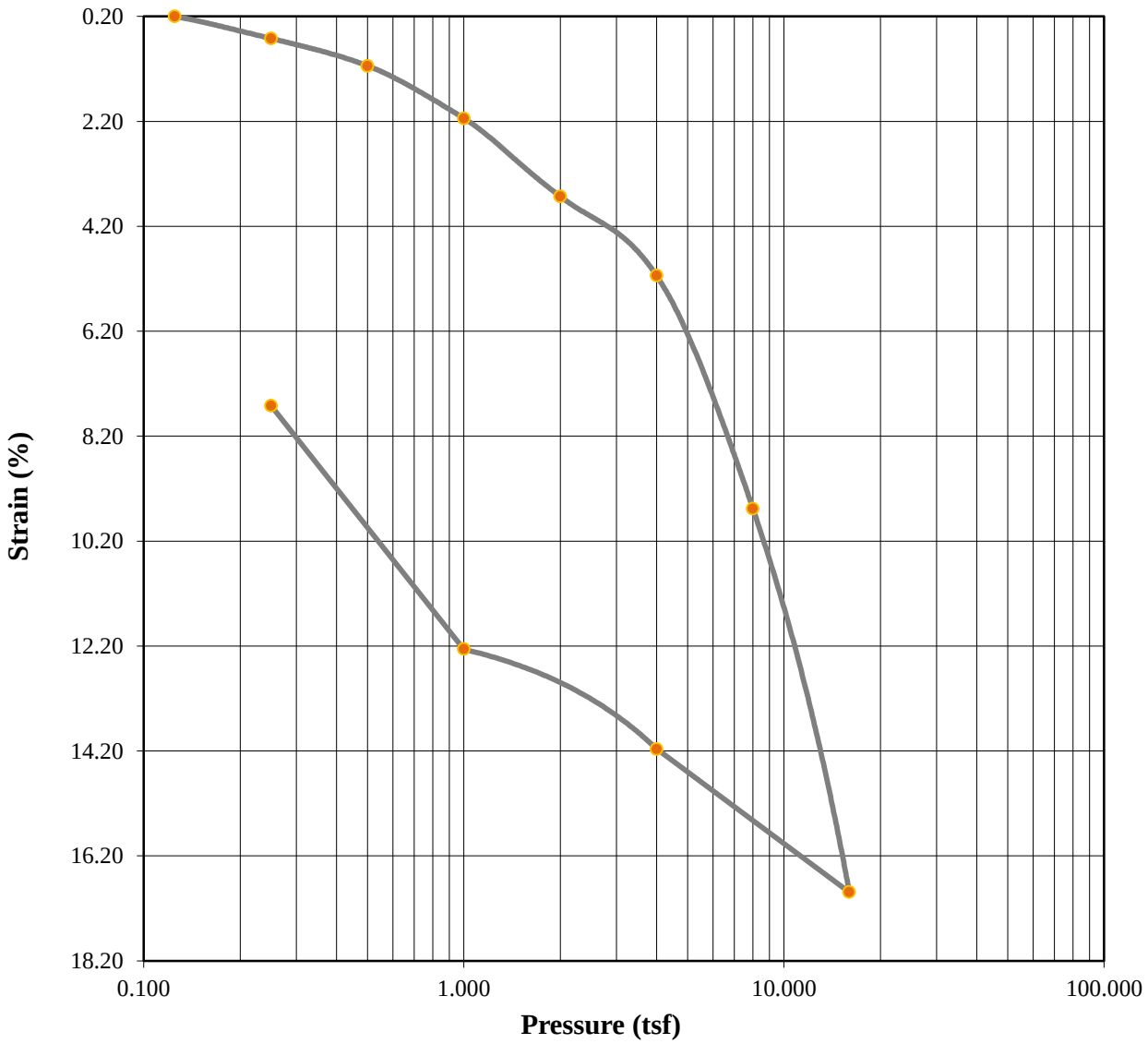
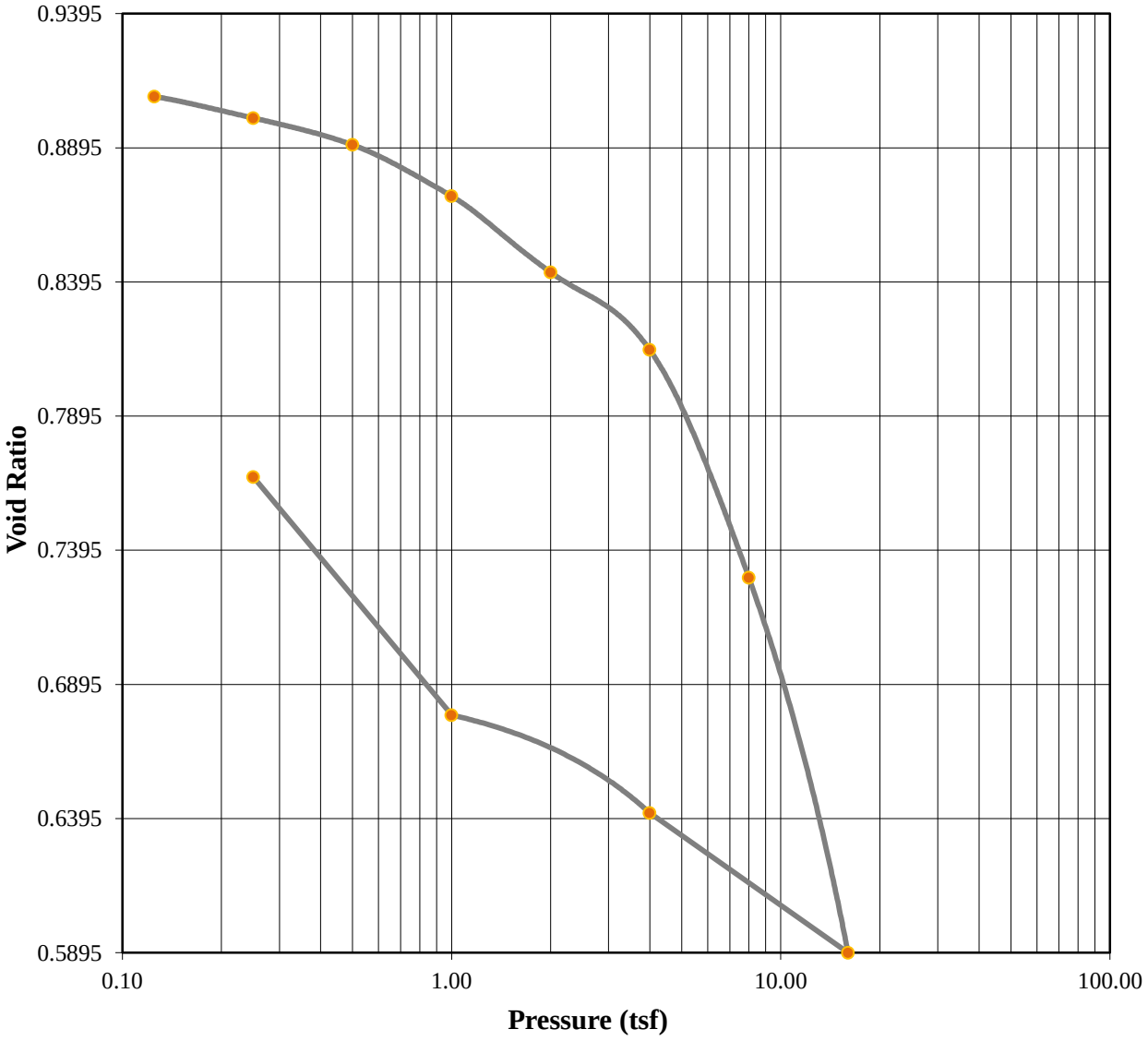
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 34.65 | 33.88 | **Liquid Limits:** | 52 | **Test Date:** | 5/14/16 |
| **Dry Density (pcf):** | 83.97 | 88.16 | **Plastic Limits:** | 22 | | |
| **Saturation (%):** | 97.50 | 105.85 | **Plasticity Index (%):** | 30 | | |
| **Void Ratio:** | 0.9166 | 0.7707 | **Specific Gravity:** | 2.577 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | FAT CLAY with SAND (CH A-7-6(23)) | | | |
| **Project Number:** | 7716 | **Depth:** | 90.5-92.5 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 34.65 | 33.88 | **Liquid Limits:** | 52 | **Test Date:** | 5/14/16 |
| **Dry Density (pcf):** | 83.97 | 88.16 | **Plastic Limits:** | 22 | | |
| **Saturation (%):** | 97.50 | 105.85 | **Plasticity Index (%):** | 30 | | |
| **Void Ratio:** | 0.9166 | 0.7707 | **Specific Gravity:** | 2.577 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY with SAND (CH A-7-6(23)) | | | |
| **Project Number:** | 7716 | **Depth:** | 90.5-92.5 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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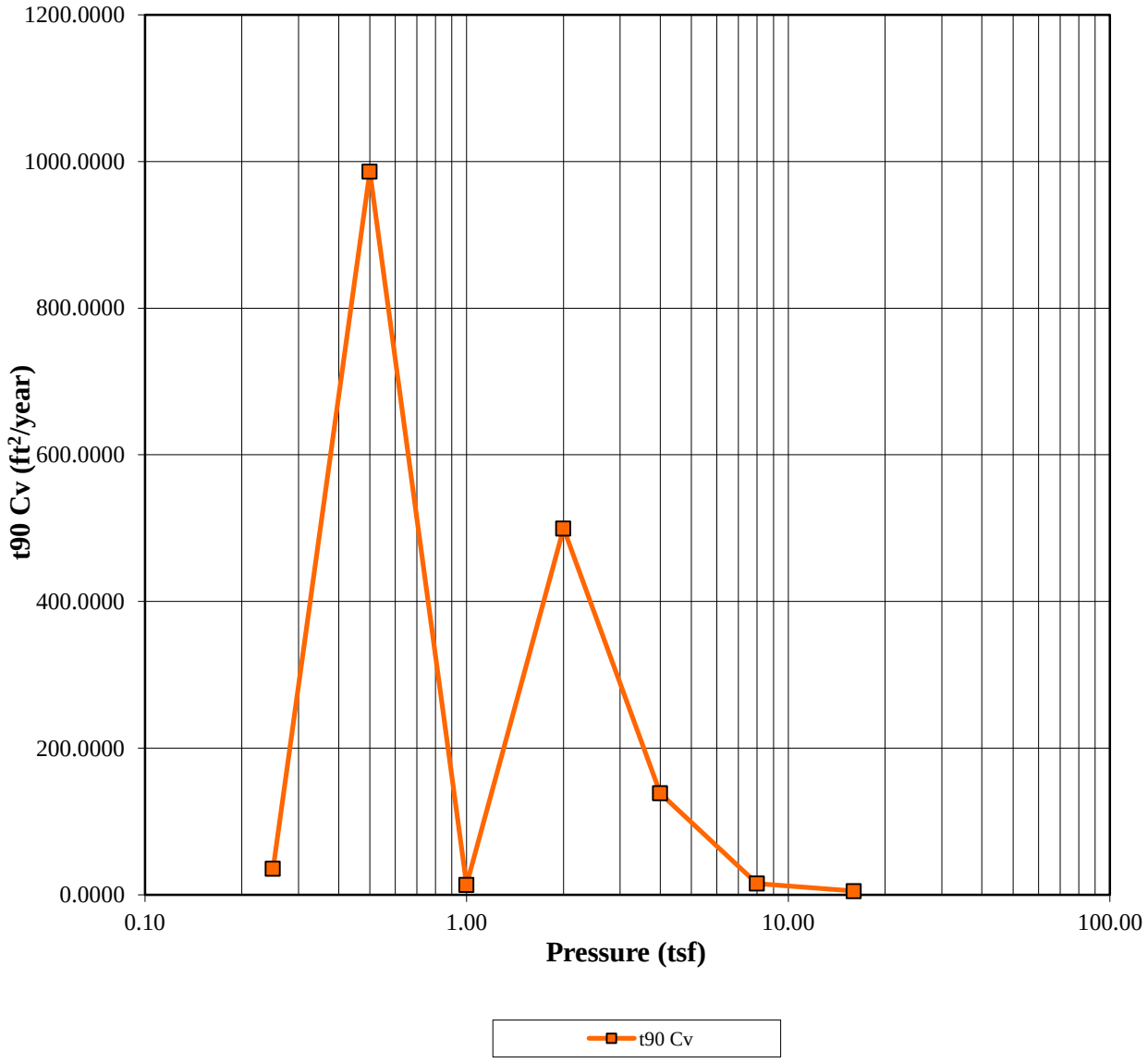
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 34.65 | 33.88 | **Liquid Limits:** | 52 | **Test Date:** | 5/14/16 |
| **Dry Density (pcf):** | 83.97 | 88.16 | **Plastic Limits:** | 22 | | |
| **Saturation (%):** | 97.50 | 105.85 | **Plasticity Index (%):** | 30 | | |
| **Void Ratio:** | 0.9166 | 0.7707 | **Specific Gravity:** | 2.577 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY with SAND (CH A-7-6(23)) | | | |
| **Project Number:** | 7716 | **Depth:** | 90.5-92.5 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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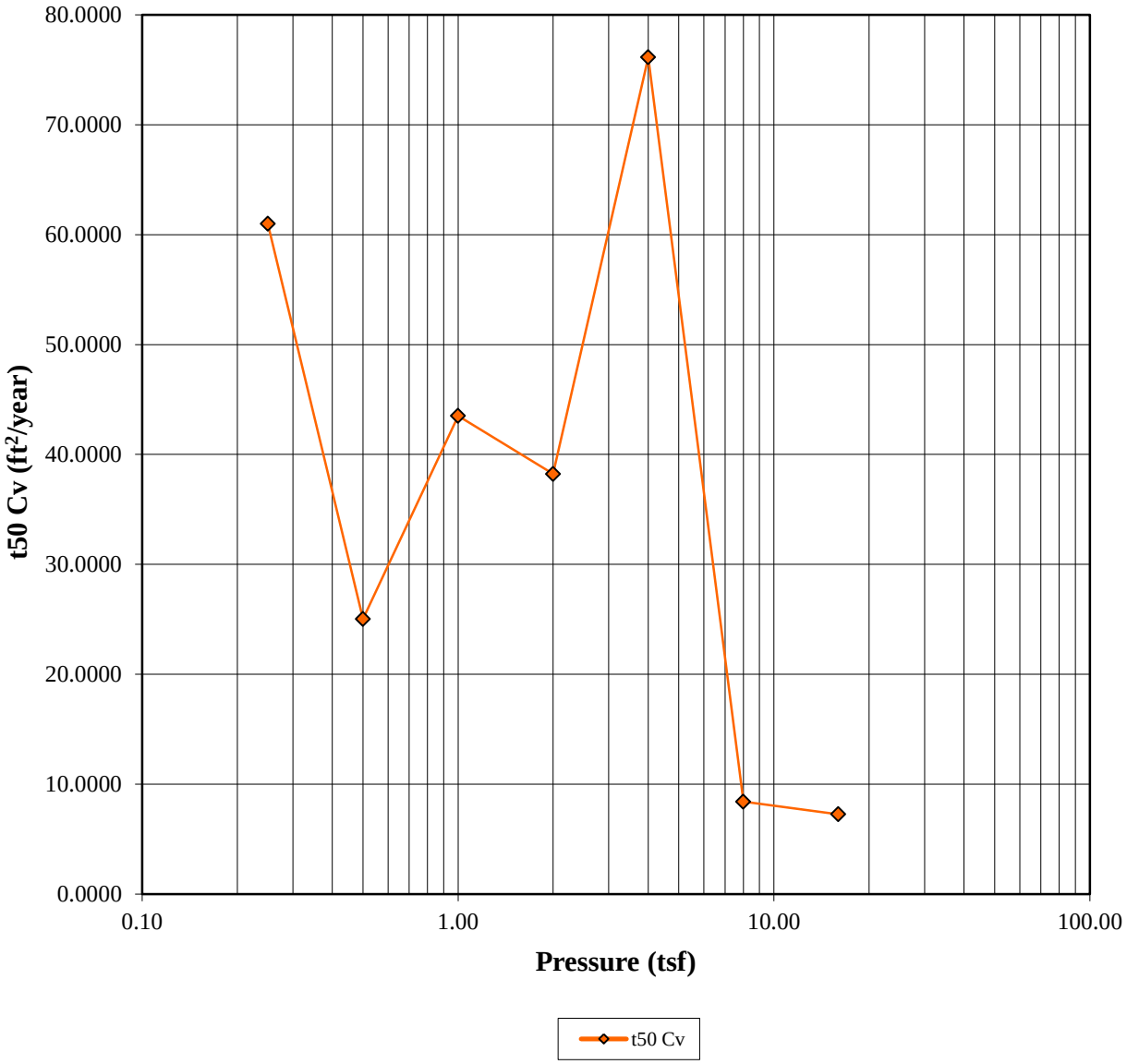
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 34.65 | 33.88 | **Liquid Limits:** | 52 | **Test Date:** | 5/14/16 |
| **Dry Density (pcf):** | 83.97 | 88.16 | **Plastic Limits:** | 22 | | |
| **Saturation (%):** | 97.50 | 105.85 | **Plasticity Index (%):** | 30 | | |
| **Void Ratio:** | 0.9166 | 0.7707 | **Specific Gravity:** | 2.577 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY with SAND (CH A-7-6(23)) | | | |
| **Project Number:** | 7716 | **Depth:** 90.5-92.5 ft. | **Remarks:** | |
| **Sample Number:** | T-1 | **Boring Number:** MB-1 | | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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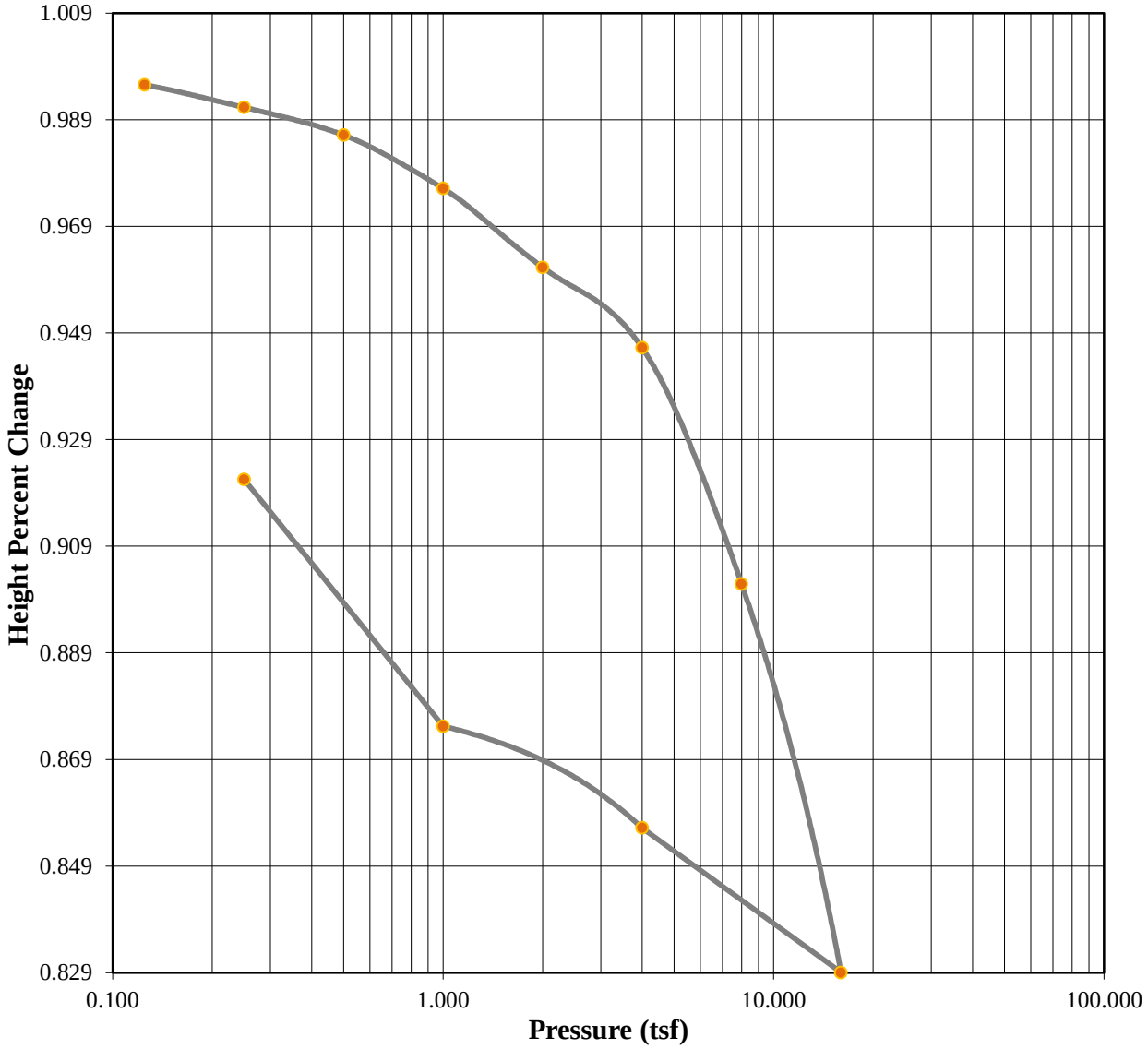
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 52 | **Test Date:** | 5/14/16 |
| **Moisture (%):** | 34.65 | 33.88 | **Plastic Limits:** | 22 | | |
| **Dry Density (pcf):** | 83.97 | 88.16 | **Plasticity Index (%):** | 30 | | |
| **Saturation (%):** | 97.50 | 105.85 | | | | |
| **Void Ratio:** | 0.9166 | 0.7707 | **Specific Gravity:** | 2.577 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY with SAND (CH A-7-6(23)) | | | |
| **Project Number:** | 7716 | **Depth:** | 90.5-92.5 ft. | **Remarks:** |
| **Sample Number:** | T-1 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 16-1101-0110

**Project Number:** 7716

**Sample Number:** T-1
**Boring Number:** MB-1
**Depth:** 90.5-92.5 ft.
**Sample Type:** Undisturbed

**Sample Description:** FAT CLAY with SAND (CH A-7-6(23))
**Remarks:**

**Test Number:**
**Test Date:** 5/14/16

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9980 | 0.4762 | 0.00 | 0.9124 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0020 | 0.9960 | 0.4742 | 0.20 | 0.9086 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0062 | 0.9918 | 0.4700 | 0.62 | 0.9006 | 21.386 | 2.900 | 35.594 | 60.981 |
| 3 | 0.500 | 0.0114 | 0.9866 | 0.4648 | 1.14 | 0.8906 | 0.764 | 6.987 | 986.125 | 25.043 |
| 4 | 1.000 | 0.0214 | 0.9766 | 0.4548 | 2.14 | 0.8715 | 53.823 | 3.941 | 13.713 | 43.512 |
| 5 | 2.000 | 0.0362 | 0.9618 | 0.4400 | 3.63 | 0.8431 | 1.433 | 4.350 | 499.639 | 38.231 |
| 6 | 4.000 | 0.0513 | 0.9467 | 0.4249 | 5.14 | 0.8142 | 5.006 | 2.117 | 138.564 | 76.127 |
| 7 | 8.000 | 0.0956 | 0.9024 | 0.3806 | 9.58 | 0.7293 | 40.610 | 17.356 | 15.517 | 8.435 |
| 8 | 16.000 | 0.1685 | 0.8295 | 0.3076 | 16.89 | 0.5895 | 100.033 | 16.990 | 5.322 | 7.280 |
| 9 | 4.000 | 0.1414 | 0.8566 | 0.3348 | 14.16 | 0.6416 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 1.000 | 0.1223 | 0.8757 | 0.3538 | 12.26 | 0.6781 | 0.000 | 0.000 | 0.000 | 0.000 |
| 11 | 0.250 | 0.0760 | 0.9220 | 0.4002 | 7.62 | 0.7668 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 7716
**Location:** Soils Lab
**Job Number:** 16-1101-0110 **Test Date:** 5/14/16

**Sample Number:** T-1 **Sample Description:**
**Boring Number:** MB-1 FAT CLAY with SAND (CH A-7-6(23))
**Depth:** 90.5-92.5 ft. **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 52.0000 **Initial Void Ratio:** 0.9166 **Initial Height (in):** 0.9980
**Plastic Limit:** 22.0000 **Plasticity Index (%):** 30.0000 **Initial Diameter (in):** 2.4970
**Specific Gravity:** 2.5770 Measured **Weight of Ring (g):** 110.7800

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 87.11 | 264.62 |
| Dry Soil + Container (g) | 72.82 | 229.35 |
| Weight of Container (g) | 31.58 | 125.26 |
| Moisture Content (%) | 34.65 | 33.88 |
| Void Ratio | 0.9166 | 0.7707 |
| Saturation (%) | 97.50 | 105.85 |
| Dry Density (pcf) | 83.97 | 88.16 |

**Tested By:** B. Hak **Checked By:** C. Dugger

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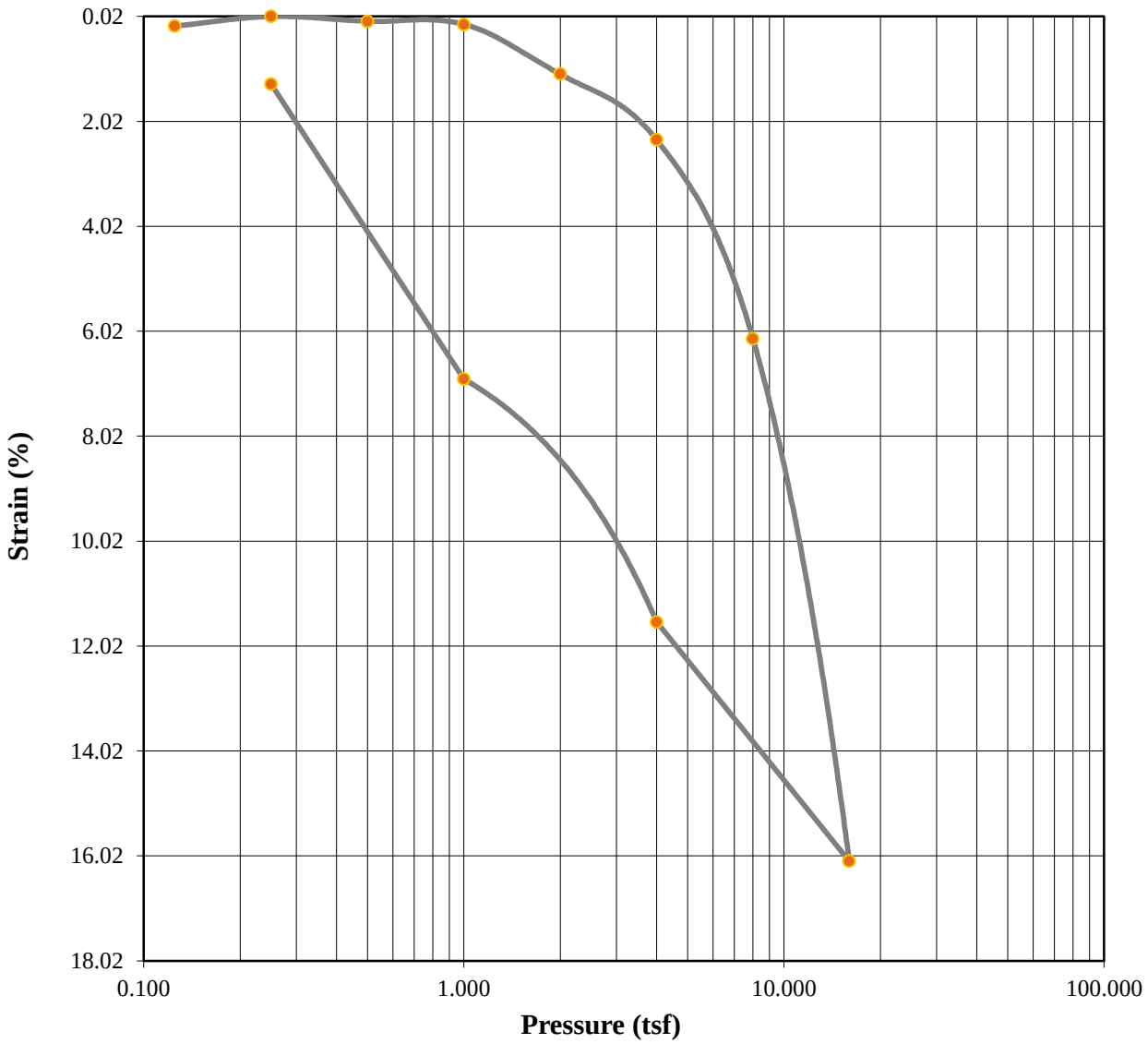
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 41.43 | 40.62 | **Liquid Limits:** | 89 | **Test Date:** | 5/18/16 |
| **Dry Density (pcf):** | 79.98 | 80.91 | **Plastic Limits:** | 28 | | |
| **Saturation (%):** | 130.00 | 131.18 | **Plasticity Index (%):** | 61 | | |
| **Void Ratio:** | 0.6918 | 0.6697 | **Specific Gravity:** | 2.165 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | FAT CLAY (CH A-7-6(71)) | | | |
| **Project Number:** | 7716 | **Depth:** | 98.5-100.5 ft. | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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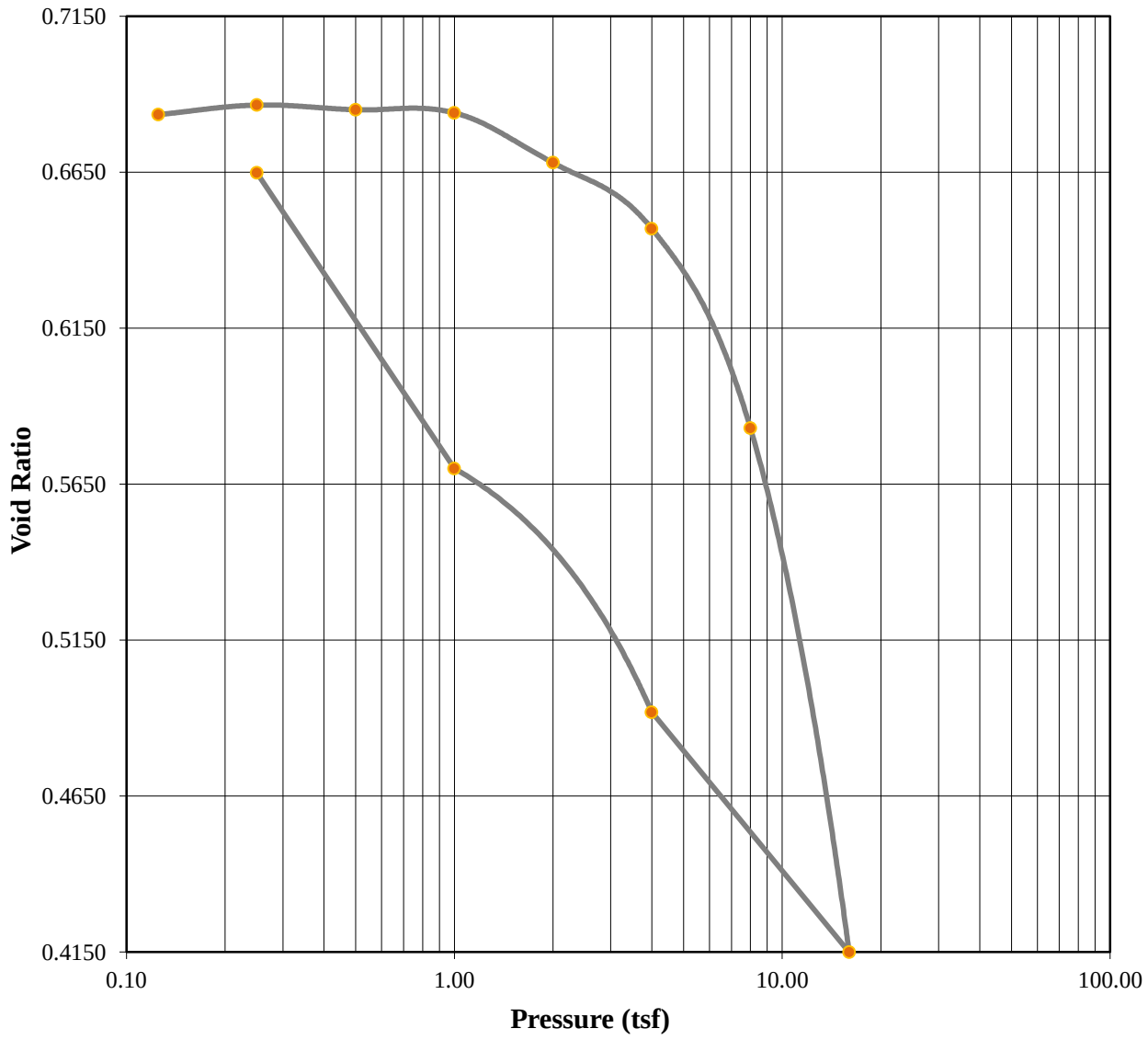
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 41.43 | 40.62 | **Liquid Limits:** | 89 | **Test Date:** | 5/18/16 |
| **Dry Density (pcf):** | 79.98 | 80.91 | **Plastic Limits:** | 28 | | |
| **Saturation (%):** | 130.00 | 131.18 | **Plasticity Index (%):** | 61 | | |
| **Void Ratio:** | 0.6918 | 0.6697 | **Specific Gravity:** | 2.165 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY (CH A-7-6(71)) | | | |
| **Project Number:** | 7716 | **Depth:** | 98.5-100.5 ft. | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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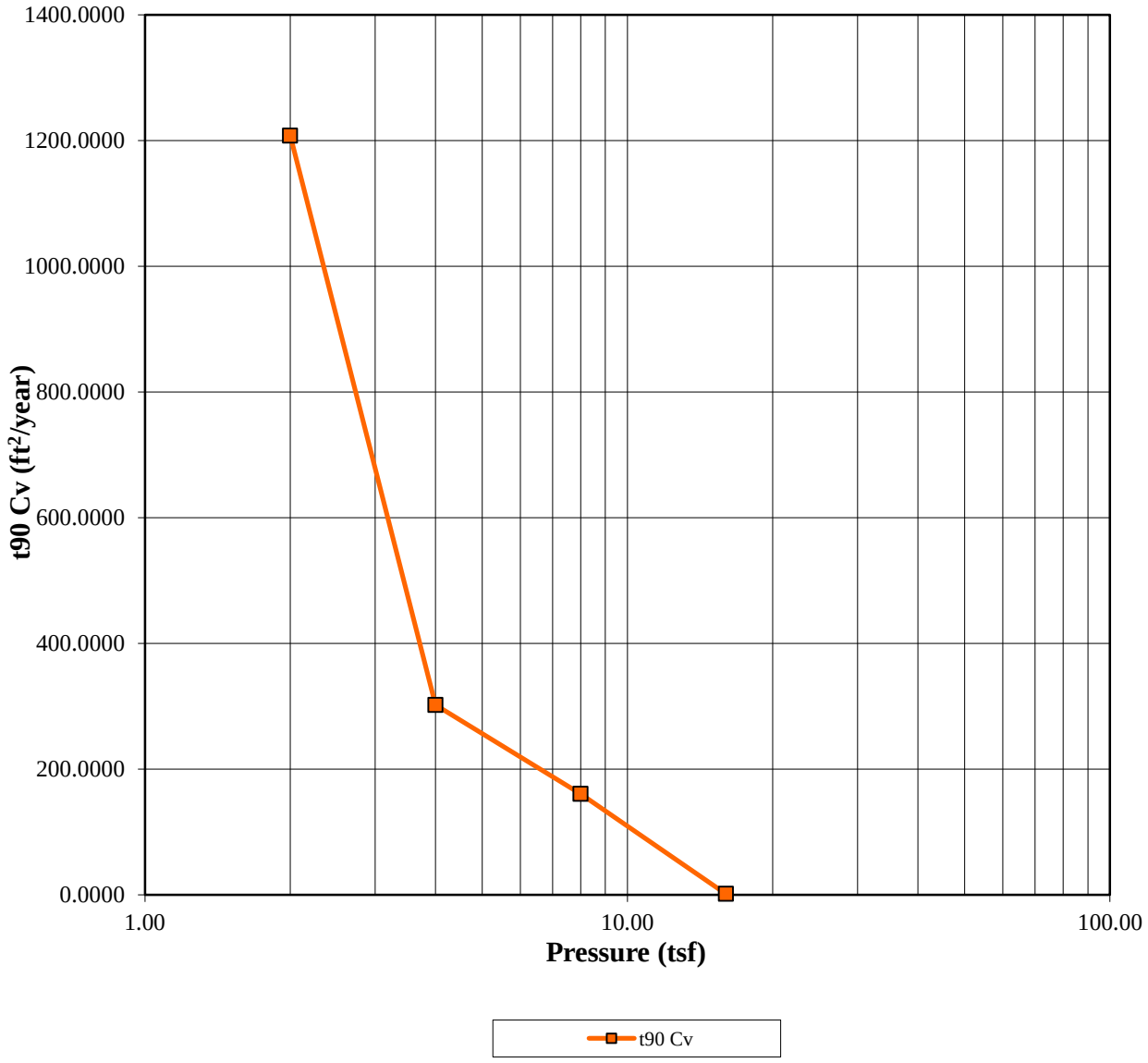
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 41.43 | 40.62 | **Liquid Limits:** | 89 | **Test Date:** | 5/18/16 |
| **Dry Density (pcf):** | 79.98 | 80.91 | **Plastic Limits:** | 28 | | |
| **Saturation (%):** | 130.00 | 131.18 | **Plasticity Index (%):** | 61 | | |
| **Void Ratio:** | 0.6918 | 0.6697 | **Specific Gravity:** | 2.165 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY (CH A-7-6(71)) | | | |
| **Project Number:** | 7716 | **Depth:** | 98.5-100.5 ft. | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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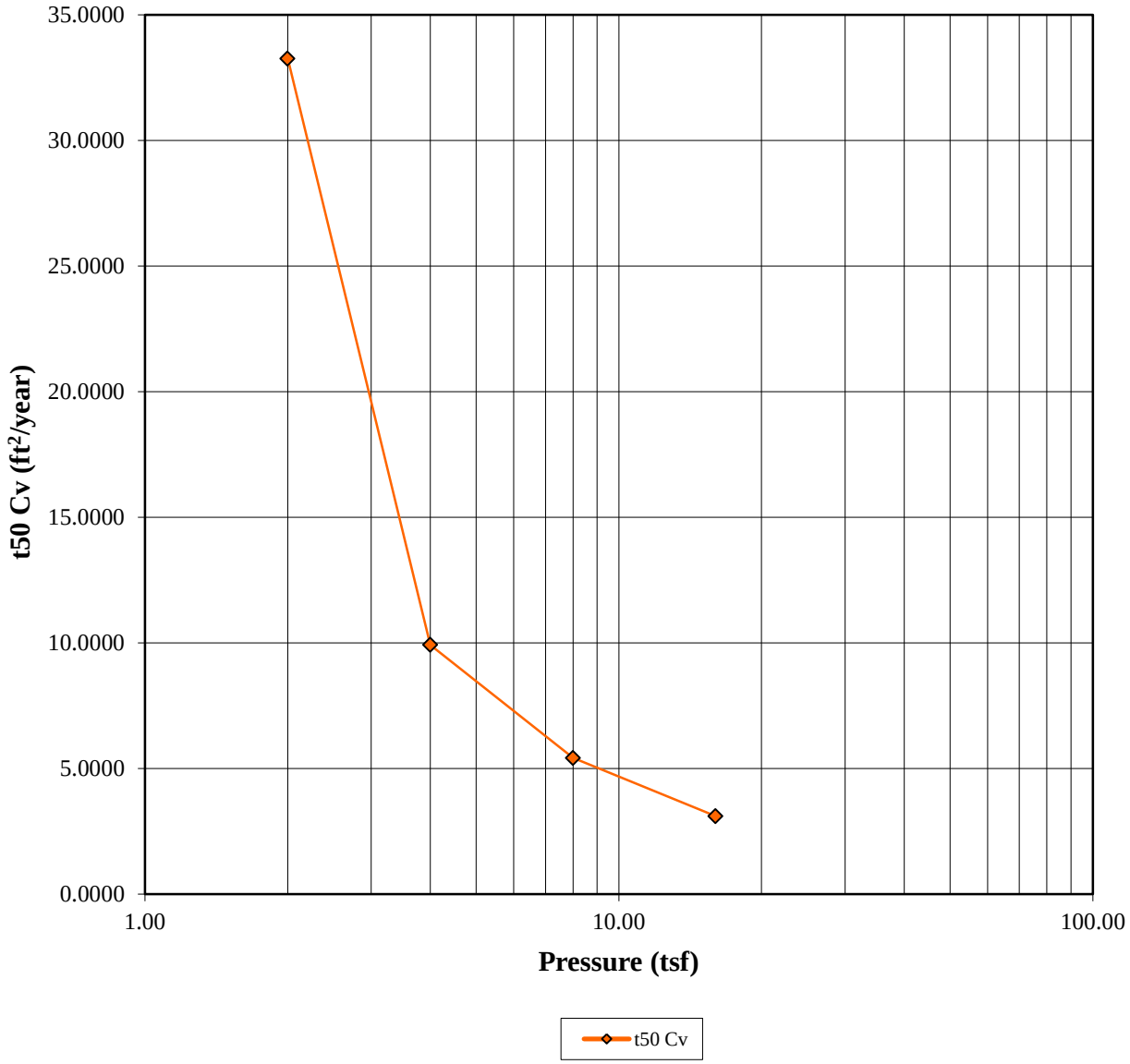
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 41.43 | 40.62 | **Liquid Limits:** | 89 | **Test Date:** | 5/18/16 |
| **Dry Density (pcf):** | 79.98 | 80.91 | **Plastic Limits:** | 28 | | |
| **Saturation (%):** | 130.00 | 131.18 | **Plasticity Index (%):** | 61 | | |
| **Void Ratio:** | 0.6918 | 0.6697 | **Specific Gravity:** | 2.165 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY (CH A-7-6(71)) | | | |
| **Project Number:** | 7716 | **Depth:** | 98.5-100.5 ft. | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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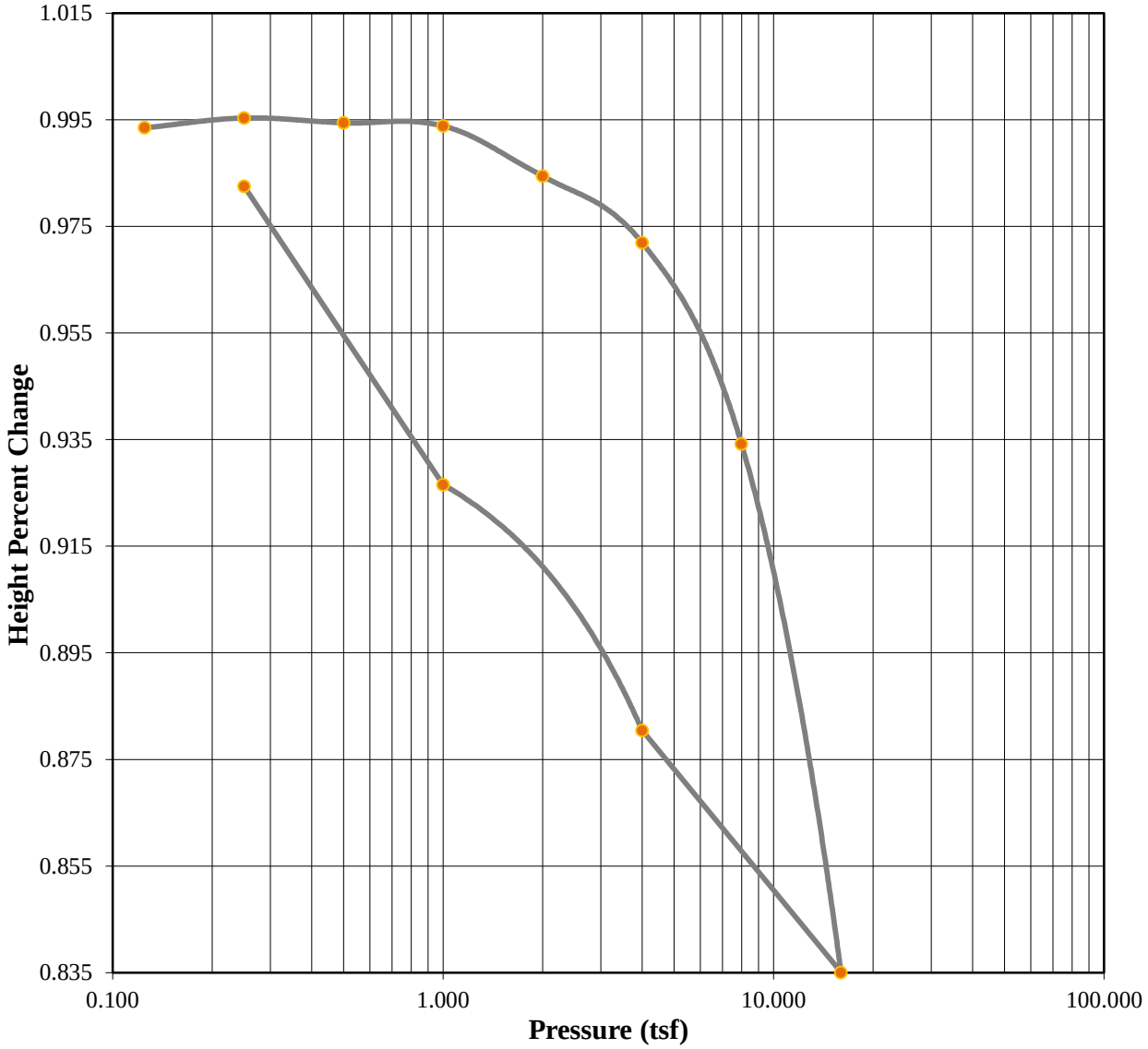
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Liquid Limits:** | | | 89 | **Test Date:** | 5/18/16 | |
| **Moisture (%):** | 41.43 | 40.62 | **Plastic Limits:** | 28 | | |
| **Dry Density (pcf):** | 79.98 | 80.91 | **Plasticity Index (%):** | 61 | | |
| **Saturation (%):** | 130.00 | 131.18 | | | | |
| **Void Ratio:** | 0.6918 | 0.6697 | **Specific Gravity:** | 2.165 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | FAT CLAY (CH A-7-6(71)) | | | |
| **Project Number:** | 7716 | **Depth:** | 98.5-100.5 ft. | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 16-1101-0110

**Project Number:** 7716

**Sample Number:** T-2
**Boring Number:** MB-1
**Depth:** 98.5-100.5 ft.
**Sample Type:** Undisturbed

**Sample Description:** FAT CLAY (CH A-7-6(71))
**Remarks:**

**Test Number:**
**Test Date:** 5/18/16

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9960 | 0.4056 | 0.00 | 0.6870 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0020 | 0.9940 | 0.4036 | 0.20 | 0.6836 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0002 | 0.9958 | 0.4054 | 0.02 | 0.6866 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | 0.500 | 0.0011 | 0.9949 | 0.4045 | 0.11 | 0.6851 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | 1.000 | 0.0017 | 0.9943 | 0.4039 | 0.17 | 0.6841 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | 2.000 | 0.0111 | 0.9849 | 0.3945 | 1.12 | 0.6681 | 0.622 | 5.244 | 1207.744 | 33.250 |
| 6 | 4.000 | 0.0236 | 0.9724 | 0.3820 | 2.37 | 0.6470 | 2.419 | 17.128 | 302.463 | 9.924 |
| 7 | 8.000 | 0.0614 | 0.9346 | 0.3442 | 6.16 | 0.5830 | 4.202 | 28.962 | 160.856 | 5.422 |
| 8 | 16.000 | 0.1605 | 0.8355 | 0.2450 | 16.12 | 0.4150 | 303.739 | 40.325 | 1.778 | 3.112 |
| 9 | 4.000 | 0.1151 | 0.8809 | 0.2905 | 11.56 | 0.4920 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 1.000 | 0.0690 | 0.9270 | 0.3366 | 6.93 | 0.5701 | 0.000 | 0.000 | 0.000 | 0.000 |
| 11 | 0.250 | 0.0130 | 0.9830 | 0.3926 | 1.31 | 0.6649 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge
**Project Number:** 7716
**Location:** Soils Lab
**Job Number:** 16-1101-0110
**Test Date:** 5/18/16

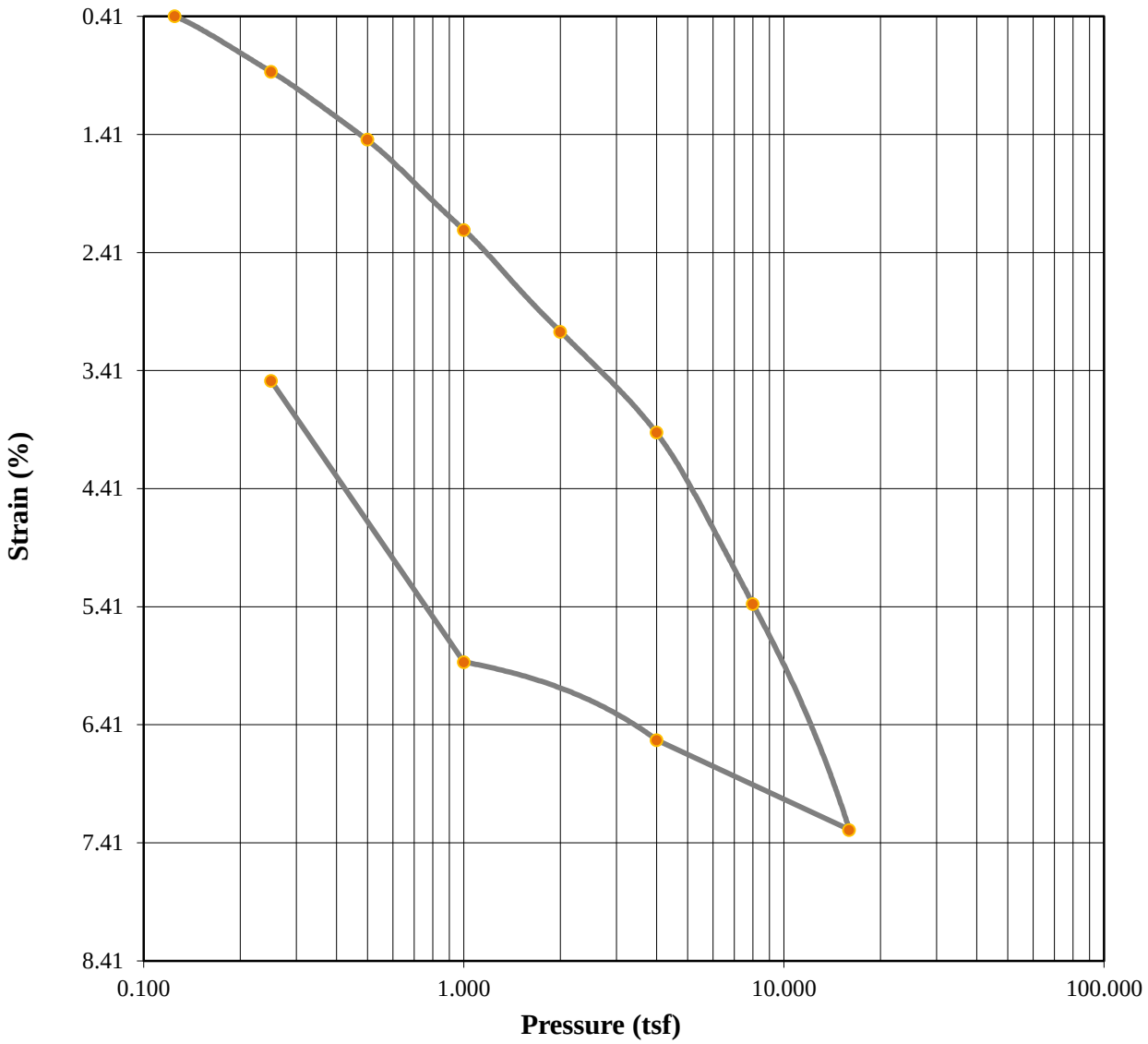
**Sample Number:** T-2
**Sample Description:**
**Boring Number:** MB-1
FAT CLAY (CH A-7-6(71))
**Depth:** 98.5-100.5 ft.
**Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 89.0000
**Initial Void Ratio:** 0.6918
**Initial Height (in):** 0.9960
**Plastic Limit:** 28.0000
**Plasticity Index (%):** 61.0000
**Initial Diameter (in):** 2.4950
**Specific Gravity:** 2.1650 Measured
**Weight of Ring (g):** 110.8000

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 101.13 | 268.27 |
| Dry Soil + Container (g) | 80.66 | 227.00 |
| Weight of Container (g) | 31.25 | 125.39 |
| Moisture Content (%) | 41.43 | 40.62 |
| Void Ratio | 0.6918 | 0.6697 |
| Saturation (%) | 130.00 | 131.18 |
| Dry Density (pcf) | 79.98 | 80.91 |

**Tested By:** B. Hak
**Checked By:** C. Dugger

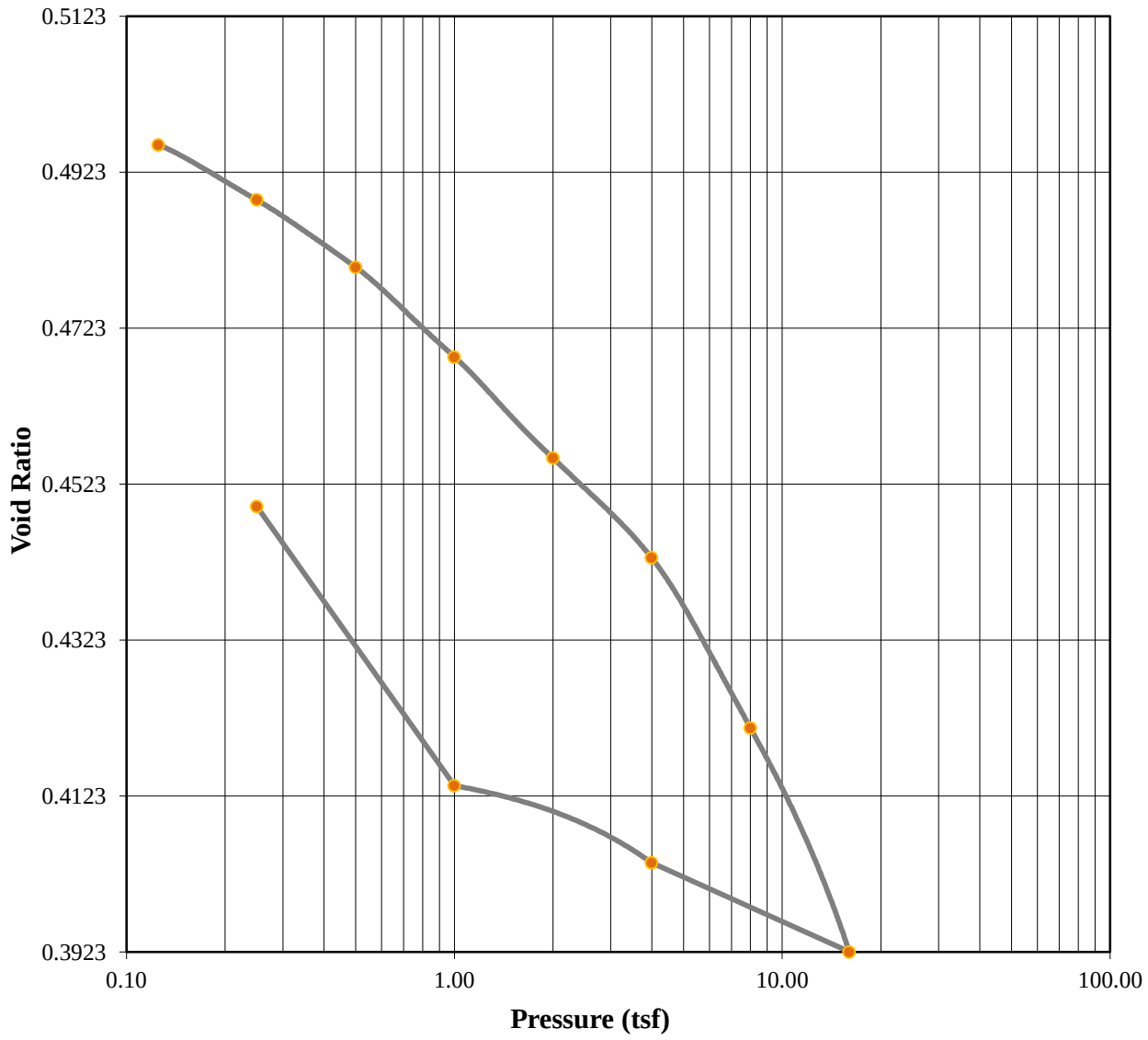
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 18.28 | 18.14 | **Liquid Limits:** | 28 | **Test Date:** | 5/21/16 |
| **Dry Density (pcf):** | 110.49 | 114.19 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 96.46 | 105.97 | **Plasticity Index (%):** | 14 | | |
| **Void Ratio:** | 0.5019 | 0.4494 | **Specific Gravity:** | 2.663 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | SANDY LEAN CLAY (CL A-6(6)) | | | |
| **Project Number:** | 7716 | **Depth:** | 188.5-190.5 f | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 18.28 | 18.14 | **Liquid Limits:** | 28 | **Test Date:** | 5/21/16 |
| **Dry Density (pcf):** | 110.49 | 114.19 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 96.46 | 105.97 | **Plasticity Index (%):** | 14 | | |
| **Void Ratio:** | 0.5019 | 0.4494 | **Specific Gravity:** | 2.663 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(6)) | | | |
| **Project Number:** | 7716 | **Depth:** | 188.5-190.5 f | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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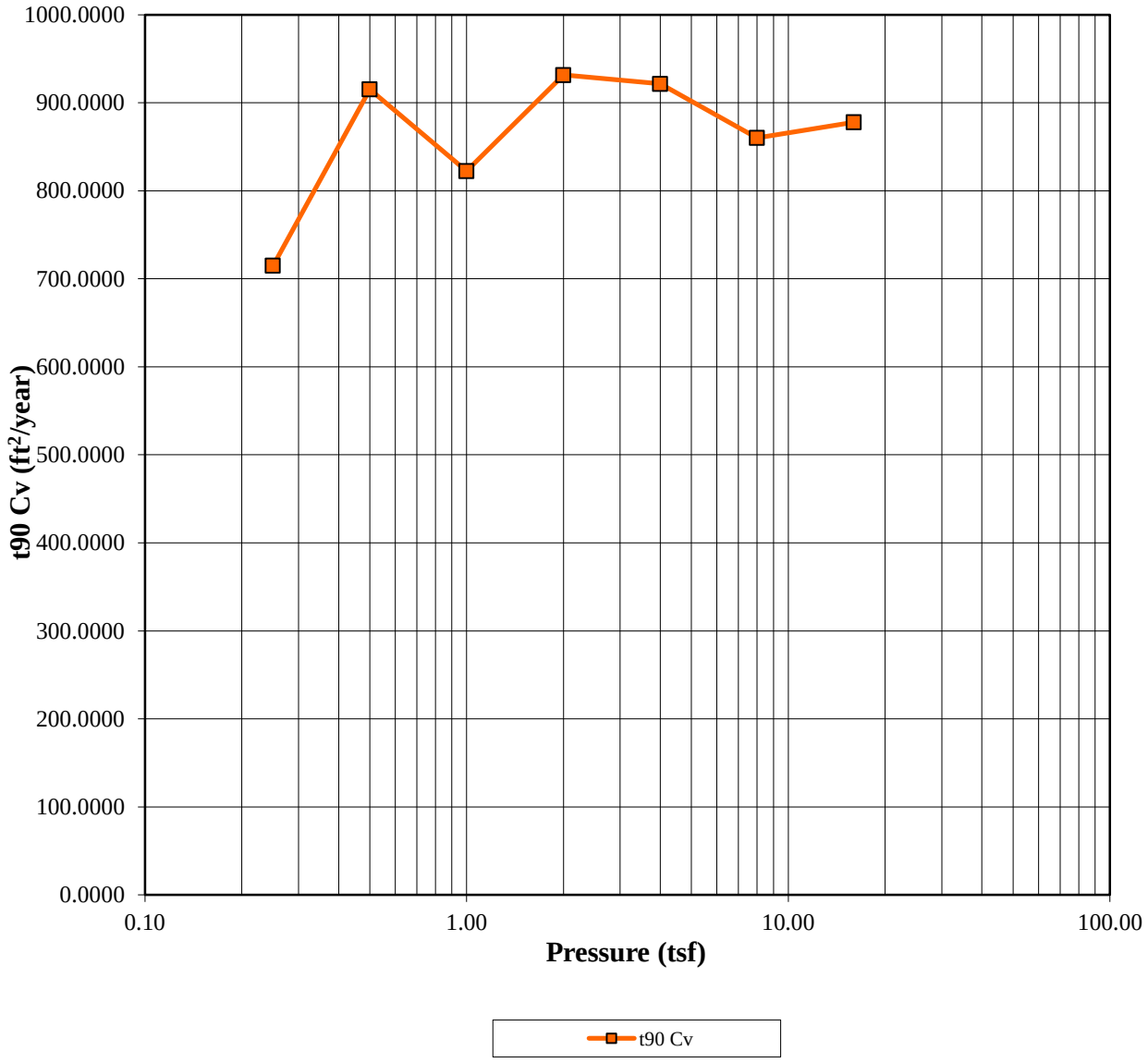
**MOBILE, ALABAMA**

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 18.28 | 18.14 | **Liquid Limits:** | 28 | **Test Date:** | 5/21/16 |
| **Dry Density (pcf):** | 110.49 | 114.19 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 96.46 | 105.97 | **Plasticity Index (%):** | 14 | | |
| **Void Ratio:** | 0.5019 | 0.4494 | **Specific Gravity:** | 2.663 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(6)) | | | |
| **Project Number:** | 7716 | **Depth:** | 188.5-190.5 f | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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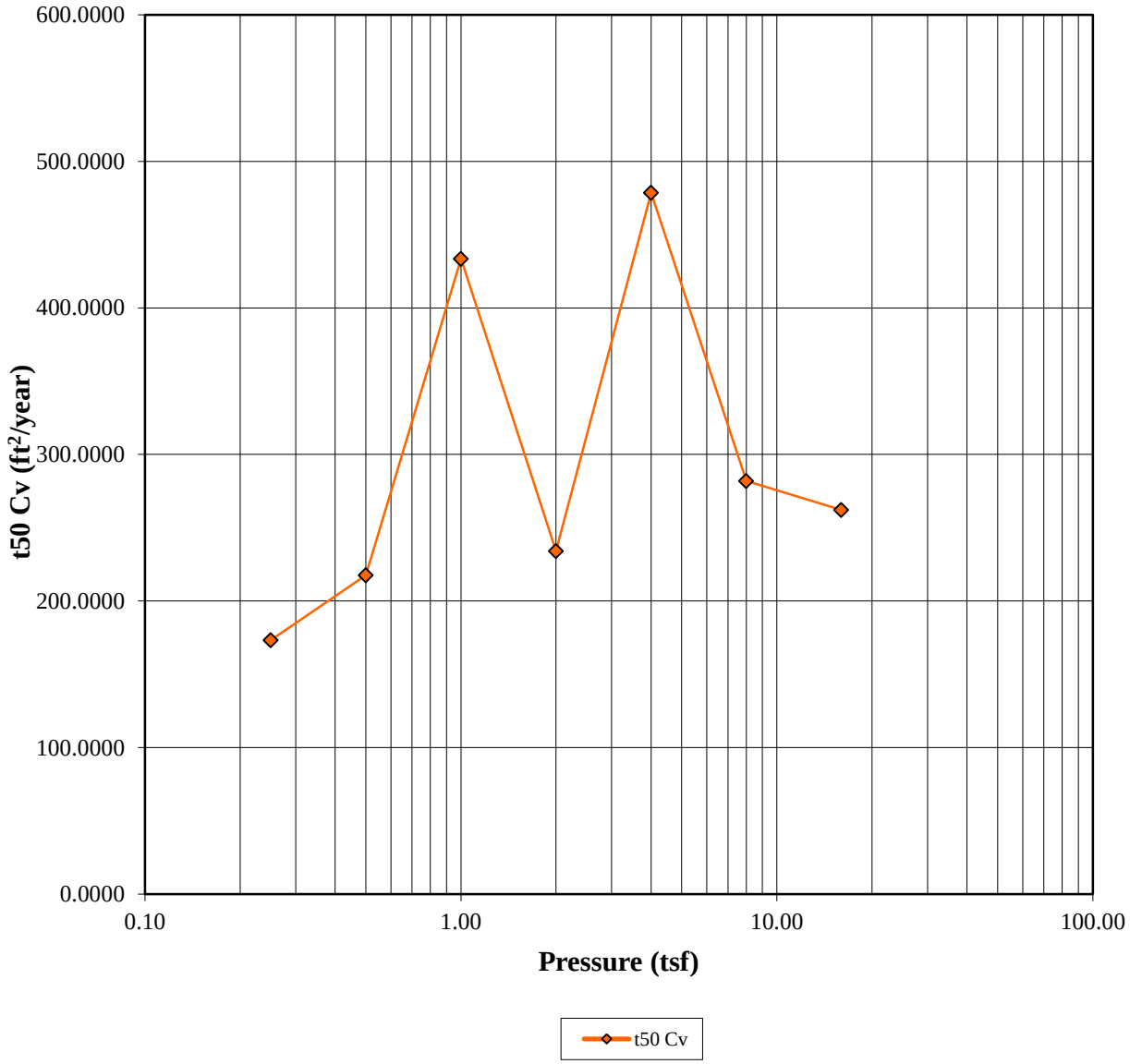
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 18.28 | 18.14 | **Liquid Limits:** | 28 | **Test Date:** | 5/21/16 |
| **Dry Density (pcf):** | 110.49 | 114.19 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 96.46 | 105.97 | **Plasticity Index (%):** | 14 | | |
| **Void Ratio:** | 0.5019 | 0.4494 | **Specific Gravity:** | 2.663 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(6)) | | | |
| **Project Number:** | 7716 | **Depth:** | 188.5-190.5 f | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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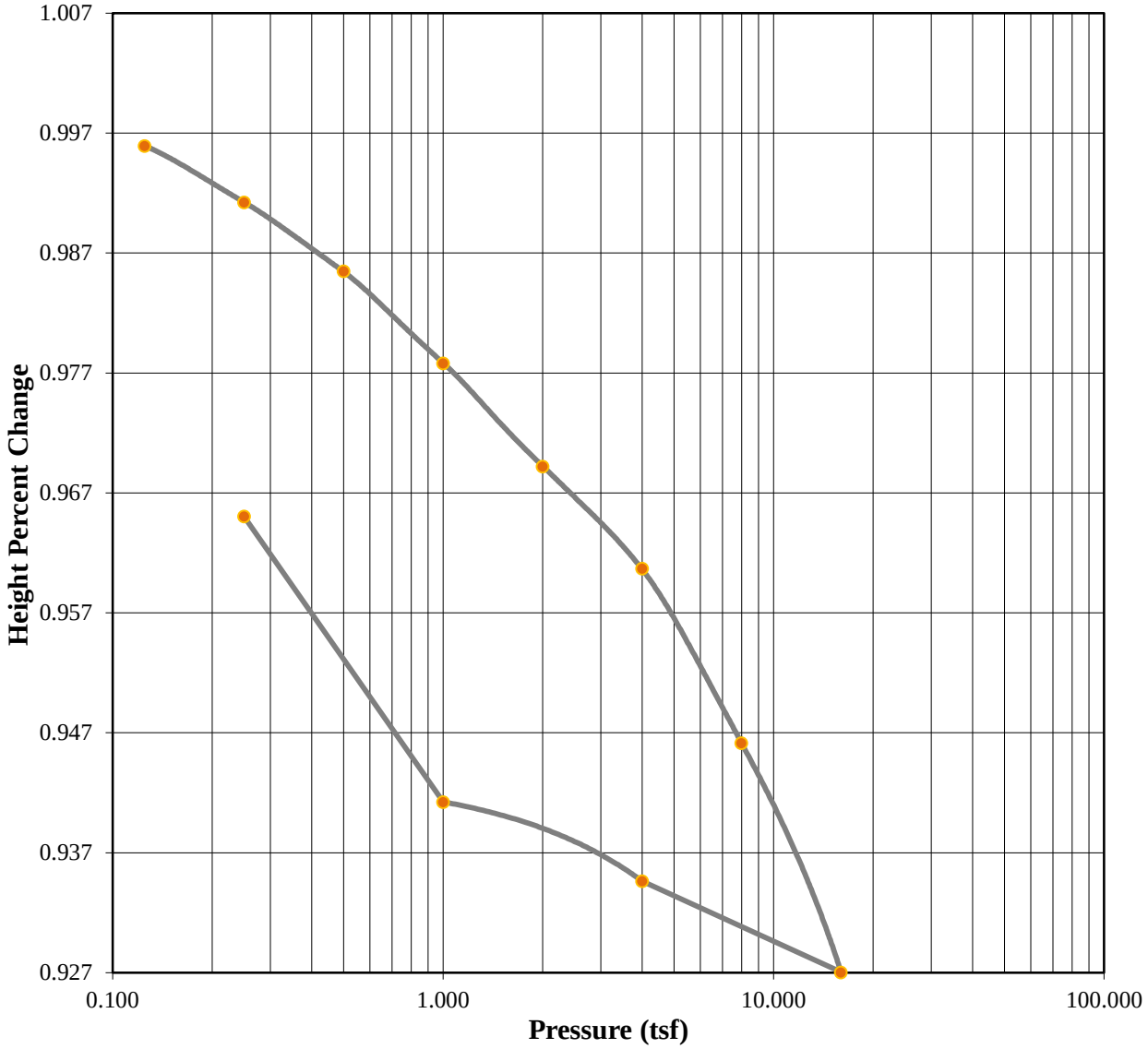
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 28 | **Test Date:** | 5/21/16 |
| **Moisture (%):** | 18.28 | 18.14 | **Plastic Limits:** | 14 | | |
| **Dry Density (pcf):** | 110.49 | 114.19 | **Plasticity Index (%):** | 14 | | |
| **Saturation (%):** | 96.46 | 105.97 | | | | |
| **Void Ratio:** | 0.5019 | 0.4494 | **Specific Gravity:** | 2.663 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(6)) | | | |
| **Project Number:** | 7716 | **Depth:** | 188.5-190.5 f | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-1 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 16-1101-0110

**Project Number:** 7716

**Sample Number:** T-4
**Boring Number:** MB-1
**Depth:** 188.5-190.5 ft.
**Sample Type:** Undisturbed

**Sample Description:** SANDY LEAN CLAY (CL A-6(6))
**Remarks:**

**Test Number:**
**Test Date:** 5/21/16

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 1.0000 | 0.3342 | 0.00 | 0.5020 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0041 | 0.9959 | 0.3301 | 0.41 | 0.4958 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0088 | 0.9912 | 0.3254 | 0.88 | 0.4887 | 1.064 | 1.019 | 714.820 | 173.308 |
| 3 | 0.500 | 0.0146 | 0.9854 | 0.3196 | 1.46 | 0.4801 | 0.821 | 0.802 | 915.264 | 217.601 |
| 4 | 1.000 | 0.0222 | 0.9778 | 0.3120 | 2.22 | 0.4686 | 0.900 | 0.396 | 822.402 | 433.509 |
| 5 | 2.000 | 0.0308 | 0.9692 | 0.3034 | 3.08 | 0.4556 | 0.780 | 0.721 | 931.487 | 234.107 |
| 6 | 4.000 | 0.0394 | 0.9606 | 0.2948 | 3.94 | 0.4428 | 0.775 | 0.347 | 921.449 | 478.457 |
| 7 | 8.000 | 0.0539 | 0.9461 | 0.2803 | 5.39 | 0.4210 | 0.805 | 0.571 | 860.124 | 281.914 |
| 8 | 16.000 | 0.0730 | 0.9270 | 0.2612 | 7.30 | 0.3923 | 0.758 | 0.589 | 877.717 | 262.212 |
| 9 | 4.000 | 0.0654 | 0.9346 | 0.2688 | 6.54 | 0.4037 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 1.000 | 0.0588 | 0.9412 | 0.2754 | 5.88 | 0.4136 | 0.000 | 0.000 | 0.000 | 0.000 |
| 11 | 0.250 | 0.0350 | 0.9650 | 0.2992 | 3.50 | 0.4494 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 7716
**Location:** Soils Lab
**Job Number:** 16-1101-0110 **Test Date:** 5/21/16

**Sample Number:** T-4 **Sample Description:**
**Boring Number:** MB-1 SANDY LEAN CLAY (CL A-6(6))
**Depth:** 188.5-190.5 ft. **Remarks:**
**Sample Type:** Undisturbed

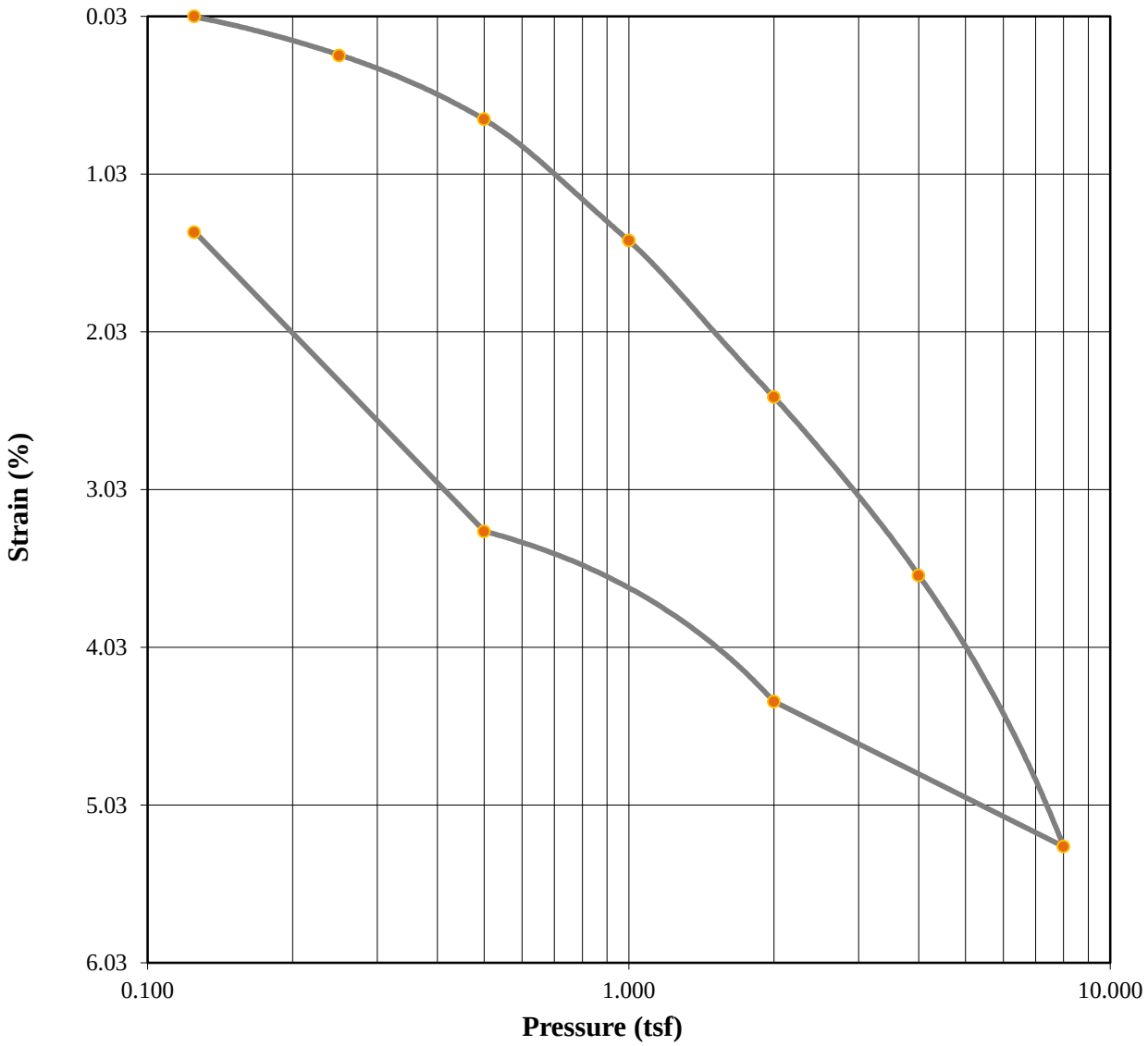
**Test Number:**

| | | | | | |
|---|---|---|---|---|---|
| **Liquid Limit:** | 28.0000 | **Initial Void Ratio:** | 0.5019 | **Initial Height (in):** | 1.0000 |
| **Plastic Limit:** | 14.0000 | **Plasticity Index (%):** | 14.0000 | **Initial Diameter (in):** | 2.5020 |
| **Specific Gravity:** | 2.6630 Measured | **Weight of Ring (g):** | 98.6700 | | |

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 128.40 | 297.32 |
| Dry Soil + Container (g) | 113.55 | 271.53 |
| Weight of Container (g) | 32.33 | 129.33 |
| Moisture Content (%) | 18.28 | 18.14 |
| Void Ratio | 0.5019 | 0.4494 |
| Saturation (%) | 96.46 | 105.97 |
| Dry Density (pcf) | 110.49 | 114.19 |

**Tested By:** B. Hak **Checked By:** C. Dugger

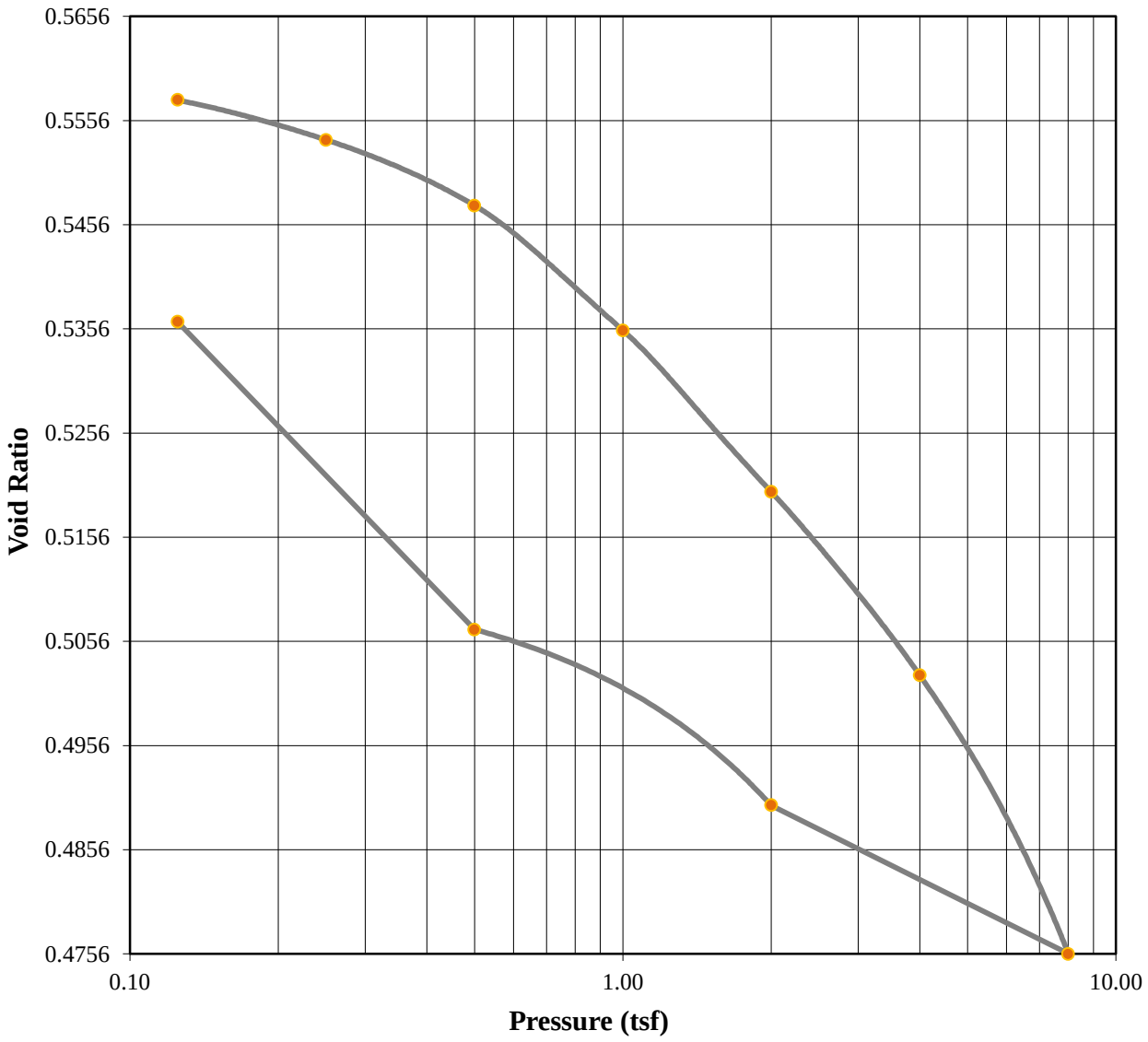
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 21.17 | 21.68 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 104.00 | 105.16 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 98.16 | 103.72 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.5597 | 0.5379 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | SILTY CLAY with SAND (CL-ML A-4(2)) | | | |
| **Project Number:** | 7559 | **Depth:** | 145.0 - 147.0 | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

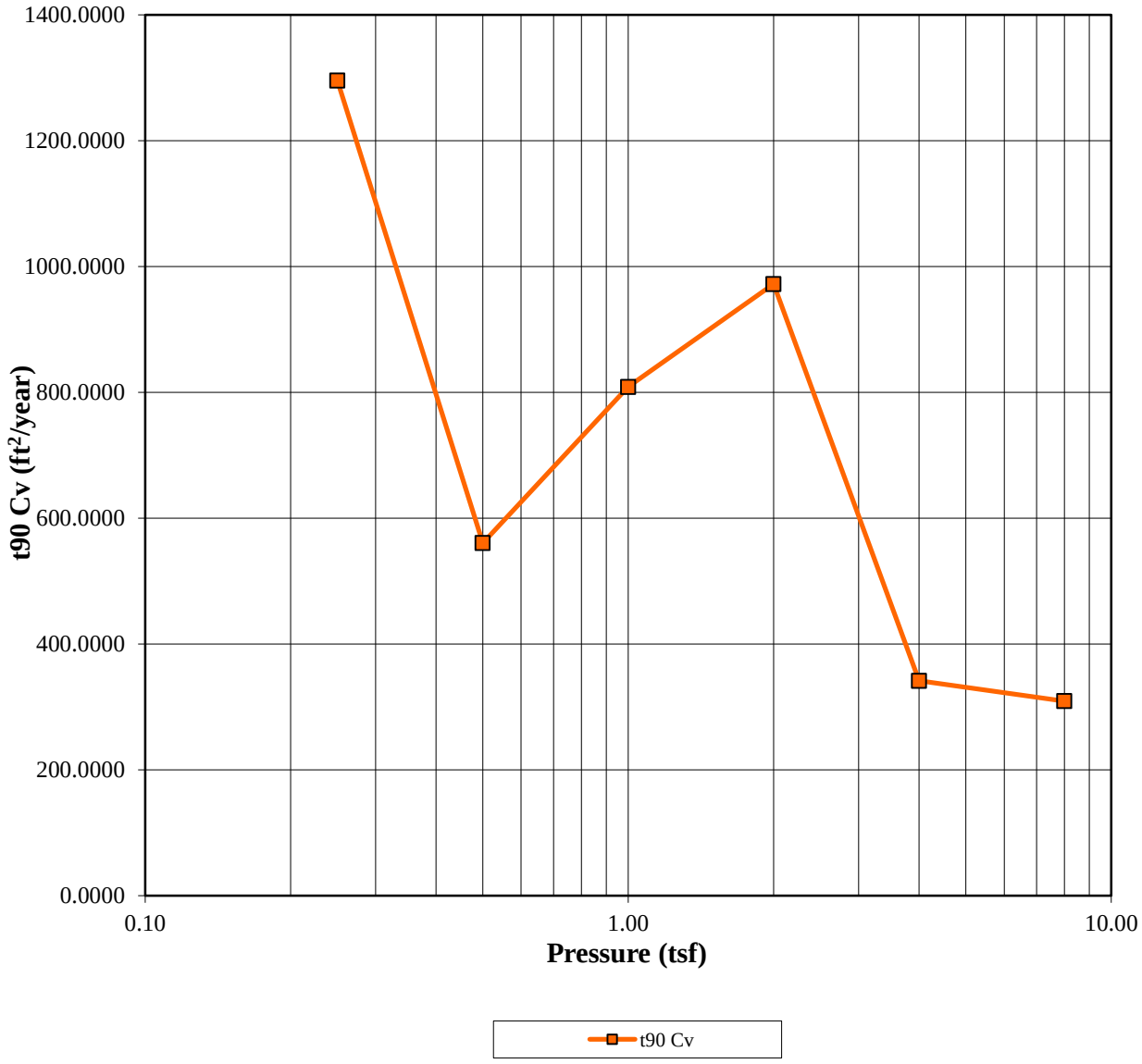
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 21.17 | 21.68 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 104.00 | 105.16 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 98.16 | 103.72 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.5597 | 0.5379 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY CLAY with SAND (CL-ML A-4(2)) | | | |
| **Project Number:** | 7559 | **Depth:** | 145.0 - 147.0 | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

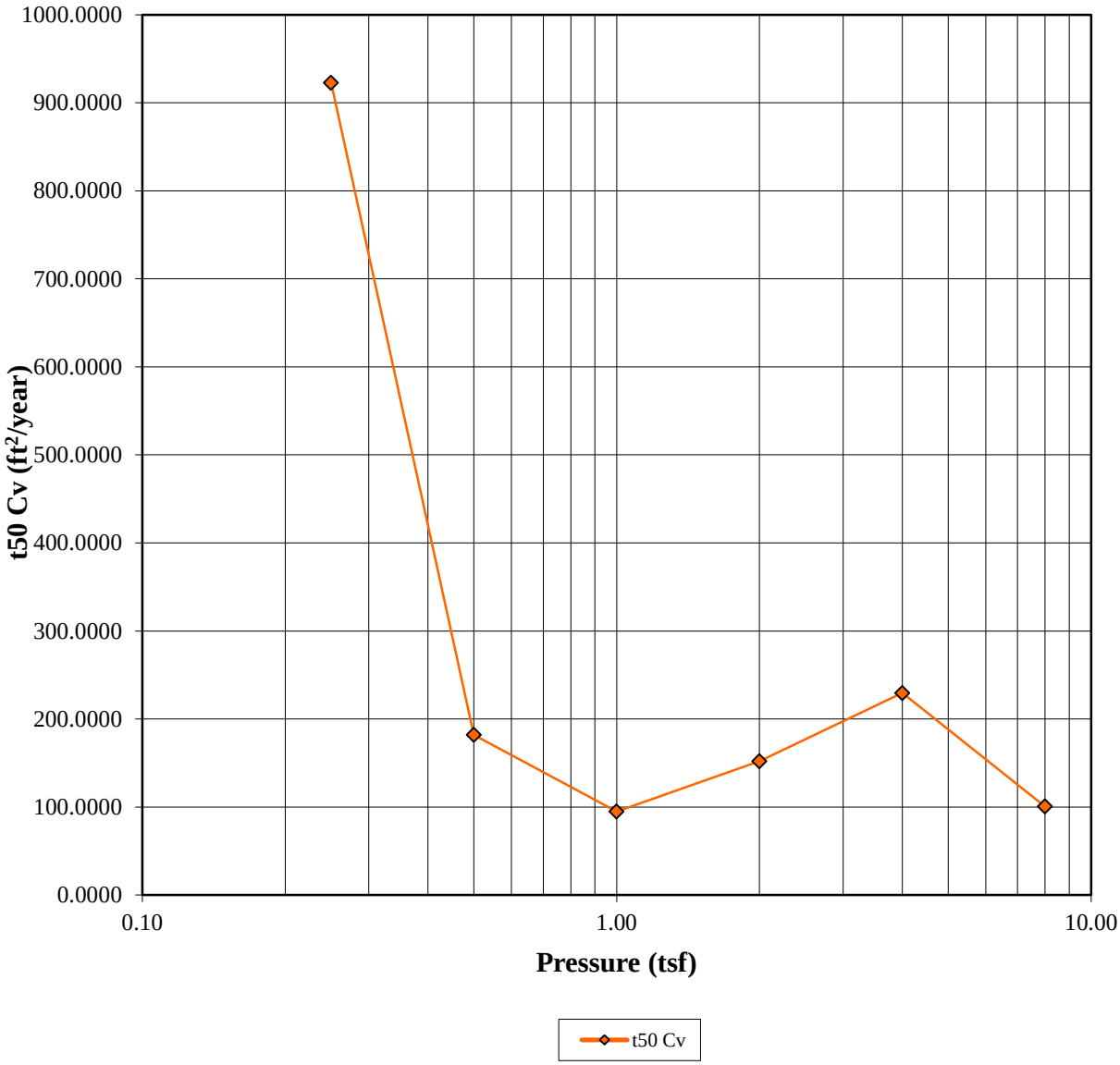
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 21.17 | 21.68 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 104.00 | 105.16 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 98.16 | 103.72 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.5597 | 0.5379 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY CLAY with SAND (CL-ML A-4(2)) | | | |
| **Project Number:** | 7559 | **Depth:** | 145.0 - 147.0 | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

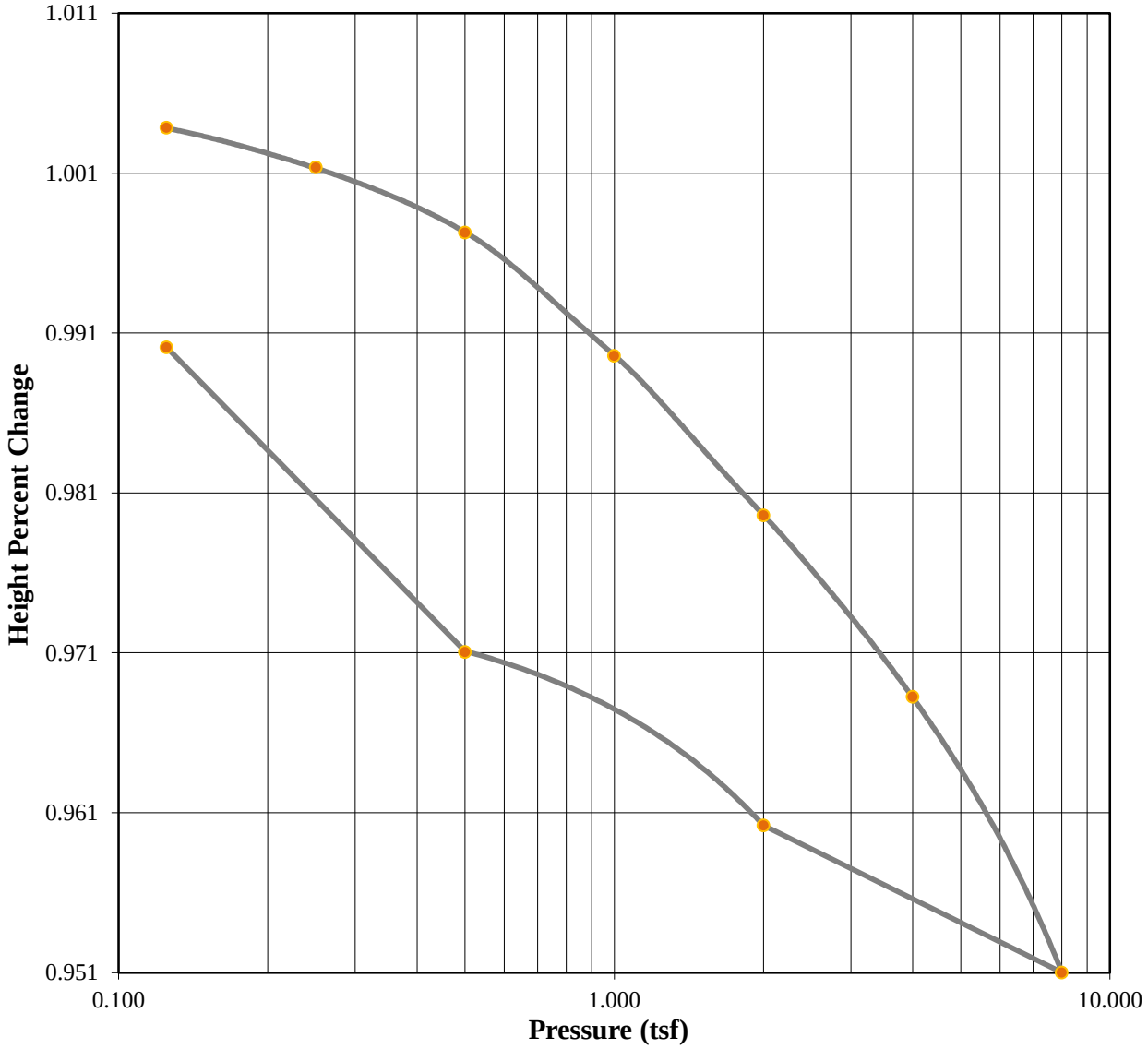
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 21.17 | 21.68 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 104.00 | 105.16 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 98.16 | 103.72 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.5597 | 0.5379 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY CLAY with SAND (CL-ML A-4(2)) | | | |
| **Project Number:** | 7559 | **Depth:** | 145.0 - 147.0 | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Moisture (%):** | 21.17 | 21.68 | **Plastic Limits:** | 0 | | |
| **Dry Density (pcf):** | 104.00 | 105.16 | **Plasticity Index (%):** | 0 | | |
| **Saturation (%):** | 98.16 | 103.72 | | | | |
| **Void Ratio:** | 0.5597 | 0.5379 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SILTY CLAY with SAND (CL-ML A-4(2)) | | | |
| **Project Number:** | 7559 | **Depth:** | 145.0 - 147.0 | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 15-1101-0228

**Project Number:** 7559

**Sample Number:** T-3
**Boring Number:** MB-2
**Depth:** 145.0 - 147.0 ft.
**Sample Type:** Undisturbed

**Sample Description:** SILTY CLAY with SAND (CL-ML A-4(2))
**Remarks:**

**Test Number:**
**Test Date:** 9/29/15

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 1.0040 | 0.3596 | 0.00 | 0.5580 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0003 | 1.0037 | 0.3593 | 0.03 | 0.5575 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0028 | 1.0012 | 0.3568 | 0.27 | 0.5537 | 0.599 | 0.195 | 1295.381 | 922.560 |
| 3 | 0.500 | 0.0068 | 0.9972 | 0.3528 | 0.68 | 0.5474 | 1.372 | 0.982 | 560.685 | 182.015 |
| 4 | 1.000 | 0.0145 | 0.9895 | 0.3450 | 1.45 | 0.5354 | 0.937 | 1.856 | 808.716 | 94.854 |
| 5 | 2.000 | 0.0245 | 0.9795 | 0.3351 | 2.44 | 0.5199 | 0.764 | 1.133 | 971.913 | 152.185 |
| 6 | 4.000 | 0.0359 | 0.9681 | 0.3237 | 3.57 | 0.5023 | 2.123 | 0.734 | 341.569 | 229.584 |
| 7 | 8.000 | 0.0531 | 0.9509 | 0.3065 | 5.29 | 0.4756 | 2.262 | 1.613 | 309.308 | 100.774 |
| 8 | 2.000 | 0.0439 | 0.9601 | 0.3157 | 4.37 | 0.4898 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | 0.500 | 0.0330 | 0.9710 | 0.3265 | 3.29 | 0.5067 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 0.125 | 0.0140 | 0.9900 | 0.3456 | 1.39 | 0.5362 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:**

**Checked By:**

# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 7559
**Location:** Soils Lab
**Job Number:** 15-1101-0228 **Test Date:** 9/29/15

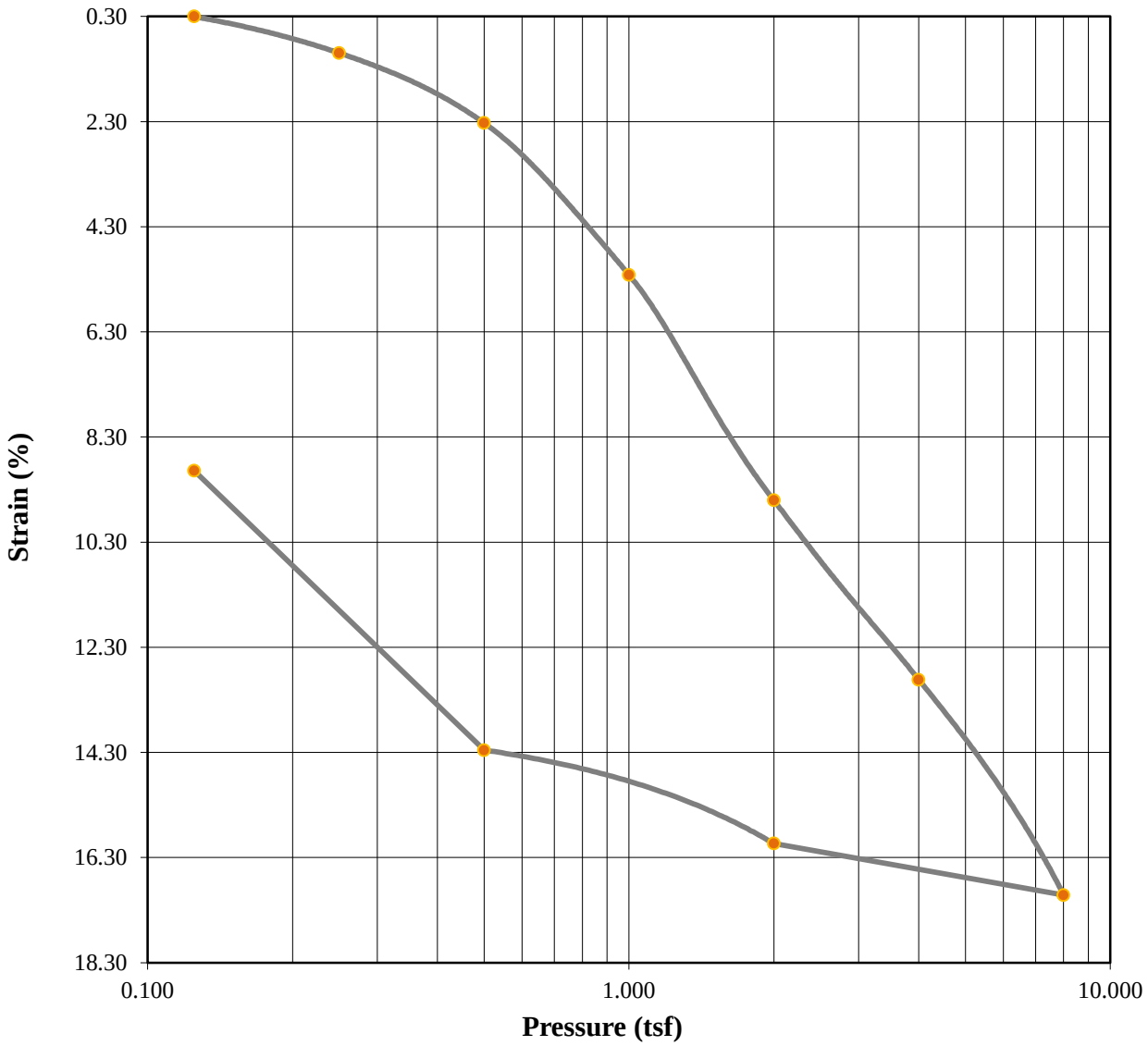
**Sample Number:** T-3 **Sample Description:**
**Boring Number:** MB-2 SILTY CLAY with SAND (CL-ML A-4(2))
**Depth:** 145.0 - 147.0 ft. **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 0.0000 **Initial Void Ratio:** 0.5597 **Initial Height (in):** 1.0040
**Plastic Limit:** 0.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5020
**Specific Gravity:** 2.6000 Assumed **Weight of Ring (g):** 110.8400

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 140.49 | 291.58 |
| Dry Soil + Container (g) | 121.61 | 262.52 |
| Weight of Container (g) | 32.42 | 128.49 |
| Moisture Content (%) | 21.17 | 21.68 |
| Void Ratio | 0.5597 | 0.5379 |
| Saturation (%) | 98.16 | 103.72 |
| Dry Density (pcf) | 104.00 | 105.16 |

**Tested By:** **Checked By:**

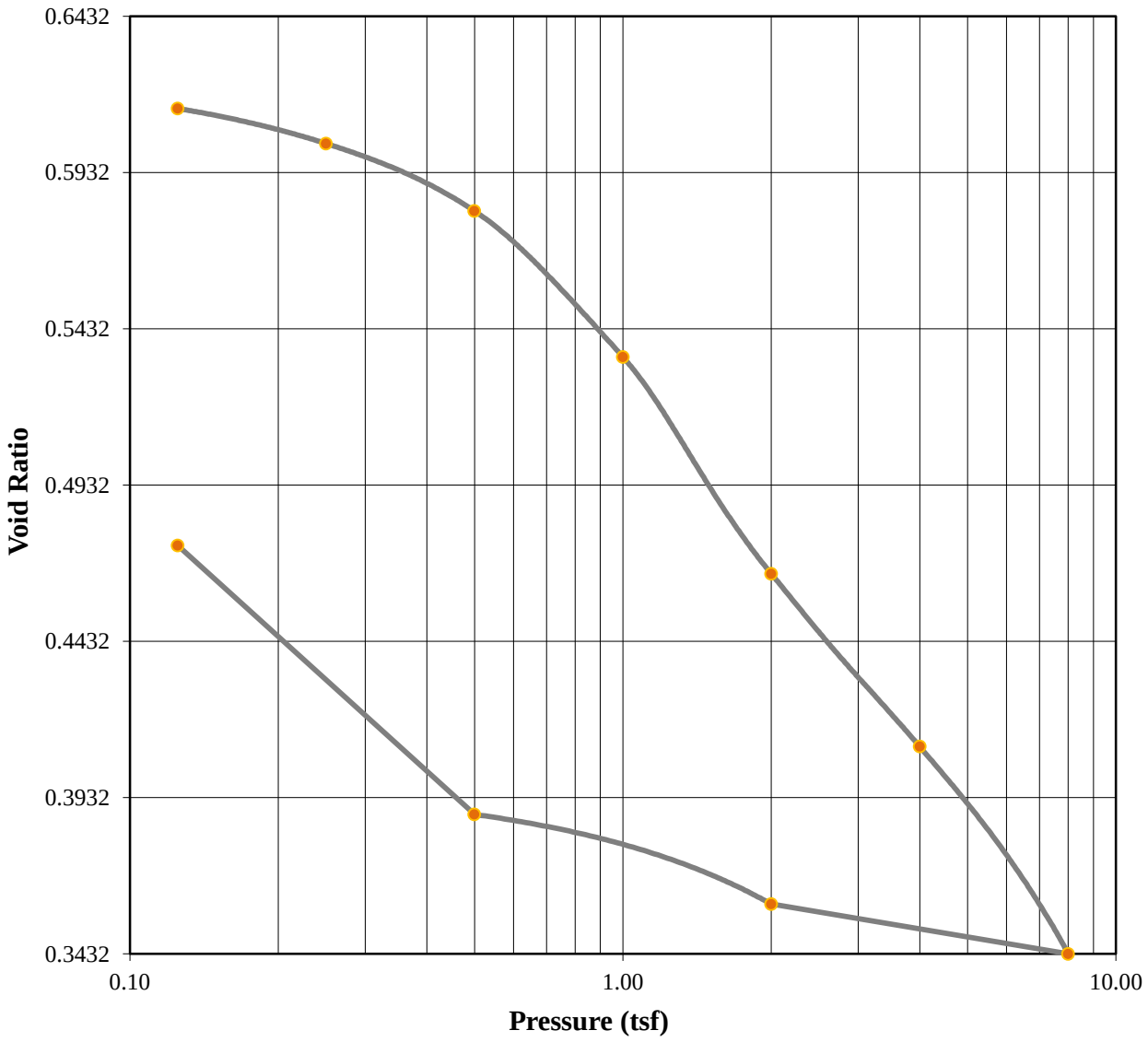
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.86 | 21.04 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 100.11 | 109.07 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 99.83 | 112.05 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6175 | 0.4730 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 190.0-190.33 | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

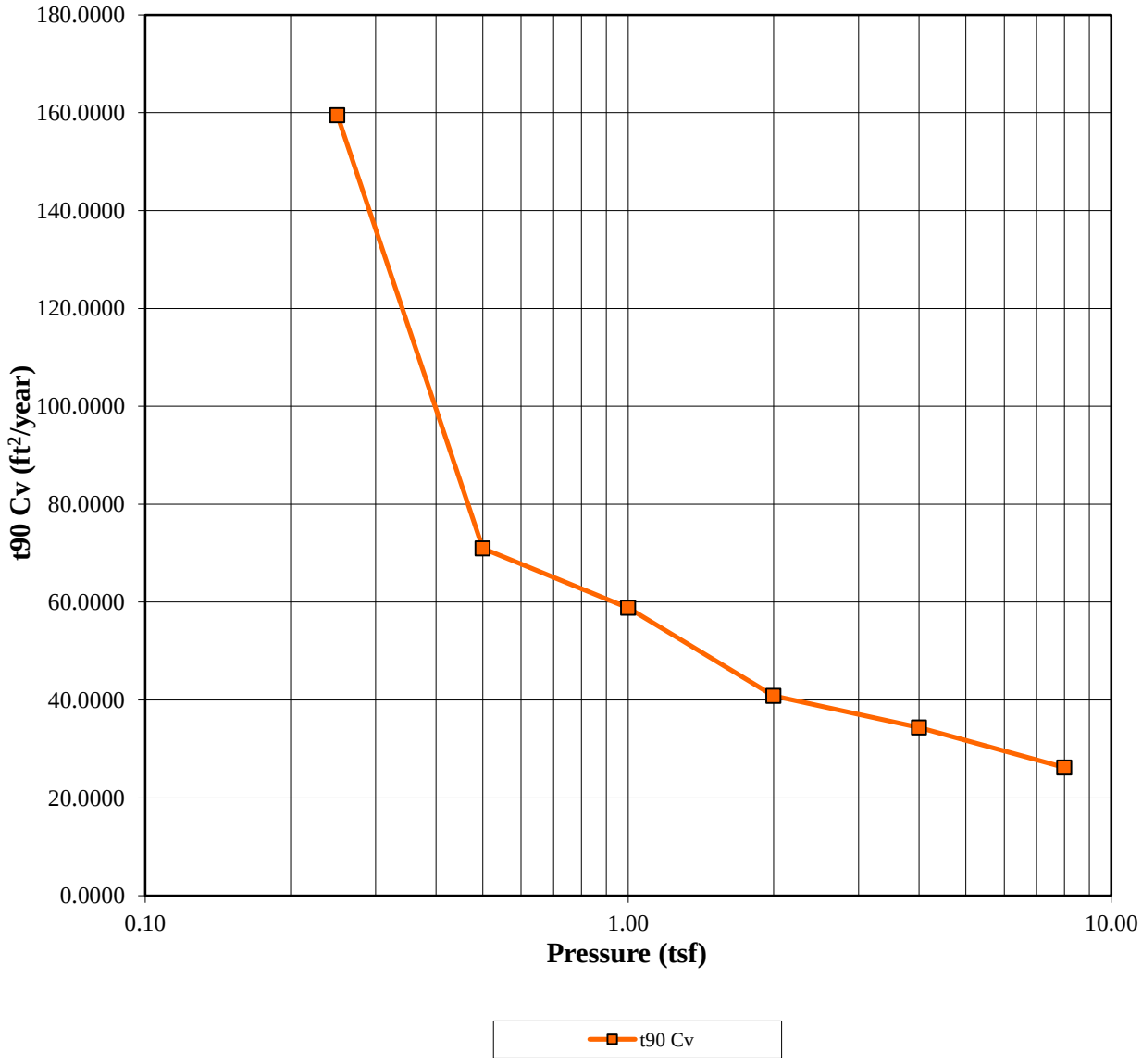
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.86 | 21.04 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 100.11 | 109.07 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 99.83 | 112.05 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6175 | 0.4730 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 190.0-190.33 | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

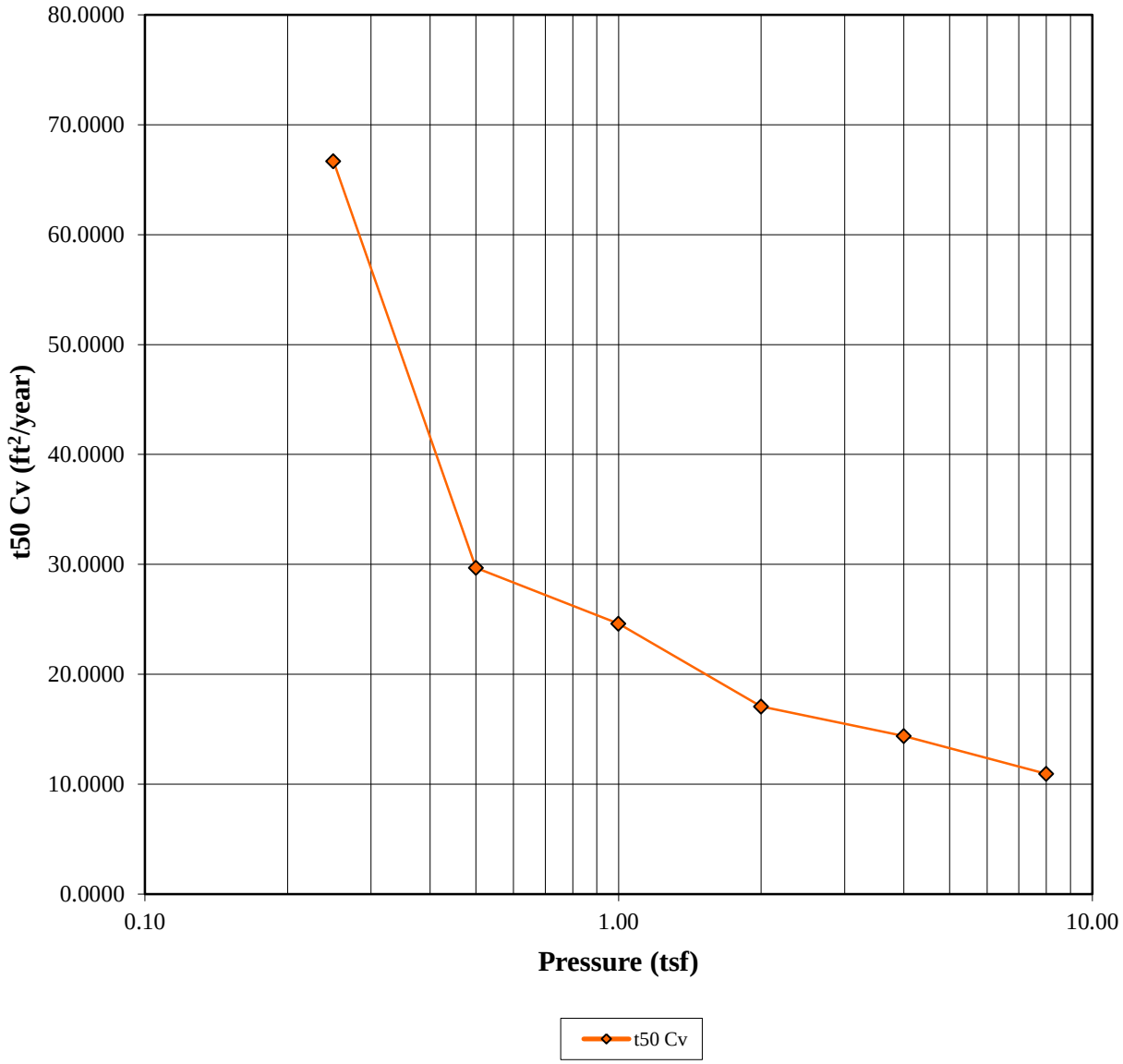
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.86 | 21.04 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 100.11 | 109.07 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 99.83 | 112.05 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6175 | 0.4730 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 190.0-190.33 | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

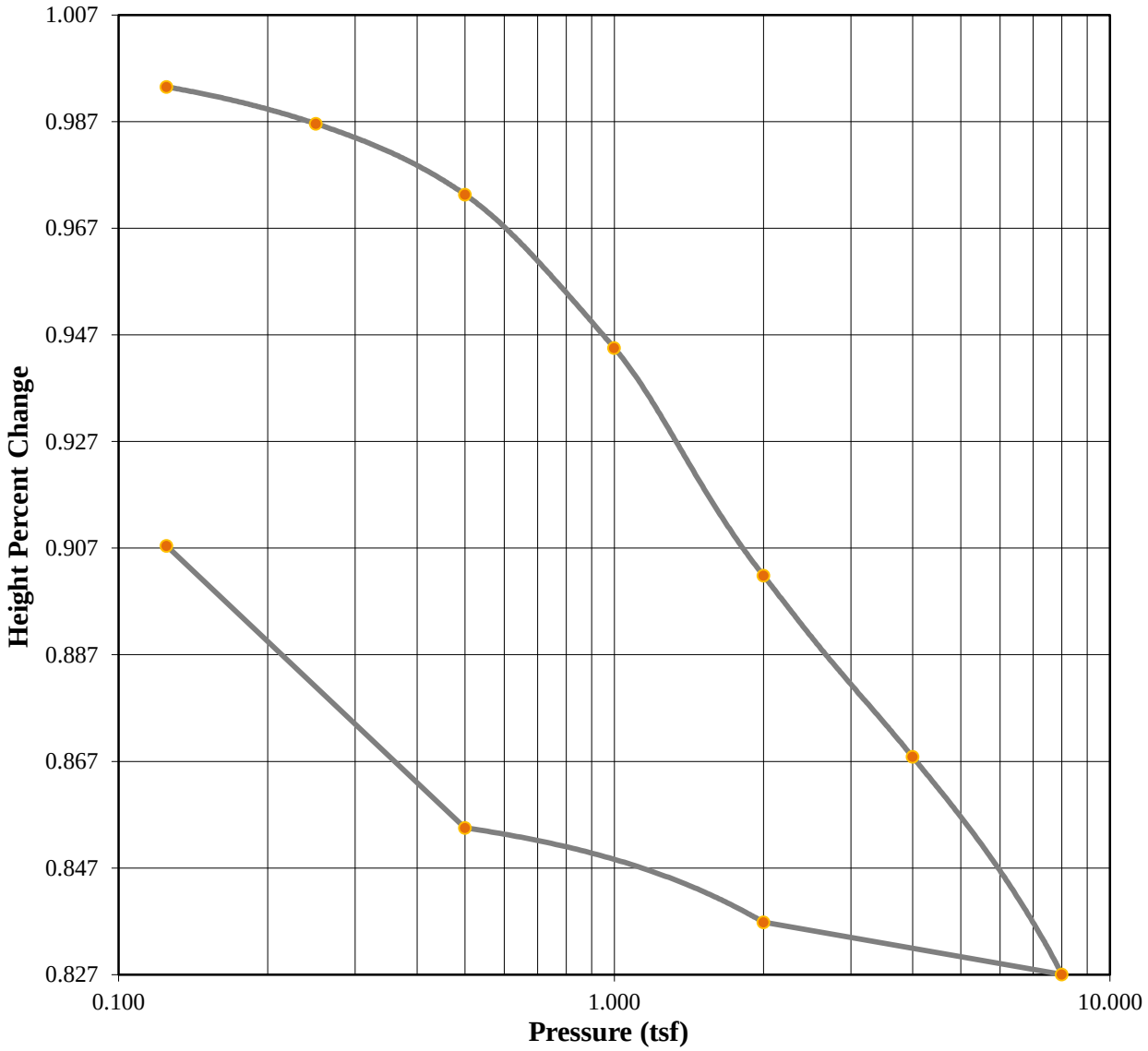
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.86 | 21.04 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 100.11 | 109.07 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 99.83 | 112.05 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6175 | 0.4730 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 190.0-190.33 | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.86 | 21.04 | **Liquid Limits:** | 0 | **Test Date:** | 9/29/15 |
| **Dry Density (pcf):** | 100.11 | 109.07 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 99.83 | 112.05 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.6175 | 0.4730 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 190.0-190.33 | **Remarks:** |
| **Sample Number:** | T-4 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 15-1101-0228

**Project Number:** 7559

**Sample Number:** T-4
**Boring Number:** MB-2
**Depth:** 190.0-190.33 ft.
**Sample Type:** Undisturbed

**Sample Description:** SANDY LEAN CLAY (CL A-6(11))
**Remarks:**

**Test Number:**
**Test Date:** 9/29/15

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9960 | 0.3806 | 0.00 | 0.6185 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0029 | 0.9931 | 0.3777 | 0.30 | 0.6137 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0098 | 0.9862 | 0.3708 | 0.99 | 0.6025 | * 4.7192 | 2.622 | 159.461 | 66.681 |
| 3 | 0.500 | 0.0231 | 0.9729 | 0.3575 | 2.32 | 0.5809 | * 10.3175 | 5.732 | 70.988 | 29.684 |
| 4 | 1.000 | 0.0519 | 0.9441 | 0.3287 | 5.21 | 0.5342 | * 11.7213 | 6.512 | 58.842 | 24.606 |
| 5 | 2.000 | 0.0946 | 0.9014 | 0.2860 | 9.50 | 0.4648 | * 15.3923 | 8.551 | 40.847 | 17.081 |
| 6 | 4.000 | 0.1286 | 0.8674 | 0.2520 | 12.91 | 0.4095 | * 16.9259 | 9.403 | 34.397 | 14.383 |
| 7 | 8.000 | 0.1694 | 0.8266 | 0.2112 | 17.01 | 0.3432 | * 20.1672 | 11.204 | 26.215 | 10.962 |
| 8 | 2.000 | 0.1596 | 0.8364 | 0.2210 | 16.03 | 0.3591 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | 0.500 | 0.1419 | 0.8541 | 0.2387 | 14.25 | 0.3878 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 0.125 | 0.0890 | 0.9070 | 0.2916 | 8.94 | 0.4739 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:**

**Checked By:**

# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 7559
**Location:** Soils Lab
**Job Number:** 15-1101-0228 **Test Date:** 9/29/15

**Sample Number:** T-4 **Sample Description:**
**Boring Number:** MB-2 SANDY LEAN CLAY (CL A-6(11))
**Depth:** 190.0-190.33 ft. **Remarks:**
**Sample Type:** Undisturbed

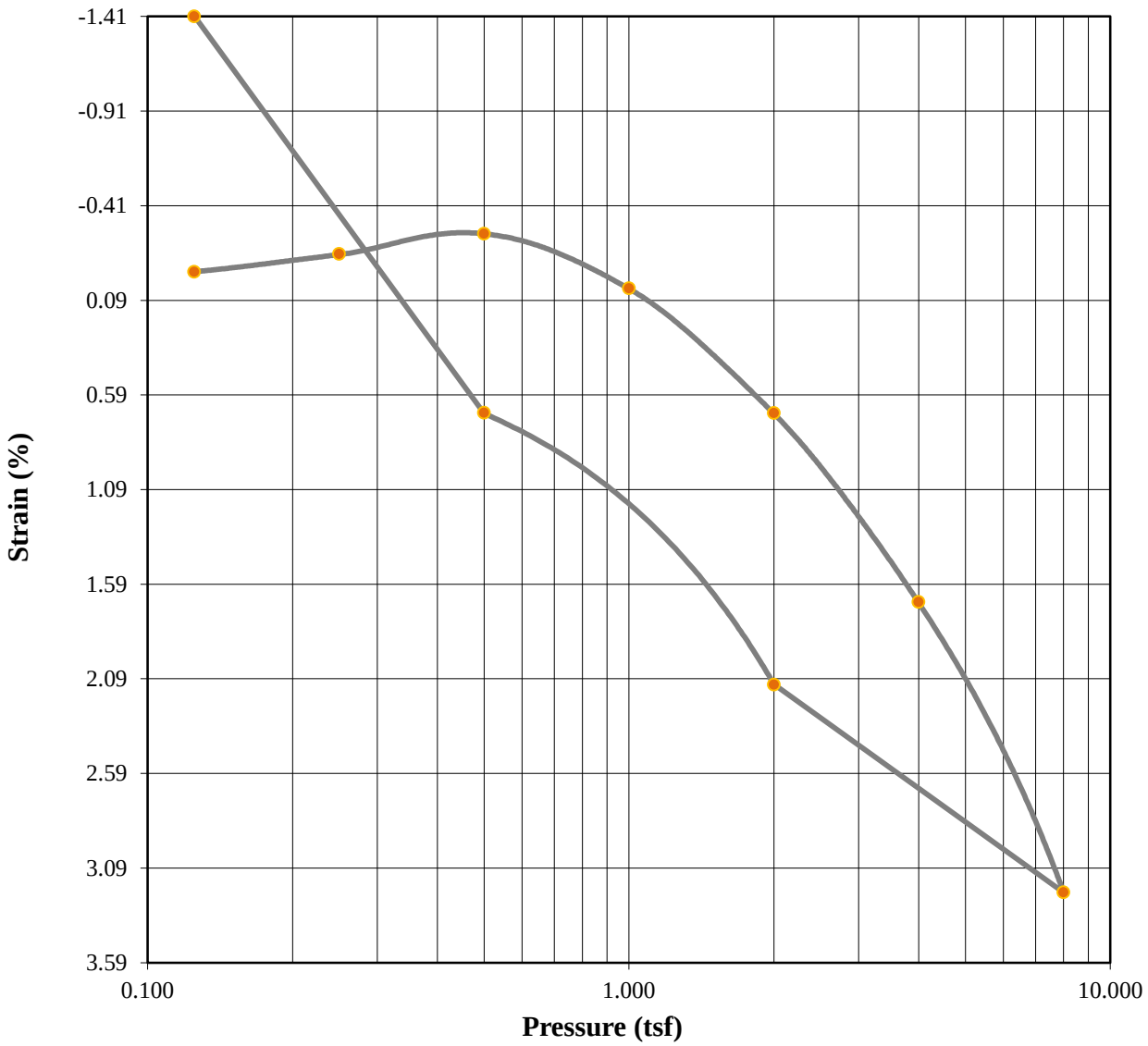
**Test Number:**

| | | | | | |
|---|---|---|---|---|---|
| **Liquid Limit:** | 0.0000 | **Initial Void Ratio:** | 0.6175 | **Initial Height (in):** | 0.9960 |
| **Plastic Limit:** | 0.0000 | **Plasticity Index (%):** | 0.0000 | **Initial Diameter (in):** | 2.4990 |
| **Specific Gravity:** | 2.6000 Assumed | **Weight of Ring (g):** | 98.6900 | | |

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 128.16 | 278.80 |
| Dry Soil + Container (g) | 109.65 | 252.03 |
| Weight of Container (g) | 32.08 | 124.77 |
| Moisture Content (%) | 23.86 | 21.04 |
| Void Ratio | 0.6175 | 0.4730 |
| Saturation (%) | 99.83 | 112.05 |
| Dry Density (pcf) | 100.11 | 109.07 |

**Tested By:** **Checked By:**

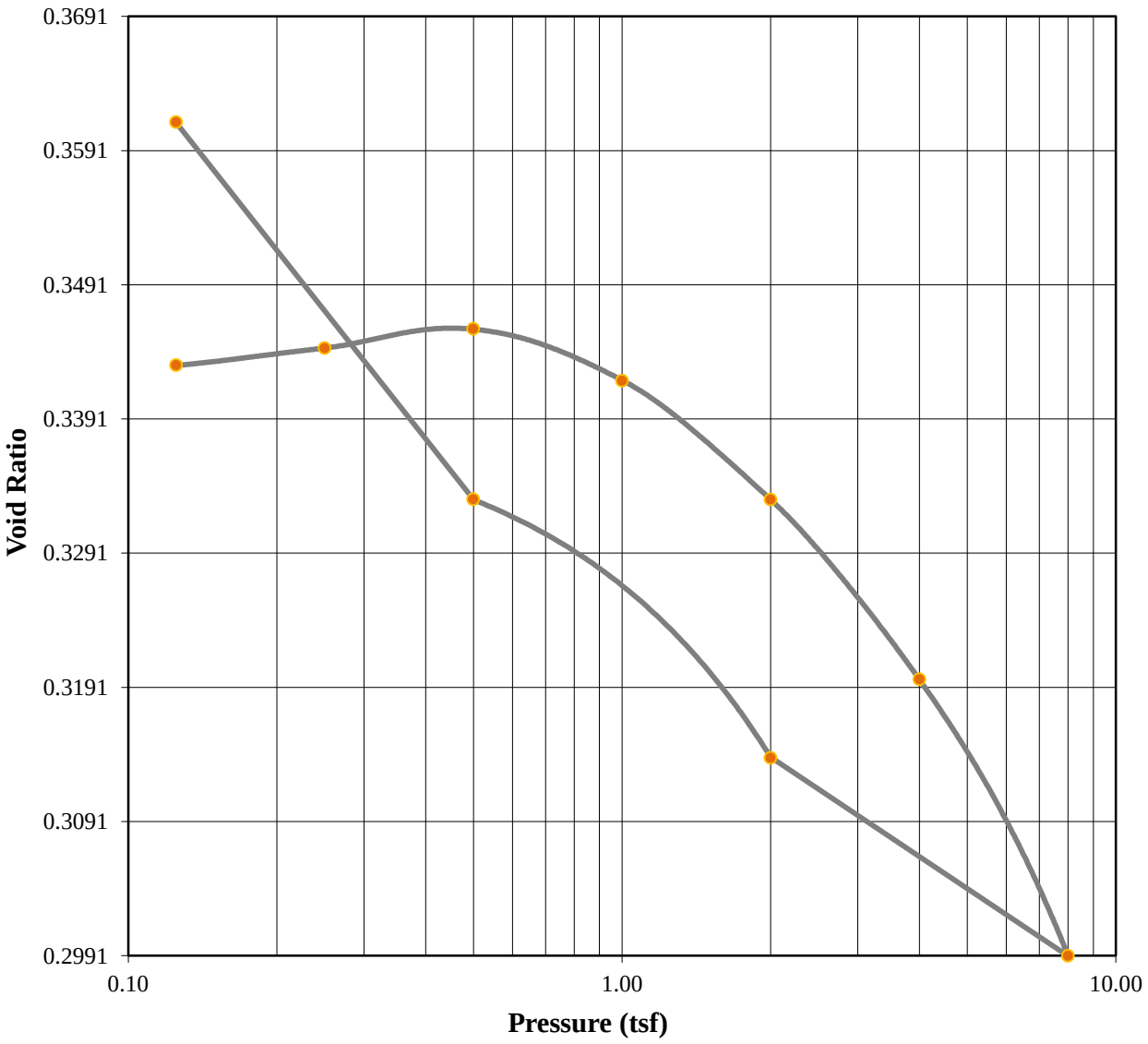
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 14.35 | 16.42 | **Liquid Limits:** | 0 | **Test Date:** | 9/30/15 |
| **Dry Density (pcf):** | 120.70 | 118.78 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 108.23 | 116.47 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.3431 | 0.3242 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 210.0-212.0 f | **Remarks:** |
| **Sample Number:** | T-5 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

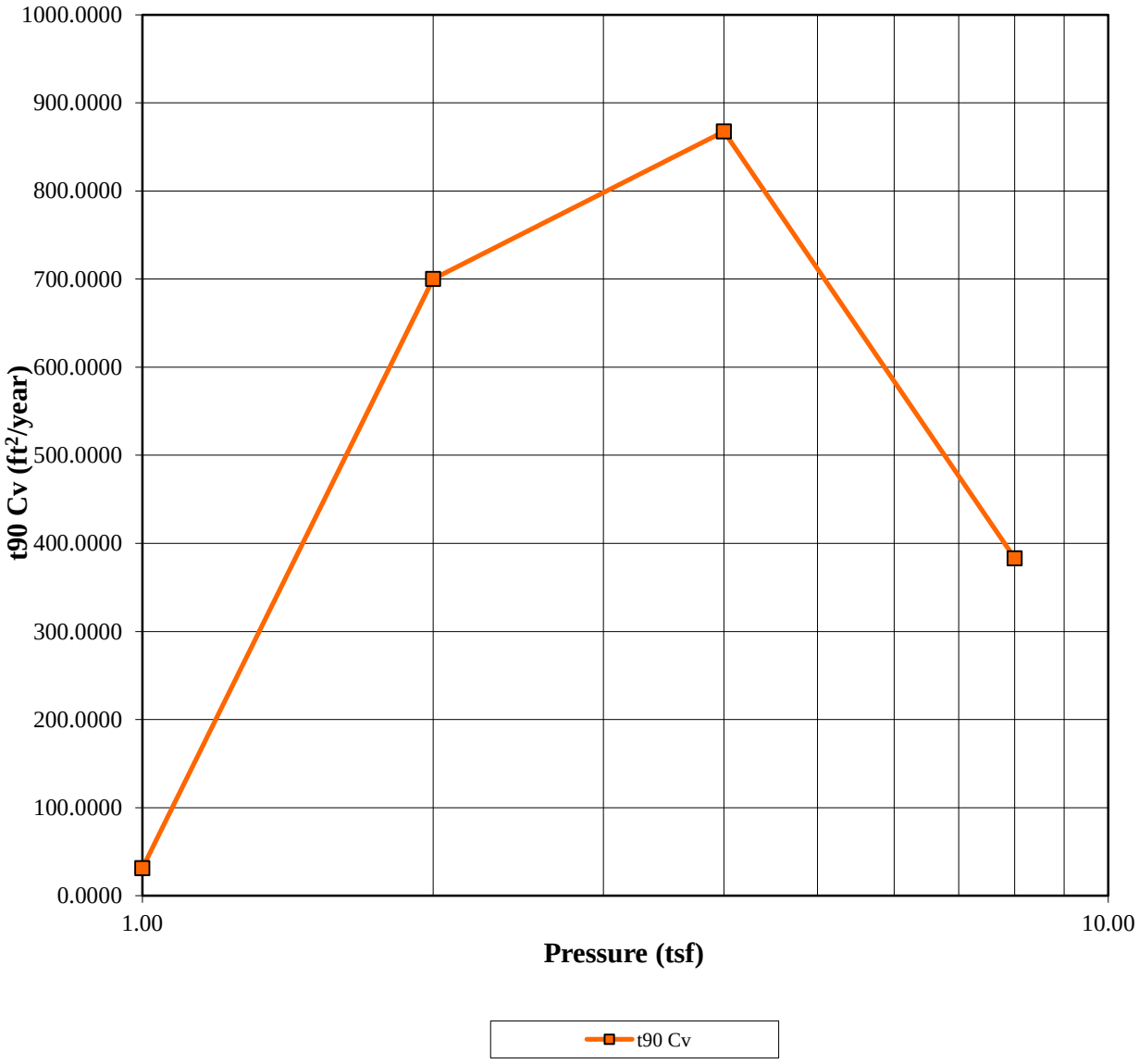
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 14.35 | 16.42 | **Liquid Limits:** | 0 | **Test Date:** | 9/30/15 |
| **Dry Density (pcf):** | 120.70 | 118.78 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 108.23 | 116.47 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.3431 | 0.3242 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 210.0-212.0 f | **Remarks:** |
| **Sample Number:** | T-5 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

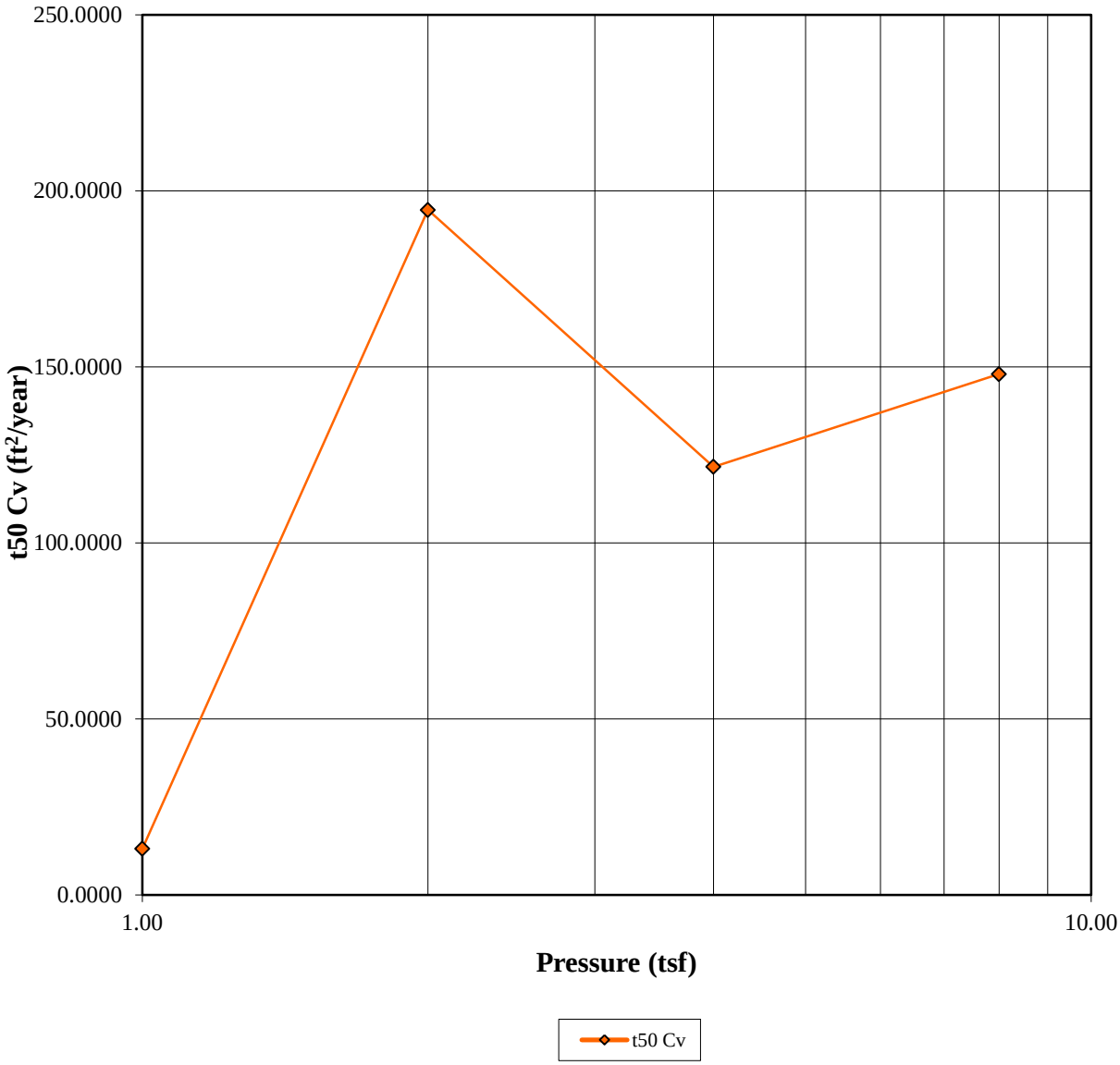
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 14.35 | 16.42 | **Liquid Limits:** | 0 | **Test Date:** | 9/30/15 |
| **Dry Density (pcf):** | 120.70 | 118.78 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 108.23 | 116.47 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.3431 | 0.3242 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 210.0-212.0 f | **Remarks:** |
| **Sample Number:** | T-5 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

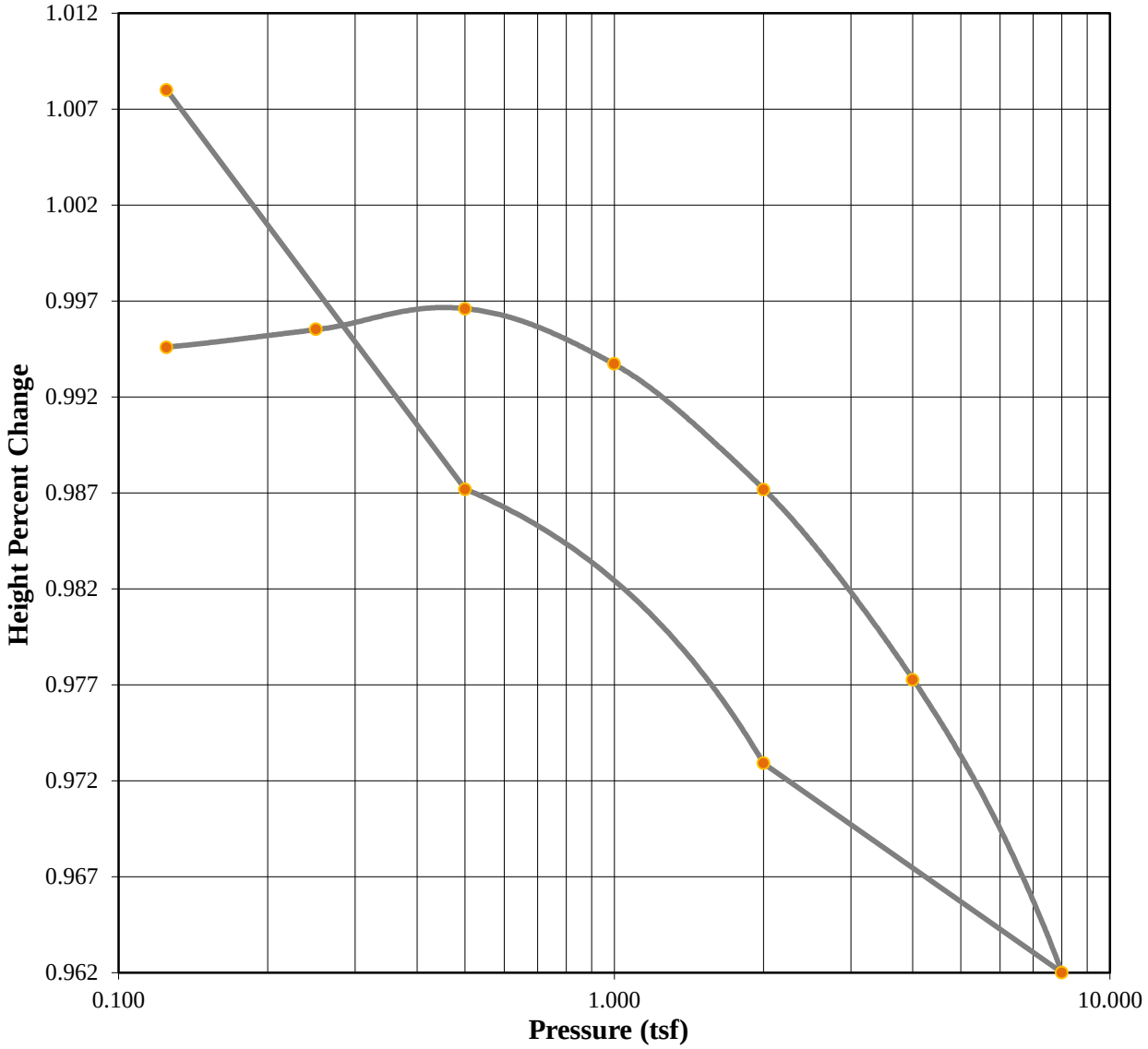
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 14.35 | 16.42 | **Liquid Limits:** | 0 | **Test Date:** | 9/30/15 |
| **Dry Density (pcf):** | 120.70 | 118.78 | **Plastic Limits:** | 0 | | |
| **Saturation (%):** | 108.23 | 116.47 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.3431 | 0.3242 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 210.0-212.0 f | **Remarks:** |
| **Sample Number:** | T-5 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 0 | **Test Date:** | 9/30/15 |
| **Moisture (%):** | 14.35 | 16.42 | **Plastic Limits:** | 0 | | |
| **Dry Density (pcf):** | 120.70 | 118.78 | **Plasticity Index (%):** | 0 | | |
| **Saturation (%):** | 108.23 | 116.47 | | | | |
| **Void Ratio:** | 0.3431 | 0.3242 | **Specific Gravity:** | 2.600 | Assumed | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | SANDY LEAN CLAY (CL A-6(11)) | | | |
| **Project Number:** | 7559 | **Depth:** | 210.0-212.0 f | **Remarks:** |
| **Sample Number:** | T-5 | **Boring Number:** | MB-2 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 15-1101-0228

**Project Number:** 7559

**Sample Number:** T-5
**Boring Number:** MB-2
**Depth:** 210.0-212.0 ft.
**Sample Type:** Undisturbed

**Sample Description:** SANDY LEAN CLAY (CL A-6(11))
**Remarks:**

**Test Number:**
**Test Date:** 9/30/15

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9940 | 0.2535 | 0.00 | 0.3423 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | -0.0006 | 0.9946 | 0.2541 | -0.06 | 0.3431 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | -0.0015 | 0.9955 | 0.2550 | -0.15 | 0.3444 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | 0.500 | -0.0026 | 0.9966 | 0.2561 | -0.26 | 0.3458 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | 1.000 | 0.0003 | 0.9937 | 0.2532 | 0.03 | 0.3420 | 24.262 | * 13.4786 | 31.495 | 13.170 |
| 5 | 2.000 | 0.0068 | 0.9872 | 0.2467 | 0.69 | 0.3331 | 1.077 | 0.900 | 700.093 | 194.558 |
| 6 | 4.000 | 0.0167 | 0.9773 | 0.2368 | 1.69 | 0.3197 | 0.852 | 1.412 | 867.566 | 121.620 |
| 7 | 8.000 | 0.0320 | 0.9620 | 0.2215 | 3.22 | 0.2991 | 1.869 | 1.124 | 383.100 | 147.965 |
| 8 | 2.000 | 0.0211 | 0.9729 | 0.2324 | 2.12 | 0.3139 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | 0.500 | 0.0068 | 0.9872 | 0.2467 | 0.69 | 0.3331 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 0.125 | -0.0140 | 1.0080 | 0.2675 | -1.41 | 0.3612 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:**

**Checked By:**

# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 7559
**Location:** Soils Lab
**Job Number:** 15-1101-0228 **Test Date:** 9/30/15

**Sample Number:** T-5 **Sample Description:**
**Boring Number:** MB-2 SANDY LEAN CLAY (CL A-6(11))
**Depth:** 210.0-212.0 ft. **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**

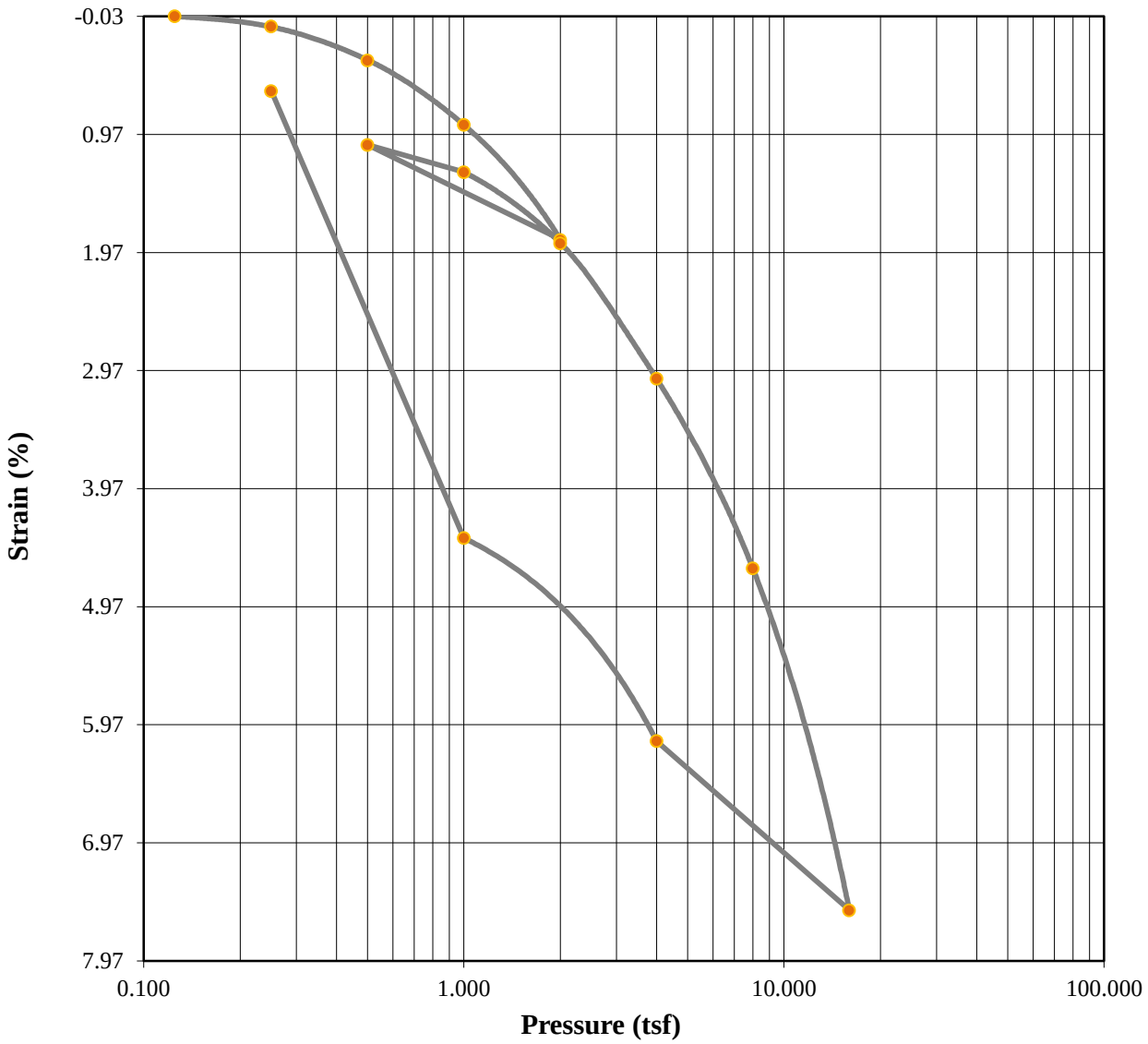
| | | | | | |
|---|---|---|---|---|---|
| **Liquid Limit:** | 0.0000 | **Initial Void Ratio:** | 0.3431 | **Initial Height (in):** | 0.9940 |
| **Plastic Limit:** | 0.0000 | **Plasticity Index (%):** | 0.0000 | **Initial Diameter (in):** | 2.5000 |
| **Specific Gravity:** | 2.6000 Assumed | **Weight of Ring (g):** | 98.7000 | | |

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 125.59 | 303.85 |
| Dry Soil + Container (g) | 113.88 | 278.59 |
| Weight of Container (g) | 32.26 | 124.80 |
| Moisture Content (%) | 14.35 | 16.42 |
| Void Ratio | 0.3431 | 0.3242 |
| Saturation (%) | 108.23 | 116.47 |
| Dry Density (pcf) | 120.70 | 118.78 |

**Tested By:** **Checked By:**

thompson
ENGINEERING

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.29 | 24.06 | **Liquid Limits:** | 35 | **Test Date:** | 8/23/17 |
| **Dry Density (pcf):** | 102.71 | 103.07 | **Plastic Limits:** | 17 | | |
| **Saturation (%):** | 123.64 | 129.22 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.4438 | 0.4351 | **Specific Gravity:** | 2.384 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | LEAN CLAY (CL A-6(18)) | | | |
| **Project Number:** | 8013 | **Depth:** | 123.0-125.0 f | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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**MOBILE, ALABAMA**

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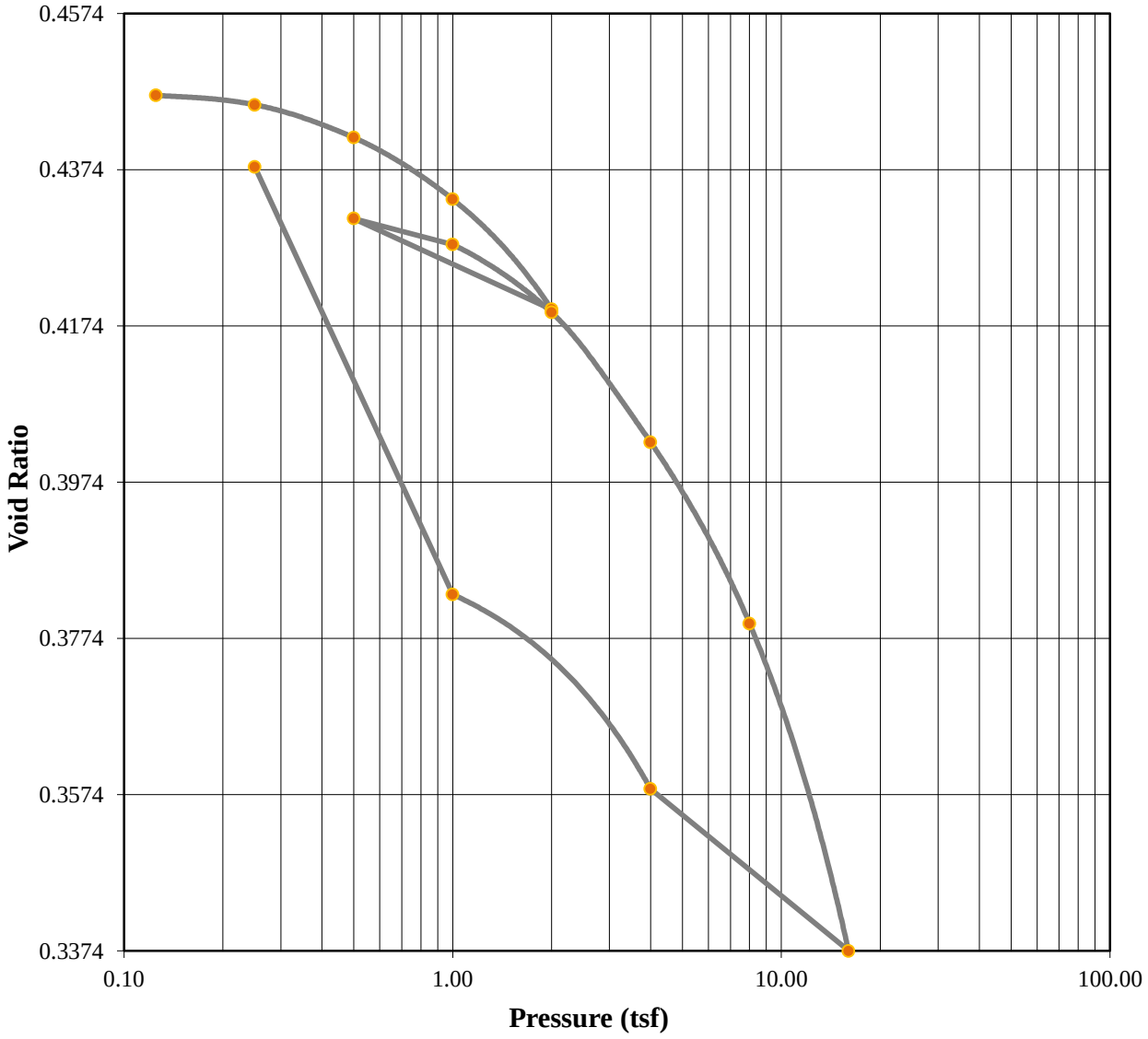
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.29 | 24.06 | **Liquid Limits:** | 35 | **Test Date:** | 8/23/17 |
| **Dry Density (pcf):** | 102.71 | 103.07 | **Plastic Limits:** | 17 | | |
| **Saturation (%):** | 123.64 | 129.22 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.4438 | 0.4351 | **Specific Gravity:** | 2.384 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY (CL A-6(18)) | | | |
| **Project Number:** | 8013 | **Depth:** | 123.0-125.0 f | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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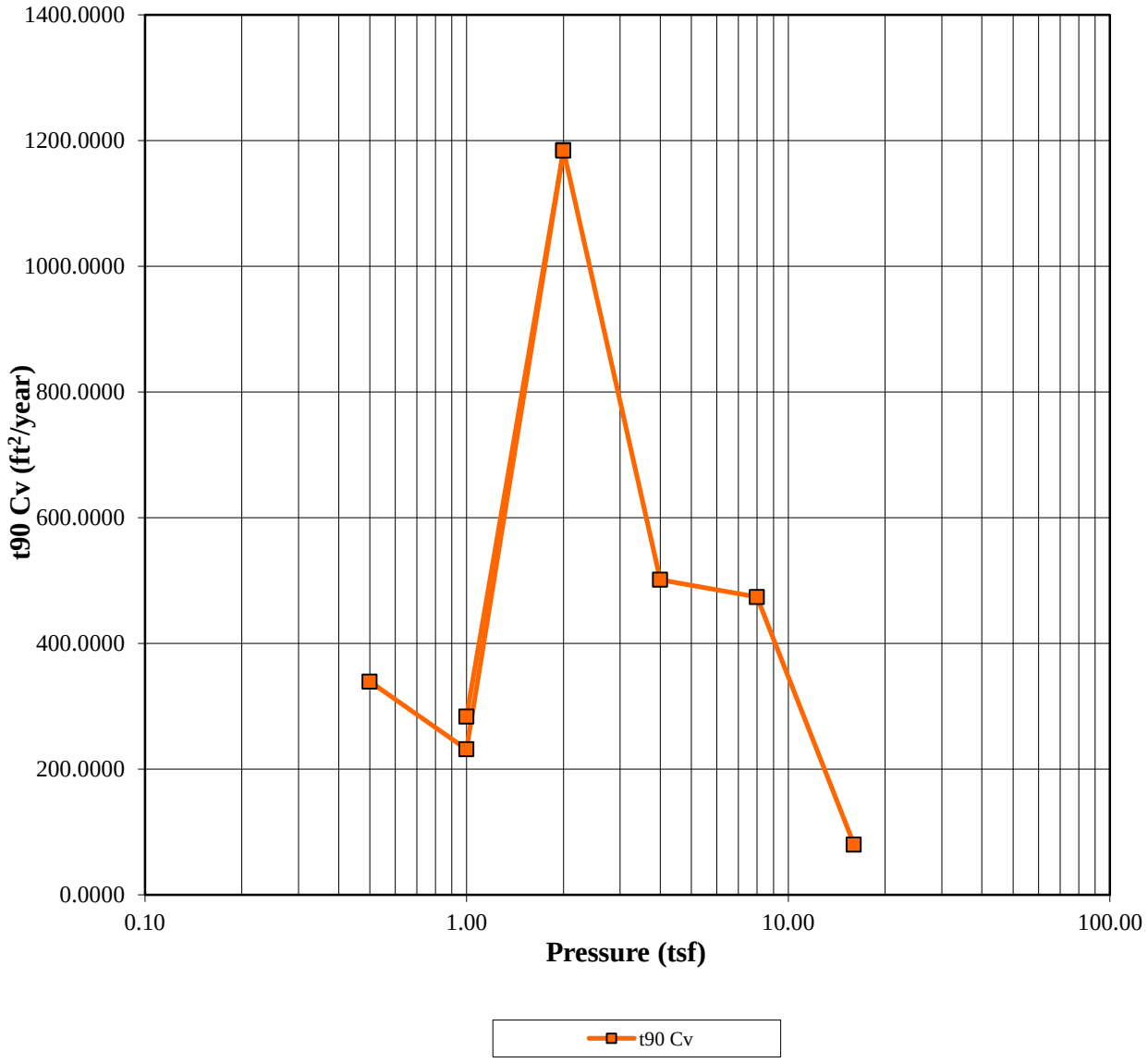
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.29 | 24.06 | **Liquid Limits:** | 35 | **Test Date:** | 8/23/17 |
| **Dry Density (pcf):** | 102.71 | 103.07 | **Plastic Limits:** | 17 | | |
| **Saturation (%):** | 123.64 | 129.22 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.4438 | 0.4351 | **Specific Gravity:** | 2.384 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY (CL A-6(18)) | | | |
| **Project Number:** | 8013 | **Depth:** | 123.0-125.0 f | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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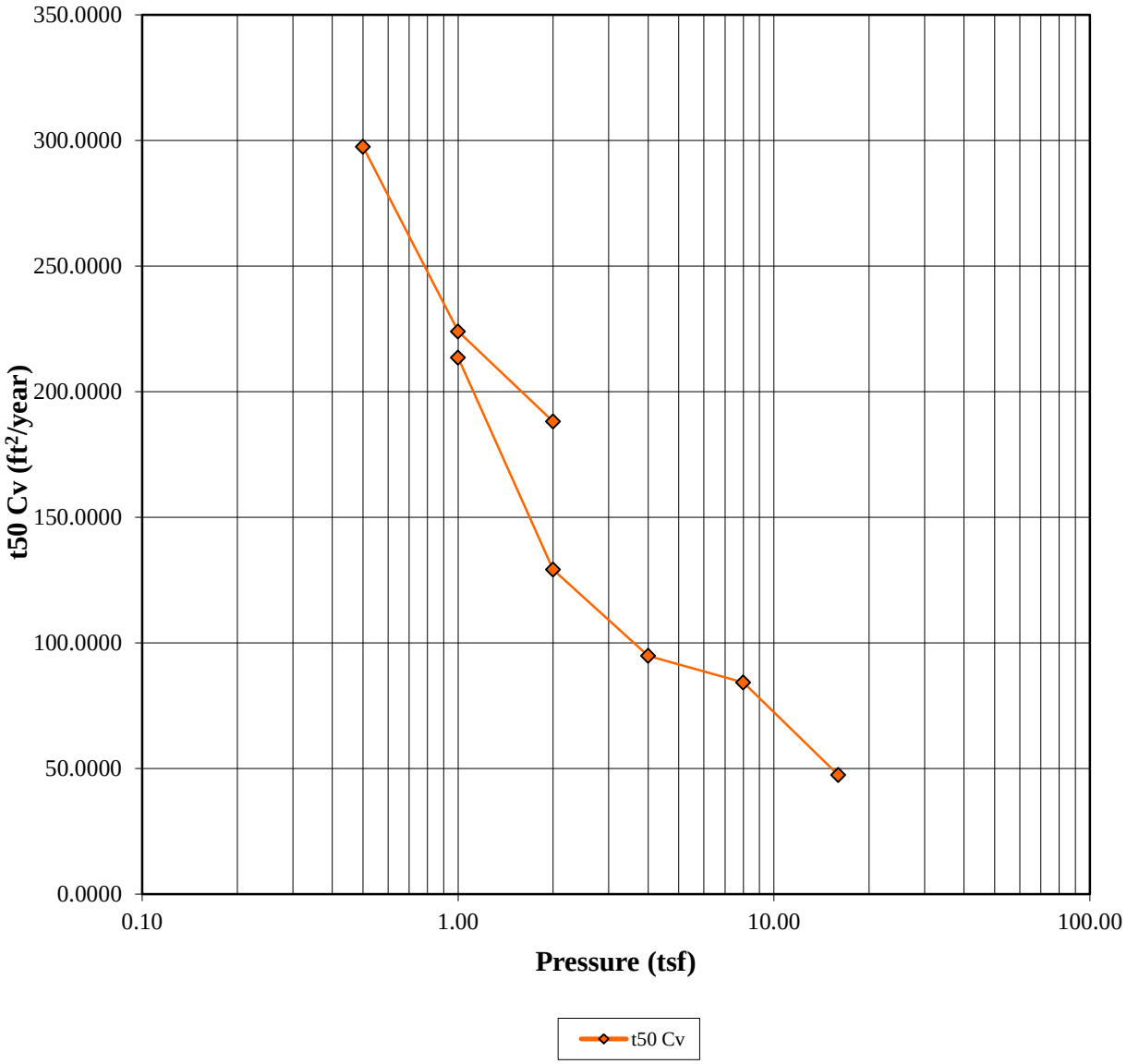
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.29 | 24.06 | **Liquid Limits:** | 35 | **Test Date:** | 8/23/17 |
| **Dry Density (pcf):** | 102.71 | 103.07 | **Plastic Limits:** | 17 | | |
| **Saturation (%):** | 123.64 | 129.22 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.4438 | 0.4351 | **Specific Gravity:** | 2.384 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY (CL A-6(18)) | | | |
| **Project Number:** | 8013 | **Depth:** | 123.0-125.0 f | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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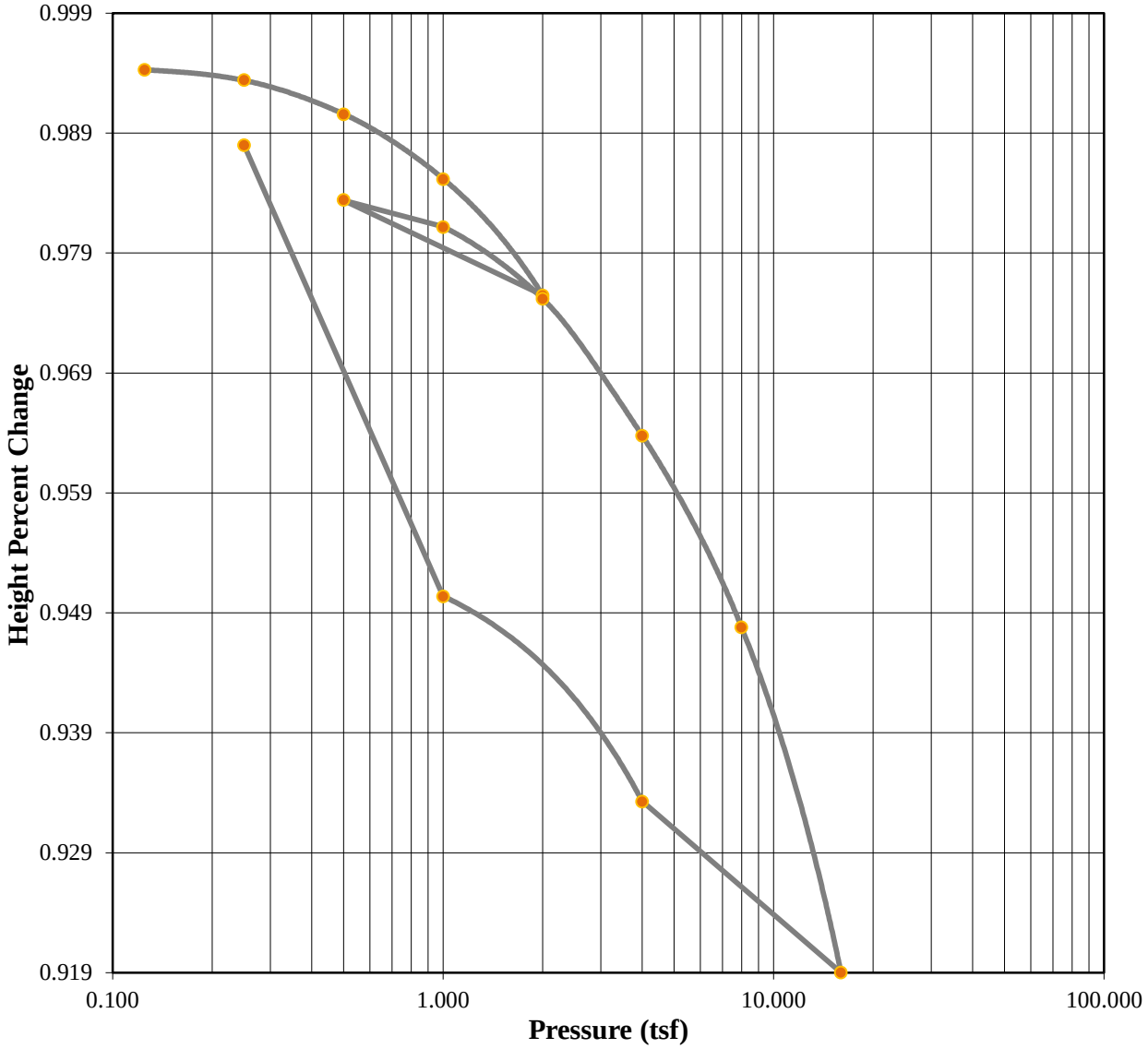
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 23.29 | 24.06 | **Liquid Limits:** | 35 | **Test Date:** | 8/23/17 |
| **Dry Density (pcf):** | 102.71 | 103.07 | **Plastic Limits:** | 17 | | |
| **Saturation (%):** | 123.64 | 129.22 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.4438 | 0.4351 | **Specific Gravity:** | 2.384 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY (CL A-6(18)) | | | |
| **Project Number:** | 8013 | **Depth:** | 123.0-125.0 f | **Remarks:** |
| **Sample Number:** | T-3 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 17-1101-0067

**Project Number:** 8013

**Sample Number:** T-3
**Boring Number:** MB-02A
**Depth:** 123.0-125.0 ft.
**Sample Type:** Undisturbed

**Sample Description:** LEAN CLAY (CL A-6(18))
**Remarks:**

**Test Number:**
**Test Date:** 8/23/17

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9940 | 0.3068 | 0.00 | 0.4465 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | -0.0003 | 0.9943 | 0.3071 | -0.03 | 0.4469 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0006 | 0.9934 | 0.3063 | 0.06 | 0.4457 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | 0.500 | 0.0034 | 0.9906 | 0.3034 | 0.34 | 0.4415 | 2.238 | 0.593 | 339.260 | 297.489 |
| 4 | 1.000 | 0.0088 | 0.9852 | 0.2980 | 0.89 | 0.4336 | 3.242 | 0.779 | 231.680 | 223.953 |
| 5 | 2.000 | 0.0185 | 0.9755 | 0.2883 | 1.86 | 0.4195 | 0.622 | 0.909 | 1184.685 | 188.094 |
| 6 | 0.500 | 0.0106 | 0.9834 | 0.2963 | 1.06 | 0.4311 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | 1.000 | 0.0128 | 0.9812 | 0.2940 | 1.29 | 0.4278 | 2.625 | 0.810 | 283.829 | 213.569 |
| 8 | 2.000 | 0.0188 | 0.9752 | 0.2880 | 1.89 | 0.4191 | 0.622 | 1.323 | 1183.913 | 129.219 |
| 9 | 4.000 | 0.0302 | 0.9638 | 0.2766 | 3.04 | 0.4025 | 1.433 | 1.760 | 501.466 | 94.878 |
| 10 | 8.000 | 0.0462 | 0.9478 | 0.2606 | 4.65 | 0.3793 | 1.466 | 1.916 | 474.053 | 84.287 |
| 11 | 16.000 | 0.0750 | 0.9190 | 0.2318 | 7.54 | 0.3374 | 8.165 | 3.203 | 80.045 | 47.406 |
| 12 | 4.000 | 0.0607 | 0.9333 | 0.2461 | 6.11 | 0.3581 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13 | 1.000 | 0.0436 | 0.9504 | 0.2632 | 4.39 | 0.3830 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14 | 0.250 | 0.0060 | 0.9880 | 0.3008 | 0.60 | 0.4378 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge
**Project Number:** 8013
**Location:** Soils Lab
**Job Number:** 17-1101-0067
**Test Date:** 8/23/17

**Sample Number:** T-3
**Sample Description:**
**Boring Number:** MB-02A
LEAN CLAY (CL A-6(18))
**Depth:** 123.0-125.0 ft.
**Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 35.0000
**Initial Void Ratio:** 0.4438
**Initial Height (in):** 0.9940
**Plastic Limit:** 17.0000
**Plasticity Index (%):** 0.0000
**Initial Diameter (in):** 2.5010
**Specific Gravity:** 2.3840 Measured
**Weight of Ring (g):** 98.6500

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 118.54 | 291.67 |
| Dry Soil + Container (g) | 102.19 | 260.21 |
| Weight of Container (g) | 32.00 | 129.44 |
| Moisture Content (%) | 23.29 | 24.06 |
| Void Ratio | 0.4438 | 0.4351 |
| Saturation (%) | 123.64 | 129.22 |
| Dry Density (pcf) | 102.71 | 103.07 |

**Tested By:** B. Hak
**Checked By:** C. Dugger

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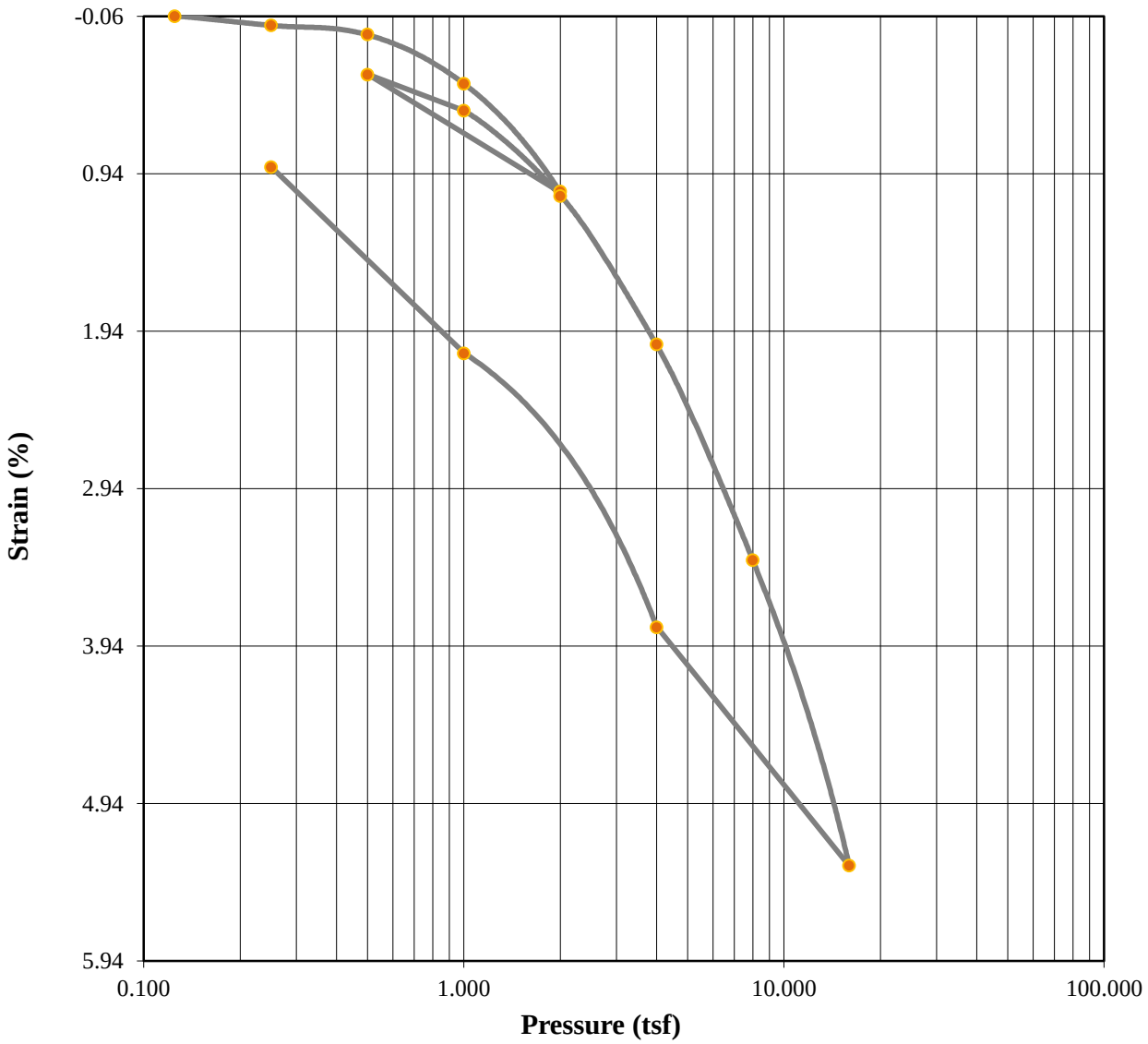
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 16.73 | 18.16 | **Liquid Limits:** | 39 | **Test Date:** | 8/25/17 |
| **Dry Density (pcf):** | 115.48 | 116.03 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 147.48 | 163.80 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.2621 | 0.2508 | **Specific Gravity:** | 2.341 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | LEAN CLAY with SAND (CL A-6(16)) | | | |
| **Project Number:** | 8013 | **Depth:** | 198.0-200.0 f | **Remarks:** |
| **Sample Number:** | T-8 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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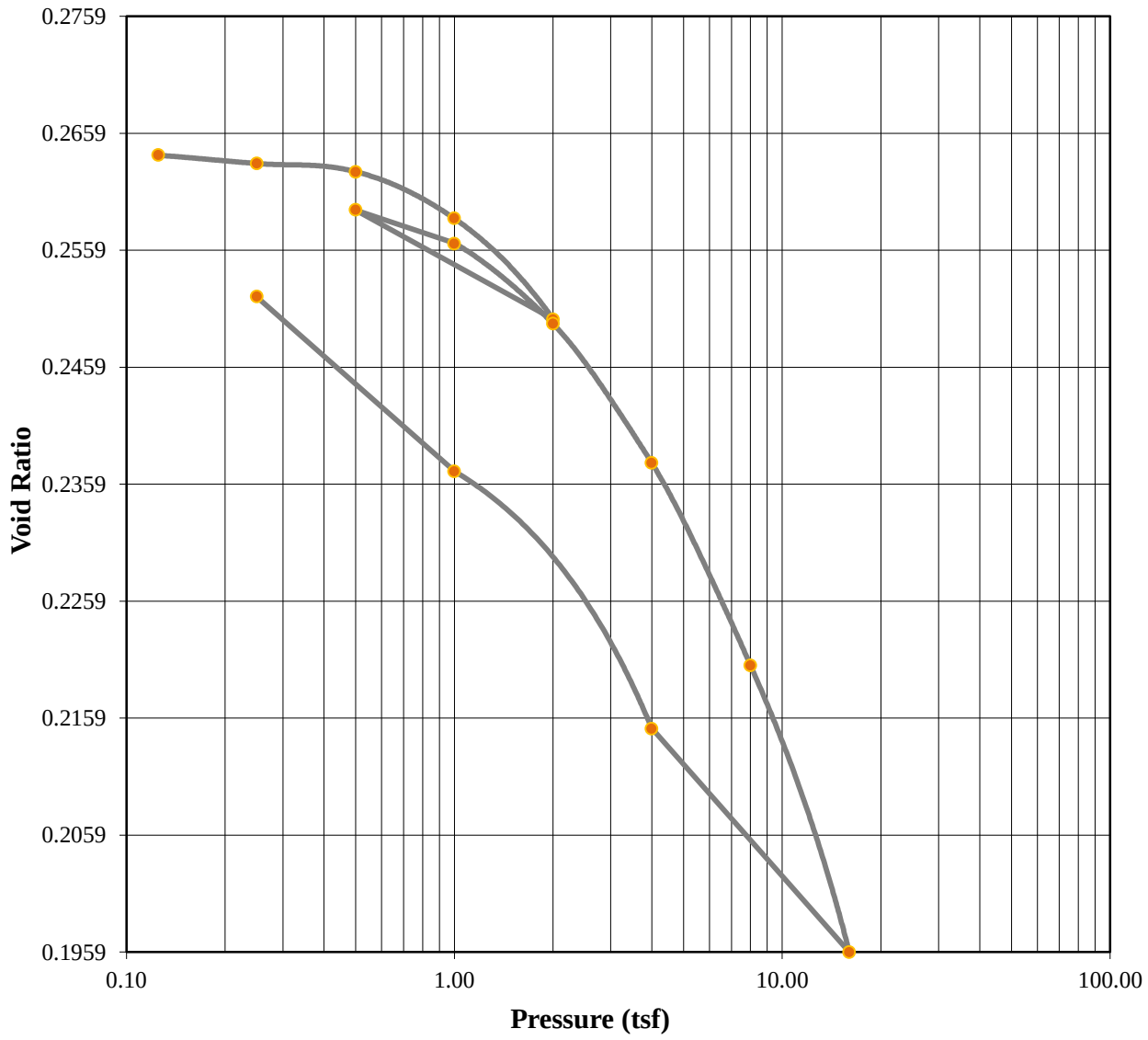
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 16.73 | 18.16 | **Liquid Limits:** | 39 | **Test Date:** | 8/25/17 |
| **Dry Density (pcf):** | 115.48 | 116.03 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 147.48 | 163.80 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.2621 | 0.2508 | **Specific Gravity:** | 2.341 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY with SAND (CL A-6(16)) | | | |
| **Project Number:** | 8013 | **Depth:** | 198.0-200.0 f | **Remarks:** |
| **Sample Number:** | T-8 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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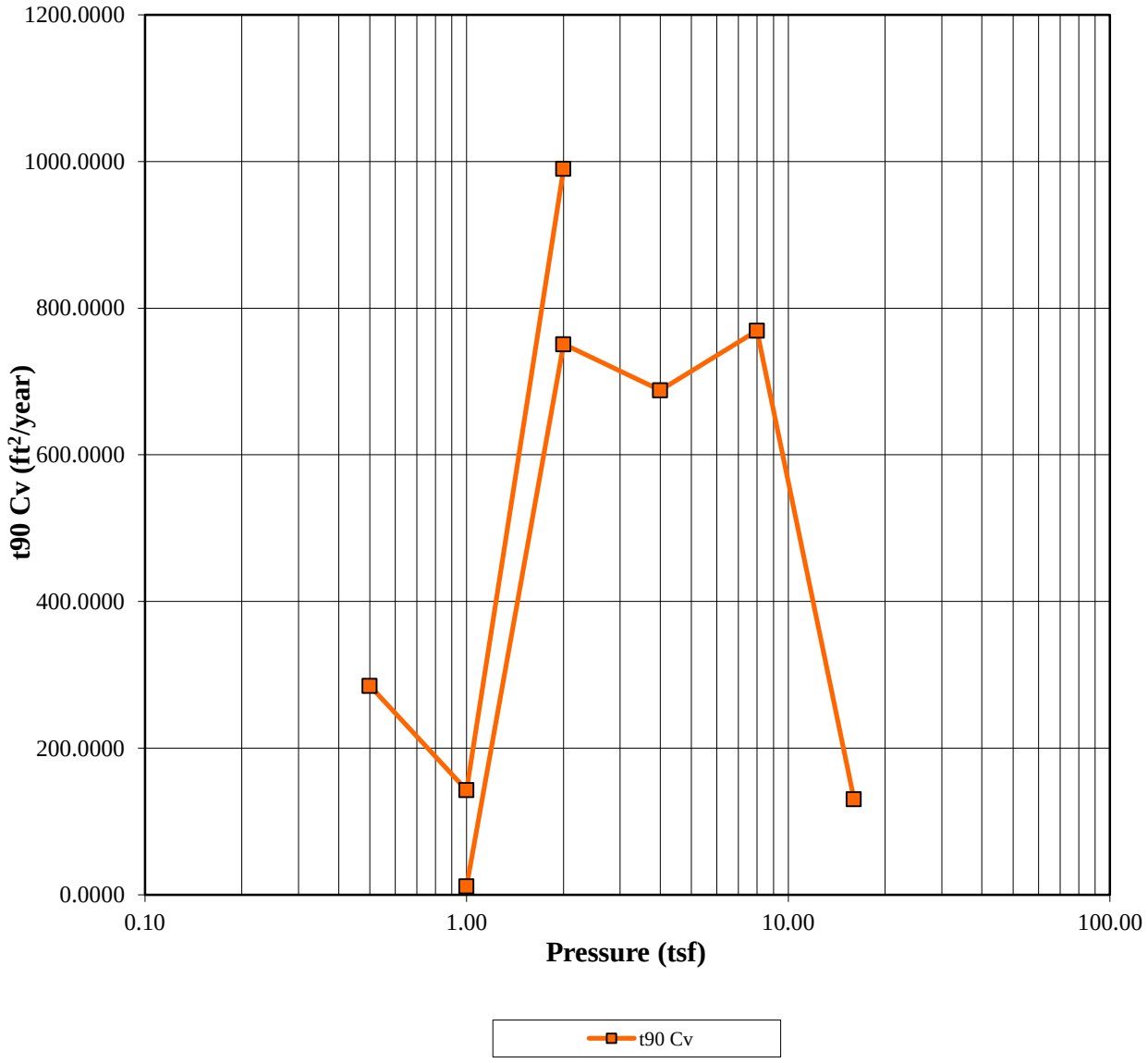
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 16.73 | 18.16 | **Liquid Limits:** | 39 | **Test Date:** | 8/25/17 |
| **Dry Density (pcf):** | 115.48 | 116.03 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 147.48 | 163.80 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.2621 | 0.2508 | **Specific Gravity:** | 2.341 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY with SAND (CL A-6(16)) | | | |
| **Project Number:** | 8013 | **Depth:** | 198.0-200.0 f | **Remarks:** |
| **Sample Number:** | T-8 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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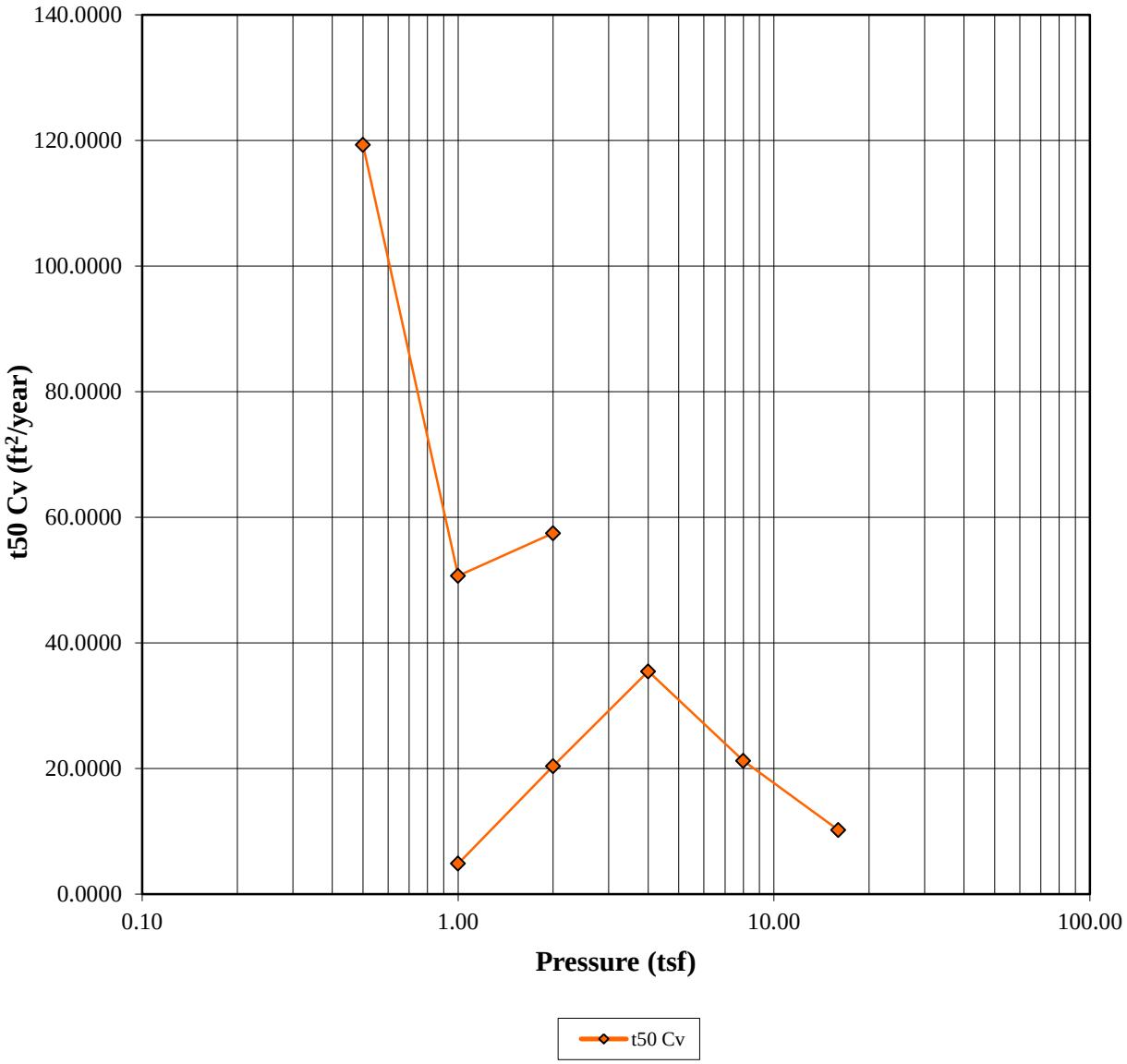
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 16.73 | 18.16 | **Liquid Limits:** | 39 | **Test Date:** | 8/25/17 |
| **Dry Density (pcf):** | 115.48 | 116.03 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 147.48 | 163.80 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.2621 | 0.2508 | **Specific Gravity:** | 2.341 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY with SAND (CL A-6(16)) | | | |
| **Project Number:** | 8013 | **Depth:** | 198.0-200.0 f | **Remarks:** |
| **Sample Number:** | T-8 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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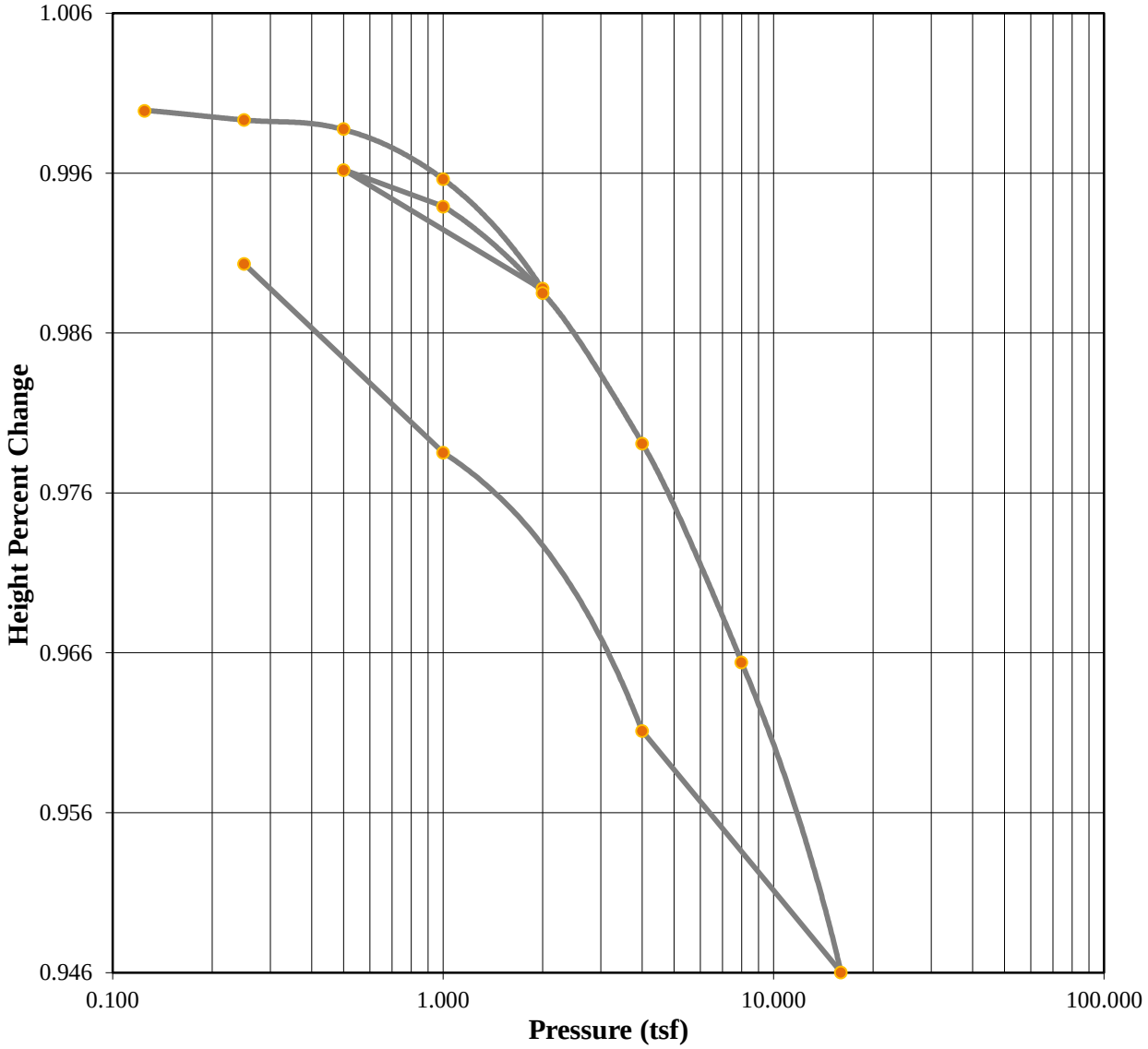
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 16.73 | 18.16 | **Liquid Limits:** | 39 | **Test Date:** | 8/25/17 |
| **Dry Density (pcf):** | 115.48 | 116.03 | **Plastic Limits:** | 14 | | |
| **Saturation (%):** | 147.48 | 163.80 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 0.2621 | 0.2508 | **Specific Gravity:** | 2.341 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | LEAN CLAY with SAND (CL A-6(16)) | | | |
| **Project Number:** | 8013 | **Depth:** | 198.0-200.0 f | **Remarks:** |
| **Sample Number:** | T-8 | **Boring Number:** | MB-02A | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 17-1101-0067

**Project Number:** 8013

**Sample Number:** T-8
**Boring Number:** MB-02A
**Depth:** 198.0-200.0 ft.
**Sample Type:** Undisturbed

**Sample Description:** LEAN CLAY with SAND (CL A-6(16))
**Remarks:**

**Test Number:**
**Test Date:** 8/25/17

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9990 | 0.2082 | 0.00 | 0.2633 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | -0.0006 | 0.9996 | 0.2088 | -0.06 | 0.2640 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0000 | 0.9990 | 0.2082 | 0.00 | 0.2633 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | 0.500 | 0.0006 | 0.9984 | 0.2077 | 0.06 | 0.2626 | 2.704 | * 1.5024 | 285.227 | 119.275 |
| 4 | 1.000 | 0.0037 | 0.9953 | 0.2045 | 0.37 | 0.2586 | 5.361 | 3.514 | 142.985 | 50.683 |
| 5 | 2.000 | 0.0106 | 0.9884 | 0.1977 | 1.06 | 0.2500 | 0.764 | 3.057 | 989.773 | 57.448 |
| 6 | 0.500 | 0.0031 | 0.9959 | 0.2051 | 0.31 | 0.2593 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | 1.000 | 0.0054 | 0.9936 | 0.2028 | 0.54 | 0.2565 | 65.513 | * 36.3964 | 11.660 | 4.876 |
| 8 | 2.000 | 0.0108 | 0.9882 | 0.1974 | 1.08 | 0.2496 | 1.006 | 8.612 | 750.830 | 20.382 |
| 9 | 4.000 | 0.0202 | 0.9788 | 0.1880 | 2.03 | 0.2377 | 1.077 | 4.852 | 688.207 | 35.490 |
| 10 | 8.000 | 0.0339 | 0.9651 | 0.1743 | 3.40 | 0.2204 | 0.937 | 7.881 | 769.166 | 21.243 |
| 11 | 16.000 | 0.0533 | 0.9457 | 0.1549 | 5.34 | 0.1959 | 5.303 | 15.697 | 130.499 | 10.241 |
| 12 | 4.000 | 0.0382 | 0.9608 | 0.1700 | 3.82 | 0.2150 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13 | 1.000 | 0.0208 | 0.9782 | 0.1874 | 2.08 | 0.2370 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14 | 0.250 | 0.0090 | 0.9900 | 0.1992 | 0.90 | 0.2519 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 8013
**Location:** Soils Lab
**Job Number:** 17-1101-0067 **Test Date:** 8/25/17

**Sample Number:** T-8 **Sample Description:**
**Boring Number:** MB-02A LEAN CLAY with SAND (CL A-6(16))
**Depth:** 198.0-200.0 ft. **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 39.0000 **Initial Void Ratio:** 0.2621 **Initial Height (in):** 0.9990
**Plastic Limit:** 14.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5040
**Specific Gravity:** 2.3410 Measured **Weight of Ring (g):** 111.0800

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 110.01 | 304.45 |
| Dry Soil + Container (g) | 98.87 | 277.59 |
| Weight of Container (g) | 32.27 | 129.65 |
| Moisture Content (%) | 16.73 | 18.16 |
| Void Ratio | 0.2621 | 0.2508 |
| Saturation (%) | 147.48 | 163.80 |
| Dry Density (pcf) | 115.48 | 116.03 |

**Tested By:** B. Hak **Checked By:** C. Dugger

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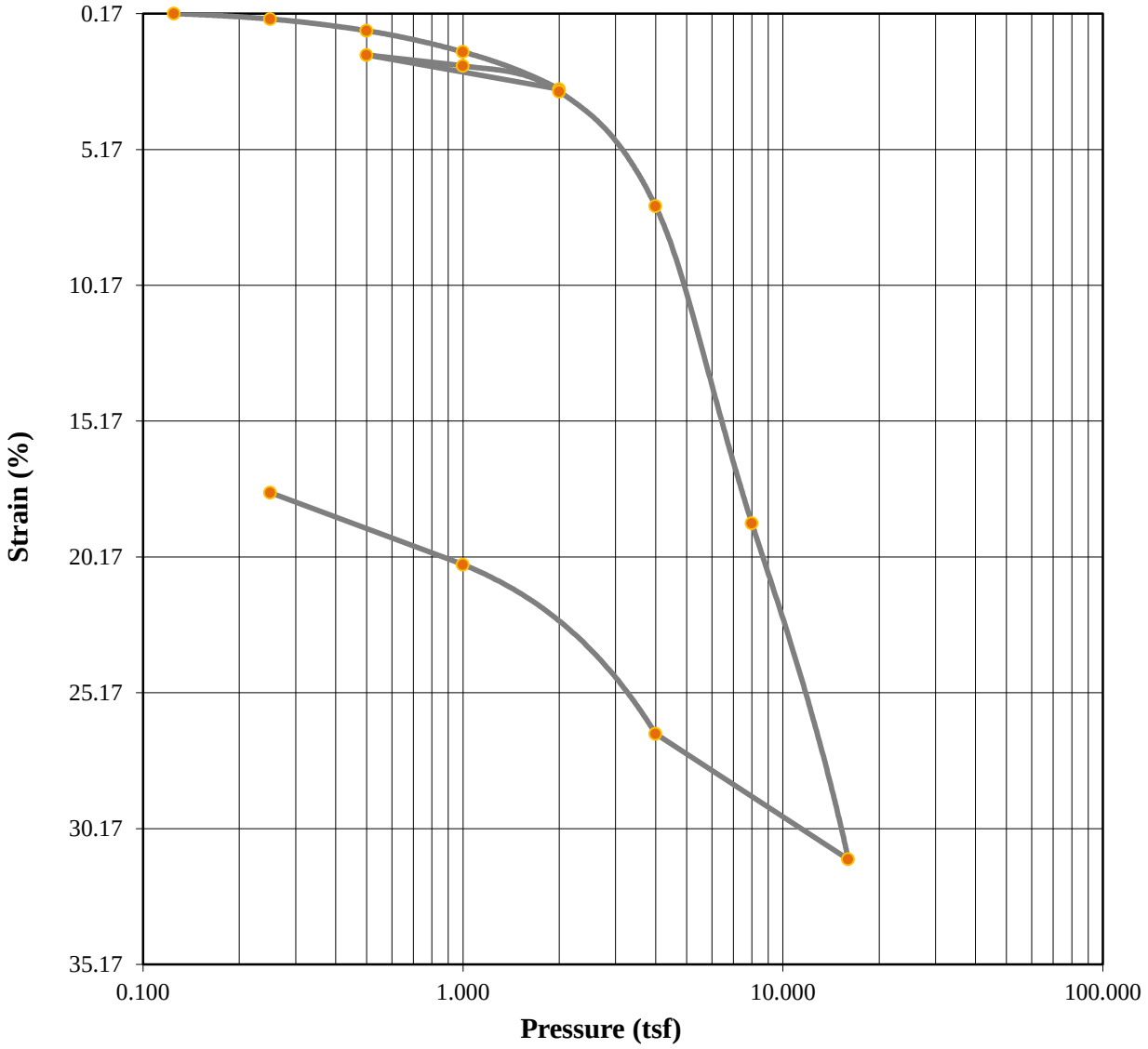
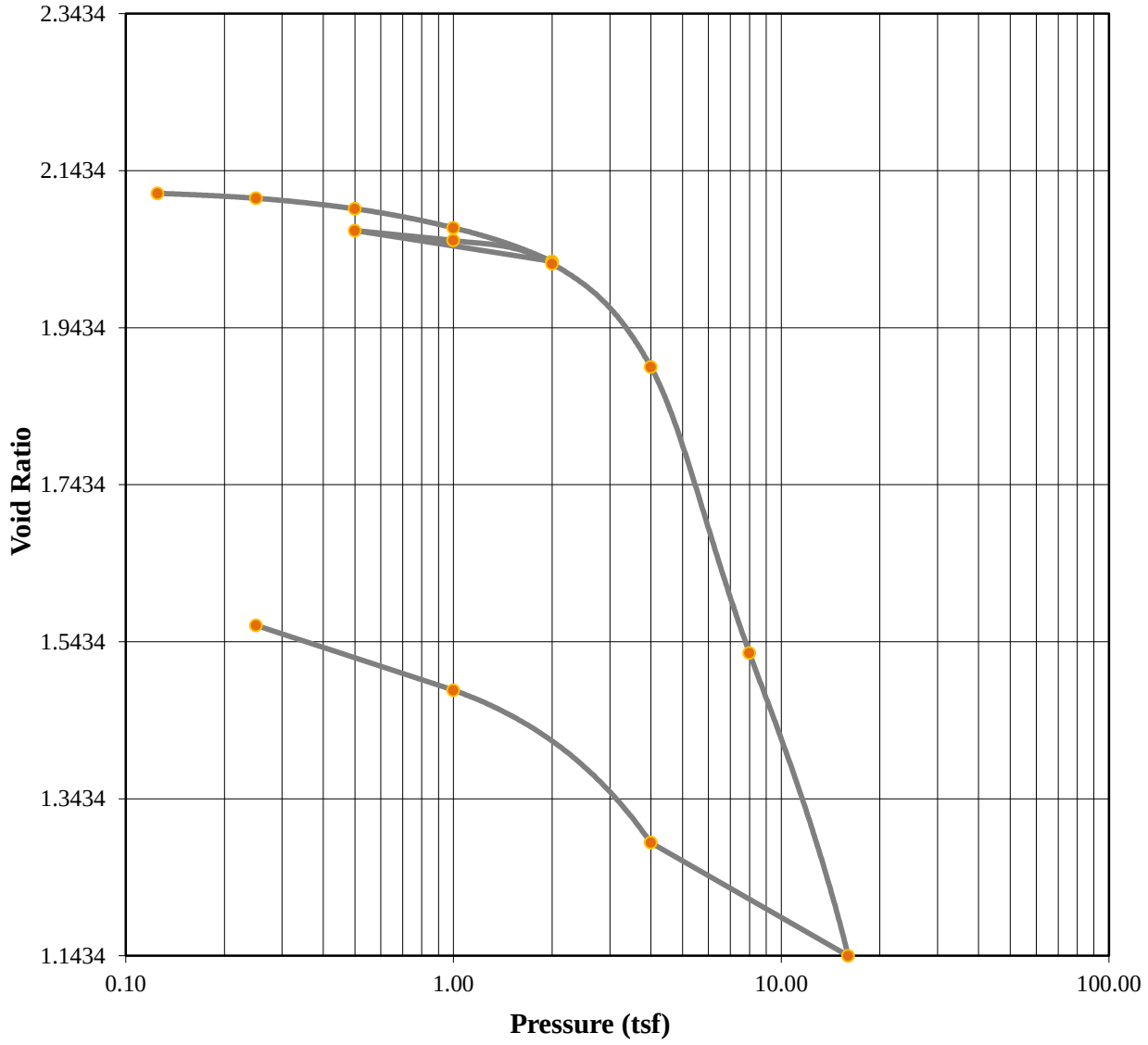
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 109.67 | 76.38 | **Liquid Limits:** | 83 | **Test Date:** | 10/23/17 |
| **Dry Density (pcf):** | 41.51 | 52.52 | **Plastic Limits:** | 46 | | |
| **Saturation (%):** | 107.22 | 107.98 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 2.1260 | 1.5693 | **Specific Gravity:** | 2.078 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Sample Description:** | ELASTIC SILT with SAND(MH A-7-5(33)) | | | |
| **Project Number:** | 8063 | **Depth:** | 28.0-30.0 ft | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | TH-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 109.67 | 76.38 | **Liquid Limits:** | 83 | **Test Date:** | 10/23/17 |
| **Dry Density (pcf):** | 41.51 | 52.52 | **Plastic Limits:** | 46 | | |
| **Saturation (%):** | 107.22 | 107.98 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 2.1260 | 1.5693 | **Specific Gravity:** | 2.078 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | ELASTIC SILT with SAND(MH A-7-5(33)) | | | |
| **Project Number:** | 8063 | **Depth:** | 28.0-30.0 ft | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | TH-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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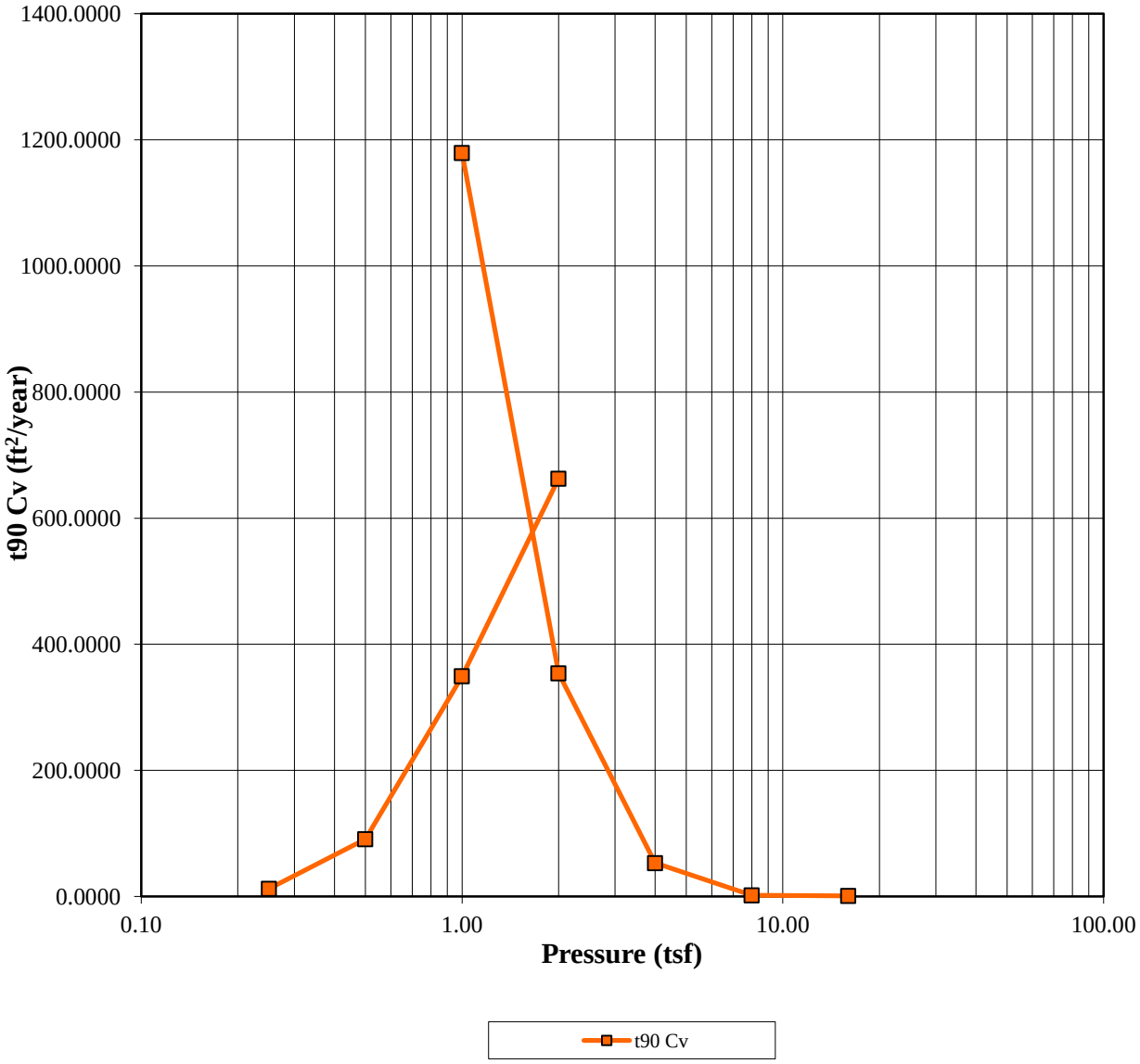
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| | | | **Liquid Limits:** | 83 | **Test Date:** | 10/23/17 |
| **Moisture (%):** | 109.67 | 76.38 | **Plastic Limits:** | 46 | | |
| **Dry Density (pcf):** | 41.51 | 52.52 | **Plasticity Index (%):** | 0 | | |
| **Saturation (%):** | 107.22 | 107.98 | | | | |
| **Void Ratio:** | 2.1260 | 1.5693 | **Specific Gravity:** | 2.078 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | ELASTIC SILT with SAND(MH A-7-5(33)) | | | |
| **Project Number:** | 8063 | **Depth:** | 28.0-30.0 ft | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | TH-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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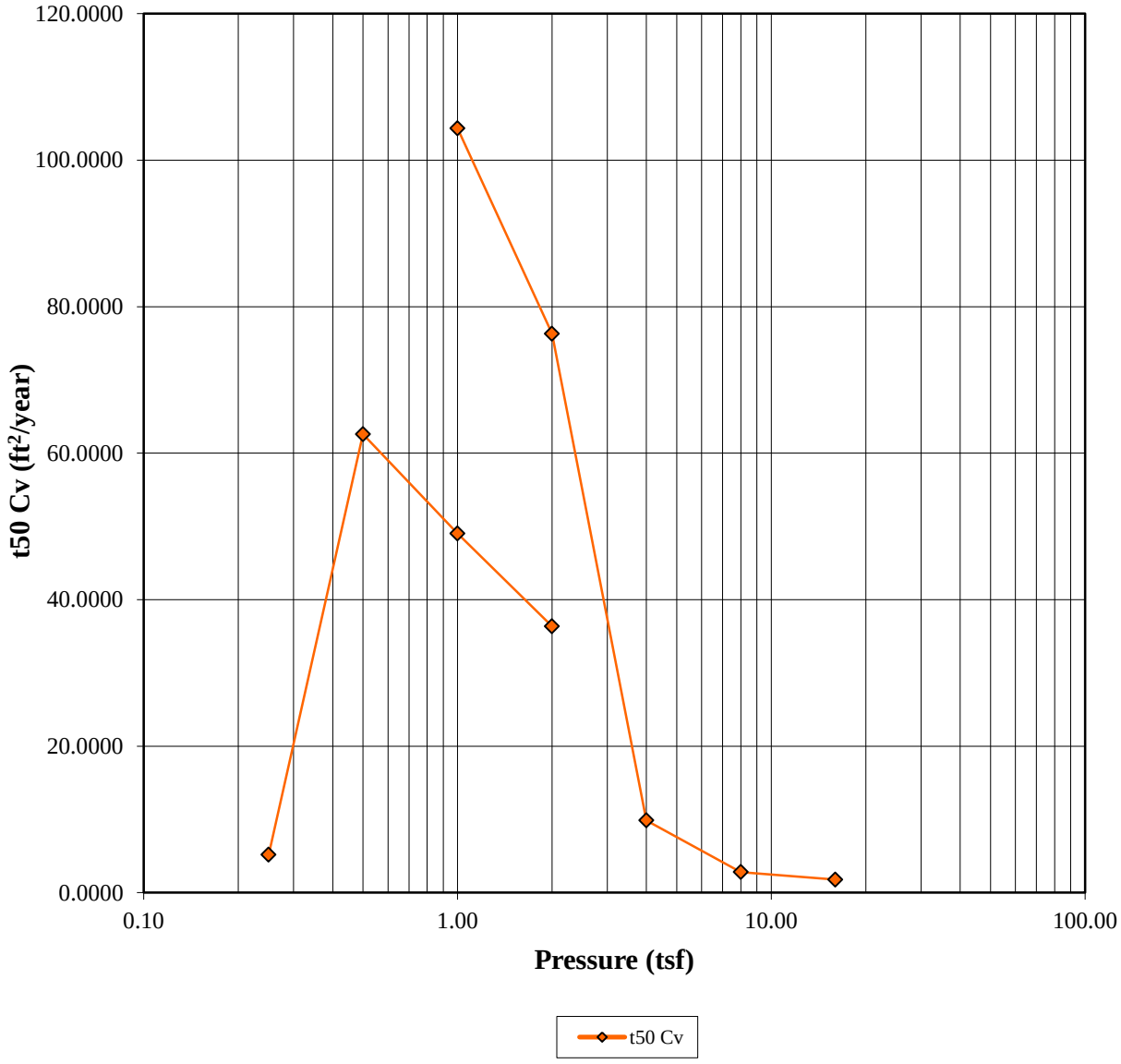
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 109.67 | 76.38 | **Liquid Limits:** | 83 | **Test Date:** | 10/23/17 |
| **Dry Density (pcf):** | 41.51 | 52.52 | **Plastic Limits:** | 46 | | |
| **Saturation (%):** | 107.22 | 107.98 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 2.1260 | 1.5693 | **Specific Gravity:** | 2.078 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | ELASTIC SILT with SAND(MH A-7-5(33)) | | | |
| **Project Number:** | 8063 | **Depth:** | 28.0-30.0 ft | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | TH-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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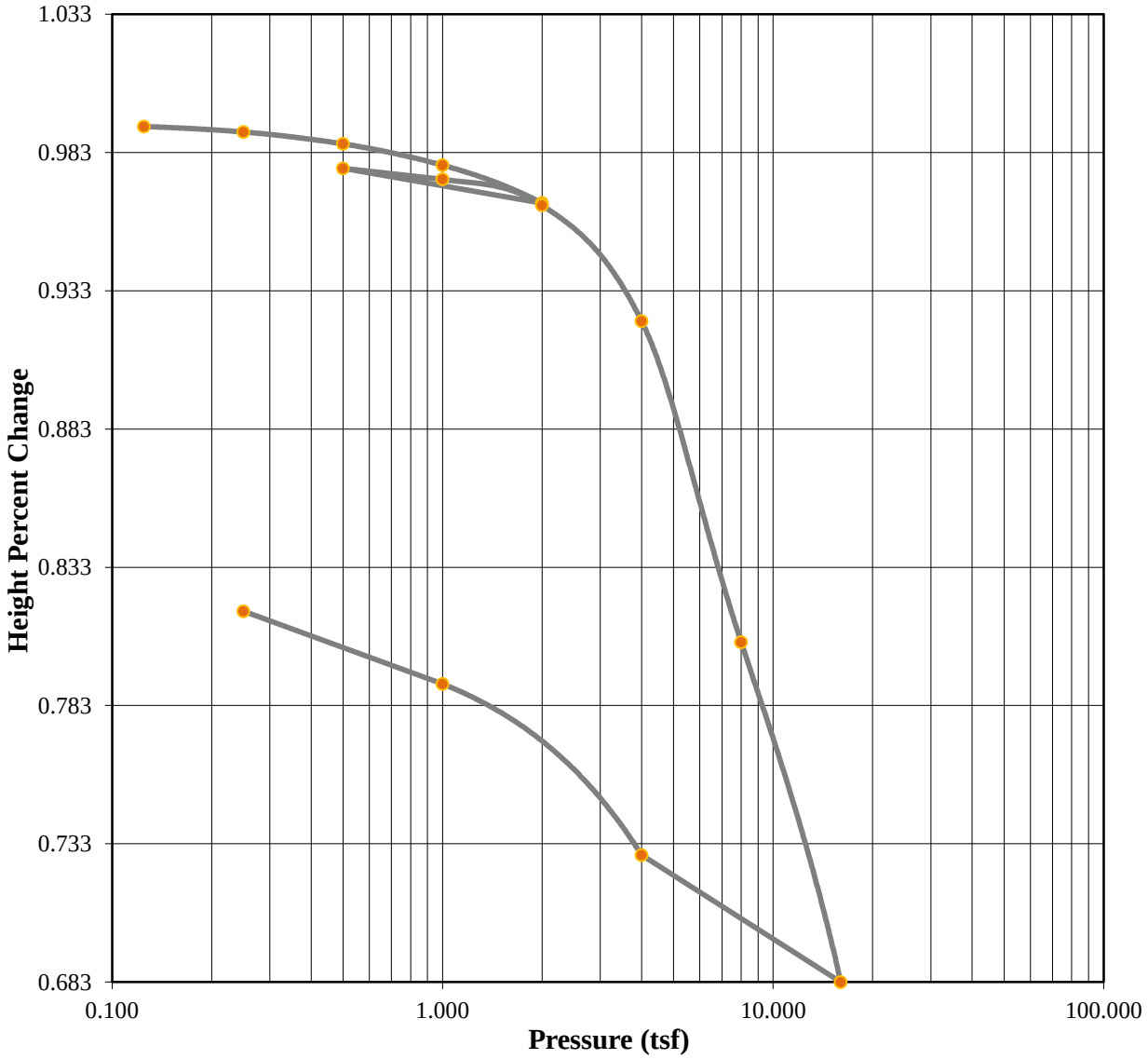
# Consolidation Test
## Test Results




| | Before | After | | | | |
|---|---|---|---|---|---|---|
| **Moisture (%):** | 109.67 | 76.38 | **Liquid Limits:** | 83 | **Test Date:** | 10/23/17 |
| **Dry Density (pcf):** | 41.51 | 52.52 | **Plastic Limits:** | 46 | | |
| **Saturation (%):** | 107.22 | 107.98 | **Plasticity Index (%):** | 0 | | |
| **Void Ratio:** | 2.1260 | 1.5693 | **Specific Gravity:** | 2.078 | Measured | |

| | | | | |
|---|---|---|---|---|
| **Soil Description:** | ELASTIC SILT with SAND(MH A-7-5(33)) | | | |
| **Project Number:** | 8063 | **Depth:** | 28.0-30.0 ft | **Remarks:** |
| **Sample Number:** | T-2 | **Boring Number:** | TH-13 | |
| **Project:** | Mobile River Bridge | | | |
| **Client:** | ALDOT | | | |
| **Location:** | Soils Lab | | | |

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# Consolidation Test Results
## Summary

**Project:** Mobile River Bridge
**Location:** Soils Lab
**Job Number:** 17-1101-0145

**Project Number:** 8063

**Sample Number:** T-2
**Boring Number:** TH-13
**Depth:** 28.0-30.0 ft
**Sample Type:** Undisturbed

**Sample Description:** ELASTIC SILT with SAND(MH A-7-5(33))
**Remarks:**

**Test Number:**
**Test Date:** 10/23/17

| Index | Load Sequence (tsf) | Cummulative Change in Height (in) | Specimen Height (in) | Height of Void (in) | Vertical Strain (%) | Void Ratio | t90 Fitting Time (min) | t50 Fitting Time (min) | t90 Cv (ft2/year) | t50 Cv (ft2/year) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.000 | 0.0000 | 0.9940 | 0.6754 | 0.00 | 2.1199 | 0.000 | 0.000 | 0.000 | 0.000 |
| 1 | 0.125 | 0.0017 | 0.9923 | 0.6737 | 0.17 | 2.1145 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | 0.250 | 0.0037 | 0.9903 | 0.6717 | 0.37 | 2.1082 | 61.293 | * 34.0515 | 12.381 | 5.177 |
| 3 | 0.500 | 0.0080 | 0.9860 | 0.6674 | 0.80 | 2.0948 | 8.288 | 2.792 | 90.774 | 62.604 |
| 4 | 1.000 | 0.0157 | 0.9783 | 0.6597 | 1.58 | 2.0706 | 2.120 | 3.508 | 349.327 | 49.044 |
| 5 | 2.000 | 0.0294 | 0.9646 | 0.6460 | 2.95 | 2.0277 | 1.086 | 4.600 | 662.752 | 36.360 |
| 6 | 0.500 | 0.0168 | 0.9772 | 0.6586 | 1.69 | 2.0671 | 0.000 | 0.000 | 0.000 | 0.000 |
| 7 | 1.000 | 0.0208 | 0.9732 | 0.6546 | 2.09 | 2.0545 | 0.622 | 1.631 | 1179.075 | 104.359 |
| 8 | 2.000 | 0.0302 | 0.9638 | 0.6452 | 3.04 | 2.0250 | 2.031 | 2.188 | 353.961 | 76.306 |
| 9 | 4.000 | 0.0721 | 0.9219 | 0.6033 | 7.26 | 1.8934 | 12.382 | 15.480 | 53.111 | 9.868 |
| 10 | 8.000 | 0.1882 | 0.8058 | 0.4872 | 18.93 | 1.5292 | 252.205 | 41.529 | 1.992 | 2.811 |
| 11 | 16.000 | 0.3111 | 0.6829 | 0.3643 | 31.30 | 1.1434 | 398.307 | 47.055 | 0.906 | 1.782 |
| 12 | 4.000 | 0.2652 | 0.7288 | 0.4102 | 26.68 | 1.2875 | 0.000 | 0.000 | 0.000 | 0.000 |
| 13 | 1.000 | 0.2033 | 0.7907 | 0.4721 | 20.45 | 1.4817 | 0.000 | 0.000 | 0.000 | 0.000 |
| 14 | 0.250 | 0.1770 | 0.8170 | 0.4984 | 17.81 | 1.5643 | 0.000 | 0.000 | 0.000 | 0.000 |

Predicted value indicated with *

**Tested By:** B. Hak

**Checked By:** C. Dugger

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# Consolidation Test
## Consolidation Specimen Information

**Project:** Mobile River Bridge **Project Number:** 8063
**Location:** Soils Lab
**Job Number:** 17-1101-0145 **Test Date:** 10/23/17

**Sample Number:** T-2 **Sample Description:**
**Boring Number:** TH-13 ELASTIC SILT with SAND(MH A-7-5(33))
**Depth:** 28.0-30.0 ft **Remarks:**
**Sample Type:** Undisturbed

**Test Number:**
**Liquid Limit:** 83.0000 **Initial Void Ratio:** 2.1260 **Initial Height (in):** 0.9940
**Plastic Limit:** 46.0000 **Plasticity Index (%):** 0.0000 **Initial Diameter (in):** 2.5020
**Specific Gravity:** 2.0780 Measured **Weight of Ring (g):** 98.6400

| Parameters | Initial Specimen | Final Specimen |
|---|---|---|
| Moist Weight + Container (g) | 107.13 | 230.18 |
| Dry Soil + Container (g) | 68.02 | 188.01 |
| Weight of Container (g) | 32.36 | 132.80 |
| Moisture Content (%) | 109.67 | 76.38 |
| Void Ratio | 2.1260 | 1.5693 |
| Saturation (%) | 107.22 | 107.98 |
| Dry Density (pcf) | 41.51 | 52.52 |

**Tested By:** B. Hak **Checked By:** C. Dugger

thompson
ENGINEERING

September 28, 2017

PROJECT: Mobile River Bridge - Main Span Unit
CLIENT: Alabama Department of Transportation

JOB #: 17-1101-0145
LAB #: 7971
Technician: B. Hak

**REPORT OF: Measurement of Soil Resistivity AASHTO T288**

| Location | Depth (ft) | Date Tested | Resisivity (Ohms-cm) |
|---|---|---|---|
| MB-1 - S-1A | 3.0-5.0 | 9/17-9/21/2017 | 2,500 |
| MB-1 - S-1B | 5.0-7.0 | 9/17-9/21/2018 | 3,000 |
| MB-1 - S-2A | 8.0-10.0 | 9/17-9/21/2018 | 1,500 |
| MB-1 - S-2B | 10.0-12.0 | 9/17-9/21/2019 | 1,500 |
| MB-1 - S-3A | 18.0-22.0 | 9/17-9/21/2018 | 6,775 |
| MB-1 - S-3B | | | |
| MB-1 - S-4A | 28.0-32.0 | 9/17-9/21/2020 | 8,950 |
| MB-1 - S-4B | | | |
| MB-2A - C-1 | 15.0-16.5 | 6/23/17 | 430 |
| MB-2A - C-2 | 25.0-26.5 | 6/23/17 | 2,250 |
| MB-2A - C-3 | 35.0-37.0 | 6/23/17 | 220 |
| MB-2A - C-4 | 45.0-47.0 | 6/23/17 | 199 |
| MB-2A - C-5 | 55.0-57.0 | 6/23/17 | 470 |
| MB-2A - C-6 | 64.5-65.5 | 6/23/17 | 240 |
| MB-2A - C-7 | 74.5-75.5 | 6/23/17 | 278 |
| MB-2A - C-8 | 84.5-85.5 | 6/23/17 | 215 |
| MB-2A - C-9 | 94.5-95.5 | 6/23/17 | 2,100 |
| MB-2A - C-10 | 105.0-105.5 | 6/23/17 | 2,150 |
| MB-2A - C-11 | 130.0-130.5 | 7/1/17 | 725 |
| MB-2A - C-12 | 155.0-155.5 | 7/1/17 | 6,490 |

MATERIALS ENGINEERING LABORATORY

3707 Cottage Hill Road
Mobile, AL. 36609
251-666-2443 ph / 251-665-5491 fax
www.thompsonengineering.com

thompson
ENGINEERING

September 21, 2016

CLIENT: ALDOT

JOB #: 17-1101-0145

PROJECT: Mobile River Bridge High Level Approach LAB #:

## REPORT OF: Measurement of Soil Resistivity AASHTO T288

| | DATE | TECHNICIAN |
|---|---|---|
| TESTED: | 9-17 &9-21 | Hak |

| Location | Depth (ft) | Resisivity (Ohms-cm) |
|---|---|---|
| WHLA-3 | 3.0 - 5.0 ft. | 5000 |
| WHLA-3 | 5.0 - 7.0 ft. | 5900 |
| WHLA-3 | 8.0 - 10.0 ft. | 4900 |
| WHLA-3 | 10.0 - 12.0 ft. | 4900 |
| WHLA-3 | 28.0 - 32.0 ft. | 7200 |
| WHLA-3 | 18.0 - 22.0 ft. | 8850 |

*Chris Dugger*

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APPENDIX C

# Results of Statistical Analysis

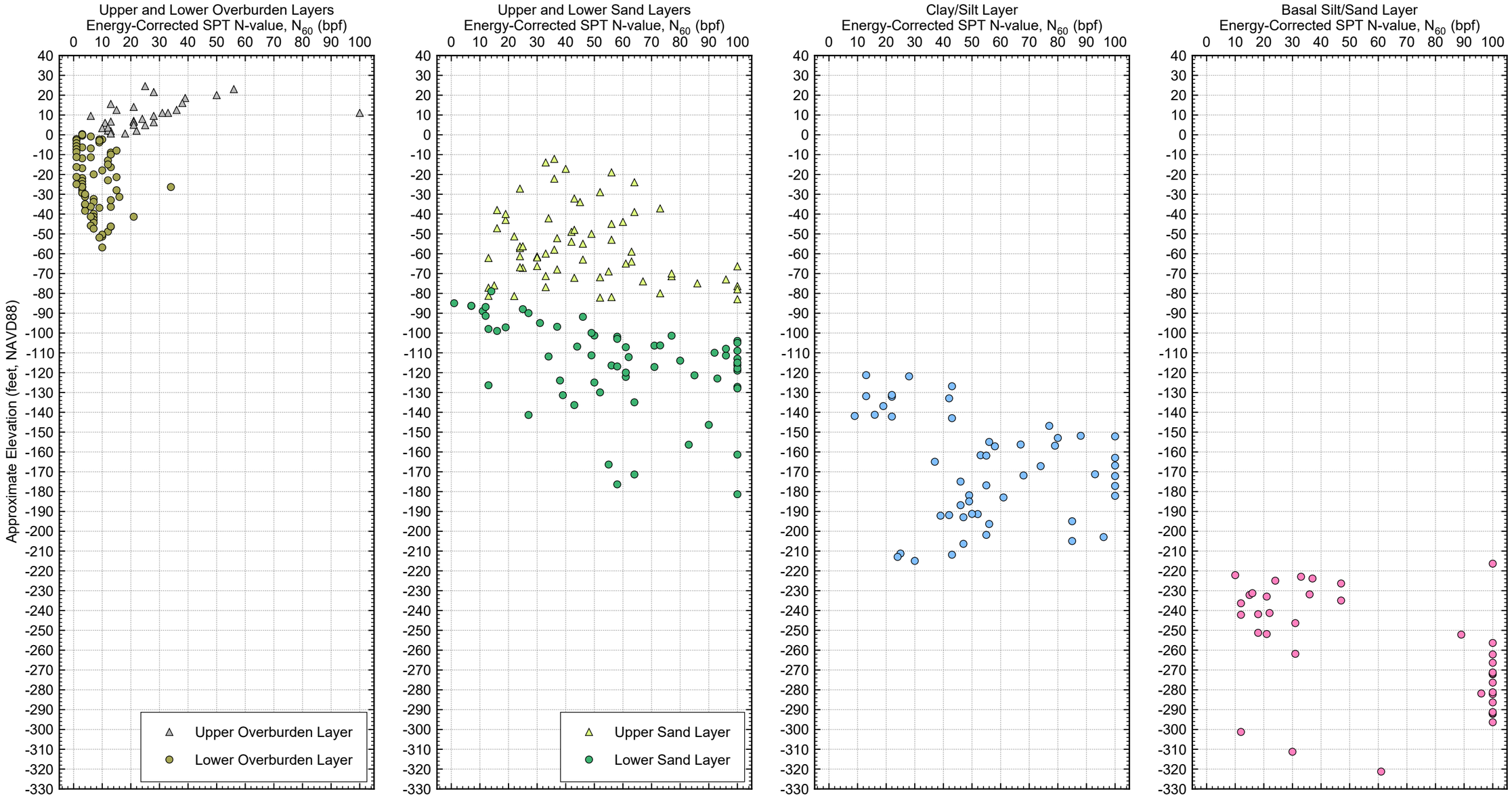
ver0.16.3, by:KDK

Upper and Lower Overburden Layers
Energy-Corrected SPT N-value, $N_{60}$ (bpf)

Upper and Lower Sand Layers
Energy-Corrected SPT N-value, $N_{60}$ (bpf)

Clay/Silt Layer
Energy-Corrected SPT N-value, $N_{60}$ (bpf)

Basal Silt/Sand Layer
Energy-Corrected SPT N-value, $N_{60}$ (bpf)




Notes:
1. Instances of refusal and $N_{60}$ greater than 100 blows per foot (bpf) are interpreted as equal to 100 bpf.
2. The data presented above are based on the following explorations near/along the Main Span alignment: TH-13, WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

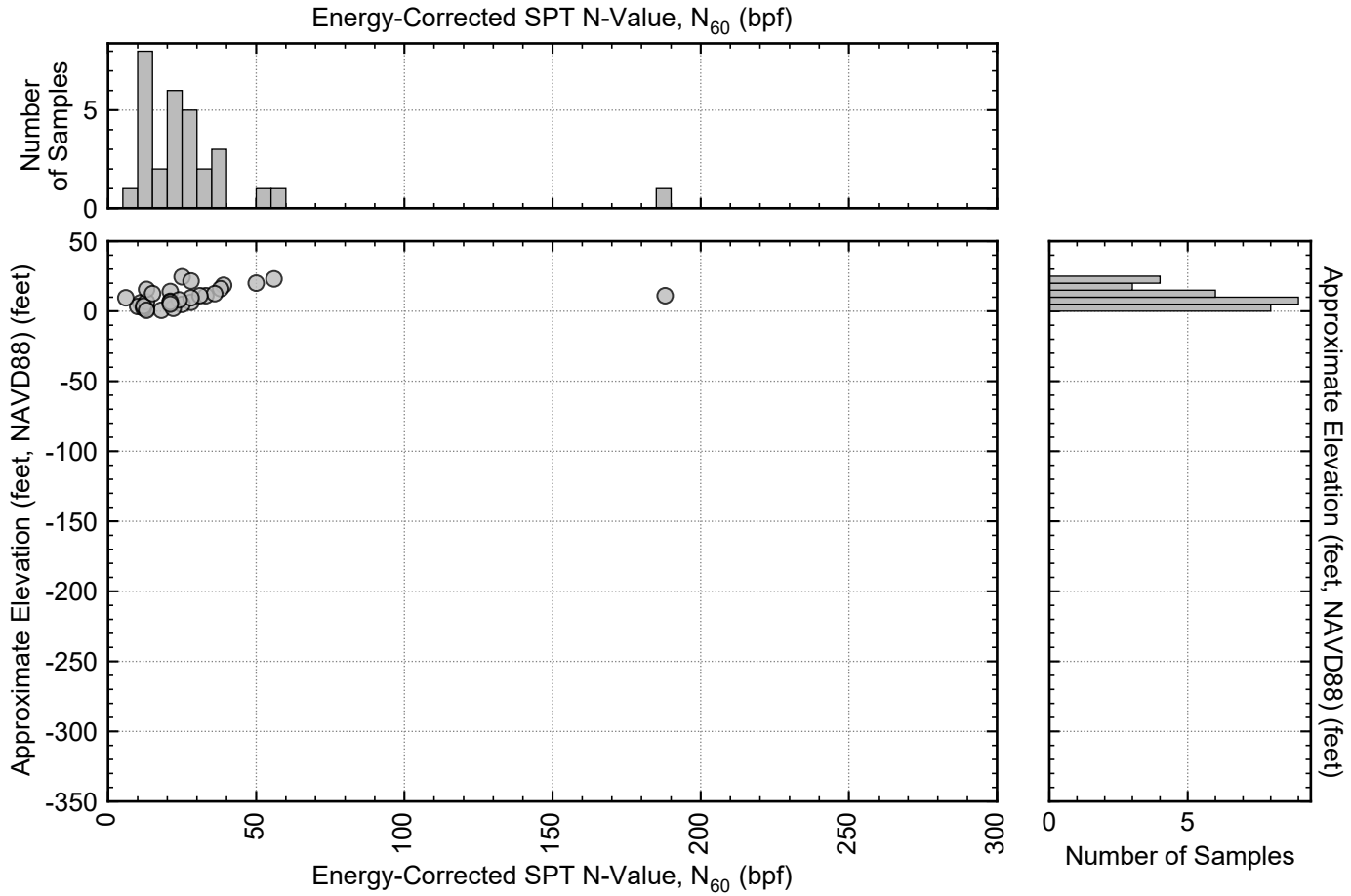
**$N_{60}$ VS ELEVATION**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
a joint venture

**FIG. C-1**

P:\SEA\110000s\110704 I-10 Mobile Riv\Analyses\Statistics\Main Span




Statistical Summary:
count = 30 bpf
mean = 29 bpf
median = 22 bpf
std = 32 bpf
min = 6 bpf
25% = 13 bpf
50% = 22 bpf
75% = 30 bpf
max = 188 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, TH-13, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION UPPER OVERBURDEN LAYER MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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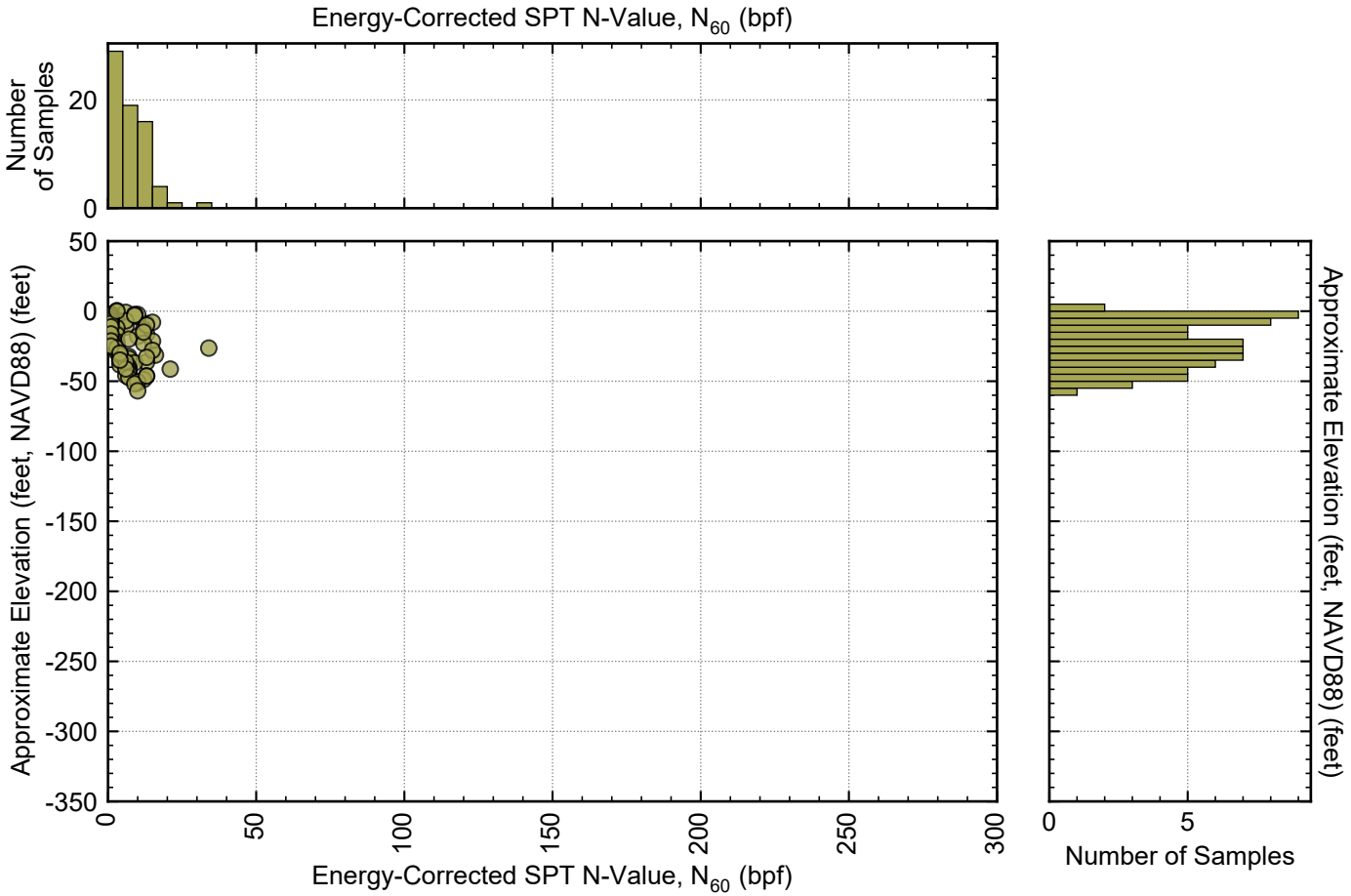
**FIG. C-2**

FIG. C-2




Statistical Summary:
count = 70 bpf
mean = 7 bpf
median = 6 bpf
std = 6 bpf
min = 1 bpf
25% = 3 bpf
50% = 6 bpf
75% = 10 bpf
max = 34 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION LOWER OVERBURDEN LAYER MAIN SPAN ALIGNMENT**

September 2023 110704-016

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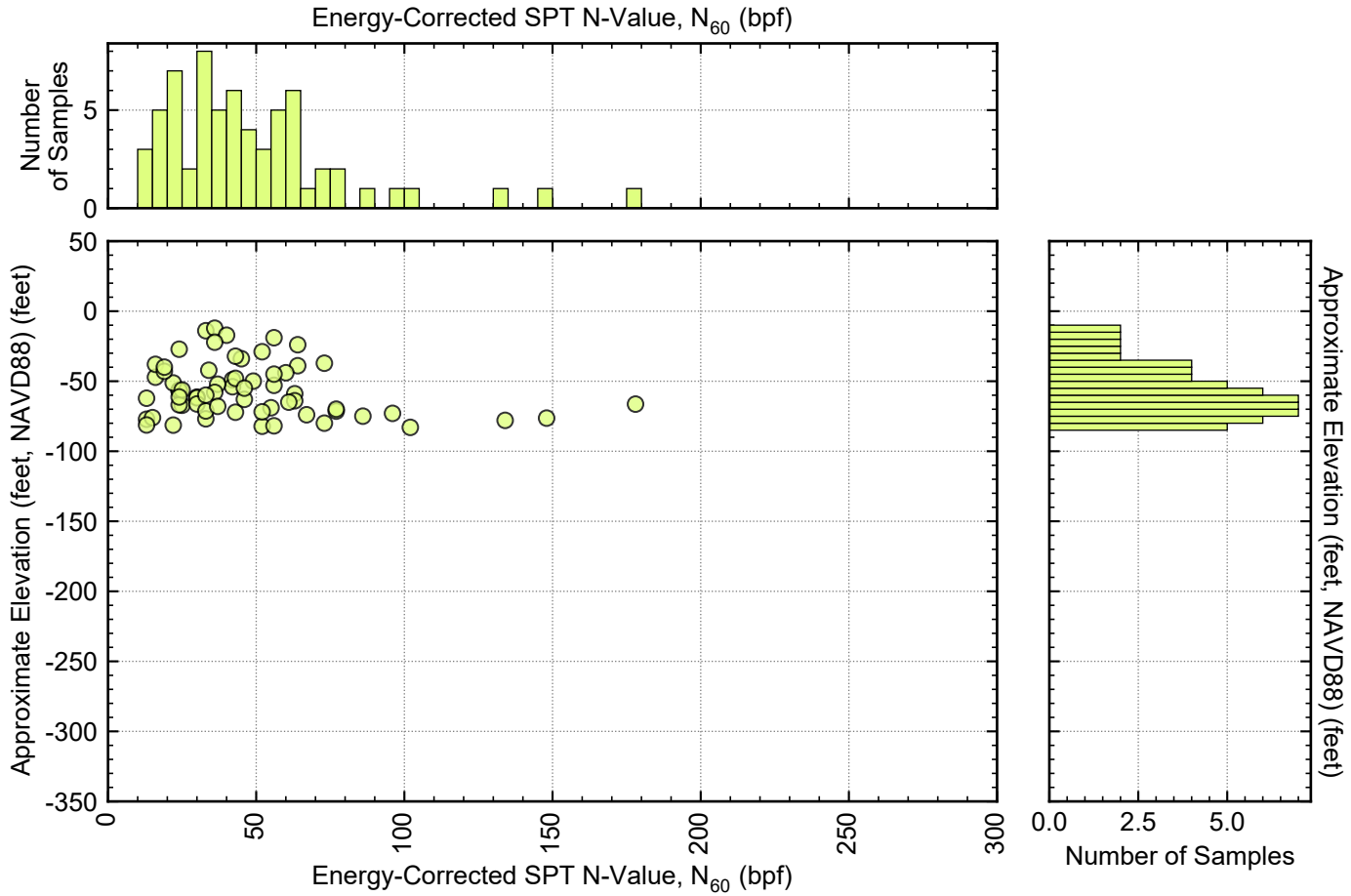
**FIG. C-3**

FIG. C-3




Statistical Summary:
count = 65 bpf
mean = 48 bpf
median = 42 bpf
std = 31 bpf
min = 13 bpf
25% = 25 bpf
50% = 42 bpf
75% = 60 bpf
max = 178 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION UPPER SAND LAYER MAIN SPAN ALIGNMENT**

September 2023 110704-016

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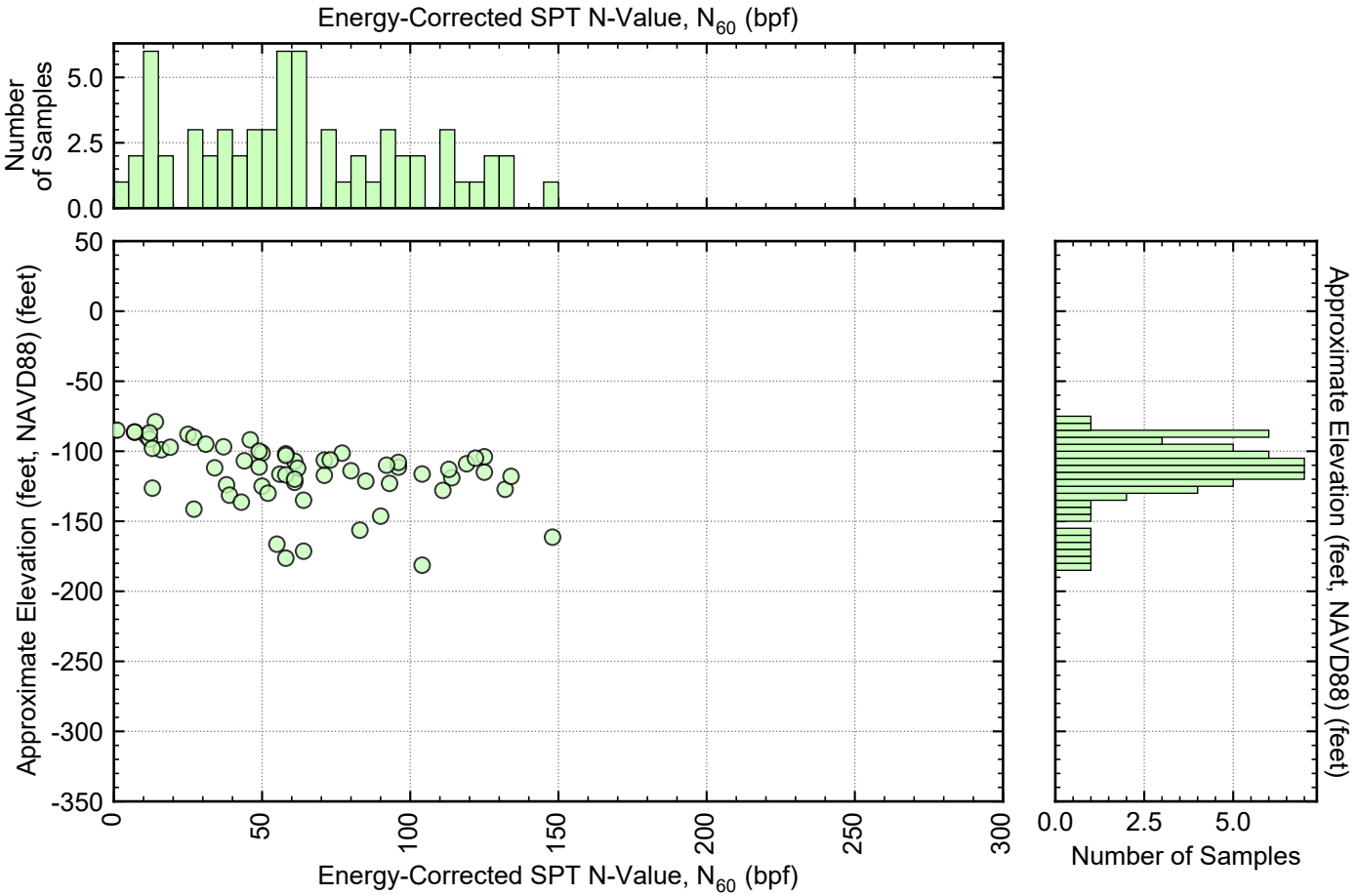
**FIG. C-4**

FIG. C-4




Statistical Summary:
count = 63 bpf
mean = 63 bpf
median = 58 bpf
std = 38 bpf
min = 1 bpf
25% = 36 bpf
50% = 58 bpf
75% = 91 bpf
max = 148 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION LOWER SAND LAYER MAIN SPAN ALIGNMENT**

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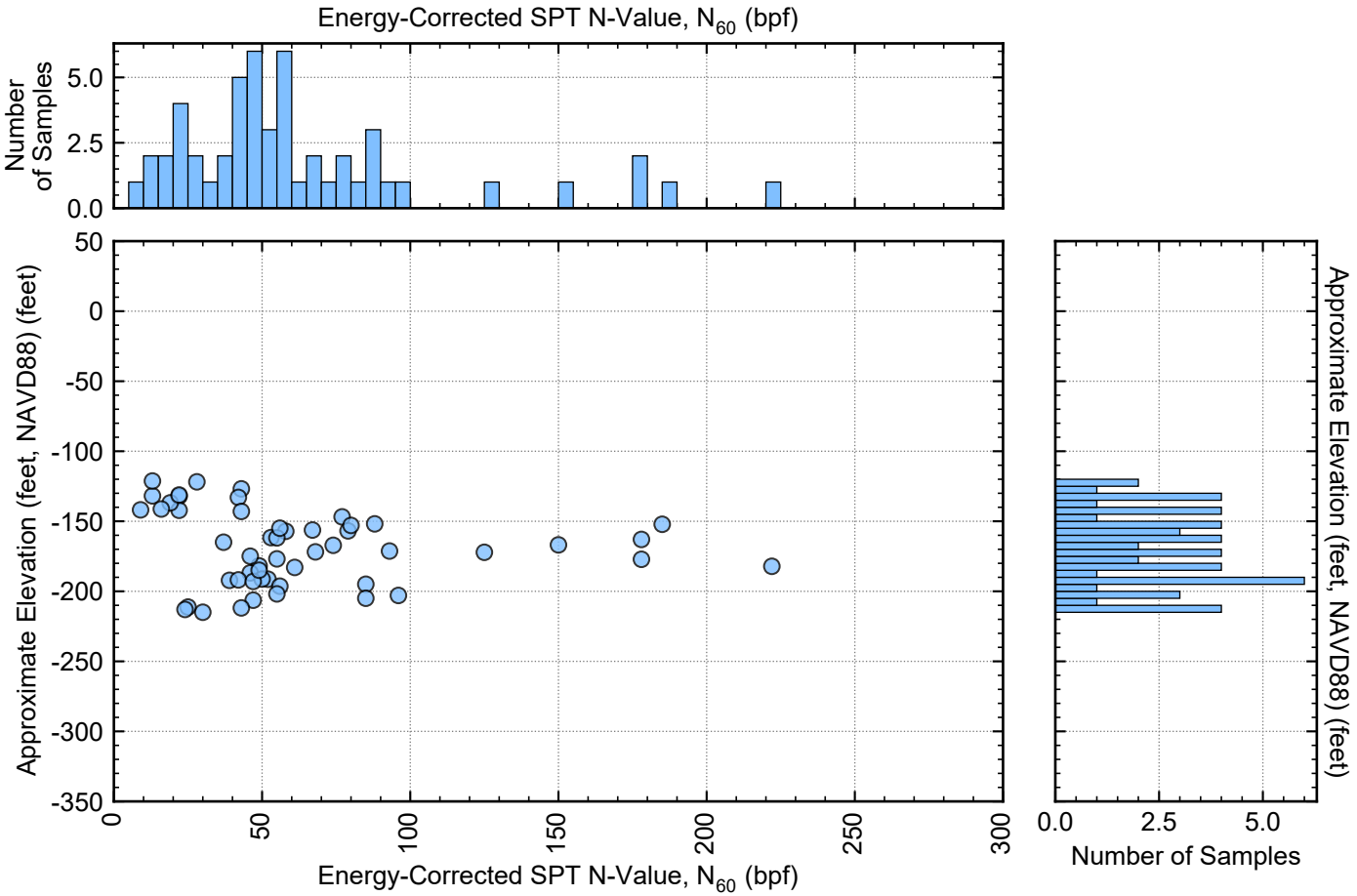
**FIG. C-5**

FIG. C-5




Statistical Summary:
count = 52 bpf
mean = 63 bpf
median = 51 bpf
std = 47 bpf
min = 9 bpf
25% = 38 bpf
50% = 51 bpf
75% = 78 bpf
max = 222 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
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Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION CLAY/SILT LAYER MAIN SPAN ALIGNMENT**

September 2023 110704-016

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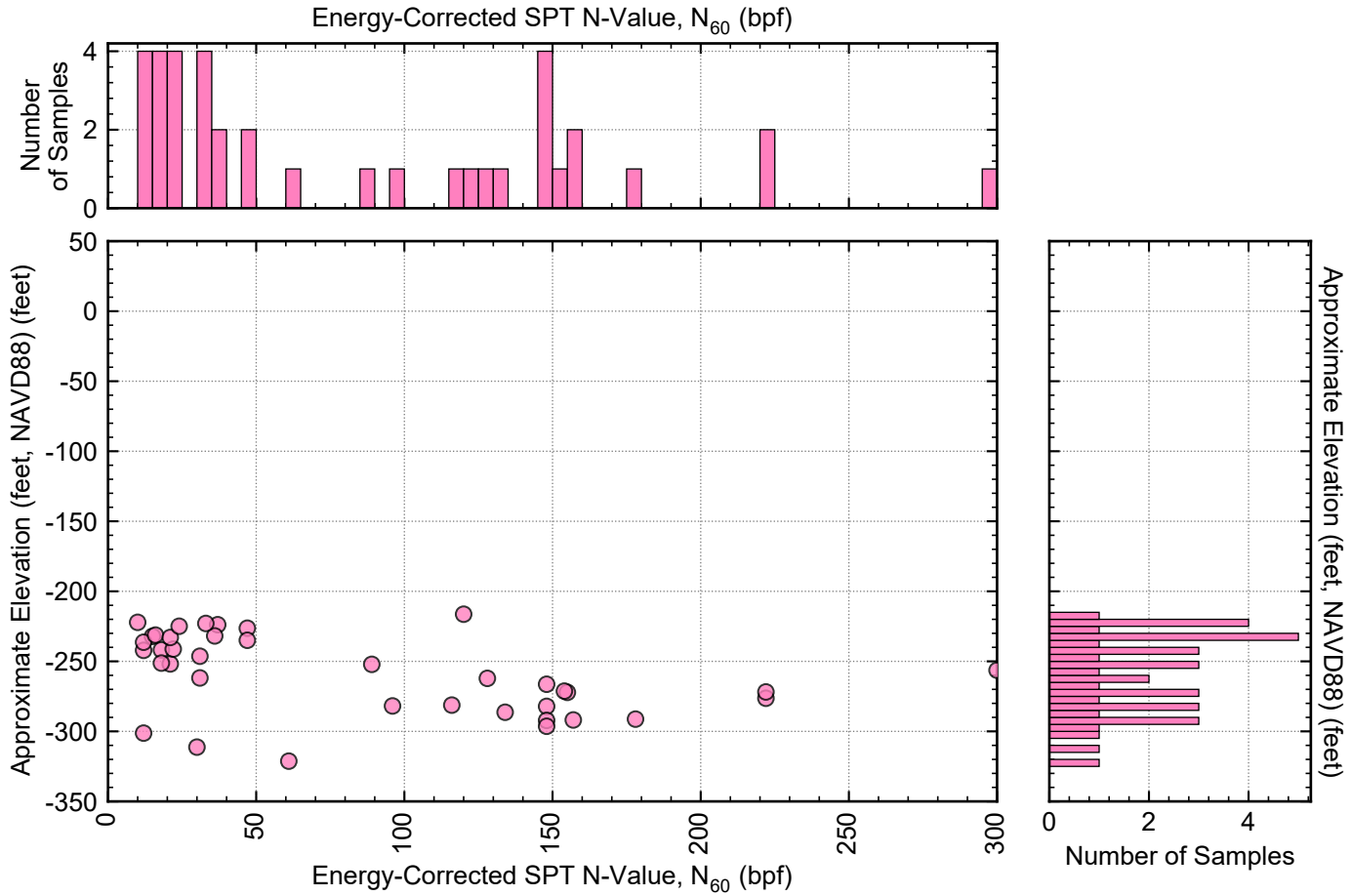
**FIG. C-6**

FIG. C-6




Statistical Summary:
count = 38 bpf
mean = 85 bpf
median = 47 bpf
std = 75 bpf
min = 10 bpf
25% = 21 bpf
50% = 47 bpf
75% = 148 bpf
max = 300 bpf

Notes:
1. The data presented above are based on the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, WHLA-03.
2. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ENERGY-CORRECTED SPT N VERSUS ELEVATION BASAL SILT/SAND LAYER MAIN SPAN ALIGNMENT**

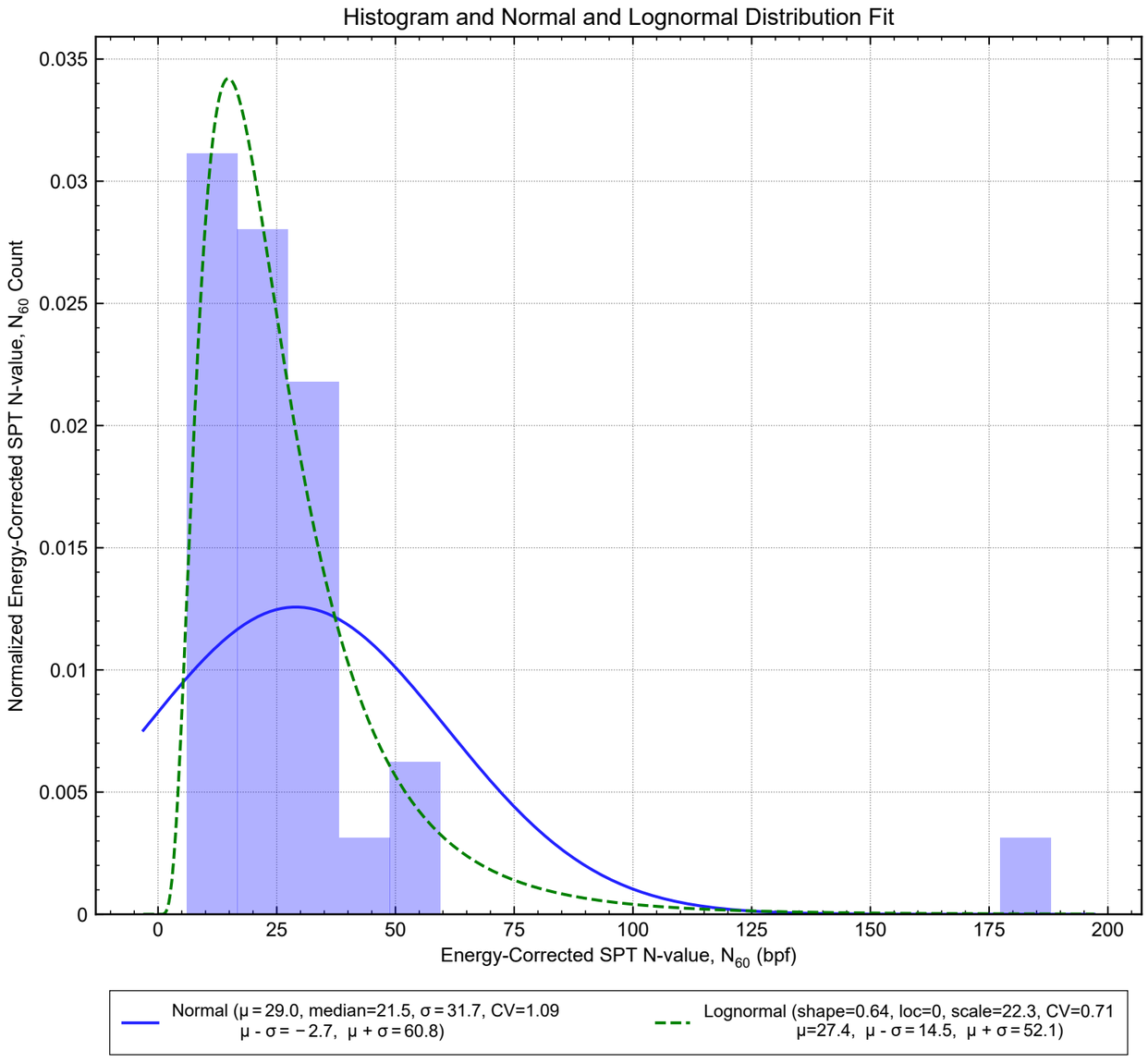
September 2023 110704-016

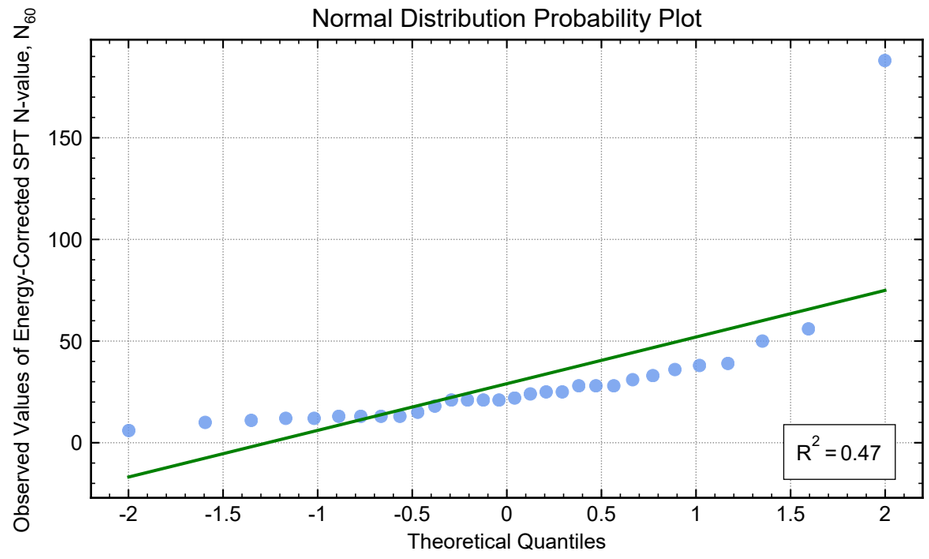
**Kiewit | Massman | Traylor**
a joint venture

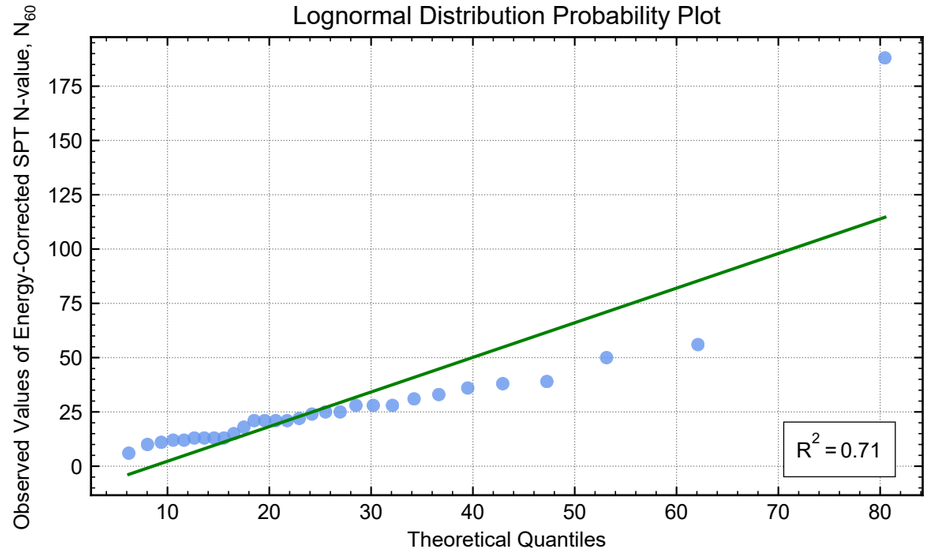
**FIG. C-7**

FIG. C-7

ver0.16.3, bvKDK




Notes:
1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 30. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:
   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   TH-13, WHLA-03, MB-01, MB-02, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**UPPER OVERBURDEN LAYER**
**MAIN SPAN ALIGNMENT**

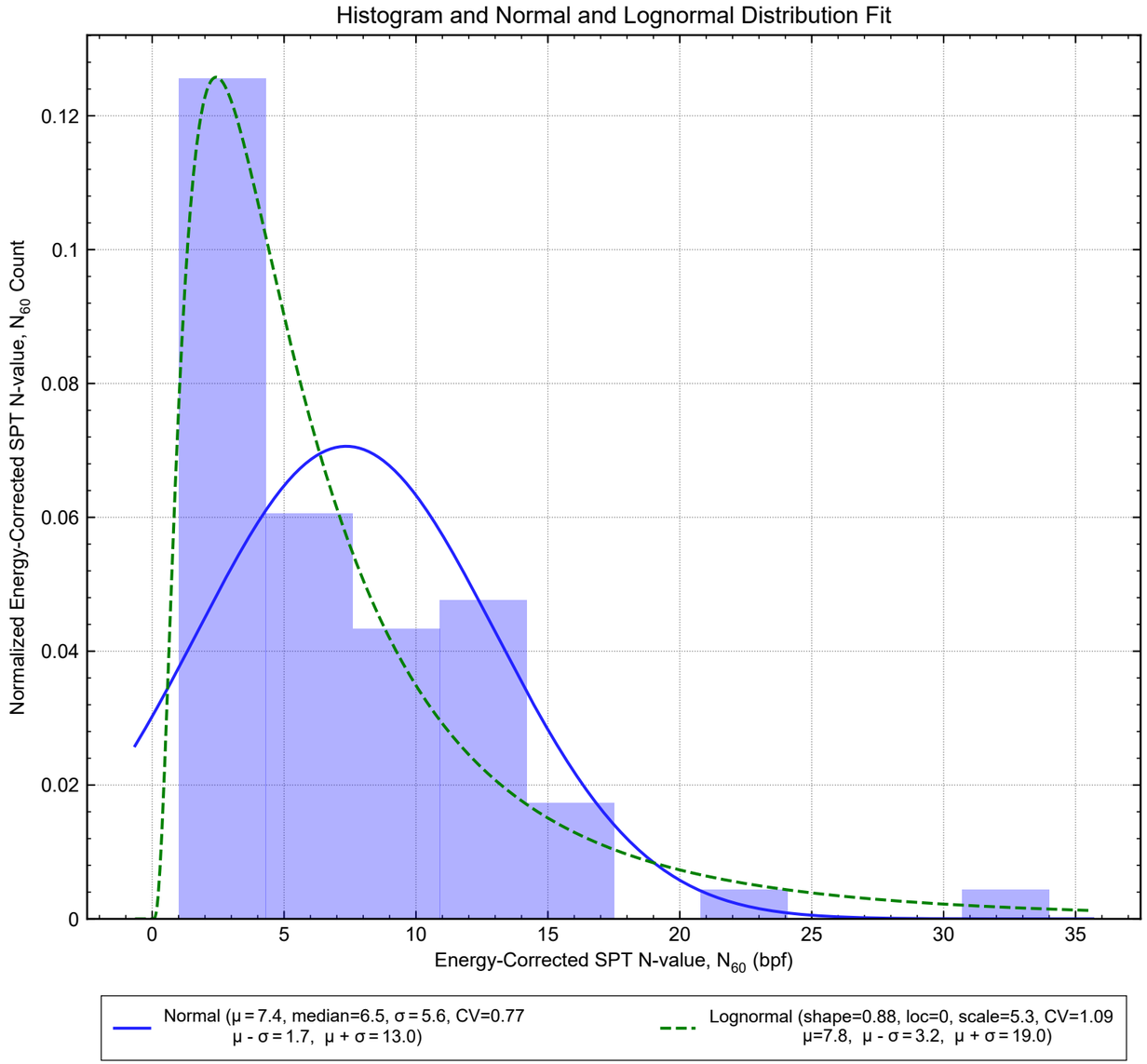
September 2023 110704-016

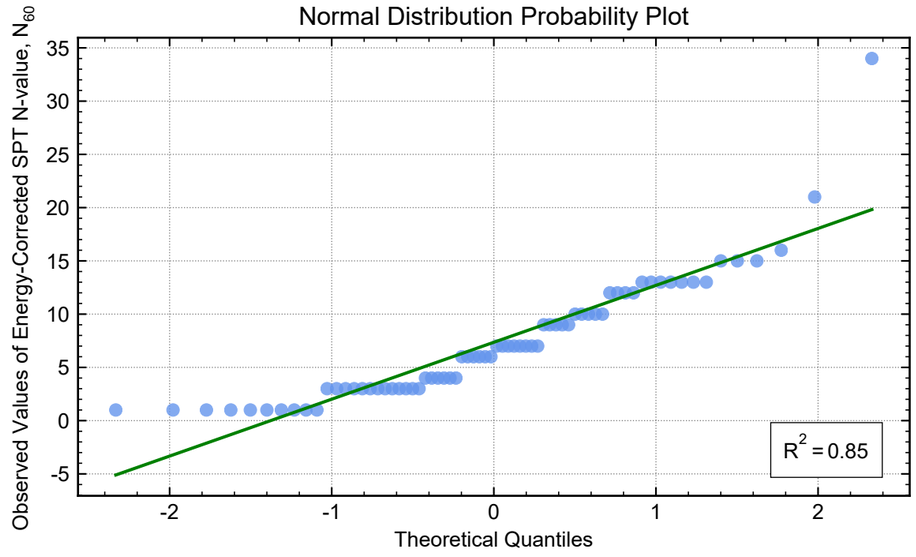
**Kiewit | Massman | Traylor**
a joint venture

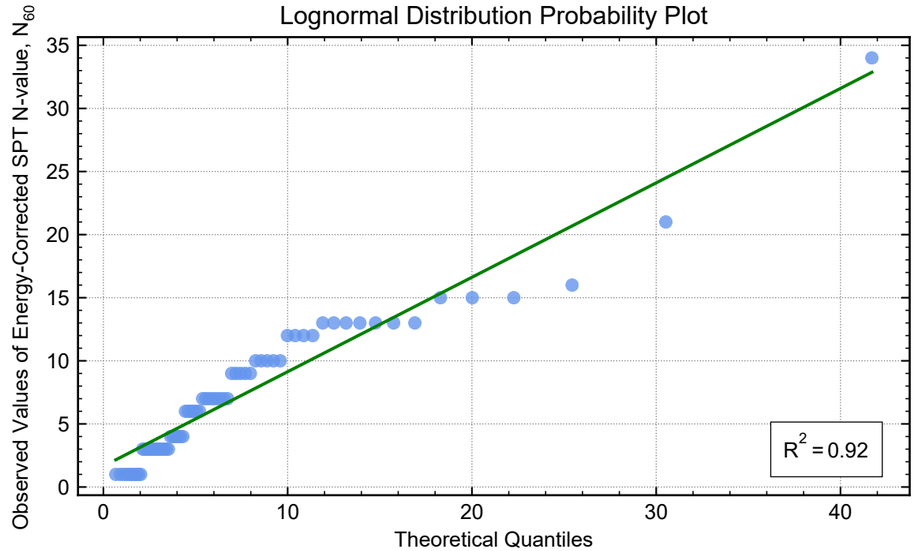
**FIG. C-8**

P:\SEA\110000s\110704 I-10 Mobile Riv\Analyses\Statistics\Main Span

ver0.16.3, by:KDK




Notes:

1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 70. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:

   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   TH-13, WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**LOWER OVERBURDEN LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
a joint venture

**FIG. C-9**

P:\SFEA\110000s\110704-I-10 Mobile Riv\Analyses\Statistics\Main Span

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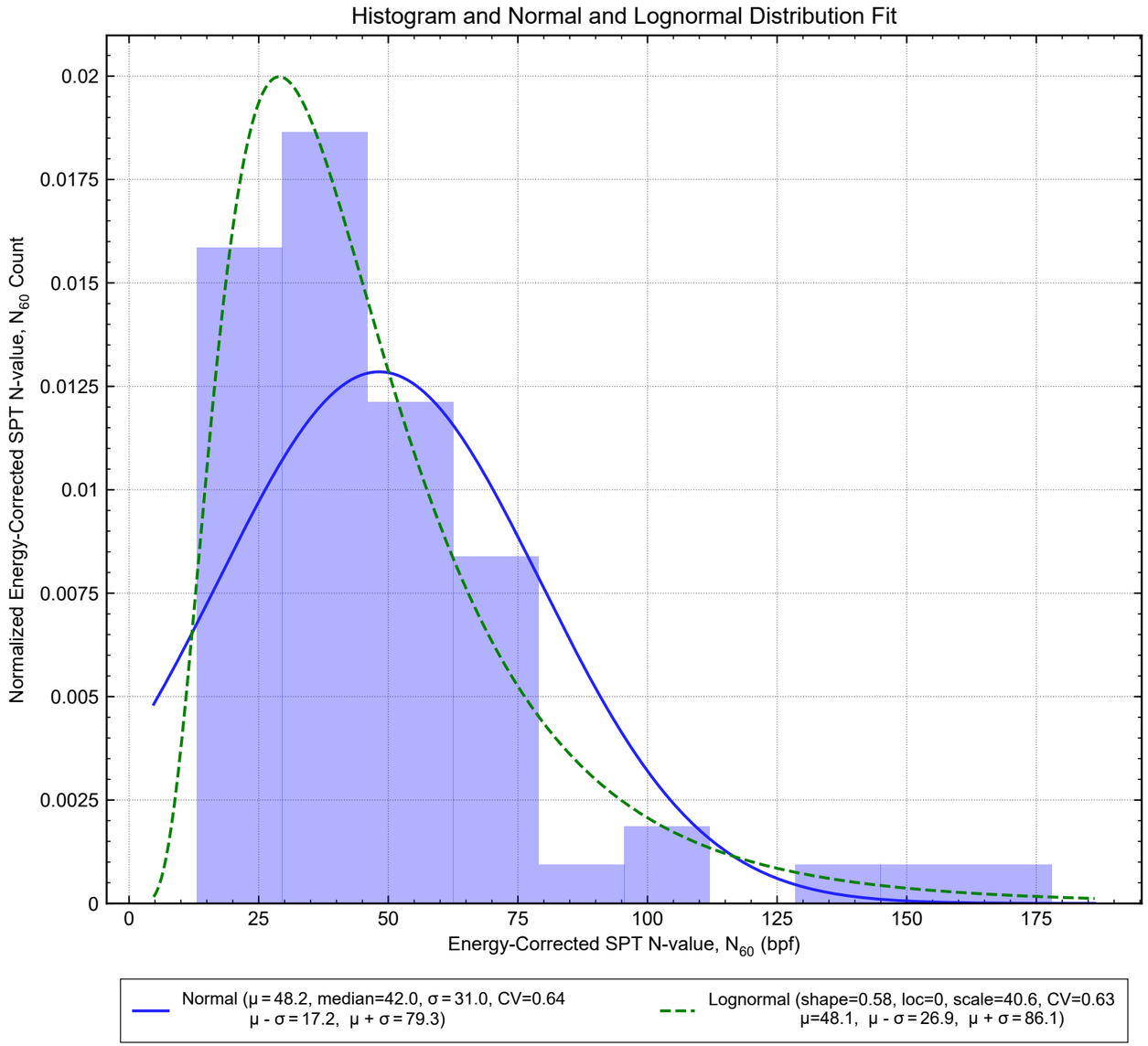


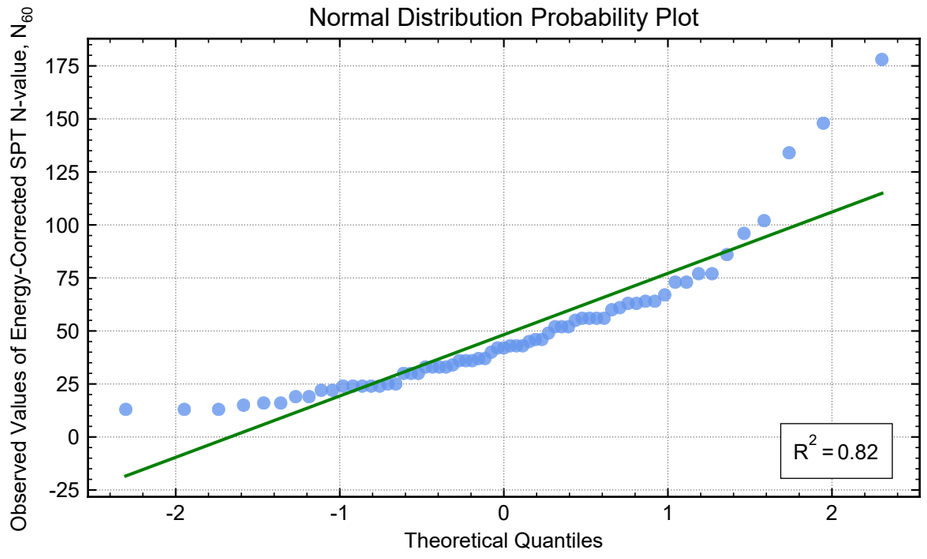


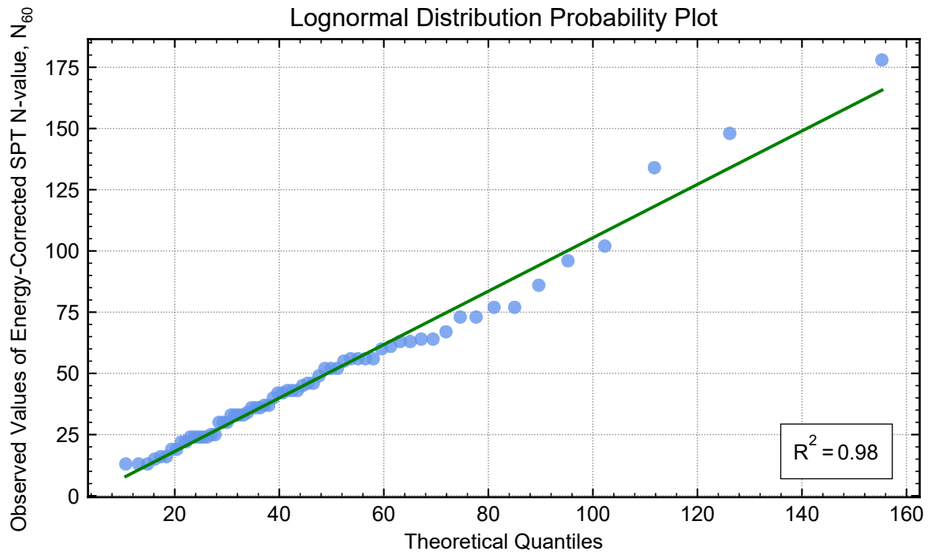


Notes:

1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 65. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:

   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   TH-13, WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**UPPER SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

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**FIG. C-10**

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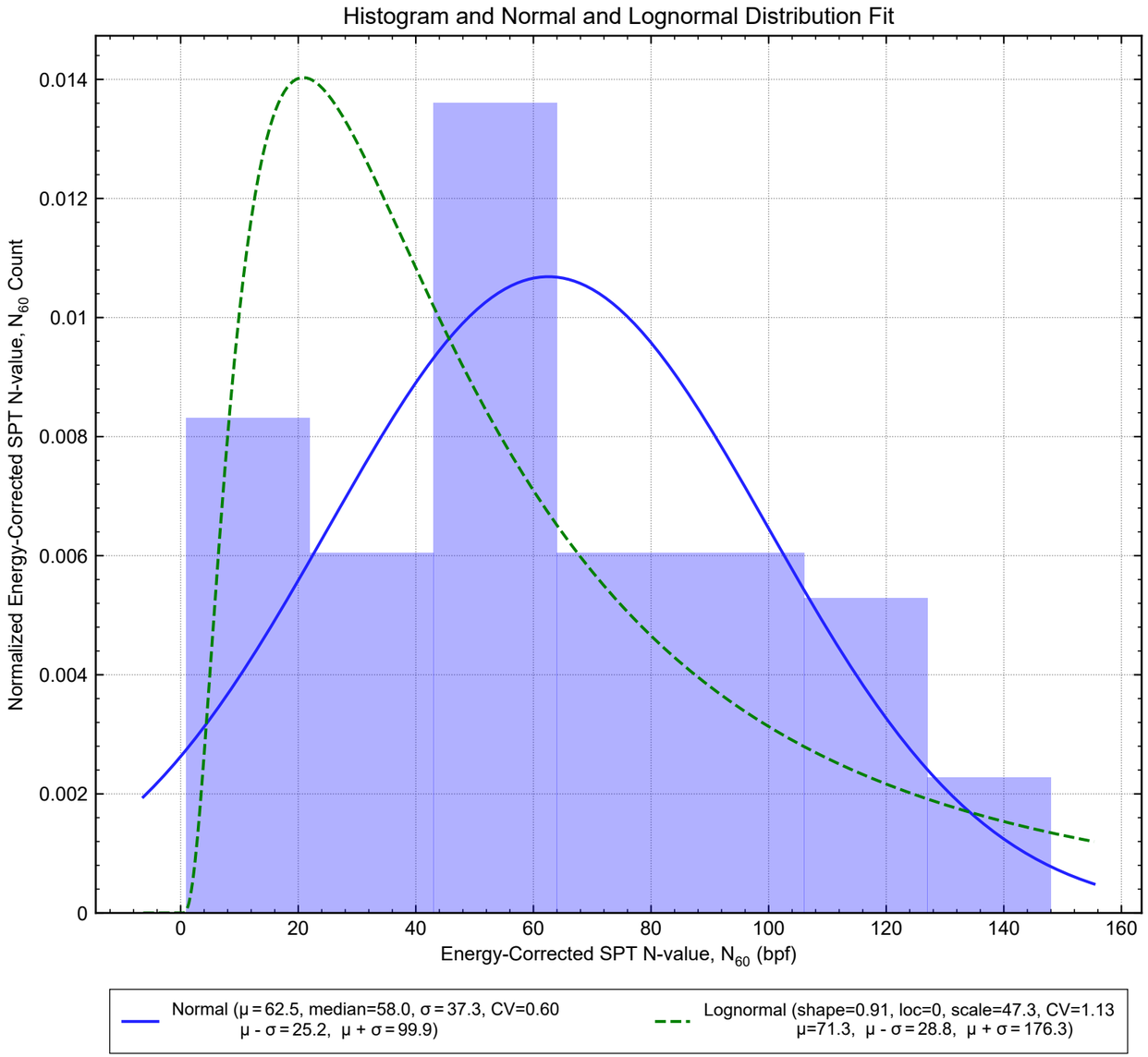
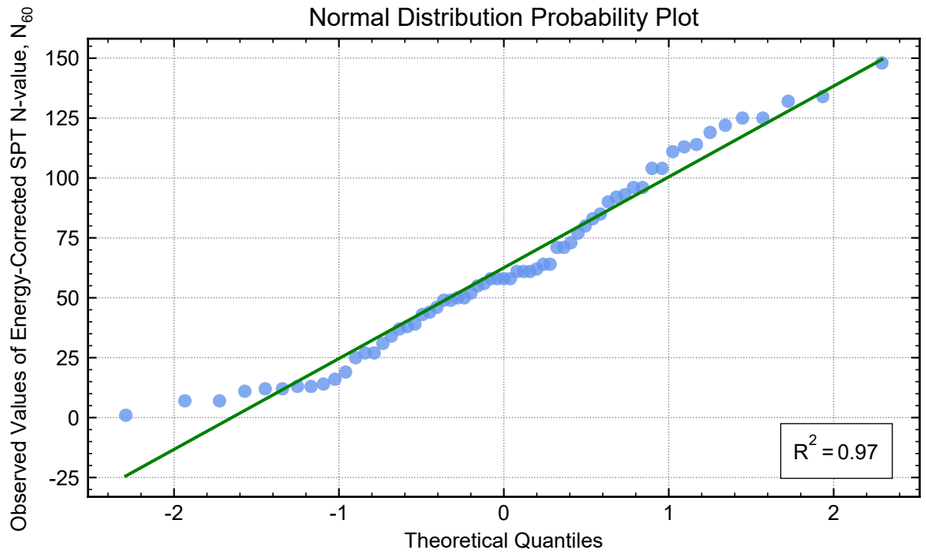
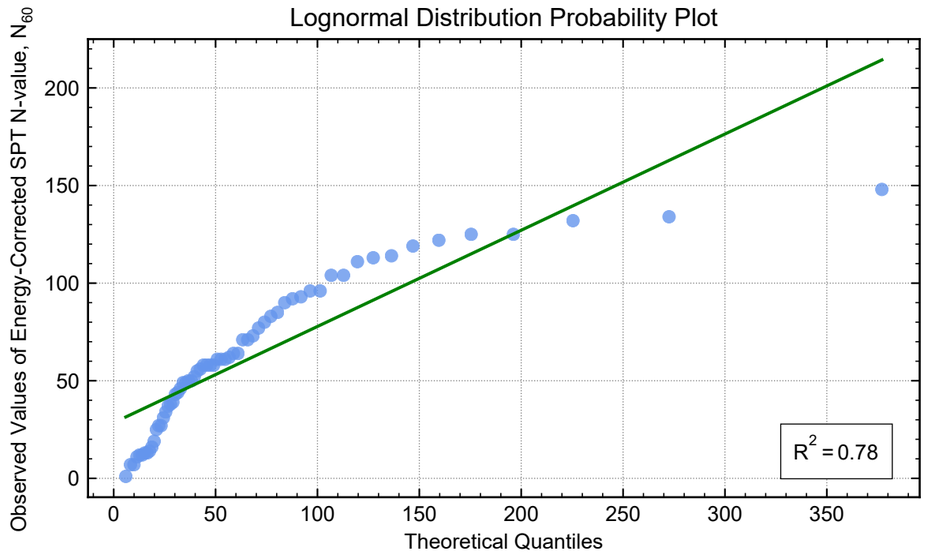
ver0.16.3, by:KDK




Notes:

1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 63. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:

   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   TH-13, WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**LOWER SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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**FIG. C-11**

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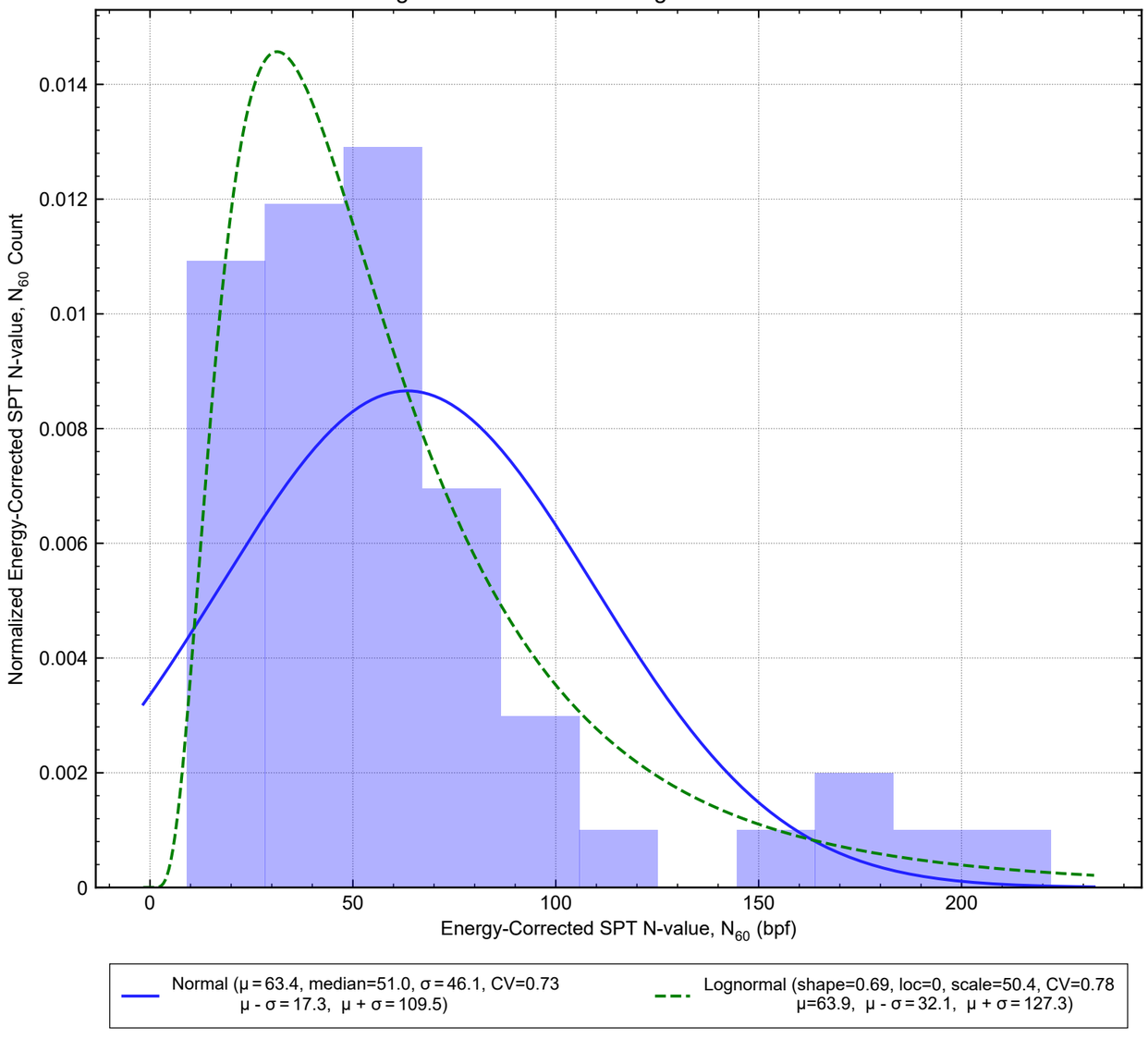
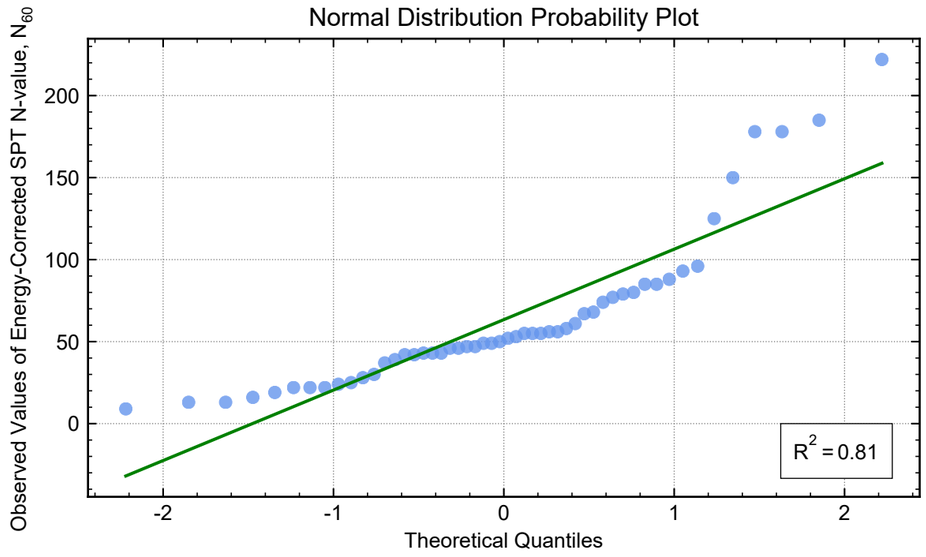
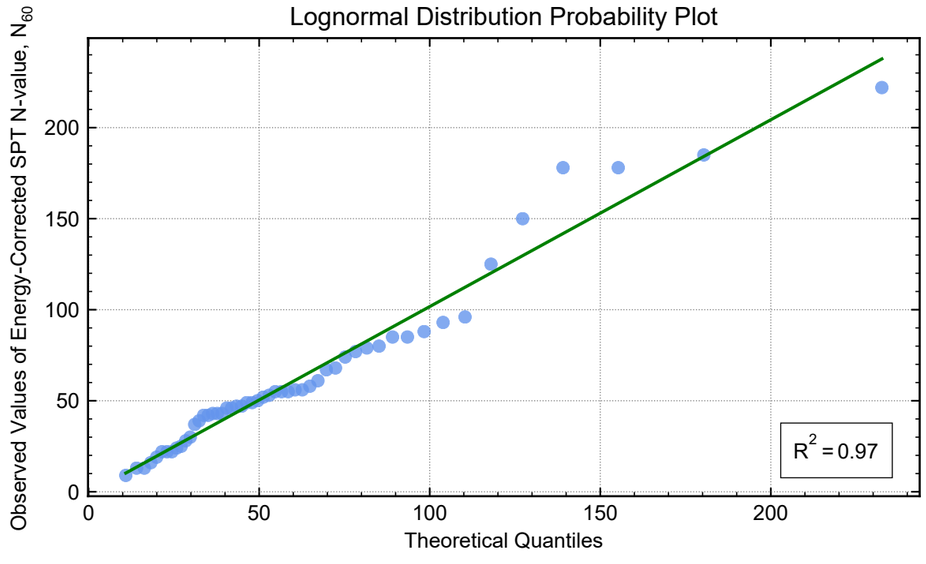
ver:0.16.3, by:KDK




Notes:
1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 52. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:

   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**CLAY/SILT LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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**FIG. C-12**

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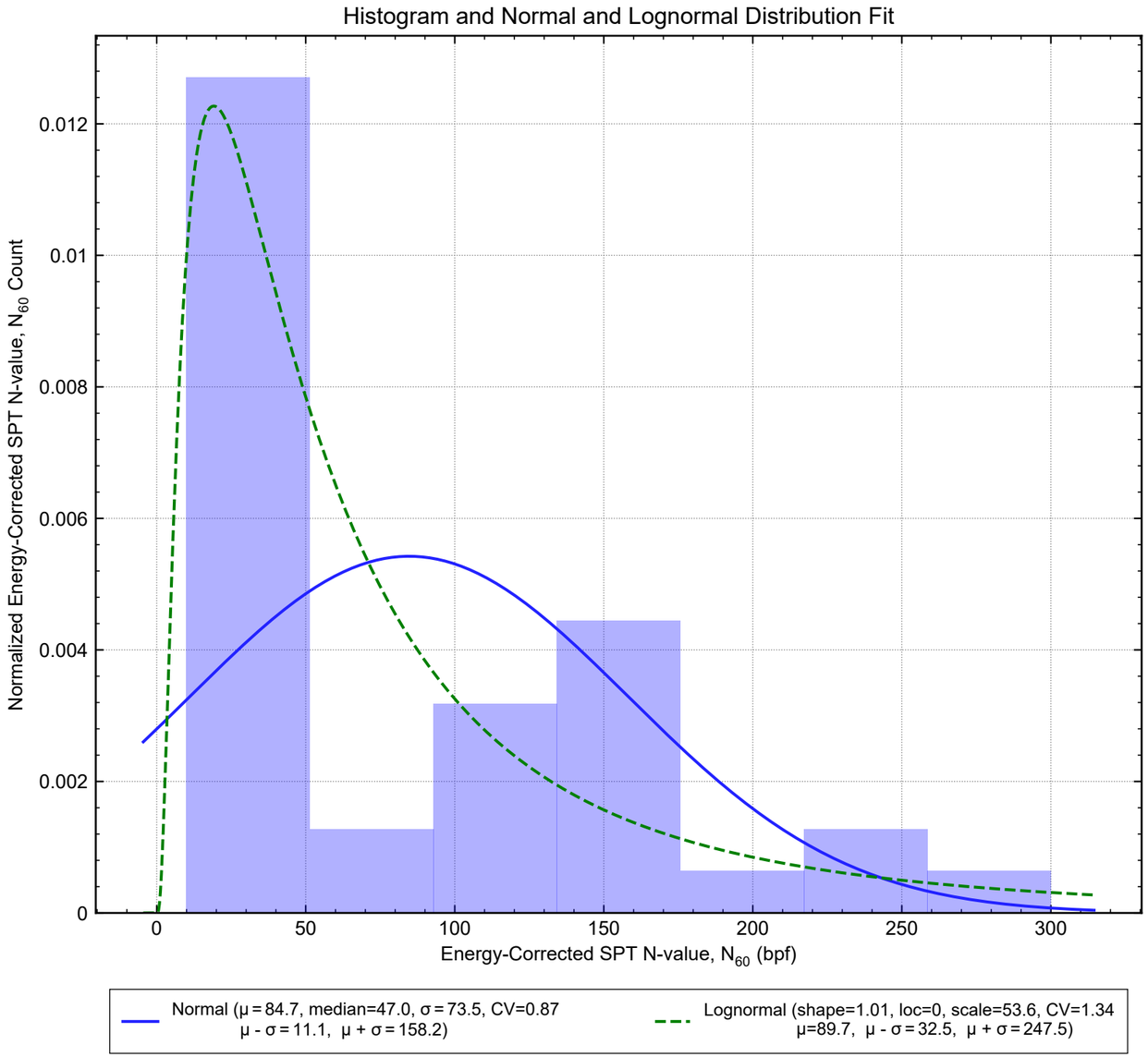


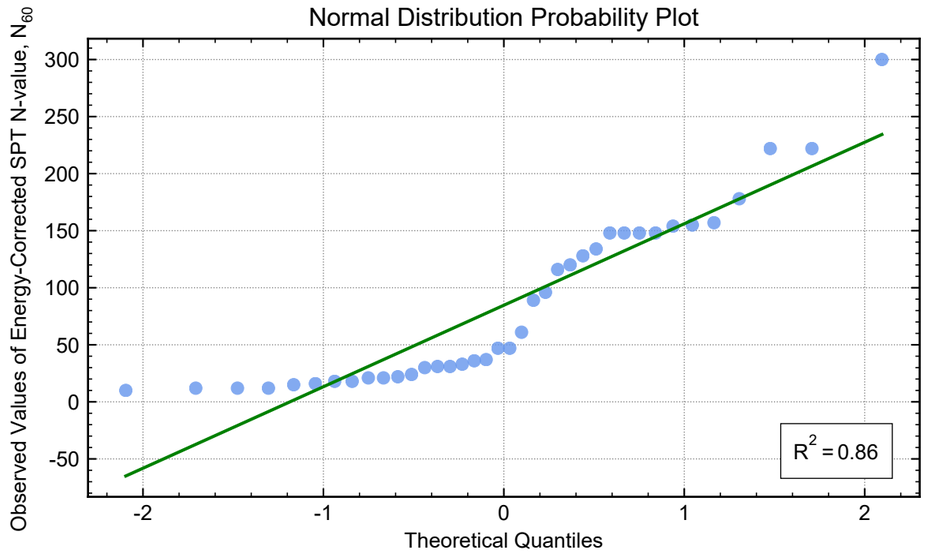


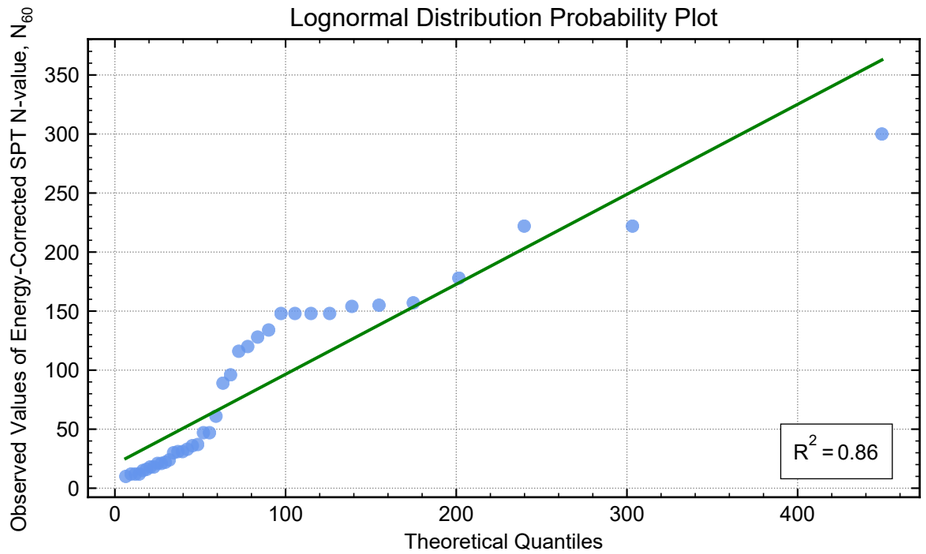


Notes:
1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 38. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:

   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   WHLA-03, MB-01, MB-02, MB-02A, HLA-12, and HLA-13.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA**
**BASAL SILT/SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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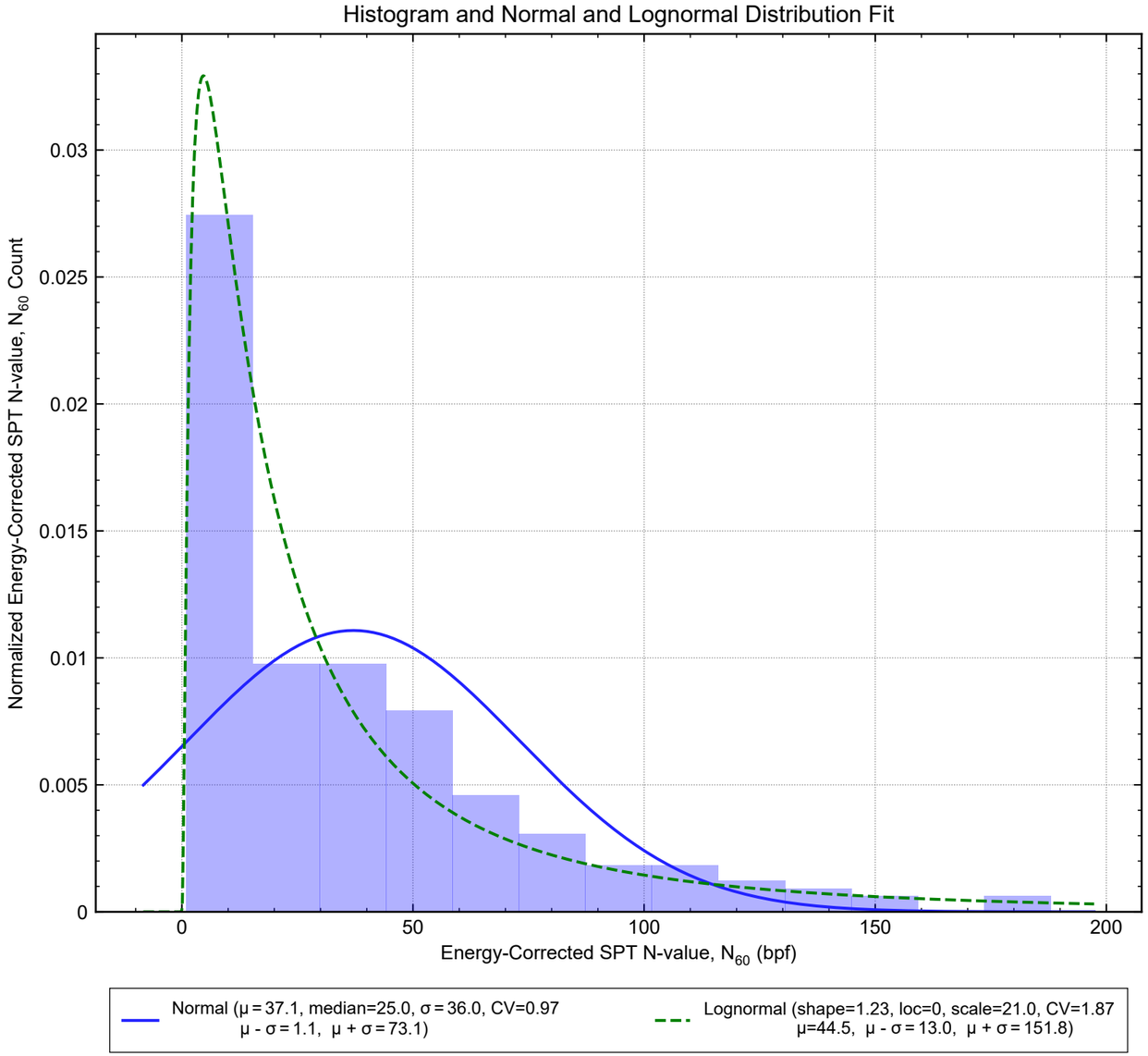
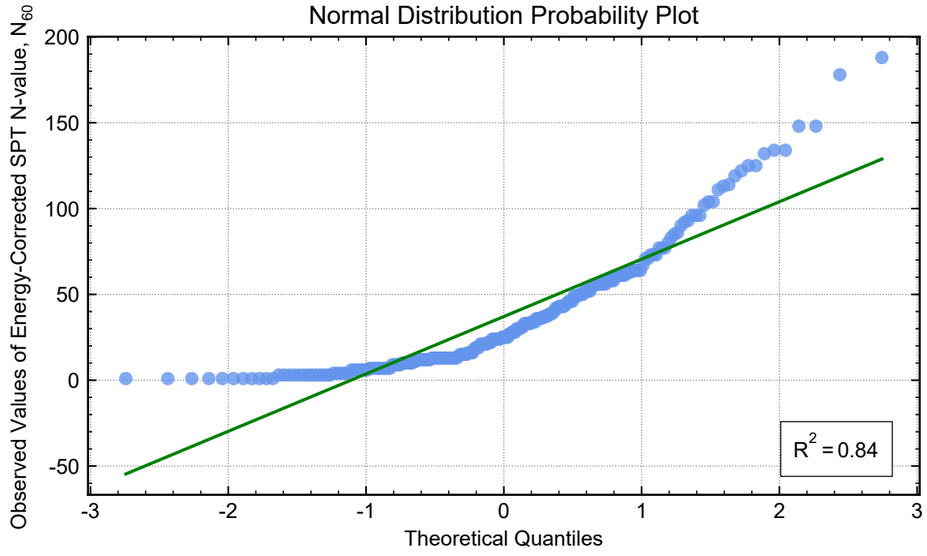
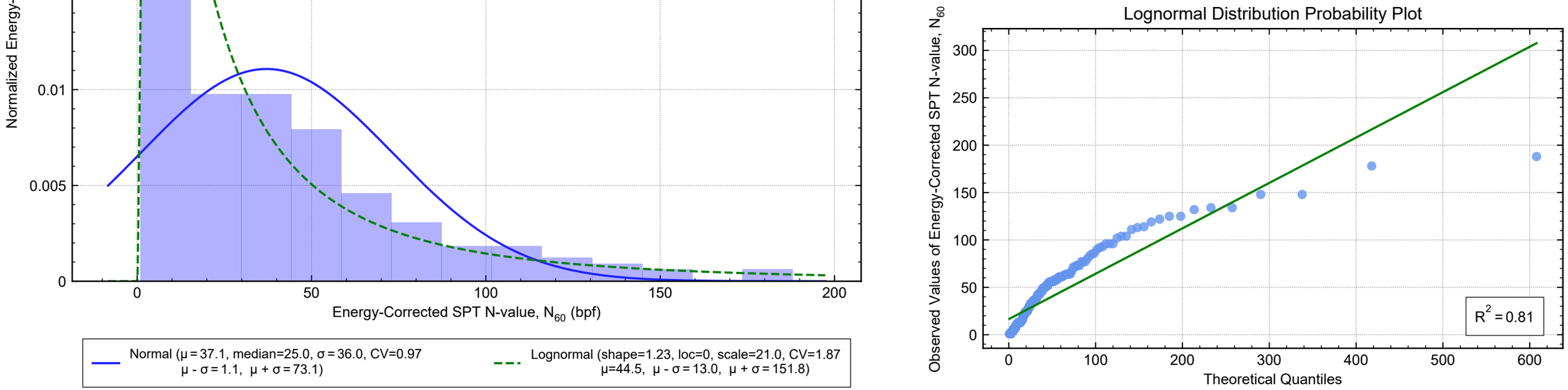
**FIG. C-13**




Notes:

1. Instances of: $N_{60}$ equal to 0 blows per foot (bpf) are interpreted as 1 bpf; and refusal are extrapolated to penetration lengths of 12 inches but are limited to 300 bpf.
2. The count of the data set is equal to 228. The distribution parameters presented in the legend above are described as follows:
   μ = mean of normal distribution; σ = standard deviation of normal distribution; shape = standard deviation of the log of the variate; loc = scaling term which sets the start of the distribution; scale = exp(mean of the log of the variate); and CV = coefficient of variation of the distribution.
3. The histogram is normalized such that the total area of the histogram is equal to one.
4. The lognormal-based mean ± one standard deviation (μ ± σ) approximations account for a lognormal to arithmetic space transformation of the following form:
   $\mu \pm \sigma = \exp[\ln(\text{scale}) \pm \text{shape} + 0.5 \times \text{shape}^2]$.
5. The data presented above are based on the following explorations near/along the Main Span alignment:
   TH-13, WHLA-03, MB-01, MB-02, HLA-12, HLA-13, and MB-02A.
6. The analyses disregards data in the strata underlying the Lower Sand Layer.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**NORMAL AND LOGNORMAL DISTRIBUTIONS OF $N_{60}$ DATA MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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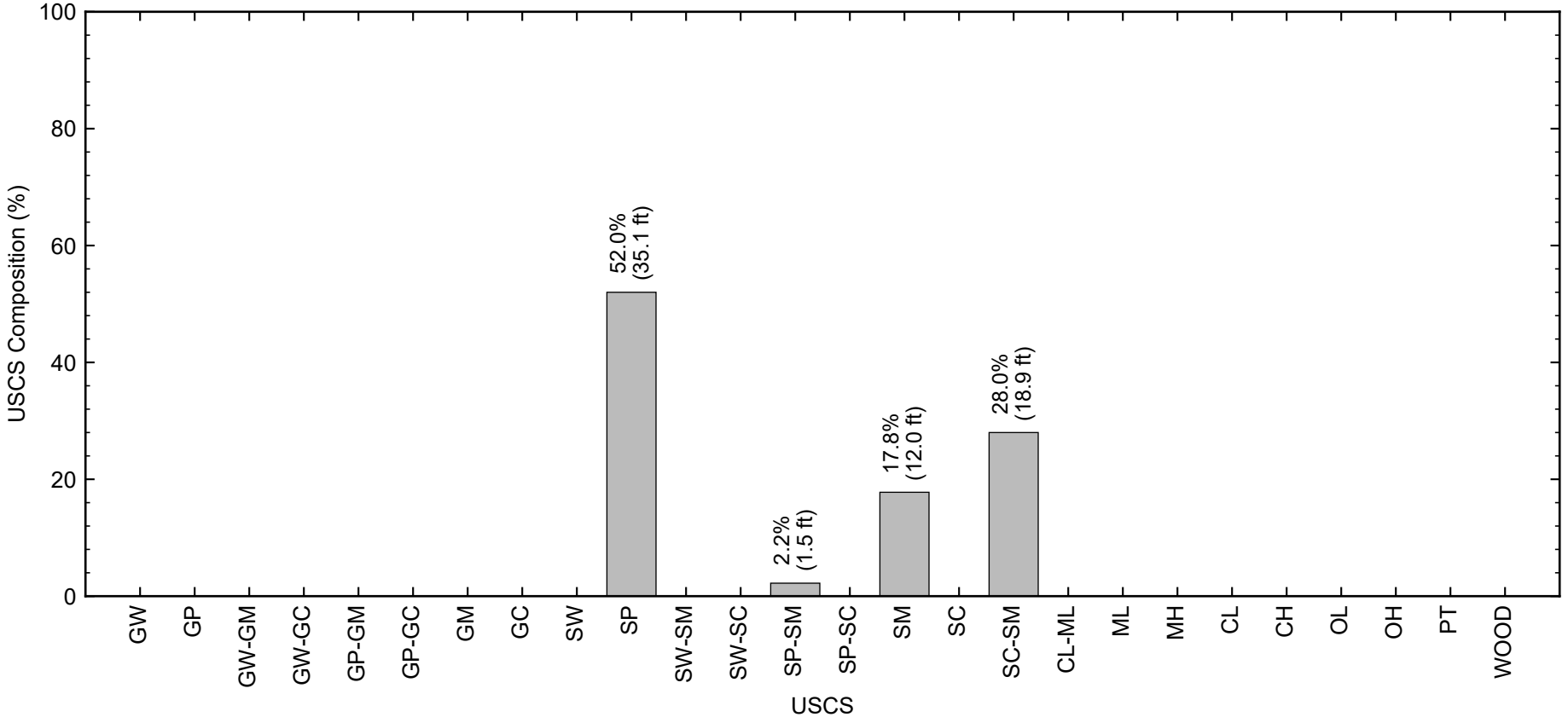
**FIG. C-14**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 67.5 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, TH-13, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**UPPER OVERBURDEN LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

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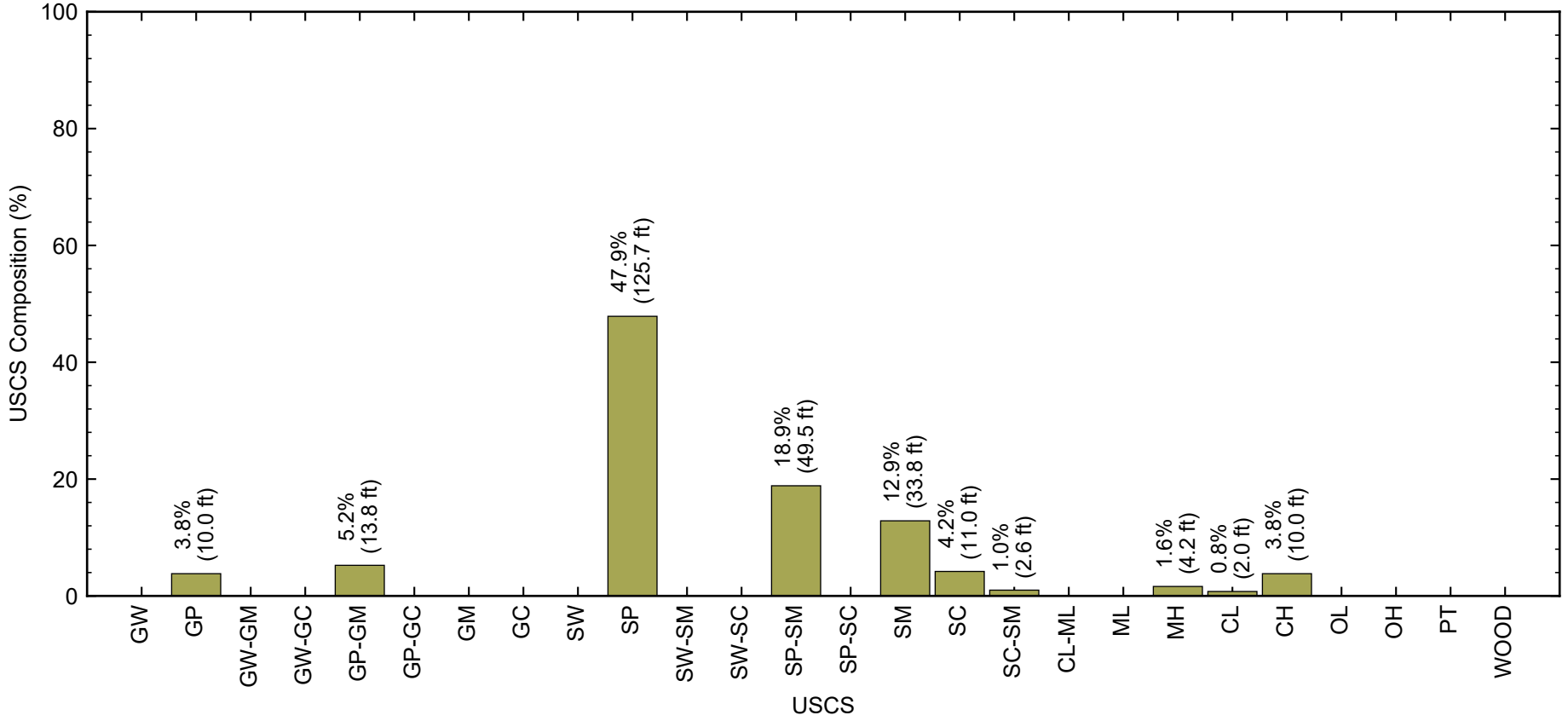
**FIG. C-15**

**FIG. C-15**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 262.5 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**LOWER OVERBURDEN LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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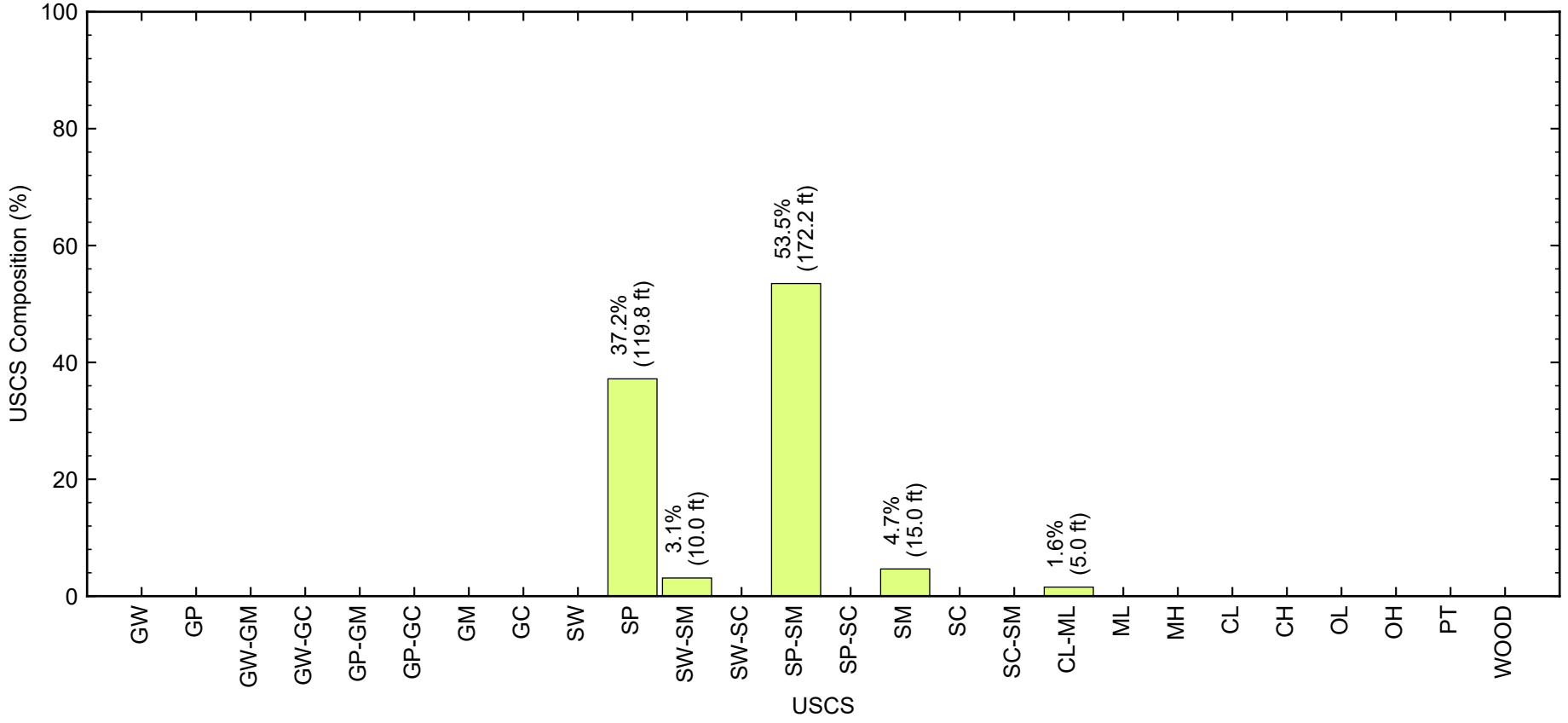
**FIG. C-16**

**FIG. C-16**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 322.0 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**UPPER SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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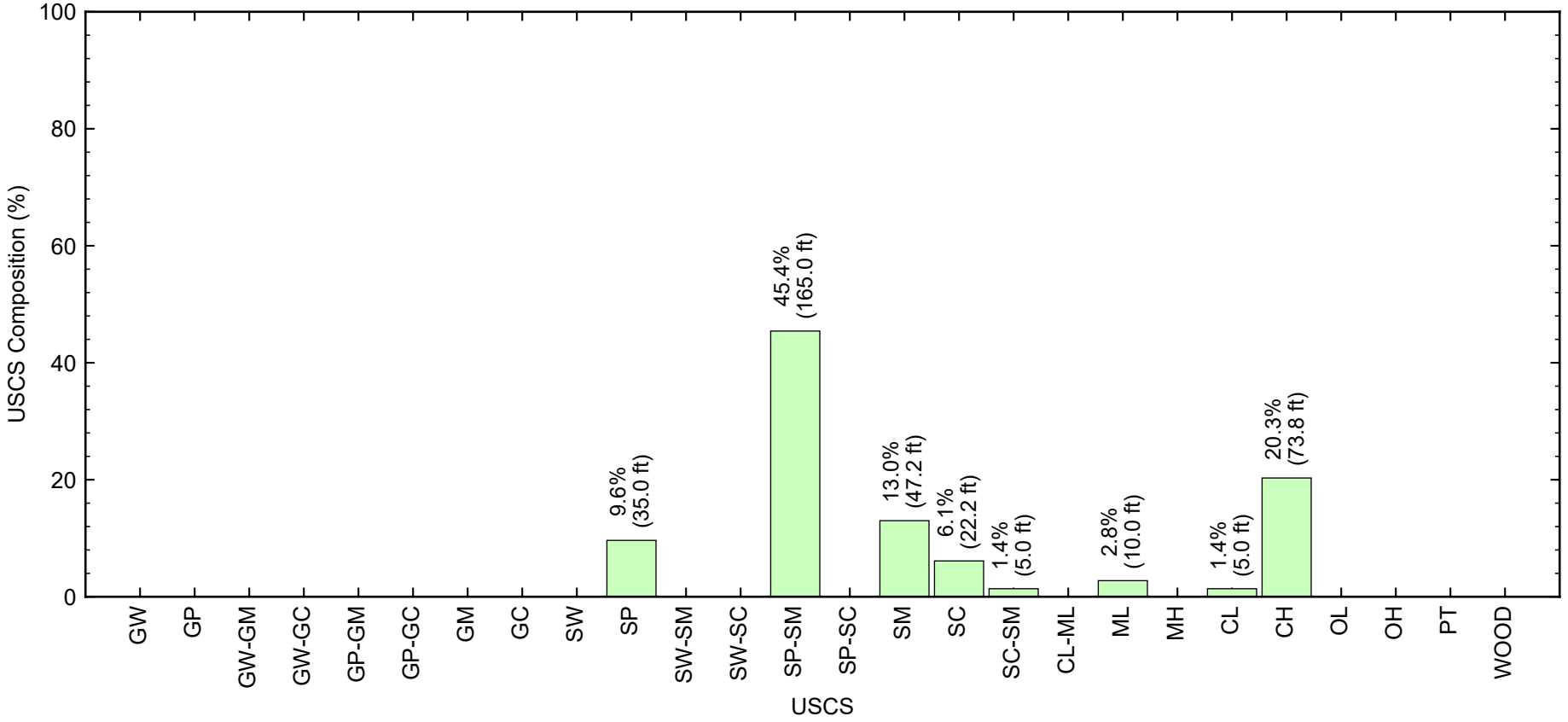
**FIG. C-17**

**FIG. C-17**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 363.2 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**LOWER SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

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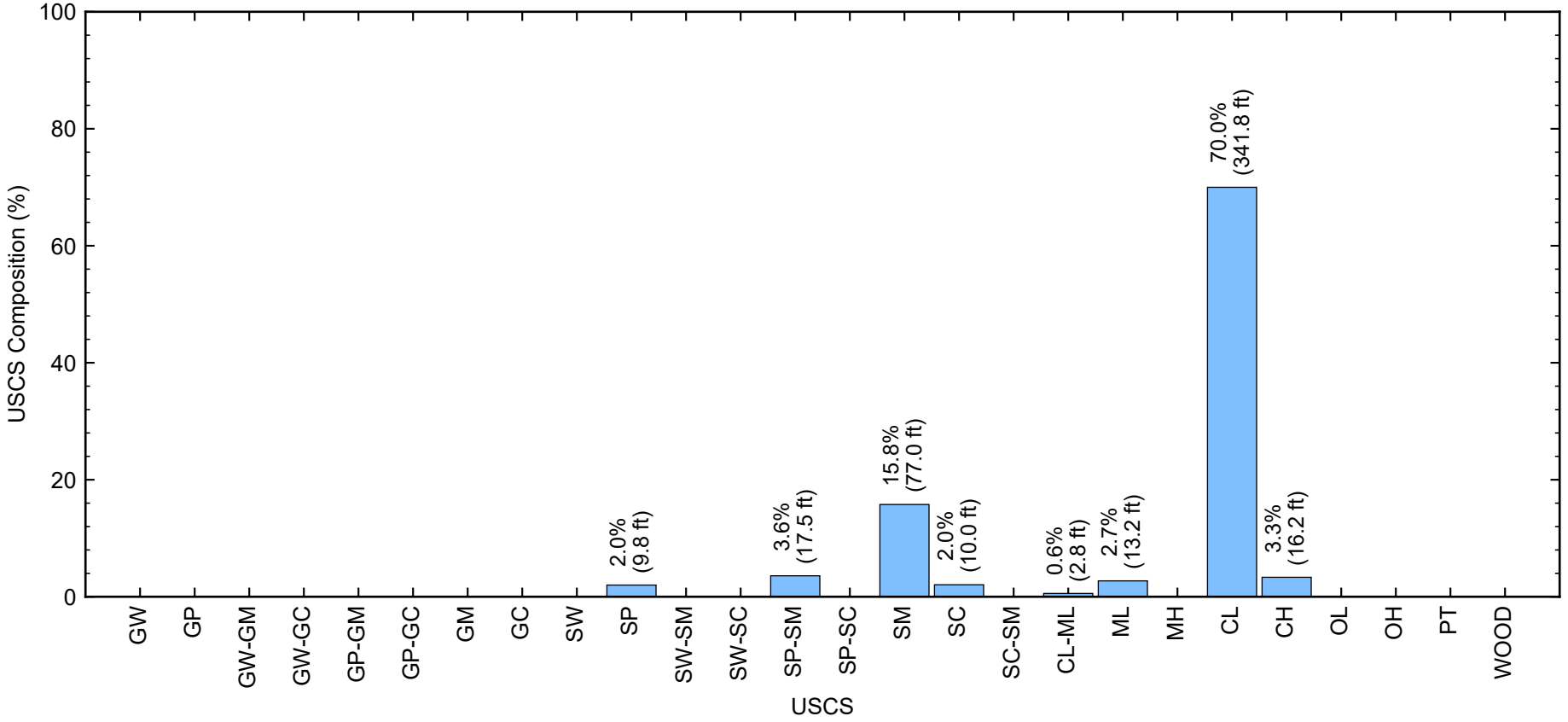
**FIG. C-18**

**FIG. C-18**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 488.2 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**CLAY/SILT LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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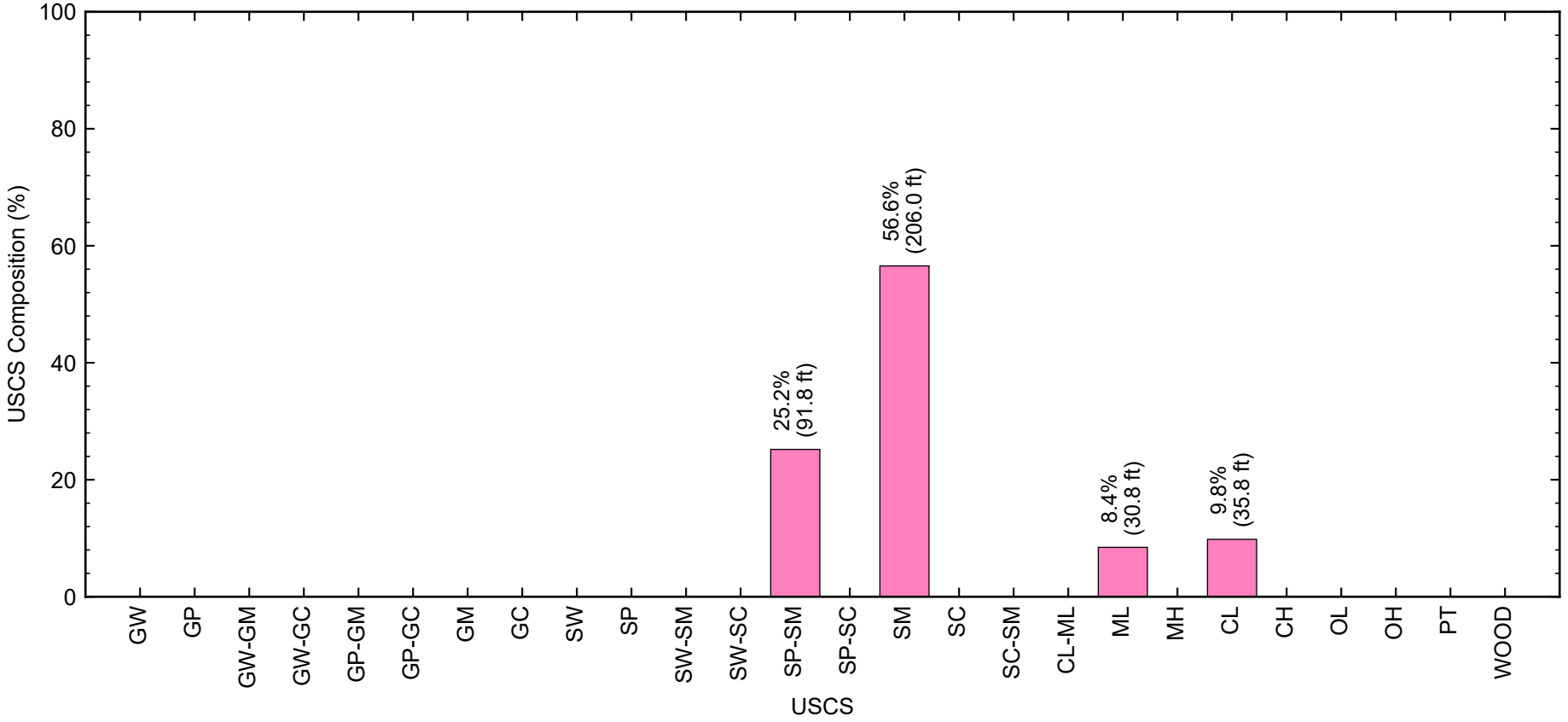
**FIG. C-19**

**FIG. C-19**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System. Histogram is based on a total of 364.2 lineal feet of soil and derived from the following explorations: HLA-12, HLA-13, MB-01, MB-02, MB-02A, WHLA-03.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE**
**BASAL SILT/SAND LAYER**
**MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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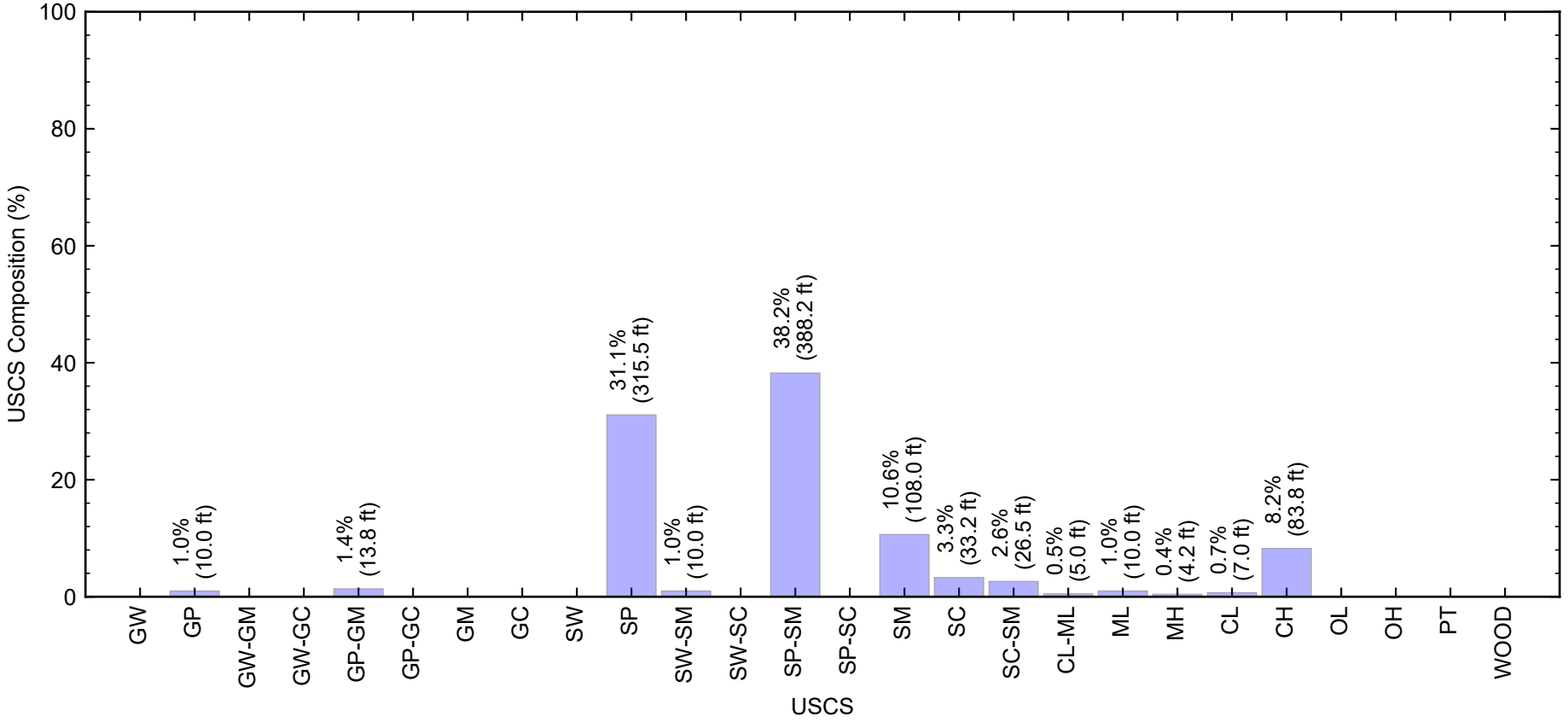
**FIG. C-20**

**FIG. C-20**




Notes:
1. Individual bar segments across all USCS columns sum to 100 percent.
2. USCS = Unified Soil Classification System.
3. Histogram is based on a total of 1015.2 lineal feet of soil and derived from the following explorations:
   HLA-12, HLA-13, MB-01, MB-02, MB-02A, TH-13, WHLA-03.
4. Histogram disregards data in the strata underlying the Lower Sand Layer.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**USCS SUMMARY BY FOOTAGE MAIN SPAN ALIGNMENT**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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**FIG. C-21**

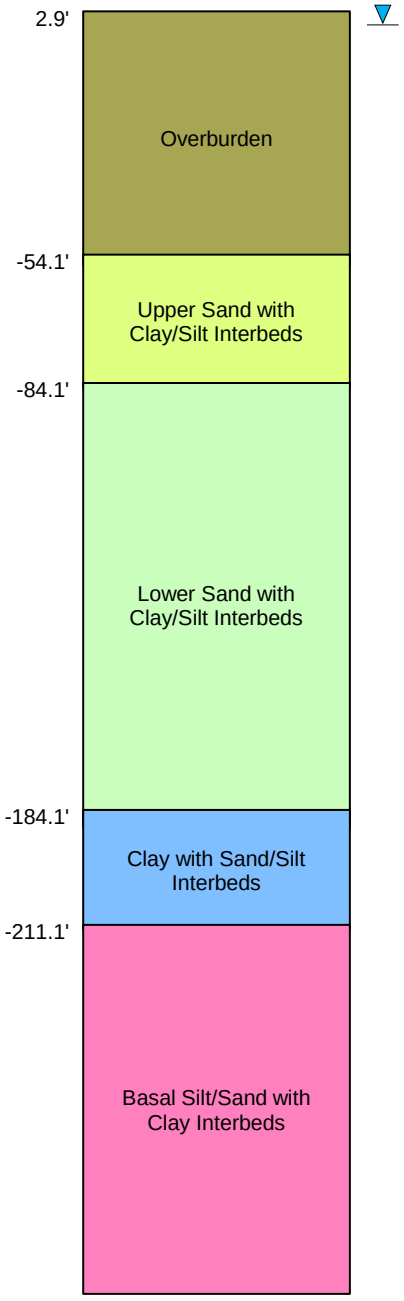
**FIG. C-21**

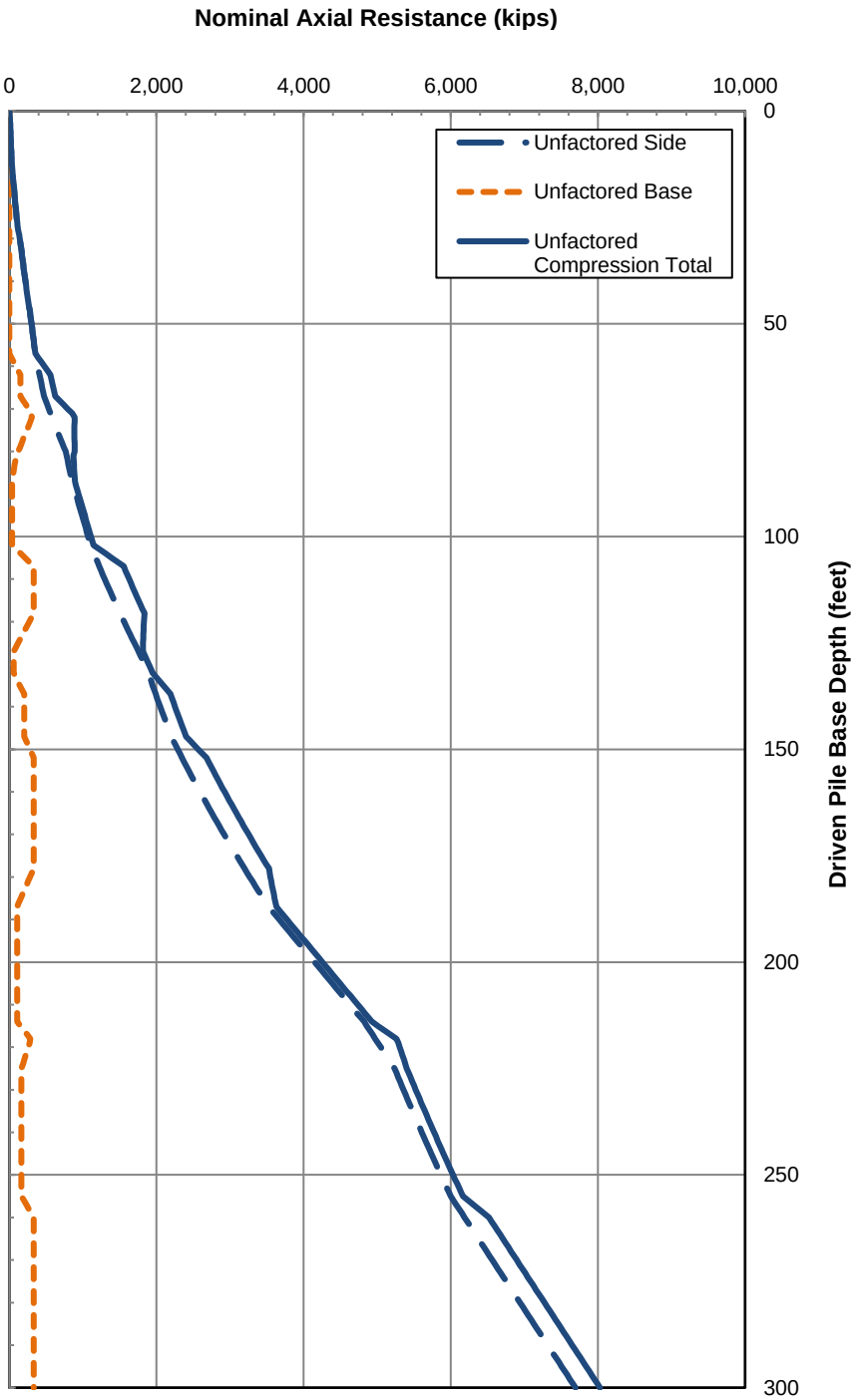
APPENDIX D

# Axial Resistance Plots

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*MB-01*
*(Reference Grade Elev. = 2.9 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of load testing performed on test pile TP-WPA, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**72-INCH-DIAMETER PIPE PILE**
**BORING MB-01**

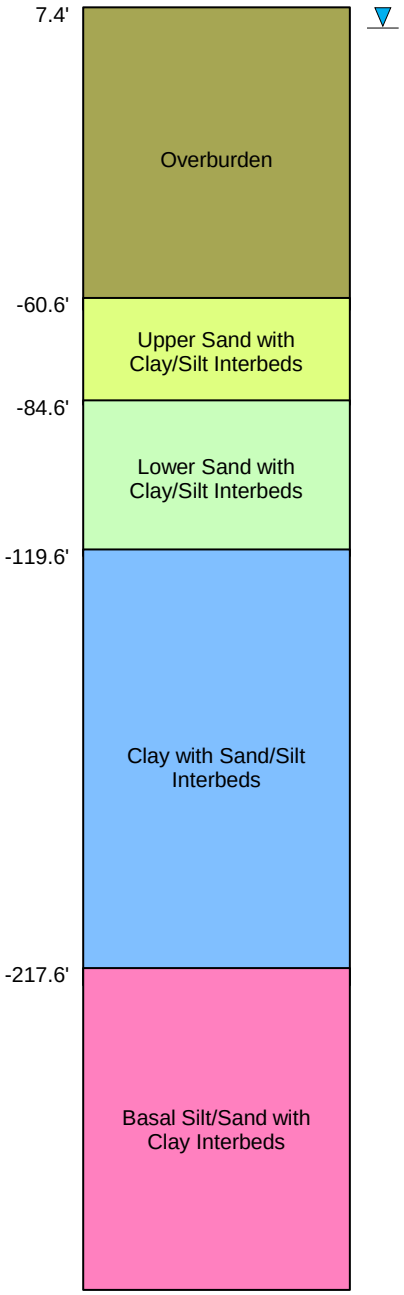
September 2023 110704-016

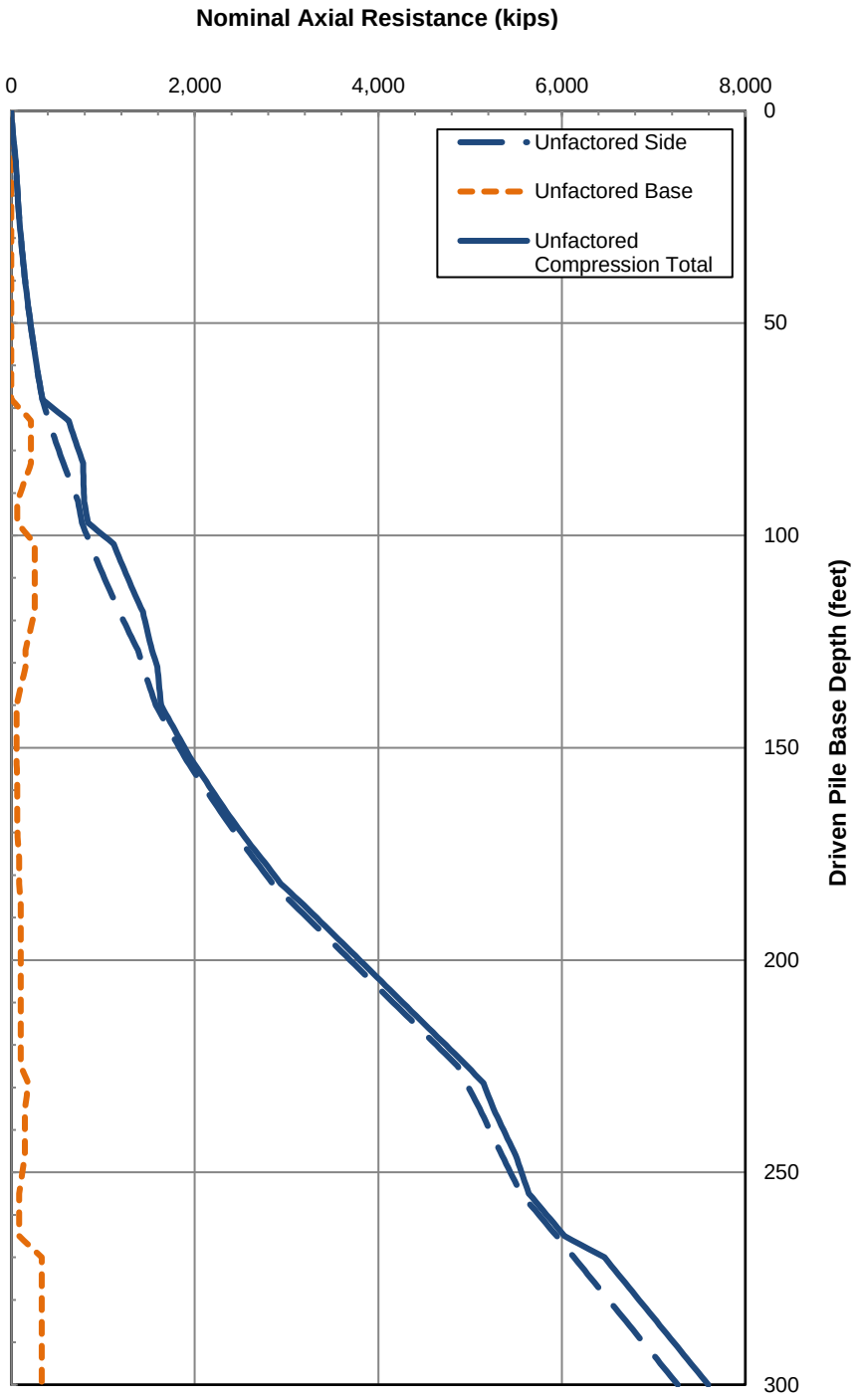
**Kiewit | Massman | Traylor**
a joint venture

**FIG. D-1**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*MB-02*
*(Reference Grade Elev. = 7.4 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of load testing performed on test pile TP-WPA, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**72-INCH-DIAMETER PIPE PILE**
**BORING MB-02**

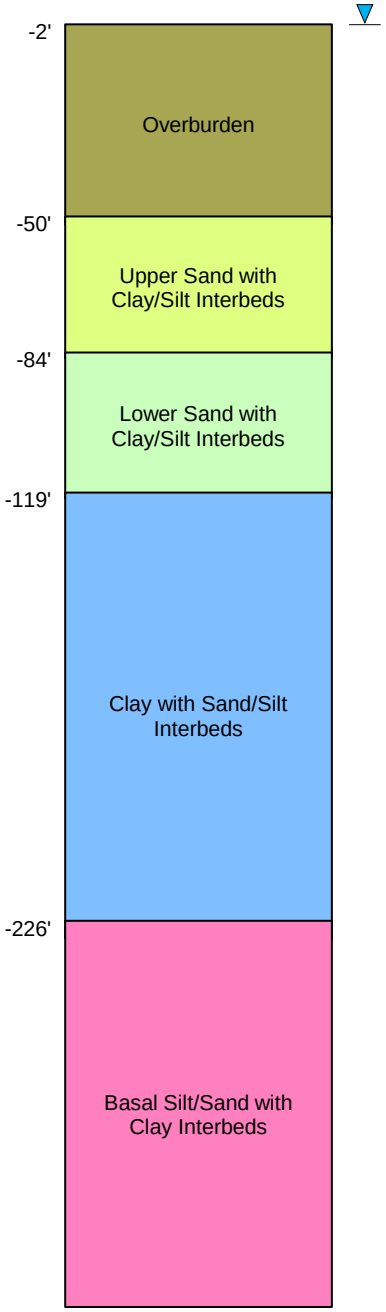
September 2023 110704-016

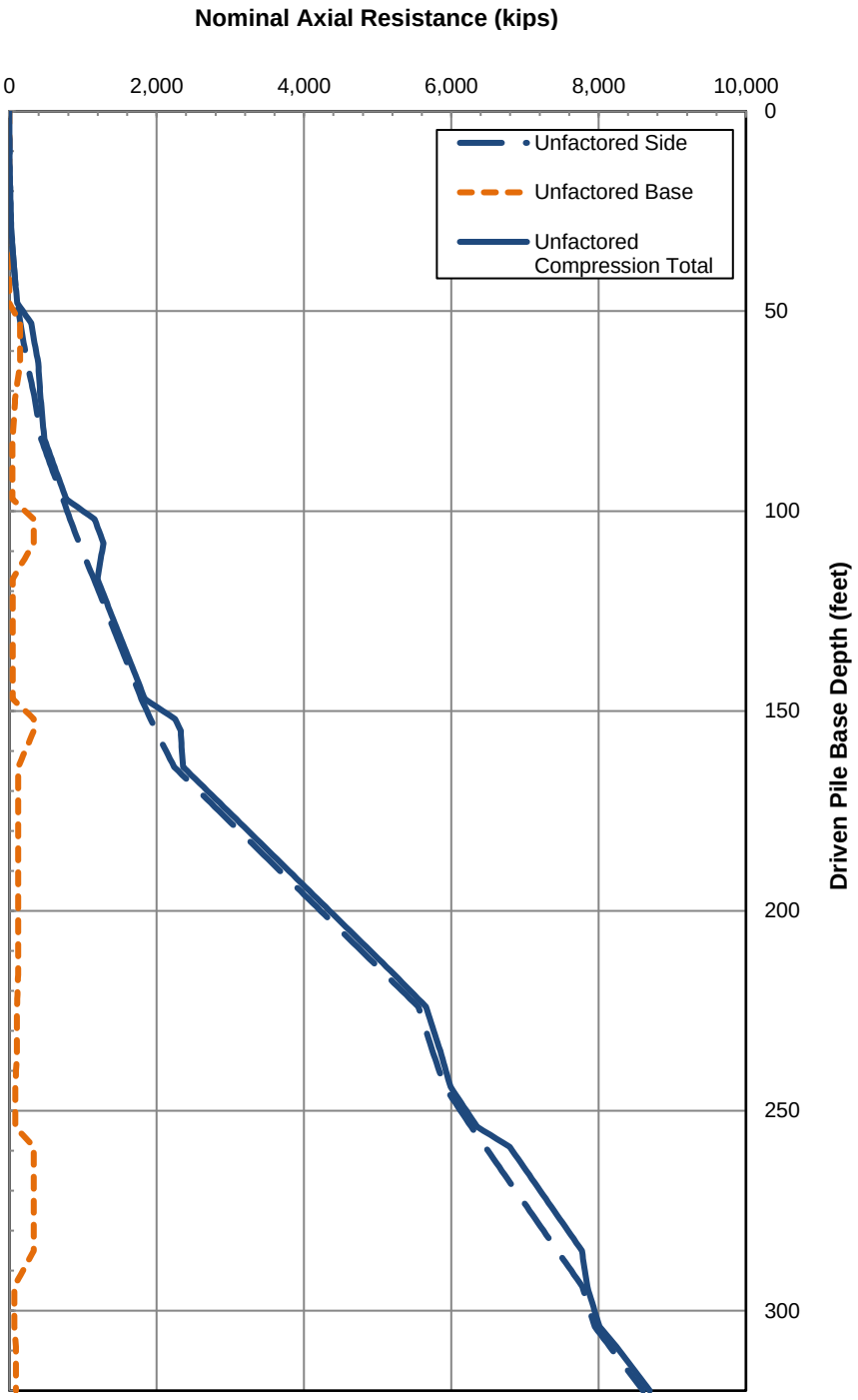
**Kiewit | Massman | Traylor**
a joint venture

**FIG. D-2**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*MB-02A*
*(Reference Grade Elev. = -2 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of load testing performed on test pile TP-WPA, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**72-INCH-DIAMETER PIPE PILE**
**BORING MB-02A**

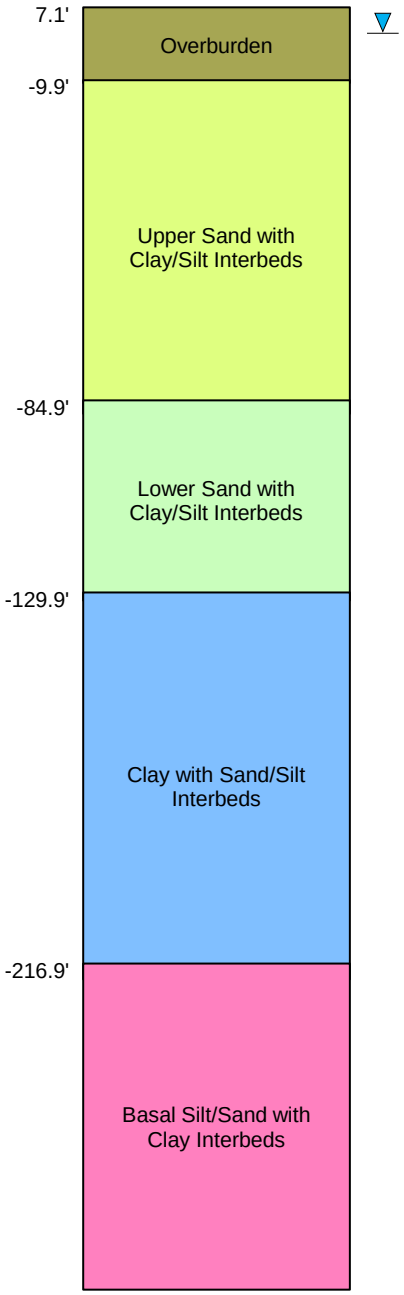
September 2023 110704-016

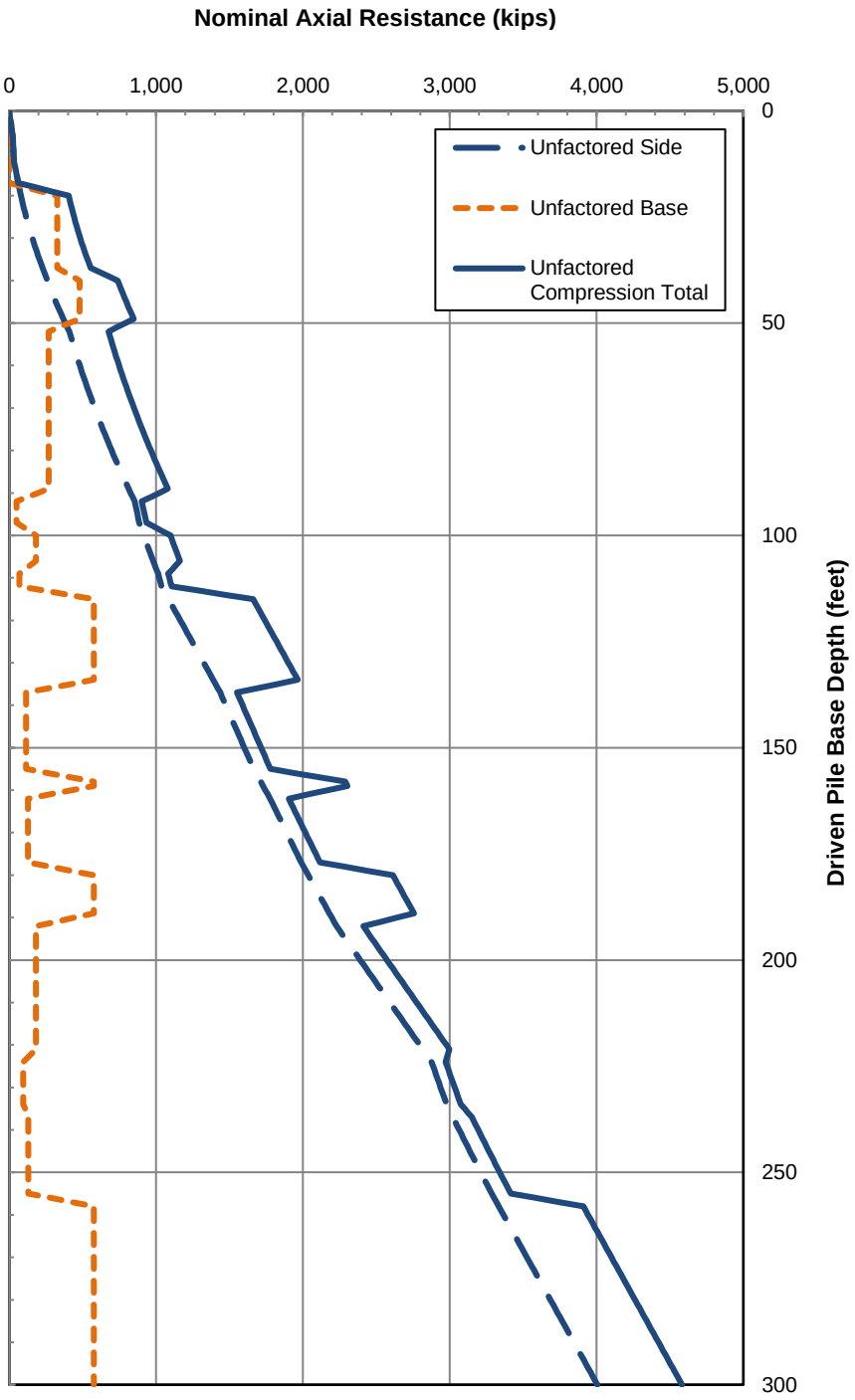
**Kiewit | Massman | Traylor**
a joint venture

**FIG. D-3**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*WHLA-03*
*(Reference Grade Elev. = 7.1 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of the existing Project load testing program, guidelines included in AASHTO, and our experience.
2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**24-IN SQUARE PRESTRESSED CONCRETE PILE**
**BORING WHLA-03**

September 2023 110704-016

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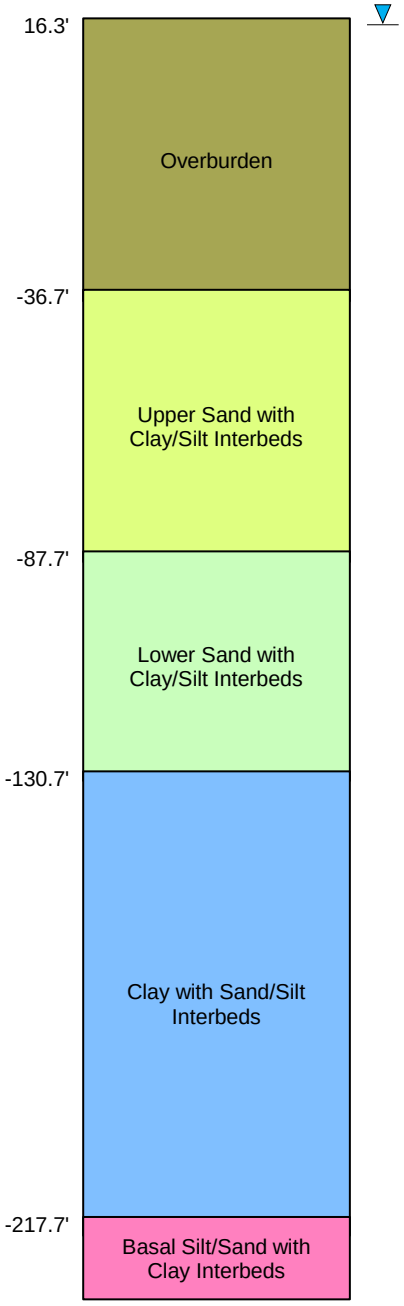
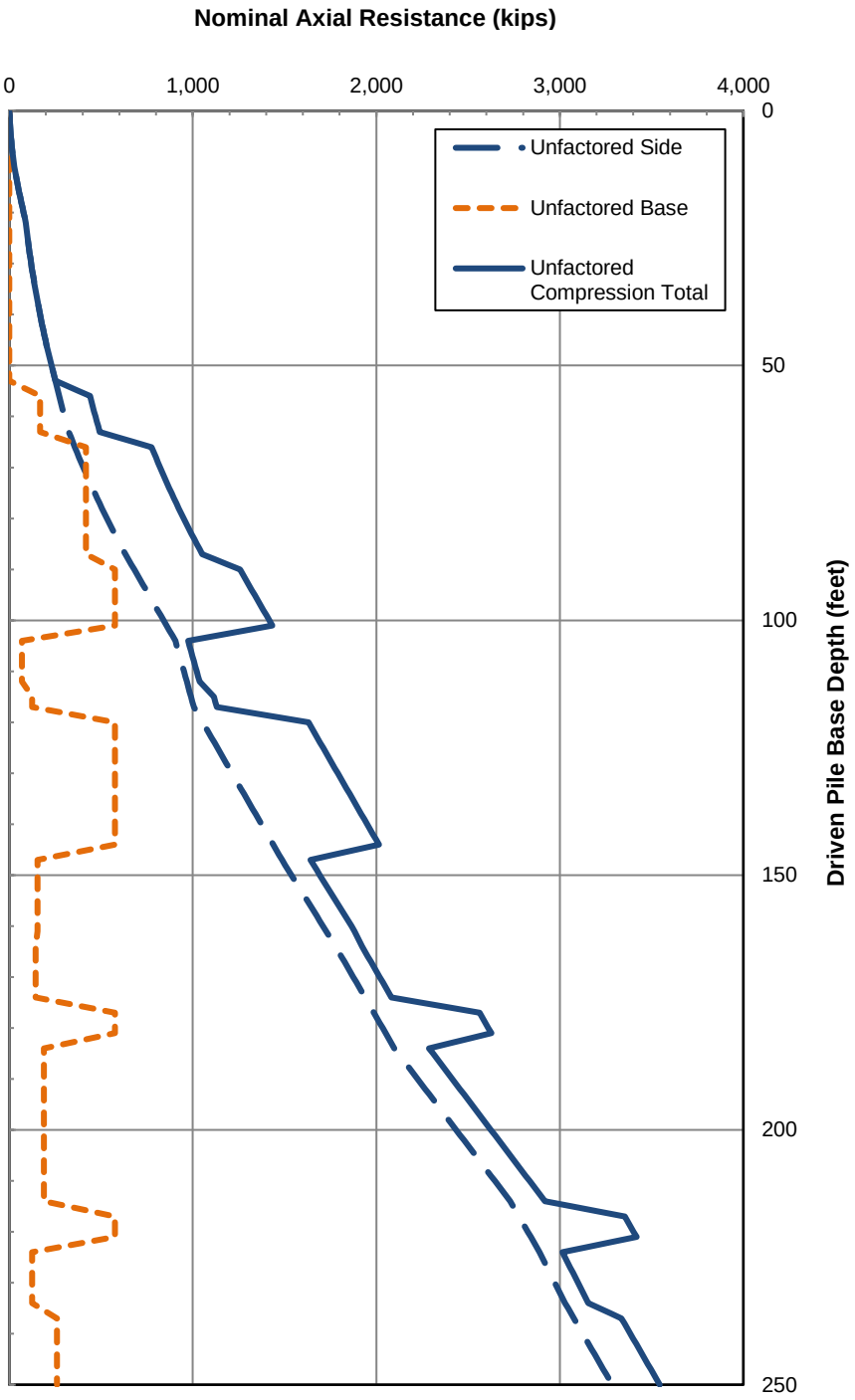
**FIG. D-4**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*HLA-12*
*(Reference Grade Elev. = 16.3 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of the existing Project load testing program, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**24-IN SQUARE PRESTRESSED CONCRETE PILE**
**BORING HLA-12**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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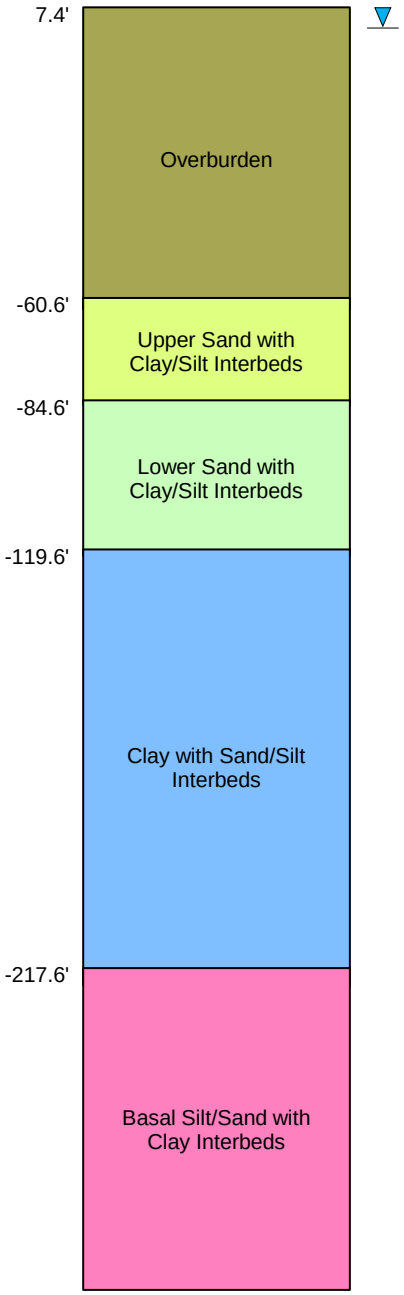
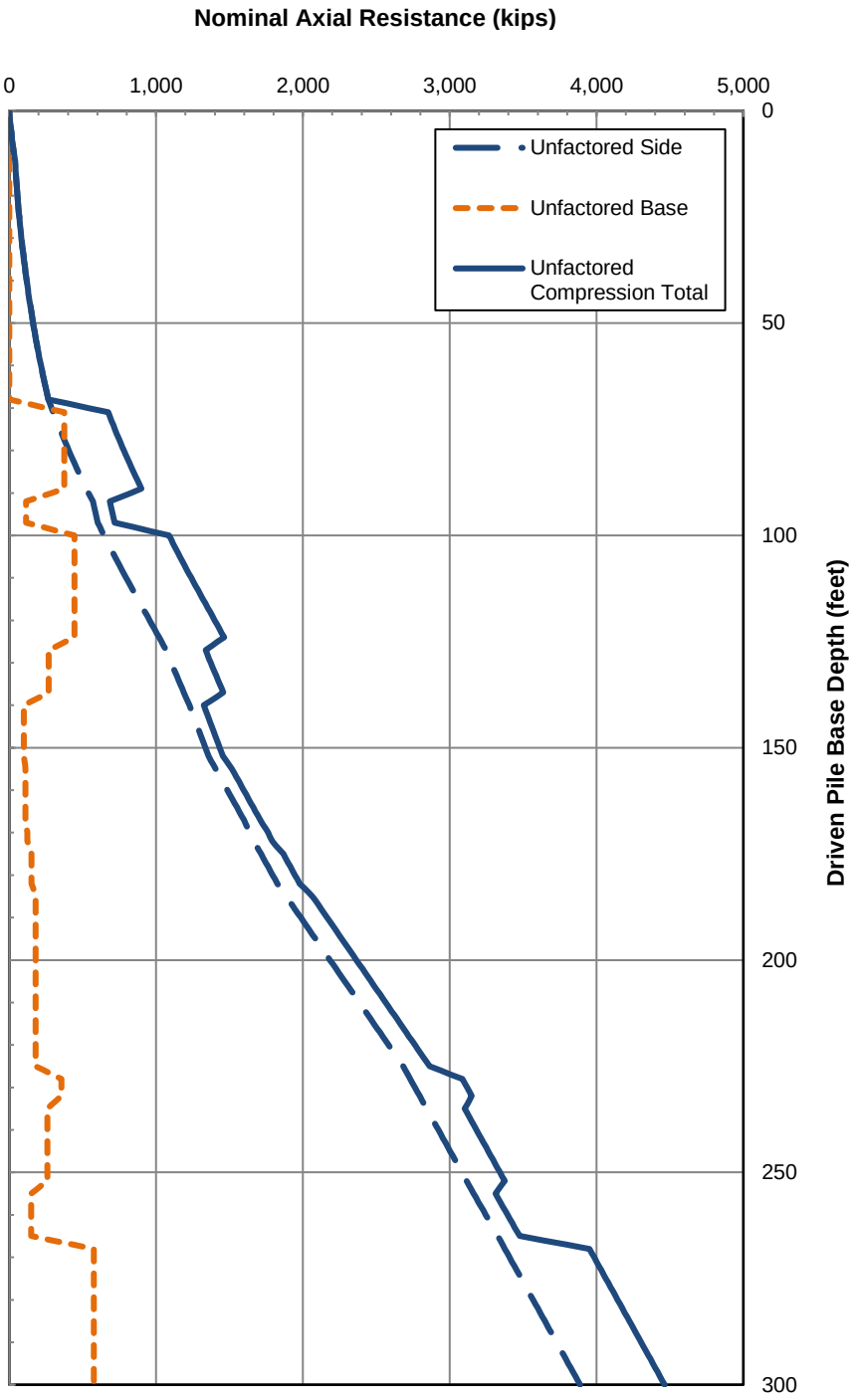
**FIG. D-5**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*MB-02*
*(Reference Grade Elev. = 7.4 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of the existing Project load testing program, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**24-IN SQUARE PRESTRESSED CONCRETE PILE**
**BORING MB-02**

September 2023 110704-016

**Kiewit | Massman | Traylor**
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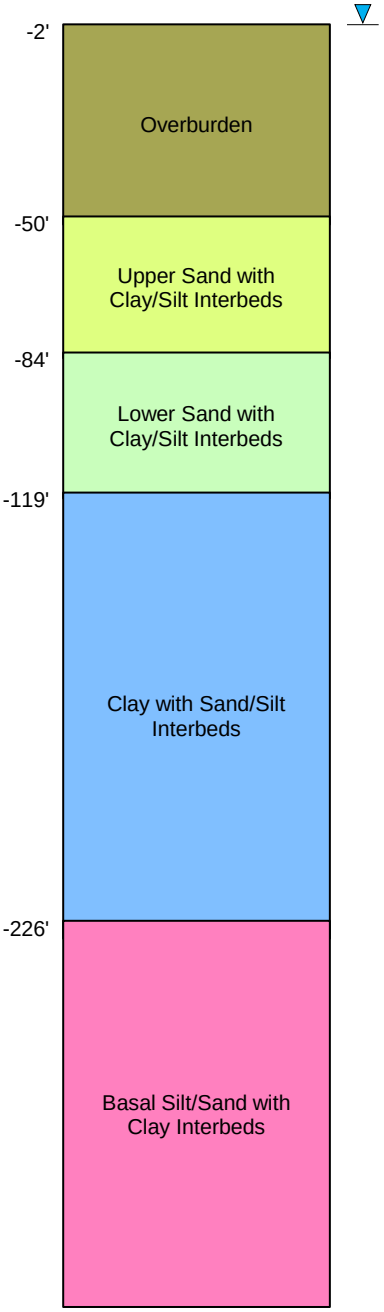
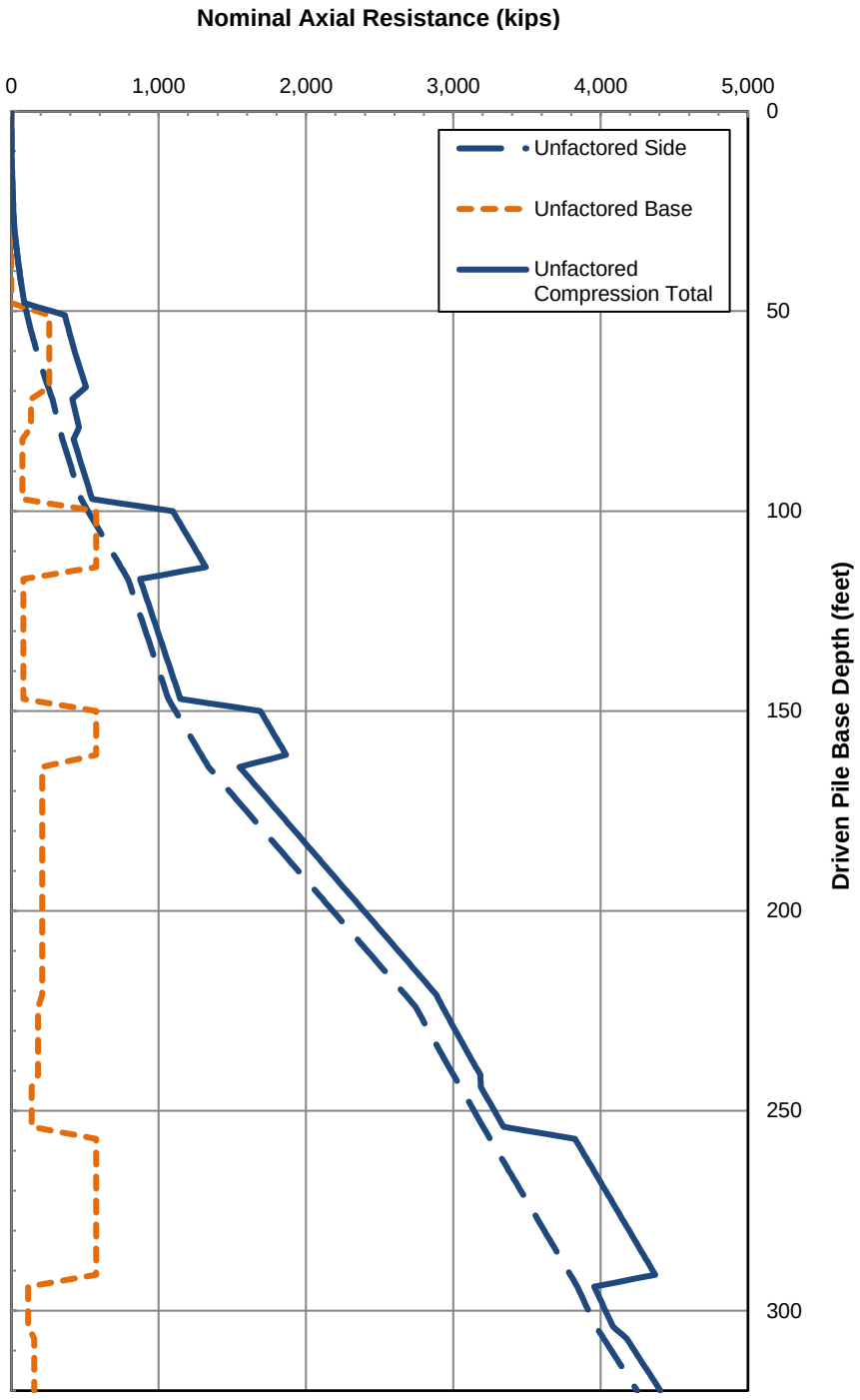
**FIG. D-6**

## GENERALIZED SUBSURFACE PROFILE

*Based on nearby explorations:*
*MB-02A*
*(Reference Grade Elev. = -2 ft.)*




NOTES:

1. The analyses were performed for a single pile based on results of the existing Project load testing program, guidelines included in AASHTO, and our experience.

2. The factored total shaft resistance is determined by adding the unfactored side and base resistances, multiplied by appropriate resistance factors per AASHTO.

Alabama Department of Transportation
I-10 Mobile River Bridge Project
Mobile County, Alabama

**ESTIMATED AXIAL RESISTANCE**
**24-IN SQUARE PRESTRESSED CONCRETE PILE**
**BORING MB-02A**

September 2023 110704-016

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**FIG. D-7**